Final

Initial Study/
Mitigated Negative Declaration

For the

Sacramento City College – Lillard Hall
Replacement and Modernization Project

State Clearinghouse No. 2019012030

March 2019

FINAL

INITIAL STUDY/ PROPOSED MITIGATED NEGATIVE DECLARATION

FOR THE

Sacramento City College – Lillard Hall Replacement and Modernization Project

Prepared by
Los Rios Community College District
3753 Bradview
Sacramento, CA 95825

March 2019

NOTICE OF DETERMINATION TO ADOPT
A MITIGATED NEGATIVE DECLARATION FOR THE
LOS RIOS COMMUNITY COLLEGE DISTRICT
SACRAMENTO CITY COLLEGE – LILLARD HALL REPLACEMENT AND MODERNIZATION PROJECT

The Los Rios Community College District (District) has prepared an Initial Study pursuant to California Environmental Quality Act (CEQA) and the CEQA Guidelines (Public Resources Code, Division 13 and California Code of Regulations, Title 14, Chapter 3) evaluating the potential environmental impacts of the Sacramento City College – Lillard Hall Replacement and Modernization Project. The District proposes to adopt a Mitigated Negative Declaration ("MND") because the Project construction and operation would not have a significant effect on the environment. This MND and the Initial Study describe the reasons that this project will not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report under CEQA.

FILE NUMBER: 2018-03 MND

PROJECT TITLE: SACRAMENTO CITY COLLEGE – LILLARD HALL REPLACEMENT AND MODERNIZATION PROJECT

PROJECT LOCATION: The Project is located at the Sacramento City College (SCC) Campus, in Sacramento City, Sacramento County, located at the intersection of Freeport Boulevard and Sutterville Road, approximately 0.5 mile west of Highway 99 and 1 mile east of Interstate 5. The Sacramento City College is located in a primarily suburban area within the City of Sacramento. The Sacramento City College address is 3835 Freeport Boulevard, Sacramento, California, and consists of 47.45 acres of land (APN: 013-0010-014). The City of Sacramento General Plan designates the Campus as “Public/Quasi Public”. A regional and project location map are included as Figures 1 and 2, respectively.

PROJECT DESCRIPTION: The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building located on the Sacramento City College campus. Proposed development will include demolition and replacement of Lillard Hall which is located in the southwest portion of the Sacramento City College parcel. The Lillard Hall replacement schematic designs are still under consideration, however, it is anticipated the new proposed Lillard Hall will be approximately 31,709 assignable square feet (ASF), and will replace the older, approximately 28,863 ASF Lillard Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in one of the existing parking lots (parking Lot G or parking lot F) near Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned.

There is currently a Mohr Hall replacement project underway at the site, determined exempt under CEQA; a Notice of Exemption was filed for the Mohr Hall project on November 7, 2016 with the categorically exempt status Class 14. 15314 – Minor Addition to Schools and categorically exempt status Class 2. 15302 – Replacement or Reconstruction. The Mohr Hall project consists of a building replacement with no additional usable assignable square footage (ASF) and no increase in planned occupant load. The Mohr Hall will be discussed as part of this proposed project due to the proximal nature (the proposed Lillard Hall will be located within

the footprint of the demolished Mohr Hall, and adjacent east of the new Mohr Hall) and potential cumulative impacts with the Proposed Lillard Hall and potential Overhead Solar Parking Project.

PUBLIC REVIEW PERIOD: As mandated by State law, the minimum public review period for this document is 30 days. The proposed Mitigated Negative Declaration was circulated for a 30-day public review period, beginning on **Tuesday, January 15, 2019** and ending on **Friday, February 15, 2019**. Copies of the Draft Negative Declaration were available for review at the following locations:

Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95827

Any person wishing to comment on the Initial Study and proposed Negative Declaration must have submitted such comments in writing **no later than 5:00 pm on Friday, February 15, 2019** to the Los Rios Community College District at the following address:

Daniel E. Kramer
Petralogix Engineering, Inc.
26675 Bruella Road
Galt, CA 95632

Facsimiles at (209) 604-3719 were also accepted up to the comment deadline.

A public hearing to receive comments was held at Los Rios Community College District. This meeting occurred Thursday, February 14, 2019 at 10:00 a.m. at 3753 Bradview Drive, Sacramento.

_____ _____

Dan McKechnie, Director of Facilities Planning Date

TABLE OF CONTENTS

LIST OF EXIBITS

1. PROJECT TITLE

Sacramento City College – Lillard Hall – Replacement and Modernization Project

2. LEAD AGENCY NAME AND ADDRESS

Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95827

3. CONTACT PERSONS

M.-Reza Mirmiran: 916-856-3428

4. PROJECT LOCATION

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5. PROJECT SPONSOR'S NAME AND ADDRESS

Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95827

6. PROJECT DESCRIPTION

The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building located on the Sacramento City College campus. Proposed development will include demolition and replacement of Lillard Hall which is located in the southwest portion of the Sacramento City College parcel. The Lillard Hall replacement schematic designs are still under consideration, however, it is anticipated the new proposed Lillard Hall will be approximately 31,709 assignable square feet (ASF), and will replace the older, approximately 28,863 square foot Lillard Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in one of the existing parking lots (parking Lot G or parking lot F) near Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned.

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footage (ASF) and no increase in planned occupant load. The Mohr Hall will be discussed as part of this proposed project due to the proximal nature (the proposed Lillard Hall will be located within the footprint of the demolished Mohr Hall, and adjacent east of the new Mohr Hall) and potential cumulative impacts with the Proposed Lillard Hall and potential Overhead Solar Parking Project. The Project Extent map, including the proposed Overhead Parking Solar Structures, are included in Figure 4.

7. SURROUNDING LAND USES AND SETTING

The proposed Project is located in the City of Sacramento, with land use designated as public/quasi-public. To the west of the Project is Land Golf Course and William Land Park. To the east is Panther Parkway, followed by the Hughs Stadium and railway tracks. North of the Project is 12th Avenue followed by residential neighborhoods. South of the site is Sutterville Road followed by commercial businesses and residential homes. The surrounding area is designated primarily as Traditional Neighborhood (Low and Medium Density), Centers (Urban Center Low), Corridors (Urban Corridor Low) and Parks and Recreation within the Sacramento County General Plan (2035).

8. NECESSARY PUBLIC AGENCY APPROVALS

It is anticipated that the following "typical" permits and compliance may be needed for this Project:

- Los Rios Community College District: Lead agency with responsibility for approving the proposed replacement and modernization of the Lillard Hall building. Preparation of a Stormwater Pollution Prevention Plan (SWPPP) to City of Sacramento standards. Pollutant Discharge Elimination Permit (Stormwater/Erosion Control) issued by the City of Sacramento.
- United States Fish and Wildlife Service – Compliance with the Federal Endangered Species Act: Construction activities would not directly or indirectly adversely affect a federally listed species or its habitat (see Biological Resources section of this document for additional information). Therefore, the proposed project would not be required to obtain Section 7 clearance from the U.S. Fish and Wildlife Service prior to SRF loan commitment.
- State Historic Preservation Office – Compliance with the National Historic Preservation Act: There are no prehistoric or historic archaeological resources, historic properties, or resources of value to local cultural groups within the project area. Therefore, the proposed project would not be required to demonstrate to the satisfaction of the State Historic Preservation Office that the project complies with Section 106 of the National Historic Preservation Act (see Cultural Resources section of this document for additional information).
- Native American Heritage Commission: Compliance with Assembly Bill 52 (AB 52). Lead agencies consult with Native American tribes who have previously contacted the Lead Agency early in the CEQA planning process. Assembly Bill applies to the project, but no tribes have requested notification at this time.
- Sacramento Metropolitan Air Quality Management District (Sac Metro): Air Quality Application for Authority to Construct and/or Permit to Operate.
- City of Sacramento: Preparation of a SWPPP to County of Sacramento (and City of Sacramento) standards. Pollutant Discharge Elimination Permit issued by the County of Sacramento (and City of Sacramento).

9. PROJECT CONSTRUCTION

Lillard Hall project construction is expected to begin by January 2018 and continue for a duration of approximately two years. Completion of the proposed project is expected summer 2022. The proposed Lillard Hall is planned as a three-story structure, with total gross square feet (GSF) planned for 54,786 GSF. There is currently no draft design plan, therefore details regarding the construction are not available.

The proposed Lillard Hall will be located within the eastern portion footprint of the old Mohr Hall. Based upon site topography, which is relatively flat, grading and some cut and fill on the order of approximately two feet are anticipated to provide a level building pad with conventional shallow foundations such as continuous footings (Youngdahl, 2016). The soil generated from excavations on the site, excluding deleterious material, is suitable and may be used as engineered fill (Youngdahl, 2016. Roadways will be swept clean as needed. Water will be applied to any potential dust-generating materials during construction.

The Project has been designed to eliminate environmental impacts by requiring the following measures:

- Project design to meet City of Sacramento and applicable Sacramento County design standards.
- Air Quality Mitigation and Permitting through Sac Metro.
- Preparation of a Stormwater Pollution Prevention Plan (SWPPP) to County of Sacramento and City of Sacramento standards.
- Pollutant Discharge Elimination Permit (Stormwater/Erosion Control) issued by the County of Sacramento and City of Sacramento.
- Collaboration with SMUD to address the 21kV overhead facilities and 21kV and 4kV underground facilities that surround the Sacramento City College property as needed.

A Stormwater Pollution Prevention Plan (SWPPP) and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operations. Best management practices (BMPs) for erosion control will be implemented to avoid and minimize impacts on the environment during construction.

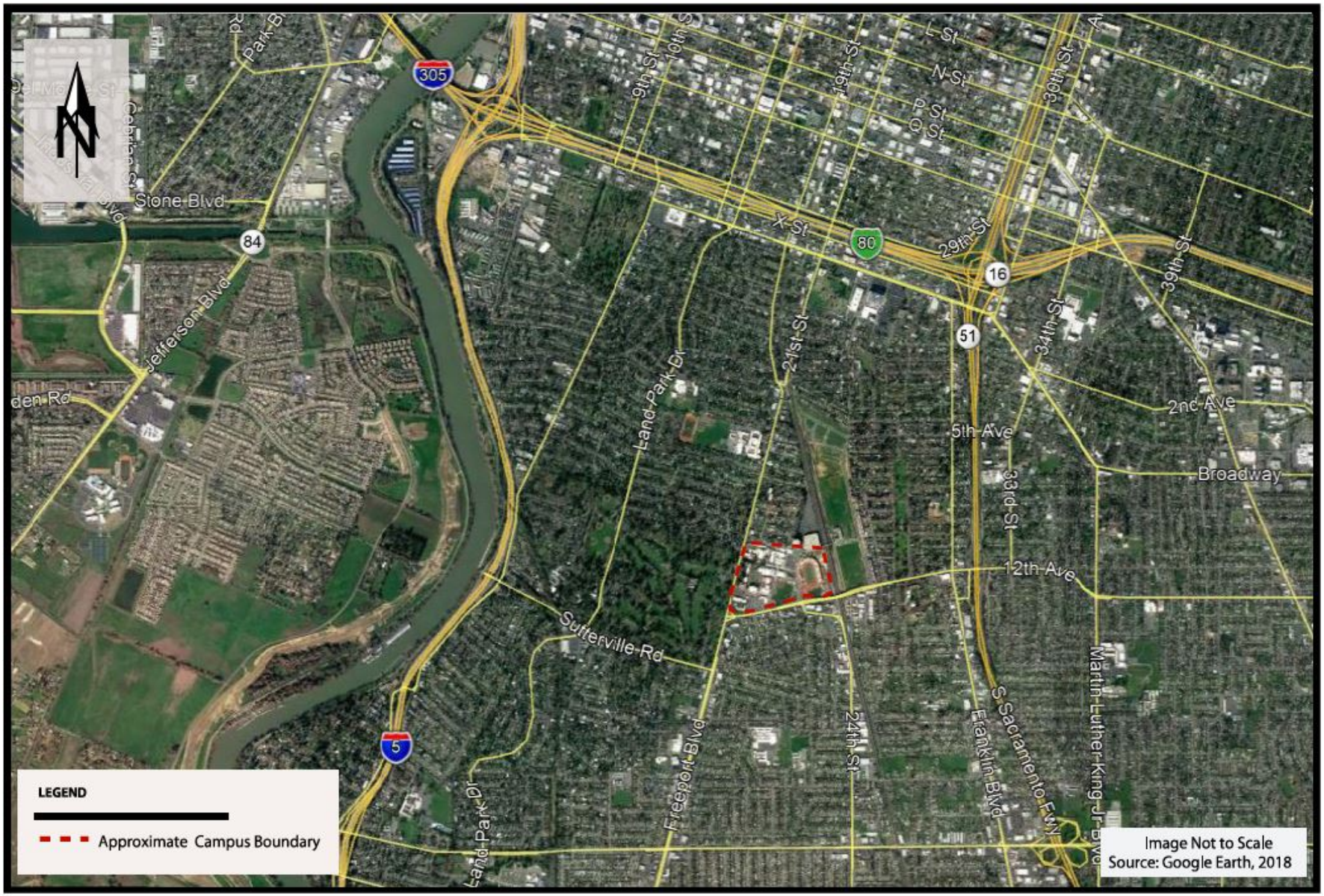


Figure 1: Regional Map

Figure 2: Campus Map

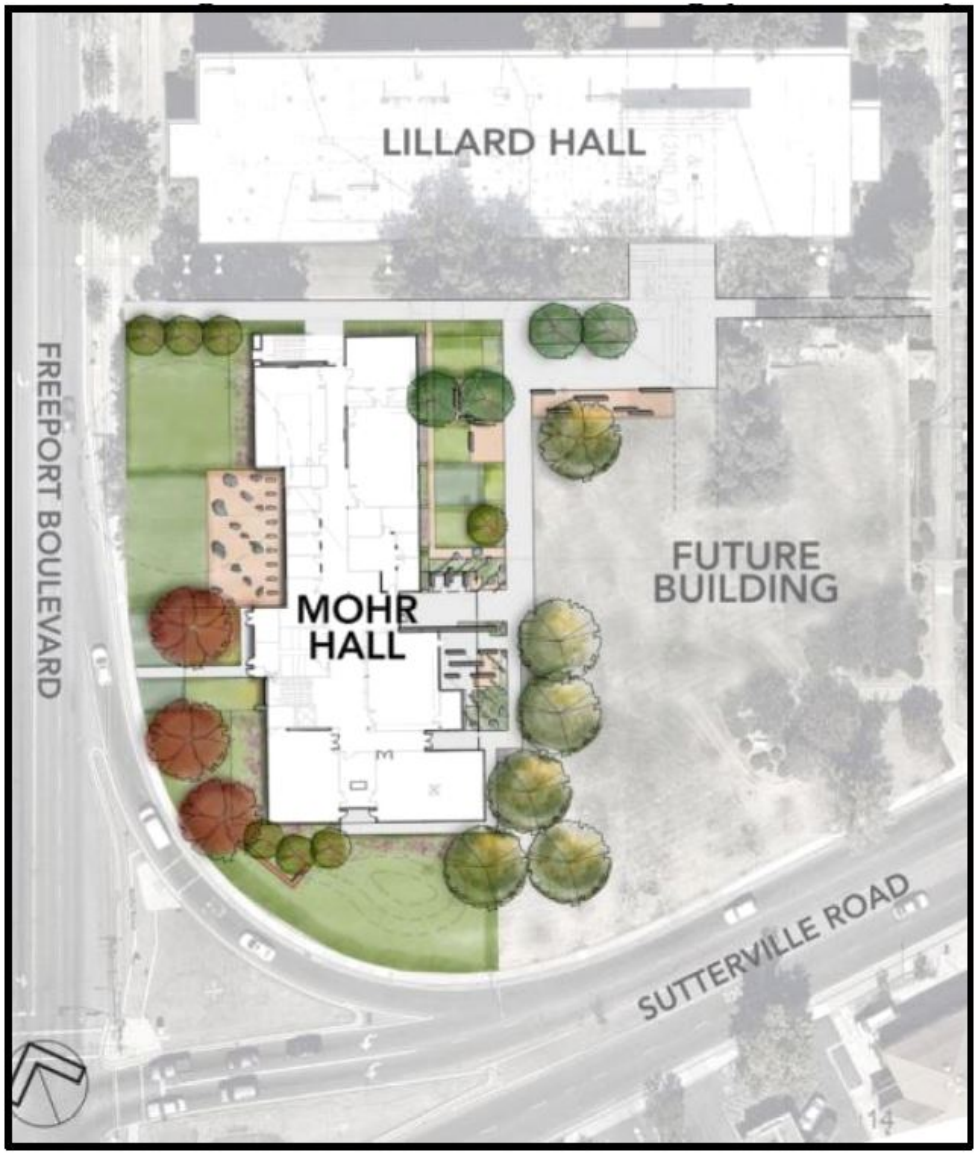


Figure 3: Future Building proposed Lillard Hall Location

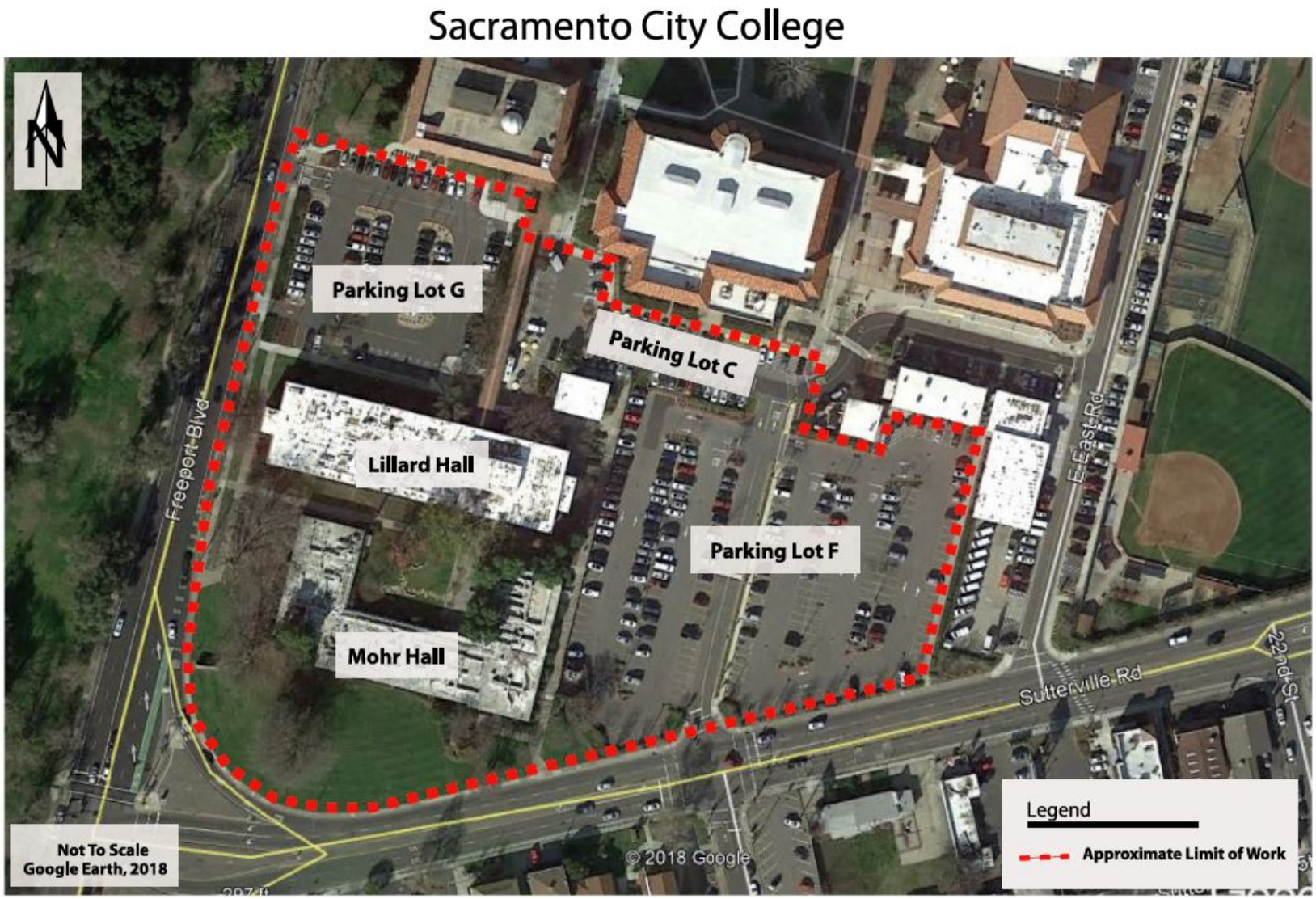


Figure 4: Project Extent Map including proposed Overhead Solar Parking Structures

10. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project as indicated by the checklist on the following pages.

Environmental Factors Potentially Affected		
☐ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Greenhouse Gas Emissions	☒ Biological Resources	☒ Cultural Resources
☐ Geology/Soils	☒ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Services Systems	
☒ None With Mitigation	☐ Mandatory Findings of Significance	

11. ENVIRONMENTAL DETERMINATION

☐ I find that the proposed project could not have a significant effect on the environment, and a Negative Declaration will be prepared.

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

☐ I find that the proposed project MAY have a significant effect on the environment, and an Environmental Impact Report is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure 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.

_____ _____

Dan McKechnie, Director of Facilities Planning Date

12. ENVIRONMENTAL CHECKLIST

I. Aesthetics

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	■	☐

a) **No Impact**. The Sacramento County General Plan does not identify any scenic vistas within the Project area. Therefore, there is no impact.

b) **No Impact.** No State “designated scenic highways” or “eligible scenic highways” are located within the vicinity of the project site (California Scenic Highway Program). There are no rock outcroppings located on the project site; the project description does not include demolition to any historic buildings within a state scenic highway. This is no impact.

c) **Less Than Significant Impact.** The Project will exist in the general footprint of the previously existing Mohr Hall building. The new Mohr Hall and future Lillard Hall designs will ensure it ties in visually with the current theme of the building and campus. Therefore, this is a less than significant impact.

d) **Less Than Significant Impact.** The replacement of the Lillard Hall building will have the appropriate level of outdoor lighting for the convenience and security of the public during any nighttime activities. Any additional exterior lighting will be appropriately directed to the immediate campus property, and not toward adjacent properties, roadways, or future land uses. Nighttime lighting for the campus is currently present on the site and at the location of the current Mohr Hall footprint. The light and glare associated with the expansion project will remain within the project’s environment; this impact is therefore considered less than significant.

II. Agricultural Resources

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	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. 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 in the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c.	Conflict with existing zoning for, or cause rezoning of forest land (as defined in PRC Sec. 4526), or timberland zoned Timberland Production (as defined in PRC Sec. 51104 (g)?	☐	☐	☐	■
d.	Result in loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	■

a-e) **No Impact.** According to the California Department of Conservation's (DOC) Important Farmland Map accessed online, the project site is identified as "Urban and Built-Up Land". According to the DOC, Urban and Built-Up Land is defined as land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Examples of land use with this designation include residential, institutional, commercial, and other developed purposes. The project is not in conflict with a zoning for agricultural use or Williamson Act contract, or conflict with existing forest land zoned for Timberland Production. The project will not involve the conversion of Farmland to non-agricultural use or result in the loss of forest land; therefore, the project will have **no impact**.

III. Air Quality

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:					
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b.	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)?	☐	■	☐	☐
d.	Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐
e.	Create objectionable odors affecting a substantial number of people?	☐	☐	☐	■

The proposed Project site is located within the City of Sacramento, in Sacramento County. The project site lies within the Sacramento Valley Air Basin (SVAB) which is within the jurisdictional boundaries of the Sacramento Metropolitan Air Quality Management District (Sac Metro). Air quality is monitored, evaluated, and regulated by federal, state, regional, and local regulating agencies, including the United States Environmental Protection Agency (EPA), the California Air Resources Board (CARB), as well as Sac Metro. The Sacramento Valley's relatively flat topography and bowl shape is surrounded by elevated terrain, and its meteorological conditions are ideal for trapping air pollution and producing harmful levels of air pollutants, such as ozone and particulate matter. Sacramento County does not attain the following state and federal ambient air quality standards:

1-hour state ozone standard
8-hour federal and state ozone standards
24-hour federal particulate matter $PM_{2.5}$
24-hour and annual state particulate matter federal PM_{10}

Therefore, for Sacramento County, the criteria pollutants of greatest concern are ozone precursors which include reactive organic gases (ROG) and nitrogen oxides (NO_x) along with particulate matter $PM_{2.5}$ (24 hour) and PM_{10} (24 hour and annual state).

Standards of Significance

In accordance with Sacramento Metropolitan Air Quality Management District's (Sac Metro) Guide to Air Quality Assessments in Sacramento County, December 2009, as revised December 2016, a project is considered to have a significant air quality impact if any of the following quantitative conditions occur:

- Ozone: The project will increase nitrogen oxide (NO_x) levels above 85 pounds per day for construction phases and/or the project increases either ozone precursors nitrogen oxide (NO_x) or reactive organic gases (ROG) above 65 pounds per day for operational phases.
- Particulate Matter ($PM_{2.5}$): The project will increase 82 pounds per day and 15 tons per year despite employment of all best available management practices during either construction or operational phases.
- Particulate Matter (PM_{10}): The project will increase 80 pounds per day and 14.6 tons per year despite employment of all best available management practices during either construction or operational phases.

CEQA Solar Energy System Exemption – Senate Bill 226

The proposed Project includes potential future Overhead Parking Solar structures that would be located in one of the existing staff parking lots (Figure 4, Lot F or Lot G). Although plans are currently unavailable regarding the potential solar structure installments, the proposed Overhead Parking Solar structures are determined to qualify under the statutory exemption codified in SB 226 Section 21080.35 since the solar energy project is proposed to be installed at an existing parking lot which has been designated and used for parking vehicles for at least the previous two years and does not involve the removal of a tree required to be planted, maintained, or protected pursuant to local, state, or federal requirements, nor the removal of a native tree over 25 years old.

a-c) **Less Than Significant with Mitigation Impact.** The proposed Project site is located within the jurisdictional boundaries of the Sacramento Metropolitan Air Quality Management District (Sac Metro). According to Sac Metro, the procedure for assessing construction and operation emission impacts must be analyzed using the newer CalEEMod 2016 impact calculator. A CalEEMod analysis was conducted by our firm for the proposed project using the following project characteristics: Junior College Land Use, Climate Zone 6, 3.5 m/s Wind Speed, 58 days Precipitation Frequency, SMUD Utility Company, 1.26 lot (project) acreage, and 54,790 building square footage (proposed maximum gross square footage of new Lillard Hall). Where project-specific parameters are unknown, the default values in CalEEMod are used as they provide a conservative estimate of emissions.

ASSESSMENTS AND FINDINGS

Long-Term Operational Emissions. Long-term operational impacts to air quality are greatly determined by land uses and vehicle travel associated with these uses. The amount of long-term emissions that generally result from a project such as a school is largely based on the number of new vehicle trips to the school site as a result of the project. In the case of the proposed project, there should be essentially no significant changes in vehicle patterns to the site, since the proposed project Lillard Hall replacement and modernization is intended to service current staff and student and not in order to facilitate growth. The

California Emissions Estimator Model (CalEEMod) was used to estimate the projects long term operational emissions. Detailed CalEEMod results are shown in Appendix B, with a summary of long-term operation project emissions presented in the table below:

Table A-1. Estimated Operational Air Pollutant Emissions.

Pollutant	Sac Metro Thresholds (tons/year)	Sac Metro Thresholds (lbs/day)	Unmitigated Emissions		Mitigated Emissions	
			(tons/year)	(lbs/day)	(tons/year)	(lbs/day)
NO_x	—	65	1.33	9.48	1.32	9.40
ROG	—	65	0.56	4.15	0.54	4.06
PM_{10}	14.6	80	0.8195	5.98	0.8185	5.97
$PM_{2.5}$	15	82	0.23	1.66	0.2283	1.65

Note: lbs/day reported are peak daily totals

The proposed project is planned for completion/operation beginning Summer 2022. Based on the CalEEMod emissions, the project is below the Sac Metro thresholds of significance for NO_x, ROG, PM_{10} and $PM_{2.5}$. SO_2 operational emissions are very low (0.00989 tons/year or peak daily total 0.0746 lb/day unmitigated and 0.00981 tons/year or peak daily total 0.0742 lb/day mitigated) and are therefore of little concern. A cumulative significant impact for CO does not already exist in this region and CO emissions (3.2248 tons/year or peak daily total 24.9104 lb/day unmitigated and 3.213 tons/year or peak daily total 24.8458 lb/day mitigated) would not result in localized CO concentration above the Sac Metro thresholds. Additionally, CO is created by the combustion of fossil fuels by vehicles – this project is not anticipated to increase traffic, and as discussed above. Operational emissions "mitigations" include using low VOC paint, low VOC cleaning supplies, low-flow bathroom fixtures, as well as an estimated 20 percent exceedance of Title 24 and installation of high efficiency lighting. The operational period emissions for the project (Appendix B) are all below the Sac Metro thresholds of significance.

Short-Term, Construction Phase Emissions. Short-term construction impacts to air include the emissions related to construction workers accessing the site, emissions from construction equipment and grading, and emissions related to the application of architectural coatings. The screening criteria used by the Sac Metro to assess and identify projects which may have less than significant construction impacts include projects that are 35 acres or less in size generally will not exceed the District's construction NOx threshold of significance and which do not:

- Include buildings more than 4 stories tall;
- Include demolition activities;
- Include significant trenching activities;
- Have a construction schedule that is unusually compact, fast paced, or involves more than 2 phases occurring simultaneously;
- Involve cut-and-fill operations; and
- Require import or export of soil materials that will require a considerable amount of haul truck activity.

The proposed project generally meets these screening criteria, with the exception of the planned old Lillard Hall demolition. CalEEMod accounted for the planned demolition portion

of the construction project (Appendix B) during the analysis. Short-term emissions for this project are considered to be related to the construction phase of the project. Of the many emissions generated during this type of construction, however, Ozone, PM_{10} and $PM_{2.5}$ are considered the pollutants of greatest concern. PM_{10} emitted throughout the construction project can vary greatly, contingent on the level of activity, the specific operations, the equipment utilized, and other factors, making quantification difficult. The Sac Metro has adopted a set of Fugitive Dust Rules, collectively called Rule 403 which specifically address fugitive dust generated by construction related activities. The California Emissions Estimator Model (CalEEMod) was used to estimate the projects short term construction emissions. Detailed CalEEMod results are shown in Appendix B, with a summary of short-term operation project emissions presented in the table below:

Table A-2. Estimated Construction Air Pollutant Emissions.

Pollutant	Sac Metro Thresholds (tons/year)	Sac Metro Thresholds (lbs/day)	Unmitigated Emissions		Mitigated Emissions	
			(tons/year)	(lbs/day)	(tons/year)	(lbs/day)
NO_x	—	85	1.46	22.87	1.46	22.87
ROG	—	—	0.3082	51.03	0.3082	51.03
PM_{10}	14.6	80	0.1228	6.682	0.1042	3.144
$PM_{2.5}$	15	82	0.0859	3.73	0.0797	1.924

Note: lb/day reported are peak daily totals

Both the mitigated and unmitigated values for NO_x, ROG, PM_{10}, and $PM_{2.5}$ are below the threshold of significance. SO_2 emissions during the construction phase remain the same with mitigation and are very low (0.00228 tons/year or peak daily total 0.0303 lb/day) and are therefore of little concern. A cumulative significant impact for CO does not already exist in this region and CO emissions (1.1227 tons/year or peak daily total 15.50 lb/day) is considered low.

The analysis provided the maximum daily emissions for unmitigated construction, mitigated construction, unmitigated operational, and mitigated operational. As discussed below, after **Mitigation Measure Air – 1 and Mitigation Measure Air – 2** is implemented, impacts to air quality will be **less than significant with mitigation**.

Air Quality Mitigation 1 - Rule 201: General Permit Requirements

The District shall not begin construction activities until first securing appropriate permits from the Sacramento Metropolitan Air Quality Management District.

Air Quality Mitigation 2 – Rule 403: Fugitive Dust

The following procedures will be adhered to by the construction contractor(s) in accordance with Air District Rule 403 and Enhanced Fugitive Dust Control Practices:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Soil Disturbance Areas:

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.
- Install wind-breaks (e.g. plant trees, solid fencing) on windward side(s) of construction areas.
- Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

Based on the highest estimated emissions, evaluated per the Sac Metro Thresholds of Significance; the implementation of **Mitigation Measure Air 1**, which requires appropriate permitting with the Sac Metro prior to construction; and the implementation of **Mitigation Measure Air 2**, which incorporates control of fugitive dust required by District Rule 403, and Enhanced Fugitive Dust Control Practices, the project Construction impacts to air quality will be **less than significant with mitigation**.

Additional **Air Quality Mitigation Measures (3-6)** required by Sac Metro during construction which will be implemented include the following:

Air Quality Mitigation 3 - Rule 414: Boilers and Process Heater Requirements
The developer or contractor is required to install water heaters rated less than 1,000,000 BTU per hour.

Air Quality Mitigation 4 - Rule 442: Architectural Coatings Requirements
The developer or contractor is required to use coatings which comply with volatile organic compound content limits as specified in the rule.

Air Quality Mitigation 5 - Rule 453: Cutback and Emulsified Asphalt Paving Materials Requirements

The developer or contractor is prohibited to use certain types of cut back or emulsified asphalt for paving, road construction or road maintenance activities.

Air Quality Mitigation 6 - Rule 460: Adhesive and Sealants

The developer or contractor is required to use adhesives and sealants that comply with the volatile organic compound content limits specified in the rule.

d) **Less Than Significant Impact.** Sensitive receptors in the vicinity include the existing campus where the proposed project is located and surrounding residential homes. Since the proposed project is well below all of the threshold criteria established by Sac Metro, it is not anticipated there would be a significant change in substantial pollutant concentrations. In addition, the District will comply with **Mitigation Measure Air 7: Rule 402** and, per 13 CCR Division 3, Chapter 9 regulations **Mitigation Measure Air 8: Equipment during construction**. Therefore, this is a less than significant with mitigation impact.

Air Quality Mitigation 7 - Rule 402: Nuisance Requirements

The developer or contractor is required to prevent dust or any emissions from onsite activities from causing injury, nuisance, or annoyance to the public.

Air Quality Mitigation 8 – Equipment during Construction

- The developer or contractor is required to comply with all registration and operational requirements of the portable equipment registration such as recordkeeping and notification.
- Idle time will be minimized either by shutting equipment off when not in use or reducing the time of idling to 5 minutes.

e) **No Impact.** The proposed project does not include any activities that would result in objectionable odors. Therefore, this is no impact.

IV. Greenhouse Gas Emissions

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

Climate change is a global problem. Pollutants with localized air quality effects have generally short atmospheric lifetimes (approximately 1 day), greenhouse gas (GHG) emissions persist in the atmosphere for long enough periods of time (1 year to several thousand years) to be dispersed around the globe. The amount of GHGs required to ultimately result in climate change is not precisely known. What is known is that the amount is enormous, and no single project would measurably contribute to noticeable incremental change in the average global temperature. Thus, from the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

Prominent GHGs of primary concern from land use development projects include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). There are other GHGs, such as chlorofluorocarbons, hydrofluorocarbons, and sulfur hexafluoride, however, these are less of a concern since construction and operational activities associated with land use development projects are not likely to generate these in substantial quantities. To quantify GHG, a standard of "CO_2-Equivalent" or CO_2E is used. Carbon dioxide equivalency (CO_2E) refers to the amount of mixed GHGs that would have the same global warming potential when measured over a specified timescale (generally 100 years).

California has adopted a wide variety of regulations aimed at reducing the State's greenhouse gas (GHG) emissions. These regulations include, but are not limited, to the following:

- **Assembly Bill (AB) 32**. The California Global Warming Solutions Act of 2006, requires California to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 directs ARB to develop and implement regulations that reduce statewide GHG emissions.
- **Executive Order S-3-05.** This order establishes GHG emission reduction targets for California and directs the CAL-EPA to coordinate oversight efforts. The targets, which were established by Governor Schwarzenegger, call for a reduction of GHG emissions to 2000 levels by 2010; a reduction of GHG emissions to 1990 levels by 2020; and a reduction of GHG emissions to 80% below 1990 levels by 2050.
- **Senate Bill 375.** Senate Bill (SB) 375 was enacted in order to align regional transportation planning efforts, regional GHG reduction targets, and land use and house allocation. SB 75 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), which will prescribe land use allocation in the MPOs Regional Transportation Plan.

- **Executive Order B-30-15.** This order requires that greenhouse gas emissions in California are reduced by 40 percent below 1990 levels by 2030, and below 1990 levels by 2050.
- **Senate Bill 226 Statutory Exemption 21080.35.** Exempting the installation of solar photovoltaic panels on the roof of a building or at an existing parking lot, if certain conditions are met. The parking lot must be in existence for the past two years or more and not involve 1) the removal of a tree required to be planted, maintained, or protected pursuant to local, state, or federal requirements, unless the tree dies and there is no requirement to replace the tree and there is no 2) removal of a native tree over 25 years old.

THRESHOLDS OF SIGNIFICANCE
For this analysis, Sac Metro's recommended thresholds of significance are as stated:

- A significant impact would result if the proposed project would result in the emission of GHG gases (CO_2E) in excess of 1,100 metric tons per year for either the construction period or operational phase of the project.

a) **Less Than Significant Impact.** The construction of the proposed Lillard Hall Replacement and Modernization project will create short-term, small impacts on GHG emissions from construction trips and equipment. Based on the CalEEMod Air Quality Model results (Appendix B), the proposed project construction GHG emissions will generate approximately a peak of 158.17 metric tons per year of CO_2 equivalent. This is below the Sac Metro's threshold of 1,100 metric tons per year. This is considered less than significant.

The long-term operations of the Lillard Hall Replacement and Modernization project will create long-term impacts on GHG emissions. Based on the CalEEMod Air Quality Model results (Appendix B), the proposed project, once operational, will generate approximately 1,123.77 metric tons per year of CO_2 equivalent unmitigated. This is slightly above the Sac Metro threshold of 1,100 metric tons per year. Per HGA (Appendix C), the schematic designs are still being considered, however, the proposed project has a minimum goal of to exceed Title 24 by 20 percent or greater, as demonstrated on previous similar projects. Furthermore, while the schematic designs are still being considered, there are sustainability goals and strategies being considered which include the following:

- Zero net energy goal;
- LEED gold equivalency goal;
- Compact building form;
- Shade use areas with building mass or elements; and
- Maximize northern and diffused light.

In addition to the replacement of the older less efficient Lillard Hall, the project will install the following as part of Greenhouse Gas Emission Mitigation Measure 1:

Greenhouse Gas Emissions Mitigation 1

- Eight (8) bike racks and two (2) bike lockers;
- Twenty-six trees will be planted post construction;
- Low flow fixtures; and
- High efficiency lighting.

Based on these measures, the proposed project, once operational, will generate approximately 1,084.57 metric tons per year of CO2 equivalent mitigated. This is below the Sac Metro's threshold of 1,100 metric tons per year and considered a less than significant impact.

b) **Less Than Significant Impact.** The proposed project is not anticipated to conflict with any policy or regulation adopted for the purposes of GHG reduction. This is a less than significant impact. The City of Sacramento has adopted Policies Addressing Climate Change (General Plan, 2035), however, it is anticipated that the proposed project would not conflict with these policies. The final project design details are currently unavailable at the current stage of the proposed project, however, based on CalEEMod estimated emissions calculations, the proposed projects are below the Sac Metro's ROG and NO_x operational thresholds.

The new Lillard Hall replacement building is intended to be designed to meet current energy efficiency standards (with a zero net energy design goal) which will further reduce GHG emissions compared to the outdated Lillard Hall. The Champion Meeting #1 documents illustrating schematic design phase overview is included in **Appendix C**. The project is a replacement, with a minimal increase of assignable square footage, and not intended to facilitate growth. As discussed above, the site will provide eight new bike racks and two new bike lockers, as well as twenty-six new trees. In addition, there will potentially be Overhead Solar Parking installed in either the adjacent staff parking Lot F or staff parking Lot G, which is consistent with the reduction of greenhouse gases through the use of renewable energy. No significant conflict with GHG reduction policies is anticipated, therefore, there is a **less than significant impact**.

V. Biological Resources

Issues		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the proposal:					
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 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 Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Moore Biological Consultants prepared a biological assessment (included in Appendix D) of the proposed project site and how the project could affect the environment within and adjacent to the sites. Their report includes biological assessment for potentially regulated Waters of the U.S. and wetlands, Federal and State special-status species, or potentially suitable habitat for species within the project site, in accordance with the Federal Endangered Species Act (FESA), the Clean Water Act (CWA), the Rivers and Harbors Act, the Migratory Bird Species Act (MBTA), the California Endangered Species Act (CESA), the California Environmental Quality Act (CEQA), the Fish and Game Code of California, the Porter-Cologne Water Quality Control Act, and the California Native Plant Protection Act. The results of their assessment are hereby incorporated by reference (Moore Biological Consultants, 2018).

Moore Biological Consultants utilized the California National Diversity Database (CNDDB) to identify wildlife and plant species that have been previously documented in the project vicinity or that have the potential to occur based on suitable habitat and geographical distribution. They also conducted a field survey of the proposed project site, which included an assessment of

potentially jurisdictional waters of the U.S., special-status species, and suitable habitat for special-status species.

a) **Less Than Significant Impact with Mitigation Incorporated.** The project site is in the southwest part of the Sacramento City campus and includes two existing buildings, nearby parking lots, and associated manicured lawns and landscaped area, and is biologically unremarkable. Development of the proposed project will result in the removal of some ornamental trees and shrubs, which from a wildlife habitat perspective is less than significant impact. Due to the lack of suitable habitat, it is unlikely that special-status plants occur in the site (Moore Biological Consultants, 2018). The Project would not significantly modify, either directly or indirectly, habitats of any species identified as candidate, sensitive, or special status. Special-status species are plants and animals that are legally protected under the CESA, FESA, or other regulations.

   The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531-1543) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. Section 7 of FESA requires Federal agencies to ensure that the actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Critical habitat is areas mapped by United States Fish and Wildlife Service (USFWS) as being critical to maintain and/or manage in a relatively natural state for the recovery of a listed species. The site is not within designated critical habitat for any federally listed species.

   The California Endangered Species Act (CESA) (Fish and Game Code 2050 et seq.) establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species, if reasonable and prudent alternatives are available that would avoid jeopardy. The CDFW is required to issue a written finding indicating if a project would jeopardize threatened or endangered species and specifying reasonable and prudent alternatives that would avoid jeopardy.

   CEQA Guidelines Section 15380 provides that a species not listed under the FESA or CESA may be considered rare or endangered under specific criteria. These criteria have been modeled after the definitions in FESA and CESA.

   While the project site may have provided habitat for special-status species at some point in the past, development has substantially modified natural habitats in the greater project vicinity, which includes those within the site. The CNDDB only contains one record of purple martin (*Progne subis*), a small songbird, as the only special-status species documented within a mile of the site. Of the wildlife species identified in the CNDDB search, Swainson's hawk is the only species that has any potential to occur in the project site on more than a transitory or very occasional basis. The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and fish and Game Code of California protect Swainson's hawks year-round as well as their nests during nesting season (March 1 through September 15). Swainson's hawk could be disturbed by noise if they nested in or near the project site during construction (Moore Biological Consultants, 2018).

Implementation of the following mitigation measure would reduce the above-identified impacts to biological resources to a less-than-significant level.

Biological Resources Mitigation Measure 1 - Preconstruction Survey Requirements
A qualified biologist shall conduct a preconstruction survey for nesting Swainson's hawks within 0.25 miles of the project site if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. This determination should be pursuant to criteria set forth by CDFW (Moore Biological Consultants, 2018).

On-site trees, shrubs, and grasslands may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918 and Fish and Game Code of California. A qualified biologist shall conduct a preconstruction nesting bird survey if vegetation removal and/or project construction occurs between February 1 and August 31. If active nests are found within the survey area, vegetation removal and/or project construction should be delayed until a qualified biologist determines nesting is complete (Moore Biological Consultants, 2018).

b) **No Impact.** The proposed project will have no adverse impacts on sensitive or regulated habitat because the Project site itself is devoid of native riparian vegetation or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (Moore Biological Consultants, 2018). Therefore, there is no impact.

c) **No Impact.** There are no potentially jurisdictional Waters of the U.S. or wetlands in the site. The site consists entirely of landscaped areas that are highly disturbed. Specifically, there was no observed permanent or intermittent drainages, vernal pools, seasonal wetlands, marshes, ponds, lakes, or riparian wetlands of any variety within the site (Moore Biological Consultants, 2018). Therefore, there is no impact.

d) **No Impact.** The project site is not located on or adjacent to a waterway. The proposed project will not interfere substantially with the movement of any other 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. Therefore, this is no impact.

e) **Less Than Significant Impact with Mitigation Incorporated.** The proposed project will result in the removal of some ornamental trees and shrubs. City Municipal Code Chapter 12.64 requires a City Heritage Permit if there are planned remove or trimming of Heritage Trees. The project will not be reviewed by the City of Sacramento Planning Department, and therefore not subject to the Heritage Tree Ordinance. This is a **less than significant impact**.

Removal of trees may affect nesting birds protected by the federal Migratory Bird Treaty. In order to reduce any potential impacts to nesting migratory birds to a less than significant level, Biological Resources Mitigation Measure 1 is required. With Biological Resources Mitigation Measure 1 incorporated, this is a **less than significant impact**.

f) **No Impact.** The City of Sacramento does not have an adopted Habitat Conservation Plan (HCP) which covers the Sacramento City College site. The nearest approved HCP covers North Natomas. The project will therefore have no impact on HCPs or other conservation plans.

VI. Cultural Resources

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	■
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c.	Directly or indirectly destroy a unique paleontological resource or unique geologic feature?	☐	■	☐	☐
d.	Disturb any human remains, including those interred outsides of formal cemeteries.	☐	■	☐	☐
e.	Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?	☐	■	☐	☐

a) **Less than Significant.** On September 14, 2018, Petralogix Engineering, Inc. (Petralogix) sent a letter describing the project with maps depicting the project area to the Sacramento County Historical Society. The letter requested any information or concerns about cultural resources in the project area. No response to consultation attempt has been received to date from the Sacramento County Historical Society. Petralogix conducted a search on the National Register of Historic Places; the Sacramento City College address 3835 Freeport Boulevard is listed. The National Register Listed Property reference number for the Sacramento City College is No. 94000924. The site has a Historic Name listed as "Sacramento Junior College Annex and Extensions" within the Sacramento City College Historic District for architect Harry J. Devine Senior. Petralogix staff requested a non-confidential record search at the Northern Central Information Center (NCIC) via e-mail on October 10, 2018, with no response to date. The NCIC, of the California Historical Resources Information System, California State University, Sacramento, an affiliate of the Office of Historic Preservation (OHP), is the official state repository of cultural resource records and reports for Sacramento County. The cultural resources identified within the project site include The Sacramento City College District, which consists of five (5) buildings designed by architect Harry J. Devin, Sr. with the period of significance 1936-1939. The Lillard Hall and Mohr Hall buildings are not registered historic buildings (see Figure 5). This is a **less than significant impact**.

b) **Less than Significant with Mitigation Incorporated.** A significant impact would occur if the Project causes a substantial adverse change to an archaeological resource through demolition, construction, conversion, rehabilitation, relocation, or alteration. The Native American Heritage Commission (NAHC) was contacted regarding Sacred Lands File and Native American Contacts List Request. No correspondence from the NAHC has been received to date. The project area has been previously built-up and developed, however, archaeological resources may exist within the Project Area. In the event that

archaeological resources are observed during Project construction-related activities, **Mitigation Measure CR-1** is in place to reduce impacts to a less than significant level. Therefore, the impact on archaeological resources is considered less than significant with mitigation incorporated.

Cultural Resources Mitigation Measure 1

If prehistoric or historic-period archaeological deposits are discovered during Project activities, all work within 25 feet of the discovery should be redirected and the archaeologist should assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Impacts to archaeological deposits should be avoided by Project activities, but if such impacts cannot be avoided, the deposits should be evaluated for their California Register eligibility. If the deposits are not California Register–eligible, no further protection of the finds is necessary. If the deposits are California Register–eligible, they should be protected from Project-related impacts, or such impacts should be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate.

c) **Less than Significant with Mitigation Incorporated.** No evidence of a unique paleontological resource or unique geologic feature was revealed per the investigations discussed above. Implementation of **Mitigation Measure CR-2** would ensure that any previously unidentified paleontological resources encountered during ground disturbing activities for the proposed project would be managed in accordance with applicable regulations. Therefore, the impact on paleontological resources is considered less than significant with mitigation incorporated.

Cultural Resources Mitigation Measure 2

Should paleontological resources be identified on the Project site during any ground disturbing activities related to the Project, all ground disturbing activities within 100 feet of the discovery shall cease and the Los Rios Community School District shall be notified within 24 hours of the discovery. The Project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, specific plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

d) **Less than Significant with Mitigation Incorporated.** A significant impact may occur if grading or excavation activities associated with the proposed Project would disturb previously interred human remains. Implementation of **Mitigation Measure CR-3** would ensure that human remains encountered during Project activities are treated in a manner consistent with state law and reduce impacts to human remains to a less than significant level as required by CEQA. This would occur through the respectful coordination with descendant communities to ensure that the traditional and cultural values of said community are incorporated in the decision-making process concerning the disposition of

human remains that cannot be avoided. The implementation of these mitigation measures would reduce this potential impact to a less than significant level.

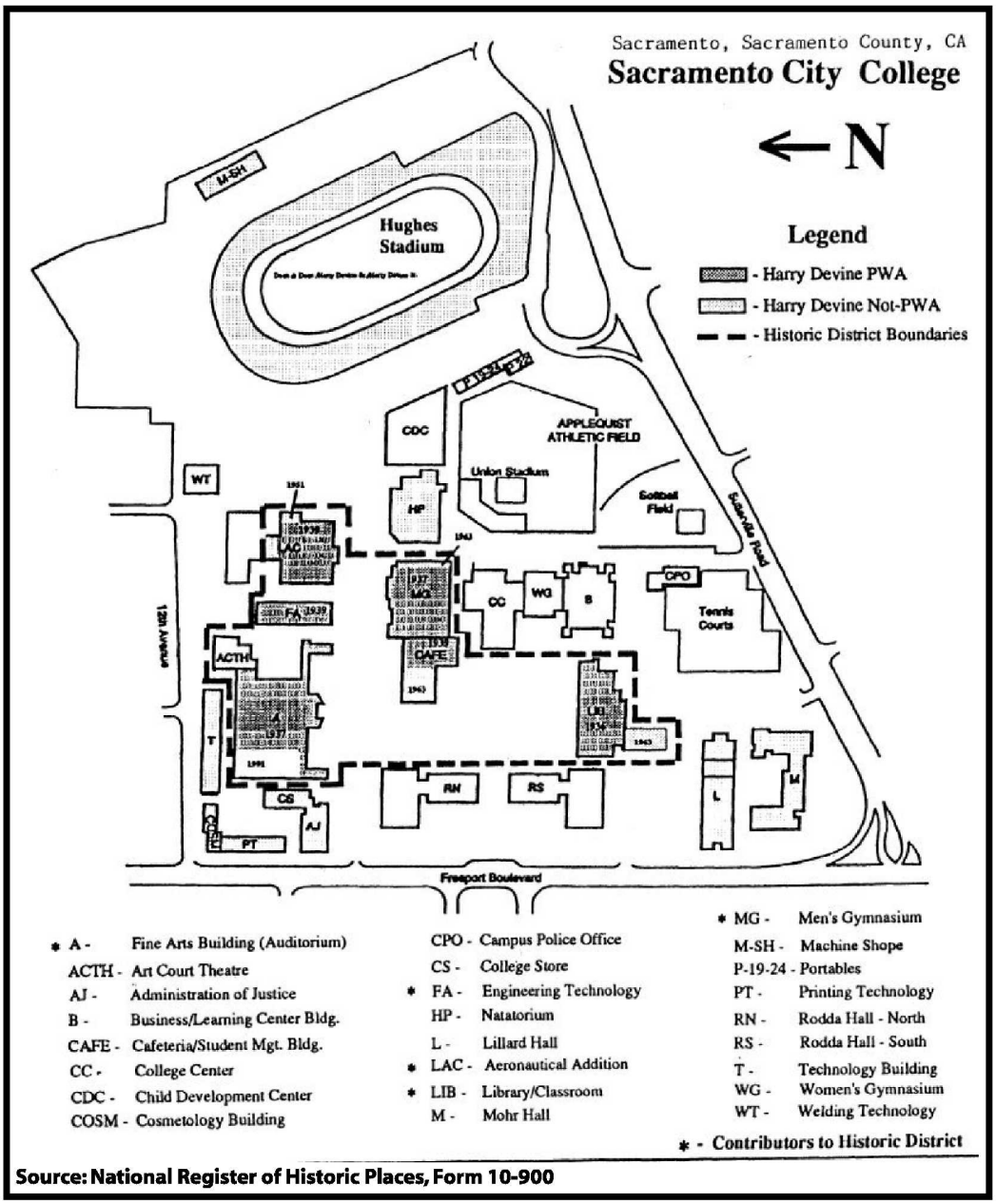
Cultural Resources Mitigation Measure 3

Any human remains encountered during Project ground-disturbing activities should be treated in accordance with California Health and Safety Co de Section 7050.5. The lead agency should inform its contractor(s) of the sensitivity of the Direct Area of Potential Effect for human remains and verify that the following directive has been included in the appropriate contract documents:

> If human remains are encountered during Project activities, the Project shall comply with the requirements of California Health and Safety Code Section 7050.5. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the county coroner has determined the manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation or to his or her authorized representative. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel/ construction workers shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

e) **Less than Significant with Mitigation Incorporated.** Assembly Bill (AB) 52 applies to the project, however, no tribes have requested notification at this time. Under AB 52, lead agencies must evaluate a project's potential impact to a tribal cultural resource. A tribal cultural resource is defined as a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American tribe. The NAHC was contacted regarding Sacred Lands File and Native American Contacts List Request on September 14, 2018 via e-mail. No response to consultation has been received to date.

