LOS RIOS
COMMUNITY
COLLEGE
DISTRICT

Public Review Draft

Initial Study/ Mitigated Negative Declaration

For the

Folsom Lake College – Rancho Cordova Center Student Parking Expansion Project

JULY 2022

PUBLIC REVIEW DRAFT

INITIAL STUDY/ PROPOSED MITIGATED NEGATIVE DECLARATION

FOR THE

Folsom Lake College – Rancho Cordova Center Student Parking Expansion Project

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

July 2022

NOTICE OF AVAILABILITY AND NOTICE TO OF INTENT
TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE
LOS RIOS COMMUNITY COLLEGE DISTRICT
FOLSOM LAKE COLLEGE – RANCHO CORDOVA CENTER – STUDENT PARKING EXPANSION 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 Folsom Lake College – Rancho Cordova Center – Student Parking Expansion 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: 2022-01 MND

PROJECT TITLE: FOLSOM LAKE COLLEGE – RANCHO CORDOVA CENTER – STUDENT PARKING EXPANSION PROJECT

PROJECT LOCATION: The proposed Project consists of two parcels. The main parcel (“Dawes Street parcel”) is 0.83 acres located adjacent west of Dawes Street (076-0212-021). The proposed Project also consists of a small portion of a second parcel (“Existing Student Parking parcel”) located adjacent west to the main parcel, with site address 10271 Folsom Boulevard and 2815 Paseo Drive, Rancho Cordova, California, and currently consists of 3.43 acres of land (APN: 076-0212-022-0000). The Existing Student Parking parcel is student parking for the Folsom Lake College (FLC) – Rancho Cordova Center campus currently owned by the Los Rios Community College (LRCCD). The proposed Project consists of two adjacent parcels north of Folsom Boulevard, situated east of Paseo Drive, and west of Dawes Street, roughly 0.50 miles northwest of U.S. Route 50, in a primarily suburban area. The City of Rancho Cordova General Plan Land Use Map designates the Dawes Street and Existing Student Parking parcels as “Commercial Mixed Use – Folsom Boulevard Specific Plan”.

PROJECT DESCRIPTION: The Los Rios Community College District (LRCCD) is proposing to acquire a 0.83-acre parcel (APN: 076-0212-021) located on Dawes Street in order to expand the current LRCCD owned (APN: 076-0212-022) Student Parking east of Paseo Drive. Proposed development for the Dawes Street parcel will involve the demolition of asphalt, removal of a historic septic system, and minor grading. The proposed Student Parking Expansion project will include the development of asphalt parking spaces, a sidewalk on Dawes Street, and associated landscaping. The flow of student traffic from the expanded parking lot will be exit only onto Dawes Street, with the entrance remaining on the Existing Student Parking located off of Paseo Drive. In addition, there will be minor utility trenching located in the current student parking lot, as well as a moderate reconfiguration of the existing parking spaces located on the eastern boundary adjacent to the Dawes Street parcel. The proposed parking lot expansion is a revision of the Folsom Lake College – Rancho Cordova Center – Phase 2 Project (State Clearing House No.: 2021020273) approved last year to construct a portion of the Rancho Cordova Master Plan and parking, with the additional student parking modified to the proposal parcel (APN: 076-0212-021), which will eliminate a direct connection for Folsom Boulevard and instead provide and exit only onto Dawes Street. Electricity will be provided by Sacramento Municipal Utility District (SMUD).

PUBLIC REVIEW PERIOD: As mandated by State law, the minimum public review period for this document is 30 days. The proposed Mitigated Negative Declaration will be circulated for a 30-day public review period, beginning on **Friday, July 8, 2022** and ending on **Monday, August 8, 2022**. Copies of the Draft Negative Declaration are available for review at the following locations:

Rancho Cordova Public Library
9845 Folsom Boulevard
Rancho Cordova, CA 95827

Online at:
https://netorg131546-my.sharepoint.com/:f:/g/personal/tscheftner_petralogix_com/EqwtKsvKofdPu4wsrjnzXN4BB3wR1Y0TKyZ65wOOxCWw8w?e=73uUU6

Any person wishing to comment on the Initial Study and proposed Negative Declaration must submit such comments in writing **no later than 5:00 pm on Monday, August 8, 2022** to the Los Rios Community College District at the following address:

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

For further information, contact Daniel Kramer, Professional Geologist, at (209) 400-5729.

A public hearing to receive comments will be held. This meeting is scheduled for Monday, August 8, 2022 at 9:00 a.m. via Zoom.

To leave a public comment, please join the Zoom public meeting at:
https://us02web.zoom.us/j/7620407944?pwd=ZVgwYy9IeG92WlpLSFlWZWNuRjhadz09

Join by telephone:
+1 646 931 3860

Zoom Meeting ID: 762 040 7944
Zoom Passcode: 922173

Daniel McKechnie

07-06-2022

Dan McKechnie, Director of Facilities Planning
Date

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1. PROJECT TITLE

Los Rios Community College District – Folsom Lake College – Rancho Cordova Center – Student Parking Expansion Project

2. LEAD AGENCY NAME AND ADDRESS

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

3. CONTACT PERSONS

Charlie Uhlmeyer: 916-856-3420

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

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7. SURROUNDING LAND USES AND SETTING

The proposed Project area is located in the eastern portion of the FLC Rancho Cordova Center (RCC) developed student parking lot located east of Paseo Drive and on a vacant lot parcel adjacent to the existing student parking lot and west of Dawes Street. Adjacent north of the proposed Project is residential housing and commercial use; adjacent west is Paseo Drive followed by the FLC RCC campus; adjacent west is Dawes Street followed by commercial buildings. South of the project is commercial use buildings followed by Folsom Boulevard and the Sacramento RT light rail. The surrounding area is mixed use commercial and suburban designated primarily as suburban neighborhood low, medium, and high, urban center high, suburban center, and parks and recreation, according to the City of Rancho Cordova General Plan (June 26, 2006).

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 modernization and expansion of the College Center building. Preparation of a Stormwater Pollution Prevention Plan (SWPPP) to Sacramento County standards. Pollutant Discharge Elimination Permit (Stormwater/Erosion Control) issued by the City of Rancho Cordova.
- 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.
- 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. Consultation was requested by the Wilton Rancheria Cultural Preservation Department (CPD) on May 21, 2022 indicating the project lies in a Culturally Sensitive Area, with five known sites nearby. Dan McKechnie of LRCCD responded to the AB 52 request via a letter postmarked on May 26, 2022, and an email on the same date initiating AB 52. The email additionally provided the Cultural Resource Study performed by Solano Archaeological Services (SAS) dated May 26, 2022. At the request of CPD, a Cultural Study Zoom Meeting was scheduled for June 15, 2022 with LRCCD. The meeting was scheduled, and

LRCCD attended, however, the CPD representatives did not attend as scheduled. The District subsequently sent another email to verify that the Tribe still wanted to discuss the Proposed Project, however, no comment or response as of this IS/MND publishing date has been received. AB-52 is an ongoing process, and the CPD has been encouraged to reach out and reschedule as needed.

- Sacramento Metropolitan Air Quality Management District (SMAQMD): Air Quality Application for Authority to Construct and/or Permit to Operate.
- City of Rancho Cordova: Preparation of a SWPPP to County of Sacramento (and City of Rancho Cordova) standards. Pollutant Discharge Elimination Permit issued by the County of Sacramento (and City of Rancho Cordova).

9. PROJECT CONSTRUCTION

Demolition, grading, and construction of the proposed Student Parking Expansion Project is expected to begin in January 2023 with completion expected by July 2023. The proposed development currently includes grading and off-haul of soil down to approximately 1 foot below ground surface. Proposed development includes the installation of asphalt parking spaces, minor utility trenching, electric vehicle parking, associated hardscape, and landscaping.

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 applicable City of Rancho Cordova and Sacramento County design standards.
- Air Quality Mitigation and Permitting through SMAQMD.
- Preparation of a Stormwater Pollution Prevention Plan (SWPPP) to City of Rancho Cordova and County of Sacramento standards.
- Pollutant Discharge Elimination Permit (Stormwater/Erosion Control) issued by the County of Sacramento and City of Rancho Cordova.

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

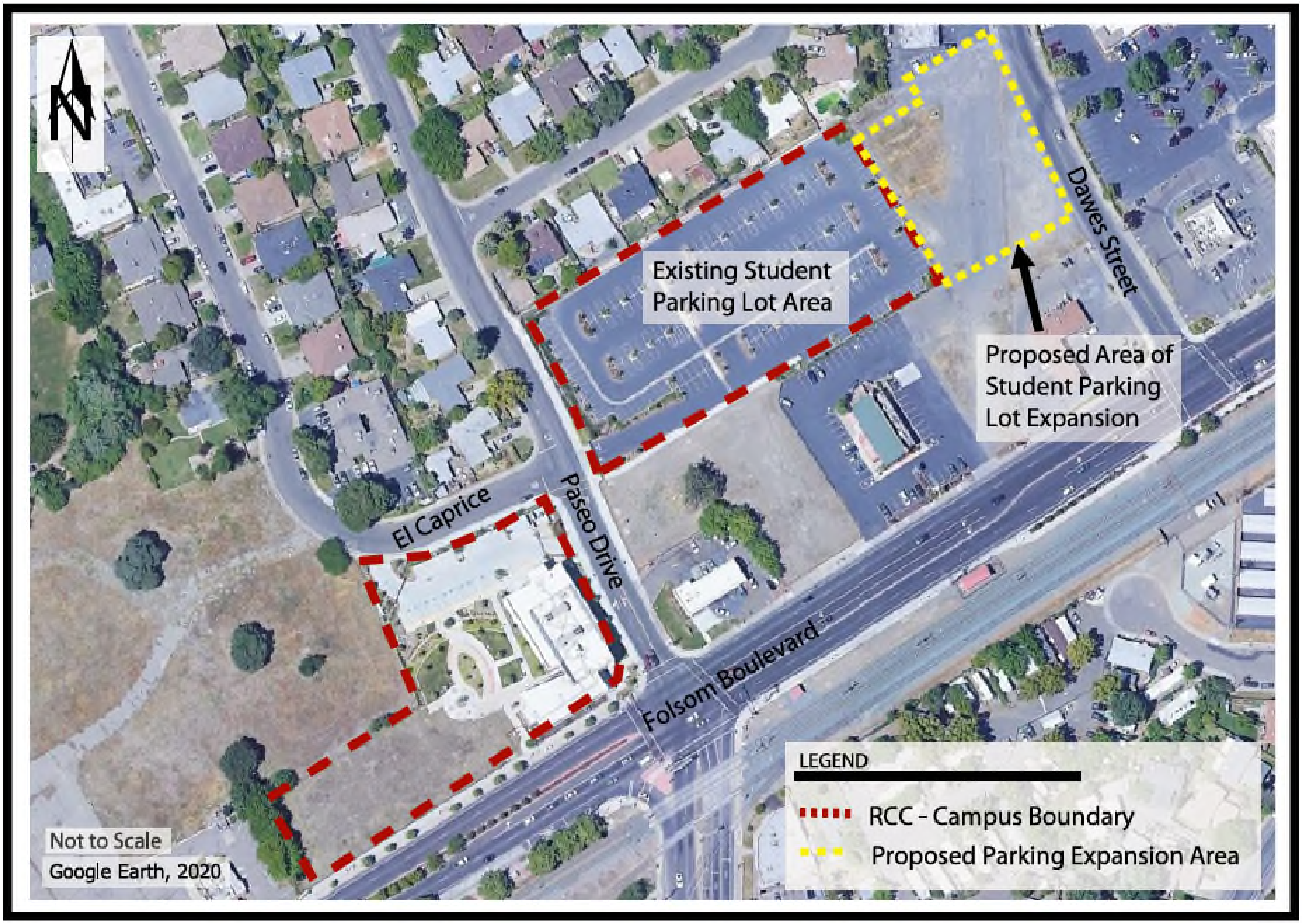

Figure 2 – Proposed Project Map

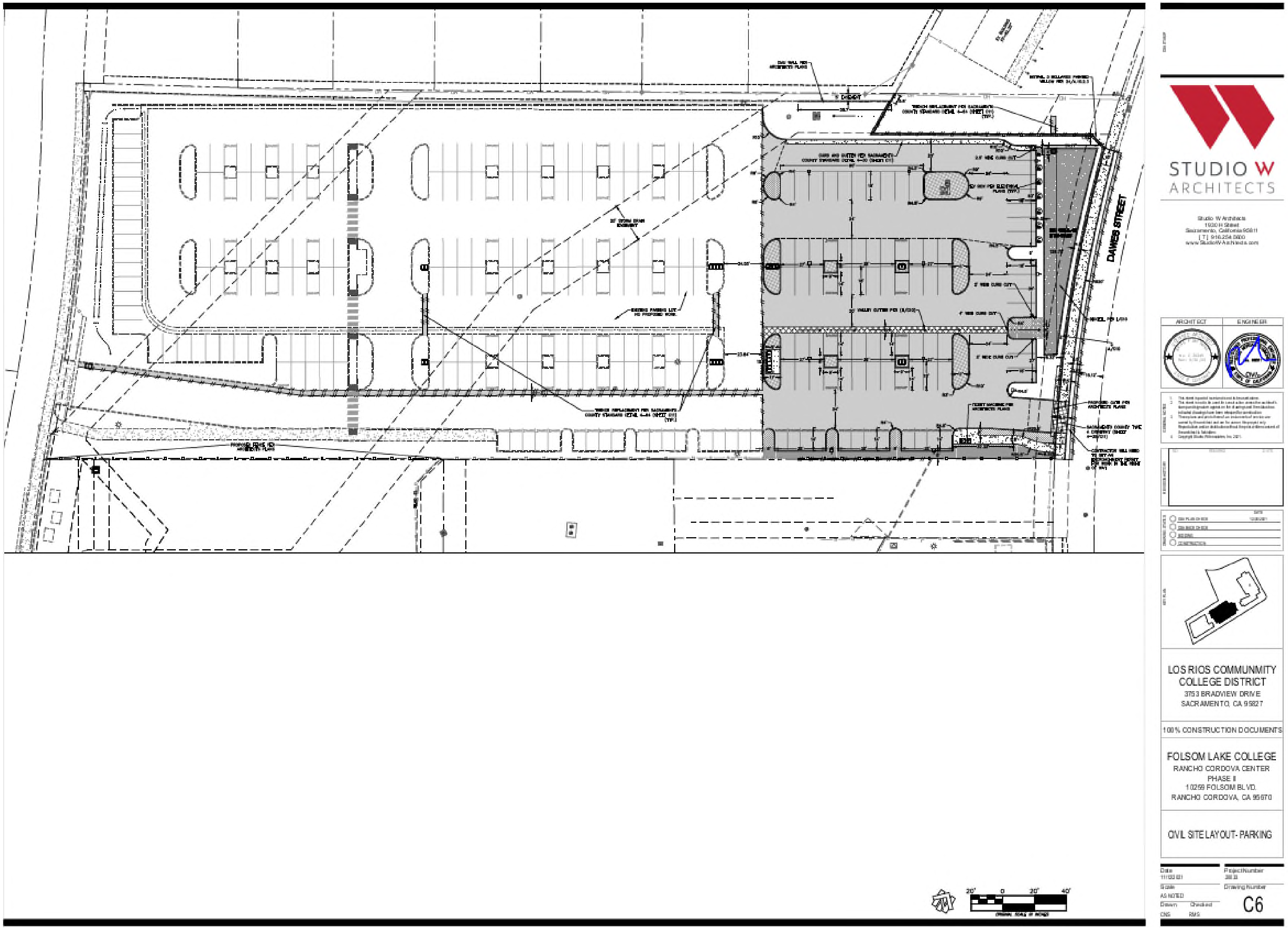

Figure 3 – FLC – Rancho Cordova Center Student Parking – Site Layout

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

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.

Daniel McKechnie

Dan McKechnie, Director of Facilities Planning

07-06-2022

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. In non-urbanized areas, substantially degrade the existing visual character or quality public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	■
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 City of Rancho Cordova General Plan states that new development should not have adverse effects on views to points of interest in the area that qualify as scenic vistas which include Mt. Diablo, Pine Hill, Flagstaff Hill, Pyramid Peak, Carson Spur, Jackson Bute, Mt. Vaca, and Goat Mountain/Snow Mountain. Sacramento and American Rivers and adjacent greenways, landmarks, and the State Capitol and Capitol Mall. The Project is located over 1.0 mile from the nearest river, the American River and therefore does not impact this scenic view. The Rancho Cordova General Plan does not identify any scenic vistas within the Project area, or along Folsom Boulevard. This 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 existing buildings. This is **no impact**.

c) **No Impact.** The project is in an urban area. The FLC Rancho Cordova Center is currently an operational campus; the addition of a parking lot will not alter the existing visual character of the site or its surroundings. Furthermore, the development of the vacant parking lot parcel for expanded Campus parking is not in conflict with current land use regulations. Therefore, this is a **less than significant impact**.

d) **Less Than Significant Impact.** The new parking area will have the appropriate level of outdoor lighting for the convenience and security of the public and Rancho Cordova Center students during any nighttime activities. Nighttime lighting for the Campus is currently present on Rancho Cordova Center site and adjacent student parking lot. Any new/additional exterior lighting will be appropriately directed to the immediate Campus property, and not toward adjacent properties, roadways, or future land uses. The 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) **No Impact.** According to the California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program 2014/2016 map, the FLC Rancho Cordova Center Project site is identified as "Urban and Built-Up Land". The Project site does not have farmland of Prime, Statewide, or Unique importance. This is a **less than significant impact**.

b) **No Impact.** The Project location zoning is designated as Commercial Mixed Use – Folsom Boulevard Specific Plan (FBSP). The development of the vacant parcel for Campus student parking is not in conflict with current land use regulations. The Project does not conflict with a Williamson Act contract. This is a **less than significant impact**.

c-e) **No Impact.** The Project is not in conflict with existing forest land zoned for Timberland Production. No loss of forest land would result from the Project. The Project would not change the environment in a way that could result in the conversion of Farmland to non-agricultural use. This is **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.	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	■	☐	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d.	Result in emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	■

The proposed Project site is located within 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 (SMAQMD). 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 SMAQMD. 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 (as of March 5, 2020):

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 Guide to Air Quality Assessments in Sacramento County, December 2009, as revised October 2020, 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 pounds per year despite employment of all best available management practices during either construction or operational phases;
- Expose sensitive receptors to excessive nuisance odors as defined by SMAQMD Rule 402; or
- Contribute to localized concentrations of air pollutants at nearby receptors that would exceed applicable ambient air standards.

a-b) **Less Than Significant Impact with Mitigation Incorporated.** The proposed Project site is located within the jurisdictional boundaries of the SMAQMD. According to SMAQMD, the procedure for assessing construction and operation emission impacts should be analyzed using the CalEEMod 2016.3.2 impact calculator. A CalEEMod analysis was conducted by Petralogix Engineering, Inc. for the proposed Project using the following Project characteristics: Sacramento County, Climate Zone 6, 3.5 m/s Wind Speed, 58 days Precipitation Frequency, SMUD Utility Company, 1.0 lot acreage and 84 parking spaces. Where Project-specific parameters are unknown, the default values in CalEEMod are used as they provide a conservative estimate of emissions.

ASSESSMENTS AND FINDINGS

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 SMAQMD 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. Based on the geotechnical report associated with the project area evaluated adjacent to the proposed Project site in 2021, the top 12 inches of soil onsite is not suitable for use as engineered fill material (BSK, 2021). CalEEMod accounted for these construction Project characteristics (Appendix A) 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 SMQAMD 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 Project's short-term construction emissions. Detailed CalEEMod results are shown in Appendix A, with a summary of short-term operation Project emissions presented in the table below:

Table A-2. Estimated Construction Air Pollutant Emissions.

Pollutant	SMAQMD Thresholds (tons/year)	SMAQMD Thresholds (lbs/day)	Unmitigated Emissions		Mitigated Emissions	
			(tons/year)	(lbs/day)	(tons/year)	(lbs/day)
NO_x	—	85	0.770	50.99	0.770	50.99
ROG	—	—	0.100	2.63	0.100	2.63
PM_{10}	14.6	80	0.063	10.38	0.053	7.00
$PM_{2.5}$	15	82	0.039	4.55	0.036	2.90

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 (0.002 tons/year or peak daily total 0.1729 lb/day) and are therefore of little concern. A cumulative significant impact for CO does not already exist in this region and CO emissions (0.78 tons/year or peak daily total 17.98 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

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 **Sac Metro Air District's Basic Construction Emission Control Practices and Enhanced Fugitive PM Dust Control Practices**, which will assist in complying with **Air District Rule 403**:

- 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 windbreaks (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.

Basic Construction Emission Control Practices for Sac Metro Air District are available for review at:
http://www.airquality.org/LandUseTransportation/Documents/Ch3BasicEmissionControlPracticesBMPSFinal7-2019.pdf

Enhance Dust Control Practices for Sac Metro Air District are available for review at:
http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedFugitiveDustControlFinal12-2009.pdf

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

Other Sac Metro Air District requirements which shall be noted in grading and improvement plans as a reminder for contractors include the following:

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.

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.

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.

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 Project is intended to facilitate additional student parking space for the anticipated growth analyzed in the previous Folsom Lake College – Rancho Cordova Center – Phase 2 Project Initial Study/Mitigated Negative Declaration approved in 2021 (State Clearing House No.: 2021020273). It should be noted the project is situated approximately 400 feet north of the SacRT Gold line between the City of Folsom and the Historic Valley Station in downtown Sacramento. The California Emissions Estimator Model (CalEEMod) was used to estimate the projects long-term emissions. Detailed CalEEMod results are shown in Appendix A, with a summary of long-term operation Project emissions presented in the table below:

Table A-1. Estimated Operational Air Pollutant Emissions.

Pollutant	SMAQMD Thresholds (tons/year)	SMAQMD Thresholds (lbs/day)	Unmitigated Emissions		Mitigated Emissions	
			(tons/year)	(lbs/day)	(tons/year)	(lbs/day)
NO_x	—	65	0.000	0.000	0.000	0.000
ROG	—	65	0.00342	0.0188	0.00342	0.0188
PM_{10}	14.6	80	0.000	0.000	0.000	0.000
$PM_{2.5}$	15	82	0.000	0.000	0.000	0.000

Note: lbs/day reported are peak daily totals

As shown in the table above, the proposed Project would not exceed any criteria pollutant emissions thresholds of significance established by SMAQMD. Although vehicles do emit sulfur dioxide, the project is of a small enough scale that CalEEMod calculates SO_2 operational emissions very low (0.000 tons/year or 0.000 lb/day) and are therefore of little concern. A cumulative significant impact for CO does not already exist in this region and CO emissions (0.00001 tons/year or 0.0001 lb/day) would not result in localized CO concentration above the SMAQMD thresholds. The operational period emissions for the Project (Appendix A) are all below the thresholds of significance.

c) **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 does not exceed any of the threshold criteria established by SMAQMD, it is not anticipated there would be a change in substantial pollutant concentrations.

d) **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. Therefore, 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 – which is a reduction of approximately 15 percent below emissions from “business as usual” scenarios. AB 32 directs ARB to develop and implement regulations that reduce statewide GHG emissions.
- **Senate Bill (SB) 32**. The Senate Bill expands upon AB—32 to reduce greenhouse gas emissions. SB-32 codified the 2030 state goal to reduce greenhouse gas emissions to 40 percent below the 1990 level by the year 2030.
- **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.

THRESHOLDS OF SIGNIFICANCE

For this analysis, SMAQMD'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 new FLC - Rancho Cordova Center Student Parking Expansion Project would create short-term, small impacts on GHG emissions from construction trips and equipment. Based on the CalEEMod Air Quality Model results (Appendix A), the proposed Project construction GHG emissions will generate approximately 139.65 unmitigated and 139.65 mitigated metric tons per year of CO_2 equivalent. This is below the SMAQMD's threshold of 1,100 metric tons per year. This is considered less than significant.

The long-term operations of the new FLC – Rancho Cordova Center instructional building and expansion parking Project would create long-term impacts on GHG emissions. Based on the CalEEMod Air Quality Model results (Appendix A), the proposed Project, once operational, will generate approximately 4.10 metric tons per year of CO_2 equivalent unmitigated and 4.10 metric tons of CO_2 equivalent mitigated. This is below the SMAQMD's threshold of 1,100 metric tons per year. This is considered less than significant. Furthermore, there will be a slight reduction of GHG impacts with implementation **Mitigation Measure GHG – 1.**

<u>Mitigation Measure GHG – 1</u>

- **A minimum of ten (10) trees will be planted in the new parking lot.**

b) **Less Than Significant Impact.**

The proposed Project is below GHG thresholds of significance and 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 Sacramento County Climate Action Plan has adopted policies addressing climate change (CAP, 2011), however, it is anticipated that the proposed Project would not conflict with these policies. 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 state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of 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?	☐	☐	☐	■

The Project is proposing to acquire a 0.83-acre parcel (APN: 076-0212-021) located on Dawes Street in order to expand the current LRCCD owned (APN: 076-0212-022) student parking located east of Paseo Drive. The proposed parking lot expansion is a revision of the Folsom Lake College – Rancho Cordova Center Instructional Building ("Phase 2") project approved last year (State Clearing House No.: 2021020273); the original parking lot was revised with the new location subject to CEQA.

An initial survey of the "Phase 2 Building Site" and "West Parking Lot" was conducted on January 25, 2021 by Moore Biological Consultants; and updated survey was undertaken on June 10, 2022 of these same areas, as well as the "East Parking Lot." The updated *Rancho Cordova Center Phase 2 Building and Parking Expansion Project Biological Resources Assessment* (June, 2022) prepared by Moore Biological Consultants is included in Appendix B and assesses how the Project could affect the environment within and adjacent to the sites. Their report includes biological assessment for potentially jurisdictional Waters of the U.S. and wetlands as defined by the U.S. Army Corps of Engineers (ACOE), 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, 2022).

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; the CNDDB depicts the locations of sensitive habitats. The USFWS on-line-maps of designated habitat in the area was also downloaded for review. 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. The field surveys were conducted by Moore Biological Consultants on January 25, 2021 and June 10, 2022. The survey consisted of site observations of habitat conditions and surrounding land uses, habitat types, and plant and wildlife species.

a) **Less Than Significant Impact with Mitigation Incorporated.** 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 (Moore, 2022).

   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. The California Endangered Species Act of 1984 parallels the policies of FESA and pertains to native California species. 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.

   The Buildout Site and Parking Lot Sites consist of areas of disturbed ruderal grassland, developed areas, and previously developed areas, that are biologically unremarkable. Special-status species plants generally occur in relatively undisturbed areas in vegetation communities such as vernal pools, marshes and swamps, riparian scrub, and areas with unusual soils and the upland grassland throughout the majority of the Project Site are highly disturbed. 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 (Moore, 2022).

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, including the site. Of the wildlife species identified in the CNDDB search, Swainson's hawk are the only species that has any potential to occur in the Project site on more than a transitory or very occasional basis (Moore, 2022). Moore Biological notes no special-status wildlife species are expected to occur in the site on more than a transitory basis.

As stated above, the Swainson's hawk is the only species considered to have any potential to occur in the Project site on more than an occasional or transitory 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 hawk year-round as well as their nests during nesting season (March 1 through September 15). The CNDDB contains one record of nesting Swainson's hawk in the CNDDB (2021) search area within 5 miles of the Project site, with the closest record indicating Swainson's hawks approximately 2 to 3 miles from the site. Due to the relatively small size of the Site, surrounding development, and location in an urban setting, it is unlikely Swainson's hawks forage in the Site on more than an occasional basis. Swainson's hawks nest close enough proximity to the site to be disturbed by construction activities (Moore, 2022).

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, 2022).

Trees, shrubs, and grasslands in and near the site may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918 and Fish and Game Code of California; 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 2 - Preconstruction Nesting Bird Survey
Near or 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, 2022).

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. 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, 2012). 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.** The Proposed project does not have any protected trees. The project area is biologically insignificant and does not conflict with any local policies or ordinances. This is a **less than significant impact**.

   Removal of trees and shrubs 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 2 is required. With Biological Resources Mitigation Measure 1 incorporated, this is a **less than significant impact**.

f) **No Impact.** The Project will not conflict with an adopted Habitat Conservation Plan or Natural Conservation Community Plan. Therefore, no impact.

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 pursuant to §15064.5?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries.	☐	■	☐	☐

Solano Archaeological Services (SAS) completed a *Cultural Resources Study – Los Rios Community College District Rancho Cordova Center Student Parking Expansion Project* (May 2022) in support of environmental review of the proposed Project under CEQA (included as Appendix C). The investigation included a record search, literature review, historical society consultation, Native American consultation, and a field survey. The area of potential effects (APE) encompasses the maximum limits of potential ground-disturbing activities that would reasonably be expected from the proposed Project, including but not limited to, the proposed parking lot expansion parcel (APN: 076-0212-021) and student parking located east of Paseo Drive (APN: 076-0212-022). The entire APE is subject to grading and other ground-disturbances associated with the implementation of the Project and related utilities and storm water treatment infrastructure. The vertical APE would extend to no more than approximately three and a half feet below the present-day grade to accommodate the installation of various utilities, stormwater drainage features. The majority of the project’s vertical extend where utilities are not planned is approximately 1-foot bgs. The report findings are summarized below.

a) **Less than Significant**. According to SAS (2022), a records search conducted through the California Historical Resources Information System and additional archival research indicated that the project area is within the bounds of the Folsom Mining District and that four prehistoric and historic-era sites and features have been documented within the half-mile search area. Three (3) of these results are historic era records for railroads and a building outside the project area; one (1) is identified as a Historic era Folsom Mining District within and outside the project area. A survey conducted by SAS on April 5, 2022 did not identify any prehistoric site, features, or artifacts within the project area. Due to a lack of archival and field evidence for significant cultural resources or potential archaeologically sensitive locations in the project area, SAS recommends no further cultural resources investigation or management for the proposed Project. Consequently, the proposed Project would have no effect on historic properties per Section 106 or historical resources per CEQA Section 15064.5. This is a **less than significant impact**.

b) **Less than Significant with Mitigation Incorporated.** A significant impact would occur if the Project caused a substantial adverse change to an archaeological resource through demolition, construction, conversion, rehabilitation, relocation, or alteration. LRCCD contracted with Solano Archaeological Services (SAS) to perform a pre-construction archeological survey of areas that would sustain ground disturbance for the Project, which occurred on April 5, 2022. The survey was conducted by SAS Archaeologist Mark Pense, which consisted of parallel transects spaced no greater than 15 meters apart in the portions of the area that are unpaved; the area shows clear evidence of significant disturbance and portions of concrete and asphalt pavement. No prehistoric or early historic-era sites, features, or artifacts were noted within the Project area (SAS, 2022). However, archaeological resources may exist within the Project area. Consultation was requested by the Wilton Rancheria Tribe Cultural Preservation Department (CPD) on May 21, 2022 indicating the project lies in a Culturally Sensitive Area, with five known sites nearby. LRCCD initiated AB 52 via email (Appendix C) on May 26, 2022; the email also included the Cultural Resource Study (SAS, 2022) as an attachment. At the request of CPD, a Cultural Study Zoom Meeting was scheduled for June 15, 2022 with LRCCD. The meeting was scheduled as requested, however, the CPD representatives did not attend; the Wilton Rancheria CPD has been encouraged to reschedule as needed (Appendix C). 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

Should buried, unforeseen archaeological deposits be encountered during any Project construction activity, work must cease within a 50-foot radius of the discovery. If a potentially significant discovery is made, it must be treated in accordance with 33 CFR 325, which generally states that the lead federal agency (in this case the U.S. Army Corps of Engineers) must be notified immediately of the find to ensure that mitigation/management recommendations are developed.

c) **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-2** 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 2

In the event that human remains or any associated funerary artifacts are discovered during Project construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Sacramento County Sheriff/Coroner must also be contacted immediately. If the remains are deemed to be Native American, the coroner must notify the NAHC within 24 hours, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with a qualified archaeologist to determine the proper treatment of the human remains and associated funerary objects. Construction activities will not resume until the human remains are exhumed and official notice to proceed is issued.

VII. Energy

Issues

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

Setting:

Energy resources in California include electricity from renewable and non-renewable forms, natural gas, and petroleum.

a) **Less than Significant Impact**. Energy consumption will not be wasteful, inefficient, or unnecessary. Construction energy consumption is associated with the construction equipment and vehicles. The proposed Project will require construction equipment and vehicles to limit idling time to 5 minutes or less. Therefore, fuel consumption associated with the proposed Project would not result in an inefficient, wasteful, or unnecessary consumption of energy resources during Project construction. This is considered a **less than significant impact.**

b) **Less than Significant Impact**. The City of Rancho Cordova General Plan has a goal to provide for the energy needs of the City and decrease dependence on nonrenewable energy sources through energy conservation, efficiency, and renewable resource strategies. The proposed new parking lot will have energy efficient lighting and will not be in conflict with the City of Rancho Cordova energy plan. This is a **less than significant impact**.

VIII. Geology and Soils

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Would the Project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	■	☐
ii. Strong seismic ground shaking?	☐	☐	■	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion, or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	■	☐

The Los Rios Community College District (LRCCD) is proposing to acquire a 0.83-acre parcel (APN: 076-0212-021) located on Dawes Street in order to expand the current LRCCD owned (APN: 076-0212-022) student parking located east of Paseo Drive. *The Geotechnical Investigation Report – Los Rios Folsom Lake College – Ranch Cordova Center – Phase 2 Project* (BSK Associates) was prepared for the District, dated February 24, 2021, and covers a similar area to the new Student Parking Expansion Project. Based on the proximity to the current proposed project, the report is considered relevant. The geotechnical report referenced above is available for review in Appendix D.

a) **Less than Significant Impact.**

i. **Less than Significant Impact.** The Project site is located in the California Central Valley Area, which is a relatively low to moderate seismically active area. The Project area is not listed within a State designated Alquist-Priolo Earthquake Fault Zone. There are no mapped surface or subsurface faults that traverse the Project area per review of Fault-Rupture Hazard Zones in California, Special Publication 42. The parking lot shall be designed and constructed to meet the standards set forth in the California Building Code 2019 and in the 2016 Sacramento County Building Design Criteria. Therefore, this is considered a **less than significant impact**.

ii. **Less than Significant Impact.** In general, strong ground shaking from an earthquake is the cause of most seismic ground shaking damage. The California Building Code Site Classification for the proposed Project site is, based on the previous study (BSK, 2021) for the parcel, likely Class D, corresponding to a stiff soil profile. As stated above, the proposed Project 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 as well as the seismic design criteria in accordance with the 2019 California Building Code Seismic Design Parameters. Based on the design standards required, the Project being located outside an Alquist-Priolo Earthquake Fault Zone, ground shaking is considered **less than significant**.

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. Strong seismic shaking can also cause cyclic softening of saturated relatively non-plastic fine-grained soils. The California Geologic Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. A review of the California Earthquake Hazards Zone Application provided online by CGS indicates this site is not mapped within a designated area of potential liquefaction.

The Geotechnical Report referenced by BSK (2021) states that based on the dense Pleistocene soil lithology, the age of the geologic setting, the relatively low potential ground accelerations, and the absence of ground water in the upper 40 feet, the probability of liquefaction induced ground distress to occur is considered to be very low. This is a **less than significant impact**

iv). **No Impact**. The Project area is located on geographically level terrain (average grade less than five degrees) 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 Official Maps of Seismic Hazard Zones provided by the State of California Department of Conservation. As a result, **no impacts** related to landslides are anticipated.

c) **Less than Significant Impact**. Based on the cut and fill calculations provided by NorthStar Designing Solutions, the recommended cut and fill required on the project consists of the removal of the first 12 inches of soil the on-site soils, which will be replaced by appropriate fill material. The Project will be subject to the Sacramento County Department of Water Resources (DWR) Grading and Erosion Control Ordinance (Chapter 16.44 of the existing County Code). As a normal and standard requirement, the Project would be required to prepare and have approved individual 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.

d) **Less than Significant Impact**. Subsidence generally occurs when a large land area settles due to extensive withdrawal of groundwater, oil, natural goas, or oxidation of peat. Based on the subsurface sampling and the mapped geology previously conducted at the site (BSK, 2021), the subsurface soil conditions underlying the site generally consists sandy lean clay. Based on the USGS Areas of Land Subsidence in California indicating future land subsidence is low for the area; settlement at the site due to subsidence is considered very unlikely. This is a **less than significant impact.**

IX. 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. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	■

The Los Rios Community School District (LRCCD) is proposing to acquire a 0.83-acre parcel (APN: 076-0212-021) located on Dawes Street in order to expand the current LRCCD owned (APN: 076-0212-022) student parking located east of Paseo Drive. The proposed parking lot expansion is a revision of the Folsom Lake College – Rancho Cordova Center – Phase 2 Project (State Clearing House No.: 2021020273) approved last year to construct a portion of the Rancho Cordova Center Master Plan and parking. Petralogix Engineering, Inc. performed a Phase II Limited Scope Environmental Site Assessment report dated June 8, 2022 (Petralogix, 2022) for the Folsom Lake College – Rancho Cordova Center – Dawes Street Student Parking Expansion Project for LRCCD as part of the "land swap" acquisition process. As part of the Phase II, Petralogix performed wastewater and soil sampling to investigate a historic brick septic system, historic structures demolished without permit and prior to 1978, and historic agricultural practices identified from at least 1937 to 1966 on the Site. Results of the Phase II investigation are discussed below in section IX(d). The Phase II is available for review as **Appendix E**.

a,b) **Less than Significant Impact with Mitigation Incorporated.** The Phase II Limited Scope Environmental Site Assessment investigated media on site for the presence of organochlorine pesticides (OCPs), lead, and arsenic in soils from historic agricultural practices, and lead, asbestos, polychlorinated biphenyls (PCBs), and OCPs in soils from the application of lead-based paint, asbestos-based building materials, caulking materials, and termiticides. In addition, the wastewater from the historic brick septic tank was sampled for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and CAM-17 Metals. The Phase II sampling event occurred on April 18, 2022, identified soil contaminated with levels of non-RCRA hazardous lead within the footprint of the former structures (Petralogix, 2022); all other constituents of potential concern (COPC) were either non-detect to laboratory limits or below the relevant environmental screening level and therefore not a concern for the site.

Based on the evaluation by Petralogix Engineering (Petralogix, 2022), **Hazards and Hazardous Materials Mitigation Measure 1** will require the removal and off-haul consistent with the California Department of Toxic Substance Control (DTSC) to remediate the California (non-RCRA) hazardous waste detected within the footprint of the former structures to at least a depth of 1-foot below ground surface. The remediation activities will occur under the guidance of a Soil Removal Plan (SRP) which will indicate the proper protocols pertaining to (but not limited to) appropriate procedures for the excavation, stockpiling, transport, and confirmation testing of soils. The Phase II Limited Site Investigation Report is available for review in **Appendix E.** The contaminated soil is therefore considered a **less than significant with mitigation incorporated.**

Hazards and Hazardous Materials Mitigation 1

Under the guidance of a Soil Removal Plan (SRP), recommended remediation measures in the Limited Phase II Environmental Site Assessment (Petralogix, 2022) will be followed to remediate the California (non-RCRA) hazardous waste lead contaminated soil detected within the former structure area.

There is the potential accidental release of hazardous material through possible spills associated with the construction phase 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 2, which requires standard spill prevention measures and a procedure for spill response if one does occur, the Project's 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 2

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 (SMAQMD) is responsible for providing written notification of any findings to the school district. A records request was submitted to the SMAQMD for the identification and review of all sites potentially emitting hazardous air emissions within one-quarter mile of the proposed Project site. No response has been received to date. After searching the EDR database for Master List of Facilities with Potentially Hazardous Materials, fourteen facilities were identified, including sites such as retail gasoline facilities. Based on a review of the facilities, these are considered **less than significant**.

d) **Less Than Significant with Mitigation Impact**. The Project takes place within the boundary of the 0.83-acre Dawes Street parcel (APN: 076-0212-021) and portions of the adjacent east student parking parcel owned by LRCCD (APN: 076-0212-022). The project site is not included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5. Based on the Phase II Limited Site Investigation (Petralogix, 2022) the Site has California (non-RCRA) lead contaminated soil down to 1 foot below ground surface; the Hazard and Hazardous Materials Mitigation Measure 1 would reduce the contaminated soil to a **less than significant with mitigation impact.**

The Site is not listed on any EDR databases searched. There are twenty-seven (27) sites listed in the EDR Report <1/8 mile from the subject property. Three (3) were leaking underground storage tanks (LUSTs) with completed cleanup and closed cases. A case is open and remediation is occurring for Veterans Cleaners, formerly located at 10161 Folsom Boulevard, Rancho Cordova, California 95670, due to elevated PCE in the groundwater. Soil vapor extraction was installed in June 2011 and groundwater extraction is ongoing, with the 2017 concentrations from onsite monitoring wells decreased between 80 to 97 percent since remediation began. No violations were noted for the other twenty-three (23) sites. It should be noted that some violations were noted for Danny's Automotive which have been returned to compliance reported on the EDR database; Danny's Automotive is formerly located at the current Jiffy Lube 52 feet southeast of the subject site, where there was reportedly a UST containing waste oil at this site that has been removed. Three (3) were LUSTs with completed cleanup and closed cases are reported by EDR 1/8 – 1/4 mile from the subject property. There are five (5) sites listed in the EDR Report 1/4 - 1/2 mile from the subject property; the five LUST cases are reported as completed cleanup and closed cases. The other EDR databases reviewed for sites located <1/8 mile, 1/8 – 1/4 mile, and 1/4 -1/2 mile from the subject property do not appear to represent a threat to said property.

The National Priority List (NPL) database, which identifies sites for priority cleanup, listed two (2) sites within approximately one (1) mile of the target property. These sites include: Aerojet - General Corporation and USAF Mather. Aerojet – General Corporation is located approximately 3 miles northeast of the site at Highway 50 and Aerojet Road, Rancho Cordova, California 95670. According to the EDR Report, Aerojet – General Corporation's plume of groundwater contamination is located 0.017 miles north of the subject property. Aerojet – General Corporation is classified as a Treatment, Storage, and Disposal Facility (TSDF) and is identified as a generator of hazardous wastes, including: trichloroethylene, tetrachloroethylene, chloroform, Freon and other chemicals associated with rocket propellants, and various chemical processing wastes. Multiple violations were noted for this site. In 2005 Current Human Exposures under Control was verified for Aerojet – General Corporation. On April 25, 2012 Aerojet- General Corporation received three (3) regulation violations; however, compliance was achieved on May 29, 2012. USAF Mather was located 0.705 miles south of the site at 323 FTW EM Mather AFB, Mather, California 95655. USAF Mather was classified as a TSDF and identified as a generator of hazardous wastes, including: chlordane, carbon tetrachloride, and trichloroethylene. Multiple violations were noted for this site. Mather AFB closed in 1993 and Current Human Exposures under Control was verified in 2001. Also, in 2001, Irrigation of Contaminated Groundwater under Control is noted; however, unacceptable migration of contaminated groundwater is observed or expected. Due to remediation and compliance, these sites do not appear to represent a threat to the subject property.

Pipelines

According to the Pacific Gas & Electric online interactive natural gas transmission pipeline map, one hazardous pipeline has been identified which run parallel with Folsom Boulevard, adjacent to the Project site. A request for any gas distribution maps or pipeline/transmission line location information was sent via email to Pacific Gas & Electric Company (April 11, 2022), with one response on April 21, 2022 providing a gas map indicating there are no PG&E gas pipelines within the footprint of the project Site. A request for the presence of any hazardous pipelines was sent via the online request system at Kinder Morgan (April 11, 2022); a response via email was received by Nicole Rodriguez of Kinder Morgan Energy on April 18, 2022 indicating there are no facilities within the specified project area and therefore has no conflict with the project; the closest Kinder Morgan pipeline to the project site is 8900 feet south at the intersection of Bradshaw Road and Highway 50. 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. This is a **less than significant impact** from gas transmission pipelines or hazardous materials pipelines.

High Voltage Transmission Lines

A records request was sent to Sacramento Metropolitan Utility District (SMUD) on April 11, 2022 requesting information regarding any potential transmission lines or transmission easements in the Project site area. According to SMUD UD Underground Right of Way map U-25-85 Revision 1 (1971), an underground right of way within the northern portion of main parking lot expansion parcel (APN: 076-0212-021) there is Right of Way granted to SMUD for the right to construct, place, inspect, maintain, and replace electrical facilities consisting of underground conduits, wires, and cables associated with aboveground or belowground transformers". Any work conducted near any transmission lines will be in conformance with easements and power line safety laws/regulations.

The contractor(s) responsible for construction phases of the Project will call 811 prior to digging or excavation in order to assure no underground lines that may be within the Project site are damaged. There is a **less than significant impact** from high voltage transmission lines.

Railroad Tracks

Based on review of Google Earth Maps, the proposed Project site is located approximately 150 feet north of the nearest railroad easement, the Regional Transit Light Rail (RTLR) and railroad tracks. There is **no 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 more 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. This is considered a **less than significant impact**.

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) **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, the nearest runway is the Sacramento Mather Airport is located approximately 1.75 miles south-southeast of the

Project site. The next closest airport is the McClellan Airport, located approximately 6.5 miles to the northwest of the Project site. Project heights are below the Federal Aviation Administration notification limits, and the finished multi-story new instructional building will be of similar height to current buildings on the Campus. Therefore, this has **no impact** on the site.

f) **Less than Significant Impact.** The proposed Project is not expected to interfere with road access, adopted emergency response plan or emergency evacuation plans for safety vehicles or personnel. During construction, a path of travel (POT) plan will be drafted which will be 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, a **less than significant impact is expected.**

g) **No Impact.** The Project is located within a region that consists of residential houses, commercial businesses, and public services including the Rancho Cordova Center. 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.

X. 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 or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:	☐	☐	■	☐
i. result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
ii. substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
iv. impede or redirect flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	■	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	■

The Project site is located within the boundaries of the Lower American River watershed. The Lower American River Watershed originates from Folsom Lake, which is a reservoir created by the Folsom Dam. The Lower American River is included in the American River subregion of the Sacramento River watershed. The Lower American River watershed is the smallest of the watershed in the American River subregion. The American River is located approximately 0.75 miles north of the project site. The site lies approximately 20 miles west-southwest of the Folsom Dam, and within an area likely to be affected by failure of Folsom Dam.

Storm water discharges will be directed into the Sacramento County Department of Water Resources drainage and flood control system.

The City of Rancho Cordova Stormwater Quality Program requires new development to protect the quality of water bodies and natural drainage systems through site design, source controls, storm water treatment, runoff reduction measures, best management practices, and low impact development, and hydromodifications strategies consistent with the City's National Pollutant Discharge Elimination System (NPDES) permit. The construction will take place both within the boundaries of the 0.83-acre parcel and minor portions of the existing parking lot, and not within county road ditches.

Construction impacts will be temporary and best management practices will be in place. The combined ground disturbance for the Project (main project area parcel located adjacent to Dawes Street plus minor grading and trenching on existing student parking) is estimated at approximately one acre. Therefore, the Project is subject to the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or 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 proposed new student parking expansion would not result in any water discharge that would degrade surface or groundwater quality. 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, both in the area of the new instructional building and the parking expansion, is estimated to exceed one acre, 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 Project would not require a sustained use of groundwater. This is considered **no impact.**

c) **Less Than Significant Impact**. No streams are located within the proposed new student parking lot construction area, and there would be no alterations of stream courses; the proposed Project would connect to storm drain lines and would not create or contribute runoff water which would exceed the capacity of the planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is considered a **less than significant impact**.

   i. Less than Significant Impact. The Central Valley Regional Water Quality Control Board (CVRWQCB) requires that projects that include source and/or treatment control measures on selected new development and redevelopment projects. Source control Best Management Practices (BMPs) would keep pollutants from contacting runoff while treatment control measures would remove pollutants that come into contact with runoff. Erosion would be controlled by the Districts implementation of a SWPPP with BMP's. Therefore, this is a **less than significant impact**.

ii. Less than Significant Impact. The proposed Project site currently consists of a small portion of undeveloped land. The development of the student parking will have a small footprint and consist of minor development with impervious surface which is considered less than significant. The development of the parking area would add additional impervious surface to an already urbanized commercial/residential area, however, this area is master planned to include building and parking throughout. As such, long-term appropriate water runoff measures have been planned for the area. The District has in place planning to facilitate best management practices what will comply with local and state standards, ensuring impacts to be minimized to below a significant level. According to the Federal Emergency Management Agency (FEMA) Flood insurance Rate Map number 06067C0208H, the Project site, is located within Zone X, which is defined by FEMA as an area of 500-year flood; areas outside the 0.2% annual chance floodplain; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. This is considered a **less than significant impact**.

iii. Less than Significant Impact. The Project would connect to the storm drain lines serviced by the SCDWR. The Project would have sufficient planned stormwater drainage conveyance as well as appropriate BMP's/Treatment Control of runoff. With the implementation of appropriate BMPs and treatment control(s), the proposed Project would not create or contribute runoff water which would exceed the capacity of the planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is a **less than significant impact**.

iv. Less than Significant Impact. The proposed Student Parking Expansion project does not require any significant changes to topography that would impede or redirect flows significantly. This is a **less than significant impact**.

d) **Less than Significant Impact**. The proposed Project is not located in a tsunami or seiche zone, therefore this would be no impact.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Map, number 06067C0208H, dated August 16, 2012, prepared for Sacramento County, California (FEMA, 2012). The Project site is located within Zone X, which is defined by FEMA as an area of 500-year flood; areas outside the 0.2% annual chance floodplain; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. This is considered **less than significant**.

e) **No Impact**. As discussed in a) and b) above, the proposed Project would not obstruct implementation of a water quality control plan or sustainable groundwater management plan. Thus, there would be **no impact**.

XI. 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.	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating on environmental effect?	☐	☐	☐	■

a) **No Impact**. The proposed parking lot would not result in a physical division of an established community. This is **no impact**.

b) **No Impact**. The City of Rancho Cordova General Plan Land Use Map designates the proposed Student Parking Expansion Site as “Commercial Mixed Use”. The new instructional building and parking expansion for the existing Campus is consistent with this land use. This is **no impact**.

XII. 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?	☐	☐	☐	■

a,b) **No Impact**. According to the City of Rancho Cordova General Plan, Goal NR.6 Natural Resources Element, the City shall protect support environmentally sensitive extraction of minerals and the subsequent reclamation of mined areas. The Project is not located in an area designated as a mineral extraction zone by the California Geological Survey. Further, 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.**

XIII. Noise

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b.	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c.	For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	■

The City of Rancho Cordova Noise Ordinance, which is based on the County noise ordinance, establishes maximum allowable exterior and interior noise levels for affected land uses. The ordinance generally limits exterior noise levels (measured at residential land and agricultural land uses) to a maximum 55 dBA during any cumulative 30-minute period during the daytime hours (7:00 a.m. – 10:00 p.m.), and 50 dBA during any cumulative 30-minute period during the nighttime hours (10:00 p.m. – 7:00 a.m.). The ordinance sets higher noise limits for noise for a shorter duration; however, noise shall not exceed 75 dBA during the day and 70 dBA at night. Construction activities are generally considered to be exempt from the noise standards provided the construction activities are between the daytime hours of 7:00 a.m. – 6:00 p.m., Monday through Saturday, and 9:00 a.m. – 6:00 p.m. on Sunday.

a) **Less Than Significant Impact with Mitigation Incorporated**. The proposed Project is not expected to generate exterior noise levels exceeding the City of Rancho Cordova's General Plan Noise Environmental Constraint of 55 dBA at the Project site. Once completed, the parking expansion 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 Rancho Cordova. Thus, no additional noise reduction measures are considered warranted. There would be a temporary increase in localized noise during Project construction; however, as discussed above, the Rancho Cordova Noise Ordinance states that noise from temporary construction activities is 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.
- Where practical, 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 Rancho Cordova Ordinance designated daytime hours for construction activities. 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). The proposed project could expose existing residents and surrounding businesses in the vicinity of the project site to groundborne vibrations associated with the Project due to the construction activities, In addition, the City of Rancho Cordova Zoning Code states that vibrations from temporary construction activities are exempt during designated daytime hours; this is considered a **less than significant impact**.

c) **No Impact.** The nearest airport is the Sacramento Mather Airport, located approximately 1.75 miles south-southeast of the Project site and does not expose people reworking in the Project Area to excessive noise levels. This is **no impact**.

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 unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

a-b) **No Impact**. 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; the new instructional building and parking expansion are intended to meet the needs of the current population rather than induce population growth. Consequently, no impacts related to population and housing would occur. This is **no impact**.

XIV. 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 Sacramento Metropolitan Fire Station Locations Map, the FLC Rancho Cordova Center campus receives fire protection from Fire Station 61, located at 10595 Folsom Boulevard, roughly 1mile 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. Therefore, the Project will have **no impact**.

XV. 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 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**.

XVI. Transportation

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

Cumulative traffic conditions were previously addressed for the FLC – Rancho Cordova Center Master Plan's original environmental review.

The proposed Student Parking Lot Expansion Project is a revision of the Folsom Lake College – Rancho Cordova Center – Phase 2 Project (State Clearing House No.: 2021020273) approved last year to construct a portion of the Rancho Cordova Center Master Plan and Parking; the original proposed parking lot proposed was a 3.43 acre parcel located adjacent to Paseo Drive, directly south of the existing student parking, with ingress/egress planned for Paseo Drive and emergency ingress/egress planned for Folsom Boulevard. However, due to planned "land swap" the student parking lot expansion area was modified to the 0.83-acre parcel located off of Dawes Street, adjacent east of the existing student parking. Due to this modification, the traffic analysis required revision to the traffic operational analysis to include the ingress/egress of student parking lot traffic pertaining to the existing parking lot adjacent to Paseo Drive and egress only from the proposed expanded student parking onto Dawes Street.

Based on the "land swap" parcels and changes in the proposed student parking expansion areas, KD Anderson & Associates, Inc. (KDA) provided an updated Transportation Impact Analysis for *Los Rios Community College District – Rancho Cordova Center – Phase 2 Building and Parking* dated June 8, 2022 (included in Appendix F). Because the original analysis also included the construction of a new instructional building (Phase 2 of the Folsom Lake College Facilities Master Plan) at the campus, the study takes into account the previously approved instructional building and associated student growth. The transportation impact study analyzed the project effects based on the current requirements of the California Environmental Quality Act (CEQA). The CEQA evaluation addresses the project's impacts based on regional Vehicle Miles Traveled (VMT) pursuant to SB 743, as well as alternative transportation modes and safety.

A traffic operational analysis was conducted to evaluate the projects effects within the context of City of Rancho Cordova General Plan policies regarding Operating Level of Service. The transportation impact analysis by KDA includes an analysis of the project's effects on weekday a.m. and p.m. peak hour traffic operations under the following scenarios: Existing Peak Hour Conditions and existing plus Project Peak Hour Conditions. Cumulative traffic conditions were previously addressed for the RCC Master Plan's original environmental review. Because the proposed project is consistent with the Facilities Master Plan, its cumulative traffic impacts have already been assessed and applicable mitigation measures identified, no new cumulative analysis has been undertaken (KDA, 2022).