No cultural resources or unique geologic features were identified within the project area, as discussed in questions a) and b). In the event that Native American remnants are observed during Project construction-related activities, **Mitigation Measures CR-1 and CR-2** are in place to reduce impacts to a less than significant level. Therefore, the impact on Native American resources is considered less than significant with mitigation incorporated.



* A - Fine Arts Building (Auditorium)
ACTH - Art Court Theatre
AJ - Administration of Justice
B - Business/Learning Center Bldg.
CAFE - Cafeteria/Student Mgt. Bldg.
CC - College Center
CDC - Child Development Center
COSM - Cosmetology Building
CPO - Campus Police Office
CS - College Store
* FA - Engineering Technology
HP - Natatorium
L - Lillard Hall
* LAC - Aeronautical Addition
* LIB - Library/Classroom
M - Mohr Hall
* MG - Men's Gymnasium
M-SH - Machine Shope
P-19-24 - Portables
PT - Printing Technology
RN - Rodda Hall - North
RS - Rodda Hall - South
T - Technology Building
WG - Women's Gymnasium
WT - Welding Technology

* - Contributors to Historic District

Figure 5: Sacramento City College - Historic District

Geology and Soils

Issues		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 soils, as defined in Table 18-1-13 of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	■	☐	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■

Youngdahl Consulting Group, Inc. (Youngdahl) completed a *Geotechnical Engineering Study (GES)*, dated January 29, 2016, (included in **Appendix E**) for the categorically exempt Mohr Hall replacement project. To date, there is no geotechnical study for the Lillard Hall portion of the project, however, based on the proximity to Mohr Hall, the Mohr Hall Study is considered sufficient for Lillard Hall. The *GES* provides geotechnical recommendations for project related earthwork, as well as the design and construction of foundations and floor slabs for a multi-story structure. The *GES* report also presents a comprehensive list of the Projects related seismic/faulting hazards and site-specific soil conditions. These findings are based on review of regional seismic literature, as well as the interpretation of in-situ subsurface exploration data, respectively.

Youngdahl's subsurface exploration program included the advancement of five exploratory soil borings - one advanced to 11.5 feet below ground surface (bgs), three advanced to 21.5 feet bgs, and one advanced to 51.5 feet bgs. Subsurface soil conditions were found to be relatively consistent across the Project site. In general, surface soils were comprised of slightly moist to moist sandy clays in a medium stiff to stiff condition to depths of 5 to 10 feet

bgs. These clays were underlain by slightly moist to moist sandy silts in a hard and variably cemented condition to depths of 11.5 to 21.5 feet bgs. In the single boring advanced to 51.5 feet bgs, the sandy silts of the second stratum were underlain by interbedded layers of silty clayey sands and sandy silts in a medium dense to very dense / hard and variably cemented condition (Youngdahl. 2016).

a) **Less than Significant with Mitigation Incorporated.**

i. **Less than Significant Impact.** The Project site is located within California's Central Valley, a region of relatively low to moderate seismic activity. Review of *Fault Rupture Hazard Zones in California, Special Publication 42* indicates that the Project site is not located within the mapped trace of any known faults, nor is it listed within a State designated Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007). No evidence of recent or active faulting was observed during Youngdahl's field study. As provided by Youngdahl's *GER,* the nearest mapped potentially active and active faults to the Project site are listed in the table below:

Table 1.
Local Active and Potentially Active Faults

Fault Name	Approximate Distance and Direction to Site	Activity
Dunnigan Hills	42 km, NW	Active
Green Valley Fault Zone	68 km, SW	Active
Cleveland Hill Fault	101 km, N	Active
Maidu Fault	51 km, NE	Potentially Active
Ione Fault	55 km, SE	Potentially Active
Spenceville Fault	61 km, NE	Potentially Active
Putah Creek Fault	65 km, W	Potentially Active

Construction will be required to meet the design standards set forth in the 2016 Sacramento County Building Design Criteria and Sacramento City's Standards. Given the distance of these faults, earthquake hazard is considered to have a **less than significant impact**.

ii. **Less than Significant with Mitigation Incorporated.** Site specific seismic design parameters were considered for the mitigative design of the proposed Project improvements. Seismic design parameters outputs were calculated by a public domain computer program developed by the USGS and were determined in accordance with Section 1613.1 of the California Building Code (CBC; 2013 edition [Youngdahl's *GER* was issued prior to the 2016 revisions of the CBC) and ASCE Standard 7 for seismic design. These values assume a stiff soil profile for the Project site, which correlates to CBC Site Classification D. Based on these parameters, the mean peak ground acceleration (PGA_m) for the project site is expected to be 0.313g, a relatively moderate value (Youngdahl, 2016).

Geology and Soils Mitigation 1

As stated above, the project area is not located within an Alquist-Priolo Earthquake Fault Zone. Construction will be required to meet the design standards set forth in the 2016 Sacramento County Building Design Criteria and Sacramento City's Standards, as well as the seismic design criteria specified in the 2016 CBC.

Based on the required design standards, a site location outside of any designated Alquist-Priolo Earthquake Fault Zone, and moderate PGA_M anticipated for the Project site, ground shaking is considered **less than significant with incorporated mitigation design.**

iii. **Less than Significant Impact.** Liquefaction is a mode of ground failure that results from the generation of excess pore-water pressures during earthquake ground shaking, causing loss of shear strength. This phenomenon generally occurs in areas of high seismicity, where groundwater is shallow, and soils are loose and granular. Research has shown that saturated, loose to medium-dense sands with a silt content of less than 25% that are located within the top 40 feet are most susceptible to liquefaction (Youngdahl, 2016).

The California Geologic Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at risk of liquefaction-related ground failure during a seismic event and have been designated based upon mapped surficial deposits and the likely presence of a relatively shallow water table. The Project site is not mapped within a CGS-designated area of potential liquefaction (CGS, *Earthquake Zones of Required Investigation*).

Due to the relatively low seismicity of the area and the relatively shallow depth to cemented soils, the potential for seismically induced damage due to liquefaction is considered negligible. Mitigation for seismically induced liquefaction is not required for development (Youngdahl, 2016). This is a **less than significant impact.**

iv). **No Impact**. The Project area is located on geographically level terrain (H15:1V or flatter) that may be considered insufficient to produce a landslide. The Project area is not located within an earthquake-induced landslide zone (defined as "an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement") per the reviewed *Earthquake Zones of Required Investigations* map provided by the CGS. As a result, no impacts related to landslides are anticipated. This is a **less than significant impact.**

b) **Less than Significant Impact**. The Project area consists of near surface clay soils which are suitable for use as engineered fill (Youngdahl, 2016). Per Youngdahl's recommendations, all areas proposed to receive fill should be scarified to a minimum depth of 8-inches, moisture conditioned as needed, and uniformly re-compacted to at least 90 percent of the maximum dry density based on the Modified Proctor Test (ASTM D1557) test method at a moisture content of about 3 to 4 percent over optimum. The resulting excavation should be restored to grade with compacted engineered fill, which should be placed in thin horizontal lifts not to exceed 12 inches in uncompacted thickness. The fill should be moisture conditioned to about 3 to 4 percent over optimum and compacted to a relative compaction of not less than 90 percent of the maximum dry density. Engineered fill compaction should be evaluated by means of in-situ density tests that are to be performed during fill placement in order to evaluate the adequacy of soil compaction during earthwork activities.

The Project will be subject to the City of Sacramento's Chapter 15.88 Grading, Erosion and Sediment Control Code and Permitting Regulations. As a normal and standard requirement, the Project would be required to prepare and have approved Stormwater Pollution Prevention Plans (SWPPPs) that mandate construction and post-construction water quality provisions, including but not limited to erosion control plans during construction, installation of biofilters and/or mechanical cleansing of stormwater run-off, and similar elements. As a result of these standard engineering measures, the Project would have a **less than significant impact** on substantial soil erosion and issues resulting from the removal of topsoil during and after the construction process.

c) **Less than Significant Impact**. The *GES* performed by Youngdahl for the categorically exempt Mohr Hall replacement consisted of five borings drilled to depths of 11.5 feet, 21.5 feet and 51.5 feet below ground surface (bgs) within the proposed project area. The upper surface materials encountered consisted of 5 feet to 10 feet of medium stiff to stiff sandy clay underlain by hard, variably cemented sandy silt, in the single boring advanced to 51.5 feet bgs, overly interbedded layers of medium dense to very dense / hard silty clayey sands and sandy silts. Results of borings are given below:

Table 2.
Results of Soil Borings

Stratum	Approximate Depth to Bottom of Stratum	Material Description	Consistency/Density
1	5 to 10 feet bgs	Sandy Clay	Medium Stiff
2	20 to 21.5 feet bgs	Sandy Silt	Hard
3	21.5 to 30 feet bgs (maximum boring depth)	Clayey Sand to Silty Sand	Medium Dense to Very Hard
4	30 to 51.5 feet bgs (maximum boring depth)	Silty Clayey Sand to Sandy Silt	Very Dense to Hard

As previously stated, Youngdahl identified groundwater at a depth of approximately 24 feet bgs during subsurface exploration activities (maximum depth of 51.5 feet bgs) at the Project site. Supplementary review of well data within the site vicinity indicates that the permanent groundwater table in the area lies approximately 18 to 20 feet bgs (Youngdahl, 2016). It should be noted that future groundwater conditions may change as a result of rainfall, construction activities, irrigation, or other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction may be higher or lower than the levels indicated during Youngdahl's field investigation.

Due to the relatively low seismicity of the area and the relatively shallow depth of cemented soils, the potential for seismically induced liquefaction, surface rupture/lateral spreading, and settlement at the Project site is considered negligible (Youngdahl, 2016). This is a **less than significant impact.**

Due to the flat topography at the site, the relatively low seismicity of the area, and relatively shallow depth to cemented soils, the landslide potential for the Project site is considered negligible (Youngdahl, 2016). This is a **less than significant impact.**

d) **Less than Significant with Mitigation Incorporated.** Based on the results of their subsurface exploration, laboratory testing, and analysis, Youngdahl concluded that moderately expansive surface soils are present at the Project site. Given the moisture-sensitive nature of the on-site soils, Youngdahl provides recommendations in its *GER* to mitigate the effects of soil shrinkage and expansions on foundations and exterior flatwork. However, even if these mitigative procedures are followed, some movement and minor cracking in the structure should be anticipated.

Geology and Soils Mitigation 2

Youngdahl's geotechnical report states that the proposed building structures may be supported upon conventional shallow foundations, such as continuous footings so long as the site grades are properly prepared. Conventional shallow foundations should be a minimum of 12 inches wide and should be founded a minimum of 24 inches below the adjacent soil grade. Foundation reinforcement design should be provided by the structural engineer. Additionally, soil-supported slab-on-grade floors may feasibly be used as main floors of the building structures, contingent on proper subgrade preparation (Youngdahl, 2016).

Earthwork should be observed and evaluated by Youngdahl. Earthwork evaluation shall include the observation and testing of engineered fills, subgrade preparation, foundation bearing soils and other geotechnical conditions during the construction of the project. Standard design and construction techniques will then be used to mitigate the potential for damage. The Project will also be subject to applicable engineering and County and City code requirements, which ensure that the potential hazards of unstable soil are minimized.

e) **No Impact**. The proposed Project will not utilize a septic system. No significant impact.

VII. Hazards and Hazardous Materials

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	Would the Project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	■	☐	☐
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	■	☐	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	■	☐
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	■	☐	☐
e.	For a Project located within an airport land use plan or, where such a plan has not been adopted, within 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 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?	☐	☐	☐	■

a,b) **Less than Significant Impact with Mitigation Incorporated.** The project does not produce hazardous material. Any hazardous substances, such as those used for routine cleaning, upkeep of surrounding grounds, and maintenance, may be stored onsite in designated areas in and around the Lillard Hall site. The proposed replacement of the Lillard Hall would not involve the routine use, transport, or disposal of hazardous material(s); however, there is the potential accidental release of hazardous material through possible spills associated with the construction equipment, such as oil and/or

hydraulic fluid, during the construction phase of the project. With the implementation of Mitigation Measure Hazards and Hazardous Materials 1, which requires standard spill prevention measures and a procedure for spill response if one does occur, the projects potential to create a significant hazard to the public or the environment involving transport, use, disposal, or accidental release of hazardous materials, the impact is less than significant with mitigation incorporated.

Hazards and Hazardous Materials Mitigation 1
Spill Prevention and Control Measures will be implemented and include the following:

- Any fuel products, lubricating fluids, grease, or other products and/or waste released from the Contractor(s) vehicles, equipment, or operations, shall be collected and disposed of immediately, and in accordance with State, Federal, and local laws.
- Spill clean-up materials will be stored near potential spill areas (such as vehicle and equipment staging areas).
- Spill kits will include sorbent material (such as pads designed for oil and gas), socks and/or pads to prevent spread of hazardous material, and containers for storing and proper disposal.
- Employees and contractor(s) will be trained on proper hazardous spill clean-up practices.

c) **Less Than Significant Impact**. **Air Emission Facilities** —California Department of Education Code Section 17213(b); Public Resources Code Section 21151.8(a)(2); and the California Code of Regulations, Title 5, Section 14011(i) requires a school district, in consultation with the local air pollution control district, to identify facilities within one-quarter mile of the proposed site that might reasonably be anticipated to emit hazardous air emissions or handle hazardous or acutely hazardous materials and substances of waste. The Sacramento Metropolitan Air Quality Management District (Sac Metro) is responsible for providing written notification of any findings to the school district.

A public record request was submitted to the Sac Metro Air District requesting the identification and review of all sites potentially emitting hazardous air emissions within one-quarter mile of the proposed project site on September 28, 2018. Per Sac Metro, the Sacramento City College is reportedly a fuel dispensing station, and there is a standby internal combustion (IC) engine on site. Additional records for the surrounding area within one-quarter mile of the site indicate there are no hazardous air emissions adjacent the site; there is one gasoline dispensing station, two internal combustion standby generators and two paint booths (auto body shops) within one-quarter mile. These are considered **less than significant**.

d) **Less Than Significant Impact with Mitigation Incorporated**. The project takes place within the boundary of the Sacramento City College facility grounds. The project is not included in any hazardous materials sites compiled pursuant to Government Code Section 65962.5. In addition, one records requests was submitted with the Sacramento County Environmental Management Department (EMD) on September 14, 2018 requesting Hazardous Waste/Hazardous Materials information for the Sacramento City College parcel containing the project. The Department of Toxic Substances Control ENVIROSTOR website and the State Water Resources Control Board GeoTracker website were additionally reviewed for the site and adjacent parcels, in an attempt to identify hazardous materials that would create a significant hazard to the public or the environment.

The available EMD records reviewed indicate the Sacramento City College currently qualifies as a small quantity hazardous waste generator, with a valid operating permit, with no current violations on record. There is a Hazardous Materials Business Plan in effect for Sacramento City College as of 2017, which addresses the site as a Small Hazardous Waste Generator, with one underground storage tanks (UST) (one 2,000-gallon regular unleaded), as well as reports of various nonflammable gas, such as nitrogen, R22 refrigerant gas, acetylene gas, helium, and air. There is reportedly one 250-gallon aboveground tank located at the site. The records of previously installed underground storage tanks for the site indicate the site indicates there have been two (2) Leaking Underground Storage Tank (LUST) cases for Sacramento City College. One LUST clean-up site was opened on October 20, 1999 due to a leaking UST discovered; remediation occurred, and the LUST case was closed on December 17, 1990. A LUST case was opened for the site on June 8, 1999, however, the case was officially closed on March 7, 2006. Neither LUST cases occurred in the vicinity of the project location and are not considered a hazard in connection with the project. Geotracker was additionally reviewed in an attempt to identify hazardous materials that would create a significant hazard to the public or the environment from adjacent parcels; based on a review of Geotracker, there are several Case Closed LUST sites in the general vicinity which are not considered a hazard in connection with the project.

Pipelines

According to Pacific Gas & Electric online interactive natural gas transmission pipeline map, no hazardous pipelines have been identified within 1,500 feet of the project site. According to the Kinder Morgan referenced National Pipeline Mapping System, there are no gas transmission pipelines or hazardous liquid pipelines located within 1,500 feet of the project site. In addition, Steve Marositz with Kinder Morgan responded via e-mail correspondence dated September 24, 2017, with a map that shows the closest active Kinder Morgan pipeline is approximately 10,471 feet northwest of the site. The contractor(s) responsible for construction phases of the project will call 811 prior to digging or excavation in order to assure no smaller pipelines that may be within the project site are damaged. There is **no impact** from gas transmission pipelines or hazardous materials pipelines.

High Voltage Transmission Lines

An e-mail message received via e-mail from Lindsey Noyes of SMUD on September 27, 2018, states there are no SMUD transmission easements present within the southwest corner of the parcel that may affect Lillard Hall. There is thus no conflict with their transmission system. There is **no impact** from high voltage transmission lines.

Railroad Tracks

The Sacramento City College is located adjacent west to the Union Pacific Railroad Tracks and Sacramento Light Rail Station. Based on review of Google Earth Maps, the proposed project site is located approximately 1,800 feet west from the railroad and light rail tracks. This is a **less than significant impact** to the site from railroad tracks.

Asbestos

Asbestos is a generic term for the naturally occurring fibrous (asbestiform) variety of any of several minerals (crocidolite, tremolite, actinolite, anthophyllite, amosite and chrysotile) which separate into long flexible fibers and occur naturally in ultramafic rock formations. These igneous ultramafic rocks (pyroxenite, peridotite, dunite, and hornblendite) form below the earth's surface at very high temperatures and are exposed by uplift and erosion. During high-pressure processes involving tectonic deformation and burial, they may be altered to the metamorphic rock serpentinite. Chrysotile, the most common asbestos mineral in California, forms fibrous crystals in small veins in serpentinite rock. According to the California Department of Conservation, Division of Mines and Geology Open File Report 2000-19, the subject property is not located in an area likely to contain naturally occurring asbestos. Based on this information and given the geological conditions in the site area, the issue of naturally occurring asbestos from rock/soil is not expected to be a concern at the site and therefore not subject to 17 CCR, Division 3, Chapter 1, Subchapter 7.5 §93105 Naturally Occurring Asbestos for earth moving projects. Naturally occurring asbestos for this project is considered a **less than significant impact**.

The Lillard Hall building slated for demolition was likely built prior to the effect ban of most asbestos containing building materials, therefore, people's (such as students, staff, and construction workers) potential exposure of asbestos due to the demolition of asbestos containing materials is considered a moderate to high risk. Because of the risk of exposure to asbestos, demolition and/or renovation of existing buildings are subject to Sac Metro Air District Rule 902 in order to limit asbestos emissions and the disturbances of regulated-asbestos containing material generated or handled during these activities. With the implementation of Mitigation Measure Hazards and Hazardous Materials 2, which requires the developer or contractor to notify the Sac Metro Air District of any regulated or renovation or demolition activity. Rule 902 contains specific requirements for surveying, notification, removal, and disposal of asbestos containing material, including asbestos removal to be conducted by a certified and licensed asbestos abatement contractor. With the notification to Sac Metro Air District and Rule 902 compliance, renovation and demolition activity asbestos hazards are considered **less than significant impact with mitigation**.

Hazards and Hazardous Materials Mitigation 2

The developer or contractor is required to notify Sac Metro prior to demolition or renovations associated with the project. Project demolition and renovation of existing buildings are subject to Sac Metro Air District Rule 902 in order to limit asbestos emissions and the disturbance of regulated asbestos-containing material generated or handled during these activities.

Radon Potential

Radon is a gas that is produced by the decay of uranium and radium. This naturally occurring, colorless, odorless, and tasteless gas is produced in most soil or rock. Consequently, all buildings have some radon, as well as the outdoor air. Radon can move with ease through any porous material through which a gas can move. Void spaces and pores are found in the soil underlying any building. Radon is a known carcinogen which the Surgeon General has warned is the second leading cause of lung cancer in the United States.

The National Radon Database has been developed by the United States Environmental Protection Agency and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years of 1986 through 1992.

According to EPA publication 402-R-93-025, titled EPA's Map of Radon Zones, California, dated September 1993, Sacramento County is reportedly in Zone 3. Zone 3 has a predicted average radon screening level of less than 2 pCi/l. This is considered to be the lowest value of geologic radon potential. Therefore, the impact to the site from radon is considered **less than significant**.

e,f) **No Impact.** The California Department of Education requires, per Education Code Section 17215, that all airport runways and helipads (public or private) located within two miles of a proposed school site be identified. However, the Education Code pertains to the proposed acquisition or lease of a site and per Section 17215(f), this section does not apply to sites acquired prior to any additions or extensions to those sites.

Based on review of aerial photographs provided by Google Earth, along with the most recent topographic map (Sacramento, 2015), the nearest runway is the Sacramento Executive Airport, located approximately 1 mile south of the project site. The project heights are below the Federal Aviation Administration notification limits, and the finished two-story Halls will be of similar heights to the Halls they are replacing. Therefore, this has **no impact** on the site.

g) **No Impact**. The proposed replacement of Lillard Hall is not anticipated to interfere with road access, response plan or emergency evacuation plans for safety vehicles or personnel. The construction of the Proposed Project is not expected to generate excessive traffic for the area but will temporarily increase traffic at the Sacramento City College campus. There will be a Path of Travel (POT) plan formulated for the project which will be compliant with the currently applicable California Building Code Accessibility provisions for POT requirement. During the construction process, if POT items within the scope of the proposed project are found to be non-conforming beyond reasonable standard tolerances, they shall be brought into compliance. No **impact is expected**.

h) **No Impact**. The Project is located within a region that consists of residential houses, commercial businesses, and park land. The Project will not expose people or structures to a significant risk of loss, injury or death involving wild land fires. Therefore, **no impact** is expected.

VIII. Hydrology and Water Quality

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:					
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐
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 (i.e., 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)?	☐	☐	☐	■
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 floodplain 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 as a result of the failure of a levee or dam?	☐	☐	■	☐
j.	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■

The project site is located within the Sacramento River Basin. The Sacramento River Basin is bounded by the Sierra Nevada to the east, the Cascade Range and Trinity Mountains to the north, the Delta to the southwest. The American River watershed is located on the western slope of the Sierra Nevada, which extends westward to the City of Sacramento. The American, Cosumnes, and Sacramento rivers within the watershed are regulated by penstocks, canals, pipelines, and dams for flood control, power generation, recreation, fisheries, water supply, and wildlife management. The Folsom Dam is located on the

American River. The Sacramento, American, and Cosumnes Rivers are the primary surface water tributaries that recharge the Central Valley groundwater basin underlying the City of Sacramento.

The construction will take place on Los Rios Community School District owned land, within the boundaries of the Sacramento City College, and not within county road ditches or waterways. Construction impacts will be temporary and best management practices will be in place. The Project is subject to Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as excavation. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). As such, the construction activities will include the preparation and implementation of a SWPPP to reduce construction impacts to waterways and sources.

a) **Less Than Significant Impact**. The State Water Resources Control Board (SWRCB) has adopted a National Pollutant Discharge Elimination System (NPDES) general permit for Storm Discharges Associated with Construction Activity (state permit) which requires every construction project greater than one acre to submit a Notice of Intent (NOI) for coverage, and to prepare a Storm Water Pollution Prevention Plan (SWPPP). The ground disturbance for the project is estimated at approximately 1.0 to 1.5 acres, therefore, the project is subject to the NOI and SWPPP requirement. The project will comply with the terms and conditions of the NPDES, as approved by the State Water Resources Control Board under Section 402 of the Clean Water Act.

   Compliance with the terms and conditions of the NPDES, development and implementation of a SWPPP, and compliance with the Regional Water Quality Control Board discharge requirements will ensure a **less than significant impact**.

b) **No Impact**. The proposed project property connects to the City of Sacramento water utility services and is not intended to facilitate growth. Because the project will comply with the requirements of the City of Sacramento Utilities, impacts to groundwater supplies will be **less than significant**.

c-e) **Less Than Significant Impact**. The Project is proposed to occur within the developed Sacramento City College (SCC) campus property, within a footprint previously occupied by Mohr Hall. No streams are located near the project site, therefore, there will be no alterations of stream courses. The SCC is located on relatively flat topography, with changes in elevation in order of approximately one foot across the site. Surrounding the completed replacements of Mohr and Lillard Hall will be covered with flatwork and landscaping. No substantial erosion and no flooding will occur; the project will not substantially alter the existing drainage pattern of the site or area. Therefore, this is a less than **significant impact**.

   f) **Less Than Significant Impact**. The project is located within the Sacramento City College campus. The Lillard Hall building replacement is not involved with any industrial processes and will not produce significant sources of pollution. The proposed project will have water service provided by the City of Sacramento Department of Utilities; this is considered **less than significant**.

g-h) **No Impact**. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) 06067C0308H, the proposed site is located within an area of 0.2 percent annual chance of flood, areas of 1 percent annual chance flood with average depths of less than 1-foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent chance flood. The Lillard Hall replacement structure will be within the previous footprint of the old Mohr Hall. Therefore, there is **no impact**.

i) **Less than Significant Impact**. The majority of the City of Sacramento is protected by dams and levees. The levees and dams provide protection against flooding; however, they are subject to failure and any property in the City is at risk of flooding. As discussed above, the site does not fall within a 100-year flood hazard area, however, the Sacramento City College is within the Areas Dependent of Levees, and within the risk of flooding due to failure of levees. Currently there are no specific Los Rios Community College District projects planned to address flooding since this is considered a low risk. This is considered a l**ess than significant impact**.

j) **No Impact**. The Project will not be impacted by inundation by seiche, tsunami, or mudflow, because the project is not adjacent to any body of water that has the potential to experience a seiche or tsunami. The Project site is not in the path of any potential mudflow.

IX. Land Use and Planning

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:					
a.	Physically divide an established community?	☐	☐	☐	■
b.	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 on environmental effect?	☐	☐	☐	■
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■

a) **No Impact**. The project would be located within the parcel boundary of the established Sacramento City College and would not result in the physical division of a community. Therefore, there is **no impact** related to physical division of an established community.

b) **No Impact**. The City of Sacramento's 2035 General Plan designates the Sacramento City College (SCC) as "Public/Quasi-Public". The Project involves the proposed demolition and replacement of an already existing buildings within the SCC. This is consistent with the current site land use. The Project also does not propose to change any existing zoning. Thus, there is **no impact**.

c) **Less Than Significant Impact**. The City of Sacramento does not have an adopted Habitat Conservation Plan (HCP) which covers the Sacramento City College site. The nearest approved HCP covers North Natomas. The project will therefore have no impact on HCPs or other conservation plans.

Mineral Resources

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	■
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?	☐	☐	☐	■

According to the City of Sacramento 2035 General Plan, ER 5.1.1 Mineral Resource Zones, the City shall protect lands designated MRZ-2, as mapped by the California Geologic Survey.

a,b) **No Impact**. The current use of the proposed Project site consists of the replacement of Lillard Hall. According to the State Aggregate Resource Areas Map, the proposed Project site is not located within an area of primary extractive resources. Therefore, there is **no impact.**

X. Noise

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 groundborne vibration or groundborne noise levels?	☐	☐	■	☐
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?	☐	☐	☐	■

Noise is defined as unwanted sound. Sound levels are generally measured in decibels (dB) with 0 being the threshold of hearing. Typical examples of noise decibel levels often used would be low decibel level of 50 dB for light traffic to high decibel level of 120 dB for a jet taking off at approximately 200 feet distance (FTA, 2006). There are different methods for assessing noise levels. CNEL refers to Community Noise Equivalent Level which is defined as the 24-hour average noise level, with noise occurring during evening hours (7 to 10 p.m.) weighted by a factor of three and noise occurring during nighttime hours weighted by a factor of 10 prior to averaging. Ldn, or Day Night Average Level, is similar to CNEL except the weighted measure of noise includes a 10 dB penalty added to noise occurring between 10 p.m. and 7 a.m. when people are generally more sensitive to noise. Equivalent Energy Noise Level (L_{eq}) is a constant noise level that would deliver the same acoustic energy to the listener as the actual time-varying noise would deliver over the same exposure time – no "penalties" are added, so L_{eq} would be the same regardless of time of day. dBA is a measurement unit for "a-weighted decibels," which are commonly used for measuring environmental and industrial noise and the potential for hearing damage associated with noise health effects (General Plan, 2035).

a) **Less Than Significant Impact**. The proposed Project is not expected to generate exterior noise levels exceeding the City of Sacramento 2035 General Plan Noise Environmental Constraint of 60 dBA at the project site. Once completed, the new Lillard Hall is anticipated to have a similar level of noise as currently exists. In addition, the proposed project is not predicted to generate or be exposed to interior or exterior noise levels exceeding the standards of the City of Sacramento. Thus, no additional noise reduction

measures are considered warranted. The impact from noise is expected to be **less than significant.**

b) **Less Than Significant Impact.** There are several factors that could vary the degree of ground-borne vibrations, such as construction equipment types and operations, soil and subsurface conditions, and the receiving buildings characteristics (such as foundation type or building size). Operational noise of the building addition is anticipated to be similar to current levels and therefore has no impact. Any ground-borne vibrations associated with the project are due to the construction activities. Therefore, any noise associated with the Project will be short-term. The nearest nearby residential and commercial areas are south of Sutterville Road, and therefore divided by a busy four lane street. The distance to the residential and commercial receptors, in conjunction with the trafficked roads dividing the project site from these receptors, further reduces potential ground-borne vibration impact. In addition, the City of Sacramento City Code states that noise from temporary construction activities are exempt during designated daytime hours; this is considered a **less than significant impact**.

c) **Less Than Significant Impact.** The primary noise source anticipated from the project will be associated with the additional heating ventilation and air-conditioning equipment. The HVAC systems will be similar or better than the current HVAC systems on-site. Based upon measurements conducted for similar projects, and the assumption that all equipment will be shielded by rooftop building parapets, HVAC mechanical equipment is not expected to generate noise levels exceeding 45 dB L_{eq} at distances beyond 60 feet from the proposed building facades. Therefore, no additional noise reduction measures would be required to comply with the City's 45 dB L_{eq} existing peak hour L_{eq} for institutional land uses with primarily daytime and evening exterior noise level standards (General Plan, 2035). This is considered **less than significant**.

d) **Less Than Significant Impact with Mitigation Incorporated.** As discussed previously in (a) above, there would be a temporary increase in localized noise during project construction; however, the City of Sacramento City Code states that noise from temporary construction activities are exempt during designated daytime hours. The short-term construction-related noise impacts would be reduced further with the following Mitigation Measure Noise-1:

Mitigation Measure Noise-1

The Los Rios Community College District shall ensure the construction contractor implements the following noise reduction measures:

- All equipment shall have sound-controlled devices no less effective than those provided by the manufacturer.
- All equipment shall have muffled exhaust pipes.
- Stationary noise sources shall be located as far from sensitive receptors as possible.

The project will have a **less than significant impact** with mitigation incorporated due to the above stated Mitigation Measure Noise-1, as well as compliance with the City of Sacramento City Code designated daytime hours for construction activities.

e,f) **No Impact.** The nearest runway is the Sacramento Executive Airport, located approximately 1.2 miles south of the project site. Therefore, there is no noise impact

associated with the construction and/or operation of this project relative to private airports or airstrips.

XI. Population and Housing

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

The Project proposes the demolish and replace Lillard Hall at Sacramento City College. The proposed Lillard Hall Replacement & Modernization project is not intended to facilitate further growth.

a-c) **No Impact**. The Project area is within Sacramento City College campus. The Project would not include the creation of new housing nor displace any existing housing or people. Any workers needed for project construction and operation are anticipated to be drawn from the regional employment base; therefore, the Project would not result in local area population growth or lead to the creation of or necessity for new housing. Similarly, the Project would not indirectly induce substantial population growth through the extension of major infrastructure. Consequently, no impacts related to population and housing would occur.

Public Services

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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:				
a. Fire protection?	☐	☐	☐	■
b. Police protection?	☐	☐	☐	■
c. Schools?	☐	☐	☐	■
d. Parks?	☐	☐	☐	■
e. Other public facilities?	☐	☐	☐	■

a-e) **No Impact**. Based on the City of Sacramento Fire Station Locations by District Map, the Sacramento City College receives fire protection from Fire Station 12, located at 4500 24th Street, under 1.0 miles from the campus. The campus security is provided by Los Rios Police Department, which is responsible for serving any property owned or controlled by the Los Rios Community College District. The project will include the demolition and replacement of Lillard Hall and is not intended to facilitate growth. The new buildings will have fire alarms, interior sprinkler systems, and fire hydrants. Construction and long-term operation of the proposed Project would not place any substantial adverse impacts on fire protection, police protection, schools, or parks because the project is being implemented in order to meet current administrative demands on campus. Therefore, the project will have **no impact**.

XII. Recreation

	Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b.	Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

a,b) **No Impact**. The proposed project is the replacement and modernization of the current Lillard Hall. The proposed project will have no impact on the physical deterioration of any recreational facilities in the existing neighborhood. The proposed project is not intended to have recreational facilities. There is **no impact**.

XIII. Transportation/Traffic

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	■	☐
b.	Exceed, either individually or cumulatively, a level of service standard 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.	Result in inadequate parking capacity?	☐	☐	■	☐
g.	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	■

a,b) **Less than Significant Impact** The proposed Lillard Hall demolition and replacement project is not intended to facilitate further growth. Therefore, no significant increase in traffic will be generated by the anticipated operations once the project completed. The traffic generated by this Project will be short-term as a result of construction. The construction of the Project is not expected to generate excessive traffic for the area but will temporarily increase traffic at the Sacramento City College Campus. A Path of Travel plan with the current applicable California Building Code accessibility provisions for path of travel requirements will be implemented. During construction, if POT items within the scope of the project represented as code compliant are found to be non-conforming beyond reasonable construction tolerances, they shall be brought into compliance. The proposed Lillard Hall Replacement and Modernization project is not intended to facilitate growth. Likewise, the Mohr Hall demolition and replacement is not intended to facilitate growth. The proposed Lillard Hall Project is not expected to individually exceed a level of service designated for the existing roads, nor is the cumulative projects of Mohr Hall plus the Lillard Hall replacements anticipated to exceed a level of service standard established by the county congestion management agency for designated roads. This is a **less than significant impact**.

c) **No Impact.** Based on a review of the most recent topographic map (Sacramento West, 2018), the Sacramento Executive Airport is the nearest airport, located approximately 1.2 miles south of the proposed project site. Due to the distance and height of the proposed project, there will be **no impact** on air traffic patterns.

d) **No Impact**. The proposed project does not include design features that would increase hazards or incompatible uses because the proposed project would not include the construction of any new streets or roads. The project site is located within the boundaries of the existing Sacramento City College campus. The proposed project would not increase hazards due to a design feature, such as a sharp curve or dangerous intersection, incompatible uses, such as farming equipment, or inadequate emergency access. Therefore, the project would have **no impact**.

e) **No Impact**. The proposed project will not result in inadequate emergency access to the project area. During on-site construction, vehicles will not block emergency access routes. There will be a path of travel (POT) identified in the construction documents which is compliant with the current applicable California Building Code accessibility provisions for path of travel requirements. During construction, if POT items within the scope of the project represented as code compliant are found to be non-conforming beyond reasonable construction tolerances, they shall be brought into compliance. Therefore, the project would have **no impact** to emergency access.

f) **Less Than Significant Impact.** The proposed Project will not generate the need for new parking capacity. Any construction parking impacts will be short term. This is a less **than significant impact**.

g) **No Impact**. The Project would not conflict with any applicable land use plan, policy, or regulation supporting alternative transportation of an agency with jurisdiction over the project. **No impact** would result during the construction or operation phase.

XIV. Utilities and Service Systems

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 storm water 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?	☐	☐	■	☐

a,b,e) **Less Than Significant Impact**. The project would tie into existing sewer utility infrastructure already in place at the Sacramento City College, serviced by the sewer utility provider Sacramento Area Sewer District (SASD). The proposed Project does not result in an increased demand that would exceed wastewater treatment requirements. The replacement buildings will be of similar size, facilitating a similar number of students and staff; the new fixtures will be more efficient than the older ones being replaced. This is considered a **less than significant impact**.

c) **Less Than Significant Impact**. The proposed project may require a modest amount of additional storm drains; any additional storm drains will connect to the existing storm drain system at the site, which is serviced by the Sacramento Area Sewer District. A Stormwater Pollution Prevention Plan (SWPPP) and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operations. Best management practices (BMPs) for erosion control will be implemented to avoid and minimize impacts on the environment during construction. There will be a **less than significant impact**

d) **Less Than Significant Impact.** The proposed Project development will not require a new water supply and/or need the expansion of water sources. During Project development water will be used to control dust from the short-term construction activities. Water use increase at the site is not expected to increase significantly for operations since the goal is to replace the existing Lillard Hall with more efficient, updated structures, and the project is

not intended to facilitate growth. In addition, per the City of Sacramento General Plan (2035), the City shall ensure that water supply capacity is in place prior to granting building permits for new development. The impact is **less than significant**.

f,g) **Less Than Significant Impact.** Solid waste collection for Sacramento City College is provided by Atlas Waste Services. The solid waste is then hauled to L and D Landfill, located at 8635 Fruitridge Road, in Sacramento County. According to the California Waste Management Board (CIWMB), the L and D Landfill is Class III landfill with a current daily maximum waste load of 4,125 tons per day, which is well below the permit limit (Armstrong, 2015). Construction or long-term operation of the proposed Lillard Hall replacement and modernization project would not require the development of a new landfill facility. The amount of solid waste that would be generated by the operation of the facility would not have a significant impact on the operation or the life expectancy of the landfill. There is no conflict with federal, state or local regulations. This is a **less than significant impact**.

XV. Mandatory Findings of Significance

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
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) **Less than Significant with Mitigation Incorporated.** As discussed in Section 5, *Biological Resources* and Section 6, *Cultural Resources*, with the incorporation of the Mitigations Measures outlined, the Project does not have the potential to substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, 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. Mitigation Measures included to address potential impacts to Swainson's hawk, nesting migratory birds, and potential impacts to cultural resources are reduced to less than significant levels.

b) **Less than Significant Impact.** The proposed project would not result in cumulatively considerable impacts. The proposed Lillard Hall Replacement and Modernization project is designed to replace the older, less efficient Lillard Hall. The footprint of the new Lillard Hall will be placed within the eastern portion of the previous Mohr Hall. The categorically exempt Mohr Hall replacement and modernization project did not result in any additional assigned square footage and both projects are intended to serve existing faculty and students, and do not facilitate growth. Therefore, there will be no additional parking or increased long-term traffic expected. In addition, the project may potentially include Overhead Parking Solar Structures which would additionally reduce demands for fossil fuels and limit greenhouse emissions. The existing Mohr Hall replacement and modernization project, in connection with the proposed Lillard Hall replacement and modernization project, are both intended to serve the current student and staff populations and will not have cumulatively considerable impact. This is a **less than significant impact**.

c) **Less than Significant Impact.** The proposed project site is not located within an Airport Community Planning Area, or within a Special Flood Hazard Zone. The proposed project site is not located on or near a hazardous materials site, or a known fault zone. The project will incorporate appropriate hazards and hazardous materials mitigation measures for spill prevention and asbestos emissions. The project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. This is less a than significant impact.

13. SUMMARY OF MITIGATION MEASURES

This section represents the required mitigation measures identified in Section 12.0 Environmental Checklist. Implementation of these mitigation measures would reduce all impacts of the proposed project to a less than significant level. The Los Rios Community District has committed to implementing all required mitigation measures.

AIR QUALITY

Air Quality Mitigation 1

The District shall not begin construction activities until first securing appropriate permits from the Sacramento Metropolitan Air Quality Management District.

Air Quality Mitigation 2: The following procedures will be adhered to by the construction contractor(s) in accordance with Air District Rule 403 and Enhanced Fugitive Dust Control Practices:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Soil Disturbance Areas:

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.
- Install wind-breaks (e.g. plant trees, solid fencing) on windward side(s) of construction areas.
- Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

Air Quality Mitigation 3 - Rule 414: Boilers and Process Heater Requirements

The developer or contractor is required to install water heaters rated less than 1,000,000 BTU per hour.

Air Quality Mitigation 4 - Rule 442: Architectural Coatings Requirements

The developer or contractor is required to use coatings which comply with volatile organic compound content limits as specified in the rule.

Air Quality Mitigation 5 - Rule 453: Cutback and Emulsified Asphalt Paving Materials Requirements

The developer or contractor is prohibited to use certain types of cut back or emulsified asphalt for paving, road construction or road maintenance activities.

Air Quality Mitigation 6 - Rule 460: Adhesive and Sealants

The developer or contractor is required to use adhesives and sealants that comply with the volatile organic compound content limits specified in the rule.

Air Quality Mitigation 7 - Rule 402: Nuisance Requirements

The developer or contractor is required to prevent dust or any emissions from onsite activities from causing injury, nuisance, or annoyance to the public.

Air Quality Mitigation 8 – Equipment during Construction

- The developer or contractor is required to comply with all registration and operational requirements of the portable equipment registration such as recordkeeping and notification.
- Idle time will be minimized either by shutting equipment off when not in use or reducing the time of idling to 5 minutes.

BIOLOGICAL RESOURCES

Biological Resources Mitigation Measure 1 - Preconstruction Survey Requirements
A qualified biologist shall conduct a preconstruction survey for nesting Swainson's hawks within 0.25 miles of the project site if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. This determination should be pursuant to criteria set forth by CDFW (Moore Biological Consultants, 2018).

On-site trees, shrubs, and grasslands may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918 and Fish and Game Code of California. A qualified biologist shall conduct a preconstruction nesting bird survey if vegetation removal and/or project construction occurs between February 1 and August 31. If active nests are found within the survey area, vegetation removal and/or project construction should be delayed until a qualified biologist determines nesting is complete (Moore Biological Consultants, 2018).

CULTURAL RESOURCES

Cultural Resources Mitigation Measure 1
If prehistoric or historic-period archaeological deposits are discovered during Project activities, all work within 25 feet of the discovery should be redirected and the archaeologist should assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Impacts to archaeological deposits should be avoided by Project activities, but if such impacts cannot be avoided, the deposits should be evaluated for their California Register eligibility. If the deposits are not California Register–eligible, no further protection of the finds is necessary. If the deposits are California Register–eligible, they should be protected from Project-related impacts, or such impacts should be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate.

Cultural Resources Mitigation Measure 2
Should paleontological resources be identified on the Project site during any ground disturbing activities related to the Project, all ground disturbing activities within 100 feet of the discovery shall cease and the Los Rios Community School District shall be notified within 24 hours of the discovery. The Project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, specific plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

Cultural Resources Mitigation Measure 3

Any human remains encountered during Project ground-disturbing activities should be treated in accordance with California Health and Safety Co de Section 7050.5. The lead agency should inform its contractor(s) of the sensitivity of the Direct Area of Potential Effect for human remains and verify that the following directive has been included in the appropriate contract documents:

> If human remains are encountered during Project activities, the Project shall comply with the requirements of California Health and Safety Code Section 7050.5. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the county coroner has determined the manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation or to his or her authorized representative. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel/ construction workers shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

GEOLOGY AND SOILS

Geology and Soils Mitigation 1

Standard design and construction techniques will then be used to mitigate the potential for damage due to seismically induced strong ground shaking. Based on the planned mitigation, and the project being located outside an Alquist-Priolo Earthquake Fault Zone, ground shaking damage is considered **less than significant** with mitigation

Geology and Soils Mitigation 2

Youngdahl's geotechnical report states that the proposed building structures may be supported upon conventional shallow foundations, such as continuous footings so long as the site grades are properly prepared. Conventional shallow foundations should be a minimum of 12 inches wide and should be founded a minimum of 24 inches below the adjacent soil grade. Foundation reinforcement design should be provided by the structural engineer. Additionally, soil-supported slab-on-grade floors may feasibly be used as main floors of the building structures, contingent on proper subgrade preparation (Youngdahl, 2016).

Earthwork should be observed and evaluated by Youngdahl. Earthwork evaluation shall include the observation and testing of engineered fills, subgrade preparation, foundation bearing soils and other geotechnical conditions during the construction of the project. Standard design and construction techniques will then be used to mitigate the potential for damage. The Project will also be subject to applicable engineering and County and City code requirements, which ensure that the potential hazards of unstable soil are minimized.

HAZARDS AND HAZARDOUS MATERIALS

Hazards and Hazardous Materials Mitigation 1
Spill Prevention and Control Measures will be implemented and include the following:

- Any fuel products, lubricating fluids, grease, or other products and/or waste released from the Contractor(s) vehicles, equipment, or operations, shall be collected and disposed of immediately, and in accordance with State, Federal, and local laws.
- Spill clean-up materials will be stored near potential spill areas (such as vehicle and equipment staging areas).
- Spill kits will include sorbent material (such as pads designed for oil and gas), socks and/or pads to prevent spread of hazardous material, and containers for storing and proper disposal.
- Employees and contractor(s) will be trained on proper hazardous spill clean-up practices.

Hazards and Hazardous Materials Mitigation 2
The developer or contractor is required to notify Sac Metro prior to demolition or renovations associated with the project. Project demolition and renovation of existing buildings are subject to Sac Metro Air District Rule 902 in order to limit asbestos emissions and the disturbance of regulated asbestos-containing material generated or handled during these activities.

NOISE

Mitigation Measure Noise-1
The Los Rios Community College District shall ensure the construction contractor implements the following noise reduction measures:

- All equipment shall have sound-controlled devices no less effective than those provided by the manufacturer.
- All equipment shall have muffled exhaust pipes.
- Stationary noise sources shall be located as far from sensitive receptors as possible.

14. DOCUMENTS REFERENCED

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- Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, December 2009 as revised December 2016.
- San Joaquin County, Environmental Health Department Hazardous Waste/Hazardous Materials Record Search, September 14, 2018.
- United State Geological Survey, 2018, 7.5' Topographic Map of Sacramento West, California, Quadrangle.
- United States, Environmental Protection Agency, *EnviroMapper for Superfund*. Available online at http://www2.epa.gov/emefdata/em4ef.home accessed September 20, 2018.
- U.S. Department of Transportation, Federal Highway Administration. *The National Scenic Byways Program*. Available online at http://www.fhwa.dot.gov/byways/
- Wagner, D.L., "Geologic Map of the Sacramento Quadrangle, California", California Geological Survey, Scale 1:250,000
- Youngdahl Consulting Group, Inc., January 29, 2016, Mohr Hall Modernization Geotechnical Engineering Study.

15. REPORT PREPARATION

LEAD AGENCY:

Los Rios Community College District
M.-Reza Mirmiran, Los Rios Facilities Management

CONSULTANTS:

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Moore Biological Consultants (Biological Resources)
Diane S. Moore, M.S., Principal Biologist

Youngdahl Consulting Group, Inc (Preliminary Geotech, Mohr Hall)
Brandon K. Shimzu, Geotechnical Engineer
Christopher M. Sugar, Staff Engineer

HGA
Creed Kampa, Design Principal

APPENDIX A

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Sacramento
600 8th Street
Sacramento, CA 95814

From: (Public Agency): Los Rios Community College District
1919 Spanos Court, Sacramento, California, 95825
(Address)

ENDORSED
SACRAMENTO COUNTY
NOV 7 2016
DONNA ALLRED, CLERK/RECORDER
BY _____ DEPUTY

Project Title: Sacramento City College – Mohr Hall Modernization

Project Applicant: Los Rios Community College District

Project Location - Specific:
Sacramento City College, 3835 Freeport Blvd., Sacramento, CA 95822 (APN 013-0010-014)

Project Location - City: Sacramento Project Location - County: Sacramento County

Description of Nature, Purpose and Beneficiaries of Project:
The project modernizes (demolishes and replaces) the 53-year old Mohr Hall building, used for Allied Health and Physical Sciences, at Sacramento City College. The new facility, located on the same site, will continue to be used for instruction in Allied Health and Physical Sciences, and will serve the same capacity of students/professors. The new facility will provide a more earthquake resistant structure, as well as adequate ADA access compliance, HVAC, power and lighting systems. The modernized building will include an additional 3,581 assignable square feet (ASF), and an additional 6,516 gross square feet (GSF) a 21% and 31% increase, respectively. The modernization replaces the single-story building with a two-story building; the replacement building will have a smaller ground plane footprint.

Name of Public Agency Approving Project: Los Rios Community College District

Name of Person or Agency Carrying Out Project: Los Rios Community College District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ■ Categorical Exemption. State type and section number: Class 14. 15314 Minor Addition to Schools; Class 2. 15302. Replacement or Reconstruction
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:
The Mohr Hall modernization project consists of an addition which includes a second-story. The addition will not increase the student capacity more than 25%. This is therefore in accordance with Class 14 (CCR 15314 – Minor Addition to Schools) exemption.

The Mohr Building is currently used for instruction in Allied Health and Physical Sciences. The facility will be replaced with a new building of the same purpose, in the same general area, with a ASF increase of roughly 21%. The modernization is not anticipated to increase student or professor capacity; it will provide updated facilities to meet current needs as well as a more earthquake resistant structure. This is therefore in accordance with the Class 2 (CCR 15302 – Replacement or Reconstruction) exemption.

Lead Agency
Contact Person: DAVE CLINCHY Area Code/Telephone/Extension: 916 402 4125

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature: _____ Date: 11-4-16 Title: DIR. PLANG & CONST.

■ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: Governor's Office of Planning & Research
NOV 07 2016
STATE CLEARINGHOUSE

Revised 2011

APPENDIX B

Lillard Hall - Sacramento City College

Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	54.79	1000sqft	1.26	54,790.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2022
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	590.31	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Off-road Equipment -

Demolition - Old Lillard Hall to be removed.

Grading - The project consists of near surface clay soils which are suitable for use as engineered fill.

Road Dust -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Sequestration -

Energy Mitigation - Per HGA based on target goal and exceedances on similar projects.

Waste Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblProjectCharacteristics	OperationalYear	2018	2022
tblRoadDust	CARB_PM_VMT	True	False
tblSequestration	NumberOfNewTrees	0.00	26.00

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					
2020	0.1869	1.4584	1.2266	2.2800e-003	0.0492	0.0736	0.1228	0.0153	0.0706	0.0859	0.0000	193.3361	193.3361	0.0334	0.0000	194.1708
2021	0.3082	0.4191	0.4057	7.5000e-004	6.3100e-003	0.0201	0.0264	1.7100e-003	0.0193	0.0210	0.0000	63.0912	63.0912	0.0106	0.0000	63.3571
Maximum	**0.3082**	**1.4584**	**1.2266**	**2.2800e-003**	**0.0492**	**0.0736**	**0.1228**	**0.0153**	**0.0706**	**0.0859**	**0.0000**	**193.3361**	**193.3361**	**0.0334**	**0.0000**	**194.1708**

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					
2020	0.1869	1.4584	1.2266	2.2800e-003	0.0306	0.0736	0.1042	9.0800e-003	0.0706	0.0797	0.0000	193.3359	193.3359	0.0334	0.0000	194.1706
2021	0.3082	0.4191	0.4057	7.5000e-004	6.3100e-003	0.0201	0.0264	1.7100e-003	0.0193	0.0210	0.0000	63.0911	63.0911	0.0106	0.0000	63.3570
Maximum	**0.3082**	**1.4584**	**1.2266**	**2.2800e-003**	**0.0306**	**0.0736**	**0.1042**	**9.0800e-003**	**0.0706**	**0.0797**	**0.0000**	**193.3359**	**193.3359**	**0.0334**	**0.0000**	**194.1706**

	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**	**33.47**	**0.00**	**12.45**	**36.68**	**0.00**	**5.84**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2020	7-31-2020	0.6623	0.6623
2	8-1-2020	10-31-2020	0.5915	0.5915
3	11-1-2020	1-31-2021	0.5757	0.5757
4	2-1-2021	4-30-2021	0.5421	0.5421
		Highest	0.6623	0.6623

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	0.2394	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3600e-003	1.3600e-003	0.0000	0.0000	1.4500e-003
Energy	7.7900e-003	0.0708	0.0595	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	205.3215	205.3215	7.7800e-003	2.7200e-003	206.3255
Mobile	0.3086	1.2586	3.1646	9.4700e-003	0.8056	8.5400e-003	0.8141	0.2160	7.9900e-003	0.2240	0.0000	871.3305	871.3305	0.0436	0.0000	872.4198
Waste						0.0000	0.0000		0.0000	0.0000	14.4591	0.0000	14.4591	0.8545	0.0000	35.8217
Water						0.0000	0.0000		0.0000	0.0000	0.9508	7.5246	8.4754	3.6400e-003	2.1400e-003	9.2054
Total	**0.5558**	**1.3295**	**3.2248**	**9.8900e-003**	**0.8056**	**0.0139**	**0.8195**	**0.2160**	**0.0134**	**0.2293**	**15.4099**	**1,084.1780**	**1,099.5879**	**0.9095**	**4.8600e-003**	**1,123.7739**

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	0.2234	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3600e-003	1.3600e-003	0.0000	0.0000	1.4500e-003
Energy	6.2500e-003	0.0568	0.0477	3.4000e-004		4.3200e-003	4.3200e-003		4.3200e-003	4.3200e-003	0.0000	170.5240	170.5240	6.5300e-003	2.2400e-003	171.3541
Mobile	0.3086	1.2586	3.1646	9.4700e-003	0.8056	8.5400e-003	0.8141	0.2160	7.9900e-003	0.2240	0.0000	871.3305	871.3305	0.0436	0.0000	872.4198
Waste						0.0000	0.0000		0.0000	0.0000	13.0131	0.0000	13.0131	0.7691	0.0000	32.2395
Water						0.0000	0.0000		0.0000	0.0000	0.8333	7.0814	7.9147	3.2200e-003	1.8800e-003	8.5566
Total	**0.5382**	**1.3154**	**3.2130**	**9.8100e-003**	**0.8056**	**0.0129**	**0.8185**	**0.2160**	**0.0123**	**0.2283**	**13.8464**	**1,048.9374**	**1,062.7838**	**0.8224**	**4.1200e-003**	**1,084.5715**

	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	**3.16**	**1.06**	**0.37**	**0.81**	**0.00**	**7.61**	**0.13**	**0.00**	**7.93**	**0.46**	**10.15**	**3.25**	**3.35**	**9.58**	**15.23**	**3.49**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	18.4080
Total	**18.4080**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2020	5/28/2020	5	20	
2	Site Preparation	Site Preparation	5/29/2020	6/1/2020	5	2	
3	Grading	Grading	6/2/2020	6/5/2020	5	4	
4	Building Construction	Building Construction	6/6/2020	3/12/2021	5	200	
5	Paving	Paving	3/13/2021	3/26/2021	5	10	
6	Architectural Coating	Architectural Coating	3/27/2021	4/9/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 82,185; Non-Residential Outdoor: 27,395; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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
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
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37

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	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	23.00	9.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	131.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					0.0148	0.0000	0.0148	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**0.0148**	**0.0115**	**0.0263**	**2.2400e-003**	**0.0108**	**0.0130**	**0.0000**	**21.0677**	**21.0677**	**5.4200e-003**	**0.0000**	**21.2031**

3.2 Demolition - 2020

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	5.0000e-004	0.0188	4.2500e-003	5.0000e-005	1.1100e-003	7.0000e-005	1.1700e-003	3.0000e-004	6.0000e-005	3.7000e-004	0.0000	5.0116	5.0116	2.9000e-004	0.0000	5.0189
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	4.8000e-004	3.3000e-004	3.6000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8460	0.8460	2.0000e-005	0.0000	0.8466
Total	**9.8000e-004**	**0.0192**	**7.8500e-003**	**6.0000e-005**	**2.0600e-003**	**8.0000e-005**	**2.1300e-003**	**5.5000e-004**	**7.0000e-005**	**6.3000e-004**	**0.0000**	**5.8575**	**5.8575**	**3.1000e-004**	**0.0000**	**5.8654**

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					5.7800e-003	0.0000	5.7800e-003	8.7000e-004	0.0000	8.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**5.7800e-003**	**0.0115**	**0.0173**	**8.7000e-004**	**0.0108**	**0.0116**	**0.0000**	**21.0676**	**21.0676**	**5.4200e-003**	**0.0000**	**21.2030**

3.2 Demolition - 2020

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	5.0000e-004	0.0188	4.2500e-003	5.0000e-005	1.1100e-003	7.0000e-005	1.1700e-003	3.0000e-004	6.0000e-005	3.7000e-004	0.0000	5.0116	5.0116	2.9000e-004	0.0000	5.0189
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	4.8000e-004	3.3000e-004	3.6000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8460	0.8460	2.0000e-005	0.0000	0.8466
Total	**9.8000e-004**	**0.0192**	**7.8500e-003**	**6.0000e-005**	**2.0600e-003**	**8.0000e-005**	**2.1300e-003**	**5.5000e-004**	**7.0000e-005**	**6.3000e-004**	**0.0000**	**5.8575**	**5.8575**	**3.1000e-004**	**0.0000**	**5.8654**

3.3 Site Preparation - 2020

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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

3.3 Site Preparation - 2020

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	3.0000e-005	2.0000e-005	2.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0521	0.0521	0.0000	0.0000	0.0521
Total	**3.0000e-005**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0521**	**0.0521**	**0.0000**	**0.0000**	**0.0521**

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					2.2600e-003	0.0000	2.2600e-003	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**2.2600e-003**	**8.2000e-004**	**3.0800e-003**	**1.1500e-003**	**7.6000e-004**	**1.9100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

3.3 Site Preparation - 2020

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	3.0000e-005	2.0000e-005	2.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0521	0.0521	0.0000	0.0000	0.0521
Total	**3.0000e-005**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0521**	**0.0521**	**0.0000**	**0.0000**	**0.0521**

3.4 Grading - 2020

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					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**9.8300e-003**	**1.3700e-003**	**0.0112**	**5.0500e-003**	**1.2600e-003**	**6.3100e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.4 Grading - 2020

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	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1041	0.1041	0.0000	0.0000	0.1042
Total	**6.0000e-005**	**4.0000e-005**	**4.4000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1041**	**0.1041**	**0.0000**	**0.0000**	**0.1042**

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					3.8300e-003	0.0000	3.8300e-003	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**3.8300e-003**	**1.3700e-003**	**5.2000e-003**	**1.9700e-003**	**1.2600e-003**	**3.2300e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

3.4 Grading - 2020

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	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1041	0.1041	0.0000	0.0000	0.1042
Total	**6.0000e-005**	**4.0000e-005**	**4.4000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1041**	**0.1041**	**0.0000**	**0.0000**	**0.1042**

3.5 Building Construction - 2020

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	0.1513	1.1017	0.9825	1.6400e-003		0.0593	0.0593		0.0573	0.0573	0.0000	135.2489	135.2489	0.0251	0.0000	135.8766
Total	**0.1513**	**1.1017**	**0.9825**	**1.6400e-003**		**0.0593**	**0.0593**		**0.0573**	**0.0573**	**0.0000**	**135.2489**	**135.2489**	**0.0251**	**0.0000**	**135.8766**

3.5 Building Construction - 2020

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	2.5700e-003	0.0752	0.0210	1.7000e-004	3.9200e-003	3.9000e-004	4.3100e-003	1.1300e-003	3.7000e-004	1.5100e-003	0.0000	15.8649	15.8649	9.4000e-004	0.0000	15.8884
Worker	6.3800e-003	4.3300e-003	0.0474	1.2000e-004	0.0126	9.0000e-005	0.0127	3.3500e-003	8.0000e-005	3.4300e-003	0.0000	11.1504	11.1504	3.2000e-004	0.0000	11.1582
Total	**8.9500e-003**	**0.0795**	**0.0684**	**2.9000e-004**	**0.0165**	**4.8000e-004**	**0.0170**	**4.4800e-003**	**4.5000e-004**	**4.9400e-003**	**0.0000**	**27.0153**	**27.0153**	**1.2600e-003**	**0.0000**	**27.0467**

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	0.1513	1.1017	0.9825	1.6400e-003		0.0593	0.0593		0.0573	0.0573	0.0000	135.2487	135.2487	0.0251	0.0000	135.8764
Total	**0.1513**	**1.1017**	**0.9825**	**1.6400e-003**		**0.0593**	**0.0593**		**0.0573**	**0.0573**	**0.0000**	**135.2487**	**135.2487**	**0.0251**	**0.0000**	**135.8764**

3.5 Building Construction - 2020

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	2.5700e-003	0.0752	0.0210	1.7000e-004	3.9200e-003	3.9000e-004	4.3100e-003	1.1300e-003	3.7000e-004	1.5100e-003	0.0000	15.8649	15.8649	9.4000e-004	0.0000	15.8884
Worker	6.3800e-003	4.3300e-003	0.0474	1.2000e-004	0.0126	9.0000e-005	0.0127	3.3500e-003	8.0000e-005	3.4300e-003	0.0000	11.1504	11.1504	3.2000e-004	0.0000	11.1582
Total	**8.9500e-003**	**0.0795**	**0.0684**	**2.9000e-004**	**0.0165**	**4.8000e-004**	**0.0170**	**4.4800e-003**	**4.5000e-004**	**4.9400e-003**	**0.0000**	**27.0153**	**27.0153**	**1.2600e-003**	**0.0000**	**27.0467**

3.5 Building Construction - 2021

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	0.0462	0.3477	0.3289	5.6000e-004		0.0175	0.0175		0.0169	0.0169	0.0000	46.2946	46.2946	8.2600e-003	0.0000	46.5013
Total	**0.0462**	**0.3477**	**0.3289**	**5.6000e-004**		**0.0175**	**0.0175**		**0.0169**	**0.0169**	**0.0000**	**46.2946**	**46.2946**	**8.2600e-003**	**0.0000**	**46.5013**

3.5 Building Construction - 2021

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	7.2000e-004	0.0235	6.2700e-003	6.0000e-005	1.3400e-003	6.0000e-005	1.4100e-003	3.9000e-004	6.0000e-005	4.5000e-004	0.0000	5.3851	5.3851	3.1000e-004	0.0000	5.3928
Worker	2.0300e-003	1.3300e-003	0.0148	4.0000e-005	4.3100e-003	3.0000e-005	4.3400e-003	1.1500e-003	3.0000e-005	1.1700e-003	0.0000	3.6866	3.6866	1.0000e-004	0.0000	3.6890
Total	**2.7500e-003**	**0.0248**	**0.0211**	**1.0000e-004**	**5.6500e-003**	**9.0000e-005**	**5.7500e-003**	**1.5400e-003**	**9.0000e-005**	**1.6200e-003**	**0.0000**	**9.0717**	**9.0717**	**4.1000e-004**	**0.0000**	**9.0818**

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	0.0462	0.3477	0.3289	5.6000e-004		0.0175	0.0175		0.0169	0.0169	0.0000	46.2946	46.2946	8.2600e-003	0.0000	46.5012
Total	**0.0462**	**0.3477**	**0.3289**	**5.6000e-004**		**0.0175**	**0.0175**		**0.0169**	**0.0169**	**0.0000**	**46.2946**	**46.2946**	**8.2600e-003**	**0.0000**	**46.5012**

3.5 Building Construction - 2021

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	7.2000e-004	0.0235	6.2700e-003	6.0000e-005	1.3400e-003	6.0000e-005	1.4100e-003	3.9000e-004	6.0000e-005	4.5000e-004	0.0000	5.3851	5.3851	3.1000e-004	0.0000	5.3928
Worker	2.0300e-003	1.3300e-003	0.0148	4.0000e-005	4.3100e-003	3.0000e-005	4.3400e-003	1.1500e-003	3.0000e-005	1.1700e-003	0.0000	3.6866	3.6866	1.0000e-004	0.0000	3.6890
Total	**2.7500e-003**	**0.0248**	**0.0211**	**1.0000e-004**	**5.6500e-003**	**9.0000e-005**	**5.7500e-003**	**1.5400e-003**	**9.0000e-005**	**1.6200e-003**	**0.0000**	**9.0717**	**9.0717**	**4.1000e-004**	**0.0000**	**9.0818**

3.6 Paving - 2021

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	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.8700e-003**	**0.0387**	**0.0443**	**7.0000e-005**		**2.0800e-003**	**2.0800e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.8825**	**5.8825**	**1.8600e-003**	**0.0000**	**5.9291**

3.6 Paving - 2021

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	2.3000e-004	1.5000e-004	1.6500e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4086	0.4086	1.0000e-005	0.0000	0.4088
Total	**2.3000e-004**	**1.5000e-004**	**1.6500e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4086**	**0.4086**	**1.0000e-005**	**0.0000**	**0.4088**

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	3.8700e-003	0.0387	0.0443	7.0000e-005		2.0800e-003	2.0800e-003		1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.8700e-003**	**0.0387**	**0.0443**	**7.0000e-005**		**2.0800e-003**	**2.0800e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**5.8825**	**5.8825**	**1.8600e-003**	**0.0000**	**5.9291**

3.6 Paving - 2021

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	2.3000e-004	1.5000e-004	1.6500e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4086	0.4086	1.0000e-005	0.0000	0.4088
Total	**2.3000e-004**	**1.5000e-004**	**1.6500e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4086**	**0.4086**	**1.0000e-005**	**0.0000**	**0.4088**

3.7 Architectural Coating - 2021

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	0.2540					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.2550**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

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	9.0000e-005	6.0000e-005	6.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1571	0.1571	0.0000	0.0000	0.1573
Total	**9.0000e-005**	**6.0000e-005**	**6.3000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1571**	**0.1571**	**0.0000**	**0.0000**	**0.1573**

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	0.2540					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	**0.2550**	**7.6300e-003**	**9.0900e-003**	**1.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**9.0000e-005**	**0.0000**	**1.2788**

3.7 Architectural Coating - 2021

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	9.0000e-005	6.0000e-005	6.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1571	0.1571	0.0000	0.0000	0.1573
Total	**9.0000e-005**	**6.0000e-005**	**6.3000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1571**	**0.1571**	**0.0000**	**0.0000**	**0.1573**

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	0.3086	1.2586	3.1646	9.4700e-003	0.8056	8.5400e-003	0.8141	0.2160	7.9900e-003	0.2240	0.0000	871.3305	871.3305	0.0436	0.0000	872.4198
Unmitigated	0.3086	1.2586	3.1646	9.4700e-003	0.8056	8.5400e-003	0.8141	0.2160	7.9900e-003	0.2240	0.0000	871.3305	871.3305	0.0436	0.0000	872.4198

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	1,506.18	615.29	66.30	2,160,359	2,160,359
Total	1,506.18	615.29	66.30	2,160,359	2,160,359

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
Junior College (2Yr)	10.00	5.00	6.50	6.40	88.60	5.00	92	7	1

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Junior College (2Yr)	0.559527	0.038733	0.206173	0.118029	0.019040	0.005245	0.018552	0.023249	0.002031	0.002054	0.005884	0.000619	0.000865

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	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	108.7090	108.7090	5.3400e-003	1.1000e-003	109.1718
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	128.2208	128.2208	6.3000e-003	1.3000e-003	128.7667
NaturalGas Mitigated	6.2500e-003	0.0568	0.0477	3.4000e-004		4.3200e-003	4.3200e-003		4.3200e-003	4.3200e-003	0.0000	61.8150	61.8150	1.1800e-003	1.1300e-003	62.1824
NaturalGas Unmitigated	7.7900e-003	0.0708	0.0595	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	77.1007	77.1007	1.4800e-003	1.4100e-003	77.5589

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					
Junior College (2Yr)	1.44481e+006	7.7900e-003	0.0708	0.0595	4.2000e-004		5.3800e-003	5.3800e-003		5.3800e-003	5.3800e-003	0.0000	77.1007	77.1007	1.4800e-003	1.4100e-003	77.5589
Total		**7.7900e-003**	**0.0708**	**0.0595**	**4.2000e-004**		**5.3800e-003**	**5.3800e-003**		**5.3800e-003**	**5.3800e-003**	**0.0000**	**77.1007**	**77.1007**	**1.4800e-003**	**1.4100e-003**	**77.5589**

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					
Junior College (2Yr)	1.15837e+006	6.2500e-003	0.0568	0.0477	3.4000e-004		4.3200e-003	4.3200e-003		4.3200e-003	4.3200e-003	0.0000	61.8150	61.8150	1.1800e-003	1.1300e-003	62.1824
Total		**6.2500e-003**	**0.0568**	**0.0477**	**3.4000e-004**		**4.3200e-003**	**4.3200e-003**		**4.3200e-003**	**4.3200e-003**	**0.0000**	**61.8150**	**61.8150**	**1.1800e-003**	**1.1300e-003**	**62.1824**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	478865	128.2208	6.3000e-003	1.3000e-003	128.7667
Total		**128.2208**	**6.3000e-003**	**1.3000e-003**	**128.7667**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Junior College (2Yr)	405994	108.7090	5.3400e-003	1.1000e-003	109.1718
Total		**108.7090**	**5.3400e-003**	**1.1000e-003**	**109.1718**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	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	0.2234	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3600e-003	1.3600e-003	0.0000	0.0000	1.4500e-003
Unmitigated	0.2394	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3600e-003	1.3600e-003	0.0000	0.0000	1.4500e-003

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	0.0254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3600e-003	1.3600e-003	0.0000	0.0000	1.4500e-003
Total	**0.2395**	**1.0000e-005**	**7.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3600e-003**	**1.3600e-003**	**0.0000**	**0.0000**	**1.4500e-003**

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	0.0254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3600e-003	1.3600e-003	0.0000	0.0000	1.4500e-003
Total	**0.2235**	**1.0000e-005**	**7.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3600e-003**	**1.3600e-003**	**0.0000**	**0.0000**	**1.4500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Toilet

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.9147	3.2200e-003	1.8800e-003	8.5566
Unmitigated	8.4754	3.6400e-003	2.1400e-003	9.2054

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	2.6874 / 4.20336	8.4754	3.6400e-003	2.1400e-003	9.2054
Total		**8.4754**	**3.6400e-003**	**2.1400e-003**	**9.2054**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Junior College (2Yr)	2.35523 / 4.20336	7.9147	3.2200e-003	1.8800e-003	8.5566
Total		**7.9147**	**3.2200e-003**	**1.8800e-003**	**8.5566**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.0131	0.7691	0.0000	32.2395
Unmitigated	14.4591	0.8545	0.0000	35.8217

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	71.23	14.4591	0.8545	0.0000	35.8217
Total		**14.4591**	**0.8545**	**0.0000**	**35.8217**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Junior College (2Yr)	64.107	13.0131	0.7691	0.0000	32.2395
Total		**13.0131**	**0.7691**	**0.0000**	**32.2395**

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	18.4080	0.0000	0.0000	18.4080

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	26	18.4080	0.0000	0.0000	18.4080
Total		**18.4080**	**0.0000**	**0.0000**	**18.4080**

Lillard Hall - Sacramento City College

Sacramento, Summary Report

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	54.79	1000sqft	1.26	54,790.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2022
Utility Company	Sacramento Municipal Utility District				
CO2 Intensity (lb/MWhr)	590.31	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments

Only CalEEMod defaults were used.

Project Characteristics -

Land Use -

Construction Phase -

Off-road Equipment -

Demolition - Old Lillard Hall to be removed.

Grading - The project consists of near surface clay soils which are suitable for use as engineered fill.

Road Dust -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Sequestration -

Energy Mitigation - Per HGA based on target goal and exceedances on similar projects.

Waste Mitigation -

Water Mitigation -

2.0 Peak Daily Emissions

Peak Daily Construction Emissions

Peak Daily Construction Emissions

Lillard Hall - Sacramento City College - Sacramento County, Summary Report

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
Year	Phase	lb/day											
2020	Demolition	2.2320 S	22.8746 W	15.4966 S	0.0303 S	2.8539 W	1.3650 W	2.2320 S	22.8746 W	15.4966 S	0.0303 S	1.9505 W	1.2282 W
2020	Site Preparation	1.6644 S	18.3690 W	7.9705 S	0.0178 S	6.6818 S	3.7255 S	1.6644 S	18.3690 W	7.9705 S	0.0178 S	3.1441 S	1.9237 S
2020	Grading	1.3843 S	15.1080 W	6.7155 S	0.0147 S	5.6599 S	3.1718 S	1.3843 S	15.1080 W	6.7155 S	0.0147 S	2.6622 S	1.6312 S
2020	Building Construction	2.1636 S	15.8617 W	14.2046 S	0.0261 S	1.0316 W	0.8370 W	2.1636 S	15.8617 W	14.2046 S	0.0261 S	1.0316 W	0.8370 W
2021	Building Construction	1.9325 S	14.6132 W	13.8183 S	0.0260 S	0.9173 W	0.7264 W	1.9325 S	14.6132 W	13.8183 S	0.0260 S	0.9173 W	0.7264 W
2021	Paving	0.8260 S	7.7751 W	9.2458 S	0.0145 S	0.5149 S	0.4098 S	0.8260 S	7.7751 W	9.2458 S	0.0145 S	0.5149 S	0.4098 S
2021	Architectural Coating	51.0293 S	1.5395 W	1.9671 S	3.3500e-003 S	0.1324 S	0.1044 S	51.0293 S	1.5395 W	1.9671 S	3.3500e-003 S	0.1324 S	0.1044 S
	Peak Daily Total	51.0293 S	22.8746 W	15.4966 S	0.0303 S	6.6818 S	3.7255 S	51.0293 S	22.8746 W	15.4966 S	0.0303 S	3.1441 S	1.9237 S
	Air District Threshold												
	Exceed Significance?												

Peak Daily Operational Emissions

Peak Daily Operational Emissions

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
	Operational Activity	lb/day											
On-Site	Area	1.3122 S	5.0000e-005 S	5.6000e-003 S	0.0000 S	2.0000e-005 S	2.0000e-005 S	1.2245 S	5.0000e-005 S	5.6000e-003 S	0.0000 S	2.0000e-005 S	2.0000e-005 S
On-Site	Energy	0.0427 S	0.3881 S	0.3260 S	2.3300e-003 S	0.0295 S	0.0295 S	0.0342 S	0.3111 S	0.2614 S	1.8700e-003 S	0.0237 S	0.0237 S
Off-Site	Mobile	2.7968 S	9.0883 W	24.5788 S	0.0723 S	5.9437 W	1.6296 W	2.7968 S	9.0883 W	24.5788 S	0.0723 S	5.9437 W	1.6296 W
	Peak Daily Total	4.1517 S	9.4764 W	24.9104 S	0.0746 S	5.9732 W	1.6591 W	4.0556 S	9.3994 W	24.8458 S	0.0742 S	5.9673 W	1.6533 W
	Air District Threshold												
	Exceed Significance?												

3.0 Annual GHG Emissions

Annual GHG

Annual GHG

		Unmitigated				Mitigated			
		CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
GHG Activity	Year	MT/yr							
Construction	2020	193.3361	0.0334	0.0000	194.1707	193.3359	0.0334	0.0000	194.1705
Construction	2021	63.0912	0.0106	0.0000	63.3570	63.0911	0.0106	0.0000	63.3569
Operational	2022	1,099.5879	0.9095	4.8534e-003	1,123.7714	1,062.7838	0.8224	4.1277e-003	1,084.5729
	Total								
	Significance Threshold								
	Exceed Significance?								

APPENDIX C

HGA

MEETING MINUTES

PROJECT: LRCCD SCC
LILLARD HALL MODERNIZATION
HGA Commission Number 2600-008-00

FROM: Ida Brown Writer's Direct Dial 916-787-5161

ISSUE DATE: September 4, 2018

MEETING
Purpose: Schematic Design Champions Meeting #1
Date: August 31, 2018 Time: 1:30 - 3:30 PM
Location: SCC - Rodda Hall, Room 258

PRESENT:

Name	Company	Email
See sign in sheet attached.		

	Item
1.	Introductions Schematic Design Phase Overview and Review of Programming Efforts

Creed (HGA) began the meeting by introducing Ida (HGA) as a new member of the project team with HGA. Starting in the Schematic Design phase, she has taken on the role of Project Architect.

A. Creed described the schematic design process including objectives and schedule. There will be a total of (4) Champions meetings held by which the design concepts will be explored and determined. User group meetings (2) will be held as a simultaneous process to determine individual lab designs.
B. Creed presented a recap of decisions made during the previous programming phase including project goals, ASF allocations, building stratification/program locations, adjacencies, efficiency goals and test fits.
C. Creed presented schematic design considerations which have influenced the initial design concepts to be presented today, such as site features and constraints (courtyard and street orientation, parking lot adjacency, utilities locations) and sustainability goals/strategies (zero net energy, solar orientation, compact building form, shade, etc.).

2. Initial Design Concepts

Item

Ida (HGA) presented (4) initial design concepts illustrated by a site plan overlaid with the building footprint, schematic floor plans with general program locations, circulation and stacking identified, and building massing images. Each scheme was accompanied by a physical massing model placed on the site model.

A. Ida (HGA) presented the Initial Design Concept, "Framed". The concept is a three-story angular and stacked design with faces parallel to the parking lot and Sutterville Road, and the entry orientated towards the interior courtyard. The concept includes offices and lecture at the first floor with the offices located at the NE corner, Biology at the 2nd floor along with (1) lecture hall, and Chemistry at the 3rd floor along with (1) lecture hall.
   i) 1st floor (lecture storage): Staff (SCC) commented that lecture storage at the tiered lecture halls should be located at the lowest level, and all lecture storage areas also require doors to the corridors. It was suggested that the lecture storage serving the 1,620 SF and 1,140 SF lecture halls may need to be larger than those serving individual 1,300 SF lecture halls.
   ii) 1st floor (lecture halls): Staff (SCC) commented that the large lecture hall is preferred to have an exit directly to the exterior.
   iii) 1st floor (offices): a conversation developed regarding the offices and if there should be any kind of departmental separation. It was decided that the offices should still be located together in one area, and this issue can be dealt with in the assignment of offices later. Regarding daylighting at offices, the preference is for exterior windows at each office but it is acknowledged that this may not be possible. Some offices may need to access daylight through interior glazing and borrowed light.
   iv) 1st floor (circulation space): Staff (SCC) commented that the covered area at the entry could be used for outdoor classrooms, and the circulation space is good in this concept. There is concern though with noise levels with the lectures located adjacent to the main entry and public area. The offices would be a better adjacency to the main entry than the lecture halls.
   v) 2nd floor (Biology): Carmen (SCC) commented that the lecture hall is not ideal located near the main hub and circulation space. It would be better to move the Lecture hall to the southern end of the building and shift Micro-bio and Bio Prep labs up to be adjacent to the hub space. Staff (SCC) requests to incorporate display space in corridors (common to all schemes).
   vi) 2nd and 3rd floors (corridors and student gathering space): Staff (SCC) has aversion to long corridors. These will need to be broken up with student gathering niches and spaces, but consider location of niches to prevent unwanted noise outside of labs and lecture rooms (common for all schemes)
   vii) 3rd floor (Chemistry): Varnell (SCC) commented that both Chemistry Instrument rooms should be identical, which means the instrument room located at the interior corner of the angle cannot be adjusted to fit to the triangular space.
   viii) Massing: Dan (LRCCD) suggested that the public faces oriented towards the parking lot and Sutterville Road could be treated architecturally to match the

Item

other campus buildings, while the inside courtyard faces could take on a more modern aesthetic. Margaret (SCC) likes "all brick" facades.

B. Ida (HGA) presented the Initial Design Concept, "Stepped". The concept is a three-story linear stacked design oriented north-south, with the SW quadrant of the 1st floor extended out to the west, framing the courtyard and creating a stepped mass. The entry is oriented towards the courtyard and the entrance to the future Mohr Hall. The concept includes offices and all lecture at the first floor with the offices located at the SW corner, Biology at the 2nd floor, and Chemistry at the 3rd floor.
   i) 1st floor (entry area and offices): Staff (SCC) liked the location and configuration of the entry area with adjacency to the tutoring area and offices.
   ii) 2nd floor (biology): Carmen (SCC) requested that the Cell/Molecular Bio Lab is moved to the north end of the building and the Gen/Field Bio Lab, Bio Storage and Botany/Zoo Lab shifts south in its place. Carmen also commented that using the 1st floor roof as an occupied roof deck where the greenhouse could be located with access from this level would be highly preferred and an advantage of this design concept. It was questioned if a green roof located over the offices was possible within the project budget.
   iii) 3rd floor (chemistry): Varnell (SCC) asked where the supervisor's office is. This will be addressed in the next iteration of design concepts.

C. Ida (HGA) presented the Initial Design Concept, "Around". The concept is a three-story stacked design forming the shape of a reverse "C" open to the courtyard. The entry is oriented towards the courtyard and the entrance to the future Mohr Hall. The concept includes offices and lecture at the first floor with the offices located at the north wing, Biology and (1) lecture hall at the 2nd floor, and Chemistry and (1) lecture hall at the 3rd floor. The design features single-loaded corridors overlooking the interior courtyard.
   i) 1st floor (offices): Staff (SCC) commented that they do not like the entry adjacent to the lecture halls and requested that the lecture halls switch places with the offices.
   ii) 2nd floor (biology): Staff (SCC) commented that they like the wide single loaded corridor for student study space along the perimeter, and asked if there could be a line of computer work stations along with window side.
   iii) 3rd floor (chemistry): Varnell (SCC) commented that he does not like the travel distance between Chem Prep and the General Chemistry Labs. It was suggested that the service core and Chemistry Prep areas could switch places to centralize Chemistry Prep more. Varnell commented that this is not his preferred arrangement of spaces.

D. Ida (HGA) presented the Initial Design Concept, "Over". The concept is a three-story stacked design with a smaller 1st floor oriented towards the internal courtyard and the larger upper stories arranged in a continuous ring forming an internal courtyard. The mass of the upper floors project over the courtyard space below

Item

creating cover and shade. The entry is oriented towards the courtyard. The concept includes offices and lecture at the first floor with the offices located at the SE corner, Biology and (1) lecture hall at the 2nd floor, and Chemistry and (1) lecture hall at the 3rd floor. The design features single-loaded corridors overlooking the interior courtyard.

i) 1st floor (offices and entry): Staff (SCC) liked the location of all program elements and the offices and tutoring adjacency to the entry. Staff also liked the ample covered area for student use and potential outdoor classroom use, but was concerned about loitering. Dan (LRCCD) mentioned that roof drainage and swales/courtyard drainage will need to be addressed to avoid mud and water tracked into the building. It was clarified that this would be addressed at entry areas.

ii) 2nd floor (biology): Carmen (SCC) requested that Gen/Field Bio labs and Botany/Zoology Labs switch places. She also commented that Bio Prep and Gen/Field Bio require direct light for growing.

iii) Massing and circulation: The team liked the architectural quality of the building massing, outdoor covered space and interior daylit study spaces created by the single-loaded corridor. Staff (SCC) asked if there would be opportunities for laptop bars along window walls.

iv) Efficiency Factor: Ida (HGA) informed the group that this concept is below the targeted efficiency factor at 57.5%. This could result in the building coming in over budget. One option to improve efficiency would be to make the 2nd and 3rd floor circulation exterior walkways. This would increase the efficiency to approximately 66%. Entry to the upper floors could be secure at the stairways and the 1st floor circulation space could remain enclosed.

E. Next Steps: Creed (HGA) announced that at the next meeting, we will be presenting (2) hybrid and more developed design concepts of the narrowed down favorites from today's meeting. A vote was taken and the two preferred schemes by overwhelming majority were Stepped and Over. Carrie (SCC) to send out a follow-up poll via email on Tuesday to confirm direction and allow people to think on it over the weekend.

The next Champions meeting is scheduled for 1:30-3:30 pm on September 21th in RHN 258.

The foregoing represents HGA's understanding of the discussions and decisions made during this meeting. If anyone has any changes or comments, please notify the author within seven days of the date of this document.

Attachment

LOS RIOS
COMMUNITY COLLEGE DISTRICT

American River College
Cosumnes River College
Folsom Lake College
Sacramento City College

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PROJECT: Lillard Hall Modernization– Programming
MEETING SITE: Rodda Hall North Rm 258, Sacramento CA 95818
DATE: 08.31.2018 at 1:30 P.M.

SIGN-IN SHEET

Name	Organization	Phone # /Fax #	Email	initial
Michael Gutierrez	SCC-President	(916) 558-2101	GutierM@scc.losrios.edu	
Albert Garcia	SCC-VPI	(916) 558-2226	GarciaAJ@losrios.edu	
Don Palm	SCC-Dean	(916)558-2226	PalmD@scc.losrios.edu	
Carrie Bray	SCC - VPA	(916) 558-2653	BrayC@scc.losrios.edu	
Margaret Lednicky	SCC –OPS-Director	(916) 558-2544	LednicM@scc.losrios.edu	
Pablo Manzo	LRCCD-FM	(916) 856-3442	ManzoP@losrios.edu	
Dan McKechnie	LRCCD-FM	(916) 856-3409	mckechd@losrios.edu	
Reza Mirmiran	LRCCD-FM	(916) 856-3428	Reza.mirmiran@losrios.edu	
Karen Chewning	SCC -OPS	(916) 558-2599	ChewniK@scc.losrios.edu	
Creed Kampa	HGA	(916) 787-5131	ckampa@hga.com	
Samara Lull	HGA	(916) 787-5192	SLull@hga.com	
Suzanne Berry	HGA	(916) 787-5131	Sberry@hga.com	
~~Amber Brodie~~ Ibrown	HGA	(916) 787-5122	~~Abrodie~~ Ibrown@hga.com	
Dr. Bruce Zenner	SCC	(916) 558-2466	zennerb@scc.losrios.edu	
Joel Hwang	SCC	(916) 650-2737	hwangj@scc.losrios.edu	

PLEASE PROVIDE A BUSINESS CARD IF YOU HAVE ONE AVAILABLE

Binh Dao	SCC	(916) 650-2736	daob@scc.losrios.edu	BD
Dr. Ken Naganuma	SCC	(916) 558-2270	naganuk@scc.losrios.edu	KHN
Andrea Greenwell	SCC	(916) 558-2208	greenwa@scc.losrios.edu	
David Wyatt	SCC	(916) 558-2406	wyattd@scc.losrios.edu	DTW
Dr. Douglas Copely	SCC	(916) 650-2759	copelyd@scc.losrios.edu	DC
Michael Richardson	SCC	(916) 650-2744	Michael.Richardson@scc.losrios.edu	MR
			richardm	
Dr. John Polagruto	SCC	(916) 650-2753	PolagrJ@scc.losrios.edu	
Varnell Crankfield	SCC	(916) 558-2211	CrankfV@scc.losrios.edu	VC
Carmen Hirkala	SCC	(916) 558--2524	hirkalC@scc.losrios.edu	CMH
James Collins	SCC- Dean	(916) 558-2279	CollinJ@scc.losrios.edu	JC
Julie Moore	LRCCD - FM	916-856-3433	julie.moore@losrios.edu	JM

PLEASE PROVIDE A BUSINESS CARD IF YOU HAVE ONE AVAILABLE

SCC - LILLARD HALL MODERNIZATION

PROGRAMMING AND SCHEMATIC DESIGN SCHEDULE

June '18

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July '18

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August '18

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September '18

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

October '18

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November '18

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Week	Date	PROGRAMMING (FOR REFERENCE)
1	06/01/18	Kick off Meeting
2	06/08/18	Programming Meeting #2
3	06/15/18	Programming Meeting #3
4	06/22/18	Programming Meeting #4
5	06/29/18	Programming Meeting #5
6	07/06/18	Programming Meeting #6
7	07/13/18	Programming Meeting #7
8	07/27/18	Program Validation Meeting

Week	Date	SCHEMATIC DESIGN
1	No meeting	
2	08/07/18	Chem and Bio Prep User Group Meeting #1
2	08/08/18	Chem and Bio User Group Meeting #1
3	No meeting	
4	No meeting - Convocation	
5	08/31/18	Champion Meeting #1 - Initial Concepts
6	09/14/18	Chem and Bio User Group Meeting #2
7	No meeting	
8	09/21/18	Champion Meeting #2 - Hybrid Concepts
9	No meeting	
10	10/05/18	Champion Meeting #3 - Developed Concepts
11	No meeting	
12	10/19/18	Champion Meeting #4 - Final Presentation
13	No meeting	District Review
14	**11/02/18**	**District Review - SD Sign Off**
15		Schedule Reduced
16		Schedule Reduced
17		Schedule Reduced
18		Schedule Reduced

HGA

LOS RIOS COMMUNITY COLLEGE DISTRICT
SACRAMENTO CITY COLLEGE
LILLARD HALL MODERNIZATION

CHAMPION MEETING #1 – 8/31/18

Champion Meeting #1

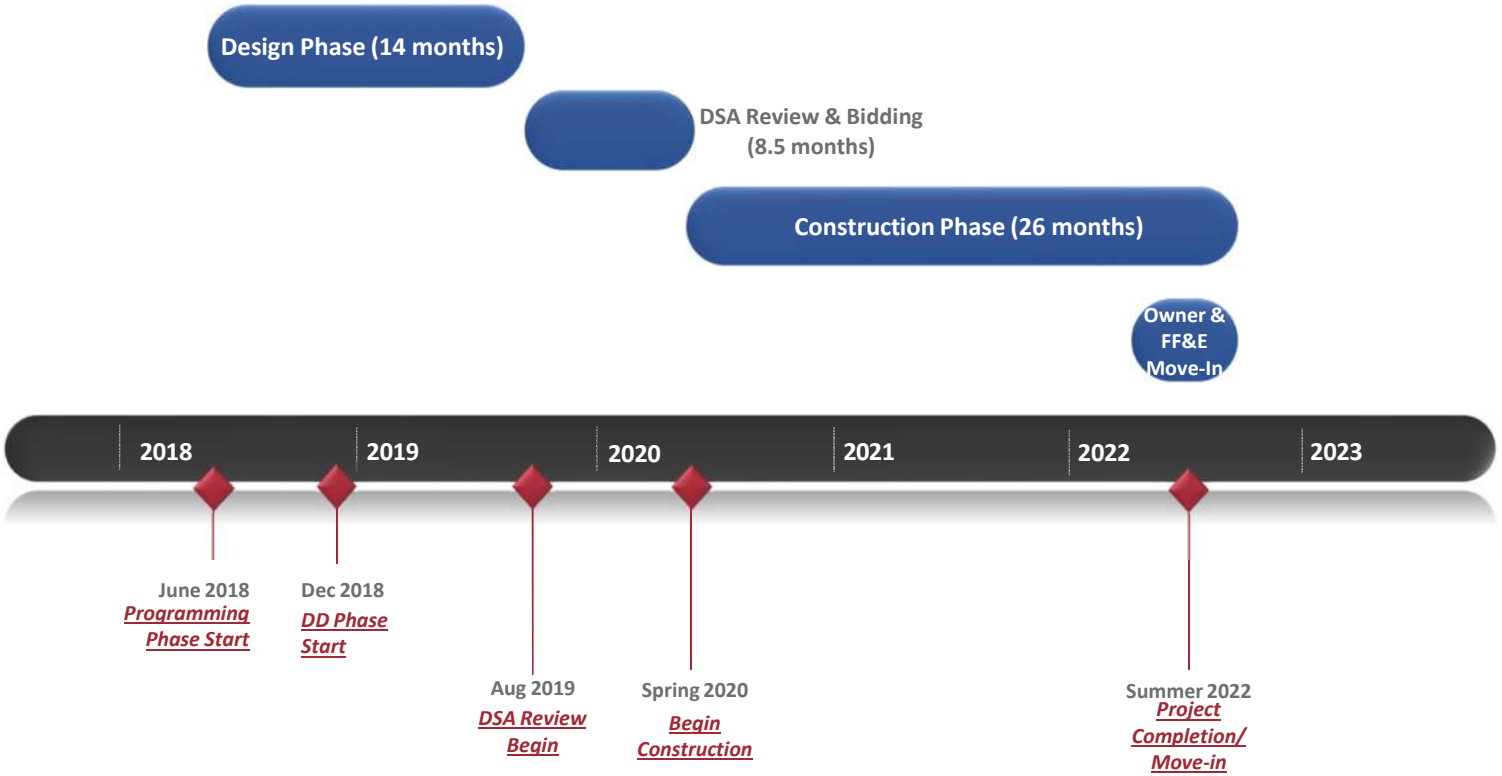
AGENDA

- SCHEMATIC DESIGN PHASE OVERVIEW
- REVIEW OF PROGRAMMING EFFORTS
- ADDITIONAL SCHEMATIC DESIGN CONSIDERATIONS
- INITIAL DESIGN CONCEPTS
- NEXT STEPS

Schematic Design Objectives

- Site plan
- Floor plans
- Building massing
- Exterior building treatments (materials and colors)
- Building Systems

Overall Schedule



Schematic Design Look-Ahead

- 2 User Group Meetings
- 4 Champion Meetings

Week	Date	SCHEMATIC DESIGN
1	No meeting	
2	08/07/18	Chem and Bio Prep User Group Meeting #1
2	08/08/18	Chem and Bio User Group Meeting #1
3	No meeting	
4	No meeting - Convocation	
5	08/31/18	Champion Meeting #1 - Initial Concepts
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7	No meeting	
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10	10/05/18	Champion Meeting #3 - Developed Concepts
11	No meeting	
12	10/19/18	Champion Meeting #4 - Final Presentation
13	No meeting	District Review
14	**11/02/18**	**District Review - SD Sign Off**
15		Schedule Reduced
16		Schedule Reduced
17		Schedule Reduced
18		Schedule Reduced

Programming Recap

JUNE - JULY 2018

- PROJECT GOALS
- ASF ALLOCATION
- EFFICIENCY GOAL
- ADJACENCIES
- TEST FITS
- LOCATIONS AND OTHER PROGRAMMATICAL REQUESTS

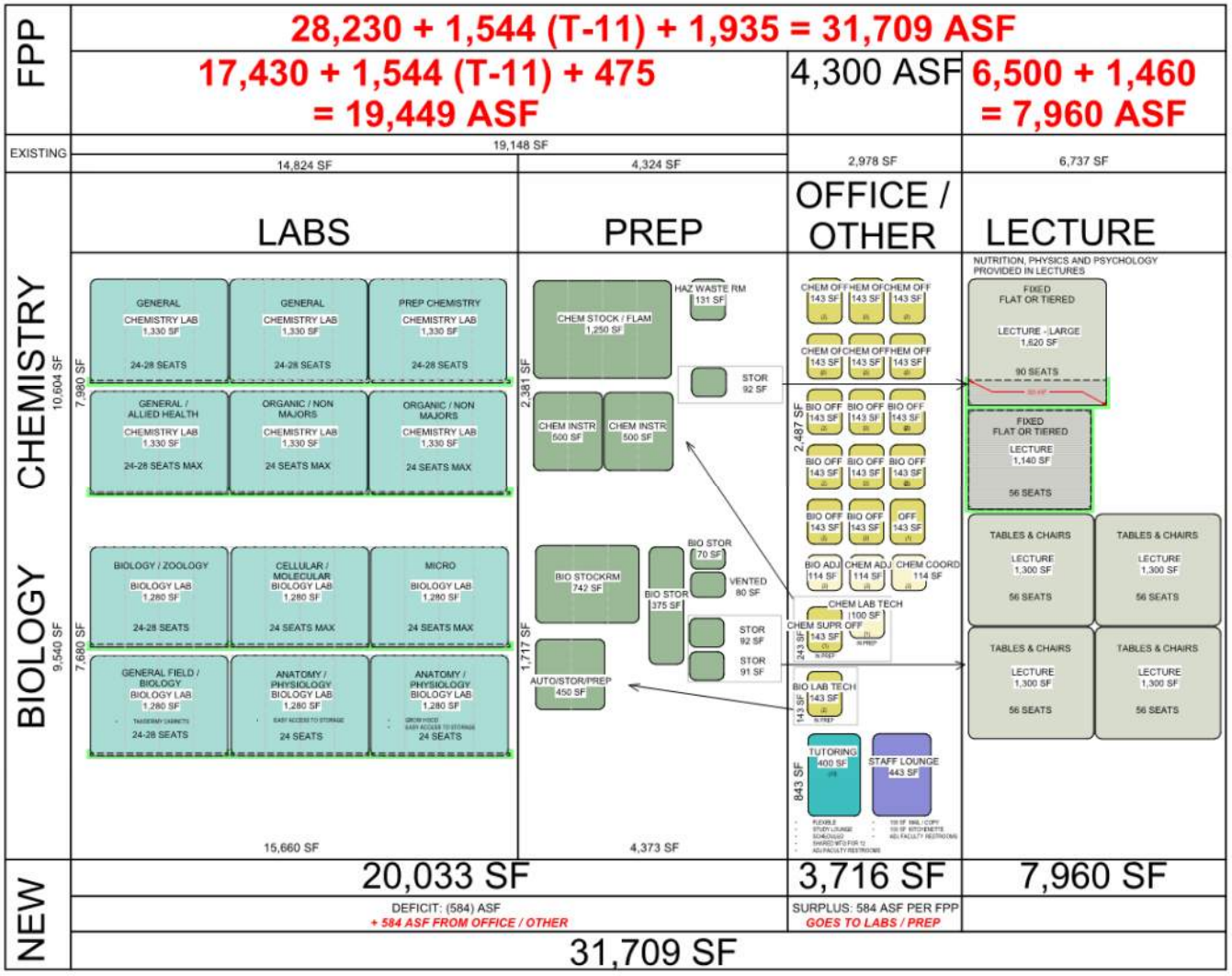
Programming Recap

PROJECT GOALS

- Student Centric / Promotes Equity
- Adaptive, Functional, and Flexible Spaces
- Safety
- State of the Art
- Science on Display

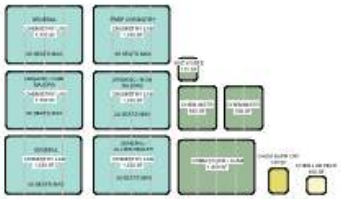
Programming Recap

ASF ALLOCATION

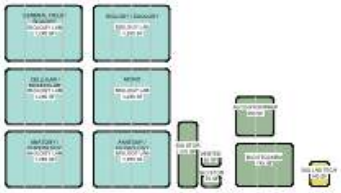


Programming Recap

PROGRAM LOCATIONS



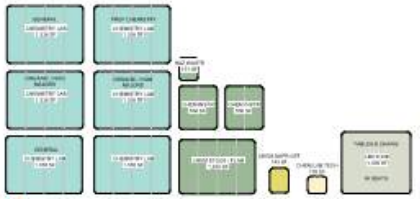
LEVEL 3 - CHEMISTRY



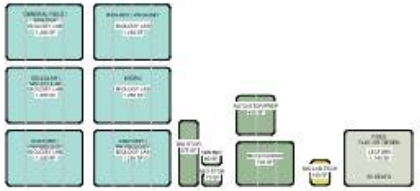
LEVEL 2 - BIOLOGY

LEVEL 1 - LECTURE / OFFICES

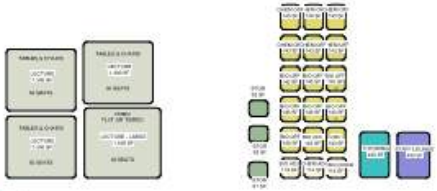
FLOOR ALLOCATION
OPTION A



LEVEL 3 - CHEMISTRY / LECTURE



LEVEL 2 - BIOLOGY / LECTURE



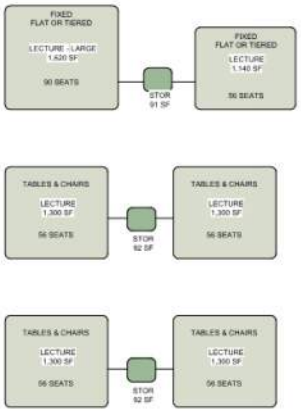
LEVEL 1 - LECTURE / OFFICES

FLOOR ALLOCATION
OPTION B

Programming Recap

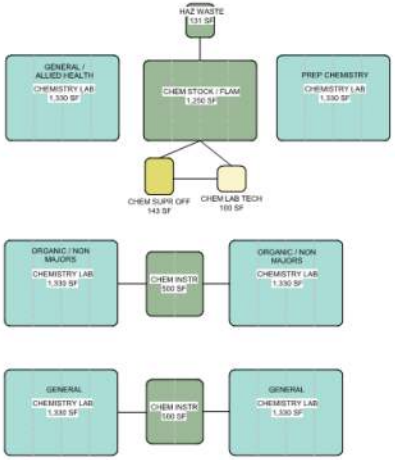
ADJACENCIES

LECTURE ADJACENCIES (1ST FLOOR)

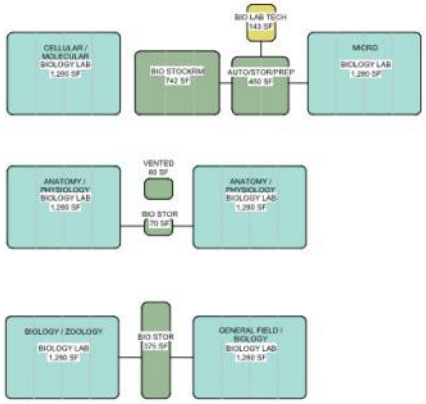


OFFICE ADJACENCIES (1ST FLOOR)

CHEM ADJACENCIES (3RD FLOOR)

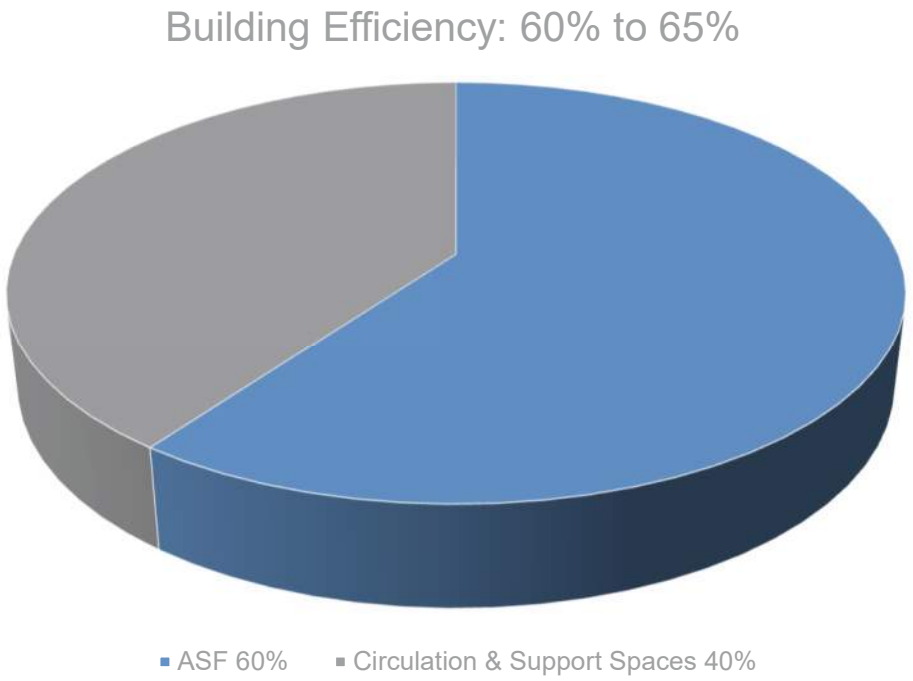


BIO ADJACENCIES (2ND FLOOR)



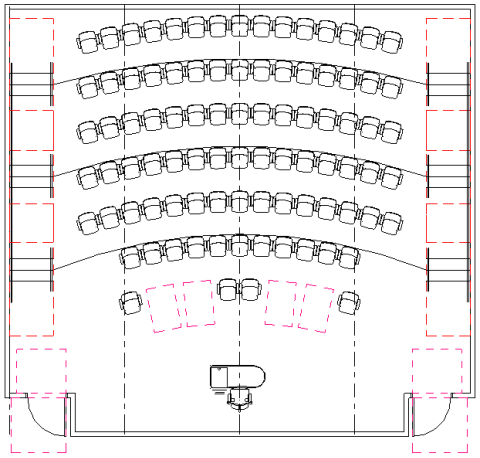
Programming Recap

EFFICIENCY GOAL

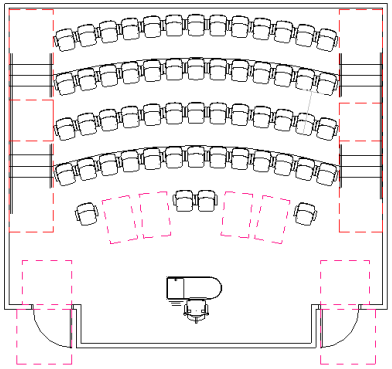


Programming Recap

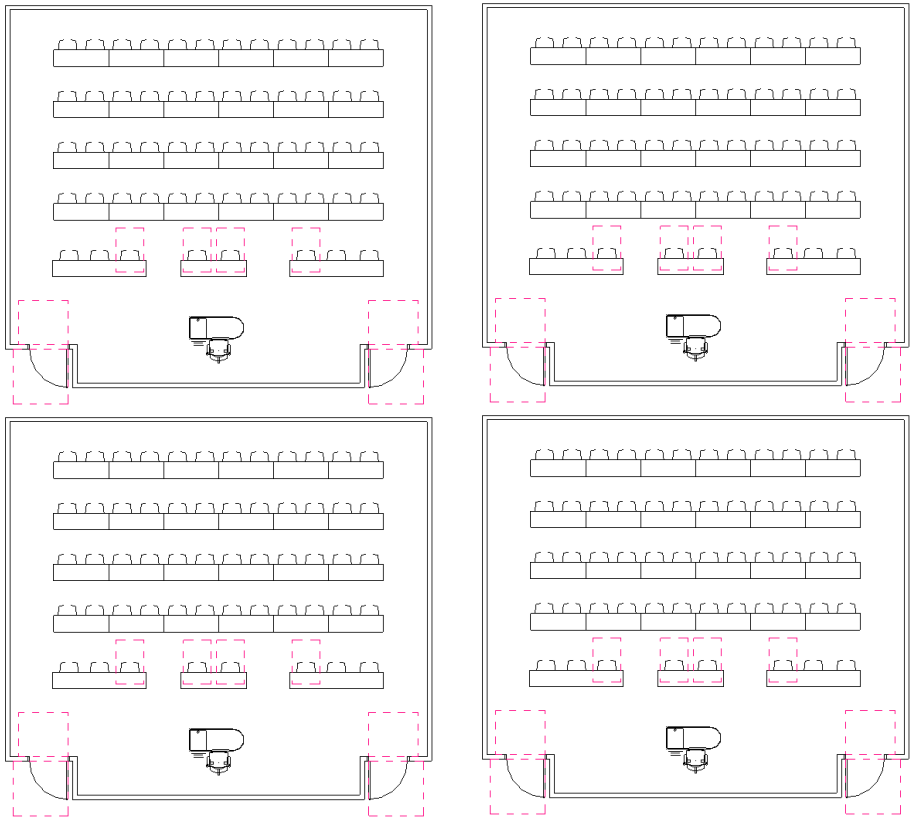
TEST FITS - LECTURE ROOMS



90 STUDENTS



56 STUDENTS

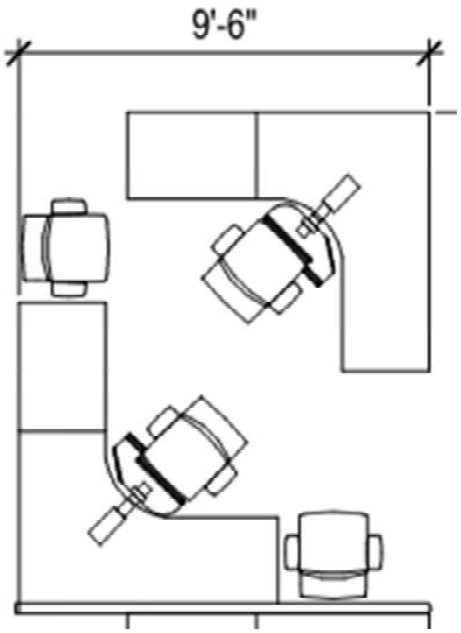


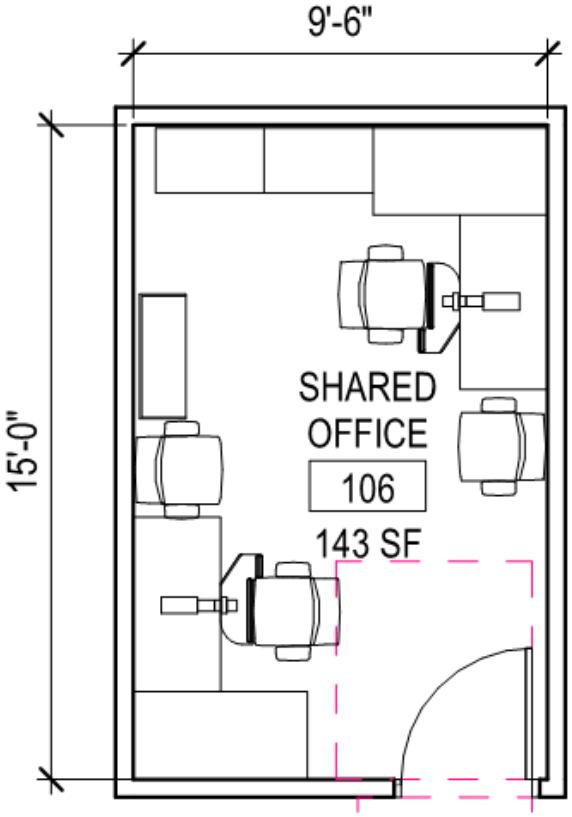
(4) FLEXIBLE 56 STUDENTS

Programming Recap

TEST FITS - OFFICES

- 2 PERSON SHARED OFFICE
- 2 PERSON OPEN CUBICLE

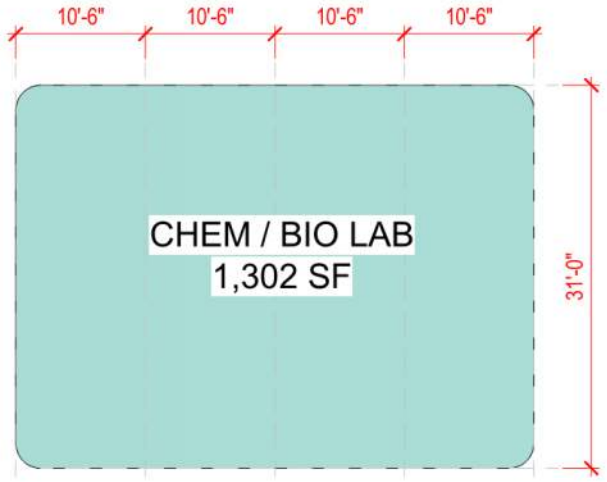




Schematic Design Considerations

LAB MODULES

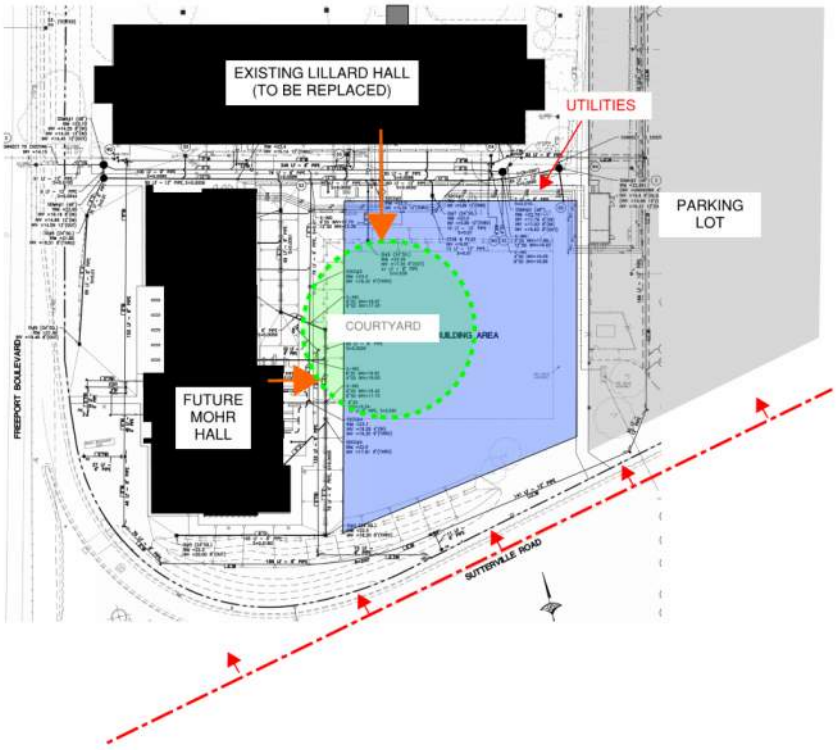
- Lab modules developed via concurrent user group meetings.
  - 31’ x 10.5’ module proposed
  - 2ND meeting on 9/14
- Modules = efficient structures via “stacking” and regularity of spaces.