Traffic operations at the following three (3) intersections near the study area were evaluated by KDA:

- Folsom Blvd / Mather Field Road / Paseo Drive
- Paseo Drive / El Caprice Drive
- Folsom Blvd / Dawes Street

a) **Less than Significant Impact with Mitigation Incorporated.** The Project does not have a significant impact to facilities serving bicyclists, pedestrians, and transit users. The project does not eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use. There are no planned bikeways shown in the Bicycle Master Plan that would be affected by the project, nor is the project in conflict with the Pedestrian Master Plan. Thus, the Project's impact on pedestrian circulation is considered less than significant (KDA, 2022). The Project will likely result in increased demand for transit service. However, the RCC campus is immediately adjacent to the SacRT Gold line runs along the south side of Folsom Blvd already serves the campus on a regular basis. Further, the Project would not modify or impede any existing or planned transit facilities/routes. Thus, the Project's impact on transit facilities is considered less than significant (KDA, 2022). Sidewalks exist on the streets surrounding the project site, and crosswalks are marked as noted at study intersections. Crosswalks at signalized intersection are equipped with pedestrian actuation, and accessible ramps are available.

The project would add a driveway on Dawes Street in the area of existing sidewalks. Thus, the possibility exists for an incremental increase in conflicts between automobiles accessing the RCC parking lots and pedestrians and cyclists along Dawes Street. Because the traffic volume on Dawes Street is relatively low, the introduction of additional automobile traffic does not represent a significant safety impact due to vehicular conflicts (KDA, 2022).

Overall, the Project is not in conflict with a program plan, ordinance, or policy addressing the circulation system; this is a **less than significant impact**.

Project construction may include disruptions to the transportation network near the Project site. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. These activities could result in degraded roadway operating conditions (KDA, 2022). Therefore, these temporary impacts are considered significant.

The short-term construction-related traffic impacts would be reduced with the following Mitigation Measure Transportation-1:

Mitigation Measure Transportation-1

Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City of Rancho Cordova's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained. At a minimum, the plan shall include:

- Description of trucks including: number and size of trucks per day, expected arrival/departure times, truck circulation patterns.
- Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.
- Description of access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.
- Provisions for parking for construction workers.

The Project will have a **less than significant impact** with mitigation incorporated due to the above stated Mitigation Measure Transportation-1.

b) **Less than Significant Impact with Mitigation Incorporated.** The Phase 2 of the LRCCD's RCC is part of an approved Master Plan that has already been subject to an approved CEQA evaluation, therefore, Vehicle Miles Traveled is not required, however, the following information is provided for informational purposes.

The CEQA Guidelines and the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research, 2018) encourage all public agencies to develop and publish thresholds of significance to assist with determining when a project would have significant transportation impacts based on the new metric of VMT, rather than operating Level of Service (LOS). The CEQA Guidelines generally state that projects that decrease VMT can be assumed to have a less than significant transportation impact. The CEQA Guidelines do not provide any specific criteria on how to determine what level of project VMT would be considered a significant impact.

Vehicle Miles Traveled (VMT) Impacts

The potential project impacts based on regional VMT were evaluated within the context of guidance published by the Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018), as well as direction contained in the City of Rancho Cordova's draft transportation impact analysis guidelines (KDA, 2022).

Screening. While as an approved project Phase 2 may not require VMT analysis, and the City of Rancho Cordova has not yet adopted guidelines for implementing the requirements of SB 743 to address VMT, it is possible to make a determination of the project's potential impact to regional VMT based on OPR direction and the preliminary background information developed by the City. KDA considered the screening criteria suggested by OPR and the preliminary City guidelines, discussed below.

Proximity to Transit. The RCC is immediately adjacent to the existing Mather Field / Mills Station on the Gold Line. A student would walk about 400 feet from the Center to the Gold Line platform. However, while the RCC is clearly located within ½ mile of the station this screening criteria is only applicable to residences, retail and office buildings. Thus, under the draft City guidelines it cannot be presumed that the project's VMT impact would be less than significant because it is near the Mather Field / Mills Station. As a practical matter development of this use in close proximity to the Gold Line can be expected to result in transit use that would reduce project VMT (KDA, 2022).

Low VMT Generating Area. The RCC is located within a low VMT generating area as identified by the City of Rancho Cordova with regards to average "per capita" and "per employee" VMT. However, under OPR guidance this screening criteria is only applicable to residences, industrial uses and office buildings. Thus, under OPR it cannot be presumed that the project's VMT impact would be less than significant because it is located in a low VMT generating location (KDA, 2022).

Locally Serving Public Use. It is likely that the continuing expansion of LRCCD's RCC will provide city residents with increased opportunities to take classes that would otherwise require travel to other LRCCD sites. Creation of satellite facilities throughout the region to more conveniently serve area residents is the LRCCD's planning philosophy. However, the City of Rancho Cordova's draft guidelines do not distinguish between the District's Community Center facilities and the large regional campuses (i.e., Sac City, American River, Cosumnes River, etc.) and has determined that all community colleges are to be classified as a non-locally serving use (KDA, 2022).

KDA notes that based on the identified screening criteria additional analysis to identify the project's net effect on total regional VMT across the six county SACOG region is needed, however, based on the Projects proximity to transit, location within a low VMT generating area, and the Rancho Cordova Center plausibly more aligned with a "Locally Serving Public/Quasi-Public Facility" due to its satellite facility status, a total regional VMT is not considered valid for this Project.

Due to the Folsom Lake College – Rancho Cordova Center's proximity to transit, location within a low VMT generating area, and satellite facility status intended to provide city residents with increased opportunities to take classes that would otherwise require travel to other LRCCD sites, the **impact to VMT is considered less than significant.**

KDA performed a Traffic Operational Analysis to evaluate the projects effects within the context of the City of Rancho Cordova General Plan Policies regarding Operating Level of Service. Level of Service (LOS) analysis provides a basis for describing existing traffic conditions and for evaluating the significance of project-related traffic impacts. Level of Service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best condition and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in the table below:

TABLE T-1
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection
A	Uncongested operations, all queues clear in a single-signal cycle. Delay < 10.0 sec	Little or no delay. Delay < 10 sec/vehicle
B	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and < 20.0 sec	Short traffic delays. Delay > 10 sec/vehicle and < 15 sec/vehicle
C	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and < 35.0 sec	Average traffic delays. Delay > 15 sec/vehicle and < 25 sec/vehicle
D	Significant congestion of critical approaches, but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and < 55.0 sec	Long traffic delays. Delay > 25 sec/vehicle and < 35 sec/vehicle
E	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and < 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/vehicle and < 50 sec/vehicle
F	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/vehicle

Source: HCM, 6th Edition.

The Level of Service analysis by KDA (2022) considered the project's effects on weekday a.m. and p.m. peak hour under Existing Peak Hour Conditions and Peak plus Project Peak Hour Conditions. Traffic operations were evaluated by KDA at the following three (3) study intersections:

- Folsom Blvd / Mather Field Road
- Paseo Drive / El Caprice Drive
- Folsom Blvd / Dawes Street

Cumulative traffic conditions were previously addressed for the RCC Master Plan's original environmental review; therefore, no cumulative analysis was evaluated.

Standards of Significance / Level of Service Thresholds. The project's effect on traffic operating conditions is considered significant if implementation of the project would result in LOS changing from levels considered acceptable to unacceptable. The City of Rancho Cordova's General Plan Circulation Element includes policies relating to Level of Service. Policy C.1.2 – Seek to maintain operations on all roadways and intersections at Level of Service D or better at all times, unless maintaining this Level of Service would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of Level of Service D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project of a City-initiated project.

Based on the traffic analysis performed by KDA, as shown in Table 2 below, the addition of project generated traffic is projected to result in relatively minor increases in delay at each of the two existing study intersections, and projected Levels of Service remain within the City of Rancho Cordova's minimum LOS D standard. The Level of Service for motorists waiting to exit the site via the new driveway on Dawes Street is LOS A, and this also satisfies the City's minimum LOS standard.

TABLE T-2
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE (KDA, 2022)

		AM Peak Hour				PM Peak Hour			
		Existing		Existing Plus Project		Existing		Existing Plus Project	
Intersection	**Control**	**Average Delay (sec/veh)**	**LOS**	**Average Delay (Sec/veh)**	**LOS**	**Average Delay (sec/veh)**	**LOS**	**Average Delay (sec/veh)**	**LOS**
Folsom Blvd / Mather Field Road	Signal	35	D	37	D	47	D	48	D
Paseo Drive / El Caprice Drive	All-way Stop	6	A	6	A	7	A	7	A
Folsom Blvd / New Access	Signal	12	B	13	B	11	B	12	B
Dawes Street / New Access	EB Stop			3	A			3	A

Results based on SimTraffic simulation.
BOLD values exceed LOS D

As indicated by the traffic analysis performed by KDA (2022), the addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections Level of Service will remain within adopted minimum standards at intersections. Peak period queues remain within available storage, and traffic signal warrants are not satisfied. These effects are consistent with the goals and policies of the City of Rancho Cordova General Plan and improvements are not required. Therefore, development of the proposed Project is considered a **less than significant impact.**

c) **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 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**.

d) **No Impact**. The proposed Project will not result in inadequate emergency access to the Project area, nor would it impact current emergency access to the Campus. During on-site construction, vehicles will not block emergency access routes. A path of travel (POT) for construction operations will be identified prior to the start of construction activities. 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.

XVII. Tribal Cultural Resources

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

Tribal Cultural Resources are defined in CEQA as sites, features, places, cultural landscapes, sacred places, and objects of cultural value to a California Native American tribe listed or eligible for listing on the California Register of Historical Resources or included in a local register of historical resources. Solano Archaeological Services (SAS) completed a *Cultural Resources Study – Los Rios Community College District Rancho Cordova Center Student Parking Expansion Project* (May 2022) in support of environmental review of the proposed Project under CEQA (included as Appendix C).

Sacred Lands File Search

On March 30th, 2022, on behalf of the LRCCD SAS emailed a letter and a map depicting the Project area to the Native American Heritage Commission (NAHC). The letter requested a search of the NAHC Sacred Lands File (SLF) database for cultural resources within the Project area. On April 12th, 2022, Ms. Pricilla Torres-Fuentes, Cultural Resources Analyst for the NAHC, replied in an emailed letter that the Sacred Lands File search was completed with positive results. Ms. Torres-Fuentes also provided a list of local Native American contacts. On April 13, 2022, SAS mailed letters to the following Native American representatives identified by NAHC:

- Rhonda Morningstar Pope, Chair – Buena Vista Rancheria of Me-Wuk Indians
- Sara Dutschke, Chair – Ione Band of Miwok Indians
- Mr. Don Ryberg, Chair – Tsi Akim Maidu
- Regina Ceullar, Chair – Shingle Springs Band of Miwok Indians
- Grayson Coney, Cultural Director – Tsi Akim Maidu
- Gene Whitehouse, Chair – United Auburn Indian Community of the Auburn Rancheria
- Jesus Tarango, Chair – Wilton Rancheria
- Dahlton Brown, Director of Administration – Wilton Rancheria

- Steven Hutchason, Tribal Historic Preservation Officer – Wilton Rancheria
- Pamela Cubbler, Treasurer – Colfax-Todds Valley Consolidated Tribe
- Clyde Prout, Chair – Colfax-Todds Valley Consolidated Tribe

Consultation was requested by the Wilton Rancheria Tribe Cultural Preservation Department (CPD) on May 21, 2022 indicating the project lies in a Culturally Sensitive Area, with five known sites nearby. LRCCD initiated AB 52 via email (Appendix C) on May 26, 2022; the email also included the Cultural Resource Study (SAS, 2022) as an attachment. At the request of CPD, a Cultural Study Zoom Meeting was scheduled for June 15, 2022 with LRCCD. The meeting was scheduled as requested, however, the CPD representatives did not attend; the Wilton Rancheria CPD has been encouraged to reschedule as needed (Appendix C). If any substantive contacts are made with the Native American Community regarding the proposed Project, an addendum to the Cultural Resource Study may be developed.

California Historical Resources Information System Records Search

The Northern Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS) conducted a records search on behalf of SAS on April 4, 2022, for the Area of Potential Effect (APE) parcels and an area of one-half mile surrounding the APE boundaries (NCIC File No. SAC-22-74). The records search indicated that the project is contained within the bounds of the Folsom Mining District and that four prehistoric and historic-era sites and features have been documented within the half-mile search area. No tribal cultural resources were identified within the Project area. One study (No. P-34-000335) is reported indicating the project area is contained within the bounds of the Folsom Mining District, and that three other historic-era sites and features have been documented within the half-mile search area. The NCIC record search also noted that while no previous studies have included the project area, a total of nine investigations have been conducted within the one-half mile search radius.

Assembly Bill 52 Native American Consultation

Assembly Bill requires the lead agency to begin consultation with any California Native American tribe that is culturally and traditionally affiliated with the geographic area of the proposed Project if the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification within 14 days of determining application complete or public agency’s decision to undertake the Project. Upon formal notification, each California Native American tribe has 30 days to request consultation whereby the lead agency must initiate consultation within 30 days of the consultation request. On March 30, 2022, on behalf of the LRCCD, SAS emailed a letter and a map depicting the Project area to each of the individuals and organizations provided by NAHC to introduce the project, inform contacts of a planned pedestrian cultural resources survey of the project area, and inform tribes SAS is facilitating LRCCD with AB-52. One request for AB 52 consultation from the Wilton Rancheria Cultural Preservation Department (CPD) was received via email on May 21, 2022. Dan McKechnie of LRCCD responded to the AB 52 request via a letter postmarked on May 26, 2022, and an email on the same date initiating AB 52. The email additionally provided the Cultural Resource Study performed by Solano Archaeological Services (SAS) dated May 26, 2022. At the request of CPD, a Cultural Study Zoom Meeting was scheduled for June 15, 2022 with LRCCD. The meeting was scheduled, and LRCCD attended, however, the CPD representatives did not attend as scheduled. LRCCD considers the AB-52 outreach an ongoing effort. If any substantive contacts are made with the Wilton Rancheria or any other Native American Community regarding the proposed project, an addendum to the report may be developed if needed.

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

   i. **Less than Significant with Mitigation Incorporated**. The NCIC record search noted that the Project area is located within the Folsom Mining District and that several historic-era resources had been documented within the one half-mile search area. An intensive survey conducted by SAS did not identify any prehistoric or historic-era sites, features, or artifacts within the project area. However, impacts of the proposed Project construction relating to ground disturbance may potentially impact tribal cultural resources, therefore, 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.

   ii. **Less than Significant with Mitigation Incorporated**. On behalf of Los Rios Community College District, SAS requested contact information for tribal organizations and representatives who may have knowledge of cultural resources in the Project area. On March 30, 2022, SAS sent contact letters to each of the individuals and organizations provided by NAHC inquiring as to whether or not they had any knowledge of sensitive properties or cultural resources in or near the Project area, and if they had any questions about, or concerns with the proposed Project. One response for AB 52 consultation was received on May 21, 2022 from the Wilton Rancheria Tribe Cultural Preservation Department (CPD) indicating the project lies in a Culturally Sensitive Area, with five known sites nearby. LRCCD initiated AB 52 via email (Appendix C) on May 26, 2022; the email also included the Cultural Resource Study (SAS, 2022) as an attachment. At the request of CPD, a Cultural Study Zoom Meeting was scheduled for June 15, 2022 with LRCCD. The meeting was scheduled as requested, however, the CPD representatives did not attend; the Wilton Rancheria CPD has been encouraged to reschedule as needed. AB-52 outreach is considered ongoing.

   Although unlikely, the ground disturbance related to the proposed Project construction activities could damage previously unrecorded buried tribal resources. If tribal resources are unearthed during Project activities, this would be considered a potentially significant impact, therefore, 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.

XVIII. Utilities and Service Systems

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

a,b,c) **Less Than Significant Impact**. The new parking expansion would tie into utility structures already in place, including wastewater treatment serviced by the Sacramento Area Sewer District (SASD), storm water drainage services by Sacramento County, water supplies serviced by California American Water Company, and electricity serviced by the Sacramento Municipal Utility District (SMUD). The proposed Project would not result in an increased demand that would exceed the capacity of these facilities, or any other facilities that currently serve the Campus. 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. This is considered a **less than significant impact**.

d,e) **Less Than Significant Impact.** Solid waste collection for FLC Rancho Cordova Center campus is provided by the Republic Services, Inc. The student parking expansion will not result in an increase in solid waste that would require the development of a new landfill facility. There will be minimal waste created through the development of the parking lot. There is no conflict with federal, state or local regulations. This is a **less than significant impact**.

XIX. Wildfire

Issues		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
b.	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☐	■
c.	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

a-d) **No Impact**. The proposed Project will have no impact on impairment of an emergency or evacuation plan and would not impact Project occupants to exacerbated wildfire risks. There is **no impact**.

XX. 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 substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b.	Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	☐	☐	■	☐
c.	Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

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, burrowing owls, 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. Because the project is consistent with the Folsom Lake College – Rancho Cordova Facilities Master Plan, the projects cumulative impacts were addressed as part of the campus' original CEQA review. This is a **less than significant impact**.

c) **Less than Significant Impact.** The proposed Project does not have environmental effects that could cause substantial adverse effects on human beings, either indirectly or directly. Mitigation measures have been incorporated into the project to reduce project-related impacts to **less than significant with mitigation**.

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 **Sac Metro Air District's Basic Construction Emission Control Practices and Enhanced Fugitive PM Dust Control Practices**, which will assist in complying with **Air District Rule 403**:

- 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 windbreaks (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.

Basic Construction Emission Control Practices for Sac Metro Air District are available for review at:
http://www.airquality.org/LandUseTransportation/Documents/Ch3BasicEmissionControlPracticesBMPSFinal7-2019.pdf

Enhance Dust Control Practices for Sac Metro Air District are available for review at:
http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedFugitiveDustControlFinal12-2009.pdf

GREENHOUSE GAS EMISSIONS

Mitigation Measure GHG – 1

- **A minimum of ten (10) trees will be planted in the new parking lot.**

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, 2022).

Biological Resources Mitigation Measure 3 - Preconstruction Nesting Bird Survey

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, 2022).

CULTURAL RESOURCES

Cultural Resources Mitigation Measure 1

Should buried, unforeseen archaeological deposits be encountered during any Project construction activity, work must cease within a 50-foot radius of the discovery. If a potentially significant discovery is made, it must be treated in accordance with 33 CFR 325, which generally states that the lead federal agency (in this case the U.S. Army Corps of Engineers) must be notified immediately of the find to ensure that mitigation/management recommendations are developed.

Cultural Resources Mitigation Measure 2

In the event that human remains or any associated funerary artifacts are discovered during Project construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Sacramento County Sheriff/Coroner must also be contacted immediately. If the remains are deemed to be Native American, the coroner must notify the NAHC, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with a qualified archaeologist to determine the proper treatment of the human remains and associated funerary objects. Construction activities will not resume until the human remains are exhumed and official notice to proceed is issued.

HAZARDS AND HAZARDOUS MATERIALS

Hazards and Hazardous Materials Mitigation 1

Under the guidance of a Soil Removal Plan (SRP), recommended remediation measures in the Limited Phase II Environmental Site Assessment (Petralogix, 2022) will be followed to remediate the California (non-RCRA) hazardous waste lead contaminated soil detected within the former structure area.

Hazards and Hazardous Materials Mitigation 2

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.

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.
- Where practical, all equipment shall have muffled exhaust pipes.
- Stationary noise sources shall be located as far from sensitive receptors as possible.

TRANSPORTATION

Mitigation Measure Transportation-1

Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City of Rancho Cordova’s Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained. At a minimum, the plan shall include:

- Description of trucks including: number and size of trucks per day, expected arrival/departure times, truck circulation patterns.

- Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.
- Description of access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.
- Provisions for parking for construction workers.

14. DOCUMENTS REFERENCED

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- California Geological Survey (CGS), Aggregate Sustainability Map, Sheet 52, 2018. Available online at: https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_052_California_Aggregates_Map_201807.pdf, accessed June 5, 2022.
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- City of Rancho Cordova General Plan, adopted June 26, 2006
- Environmental Protection Agency, Map of Radon Zones, California. 402-R-93-025, 1993.
- Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment.* May 2006.

- Flood Insurance Rate Map. Sacramento County, California. Panel 208 of 705. Map Number 06067C0208H, effective on August 16, 2012.
- KD Anderson & Associates, Inc. June 8, 2022. Traffic Impact Analysis for Los Rios Community College District Rancho Cordova Center – Phase 2 Building and Parking
- Moore Biological Consultants. June 24, 2022. “Folsom Lake Community College – Rancho Cordova Center Phase 2 Project”, Rancho Cordova, Sacramento County, California: Biological Resources Assessment.
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- Pacific Gas and Electric. Gas Transmission Pipeline Map. https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/gas-transmission-pipeline/gas-transmission-pipelines.page Accessed June 9, 2022.
- City of Rancho Cordova Code, Chapter 6.68 Noise Control Ordinance
- Petralogix Engineering, Inc. June 8, 2022. “Limited Phase II Environmental Site Assessment Folsom Lake College – Rancho Cordova Center – Dawes Street Student Parking Lot Expansion Project”.
- Sacramento County Climate Action Plan. Adopted November 9, 2019.
- Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, December 2009 as revised October 2020.
- Sacramento Municipal Utility District UD Underground Right of Way maps R/W U-202 (1978), R/W-25/1113 (1965)
- Solano Archaeological Services, May 2, 2022, Cultural Resources Study Los Rios Community College District Rancho Cordova Center – Student Parking Expansion Project, Sacramento County, California.
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15. REPORT PREPARATION

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KD Anderson & Associates (Transportation Resources)
Kenneth D. Anderson, P.E., Owner

APPENDIX A

LRCCD - FLC - RCC - Student Parking Expansion Project

Sacramento Metropolitan AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.00	Acre	1.00	43,560.00	84

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2024
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 - 84 parking spaces

Grading -

Demolition -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	Population	0.00	84.00
tblSequestration	NumberOfNewTrees	0.00	10.00
tblTripsAndVMT	HaulingTripNumber	0.00	206.00
tblTripsAndVMT	HaulingTripNumber	0.00	206.00

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					
2023	0.0997	0.7697	0.7760	1.6200e-003	0.0316	0.0309	0.0625	9.2600e-003	0.0297	0.0390	0.0000	139.1148	139.1148	0.0213	0.0000	139.6462
Maximum	**0.0997**	**0.7697**	**0.7760**	**1.6200e-003**	**0.0316**	**0.0309**	**0.0625**	**9.2600e-003**	**0.0297**	**0.0390**	**0.0000**	**139.1148**	**139.1148**	**0.0213**	**0.0000**	**139.6462**

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					
2023	0.0997	0.7697	0.7760	1.6200e-003	0.0218	0.0309	0.0527	6.2300e-003	0.0297	0.0359	0.0000	139.1147	139.1147	0.0213	0.0000	139.6460
Maximum	**0.0997**	**0.7697**	**0.7760**	**1.6200e-003**	**0.0218**	**0.0309**	**0.0527**	**6.2300e-003**	**0.0297**	**0.0359**	**0.0000**	**139.1147**	**139.1147**	**0.0213**	**0.0000**	**139.6460**

	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**	**31.07**	**0.00**	**15.70**	**32.72**	**0.00**	**7.78**	**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	**1-1-2023**	**3-31-2023**	0.5186	0.5186
2	**4-1-2023**	**6-30-2023**	0.3663	0.3663
		Highest	0.5186	0.5186

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	3.4200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0823	4.0823	2.0000e-004	4.0000e-005	4.0997
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4200e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0823**	**4.0823**	**2.0000e-004**	**4.0000e-005**	**4.0997**

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	3.4200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0823	4.0823	2.0000e-004	4.0000e-005	4.0997
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4200e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0823**	**4.0823**	**2.0000e-004**	**4.0000e-005**	**4.0997**

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

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	7.0800
Total	**7.0800**

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	1/1/2023	1/13/2023	5	10	
2	Site Preparation	Site Preparation	1/14/2023	1/16/2023	5	1	
3	Grading	Grading	1/17/2023	1/18/2023	5	2	
4	Building Construction	Building Construction	1/19/2023	6/7/2023	5	100	
5	Paving	Paving	6/8/2023	6/14/2023	5	5	
6	Architectural Coating	Architectural Coating	6/15/2023	6/21/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,614 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

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
Demolition	5	13.00	0.00	89.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	206.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	206.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	7.00	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	4.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2023

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					0.0100	0.0000	0.0100	1.5200e-003	0.0000	1.5200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3600e-003	0.0716	0.0673	1.2000e-004		3.3800e-003	3.3800e-003		3.1600e-003	3.1600e-003	0.0000	10.5433	10.5433	2.6700e-003	0.0000	10.6101
Total	**7.3600e-003**	**0.0716**	**0.0673**	**1.2000e-004**	**0.0100**	**3.3800e-003**	**0.0134**	**1.5200e-003**	**3.1600e-003**	**4.6800e-003**	**0.0000**	**10.5433**	**10.5433**	**2.6700e-003**	**0.0000**	**10.6101**

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	8.3100e-003	2.3300e-003	3.0000e-005	7.5000e-004	2.0000e-005	7.7000e-004	2.1000e-004	2.0000e-005	2.2000e-004	0.0000	3.2438	3.2438	1.8000e-004	0.0000	3.2482
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	2.0000e-004	1.2000e-004	1.3900e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3792	0.3792	1.0000e-005	0.0000	0.3794
Total	**4.3000e-004**	**8.4300e-003**	**3.7200e-003**	**3.0000e-005**	**1.2300e-003**	**2.0000e-005**	**1.2500e-003**	**3.4000e-004**	**2.0000e-005**	**3.5000e-004**	**0.0000**	**3.6229**	**3.6229**	**1.9000e-004**	**0.0000**	**3.6276**

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					4.5200e-003	0.0000	4.5200e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3600e-003	0.0716	0.0673	1.2000e-004		3.3800e-003	3.3800e-003		3.1600e-003	3.1600e-003	0.0000	10.5433	10.5433	2.6700e-003	0.0000	10.6101
Total	**7.3600e-003**	**0.0716**	**0.0673**	**1.2000e-004**	**4.5200e-003**	**3.3800e-003**	**7.9000e-003**	**6.8000e-004**	**3.1600e-003**	**3.8400e-003**	**0.0000**	**10.5433**	**10.5433**	**2.6700e-003**	**0.0000**	**10.6101**

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	8.3100e-003	2.3300e-003	3.0000e-005	7.5000e-004	2.0000e-005	7.7000e-004	2.1000e-004	2.0000e-005	2.2000e-004	0.0000	3.2438	3.2438	1.8000e-004	0.0000	3.2482
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	2.0000e-004	1.2000e-004	1.3900e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3792	0.3792	1.0000e-005	0.0000	0.3794
Total	**4.3000e-004**	**8.4300e-003**	**3.7200e-003**	**3.0000e-005**	**1.2300e-003**	**2.0000e-005**	**1.2500e-003**	**3.4000e-004**	**2.0000e-005**	**3.5000e-004**	**0.0000**	**3.6229**	**3.6229**	**1.9000e-004**	**0.0000**	**3.6276**

3.3 Site Preparation - 2023

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					2.9000e-003	0.0000	2.9000e-003	1.4800e-003	0.0000	1.4800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	6.2100e-003	3.3200e-003	1.0000e-005		2.5000e-004	2.5000e-004		2.3000e-004	2.3000e-004	0.0000	0.7557	0.7557	2.4000e-004	0.0000	0.7618
Total	**5.7000e-004**	**6.2100e-003**	**3.3200e-003**	**1.0000e-005**	**2.9000e-003**	**2.5000e-004**	**3.1500e-003**	**1.4800e-003**	**2.3000e-004**	**1.7100e-003**	**0.0000**	**0.7557**	**0.7557**	**2.4000e-004**	**0.0000**	**0.7618**

3.3 Site Preparation - 2023

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	5.3000e-004	0.0192	5.4000e-003	8.0000e-005	1.7400e-003	4.0000e-005	1.7800e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	7.5081	7.5081	4.1000e-004	0.0000	7.5184
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0233	0.0233	0.0000	0.0000	0.0234
Total	**5.4000e-004**	**0.0193**	**5.4900e-003**	**8.0000e-005**	**1.7700e-003**	**4.0000e-005**	**1.8100e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**7.5314**	**7.5314**	**4.1000e-004**	**0.0000**	**7.5418**

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					1.3000e-003	0.0000	1.3000e-003	6.6000e-004	0.0000	6.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	6.2100e-003	3.3200e-003	1.0000e-005		2.5000e-004	2.5000e-004		2.3000e-004	2.3000e-004	0.0000	0.7557	0.7557	2.4000e-004	0.0000	0.7618
Total	**5.7000e-004**	**6.2100e-003**	**3.3200e-003**	**1.0000e-005**	**1.3000e-003**	**2.5000e-004**	**1.5500e-003**	**6.6000e-004**	**2.3000e-004**	**8.9000e-004**	**0.0000**	**0.7557**	**0.7557**	**2.4000e-004**	**0.0000**	**0.7618**

3.3 Site Preparation - 2023

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	5.3000e-004	0.0192	5.4000e-003	8.0000e-005	1.7400e-003	4.0000e-005	1.7800e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	7.5081	7.5081	4.1000e-004	0.0000	7.5184
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0233	0.0233	0.0000	0.0000	0.0234
Total	**5.4000e-004**	**0.0193**	**5.4900e-003**	**8.0000e-005**	**1.7700e-003**	**4.0000e-005**	**1.8100e-003**	**4.9000e-004**	**4.0000e-005**	**5.3000e-004**	**0.0000**	**7.5314**	**7.5314**	**4.1000e-004**	**0.0000**	**7.5418**

3.4 Grading - 2023

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					4.9100e-003	0.0000	4.9100e-003	2.5300e-003	0.0000	2.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	**9.3000e-004**	**0.0102**	**5.5500e-003**	**1.0000e-005**	**4.9100e-003**	**4.2000e-004**	**5.3300e-003**	**2.5300e-003**	**3.9000e-004**	**2.9200e-003**	**0.0000**	**1.2381**	**1.2381**	**4.0000e-004**	**0.0000**	**1.2481**

3.4 Grading - 2023

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	5.3000e-004	0.0192	5.4000e-003	8.0000e-005	1.7400e-003	4.0000e-005	1.7800e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	7.5081	7.5081	4.1000e-004	0.0000	7.5184
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	2.0000e-005	1.0000e-005	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0467	0.0467	0.0000	0.0000	0.0467
Total	**5.5000e-004**	**0.0193**	**5.5700e-003**	**8.0000e-005**	**1.8000e-003**	**4.0000e-005**	**1.8400e-003**	**5.0000e-004**	**4.0000e-005**	**5.4000e-004**	**0.0000**	**7.5548**	**7.5548**	**4.1000e-004**	**0.0000**	**7.5651**

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					2.2100e-003	0.0000	2.2100e-003	1.1400e-003	0.0000	1.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	**9.3000e-004**	**0.0102**	**5.5500e-003**	**1.0000e-005**	**2.2100e-003**	**4.2000e-004**	**2.6300e-003**	**1.1400e-003**	**3.9000e-004**	**1.5300e-003**	**0.0000**	**1.2381**	**1.2381**	**4.0000e-004**	**0.0000**	**1.2481**

3.4 Grading - 2023

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	5.3000e-004	0.0192	5.4000e-003	8.0000e-005	1.7400e-003	4.0000e-005	1.7800e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	7.5081	7.5081	4.1000e-004	0.0000	7.5184
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	2.0000e-005	1.0000e-005	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0467	0.0467	0.0000	0.0000	0.0467
Total	**5.5000e-004**	**0.0193**	**5.5700e-003**	**8.0000e-005**	**1.8000e-003**	**4.0000e-005**	**1.8400e-003**	**5.0000e-004**	**4.0000e-005**	**5.4000e-004**	**0.0000**	**7.5548**	**7.5548**	**4.1000e-004**	**0.0000**	**7.5651**

3.5 Building Construction - 2023

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	0.0762	0.5855	0.6306	1.1000e-003		0.0257	0.0257		0.0248	0.0248	0.0000	90.7996	90.7996	0.0154	0.0000	91.1850
Total	**0.0762**	**0.5855**	**0.6306**	**1.1000e-003**		**0.0257**	**0.0257**		**0.0248**	**0.0248**	**0.0000**	**90.7996**	**90.7996**	**0.0154**	**0.0000**	**91.1850**

3.5 Building Construction - 2023

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	8.1000e-004	0.0287	7.8100e-003	8.0000e-005	2.0500e-003	4.0000e-005	2.0900e-003	5.9000e-004	4.0000e-005	6.3000e-004	0.0000	7.9899	7.9899	4.1000e-004	0.0000	8.0001
Worker	2.7300e-003	1.6500e-003	0.0192	6.0000e-005	6.6100e-003	4.0000e-005	6.6500e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.2498	5.2498	1.2000e-004	0.0000	5.2527
Total	**3.5400e-003**	**0.0304**	**0.0270**	**1.4000e-004**	**8.6600e-003**	**8.0000e-005**	**8.7400e-003**	**2.3500e-003**	**8.0000e-005**	**2.4300e-003**	**0.0000**	**13.2397**	**13.2397**	**5.3000e-004**	**0.0000**	**13.2529**

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	0.0762	0.5855	0.6306	1.1000e-003		0.0257	0.0257		0.0248	0.0248	0.0000	90.7995	90.7995	0.0154	0.0000	91.1849
Total	**0.0762**	**0.5855**	**0.6306**	**1.1000e-003**		**0.0257**	**0.0257**		**0.0248**	**0.0248**	**0.0000**	**90.7995**	**90.7995**	**0.0154**	**0.0000**	**91.1849**

3.5 Building Construction - 2023

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	8.1000e-004	0.0287	7.8100e-003	8.0000e-005	2.0500e-003	4.0000e-005	2.0900e-003	5.9000e-004	4.0000e-005	6.3000e-004	0.0000	7.9899	7.9899	4.1000e-004	0.0000	8.0001
Worker	2.7300e-003	1.6500e-003	0.0192	6.0000e-005	6.6100e-003	4.0000e-005	6.6500e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.2498	5.2498	1.2000e-004	0.0000	5.2527
Total	**3.5400e-003**	**0.0304**	**0.0270**	**1.4000e-004**	**8.6600e-003**	**8.0000e-005**	**8.7400e-003**	**2.3500e-003**	**8.0000e-005**	**2.4300e-003**	**0.0000**	**13.2397**	**13.2397**	**5.3000e-004**	**0.0000**	**13.2529**

3.6 Paving - 2023

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	1.6100e-003	0.0156	0.0220	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9431	2.9431	9.3000e-004	0.0000	2.9664
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9200e-003**	**0.0156**	**0.0220**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9431**	**2.9431**	**9.3000e-004**	**0.0000**	**2.9664**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	6.9000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1896	0.1896	0.0000	0.0000	0.1897
Total	**1.0000e-004**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1896**	**0.1896**	**0.0000**	**0.0000**	**0.1897**

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	1.6100e-003	0.0156	0.0220	3.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	2.9431	2.9431	9.3000e-004	0.0000	2.9664
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9200e-003**	**0.0156**	**0.0220**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.9431**	**2.9431**	**9.3000e-004**	**0.0000**	**2.9664**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	6.0000e-005	6.9000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1896	0.1896	0.0000	0.0000	0.1897
Total	**1.0000e-004**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1896**	**0.1896**	**0.0000**	**0.0000**	**0.1897**

3.7 Architectural Coating - 2023

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	6.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**6.5400e-003**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

3.7 Architectural Coating - 2023

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	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0583	0.0583	0.0000	0.0000	0.0584
Total	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0583**	**0.0583**	**0.0000**	**0.0000**	**0.0584**

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	6.0600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**6.5400e-003**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

3.7 Architectural Coating - 2023

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	2.1000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0583	0.0583	0.0000	0.0000	0.0584
Total	**3.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0583**	**0.0583**	**0.0000**	**0.0000**	**0.0584**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	10.00	5.00	6.50	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.566033	0.037143	0.208217	0.113428	0.016713	0.004955	0.018463	0.024036	0.001978	0.001883	0.005758	0.000618	0.000776

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.0823	4.0823	2.0000e-004	4.0000e-005	4.0997
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.0823	4.0823	2.0000e-004	4.0000e-005	4.0997
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Parking Lot	0	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
Total		**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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	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
Total		**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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	15246	4.0823	2.0000e-004	4.0000e-005	4.0997
Total		**4.0823**	**2.0000e-004**	**4.0000e-005**	**4.0997**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	15246	4.0823	2.0000e-004	4.0000e-005	4.0997
Total		**4.0823**	**2.0000e-004**	**4.0000e-005**	**4.0997**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.4200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	3.4200e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	6.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**3.4300e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	6.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**3.4300e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	7.0800	0.0000	0.0000	7.0800

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	10	7.0800	0.0000	0.0000	7.0800
Total		**7.0800**	**0.0000**	**0.0000**	**7.0800**

LRCCD - FLC - RCC - Student Parking Expansion Project

Sacramento Metropolitan AQMD, Summary Report

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.5	**Precipitation Freq (Days)**	58
Climate Zone	6			**Operational Year**	2024
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 -

Grading -

Demolition -

Sequestration -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

2.0 Peak Daily Emissions

Peak Daily Construction Emissions

Peak Daily Construction Emissions

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
Year	Phase	lb/day											
2023	Demolition	1.5628 S	16.0106 W	14.2431 S	0.0318 S	2.9426 W	1.0096 W	1.5628 S	16.0106 W	14.2431 S	0.0318 S	1.8383 W	0.8424 W
2023	Site Preparation	2.2301 W	50.9914 W	17.9821 W	0.1729 S	10.3792 W	4.5533 W	2.2301 W	50.9914 W	17.9821 W	0.1729 S	7.0017 W	2.9003 W
2023	Grading	1.4946 W	29.4703 W	11.3074 W	0.0922 S	7.4011 W	3.4867 W	1.4946 W	29.4703 W	11.3074 W	0.0922 S	4.6044 W	2.0834 W
2023	Building Construction	1.6021 S	12.3200 W	13.2143 S	0.0250 S	0.6953 W	0.5469 W	1.6021 S	12.3200 W	13.2143 S	0.0250 S	0.6953 W	0.5469 W
2023	Paving	1.2141 S	6.2623 W	9.1320 S	0.0145 S	0.4080 S	0.3114 S	1.2141 S	6.2623 W	9.1320 S	0.0145 S	0.4080 S	0.3114 S
2023	Architectural Coating	2.6288 S	1.3112 W	1.9126 S	3.2600e-003 S	0.1014 S	0.0791 S	2.6288 S	1.3112 W	1.9126 S	3.2600e-003 S	0.1014 S	0.0791 S
	Peak Daily Total	2.6288 S	50.9914 W	17.9821 W	0.1729 S	10.3792 W	4.5533 W	2.6288 S	50.9914 W	17.9821 W	0.1729 S	7.0017 W	2.9003 W
	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	0.0188 S	0.0000 S	1.0000e-004 S	0.0000 S	0.0000 S	0.0000 S	0.0188 S	0.0000 S	1.0000e-004 S	0.0000 S	0.0000 S	0.0000 S
On-Site	Energy	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S
Off-Site	Mobile	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S	0.0000 S
	Peak Daily Total	0.0188 S	0.0000 S	1.0000e-004 S	0.0000 S	0.0000 S	0.0000 S	0.0188 S	0.0000 S	1.0000e-004 S	0.0000 S	0.0000 S	0.0000 S
	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	2023	139.1148	0.0213	0.0000	139.6462	139.1147	0.0213	0.0000	139.6460
Operational	2024	4.0823	2.0000e-004	4.0000e-005	4.0997	4.0823	2.0000e-004	4.0000e-005	4.0997
	Total								
	Significance Threshold								
	Exceed Significance?								

APPENDIX B

MOORE BIOLOGICAL CONSULTANTS

June 24, 2022

Ms. Tonya Scheftner
Petralogix Engineering, Inc.
212 Pine Street, Ste. 2
Lodi, CA 95240

Subject: "RANCHO CORDOVA CENTER PHASE 2 BUILDING AND PARKING EXPANSION" PROJECT, RANCHO CORDOVA, CALIFORNIA: BIOLOGICAL ASSESSMENT

Dear Tonya:

Thank you for asking Moore Biological Consultants to prepare a biological assessment of the Los Rios Community College District (LRCCD) "Phase 2 Building and Parking Expansion" project at LRCCD's Rancho Cordova Center, in Rancho Cordova, California (Figures 1 and 2 and Project Plans in Attachment A). The focus of our work was to 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. An initial survey of the "Phase 2 Building Site" and the "West Parking Lot" was conducted on January 25, 2021. An updated survey was undertaken on June 10, 2022 of these same areas, as well as the "East Parking Lot". This letter summarizes information related to biological resources that was compiled by reviewing databases and available documents, and conducting reconnaissance-level field surveys.

PROJECT OVERVIEW: The LRCCD is proposing a new instructional building in the south part of the Folsom Lake College Rancho Cordova Center and two parking areas to the east of Paseo Drive (Figures 1 and 2 and Attachment A). The instructional building is necessary to meet an increasing enrollment demand and will include a few labs, lecture halls, and other instructional offices. The parking lots will provide students and faculty with additional parking areas.

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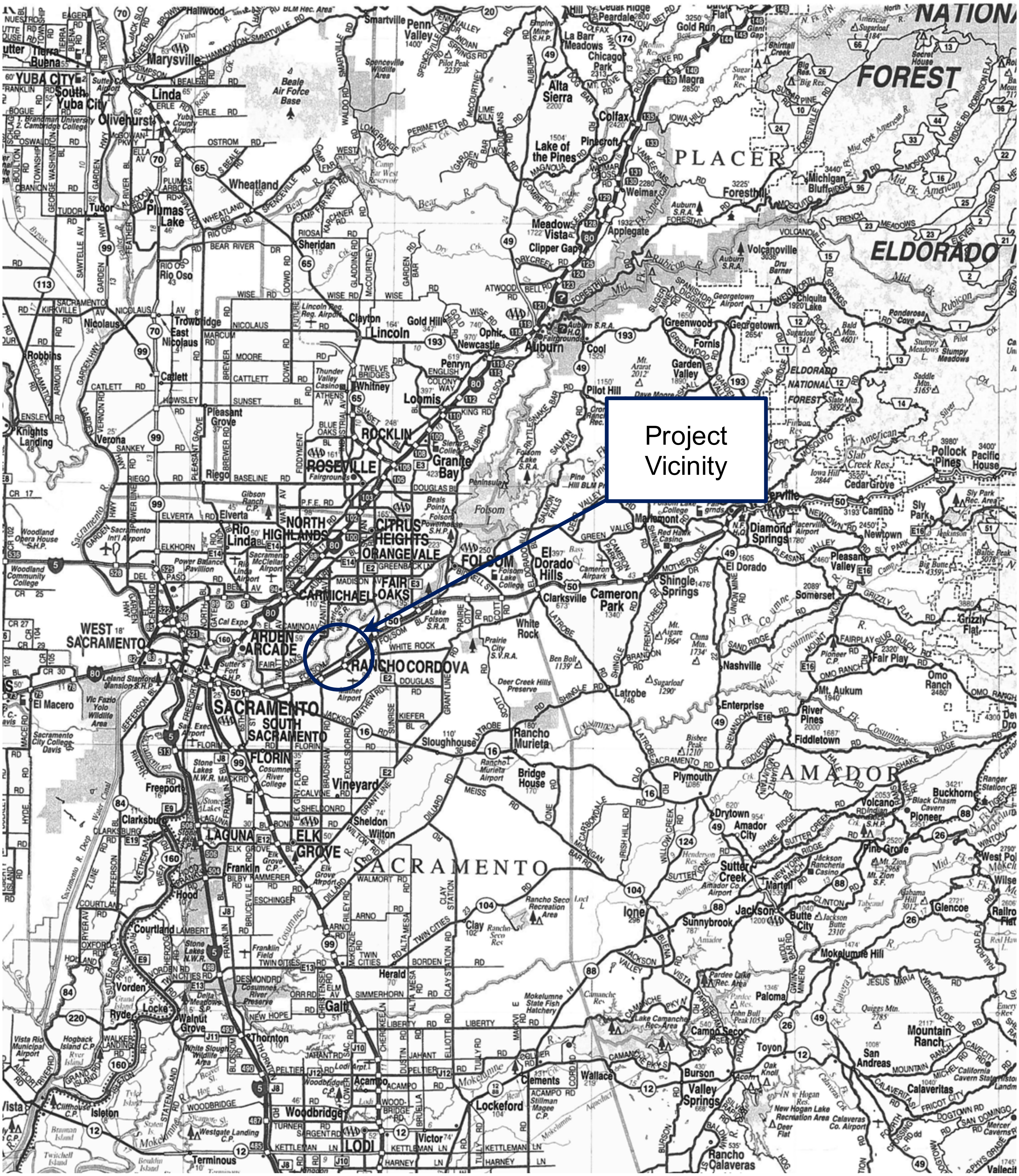
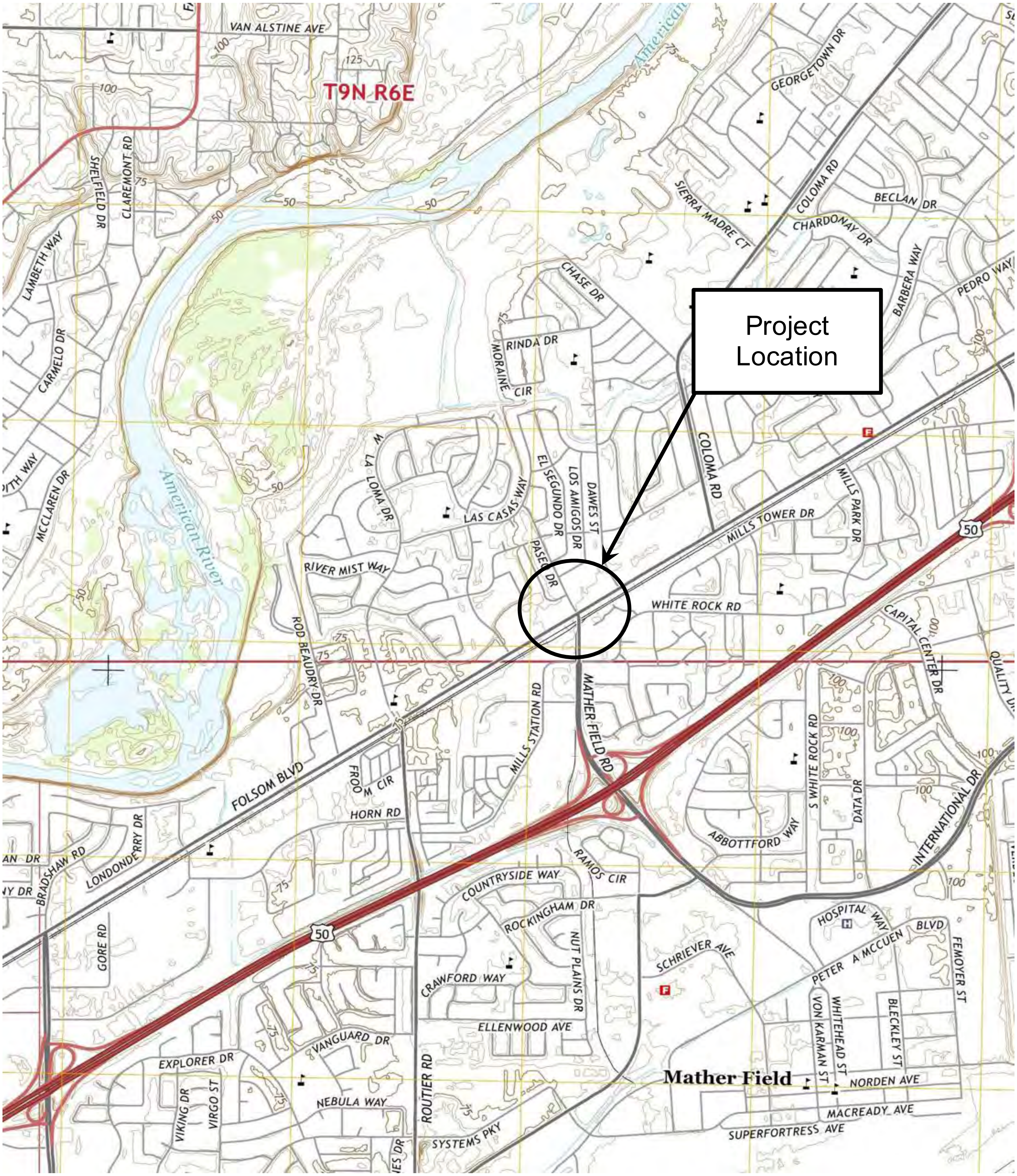


Source: California State Automobile Association

Moore Biological Consultants

FIGURE 1

PROJECT VICINITY



Source: USGS 7.5-minute Carmichael topographic quadrangle

Moore Biological

N
W E
S

0 2000 4000 Feet

FIGURE 2

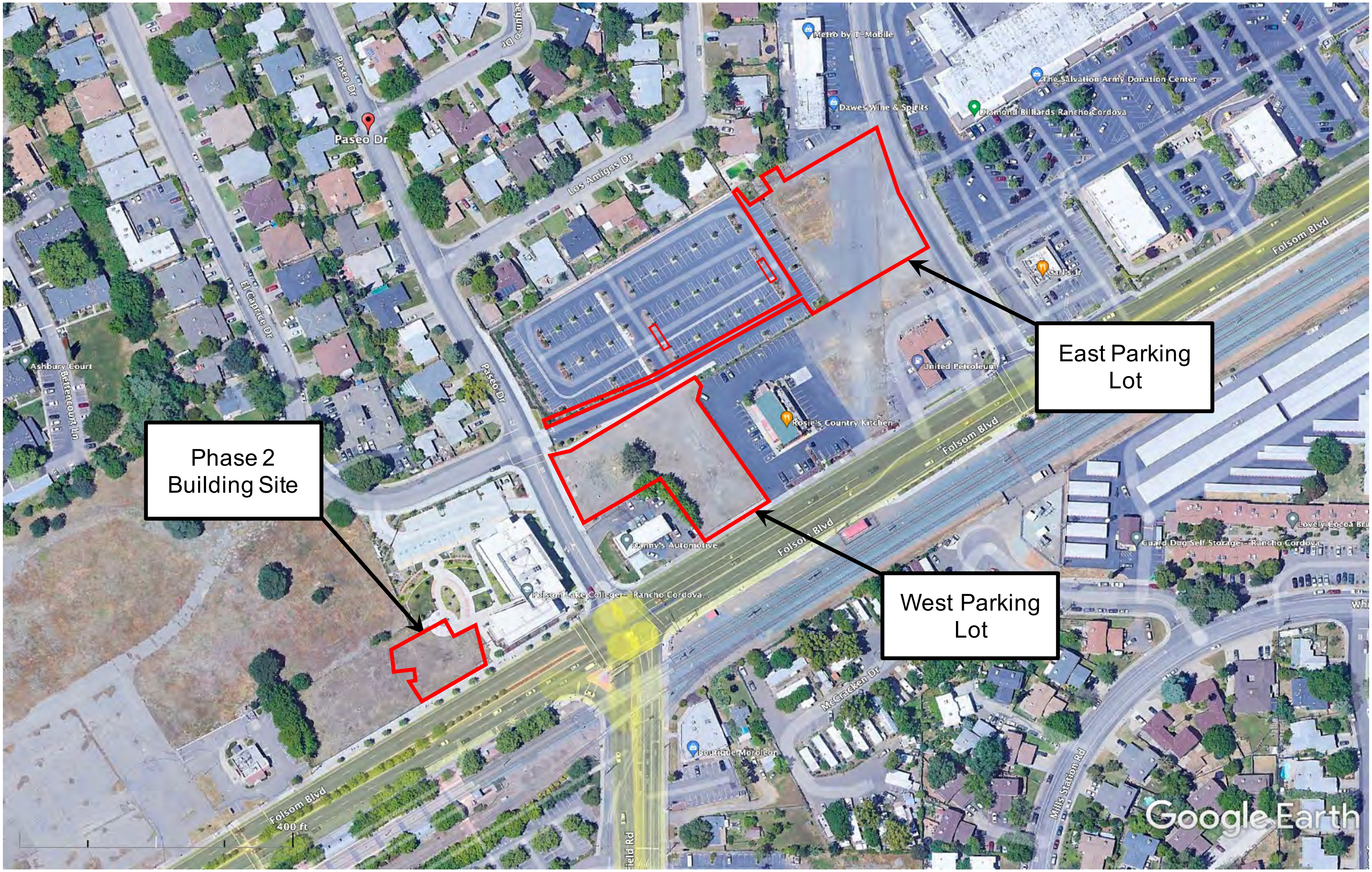
PROJECT LOCATION

GENERAL SETTING: The project site is in Ranch Cordova, in Sacramento County, California (Figure 1). The site is in an Unnumbered Section within Township 9 North, Range 6 East of the USGS 7.5-minute Carmichael topographic quadrangle (Figure 2). The new instructional building will be constructed in the south portion of the college campus and the two parking lots will be further to the east (Figure 3).

The area proposed for the Phase 2 Building is a ruderal grassland field with a small portion of sidewalk. The West Parking Lot site supports ruderal grassland vegetation with notable amounts of gravel and a large oak tree. The East Parking lot site contains ruderal grassland, graveled and paved areas. and a portion of an established parking area (see photographs in Attachment B). Utility lines to support the East Parking Lot will be installed in an existing parking lot just west of the proposed East Parking Lot site.

VEGETATION: A majority of the natural habitats in the project vicinity, including those in the site, have been replaced by development. The Phase 2 Building site currently consists of a ruderal grassland field and a small concrete seating area. The parking lot sites consist of highly disturbed ruderal grassland and paved and graveled areas. There is a notable large oak (*Quercus lobata*) located in the East Parking Lot site (Figure 3 and photographs in Attachment B). The substantial amount of gravel in the parking lot sites remain from a hotel and associated road in this area that was demolished several years ago.

The grassland areas in the site are highly disturbed and support a similar composition of primarily non-native grasses and weeds. Dominant grass species include oats (*Avena fatua*), soft brome (*Bromus hordeaceus*), and perennial ryegrass (*Lolium perenne).* Other grassland species including long-beaked stork's bill (*Erodium botrys*), prickly lettuce (*Lactuca serriola*), black mustard (*Brassica nigra*), yellow star-thistle (*Centaurea solstitialis*), and rose clover (*Trifolium hirtum*) are intermixed with the grasses. Besides the large oak tree in the Phase 2 Parking Lot site, the only other trees in the site are a few small



Source (Basemap): Google Earth

Scale: 1 inch = 200+/- feet

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FIGURE 3

AERIAL PHOTOGRAPH

landscape trees along the west side of the East Parking Lot site. There are also ornamental landscape trees and shrubs located in parcels near the project site.

WILDLIFE: Only a few bird species were observed in the site during the field surveys, all of which are commonly found in urban areas of Sacramento County. Turkey vulture (*Cathartes aura*), American crow (*Corvus branchyrhynchos*), California scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos),* and yellow-rumped warbler (*Setophaga coronata*) are representative bird species observed at the site during the surveys. No mammals, such as California ground squirrel (*Otospermophilus beecheyi*), or signs of mammals were observed in the site.