Schematic Design Considerations

SITE FEATURES AND CONSTRAINTS

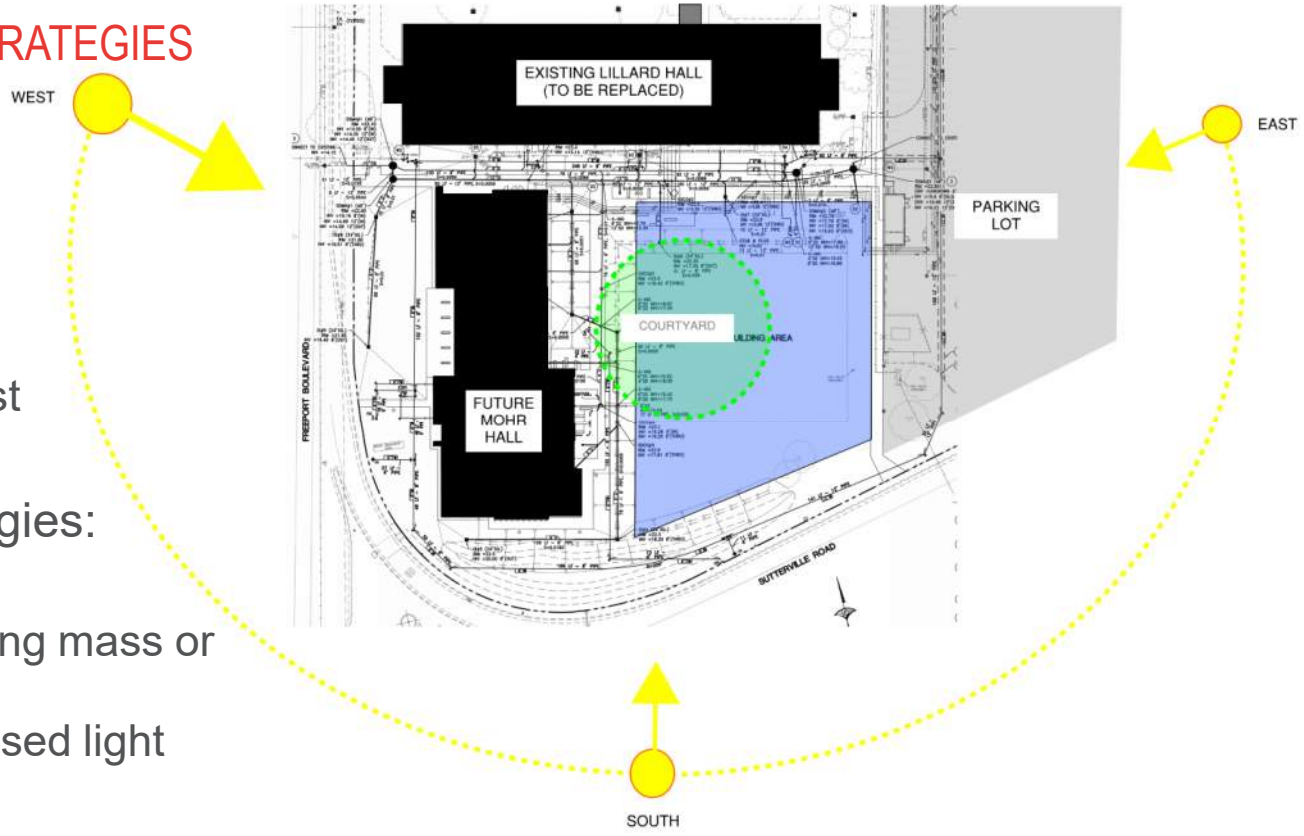
- Courtyard orientation
- Street orientation
- Connection to Mohr Hall
- Connection to campus
- Utilities from NE



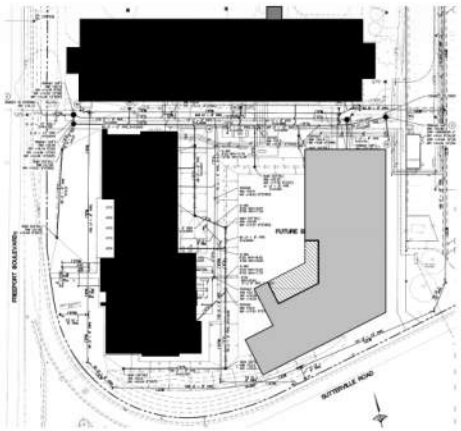
Schematic Design Considerations

SUSTAINABILITY GOALS AND STRATEGIES

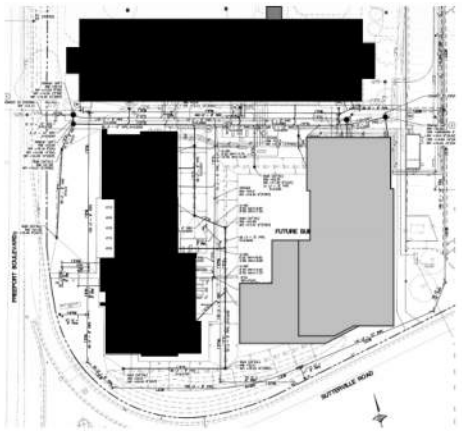
- Goals:
  - Zero net energy
  - LEED gold equivalency
- Site Challenges:
  - Courtyard orientation to west
  - Street orientation to south
- Energy conservation strategies:
  - Compact building form
  - Shade use areas with building mass or elements
  - Maximize northern and diffused light



INITIAL DESIGN CONCEPTS



FRAMED



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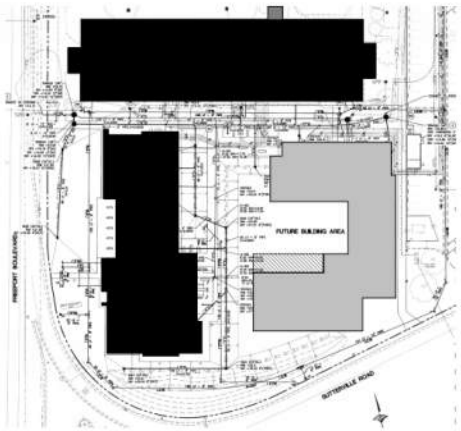
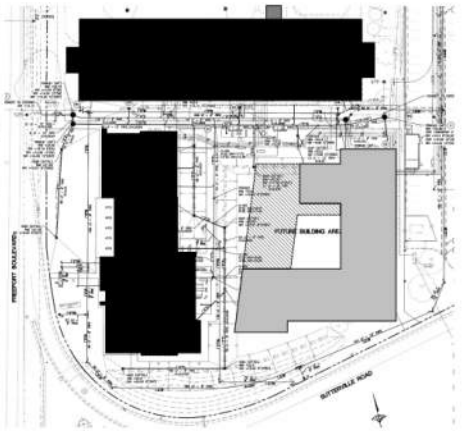


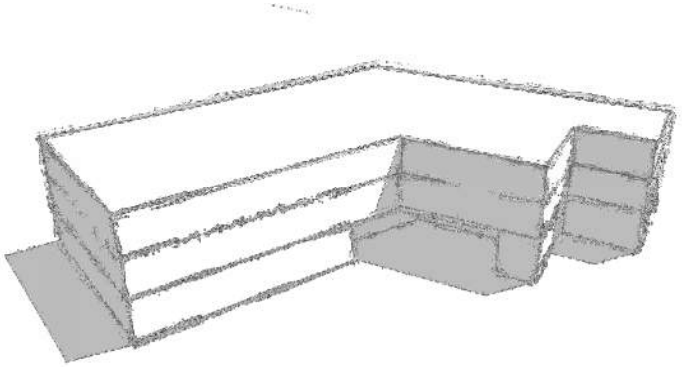
AROUND

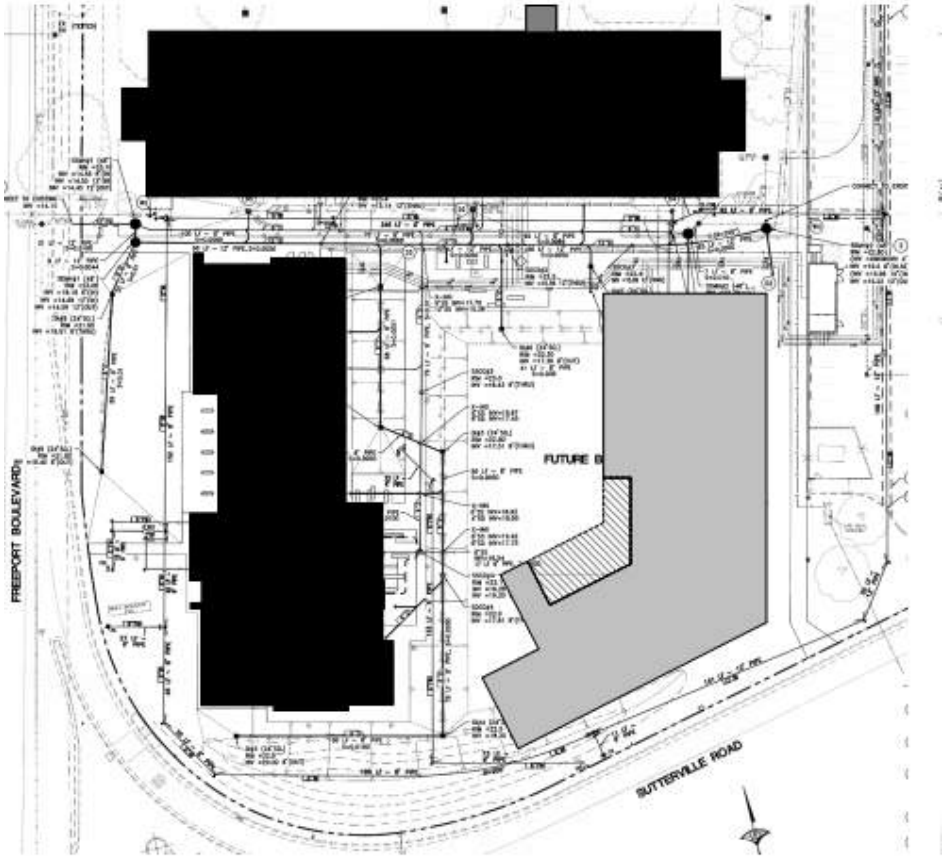


OVER

CONCEPT - FRAMED

60.7% EFFICIENT

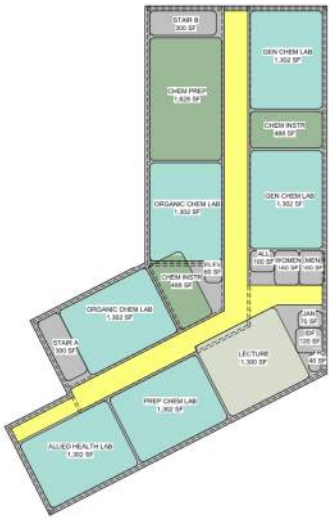




PLANS – FRAMED

LEVEL 1

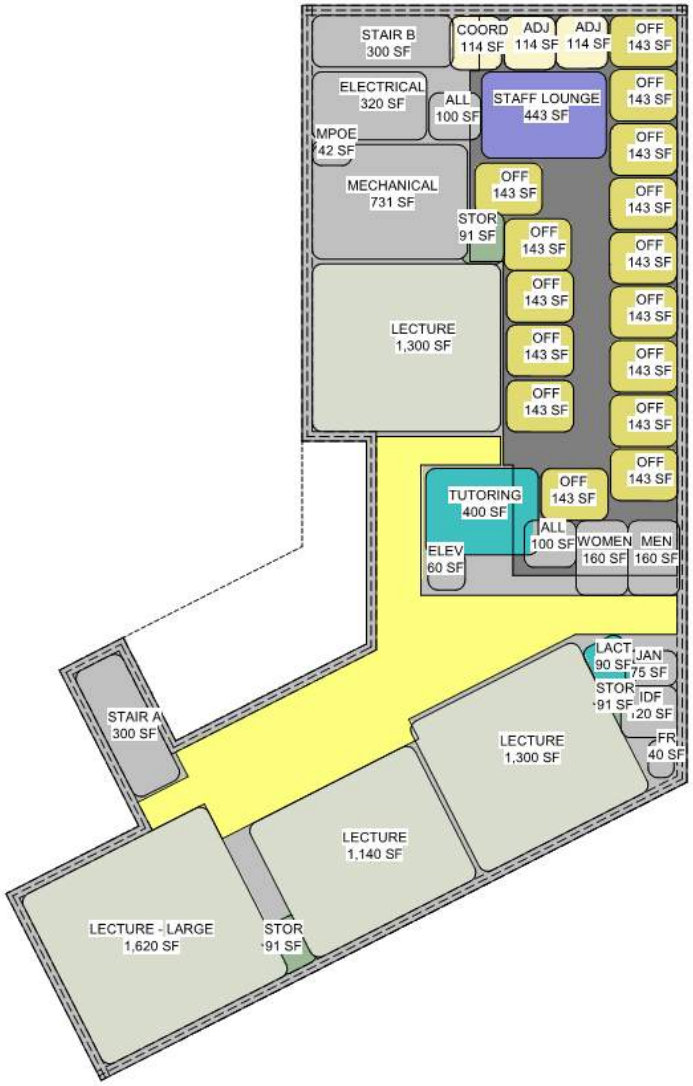
LEVEL 2



LEVEL 3

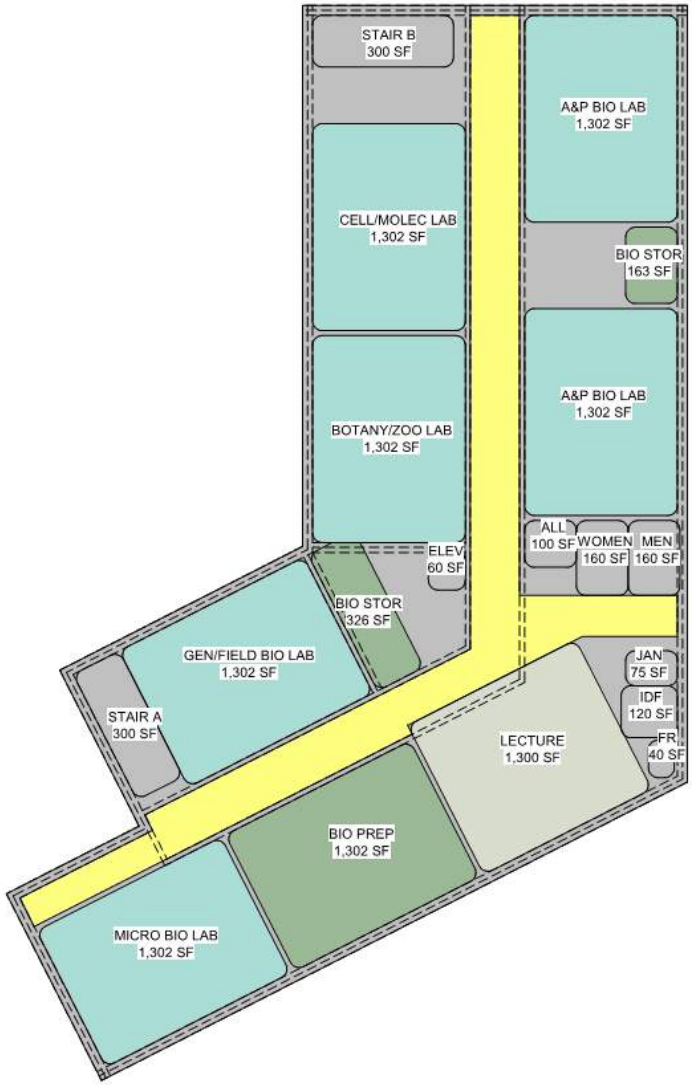
PLANS – FRAMED

LEVEL 1



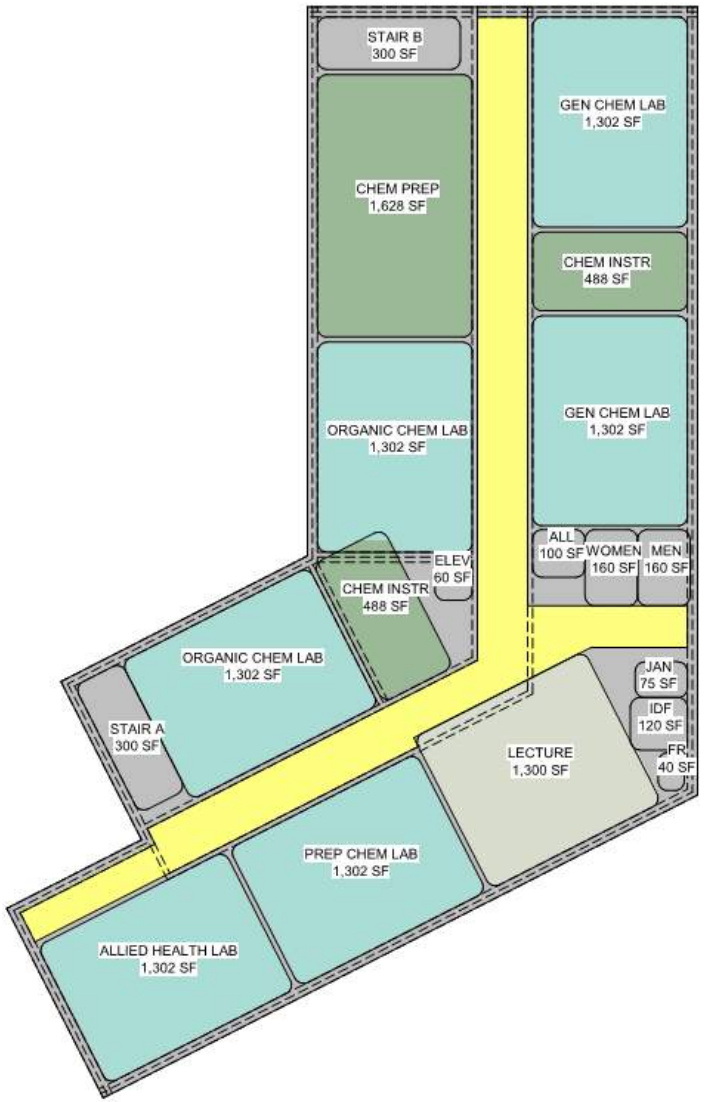
PLANS – FRAMED

LEVEL 2

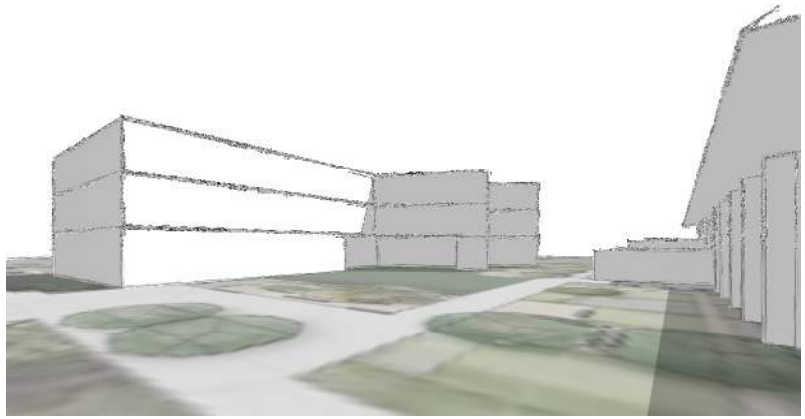


PLANS – FRAMED

LEVEL 3



MASSING - FRAMED



CONCEPT – STEPPED

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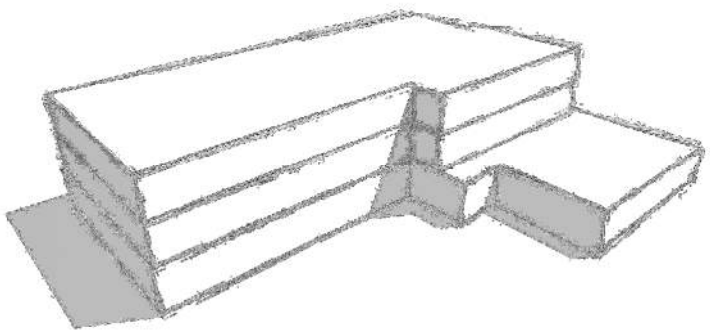
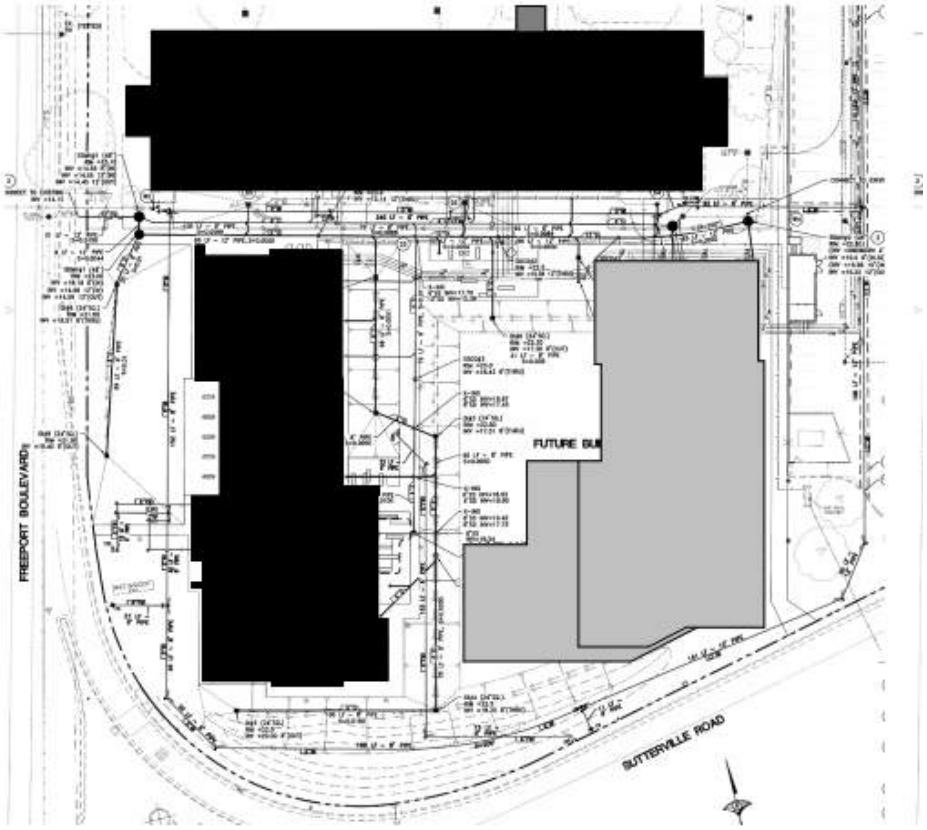
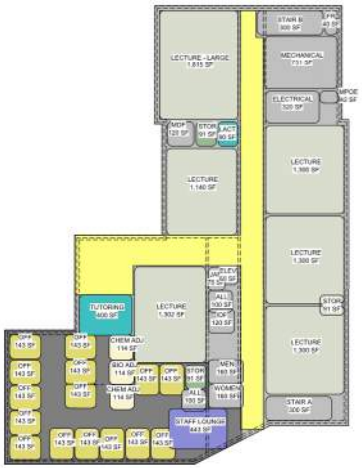
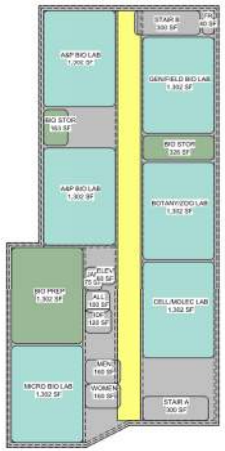




PLANS – STEPPED



LEVEL 1



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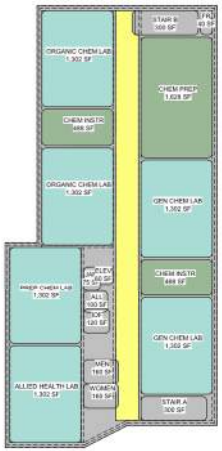
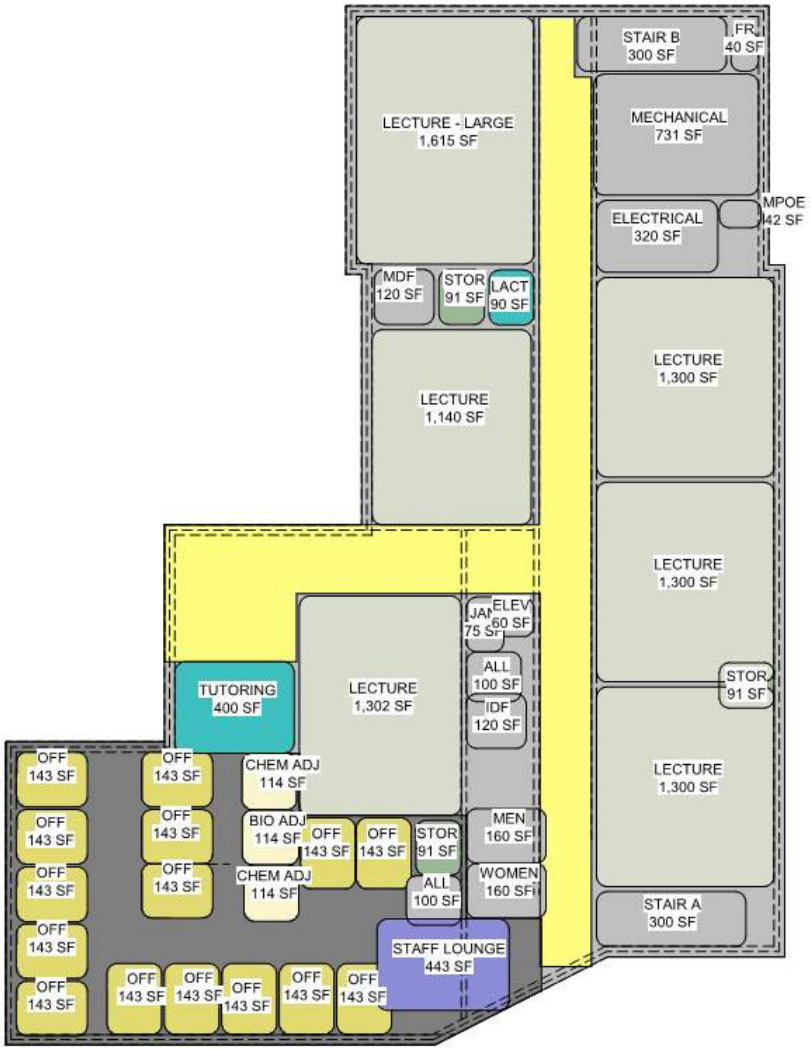


LEVEL 3

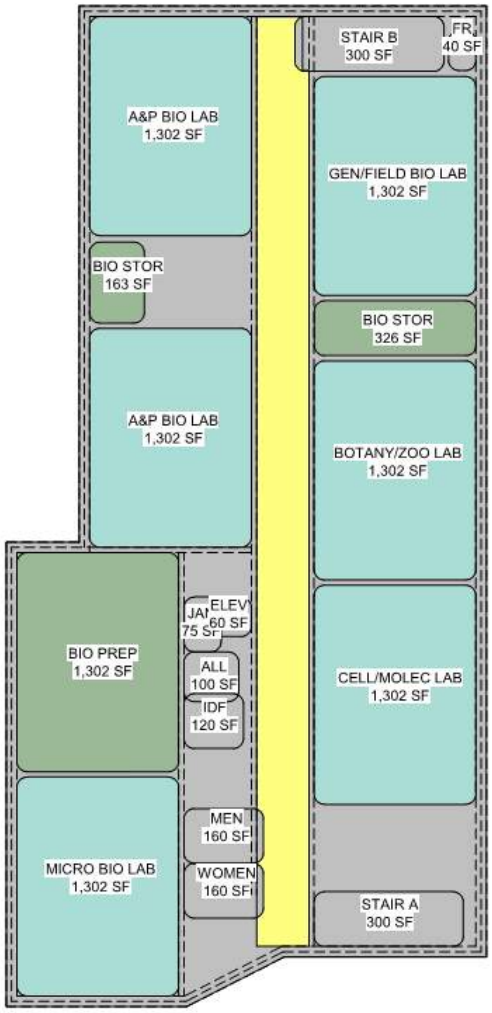
PLANS – STEPPED

LEVEL 1



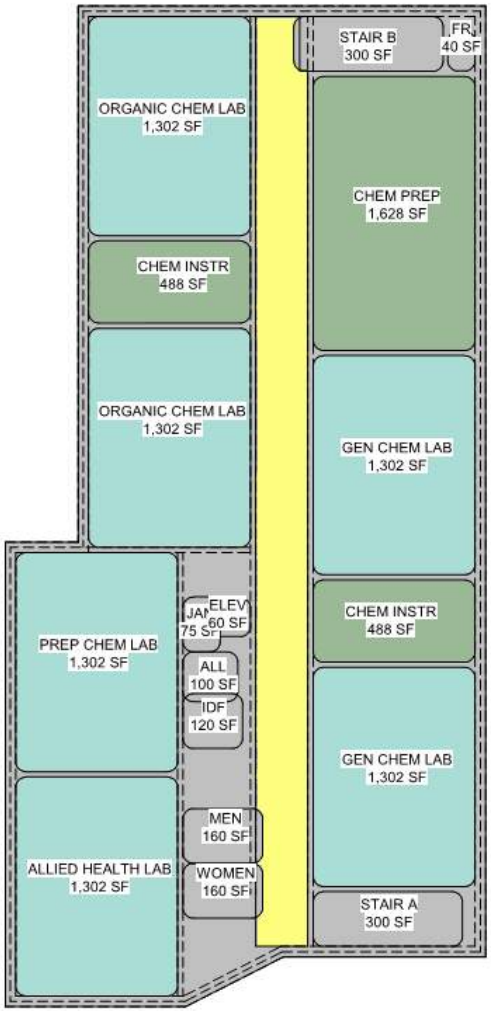
PLANS – STEPPED

LEVEL 2

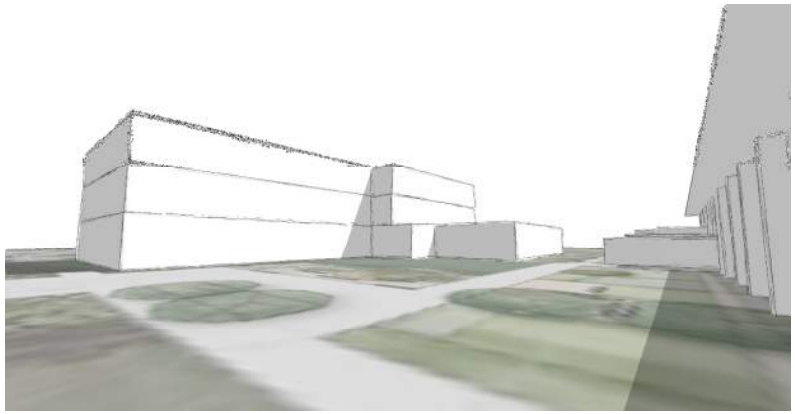


PLANS – STEPPED

LEVEL 3



MASSING - STEPPED



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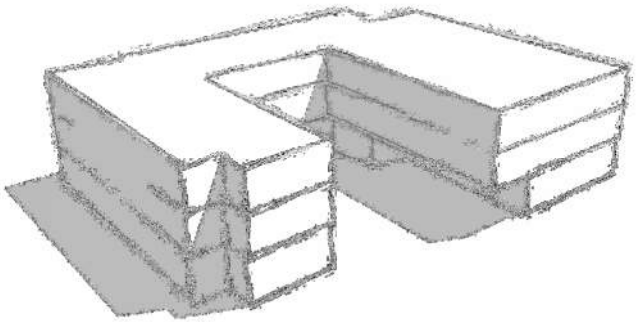

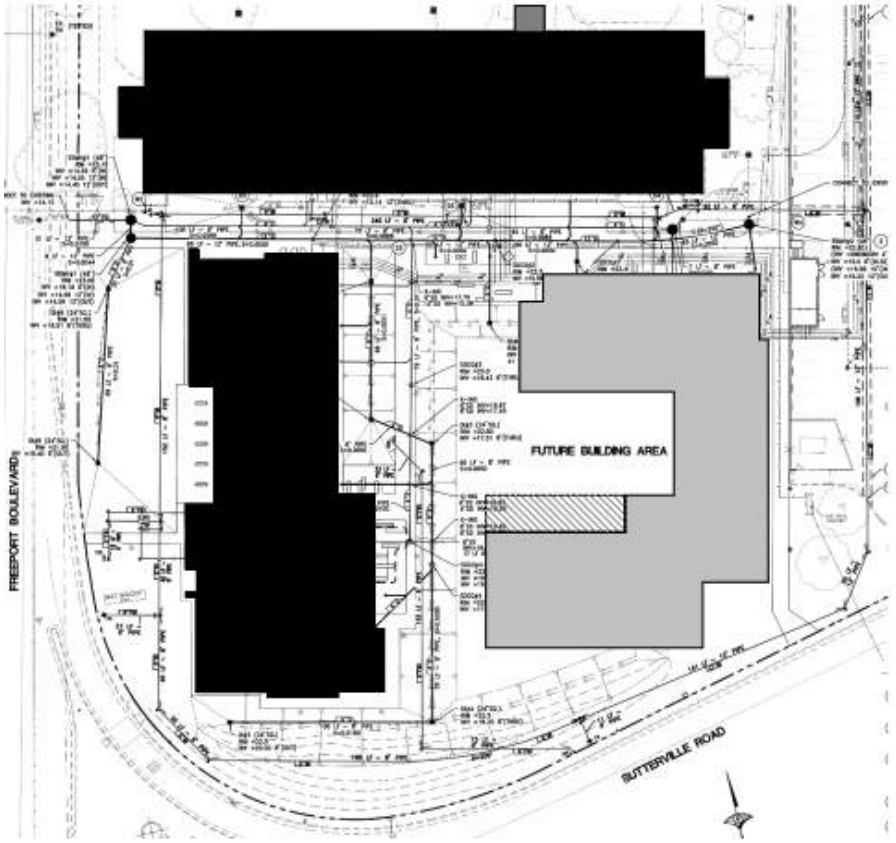

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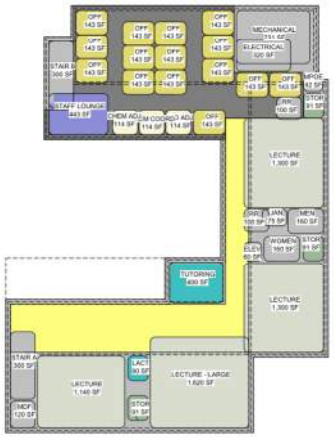

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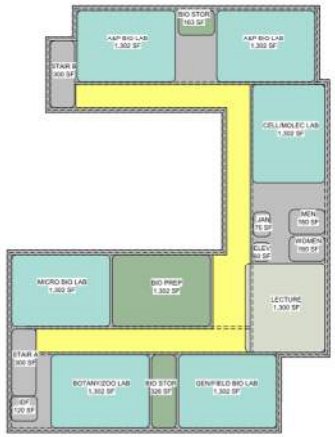

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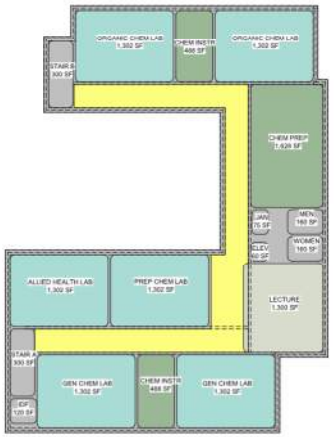

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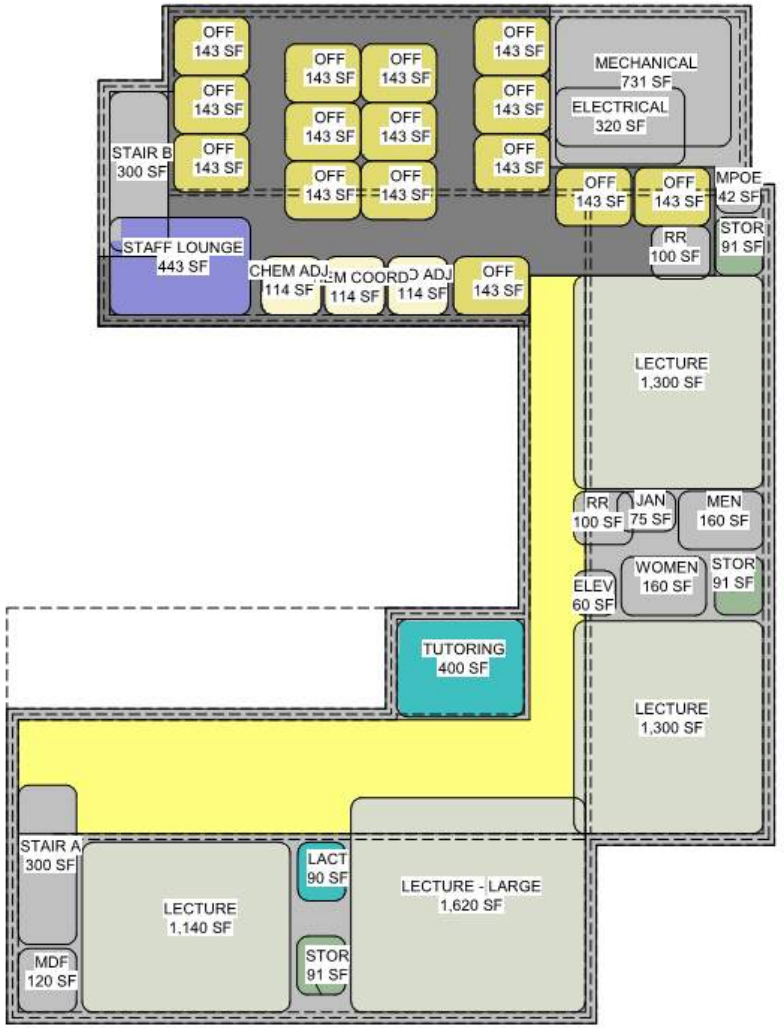

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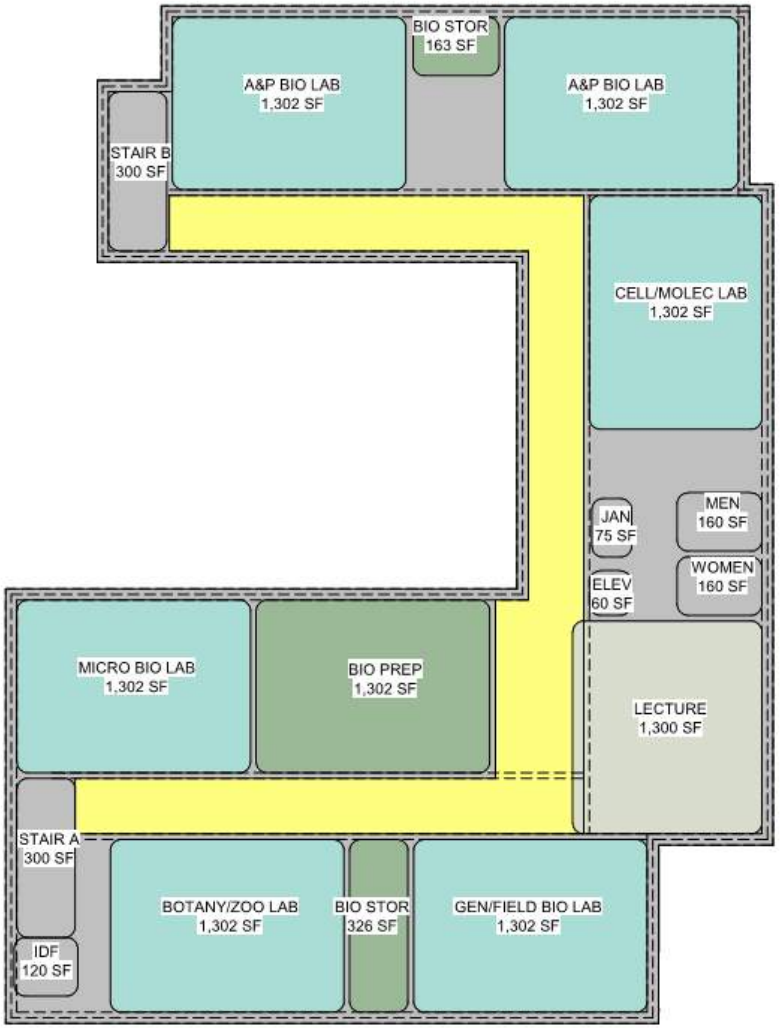

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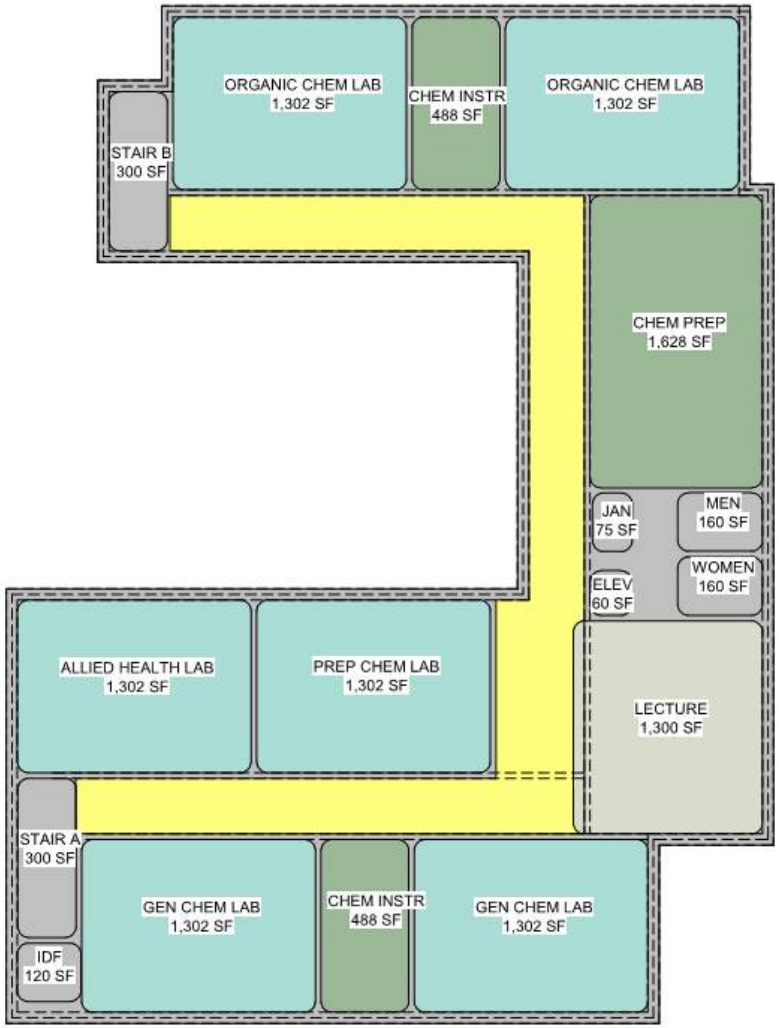

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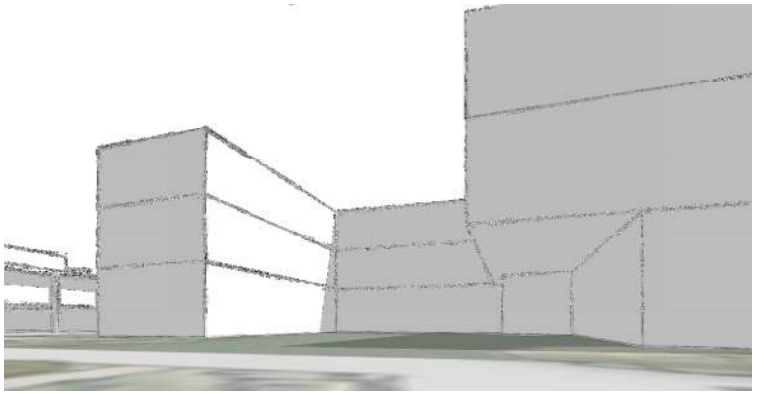

CONCEPT – OVER

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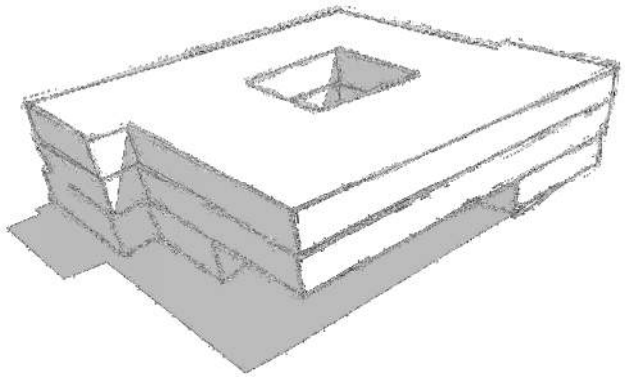

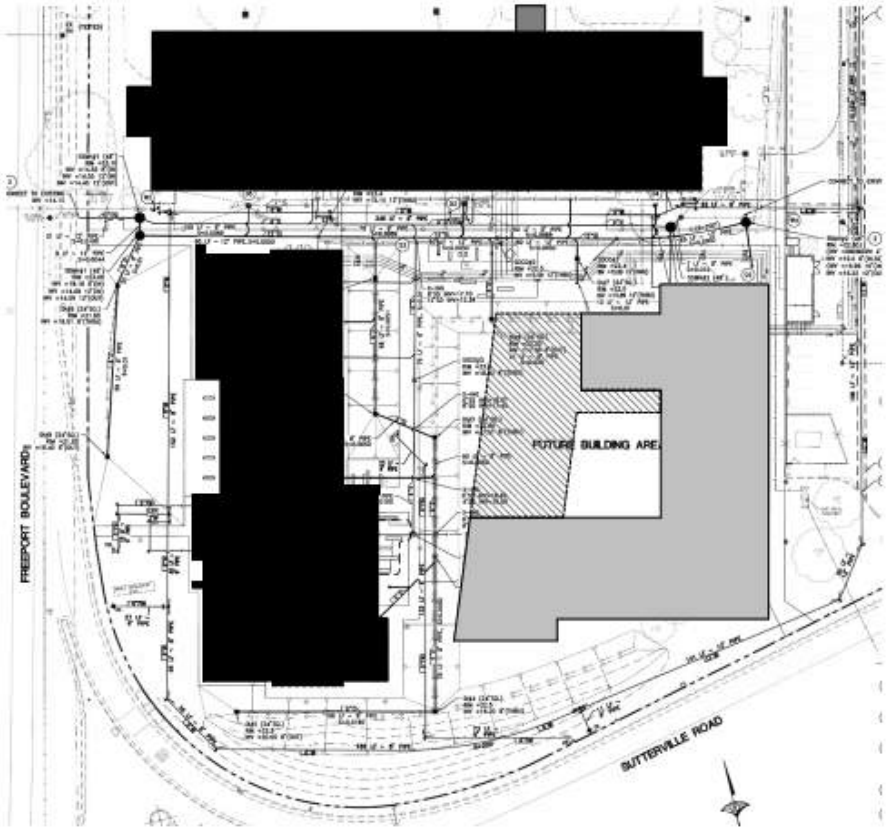

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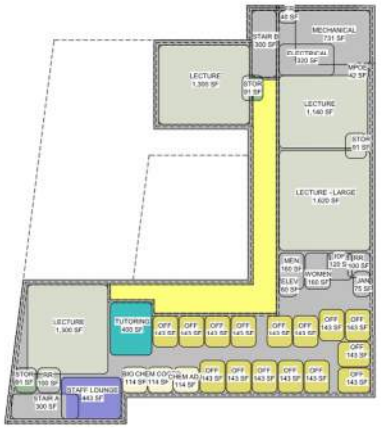

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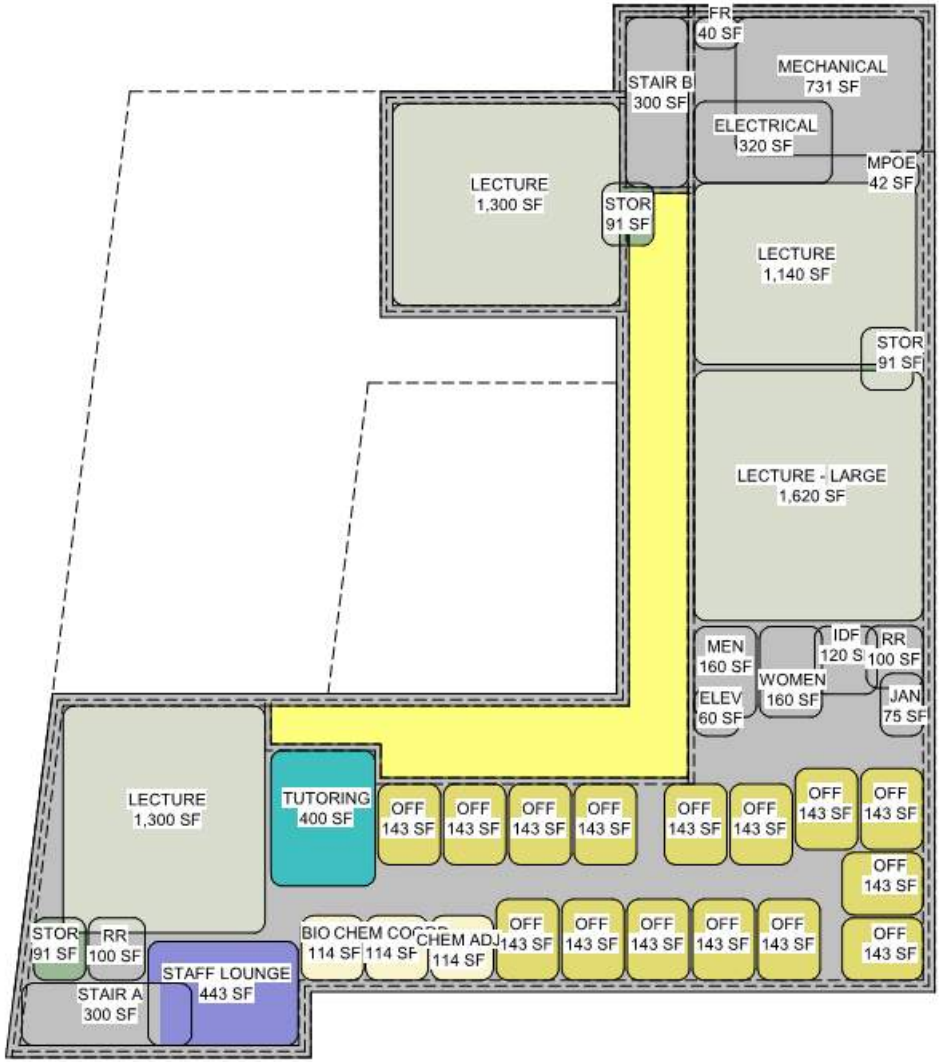
PLANS – OVER

LEVEL 1



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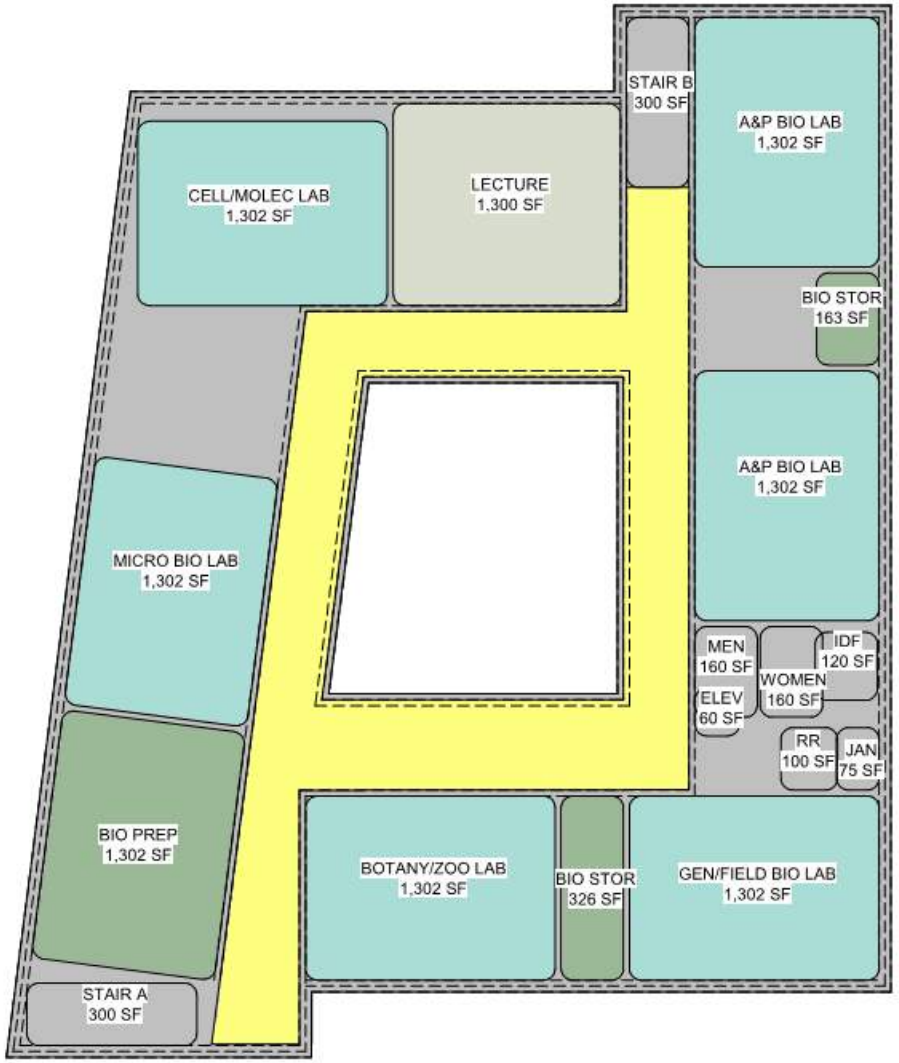
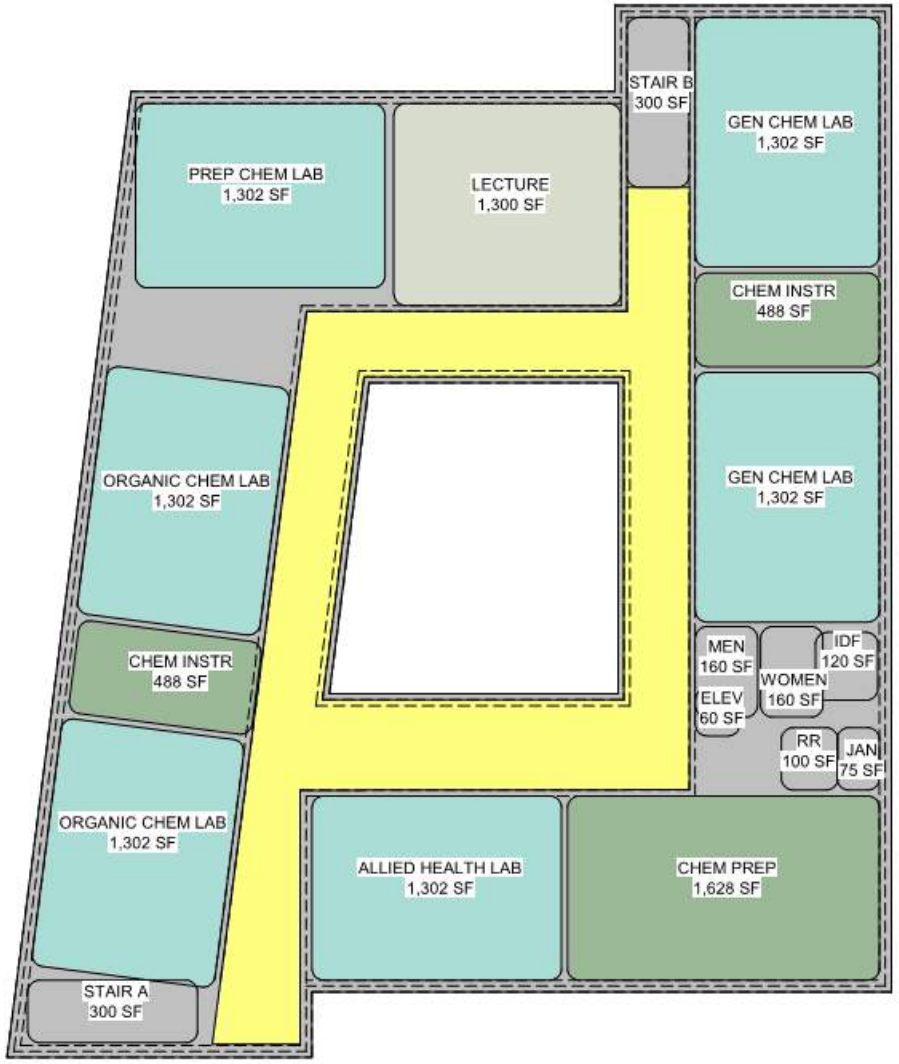
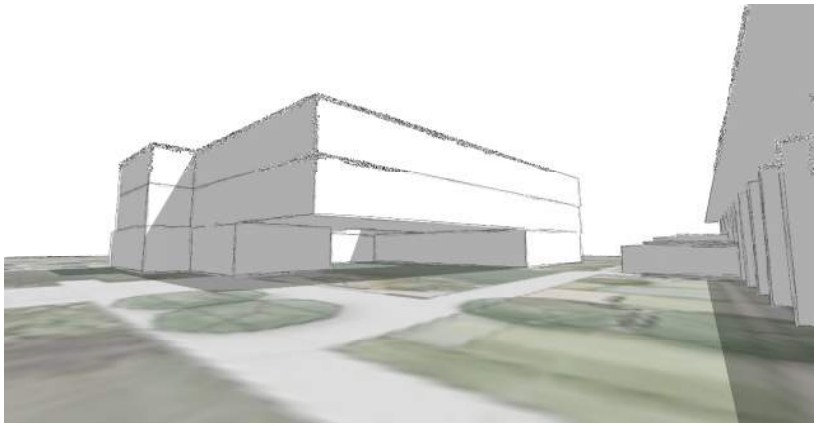


PLANS – OVER

LEVEL 3



MASSING - OVER



HGA

Thank You

APPENDIX D

MOORE BIOLOGICAL CONSULTANTS

October 31, 2018

Mr. Daniel Kramer, C.E.G.
Petralogix Engineering, Inc.
212 Pine Street, Ste. 2
Lodi, CA 95240

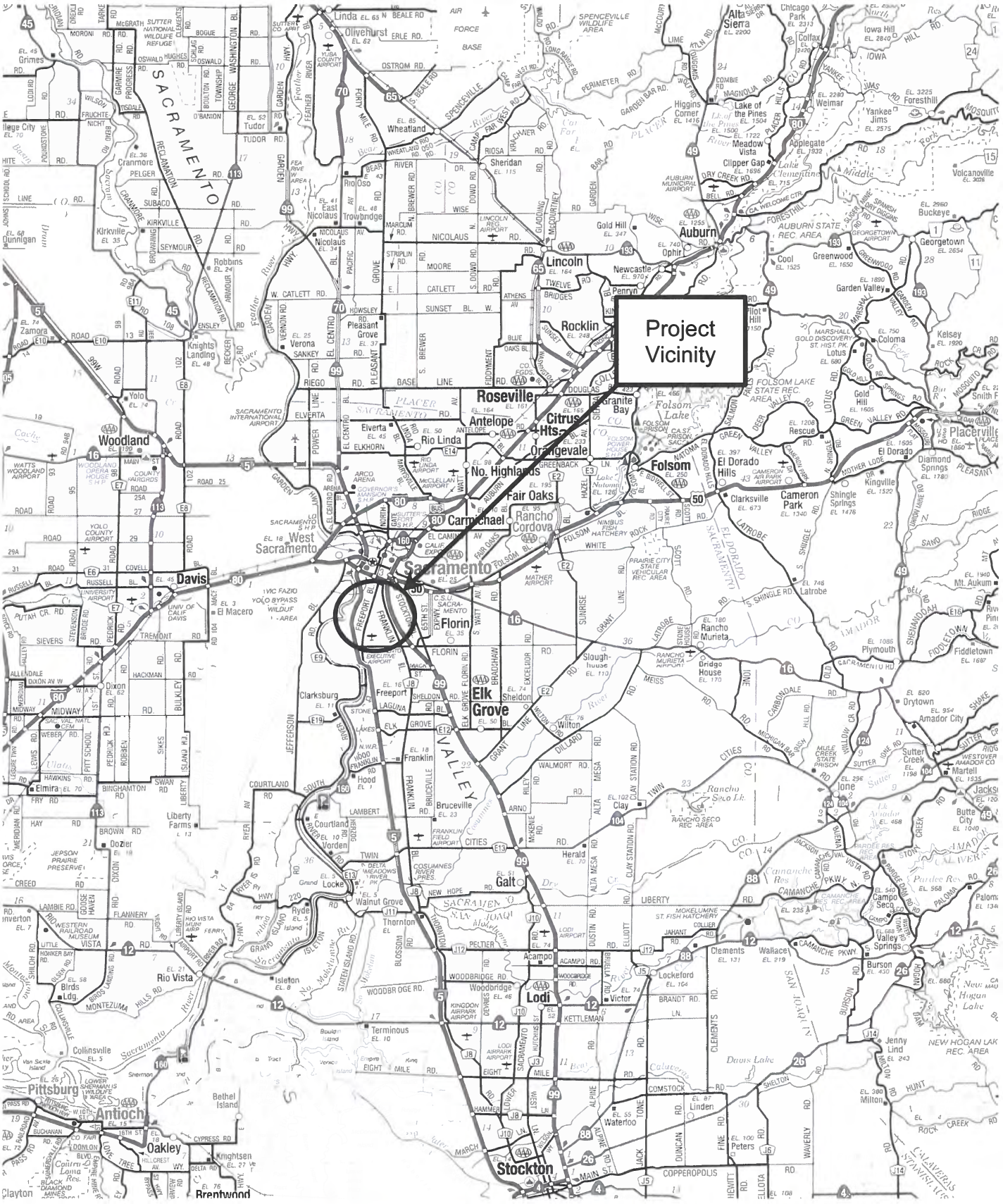
Subject: "LILLARD HALL REPLACEMENT & MODERNIZATION PROJECT", SACRAMENTO CITY COLLEGE, SACRAMENTO, CALIFORNIA: BIOLOGICAL RESOURCES ASSESSMENT

Dear Daniel:

Thank you for asking Moore Biological Consultants to assist with a biological resources assessment of the Lillard Hall Replacement and Modernization Project at Sacramento City College (Figures 1 and 2). The objectives of our work were to document biological resources in the site, assess the site for potentially regulated Waters of the U.S. and wetlands, and to search for special-status species or potentially suitable habitat for special-status species within the site. This letter summarizes information related to biological resources in or near the site that was compiled by reviewing databases and available documents, and conducting reconnaissance level field surveys on October 16 and 17, 2018.

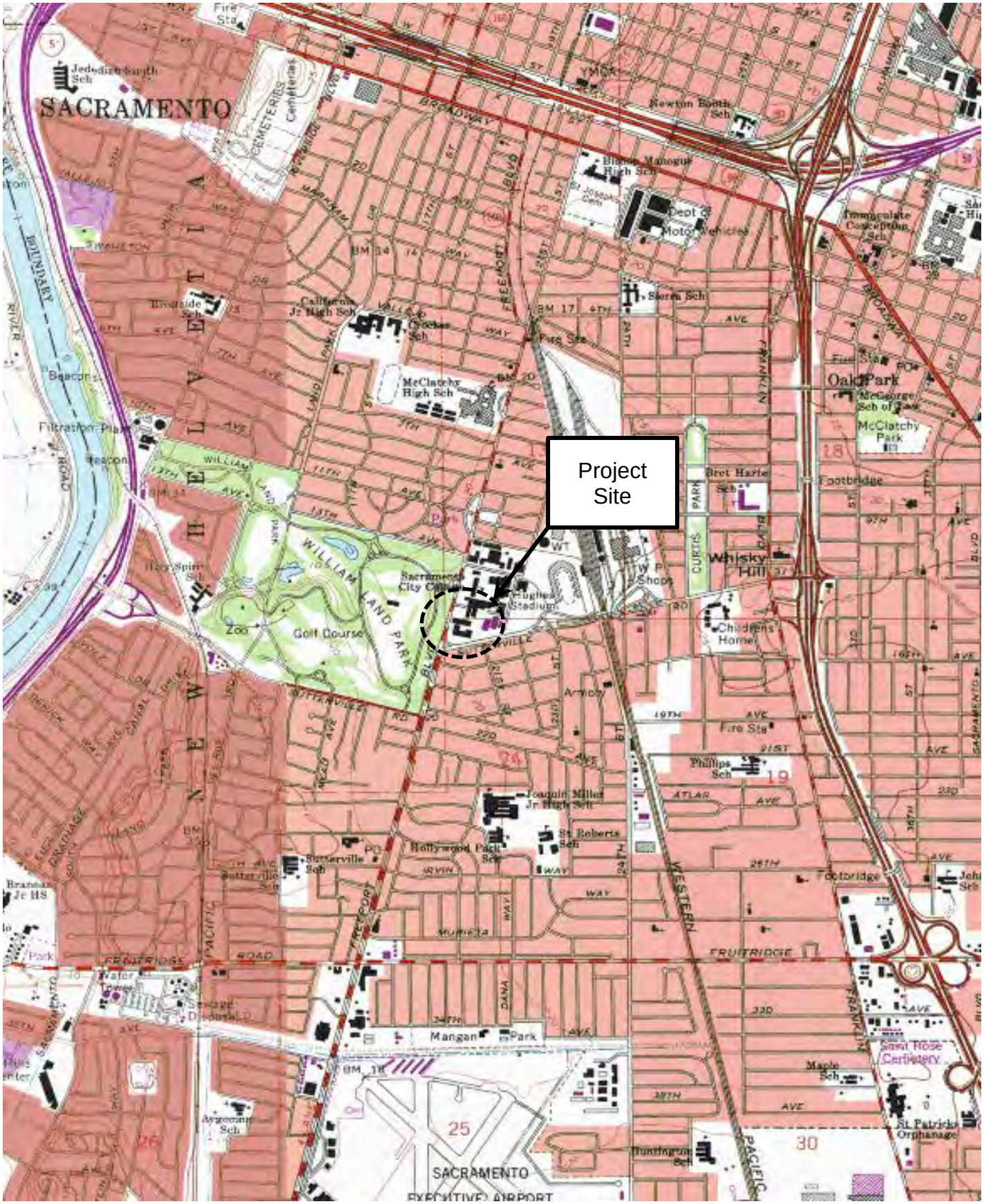
GENERAL SETTING: The project site is located in south Sacramento between Interstate 5 and Highway 99 (Figure 1). The site is in Sections 13 and 24 within Township 8 North, Range 4 East of the USGS 7.5-minute Sacramento East topographic quadrangle (Figure 2). The project site is in the southwest part of Sacramento City campus and includes two existing buildings, nearby parking lots, and associated manicured lawns and landscaped areas (Figure 3).

10330 Twin Cities Rd., Ste. 30 • Galt, CA 95632
(209) 745-1159 • Fax (209) 745-7513
e-mail: moorebio@softcom.net



Source: Calif. State Automobile Association

Moore Biological Consultants	0 18 Miles N W E S	**FIGURE 1** **PROJECT VICINITY**



Source: USGS 7.5-minute Sacramento West & Sacramento East topographic quadrangles

Moore Biological

0 2000 4000 Feet

N W E S

FIGURE 2

PROJECT LOCATION

Source (Basemap): Google Earth

Scale: 1 inch = 125+/- feet

N
W E
S

FIGURE 3

AERIAL PHOTOGRAPH

Moore Biological

PROJECT OVERVIEW: The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building in the southwest corner of the Sacramento City College campus (see Site Plan in Attachment A). The project involves demolition of old Lillard Hall and construction of the new Lillard Hall. It is anticipated the new Lillard Hall will be approximately 31,709 square feet. There is currently a Mohr Hall replacement project underway at the site, just south of Lillard Hall. The Mohr Hall project consists of a building replacement of approximately the same size as the existing building. Mohr Hall is discussed as part of the Lillard Hall project as part of the new Lillard Hall will be located within the footprint of the demolished Mohr Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in parking Lot G, just north of Lillard Hall and/or parking lot F, which is east of Mohr Hall and Lillard Hall.

VEGETATION: Natural habitats in the project vicinity, including those in the site, have been entirely replaced by development. Beyond the buildings, the site contains areas of irrigated lawn area that is periodically mowed, landscaped areas surrounding buildings and parking lots, and several ornamental trees scattered around the site (Figure 3 and photographs in Attachment B).

Several ornamental trees and shrubs can be found in and surrounding the irrigated lawn area, surrounding both Lillard and Mohr Halls and in landscaped strips around the parking lots. Several large trees surrounding Lillard and Mohr Hall will be removed.

WILDLIFE: Only a few bird species were observed in the site. Yellow-rumped warbler (*Setophaga coronata*) and rock dove (*Columba livia*) were the only birds observed during the survey. The only mammal observed during the survey was a western gray squirrel (*Sciurus griseus*). No California ground squirrels (*Spermophilus beecheyi*) or their burrows were observed during the recent survey.

There are several nest trees in and near the site that are suitable for nesting birds. Given the presence of some relatively large trees in and near the site, it is likely a variety of songbirds nest in trees in or near the site each year. it is also likely that songbirds nest within shrubs and grassland habitats in and adjacent to the site each year Due to the site being so urbanized, it is less likely that raptors nest in or near the site.

WATERS OF THE U.S. AND WETLANDS: Jurisdictional “wetlands” includes vegetated wetland areas, which meet the technical criteria described in the U.S. Army Corps of Engineers (ACOE) 1987 Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (2008), or water bodies or channels that meet the criteria identified in 33 CFR 328.4, which define “Waters of the U.S.”. Jurisdictional “Waters of the U.S” includes intermittent and perennial "blue line" streams mapped on USGS topographic maps, even when these features have been re-aligned and seasonal wetland swales and vernal pools that are hydrologically connected to or in proximity to tributary drainages.

There are no potentially jurisdictional Waters of the U.S. or wetlands in the site. The site consists entirely of landscaped areas that are highly disturbed. Specifically, we observed no relatively permanent or intermittent drainages, vernal pools, seasonal wetlands, marshes, ponds, lakes, or riparian wetlands of any type within or near the site.

SPECIAL-STATUS SPECIES: Special-status species are plants and animals that are legally protected under the state and/or federal Endangered Species Act or other regulations. The Federal Endangered Species Act (FESA) of 1973 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 parallels the policies of FESA and pertains to native California species.

California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB, 2018) is helpful to identify special-status species that have been previously documented in the greater project vicinity or have the potential to occur based on presence of suitable habitat and geographical distribution. The United States Fish and Wildlife Service (USFWS) IPaC Trust Report of Federally Threatened and Endangered species that may occur in or be affected by projects in the project vicinity was also reviewed (Attachment C).

Numerous special-status species have been documented within the Sacramento East and Sacramento West topographic quadrangles, within which the site is located in the west edge of the Sacramento East topographic quadrangle (see CNDDB Search Results in Attachment C). Several special-status plants, Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), other special-status birds, fairy and tadpole shrimp, and numerous fish are some of the species identified in the CNDDB or are on the IPAC Trust Report. However, purple martin (*Progne subis*), a small songbird, is the only special-status species documented in the CNDDB within a mile of the site.

Special-status plants generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, and areas with unusual soils. The site has been disturbed by development and does not provide suitable habitat for special-status plants. No special-status plants or highly suitable habitat for special-status plants were observed in the site.

While the project site may have provided habitat for special-status wildlife species at some time in the past, development has substantially modified natural habitats in the greater project vicinity, including those within the site. Of the wildlife species identified in the CNDDB search, Swainson's hawk is the only species that has any potential to occur in the project site on more than a transitory or very occasional basis. Swainson's hawk could be disturbed by

noise if they nested in or near the project site during construction and is discussed further below.

SWAINSON'S HAWK: The Swainson's hawk is a migratory hawk listed by the State of California as a Threatened species. The Migratory Bird Treaty Act and Fish and Game Code of California protect Swainson's hawks year-round, as well as their nests during the nesting season (March 1 through September 15). Swainson's hawk are found in the Central Valley primarily during their breeding season, a population is known to winter in the San Joaquin Valley.

Swainson's hawks prefer nesting sites that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, hay, and wheat crops. Most Swainson's hawks are migratory, wintering in Mexico and breeding in California and elsewhere in the western United States. This raptor generally arrives in the Central Valley in mid-March, and begins courtship and nest construction immediately upon arrival at the breeding sites. The young fledge in early July, and most Swainson's hawks leave their breeding territories by late August. The CNDDB contains a record of a pair of Swainson's hawk nesting a little over a mile east of the site on the Sacramento River and additional records within several miles of the site.

The site does not provide suitable Swainson's hawk foraging habitat, but large trees in and near the site could be used for nesting. Due to the location of the site being in the middle of a busy campus, it is unlikely Swainson's hawks use on-site habitats on more than a very occasional basis. While considered unlikely, Swainson's hawks could conceivably nest in trees in or near the site.

CRITICAL HABITAT: Critical habitat is areas mapped by the United States Fish and Wildlife Service (USFWS) as being critical to maintain and/or manage in a relatively natural state for the recovery of a listed species. The site is not in designated critical habitat of any federal listed species.

Conclusions and Recommendations

- The site is buildings, parking lots, and landscaped areas in the southwest part of campus. On-site habitats are biologically unremarkable.

- Development of the proposed project will result in the removal of some large ornamental trees and shrubs. From a wildlife habitat perspective, the proposed vegetation removal is a less than significant impact.

- There are no potentially jurisdictional Waters of the U.S. or wetlands in the site.

- Due to a lack of suitable habitat, it is unlikely that special-status plants occur in the site.

- With the exception of Swainson's hawk, no special-status wildlife species are expected to occur in the body of the site on more than a very occasional or transitory basis.

- Pre-construction surveys for nesting Swainson's hawks within 0.25 miles of the project site are recommended if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. The determination should be pursuant to criteria set forth by CDFW (CDFG, 1994).

- The site is not within designated critical habitat for any federally listed species.

- On-site trees, shrubs, and grasslands may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918 and Fish and Game Code of California. If vegetation removal and/or project construction

occurs between February 1 and August 31, a pre-construction nesting bird survey is recommended. If active nests are found within the survey area, vegetation removal and/or project construction should be delayed until a qualified biologist determines nesting is complete.

We hope this information is useful. Please call me at (209) 745-1159 with any questions.

Sincerely,

Diane S. Moore, M.S.
Principal Biologist

References and Literature Consulted

ACOE (U.S. Army Corps of Engineers). 1987. Technical Report Y87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MI.

ACOE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. U.S. Army Engineer Research and Development Center, Vicksburg, MS. September.

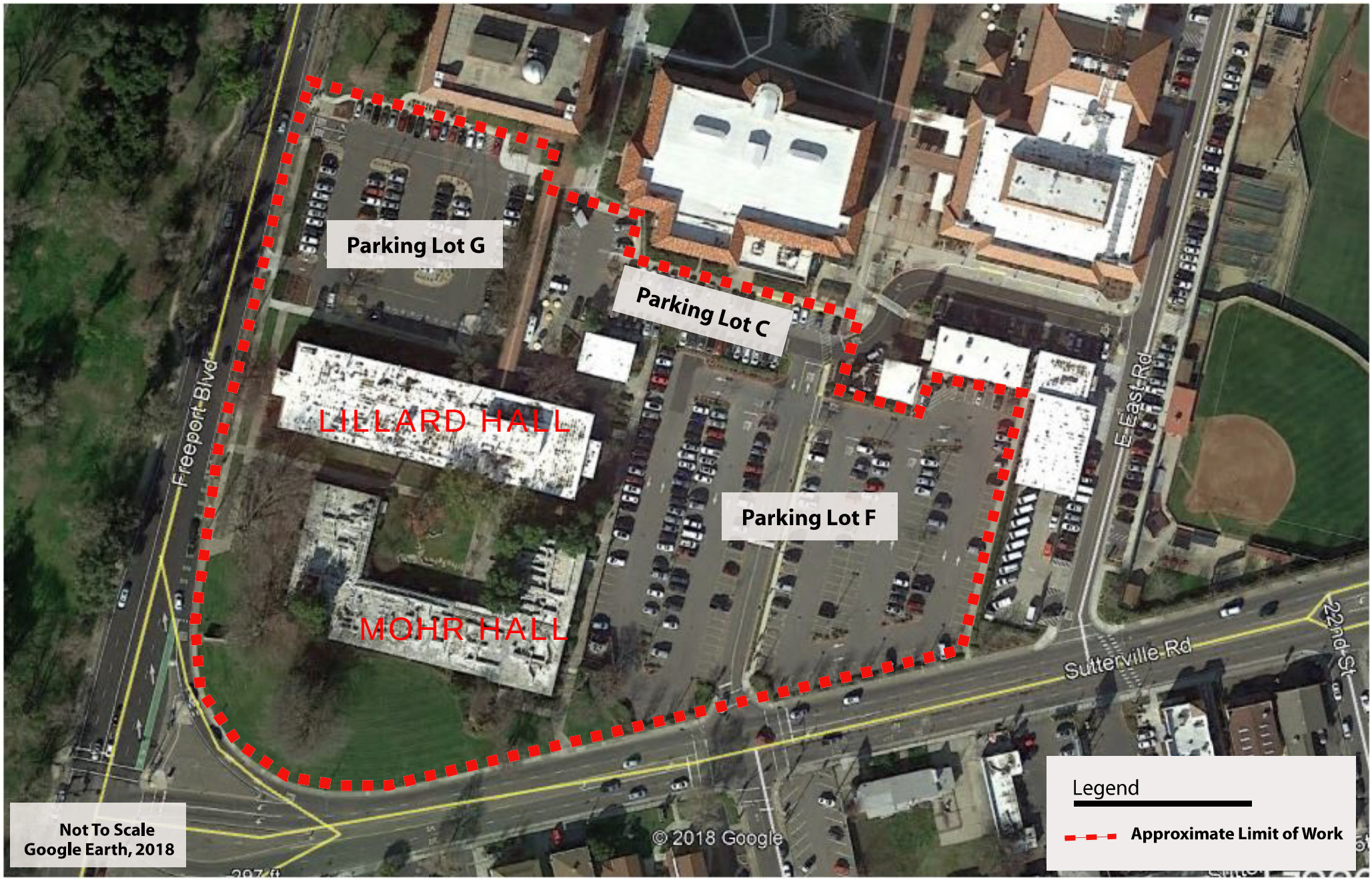
CNDDB (California Natural Diversity Database). 2018. California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

CDFG (California Department of Fish and Game). 1994. Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. November.

Attachment A

Project Map and Information

Sacramento City College



Proposed Project: Lillard Hall & Parking Solar Structures
(Project Limit Includes Current Mohr Hall Construction Area)

Lillard Hall – Replacement and Modernization Project

Project Description

The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building located on the Sacramento City College campus. Proposed development will include demolition and replacement of Lillard Hall which is located in the southwest portion of the Sacramento City College parcel. The Lillard Hall replacement schematic designs are still under consideration, however, it is anticipated the new proposed Lillard Hall will be approximately 31,709 square feet, and will replace the older, approximately 28,863 square foot Lillard Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in one of the existing parking lots (parking Lot G or parking lot F) near Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned.

There is currently a Mohr Hall replacement project underway at the site, determined exempt under CEQA; a Notice of Exemption was filed for the Mohr Hall project on November 7, 2016 with the categorically exempt status Class 14. 15314 – Minor Addition to Schools and categorically exempt status Class 2. 15302 – Replacement or Reconstruction. The Mohr Hall project consists of a building replacement with no additional usable assignable square footage (ASF) and no increase in planned occupant load. The Mohr Hall will be discussed as part of this proposed project due to the proximal nature (the proposed Lillard Hall will be located within the footprint of the demolished Mohr Hall, and adjacent east of the new Mohr Hall) and potential cumulative impacts with the Proposed Lillard Hall and potential Overhead Solar Parking Project.

Attachment B

Photographs

Lillard Hall in the north part of the site, looking southeast from near Freeport Boulevard; 10/16/18.

Manicured lawn north of Lillard Hall, looking east from near Freeport Boulevard; 10/16/18.

Sidewalk and landscaped areas between Lillard Hall and Mohr Hall, looking west from the west edge of Parking Lot "F"; 10/16/18. Several large trees will be removed from this corridor.

Landscaped area north of Lillard Hall, looking west from the northeast corner of Lillard Hall; 10/16/18.

Ornamental trees and manicured lawn south of Mohr Hall, looking west from the southeast corner of the lawn; 10/16/18.

Manicured lawn south of Mohr Hall in the south part of the site, looking north; 10/16/18. Demolition of Mohr Hall has begun.

Parking lot "F", east of Mohr Hall and Lillard Hall, looking northeast from near Sutterville Road; 10/16/18.

Trees and dirt area west of Mohr Hall, looking north from the southwest corner of the site; 10/16/18. Demolition of Mohr Hall has begun and a few trees have been removed.

Northwest corner of "Parking Lot F" in the east part of the site, looking southwest; 10/17/18. This parking lot is one of the possible locations of the proposed solar structures.

Southeast corner of "Parking Lot F" in the east part of the site, looking southwest along Sutterville Road; 10/17/18.

"Parking Lot G" in the northwest corner of the site, looking west from the east edge of the parking lot; 10/17/18.

"Parking Lot G" in the northwest corner of the site, looking southeast from near Freeport Boulevard; 10/17/18.

Attachment C

CNDDB Summary Report

& IPAC Trust Report

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Sacramento East (3812154) OR Sacramento West (3812155))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 6 chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1	
Oncorhynchus tshawytscha pop. 7 chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1	
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 32

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Sacramento County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	
California Tiger Salamander Ambystoma californiense	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi	Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	
Vernal Pool Tadpole Shrimp Lepidurus packardi	Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus* — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Burrowing Owl *Athene cunicularia* — Breeds Mar 15 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher *Toxostoma redivivum* — Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe *Aechmophorus clarkii* — Breeds Jan 1 to Dec 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat *Geothlypis trichas sinuosa* — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle *Aquila chrysaetos* — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

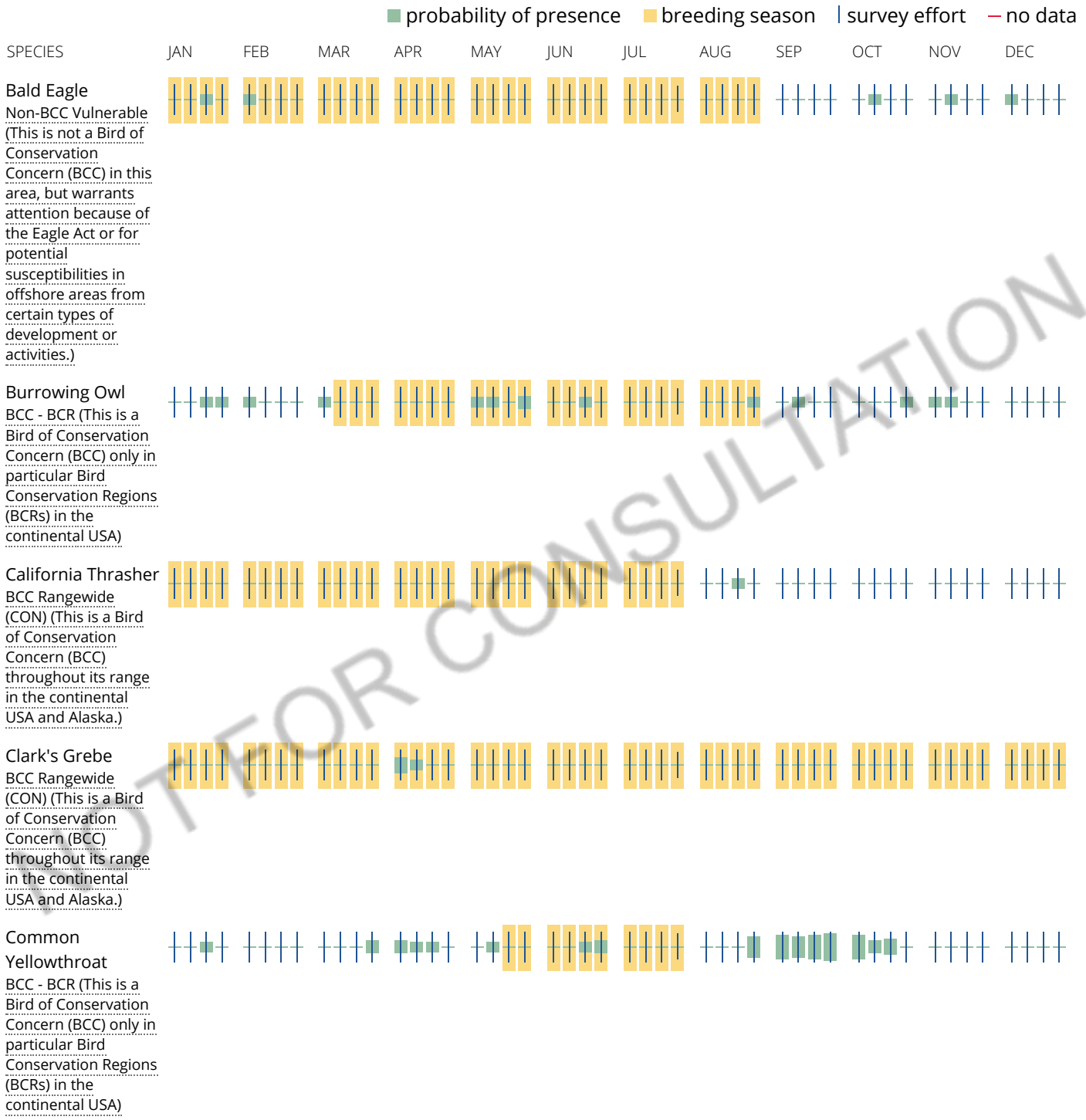
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

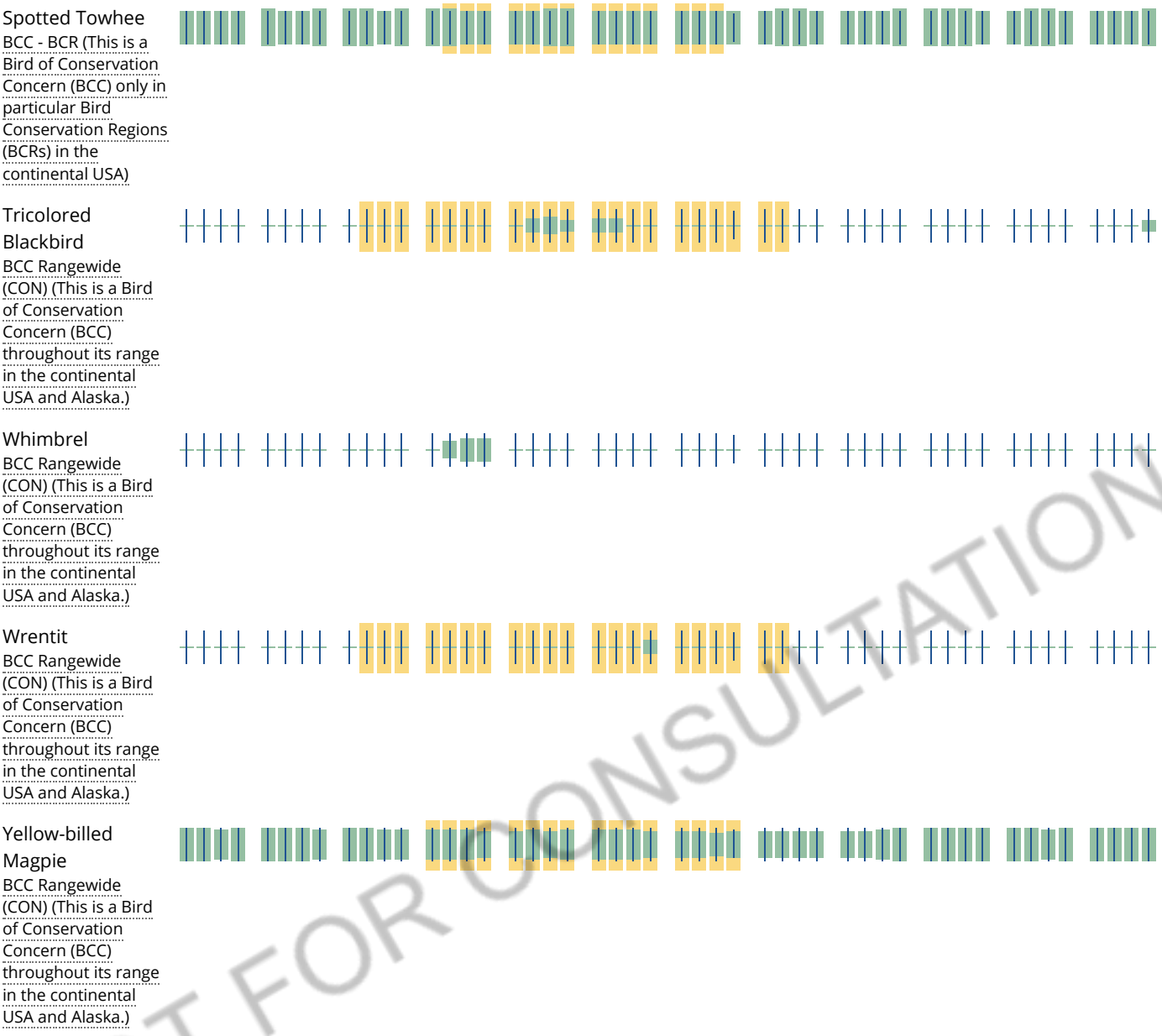
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project

intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

PUBK

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX E

GEOTECHNICAL ENGINEERING STUDY
FOR
MOHR HALL MODERNIZATION

Freeport and Sutterville Roads
Sacramento, California

Project No. E08091.001
January 2016

YOUNGDAHL
CONSULTING GROUP, INC.

Building Innovative Solutions

YOUNGDAHL CONSULTING GROUP, INC.
Building Innovative Solutions
1234 Glenhaven Court, El Dorado Hills, CA 95762
4300 Anthony Court, Unit D, Rocklin, CA 95677
ph 916.933.0633 fx 916.933.6482
www.youngdahl.net
30 YEARS

Los Rios Facilities Management
3753 Bradview Drive
Sacramento, California 95827

Project No. E08091.001
29 January 2016

Attention: Mr. Josef Meyer

Subject: **MOHR HALL MODERNIZATION**
Freeport and Sutterville Roads, Sacramento, Sacramento County, California
GEOTECHNICAL ENGINEERING STUDY

References:
1. Engineering Geologic Report for Sacramento City College Cafeteria, prepared by Wallace – Kuhl & Associates, Inc., dated 18 October 2000 (WKA No. 4399.01).
2. Update of Geologic Hazards Study for Sacramento City College Parking Structure, prepared by Wallace – Kuhl & Associates, Inc., dated 27 February 2004 (WKA No. 5852.01).
3. Geotechnical Engineering Report for Sacramento City College Fine Arts Building, prepared by Wallace – Kuhl & Associates, Inc., dated 31 May 2007 (WKA No. 7542.01).
4. Geotechnical Engineering Study for Sacramento City College Performing Arts Facility, prepared by Youngdahl Consulting Group, Inc., dated 12 May 2008 (Project No. E08091.000).
5. Undrained Retaining Wall Recommendations for Sacramento City College Performing Arts Facility, prepared by Youngdahl Consulting Group, Inc., dated 1 April 2009 (Project No. E08091.000).
6. Mohr Hall Replacement Survey, undated.
7. Proposal for Mohr Hall Modernization, prepared by Youngdahl Consulting Group, Inc., dated 12 October 2015.

Dear Mr. Josef Meyer,

In accordance with your authorization, Youngdahl Consulting Group, Inc. has performed a Geotechnical Engineering Study for the project site located on the northeast corner of Freeport and Sutterville Roads in Sacramento, California. The purpose of this study was to perform a subsurface exploration and evaluate the surface and subsurface soil conditions at the site and provide geotechnical information and design criteria for the proposed project. Our scope was limited to a subsurface investigation, laboratory testing and preparation of this report per the Reference 7 proposal.

Based upon our site reconnaissance and subsurface exploration program, it is our opinion that the primary geotechnical issues to be addressed consist of design and construction of the proposed improvements within expansive clay soils, as well as the potential for perched groundwater conditions associated with the clay and cemented soil horizons. Due to the non-uniform nature of soils, other geotechnical issues may become more apparent during grading operations which are not listed above. The descriptions, findings, conclusions, and recommendations provided in this report are formulated as a whole; specific conclusions or recommendations should not be derived or used out of context. Please review the limitations and uniformity of conditions section of this report.

This report has been prepared for the exclusive use of the Los Rios Facilities Management and their consultants, for specific application to this project, in accordance with generally accepted geotechnical engineering practice. Should you have any questions or require additional information, please contact our office at your convenience.

Very truly yours,
Youngdahl Consulting Group, Inc.

Christopher M. Sugar
Staff Engineer

Reviewed by:

Brandon K. Shimizu, P.E., G.E.
Senior Engineer

Distribution: (1) PDF to Client

TABLE OF CONTENTS

GEOTECHNICAL ENGINEERING STUDY
FOR
MOHR HALL MODERNIZATION

1.0 INTRODUCTION

This report presents the results of our Geotechnical Engineering Study performed for the two proposed instructional buildings planned to be constructed at 3835 Freeport Boulevard in Sacramento, California. An annotated vicinity map is provided on Figure A-1 to identify the approximate project location.

Purpose and Scope

The purpose of this study was to explore and evaluate the surface and subsurface conditions at the site, to provide geotechnical information and design criteria, and to develop geotechnical recommendations for the proposed project. The scope of this study includes the following:

- A review of geotechnical and geologic data available to us at the time of our study, including previous geotechnical studies performed adjacent to the project site;
- A field study consisting of a site reconnaissance, followed by an exploratory boring program to observe and characterize the subsurface conditions;
- A laboratory testing program performed on representative samples collected during our field study;
- Engineering analysis of the data and information obtained from our field study, laboratory testing, and literature review;
- Development of geotechnical recommendations regarding earthwork construction including, site preparation and grading, excavation characteristics, soil moisture conditions, compaction equipment, engineered fill criteria, slope configuration and grading, underground improvements, and drainage;
- Development of geotechnical design criteria for seismic conditions, foundations, differential support conditions, retaining walls, slabs on grade;
- Preparation of this report summarizing our findings, conclusions, and recommendations regarding the above described information.

Project Understanding

We understand that the proposed development will include demolition of the existing Mohr Hall and construction of a two new multi-story instructional buildings. At the time of the preparation of this report preliminary plans for only the western building were provided. The two new proposed instructional buildings are expected to be two-story, of metal frame construction, and be supported by spread footing foundations with concrete slab-on-grade floors. For the purpose of this report, we have anticipated that grading operations will consist of cuts and fills on the order of 2 feet or less.

Background

Review of available information indicates that previous geotechnical studies have been prepared for the adjacent buildings within the Sacramento City College Campus.

If studies or plans pertaining to the site exist and are not cited as a reference in this report, we should be afforded the opportunity to review and modify our conclusions and recommendations as necessary.

2.0 FINDINGS

The following section describes our findings regarding the site conditions that we observed during our site reconnaissance and subsequent subsurface exploration. In addition, this section also provides the results of our laboratory testing, geologic review, and engineering assessment related to the project site.

Surface Observations

The project site is generally located on the northeast side of Freeport and Sutterville Roads in Sacramento, California. Specifically, the area of development is located at the existing Mohr Hall, and extends south into the existing open space.

The terrain at the site is generally flat, sloping gently toward the south and west at a slope of 15H:1V or flatter (Horizontal:Vertical), towards Sutterville Road and Freeport Boulevard, respectively. Vegetation on the project site was observed to consist of mature trees along the western side, and a grouping of young trees along the southeastern side of the site. Additionally, landscaped grasses were observed throughout the site.

Mohr Hall currently is located within the footprints of the proposed instructional buildings and will have to be demolished prior to construction.

Subsurface Conditions

Our field study included a site reconnaissance by a representative of our firm followed by a subsurface exploration program conducted on 8 January 2016. The exploration program included the advancing of 5 exploratory test borings, 1 advanced to 11½ feet, 3 advanced to 21½ feet, and 1 advanced to 51½ feet, under the direction of our representative at the approximate locations shown on Figure A-2, Appendix A. A description of the field exploration program is provided in Appendix A.

Subsurface soil conditions were relatively similar at the project site and included sandy CLAYs, sandy SILTs, and sands. In general, the surface soils were comprised of sandy CLAYs in a medium stiff to stiff and slightly moist to moist conditions to depths approaching 5 to 10 feet. Underlying the surface soils, sandy SILTs in a hard, slightly moist to moist and variably cemented condition were encountered to depths approaching 11½ to 21½ feet. Underlying the silts in Boring B-2 interbedded layers of silty clayey SANDs / sandy SILTs in a medium dense to very dense / hard, moist to wet and variably cemented condition were encountered to the maximum depth of exploration. Silty SANDs in a dense, slightly moist and moderately cemented condition were also encountered in Boring B-4 from 20 to 21½ feet.

A more detailed description of the subsurface conditions encountered during our subsurface exploration is presented graphically on the “Exploratory Boring Logs", Figures A-3 through A-7, Appendix A. These logs show a graphic interpretation of the subsurface profile, the location and depths at which samples were collected and the laboratory test results.

Groundwater Conditions

Groundwater conditions were observed at boring location B-2 at a depth of 24 feet. Based on a review of well data in the vicinity of the site, the permanent groundwater table in the area is about 18 to 20 feet below the ground surface. The groundwater table observed on the site could be attributed to its proximity to the Sacramento River.

Geologic
The geologic portion of this report included a review of geologic data pertinent to the site and an interpretation of our observations of the surface exposures and our observations in our exploratory test pits excavated during the field study.

The site is located in the Sacramento Valley area, east of the Land Park community. According to the Preliminary Geologic Map of Cenozoic Deposits of the Davis, Knights Landing, Lincoln, and Fair Oaks Quadrangles (Helley, E.J., 1979) this portion of the valley and the project area are underlain by the Riverbank formation of the Quaternary age.

Seismicity
According to the Fault Activity Map of California and Adjacent Areas (Jennings, 2010) and the Peak Acceleration from Maximum Credible Earthquakes in California (CDMG, 2007), no active faults or Earthquake Fault Zones (Special Studies Zones) are located on the project site. Additionally, no evidence of recent or active faulting was observed during our field study. The nearest mapped potentially active and active faults pertinent to the site are summarized in the following table.

Table 1: Local Active and Potentially Active Faults

Activity	Fault Name	Distance, Direction
Active	Dunnigan Hills	42 km NW
Active	Green Valley Fault Zone	68 km SW
Active	Cleveland Hill Fault	101 km N
Potentially Active	Putah Creek Fault	65 km W
Potentially Active	Spenceville Fault	61 km NE
Potentially Active	Maidu Fault	51 km NE
Potentially Active	Ione Fault	55 km SE

Based on estimations of the V_s30 velocity of the site conditions from topographic conditions (http://earthquake.usgs.gov/hazards/apps/vs30/custom.php) and subsurface interpretations, we recommend that the project site be classified as Site Class D in accordance with Section 1613A.3.2 of the 2013 CBC and Table 20.3-1 of ASCE 7-10.