As described above, while there are no trees in the open field where the new instructional building will be located, there are a few ornamental trees nearby that could be used by nesting birds. A remnant raptor stick nest was observed in a tree approximately 150 feet southwest of the Phase 2 Building site during the 2021 survey; this nest could not be seen in the dense canopy of the tree during the 2022 survey. The large oak tree in the West Parking Lot site is suitable for nesting birds, but no stick nests were seen in this tree during either survey.

There are also a few large trees in close proximity to the project site that are suitable for nesting raptors and other protected migratory birds. No other stick nests were observed in any of the trees visible from the site with binoculars. Given the presence of large trees near the site, it is likely one or more pairs of raptors, plus a variety of songbirds, nest in trees and shrubs in or near the project site during most years.

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 project site consists of open grassland that is 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 adjacent to 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, 2022) 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. Numerous special-status species have been documented within the Carmichael topographic quadrangles (see CNDDB Search Results in Attachment C). There are a few records of special-status species documented in the CNDDB in the project site and within a few miles 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 only “semi-natural” areas in the project site are a few highly disturbed grassland areas vegetated in ruderal grasses and weeds that are not suitable for special-status plants. No special-status plants or highly suitable habitat for special-status plants were observed in or adjacent to the site. The nearest occurrence of special-status plants in the CNDDB (2022) search area is a record of Sanford’s arrowhead approximately 0.5 miles north of the site within a concrete-lined flood channel. Habitat for this species includes marshes, swamps, and ditches; none of these habitats were found in or adjacent to the project site.

While the project site may have provided habitat for several 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 project site. The project site is essentially surrounded by development on all sides and lacks natural areas where special-status species are likely to occur.

Of the wildlife species identified in the CNDDB search, Swainson’s hawk (*Buteo swainsoni*) is the only species with potential to occur in or near the project site on more than a transitory or very occasional basis. Due to a lack of suitable habitat, it is unlikely other special-status species have potential to occur at the site.

There are few records of special-status species in the project vicinity. The only special-status wildlife species recorded in close proximity to the site is a nesting white-tailed kite (*Elanus leucurus*) within a park, approximately 1 mile northwest of the site (CNDDB, 2022).

A majority of the special-status wildlife in the CNDDB near the site are associated with more natural communities in the region including the American River corridor further north of the site and the extensive natural areas associated with the Mather Field Vernal Pool Preserve several miles southeast of the site. A large section of the American River is noted as being potential for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) to occur. There are no blue elderberry shrubs in the site to support this species.

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 hawks 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 closest records of nesting Swainson's hawk in the CNDDB (2022) are approximately 2 to 3 miles from the site.

No Swainson's hawks were observed during the recent survey, which was conducted during the nesting season of this species. The grasslands in the project site provide suitable foraging habitat for Swainson's hawk, although the extent of use of this area by foraging Swainson's hawks, if any, is unknown. Due to the relatively small size of the site, surrounding development, and location in an urban setting, it is unlikely Swainson's hawks forage in the site on more than an occasional basis. Swainson's hawks may use relatively larger trees in and near the site for nesting. It is unlikely Swainson's hawks nest in close enough proximity to the site to be disturbed by construction activities.

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 online “Critical Habitat for Threatened and Endangered Species” mapper was examined and confirmed that the project site is not in designated critical habitat of any federally listed species.

Conclusions and Recommendations

- The project site consists of areas of disturbed ruderal grassland, developed areas, and previously developed areas, that are biologically unremarkable.

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

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

- No special-status wildlife species are expected to occur in the site on more than a very occasional or transitory basis.

- Although considered unlikely, Swainson’s hawk could potentially nest in or near the site. Swainson’s hawks can be disturbed if loud and intensive construction activities occur in close proximity to their nests. Even though the site is in an urban setting, loud construction activities such as pavement grinding or jackhammering could result in disturbance to Swainson’s hawks, if any, nesting in or near the site.

- 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) and the Swainson's Hawk Technical Advisory Committee (SHTAC) survey guidelines (SHTAC, 2000).

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

- Trees, shrubs, and grasslands in and near the site 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, 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.

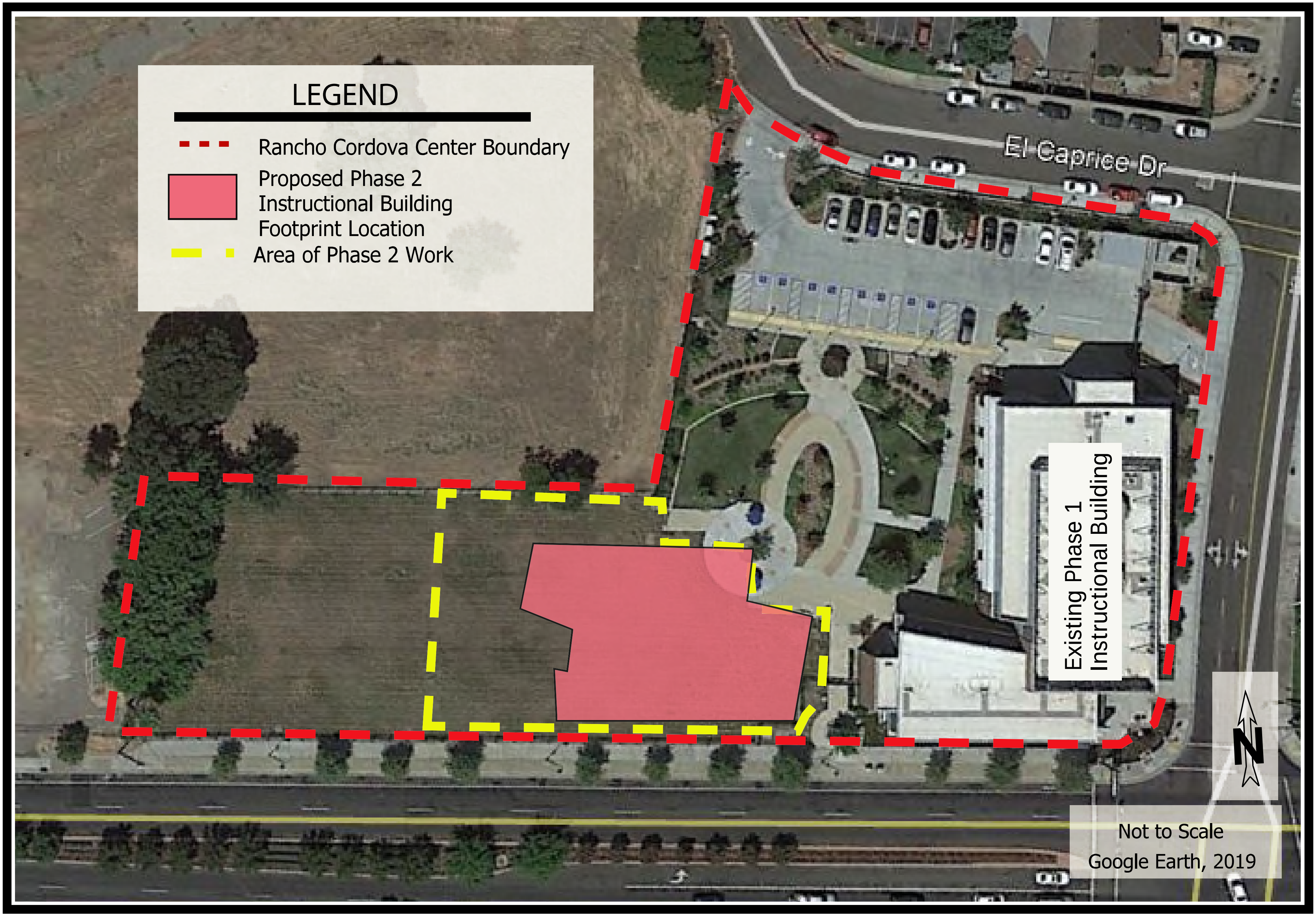
CNDDB (California Natural Diversity Database). 2022. California Department of Fish and Wildlife's Natural Heritage Program, Sacramento, California.

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.

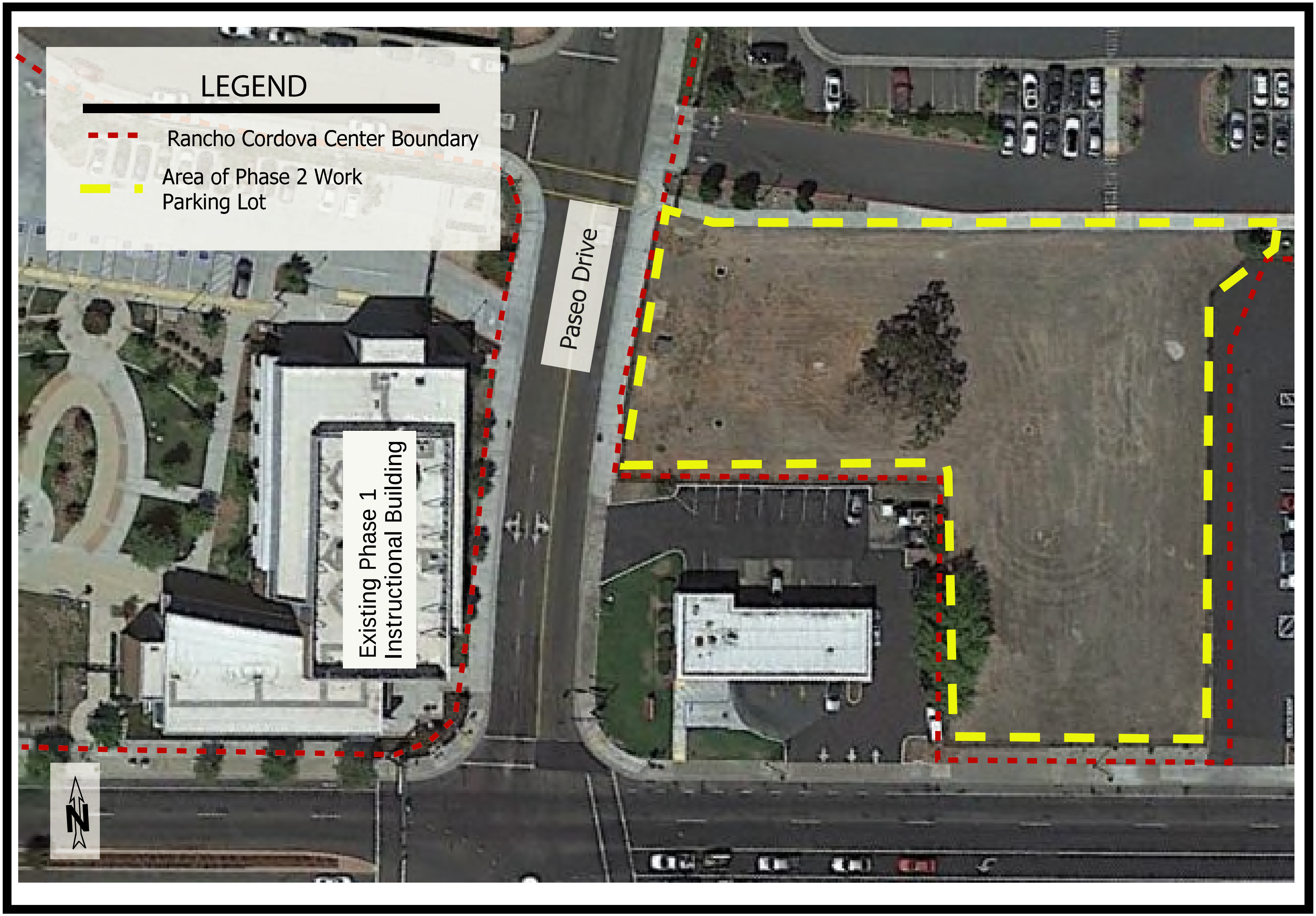
SHTAC (Swainson's Hawk Technical Advisory Committee). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. May 31.

Attachment A

Project Plans



PHASE 2 BUILDING



WEST PARKING LOT

EAST PARKING LOT

Attachment B

Photographs

Ruderal grassland and landscape area in the east part of the Phase 2 Building site, looking northwest; 01/25/21.

Grassland at the Phase 2 Building site, looking northeast from the southwest corner of the site; 06/10/22.

South edge of the Phase 2 Building site, looking southwest; 01/25/21.

West fenceline of the grassland field where the Phase 2 Building site is located, looking northwest; 01/25/21. There is a remnant raptor stick nest (circled) in a tree located approximately 150 feet southwest of the project site.

Seating area in the northeast corner of the Phase 2 Building site, looking southwest along the north edge of the site; 01/25/21.

Large tree and ruderal grassland within the West Parking Lot site, looking southwest from the east edge of the site; 06/10/22.

South edge of the West Parking Lot site, looking southwest from the southeast corner of the site; 01/25/21.

East edge of the West Parking Lot site, looking northwest from the southeast corner of the site; 01/25/21. This area was previously developed and is biologically unremarkable.

Ruderal grassland and graveled areas within the East Parking Lot site, looking northwest from the south edge of the site; 06/10/22.

East edge of the East Parking Lot site, looking northwest along Dawes Street from the southeast corner of the site; 06/10/22.

Ruderal grassland in the northwest part of the East Parking Lot site, looking northwest; 06/10/22.

Existing parking lot where utilities relating to the new parking areas will be trenched underground, looking southwest from the southwest part of the East Parking Lot site; 06/10/22.

Location where utilities will be trenched underground in support of the parking areas, looking northeast from the northwest corner of the West Parking Lot; 06/10/22.

Attachment C

CNDDB Map and Summary Report

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Carmichael (3812153))

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	Threatened	G1G2	S1S2	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	

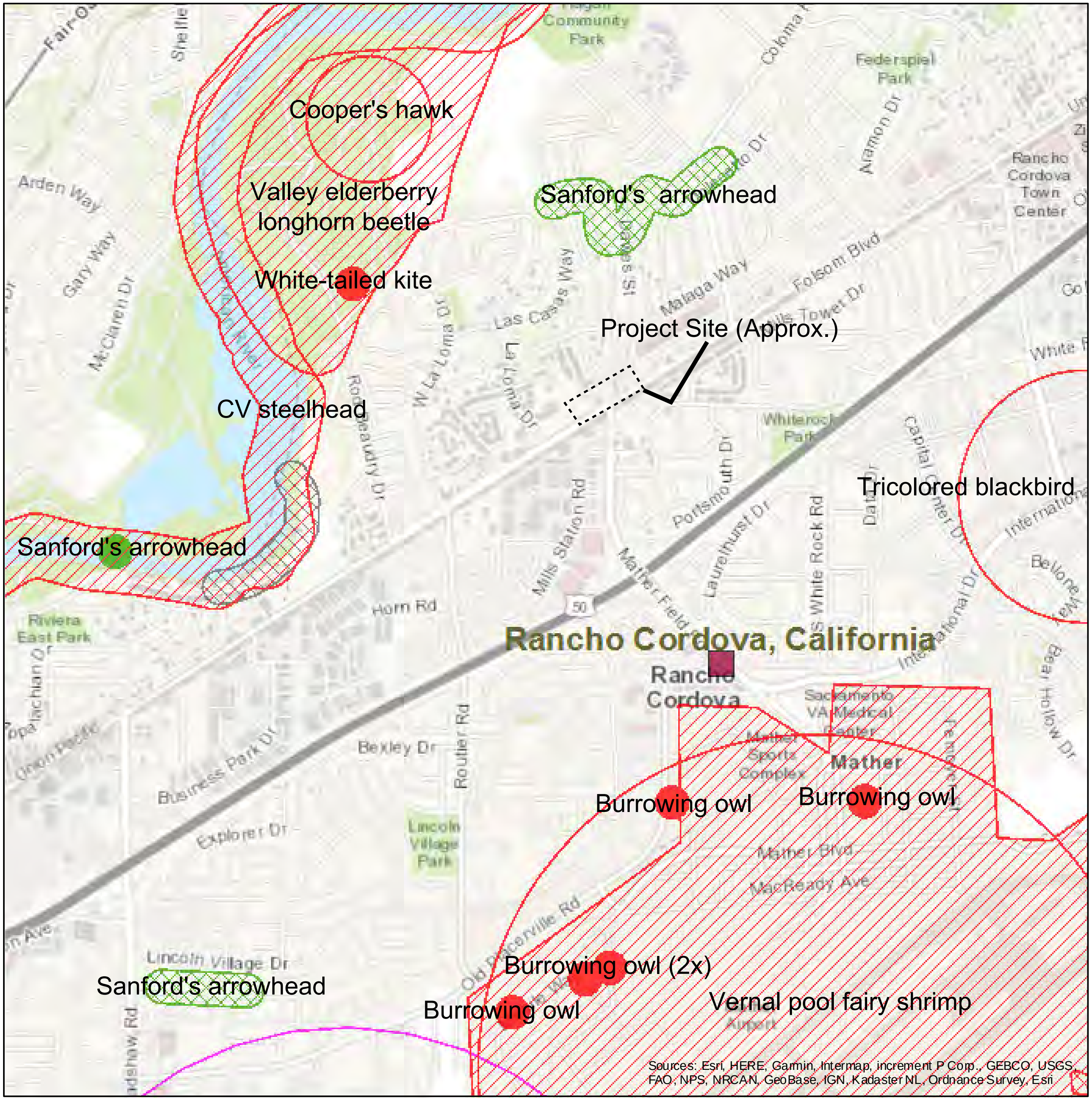
Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC

Record Count: 27

Map of Project Area

California Natural Diversity Database (CNDDB) Commercial [ds85]

- 🟩 Plant (80m)
- ▩ Plant (specific)
- ▨ Plant (non-specific)
- □ Plant (circular)
- 🟥 Animal (80m)
- ▩ Animal (specific)
- ▨ Animal (non-specific)
- □ Animal (circular)
- 🟪 Terrestrial Comm. (80m)
- ▩ Terrestrial Comm. (specific)
- ▨ Terrestrial Comm. (non-specific)
- □ Terrestrial Comm. (circular)
- 🟦 Aquatic Comm. (80m)
- ▩ Aquatic Comm. (specific)
- ▨ Aquatic Comm. (non-specific)
- □ Aquatic Comm. (circular)
- ■ Multiple (80m)
- ▩ Multiple (specific)
- ▨ Multiple (non-specific)
- □ Multiple (circular)
- ⊞ Sensitive EO's (Commercial only)



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

N

1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

June 15, 2022

Author: moorebio@softcom.net
Printed from http://bios.dfg.ca.gov

APPENDIX C

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CULTURAL RESOURCES TECHNICAL MEMORANDUM

Date: May 2nd, 2022
To: Petralogix Engineering, Inc.
From: Solano Archaeological Services LLC

Subject: Cultural Resources Study – Los Rios Community College District Rancho Cordova Center Student Parking Expansion Project, Sacramento County, California

INTRODUCTION

This technical memorandum summarizes the background research, Native American community outreach, pedestrian survey, and findings for the Los Rios Community College District (LRCCD), Rancho Cordova Center Student Parking Expansion Project (the "Project"). The Project is subject to the California Environmental Quality Act (CEQA) and Solano Archaeological Services, LLC (SAS) has prepared this technical memorandum to support the LRCCD in meeting the cultural resources provisions of CEQA.

PROJECT LOCATION

The project area consists of two discontiguous parcels totaling approximately 0.8-acre (ac.) in the City of Rancho Cordova (the "City") Sacramento County, California (Attachment A, Figures 1–2). Situated adjacent to Folsom Boulevard at the intersection of Dawes Street, the project area lies just over 1/2-mile (mi.) north of U.S. Highway 50, and about one mi. east of the American River. The project area is situated on the U.S. Geological Survey *Carmichael, California*, 7.5-minute quadrangle map within the *Rio De Los Americano*s land grant, in projected Township 9 North, Range 6 East, Section 34.

PROJECT DESCRIPTION

The LRCCD has an enrollment of over 78,000 students and is the second largest community college district in the State of California and the fifth largest in the nation. The LRCCD is a 2-year public community college committed to an open-door admission policy and a comprehensive curriculum. The LRCCD has four main campuses – American River College, Cosumnes River College, Folsom Lake College, and Sacramento City College.

The LRCCD proposes to acquire a 0.83-acre parcel (Assessor's Parcel Number [APN]: 076-0212-021) located on Dawes Street in order to expand the current LRCCD-owned (APN: 076-0212-022) student parking located east of Paseo Drive. The proposed expanded student parking project will include the development of asphalt parking spaces, a sidewalk on Dawes Street, and associated landscaping. The flow of student traffic will be exit only onto Dawes Street. In addition, there will be minor utility trenching located in the current student parking lot, as well as a moderate reconfiguration of the existing parking spaces located on the eastern boundary of the proposed new lot.

REGULATORY SETTING

CEQA requires that public agencies having authority to finance or approve public or private projects assess the effects of these projects on cultural resources. Cultural resources include buildings, sites, structures, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance. CEQA states that if a proposed project would result in an effect that may cause a substantial adverse change in the significance of a significant cultural resource (termed a "historical resource"), alternative plans or mitigation measures must be considered. Because only significant cultural resources need to be addressed, the significance of cultural resources must be determined before mitigation measures are developed.

CEQA §5024.1 (Public Resources Code §5024.1) and §15064.5 of the State CEQA Guidelines (14 California Code of Regulations [CCR] §15064.5) define a historical resource as "a resource listed or eligible for listing on the California Register of Historical Resources." A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it:

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

In addition, CEQA also distinguishes between two classes of archaeological resources: archaeological sites that meet the definition of a historical resource, and "unique archaeological resources." An archaeological resource is considered "unique" if it:

- Is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory
- Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind
- Is at least 100 years old and possesses substantial stratigraphic integrity
- Involves important research questions that historical research has shown can be answered only with archaeological methods (Public Resources Code §21083.2)

According to the CEQA Guidelines, a project with an effect that may cause a substantial adverse change in the significance of a historical resource or a unique archaeological resource is a project that may have a significant effect on the environment (14 CCR §15064.5[b]). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

The CEQA Guidelines (14 CCR §15064.5[e]) also require that excavation activities be stopped whenever human remains are uncovered, and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of a Native American, the Native American Heritage Commission must be contacted within 24 hours, and the provisions for treating or disposing of the remains and any associated grave goods as described in CCR §15064.5 must be followed.

NATURAL AND CULTURAL SETTING

Existing Environment

The project area is situated within the Sacramento Valley portion of the Great Valley geomorphic province - a region having a Mediterranean climate characterized by hot dry summers with daytime temperatures commonly exceeding 100˚ Fahrenheit and cool rainy winters. Mean annual rainfall in the area is 10 to 15 inches and the majority of this falls from November to March (Western Regional Climate Center 2016). The elevation of the project area is approximately 78 feet (ft.) above mean sea level. The topography of the area is flat and the surrounding land uses consist primarily of high-density commercial and residential complexes. The underlying geology of the APE and surrounding area consists of Pleistocene non-marine deposits and alluvium (Strand 1962).

Early Native American populations were typically concentrated along nearby river channels (e.g., the American River) and other perennial water sources as these were the areas with the richest available natural resources. The dominant native vegetative communities in the project area would have been prairie grasslands with some areas of riparian woodland adjacent to the American River (Kuchler 1977). Vegetation tended to be sparse within the prairie grasslands, limited to grasses and flowering herbs. However, a single valley oak could produce 300–500 pounds of acorns each year (Baumhoff 1963). Native Americans often burned off the grasslands annually to increase the following year’s edible seed crop (Cook 1960).

Fauna that would have inhabited the area prior to extensive Euro-American occupation and alteration of the landscape were used by native peoples for their meat, fur, skins, feathers, bone, and antlers. Some of the more common species that were and, in some cases, still are found in the area included mule and black-tailed deer; coyote; jackrabbit; ground squirrel and other rodents; quail, acorn woodpecker, dove, northern flicker, and other birds. Various anadromous species and other fish; and various reptile, amphibian and invertebrate species could be found in local waterways and in the nearby San Joaquin and Stanislaus rivers (DuBois 1935; Miles and Goudey 1997).

Prehistoric Setting

Evidence for the earliest human occupation in Sacramento County is practically non-existent, although a few controversial sites have been noted in nearby Rancho Murieta, Sacramento County. Sites SAC-370 and SAC-379 produced numerous bifaces, cores, and raw materials possibly indicative of prehistoric quarrying operations. These materials were recovered from gravel strata estimated to be between 12,000 and 18,000 years in age (Moratto 1984). Contextually, there are difficulties with these sites as the artifact assemblages may have been re-deposited and no organic materials suitable for radiocarbon dating were encountered.

Although earlier sites may exist in the area that have yet to be discovered, the best documented evidence for human occupation in the region surrounding the project area is found among sites exhibiting traits characteristic of the Windmiller Pattern or Early Horizon. Windmiller sites show that a great deal of trade was taking place and obsidian, Haliotis and Olivella shell beads and ornaments, quartz crystals, and other exotic materials are frequently found on these sites (Heizer 1949, 1974; Moratto 1984). Many exotic items, such as the quartz crystals and calcite, alabaster, and schist artifacts have their origins in the foothills, and their presence in the Central Valley indicates consistent contact with foothill peoples and possibly seasonal movements of the Windmiller groups. These seasonal migrations may have involved population shifts to higher elevations during the summer with winter occupations being in the valley (Moratto 1984).

Sites from the later Berkeley Pattern or Middle Horizon (2,500–1,450 BP) are often quite similar to Windmiller sites with features such as the use of red ocher in burial contexts, cobble mortars, and "charmstones"; lanceolate point styles occur during both periods. However, during this time, a much heavier reliance on acorns as a staple food develops as evidenced by an increased number of mortars and pestles in the archaeological record. Distinctive artifacts and radiocarbon dates from sites associated with the Berkeley Pattern suggest that these cultural manifestations may represent a Proto-Miwok population movement from the Bay area to the Central Valley.

First appearing in the archaeological record around 1,400 BP and extending to proto-historic times, manifestations of the Augustine Pattern or Late Horizon indicate that intensive fishing, hunting, and acorn gathering supported large, dense populations. Highly developed exchange systems had evolved, and mortuary practices with elaborate ceremonialism indicate a well-stratified society. Earlier Augustine Pattern sites, however, still bear many similarities to the Berkeley Pattern, suggesting that the Augustine Pattern represents elements of local innovation and a blending of traits with the Middle Horizon (Moratto 1984).

Of the limited number of archaeological investigations that have taken place near the project area, one was at CA-SAC-344/H, which was situated on a small seasonal drainage flowing into Alder Creek. Based on limited obsidian hydration data and the presence of a single Desert Side-Notched projectile point, a bird bone tube/bead, and various ground stone artifacts, the site was interpreted to be a middle period (Berkeley Pattern) to late period (Augustine Pattern) occupation (Maniery and Brown 1994). Results of excavations conducted by Maniery (1996) at CA-SAC-166 located at the Folsom Boulevard interchange, immediately south of Lake Natoma, described a site that contained, albeit limited, evidence for a long period of occupation extending from the early period (ca. 4,050 BP) well into the late period.

Ethnographic Context

Prior to the emigration of Euro-Americans on a large scale beginning in the middle decades of the 19th century, Native American groups identified as the Southern Maidu or Nisenan, inhabited the Rancho Cordova area generally north of present-day Highway 50. Traditionally, the southern boundary of Nisenan territory was in the general vicinity of the project area and in historic times, there no doubt would have been a great deal of contact with the neighboring Miwok groups in the area. Although such boundaries were almost never as well-defined as depicted in historic references and today's literature, in general, the Rancho Cordova area was probably more associated with the Nisenan than the Miwok.

Within the Nisenan territory, several political divisions, constituting tribelets, each had their respective headmen in the larger villages. However, which of these larger population centers wielded more influence than others is not known, although they were all located in the foothill areas. In general, more substantial and permanent Nisenan villages were not established on the valley plain between the

Sacramento River and the foothills, although this area was utilized as a rich hunting and gathering ground. According to Kroeber (1925:831), the larger villages could have had populations in excess of 500 individuals, although small settlements consisting of 15 to 25 people and extended families were common. At least two documented settlements have been identified in the vicinity of the project area. These consist of *Kishkish* (see Wilson and Towne 1978), situated along a tributary creek of the American River about 1.75 mi. to the northwest of the project area, and *Yusumne*, located just over three miles to the west/southwest and about ¼-mi. south of the American River channel (see Bennyhoff 1977).

Reluctance on the part of traditional Nisenan and the virtual destruction of the culture in the 19th century make discussions regarding Nisenan spiritual beliefs and practices difficult to discuss in any detail. However, historic records document a number of observances and dances, some of which are still performed today, that were important ceremonies in early historic times. In general, the basic religious system noted throughout central California, the Kuksu cult, appeared among the Nisenan. Cult membership was restricted to those initiated in its spirit and deity-impersonating rites. The Kuksu cult, however, was only one of several levels of religious practice among the Nisenan. Various dances associated with mourning and the change of seasons were also important. One of the last major additions to Nisenan spiritual life occurred sometime shortly after 1872 with a revival of the Kuksu cult as an adaptation to the Ghost Dance religion.

Historic Period Setting

Early European travelers through the region included Gabriel Moraga and a group of Spanish explorers in 1806–1808, and fur trappers and explorers in the 1820s. Jedediah Smith led a group of trappers along the edge of the foothills to the American River in search of a pass over the Sierra Nevada in 1826. Kit Carson and John C. Fremont crossed the mountains near Lake Tahoe and descended to Sutter's Fort traveling along the South Fork of the American River in 1844. However, no documented settlement appears to have occurred in present-day Rancho Cordova area or the immediate vicinity until the *Rancho Rio de los Americanos*, a 35,521-ac. land grant was awarded to William Leidesdorff by the Mexican government. The grant originally consisted of 8 square leagues and extended from the eastern border of John Sutter's New Helvetia (east of Sacramento) 4 leagues along the south bank of the American River, to the eastern end of present-day Folsom, and included present-day cities of Rancho Cordova and Folsom (Beck and Haase 1974; Hoover et al. 1990).

It does not appear that Leidesdorff established any residence or facilities supporting his rancho within or near the project area and it wasn't until the Gold Rush period that intensive Euro-American activities began to impact the local landscape. During the earliest years of the rush, individual miners and small companies would have worked in the Rancho Cordova area but in 1851 the Natoma Water and Mining Company provided water via canal from the American River to miners in the Folsom area and mining operations boomed. Later known as the Natomas Company, it also operated dragline and bucket-line gold dredges along the American River from 1900 through the 1950s, recovering the largest amount of gold in the county of any firm. The dredge fields, some of which are located immediately north of the project area, were created with heavy equipment by the Natomas Company and the General Dredging Company, which likely destroyed most of the evidence of earlier types of small mining operations that occurred prior to the 1900s (Clark 1970).

Other than mining, the largest industry in the Rancho Cordova area during the 19th and early-mid 20th centuries was agriculture (primarily wheat) and livestock ranching. The prominence of agriculture in the area was expressed in the naming of the City; the City of Rancho Cordova being named after the Cordova Vineyard, which was located in the center of Leidesdorff's Rio de los Americanos grant (Miller 1990).

NATIVE AMERICAN COMMUNITY OUTREACH

SAS emailed a letter and a map depicting the project area to the Native American Heritage Commission (NAHC) on March 30th, 2022, on behalf of the LRCCD. The letter requested a Sacred Land File (SLF) search of the project area, and a list of Native American community representatives who should be contacted about the Project (Attachment B). On April 12th, 2022, Ms. Pricilla Torres-Fuentes, Cultural Resources Analyst for the NAHC, replied in an emailed letter that the Sacred Lands File search was completed with positive results. Ms. Torres-Fuentes also provided a list of local Native American contacts. On April 13th, 2022, SAS mailed letters to the following Native American representatives identified by the NAHC:

- Rhonda Morningstar Pope, Chair - Buena Vista Rancheria of Me-Wuk Indians
- Sara Dutschke, Chair - Ione Band of Miwok Indians
- Mr. Don Ryberg, Chair - Tsi Akim Maidu
- Regina Cuellar, Chair - Shingle Springs Band of Miwok Indians
- Grayson Coney, Cultural Director - Tsi Akim Maidu
- Gene Whitehouse, Chair - United Auburn Indian Community of the Auburn Rancheria
- Jesus Tarango, Chair - Wilton Rancheria
- Dahlton Brown, Director of Administration - Wilton Rancheria
- Steven Hutchason, Tribal Historic Preservation Officer -Wilton Rancheria
- Pamela Cubbler, Treasurer - Colfax-Todds Valley Consolidated Tribe
- Clyde Prout, Chair - Colfax-Todds Valley Consolidated Tribe

As of this report none of the individuals listed above have responded to the project information requests, including inquiries into the positive response for tribal cultural resources in vicinity. If any substantive contacts are made with the Native American community regarding the proposed project, an addendum to this report may be developed.

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

SAS conducted a records search through the North Central Information Center (NCIC) of the California Historical Resources Information System at California State University, Sacramento on April 4th, 2022. The NCIC reviewed the CHRIS archives for records of previously known and recorded cultural resources, studies, and isolates in and within one half-mile of the project area. The record search included, but was not necessarily restricted to, a review of the following additional sources:

- The *National Register of Historic Places* (Historic Properties Directory, California Office of Historic Preservation)
- The *California Register of Historic Places* (Historic Properties Directory, California Office of Historic Preservation)
- The *California Historical Landmarks* (California Office of Historic Preservation)
- The *California Points of Historical Interest* (California Office of Historic Preservation)
- The *California Inventory of Historic Resources* (California Department of Parks and Recreation)

The record search results (NCIC File No. SAC-22-74) (Attachment C) indicated that the project area is contained within the bounds of the Folsom Mining District (P-34-000335) and that three other historic-era sites and features have been documented within the half-mile search area (Table 1). The NCIC record search also noted that while no previous studies have included the project area, a total of nine investigations have been conducted with the half-mile search radius (see Attachment C).

Table 1. Previously Recorded Cultural Resources Within and Near the Project Area

Site #	Association	Site Type	Date Recorded	Location
P-34-000335 CA-SAC-308H	Historic era	Folsom Mining District	1969-2015	Within and outside project area
P-34-000455	Historic era	Sacramento Valley Railroad	1991-2018	Outside project area
P-34-002435	Historic era	Building - Mills Station	1993	Outside project area
P-34-005369	Historic era	Railroad - Mather Spur	2016	Outside project area

ADDITIONAL ARCHIVAL RESEARCH

To determine if any undocumented cultural resources or potentially sensitive areas were situated within the project area, SAS conducted a review of early USGS mapping, and aerial photos dating to the mid-20th century. USGS mapping dating to as early as 1902 depicts the present-day alignment of Dawes Road and buildings on the west side of the road immediately north of the project area. By 1950, USGS mapping continues to show the road alignment, but fewer buildings are depicted, and still none in the project area. Similarly, aerial photographs dating to as early as 1947 also show Dawes Street and nearby buildings and structures. Sometime between 1957, and 1964, the approximately 500 southernmost ft. of Dawes Street where it intersects with Folsom Boulevard was re-aligned about 250 ft. to the northeast, resulting in the slight curve in the roadway seen today.

FIELD SURVEY

Methods

On April 5th, 2022, SAS Archaeologist Mark Pense conducted an intensive pedestrian survey using parallel transects spaced no greater 15 meters apart in the northwestern portion of the project area - the only portion not currently paved. When possible, eroded areas and other occurrences of mineral soil such as rodent burrows were examined closely for any indications of surface or near-surface cultural remains. The project area was documented with digital photographs (Attachment D, Photos 1–4) and a Trimble GPS unit was utilized to verify the project area boundaries.

Survey Results

The field survey noted the location of the original Dawes Street alignment within the project area which was mostly covered in asphalt pavement. The northwestern corner of the project area was unpaved and covered with new spring grass growth. This area, however, shows clear evidence of significant disturbance and portions of concrete and asphalt pavement were clearly visible on the ground surface along with a light scatter of late-20th century refuse. No prehistoric or early historic-era sites, features, or artifacts were noted within the project area.

SUMMARY AND RECOMMENDATIONS

The NAHC SLF search indicated that a property possessing some significance to the Native American community is located in the vicinity of the project area. Although none of the NAHC-listed representatives contacted by SAS have provided any information on this property or expressed potential concerns as of this report, the AB-52 outreach effort is still considered ongoing. The NCIC record search noted that the project area is located within the Folsom Mining District and that several historic-era resources had been documented within the one half-mile search area. An intensive survey conducted by SAS did not identify any prehistoric or historic-era sites, features, or artifacts within the project area. Due to a lack of archival and field evidence for significant cultural resources or potential archaeologically sensitive locations or landforms within the project area, SAS recommends that the Project would have *no impacts on historical resources*.

In the event that presently undocumented buried archaeological deposits are encountered during any Project-associated construction activity, work must cease within a 50-ft. radius of the discovery. A qualified archaeologist must be retained to document the discovery, assess its significance, and recommend treatment. If human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Sacramento County Sheriff/Coroner must be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the Applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities will not resume until either the human remains are exhumed, or the remains are avoided via Project construction design change.

REFERENCES

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ATTACHMENT A

Figures

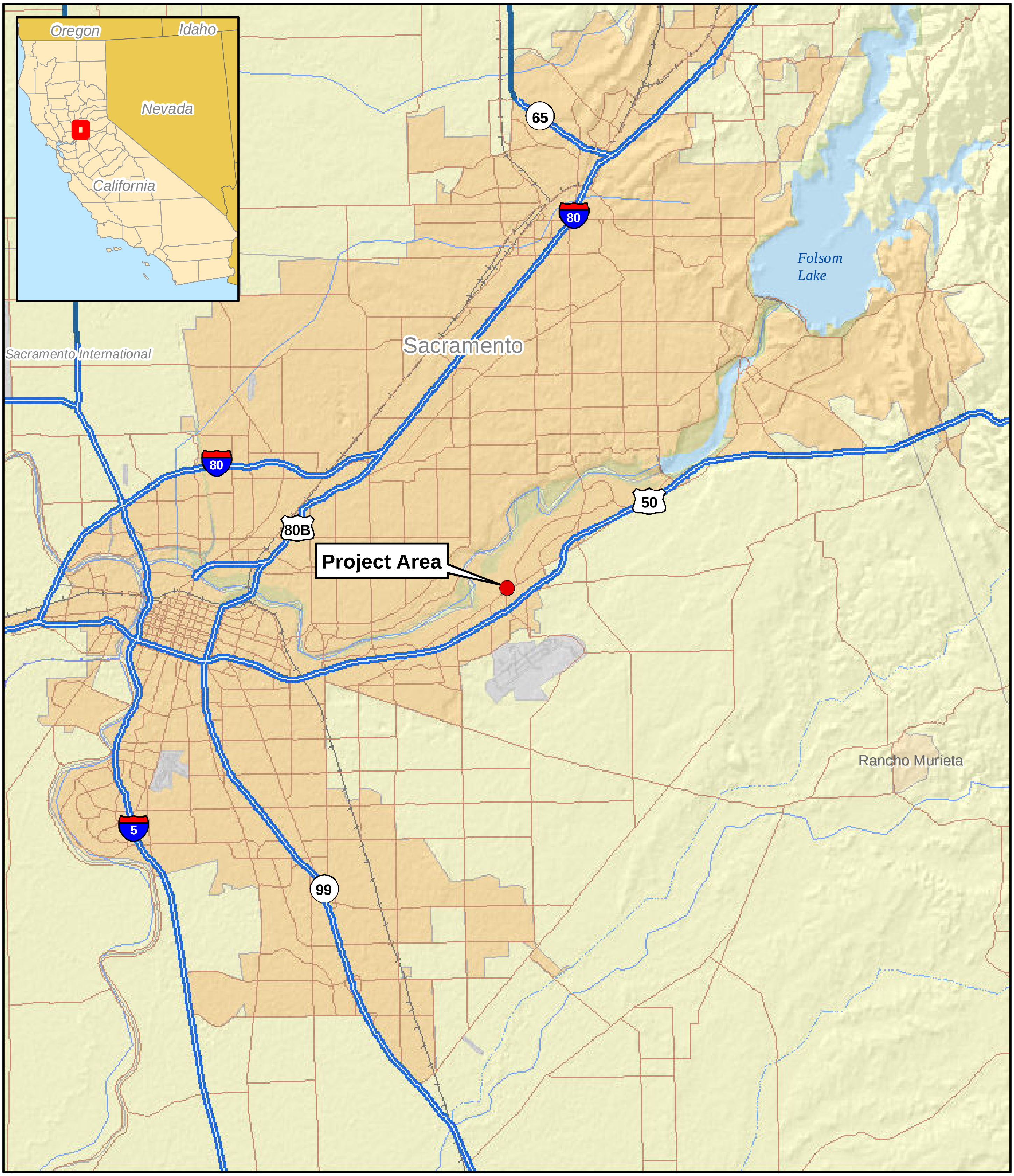


Figure 1. Project Vicinity Map.

● Dawes Street Parking Expansion Project Location

Sources: *USA Base Map* [layer],*Data and Maps* [CD]. ESRI, 2006.

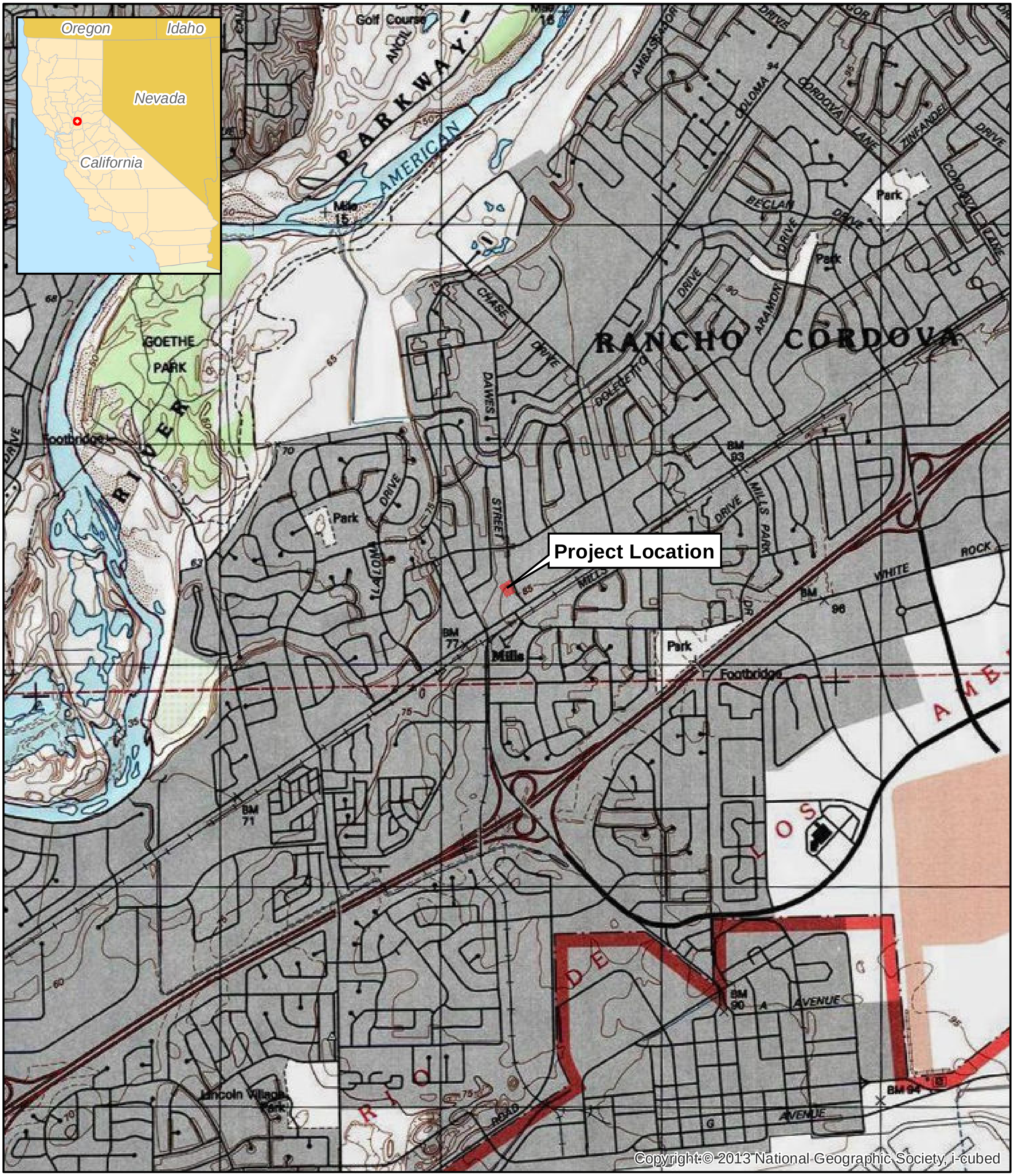


Figure 2. Project Location Map.

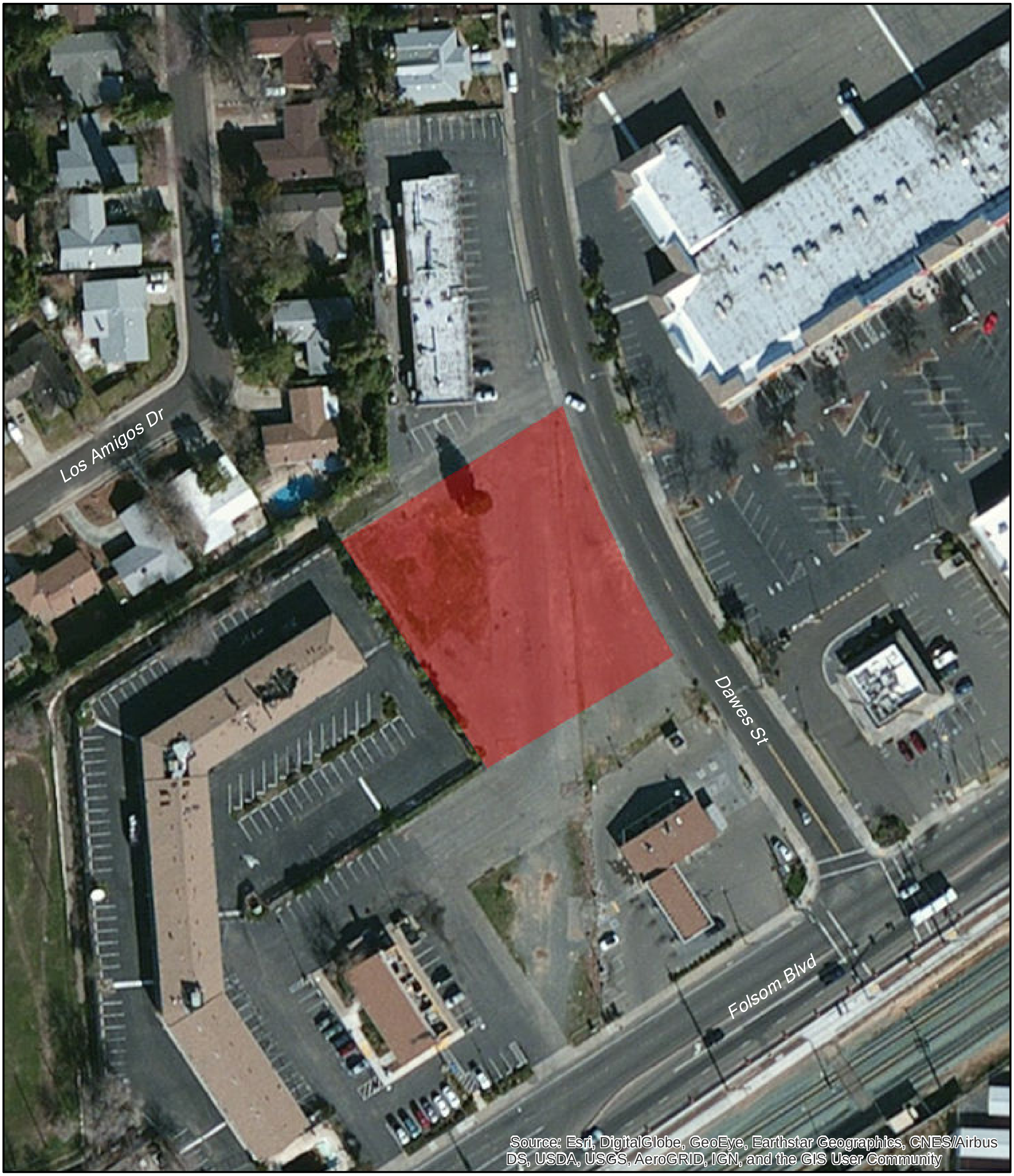
🟥 Dawes Street Parking Expansion Project Area

Rio De Los Americanos Land Grant (Presumed T09N, R06E, Section 34.)
Carmichael 7.5' Series Quadrangle, USGS, 1980.

1:24,000

0.5 Miles

1 Kilometers



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 3. Project Area Map.

🟥 Dawes Street Parking Expansion Project Area

Total Acres: 0.81

1:1,200

0 100 Feet

0 50 Meters

SOLANO ARCHAEOLOGICAL SERVICES

SAS

ATTACHMENT B

Native American Community Outreach

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

April 12, 2022

Dr. Brian Ludwig
Solano Archaeological Services

Via Email to: brian@solanoarchaeology.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Dawes Street Parking Expansion Project, Sacramento County

Dear Dr. Ludwig:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the tribes on the attached list for more information.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Sacramento County
4/12/2022

Buena Vista Rancheria of Me-Wuk Indians
Rhonda Morningstar Pope, Chairperson
1418 20th Street, Suite 200 Me-Wuk
Sacramento, CA, 95811
Phone: (916) 491 - 0011
Fax: (916) 491-0012
rhonda@buenavistatribe.com

Ione Band of Miwok Indians
Sara Dutschke, Chairperson
9252 Bush Street Miwok
Plymouth, CA, 95669
Phone: (209) 245 - 5800
consultation@ionemiwok.net

Shingle Springs Band of Miwok Indians
Regina Cuellar, Chairperson
P.O. Box 1340 Maidu
Shingle Springs, CA, 95682 Miwok
Phone: (530) 387 - 4970
Fax: (530) 387-8067
rcuellar@ssband.org

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 Maidu
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Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

Tsi Akim Maidu
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Browns Valley, CA, 95918
Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road Maidu
Auburn, CA, 95603 Miwok
Phone: (530) 883 - 2390
Fax: (530) 883-2380
bguth@auburnrancheria.com

Wilton Rancheria
Dahlton Brown, Director of Administration
9728 Kent Street Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
dbrown@wiltonrancheria-nsn.gov

Wilton Rancheria
Jesus Tarango, Chairperson
9728 Kent Street Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
Fax: (916) 683-6015
jtarango@wiltonrancheria-nsn.gov

Wilton Rancheria
Steven Hutchason, THPO
9728 Kent Street Miwok
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Phone: (916) 683 - 6000
Fax: (916) 863-6015
shutchason@wiltonrancheria-nsn.gov

Colfax-Todds Valley Consolidated Tribe
Clyde Prout, Chairperson
P.O. Box 4884 none Maidu
Auburn, CA, 95604 Miwok
Phone: (916) 577 - 3558
miwokmaidu@yahoo.com

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884 Maidu
Auburn, CA, 95604 Miwok
Phone: (530) 320 - 3943
pcubbler@colfaxrancheria.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Dawes Street Parking Expansion Project, Sacramento County.

P.O. Box 367
Elmira, CA 95626

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www.solanoarchaeology.com

April 13th, 2022

Steven Hutchason
Wilton Rancheria
9728 Kent St.
Elk Grove, CA 95624

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Hutchason:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the “City”) for the Los Rios Community College District’s (LRCCD) Dawes Street Parking Expansion Project (the “Project”). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

On behalf of the City, SAS is facilitating AB-52 consultation for the Project. We are writing to you to introduce the Project and inquire if you have any information on undocumented sites that may exist in the project area, or concerns you might have with the proposed Project. For your information, a review of the Native American Heritage Commission (NAHC) Sacred Lands File resulted in the identification of a Native American cultural property within or near the project area.

Thank you very much for your time and I hope to hear from you soon. I can be reached via email at Brian@solanoarchaeology.com or by phone at 530-417-7007.

Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

P.O. Box 367
Elmira, CA 95626

707-718-1416 ▴ Fax 707-451-4775
www.solanoarchaeology.com

April 13th, 2022

Sara Dutschke
Ione Band of Miwok Indians
9252 Bush St.
Plymouth, CA 95669

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Ms. Dutschke:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the “City”) for the Los Rios Community College District’s (LRCCD) Dawes Street Parking Expansion Project (the “Project”). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

P.O. Box 367
Elmira, CA 95626

SOLANO ARCHAEOLOGICAL SERVICES
SAS

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www.solanoarchaeology.com

April 13th, 2022

Rhonda Morningstar Pope
Buena Vista Rancheria of Me-Wuk Indians
1418 20th St., Suite 200
Sacramento, CA 95811

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Ms. Pope:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

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April 13th, 2022

Regina Cuellar
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Ms. Cuellar:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the “City”) for the Los Rios Community College District’s (LRCCD) Dawes Street Parking Expansion Project (the “Project”). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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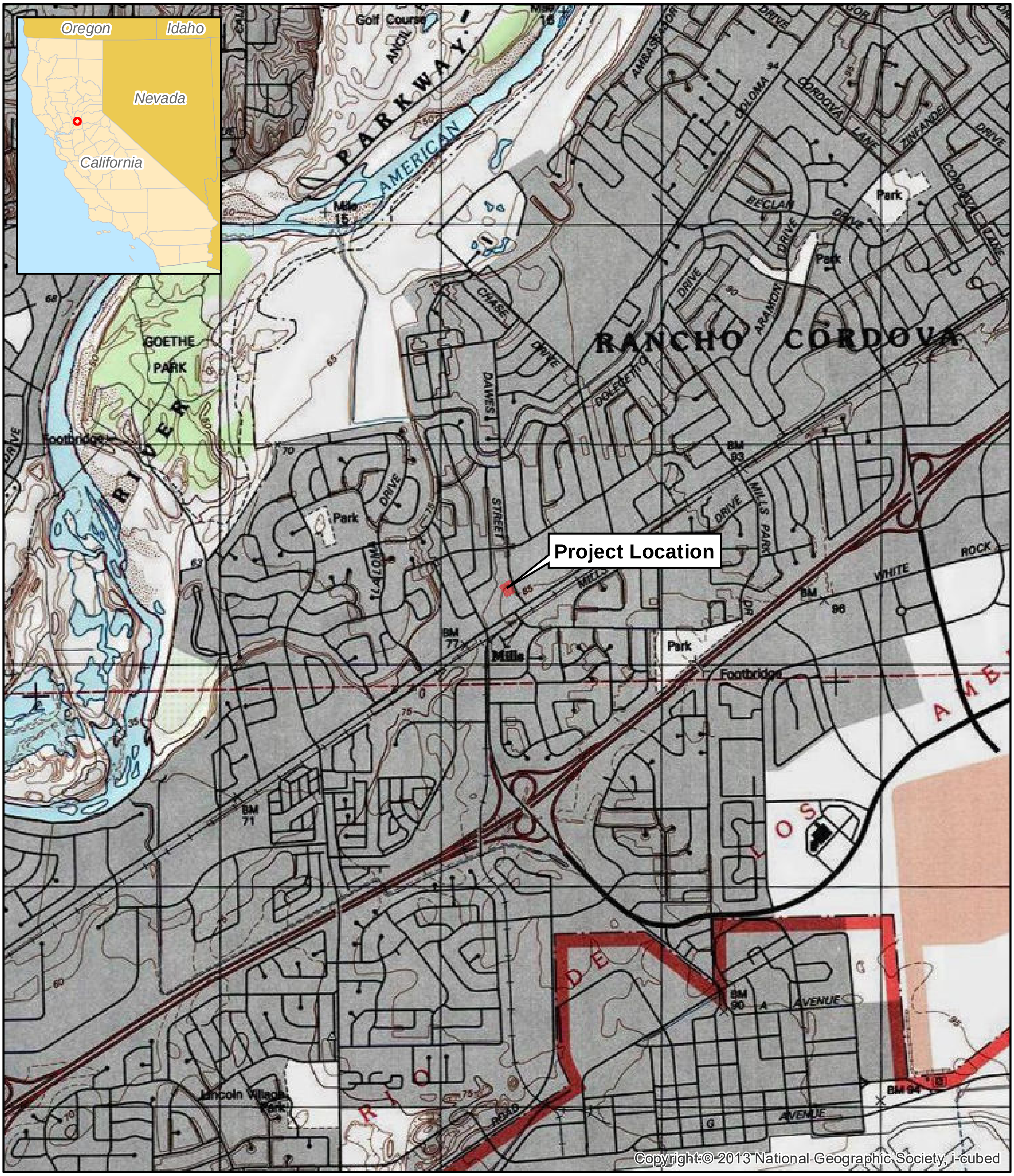
Sincerely,

Brian Ludwig

Brian Ludwig, Ph.D.
Principal Investigator



Copyright © 2013 National Geographic Society, i-cubed

Project Location Map

🟥 Dawes Street Parking Expansion Project Area

Rio De Los Americanos Land Grant (Presumed T09N, R06E, Section 34.)
Carmichael 7.5' Series Quadrangle, USGS, 1980.

1:24,000

0.5 Miles

1 Kilometers

P.O. Box 367
Elmira, CA 95626

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April 13th, 2022

Pamela Cubbler
Colfax-Todds Valley Consolidated Tribe
P.O. Box 4884
Auburn, CA 95604

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Ms. Cubbler:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

P.O. Box 367
Elmira, CA 95626

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April 13th, 2022

Jesus Tarango
Wilton Rancheria
9728 Kent St.
Elk Grove, CA 95624

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Tarango:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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Sincerely,

Brian Ludwig

Brian Ludwig, Ph.D.
Principal Investigator

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Elmira, CA 95626

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April 13th, 2022

Grayson Coney
Tsi Akim Maidu
P.O. Box 510
Browns Valley, CA 95918

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Coney:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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Sincerely,

Brian Ludwig

Brian Ludwig, Ph.D.
Principal Investigator

P.O. Box 367
Elmira, CA 95626

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www.solanoarchaeology.com

April 13th, 2022

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road
Auburn, CA, 95603

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Whitehouse:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

On behalf of the City, SAS is facilitating AB-52 consultation for the Project. We are writing to you to introduce the Project and inquire if you have any information on undocumented sites that may exist in the project area, or concerns you might have with the proposed Project. For your information, a review of the Native American Heritage Commission (NAHC) Sacred Lands File resulted in the identification of a Native American cultural property within or near the project area.

Thank you very much for your time and I hope to hear from you soon. I can be reached via email at Brian@solanoarchaeology.com or by phone at 530-417-7007.

Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

P.O. Box 367
Elmira, CA 95626

707-718-1416 ▲ Fax 707-451-4775
www.solanoarchaeology.com

April 13th, 2022

Don Ryberg
Tsi Akim Maidu
P.O. Box 510
Browns Valley, CA 95918

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Ryberg:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

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Thank you very much for your time and I hope to hear from you soon. I can be reached via email at Brian@solanoarchaeology.com or by phone at 530-417-7007.

Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

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Elmira, CA 95626

707-718-1416 ▴ Fax 707-451-4775
www.solanoarchaeology.com

April 13th, 2022

Dahlton Brown
Wilton Rancheria
9728 Kent St.
Elk Grove, CA 95624

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Brown:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

On behalf of the City, SAS is facilitating AB-52 consultation for the Project. We are writing to you to introduce the Project and inquire if you have any information on undocumented sites that may exist in the project area, or concerns you might have with the proposed Project. For your information, a review of the Native American Heritage Commission (NAHC) Sacred Lands File resulted in the identification of a Native American cultural property within or near the project area.

Thank you very much for your time and I hope to hear from you soon. I can be reached via email at Brian@solanoarchaeology.com or by phone at 530-417-7007.

Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

SAS
SOLANO ARCHAEOLOGICAL SERVICES

P.O. Box 367
Elmira, CA 95626

707-718-1416 ▴ Fax 707-451-4775
www.solanoarchaeology.com

April 13th, 2022

Clyde Prout
Colfax-Todds Valley Consolidated Tribe
P.O. Box 4884
Auburn, CA 95604

RE: Los Rios Community College District Rancho Cordova Center Dawes Street Parking Expansion Project, City of Rancho Cordova, Sacramento County, California

Dear Mr. Prout:

Petralogix Engineering, Inc., has recently retained Solano Archaeological Services (SAS) to conduct a California Environmental Quality Act (CEQA)-level cultural resources inventory of a property located in the City of Rancho Cordova (the "City") for the Los Rios Community College District's (LRCCD) Dawes Street Parking Expansion Project (the "Project"). The LRCCD proposes to expand student parking on an approximately 0.8-acre parcel near the intersection of Folsom Boulevard, and Dawes Street. The project area is located on the north side of Folsom Boulevard and is situated in Township 9 North, Range 6 East, Section 34 (projected) in the Rio De Los Americanos land grant as depicted on the attached *Carmichael, California* USGS topographic quadrangle.

On behalf of the City, SAS is facilitating AB-52 consultation for the Project. We are writing to you to introduce the Project and inquire if you have any information on undocumented sites that may exist in the project area, or concerns you might have with the proposed Project. For your information, a review of the Native American Heritage Commission (NAHC) Sacred Lands File resulted in the identification of a Native American cultural property within or near the project area.

Thank you very much for your time and I hope to hear from you soon. I can be reached via email at Brian@solanoarchaeology.com or by phone at 530-417-7007.

Sincerely,

Brian Ludwig, Ph.D.
Principal Investigator

ATTACHMENT C

NCIC Record Search

California Historical Resources Information System

NORTH CENTRAL INFORMATION CENTER

AMADOR
EL DORADO
NEVADA
PLACER
SACRAMENTO
YUBA

California State University, Sacramento
6000 J Street, Folsom Hall, Suite 2042
Sacramento, California 95819-6100
phone: (916) 278-6217
fax: (916) 278-5162
email: ncic@csus.edu

4/4/2022 NCIC File No.: SAC-22-74

Jason Coleman
Solano Archaeological Services
PO Box 367
Elmira, CA 95625

Re: Los Rios Community College District Dawes St. Parking Expansion

The North Central Information Center (NCIC) received your records search request for the project area referenced above, located on the Carmichael USGS 7.5’ quad. The following reflects the results of the records search for the project area and a ½-mi radius.

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ shapefiles

Recorded resources within project area:	P-34-335 P-34-2435 (close to project area)
Recorded resources outside project area, within radius:	P-34-455 P-34-5369
Known reports within project area:	None
Known reports outside project area, within radius:	6036 6045 6092 7309 12980 12984 13007 13039 13231

Resource Database Printout (list): ☐ enclosed ☒ not requested ☐ nothing listed/NA

Resource Database Printout (details): ☒ enclosed ☐ not requested ☐ nothing listed/NA

Resource Digital Database Records: ☒ enclosed ☐ not requested ☐ nothing listed/NA

Report Database Printout (list): ☒ enclosed ☐ not requested ☐ nothing listed/NA

Report Database Printout (details): ☐ enclosed ☒ not requested ☐ nothing listed/NA

Report Digital Database Records: ☒ enclosed ☐ not requested ☐ nothing listed/NA

Resource Record Copies: ☐ enclosed ☐ not requested ☐ nothing listed/NA

Report Copies: ☐ enclosed ☐ not requested ☐ nothing listed/NA

Built Environment Resources Directory: ☒ enclosed ☐ not requested ☒ nothing listed/NA

Archaeological Determinations of Eligibility: ☐ enclosed ☐ not requested ☒ nothing listed/NA

CA Inventory of Historic Resources (1976): ☐ enclosed ☐ not requested ☒ nothing listed/NA

Caltrans Bridge Survey: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Ethnographic Information: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Historical Literature: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Historical Maps: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Local Inventories: ☐ enclosed ☒ not requested ☐ nothing listed/NA

GLO and/or Rancho Plat Maps: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Shipwreck Inventory: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Soil Survey Maps: ☐ enclosed ☒ not requested ☐ nothing listed/NA

Please forward a copy of any resulting reports and resource records from this project to NCIC as soon as possible. The lead agency/authority and cultural resources consultant should coordinate sending documentation to NCIC. Digital materials are preferred and can be sent to our office through our file transfer system or on a CD by mail via USPS to the address on the top of the first page. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, it is possible that not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the records search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,

Paul Rendes, Coordinator
North Central Information Center

Resource Detail: P-34-000335

Identifying information

Primary No.: P-34-000335

Trinomial: CA-SAC-000308H

Name: Folsom Mining District

Other IDs:

Type	*Name*
Resource Name	Folsom Mining District
Other	American River Placer Mining District
Other	American River Mining District
Other	Prairie Diggings Placer Mining District
Other	Alder Creek Corridor Mining District
Other	American River Gold Mining District
Other	Locus 5/adit
Other	Capitol Dredging Company Diggings
Other	CIHR 158
Other	Willow Springs Hill Locus

Cross-refs:
See also 34-000008
See also 34-000593
See also 34-000803
See also 34-001824
Is a district with element 34-000008
Is a district with element 34-000498
Is a district with element 34-000626
Is a district with element 34-000635
Is a district with element 34-000636
Is a district with element 34-000767
Is a district with element 34-000768
Is a district with element 34-000769
Is a district with element 34-000770
Is a district with element 34-000774
Is a district with element 34-002237
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Is a district with element 34-002307

Attributes

Resource type:	Site, District
Age:	Historic
Information base:	Survey
Attribute codes:	AH02 (Foundations/structure pads); AH06 (Water conveyance system); AH09 (Mines/quarries/tailings)
Disclosure:	Not for publication
Collections:	Unknown
Accession no(s):	
Facility:	

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
3/9/1995	S. Flint		
10/1/1992	Mary L. Maniery		
5/4/2012	S. Pappas	ECORP Consulting, Inc	update
6/29/2013	A. Parez, B. Lund, L. Fisher	Associate State Archaeologist	update
2/12/2015	Charlene Gross	Analytical Environmental	update
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 1
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 2
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 17
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 18
2/2/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 19
2/2/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 20
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 21

2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 22
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 24
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 25
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 26
2/2/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 27
2/2/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 28
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 29
2/2/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 30
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 31
2/2/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 32
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 33
2/17/2005	Ric Windmiller	Registered Professional Archaeologist	Update--Lindstrom's Feature 34
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--PAR's Feature 1
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--PAR's Feature 2
2/1/2005	Ric Windmiller	Registered Professional Archaeologist	Update--PAR's Feature 4
12/14/2007	Michael Lawson	Peak & Associates, Inc	update
2/17/2004	John Nadolski, Kurt Lambert	Pacific Municipal Consultants	update
9/8/2006	Ric Windmiller		update
11/7/1992	S.G. Lindstrom, L. Lundemo, M. Panelli, J. Wells, N. Wilson	P.O. Box 3324, Truckee, CA 96160	update
2/5/2002	K. Carpenter,	Far Western Anthropological Research Group, Inc.	update
6/4/1999	Melinda A. Peak	Peak & Associates, Inc.	update
11/22/1994	R. Gerry	Peak & Associates, Inc.	update
4/30/1992	Melinda Peak, James Oglesby, Marvine Marine, Matthew Waters	Peak & Associates, Inc.	update
4/3/1989	M. Peak, R. Gerry	Peak & Associates, Inc.	update
6/26/1969	K.G.S.		
3/21/2011	C. Arrington		update
10/1/2007	Tina Pitsenberger	Pacific Municipal Consultants	
8/1/2014		AECOM	update
1/3/2020	Coleman, Talcott, Wolpert	Solano Archaeological Services	update

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
000332	1986	Cultural Resource Assessment of the Prairie City Technical Center, City of Folsom, California.	
001847	1992	Cultural Resource Evaluation Of The Lake Natoma Shores Project Folsom, Sacramento Co. Calif	
002684	1995	Historic Property Survey Report for the	PAR Environmental Services, Inc

		Proposed U.S. Route 50/ Folsom Blvd. Interchange Improvements, City of Folsom, Sacramento County, California; Archaeological Survey Report/Historic Study Report for the proposed United States Rout50/Folsom Blvd.	
002729	1995	Historic Property Report, Lower Sacramento River Segment, Cultural Resources Inventory and Evaluations, American River Watershed Investigation For the U.S. Army Engineer District, Sacramento Corps of Engineers, Contract No. DACWo5-95-R-0055	Dames & Moore
003770	1993	Prairie City Center Project	
003779	2000	Riley Street School Site Mine Tunnel	Consulting Archaeologist
003803	1998	Archaeological Survey Report for the Folsom East Interceptor Section 2 Extension Project, Sacramento County Control Number: 97-DWE-0395	
003823	1993	A Cultural Resource Inventory of Prairie Oaks Center Project	
003835	1999	Historic Ditch Segment Oak Brook Apartments Development	Consulting Archaeologist
003840	1994	Proposed Interchange and Auxiliary Lanes Highway 50	Caltrans
003864	1998	Proposed South Lake Natoma Trail of the Alder Creek Pedestrian/Bicyclist Bridge Crossing Project	Anthropological Studies Center, Sonoma State University
003886	1988	A Cultural Resource Evaluation of the Intel Expansion Project Folsom, California Sacramento County	Archaeological Consultant
003925	1990	The Broadstone Master Plan Project: Final Report	Cultural Resources Unlimited
003942	1997	Evaluation of Cultural Resources Willow Springs Development Folsom, Sacramento County, California	Consulting Archaeologist
004487	2000	Cultural Resource Evaluation for a Nextel Communication Wireless Telecommunications Service Facility Prairie City Road	
004492	2000	Historic Properties Survey Report for the Proposed Riley Street Extension Project City of Folsom, California	Peak & Associates, Inc.
004493	2000	Archaeological Survey Report and Historic Resources Evaluation Report for the Proposed Riley Street Extension Project, City of Folsom, California	Peak & Associates, Inc
004505		Cultural Resource Survey Report for the Proposed California Temple USE Permit	County of Sacramento, Department of Environmental Review
004507	2003	Cultural Resources Investigation of the 1108 Sutter Street Property Folsom, Sacramento County, California	PAR Environmental Services, Inc.
004509	1991	Cultural Resources investigation for the American River Bridge Crossing Project, City of Folsom, Sacramento County, California	PAR Environmental Services, Inc
004518	1988	A Cultural Resource Evaluation of the Cerros-Morrison Homes Project at Willow Springs Hill Near Folsom, California Sacramento County	
004520	1992	Historic Survey Report and Historic Resource Evaluation Report for Sixteen Sites, Highway 50 Interchange Project Post Mile 18.8 TO 23.1, Sacramento County, California	PAR Environmental Services, Inc
004521	1994	Historic Property Survey Report for a Proposed Interchange and Auxillary Lanes on Highway 50 in Eastern Sacramento County, California 03-SAC-50 P.M. 17.1/20.1 03101-394500	State of California, Department of Transportation District 3

004524	1993	Cultural Resource Inventory and Preliminary Evaluation for the Parkway Development at Blue Ravine City of Folsom, California	Peak & Associates, Inc.
004525	1991	Archaeological Survey Report for the Highway 50 Interchange Project, Post Mile 15.8 to Post Mile 23.1, Sacramento County, California	PAR Environmental Services
005008	1994	Cultural Resource Assessment of Portions of the Capital Center Subdivision, Sacramento County, California	
005857	2003	Archaeological and Historic Investigations for the Aerojet Mining Amendment Project	
005869	1999	Cultural Resource Assessment for the Proposed Rio Del Oro Project Area	
005873	1996	Cultural Resources Investigation of the American River Aggregate East Mining	PAR Environmental Services, Inc.
006165	2005	Determination of Eligibility and Effect for the Proposed Rio Del Oro Project Area, City of Rancho Cordova, Sacramento County, California	Peak & Associates, Inc.
006171	2003	Cultural Resources Analysis for Cingular Wireless Site.	
006575	2005	The Oaks at Willow Springs Folsom, Sacramento County, California	
006738	2003	Cultural Resources Inventory and Site Assessment for the: Lake Natoma State Recreation Area, Sacramento County, CA	EDAW, Inc. EDAW
006826	2005	Archaeological Survey of American River Watershed Project Folsom Dam Modifications Mitigation Sites/Adjustment of Boundary for CA-SAC-308-H	U.S. Army Corps of Engineers, Sacramento District
007899	2004	Larkspur Hotel Project Natoma Station Lot Y	Consulting Archaeologist
007926	1987	An Archaeological Reconnaissance Survey of a Five Hundred Acre Parcel within the City of Folsom, Sacramento County, California	Hatheway & McKenna
007960	1989	Cultural Resources Study of the Prairie City OHV State park Sacramento County, California	Cultural Resources Unilmited
008736	2006	Carpenter Ranch Cultural Resources Inventory, Folsom, Sacramento County, California	Consulting Archaeologist
008821	2007	Cultural Resource Inventory, Glenborough at Easton, Sacramento County, California, Project 2003-019	ECORP Consulting, Inc.
009188	2002	Cultural Resources Survey for Right-of-Way Maintenance Along the Western Area Power Administration Transmission Lines Volumes I, II, and II	Far Western Anthropological Group
009258	2008	Determination of Eligibility and Effect for the Parshore Phases III and V Project Area. City of Folsom, California	Peak & Associates
009393	2008	Cultural Resources Inventory and Site Assessment for the American River Spawning Gravel Augmentation Project	EDAW
009589	2008	Cultural Resources Inventory and Evaluation for the Proposed Dos Coyotes Trail Segment Project, City of Folsom Parks and Recreation Department, Sacramento County, California	SWCA Environmental Consultants
010400	2009	Cultural Resources Survey Folsom Boulevard Transit Oriented Developmment Plan Sacramento County, California	GeoEngineers, Inc
010558	2009	Archaeological Survey of the American River Parkway - Mile 22 Retaining Walls, Sacramento County California Control No. 09-70091	PAR Environmental Services, Inc

010810	2011	Cultural Resources Survey Report Villages of Zinfandel Sacramento County, California Project No. 2009-139	ECORP Consulting, Inc
010811	2011	CULTURAL RESOURCES INVENTORY AND EVALUATION FOR THE PROPOSED LAKE NATOMA WATERFRONT AND TRAIL ACCESS ENHANCEMENT PROJECT City of Folsom Parks and Recreation Department Sacramento County, California Reclamation Project Tracking No. 11-CCAO-071	PARUS Consulting, Inc
011001	2012	Folsom South of US Highway 50 Specific Plan Project Preliminary Historic Properties Synthesis Report Sacramento County, California Project No. 2005-429.1	ECORP Consulting, Inc
011166	2013	Systematic Archaeological Survey of the American River Parkway Cordova Creek Naturalization Project (Control No. 2011-70095) Final Report	PAR Environmental Services, Inc
011337	2013	Cultural Resources Testing and Evaluation Report for the Mangini Ranch APE, Folsom South of U.S. Highway 50 Specific Plan Project, Sacramento County, California ECORP Project No. 2012-037.1	ECORP Consulting, Inc
011721	2015	Cultural Resources Study and Finding of Effect: Nimbus Dam Radial Gate Repairs Sacramento County, CA	Analytical Environmental Serivces
012346	2007	Historic Property Survey Report for the Rancho Cordova Parkway Interchange	Pacific Municipal Consultants
012347	2015	Historic Property Survey Report for the White Rock Road Widening Project between Sunrise Boulevard and Grant Line Road	AECOM
013235	2020	Cultural Resources Study-Folsom Lake College Project, Sacramento County, California	Solano Archaeological Services
013539	2021	Cultural Resources Assessment of the SA994 Coloma & Vehicle Project, Rancho Cordova, Sacramernto County, CA (BCR Consulting Project No. TRF2006	BCR Consulting, LLC

Location information

County: Sacramento

USGS quad(s): BUFFALO CREEK, CARMICHAEL, CITRUS HTS, CLARKSVILLE, FOLSOM, FOLSOM SE, PILOT HILL

Address:

PLSS:

UTMs: Zone 10 661058mE 4278292mN NAD27
Zone 10 661054mE 4278500mN NAD27
Zone 10 660296mE 4275183mN NAD83
Zone 10 659400mE 4280220mN NAD27 (NW corner (11/7/1992 recording))
Zone 10 660960mE 4281090mN NAD27 (NE corner (11/7/1992 recording))
Zone 10 660220mE 4279200mN NAD27 (SW corner (11/7/1992 recording))
Zone 10 660720mE 4279010mN NAD27 (SE corner (11/7/1992 recording))

Management status

Database record metadata

	Date	*User*
Entered:	11/13/2006	jay
Last modified:	8/19/2021	paulrendes

	Date	*User*	*Action taken*
IC actions:	11/13/2006	jay	Imported data from NCIC Excel spreadsheet
	3/25/2008	Machiel	Imported data from site record and plotted in GIS

	10/18/2017	paulrendes	entered 11/7/1992 recording
	10/19/2017	paulrendes	entered 10/1/2007 recording
	10/19/2017	paulrendes	entered august 2014 recording
	4/19/2018	paulrendes	corrected resource type
	8/19/2021	paulrendes	entered 1/3/2020 update
Record status:	Verified		

Resource Detail: P-34-000455

Identifying information

Primary No.: P-34-000455

Trinomial: CA-SAC-000428H

Name: Sacramento Valley Rail Road

Other IDs:

Type	*Name*
Resource Name	Sacramento Valley Rail Road
Other	California's First Passenger Railroad
CHL	526
CHL	558
Other	Southern Pacific Railroad
Other	CIHR 169
Other	CIHR 197
Other	Southern Pacific R Street Railroad, 13th to 16th streets, Sacramento
Other	SPRR R Street Track and Siding, 13th to 16th streets
Other	Southern Pacific R Street Railroad Track and Siding 16th to 18th streets, Sacramento
Other	Southern Pacific Railroad, Fair Oaks Spur
Other	LAR-15
Other	REF 48-H
Other	WAPA 20

Cross-refs: Subsumes 34-004936
Subsumes 34-005117

Attributes

Resource type: Structure, Object, Site

Age: Historic

Information base: Survey, Analysis

Attribute codes: AH07 (Roads/trails/railroad grades); HP18 (Train)

Disclosure: Not for publication

Collections: No

Accession no(s):

Facility:

General notes

have associated historical literature in PDF library

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
9/27/1991	Keith Syda, Will Shapiro	PAR Environmental Services, Inc.	
9/1/1998	Eleanor Derr	Cultural Resources Unlimited	
9/9/1998	Robert Gerry	Peak & Associates, Inc.	
1/4/1991	K. Syda, L. Shapiro	PAR Environmental Services, Inc.	
10/15/1993	Stephen D. Mikesell	JRP Historical Consulting Services	
10/9/1979	Jim Arbuckle		CHL form
8/1/2013		PAR Environmental Services, Inc	
2/24/2009	Mary L. Maniery	PAR Environmental Services, Inc	Update
7/9/1999	John W. Dougherty	PAR Environmental Services	update
3/22/1995	S. Flint, M. Kelly	Dames & Moore	
5/23/2002	Amanda Blosser, Toni Webb	JRP	update
12/10/2001	Rand Herbert, Amanda Blosser	JRP	update

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
000786	1998	Historic Properties Survey Report and Finding	Peak & Associates, Inc

000786	1998	of No Adverse Effect for the Proposed Folsom Boulevard Project between Blue Ravine Road and Natoma Street, City of Folsom, California.	
001847	1992	Cultural Resource Evaluation Of The Lake Natoma Shores Project Folsom, Sacramento Co. Calif	
002557	2000	Finding of No Historic Properties Affected for the Proposed Folsom Widening Project, Sacramento County, California	
002594	2000	Historic Property Survey Report Folsom Boulevard Widening Project, Sacramento County, California..	PAR Environmental Services, Inc.
004509	1991	Cultural Resources investigation for the American River Bridge Crossing Project, City of Folsom, Sacramento County, California	PAR Environmental Services, Inc
004520	1992	Historic Survey Report and Historic Resource Evaluation Report for Sixteen Sites, Highway 50 Interchange Project Post Mile 18.8 TO 23.1, Sacramento County, California	PAR Environmental Services, Inc
006092	1993	Archaeological and Architectural Inventory and Determniation of Eligibility and Effect of the Butterfield to Mather Field Light Rail Extension and Brighton Bridge Double Tracking Project.	Jones & Stokes Associates, Inc.
007130	2002	Roseville Energy Facility Cultural Resources	URS
009188	2002	Cultural Resources Survey for Right-of-Way Maintenance Along the Western Area Power Administration Transmission Lines Volumes I, II, and II	Far Western Anthropological Group
010322	2009	Historic Property Survey Report for R Street Market Plaza Improvement Project 16th to 18th Streets, City of Sacramento, California with Appendices B & C:Historical Resources Evaluation Report& Archaeological Survey Report & Attachment C: Late Discovery	PAR Environmental
011585	2014	Historic Property Survey Report for R Street Phase III Improvement Project, 13th to 16th Streets City of Sacramento, California	PAR Environmental Services, Inc
013539	2021	Cultural Resources Assessment of the SA994 Coloma & Vehicle Project, Rancho Cordova, Sacramernto County, CA (BCR Consulting Project No. TRF2006	BCR Consulting, LLC

Location information

County: Sacramento

USGS quad(s): CARMICHAEL, CITRUS HTS, FOLSOM, SACRAMENTO EAST, SACRAMENTO WEST

Address:

PLSS: T R Sec. MDBM

UTMs: Zone mE mN NAD27 (see resource record for individual locations)

Management status

Database record metadata

	Date	*User*
Entered:	11/13/2006	jay
Last modified:	7/19/2021	paulrendes

IC actions:	*Date*	*User*	*Action taken*
	11/13/2006	jay	Imported data from NCIC Excel spreadsheet
	1/17/2008	wilson	Imported data from site record-Machiel Van Dordrecht
	4/20/2009	kate	plotted in GIS
	1/5/2017	paulrendes	Removed two site records that are not railroad segments. P-34-3289 and P-

			34-5118
	1/5/2017	paulrendes	Incorporated one site record from P-34-507/SAC-480H
	1/5/2017	paulrendes	Subsumed P-34-4936
	1/5/2017	paulrendes	Plotted Sacramento Valley Rail Road line from Sacramento to Folsom
	1/5/2017	paulrendes	Removed three segments because they are part of the Placerville & Sacramento Railroad. They are now part of P-34-5120
	1/20/2017	paulrendes	subsumed P-34-5117/SAC-1233H
	2/19/2018	paulrendes	corrected resource type
	10/19/2018	paulrendes	entered 5/23/2002 and 12/10/2001 recordings
Record status:	Verified		

Resource Detail: P-34-002435

Identifying information

Primary No.: P-34-002435

Trinomial:

Name: Mills Station

Other IDs:

Type	*Name*
Resource Name	Mills Station

Cross-refs:

Attributes

Resource type: Building

Age: Historic

Information base: Other

Attribute codes: HP06 (1-3 story commercial building)

Disclosure: Not for publication

Collections: Unknown

Accession no(s):

Facility:

General notes

Approximate location plotted in GIS

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
10/15/1993	Stephen D. Mikesell	JRP Historical Consulting Services	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
006092	1993	Archaeological and Architectural Inventory and Determniation of Eligibility and Effect of the Butterfield to Mather Field Light Rail Extension and Brighton Bridge Double Tracking Project.	Jones & Stokes Associates, Inc.

Location information

County: Sacramento

USGS quad(s): CARMICHAEL

Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
Dawes ST	Sacramento		

PLSS:

UTMs:

Management status

Database record metadata

	Date	*User*
Entered:	7/15/2009	Monica
Last modified:	7/18/2017	jacobmackey

IC actions:

Date	*User*	*Action taken*
8/27/2009	kate	Approximate location plotted in GIS

Record status: Verified

Resource Detail: P-34-005369

Identifying information

Primary No.: P-34-005369

Trinomial: CA-SAC-001275H

Name: Mather Spur

Other IDs:

Type	*Name*
Resource Name	Mather Spur

Cross-refs:

Attributes

Resource type: Object, Site

Age: Historic

Information base: Survey

Attribute codes: AH07 (Roads/trails/railroad grades); AH16 (Other) - railroad track, sidings, switches, signs

Disclosure: Not for publication

Collections: No

Accession no(s):

Facility:

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
6/22/2015	Lynn Furnis	Cogstone Resources Management, Inc.	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
013039	2016	Historical Resources Evaluation Report for the Mather Railroad Spur Rails to Trails Project, City of Rancho Cordova, Sacramento County, California	Cogstone Resource Management, Inc.

Location information

County: Sacramento

USGS quad(s): CARMICHAEL

Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
Mather Field Road	Rancho Cordova		

PLSS:

UTMs: Zone 10 647203mE 4272110mN NAD83

Management status

Database record metadata

	Date	*User*
Entered:	6/3/2020	paulrendes
Last modified:	6/3/2020	paulrendes

IC actions:

Date	*User*	*Action taken*
6/3/2020	paulrendes	plotted in gis

Record status:

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
006036		2001	Rugroden, Sandie	Cingular Wireless Antenna Locations, Archaeological Survey Report		
006045		1994	Noble, Daryl	Negative Archaeological Survey Report: State Route 50		
006092		1993		Archaeological and Architectural Inventory and Determniation of Eligibility and Effect of the Butterfield to Mather Field Light Rail Extension and Brighton Bridge Double Tracking Project.	Jones & Stokes Associates, Inc.	34-000455, 34-000462, 34-002435, 34-003387, 34-003687
007309		2006	Richard Olson	U.S. Highway 50 High Occupancy Vehicle Lanes and Community Enchancements Project Historic Property Survey Report	Caltrans	34-001705, 34-002232, 34-002233, 34-002234, 34-002235, 34-002236, 34-002308, 34-002309, 34-002310, 34-002311, 34-002312, 34-002313, 34-002314, 34-002315, 34-002316, 34-002317, 34-002318, 34-002319, 34-002320, 34-002321
007309A		2005	Andrew Hope	Historic Resource Evaluation Report for the U.S. Highway 50 HOV Lane Project in Sacramento, Sacramento County	California Dept of Transportation, Sacramento	
007309B		2006	Richard V. Olson	Archaeological Survey Report for Proposed U.S. Highway 50 High Occupancy Vehicle (HOV) and Community Enhancement Project, Sacramento County, California	California Dept of Transportation, Sacramento	
007309C		2006	Anmarie Medin and Richard V. Olson	Extended Phase I Report for CA-SAC-37, Sacramento County, California	California Dept of Transportation, Sacramento	
007309D		2006	Andrew Hope	Finding of No Adverse Effect for the U.S. Highway 50 HOV-Lane Project in Sacramento County	California Dept of Transportation, Sacramento	
012980		2019	Stefan Heisler	Section 106 Review of Federally-Funded Residential Rehabilitation Project at 2445 El Rocco Way, City of Rancho Cordova, Sacramento County	Housing Division, City of Rancho Cordova (submitted by Michael Baker International)	
012984		2019	Stefan Heisler	Section 106 Review of Federally-Funded Residential Rehabilitation Project at 2700 Paseo Drive, City of Rancho Cordova, Sacramento County	Housing Services Division, City of Rancho Cordova (submitted by Michael Baker International)	
013007		2020	Elizabeth Sparkman	Section 106 Review of the Federally Funded Residential Rehabilitation Project at 3051 Portsmouth Drive, City of Rancho Cordova, Sacramento County	City of Rancho Cordova (submitted by Michael Baker International)	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
013039		2016	Lynn Furnis and Nancy Sikes	Historical Resources Evaluation Report for the Mather Railroad Spur Rails to Trails Project, City of Rancho Cordova, Sacramento County, California	Cogstone Resource Management, Inc.	34-005369
013039B		2016	Ian Scharlotta, Lynn Furnis, and Nancy Sikes	Archaeological Survey Report for the Mather Railroad Spur Rails to Trails Project, City of Rancho Cordova, Sacramento County, California	Cogstone Resource Management Inc.	
013231		2021	Brian Ludwig	Cultural Resources Study-Los Rios Community College District Rancho Cordova Center Phase 2 Project, Sacramento County, California	Solano Archaeological Services	

ATTACHMENT D

Representative Project Area Photos

Photo 1286. NW corner of project area, view to north

Photo 1287. NW corner of project area, view to south

Photo 1288. Project area overview, view to west

Photo 1279. View to west from NW corner of project area

Photo 1277. View towards project area, view to east

Photo 1273. View to southwest from trench alignment

RE: Consultation under AB 52 - Folsom Lake College - Rancho Cordova Center Project
Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>
Thu 6/9/2022 10:18 AM
To:

- Uhlmeyer, Charles <UhlmeyC@losrios.edu>;
- Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>;
- McKechnie, Dan <mckechd@losrios.edu>

Cc:

- Daniel Kramer <dkramer@petralogix.com>;
- Tonya Scheftner <tscheftner@petralogix.com>

Hi Charles,

I can be available June 15th.

From: Uhlmeyer, Charles <UhlmeyC@losrios.edu>
Sent: Wednesday, June 8, 2022 9:53 AM
To: Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>; McKechnie, Dan <mckechd@losrios.edu>
Cc: Daniel Kramer (dkramer@petralogix.com) <dkramer@petralogix.com>; Tonya Scheftner <tscheftner@petralogix.com>
Subject: RE: Consultation under AB 52 - Folsom Lake College - Rancho Cordova Center Project

I would be happy to assist in setting up a virtual meeting.
If you can let me know your availability next week, I will coordinate schedules and sent out an invitation.
Dan McKechnie has availability Wednesday June 15 after 12:30 and Friday June 17 after 11am.

Thank you,
Charlie Uhlmeyer
Facilities Planning & Engineering
Los Rios Community College District
O. 916.856.3420
C. 916.501.3376

From: Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>
Sent: Wednesday, June 8, 2022 9:45 AM
To: McKechnie, Dan <mckechd@losrios.edu>; Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>
Cc: Daniel Kramer (dkramer@petralogix.com) <dkramer@petralogix.com>; Uhlmeyer, Charles <UhlmeyC@losrios.edu>; Tonya Scheftner <tscheftner@petralogix.com>
Subject: RE: Consultation under AB 52 - Folsom Lake College - Rancho Cordova Center Project

Hello Dan,

Thank you for sending over this information, is there anyway we can set up a virtual meeting?

From: McKechnie, Dan <mckechd@losrios.edu>
Sent: Thursday, May 26, 2022 12:52 PM
To: Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>

Cc: Daniel Kramer (dkramer@petralogix.com) <dkramer@petralogix.com>; Uhlmeyer, Charles <UhlmeyC@losrios.edu>; Tonya Scheftner <tscheftner@petralogix.com>
Subject: Consultation under AB 52 - Folsom Lake College - Rancho Cordova Center Project

Wilton Rancheria – Cultural Preservation Department,

Los Rios Community College District, and Petralogix Engineering, Inc., are in receipt of your email requesting Assembly Bill 52 (AB 52) consultation on behalf of Wilton Rancheria. Thank you for your interest in the Folsom Lake College – Rancho Cordova Center project, this email initiates AB 52 consultation.

We have retained Solano Archaeological Services (SAS) to complete a cultural resources identification study (attached) which includes a records search and pedestrian survey. SAS completed a records search at the North Central Information Center (NCIC) that indicated the project area is contained within the bounds of the Folsom Mining District (P-34-000335), and no prehistoric or early historic-era sites, features, or artifacts were noted within the project area. The NAHC SLF search indicated that a property possessing some significance to the Native American community is located in the vicinity of the project area. We would like to invite you to meet with me (Daniel McKechnie), Charlie Uhlmeyer of the Los Rios Community College District, and Daniel Kramer (Petralogix Engineering) so we can address any concerns you may have about the project and give you the opportunity to identify Tribal Cultural Resources that the project has the potential to impact.

Please let us know what days/times work for you and we can work toward setting up a meeting at the Project Site (10275 Dawes Street, Rancho Cordova).

Thank you for your interest in this project. We look forward to consulting with you. We respectfully request a reply from you within 30-days of receipt of this email.

Thank you,

Dan McKechnie
Director of Facilities Planning & Construction
Los Rios Community College District
3753 Bradview Drive | Sacramento, CA 95827
916.856.3400

LRCCD RCC Phase 2 Parking Lot Extension - Cultural Study Zoom Meeting
Uhlmeyer, Charles <UhlmeyC@losrios.edu>
Wed 6/15/2022 1:29 PM
To:

- Cultural Preservation Department Inbox <cpd@wiltonrancheria-nsn.gov>;
- dbrown@wiltonrancheria-nsn.gov <dbrown@wiltonrancheria-nsn.gov>;
- jtarango@wiltonrancheria-nsn.gov <jtarango@wiltonrancheria-nsn.gov>;
- shutchason@wiltonrancheria-nsn.gov <shutchason@wiltonrancheria-nsn.gov>

Cc:

- Tonya Scheftner <tscheftner@petralogix.com>;
- Jason Coleman <jason@solanoarchaeology.com>;
- Brian Ludwig <brian@solanoarchaeology.com>;
- Daniel Kramer <dkramer@petralogix.com>;
- McKechnie, Dan <mckechd@losrios.edu>

📎1 attachments (61 KB)
Accepted: LRCCD RCC Phase 2 Parking Lot Extension - Cultural Study Zoom Meeting;
Dalton, Jesus, Steven,
I am sorry that you were not able to attend the scheduled LRCCD RCC Phase 2 Parking Lot Extension - Cultural Study Zoom Meeting.
Hope this email finds you all well.

If you would like to reschedule, please reach out to me.

Thank you.
Charlie Uhlmeyer
Facilities Planning & Engineering
Los Rios Community College District
O. 916.856.3420
C. 916.501.3376

APPENDIX D

GEOTECHNICAL INVESTIGATION REPORT
LOS RIOS FLCC RCC – PHASE 2
RANCHO CORDOVA, CALIFORNIA

BSK PROJECT G21-021-11S

PREPARED FOR:

LOS RIOS COMMUNITY COLLEGE DISTRICT
1919 SPANOS CT.
SACRAMENTO, CA 95825

February 24, 2021

GEOTECHNICAL INVESTIGATION REPORT
LOS RIOS FLCC RCC – PHASE 2
RANCHO CORDOVA, CALIFORNIA

Prepared for:

Mr. Charlie Uhlmeyer
Los Rios Community College District
1919 Spanos Ct.
Sacramento, CA 95825

Sacramento Project: G21-021-11S

February 24, 2021

Prepared by:

Corinne Goodwin, PE
Project Engineer

CORINNE GOODWIN
C 90559
CIVIL

Carrie L. Foulk

Carrie L. Foulk, PE, GE
Senior Geotechnical Engineer

CARRIE L. FOULK
No. 3016
Exp. 09/30/21
GEOTECHNICAL

Martin B. Cline, CEG, QSD
Senior Engineering Geologist

MARTIN B. CLINE
No. 2084
CERTIFIED ENGINEERING GEOLOGIST

BSK Associates
3140 Gold Camp Drive #160
Rancho Cordova, CA 95670
(916) 853-9293
(916) 853-9297 FAX

Distribution: Mr. Charlie Uhlmeyer (pdf)

Table of Contents

Tables

Appendices

1. INTRODUCTION

This report presents the results of a Geotechnical Engineering Investigation conducted by BSK Associates (BSK), for the Los Rios Folsom Lake Community College (FLCC) Rancho Cordova Center (RCC) Phase 2 project in Rancho Cordova, California (Site). The Site is located at the existing Los Rios FLCC RCC, at 10259 Folsom Blvd in Rancho Cordova, California, as shown on the Site Vicinity Map, Figure A-1. The geotechnical engineering investigation was conducted in accordance with BSK Proposal GS20-20464, dated October 12, 2020.

This report provides a description of the geotechnical conditions at the Site and provides specific recommendations for earthwork and foundation design with respect to the planned structure. In the event that changes occur in the design of the project, this report's conclusions and recommendations will not be considered valid unless the changes are reviewed with BSK and the conclusions and recommendations are modified or verified in writing. Examples of such changes would include location, size of structures, foundation loads, etc.

1.1. Planned Construction

Based on the BCA Architects site layout concept, dated September 29, 2020, development will consist of constructing a single-story structure with a concrete slab-on-grade floor. The structure will be approximately 10,275 square feet located in an undeveloped area on the northwest corner of Folsom Boulevard and Mather Field Road in Rancho Cordova, California at the existing Los Rios FLCC RCC campus. Additional improvements will consist of exterior concrete flatwork, lighting, and underground utilities.

Grading is anticipated to be minor because the site is relatively flat. Excavations for new utilities are anticipated to be less than 5 feet deep.

In the event that significant changes occur in the design of the proposed improvements, this report's conclusions and recommendations will not be considered valid unless the changes are reviewed with BSK and the conclusions and recommendations are modified or verified in writing.

1.2. Purpose and Scope of Services

The objective of this geotechnical investigation was to characterize the subsurface conditions in the area of the proposed structure and provide geotechnical engineering recommendations for the project. The scope of the investigation included a field exploration, laboratory testing, engineering analyses, and preparation of this report.

2. FIELD INVESTIGATION AND LABORATORY TESTING

2.1. Field Exploration

The field exploration for this investigation was conducted under the oversight of a BSK Engineer. Three (3) borings were drilled at the site on January 27 and 28, 2021 by Taber Drilling from West Sacramento, California. The borings were drilled to maximum depths of approximately 16 and 30.5 feet below ground surface (BGS). A soil boring permit was obtained through Sacramento County Environmental Management Department prior to drilling.

The soil materials encountered in the borings were visually classified in the field, and the logs were recorded during the drilling and sampling operations. Visual classification of the materials encountered in the borings were made in general accordance with the Unified Soil Classification System (ASTM D 2488). A soil classification chart is presented in Appendix A.

Boring logs are presented in Appendix A and should be consulted for more details concerning subsurface conditions. Stratification lines were approximated by the field staff based on observations made at the time of drilling, while the actual boundaries between soil types may be gradual and soil conditions may vary at other locations.

2.2 Laboratory Testing

Laboratory tests were performed on selected soil samples to evaluate in-place moisture content and dry density, plasticity index, shear strength, and corrosion characteristics. A description of the laboratory test methods and results are presented in Appendix B.

3. SITE AND GEOLOGY/SEISMICITY CONDITIONS

The following sections address the Site descriptions and surface conditions, regional geology and seismic hazards, subsurface conditions, and groundwater conditions at the Site. This information is based on BSK's field exploration and published maps and reports.

3.1 Site Description and Surface Conditions

The Site is currently a vacant field with weeds and grassy vegetation up to 2 feet tall. The vacant field is immediately west of the existing building at the Los Rios FLCC RCC campus and is on the north side of Folsom Blvd. The NAD 83 GPS coordinates for the center of the Site are 38.5855 degrees North latitude and 121.3109 degrees West longitude. Site elevations range from about 83 to 84 feet per Google Earth Pro elevations.

According to Google Earth images, the site was previously developed with a small building and paved parking. In 2013, the building was demolished and in 2014/2015, the paving was demolished, and the site was graded. As discussed in the subsurface conditions section below, the upper approximately 3 feet of subgrade is a clayey gravel that is possibly fill, perhaps placed during this grading.

3.2 Geology and Seismic Hazards

We have conducted a geologic and seismic hazards assessment for this project which is included in Appendix C of this report. The assessment includes a description of the site geology and a summary of geologic and seismic hazards for the project.

3.3 Subsurface Conditions

Subsurface conditions at this Site generally consist of very dense clayey gravel with cobbles and very firm gravelly clay with cobbles, possibly fill, to a depth of about 3 feet BGS underlain by an approximately 4-foot layer of soft to firm sandy lean clay. Under the sandy lean clay layer, layers of primarily medium dense to very dense clayey and silty sand were encountered to a depth of approximately 15 to 16 feet BGS, under which a very dense clayey gravel layer was encountered to the maximum depth explored of 30.5 feet BGS at which depth practical refusal was encountered. Previous nearby borings by Neil O Anderson and Associates (NOA)[1] encountered similar soils except for the upper 3 feet of clayey gravel with cobbles. This may be because the NOA investigation was conducted prior to demolition of the surface improvements, and the clayey gravel with cobbles may be fill that was placed during the grading discussed in the Site Description and Surface Conditions section above.

The boring logs in Appendix A provide a more detailed description of the materials encountered, including the applicable Unified Soil Classification System symbols.

3.4 Groundwater Conditions

Groundwater was not encountered at the time of drilling on January 27 and 28, 2021. Based on the groundwater elevation data from the California Department of Water Resources, the historic high groundwater depth in the vicinity was recorded to be approximately 45 feet BGS.

Please note that the groundwater level may fluctuate both seasonally and from year to year due to variations in rainfall, temperature, pumping from wells and possibly as the result of other factors such as irrigation, that were not evident at the time of our investigation.

4. CONCLUSIONS AND RECOMMENDATIONS

Based upon the data collected during this investigation, and from a geotechnical engineering standpoint, it is our opinion that the soil conditions would not preclude the construction of the proposed improvements. The main geotechnical consideration for this project is the presence of possible fill within the upper approximately 3 feet BGS. Provided the recommendations presented herein are incorporated into the design and construction of the project, the proposed improvements may be supported on shallow foundations or mat foundations.

4.1 Seismic Design Criteria

A site-specific ground motion hazard analysis per ASCE 7-16 Section 21.2 is included in Appendix C of this report. Seismic design parameters have been provided based on this analysis.

4.2 Soil Corrosivity

A surface soil sample obtained from the Site was tested to provide a preliminary screening of the potential for concrete deterioration or steel corrosion due to attack by soil-borne soluble salts. The test results are presented in Appendix B.

---

[1] Presented in the report entitled “Geotechnical Investigation, Folsom Lake College, Rancho Cordova Campus, Northwest & Northeast Corners of Paseo Drive & Folsom Boulevard, Rancho Cordova, California” by Neil O. Anderson and Associates, dated July 20, 2013, Project No. SGE130012

The corrosivity evaluation was performed by BSK on a composite soil sample from B-1 in the upper 5 feet obtained at the time of drilling. The soil was evaluated for pH (ASTM D4972), and soluble sulfate and chlorides (CT 417 and CT 422). Based on the laboratory test results, the sample has a minimum resistivity of 3,310, pH is 7.6, sulfate is 19 mg/kg, and chloride was 27 mg/kg.

The water-soluble sulfate content severity class is considered not severe to concrete (Exposure Category S0 per Table 19.3.1.1 of ACI 318-19). The site soils minimum resistivity is considered corrosive to buried metal. Therefore, buried metal conduits, ferrous metal pipes, and exposed steel should have a protective coating in accordance with the manufacturer's specification. The above are general discussions. A more detailed investigation may include more or fewer concerns and should be directed by a corrosion expert. BSK does not practice corrosion engineering.

4.3 Site Preparation Recommendations

The following procedures must be implemented during Site preparation for the proposed Site improvements. References to maximum dry density, optimum moisture content, and relative compaction are based on ASTM D 1557 (latest test revision) laboratory test procedures.

1. The areas of proposed improvements must be cleared of surface vegetation and debris. Materials resulting from the clearing and stripping operations must be removed and properly disposed of off-site. In addition, all undocumented fills should be removed where encountered and where fills or structural improvements will be placed.
2. Where existing utilities, inlets, or underground tanks are present, they should be removed to a point at least 2 feet horizontally outside the proposed foundation and pavement areas. Resultant cavities must be backfilled with engineered fill compacted in accordance with the recommendations presented in this report.
3. Following the stripping operations, the areas where shallow foundations are proposed must be overexcavated to a minimum depth of one foot below the bottom of the footing elevation. After overexcavation, the bottom of the exposed soil should be scarified 12 inches, moisturized to optimum moisture content, and compacted to 90% of ASTM D1557. Over excavation should extend laterally three feet beyond the edge of foundations. Yielding areas should be observed by the geotechnical consultant and removed and recompacted if necessary.
4. Following the required stripping and overexcavation, in the areas of proposed shallow foundations, the exposed ground surface at the bottom of the overexcavation must be inspected by the Geotechnical Engineer to evaluate if loose or soft zones are present that will require additional overexcavation.
5. At the building pad and concrete flatwork, the upper two feet of the finish subgrade should be non-expansive soil (PI < 12). Imported soil or native excavated soils, free of organic materials or deleterious substances, may be placed as compacted engineered fill. The material must be free of oversized fragments greater than 3-inches in greatest dimension. Engineered fill underneath and extending 3 feet beyond the structure foundations and must be placed in uniform layers not exceeding 8-inches in loose thickness, moisture conditioned to at least 2 percent above optimum moisture content for clayey soils and near optimum moisture content for sandy soils, and compacted to at least 90 percent relative compaction. Due to the number of cobbles

present in the upper approximately 3 feet BGS, the on-site near surface soils may not be appropriate as engineered fill backfill.

6. If possible, earthwork operations should be scheduled during a dry, warm period of the year. Should these operations be performed during or shortly following periods of inclement weather, unstable soil conditions may result in the soils exhibiting a “pumping” condition. This condition is caused by excess moisture in combination with moving construction equipment, resulting in saturation and zero air voids in the soils. If this condition occurs, the adverse soils will need to be over-excavated to the depth at which stable soils are encountered and replaced with suitable soils compacted as engineered fill. Alternatively, the Contractor may proceed with grading operations after utilizing a method to stabilize the soil subgrade, which should be subject to review and approval by BSK prior to implementation.
7. Import fill materials must be free from organic materials or deleterious substances. The project specifications must require the contractor to contact BSK to review the proposed import fill materials for conformance with these recommendations at least one week prior to importing to the Site, whether from on-site or off-site borrow areas. Imported fill soils must be non-hazardous and derived from a single, consistent soil type source conforming to the following criteria:

Plasticity Index:	< 12
Expansion Index:	< 20 (Very Low Expansion Potential)
Maximum Particle Size:	3 inches
Percent Passing #4 Sieve:	65 - 100
Percent Passing #200 Sieve:	20 - 45
Low Corrosion Potential:	Soluble Sulfates < 1,500 ppm
	Soluble Chlorides < 150 ppm
	Minimum Resistivity > 3,000 ohm-cm

4.4 Foundations

Provided the recommendations contained in this report are implemented during design and construction, it is our opinion that the building can be supported on shallow foundations or mat foundations. A structural engineer should evaluate reinforcement, embedment depth, and pier diameter based on the requirements for the structural loadings, shrinkage and temperature stresses.

4.4.1 Shallow Foundations

Continuous and isolated spread footings must have a minimum width of 12 inches and 24 inches, respectively. The minimum foundation depth for spread footings is 18 inches. Continuous and isolated spread footing foundations may be designed using a net allowable bearing pressure of 2,000 pounds per square foot (psf). The net allowable bearing pressure applies to the dead load plus live load (DL + LL) condition; it may be increased by 1/3 for wind or seismic loads.

4.4.2 Mat Foundations

If the building is supported on a mat foundation, it may be designed to impose a maximum allowable pressure of 1,000 pounds per square foot (psf) due to dead plus live loads. This value may be increased by one-third for transient loads such as seismic or wind. The concrete mat foundation should be embedded at least 12 inches below the lowest adjacent grade.

4.4.3 Shallow/Mat Foundation Settlements

Static foundation settlements are expected to be less than 1 inch and differential settlements between similarly loaded (DL + LL) and sized footings are anticipated to be less than ½ inch over a lateral distance of 30 feet. Differential settlement of continuous footings or mat foundations, expressed in terms of angular distortion, is estimated to be approximately 1/600.

4.5 Lateral Earth Pressures and Frictional Resistance

Provided the Site is prepared as recommended above, the following earth pressure parameters for footings or mat foundations may be used for design purposes. The parameters shown in the table below are for drained conditions of select engineered fill or undisturbed native soil.

Table 1: Recommended Static Lateral Earth Pressures for Footings

Lateral Pressure Condition	Equivalent Fluid Density (pcf) Drained Condition
Active Pressure	40
At Rest Pressure	60
Passive Pressure	350

The lateral earth pressures listed herein are obtained by the conventional equation for active, at rest, and passive conditions assuming level backfill and a bulk unit weight of 120 pcf for the Site soils. A coefficient of friction of 0.3 may be used between soil subgrade and the bottom of footings.

The coefficient of friction and passive earth pressure values given above represent ultimate soil strength values. BSK recommends that a safety factor consistent with the design conditions be included in their usage in accordance with Sections 1806.3.1 through 1806.3.3 of the 2019 CBC. For stability against lateral sliding that is resisted solely by the passive earth pressure against footings or friction along the bottom of footings, a minimum safety factor of 1.5 is recommended. For stability against lateral sliding that is resisted by combined passive pressure and frictional resistance, a minimum safety factor of 2.0 is recommended. For lateral stability against seismic loading conditions, a minimum safety factor of 1.2 is recommended.

4.6 Slab-On-Grade

Interior concrete floor slabs and exterior concrete flatwork, such as driveways, non-structural detached patios, sidewalks and trash enclosures may experience some cracking due to finishing, curing process, moisture content, mixed design and underlying soils. To reduce the possibility for cracking to occur on the concrete slab the following recommendation should be implemented.

All interior slabs should be a minimum of 6-inches thick and exterior slabs should be a minimum of 5-inches thick and reinforced with a minimum of No. 4 rebar spaced 18 inches center to center, each direction. For concrete slabs subject to heavy traffic loads, such as trash enclosures should be a minimum of 6-inches thick and reinforced with a minimum of No. 4 rebar spaced 12-inches center to center, each direction. Special attention should be taken so that reinforcement is placed at the slab mid-height and at proper clearances. The provided slab thickness recommendations are only a minimum, actual slab thickness and reinforcement should be determined by the project Structural Engineer according to loading conditions. All slabs should be underlain by a minimum of 6-inches of Class 2 Aggregate base or clean crushed rock to enhance subgrade support for the slab. If this material is desired to be used as a capillary break, it should be ¾ inch maximum size with no more than 10 percent by weight passing the #4 sieve.

The near-surface soils have a low to moderate expansion potential and would be subject to shrink/swell cycles with fluctuations in moisture content. Some of the adverse effects of swelling and shrinking can be reduced with proper moisture treatment. The intent is to reduce the fluctuations in moisture content by moisture conditioning the soils, sealing the moisture in, and controlling it. Prior to placing concrete, the underlying soil should be thoroughly wetted to moisture condition the soil and to seal any desiccation cracks.