Earthquake Induced Liquefaction, Surface Rupture Potential, and Settlement
Liquefaction is the sudden loss of soil shear strength and sudden increase in porewater pressure caused by shear strains, as could result from an earthquake. Research has shown that saturated, loose to medium-dense sands with a silt content less than about 25 percent and located within the top 40 feet are most susceptible to liquefaction and surface rupture/lateral spreading.

Due to the relatively low seismicity of the area and the relatively shallow depth to cemented soils, the potential for seismically induced damage due to liquefaction, surface ruptures, and settlement is considered negligible. For the above-mentioned reasons, mitigation for these potential hazards is not required for the development of this project.

Static and Earthquake Induced Slope Instability
The existing slopes on the project site were observed to be relatively flat with no indications of slope instability were observed. Additionally, due to the relatively low seismicity of the area, and the relatively shallow depth to cemented soils, the potential for seismically induced slope instability for the existing slopes is considered negligible.

Laboratory Testing
Laboratory testing of the collected samples was directed towards determining the physical and engineering properties of the soil underlying the site. A description of the tests performed for this project and the associated test results are presented in Appendix B. In summary, the following tests were performed for the preparation of this report:

Table 2: Laboratory Tests

Laboratory Test	Test Standard	Summary of Results	
Atterberg Limits	ASTM D4318	Composite:	LL = 35, PI = 20
Expansion Index	ASTM D4829	Composite:	57
Unconfined Compression	ASTM D2166	B-1-11:	qu = 11,769 psf
Unconfined Compression	ASTM D2166	B-2-6:	qu = 31,744 psf
Unconfined Compression	ASTM D2166	B-4-5.5:	qu = 20,654 psf

Soil Expansion Potential
Our laboratory testing to date indicates that the surface soils on the project site have a moderate expansion potential. To address construction of the proposed structural improvements, special grading procedures and foundation design will be required and are discussed in the following sections.

3.0 DISCUSSION AND CONCLUSIONS

General
Based upon the results of our field explorations, findings, and analysis described above, it is our opinion that construction of the proposed improvements is feasible from a geotechnical standpoint, provided the recommendations contained in this report are incorporated into the design plans and implemented during construction. The native soils, once processed, moisture conditioned and recompacted as recommended below may be considered “engineered” and suitable for support of the planned improvements.

Foundations
In our opinion, conventional shallow foundations such as continuous footings will provide adequate support for the proposed buildings if the site grades are properly prepared as described in the Site Grading and Improvement section. Recommendations regarding foundation design parameters, including allowable bearing capacity, lateral resistance, and foundation configuration are provided in Section 5.0 of this report.

Drainage
Proper application of drainage practices are considered to be of paramount concern for effective development of the project site. We recommend the use of plug and drain systems within the utilities, proper surface drainage, and careful installation of the subdrain and back of wall drains detailed in this report to provide long term stability of the structural improvements as well as mitigate nuisance seepage.

It has also been our experience that potential sources of groundwater may not be present or observed during the site grading procedures, but can appear later as more persistent seepage as water becomes perched on the shallow cemented soil. These conditions generally become more prevalent following up gradient development and the addition of moisture sources (i.e. landscape

irrigation, run-off, etc.). Where this condition arises, drainage measures may be necessary to mitigate seepage conditions that were not initially observed during the site grading activities.

4.0 SITE GRADING AND EARTHWORK IMPROVEMENTS

Site Preparation

Preparation of the project site should involve demolition, site drainage controls, dust control, clearing and stripping, and exposed grade compaction considerations. The following paragraphs state our geotechnical comments and recommendations concerning site preparation.

Demolition: As part of the demolition operation, any unwanted foundation, structural improvement, or site improvement elements (including underground utilities) should be exhumed and removed from the site.

Concrete separated from the other debris, and adequately broken down in particle size, may be mixed thoroughly with soil and placed as engineered fill as described below. If this option is exercised, a representative from our firm should be contacted to observe the adequacy of grading operations associated with the breaking and mixing of these elements.

Site Drainage Controls: We recommend that initial site preparation involve intercepting and diverting any potential sources of surface or near-surface water within the construction zones. Because the selection of an appropriate drainage system will depend on the water quantity, season, weather conditions, construction sequence, and methods used by the contractor, final decisions regarding drainage systems are best made in the field at the time of construction. All drainage and/or water diversion performed for the site should be in accordance with the Clean Water Act and applicable Storm Water Pollution Prevention Plan.

Dust Control: Dust control provisions should be provided for as required by the local jurisdiction's grading ordinance (i.e. water truck or other adequate water supply during grading).

Clearing and Stripping: Clearing and stripping operations should include the removal of all organic laden materials including trees, bushes, root balls, root systems, and any soft or loose soil generated by the removal operations. Surface grass stripping operations are necessary based upon our observations during our site visit. Short or mowed dry grasses may be pulverized and lost within fill materials provided no concentrated pockets of organics result. It is the responsibility of the grading contractor to remove excess organics from the fill materials. **No more than 2 percent of organic material, by weight, should be allowed within the fill materials at any given location.**

General site clearing should also include removal of any loose or saturated materials within the proposed structural improvement and pavement areas. A representative of our firm should be present during site clearing operations to identify the location and depth of potential fills not disclosed by this report, to observe removal of deleterious materials, and to identify any existing site conditions which may require mitigation or further recommendations prior to site development. Preserved trees may require tree root protection which should be addressed on an individual basis by a qualified arborist.

Exposed Grade Compaction: Exposed soil grades following initial site preparation activities and overexcavation operations should be scarified to a minimum depth of 8 inches and compacted to the requirements for engineered fill. Prior to placing fill, the exposed subgrades should be in a firm and unyielding state. Any localized zones of soft or pumping soils observed within a subgrade

should either be scarified and recompacted or be overexcavated and replaced with engineered fill as detailed in the engineered fill section below.

Soil Moisture Considerations
The near-surface soils may become partially or completely saturated during the rainy season. Grading operations during this time period may be difficult since compaction efforts may be hampered by saturated materials. Therefore, we suggest that consideration be given to the seasonal limitations and costs of winter grading operations on the site. Special attention should be given regarding the drainage of the project site.

If the project is expected to work through the wet season, the contractor should install appropriate temporary drainage systems at the construction site and should minimize traffic over exposed subgrades due to the moisture-sensitive nature of the on-site soils. During wet weather operations, the soil should be graded to drain and should be sealed by rubber tire rolling to minimize water infiltration.

Compaction Equipment
In areas to receive structural soil fill, we anticipate that a large vibratory padded drum compactor or approved equivalent will be capable of achieving the compaction requirements for engineered fill provided the soil is placed and compacted within 3 to 4 percent over the optimum moisture content as determined by the ASTM D1557 test method and in lifts not greater than 12 inches in uncompacted thickness. The use of handheld equipment such as jumping jack or plate vibration compactors may require thinner lifts of 6 inches or less to achieve the desired relative compaction parameters.

Engineered Fill Criteria
All materials placed as fills on the site should be placed as “Engineered Fill" which is observed, tested, and compacted as described in the following paragraphs.

Suitability of Onsite Materials: We expect that soil generated from excavations on the site, excluding deleterious material, may be used as engineered fill provided the material does not exceed the maximum size specifications listed below

Import Materials: If imported fill material is needed for this project, import material should be approved by our firm prior to transporting it to the project. It is preferable that import material meet the following requirements:

1. Plasticity index not to exceed 12;
2. An angle of friction equal to or greater than 30;
3. Should not contain rocks larger than 6 inches in diameter;
4. Not more than 30 percent passing through the No. 200 sieve.

If these requirements are not met, additional testing and evaluation may be necessary to determine the appropriate design parameters for foundations, pavement, and other improvements.

Fill Placement and Compaction: Clay soils are anticipated to be encountered throughout the entire development area and should be compacted as discussed in this paragraph. All areas proposed to receive fill should be scarified to a minimum depth of 8 inches, moisture conditioned as necessary, and compacted to at least 90 percent of the maximum dry density based on the ASTM D1557 test method at a moisture content of about 3 to 4 percent over optimum. The fill should

be placed in thin horizontal lifts not to exceed 12 inches in uncompacted thickness. The fill should be moisture conditioned to about 3 to 4 percent over optimum and compacted to a relative compaction of not less than 90 percent based on the ASTM D1557 test method.

Fill soil compaction should be evaluated by means of in-place density tests performed during fill placement so that adequacy of soil compaction efforts may be determined as earthwork progresses.

Underground Improvements

Trench Excavation: Trenches or excavations in soil should be shored or sloped back in accordance with current OSHA regulations prior to persons entering them. The potential use of a shield to protect workers cannot be precluded. Refer to the Excavation Characteristics section of Site Grading and Improvements of this report for anticipated excavation conditions.

Backfill Materials: Backfill materials for utilities should conform to the requirements of the local jurisdiction. It should be realized that permeable backfill materials will likely carry water at some time in the future.

When backfilling within structural footprints, compacted low permeability materials are recommended to be used a minimum of 5 feet beyond the structural footprint to minimize moisture intrusion. If a permeable material is used as backfill within this zone, subdrainage mitigation may be required.

Backfill Compaction: Backfill compaction should conform to the requirements of the local jurisdiction. Where backfill compaction is not specified by the local jurisdiction, the backfill should be compacted to a minimum of 90 percent relative compaction per the ASTM D1557 test method at a moisture content of about 3 to 4 percent over optimum. Compaction should be accomplished using lifts which do not exceed 12 inches when compacting with a backhoe or larger equipment equipped with a compaction wheel. However, thickness of the lifts should be determined by the contractor. If the contractor can achieve the required compaction using thicker lifts, the method may be judged acceptable based on field verification by a representative of our firm using standard density testing procedures. Lightweight compaction equipment may require thinner lifts to achieve the required densities.

Drainage Considerations: In developments with the potential for a perched groundwater condition (i.e. shallow cemented soils), underground utilities can become collection points for subsurface water. Where this condition occurs, we recommend plug and drains within the utility trenches (Figure C-1, Appendix C) to collect and convey water to the storm drain system or other approved outlet. Temporary dewatering measures may be necessary and could include the installation of submersible pumps and/or point wells.

5.0 DESIGN RECOMMENDATIONS

Seismic Criteria

Based on the 2013 California Building Code, Chapter 16A, and our site investigation findings, the following seismic parameters are recommended from a geotechnical perspective for structural design. The final choice of design parameters, however, remains the purview of the project structural engineer.

Table 3: Seismic Design Parameters

2013 CBC	ASCE 7-10	Seismic Parameter	Recommended Value
	Table 20.3-1	Site Class	D
Figure 1613A.3.1(1)		Short-Period MCE at 0.2s, S_S	0.691g
Figure 1613A.3.1(2)		1.0s Period MCE, S_1	0.297g
Table 1613A.3.3(1)		Site Coefficient, F_a	1.247
Table 1613A.3.3(2)		Site Coefficient, F_v	1.807
Equation 16A-37		Adjusted MCE Spectral Response Parameters, $S_{MS} = F_aS_s$	0.862g
Equation 16A-38		Adjusted MCE Spectral Response Parameters, $S_{M1} = F_vS_1$	0.536g
Equation 16A-39		Design Spectral Acceleration Parameters, $S_{DS} = ⅔S_{MS}$	0.574g
Equation 16A-40		Design Spectral Acceleration Parameters, $S_{D1} = ⅔S_{M1}$	0.357g
Table 1613A.3.5(1)		Seismic Design Category (Short Period), Occupancy I to IV	D
Table 1613A.3.5(2)		Seismic Design Category (1-Second Period), Occupancy I to IV	D
	Figure 22-7	Maximum Considered Earthquake Geometric Mean (MCE_C) PGA	0.235g
	Table 11.8-1	Site Coefficient F_{PGA}	1.330
	Equation 11.8-1	$PGA_M = F_{PGA}$ PGA	0.313g

*Based on the online calculator available at http://earthquake.usgs.gov/designmaps/us/application.php

Shallow Conventional Foundations

We offer the following comments and recommendations for purposes of design and construction of shallow continuous foundations. The provided minimums do not constitute a structural design of foundations which should be performed by the structural engineer. Our firm should be afforded the opportunity to review the project grading and foundation plans to confirm the applicability of the recommendations provided below. Modifications to these recommendations may be made at the time of our review. In addition to the provided recommendations, foundation design and construction should conform to applicable sections of the 2013 California Building Code.

Foundation Bearing Capacities: An allowable dead plus live load bearing pressure of 2,000 psf may be used for design of conventional shallow foundations based on firm native soils or engineered fills. The allowable pressure is for support of dead plus live loads and may be increased by 1/3 for short-term wind and seismic loads.

Foundation Lateral Pressures: Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the soil and the bottom of the footing. For resistance to lateral loads, a friction factor of 0.30 may be utilized for sliding resistance at the base of conventional shallow foundations in firm native materials or engineered fill. A passive resistance of 300 pcf equivalent fluid weight may be used against the side of conventional shallow footings in firm native soil or engineered fill. If friction and passive pressures are combined, the lesser value should be reduced by 50 percent.

Foundation Settlement: A total settlement of less than 1 inch is anticipated; a differential settlement of ½ of the total is anticipated where foundations are bearing on like materials. This settlement is based upon the assumption that foundation will be sized and loaded in accordance with the recommendations in this report.

Foundation Configuration: Conventional shallow foundations should be a minimum of 12 inches wide and founded a minimum of 24 inches below the lowest adjacent soil grade for the two-story instructional buildings. Isolated pad foundations should not be used unless they are connected with grade beams. If used, isolated pad foundations should be a minimum of 24 inches in diameter.

Foundation reinforcement should be provided by the structural engineer. The reinforcement schedule should account for typical construction issues such as load consideration, concrete cracking, and the presence of isolated irregularities. Reinforcing steel for the structures should consist of a minimum of four No. 4 reinforcing bars; two each at the top and bottom of the foundation.

All footings should be founded below an imaginary 2H:1V plane projected up from the bottoms of adjacent footings and/or parallel utility trenches, or to a depth that achieves a minimum horizontal clearance of 6 feet from the outside toe of the footings to the slope face, whichever requires a deeper excavation.

Subgrade Conditions: Footings should never be cast atop soft, loose, organic, slough, debris, nor atop subgrades covered by ice or standing water. Prior to concrete placement, the foundation excavations should be moisture conditioned to close any desiccation cracking. A representative of our firm should be retained to observe all subgrades during footing excavations and prior to concrete placement so that a determination as to the adequacy of subgrade preparation can be made.

Shallow Footing / Stemwall Backfill: All footing/stemwall backfill soil should be compacted to at least 90 percent of the maximum dry density (based on ASTM D1557) at a moisture content of about 3 to 4 percent over optimum.

Retaining Walls

Our design recommendations and comments regarding retaining walls for the project site are discussed below.

Foundation Design Parameters: An allowable dead plus live load bearing pressure of 2,000 psf may be used for design of conventional shallow foundations based on firm native soils or engineered fills. The allowable pressures are for support of dead plus live loads and may be increased by 1/3 for short-term seismic loads.

Foundation Lateral Pressures: Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the soil and the bottom of the footing. For resistance to lateral loads, a friction factor of 0.30 may be utilized for sliding resistance at the base of conventional shallow foundations in firm native materials or engineered fill. A passive resistance of 300 pcf equivalent fluid weight may be used against the side of conventional shallow footings in firm native soil or engineered fill. If friction and passive pressures are combined, the lesser value should be reduced by 50 percent. All backfill placed behind retaining walls or against retaining wall footings should be compacted in accordance with the “Engineered Fill” section of this report.

Retaining Wall Lateral Pressures: Based on our observations and testing, the retaining wall should be designed to resist lateral pressure exerted from a soil media having an equivalent fluid weight provided in Table 4, below. In accordance with Section 1803A.5.12.1 of the 2013 California

Building Code, application of the seismic design values for earthquake loading are required for retaining walls supporting more than 6 feet of backfill.

Table 4: Retaining Wall Pressures

Wall Type	Wall Slope Configuration	Equivalent Fluid Weight (pcf)	Surcharge Load (psf)*	Lateral Pressure Coefficient	Earthquake Loading (plf)***	
Free Cantilever	Flat	40	per structural	0.33	$15H^2$	Applied 0.6H above the base of the wall
Restrained**	Flat	60	per structural	0.50	$38H^2$	

* The surcharge loads should be applied as uniform loads over the full height of the walls as follows: Surcharge Load (psf) = (q) (K), where q = surcharge in psf, and K = coefficient of lateral pressure. Final design is the purview of the project structural engineer.

** Restrained conditions shall be defined as walls which are structurally connected to prevent flexible yielding, or rigid wall configurations (i.e. walls with numerous turning points) which prevent the yielding necessary to reduce the driving pressures from an at-rest state to an active state.

*** Section 1803A.5.12 of the 2013 California Building Code states that a determination of lateral pressures on basement and retaining walls due to earthquake loading shall be provided for structures to be designed in Seismic Design Categories D, E or F (Load value derived from Wood (1973) and modified by Whitman (1991)).

Site Wall Drainage: The above criteria are based on fully drained conditions as detailed in the attached Figure C-2, Appendix C. For these conditions, we recommend that a blanket of filter material be placed behind all proposed walls. The blanket of filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to within 12 inches of the ground surface. The filter material should conform to Class One, Type B permeable material as specified in Section 68 of the California Department of Transportation Standard Specifications, current edition. A clean ¾ inch crushed rock is also acceptable, provided filter fabric is used to separate the open graded gravel/rock from the surrounding soils. The top 12 inches of wall backfill should consist of a compacted soil cap. A filter fabric should be placed on top of the gravel filter material to separate it from the soil cap. A 4 inch diameter drain pipe should be installed near the bottom of the filter blanket with perforations facing down. The drainpipe should be underlain by at least 4 inches of filter-type material. An adequate gradient should be provided along the top of the foundation to discharge water that collects behind the retaining wall to a controlled discharge system.

The configuration of a long retaining wall generally does not allow for a positive drainage gradient within the perforated drain pipe behind the wall since the wall footing is generally flat with no gradient for drainage. Where this condition is present, to maintain a positive drainage behind the walls, we recommend that the wall drains be provided with a discharge to an appropriate non-erosive outlet a maximum of 50 feet on center. **In addition, if the wall drain outlets are temporarily stubbed out in front of the walls for future connection during home construction, it is imperative that the outlets be routed into the tight pipe area drainage system and not buried and rendered ineffective.**

Slab-on-Grade Construction

It is our opinion that soil-supported slab-on-grade floors could be used for the main floors of the residential structures, contingent on proper subgrade preparation. Often the geotechnical issues regarding the use of slab-on-grade floors include proper soil support and subgrade preparation, proper transfer of loads through the slab underlayment materials to the subgrade soils, and the anticipated presence or absence of moisture at or above the subgrade level. We offer the following comments and recommendations concerning support of slab-on-grade floors. The slab design (concrete mix, reinforcement, joint spacing, moisture protection, and underlayment materials) is the purview of the project Structural Engineer.

Slab Subgrade Preparation: All subgrades proposed to support slab-on-grade floors should be prepared and compacted to the requirements of engineered fill as discussed in the Site Grading and Improvements section of this report. Prior to concrete placement, the slab areas should be moisture conditioned to close any desiccation cracking.

Slab Underlayment: As a minimum for slab support conditions, the slab should be underlain by a minimum 4 inch crushed rock layer and covered by a minimum 10-mil thick moisture retarding plastic membrane. An optional 1 inch blotter sand layer above the plastic membrane is sometimes used to aid in curing of the concrete in commercial structures. The blotter layer can become a reservoir for excessive moisture if inclement weather occurs prior to pouring the slab, excessive water collects in it from the concrete pour, or an external source of water enters above or bypasses the membrane. The membrane may only be functional when it is above the vapor sources. The bottom of the crushed rock layer should be above the exterior grade to act as a capillary break and not a reservoir, unless it is provided with an underdrain system. The slab design and underlayment should be in accordance with ASTM E1643 and E1745.

If the blotter sand layer is omitted (as may be required if slab design and construction is to be performed according to the 2013 Green Building Code), special wet curing procedures will be necessary. In all cases, development of appropriate slab mix design and curing procedures remains the purview of the project structural engineer.

Slab Moisture Protection: Due to the potential for landscape to be present directly adjacent to the slab edge/foundation or for drainage to be altered following our involvement with the project, varying levels of moisture below, at, or above the pad subgrade level should be anticipated. The slab designer should include the potential for moisture vapor transmission when designing the slab. Our experience has shown that vapor transmission through concrete is controlled through slab thickness as well as proper concrete mix design.

It should be noted that placement of the recommended plastic membrane, proper mix design, and proper slab underlayment and detailing per ASTM E1643 and E1745 will not provide a waterproof condition. If a waterproof condition is desired, we recommend that a waterproofing expert be consulted for slab design.

Slab Thickness and Reinforcement: Geotechnical reports have historically provided minimums for slab thickness and reinforcement for general crack control. The concrete mix design and construction practices can additionally have a large impact on concrete crack control. All concrete should be anticipated to crack. As such, these minimums should not be considered to be stand alone items to address crack control, but are suggested to be considered in the slab design methodology.

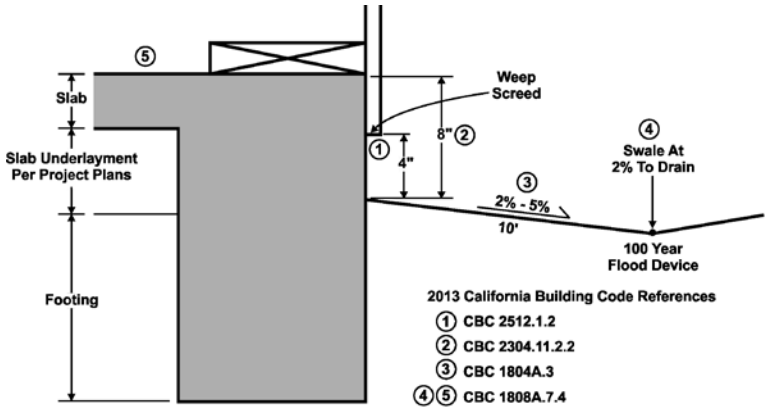
In order to help control the growth of cracks in interior concrete from becoming significant, we suggest the following minimums. Interior concrete slabs-on-grade not subject to heavy loads should be a minimum of 4 inches thick. A 4 inch thick slab should be reinforced. A minimum of No. 3 deformed reinforcing bars placed at 18 inches on center both ways, at the center of the structural section is suggested. Joint spacing should be provided by the structural engineer. Troweled joints recovered with paste during finishing or “wet sawn” joints should be considered every 10 feet on center. Expansion joint felt should be provided to separate floating slabs from foundations and at least at every third joint. Cracks will tend to occur at recurrent corners, curved or triangular areas and at points of fixity. Trim bars can be utilized at right angle to the predicted crack extending 40 bar diameters past the predicted crack on each side.

Vertical Deflections: Soil-supported slab-on-grade floors can deflect downward when vertical loads are applied, due to elastic compression of the subgrade. For design of concrete floors, a modulus of subgrade reaction of k = 100 psi per inch would be applicable for native soils and engineered fills.

Exterior Flatwork: Exterior concrete flatwork is recommended to have a 6 inch rock cushion. This should consist of ¾ inch aggregate baserock compacted to at least 95 percent relative compaction as determined by the ASTM D1557 test method.

If exterior flatwork concrete is against the floor slab edge without a moisture separator it may transfer moisture to the floor slab. Expansion joint felt should be provided to separate exterior flatwork from foundations and at least at every third joint. Contraction / groove joints should be provided to a depth of at least 1/4 of the slab thickness and at a spacing of less than 30 times the slab thickness for unreinforced flatwork, dividing the slab into nearly square sections. Cracks will tend to occur at recurrent corners, curved or triangular areas and at points of fixity. Trim bars can be utilized at right angle to the predicted crack extending 40 bar diameters past the predicted crack on each side.

Drainage Adjacent to Slabs: All grades should provide rapid removal of surface water runoff; ponding water should not be allowed on building pads or adjacent to foundations or other structural improvements (during and following construction). All soils placed against foundations during finish grading should be compacted to minimize water infiltration. Finish and landscape grading should include positive drainage away from all foundations. Section 1808A.7.4 of the 2013 California Building Code (CBC) states that for graded soil sites, the top of any exterior foundation shall extend above the elevation of the street gutter at the point of discharge or the inlet of an approved drainage device a minimum of 12 inches plus 2 percent. If overland flow is not achieved adjacent to buildings, the drainage device should be designed to accept flows from a 100 year event. Grades directly adjacent to foundations should be no closer than 8 inches from the top of the slab (CBC 2304.11.2.2), and weep screeds are to be placed a minimum of 4 inches clear of soil grades and 2 inches clear of concrete or other hard surfacing (CBC 2512.1.2). From this point, surface grades should slope a minimum of 2 percent away from all foundations for at least 10 feet, and then 2 percent along a drainage swale to the outlet (CBC 1804A.3). Downspouts should be tight piped via an area drain network and discharged to an appropriate non-erosive outlet away from all foundations.



Typical 2013 California Building Code Drainage Requirements

The above referenced elements pertaining to drainage of the proposed structures is provided as general acknowledgement of the California Building Code requirements, restated and graphically illustrated for ease of understanding. Surface drainage design is the purview of the Project Architect/Civil Engineer. Review of drainage design and implementation adjacent to the building envelopes is recommended as performance of these improvements is crucial to the performance of the foundation and construction of rigid improvements.

It should be noted that due to the Americans with Disabilities Act (ADA) requirements, design and construction of alternative site drainage configurations may be necessary. In this case, design and construction of adequate drainage adjacent to foundations and slabs are essential to preserving foundation support and reducing the potential for wet slab related issues. A typical example of this condition occurs in developments where the landscape grades are situated at the same elevation as the parking areas so as to not create a drop off between the grades. This condition subsequently results in flat grades between the building, landscape area, and parking lot which do not meet building code requirements.

Drainage

In order to maintain the engineering strength characteristics of the soil presented for use in this Geotechnical Engineering Study, maintenance of the building pads will need to be performed. This maintenance generally includes, but is not limited to, proper drainage and control of surface and subsurface water which could affect structural support and fill integrity. A difficulty exists in determining which areas are prone to the negative impacts resulting from high moisture conditions due to the diverse nature of potential sources of water; some of which are outlined in the paragraph below. We suggest that measures be installed to minimize exposure to the adverse effects of moisture, but this will not guarantee that excessive moisture conditions will not affect the structure.

Some of the diverse sources of moisture could include water from landscape irrigation, annual rainfall, offsite construction activities, runoff from impermeable surfaces, collected and channeled water, and water perched in the subsurface soils on the cemented soil horizon. Some of these sources can be controlled through drainage features installed either by the owner or contractor. Others may not become evident until they, or the effects of the presence of excessive moisture, are visually observed on the property.

Some measures that can be employed to minimize the buildup of moisture include, but are not limited to proper backfill materials and compaction of utility trenches within the footprint of the proposed structures; grout plugs at foundation penetrations; collection and channeling of drained water from impermeable surfaces (i.e. roofs, concrete or asphalt paved areas); installation of subdrain/cut-off drain provisions; utilization of low flow irrigation systems.

Building Pad Subdrain: It has been our experience that sites constructed within this area generally have an increased potential for moisture related issues related to water perched on the cemented soil horizon as well as moisture transmission through utility trenches. To mitigate for the potential of these issues, subdrains can be constructed in addition to the drainage provisions provided in the 2013 CBC. Typical subdrain construction would include a 3 feet deep trench (or depth required to intercept the bottom of utility trenches) constructed as detailed on Figure C-3. The water collected in the subdrain pipe would be directed to an appropriate non-erosive outlet. We recommend that a representative from our firm be present during the subdrain installation procedures to document that the drain is installed in accordance with the observed field conditions, as well as to provide additional consultation as the conditions dictate.

Post Construction: All drainage related issues may not become known until after construction and landscaping are complete. Therefore, some mitigation measures may be necessary following site development. Landscape watering is typically the largest source of water infiltration into the subgrade. Given the soil conditions on site, excessive or even normal landscape watering may contribute to groundwater levels rising, which could contribute to moisture related problems and/or cause distress to foundations and slabs, pavements, and underground utilities, as well as creating a nuisance where seepage occurs. In order to mitigate these conditions, additional subdrainage measures may be necessary.

6.0 DESIGN REVIEW AND CONSTRUCTION MONITORING

The design plans and specifications should be reviewed and accepted by Youngdahl Consulting Group, Inc. prior to contract bidding. A review should be performed to determine whether the recommendations contained within this report are still applicable and/or are properly reflected and incorporated into the project plans and specifications.

Construction Monitoring

Construction monitoring is a continuation of the findings and recommendations provided in this report. It is essential that our representative be involved with all grading activities in order for us to provide supplemental recommendations as field conditions dictate. Youngdahl Consulting Group, Inc. should be notified at least two working days before site clearing or grading operations commence, and should observe the stripping of deleterious material, overexcavation of existing fills or loose/soft soils and provide consultation to the Grading Contractor in the field.

Low Impact Development Standards

Low Impact Development or LID standards have become a consideration for many projects in the region. LID standards are intended to address and mitigate urban storm water quality concerns. These methods include the use of Source Controls, Run-off Reduction and Treatment Controls. For the purpose of this report use of Run-off Reduction measures and some Treatment Controls may impact geotechnical recommendations for the project. Youngdahl Consulting Group, Inc. did not perform any percolation or infiltration testing for the site as part of the Geotechnical Investigation. A review of soil survey and the data collected from test pits indicate that soils within the project are Hydrologic Soil Group C (low permeability). Based on this condition, use of infiltration type LID methods (infiltration trenches, dry wells, infiltration basins, permeable pavements, etc.) should not be considered without addressing applicable geotechnical

considerations/implications. As such, use of any LID measure that would require infiltration of discharge water to surfaces adjacent to structures/pavement or include infiltration type measures should be reviewed by Youngdahl Consulting Group, Inc. during the design process.

Post Construction Monitoring

As described in Post Construction section of this report, all drainage related issues may not become known until after construction and landscaping are complete. Youngdahl Consulting Group, Inc. can provide consultation services upon request that relate to proper design and installation of drainage features during and following site development. In addition, if the development includes use of LID measures maintenance of those features in conformance with the standard of practice and documentation from the designer will be necessary. The impact from infiltration or run-off reduction measures to engineered structures and foundations may not become apparent until after construction. We recommend that all LID measures be inspected and maintained as documented by the designer and if adverse impacts are noted related to the structure or site that Youngdahl Consulting Group, Inc. be retained to review the LID measure and provide additional consulting and options.

7.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. This report has been prepared for the exclusive use of Los Rios Facilities Management and their consultants for specific application to the Mohr Hall Modernization project. Youngdahl Consulting Group, Inc. has endeavored to comply with generally accepted geotechnical engineering practice common to the local area. Youngdahl Consulting Group, Inc. makes no other warranty, expressed or implied.

2. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they be due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may cause this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three years without our review nor should it be used or is it applicable for any properties other than those studied.

3. Section [A] 107.3.4 of the 2013 California Building Code states that, in regard to the design professional in responsible charge, the building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

   WARNING: Do not apply any of this report's conclusions or recommendations if the nature, design, or location of the facilities is changed. If changes are contemplated, Youngdahl Consulting Group, Inc. must review them to assess their impact on this report's applicability. Also note that Youngdahl Consulting Group, Inc. is not responsible for any claims, damages, or liability associated with any other party's interpretation of this report's subsurface data or reuse of this report's subsurface data or engineering analyses without the express written authorization of Youngdahl Consulting Group, Inc.

4. The analyses and recommendations contained in this report are based on limited windows into the subsurface conditions and data obtained from subsurface exploration. The methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Samples cannot be relied on to accurately reflect the strata variations that usually exist between sampling locations. Should any variations or undesirable conditions be encountered during

the development of the site, Youngdahl Consulting Group, Inc. will provide supplemental recommendations as dictated by the field conditions.

5. The recommendations included in this report have been based in part on assumptions about strata variations that may be tested only during earthwork. Accordingly, these recommendations should not be applied in the field unless Youngdahl Consulting Group, Inc. is retained to perform construction observation and thereby provide a complete professional geotechnical engineering service through the observational method. Youngdahl Consulting Group, Inc. cannot assume responsibility or liability for the adequacy of its recommendations when they are used in the field without Youngdahl Consulting Group, Inc. being retained to observe construction. Unforeseen subsurface conditions containing soft native soils, loose or previously placed non-engineered fills should be a consideration while preparing for the grading of the property. It should be noted that it is the responsibility of the owner or his/her representative to notify Youngdahl Consulting Group, Inc., in writing, a minimum of 48 hours before any excavations commence at the site.

6. Our experience has shown that vapor transmission through concrete is controlled through proper concrete mix design. As such, proper control of moisture vapor transmission should be considered in the design of the slab as provided by the project architect, structural or civil engineer. It should be noted that placement of the recommended plastic membrane, proper mix design, and proper slab underlayment and detailing per ASTM E1643 and E1745 will not provide a waterproof condition. If a waterproof condition is desired, we recommend that a waterproofing expert be consulted for slab design.

7. Following site development, additional water sources (i.e. landscape watering, downspouts) are generally present. The presence of low permeability materials can prohibit rapid dispersion of surface and subsurface water drainage. Utility trenches typically provide a conduit for water distribution. Provisions may be necessary to mitigate adverse effects of perched water conditions. Mitigation measures may include the construction of cut-off systems and/or plug and drain systems. Close coordination between the design professionals regarding drainage and subdrainage conditions may be warranted.

Table 5: Checklist of Recommended Services

Item Description		Recommended	Not Anticipated
1	Provide foundation design parameters	Included	
2	Review grading plans and specifications	✓	
3	Review foundation plans and specifications	✓	
4	Observe and provide recommendations regarding demolition	✓	
5	Observe and provide recommendations regarding site stripping	✓	
6	Observe and provide recommendations on moisture conditioning removal, and/or recompaction of unsuitable existing soils	✓	
7	Observe and provide recommendations on the installation of subdrain facilities	✓	
8	Observe and provide testing services on fill areas and/or imported fill materials	✓	
9	Review as-graded plans and provide additional foundation recommendations, if necessary	✓	
10	Observe and provide compaction tests on storm drains, water lines and utility trenches	✓	
11	Observe foundation excavations and provide supplemental recommendations, if necessary, prior to placing concrete	✓	
12	Observe and provide moisture conditioning recommendations for foundation areas and slab-on-grade areas prior to placing concrete	✓	
13	Provide design parameters for retaining walls	Included	
14	Provide finish grading and drainage recommendations	Included	
15	Provide geologic observations and recommendations for keyway excavations and cut slopes during grading		✓
16	Excavate and recompact all test pits within structural areas		✓

APPENDIX A

Field Study

Vicinity Map
Site Plan
Logs of Exploratory Borings
Soil Classification Chart and Log Exploration

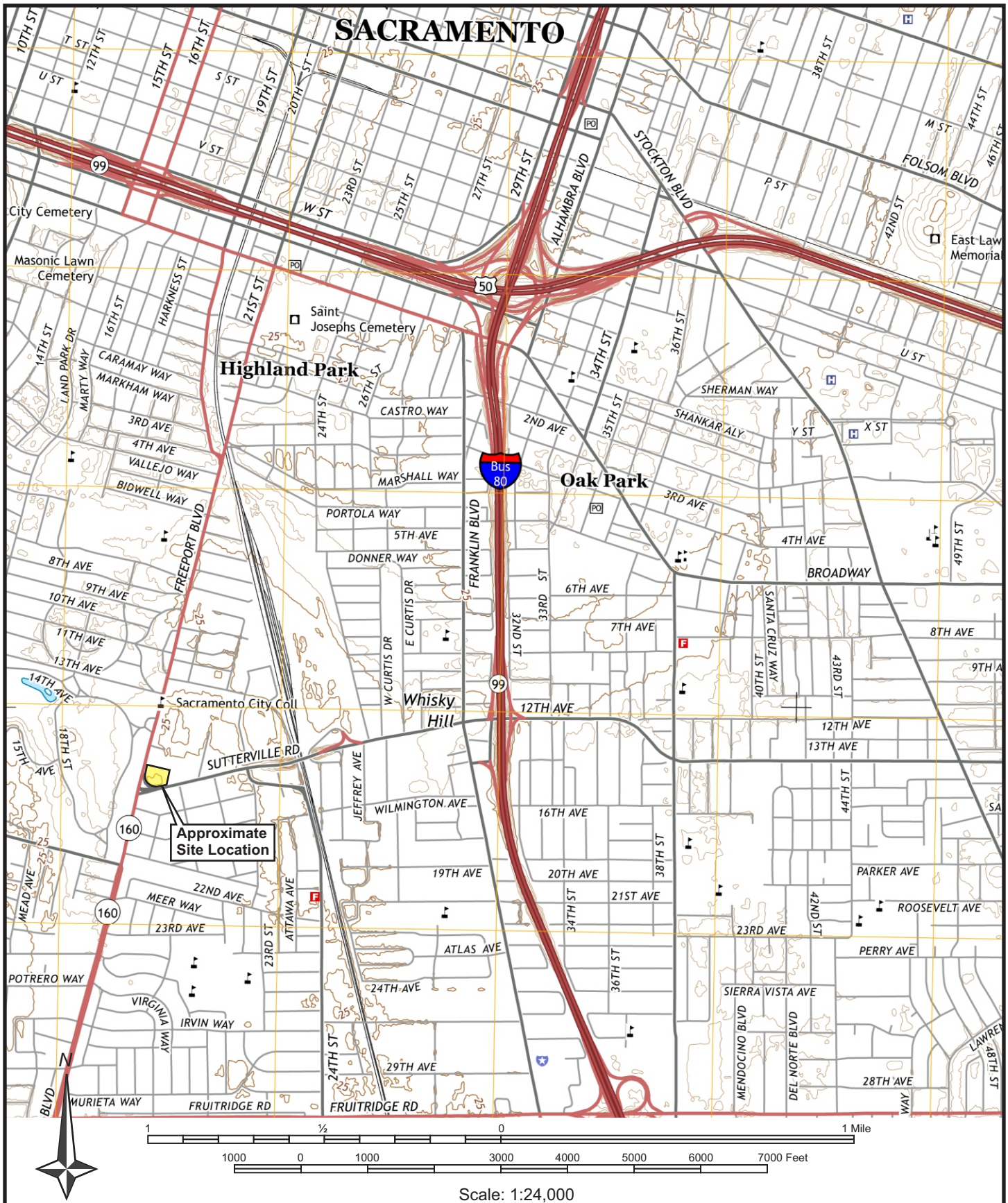
Introduction

The contents of this appendix shall be integrated with the Geotechnical Engineering Study of which it is a part. They shall not be used in whole or in part as a sole source for information or recommendations regarding the subject site.

Our field study included a site reconnaissance by a Youngdahl Consulting Group, Inc. representative followed by a subsurface exploration program conducted on 8 January 2016, which included the excavation of 5 borings under his direction at the approximate locations shown on Figure A-2, this Appendix. Drilling of the exploratory borings was accomplished with a CME 75 truck mounted drill rig.

Throughout the drilling operation, soil samples were obtained at 5-foot depth intervals by means of a Modified California Sampler. This testing and sampling procedure consists of driving the steel sampler 18 inches into the soil with a 140-pound hammer free-falling 30 inches. The number of blows required to drive the sampler through each 6-inch interval is counted, and the total number of blows struck during the final 12 inches is recorded. If a total of 50 blows are struck within any 6-inch interval, the driving is stopped and the blow count is recorded as 50 blows for the actual penetration distance.

The soils encountered were logged during drilling and provide the basis for the "Boring Logs," Figures A-3 through A-7, this Appendix. The enclosed Boring Logs describe the vertical sequence of soils and materials encountered in each boring, based primarily on our field classifications and supported by our subsequent laboratory examination and testing. Where a soil contact was observed to be gradational, our logs indicate the average contact depth. Where a soil type changed between sample intervals, we inferred the contact depth. Our logs also graphically indicate the blow count, sample type, sample number, and approximate depth of each soil sample obtained from the borings, as well as any laboratory tests performed on these soil samples. If any groundwater was encountered in a borehole, the approximate groundwater depth is depicted on the boring log. Groundwater depth estimates are typically based on the moisture content of soil samples, the wetted height on the drilling rods, and the water level measured in the borehole after the auger has been extracted.



Scale: 1:24,000

BASE MAP REFERENCE: *U.S.G.S. 7.5 Minute Topographic Series, Sacramento East Quadrangle, Dated 2015*

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January 2016

VICINITY MAP

Mohr Hall Modernization
Sacramento, California

FIGURE
A-1

0 20 40 80

Approximate Scale: 1" = 40'

B-1 = Approximate Boring Locations

REFERENCE: *Google Earth, Aerial Data Dated 7-13-2015, Overlay Site Plan Provided By Client*

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SITE PLAN

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FIGURE
A-2

Logged By: **CMS**	Date: **8 January 2016**	Elevation: **~ unknown**	Boring No. **B-1**
Equipment: **CME - 75 With 4" Solid Flight Auger**			

Depth (Feet)	Graphic Log	Ground Water	Geotechnical Description & Unified Soil Classification	Sample	Blow Count	Pocket Pen (tsf)	Tests & Comments
1			Brown sandy **CLAY (CL)**, medium stiff, moist				***Hand Auger 0 - 5'*** **Bulk 1** @ 0 - 5'
2			*Grades with decreasing moisture*				
3							
4							
5							
6			Yellow brown sandy **SILT (ML)** with clay, hard, slightly cemented, slightly moist		44	4.5	DD = 121.0 pcf MC = 14.9 %
7							
8							
9							
10							
11					54	4.5	**Bulk 2** @ 10' - 15' DD = 114.4 pcf MC = 17.1 % qu = 11,769 pcf
12							
13							
14							
15			*Grades light gray brown, with intermittent cementation from 15.5' to 16'*				
16					46	4.5	
17							
18							
19							
20			*Grades yellow brown, with increasing clay content*				
21					86		
22			Boring terminated at 21.5' No free groundwater encountered				
23							
24							
25							

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING	Project No.: E08091.001 **January 2016**	**EXPLORATORY BORING LOG** **Mohr Hall Modernization** Sacramento, California	**FIGURE A-3**

Logged By: **CMS**	Date: **8 January 2016**	Elevation: **~ unknown**	Boring No. **B-2**
Equipment: **CME - 75 With 4" Solid Flight Auger**			

Depth (Feet)	Graphic Log	Ground Water	Geotechnical Description & Unified Soil Classification	Sample	Blow Count	Pocket Pen (tsf)	Tests & Comments
1			Brown sandy **CLAY (CL)**, medium stiff, moist				***Hand Auger 0 - 5'***
2							
3							
4							
5							
6			*Grades hard* *Grades light brown* *Grades slightly moist*		39	4.5	DD = 119.1 pcf MC = 14.0 % qu = 31,744 pcf Material Finer Than No. 200 Sieve: 87.1%
7							
8							
9							
10			Yellow brown sandy **SILT (ML)**, hard, slightly moist *Cemented layer at 10.5'*		49	4.5	
11							
12							
13							
14							
15			*Grades light gray brown, strongly cemented*		37	4.5	DD = 110.8 pcf MC = 21.3 %
16							
17							
18							
19							
20			Red brown clayey **SAND (SC)** with silt, very dense, strongly cemented, slightly moist		53		**Bulk 3** @ 20' - 25'
21							
22							
23							
24		▽	*Groundwater encountered*				
25			Light brown silty **SAND (SM)**, medium dense, wet		19		DD = 87.4 pcf MC = 35.7 %
26			*Boring Continued on Figure A-4b*				

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING	Project No.: E08091.001 **January 2016**	**EXPLORATORY BORING LOG** **Mohr Hall Modernization** Sacramento, California	**FIGURE A-4a**

Logged By: **CMS**	Date: **8 January 2016**	Elevation: ~ **unknown**	Boring No. **B-2**
Equipment: **CME - 75 With 4" Solid Flight Auger**			

Depth (Feet)	Graphic Log	Ground Water	Geotechnical Description & Unified Soil Classification	Sample	Blow Count	Pocket Pen (tsf)	Tests & Comments
			Boring Continued on Figure A-4a				
27							
28							
29							
30			Light brown sandy **SILT (ML)**, hard, moist				
31					34	4.0	
32							
33							
34							
35			*Grades increasing clay, decreasing sand*				
36					38	4.5	
37							
38							
39							
40			*Grades slightly moist*				
41					36	4.25	
42							
43							
44							
45			*Grades strongly cemented*				
46					41	4.5	
47							
48							
49							
50							
51			*Grades decreasing clay* *Grades with decreasing sand, moderately cemented*		30	4.5 4.5	
52			Boring terminated at 51.5' Groundwater encountered at 24'				

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING	Project No.: E08091.001 **January 2016**	**EXPLORATORY BORING LOG** **Mohr Hall Modernization** Sacramento, California	**FIGURE A-4b**

Logged By: **CMS**	Date: **8 January 2016**	Elevation: **~ unknown**	Boring No. **B-3**
Equipment: **CME - 75 With 4" Solid Flight Auger**			

Depth (Feet)	Graphic Log	Ground Water	Geotechnical Description & Unified Soil Classification	Sample	Blow Count	Pocket Pen (tsf)	Tests & Comments
1			Brown sandy **CLAY (CL)**, medium stiff, moist				***Hand Auger 0 - 5'*** **Bulk 4** @ 0 - 5'
2							
3							
4							
5							
6			Red brown sandy **SILT (ML)**, hard, strongly cemented, slightly moist		50/7"	4.5	**Bulk 5** @ 5' - 10'
7							
8							
9							
10			*Grades light gray brown*				DD = 100.0 pcf MC = 21.1 %
11						4.5	
12					45	4.5	
13							
14							
15			*Strongly cemented at 15.5' and 16'*			4.5	
16						4.5	
17					63	4.5	
18							
19							
20			*Grades yellow brown*			4.5	
21						4.5	
22			Boring terminated at 21.5' No free groundwater encountered		95	4.5	
23							
24							
25							

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING	Project No.: E08091.001 **January 2016**	**EXPLORATORY BORING LOG** **Mohr Hall Modernization** Sacramento, California	**FIGURE A-5**

Logged By: **CMS**	Date: **8 January 2016**	Elevation: **~ unknown**	Boring No. **B-4**
Equipment: **CME - 75 With 4" Solid Flight Auger**			

Depth (Feet)	Graphic Log	Ground Water	Geotechnical Description & Unified Soil Classification	Sample	Blow Count	Pocket Pen (tsf)	Tests & Comments
1			Brown sandy **CLAY (CL)**, medium stiff, moist				***Hand Auger 0 - 5'*** **Bulk 6** @ 0 - 5'
2							
3							
4							
5							
6			Red brown sandy **SILT (ML)**, hard, strongly cemented, slightly moist		71	4.5+	DD = 116.4 pcf MC = 12.5 % qu = 20,654 pcf
7							
8							
9							
10			*Grades light gray brown*				
11			*Grades with less sand*		36	4.5+	
12							
13							
14							
15							
16					36	4.5+	
17							
18							
19							
20			Red brown silty **SAND (SM)**, dense, moderately cemented, slightly moist			4.5+	DD = 113.2 pcf
21					47	4.5+ 4.5+	MC = 17.7 %
22			Boring terminated at 21.5' No free groundwater encountered				
23							
24							
25							

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

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Project No.: E08091.001

January 2016

EXPLORATORY BORING LOG

Mohr Hall Modernization
Sacramento, California

FIGURE A-6

Logged By: **CMS**	Date: **8 January 2016**	Elevation: ~ **unknown**	Boring No. **B-5**
Equipment: **CME - 75 With 4" Solid Flight Auger**			

Depth (Feet)	Graphic Log	Ground Water	Geotechnical Description & Unified Soil Classification	Sample	Blow Count	Pocket Pen (tsf)	Tests & Comments
			4" AC				
1			Light brown sandy **CLAY (CL)**, stiff, slightly moist				
2							
3							
4							
5							
6			Light gray brown sandy **SILT (ML)**, hard, strongly cemented, slightly moist		54/5.5"	4.5 4.5	DD = 103.7 pcf MC = 19.8 %
7							
8							
9							
10			*Grades yellow brown*			4.5	
11			*Grades with decreasing sand*		36	4.25 4.5+	
12			Boring terminated at 11.5' No free groundwater encountered				
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

Note: The boring log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

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Project No.: E08091.001

January 2016

EXPLORATORY BORING LOG

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Sacramento, California

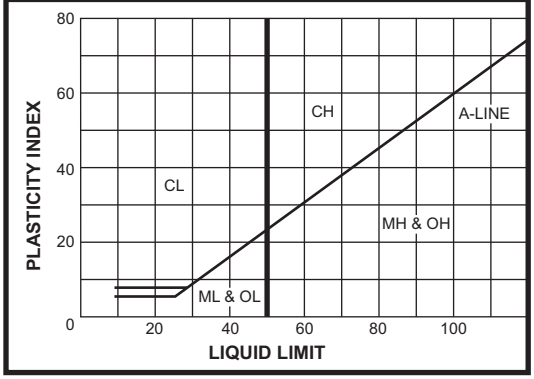
FIGURE A-7

UNIFIED SOIL CLASSIFICATION SYSTEMS

MAJOR DIVISION			SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS Over 50% > #200 sieve	**GRAVELS** Over 50% > #4 sieve	Clean **GRAVELS** With Little Or No Fines	GW		Well graded **GRAVELS**, **GRAVEL-SAND** mixtures
			GP		Poorly graded **GRAVELS**, **GRAVEL-SAND** mixtures
		GRAVELS With Over 12% Fines	GM		Silty **GRAVELS**, poorly graded **GRAVEL-SAND-SILT** mixtures
			GC		Clayey **GRAVELS**, poorly graded **GRAVEL-SAND-CLAY** mixtures
	SANDS Over 50% < #4 sieve	Clean **SANDS** With Little Or No Fines	SW		Well graded **SANDS**, gravelly **SANDS**
			SP		Poorly graded **SANDS**, gravelly **SANDS**
		SANDS With Over 12% Fines	SM		Silty **SANDS**, poorly graded **SAND-SILT** mixtures
			SC		Clayey **SANDS**, poorly graded **SAND-CLAY** mixtures
FINE GRAINED SOILS Over 50% < #200 sieve	**SILTS & CLAYS** Liquid Limit < 50		ML		Inorganic **SILTS**, silty or clayey fine **SANDS**, or clayey **SILTS** with plasticity
			CL		Inorganic **CLAYS** of low to medium plasticity, gravelly, sandy, or silty **CLAYS**, lean **CLAYS**
			OL		Organic **CLAYS** and organic silty **CLAYS** of low plasticity
	SILTS & CLAYS Liquid Limit > 50		MH		Inorganic **SILTS**, micaceous or diamacious fine sandy or silty soils, elastic **SILTS**
			CH		Inorganic **CLAYS** of high plasticity, fat **CLAYS**
			OH		Organic **CLAYS** of medium to high plasticity, organic **SILTS**
HIGHLY ORGANIC CLAYS			PT		PEAT & other highly organic soils

PLASTICITY CHART

USED FOR CLASSIFICATION OF FINE GRAINED SOILS



SAMPLE DRIVING RECORD

BLOWS PER FOOT	DESCRIPTION
25	25 Blows drove sampler 12 inches, after initial 6 inches of seating
50/7"	50 Blows drove sampler 7 inches, after initial 6 inches of seating
50/3"	50 Blows drove sampler 3 inches during or after initial 6 inches of seating

Note: To avoid damage to sampling tools, driving is limited to 50 blows per 6 inches during or after seating interval.

SOIL GRAIN SIZE

U.S. STANDARD SIEVE	6"	3"	¾"	4	10	40	200	
	BOULDER	COBBLE	GRAVEL		SAND			SILT / CLAY
			COARSE	FINE	COARSE	MEDIUM	FINE	
SOIL GRAIN SIZE IN MILLIMETERS	150	75	19	4.75	2.0	.425	0.075	0.002

KEY TO PIT & BORING SYMBOLS

- Standard Penetration test
- 2.5" O.D. Modified California Sampler
- 3" O.D. Modified California Sampler
- Shelby Tube Sampler
- 2.5" Hand Driven Liner
- Bulk Sample
- Water Level At Time Of Drilling
- Water Level After Time Of Drilling
- P — Perched Water

KEY TO PIT & BORING SYMBOLS

	Joint
	Foliation
	Water Seepage
NFWE	No Free Water Encountered
FWE	Free Water Encountered
REF	Sampling Refusal
DD	Dry Density (pcf)
MC	Moisture Content (%)
LL	Liquid Limit
PI	Plasticity Index
PP	Pocket Penetrometer
UCC	Unconfined Compression (ASTM D2166)
TVS	Pocket Torvane Shear
EI	Expansion Index (ASTM D4829)
Su	Undrained Shear Strength

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Project No.: E08091.001

January 2016

SOIL CLASSIFICATION CHART AND LOG EXPLANATION
Mohr Hall Modernization
Sacramento, California

FIGURE A-8

APPENDIX B

Laboratory Testing

Expansion Index Test
Atterberg Limit Test
Unconfined Compression Tests

Introduction

Our laboratory testing program for this evaluation included numerous visual classifications, Atterberg limit, expansion index, and unconfined compressive strength determinations. The following paragraphs describe our procedures associated with each type of test. Graphical results of certain laboratory tests are enclosed in this appendix. The contents of this appendix shall be integrated with the Geotechnical Engineering Study of which it is a part. They shall not be used in whole or in part as a sole source for information or recommendations regarding the subject site.