Subsurface moisture and moisture vapor migration upward to the surface of the concrete and adversely affect floor coverings. A vapor retarder membrane should be installed between the prepared aggregate base of the building pad and the interior slab to minimize moisture condensation under the floor coverings and/or upward vapor transmission. The vapor barrier membrane should be a minimum 15-mil extruded polyolefin plastic that complies with ASTM E1745 Class A and have a permeance of less than 0.01 perms per ASTM E96 or ASTM F1249. It is noted that polyethylene films (Visqueen) do not meet these specifications. The vapor barrier must be adequately lapped and taped/sealed at penetrations and seems in accordance with ASTM E1643 and the manufacturer's specifications. The vapor retarder must be placed continuously across the slab area. Building design and construction have a greater role in perceived moisture problems since sealed buildings/rooms or inadequate ventilation may produce excessive moisture in a building and affect indoor air quality.

It is emphasized that we are not floor moisture proofing experts. We make no guarantee nor provide any assurance that use of capillary break/vapor retarder system will reduce concrete slab-on-grade floor moisture penetration to any specific rate or level, particularly those required by floor covering manufacturers. The builder and designers should consider all available measures for floor slab moisture protection. Various factors such as surface grades, adjacent planters, the quality of slab concrete and the permeability of the on-site soils affect slab moisture and can control future performance. In many cases, floor moisture problems are the result of either improper curing of floors slabs or improper application of flooring adhesives. We recommend contacting a flooring consultant experienced in the area of concrete slab-on-grade floors for specific recommendations regarding your proposed flooring applications.

Special precautions must be taken during the placement and curing of all concrete slabs. Excessive slump (high water-cement ratio) of the concrete and/or improper curing procedures used during either hot or cold weather conditions could lead to excessive shrinkage, cracking, or curling of the slabs. High water-cement ratio and/or improper curing also greatly increase the water vapor permeability of concrete. We recommend that all concrete placement and curing operations be performed in accordance with the American Concrete Institute (ACI) manual.

Because of the moderately expansive soils present at the Site, interior and exterior slabs should have crack control saw cut control joints (i.e., weakened plane joints) to allow for expansion and contraction of the concrete. In general control joints should be spaced no more than 20 times the slab thickness in each direction. The actual joint layout and design should be provided by the Architect and/or Structural Engineer. Expansion joint material should be used between flatwork and buildings.

Because of the moderately expansive nature of the on-site soils, trees and other large plants can significantly contribute to differential settlement of a foundation, flatwork, and paved areas. The roots of trees and large plants can absorb the moisture from the soil, causing the soil to shrink much faster than other soil areas exposed to the weather. The soil where the moisture is lost more rapidly will sink lower than the surrounding soil, causing differential settlement in overlying or adjacent improvements. Certain trees and plants are known to be more hydrophilic (water-demanding) than others. Research studies indicate that a tree should be at least as far away from a building, flatwork, and pavement as the mature height of the tree to minimize the effect of drying caused by the tree. If this is not possible, consideration should be given to installing a root barrier between areas planted with trees and nearby foundations and flatwork. Exterior grading will have an impact on potential moisture beneath the floor slab. Recommendations for exterior draining are provided in the “Drainage Considerations” section of this report.

4.7 Excavation Stability

Soils encountered within the depth explored are generally classified as Type C soils in accordance with OSHA (Occupational Safety and Health Administration). The slopes surrounding or along temporary excavations may be vertical for excavations that are less than five feet deep and exhibit no indication of potential caving, but should be no steeper than 1.5H:1V for excavations that are deeper than five feet, up to a maximum depth of 15 feet. Certified trench shields or boxes may also be used to protect workers during construction in excavations that have vertical sidewalls and are greater than 5 feet deep. Temporary excavations for the project construction should be left open for as short a time as possible and should be protected from water runoff. In addition, equipment and/or soil stockpiles must be maintained at least 10 feet away from the top of the excavations. Because of variability in soils, BSK must be afforded the opportunity to observe and document sloping and shoring conditions at the time of construction. Slope height, slope inclination, and excavation depths (including utility trench excavations) must in no case exceed those specified in local, state, or federal safety regulations, (e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations).

4.8 Trench Backfill and Compaction

Processed on-site soils, which are free of organic material, are suitable for use as general trench backfill above the pipe envelope. Native soil with particles less than three inches in the greatest dimension may be incorporated into the backfill and compacted as specified above, provided they are properly mixed into a matrix of friable soils. The backfill must be placed in thin layers not exceeding 12 inches in loose thickness, be well-blended and consistent texture, moisture conditioned to at least optimum moisture content, and compacted to at least 90 percent of the maximum dry density as determined by the ASTM D1557. The uppermost 12 inches of trench backfill below pavement sections must be compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557. Moisture content within two percent of optimum must be maintained while compacting this upper 12-inch trench backfill zone.

We recommend that trench backfill be tested for compliance with the recommended relative compaction and moisture conditions. Field density testing should conform to ASTM Test Methods D1556 or D6938. We recommend that field density tests be performed in the utility trench bedding, envelope and backfill for every vertical lift, at an approximate longitudinal spacing of not greater than 150 feet. Backfill that does not conform to the criteria specified in this section should be removed or reworked, as applicable over the trench length represented by the failing test so as to conform to BSK recommendations.

4.9 Drainage Considerations

The control surface drainage in the project areas is an important design consideration. BSK recommends that final grading around shallow foundations must provide for positive and enduring drainage away from the structures, and ponding of water must not be allowed around, or near the shallow foundations. Ground surface profiles next to the shallow foundations must have at least a 2 percent gradient away from the structures.

5. PLANS AND SPECIFICATIONS REVIEW

BSK recommends that it be retained to review the draft plans and specifications for the project, with regard to foundations and earthwork, prior to their being finalized and issued for construction bidding.

6. CONSTRUCTION TESTING AND OBSERVATIONS

Geotechnical testing and observation during construction is a vital extension of this geotechnical investigation. BSK recommends that it be retained for those services. Field review during Site preparation and grading allows for evaluation of the exposed soil conditions and confirmation or revision of the assumptions and extrapolations made in formulating the design parameters and recommendations. BSK's observations must be supplemented with periodic compaction tests to establish substantial conformance with these recommendations. BSK must also be called to the Site to observe foundation excavations, prior to placement of reinforcing steel or concrete, in order to assess whether the actual bearing conditions are compatible with the conditions anticipated during the preparation of this report. BSK must also be called to the Site to observe placement of foundation and slab concrete.

If a firm other than BSK is retained for these services during construction, then that firm must notify the owner, project designers, governmental building officials, and BSK that the firm has assumed the responsibility for all phases (i.e., both design and construction) of the project within the purview of the Geotechnical Engineer. Notification must indicate that the firm has reviewed this report and any subsequent addenda, and that it either agrees with BSK's conclusions and recommendations, or that it will provide independent recommendations.

7. LIMITATIONS

The analyses and recommendations submitted in this report are based upon the data obtained from the borings performed at the locations shown on the Boring Location Map, Figure A-2. The report does not reflect variations which may occur between or beyond the borings. The nature and extent of such variations may not become evident until construction is initiated. If variations then appear, a re-evaluation of the recommendations of this report will be necessary after performing on-Site observations during the excavation period and noting the characteristics of the variations.

The validity of the recommendations contained in this report is also dependent upon an adequate testing and observation program during the construction phase. BSK assumes no responsibility for construction compliance with the design concepts or recommendations unless it has been retained to perform the testing and observation services during construction as described above.

The findings of this report are valid as of the present. However, changes in the conditions of the Site can occur with the passage of time, whether caused by natural processes or the work of man, on this property or adjacent property. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, governmental policy or the broadening of knowledge.

BSK has prepared this report for the exclusive use of the Client and members of the project design team. The report has been prepared in accordance with generally accepted geotechnical engineering practices which existed in Sacramento County at the time the report was written. No other warranties either expressed or implied are made as to the professional advice provided under the terms of BSK's agreement with Client and included in this report.

APPENDIX A

FIELD EXPLORATION

APPENDIX A
FIELD EXPLORATION

The field exploration for this investigation was conducted under the oversight of a BSK Engineer. Three (3) borings were drilled at the site on January 27 and 28, 2021 provided by Taber Drilling from West Sacramento, California. The borings were drilled to maximum depths of approximately 16 and 30.5 feet below ground surface (BGS). A soil boring permit was obtained through Sacramento County Environmental Management Department prior to drilling.

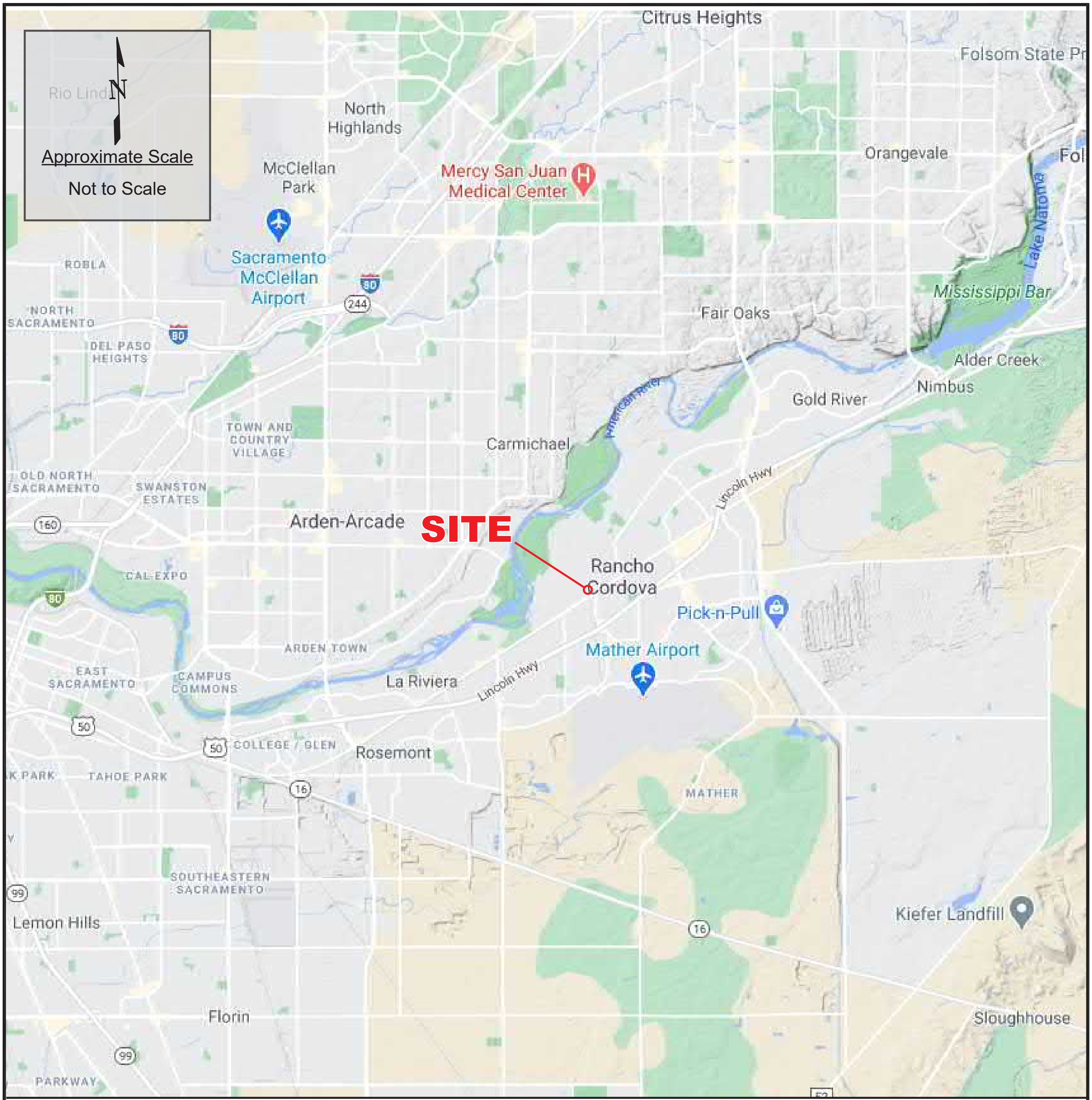
The soil materials encountered in the test borings were visually classified in the field, and the logs were recorded during the drilling and sampling operations. Visual classification of the materials encountered in the test borings was made in general accordance with the Unified Soil Classification System (ASTM D 2488). A soil classification chart is presented herein. Boring logs are presented herein and should be consulted for more details concerning subsurface conditions. Stratification lines were approximated by the field staff based on observations made at the time of drilling, while the actual boundaries between soil types may be gradual and soil conditions may vary at other locations.

Subsurface samples were obtained at the successive depths shown on the boring logs by driving samplers which consisted of a 2.5-inch inside diameter (I.D.) California Sampler and a 1.4-inch I.D. Standard Penetration Test (SPT) Sampler. The samplers were driven 18 inches using a 140-pound hammer dropped from a height of 30 inches by means of either an automatic hammer or a down-hole safety hammer. The number of blows required to drive the last 12 inches was recorded as the blow count (blows/foot) on the boring logs. The relatively undisturbed soil core samples were capped at both ends to preserve the samples at their natural moisture content. At the completion of the field exploration, the test borings were backfilled with grout to within 3 feet of the surface and backfilled with soil cuttings up to the surface.

It should be noted that the use of terms such as “loose”, “medium dense”, “dense” or “very dense” to describe the consistency of a soil is based on sampler blow count and is not necessarily reflective of the in-place density or unit weight of the soils being sampled. The relationship between sampler blow count and consistency is provided in the following Tables A-1 and A-2 for coarse-grained (sandy and gravelly) soils and fine grained (silty and clayey) soils, respectively.

Table A-1: Apparent Relative Density of Coarse-Grained Soil by Sampler Blow Count

Consistency Descriptor	SPT Blow Count (#Blows / Foot)	2.5” I.D. California Sampler Blow Count (#Blows / Foot)
Very Loose	<4	<6
Loose	4 – 10	6 – 15
Medium Dense	10 – 30	15 – 45
Dense	30 – 50	45 – 80
Very Dense	>50	>80



References: 1. https://maps.google.com, 2021

Note: Locations are approximate

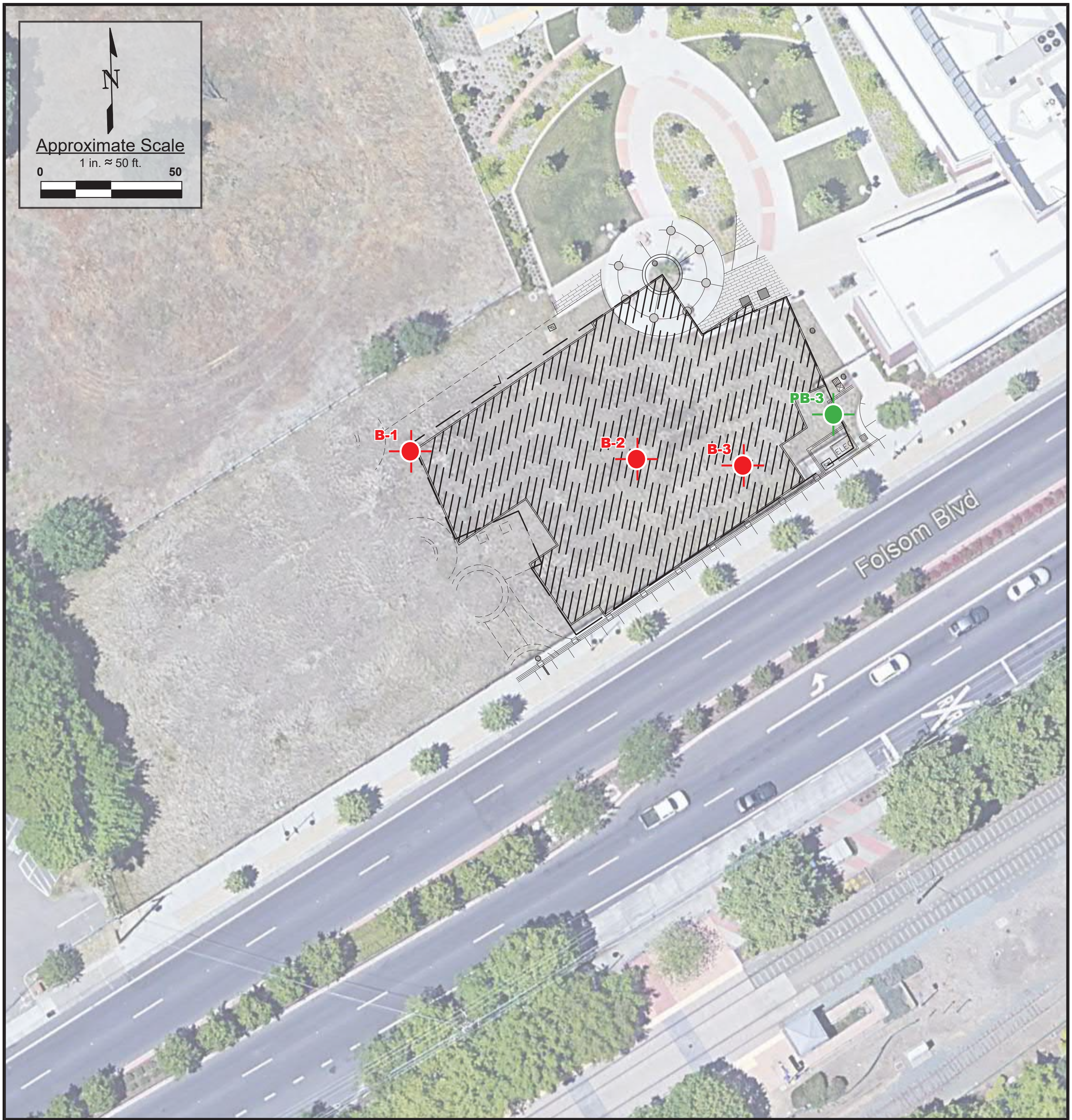
BSK ASSOCIATES

PROJECT NO. G21-021-11S
DRAWN: 02/23/21
DRAWN BY: D. Tower
CHECKED BY: C. Foulk
FILE NAME: Figures.indd

SITE VICINITY MAP

Phase 2 Project
Los Rios FLC RCC
10259 Folsom Boulevard
Rancho Cordova, California

FIGURE
1



References: 1. http://earth.google.com, 2021
2. "Los Rios FLC RCC- Phase 2, Site Plan Concept" by BCA Architecture, dated 09/29/2020

Legend

B-1 ● Approximate Soil Boring Location

PB-3 ● Approximate Previous Boring Location (NOA, 2013)

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DRAWN: 02/23/21
DRAWN BY: D. Tower
CHECKED BY: C. Foulk
FILE NAME: Figures.indd

BORING LOCATION MAP

Phase 2 Project
Los Rios FLC RCC
10259 Folsom Boulevard
Rancho Cordova, California

FIGURE
2

MAJOR DIVISIONS					TYPICAL NAMES
COARSE GRAINED SOILS More than Half >#200	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 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 15% FINES	GM	▯	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC	▨	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	⁘	WELL GRADED SANDS, GRAVELLY SANDS
			SP	∴	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 15% FINES	SM	⋮	SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC	▨	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS More than Half <#200 sieve	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	‖	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	▧	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	☰	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	▮	INORGANIC SILTS , MICACEOUS OR DIATOMACIOUS 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 SOILS			Pt	⩔	PEAT AND OTHER HIGHLY ORGANIC SOILS

Note: Dual symbols are used to indicate borderline soil classifications.

⧗	Pushed Shelby Tube	▽	Water Level measured at time of Drilling (with date noted)
☒	Standard Penetration Test (2-inch outside diameter)	▼	Water Level measured after Drilling (with date noted)
■	Modified California (3-inch outside diameter)	⧙	Hand Auger Cuttings
◪	Split Barrel Sampler (2 ½-inch outside diameter)	✋	Grab Sample
▨	Undisturbed Sample	○	Sample Attempt with No Recovery
▯	Continuous Core Sample		

SOIL CLASSIFICATION CHART AND LOG KEY
Unified Soil Classification System (ASTM D 2487)

BSK ASSOCIATES

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LOG OF BORING NO. B-1

Project Name: **LRCCD FLC RCC - Phase 2**
Project Number: **G21 021 11S**
Project Location: **10259 Folsom Blvd., Rancho Cordova, CA**
Logged by: **C. Goodwin**
Checked by: **C. Foulk**

Surface El.: **84 feet**
Location: **35.585511, -121.311112**

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetrometer, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		Surface: Grass and weeds, organics and roots, some gravel										
		CL: Gravelly CLAY: brown, very moist, very firm, fine to coarse grained sand and subangular gravel, cobbles present, possible fill		1B 1C	23	2.0 1.5		130	12			
5		**CL: Sandy Lean CLAY w/ Gravel:** strong brown, very moist, firm, low plasticity		2C	12	2.5 2.75		115	16			
10		**SC: Clayey SAND w/ Gravel:** strong brown, moist, medium dense, fine grained, high fines content, black inclusions, trace iron oxidation, fine to coarse subangular gravel		3B 3C	44	2.75 4.0		121	9			
15		**SP-SC: Poorly Graded SAND to Clayey SAND w/ Gravel:** strong brown, moist, very dense, fine to medium grained, fine to coarse subrounded gravel			21, 50/ 4"							
20		Boring terminated at 16 feet. Groundwater not encountered. Backfilled with neat cement and soil cuttings.										

Completion Depth: 16.0
Date Started: 1/27/21
Date Completed: 1/27/21
California Sampler: 2.4 inch inner diameter
SPT Sampler: 1.4 inch inner diameter

Drilling Equipment: CME 75 w/ auto hammer
Drilling Method: Solid Stem Auger
Drive Weight: 140 lbs
Hole Diameter: 4 inches
Drop: 30 inches
Remarks: Boring backfilled with neat cement and soil cuttings

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LOG OF BORING NO. B-2

Project Name: **LRCCD FLC RCC - Phase 2**
Project Number: **G21 021 11S**
Project Location: **10259 Folsom Blvd., Rancho Cordova, CA**
Logged by: **C. Goodwin**
Checked by: **C. Foulk**

Surface El.: **83 feet**
Location: **38.585502, -121.310857**

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetrometer, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		Surface: Grass and weeds, organics and roots, some gravel										
		GC: Clayey GRAVEL: grayish brown, very moist, very dense, fine to coarse grained sand and subangular gravel, cobbles present, organic odor, possible fill								26	18	8
		SC: Clayey SAND: dark brown, moist, medium dense, fine grained, high fines content, black inclusions, trace oxidation, fine to coarse subrounded gravel, cobbles present	■	1B	15	1.75		117	8			
		CL: Sandy Lean CLAY: very dark grayish brown, moist, very firm, low plasticity, cobbles present	■	1C		>4.5						
5		firm, very fine grained sand, lower sand content, no gravel or cobbles	■	2B 2C	6	1.5 2.5		109	18			
		Figure B-2: TXUU test: c = 825 psf										
		SC: Clayey SAND: dark yellowish brown, slightly moist, dense, fine to medium grained, black inclusions, trace iron oxidation										
10			■	3B	48	4		100	19			
		CL: Sandy Lean CLAY: dark yellowish brown, slightly moist, very hard, low plasticity	■	3C		3.5						
15		**GC: Clayey GRAVEL:** dark grayish brown, slightly moist, very dense, fine to coarse grained sand and subrounded gravel	■	4B	37, 50/ 4"			128	6			
20												

Completion Depth: 30.5
Date Started: 1/28/21
Date Completed: 1/28/21
California Sampler: 2.4 inch inner diameter
SPT Sampler: 1.4 inch inner diameter

Drilling Equipment: CME 75 w/ auto hammer
Drilling Method: Solid Stem Auger and mud rotary
Drive Weight: 140 lbs
Hole Diameter: 4 inches
Drop: 30 inches
Remarks: Boring backfilled with neat cement and soil cuttings

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LOG OF BORING NO. B-2

Project Name: **LRCCD FLC RCC - Phase 2**
Project Number: **G21 021 11S**
Project Location: **10259 Folsom Blvd., Rancho Cordova, CA**
Logged by: **C. Goodwin**
Checked by: **C. Foulk**

Surface El.: **83 feet**
Location: **38.585502, -121.310857**

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro-meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
	▨	**GC: Clayey GRAVEL:** dark grayish brown, slightly moist, very dense, fine to coarse grained sand and subrounded gravel *(continued)* dense	☒	5	73							
25	▨		○		50/ 3"							
30	▨		○		50/ 1"							
		Boring terminated at 30.5 feet. Groundwater not encountered. Backfilled with neat cement and soil cuttings.										
35												
40												

Completion Depth: 30.5
Date Started: 1/28/21
Date Completed: 1/28/21
California Sampler: 2.4 inch inner diameter
SPT Sampler: 1.4 inch inner diameter

Drilling Equipment: CME 75 w/ auto hammer
Drilling Method: Solid Stem Auger and mud rotary
Drive Weight: 140 lbs
Hole Diameter: 4 inches
Drop: 30 inches
Remarks: Boring backfilled with neat cement and soil cuttings

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LOG OF BORING NO. B-3

Project Name: **LRCCD FLC RCC - Phase 2**
Project Number: **G21 021 11S**
Project Location: **10259 Folsom Blvd., Rancho Cordova, CA**
Logged by: **C. Goodwin**
Checked by: **C. Foulk**

Surface El.: **83 feet**
Location: **35.585488, -121.310712**

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Samples	Sample Number	Penetration Blows / Foot	Pocket Penetro-meter, TSF	% Passing No. 200 Sieve	In-Situ Dry Weight (pcf)	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index
		Surface: Grass and weeds, organics and roots, some gravel										
		GC: Clayey GRAVEL: dark grayish brown, very moist, very dense, fine to coarse grained sand and subangular gravel, cobbles present, organic odor, possible fill										
			○		50/ 5"			108	19			
		CL: Sandy Lean CLAY: very dark grayish brown, very moist, very soft, low plasticity										
5		Figure B-2: TXUU test: c = 375 psf	■	2B 2C	3	1.0 0.25						
		SC: Clayey SAND: strong brown, slightly moist, very dense, fine grained, mottled oxidation staining										
10			■	3C	62			95	16			
		SM: Silty SAND: brown, wet, very dense, fine grained, oxidation staining										
15			■	4B	6, 50/ 6"			91	22			
		Boring terminated at 16 feet. Groundwater not encountered. Backfilled with neat cement and soil cuttings.										
20												

Completion Depth:	16.0	**Drilling Equipment:**	CME 75 w/ auto hammer
Date Started:	1/27/21	**Drilling Method:**	Solid Stem Auger
Date Completed:	1/27/21	**Drive Weight:**	140 lbs
California Sampler:	2.4 inch inner diameter	**Hole Diameter:**	4 inches
SPT Sampler:	1.4 inch inner diameter	**Drop:**	30 inches
		Remarks:	Boring backfilled with neat cement and soil cuttings

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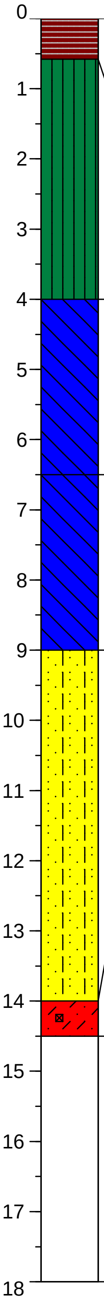
Sacramento, CA 95834
(916) 928-4690 Fax: (916) 928-4697

LOG OF BORING
B3
PLATE 4

PROJECT NUMBER: SGE130012
PROJECT NAME: LRCCD - FLC Rancho Cordova Campus
LOCATION: Paseo Drive & Folsom Blvd., Rancho Cordova, CA
DRILLING METHOD: B-24 Mobile Drill Rig with 4" Solid Stem Auger

DATE DRILLED: 6-14-2013
GROUND SURFACE ELEVATION: 84 Feet
ELEVATION REFERENCE: Google Earth

Depth, ft. | Soil Lithology



Soil Lithology Description

NOTE: The stratification lines shown represent approximate boundary between soil/rock units which have been located via geotechnical investigation. Boundaries may be gradual.

Soil Lithology Description	Ground Water	Sample Location	Sampling Method	Blow Counts	N_{60}	Laboratory Data Moisture, %	Dry Density, pcf	Liquid Limit	Plasticity Index	Finer No. 200, %	Unconfined, tsf P.P. or T.V.	Notes
ASPHALT: Asphalt Concrete (AC) = 2 Inches Aggregate Base (AB) = 5 Inches												
ML: FILL - Sandy silt, trace of clay, soft, fine grained sand, moist, black		🟥	CM	2 2 2	13	18	101		NP	58		
CL: Sandy Lean Clay, trace of silt, stiff to very stiff, fine grained sand, moist, brown												
CL: Sandy Lean Clay, trace of silt, strongly cemented, hard, fine grained sand, moist, brown		🟥	CM	25/5"	41	15	86					
SM: Silty Sand, waekly cemented, medium dense to dense, fine grained sand, moist, gray with rust mottling		🟥	CM	9 12 15		29	90					
GC: Clayey gravel with sand, trace of cobbles, hard, weakly cemented, subrounded to subangular, fine to coarse gravel and sand, moist, gray-brown												
Auger Refusal on underlying gravels and river cobbles												Auger Refusal @ 14.5 ft.

APPENDIX B

LABORATORY TESTING RESULTS

APPENDIX B
LABORATORY TESTING

Moisture-Density Tests

The field moisture content, as a percentage of dry weight of the soils, was determined by weighing the samples before and after oven drying in accordance with ASTM D2216 test procedures. Dry densities, in pounds per cubic foot, were also determined for undisturbed core samples in general accordance with ASTM D2937 test procedures. Test results are presented on the boring logs in Appendix A.

Triaxial Test

Two (2) Unconsolidated-Undrained Triaxial Tests were performed by Cooper Testing Labs of Palo Alto, California on two samples obtained within the borings at the time of drilling. The tests were conducted to determine the soil strength and stress-strain relationships. The standard test method is ASTM D2850, Unconsolidated-Undrained Triaxial Compression Test for Cohesive Soils. The test results are presented graphically on Figure B-1.

Plasticity Index Test

One (1) Plasticity Index Test was performed on a bulk soil sample obtained at the time of drilling in the area of planned construction. The soil sample was tested for the liquid limits and plastic limits to determine the plasticity index of the sample using ASTM Test Method D4318. The test results are presented on Figure B-2, Table B-1, and the boring logs in Appendix A.

Table B-1: Summary of Plasticity Index Test Results

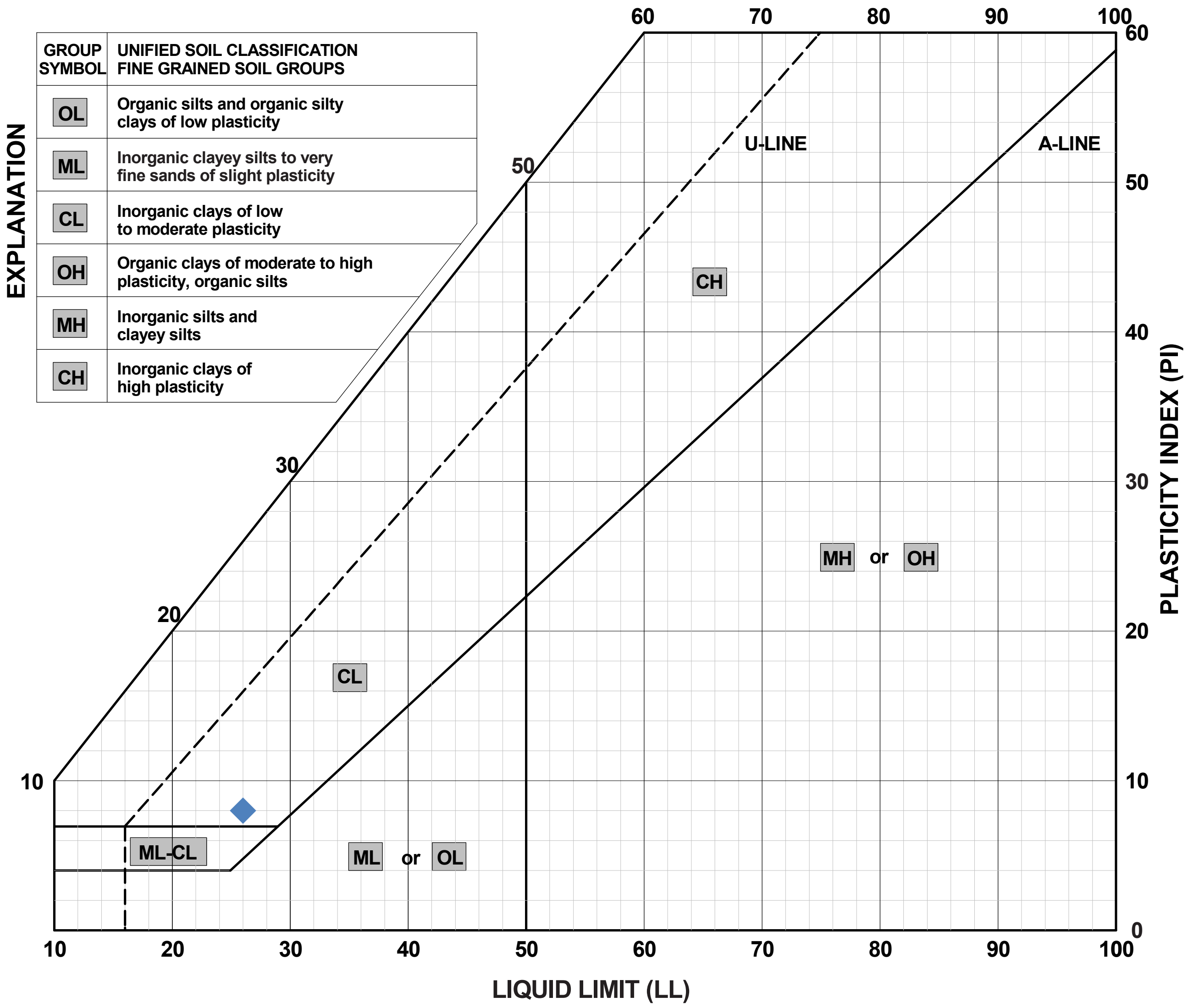
Sample Location	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
B-2 @ 1-5 feet bgs	26	18	8

Soil Corrosivity

One (1) Corrosivity Evaluation was performed on a bulk soil sample obtained at the time of drilling in the area of planned construction. The soil was evaluated for minimum resistivity (ASTM G57), sulfate ion concentration (CT 417), chloride ion concentration (CT 422), and pH of soil (ASTM D4972). The test results are presented in Table B-2.

Table B-2: Summary of Corrosion Test Results

Sample Location	Minimum Resistivity (ohm-cm)	pH	Sulfate, ppm	Chloride, ppm
B-2 @ 0-1 feet bgs	3,310	7.6	19	27



GROUP SYMBOL	UNIFIED SOIL CLASSIFICATION FINE GRAINED SOIL GROUPS
OL	Organic silts and organic silty clays of low plasticity
ML	Inorganic clayey silts to very fine sands of slight plasticity
CL	Inorganic clays of low to moderate plasticity
OH	Organic clays of moderate to high plasticity, organic silts
MH	Inorganic silts and clayey silts
CH	Inorganic clays of high plasticity

LEGEND:	SOURCE	DEPTH (ft)	LL	PL	PI	DESCRIPTION
◆	B-2	1-5	26	18	8	Clayey Sand (SC)

BSK ASSOCIATES

PROJECT NO. G21-021-11S
DRAWN: 02/23/21
DRAWN BY: D. Tower
CHECKED BY: C. Foulk
FILE NAME: Figures.indd

ATTERBERG LIMITS

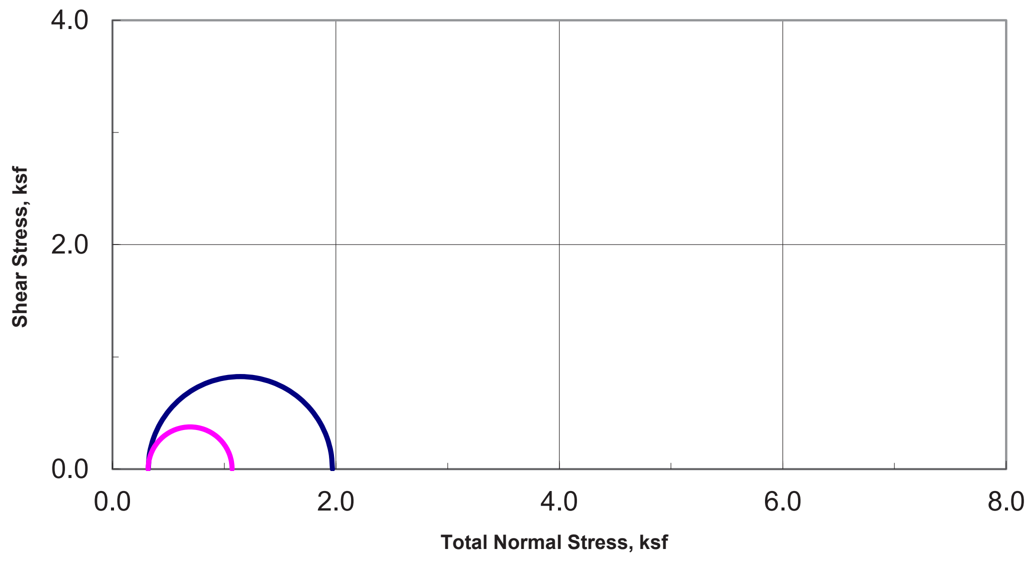
Phase 2 Project
Los Rios FLC RCC
10259 Folsom Boulevard
Rancho Cordova, California

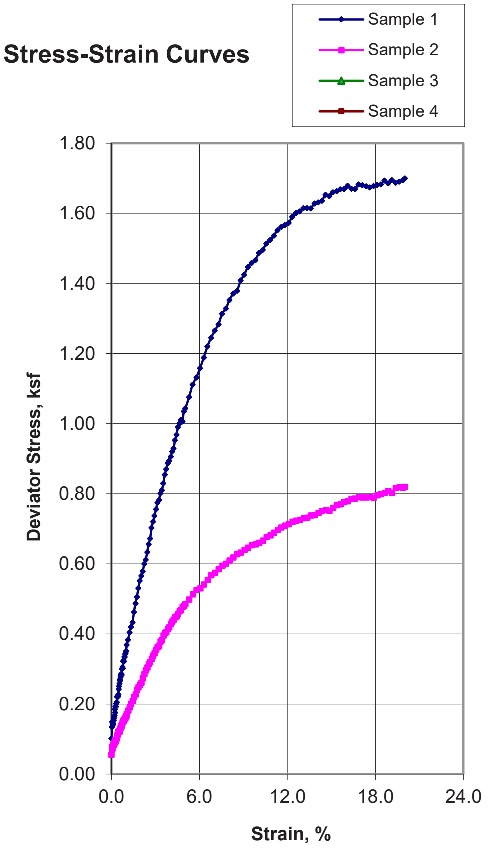
FIGURE
B-2

COOPER TESTING LABORATORY

Unconsolidated-Undrained Triaxial Test

ASTM D2850





Sample Data				
	1	2	3	4
Moisture %	18.1	19.3		
Dry Den,pcf	109.4	108.1		
Void Ratio	0.541	0.560		
Saturation %	90.2	92.9		
Height in	5.00	4.99		
Diameter in	2.40	2.38		
Cell psi	2.2	2.2		
Strain %	15.00	15.00		
Deviator, ksf	1.649	0.752		
Rate %/min	1.00	1.00		
in/min	0.050	0.050		
Job No.:	**664-382**			
Client:	**BSK Associates**			
Project:	**G21-021-115**			
Boring:	B-2	B-3		
Sample:	2C	2C		
Depth ft:	6	6		

Visual Soil Description	
Sample #	
1	Sandy Lean Clay (CL)
2	Sandy Lean Clay (CL)
3	
4	

Remarks:

Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.

BSK ASSOCIATES

PROJECT NO. G21-021-11S

DRAWN: 02/23/21

DRAWN BY: D. Tower

CHECKED BY: C. Foulk

FILE NAME: Figures.indd

UNCONSOLIDATED-UNDRAINED TRIAXIAL TEST

Phase 2 Project
Los Rios FLC RCC
10259 Folsom Boulevard
Rancho Cordova, California

FIGURE

B-1

APPENDIX C

GEOLOGIC AND SEISMIC HAZARDS ASSESSMENT

Table of Contents

TABLES

FIGURES

C1.0 INTRODUCTION

This report presents the geologic and seismic hazards assessment prepared in accordance with the 2019 California Building Code (CBC), CCR Title 24, Chapters 16A and 18A requirements for a Geotechnical/Engineering Geologic Report. The assessment was performed in conformance with California Geological Survey (CGS) Note 48 (2019).

C1.1 Objective and Scope of Services

The purpose of the geologic and seismic hazards assessment is to provide the Client with an evaluation of potential geologic or seismic hazards which may be present at the site or due to regional influences. BSK's scope of services for this assessment included the following:

1. Review of published geologic literature, and current investigation at the site;
2. Evaluation of the data collected and preparation of geologic cross sections;
3. Evaluation of potential geologic hazards affecting the site;
4. Performance of a site-specific ground motion hazard analysis; and
5. A liquefaction and seismic settlement evaluation.

C1.2 Site Location

The Los Rios Folsom Lake Community College, Rancho Cordova Center is located at 10259 Folsom Boulevard, Rancho Cordova, Sacramento County, California (Site). The Site coordinates of the center of the property are:

Latitude 38.58553º
Longitude -121.31086º

C1.3 Site Topography

As shown on Figure C-1, the Site is relatively flat with a ground surface elevation of 75 feet msl, USGS datum.

C1.4 Groundwater Conditions

The Site is located in the South American River Groundwater Basin. At the time of the field exploration in January 2021, groundwater was not encountered in our borings completed to a depth of approximately 30.5 feet below the ground surface (bgs).

To ascertain groundwater levels for the area during other time periods, groundwater elevation data from the California Department of Water Resources (DWR) were obtained for the period 1945 to 2010. The water level hydrographs from wells 09N06E33R001M and 08N06E08F001M are presented on Figure C-2. The hydrograph indicates that the shallowest historic groundwater elevation in the general area of the site was approximately 38.4 feet in 1943. Using a Site elevation of 75 feet, the shallowest historical depth to groundwater was 36.6 feet bgs.

C2.0 GEOLOGIC SETTING

The Site is located in the Sacramento Valley portion of the Great Valley geomorphic province. This Site is located in the great valley which forms a broad syncline with deposits of marine and overlying continental sediments, Jurassic to Holocene in age. The thickness of the sediments increases to the west and reaches a thickness of as much as 20,000-feet on the west side of the valley syncline. East of the Site, the relatively flat geomorphology transitions into the foothills and Sierra Nevada Mountains, which generally consist of pre-Cretaceous metamorphic rocks, Mesozoic ultramafic rocks, and Mesozoic granitic rocks. Further to the west are the Coastal Ranges characterized by north-south trending ridges and valleys that are typically highly folded with numerous faults.

As shown on Figure C-4, Geologic Map, the Site is located on or near the contact of the upper member of the Pleistocene Riverbank Formation and the upper member of the Pleistocene Modesto Formation.

- The upper Riverbank Formation was described by Helley, 1985 as unconsolidated but compact, dark brown to red alluvium composed of gravel, sand, silt and with minor clay. Topographically forms the lower of the two Riverbank terraces; forms dissected alluvial fans.
- Helley 1985 described the upper Modesto Formation as unconsolidated, unweathered gravel, sand, silt, and clay. The upper member forms terraces that are topographically the lowest of the two Modesto terraces. It also forms alluvial fans along the east side.

Nearby active faults include the Swain Ravine - Spenceville fault (Foothill fault zone) located approximately 22 miles northeast of the Site, the Dunnigan Hills fault located approximately 31 miles west of the Site and Great Valley 06 fault (Midland fault) located approximately 30 miles southwest of the Site.

C2.1 Subsurface Soil Conditions

Subsurface conditions are described in the main body of the report. The Site was the subject of a field investigation program in January 2021 consisting of three soil borings at the locations shown on Figure C-3. The subsurface units consist of dense to very dense/hard clayey gravel and gravelly clay with layers of clayey and silty sand. A cross section presenting the subsurface conditions in the proposed improvement area is presented on Figure C-5, Cross Section A-A'.

C3.0 GEOLOGIC/SEISMIC HAZARDS

The types of geologic and seismic hazards assessed include surface ground fault rupture, liquefaction, seismically induced settlement, slope failure, flood hazards and inundation hazards.

C3.1 Fault Rupture Hazard Zones in California

The purpose of the Alquist-Priolo Geologic Hazards Zones Act, as summarized in CDMG Special Publication 42 (SP 42), is to "prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." As indicated by SP 42, the State Geologist is required to delineate "Earthquake Fault Zones" (EFZs) along known active faults in

California. Cities and counties affected by the zones must regulate certain development 'projects' within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

The Site is not located in an Earthquake Fault Zone. The closest Earthquake Fault Zone is associated with the Cordelia fault zone located approximately 50 miles southwest of the Site.

C3.2 State of California Seismic Hazard Zones (Liquefaction and Landslides)

Zones of Required Investigation referred to as "Seismic Hazard Zones" in CCR Article 10, Section 3722, are areas shown on Seismic Hazard Zone Maps where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements. The site is within the Carmichael 7.5 Minute Quadrangle and there are no mapped areas that have Seismic Hazard Zones in the project area.

C3.3 Local General Plans Safety Element

According to the 2006 the City of Rancho Cordova General Plan, Safety Element, local geologic hazard zones were not identified in the plan. According to the Sacramento County General Plan, Safety Element, amended 2017 the Site area does not appear to be located in a liquefaction or geologic hazard zone.

C3.4 Slope Stability and Potential for Slope Failure

The Site is essentially flat and the potential hazard due to landslides in the project area is minimal. Review of CGS Geologic Hazard Webmaps (CGS, 2020) did not show landslide hazard areas mapped near the Site. The potential for slope instability near the Site appears to be low.

C3.5 Flood and Inundation Hazards

An evaluation of flooding at the Site includes review of potential hazards from flooding during periods of heavy precipitation and flooding due to a catastrophic dam breach from up-gradient surface impoundments.

C3.5.1 Flood Hazards

Federal Emergency Management Agency (FEMA) flood hazard data was obtained to present information regarding the potential for flooding at the Site. As shown on Figure C-6, according to FEMA Flood Hazard Map Layer GIS data, NFHL 06067C, dated 10/22/2020, the Site area lies in Zone X outside the 100-year flood and 500-year flood zones.

C3.5.2 Inundation Hazards – Dams

As shown on Figure C-7, according to the GIS data obtained from California Department of Water Resource (CDWR, 2020) and Dam Inundation GIS data from California Emergency Management Agency, dated 2013 (Federal Jurisdiction Dams), the Site is located in the Nimbus Dam and Folsom Dam inundation areas.

C3.6 Volcanic Hazards

According to USGS Bulletin 1847, dated 1989, the Site is not located in an area which would be subject to hazards from volcanic eruptions.

C3.7 Corrosion

Please refer to the section entitled “Soil Corrosivity” in the geotechnical report for discussion of the corrosivity of the site soils.

C3.8 Expansive Soils

As discussed in the geotechnical report, laboratory test of the near-surface soils resulted in low Plasticity Index soils with a low expansion potential.

C3.9 Land Subsidence

Four types of subsidence are known to occur in the Central Valley (Galloway, 1999). In order of decreasing magnitude, they are:

(1) Subsidence caused by aquifer system compaction due to the lowering of ground-water levels by sustained groundwater overdraft;
(2) Subsidence caused by the hydrocompaction of moisture-deficient deposits above the water table;
(3) Subsidence related to fluid withdrawal from oil and gas fields; and
(4) Subsidence related to crustal neotectonic movements.

The Site is not located in an area known to be susceptible to subsidence due to petroleum withdrawal, groundwater pumping or from peat oxidation (USGS, 2018). The site is not located in an area in which soils are known to be impacted by hydrocompaction.

C3.10 Tsunami Hazard

According to the Tsunami Inundation Map for Emergency Planning (Cal-EMA, 2009) and the ASCE Tsunami Hazard Tool (ASCE 2016) the Site is not located in a Tsunami hazard zone.

C4.0 SEISMIC HAZARD ASSESSMENT

C4.1 Seismic Source Deaggregation

Figures C-8 and C-9 presents fault maps showing the major faults that may impact the Site in the future. Seismically induced ground motion at a Site can be caused by earthquakes on any of the sources surrounding the site. Deaggregation of the seismic hazard was performed by using the USGS Interactive Deaggregation website. The deaggregation determination, at the maximum considered earthquake (MCE) hazard level, results in distance, magnitude and epsilon (ground-motion uncertainty) for each source that contributes to the hazard. Each source has a corresponding epsilon, which is the probabilistic value relative to the mean value of ground motion for that source.

Deaggregation based on a probabilistic model developed by the USGS indicates that the extreme seismic source with the highest magnitude that contributes to the peak ground acceleration (PGA) is a magnitude 9.14 earthquake from the Cascade Megathrust located at a distance of approximately 248 km. For liquefaction and seismic settlement, the modal magnitude (Mw) of 5.3 would be appropriate for probabilistic input parameter that is consistent with the design earthquake ground motion.

C4.2 Historical Seismicity

Table C-1 provides the location, earthquake magnitude, site to earthquake distances, dates and the resulting site peak horizontal acceleration for the period 1800 to 2016. Figure C-10 presents historical earthquake magnitudes and locations relative to the Site.

The Table C-1 shows that the Site has experienced mean plus one sigma peak horizontal acceleration up to 0.16g from the 8.3 magnitude San Francisco earthquake that occurred in 1906. In general, the Site has been subjected to moderate intensity ground motion, primarily from moderate to distant large earthquakes in the region.

TABLE C-1
HISTORIC EARTHQUAKES WITHIN 100 MILES OF THE SITE
GROUND MOTION GREATER THAN 0.06G

File Code	Latitude (North)	Longitude (West)	Date	Depth (km)	Earthquake Magnitude	Site Acceleration (g)	Distance mi (km)
DMG	37.700	122.500	4/18/1906	0	8.3	0.16	88.9(143.1)
DMG	38.500	121.900	04/21/1892	0	6.2	0.12	32.4(52.1)
DMG	38.400	122.000	04/19/1892	0	6.4	0.11	39.4(63.4)
DMG	38.400	121.800	04/30/1892	0	5.5	0.09	29.4(47.3)
DMG	37.700	122.100	10/21/1868	0	6.8	0.09	74.7(120.1)
DMG	37.600	122.400	06/01/1838	0	7.0	0.08	90.2(145.1)
DMG	38.000	121.900	05/19/1889	0	6.0	0.08	51.5(82.9)
DMG	38.300	121.900	5/19/1902	0	5.5	0.07	37.5(60.3)
DMG	38.200	122.400	03/31/1898	0	6.2	0.07	64.7(104.1)
GSB	38.215	122.312	8/24/2014	11.1	6.0	0.07	59.9(96.4)

C4.3 Earthquake Ground Motion, 2019 California Building Code

C4.3.1 Site Class

Based on Section 1613A.2.2 of the 2019 California Building Code (CBC), the Site shall be classified as Site Class A, B, C, D, E or F based on the Site soil properties and in accordance with Chapter 20 of ASCE 7-16. The Site is located on dense Pleistocene soils that would be classified as the Site Class D.

C4.3.2 Seismic Design Criteria

The 2019 California Building Code (CBC) utilizes ground motion based on the Risk-Targeted Maximum Considered Earthquake (MCE_R) that is define in the 2019 CBC as the most severe earthquake effects considered by this code, determined for the orientation that results in the largest maximum response to horizontal ground motions and with adjustment for targeted risk. Ground motion parameters in the 2019 CBC are based on ASCE 7-16, Chapter 11.

The United States Geologic Survey (USGS) has prepared maps presenting the Risk-Targeted MCE spectral acceleration (5% damping) for periods of 0.2 seconds (S_S) and 1.0 seconds (S_1). The values of S_S and S_1 can be obtained from the OSHPD Seismic Design Maps Application available at:
https://seismicmaps.org/

Table C-2 below presents the spectral acceleration parameters produced for Site Class D by the OSHPD Ground Motion Parameter Application and Chapter 16 of the 2019 CBC based on ASCE 7-16.

TABLE C-2
SPECTRAL ACCELERATION PARAMETERS
RISK TARGETED MAXIMUM CONSIDERED EARTHQUAKE

Criteria	Value		Reference
MCE Mapped Spectral Acceleration (g)	S_S = 0.464	S_1 = 0.226	USGS Mapped Value
Site Coefficients (Site Class D)	F_a = 1.429	F_v = Null[1] (2.148)[1]	ASCE Table 11.4
Site Adjusted MCE Spectral Acceleration (g)	S_{MS} = 0.663	S_{M1} = Null[1](0.485)[1]	ASCE Equations 11.4.1-2
Design Spectral Acceleration (g)	S_{DS} = 0.442	S_{D1} = Null[1](0.324)[1]	ASCE Equations 11.4.3-4
Site Short Period - T_S (Seconds)	Ts = 0.732		Ts = S_{D1}/ S_{DS}
Site Long-Period - T_L (Seconds)	T_L = 12		USGS Mapped Value

ASCE 7-16 Section 11.4.8 requires a site-specific ground motion analysis with Site Class D and E sites with S_1 greater than or equal to 0.2. The Site-Specific Ground Motion Analysis for the Site is included in Section C4.4.

---

[1] Values from ASCE 7-16 supplement, shall only be used to calculate Ts

C4.3.3 Geometric Mean Peak Ground Acceleration

As per Section 1803A.5.12 of the CBC, peak ground acceleration (PGA) utilized for dynamic lateral earth pressures and liquefaction, shall be based on a site-specific study (ASCE 7-16, Section 21.5) or ASCE 7-16, Section 11.8.3. The USGS Ground Motion Parameter Application based on ASCE 7-16, Section 11.8.3 produced the values shown in Table C-3 based on Site Class D.

TABLE C-3
GEOMETRIC MEAN PEAK GROUND ACCELERATION
MAXIMUM CONSIDERED EARTHQUAKE

Criteria	Value	Reference
Mapped Peak Ground Acceleration (g)	PGA = 0.196	USGS Mapped Value
Site Coefficients (Site Class D)	F_{PGA} = 1.409	ASCE Table 11.8-1
Geometric Mean PGA (g)	PGA_M = 0.276	ASCE Equations 11.8-1

C4.4 Site-Specific Ground Motion Analysis

Section 11.4.8 of the ASCE 7-16 requires a ground motion hazard analysis for Site Class D sites with S_1 greater than or equal to 0.2 unless an exception is used. The ground motion hazard analysis shall be performed in accordance with ASCE 7 Chapter 21. It is our understanding that the Section 11.4.8 exception will not be used; therefore, a site-specific ground motion analysis was performed. Our ground motion analysis includes:

1. Determination of risk-targeted maximum considered earthquake (MCE_R) ground motion, probabilistic MCE_R ground motion; and
2. Determination of site-specific maximum considered earthquake geometric mean (MCE_G) peak ground acceleration.
3. The analysis was performed according to the requirements of ASCE 7-16, Sections 21.2 through 21.5.

C4.4.1 Methods

The site-specific ground motion analysis was completed using the following:

- USGS Unified Tool (UHT), Probabilistic, https://earthquake.usgs.gov/hazards/interactive/
- USGS Risk Targeted Ground Motion Calculator, Probabilistic, https://earthquake.usgs.gov/designmaps/rtgm/

The method utilized ASCE 7-16, Section 21.2 to 21.5, with Section 21.2.1.2 Method 2 used to determine the probabilistic values. According to ASCE 7-16, supplement Section 21.2.2 “The deterministic ground motion response spectrum need not be calculated when the largest spectral response acceleration of the probabilistic ground motion response spectrum of 21.2.1 is less than $1.2F_a$”. The probabilistic MCE_R Risk Targeted Ground Motion determined in the following Section C4.4.2, resulted in values that are less than 1.2^*F_a (F_a=1). According to supplement Section 21.2.3 for site class D, F_a=1. Based on this, the deterministic MCE_R ground motion was not needed and therefore not determined.

C4.4.2 Probabilistic MCER Risk Targeted Ground Motion

A probabilistic MCER response spectrum was generated by using data from USGS Hazard Curve Data from the USGS Unified Hazard tool entered into the USGS Risk Targeted Ground Motion Calculator (Luco, 2007). Data was extracted from USGS website (https://earthquake.usgs.gov/nshmp-haz-ws/hazard) using the computer program MATLAB® with a modified script (Luco, 2020). This procedure uses "Method 2" of ASCE 7-16 Section 21.2.1.2.

Figure C-11 shows the Risk Targeted Ground Motion (RTGM) and Uniform Hazard Ground Motion (UHGM) generated from the USGS RTGM Calculator. The resulting RTGM corresponds to a 1% probability of collapse in 50 years. The RTGM values represent the geometric mean values and were modified to the maximum rotated values (Rot100) using factors according to ASCE 7-16, Section 21.2.

C4.4.3 Design Response Spectrum

The MCE_R probabilistic spectrum is less than 1.2*Fa at all periods and therefore is the controlling spectrum. The site-specific design response spectrum is taken as 2/3 of the MCE_R spectral values.

As shown on Figure C-12, the site-specific design spectrum was adjusted such that values are greater than 80% of the general design spectrum (based on Fa=1.429, Fv=2.5) and should be utilized for design (5% Damping).

C4.4.4 Site-Specific MCE Geometric Mean (MCE_G) Peak Ground Acceleration

Per ASCE 7-16, Section 21.5, the site-specific MCE_G peak ground acceleration (PGA_M) was taken as the probabilistic geometric mean PGA.

The geometric mean values can be determined by dividing the maximum rotated MCER probabilistic PGA values by 1.1 (recommended by NEHRP Recommended Seismic Provisions for New Buildings and Other Structures, FEMA P-750 / 2009).

The probabilistic geometric mean peak ground acceleration is 0.292g and was taken from the UHGM PGA, shown on Figure C-11, value from the USGS RTGM Calculator. The PGA value is taken without the risk and maximum rotated scale factors applied. This value is greater than 80 percent of the PGA_M determined from ASCE 7-16 Section 11.8-1 (see Table C-3), therefore 0.292g should be used as the Site PGA value.

C4.5 Summary of Seismic Design Parameters

A summary of seismic design parameters based on the USGS general mapped values and the results of the site-specific analysis from Section 21.4 is presented in the following Table C-4. Site-specific values for

S_{DS} and S_{D1} were developed by adjusting the site-specific values according to the requirements set in ASCE 7-16, Section 21.4.

TABLE C-4
SUMMARY OF DESIGN ACCELERATION PARAMETERS
ASCE 7-16 SECTION 21.4

Criteria	Value	Reference
USGS MAP BASED VALUES (GENERAL)		
Design Spectral Acceleration (g) S_{DS}	0.442	ASCE Equations 11.4.3-4
Design Spectral Acceleration (g) S_{D1}	0.442	ASCE Equations 11.4.3-4
Geometric Mean PGA (g)	0.276	ASCE Equations 11.8-1
SITE-SPECIFIC DESIGN SPECTRAL ACCELERATION VALUES (SEE FIGURE C-12)		
0.2 Second Site-specific Design Spectral Acceleration (g)	0.526	
0.2 Second Site-specific Spectral Acceleration (g) Adjustment 1	0.526	
0.2 Second Site-specific Spectral Acceleration (g) Adjustment 2 (S_{DS})	0.526	
1.0 Second Site-specific Design Spectral Acceleration (g)	0.390	
1.0 Second Site-specific Spectral Acceleration (g) Adjustment 1	0.390	
1.0 Second Site-specific Spectral Acceleration (g) Adjustment 3 (S_{D1})	0.469	
Site-specific PGA (g) (Maximum Rotated Component)	0.321	
Site-specific PGA (g) (Geometric Mean) Adjustment 4	0.292	
Site-specific PGA (g) (Geometric Mean) Adjustment 1 (PGA)	0.292	

Adjustments Per ASCE 7-16 Chapter 21

1) Site-specific value greater than 80% of General Value from USGS Maps
2) 0.2 Second Sa greater than 90% of Sa values at periods greater than 0.2 second
3) 1.0 Second Sa greater than Tx Sa value at periods of 1 to 5 seconds
4) Geometric Mean PGA = Maximum Rotated Component/1.1

C4.6 Seismically Induced Ground Failure

C4.6.1 Liquefaction

Settlement of the ground surface with consequential differential movement of structures is a major cause of seismic damage for buildings founded on alluvial deposits.

Seismically-induced ground settlement can occur due to the liquefaction of relatively loose, saturated granular deposits.

In order for liquefaction triggering to occur due to ground shaking, it is generally accepted that four conditions will exist:

1. The subsurface soils are in a relatively loose state,

2. The soils are saturated,
3. The soils have low plasticity, and
4. Ground shaking is of sufficient intensity to act as a triggering mechanism.

The Site is located on dense Pleistocene age soils that have a low potential for liquefaction.

C4.6.2 Lateral Spread

Lateral spreading is a potential hazard commonly associated with liquefaction where extensional ground cracking and settlement occur as a response to lateral migration of subsurface liquefiable material. These phenomena typically occur adjacent to free faces such as slopes and creek channels. Sloped ground or channel free-faces are not present in the area and liquefaction potential is low, therefore the potential for lateral spreading to take place at the Site is low.

C4.6.3 Dynamic Compaction/Seismic Settlement

Another type of seismically induced ground failure, which can occur as a result of seismic shaking, is dynamic compaction, or seismic settlement. Such phenomena typically occur in unsaturated, loose granular material or uncompacted fill soils.

The Site is located on dense Pleistocene age soils that would experience minimal settlement during a seismic event.

C5.0 REFERENCES

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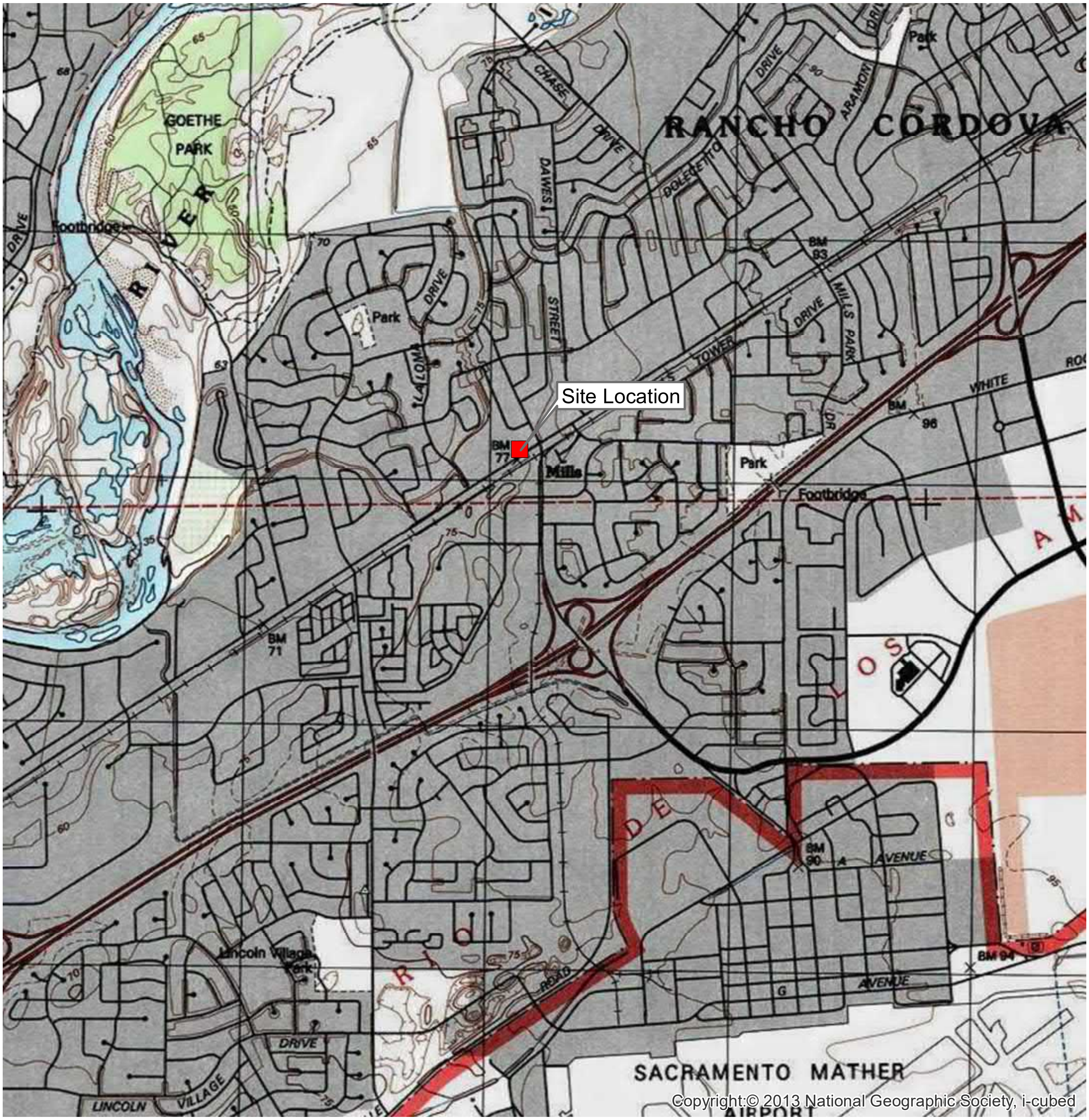
https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html



Reference: ESRI Base Map
http://goto.arcgisonline.com/maps/USA_Topo_Maps

Map Date: 2/18/2021

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Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

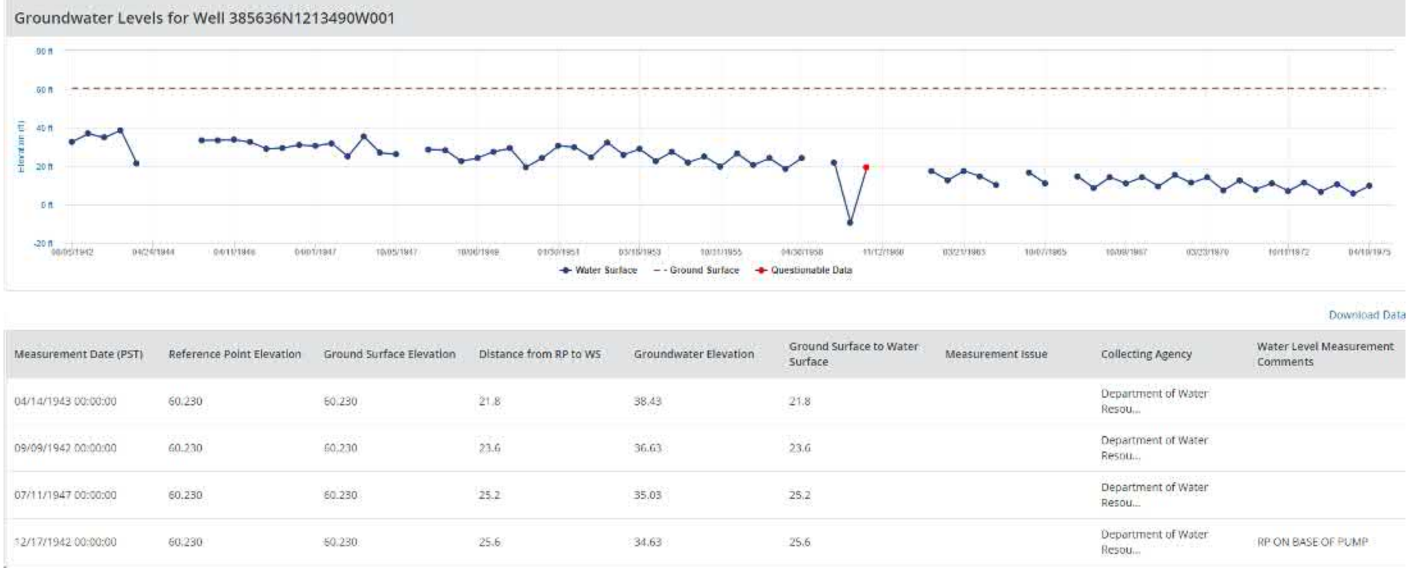
Figure C-1
Topographic Map
BSK Project G2102111S

Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-1 Topomap.mxd

Groundwater Levels for Well 385849N1213173W001

Measurement Date (PST)	Reference Point Elevation	Ground Surface Elevation	Distance from RP to WS	Groundwater Elevation	Ground Surface to Water Surface	Measurement Issue	Collecting Agency	Water Level Measurement Comments
04/13/1995 00:00:00	76.860	75.660	47	29.86	45.8		Department of Water Resou...	
04/26/1999 00:00:00	76.860	75.660	47.2	29.66	46		Department of Water Resou...	
04/09/1998 00:00:00	76.860	75.660	47.9	28.96	46.7		Department of Water Resou...	
10/08/1998 00:00:00	76.860	75.660	48	28.86	46.8		Department of Water Resou...	

State Well Number:□09N06E33R001M
Latitude (NAD83):□38.5849
Longitude (NAD83): -121.3173
Basin Subbasin Name (Code):TSouth American (5-021.65)
Reference Point Elevation (NAVD88 ft):76.860
Ground Surface Elevation (NAVD88 ft): 75.660
Highest Groundwater Elevation: 29.86 ft.



Groundwater Levels for Well 385636N1213490W001

Measurement Date (PST)	Reference Point Elevation	Ground Surface Elevation	Distance from RP to WS	Groundwater Elevation	Ground Surface to Water Surface	Measurement Issue	Collecting Agency	Water Level Measurement Comments
04/14/1943 00:00:00	60.230	60.230	21.8	38.43	21.8		Department of Water Resou...	
09/09/1942 00:00:00	60.230	60.230	23.6	36.63	23.6		Department of Water Resou...	
07/11/1947 00:00:00	60.230	60.230	25.2	35.03	25.2		Department of Water Resou...	
12/17/1942 00:00:00	60.230	60.230	25.6	34.63	25.6		Department of Water Resou...	RP ON BASE OF PUMP

State Well Number:□08N06E08F001M
Latitude (NAD83): 38.5636
Longitude (NAD83):-121.349
Basin Subbasin Name (Code):TSouth American (5-021.65)
Reference Point Elevation (NAVD88 ft):60.230
Ground Surface Elevation (NAVD88 ft): □60.230
Highest Groundwater Elevation: 38.43 ft.

Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-2 Hydro.mxd

Map Date: 2/18/2021

Reference: http://wdl.water.ca.gov/waterdatalibrary/

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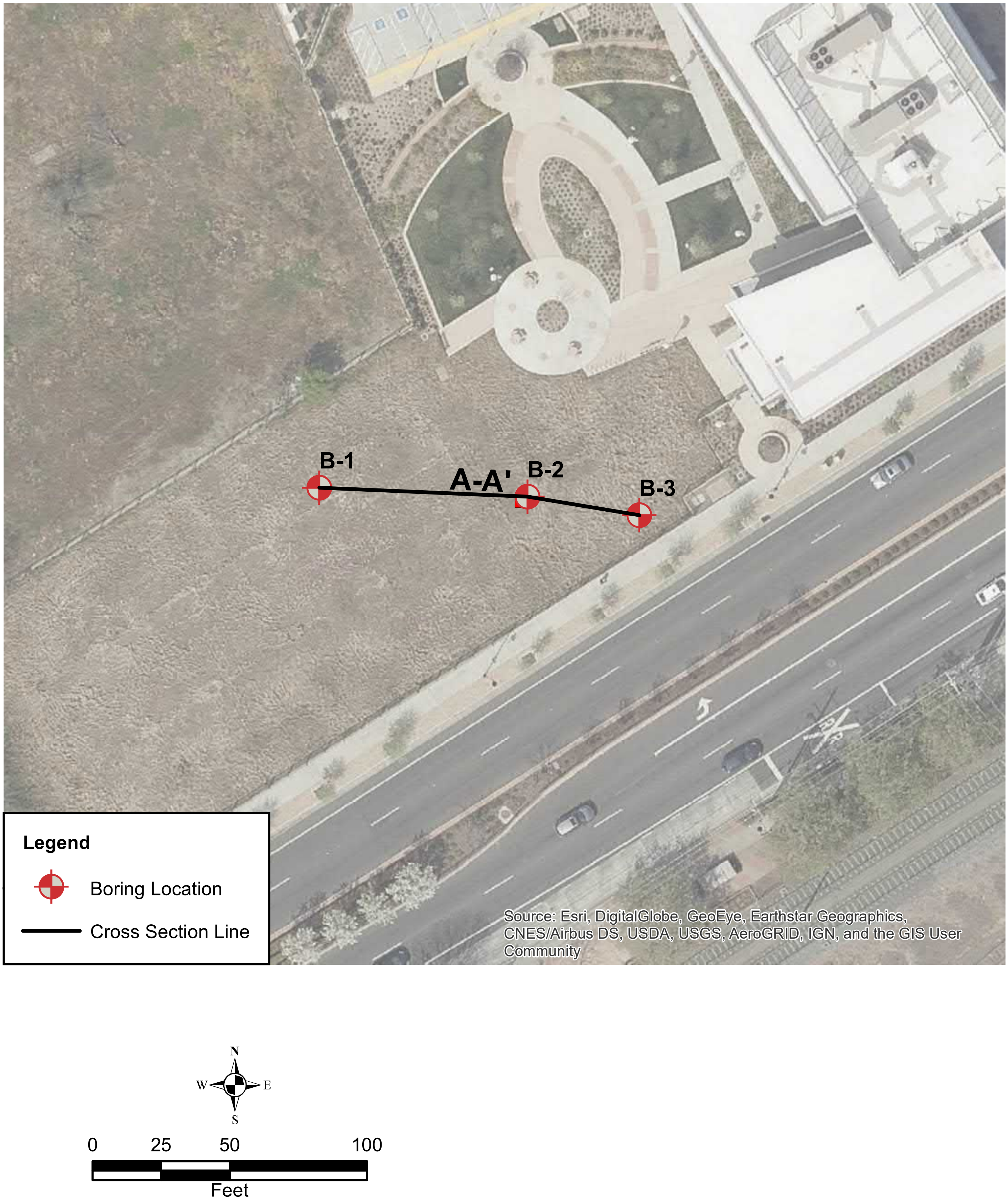
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-2
Area Hydrographs
BSK Project G2102111S



Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-3 Site Map.mxd

Map Date: 2/24/2021

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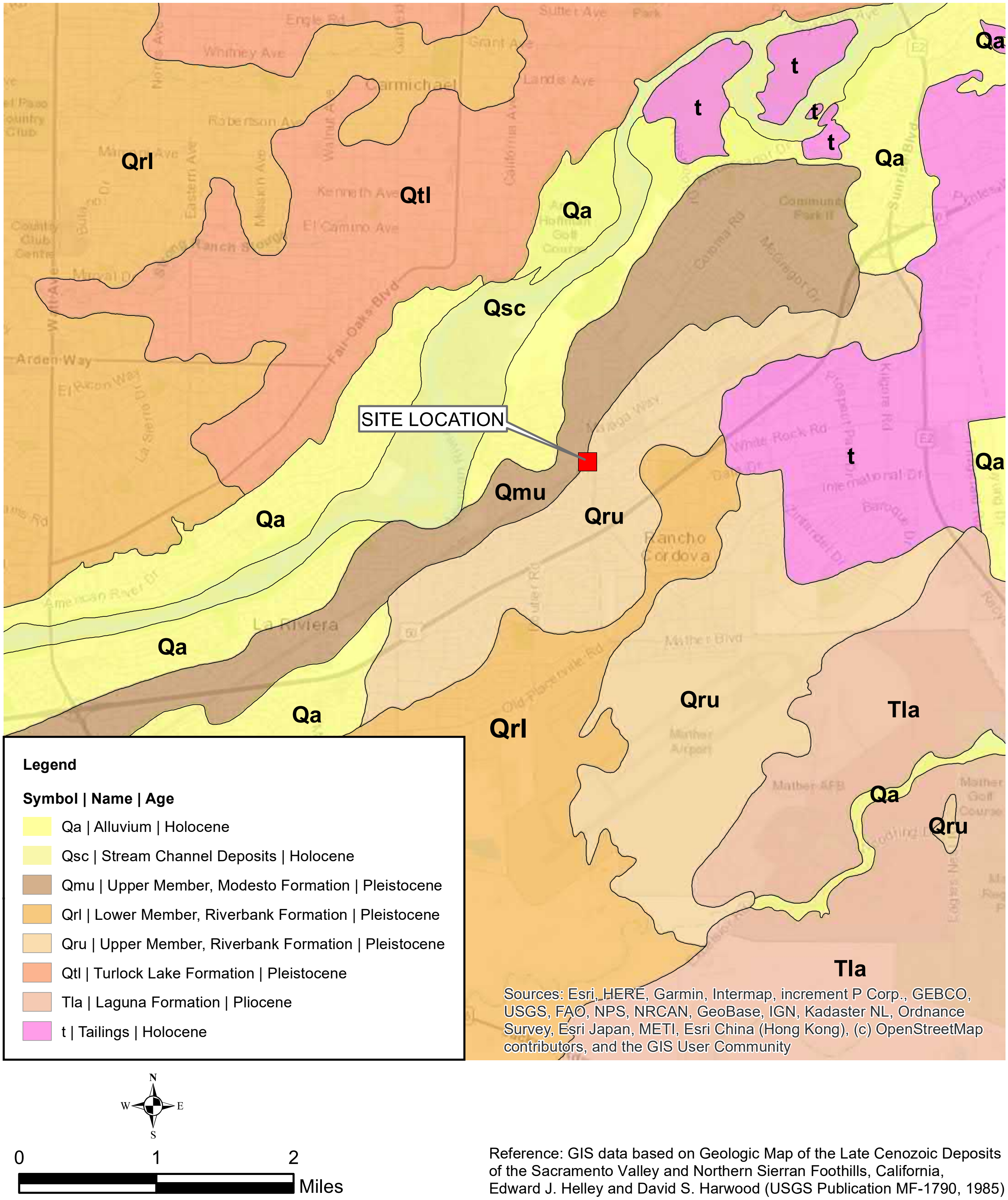
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-3
Site Map
BSK Project G2102111S

Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-4 geologic.mxd



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Reference: GIS data based on Geologic Map of the Late Cenozoic Deposits of the Sacramento Valley and Northern Sierran Foothills, California, Edward J. Helley and David S. Harwood (USGS Publication MF-1790, 1985)

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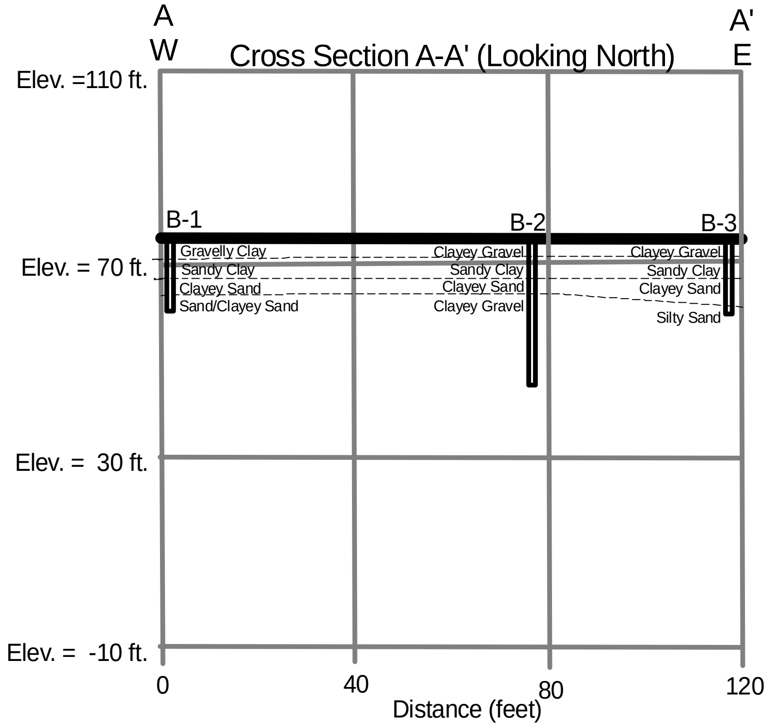
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-4
Geologic Map
BSK Project G2102111S



LEGEND

- Unit Contact
- ▯ Soil Boring/CPT Location
- Groundwater Level

NOTES:
1) Locations are Approximate.

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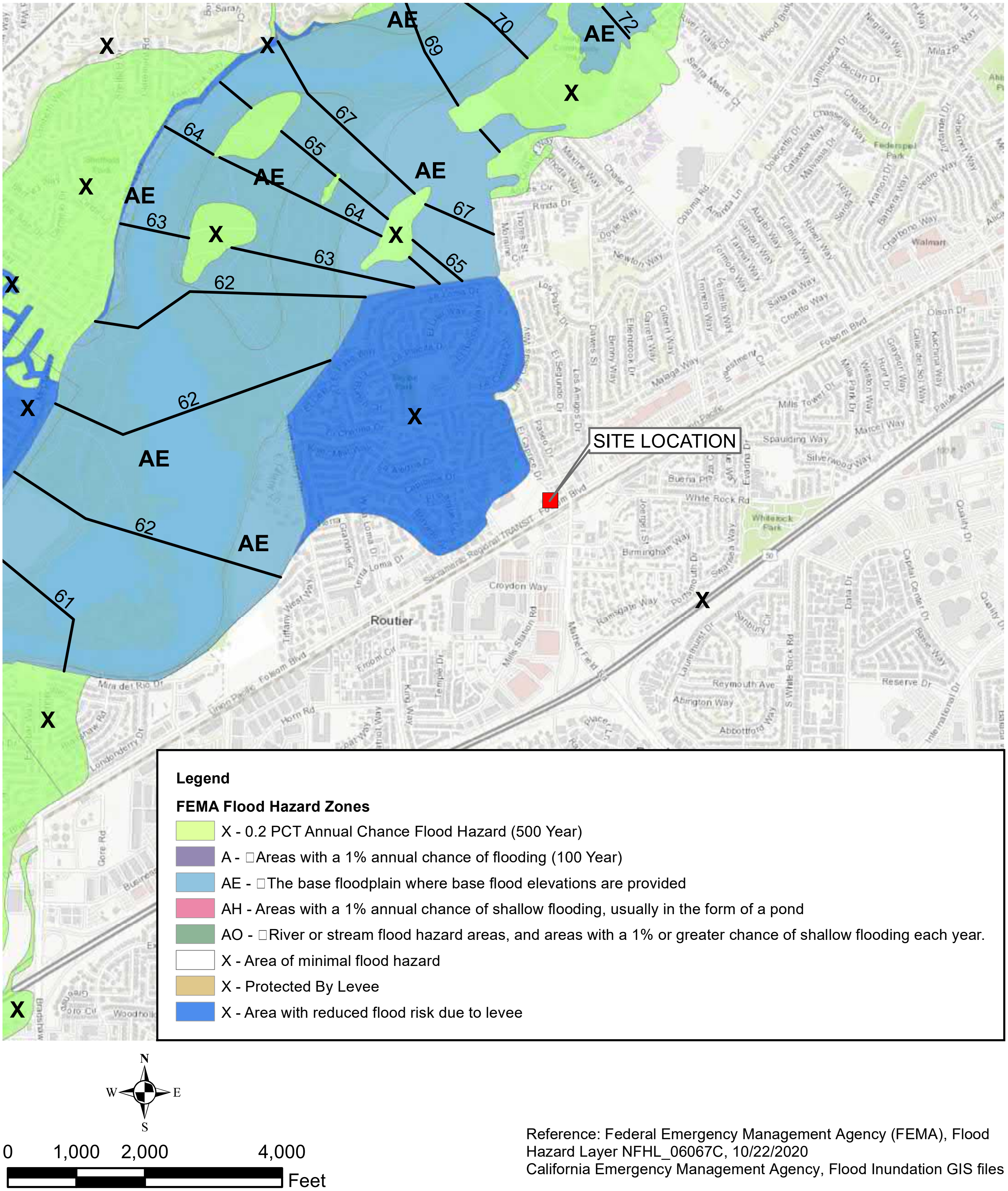
0 40 80
Approximate Scale in Feet
Horizontal=Vertical

Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

BSK Project G2102111S
Geologic Cross Section
A-A'
Figure C-5



Legend

FEMA Flood Hazard Zones

- 🟩 X - 0.2 PCT Annual Chance Flood Hazard (500 Year)
- 🟪 A - Areas with a 1% annual chance of flooding (100 Year)
- 🟦 AE - The base floodplain where base flood elevations are provided
- 🟥 AH - Areas with a 1% annual chance of shallow flooding, usually in the form of a pond
- 🟩 AO - River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year.
- ⬜ X - Area of minimal flood hazard
- 🟨 X - Protected By Levee
- 🟦 X - Area with reduced flood risk due to levee

Reference: Federal Emergency Management Agency (FEMA), Flood Hazard Layer NFHL_06067C, 10/22/2020
California Emergency Management Agency, Flood Inundation GIS files

Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-6 Fema-map.mxd

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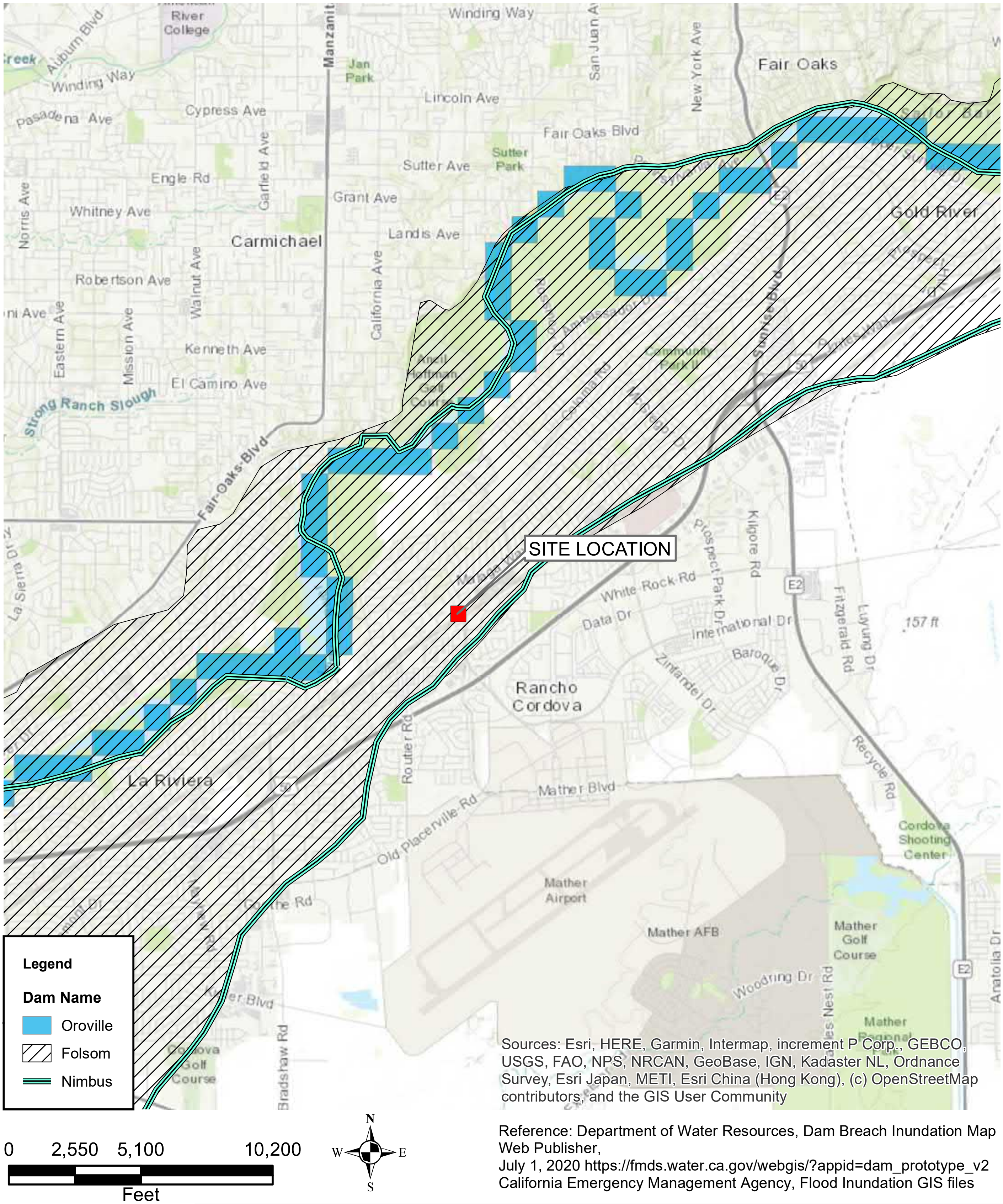
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-6
Flood Hazard Map
BSK Project G2102111S



Legend

Dam Name

- 🟦 Oroville
- ▨ Folsom
- ═ Nimbus

0 2,550 5,100 10,200

Feet

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Reference: Department of Water Resources, Dam Breach Inundation Map Web Publisher,
July 1, 2020 https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2
California Emergency Management Agency, Flood Inundation GIS files

Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-7 Inundation zones.mxd

Map Date: 2/19/2021

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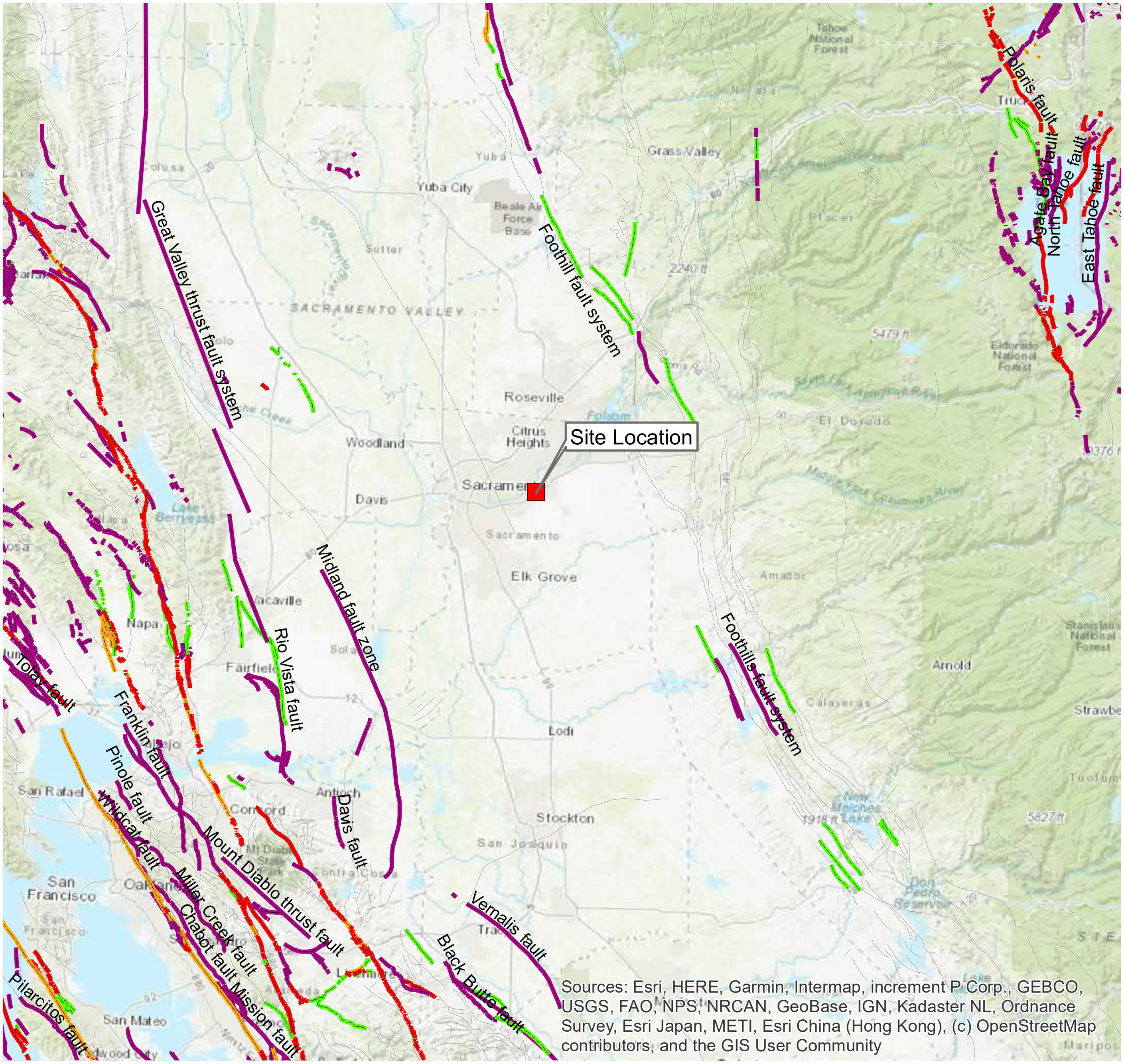
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-7
Dam Inundation Areas
BSK Project G2102111S



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

N
W E
S

0 7.5 15 30

Scale in Miles

Reference: Quaternary Faults=USGS Quaternary Fault Database
ftp://hazards.cr.usgs.gov/maps/qfault/
Pre-Quartenary Faults= Fault Activity Map of California (2010) California Geological Survey
https://maps.conservation.ca.gov/cgs/fam/app/

Legend

Fault Activity Age

- 🟧 Historic
- 🟥 Latest Quaternary
- 🟩 Late Quaternary
- 🟦 Middle and Late Quaternary
- 🟪 Undifferentiated Quaternary
- ⬜ Pre-Quaternary Faults

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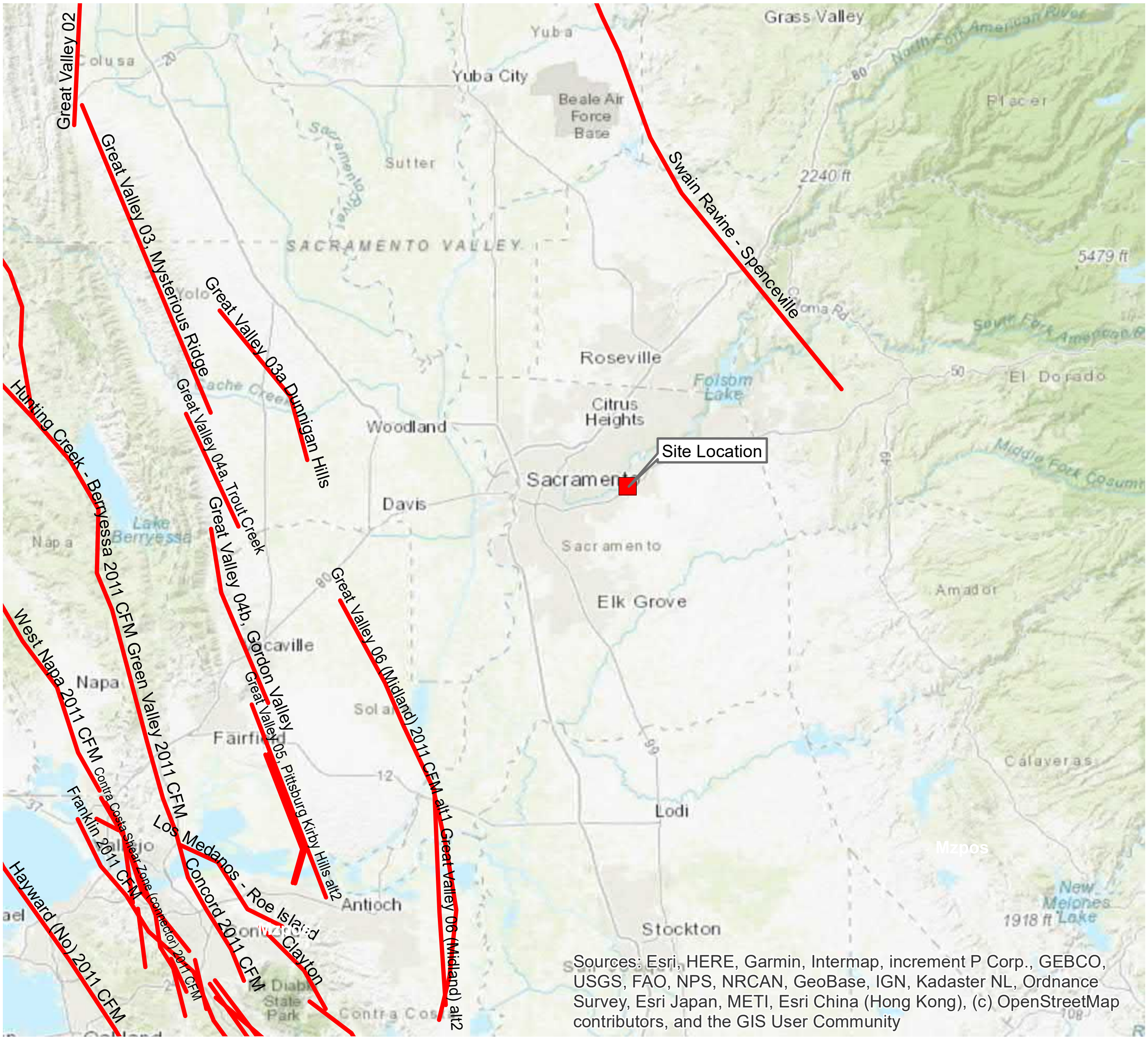
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-8
Area Fault Map
BSK Project G2102111S



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Legend

— UCERF3 Seismic Sources

0 7.5 15 30

Miles

N W E S

Reference: CGS Map Sheet 48: Fault-based seismic sources
used in the Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)
https://maps-cnra-cadoc.opendata.arcgis.com/datasets/cgs-map-sheet-48-fault-based
-seismic-sources-used-in-the-uniform-california-earthquake-rupture-forecast-version-3-ucerf3

Map Date: 2/19/2021

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Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-9
UCERF3 Seismic Sources
BSK Project G2102111S

Document Path: T:\GIS-Files\Project-Files\Geotech\G2102111S - Los Rios FLC\Figure C-10 UCERF3 faults.mxd

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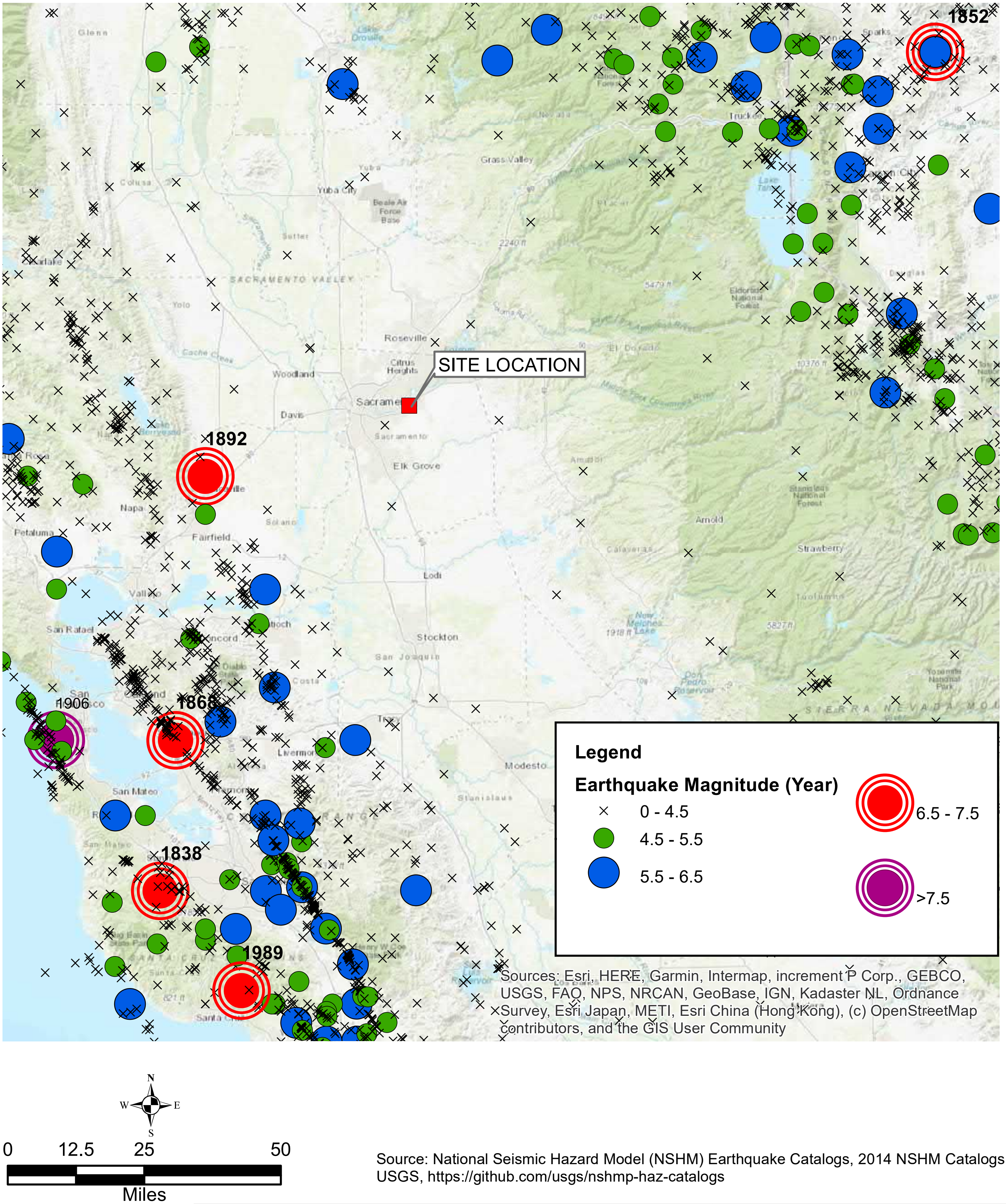

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Source: National Seismic Hazard Model (NSHM) Earthquake Catalogs, 2014 NSHM Catalogs, USGS, https://github.com/usgs/nshmp-haz-catalogs

Map Date: 2/19/2021

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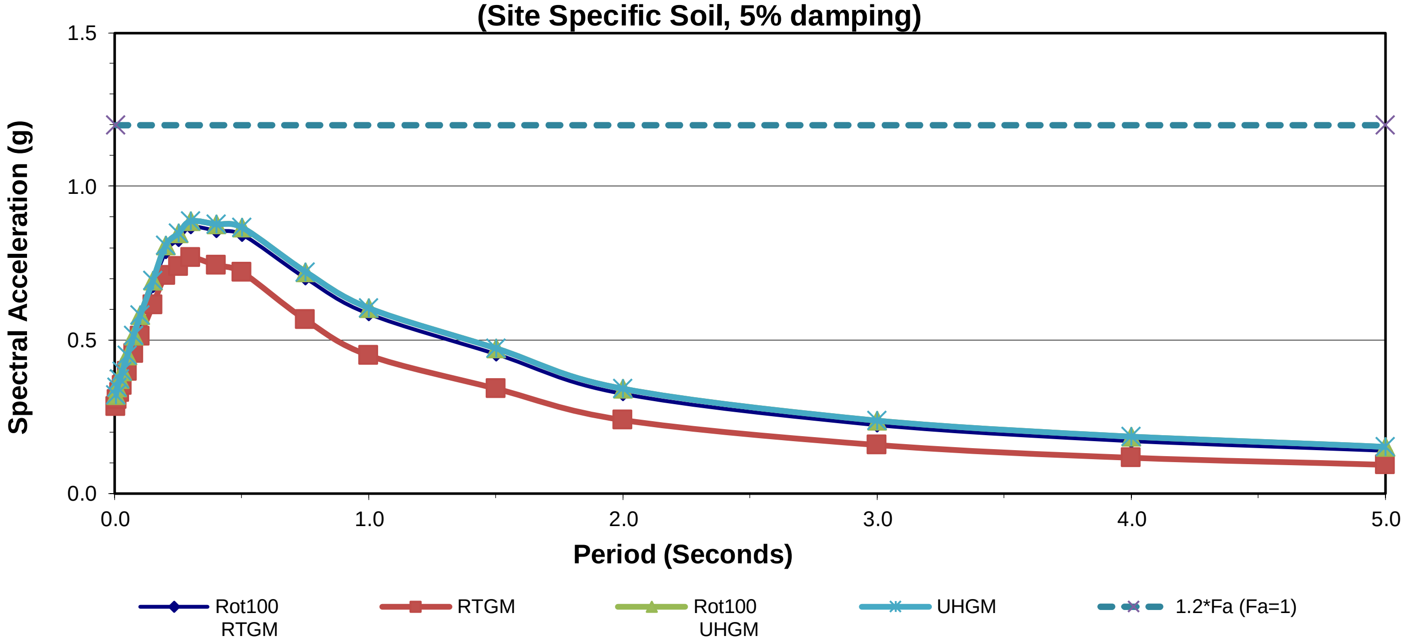
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-10
Earthquake Epicenter Map
BSK Project G2102111S

Uniform Hazard Spectra
Risk-Targeted Ground Motion
Spectral Response
Maximum Rotated Horizontal Component
(Site Specific Soil, 5% damping)



Period (Second)	Rot100 RTGM Sa (g)	RTGM Sa (g)	Rot100 UHGM Sa (g)	UHGM Sa (g)	100Rot Scale Factor
PGA	0.313	0.284	0.321	0.292	1.10
0.01	0.338	0.307	0.347	0.315	1.10
0.02	0.363	0.330	0.373	0.339	1.10
0.03	0.388	0.353	0.399	0.363	1.10
0.05	0.439	0.399	0.451	0.410	1.10
0.075	0.502	0.456	0.516	0.469	1.10
0.1	0.565	0.513	0.581	0.528	1.10
0.15	0.677	0.615	0.695	0.632	1.10
0.2	0.788	0.710	0.809	0.729	1.11
0.25	0.828	0.739	0.848	0.757	1.12
0.3	0.868	0.768	0.887	0.785	1.13
0.4	0.856	0.744	0.877	0.763	1.15
0.5	0.844	0.721	0.867	0.741	1.17
0.75	0.702	0.566	0.722	0.582	1.24
1	0.585	0.450	0.604	0.465	1.30
1.5	0.455	0.342	0.473	0.355	1.33
2	0.325	0.240	0.341	0.252	1.35
3	0.224	0.159	0.238	0.169	1.41
4	0.172	0.117	0.186	0.128	1.46
5	0.141	0.094	0.153	0.102	1.50

Notes:
RTGM = Risk-Targeted Ground Motion
UHGM = Uniform Hazard Ground Motion
Rot100 UHGM = Maximum Rotated Uniform Hazard Ground Motion
Rot100 RTGM = Maximum Rotated Risk-Targeted Ground Motion

Date: 2/19/2021

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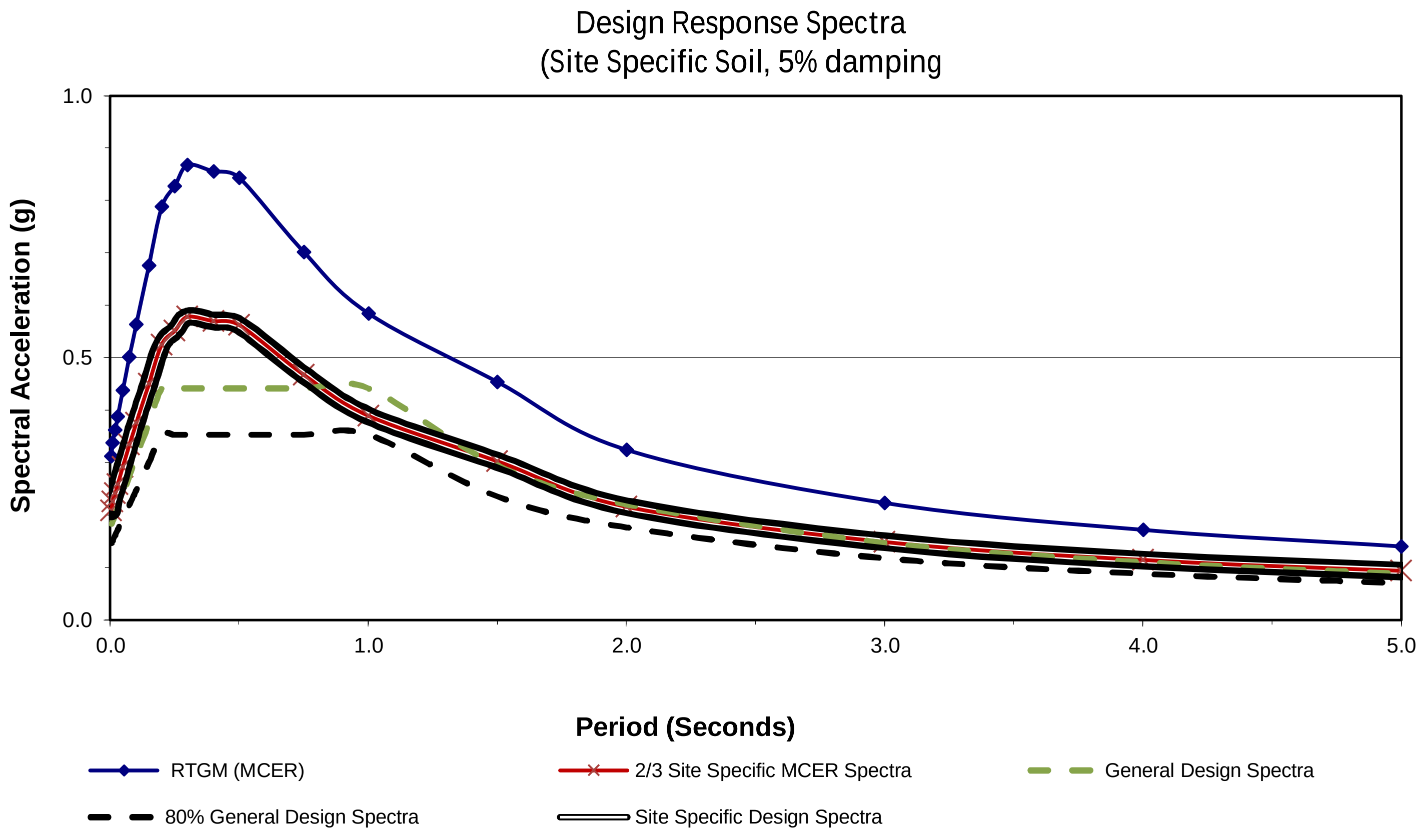
Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-11
Uniform Hazard Spectra
BSK Project G2102111S



Period (Second)	RTGM (MCER) Sa (g)	2/3 Site Specific MCER Spectra Sa (g)	General Design Spectra Sa (g)	80% General Design Spectra Sa (g)	Site Specific Design Spectra Sa (g)	Adjusted Site Specific Design Spectra Sa (g)
PGA	0.313	0.209	0.183	0.147	0.209	0.209
0.01	0.338	0.225	0.190	0.152	0.225	0.225
0.02	0.363	0.242	0.203	0.163	0.242	0.242
0.03	0.388	0.259	0.216	0.173	0.259	0.259
0.05	0.439	0.292	0.243	0.194	0.292	0.292
0.075	0.502	0.334	0.276	0.221	0.334	0.334
0.1	0.565	0.376	0.309	0.247	0.376	0.376
0.15	0.677	0.451	0.375	0.300	0.451	0.451
0.2	0.788	0.526	0.442	0.354	0.526	0.526
0.25	0.828	0.552	0.442	0.354	0.552	0.552
0.3	0.868	0.579	0.442	0.354	0.579	0.579
0.4	0.856	0.570	0.442	0.354	0.570	0.570
0.5	0.844	0.562	0.442	0.354	0.562	0.562
0.75	0.702	0.468	0.442	0.354	0.468	0.468
1	0.585	0.390	0.442	0.354	0.390	0.469
1.5	0.455	0.303	0.295	0.236	0.303	0.303
2	0.325	0.216	0.221	0.177	0.216	0.216
3	0.224	0.149	0.147	0.118	0.149	0.149
4	0.172	0.114	0.111	0.088	0.114	0.114
5	0.141	0.094	0.088	0.071	0.094	0.094

Notes:
Blue Cells Adjusted according to ASCE 7-16, Section 21.4

Date: 2/19/2021

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Geologic/Seismic Hazard Evaluation
Los Rios Folsom Lake Community College
Rancho Cordova Center
10259 Folsom Blvd.
Rancho Cordova, California

Figure C-12
Design Response Spectra
BSK Project G2102111S

APPENDIX E

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

FOLSOM LAKE COLLEGE –
RANCHO CORDOVA CENTER
DAWES STREET STUDENT PARKING LOT EXPANSION PROJECT
RANCHO CORDOVA, CALIFORNIA
APN: 076-0212-021

PROJECT NUMBER: 2022-00001
JUNE 8, 2022

petralogix
geophysics - environmental - geology

June 8, 2022
Project No. 2022-00001

Mr. Charles Uhlmeyer
Los Rios Community College District
3753 Bradview Drive
Sacramento, CA 95827

Subject: Limited Scope Phase II Environmental Site Assessment
Folsom Lake College – Rancho Cordova Center
Dawes Street Student Parking Lot Expansion Project
Rancho Cordova, Sacramento County, California
APN: 076-0212-021

Dear Mr. Charles Uhlmeyer:

Petralogix Engineering, Inc. (Petralogix) is pleased to present the following report, which contains the findings and recommendations of our Limited Scope Phase II Environmental Site Assessment (ESA) conducted for the parcel Los Rios Community College District is currently preparing to acquire via a “land swap.” We understand the 0.83-acre parcel will be utilized for Student Parking Expansion for the student’s attending classes at the Folsom Lake College Rancho Cordova Center (RCC) campus. This report is intended to evaluate the presence/absence of chemicals of potential concern. It is not intended to delineate contamination if materials are found to be present which poses a potential hazard. This report consists of data obtained from our field investigation, soil sample collection, and subsequent chemical analysis. This investigation was completed to address the findings of the Phase I Environmental Site Assessment (ESA) Petralogix performed for the site dated December 14, 2021, conducted in general accordance with our proposal dated September 23, 2021.