Laboratory Testing Procedures

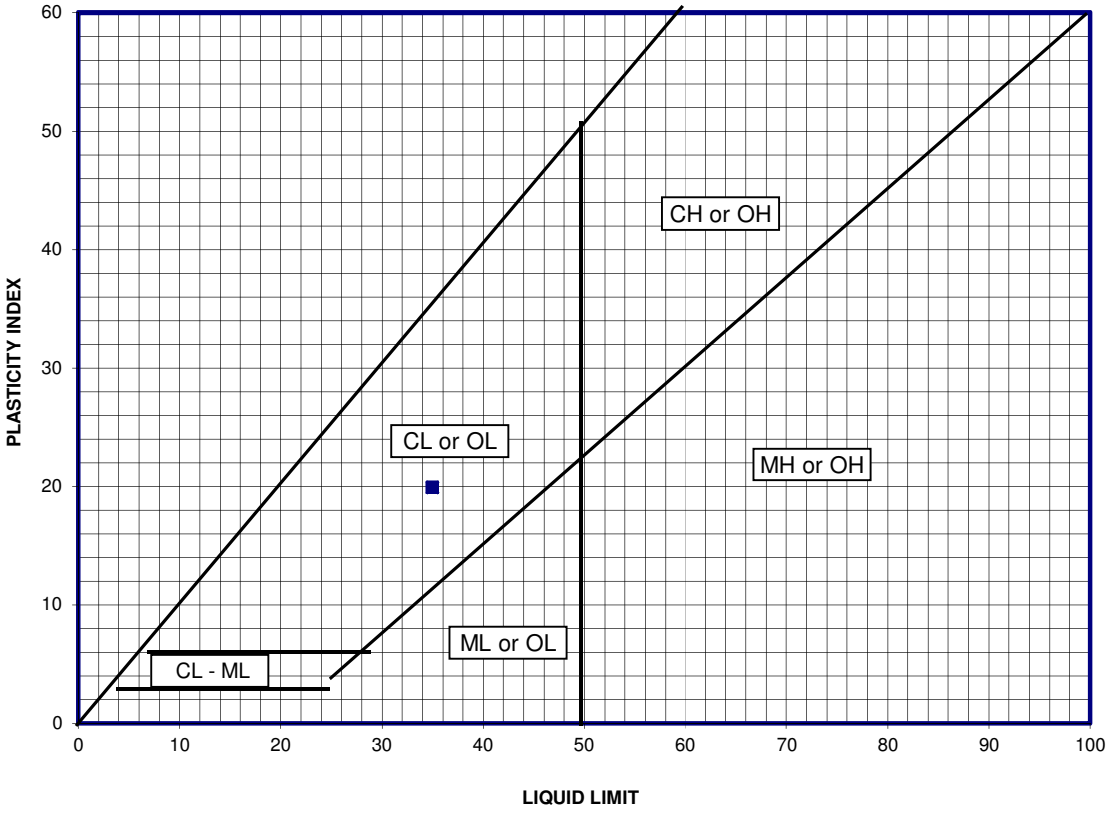
Visual Classification: Visual soil classifications were conducted on all samples in the field and on selected samples in our laboratory. All soils were classified in general accordance with the Unified Soil Classification System, which includes color, relative moisture content, primary soil type (based on grain size), and any accessory soil types. The resulting soil classifications are presented on the exploration logs in Appendix A.

Atterberg Limit Determination: Atterberg limits are used primarily for classifying and indexing cohesive soils. The liquid and plastic limits, which are defined as the moisture contents of a cohesive soil at arbitrarily established limits for liquid and plastic behavior, respectively, were determined for a selected sample in general accordance with ASTM D-4318. The results of this test are presented on the enclosed Atterberg limit graphs Figures B-1, this Appendix.

Expansion Index Determination: An expansion index test (ASTM D4829) provides an index to the expansion potential of compacted soils. The results of this test are presented on Figure B-2, this Appendix.

Unconfined Compressive Strength Determination: The strength parameters of the foundation soils were based on unconfined compression tests (ASTM D2166) and were performed on selected samples collected in brass liners. The results of these tests are presented on Figure B-3 through B-5, this Appendix.

Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4318



Liquid Limit	Plastic Limit	Plasticity Index	Unified Soil Classification, ASTM D2487
35	15	20	CL

Material Description:	Brown Sandy CLAY		
Sample No.:	Combined Bulks 1, 4 & 6	**Elev./Depth (ft.):**	0-5
Date Sampled:	1/11/2016	**Source:**	
Date Tested:	1/14/2016	**Notes:**	

Classification		Water Content, As Sampled (%)	Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO						
CL				35	20	0	80.5

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Project:	Mohr Hall Modernization		
Project No.:	E08091.001		**Figure No.**
Reviewed By:	JLC	Date: 1/15/2016	B-1

Expansion Index of Soils
ASTM D4829

Test Results

Expansion Index	**57**
Dry Density, as molded, pcf	**104.4**
Water Content, as molded, %	**11.0**
Final Water Content, %	**23.8**
Initial Saturation, as molded %	**48.5**

Classification of Potentially Expansive Soil

Expansion Index, EI	Potential Expansion
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
Above 130	Very High

Material Description:	Brown Sandy CLAY		
Sample No.:	Combined Bulks 1, 4 & 6	**Elev./Depth (ft.):**	0-5
Date Sampled:	1/11/2016	**Source:**	
Date Tested:	1/13/2016	**Notes:**	

Classification		Water Content, As Sampled (%)	Sp.G.	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO						
CL				35	20	0	80.5

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Project No.:	E08091.001		**Figure No.**
Reviewed By:	JLC	Date: 1/15/2016	B-2

Unconfined Compressive Strength of Cohesive Soil
ASTM D2166

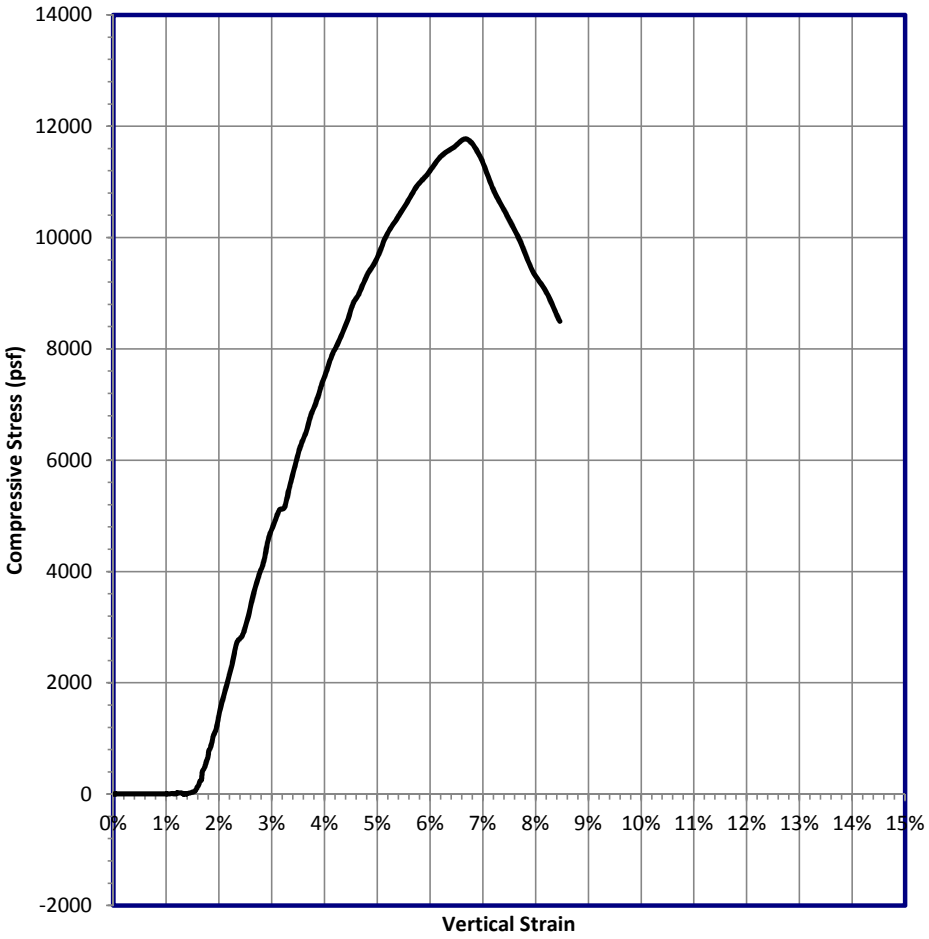

Image of Failed Specimen

Sample No.:	B-1-11
Date Sampled:	1/11/2016
Date Tested:	1/12/2016
Elev./Depth (ft.):	11
Source:	

Material Description:	**Sensitivity:**
Brown Sandy SILT	Not Evaluated
	Specimen Type:
Notes:	Insitu

*Water Content based on after test sample

Specimen Parameters		
Wet Density (pcf)	133.9	**Unconfined Compression Results**
Dry Density (pcf)	114.4	
Water Content (%)	17.1	
Saturation (%)		**Compression Strength, qu**
Void Ratio	72.064	11769 psf
Height (in)	3.700	**Shear Strength, su**
Diameter (in)	1.88	5884.5 psf
Height/Diameter	1.9681	**Failure Strain**
Strain Rate (%/min)	1.5000	6.7 %

Classification		**Sp.G.**	**LL**	**PI**	**% > No. 4**	**% < No. 200**
USCS	**AASHTO**	**(est)**				

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Project:	Mohr Hall Modernization		
Project No.:	E08091.001		**Figure No.**
Reviewed By: JLC	Date: 1/15/2016		B-3

Unconfined Compressive Strength of Cohesive Soil
ASTM D2166

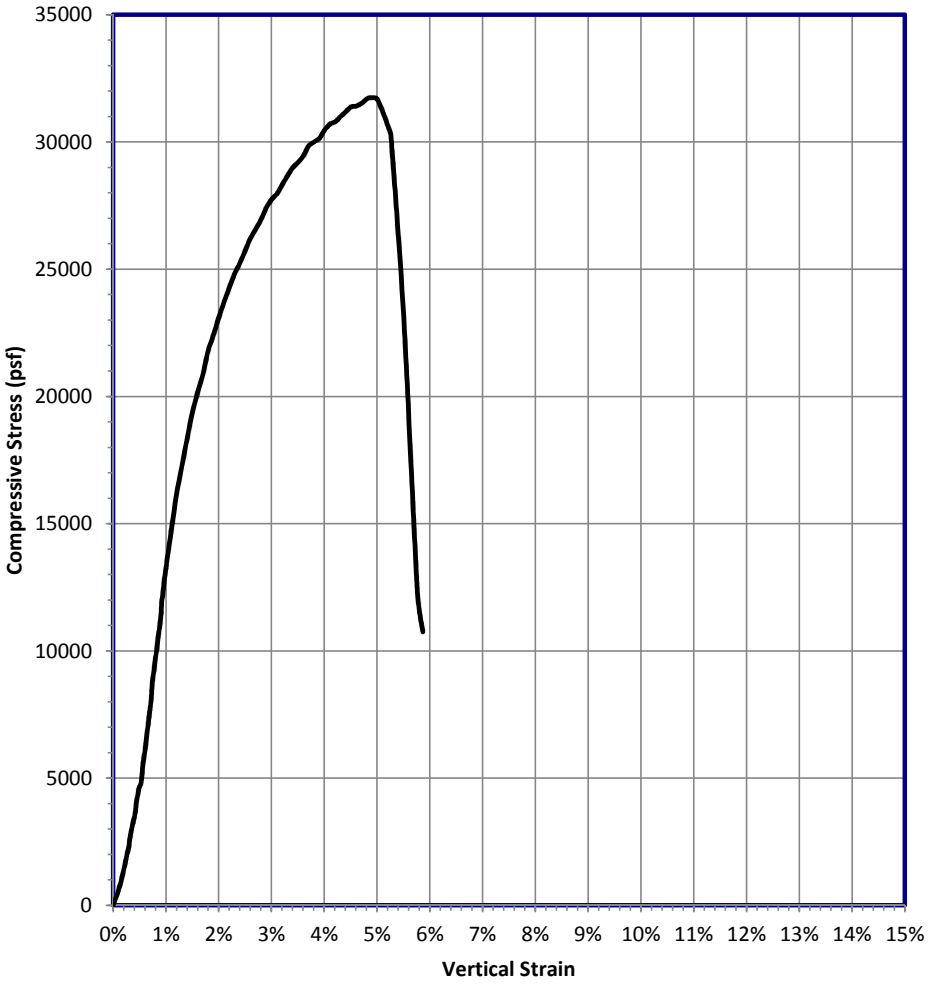

Image of Failed Specimen

Sample No.:	B-2-6		Wet Density (pcf)	135.7	**Unconfined Compression Results**		
Date Sampled:	1/11/2016		Dry Density (pcf)	119.1			
Date Tested:	1/13/2016		Water Content (%)	14.0			
Elev./Depth (ft.):	6		Saturation (%)		**Compression Strength, qu**		
Source:			Void Ratio	70.149	31744 psf		
Material Description:	**Sensitivity:**		Height (in)	5.16	**Shear Strength, su**		
Brown Sandy SILT	Not Evaluated		Diameter (in)	1.88	15872 psf		
	Specimen Type:		Height/Diameter	2.75	**Failure Strain**		
Notes:	Insitu		Strain Rate (%/min)	1.500	4.9 %		
	Classification		**Sp.G.**	**LL**	**PI**	**% > No. 4**	**% < No. 200**
	USCS	**AASHTO**	**(est)**				
*Water Content based on after test sample							87

Specimen Parameters

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Project:	Mohr Hall Modernization		
Project No.:	E08091.001		**Figure No.**
Reviewed By: JLC	Date: 1/15/2016		B-4

Unconfined Compressive Strength of Cohesive Soil
ASTM D2166

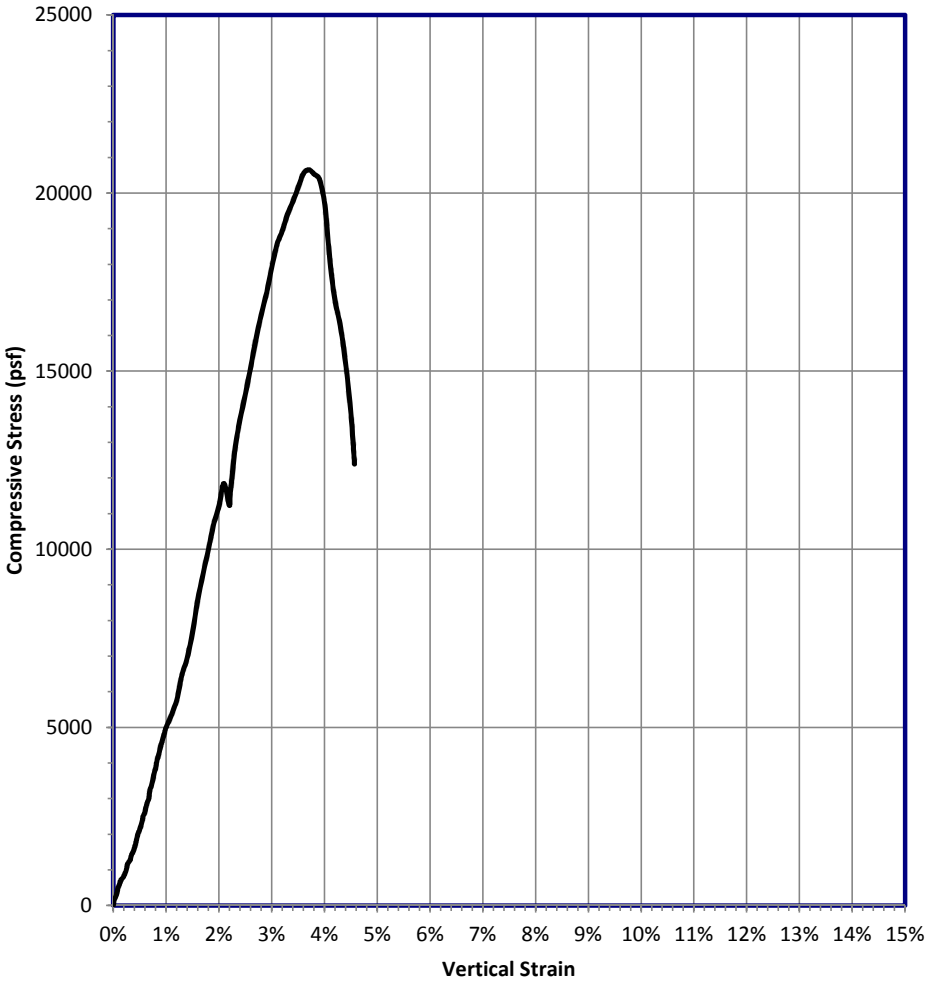

Image of Failed Specimen

Sample No.:	B-4-5.5
Date Sampled:	1/11/2016
Date Tested:	1/14/2016
Elev./Depth (ft.):	5.5
Source:	

Material Description: Yellow Brown Sandy SILT

Sensitivity: Not Evaluated

Specimen Type: Insitu

Notes: Sample cracked in multiple locations during sampling/drilling operations.

*Water Content based on after test sample

Specimen Parameters		
Wet Density (pcf)	131.0	**Unconfined Compression Results**
Dry Density (pcf)	116.4	
Water Content (%)	12.5	
Saturation (%)		**Compression Strength, qu**
Void Ratio	69.240	20654 psf
Height (in)	4.39	**Shear Strength, su**
Diameter (in)	1.89	10327 psf
Height/Diameter	2.32	**Failure Strain**
Strain Rate (%/min)	1.500	3.7 %

Classification		Sp.G. (est)	LL	PI	% > No. 4	% < No. 200
USCS	AASHTO					

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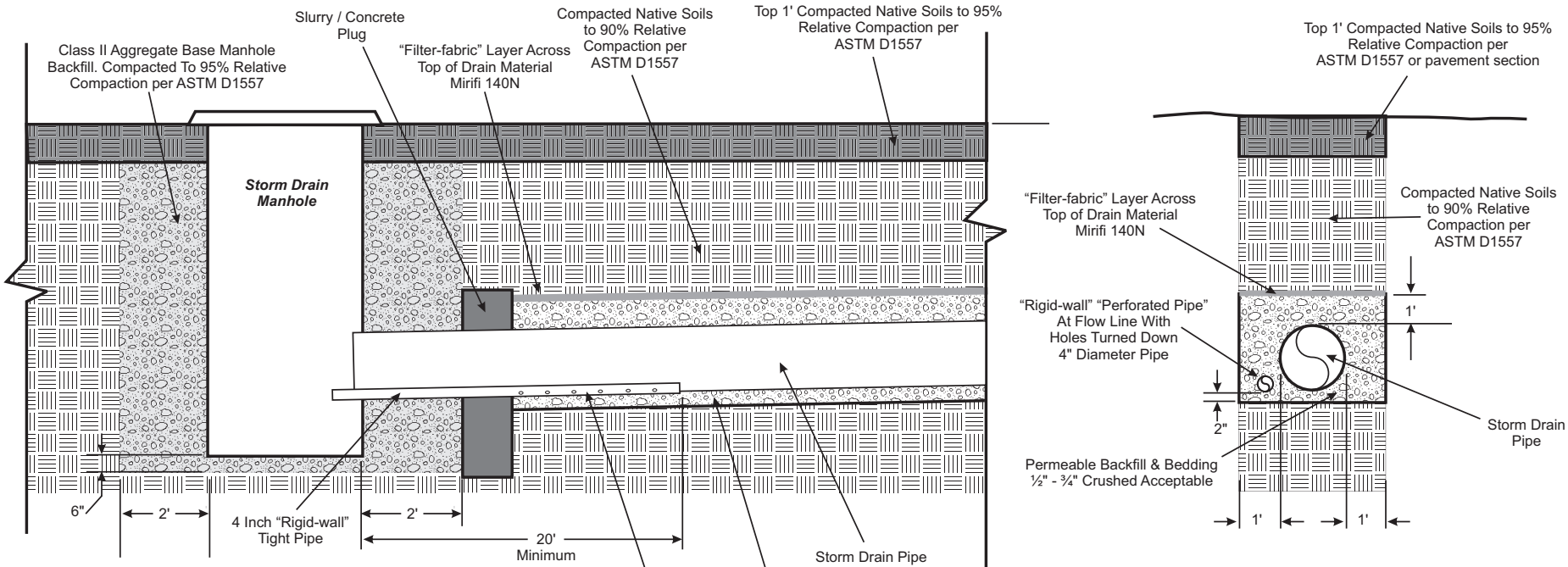
Project:	Mohr Hall Modernization		
Project No.:	E08091.001		**Figure No.**
Reviewed By: JLC		Date: 1/15/2016	B-5

APPENDIX C

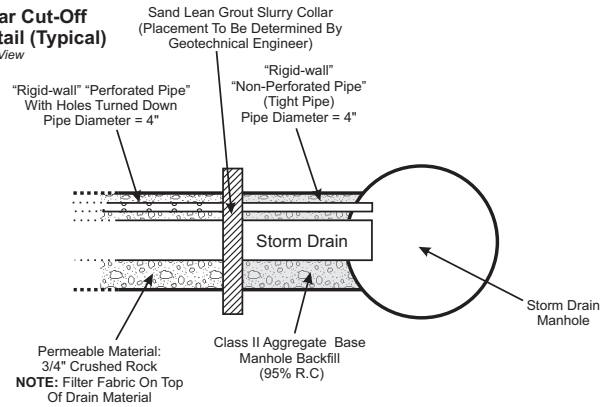
Details

Plug and Drain
Site Wall Drainage
Subdrain



Grout Collar Cut-Off Subdrain Detail (Typical)

Plan View



Notes: *1. Slope trench and "rigid-wall" pipes at least 1% gradient to drain.*
2. Washed clean permeable material.
3. Slurry collar to extend into trench sidewalls and to top of pipe envelope.

Notes: *Slope trench and "rigid-wall" pipes at least 1% gradient to drain.*

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Project No.: E8091.001

January 2016

TYPICAL STORM DRAIN / SUB-DRAIN DETAIL

Mohr Hall Modernization

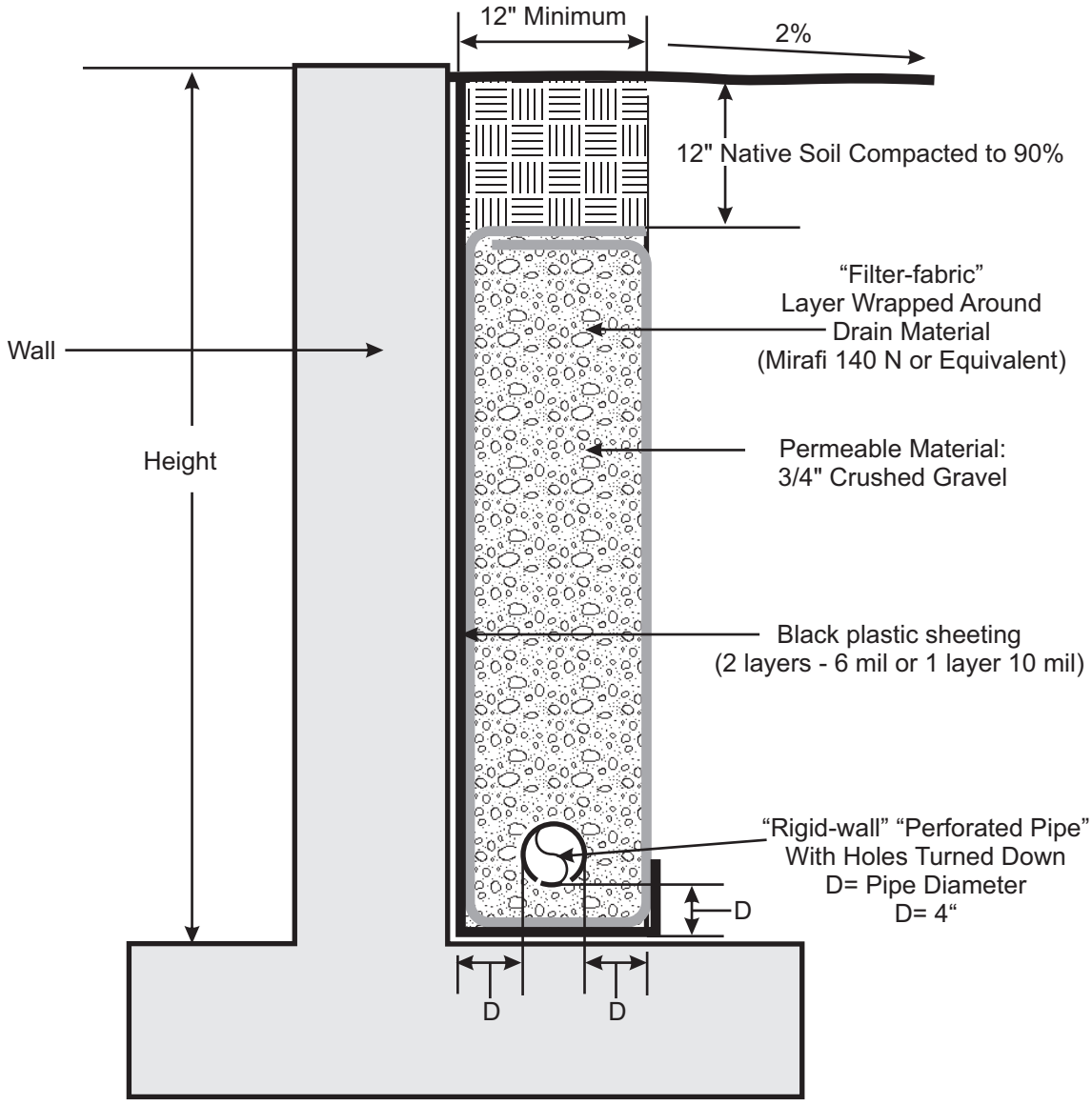
Sacramento, California

FIGURE

C-1

Retaining Wall With "Perforated Pipe Sub-Drain"

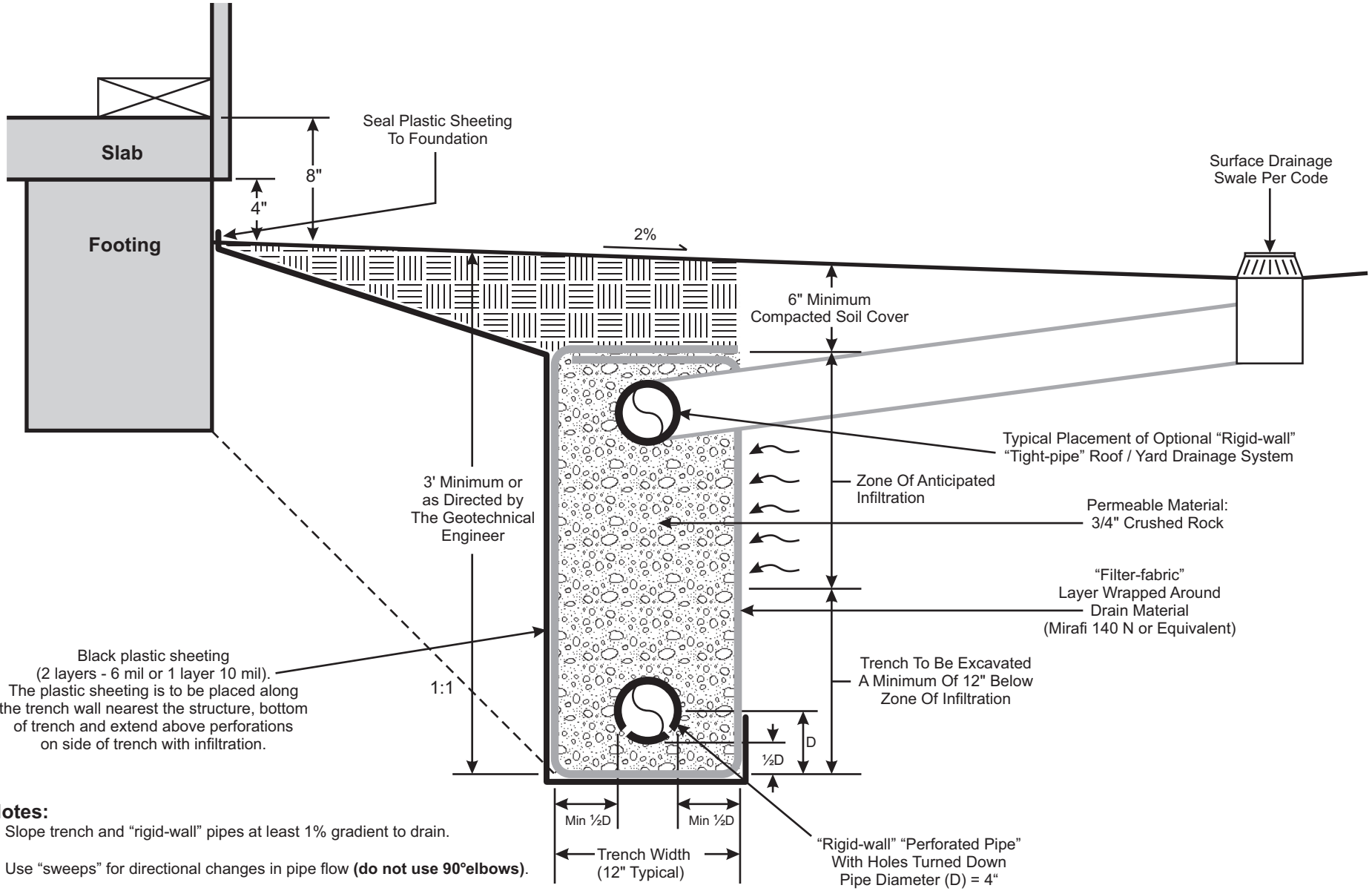
(Typical Cross Section)



Notes:
1. Slope trench and "rigid-wall" pipes at least 1% gradient to drain to an appropriate outfall area away from residence.
2. Use "sweeps" for directional changes in pipe flow **(do not use 90°elbows)**.
3. Provide periodic "clean-outs".
4. Washed clean permeable material.

Not To Scale

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING	Project No.: E8091.001	**RETAINING WALL DRAIN DETAIL**	**FIGURE**
	January 2016	**Mohr Hall Modernization** Sacramento, California	**C-2**



Notes:

1. Slope trench and "rigid-wall" pipes at least 1% gradient to drain.
2. Use "sweeps" for directional changes in pipe flow **(do not use 90°elbows)**.
3. Provide sweeps to periodic "clean-outs".
4. Washed clean permeable material.

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL ▪ ENVIRONMENTAL ▪ MATERIALS TESTING	Project No.: E8091.001	**SUB-DRAIN DETAIL**	FIGURE
	January 2016	**Mohr Hall Modernization** Sacramento, California	**C-3**

APPENDIX D

Geologic Hazards Report

GEOLOGIC HAZARDS STUDY
FOR
MOHR HALL MODERNIZATION

Freeport and Sutterville Roads
Sacramento, California

Project No. E08091.001
January 2016

YOUNGDAHL
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30 YEARS

Los Rios Facilities Management
3753 Bradview Drive
Sacramento, California 95827

Project No. E08091.001
29 January 2016

Attention: Mr. Josef Meyer

Subject: **MOHR HALL MODERNIZATION**
Freeport and Sutterville Roads, Sacramento, Sacramento County, California
Geologic Hazards Study

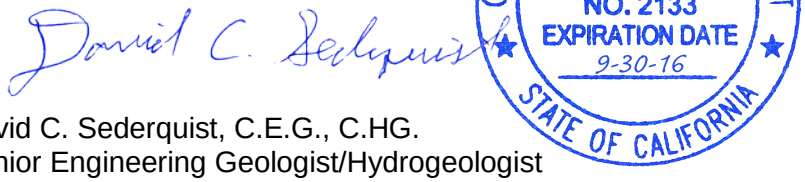
References: 1.

Dear Mr. Joesef Meyer:

With your authorization, Youngdahl Consulting Group, Inc. has completed the attached Geohazards Study for the Mohr Hall Modernization project. We understand that the proposed development will include demolition of the existing Mohr Hall and construction of two new multi-story instructional buildings.

This study is designed to address the specific items listed in the California Geological Survey (CGS) Note 48 Checklist (CGS, 2013). If you have questions or require any additional updates, please do not hesitate contacting us at (916) 933-0633.

Very truly yours,
Youngdahl Consulting Group, Inc.



David C. Sederquist, C.E.G., C.HG.
Senior Engineering Geologist/Hydrogeologist

Distribution: 4 Copies to Client

TABLE OF CONTENTS

GEOLOGIC HAZARDS STUDY FOR
MOHR HALL MODERNIZATION
Freeport and Sutterville Roads, Sacramento, California

1.0 EXECUTIVE SUMMARY

The proposed improvements are located at the existing Mohr Hall, which is to be demolished. The Sacramento City College Mohr Hall Modernization project is on the northeast corner of Freeport and Sutterville Roads in Sacramento, California (Figure D-1). The existing site features and geology are shown on Figures D-2 and D-3. Significant findings of this report are presented below:

- The nearest active fault was identified as the Dunnigan Hills Fault, approximately 30 miles northwest of the site.
- Historically, the largest earthquake within 100km of the site occurred in the past 200 years and was the 7.7 San Pablo Bay earthquake in 1906.
- According to the 2012 Federal Emergency Management Agency (FEMA) Flood Map for Sacramento County, the subject site is in an area of a 0.2% annual chance of flood, areas of 1% annual chance flood with average depths of less than 1-foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

2.0 INTRODUCTION

This report presents the results of our analysis of geologic hazards for the planned improvements for the Sacramento City College Mohr Hall Modernization project on the northeast corner of Freeport and Sutterville Roads in Sacramento, California (Figure D-1). This report is designed to supplement the Geotechnical Engineering Study (GES) for Mohr Hall Modernization prepared by Youngdahl Consulting Group, Inc. (Youngdahl). The scope of this study includes the following:

- A review of past geologic hazard studies and geotechnical engineering studies.
- A review of the GES borings.
- The addressing of items listed on the checklist of Note 48 published by the California Geological Survey.
- Engineering geology analysis of geological hazards for the planned facility location.
- Preparation of this report.

3.0 PROJECT DESCRIPTION

The Sacramento City College campus is located on nearly flat ground and is bounded by the existing college campus, commercial properties, residential properties, and William Land Park (Figure 1). We understand that the proposed development will include demolition of the existing Mohr Hall and construction of two new multi-story instructional buildings. At the time of the preparation of this report preliminary plans for only the western building were provided. The proposed two new instructional buildings are expected to be two story, of metal frame construction, and be supported by spread footing foundations with concrete slab-on-grade floors (Figure A-2 in the GES and Figure D-2 this report).

4.0 SITE LOCATION AND DESCRIPTION

The planned Mohr Hall Modernization is located on the corner of Freeport and Sutterville Roads in Sacramento, California. The site is at Latitude/Longitude coordinates 38.538821° N, 121.491871 ° W, which have been plotted and are presented on a topographic map (Figure D-1).

5.0 ENGINEERING GEOLOGY

The geology of the site is based on data obtained from the GES and a review of published literature, along with consultant reports prepared for the campus.

5.1 Regional Geology

The site is situated in the center of the Great Valley geomorphic province which is described by California Geological Survey Note 36 (2002) as:

> *The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. Its northern part is the Sacramento Valley, drained by the Sacramento River and its southern part is the San Joaquin Valley drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). Great oil fields have been found in southernmost San Joaquin Valley and along anticlinal uplifts on its southwestern margin. In the Sacramento Valley, the Sutter Buttes, the remnants of an isolated Pliocene volcano, rise above the valley floor.*

The project site is approximately 20 miles west of the foothills of the Sierra Nevada geomorphic province and are about 30 miles east of the Coast Range geologic province.

According to the 1:100,000 scale Preliminary Geologic Map of the Sacramento 30' X 60' Quadrangle, California (Gutierrez, 2011), the project site is underlain by the Pleistocene Age middle unit of the Riverbank Formation (Figure D-4). Helley, E.J. and Harwood, D.S. (1985) describe the Riverbank Formation as being red semiconsolidated gravel, sand, silt.

According to the Fault Activity Map of California and Adjacent Areas (Jennings, C.W., and, Bryant, W.A. 2010), no active faults or Earthquake Fault Zones (Special Studies Zones) are located on the project site. The nearest mapped fault to the site is the Willows Fault Zone, approximately five miles east of the project. The nearest mapped active fault to the site is the Dunnigan Hills fault located about 30 miles to the northwest.

According to the National Resources Conservation Service Web Soil Survey (accessed on 2 February 2016), the soils at the project site consist of the San Joaquin-Urban land complex, 0 to 2 percent slopes. The soil is described as being alluvium derived from granite, silt loam to 23 inches, clay loam to 28 inches, indurated to 54 inches and stratified sandy loam to loam to 60 inches. The soil is moderately well drained with a very low saturated hydraulic conductivity at 28 to 54 inches in the duripan layer.

5.2 Site Subsurface Geology

Youngdahl advanced five auger borings around the existing Mohr Hall in January 2016 to depths ranging from 11.5 feet to 51.5 feet below ground surface (bgs). The near surface soil was identified as being predominately brown sandy CLAY in a medium stiff and moist state to a depth ranging from 5 to 10 feet bgs. This is underlain by various shades of brown sandy SILT on a hard, slightly moist to moist state to depths ranging from 20 to 21.5 feet bgs. Beneath this was red brown clayey SAND and light brown silty SAND in a medium dense to very hard, moist to wet and variably cemented condition to depths ranging from 21.5 feet (termination of boring) to 30 feet bgs. A boring advanced to a total depth of 51.5 feet bgs identified light brown sandy SILT in a dense to very dense/hard, moist to wet, variably cemented condition from 30 to 51.5 feet bgs. Groundwater was identified at a depth of 24 feet bgs.

5.3 Faulting

No active faulting or coseismic deformation is present on or near the site. According to the Fault Activity Map of California and Adjacent Areas (Jennings, C.W., and Bryant. W.A., 2010), and based on field evidence, no active faults are located within the general proximity of the subject property. No evidence of recent shear movement, such as soil off-set, springs, seeps, sag ponds or other indications of recent ground rupture were observed on the project site during our study. The closest active fault is the Dunnigan Hills Fault, situated approximately 30 miles to the northwest.

6.0 SEISMOLOGY & CALCULATION OF EARTHQUAKE GROUND MOTION

6.1 Evaluation of Historical Seismicity

The Central Valley area is in a relatively seismically quiescent area of California. Figure D-6 shows mapped faults near the project site. Figure D-5 shows historical epicenters above an estimated moment magnitude of 5.5 in California. Inspection of Figure D-5 shows that the closest source of historical seismicity to the project site in the past 200 years was the 7.7 magnitude San Pablo Bay, California earthquake in 1906.

6.2 Calculation of Earthquake Ground Motion

Based on the 2013 California Building Code, Chapter 16A, and our site investigation findings, the following seismic parameters are recommended from a geotechnical perspective for structural design. The final choice of design parameters, however, remains the purview of the project structural engineer.

Table 1: Seismic Design Parameters

2013 CBC	ASCE 7-10	Seismic Parameter	Recommended Value
	Table 20.3-1	Site Class	D
Figure 1613A.3.1(1)		Short-Period MCE at 0.2s, S_S	0.691g
Figure 1613A.3.1(2)		1.0s Period MCE, S_1	0.297g
Table 1613A.3.3(1)		Site Coefficient, F_a	1.247
Table 1613A.3.3(2)		Site Coefficient, F_v	1.807
Equation 16A-37		Adjusted MCE Spectral Response Parameters, $S_{MS} = F_a S_s$	0.862g
Equation 16A-38		Adjusted MCE Spectral Response Parameters, $S_{M1} = F_v S_1$	0.536g
Equation 16A-39		Design Spectral Acceleration Parameters, $S_{DS} = ⅔ S_{MS}$	0.574g
Equation 16A-40		Design Spectral Acceleration Parameters, $S_{D1} = ⅔ S_{M1}$	0.357g
Table 1613A.3.5(1)		Seismic Design Category (Short Period), Occupancy I to IV	D
Table 1613A.3.5(2)		Seismic Design Category (1-Second Period), Occupancy I to IV	D
	Figure 22-7	Maximum Considered Earthquake Geometric Mean (MCE_C) PGA	0.235g
	Table 11.8-1	Site Coefficient F_{PGA}	1.330
	Equation 11.8-1	$PGA_M = F_{PGA}$ PGA	0.313g

*Based on the online calculator available at http://earthquake.usgs.gov/designmaps/us/application.php

7.0 LIQUIFACTION AND SEISMIC SETTLEMENT

The property does not lie in any mapped landslide or liquefaction hazard zones. Liquefaction is the sudden loss of soil shear strength and sudden increase in porewater pressure caused by shear strains, as could result from an earthquake. Research has shown that saturated, loose to medium-dense sands with silt content less than about 25 percent located within the top 40 feet are most susceptible to liquefaction, surface rupture/lateral spreading and settlement.

Due to the relatively low seismicity of the area and the relatively shallow depth to cemented soils, the potential for seismically induced damage due to liquefaction, surface ruptures, and settlement is considered negligible. For the above-mentioned reasons, mitigation for these potential hazards is not required for the development of this project.

8.0 SLOPE STABILITY

There are no significant slopes at the project site.

9.0 OTHER GEOLOGIC HAZARDS

There are no natural or manmade sources of methane on or near the site. A search of the California Division of Oil, Gas, and Geothermal Resources Well Finder database (accessed on 2 February 2016) identified the nearest gas well as being approximately one mile to the southwest and was plugged and abandoned in 1945. The site does not lie in a volcanic hazards zone.

According to the 2012 Federal Emergency Management Agency (FEMA) Flood Map for Sacramento County, the subject site is in an area of a 0.2% annual chance of flood, areas of 1% annual chance flood with average depths of less than 1-foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

There are no nearby bodies of water capable of inundating the site with a tsunami or a seiche.

Elevated radon gas levels in indoor air are a result of radon moving into buildings from the soil, either by diffusion or flow due to air pressure differences. The ultimate source of radon gas in buildings is the uranium naturally present in rock, water, and soil. Some rock types are known to contain more uranium than others. In California, most uranium deposits are relatively small in aerial extent and are located in rural areas. Consequently, the chance of severe radon levels (>200 pCi/L) occurring in buildings in California should be very low. The California Department of Health Services database on radon levels, last updated on 4 May 2010, has the Sacramento Zip Code of 95822 listed. The number of tests does not necessarily represent the number of houses tested. A single house may have had several tests conducted. The table contains both long-term and short-term indoor radon measurements. The California Department of Health Services recommends that you take action to reduce radon levels in your house if they are 4pCi/L or greater. None of the twelve (12) tests were greater than or equal to 4 pCi/l. According to EPA publication 402-R-93-025, entitled EPA's Map of Radon Zones, California, dated September 1993, Sacramento County is shown to be in Zone 2. Zone 2 has a predicted average radon screening level of between 2 and 4 pCi/l, this is considered to be the moderate value of geologic radon potential.

The subsurface investigations and geology review did not find conditions conducive to the hydrocollapse of soils, regional subsidence, or for clays subject to cyclic softening.

9.1 NATURALLY OCCURRING ASBESTOS

The subject site is not located within an area considered to have a potential to contain naturally occurring asbestos.

10.0 RECOMMENDATIONS

The project is not located with an area of significant geologic hazards. No special measures need to be taken to mitigate for geologic hazards beyond standard practices for school construction.

11.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. This report has been prepared for the exclusive use of Los Rios Facilities Management, their clients, and their subcontractors for specific application to the proposed Mohr Hall Modernization project. Youngdahl Consulting Group, Inc. has endeavored to comply with generally accepted engineering geology practice common to the local area. Youngdahl Consulting Group, Inc. makes no other warranty, express or implied.

2. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they be due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in changes in applicable standards. Changes outside of our control may cause this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three years without our review nor should it be used or is it applicable for any properties other than those studied.

3. Do not apply any of this report's conclusions or recommendations if the nature, design, or location of the facilities is changed. If changes are contemplated, Youngdahl Consulting Group, Inc. must review them to assess their impact on this report's applicability. Also note that Youngdahl Consulting Group, Inc. is not responsible for any claims, damages, or liability associated with any other party's interpretation of this report's subsurface data or reuse of this report's subsurface data or engineering analyses without the express written authorization of Youngdahl Consulting Group, Inc.

12.0 REFERENCES

Geologic References

- Abrahamson, N.A. and Silva, W.J., (1996): “Empirical Ground Motion Models,” report prepared for Brookhaven National Laboratory, USA.

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9. Proposal for Mohr Hall Modernization, prepared by Youngdahl Consulting Group, Inc., dated 12 October 2015.

10. Geotechncial Engineering Study for Mohr Hall Modernization, Freeport and Sutterville Roads, Sacramento, California, prepared by Youngdahl Consulting Group, Inc. dated 29 January 2016.

FIGURES

Scale: 1:24,000

BASE MAP REFERENCE: *U.S.G.S. 7.5 Minute Topographic Series, Sacramento East Quadrangle, Dated 2015*

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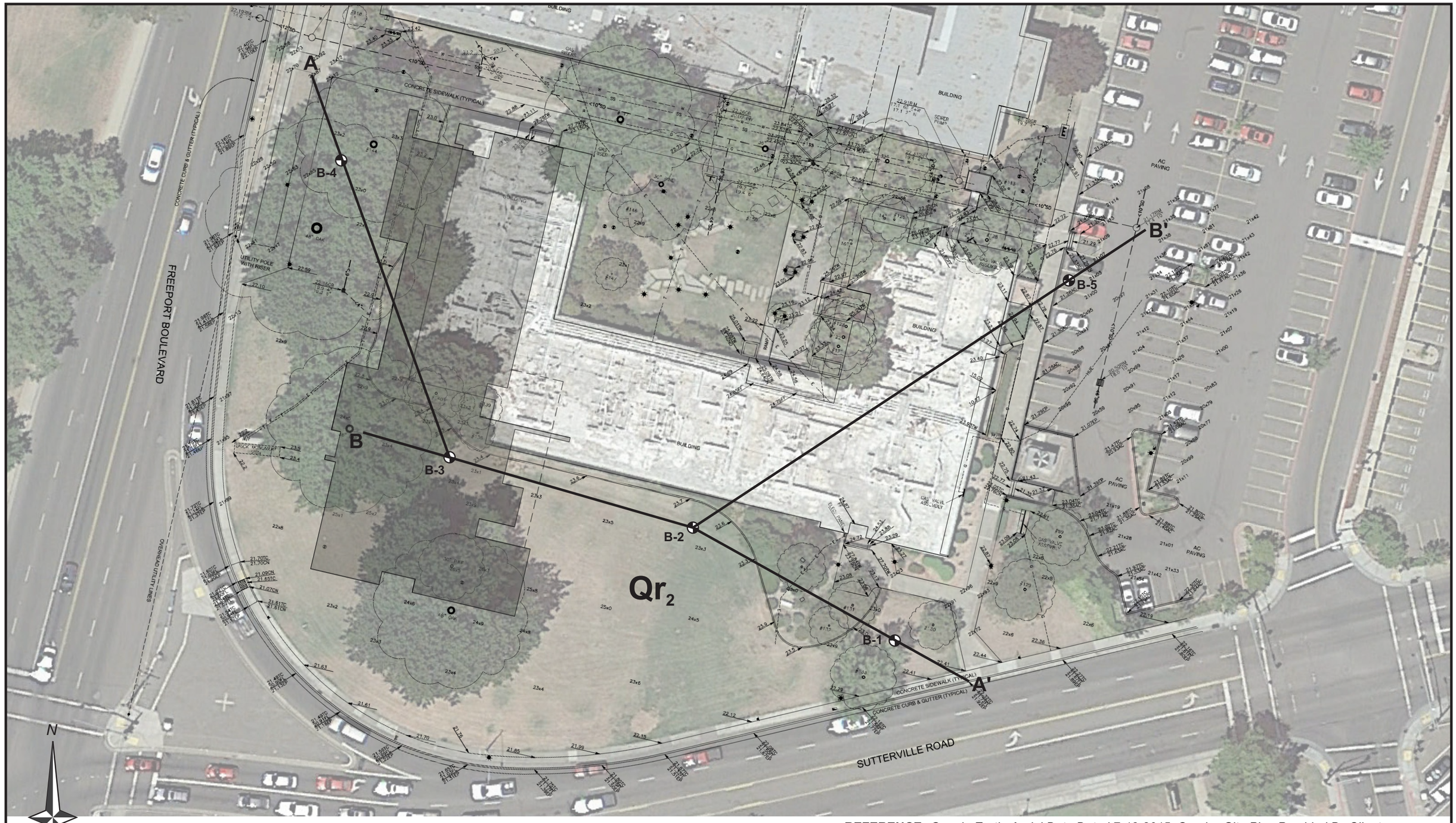
Project No.: E08091.001

January 2016

VICINITY MAP

Mohr Hall Modernization
Sacramento, California

FIGURE
D-1



B-1 = Approximate Boring Locations

Qr_2 = Riverbank Formation Middle Unit

REFERENCE: *Google Earth, Aerial Data Dated 7-13-2015, Overlay Site Plan Provided By Client*

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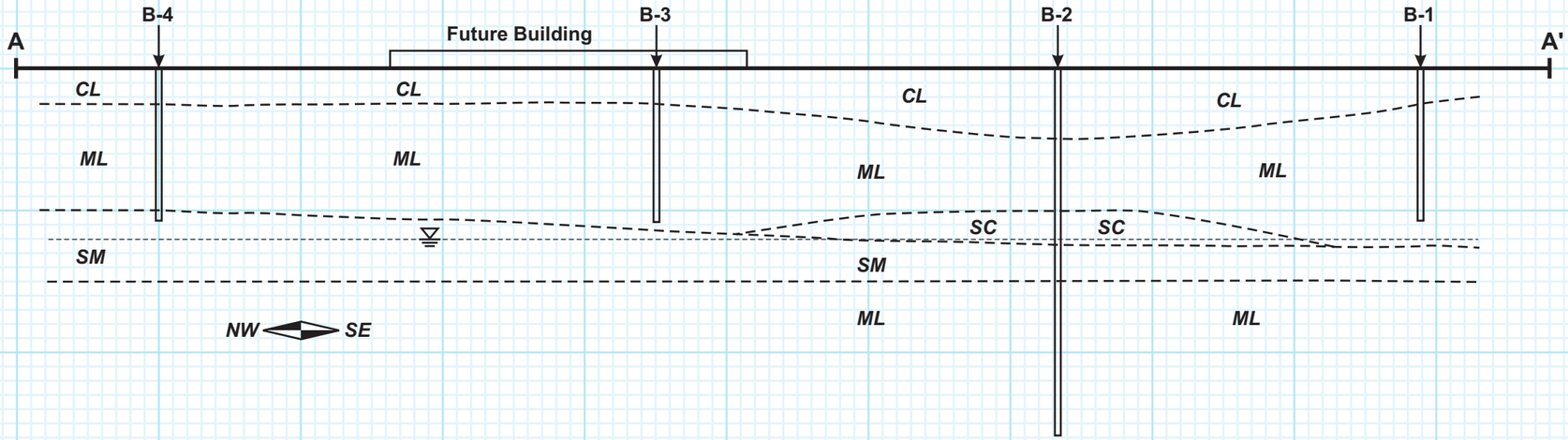
Project No.: E08091.001

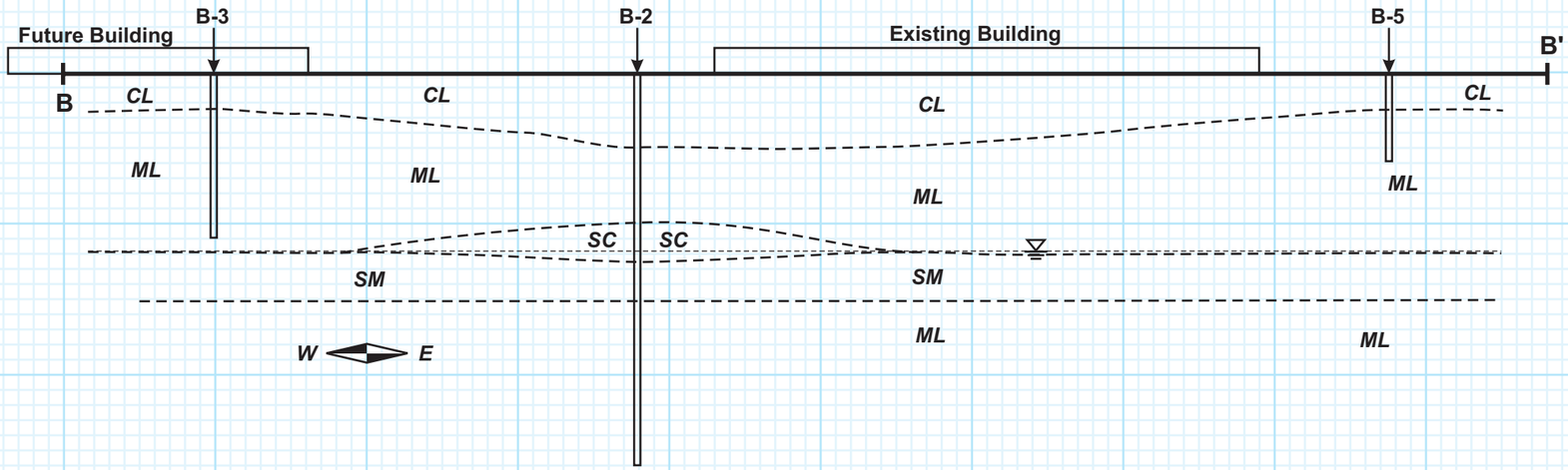
January 2016

SITE GEOLOGY MAP

Mohr Hall Modernization
Sacramento, California

FIGURE
D-2





1" V=20'