We appreciate the opportunity to provide our expertise on this project and look forward to providing other services in the future. Please feel free to contact us if you have any questions.

Daniel Edward
Kramer
No. 8657

Sincerely,
Petralogix Engineering, Inc.

Tonya R. Scheftner

Tonya R. Scheftner, Project Geologist
B.Sc. Geology, GIT No. 685

Daniel E. K

Daniel E. Kramer, President
Professional Geologist No. 8657

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT
FOLSOM LAKE COLLEGE – RANCHO CORDOVA CENTER
DAWES STREET STUDENT PARKING LOT EXPANSION PROJECT

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June 8, 2022

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

FOLSOM LAKE COLLEGE – RANCHO CORDOVA CENTER
DAWES STREET STUDENT PARKING LOT EXPANSION PROJECT
RANCHO CORDOVA, CALIFORNIA

OUR PROJECT NO: 2022-00001

1.0 INTRODUCTION

Petralogix Engineering, Inc. (Petralogix) has been retained by the Los Rios Community College District to conduct a Limited Scope Phase II Environmental Site Assessment (ESA) for the parcel located at 10275 Dawes Street in Rancho Cordova, Sacramento County, California (APN: 076-0212-012). The assessment is considered to be "limited" because it is intended as a screening level survey to assess the presence and/or absence for Chemicals of Potential Concern (COPC). It is not intended to delineate the limits of COPC's if they are present onsite. In general, this level of survey is intended to determine if onsite areas may have COPCs that exceed relevant screening levels as set by State and Federal regulatory and enforcement agencies. This report has been prepared per our proposal dated December 14, 2021.

1.1 Scope of Services

Petralogix performed a Phase I ESA for the site, dated December 14, 2021 (Petralogix Project Number: 2021-00089). The following Recognized Environmental Conditions (RECs) were identified in connection with the Dawes Street Parcel:

- Historic agricultural use is an environmental concern for the subject property.
- The historic structure onsite from at least at least 1972 which was demolished by at least 1984 located in the northwest boundary of the parcel. The building was built prior to the effective ban of most lead based paint and asbestos containing building materials and residual pesticides from termiticides may be present in the soil. The historic building demolished without a permit is an environmental concern for the Site.

This assessment has identified the following environmental concerns that could become a recognized environmental condition in connection with the subject property:

- Based on site reconnaissance, the manhole covers appear associated with a brick septic system, however, due to the unknown historic use of demolished structure located on site, the Site may have been used for non-residential activities that may have resulted in the disposal of hazardous substances in the septic system (e.g., automobile maintenance, painting, or hobby activities that may have utilized hazardous substances).
- Based on site reconnaissance, there are two pipes protruding from the Site of unknown origin. However, a utility survey map provided by LRCCD (Appendix C) transient piping is relatively well characterized as water pipes.

This scope of work has been performed in response to the identified RECs. The purpose of this investigation is to evaluate the presence or absence of Total Petroleum Hydrocarbons (TPH) with BTEX and MTBE, Motor Oil, Diesel, CAM-17 Metals, and Volatile Organic Compounds (VOCs) present within the historic brick septic system wastewater. In addition, the investigation evaluated soil for the presence or absence of organochlorine pesticides (OCPs), arsenic, and lead associated with the historic agricultural use, and OCPs, arsenic, lead, polychlorinated biphenyls (PCBs), and asbestos associated with the former demolished buildings identified as RECs. This scope of work is not intended to identify every chemical that could possibly be associated with the site, nor is it intended to delineate the extent of impaction, if identified.

1.2 User Reliance

This report was prepared for the exclusive use of Los Rios Community College District. No other person or entity is entitled to use or rely upon this report without specific written authorization from Petralogix. Such reliance is subject to the same limitations, terms, and conditions as our original contract with the above stated client(s). Petralogix specifically rejects any responsibility for unauthorized use of this report. Unauthorized use is any use that is not consented for by Petralogix in writing.

1.3 Limitations

Findings, conclusions, and recommendations resulting from these services are in accordance with generally accepted standards, principles, and practices. Findings, conclusions, and recommendations are based exclusively on the data obtained from on-site activities, laboratory analytical data, and other services performed under this scope of work. As such, opinions are based on currently available (time of investigation) and reasonably foreseeable information. This information is subject to change over time. Samples are collected from representative areas and analyzed for chemicals of potential concern (COPCs); we cannot represent that the site is free of hazardous substances, petroleum products, toxic materials, or other conditions beyond those identified during this scope of work. Findings of this report may be invalidated by changes beyond our control, such as site conditions, applicable standards, legislation, or broadening of knowledge. Furthermore, this is a limited scope survey, and is not intended to be a full human health screening assessment of onsite constituents found during the site survey.

2.0 SITE DESCRIPTION

2.1 Site Location and Features

The subject property address is 10275 Dawes Street, City of Rancho Cordova, Sacramento County (APNs: 076-0212-021). Dawes Street is located adjacent east of the site, followed by commercial use. West of the subject property is the student parking lot for the Folsom Lake College – Rancho Cordova Center; the parcel adjacent south is commercial use followed by Folsom Boulevard. North of the subject property is commercial use and residential tract homes. The subject property is located in a primarily suburban area with residential, public, and commercial use and consists of 0.83 acres.

A general location map (Vicinity Map – Plate 1) and a sampling location site map (Site Sampling Locations Map – Plate 2) are attached to this report in **Appendix A**.

2.2 Current and Historic Site Use

The subject property is currently vacant land with primarily asphalt and patches of soil with weeds. A Sacramento Municipal Utility District (SMUD) pad-mounted transformer is located on the northern portion of the site; the northern portion also has two manhole covers associated with a historic brick septic system, one approximately 5-inch diameter pipe, and one approximately ¾ inch diameter pipe protruding from the ground near the manhole cover and pad-mounted transformer.

2.3 Physical Setting

2.3.1 Topography

According to the most recent United States Geological Survey Topographic map covering the subject property and vicinity[1], the subject property and general vicinity are at an elevation of roughly 85 feet above mean sea level. The site and general region are relatively flat.

2.3.2 Geology and Soils

According to the most detailed Geologic Map covering the subject property and vicinity, the subject property consists of the recent alluvial fan deposits in the Great Valley (Qf), the unit consists of lenticular silt, sand, gravel, and clay.[2]

The site soil is classified as Urban Land by the United States Department of Agriculture Natural Resources Conservation Services (USDA) Web Soil Survey with no other details available.

In general, the near-surface soils at the project site encountered in the test borings consisted of very dense clayey gravel with pebbles and cobbles from surface to 2 feet below ground surface (bgs). One location (B8) was observed to have refusal due to concrete and rebar to 1 ft below ground surface where a sample was collected and analyzed.

2.3.3 Hydrogeology

Groundwater was not encountered in the borings advanced during the Phase II Site Investigation. Borings were advanced to a maximum of 2 feet bgs.

The most recent groundwater elevation map found for the area is from Fall 2007[3]. At this time, the groundwater elevation at the site was 10 feet above msl. The subject property is at an elevation of approximately 85 feet above msl. Therefore, at this time depth to groundwater is approximately 75 feet below ground surface (bgs). The groundwater flow direction in the area is likely to the west, following topography.

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[1] US Geological Survey, 2018, 7.5' Topographic Map, California, Carmichael Quadrangle

[2] US Geological Survey, R.J. & Koenig, J.B., 1965, Geologic map of California: Sacramento Sheet, California. Scale 1:250,000.

[3] Sacramento County, California, Groundwater Elevations, Fall 2007. Department of Water Resources. https://waterresources.saccounty.net/Contour%20Maps/FALL%202007.pdf

3.0 PREVIOUS ENVIRONMENTAL SITE INVESTIGATIONS

One environmental document was provided by the City of Rancho Cordova (property owner) representative, Stefan Heisler. The document consisted of a Phase I Environmental Site Assessment Dawes Street Property (Assessor Parcel Number 076-0212-021-0000) dated May 2021 by PlaceWorks and prepared for the City of Rancho Cordova.

According to the Phase I ESA, by PlaceWorks, no RECs were identified for the subject property. The Phase I ESA identified two "Business Environmental Risks," which is defined by ASTM E 1527-13 as a "risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice". The review by PlaceWorks identified the following risks:

- Residual lead-based paint (LBP) and residual pesticides from termiticides are potentially present in the soils in the vicinity of the former structure; and
- The site was occupied by agricultural orchards from at least 1937 to 1966. Residual pesticides may be present in the soil from historic agriculture over approximately 30 years.

4.0 FIELD INVESTIGATION

Soil and wastewater sampling were performed by Petralogix on April 18, 2022. Sampling was performed using Level D personal protective equipment. Sampling equipment was decontaminated prior to the start of sampling, before sample collection, and between sample locations, using a triple rinse method and Liquinox.

Former Structure Samples:

Eight (8) soil borings (B1-B8) were collected from the former structure area. Soil samples were collected at the surface (zero to six inches below ground surface) and subsurface (one to two feet below ground surface), using a hand auger. All of the eight (8) soil boring samples were analyzed discretely for the contaminants of potential concern (COPCs), Lead. Sample locations B1 and B5 were analyzed for Arsenic and Asbestos. Sample locations B7 and B8 were analyzed for Polychlorinated Biphenyl's. The eight (8) co-located samples were analyzed as a 4:1 composite (B1-B4 and B5-B8) for organochlorine pesticides (OCPs). A minimum of 10 percent of co-located duplicate samples were analyzed for each analyte. Sample locations are depicted on **Plate 2**, **Appendix A**.

Agricultural Field Samples:

Four (4) soil borings (B9-B12) were advanced in the southern portion of the subject property where the historic agricultural field was formerly located. Soil samples were collected at the surface, from 0 to 6 inches below ground surface (bgs), using a hand auger. The surface soil samples were composited 4:1 for laboratory analysis and analyzed for contaminants of potential concern (COPCs) including organochlorine pesticides (OCP's), with one co-located sample (B9) analyzed discretely for arsenic and lead. Sample locations are depicted on **Plate 2**, **Appendix A**.

<u>**Historic Septic Wastewater Samples:**</u>
One wastewater sample was collected from each chamber of the historic septic system (S1 and S2) as well as one duplicate (S2-DUP) and analyzed for Total Petroleum Hydrocarbon (TPH), Volatile Organic Compounds (VOCs), and CAM-17 Metals. The septic tank sample locations are depicted on **Plate 2, Appendix A**. Wastewater samples were collected in clean, sterile containers supplied by McCampbell Analytical, labeled, and immediately placed on ice. The CAM-17 Metals were filtered by McCampbell Analytical.

Soil samples were collected in clean, sterile, 8-ounce glass jars supplied by McCampbell Analytical. Filled sample containers were labeled and immediately placed on ice. All samples were securely transported under Chain-of-Custody documentation in ice chests to McCampbell Analytical, Inc. in Pittsburg, California on April 18, 2022.

5.0 RESULTS OF FIELD INVESTIGATION

This section discusses the soil sample analytical results for Organochlorine Pesticides (OCPs) using USEPA Method SW8081A, Polychlorinated Biphenyls (PCBs) using USEPA Method SW8082, Asbestos using USEPA Method 600/R-93-116, and Arsenic and Lead using USEPA SW6020.

This section also discusses wastewater sample analytical results for Total Petroleum Hydrocarbon (gasoline, diesel, motor oil) with BTEX and MTBE using USEPA Method SW8021B/8015Bm, laboratory filtered CAM-17 Metals using USEPA Method E200.8, and Volatile Organic Compounds (VOCs) using USEPA Method SW8260B.

5.1 Screening Levels

Environmental screening levels (ESLs) for the site were reviewed using the San Francisco Bay Regional Water Quality Control Board (Residential Land Use, Shallow Soil, where Groundwater is a Current or Potential Source of Drinking Water) or USEPA Regional Screening Levels (RSLs) for residential land use modified as necessary by the Department of Toxic Substances Control (DTSC) in *Human Health Risk Assessment (HHRA) Note 3*, with the most conservative environmental screening level utilized for each analyte, and California Title 22 Primary Maximum Contaminant Levels (PMCLs). ESLs are not regulatory standards, but conservative screening levels used to expedite the identification and evaluation of potential environmental concerns at a site. Chemicals are first compared to the screening levels for residential land use regardless of current and anticipated future land use, as these are considered appropriate for unrestricted property use. <u>If a chemical is detected below the applicable ESL value, it can be assumed not to pose a significant threat to human health and the environment.</u> However, if a chemical is detected above its respective ESL, further evaluation is warranted.

5.2 Analytical Results

The laboratory analytical reports and chain-of-custody records are attached in **Appendix B**. The following sections describe the results of testing.

Historic Septic Wastewater Sample Results:

Volatile Organic Compounds:

Wastewater samples analyzed for volatile organic compounds (VOCs) analyzed were non detect (ND) at or above the indicated laboratory reporting limits for S1, S2, and S2-DUP and are therefore not a concern for the site. Results are available for review in **Appendix B.**

CAM-17 Metals:

As indicated in **Table 1**, CAM-17 Metals analyzed from the wastewater samples (S1, S2, and S2-DUP) were either non detect or below the Primary Maximum Contaminant Level (PMCL). Primary MCLs are drinking water standards established by the California Code of Regulations, Title 22, based on chemicals' health risks, as well as their detectability and treatability, and costs of treatment.

Table 1.
Laboratory Analytical Results
CAM-17 Metals (E200.8)
Unit: µg/L

Constituent	S1	S2	S2-DUP	PMCL[1]
antimony	<0.50	0.68	0.81	6.0
arsenic	1.1	1.9	2.1	10
barium	8.0	110	110	1,000
beryllium	<0.50	<0.50	<0.50	4.0
cadmium	<0.50	<0.50	<0.50	5.0
chromium	<0.50	<0.50	<0.50	50
cobalt	0.63	2.1	1.9	6.0
copper	<0.50	3.0	2.7	1,300
lead	<0.50	<0.50	<0.50	15
mercury	<0.20	<0.20	<0.20	2.0
molybdenum	<0.50	1.9	2.2	100
nickel	1.6	8.1	8.6	100
selenium	<0.50	<0.50	<0.50	50
silver	<0.50	<0.50	<0.50	100
thallium	<0.50	<0.50	<0.50	2.0
vanadium	0.99	3.6	5.0	NA
zinc	15	17	18	5,000

[1] Primary MCL (PMCL): Primary Maximum Contaminant Level. Primary MCLs are drinking water standards established by the California Code of Regulations, Title 22 based on chemicals health risks, as well as their detectability and treatability, and costs of treatment.
NA = not applicable

Total Petroleum Hydrocarbon Multi-Range (gas, diesel, and motor oil) Results:

As indicated in Table 2 below, samples S1, S2, and S2-DUP were below detectable laboratory limits for gasoline range with BTEX and MTBE, and diesel and are not a concern for the site. Motor oil was detected in S1, S2, and S2-DUP at 540 µg/L, 1100 µg/L, and 750 µg/L, respectively. There are no primary or secondary MCLs for motor oil, therefore, this is not considered an environmental concern for the site.

Table 2.
Laboratory Analytical Results
Total Petroleum Hydrocarbons (gas, diesel, motor oil)
(SW8021B/8015Bm)
Unit: µg/L

Constituent	S1	S2	S2-DUP	PMCL[1]
Gas	<50	<50	<50	760
Diesel	<100	<100	<100	200
Motor Oil	540	1100	750	NA

[1] Primary MCL (PMCL): Primary Maximum Contaminant Level. Primary MCLs are drinking water standards established by the California Code of Regulations, Title 22 based on chemicals health risks, as well as their detectability and treatability, and costs of treatment.
NA = not applicable

Historic Agriculture Sample Results:

Four (4) locations (B9, B10, B11, and B12) comprised of surface soil samples were analyzed for Organochlorine Pesticides (OCPs) as a 4:1 composite, with one co-located sample (B9) also analyzed for arsenic and lead. Six (6) OCP compounds (DDE, DDT, Chlordane Technical, a-Chlordane, g-chlordane, and Dieldrin) were detected in the 4:1 composite sample. The detected OCP concentrations were significantly less than the USEPA RSL for residential soils.

Table 3.
Historic Agriculture Location Sample Results
Unit: (mg/Kg)

Organochlorine Pesticides (EPA Method 8081A)

Constituent	Sample ID: B9,10,11,12@0.5’	ESL
DDE	0.00061	0.50[1]
DDT	0.00089	0.48[1]
Chlordane (Technical)	0.0069	0.40[1]
a-Chlordane	0.00066	0.009[1]
g-chlordane	0.00082	NA
Dieldrin	0.00028	NA

Lead & Arsenic
(EPA Method SW6020)

Constituent	Sample ID: B9@0.5’	ESL
Lead	2.9	80[2]
Arsenic	4.0	0.11[2]
		12[3]

[1] RSLs – USEPA Regional Screening Level Cancer Endpoint (May 2020) for a 4:1 composite result
[2] Department of Toxic Substances Control HERO Note 3 – June 2020 Screening Level (SL)
[3] Regional Background Screening Criteria, United States Geological Survey (Wilson, S.A., et. al., Analysis of Soil Samples, USGS Open File Report 90-214)
NA = Not applicable

As indicated in Table 3 above, organochlorine pesticides, and lead analysis results from the historic agriculture sampling locations are all non-detect or below the environmental screening levels and are not a concern for the site. Arsenic was detected in sample B9@0.5’ at levels above the cancer endpoint RSL. Based on regional background soils sampling results from professional experience in the area, and soil sampling results from the United States Geological Survey (Wilson, S.A., et. al., Analysis of Soil Samples from the San Joaquin Valley of California, USGS Open File Report 90-214, 1990), the arsenic does not appear to be elevated above typical levels for this region of California.

Former Structures Results:

All eight (8) surface soil samples and eight (8) soil samples at depth (1 to 2 feet below ground surface) were analyzed as a 4:1 composite for organochlorine pesticides. Each sample was analyzed discretely for lead, and one co-located sample per 4:1 composite was analyzed for arsenic from surface soil samples and soil samples at depth. Four (4) surface soil samples and four (4) soil samples at depth (1 to 2 ft. bgs.) were analyzed for asbestos. In addition, the former structures south facing aspect required, per DTSC guidance, the collection and analysis of two (2) soil samples (surface and at depth) for polychlorinated biphenyls (PCBs).

All asbestos and PCB results were non-detect and are therefore not a concern for the site.
Select lab results for the former structures for detected OCPs, arsenic, and lead analysis are summarized in Tables 4 and 5 below. The full laboratory report is available in **Appendix B**.

Table 4.
Laboratory Analytical Results
Unit: mg/Kg
Organochlorine Pesticides (EPA Method 8081A)

Constituent	B1-B4@0.5'	B1-B4-DUP@0.5'	B5-B8@0.5'	B1-B4@2'	B5,B6,B7@2' &B8@1'	ESL[1]
DDD	<0.00050	<0.00050	<0.0010	0.00059	<0.00010	0.58
DDE	0.0027	0.0029	0.0024	0.0073	0.00098	0.50
DDT	0.0053	0.0023	0.0031	0.0039	0.0045	0.48
Chlordane (Technical)	0.03	0.03	<0.025	<0.025	0.025	0.40
a-Chlordane	0.0027	0.003	<0.0038	0.00014	0.0019	NA
g-Chlordane	0.0034	0.0034	<0.0047	0.00024	0.003	NA
Dieldrin	0.002	0.0023	0.0034	0.00014	0.003	0.009

[1] RSLs – USEPA Regional Screening Level Cancer Endpoint (May 2020) for a 4:1 composite result for OCPs
[2] Department of Toxic Substances Control HERO Note 3 – June 2020 Screening Level (SL)
[3] Regional Background Screening Criteria
NA = Not applicable

As shown above in Table 4, seven (7) OCP compounds (DDD, DDE, DDT, Chlordane (Technical), a-Chlordane, g-Chlordane, and Dieldrin) were detected in the four-point composite samples. The detected OCP concentrations are significantly less than the USEPA RSL for residential soils and are not a concern for the site.

Table 5.
Laboratory Analytical Results

Arsenic & Lead (EPA SW6020)

Location	Lead mg/kg	Lead (STLC) mg/L	Lead (TCLP) mg/L	Arsenic mg/kg
B1@0.5’	79	0.88	--	6.9
B1-DUP@0.5’	51	1.0	--	6.6
B1@2’	62	1.7	--	5.4
B2@0.5’	57	0.97	--	--
B2-DUP@0.5’	40	NA	--	--
B2@2’	8.4	NA	--	--
B3@0.5’	55	1.2	--	--
B3-DUP@0.5’	**110**	1.6	<0.10	--
B4@2’	9.7	--	--	--
B5@0.5’	24	--	--	8.1
B5@2’	12	--	--	9.0
B6@0.5’	19	--	--	--
B6@2’	12	--	--	--
B7@0.5’	13	--	--	--
B7@2’	11	--	--	--
B8@0.5’	64	2.5	--	--
B8@1’	**1000**	**15**	0.15	--
B8-DUP@1’	**180**	0.79	<0.10	--
ESL Screening Criteria	80 mg/kg	5 mg/L	5 mg/L	0.11
Basis	DTSC-SL[1]	STLC Limit[2]	TCLP Limit[3]	DTSC-SL[1]

[1] Department of Toxic Substances Control HERO Note 3 – June 2020 Screening Level (SL)

[2] If Soluble Threshold Limit Concentration (STLC) is equal or greater than the STLC Limit, then the waste is California (non-RCRA) hazardous waste.

[3] If Toxicity Characteristic Leaching Procedure (TCLP) is equal or greater than the TCLP limit, the waste is considered federal (RCRA) hazardous waste.

-- indicates not analyzed

Bold = above the screening level

As indicated in Table 5 above, arsenic results from the former structure area range from 5.4 mg/kg to 9.0 mg/kg at sample locations B1@2’ and B5@2’, respectively. All arsenic sampled was detected at levels above the cancer endpoint DTSC-SL. However, based on regional background soil sampling results from professional experience in the area, and soil sampling results from the United States Geological Survey (Wilson, S.A., et. al., Analysis of Soil Samples from the San Joaquin Valley of California, USGS Open File Report 90-214, 1990), the arsenic does not appear to be elevated above typical levels for this region of California. <u>Arsenic is not considered an environmental concern for the site.</u>

Surface sample locations from within the former structures area reported lead concentrations that ranged from 13 mg/kg to 110 mg/kg. Numerous sample locations were above the Soluble Threshold Limit Concentration (STLC) Trigger value of 50 mg/kg and required further analysis to determine if the lead is California (non-RCRA) hazardous waste; if the STLC result exceeds or equals 5 mg/L, the waste is considered California (non-RCRA) hazardous waste, which requires disposal at a Class I landfill. **One surface sample, B3-DUP@0.5’ reported a concentration of lead at 110**

mg/kg, which is above the environmental screening level of 80 mg/kg and is therefore a concern for the site; however, the STLC limit is 1.6 mg/L, which is below the STLC limit of 5 mg/L and is not considered California non-RCRA hazardous waste.

All soil samples at depth were collected at 2 feet below ground surface (bgs), with the exception of one sample location, B8, which was collected at 1-foot bgs due to refusal. Lead concentrations at depth range from 8.4 mg/kg to 1,000 mg/kg. The majority of lead concentration at depth is below the 80 mg/kg RSL, ranging from 8.4 mg/kg to 62 mg/kg **(see Plate 3, Appendix A). One sample at depth, location B8, which additionally had a co-located duplicate B8-DUP, reported a concentration of 180 mg/kg for B8-DUP@1' and 1,000 mg/kg for B8@1'.** As required for waste characterization, B8@1' and B8-DUP@1' were additionally analyzed for the STLC and TCLP limits. B8@1' STLC is 15 mg/L and above the threshold 5 mg/L and is therefore considered California (non-RCRA) hazardous waste; this sample was analyzed for TCLP, with the concentration reported as 0.15 mg/L, and is not considered federal RCRA hazardous waste. B8-DUP@1' STLC is 0.79 mg/L and TCLP is non-detect. **Based on the elevated concentration of lead reported in sample B8@1' of 1,000 mg/kg, and an STLC concentration of 15 mg/L, the soil is considered California non-RCRA hazardous waste.**

6.0 FINDINGS

Environmental screening levels for the site were reviewed using the California Department of Toxic Substances Control (DTSC), U.S. EPA Regional Screening Levels, and San Francisco Regional Water Quality Control Board (Residential Land Use, Shallow Soil, where Groundwater is a Current or Potential Source of Drinking Water), with the most conservative screening level utilized for each analyte. In addition, California Maximum Contaminant Levels (MCLs) established by the California Code of Regulations Title 22, were reviewed to assess a chemicals' health risk for the wastewater samples.

- The historic septic tank wastewater samples for Volatile Organic Compounds, Total Petroleum Hydrocarbons (gas, diesel, and motor oil), and CAM-17 Metals were all non-detect or below the ELSs; the historic septic tank is not considered an environmental concern for the site.

- Asbestos and Polychlorinated Biphenyls were not detected in the soil sampled at the site and no further investigation is considered warranted.

- Arsenic in the soil was detected at concentrations exceeding the residential ESL of 0.11 mg/kg in all of the soil sample locations. However, concentrations are within background concentrations of 12 mg/kg for the area and are therefore not considered an environmental concern. No further review is warranted for this COPC.

- Organochlorine Pesticides in soil were detected at concentrations below the residential ESLs for the seven (7) OCP compounds (DDD, DDE, DDT, Chlordane (Technical), a-Chlordane, g-Chlordane, and Dieldrin) reported in the four-point composite samples. The detected OCP concentrations are significantly less than the USEPA RSL for residential soils and are not a concern for the site.

- Based on site reconnaissance, there are two pipes protruding from the Site of unknown origin. However, a utility survey map provided by LRCCD (Appendix C) transient piping is relatively well characterized and located as water pipes for future demolition and removal during initial site clearing. <u>However, the pipes are still considered a potential environmental concern for the Site.</u>

- Lead was detected at levels above the ESL of 80 mg/kg in one surface sample (B3@0.5’ at 110 mg/kg) and warrants further investigation. One sample location at depth (B8@1’ at 1,000 mg/kg) is well above the ESL of 80 mg/kg and subsequent soil testing for STLC and TCLP indicate the soil concentration of lead qualifies as California (non-RCRA) hazardous waste but is not considered federal (RCRA) hazardous waste. **The elevated lead detected within the area of the former structures is considered an environmental concern for the site and warrants further investigation.**

7.0 RECOMMENDATIONS

Based on the analytical results, it appears that the soil onsite has been impacted with elevated levels of lead that are considered California (non-RCRA) hazardous waste within the footprint of the former structures to a depth of at least 1-foot below ground surface. Additional sampling may be required to delineate the lateral and vertical extent of contamination. Based on our evaluation, we have concluded there are two ways to remediate the contaminated soils.

Option #1 – Recommended Option

The first option is to prepare a Soil Removal Plan (SRP) consistent with the California Department of Toxic Substance Control criteria prior to the removal and off-haul of the impacted soils to an appropriate landfill. The Soil Removal Plan should indicate proper protocols pertaining to (but not limited to) appropriate procedures for the excavation, stockpiling, transport, and confirmation testing of soils. For example, the SRP would state that to confirm all impacted soil have been removed, confirmation sampling at the excavated floor and sidewalls would be collected and analyzed for lead and stockpiled soils would be re-tested for landfill classification prior to being off hauled. After confirmation sampling has cleared the site of lead contaminated soils, backfill and site work could begin.

Overall, we estimate this to cost from $70,000 to $125,000. This estimate is based on sampling, removal, trucking, and Class I Landfill disposal fees, with the area of concern (AOC) estimated up to 11,250 square feet pending further delineation. The estimated cost provided is based on professional opinion, experience with similar sites, and review of fees related to such material off-haul at the time of this report. Changes in fees for off-haul may be significant pending a significant change in time, under-estimated contamination quantities, or changes in the base economy.

Option #2 – Alternative Option

The second option is the in-place burial and capping of the contaminated soil to reduce long-term human exposure based on the proposed onsite development/use as a student parking lot. If fugitive lead contaminated leachates can be mitigated to have less than deleterious effects utilizing the construction of an impermeable cap, then a deed restriction should be recorded for the material so that future uses, and activities do not impact this capped soil material. While in place capping is often a less expensive short-term approach, it carries with it potentially significant long-term issues that should be addressed in developing a properly remediated site and would likely need to be reviewed by the Division of State Architecture (DSA). Considering the longer review process and fact the material would require additional testing as well as be left on sight and a potential hinderance to a future change of land use if wanted, we do not recommend this option.

In addition, based on the District provided utility location map (Appendix C), transient piping is relatively well characterized and located for future demolition and removal during site clearing. However, if anything is found during demolition and removal, additional characterization may be required at that time. <u>We recommend that Petralogix is onsite during this demolition operation to verify the presence of the pipes and take additional samples if any “free product” is observed.</u>

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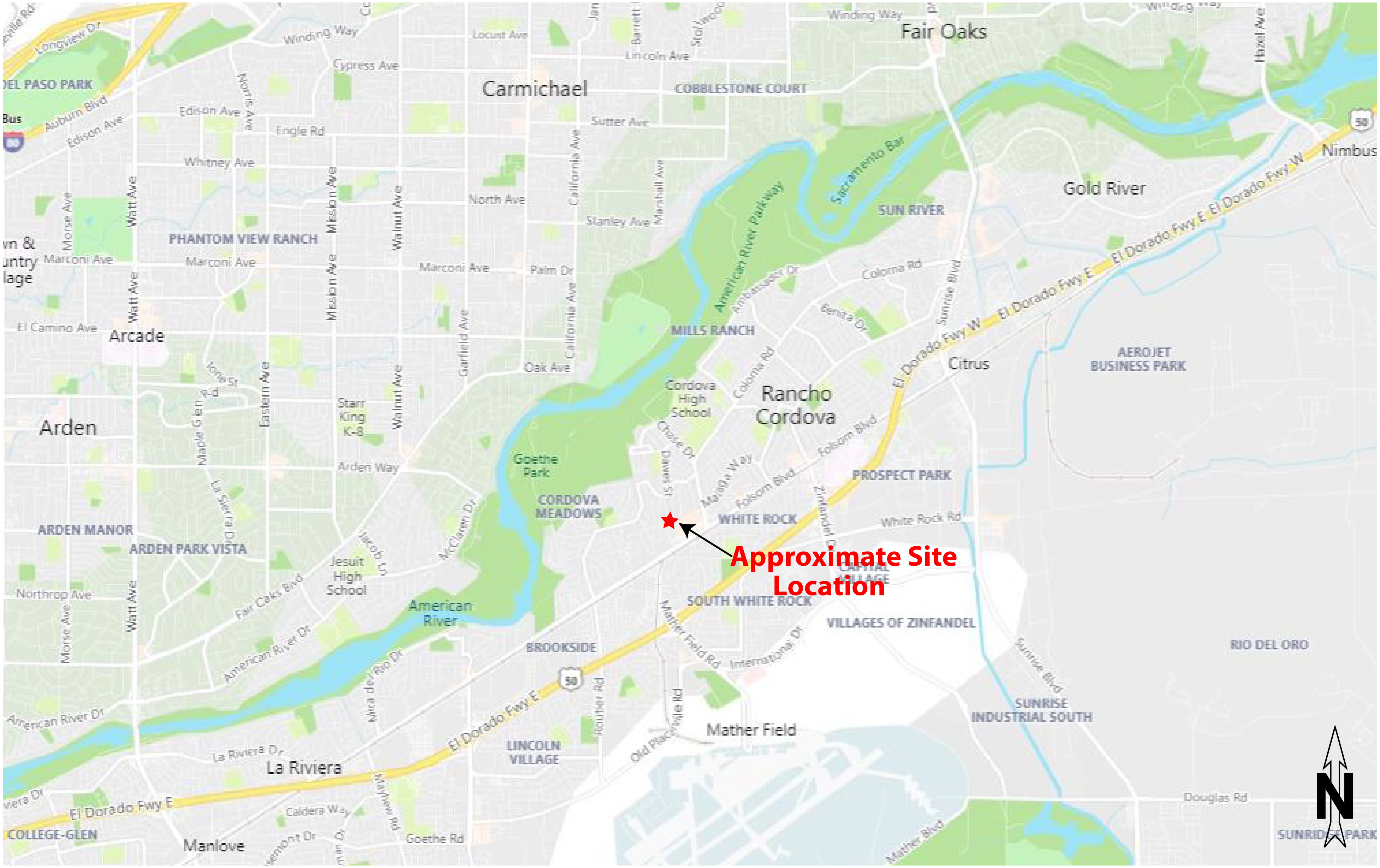
APPENDIX A



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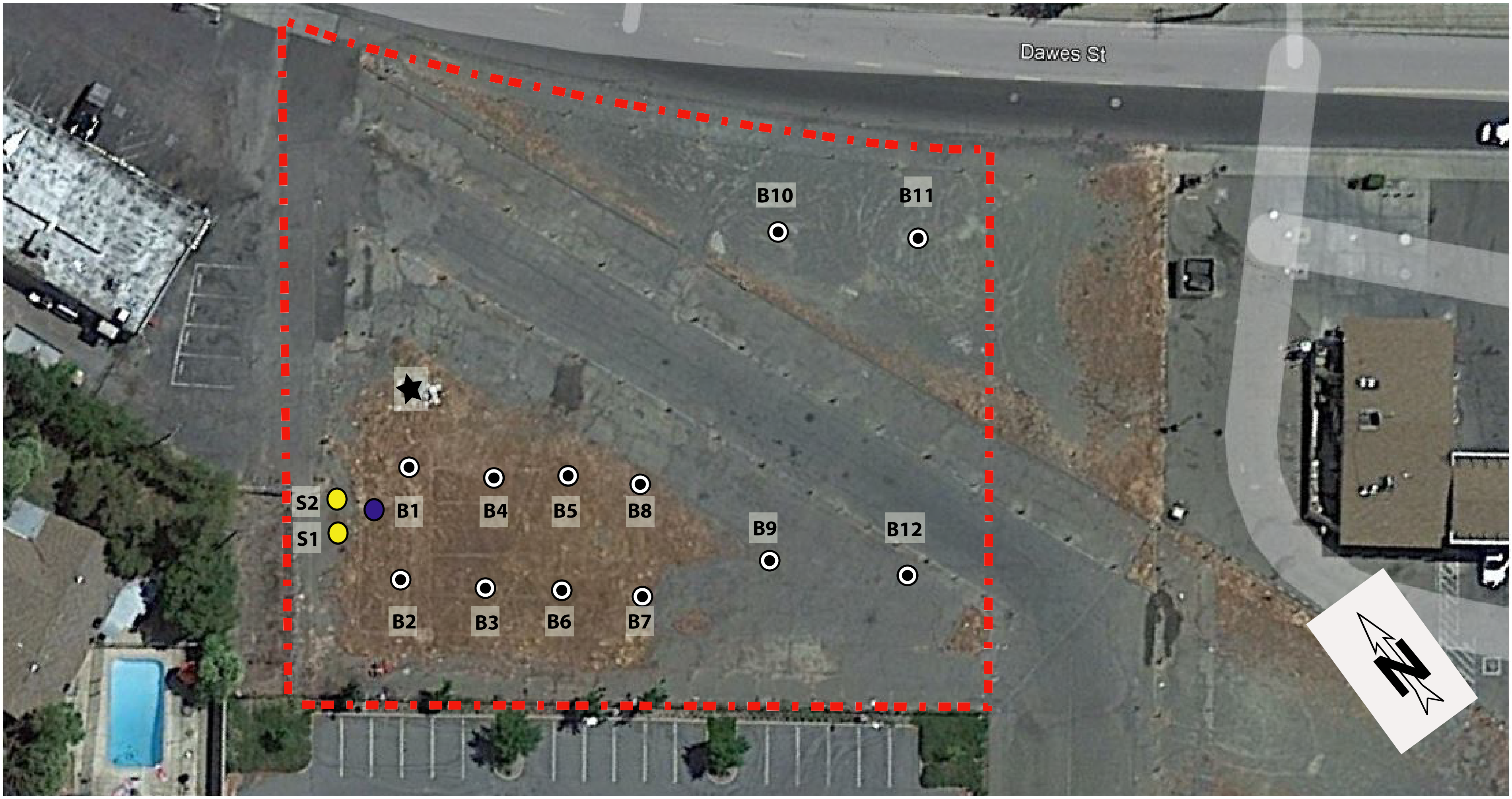
Vicinity Map

DAWES STREET
RANCHO CORDOVA, CA 95670

DATE: June 2022
JOB NUMBER: 2022-00001
SCALE: Not to Scale
DRAWN BY: TS
CHECKED BY: DK
PLATE: 1



Source: Google Earth, 2022

LEGEND

- 🟥 Approximate Site Boundary
- ◉ Soil Sample Location
- ★ Transformer
- ● Septic Tank Sample Location
- ● Pipe Location

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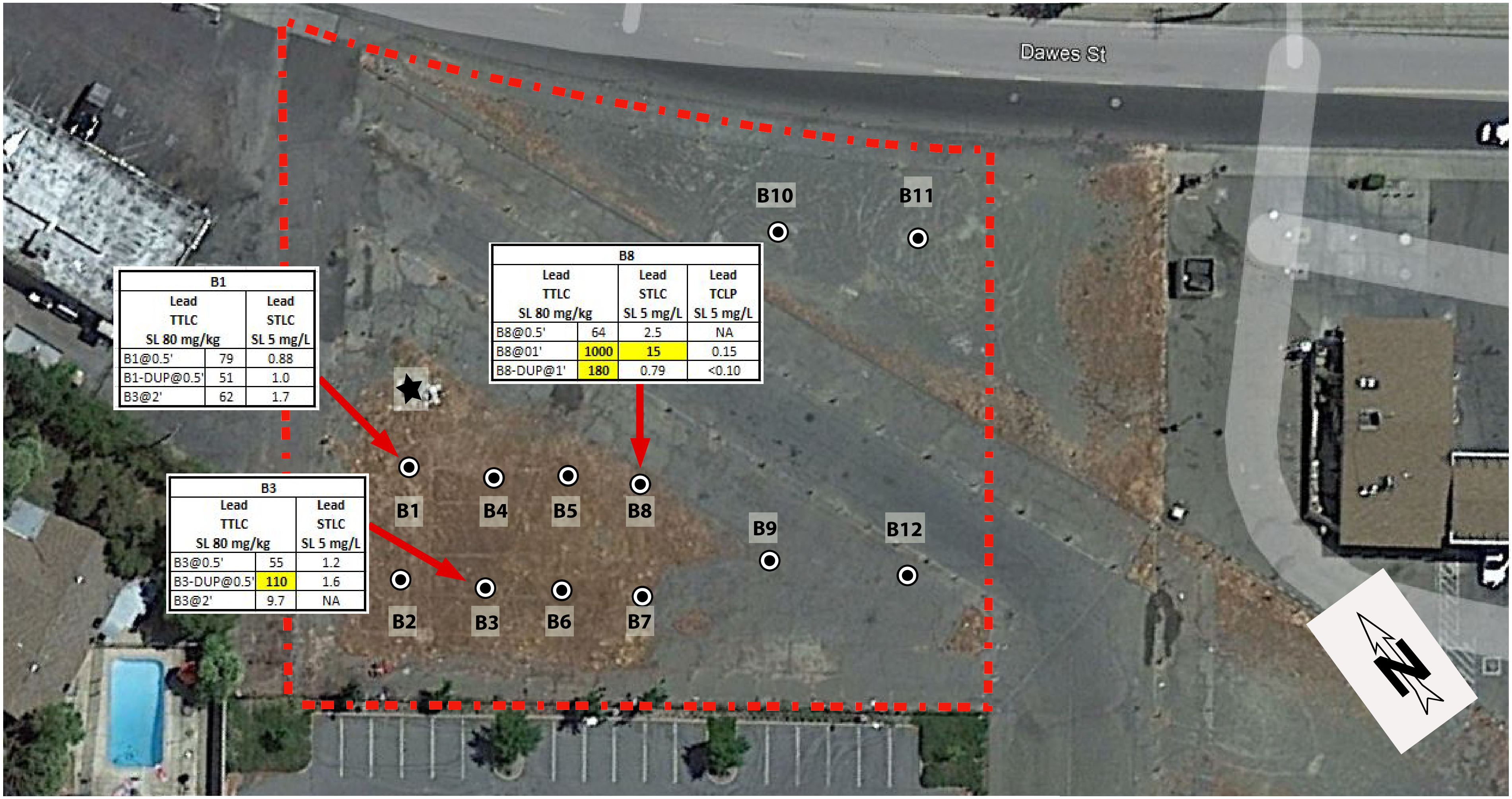
SAMPLE LOCATION MAP

DAWES STREET
RANCHO CORDOVA, CA 95670

DATE: June 2022
JOB NUMBER: 2022-0001
SCALE: Not to Scale
DRAWN BY: TS
CHECKED BY: DK
PLATE: 2



B1

Lead TTLC SL 80 mg/kg		Lead STLC SL 5 mg/L
B1@0.5'	79	0.88
B1-DUP@0.5'	51	1.0
B3@2'	62	1.7

B3

Lead TTLC SL 80 mg/kg		Lead STLC SL 5 mg/L
B3@0.5'	55	1.2
B3-DUP@0.5'	110	1.6
B3@2'	9.7	NA

B8

Lead TTLC SL 80 mg/kg		Lead STLC SL 5 mg/L	Lead TCLP SL 5 mg/L
B8@0.5'	64	2.5	NA
B8@01'	1000	15	0.15
B8-DUP@1'	180	0.79	<0.10

LEGEND

▬ ▬ ▪ ▪	Approximate Site Boundary
◉	Soil Sample Location
★	Transformer
🟨	Elevated above Screening Level (SL)

petralogix
geophysics - environmental - geology

SAMPLE LOCATION MAP
ELEVATED LEAD

DAWES STREET
RANCHO CORDOVA, CA 95670

DATE: June 2022
JOB NUMBER: 2022-00001
SCALE: Not to Scale
DRAWN BY: TS
CHECKED BY: DK
PLATE: 3

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APPENDIX B

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 2204991
Amended: 05/04/2022
Revision: 2

Report Created for: Petralogix

26675 Bruella Road
Galt, CA 95632

Project Contact: Daniel Kramer
Project P.O.:
Project: Dawes Street Phase 2

Project Received: 04/18/2022

Analytical Report reviewed & approved for release on 04/27/2022 by:

Yen Cao

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.

Revision History

Client: Petralogix **WorkOrder:** 2204991

Project: Dawes Street Phase 2

Date	Revision	Reason
05/03/2022	1	Reported down to the MDL for S2 and S2 -Dup
05/04/2022	2	Reported samples -004D, 4E, 5A, 6E, and 7A at lower dilution

Glossary of Terms & Qualifier Definitions

Client: Petralogix **WorkOrder:** 2204991

Project: Dawes Street Phase 2

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Glossary of Terms & Qualifier Definitions

Client: Petralogix **WorkOrder:** 2204991
Project: Dawes Street Phase 2

Analytical Qualifiers

F	Sample was filtered upon arrival to the lab.
J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
P	Agreement between quantitative confirmation results exceed method recommended limits.
S	Surrogate recovery outside accepted recovery limits.
a2	Sample diluted due to cluttered chromatogram.
a3	Sample diluted due to high organic content interfering with quantitative/or qualitative analysis.
b1	Aqueous sample that contains greater than ~1 vol. % sediment.
c4	Surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data is reportable.
c16	The internal standard recovery is below the lower limit. The target analyte(s) were Not Detected (ND); therefore, the data is reportable.
e7	Oil range compounds are detected.
h4	Sulfuric acid permanganate (EPA 3665) cleanup.