1" H=40'

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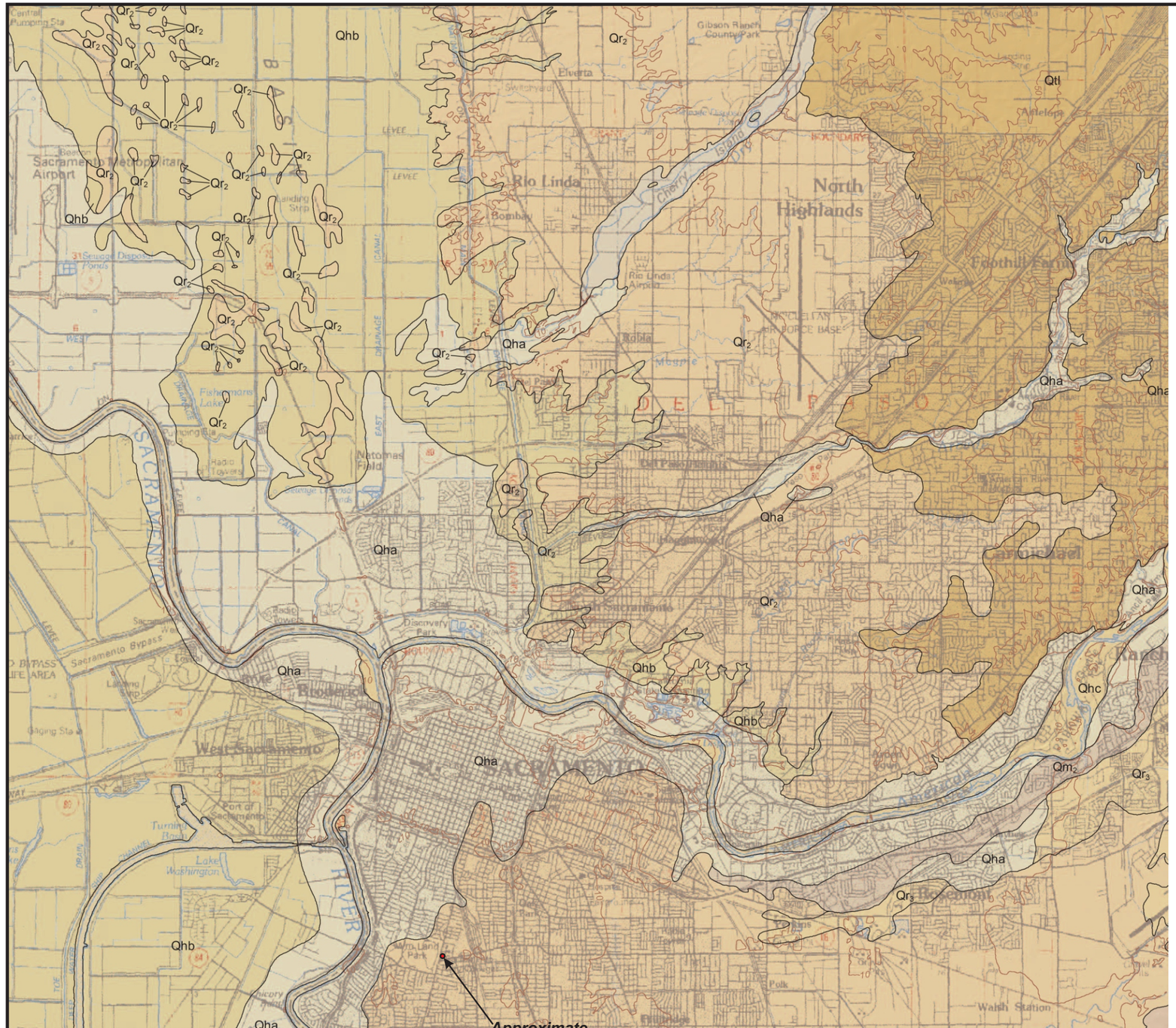
CROSS SECTIONS

Mohr Hall Modernization
Sacramento, California

FIGURE
D-3



ABBREVIATED EXPLANATION
(Approximate stratigraphic relationships only)

CENOZOIC

QUATERNARY

Holocene

- af — Artificial fill
- alf — Artificial levee fill
- t — Dredge tailings
- Qhc — Latest Holocene stream channel deposits
- Qhay — Latest Holocene alluvial deposits
- Qhf — Holocene alluvial fan deposits
- Qha — Holocene alluvium
- Qhff — Holocene alluvial fan deposits
- Qhb — Holocene basin deposits
- Qhl — Holocene alluvial fan levee deposits

Pleistocene

- Qf — Alluvial fan deposits
- Qa — Alluvium (undivided)
- Qls — Landslide deposit

Modesto Formation

- Qm — Qm - Undivided; Qm_2 - Upper member; Qm_1 - Lower member

Riverbank Formation

- Qr — Qr - Undivided; Qr_3 - Upper unit; Qr_2 - Middle unit; Qr_1 - Lower unit

Older alluvium

- Qoa — Qoa - Undivided; Qoa_4 - Unit 4; Qoa_3 - Unit 3; Qoa_2 - Unit 2; Qoa_1 - Unit 1

- Qtl — Turlock Lake Formation

TERTIARY

Oligocene - Miocene - Pliocene

- Pl — Laguna Formation
- Pth — Tehama Formation

Mehrten Formation

- MPm — MPm - Undivided; MPmc - Cobble comglomerate; MPmb - Mudflow breccia

- OMvs — Valley Springs Formation

Eocene

- Ei — Ione Formation

CRETACEOUS

- Kc — Chico Formation
- Kr — Rocklin Pluton
- Mzg — Granite, undivided
- Jp — Penryn Pluton
- Mzd — Diorite, undivided
- Jch — Copper Hill Volcanics
- Mzqd — Quartz dorite, undivided
- Jss — Salt Spring Slate
- Jgo — Gopher Ridge Volcanics

MESOZOIC

JURASSIC

Foothill Melange

mv	sp	sa
mvs	py	pg
ms	gb	ls

mv - Metavolcanic rock
mvs - Metasedimentary and metavolcanic rock, undivided
ms - Metasedimentary rock
sp - Serpentine and peridotite
sa - Serpentine and amphibole, interlayered
py - Pyroxenite and metapyroxenite
pg - Pyroxenite and gabbro
gb - Gabbro and metagabbro
ls - Limestone

SCALE 1:100,000

2 0 2 4 6 Miles

2 0 2 4 6 Kilometers

Contour Interval: 20 meters (approximately 66 feet)
Supplementary Contour Interval: 10 meters (approximately 33 feet)

REFERENCE: Preliminary Geologic Map Of The Sacramento 30' x 60' Quadrangle, California, Carlos I. Gutierrez, 11/3/2011

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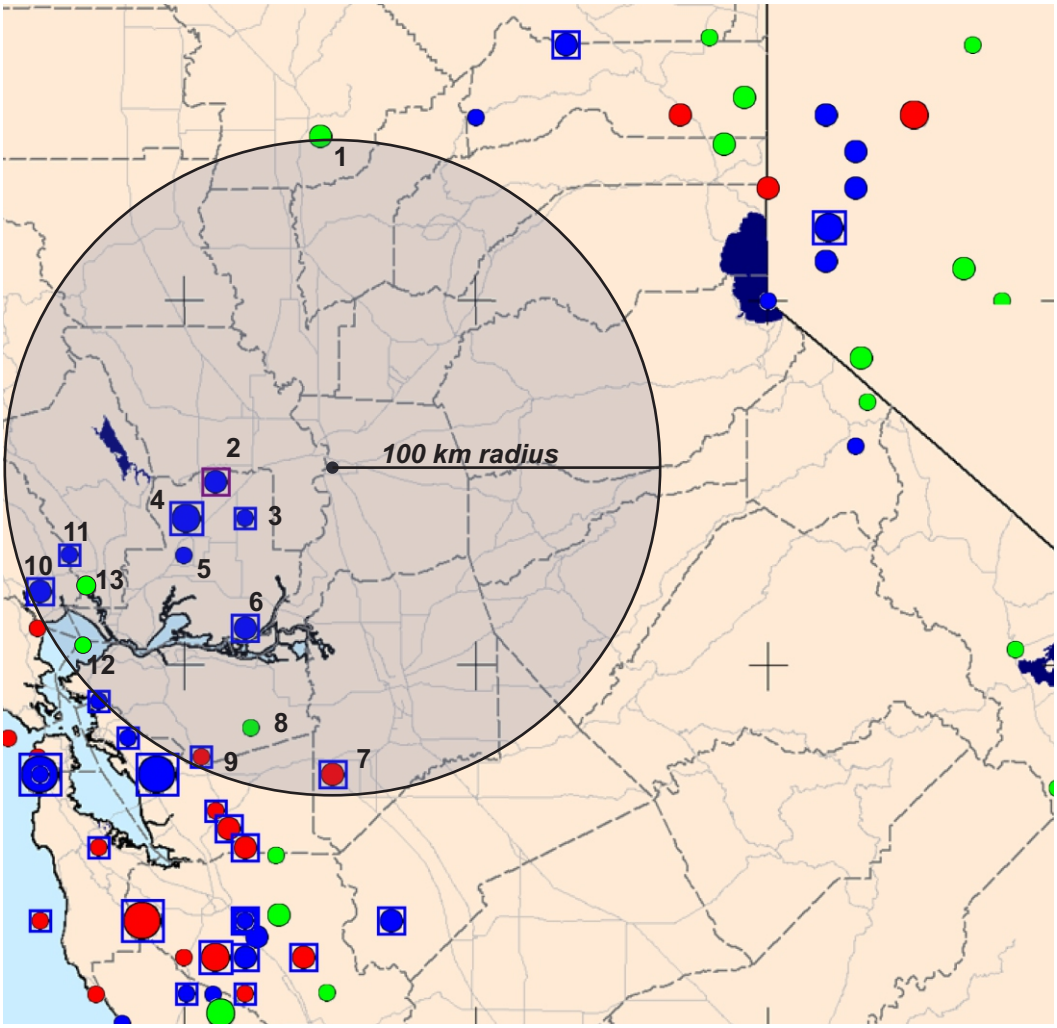
Project No.: E08091.001

January 2016

REGIONAL GEOLOGY MAP

Mohr Hall Modernization
Sacramento, California

FIGURE
D-4



References:
Earthquake catalog from: Toppozada, T. R. and D. Branum (2002) California M >= 5.5 earthquakes, history and areas damaged, *in* Lee, W. H., Kanamori, H. and Jennings, P., International Handbook of Earthquake and Engineering Seismology, International Association of Seismology and Physics of the Earth's Interior.

USGS Archive Earthquake Hazards Program. Search 8 February 2016

	Dates	Longitude	Latitude	Magnitude	Notes
1	1975	-121.530	39.440	6.1	Oroville
2	1892	-121.900	38.500	6.4	Winters
3	1892	-121.800	38.400	5.6	Vacaville
4	1892	-122.000	38.400	6.6	Vacaville
5	1902	-	-	5.5	
6	1889	-121.800	38.100	6.0	
7	1866	-	-	6.0	
8	1889	-	-	6.0	
9	1861	-	-	5.8	
10	1898	-	-	6.4	
11	1891	-	-	5.9	
12	1906	-122.403	38.056	7.7	San Pablo Bay
13	2014	-122.312	39.215	6.0	6 Km. NW of American Canyon

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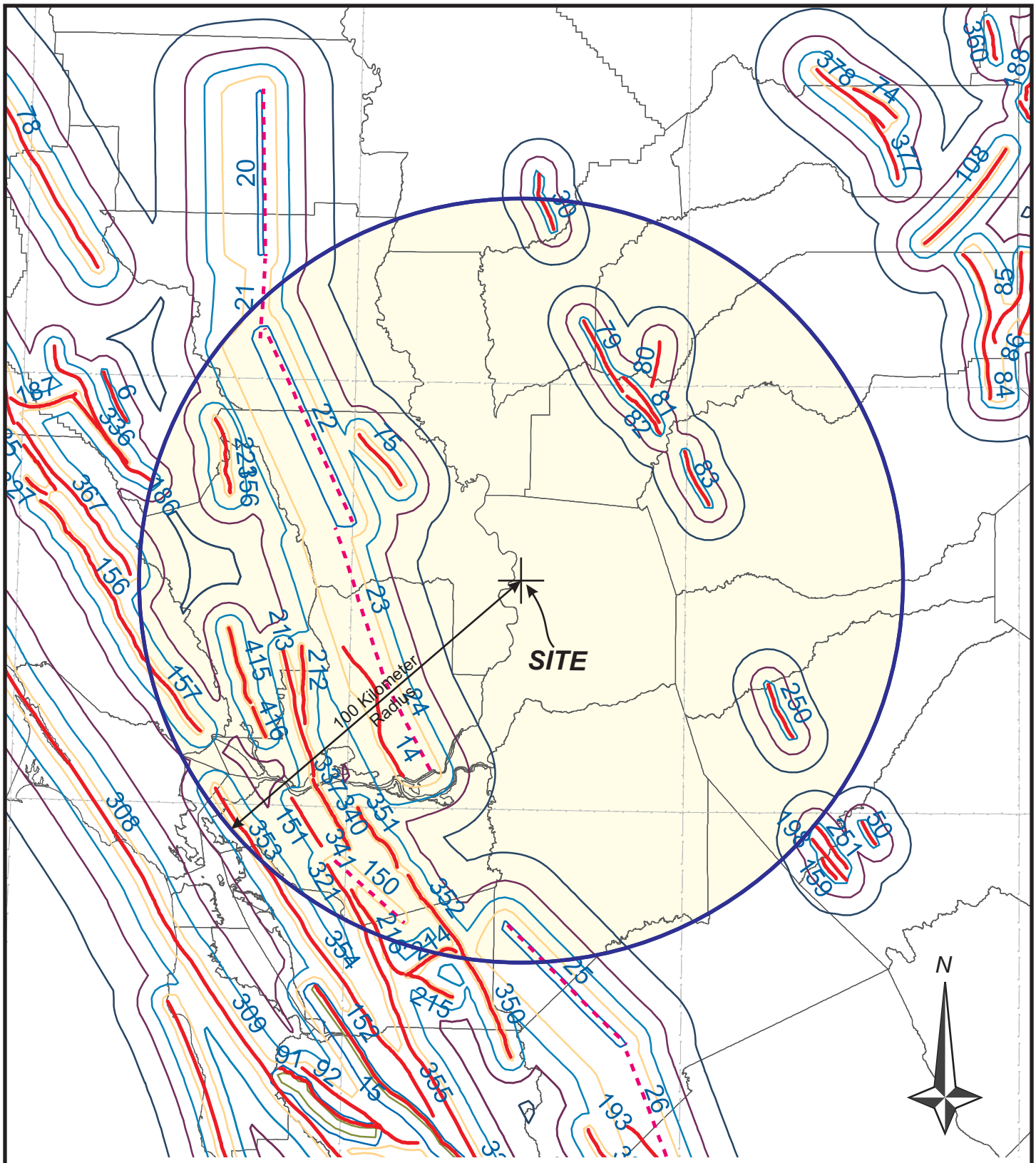
Project No.: E08091.001

January 2016

HISTORICAL EARTHQUAKES MAP
Mohr Hall Modernization
Sacramento, California

FIGURE
D-5



BASE MAP REF: *2007 Caltrans Deterministic PGA Map, Fault Identification Numbers (FID) Shown. September 2007, Martha Merriam, Tom Shantz, GIS by Ke Zhou, Fault Map Legend Follows On Figure D-7*

0 25 50 100

Scale: Kilometers

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Project No.: E08091.001

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FAULT MAP

Mohr Hall Modernization
Sacramento, California

FIGURE
D-6

Legend *Caltrans_2007_Active_Faults (w/ FID Labels)*

Surface Faults

Concealed Faults

Peak Ground Acceleration Countours
PGA for sites with VS30 = 760 m/s

0.2g

0.3g

0.4g

0.5g

0.6g

0.7g

0.8g

0.9g

Lat and Long

County Boundary

Fault Name (1)	CalTrans Fault ID Number (2)
Vaca fault zone	14
Great Valley fault 2	21
Great Valley fault 3	22
Great Valley fault 4	23
Great Valley fault 5	24
Great Valley fault 7	25
Bear Mountains fault zone (Swain Ravine fault zone section)	30
Dunnigan Hills fault	75
Bear Mountains fault zone (Spenceville fault section)	79
Bear Mountains fault zone (Highway 49 section)	80
Bear Mountains fault zone (Dewitt fault section)	81
Bear Mountains fault zone (Deadman fault section)	82
Bear Mountains fault zone (Rescue fault section)	83
Mount Diablo Thrust	150
Southampton fault	151
Rodgers Creek fault	157
Big Valley fault	186
Cordelia fault	212
Green Valley fault	213
Hunting Creek-Berryessa fault zone (Hunting Creek section)	221
Bear Mountains fault zone (Poorman Gulch fault section)	250
Bear Mountains fault zone (Bowie Flat fault section)	251
Calaveras fault zone (Northern Calaveras section)	321
Calaveras fault zone (Central Calaveras section)	322
Concord fault (Avon section)	337
Concord fault (Concord section)	340
Concord fault (Ygnacio Valley section)	341
Greenville fault zone (Clayton section)	351
Greenville fault zone (Marsh Creek-Greenville section)	352
Hayward fault zone (Northern section)	353
Hunting Creek-Berryessa fault zone (Berryessa section)	356
West Napa fault zone (Browns Valley section)	415
West Napa fault zone (Napa County Airport section)	416

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Project No.: E08091.001

January 2016

FAULT MAP LEGEND

Mohr Hall Modernization
Sacramento, California

FIGURE
D-7

APPENDIX F

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

2019012030

SCH #

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

Project Title: SACRAMENTO CITY COLLEGE – LILLARD HALL REPLACEMENT AND MODERNIZATION PROJECT

Lead Agency: Los Rios Community College District | Contact Person: Dan McKechnie
Mailing Address: 3753 Bradview Drive | Phone: 916-856-3409
City: Sacramento | Zip: 95825 | County: Sacramento

Project Location: County: Sacramento | City/Nearest Community: City of Sacramento
Cross Streets: Freeport Blvd and Sutterville Road | Zip Code:
Longitude/Latitude (degrees, minutes and seconds): -121 ° 29 ′ 29.7″ N / 38 ° 32 ′ 24.8″ W | Total Acres: 47.45
Assessor's Parcel No.: 013-0010-014 | Section: S24 | Twp.: T8 | Range: R4E | Base: 1851
Within 2 Miles: State Hwy #: 99 | Waterways: Sacramento River
Airports: Sacramento Executive Airport | Railways: Sac. RT Light Rail | Schools:

Document Type:

Governor's Office of Planning & Research
JAN 15 2019
STATE CLEARINGHOUSE

CEQA: ☐ NOP ☐ Draft EIR | NEPA: ☐ NOI | Other: ☐ Joint Document
☐ Early Cons ☐ Supplement/Subsequent EIR | ☐ EA | ☐ Final Document
☐ Neg Dec (Prior SCH No.) | ☒ Draft EIS | ☐ Other:
☒ Mit Neg Dec Other: | ☐ FONSI

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☒ Other: Building Replac

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☒ Educational: Hall replacement w/additional square footage
☐ Recreational:
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: ____

Project Issues Discussed in Document:

☐ Aesthetic/Visual ☐ Fiscal ☐ Recreation/Parks ☐ Vegetation
☐ Agricultural Land ☐ Flood Plain/Flooding ☐ Schools/Universities ☐ Water Quality
☒ Air Quality ☐ Forest Land/Fire Hazard ☐ Septic Systems ☐ Water Supply/Groundwater
☒ Archeological/Historical ☒ Geologic/Seismic ☐ Sewer Capacity ☐ Wetland/Riparian
☒ Biological Resources ☐ Minerals ☐ Soil Erosion/Compaction/Grading ☐ Growth Inducement
☐ Coastal Zone ☒ Noise ☐ Solid Waste ☐ Land Use
☐ Drainage/Absorption ☐ Population/Housing Balance ☒ Toxic/Hazardous ☐ Cumulative Effects
☐ Economic/Jobs ☐ Public Services/Facilities ☐ Traffic/Circulation ☐ Other:

Present Land Use/Zoning/General Plan Designation:

Public/Quasi Public

Project Description: *(please use a separate page if necessary)*

*See attached

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Revised 2010

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

	Air Resources Board	x	Office of Historic Preservation
	Boating & Waterways, Department of	x	Office of Public School Construction
	California Emergency Management Agency		Parks & Recreation, Department of
	California Highway Patrol		Pesticide Regulation, Department of
x	Caltrans District #3		Public Utilities Commission
	Caltrans Division of Aeronautics	x	Regional WQCB #5
	Caltrans Planning		Resources Agency
	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
x	Education, Department of		SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
x	Fish & Game Region #2		Tahoe Regional Planning Agency
	Food & Agriculture, Department of		Toxic Substances Control, Department of
	Forestry and Fire Protection, Department of	x	Water Resources, Department of
	General Services, Department of		
	Health Services, Department of	x	Other: Division of the State Architect, Sacramento Off
	Housing & Community Development	x	Other: SMAQMD; Sacramento County EMD
x	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date January 15, 2019 Ending Date February 15, 2019

Lead Agency (Complete if applicable):

Consulting Firm: Petralogix Engineering
Address: 26675 Bruella Road
City/State/Zip: Galt, California 95632
Contact: Daniel Kramer, President
Phone: 209-400-5729

Applicant: Los Rios Community College District
Address: 3753 Bradview Drive
City/State/Zip: Sacramento, California 95825
Phone: 209-916-3409

Signature of Lead Agency Representative: _____ **Date:** 1-7-19

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Sacramento City College – Lillard Hall – Replacement and Modernization Project

Project Description: The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building located on the Sacramento City College campus. Proposed development will include demolition and replacement of Lillard Hall which is located in the southwest portion of the Sacramento City College parcel. The Lillard Hall replacement schematic designs are still under consideration, however, it is anticipated the new proposed Lillard Hall will be approximately 31,709 assignable square feet (ASF), and will replace the older, approximately 28,863 square foot Lillard Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in one of the existing parking lots (parking Lot G or parking lot F) near Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned.

There is currently a Mohr Hall replacement project underway at the site, determined exempt under CEQA; a Notice of Exemption was filed for the Mohr Hall project on November 7, 2016 with the categorically exempt status Class 14. 15314 – Minor Addition to Schools and categorically exempt status Class 2. 15302 – Replacement or Reconstruction. The Mohr Hall project consists of a building replacement with no additional usable assignable square footage (ASF) and no increase in planned occupant load. The Mohr Hall will be discussed as part of this proposed project due to the proximal nature (the proposed Lillard Hall will be located within the footprint of the demolished Mohr Hall, and adjacent east of the new Mohr Hall) and potential cumulative impacts with the Proposed Lillard Hall and potential Overhead Solar Parking Project.

SMUD®

Sent Via E-Mail

February 13, 2019

Dan McKechnie
Los Rios Community College District
3753 Bradshaw Dr.
Sacramento, CA 95825
mckechd@losrios.edu

Subject: Sacramento City College – Lillard Hall Replacement and Modernization Project / MND / 2019012030

Dear Mr. McKechnie,

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Mitigated Negative Declaration (MND) for the Sacramento City College – Lillard Hall Replacement and Modernization Project (Project, SCH 2018112048). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the Project MND will acknowledge any Project impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
  - https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services
  - https://www.smud.org/en/Corporate/Do-Business-with-SMUD/Land-Use/Transmission-Right-of-Way
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change
- Cumulative impacts related to the need for increased electrical delivery

More specifically, SMUD would like to have the following details related to the electrical infrastructure incorporated into the project description:

- There are existing 21kV overhead facilities surrounding the Sacramento City College property that will need to remain.
- There are underground 21kV and 4kV facilities located on the Sacramento City College property that will need to remain.

SMUD would like to be involved with discussing the above areas of interest as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Project. Please ensure that the information included in this response is conveyed to the Project planners and the appropriate Project proponents.

Environmental leadership is a core value of SMUD and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this MND. If you have any questions regarding this letter, please contact SMUD's Environmental Management Specialist, Rob Ferrera, at rob.ferrera@smud.org or 916.732.6676.

Sincerely,

Nicole Goi
Regional & Local Government Affairs
Sacramento Municipal Utility District
6301 S Street, Mail Stop A313
Sacramento, CA 95817
nicole.goi@smud.org

Cc: Rob Ferrera

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

February 14, 2019

SENT VIA E-MAIL ONLY

Dan McKechnie
Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95825

RE: Lillard Hall Replacement and Modernization Project MND (SAC201902117)

Dear Mr. McKechnie:

Thank you for providing a copy of the Mitigated Negative Declaration for the Lillard Hall Replacement and Modernization Project to the Sacramento Metropolitan Air Quality Management District (Sac Metro Air District) for review. The project proposes the demolition and replacement of Lillard Hall which is located in the southwest portion of the college parcel. It is anticipated the new proposed Lillard Hall will be approximately 31,709 assignable square feet, and will replace the older, approximately 28,863 square feet Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned. Sac Metro Air District staff comments on the project follow.

Asbestos
The project involves the demolition of a building that is likely to have been constructed prior to 1975, when asbestos was used extensively in building construction. Because of the risk of exposure to asbestos, demolition or renovation of existing buildings are subject to Sac Metro Air District Rule 902 (http://www.airquality.org/ProgramCoordination/Documents/rule902.pdf) in order to limit asbestos emissions and the disturbance of regulated asbestos-containing material generated or handled during these activities.

Reducing Urban Heat Island Effect – Pervious or Cool Pavement
Impervious surfaces, such as those created with traditional urban paving materials, have less surface moisture available for evapotranspiration than natural ground cover. This characteristic contributes to higher surface and air temperatures, known as heat island effect. As a result, air temperatures in the project's central courtyard area may contribute to increased area temperatures. Higher ambient temperatures increase formation of ozone, a respiratory system irritant. During extreme heat and extended heat waves, these higher temperatures can lead to heat stress, heat stroke, and even heat mortality, especially for the elderly, the young, and those with pre-existing health conditions. The Sac Metro Air District recommends paving the areas surrounding the new Lillard Hall with permeable pavement or cool pavement, in order to maintain cooler temperatures in and around the buildings. Information about cool pavement options is in Attachment 1.

Reducing Urban Heat Island Effect – Street Trees
Urban trees improve air quality by absorbing gaseous pollutants such as ozone and nitrogen dioxide; intercepting particulate matter; increasing oxygen levels through photosynthesis; and providing shade, resulting in lower local air temperatures, thereby reducing ozone levels. Urban trees, especially street trees, can also reduce heat island effect and encourage more

walking trips. The Sac Metro Air District recommends that the project include, in addition to the 26 trees included in project plans, the planting of street trees sufficient to create continuous shade on the sidewalks surrounding the project. The trees species should be selected for their ability to thrive in the region's climate and soils, for their resistance to pests and disease, and for their ability to contribute to air quality. The Sacramento Tree Foundation's Shady Eighty List provides recommended tree species. The Vibrant Cities Lab provides additional research, tools, resources, and case studies on the benefits of trees.

Construction Emissions

Thank you for including the Sac Metro Air District's Basic Construction Emission Control Practices in the project.

All projects are subject to Sac Metro Air District rules at the time of construction. Specific rules that may relate to construction activities are attached. A complete listing of current rules is available at www.airquality.org or by calling 916-874-4800.

Future Communications

The Sac Metro Air District requests that notices of all future environmental documents produced by the Los Rios Community College District be sent to our project review mailbox at **projectreview@airquality.org.**

Thank you for your consideration of these comments. If you have any questions, please contact me at 916-874-4816 or tduarte@airquality.org.

Sincerely,

Teri Duarte

Teri Duarte, MPH
Planner/Analyst

Cc: Paul Philley, AICP, Sac Metro Air District

Attachment

Sac Metro Air District Rules & Regulations Statement (revised 6/2018)

*The following statement is recommended as standard condition of approval or construction document language for **all** development projects within the Sacramento Metropolitan Air Quality Management District (Sac Metro Air District):*

All projects are subject to Sac Metro Air District rules in effect at the time of construction. A complete listing of current rules is available at www.airquality.org or by calling 916-874-4800. Specific rules that may relate to construction activities or building design may include, but are not limited to:

Rule 201: General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from Sac Metro Air District prior to equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact the Sac Metro Air District early to determine if a permit is required, and to begin the permit application process. Other general types of uses that require a permit include, but are not limited to, dry cleaners, gasoline stations, spray booths, and operations that generate airborne particulate emissions. Portable construction equipment (e.g. generators, compressors, pile drivers, lighting equipment, etc.) with an internal combustion engine over 50 horsepower is required to have a Sac Metro Air District permit or a California Air Resources Board portable equipment registration (PERP) (see Other Regulations below).

Rule 402: Nuisance. The developer or contractor is required to prevent dust or any emissions from onsite activities from causing injury, nuisance, or annoyance to the public.

Rule 403: Fugitive Dust. The developer or contractor is required to control dust emissions from earth moving activities, storage or any other construction activity to prevent airborne dust from leaving the project site.

Rule 414: Water Heaters, Boilers and Process Heaters Rated Less Than 1,000,000 BTU PER Hour. The developer or contractor is required to install water heaters (including residence water heaters), boilers or process heaters that comply with the emission limits specified in the rule.

Rule 417: Wood Burning Appliances. This rule prohibits the installation of any new, permanently installed, indoor or outdoor, uncontrolled fireplaces in new or existing developments.

Rule 442: Architectural Coatings. The developer or contractor is required to use coatings that comply with the volatile organic compound content limits specified in the rule.

Rule 453: Cutback and Emulsified Asphalt Paving Materials. This rule prohibits the use of certain types of cut back or emulsified asphalt for paving, road construction or road maintenance activities.

Rule 460: Adhesives and Sealants. The developer or contractor is required to use adhesives and sealants that comply with the volatile organic compound content limits specified in the rule.

Rule 902: Asbestos. The developer or contractor is required to notify the Sac Metro Air District of any regulated renovation or demolition activity. Rule 902 contains specific requirements for surveying, notification, removal, and disposal of asbestos containing material.

Other Regulations (California Code of Regulations (CCR))

17 CCR, Division 3, Chapter 1, Subchapter 7.5, §93105 Naturally Occurring Asbestos: The developer or contractor is required to notify the Sac Metro Air District of earth moving projects, greater than 1 acre in size in areas "Moderately Likely to Contain Asbestos" within eastern Sacramento County. The developer or contractor is required to comply with specific requirements for surveying, notification, and handling soil that contains naturally occurring asbestos.

13 CCR, Division 3, Chapter 9, Article 5, Portable Equipment Registration Program: The developer or contractor is required to comply with all registration and operational requirements of the portable equipment registration program such as recordkeeping and notification.

13 CCR, Division 3, Chapter 9, Article 4.8, §2449(d)(2) and 13 CCR, Division 3, Chapter 10, Article 1, §2485 regarding Anti-Idling: Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes. These apply to diesel powered off-road equipment and on-road vehicles, respectively.

APPENDIX G

RESPONSES TO WRITTEN COMMENTS

The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building located on the Sacramento City College campus. Proposed development will include demolition and replacement of Lillard Hall which is located in the southwest portion of the Sacramento City College parcel. The Lillard Hall replacement schematic designs are still under consideration, however, it is anticipated the new proposed Lillard Hall will be approximately 31,709 assignable square feet (ASF), and will replace the older, approximately 28,863 ASF Lillard Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in one of the existing parking lots (parking Lot G or parking lot F) near Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned. File number 2018-03 MND.

The District received two written comments during the public review period and the comments were responded to and incorporated into the Final Mitigated Negative Declaration as an additional appendix. Each comment letter has been assigned a corresponding number, and comments within each comment letter have been separated to respond to the specific issues raised. The original comment letters are provided in Appendix F of this Final Mitigated Negative Declaration.

Written comments may include opinions or preferences/recommendations pertaining to project approval or disapproval. Additionally, the comments may provide information regarding a subject that does not directly challenge information presented in the Draft Mitigated Negative Declaration, introduce new environmental information or directly challenge information presented in the Draft Mitigated Negative Declaration. In such cases, the response “This comment is acknowledged” has been used.

Table 1

Written Comments Summary

Letter No.	SUMMARY OF WRITTEN COMMENTS	PROJECT DESCRIPTION	AESTHETICS	AIR QUALITY	BIOLOGICAL RESOURCES	CULTURAL RESOURCES	GEOLOGY/SEISMIC HAZARDS	Hazards and Hazardous Materials	HYDROLOGY	NOISE	TRANSPORTATION & CIRCULATION	LAND USE AND PLANNING	GROWTH INDUCING IMPACTS	CUMULATIVE IMPACTS	GENERAL	PUBLIC SERVICES*	POPULATION*	UTILITIES*	**OTHER**
STATE AGENCIES																			
1	Teri Duarte, MPH Planner/Analyst 777 12th Street Sacramento, California 95814			●															
2	Nicole Goi Regional & Local Government Affairs Sacramento Municipal Utility District 6301 S Street, Mail Stop A313 Sacramento, California 95817													●				●	

LETTER NO. 1

Teri Duarte
Planner/Analyst
Sacramento Metropolitan Air
Quality Management District
777 12th Street
Sacramento, California 95814

COMMENT 1-1

Asbestos

The project involves the demolition of a building that is likely to have been constructed prior to 1975, when asbestos was used extensively in building construction. Because of the risk of exposure to asbestos, demolition or renovation of existing buildings are subject to Sac Metro Air District Rule 902 in order to limit asbestos emissions and the disturbance of regulated asbestos-containing material generated or handled during these activities.

RESPONSE 1-1

The mitigated negative declaration has the following mitigation measure to address asbestos:

Hazards and Hazardous Materials Mitigation 2

The developer or contractor is required to notify Sac Metro prior to demolition or renovations associated with the project. Project demolition and renovation of existing buildings are subject to Sac Metro Air District Rule 902 in order to limit asbestos emissions and the disturbance of regulated asbestos-containing material generated or handled during these activities.

COMMENT 1-2

Reducing Urban Heat Island Effect – Pervious or Cool Pavement

Impervious surfaces, such as those created with traditional urban paving materials, have less surface moisture available for evapotranspiration than natural ground cover. This characteristic contributes to higher surface and air temperatures, known as heat island effect. As a result, air temperatures in the projects central courtyard area may contribute to increased area temperatures. Higher ambient temperatures increase formation of ozone, a respiratory system irritant. During extreme heat and extended heat waves, these higher temperatures can lead to heat stress, heat stroke, and even heat mortality, especially for the elderly, the young and those with pre-existing health conditions. The Sac Metro Air District recommends paving the areas surrounding the new Lillard Hall with permeable pavement or cool pavement, in order to maintain cooler temperatures in and around the buildings.

RESPONSE 1-2

The current design for Lillard Hall includes paving to match the adjacent Mohr Hall pavement with a solar reflectance index which is high enough to contribute to LEED heat island reduction credits.

COMMENT 1-3

Reducing Urban Heat Island Effect – Street Trees

Urban trees improve air quality by absorbing gaseous pollutants such as ozone and nitrogen dioxide; intercepting particulate matter; increasing oxygen levels through photosynthesis; and providing shade, resulting in lower local air temperatures, thereby reducing ozone levels. Urban trees, especially street trees, can also reduce heat island effect and encourage more walking trips. The Sac Metro Air District recommends that the project include, in addition to the 26 trees included in project plans, the planting of street trees sufficient to create continuous shade on the sidewalks surrounding the project. The trees species should be selected for their ability to thrive in the region's climate and soils, for their resistance to pests and disease, and for their ability to contribute to air quality. The Sacramento Tree Foundation's Shady Eight List provides recommended tree species. The Vibrant Cities Lab provides additional research, tools, resources, and case studies on the benefits of trees.

RESPONSE 1-3

The addition of large continuous shade "street trees" along Sutterville Road will affect the visibility of the Lillard Hall building down the road and would not include trees similar to the trees along the adjacent Mohr Hall building. The District will consider planting trees along Sutterville Road; however, the trees will likely be "smaller" trees that will fit in with the Mohr Hall landscape aesthetics.

COMMENT 1-4

Construction Emissions

Thank you for including the Sac Metro Air District's Basic Construction Emission Control Practices in the project.

All projects are subject to Sac Metro Air District rules at the time of construction. Specific rules that may relate to construction activities are attached. A complete listing of current rules is available at www.airquality.org or by calling 916-874-4800.

RESPONSE 1-4

This comment is noted for the record. In addition, the attachment "Sac Metro Air District Rules & Regulations Statement" which recommended as standard condition of approval or construction document language for all development projects within the Sac Metro Air District was incorporated into the final initial study document for Lillard Hall CEQA and as mitigation measures where appropriate, including:

- Rule 201: General Rule Requirements
- Rule 402: Nuisance
- Rule 403: Fugitive Dust
- Rule 414: Water Heaters, Boilers and Process Heaters Rated Less Than 1,000,000 BTU Per Hour
- Rule 442: Architectural Coatings
- Rule 453: Cutback and Emulsified Asphalt Paving Materials
- Rule 460: Adhesives and Sealants
- Rule 902: Asbestos
- 17 CCR Division 3, Chapter 1: Naturally Occurring Asbestos
- 17 CCR Division 3, Chapter 9: Portable Equipment Registration Program
- 17 CCR Division 3, Chapter 10: Anti-idling

LETTER NO. 2

Nicole Goi
Regional & Local Government Affairs
Sacramento Municipal Utility District
6301 S. Street, Mail Stop A313
Sacramento, California 95817

COMMENT 2-1

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) for the Sacramento City College – Lillard Hall Replacement and Modernization Project (Project, SCH 2018112048). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the Project MND will acknowledge any Project impacts related to the following:

1. Overhead and or underground transmission and distribution line easements.
2. Utility line routing
3. Electrical load needs/requirements
4. Energy Efficiency
5. Cumulative impacts related to the need for increased electrical delivery

More specifically, SMUD would like to have the following details related to the electrical infrastructure incorporated into the project description:

6. There are existing 21kV overhead facilities surrounding the Sacramento City College property that will need to remain.
7. There are underground 21kV and 4kV facilities located on the Sacramento City College property that will need to remain.

RESPONSE 2-1

1. As discussed in the Project's IS/MND, the Project is not located within SMUD overhead or underground transmission and distribution line easements;
2. The District will work with SMUD prior to any utility routing, if needed;
3. The Project is currently still in the design phase, however, as stated in the Project description, the replacement building will be of a similar size and more efficient than the previous Lillard Hall.
4. All work shall be performed in accordance with the State of California Code of

Regulations (CCR) Title 24, Building Standards. The electrical will meet new codes to use energy efficient lighting and electrical components. In addition, there are sustainability goals and strategies being considered that include the following:

- Zero net energy goal;
- LEED gold equivalency goal;
- Compact building form;
- Shade use areas with building mass or elements; and
- Maximize northern and diffused light.

5. Cumulative impacts related to air quality/greenhouse gases associated with the increase in operational emissions are addressed in the IS/MND; cumulative impact is determined to be less than significant with mitigation incorporated. The Project is consistent with the land use designation for the site.
6. The existing 21kV overhead facilities surrounding the Sacramento City College property that will need to remain was added to the construction section (Section 9) following the project description (Section 6) of the CEQA document.
7. The existing underground 21kV and 4kV facilities located on the Sacramento City College property that will need to remain was added to a construction section (Section 9) following the project description (Section 6) in the CEQA document.

APPENDIX H

Mitigation Monitoring and Reporting Program

Initial Study/ Mitigated Negative Declaration

For the

Sacramento City College – Lillard Hall Replacement and Modernization Project

Prepared by the
Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95825

March 2019

PROJECT TITLE:

SACRAMENTO CITY COLLEGE – LILLARD HALL REPLACEMENT AND MODERNIZATION PROJECT

FILE NUMBER: 2018-03 MND

LEAD AGENCY NAME AND ADDRESS:

Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95825

CONTACT PERSONS:

Environmental document: Dan McKechnie: 916-856-3409

PROJECT LOCATION

The Project is located at the Sacramento City College (SCC) Campus, in Sacramento City, Sacramento County, located at the intersection of Freeport Boulevard and Sutterville Road, approximately 0.5 mile west of Highway 99 and 1 mile east of Interstate 5. The Sacramento City College is located in a primarily suburban area within the City of Sacramento. The Sacramento City College address is 3835 Freeport Boulevard, Sacramento, California, and consists of 47.45 acres of land (APN: 013-0010-014). The City of Sacramento General Plan designates the Campus as "Public/Quasi Public". A regional and project location map are included as Figures 1 and 2, respectively.

PROJECT DESCRIPTION:

The Los Rios Community School District is proposing to demolish and replace the existing Lillard Hall building located on the Sacramento City College campus. Proposed development will include demolition and replacement of Lillard Hall which is located in the southwest portion of the Sacramento City College parcel. The Lillard Hall replacement schematic designs are still under consideration, however, it is anticipated the new proposed Lillard Hall will be approximately 31,709 assignable square feet (ASF), and will replace the older, approximately 28,863 ASF Lillard Hall. Additional architectural considerations and potential changes to the surrounding vicinity will also include potential future Overhead Parking Solar Structures which would be located in one of the existing parking lots (parking Lot G or parking lot F) near Lillard Hall. The proposed project is not intended to facilitate growth; therefore, no new parking is planned.

PROJECT SPONSOR'S NAME AND ADDRESS:

Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95825

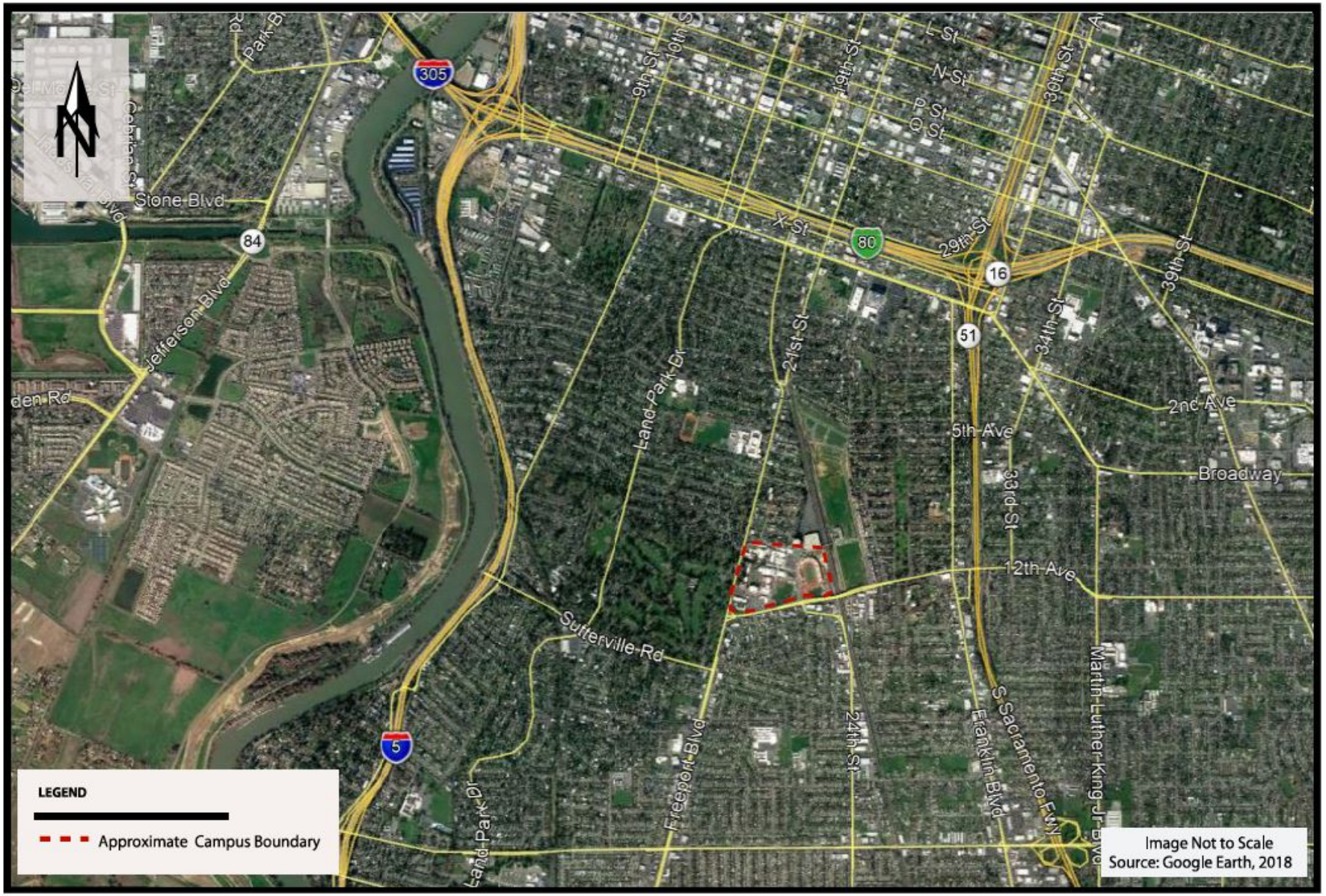

Figure 1 - Regional Map

Figure 2 - Project Location Map

All mitigation measures shall be noted on improvement plans and with construction documents for review and implementation processes.

Air Quality Mitigation 1

The District shall not begin construction activities until first securing appropriate permits from the Sacramento Metropolitan Air Quality Management District.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 1	Pre-Construction	Los Rios Community College District			

Air Quality Mitigation 2

The following procedures will be adhered to by the construction contractor(s) in accordance with Air District Rule 403 and Enhanced Fugitive Dust Control Practices:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Soil Disturbance Areas:

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.
- Install wind-breaks (e.g. plant trees, solid fencing) on windward side(s) of construction areas.
- Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 2	During Construction	Contractors			

Air Quality Mitigation 3 – Rule 414: Boilers and Process Heater Requirements

The developer or contractor is required to install water heaters rated less than 1,000,000 BTU per hour per Sac Metro Rule 414.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 3	During-Construction	Contractor			

Air Quality Mitigation 4 – Rule 442: Architectural Coatings

The developer or contractor is required to use coatings which comply with volatile organic compound content limits as specified in Sac Metro Rule 442.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 4	During-Construction	Contractor			

Air Quality Mitigation 5 – Rule 453: Cutback and Emulsified Asphalt Paving Requirements

The developer or contractor is prohibited to use certain types of cut back or emulsified asphalt for paving, road construction or road maintenance activities as specified in Sac Metro Rule 453.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 5	During-Construction	Contractor			

Air Quality Mitigation 6 – Rule 460: Adhesive and Sealants

The developer or contractor is required to use adhesives and sealants that comply with the volatile organic compound content limits specified in the Sac Metro Rule 460.

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Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 6	During-Construction	Contractor			

Air Quality Mitigation 7 – Rule 402: Nuisance Requirements

The developer or contractor is required to prevent dust or any emissions from onsite activities from causing injury, nuisance, or annoyance to the public.

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Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 7	During-Construction	Contractor			

Air Quality Mitigation 8 – Equipment During Construction

- The developer or contractor is required to comply with all registration and operational requirements of the portable equipment registration such as recordkeeping and notification.
- Idle time will be minimized either by shutting equipment off when not in use or reducing the time of idling to 5 minutes.

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Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality Mitigation 8	During-Construction	Contractor			

Greenhouse Gas Emissions Mitigation 1

- Eight (8) bike racks and two (2) bike lockers will be installed.
- Twenty-six trees will be planted post construction.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Greenhouse Gas Emissions 1	Post Construction	Los Rios Community College District			

Biological Resources Mitigation Measure 1 – Preconstruction Survey Requirements

A qualified biologist shall conduct a preconstruction survey for nesting Swainson's hawks within 0.25 miles of the project site if construction commences between March 1 and September 15. If active nests are found, a qualified biologist should determine the need (if any) for temporal restrictions on construction. This determination should be pursuant to criteria set forth by CDFW (Moore Biological Consultants, 2018).

On-site trees, shrubs, and grasslands may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918 and Fish and Game Code of California. A qualified biologist shall conduct a preconstruction nesting bird survey if vegetation removal and/or project construction occurs between February 1 and August 31. If active nests are found within the survey area, vegetation removal and/or project construction should be delayed until a qualified biologist determines nesting is complete (Moore Biological Consultants, 2018).

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Biological Resources Mitigation Measure 1	Pre-Construction	Los Rios Community College District			

Cultural Resources Mitigation Measure 1

If prehistoric or historic-period archaeological deposits are discovered during Project activities, all work within 25 feet of the discovery should be redirected and the archaeologist should assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Impacts to archaeological deposits should be avoided by Project activities, but if such impacts cannot be avoided, the deposits should be evaluated for their California Register eligibility. If the deposits are not California Register–eligible, no further protection of the finds is necessary. If the deposits are California Register–eligible, they should be protected from Project-related impacts, or such impacts should be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Cultural Resources Mitigation Measure 1	During Construction	Los Rios Community College District			

Cultural Resources Mitigation Measure 2

Should paleontological resources be identified on the Project site during any ground disturbing activities related to the Project, all ground disturbing activities within 100 feet of the discovery shall cease and the Los Rios Community School District shall be notified within 24 hours of the discovery. The Project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, specific plan policies and land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Cultural Resources Mitigation Measure 2	During Construction	Los Rios Community College District			

Cultural Resources Mitigation Measure 3

Any human remains encountered during Project ground-disturbing activities should be treated in accordance with California Health and Safety Co de Section 7050.5. The lead agency should inform its contractor(s) of the sensitivity of the Direct Area of Potential Effect for human remains and verify that the following directive has been included in the appropriate contract documents:

If human remains are encountered during Project activities, the Project shall comply with the requirements of California Health and Safety Code Section 7050.5. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the county coroner has determined the manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation or to his or her authorized representative. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel/ construction workers shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Cultural Resources Mitigation Measure 3	During Construction	Los Rios Community College District			

Geology and Soils Mitigation Measure 1

A geotechnical investigation has been completed for the Project prior to construction, to evaluate areas that may be subject to seismically included settlement. Standard design and construction techniques will then be used to mitigate the potential for damage due to seismically induced settlement.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Geology and Soils Mitigation Measure 1	Pre-Construction	Los Rios Community College District			

Geology and Soils Mitigation Measure 2

Youngdahl's geotechnical report states that the proposed building structures may be supported upon conventional shallow foundations, such as continuous footings so long as the site grades are properly prepared. Conventional shallow foundations should be a minimum of 12 inches wide and should be founded a minimum of 24 inches below the adjacent soil grade. Foundation reinforcement design should be provided by the structural engineer. Additionally, soil-supported slab-on-grade floors may feasibly be used as main floors of the building structures, contingent on proper subgrade preparation (Youngdahl, 2016).

Earthwork should be observed and evaluated by Youngdahl. Earthwork evaluation shall include the observation and testing of engineered fills, subgrade preparation, foundation bearing soils and other geotechnical conditions during the construction of the project. Standard design and construction techniques will then be used to mitigate the potential for damage. The Project will also be subject to applicable engineering and County and City code requirements, which ensure that the potential hazards of unstable soil are minimized.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Geology and Soils Mitigation Measure 2	During Construction	Los Rios Community College District			

Hazards and Hazardous Materials Mitigation Measure 1

Spill Prevention and Control Measures will be implemented and include the following:

- Any fuel products, lubricating fluids, grease, or other products and/or waste released from the Contractor(s) vehicles, equipment, or operations, shall be collected and disposed of immediately, and in accordance with State, Federal, and local laws.
- Spill clean-up materials will be stored near potential spill areas (such as vehicle and equipment staging areas).
- Spill kits will include sorbent material (such as pads designed for oil and gas), socks and/or pads to prevent spread of hazardous material, and containers for storing and proper disposal.
- Employees and contractor(s) will be trained on proper hazardous spill clean-up practices.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Hazards and Hazardous Materials – Mitigation Measure 1	During Construction	Los Rios Community College District			

Hazards and Hazardous Materials Mitigation Measure 2 - Asbestos

The developer or contractor is required to notify Sac Metro prior to demolition or renovations associated with the project. Project demolition and renovation of existing buildings are subject to Sac Metro Air District Rule 902 in order to limit asbestos emissions and the disturbance of regulated asbestos-containing material generated or handled during these activities.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Hazards and Hazardous Materials – Mitigation Measure 2	During Construction	Los Rios Community College District			

Noise Mitigation Measure 1

The Los Rios Community College District shall ensure the construction contractor implements the following noise reduction measures:

- All equipment shall have sound-controlled devices no less effective than those provided by the manufacturer.
- All equipment shall have muffled exhaust pipes.
- Stationary noise sources shall be located as far from sensitive receptors as possible.

Mitigation Measure	Time Frame for Implementation & Monitoring	Responsible Monitoring Agency	Verification of Compliance		
			Initials	Date	Remarks
Noise Mitigation Measure 1	During Construction	Los Rios Community College District			