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.
F3	The surrogate standard recovery and/or RPD is outside of acceptance limits.
F10	MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3640Am/3630Cm
Date Prepared:	04/19/2022	**Analytical Method:**	SW8081A
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1/B2/B3/B4 @ 0.5'	**2204991-001A**	**Soil**	**04/18/2022 11:10**	**GC40 04222269.d**	**243818**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00050	5	04/23/2022 01:58
a-BHC	ND	0.00050	5	04/23/2022 01:58
b-BHC	ND	0.0015	5	04/23/2022 01:58
d-BHC	ND	0.0010	5	04/23/2022 01:58
g-BHC	ND	0.00050	5	04/23/2022 01:58
Chlordane (Technical)	**0.030**	0.012	5	04/23/2022 01:58
a-Chlordane	**0.0027**	0.00050	5	04/23/2022 01:58
g-Chlordane	**0.0034**	0.00050	5	04/23/2022 01:58
p,p-DDD	ND	0.00050	5	04/23/2022 01:58
p,p-DDE	**0.0027**	0.00050	5	04/23/2022 01:58
p,p-DDT	**0.0053**	0.00050	5	04/23/2022 01:58
Dieldrin	**0.0020**	0.00050	5	04/23/2022 01:58
Endosulfan I	ND	0.00050	5	04/23/2022 01:58
Endosulfan II	ND	0.00050	5	04/23/2022 01:58
Endosulfan sulfate	ND	0.00050	5	04/23/2022 01:58
Endrin	ND	0.00050	5	04/23/2022 01:58
Endrin aldehyde	ND	0.00050	5	04/23/2022 01:58
Endrin ketone	ND	0.00050	5	04/23/2022 01:58
Heptachlor	ND	0.00050	5	04/23/2022 01:58
Heptachlor epoxide	ND	0.00050	5	04/23/2022 01:58
Hexachlorobenzene	ND	0.0050	5	04/23/2022 01:58
Hexachlorocyclopentadiene	ND	0.010	5	04/23/2022 01:58
Methoxychlor	ND	0.0010	5	04/23/2022 01:58
Toxaphene	ND	0.025	5	04/23/2022 01:58

Surrogates	REC (%)	Limits		
Decachlorobiphenyl	102	20-145		04/23/2022 01:58

Analyst(s): CN

Analytical Comments: a2

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3640Am/3630Cm
Date Prepared:	04/19/2022	**Analytical Method:**	SW8081A
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1/B2/B3/B4-DUP @0.5'	**2204991-002A**	**Soil**	**04/18/2022 11:10**	**GC40 04222270.d**	**243818**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.00050	5	04/23/2022 02:12
a-BHC	ND		0.00050	5	04/23/2022 02:12
b-BHC	ND		0.0015	5	04/23/2022 02:12
d-BHC	ND		0.0010	5	04/23/2022 02:12
g-BHC	ND		0.00050	5	04/23/2022 02:12
Chlordane (Technical)	**0.030**		0.012	5	04/23/2022 02:12
a-Chlordane	**0.0030**		0.00050	5	04/23/2022 02:12
g-Chlordane	**0.0034**	P	0.00050	5	04/23/2022 02:12
p,p-DDD	ND		0.00050	5	04/23/2022 02:12
p,p-DDE	**0.0029**		0.00050	5	04/23/2022 02:12
p,p-DDT	**0.0058**		0.00050	5	04/23/2022 02:12
Dieldrin	**0.0023**		0.00050	5	04/23/2022 02:12
Endosulfan I	ND		0.00050	5	04/23/2022 02:12
Endosulfan II	ND		0.00050	5	04/23/2022 02:12
Endosulfan sulfate	ND		0.00050	5	04/23/2022 02:12
Endrin	ND		0.00050	5	04/23/2022 02:12
Endrin aldehyde	ND		0.00050	5	04/23/2022 02:12
Endrin ketone	ND		0.00050	5	04/23/2022 02:12
Heptachlor	ND		0.00050	5	04/23/2022 02:12
Heptachlor epoxide	ND		0.00050	5	04/23/2022 02:12
Hexachlorobenzene	ND		0.0050	5	04/23/2022 02:12
Hexachlorocyclopentadiene	ND		0.010	5	04/23/2022 02:12
Methoxychlor	ND		0.0010	5	04/23/2022 02:12
Toxaphene	ND		0.025	5	04/23/2022 02:12

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	108	20-145	04/23/2022 02:12

Analyst(s): CN

Analytical Comments: a2

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3640Am/3630Cm
Date Prepared:	04/19/2022	**Analytical Method:**	SW8081A
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1/B2/B3/B4 @ 2'	**2204991-003A**	**Soil**	**04/18/2022 11:40**	**GC23 04212268.d**	**243818**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.00010	1	04/22/2022 02:50
a-BHC	ND		0.00010	1	04/22/2022 02:50
b-BHC	ND		0.00030	1	04/22/2022 02:50
d-BHC	ND		0.00020	1	04/22/2022 02:50
g-BHC	ND		0.00010	1	04/22/2022 02:50
Chlordane (Technical)	ND		0.0025	1	04/22/2022 02:50
a-Chlordane	**0.00014**		0.00010	1	04/22/2022 02:50
g-Chlordane	**0.00024**		0.00010	1	04/22/2022 02:50
p,p-DDD	**0.00059**	P	0.00010	1	04/22/2022 02:50
p,p-DDE	**0.0073**		0.00010	1	04/22/2022 02:50
p,p-DDT	**0.0039**		0.00010	1	04/22/2022 02:50
Dieldrin	**0.00014**		0.00010	1	04/22/2022 02:50
Endosulfan I	**0.00021**		0.00010	1	04/22/2022 02:50
Endosulfan II	ND		0.00010	1	04/22/2022 02:50
Endosulfan sulfate	ND		0.00010	1	04/22/2022 02:50
Endrin	ND		0.00010	1	04/22/2022 02:50
Endrin aldehyde	ND		0.00010	1	04/22/2022 02:50
Endrin ketone	ND		0.00010	1	04/22/2022 02:50
Heptachlor	ND		0.00010	1	04/22/2022 02:50
Heptachlor epoxide	ND		0.00010	1	04/22/2022 02:50
Hexachlorobenzene	ND		0.0010	1	04/22/2022 02:50
Hexachlorocyclopentadiene	ND		0.0020	1	04/22/2022 02:50
Methoxychlor	ND		0.00020	1	04/22/2022 02:50
Toxaphene	ND		0.0050	1	04/22/2022 02:50

Surrogates	REC (%)	Qualifiers	Limits	
Decachlorobiphenyl	144	S	26-141	04/22/2022 02:50

Analyst(s): CN

Analytical Comments: c4

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3640Am/3630Cm
Date Prepared:	04/19/2022	**Analytical Method:**	SW8081A
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B5/B6/B7/B8 @ 0.5'	**2204991-004A**	**Soil**	**04/18/2022 13:05**	**GC40 04262265.d**	**243818**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	10	04/26/2022 22:41
a-BHC	ND	0.0010	10	04/26/2022 22:41
b-BHC	ND	0.0030	10	04/26/2022 22:41
d-BHC	ND	0.0020	10	04/26/2022 22:41
g-BHC	ND	0.0010	10	04/26/2022 22:41
Chlordane (Technical)	ND	0.025	10	04/26/2022 22:41
a-Chlordane	**0.0038**	0.0010	10	04/26/2022 22:41
g-Chlordane	**0.0047**	0.0010	10	04/26/2022 22:41
p,p-DDD	ND	0.0010	10	04/26/2022 22:41
p,p-DDE	**0.0024**	0.0010	10	04/26/2022 22:41
p,p-DDT	**0.0031**	0.0010	10	04/26/2022 22:41
Dieldrin	**0.0034**	0.0010	10	04/26/2022 22:41
Endosulfan I	ND	0.0010	10	04/26/2022 22:41
Endosulfan II	ND	0.0010	10	04/26/2022 22:41
Endosulfan sulfate	ND	0.0010	10	04/26/2022 22:41
Endrin	ND	0.0010	10	04/26/2022 22:41
Endrin aldehyde	ND	0.0010	10	04/26/2022 22:41
Endrin ketone	ND	0.0010	10	04/26/2022 22:41
Heptachlor	ND	0.0010	10	04/26/2022 22:41
Heptachlor epoxide	ND	0.0010	10	04/26/2022 22:41
Hexachlorobenzene	ND	0.010	10	04/26/2022 22:41
Hexachlorocyclopentadiene	ND	0.020	10	04/26/2022 22:41
Methoxychlor	ND	0.0020	10	04/26/2022 22:41
Toxaphene	ND	0.050	10	04/26/2022 22:41

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	116	20-145	04/26/2022 22:41

Analyst(s): CN

Analytical Comments: a2

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3640Am/3630Cm
Date Prepared:	04/19/2022	**Analytical Method:**	SW8081A
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B5/B6/B7 @ 2' & B8 @ 1'	**2204991-006A**	**Soil**	**04/18/2022 13:55**	**GC23 04212277.d**	**243818**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.00010	1	04/22/2022 05:10
a-BHC	ND		0.00010	1	04/22/2022 05:10
b-BHC	ND		0.00030	1	04/22/2022 05:10
d-BHC	ND		0.00020	1	04/22/2022 05:10
g-BHC	ND		0.00010	1	04/22/2022 05:10
Chlordane (Technical)	**0.025**		0.0025	1	04/22/2022 05:10
a-Chlordane	**0.0019**		0.00010	1	04/22/2022 05:10
g-Chlordane	**0.0030**	P	0.00010	1	04/22/2022 05:10
p,p-DDD	ND		0.00010	1	04/22/2022 05:10
p,p-DDE	**0.00098**		0.00010	1	04/22/2022 05:10
p,p-DDT	**0.0045**		0.00010	1	04/22/2022 05:10
Dieldrin	**0.0030**		0.00010	1	04/22/2022 05:10
Endosulfan I	ND		0.00010	1	04/22/2022 05:10
Endosulfan II	ND		0.00010	1	04/22/2022 05:10
Endosulfan sulfate	ND		0.00010	1	04/22/2022 05:10
Endrin	**0.00020**		0.00010	1	04/22/2022 05:10
Endrin aldehyde	ND		0.00010	1	04/22/2022 05:10
Endrin ketone	ND		0.00010	1	04/22/2022 05:10
Heptachlor	ND		0.00010	1	04/22/2022 05:10
Heptachlor epoxide	ND		0.00010	1	04/22/2022 05:10
Hexachlorobenzene	ND		0.0010	1	04/22/2022 05:10
Hexachlorocyclopentadiene	ND		0.0020	1	04/22/2022 05:10
Methoxychlor	ND		0.00020	1	04/22/2022 05:10
Toxaphene	ND		0.0050	1	04/22/2022 05:10

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	26-141	04/22/2022 05:10

Analyst(s): CN

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3640Am/3630Cm
Date Prepared:	04/19/2022	**Analytical Method:**	SW8081A
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B9/B10/B11/B12 @ 0.5'	**2204991-008A**	**Soil**	**04/18/2022 14:17**	**GC40 04262266.d**	**243818**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.00010	1	04/26/2022 22:55
a-BHC	ND		0.00010	1	04/26/2022 22:55
b-BHC	ND		0.00030	1	04/26/2022 22:55
d-BHC	ND		0.00020	1	04/26/2022 22:55
g-BHC	ND		0.00010	1	04/26/2022 22:55
Chlordane (Technical)	**0.0069**		0.0025	1	04/26/2022 22:55
a-Chlordane	**0.00066**		0.00010	1	04/26/2022 22:55
g-Chlordane	**0.00082**		0.00010	1	04/26/2022 22:55
p,p-DDD	ND		0.00010	1	04/26/2022 22:55
p,p-DDE	**0.00061**		0.00010	1	04/26/2022 22:55
p,p-DDT	**0.00089**		0.00010	1	04/26/2022 22:55
Dieldrin	**0.00028**	P	0.00010	1	04/26/2022 22:55
Endosulfan I	ND		0.00010	1	04/26/2022 22:55
Endosulfan II	ND		0.00010	1	04/26/2022 22:55
Endosulfan sulfate	ND		0.00010	1	04/26/2022 22:55
Endrin	ND		0.00010	1	04/26/2022 22:55
Endrin aldehyde	ND		0.00010	1	04/26/2022 22:55
Endrin ketone	ND		0.00010	1	04/26/2022 22:55
Heptachlor	ND		0.00010	1	04/26/2022 22:55
Heptachlor epoxide	ND		0.00010	1	04/26/2022 22:55
Hexachlorobenzene	ND		0.0010	1	04/26/2022 22:55
Hexachlorocyclopentadiene	ND		0.0020	1	04/26/2022 22:55
Methoxychlor	ND		0.00020	1	04/26/2022 22:55
Toxaphene	ND		0.0050	1	04/26/2022 22:55

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	94	20-145	04/26/2022 22:55

Analyst(s): CN

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8082
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B7 @ 2'	**2204991-006D**	**Soil**	**04/18/2022 13:30**	**GC23 04212234.d**	**243928**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aroclor1016	ND	0.0051	0.050	1	04/21/2022 18:02
Aroclor1221	ND	0.033	0.050	1	04/21/2022 18:02
Aroclor1232	ND	0.0032	0.050	1	04/21/2022 18:02
Aroclor1242	ND	0.0035	0.050	1	04/21/2022 18:02
Aroclor1248	ND	0.0036	0.050	1	04/21/2022 18:02
Aroclor1254	ND	0.0022	0.050	1	04/21/2022 18:02
Aroclor1260	ND	0.0085	0.050	1	04/21/2022 18:02
PCBs, total	ND	NA	0.050	1	04/21/2022 18:02

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	80	60-130	04/21/2022 18:02

Analyst(s): CN

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3630C
Date Prepared:	04/18/2022	**Analytical Method:**	SW8082
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors w/ Column Style Clean-up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B7 @ 0.5'	**2204991-004D**	**Soil**	**04/18/2022 12:20**	**GC20 05032218.D**	**243907**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aroclor1016	ND	0.0051	0.050	1	05/03/2022 14:50
Aroclor1221	ND	0.011	0.050	1	05/03/2022 14:50
Aroclor1232	ND	0.0063	0.050	1	05/03/2022 14:50
Aroclor1242	ND	0.0067	0.050	1	05/03/2022 14:50
Aroclor1248	ND	0.0040	0.050	1	05/03/2022 14:50
Aroclor1254	ND	0.0068	0.050	1	05/03/2022 14:50
Aroclor1260	ND	0.0061	0.050	1	05/03/2022 14:50
PCBs, total	ND	NA	0.050	1	05/03/2022 14:50

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	61-148	05/03/2022 14:50

Analyst(s): CK

Analytical Comments: h4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 0.5'	**2204991-004E**	**Soil**	**04/18/2022 13:05**	**GC20 05032219.D**	**243907**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aroclor1016	ND	0.0051	0.050	1	05/03/2022 15:05
Aroclor1221	ND	0.011	0.050	1	05/03/2022 15:05
Aroclor1232	ND	0.0063	0.050	1	05/03/2022 15:05
Aroclor1242	ND	0.0067	0.050	1	05/03/2022 15:05
Aroclor1248	ND	0.0040	0.050	1	05/03/2022 15:05
Aroclor1254	ND	0.0068	0.050	1	05/03/2022 15:05
Aroclor1260	ND	0.0061	0.050	1	05/03/2022 15:05
PCBs, total	ND	NA	0.050	1	05/03/2022 15:05

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	91	61-148	05/03/2022 15:05

Analyst(s): CK

Analytical Comments: h4

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3630C
Date Prepared:	04/18/2022	**Analytical Method:**	SW8082
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors w/ Column Style Clean-up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8-DUP @ 0.5'	**2204991-005A**	**Soil**	**04/18/2022 13:05**	**GC20 05032220.D**	**243907**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aroclor1016	ND	0.0051	0.050	1	05/03/2022 15:21
Aroclor1221	ND	0.011	0.050	1	05/03/2022 15:21
Aroclor1232	ND	0.0063	0.050	1	05/03/2022 15:21
Aroclor1242	ND	0.0067	0.050	1	05/03/2022 15:21
Aroclor1248	ND	0.0040	0.050	1	05/03/2022 15:21
Aroclor1254	ND	0.0068	0.050	1	05/03/2022 15:21
Aroclor1260	ND	0.0061	0.050	1	05/03/2022 15:21
PCBs, total	ND	NA	0.050	1	05/03/2022 15:21

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	87	61-148	05/03/2022 15:21

Analyst(s): CK

Analytical Comments: h4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 1'	**2204991-006E**	**Soil**	**04/18/2022 13:55**	**GC20 05032221.D**	**243907**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aroclor1016	ND	0.0051	0.050	1	05/03/2022 15:36
Aroclor1221	ND	0.011	0.050	1	05/03/2022 15:36
Aroclor1232	ND	0.0063	0.050	1	05/03/2022 15:36
Aroclor1242	ND	0.0067	0.050	1	05/03/2022 15:36
Aroclor1248	ND	0.0040	0.050	1	05/03/2022 15:36
Aroclor1254	ND	0.0068	0.050	1	05/03/2022 15:36
Aroclor1260	ND	0.0061	0.050	1	05/03/2022 15:36
PCBs, total	ND	NA	0.050	1	05/03/2022 15:36

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	86	61-148	05/03/2022 15:36

Analyst(s): CK

Analytical Comments: h4

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3550B/3630C
Date Prepared:	04/18/2022	**Analytical Method:**	SW8082
Project:	Dawes Street Phase 2	**Unit:**	mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors w/ Column Style Clean-up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8-DUP @ 1'	**2204991-007A**	**Soil**	**04/18/2022 13:55**	**GC20 05032222.D**	**243907**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aroclor1016	ND	0.0051	0.050	1	05/03/2022 15:51
Aroclor1221	ND	0.011	0.050	1	05/03/2022 15:51
Aroclor1232	ND	0.0063	0.050	1	05/03/2022 15:51
Aroclor1242	ND	0.0067	0.050	1	05/03/2022 15:51
Aroclor1248	ND	0.0040	0.050	1	05/03/2022 15:51
Aroclor1254	ND	0.0068	0.050	1	05/03/2022 15:51
Aroclor1260	ND	0.0061	0.050	1	05/03/2022 15:51
PCBs, total	ND	NA	0.050	1	05/03/2022 15:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	84	61-148	05/03/2022 15:51

Analyst(s): CK

Analytical Comments: h4

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S1	**2204991-009C**	**Water**	**04/18/2022 14:40**	**GC28 04202222.D**	**243879**

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40	1	04/20/2022 22:33
tert-Amyl methyl ether (TAME)	ND	0.50	1	04/20/2022 22:33
Benzene	ND	0.20	1	04/20/2022 22:33
Bromobenzene	ND	0.50	1	04/20/2022 22:33
Bromochloromethane	ND	0.50	1	04/20/2022 22:33
Bromodichloromethane	ND	0.050	1	04/20/2022 22:33
Bromoform	ND	0.50	1	04/20/2022 22:33
Bromomethane	ND	0.50	1	04/20/2022 22:33
2-Butanone (MEK)	ND	5.0	1	04/20/2022 22:33
t-Butyl alcohol (TBA)	ND	5.0	1	04/20/2022 22:33
n-Butyl benzene	ND	0.50	1	04/20/2022 22:33
sec-Butyl benzene	ND	0.50	1	04/20/2022 22:33
tert-Butyl benzene	ND	0.50	1	04/20/2022 22:33
Carbon Disulfide	ND	0.50	1	04/20/2022 22:33
Carbon Tetrachloride	ND	0.050	1	04/20/2022 22:33
Chlorobenzene	ND	0.50	1	04/20/2022 22:33
Chloroethane	ND	0.50	1	04/20/2022 22:33
Chloroform	ND	0.10	1	04/20/2022 22:33
Chloromethane	ND	0.50	1	04/20/2022 22:33
2-Chlorotoluene	ND	0.50	1	04/20/2022 22:33
4-Chlorotoluene	ND	0.50	1	04/20/2022 22:33
Dibromochloromethane	ND	0.15	1	04/20/2022 22:33
1,2-Dibromo-3-chloropropane	ND	0.020	1	04/20/2022 22:33
1,2-Dibromoethane (EDB)	ND	0.040	1	04/20/2022 22:33
Dibromomethane	ND	0.50	1	04/20/2022 22:33
1,2-Dichlorobenzene	ND	0.50	1	04/20/2022 22:33
1,3-Dichlorobenzene	ND	0.50	1	04/20/2022 22:33
1,4-Dichlorobenzene	ND	0.50	1	04/20/2022 22:33
Dichlorodifluoromethane	ND	0.50	1	04/20/2022 22:33
1,1-Dichloroethane	ND	0.50	1	04/20/2022 22:33
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	04/20/2022 22:33
1,1-Dichloroethene	ND	0.010	1	04/20/2022 22:33
cis-1,2-Dichloroethene	ND	0.50	1	04/20/2022 22:33
trans-1,2-Dichloroethene	ND	0.50	1	04/20/2022 22:33
1,2-Dichloropropane	ND	0.20	1	04/20/2022 22:33
1,3-Dichloropropane	ND	0.50	1	04/20/2022 22:33
2,2-Dichloropropane	ND	0.50	1	04/20/2022 22:33

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Analytical Report

Client: Petralogix
Date Received: 04/18/2022 17:52
Date Prepared: 04/20/2022
Project: Dawes Street Phase 2

WorkOrder: 2204991
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S1	2204991-009C	Water	04/18/2022 14:40	GC28 04202222.D	243879

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	04/20/2022 22:33
cis-1,3-Dichloropropene	ND	0.50	1	04/20/2022 22:33
trans-1,3-Dichloropropene	ND	0.50	1	04/20/2022 22:33
Diisopropyl ether (DIPE)	ND	0.50	1	04/20/2022 22:33
Ethylbenzene	ND	0.50	1	04/20/2022 22:33
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	04/20/2022 22:33
Freon 113	ND	0.50	1	04/20/2022 22:33
Hexachlorobutadiene	ND	0.50	1	04/20/2022 22:33
Hexachloroethane	ND	0.20	1	04/20/2022 22:33
2-Hexanone	ND	0.50	1	04/20/2022 22:33
Isopropylbenzene	ND	0.50	1	04/20/2022 22:33
4-Isopropyl toluene	ND	0.50	1	04/20/2022 22:33
Methyl-t-butyl ether (MTBE)	ND	0.50	1	04/20/2022 22:33
Methylene chloride	ND	2.0	1	04/20/2022 22:33
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	04/20/2022 22:33
Naphthalene	ND	0.30	1	04/20/2022 22:33
n-Propyl benzene	ND	0.50	1	04/20/2022 22:33
Styrene	ND	2.0	1	04/20/2022 22:33
1,1,1,2-Tetrachloroethane	ND	0.50	1	04/20/2022 22:33
1,1,2,2-Tetrachloroethane	ND	0.020	1	04/20/2022 22:33
Tetrachloroethene	ND	0.20	1	04/20/2022 22:33
Toluene	ND	0.50	1	04/20/2022 22:33
1,2,3-Trichlorobenzene	ND	0.50	1	04/20/2022 22:33
1,2,4-Trichlorobenzene	ND	0.50	1	04/20/2022 22:33
1,1,1-Trichloroethane	ND	0.50	1	04/20/2022 22:33
1,1,2-Trichloroethane	ND	0.20	1	04/20/2022 22:33
Trichloroethene	ND	0.50	1	04/20/2022 22:33
Trichlorofluoromethane	ND	0.50	1	04/20/2022 22:33
1,2,3-Trichloropropane	ND	0.0050	1	04/20/2022 22:33
1,2,4-Trimethylbenzene	ND	0.50	1	04/20/2022 22:33
1,3,5-Trimethylbenzene	ND	0.50	1	04/20/2022 22:33
Vinyl Chloride	ND	0.0050	1	04/20/2022 22:33
m,p-Xylene	ND	0.50	1	04/20/2022 22:33
o-Xylene	ND	0.50	1	04/20/2022 22:33
Xylenes, Total	ND	0.50	1	04/20/2022 22:33

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Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S1	**2204991-009C**	**Water**	**04/18/2022 14:40**	**GC28 04202222.D**	**243879**

Analytes	Result		RL	DF	Date Analyzed
Surrogates	REC (%)	Qualifiers	Limits		
Dibromofluoromethane	98		70-130		04/20/2022 22:33
Toluene-d8	139	S	70-130		04/20/2022 22:33
4-BFB	102		70-130		04/20/2022 22:33

Analyst(s): LT

Analytical Comments: c11,c16,b1

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2	**2204991-010C**	**Water**	**04/18/2022 15:00**	**GC18 04192233.D**	**243798**

Analytes	Result	MDL	RL	DF	Date Analyzed
Acetone	ND	63.0	400	10	04/20/2022 04:16
tert-Amyl methyl ether (TAME)	ND	1.30	5.0	10	04/20/2022 04:16
Benzene	ND	1.20	2.0	10	04/20/2022 04:16
Bromobenzene	ND	1.30	5.0	10	04/20/2022 04:16
Bromochloromethane	ND	1.10	5.0	10	04/20/2022 04:16
Bromodichloromethane	ND	0.250	0.50	10	04/20/2022 04:16
Bromoform	ND	3.10	5.0	10	04/20/2022 04:16
Bromomethane	ND	1.80	5.0	10	04/20/2022 04:16
2-Butanone (MEK)	ND	15.0	50	10	04/20/2022 04:16
t-Butyl alcohol (TBA)	ND	25.0	50	10	04/20/2022 04:16
n-Butyl benzene	ND	2.30	5.0	10	04/20/2022 04:16
sec-Butyl benzene	ND	1.70	5.0	10	04/20/2022 04:16
tert-Butyl benzene	ND	1.30	5.0	10	04/20/2022 04:16
Carbon Disulfide	ND	1.80	5.0	10	04/20/2022 04:16
Carbon Tetrachloride	ND	0.280	0.50	10	04/20/2022 04:16
Chlorobenzene	ND	1.10	5.0	10	04/20/2022 04:16
Chloroethane	ND	2.00	5.0	10	04/20/2022 04:16
Chloroform	ND	0.910	1.0	10	04/20/2022 04:16
Chloromethane	ND	2.80	5.0	10	04/20/2022 04:16
2-Chlorotoluene	ND	2.30	5.0	10	04/20/2022 04:16
4-Chlorotoluene	ND	1.20	5.0	10	04/20/2022 04:16
Dibromochloromethane	ND	0.260	1.5	10	04/20/2022 04:16
1,2-Dibromo-3-chloropropane	ND	0.100	0.20	10	04/20/2022 04:16
1,2-Dibromoethane (EDB)	ND	0.210	0.40	10	04/20/2022 04:16
Dibromomethane	ND	1.20	5.0	10	04/20/2022 04:16
1,2-Dichlorobenzene	ND	1.60	5.0	10	04/20/2022 04:16
1,3-Dichlorobenzene	ND	1.20	5.0	10	04/20/2022 04:16
1,4-Dichlorobenzene	ND	0.930	5.0	10	04/20/2022 04:16
Dichlorodifluoromethane	ND	2.90	5.0	10	04/20/2022 04:16
1,1-Dichloroethane	ND	1.50	5.0	10	04/20/2022 04:16
1,2-Dichloroethane (1,2-DCA)	ND	0.110	0.20	10	04/20/2022 04:16
1,1-Dichloroethene	ND	0.0940	0.10	10	04/20/2022 04:16
cis-1,2-Dichloroethene	ND	0.930	5.0	10	04/20/2022 04:16
trans-1,2-Dichloroethene	ND	1.10	5.0	10	04/20/2022 04:16
1,2-Dichloropropane	ND	0.190	2.0	10	04/20/2022 04:16
1,3-Dichloropropane	ND	1.70	5.0	10	04/20/2022 04:16
2,2-Dichloropropane	ND	2.20	5.0	10	04/20/2022 04:16

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Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2	**2204991-010C**	**Water**	**04/18/2022 15:00**	**GC18 04192233.D**	**243798**

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.850	5.0	10	04/20/2022 04:16
cis-1,3-Dichloropropene	ND	2.10	5.0	10	04/20/2022 04:16
trans-1,3-Dichloropropene	ND	2.80	5.0	10	04/20/2022 04:16
Diisopropyl ether (DIPE)	ND	1.20	5.0	10	04/20/2022 04:16
Ethylbenzene	ND	1.40	5.0	10	04/20/2022 04:16
Ethyl tert-butyl ether (ETBE)	ND	1.60	5.0	10	04/20/2022 04:16
Freon 113	ND	1.30	5.0	10	04/20/2022 04:16
Hexachlorobutadiene	ND	1.50	5.0	10	04/20/2022 04:16
Hexachloroethane	ND	0.590	2.0	10	04/20/2022 04:16
2-Hexanone	ND	3.20	5.0	10	04/20/2022 04:16
Isopropylbenzene	ND	1.60	5.0	10	04/20/2022 04:16
4-Isopropyl toluene	ND	1.50	5.0	10	04/20/2022 04:16
Methyl-t-butyl ether (MTBE)	ND	1.60	5.0	10	04/20/2022 04:16
Methylene chloride	ND	7.40	20	10	04/20/2022 04:16
4-Methyl-2-pentanone (MIBK)	ND	4.40	5.0	10	04/20/2022 04:16
Naphthalene	ND	1.50	3.0	10	04/20/2022 04:16
n-Propyl benzene	ND	1.20	5.0	10	04/20/2022 04:16
Styrene	ND	2.80	20	10	04/20/2022 04:16
1,1,1,2-Tetrachloroethane	ND	1.60	5.0	10	04/20/2022 04:16
1,1,2,2-Tetrachloroethane	ND	0.110	0.20	10	04/20/2022 04:16
Tetrachloroethene	ND	1.60	2.0	10	04/20/2022 04:16
Toluene	ND	1.70	5.0	10	04/20/2022 04:16
1,2,3-Trichlorobenzene	ND	2.40	5.0	10	04/20/2022 04:16
1,2,4-Trichlorobenzene	ND	2.20	5.0	10	04/20/2022 04:16
1,1,1-Trichloroethane	ND	1.10	5.0	10	04/20/2022 04:16
1,1,2-Trichloroethane	ND	1.10	2.0	10	04/20/2022 04:16
Trichloroethene	ND	2.50	5.0	10	04/20/2022 04:16
Trichlorofluoromethane	ND	1.40	5.0	10	04/20/2022 04:16
1,2,3-Trichloropropane	ND	0.0450	0.050	10	04/20/2022 04:16
1,2,4-Trimethylbenzene	ND	1.80	5.0	10	04/20/2022 04:16
1,3,5-Trimethylbenzene	ND	1.60	5.0	10	04/20/2022 04:16
Vinyl Chloride	ND	0.0430	0.050	10	04/20/2022 04:16
m,p-Xylene	ND	2.50	5.0	10	04/20/2022 04:16
o-Xylene	ND	1.30	5.0	10	04/20/2022 04:16
Xylenes, Total	ND	NA	5.0	10	04/20/2022 04:16

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Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2	**2204991-010C**	**Water**	**04/18/2022 15:00**	**GC18 04192233.D**	**243798**

Analytes	Result	MDL	RL	DF	Date Analyzed
Surrogates	REC (%)		Limits		
Dibromofluoromethane	100		70-130		04/20/2022 04:16
Toluene-d8	102		70-130		04/20/2022 04:16
4-BFB	71		70-130		04/20/2022 04:16

Analyst(s): TW

Analytical Comments: a3,b1

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2-DUP	**2204991-011C**	**Water**	**04/18/2022 15:00**	**GC28 04202223.D**	**243879**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	ND		63.0	400	10	04/20/2022 23:14
tert-Amyl methyl ether (TAME)	ND		1.30	5.0	10	04/20/2022 23:14
Benzene	ND		1.20	2.0	10	04/20/2022 23:14
Bromobenzene	ND		1.30	5.0	10	04/20/2022 23:14
Bromochloromethane	ND		1.10	5.0	10	04/20/2022 23:14
Bromodichloromethane	ND		0.250	0.50	10	04/20/2022 23:14
Bromoform	ND		3.10	5.0	10	04/20/2022 23:14
Bromomethane	ND		1.80	5.0	10	04/20/2022 23:14
2-Butanone (MEK)	ND		15.0	50	10	04/20/2022 23:14
t-Butyl alcohol (TBA)	ND		25.0	50	10	04/20/2022 23:14
n-Butyl benzene	ND		2.30	5.0	10	04/20/2022 23:14
sec-Butyl benzene	ND		1.70	5.0	10	04/20/2022 23:14
tert-Butyl benzene	ND		1.30	5.0	10	04/20/2022 23:14
Carbon Disulfide	**2.0**	J	1.80	5.0	10	04/20/2022 23:14
Carbon Tetrachloride	ND		0.280	0.50	10	04/20/2022 23:14
Chlorobenzene	ND		1.10	5.0	10	04/20/2022 23:14
Chloroethane	ND		2.00	5.0	10	04/20/2022 23:14
Chloroform	ND		0.910	1.0	10	04/20/2022 23:14
Chloromethane	ND		2.80	5.0	10	04/20/2022 23:14
2-Chlorotoluene	ND		2.30	5.0	10	04/20/2022 23:14
4-Chlorotoluene	ND		1.20	5.0	10	04/20/2022 23:14
Dibromochloromethane	ND		0.260	1.5	10	04/20/2022 23:14
1,2-Dibromo-3-chloropropane	ND		0.100	0.20	10	04/20/2022 23:14
1,2-Dibromoethane (EDB)	ND		0.210	0.40	10	04/20/2022 23:14
Dibromomethane	ND		1.20	5.0	10	04/20/2022 23:14
1,2-Dichlorobenzene	ND		1.60	5.0	10	04/20/2022 23:14
1,3-Dichlorobenzene	ND		1.20	5.0	10	04/20/2022 23:14
1,4-Dichlorobenzene	ND		0.930	5.0	10	04/20/2022 23:14
Dichlorodifluoromethane	ND		2.90	5.0	10	04/20/2022 23:14
1,1-Dichloroethane	ND		1.50	5.0	10	04/20/2022 23:14
1,2-Dichloroethane (1,2-DCA)	ND		0.110	0.20	10	04/20/2022 23:14
1,1-Dichloroethene	ND		0.0940	0.10	10	04/20/2022 23:14
cis-1,2-Dichloroethene	ND		0.930	5.0	10	04/20/2022 23:14
trans-1,2-Dichloroethene	ND		1.10	5.0	10	04/20/2022 23:14
1,2-Dichloropropane	ND		0.190	2.0	10	04/20/2022 23:14
1,3-Dichloropropane	ND		1.70	5.0	10	04/20/2022 23:14
2,2-Dichloropropane	ND		2.20	5.0	10	04/20/2022 23:14

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Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2-DUP	**2204991-011C**	**Water**	**04/18/2022 15:00**	**GC28 04202223.D**	**243879**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,1-Dichloropropene	ND		0.850	5.0	10	04/20/2022 23:14
cis-1,3-Dichloropropene	ND		2.10	5.0	10	04/20/2022 23:14
trans-1,3-Dichloropropene	ND		2.80	5.0	10	04/20/2022 23:14
Diisopropyl ether (DIPE)	ND		1.20	5.0	10	04/20/2022 23:14
Ethylbenzene	ND		1.40	5.0	10	04/20/2022 23:14
Ethyl tert-butyl ether (ETBE)	ND		1.60	5.0	10	04/20/2022 23:14
Freon 113	ND		1.30	5.0	10	04/20/2022 23:14
Hexachlorobutadiene	ND		1.50	5.0	10	04/20/2022 23:14
Hexachloroethane	ND		0.590	2.0	10	04/20/2022 23:14
2-Hexanone	ND		3.20	5.0	10	04/20/2022 23:14
Isopropylbenzene	ND		1.60	5.0	10	04/20/2022 23:14
4-Isopropyl toluene	ND		1.50	5.0	10	04/20/2022 23:14
Methyl-t-butyl ether (MTBE)	ND		1.60	5.0	10	04/20/2022 23:14
Methylene chloride	ND		7.40	20	10	04/20/2022 23:14
4-Methyl-2-pentanone (MIBK)	ND		4.40	5.0	10	04/20/2022 23:14
Naphthalene	ND		1.50	3.0	10	04/20/2022 23:14
n-Propyl benzene	ND		1.20	5.0	10	04/20/2022 23:14
Styrene	ND		2.80	20	10	04/20/2022 23:14
1,1,1,2-Tetrachloroethane	ND		1.60	5.0	10	04/20/2022 23:14
1,1,2,2-Tetrachloroethane	ND		0.110	0.20	10	04/20/2022 23:14
Tetrachloroethene	ND		1.60	2.0	10	04/20/2022 23:14
Toluene	ND		1.70	5.0	10	04/20/2022 23:14
1,2,3-Trichlorobenzene	ND		2.40	5.0	10	04/20/2022 23:14
1,2,4-Trichlorobenzene	ND		2.20	5.0	10	04/20/2022 23:14
1,1,1-Trichloroethane	ND		1.10	5.0	10	04/20/2022 23:14
1,1,2-Trichloroethane	ND		1.10	2.0	10	04/20/2022 23:14
Trichloroethene	ND		2.50	5.0	10	04/20/2022 23:14
Trichlorofluoromethane	ND		1.40	5.0	10	04/20/2022 23:14
1,2,3-Trichloropropane	ND		0.0450	0.050	10	04/20/2022 23:14
1,2,4-Trimethylbenzene	ND		1.80	5.0	10	04/20/2022 23:14
1,3,5-Trimethylbenzene	ND		1.60	5.0	10	04/20/2022 23:14
Vinyl Chloride	ND		0.0430	0.050	10	04/20/2022 23:14
m,p-Xylene	ND		2.50	5.0	10	04/20/2022 23:14
o-Xylene	ND		1.30	5.0	10	04/20/2022 23:14
Xylenes, Total	ND		NA	5.0	10	04/20/2022 23:14

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Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8260B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2-DUP	**2204991-011C**	**Water**	**04/18/2022 15:00**	**GC28 04202223.D**	**243879**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Surrogates	REC (%)			Limits		
Dibromofluoromethane	116			70-130		04/20/2022 23:14
Toluene-d8	125			70-130		04/20/2022 23:14
4-BFB	88			70-130		04/20/2022 23:14

Analyst(s): LT

Analytical Comments: a3,b1

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	E200.8
Date Prepared:	04/18/2022	**Analytical Method:**	E200.8
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Dissolved CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S1	**2204991-009B**	**Water**	**04/18/2022 14:40**	**ICP-MS4 153SMPL.d**	**243720**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Antimony	ND	F	0.50	1	04/21/2022 13:24
Arsenic	**1.1**	F	0.50	1	04/21/2022 13:24
Barium	**8.0**	F	5.0	1	04/21/2022 13:24
Beryllium	ND	F	0.50	1	04/21/2022 13:24
Cadmium	ND	F	0.50	1	04/21/2022 13:24
Chromium	ND	F	0.50	1	04/21/2022 13:24
Cobalt	**0.63**	F	0.50	1	04/21/2022 13:24
Copper	ND	F	0.50	1	04/21/2022 13:24
Lead	ND	F	0.50	1	04/21/2022 13:24
Mercury	ND	F	0.20	1	04/21/2022 13:24
Molybdenum	ND	F	0.50	1	04/21/2022 13:24
Nickel	**1.6**	F	0.50	1	04/21/2022 13:24
Selenium	ND	F	0.50	1	04/21/2022 13:24
Silver	ND	F	0.50	1	04/21/2022 13:24
Thallium	ND	F	0.50	1	04/21/2022 13:24
Vanadium	**0.99**	F	0.50	1	04/21/2022 13:24
Zinc	ND	F	15	1	04/21/2022 13:24

Analyst(s): MIG

Analytical Comments: b1

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	E200.8
Date Prepared:	04/18/2022	**Analytical Method:**	E200.8
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Dissolved CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2	**2204991-010B**	**Water**	**04/18/2022 15:00**	**ICP-MS4 154SMPL.d**	**243720**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Antimony	**0.68**	F	0.50	1	04/21/2022 13:28
Arsenic	**1.9**	F	0.50	1	04/21/2022 13:28
Barium	**110**	F	5.0	1	04/21/2022 13:28
Beryllium	ND	F	0.50	1	04/21/2022 13:28
Cadmium	ND	F	0.50	1	04/21/2022 13:28
Chromium	ND	F	0.50	1	04/21/2022 13:28
Cobalt	**2.1**	F	0.50	1	04/21/2022 13:28
Copper	**3.0**	F	0.50	1	04/21/2022 13:28
Lead	ND	F	0.50	1	04/21/2022 13:28
Mercury	ND	F	0.20	1	04/21/2022 13:28
Molybdenum	**1.9**	F	0.50	1	04/21/2022 13:28
Nickel	**8.1**	F	0.50	1	04/21/2022 13:28
Selenium	ND	F	0.50	1	04/21/2022 13:28
Silver	ND	F	0.50	1	04/21/2022 13:28
Thallium	ND	F	0.50	1	04/21/2022 13:28
Vanadium	**3.6**	F	0.50	1	04/21/2022 13:28
Zinc	**17**	F	15	1	04/21/2022 13:28

Analyst(s): MIG

Analytical Comments: b1

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	E200.8
Date Prepared:	04/18/2022	**Analytical Method:**	E200.8
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Dissolved CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2-DUP	**2204991-011B**	**Water**	**04/18/2022 15:00**	**ICP-MS4 155SMPL.d**	**243720**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Antimony	**0.81**	F	0.50	1	04/21/2022 13:32
Arsenic	**2.1**	F	0.50	1	04/21/2022 13:32
Barium	**110**	F	5.0	1	04/21/2022 13:32
Beryllium	ND	F	0.50	1	04/21/2022 13:32
Cadmium	ND	F	0.50	1	04/21/2022 13:32
Chromium	ND	F	0.50	1	04/21/2022 13:32
Cobalt	**1.9**	F	0.50	1	04/21/2022 13:32
Copper	**2.7**	F	0.50	1	04/21/2022 13:32
Lead	ND	F	0.50	1	04/21/2022 13:32
Mercury	ND	F	0.20	1	04/21/2022 13:32
Molybdenum	**2.2**	F	0.50	1	04/21/2022 13:32
Nickel	**8.6**	F	0.50	1	04/21/2022 13:32
Selenium	ND	F	0.50	1	04/21/2022 13:32
Silver	ND	F	0.50	1	04/21/2022 13:32
Thallium	ND	F	0.50	1	04/21/2022 13:32
Vanadium	**5.0**	F	0.50	1	04/21/2022 13:32
Zinc	**18**	F	15	1	04/21/2022 13:32

Analyst(s): MIG

Analytical Comments: b1

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8021B/8015Bm
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S1	**2204991-009A**	**Water**	**04/18/2022 14:40**	**GC12 04192224.D**	**243790**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	04/20/2022 03:10
MTBE	---	1.0	1	04/20/2022 03:10
Benzene	---	0.50	1	04/20/2022 03:10
Toluene	---	0.50	1	04/20/2022 03:10
Ethylbenzene	---	0.50	1	04/20/2022 03:10
m,p-Xylene	---	1.0	1	04/20/2022 03:10
o-Xylene	---	0.50	1	04/20/2022 03:10
Xylenes	---	0.50	1	04/20/2022 03:10

Surrogates	REC (%)	Limits	
aaa-TFT	98	76-115	04/20/2022 03:10

Analyst(s): IA

Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2	**2204991-010A**	**Water**	**04/18/2022 15:00**	**GC3 04202213.D**	**243790**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	04/20/2022 17:12
MTBE	---	1.0	1	04/20/2022 17:12
Benzene	---	0.50	1	04/20/2022 17:12
Toluene	---	0.50	1	04/20/2022 17:12
Ethylbenzene	---	0.50	1	04/20/2022 17:12
m,p-Xylene	---	1.0	1	04/20/2022 17:12
o-Xylene	---	0.50	1	04/20/2022 17:12
Xylenes	---	0.50	1	04/20/2022 17:12

Surrogates	REC (%)	Limits	
aaa-TFT	93	76-115	04/20/2022 17:12

Analyst(s): IA

Analytical Comments: b1

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW5030B
Date Prepared:	04/20/2022	**Analytical Method:**	SW8021B/8015Bm
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2-DUP	**2204991-011A**	**Water**	**04/18/2022 15:00**	**GC12 04192220.D**	**243790**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	04/20/2022 00:43
MTBE	---	1.0	1	04/20/2022 00:43
Benzene	---	0.50	1	04/20/2022 00:43
Toluene	---	0.50	1	04/20/2022 00:43
Ethylbenzene	---	0.50	1	04/20/2022 00:43
m,p-Xylene	---	1.0	1	04/20/2022 00:43
o-Xylene	---	0.50	1	04/20/2022 00:43
Xylenes	---	0.50	1	04/20/2022 00:43

Surrogates	REC (%)	Limits	
aaa-TFT	94	76-115	04/20/2022 00:43

Analyst(s): IA

Analytical Comments: b1

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3050B
Date Prepared:	04/19/2022-04/25/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1@ 0.5'	**2204991-001B**	**Soil**	**04/18/2022 10:05**	**ICP-MS5 171SMPL.d**	**243635**

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.9**	0.50	1	04/20/2022 12:59
Lead	**79**	0.50	1	04/20/2022 12:59

Surrogates	REC (%)	Limits	
Terbium	102	70-130	04/20/2022 12:59

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1-DUP @0.5'	**2204991-002B**	**Soil**	**04/18/2022 10:05**	**ICP-MS5 178SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.6**	0.50	1	04/20/2022 13:24
Lead	**51**	0.50	1	04/20/2022 13:24

Surrogates	REC (%)	Limits	
Terbium	105	70-130	04/20/2022 13:24

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1 @ 2'	**2204991-003B**	**Soil**	**04/18/2022 10:25**	**ICP-MS5 183SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**5.4**	0.50	1	04/20/2022 13:41
Lead	**62**	0.50	1	04/20/2022 13:41

Surrogates	REC (%)	Limits	
Terbium	106	70-130	04/20/2022 13:41

Analyst(s): WV

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3050B
Date Prepared:	04/19/2022-04/25/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B5 @ 0.5'	**2204991-004B**	**Soil**	**04/18/2022 11:55**	**ICP-MS5 124SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.1**	0.50	1	04/20/2022 10:17
Lead	**24**	0.50	1	04/20/2022 10:17

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	105	70-130	04/20/2022 10:17

Analyst(s): AL

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B5 @ 2'	**2204991-006B**	**Soil**	**04/18/2022 12:20**	**ICP-MS4 213SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**9.0**	0.50	1	04/20/2022 17:19
Lead	**12**	0.50	1	04/20/2022 17:19

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	107	70-130	04/20/2022 17:19

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B9 @ 0.5'	**2204991-008B**	**Soil**	**04/18/2022 14:08**	**ICP-MS4 107SMPL.d**	**244191**

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**4.0**	0.50	1	04/26/2022 11:07
Lead	**49**	0.50	1	04/26/2022 11:07

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	97	70-130	04/26/2022 11:07

Analyst(s): WV

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3050B
Date Prepared:	04/19/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B2@ 0.5'	**2204991-001C**	**Soil**	**04/18/2022 10:30**	**ICP-MS5 173SMPL.d**	**243635**

Analytes	Result	RL	DF	Date Analyzed
Lead	**57**	0.50	1	04/20/2022 13:06

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	101	70-130	04/20/2022 13:06

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B3@ 0.5'	**2204991-001D**	**Soil**	**04/18/2022 10:57**	**ICP-MS5 174SMPL.d**	**243635**

Analytes	Result	RL	DF	Date Analyzed
Lead	**55**	0.50	1	04/20/2022 13:10

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	106	70-130	04/20/2022 13:10

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B4@ 0.5'	**2204991-001E**	**Soil**	**04/18/2022 11:10**	**ICP-MS5 177SMPL.d**	**243635**

Analytes	Result	RL	DF	Date Analyzed
Lead	**47**	0.50	1	04/20/2022 13:20

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	107	70-130	04/20/2022 13:20

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B2-DUP @0.5'	**2204991-002C**	**Soil**	**04/18/2022 10:30**	**ICP-MS5 179SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Lead	**40**	0.50	1	04/20/2022 13:27

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	98	70-130	04/20/2022 13:27

Analyst(s): WV

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Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3050B
Date Prepared:	04/19/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B3-DUP @0.5'	**2204991-002D**	**Soil**	**04/18/2022 10:57**	**ICP-MS5 180SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Lead	**110**	0.50	1	04/20/2022 13:30

Surrogates	REC (%)	Limits	
Terbium	108	70-130	04/20/2022 13:30

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B4-DUP @0.5'	**2204991-002E**	**Soil**	**04/18/2022 11:10**	**ICP-MS5 182SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Lead	**69**	0.50	1	04/20/2022 13:38

Surrogates	REC (%)	Limits	
Terbium	106	70-130	04/20/2022 13:38

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B2 @ 2'	**2204991-003C**	**Soil**	**04/18/2022 10:50**	**ICP-MS5 184SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Lead	**8.4**	0.50	1	04/20/2022 13:45

Surrogates	REC (%)	Limits	
Terbium	104	70-130	04/20/2022 13:45

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B3 @ 2'	**2204991-003D**	**Soil**	**04/18/2022 11:25**	**ICP-MS5 185SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Lead	**9.7**	0.50	1	04/20/2022 13:48

Surrogates	REC (%)	Limits	
Terbium	108	70-130	04/20/2022 13:48

Analyst(s): WV

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3050B
Date Prepared:	04/19/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B4 @ 2'	**2204991-003E**	**Soil**	**04/18/2022 11:40**	**ICP-MS5 186SMPL.d**	**243688**

Analytes	Result	RL	DF	Date Analyzed
Lead	**12**	0.50	1	04/20/2022 13:52

Surrogates	REC (%)	Limits	
Terbium	107	70-130	04/20/2022 13:52

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B6 @ 0.5'	**2204991-004C**	**Soil**	**04/18/2022 12:00**	**ICP-MS4 210SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Lead	**19**	0.50	1	04/20/2022 17:07

Surrogates	REC (%)	Limits	
Terbium	101	70-130	04/20/2022 17:07

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B7 @ 0.5'	**2204991-004D**	**Soil**	**04/18/2022 12:20**	**ICP-MS4 211SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Lead	**13**	0.50	1	04/20/2022 17:11

Surrogates	REC (%)	Limits	
Terbium	105	70-130	04/20/2022 17:11

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 0.5'	**2204991-004E**	**Soil**	**04/18/2022 13:05**	**ICP-MS4 212SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Lead	**64**	0.50	1	04/20/2022 17:15

Surrogates	REC (%)	Limits	
Terbium	105	70-130	04/20/2022 17:15

Analyst(s): MIG

(Cont.)

Analytical Report

Client: Petralogix
Date Received: 04/18/2022 17:52
Date Prepared: 04/19/2022
Project: Dawes Street Phase 2

WorkOrder: 2204991
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B6 @ 2'	**2204991-006C**	**Soil**	**04/18/2022 13:00**	**ICP-MS4 217SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Lead	**11**	0.50	1	04/20/2022 17:34

Surrogates	REC (%)	Limits	
Terbium	108	70-130	04/20/2022 17:34

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B7 @ 2'	**2204991-006D**	**Soil**	**04/18/2022 13:30**	**ICP-MS4 218SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Lead	**11**	0.50	1	04/20/2022 17:38

Surrogates	REC (%)	Limits	
Terbium	108	70-130	04/20/2022 17:38

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 1'	**2204991-006E**	**Soil**	**04/18/2022 13:55**	**ICP-MS4 306SMPL.d**	**243747**

Analytes	Result	RL	DF	Date Analyzed
Lead	**1000**	5.0	10	04/21/2022 00:00

Surrogates	REC (%)	Limits	
Terbium	103	70-130	04/21/2022 00:00

Analyst(s): AL

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW3510C
Date Prepared:	04/18/2022	**Analytical Method:**	SW8015B
Project:	Dawes Street Phase 2	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S1	**2204991-009A**	**Water**	**04/18/2022 14:40**	**GC6A 04192220.D**	**243676**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	100	1	04/19/2022 20:13
TPH-Motor Oil (C18-C36)	**540**	500	1	04/19/2022 20:13

Surrogates	REC (%)	Limits	Date Analyzed
C9	95	70-130	04/19/2022 20:13

Analyst(s): JIS   Analytical Comments: b1,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2	**2204991-010A**	**Water**	**04/18/2022 15:00**	**GC9b 04202219.D**	**243676**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	100	1	04/20/2022 15:59
TPH-Motor Oil (C18-C36)	**1100**	500	1	04/20/2022 15:59

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	04/20/2022 15:59

Analyst(s): JIS   Analytical Comments: b1,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S2-DUP	**2204991-011A**	**Water**	**04/18/2022 15:00**	**GC6B 04192227.D**	**243676**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	100	1	04/19/2022 22:49
TPH-Motor Oil (C18-C36)	**750**	500	1	04/19/2022 22:49

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	04/19/2022 22:49

Analyst(s): JIS   Analytical Comments: b1,e7

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243818
Date Analyzed:	04/20/2022	**Extraction Method:**	SW3550B/3640Am/3630Cm
Instrument:	GC23	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243818

QC Summary Report for SW8081A/8082

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.000036	0.00010	-	-	-
a-BHC	ND	0.000025	0.00010	-	-	-
b-BHC	ND	0.00025	0.00030	-	-	-
d-BHC	ND	0.00013	0.00020	-	-	-
g-BHC	ND	0.000066	0.00010	-	-	-
Chlordane (Technical)	ND	0.00043	0.0025	-	-	-
a-Chlordane	ND	0.000095	0.00010	-	-	-
g-Chlordane	ND	0.000047	0.00010	-	-	-
p,p-DDD	ND	0.000043	0.00010	-	-	-
p,p-DDE	ND	0.000094	0.00010	-	-	-
p,p-DDT	ND	0.000092	0.00010	-	-	-
Dieldrin	ND	0.000061	0.00010	-	-	-
Endosulfan I	ND	0.000048	0.00010	-	-	-
Endosulfan II	ND	0.000076	0.00010	-	-	-
Endosulfan sulfate	ND	0.000078	0.00010	-	-	-
Endrin	ND	0.000035	0.00010	-	-	-
Endrin aldehyde	ND	0.000067	0.00010	-	-	-
Endrin ketone	ND	0.000084	0.00010	-	-	-
Heptachlor	ND	0.000040	0.00010	-	-	-
Heptachlor epoxide	ND	0.000054	0.00010	-	-	-
Hexachlorobenzene	ND	0.00011	0.0010	-	-	-
Hexachlorocyclopentadiene	ND	0.00034	0.0020	-	-	-
Methoxychlor	ND	0.00013	0.00020	-	-	-
Toxaphene	ND	0.0034	0.0050	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.0054			0.005	109	28-170

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243818
Date Analyzed:	04/20/2022	**Extraction Method:**	SW3550B/3640Am/3630Cm
Instrument:	GC23	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243818

QC Summary Report for SW8081A/8082

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0039	0.0042	0.0050	78	84	31-155	7.55	20
a-BHC	0.0042	0.0046	0.0050	84	93	32-160	9.47	20
b-BHC	0.0036	0.0039	0.0050	72	78	44-149	7.93	20
d-BHC	0.0045	0.0049	0.0050	89	98	37-157	9.86	20
g-BHC	0.0040	0.0044	0.0050	80	89	43-154	10.4	20
a-Chlordane	0.0039	0.0042	0.0050	78	83	39-150	7.27	20
g-Chlordane	0.0037	0.0040	0.0050	73	80	39-151	9.04	20
p,p-DDD	0.0046	0.0050	0.0050	93	100	30-158	7.43	20
p,p-DDE	0.0044	0.0048	0.0050	89	96	47-149	8.41	20
p,p-DDT	0.0043	0.0047	0.0050	87	95	56-166	8.91	20
Dieldrin	0.0041	0.0044	0.0050	82	89	50-163	8.22	20
Endosulfan I	0.0038	0.0041	0.0050	76	82	45-159	8.12	20
Endosulfan II	0.0043	0.0046	0.0050	86	92	41-155	6.91	20
Endosulfan sulfate	0.0044	0.0047	0.0050	89	94	45-156	5.97	20
Endrin	0.0045	0.0048	0.0050	89	96	54-154	7.47	20
Endrin aldehyde	0.0038	0.0039	0.0050	75	78	27-159	3.50	20
Endrin ketone	0.0042	0.0046	0.0050	85	91	40-147	7.91	20
Heptachlor	0.0038	0.0042	0.0050	76	83	52-165	9.06	20
Heptachlor epoxide	0.0038	0.0042	0.0050	77	84	46-145	8.96	20
Hexachlorobenzene	0.0038	0.0042	0.0050	76	84	22-156	10.3	20
Hexachlorocyclopentadiene	0.0042	0.0049	0.0050	85	98	43-173	14.8	20
Methoxychlor	0.0047	0.0050	0.0050	94	100	49-150	5.96	20
Surrogate Recovery								
Decachlorobiphenyl	0.0054	0.0055	0.0050	108	109	28-170	1.57	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243928
Date Analyzed:	04/22/2022 - 04/25/2022	**Extraction Method:**	SW3550B
Instrument:	GC20, GC23	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243928 2204991-006DMS/MSD

QC Summary Report for SW8082

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.032	0.050	-	-	-
Aroclor1221	ND	0.032	0.050	-	-	-
Aroclor1232	ND	0.032	0.050	-	-	-
Aroclor1242	ND	0.032	0.050	-	-	-
Aroclor1248	ND	0.032	0.050	-	-	-
Aroclor1254	ND	0.032	0.050	-	-	-
Aroclor1260	ND	0.032	0.050	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.049			0.05	99	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.13	0.13	0.15	88	88	70-130	0.0734	20
Aroclor1260	0.13	0.14	0.15	84	91	70-130	7.85	20
Surrogate Recovery								
Decachlorobiphenyl	0.042	0.047	0.050	85	94	70-130	10.4	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aroclor1016	1	0.14	0.14	0.15	ND	96	96	60-130	0.547	20
Aroclor1260	1	0.13	0.13	0.15	ND	88	87	60-130	1.61	20
Surrogate Recovery										
Decachlorobiphenyl	1	0.043	0.042	0.050		85	84	60-130	1.61	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/18/2022	**BatchID:**	243907
Date Analyzed:	04/22/2022	**Extraction Method:**	SW3550B/3630C
Instrument:	GC20	**Analytical Method:**	SW8082
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243907

QC Summary for SW8082

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.0051	0.050	-	-	-
Aroclor1221	ND	0.011	0.050	-	-	-
Aroclor1232	ND	0.0063	0.050	-	-	-
Aroclor1242	ND	0.0067	0.050	-	-	-
Aroclor1248	ND	0.0040	0.050	-	-	-
Aroclor1254	ND	0.0068	0.050	-	-	-
Aroclor1260	ND	0.0061	0.050	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.038			0.05	76	57-145

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.13	0.14	0.15	87	95	61-124	8.51	20
Aroclor1260	0.12	0.14	0.15	79	91	53-172	13.8	20
Surrogate Recovery								
Decachlorobiphenyl	0.042	0.046	0.050	83	91	57-145	9.20	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243798
Date Analyzed:	04/19/2022	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243798

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	6.3	40	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.13	0.50	-	-	-
Benzene	ND	0.12	0.20	-	-	-
Bromobenzene	ND	0.13	0.50	-	-	-
Bromochloromethane	ND	0.11	0.50	-	-	-
Bromodichloromethane	ND	0.025	0.050	-	-	-
Bromoform	ND	0.31	0.50	-	-	-
Bromomethane	ND	0.18	0.50	-	-	-
2-Butanone (MEK)	ND	1.5	5.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.5	5.0	-	-	-
n-Butyl benzene	ND	0.23	0.50	-	-	-
sec-Butyl benzene	ND	0.17	0.50	-	-	-
tert-Butyl benzene	ND	0.13	0.50	-	-	-
Carbon Disulfide	ND	0.18	0.50	-	-	-
Carbon Tetrachloride	ND	0.028	0.050	-	-	-
Chlorobenzene	ND	0.11	0.50	-	-	-
Chloroethane	ND	0.20	0.50	-	-	-
Chloroform	ND	0.091	0.10	-	-	-
Chloromethane	ND	0.28	0.50	-	-	-
2-Chlorotoluene	ND	0.23	0.50	-	-	-
4-Chlorotoluene	ND	0.12	0.50	-	-	-
Dibromochloromethane	ND	0.026	0.15	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.010	0.020	-	-	-
1,2-Dibromoethane (EDB)	ND	0.021	0.040	-	-	-
Dibromomethane	ND	0.12	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.16	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.12	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.093	0.50	-	-	-
Dichlorodifluoromethane	ND	0.29	0.50	-	-	-
1,1-Dichloroethane	ND	0.15	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.011	0.020	-	-	-
1,1-Dichloroethene	ND	0.0094	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.093	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.11	0.50	-	-	-
1,2-Dichloropropane	ND	0.019	0.20	-	-	-
1,3-Dichloropropane	ND	0.17	0.50	-	-	-
2,2-Dichloropropane	ND	0.22	0.50	-	-	-
1,1-Dichloropropene	ND	0.085	0.50	-	-	-

(Cont.)

Quality Control Report

Client: Petralogix
Date Prepared: 04/19/2022
Date Analyzed: 04/19/2022
Instrument: GC18
Matrix: Water
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 243798
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-243798

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.21	0.50	-	-	-
trans-1,3-Dichloropropene	ND	0.28	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.12	0.50	-	-	-
Ethylbenzene	ND	0.14	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.16	0.50	-	-	-
Freon 113	ND	0.13	0.50	-	-	-
Hexachlorobutadiene	ND	0.15	0.50	-	-	-
Hexachloroethane	ND	0.059	0.20	-	-	-
2-Hexanone	ND	0.32	0.50	-	-	-
Isopropylbenzene	ND	0.16	0.50	-	-	-
4-Isopropyl toluene	ND	0.15	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.16	0.50	-	-	-
Methylene chloride	ND	0.74	2.0	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.44	0.50	-	-	-
Naphthalene	ND	0.15	0.30	-	-	-
n-Propyl benzene	ND	0.12	0.50	-	-	-
Styrene	ND	0.28	2.0	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.16	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.011	0.020	-	-	-
Tetrachloroethene	ND	0.16	0.20	-	-	-
Toluene	ND	0.17	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.24	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.22	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.11	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.11	0.20	-	-	-
Trichloroethene	ND	0.25	0.50	-	-	-
Trichlorofluoromethane	ND	0.14	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.0045	0.0050	-	-	-
1,2,4-Trimethylbenzene	ND	0.18	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.16	0.50	-	-	-
Vinyl Chloride	ND	0.0043	0.0050	-	-	-
m,p-Xylene	ND	0.25	0.50	-	-	-
o-Xylene	ND	0.13	0.50	-	-	-

(Cont.)

Quality Control Report

Client: Petralogix
Date Prepared: 04/19/2022
Date Analyzed: 04/19/2022
Instrument: GC18
Matrix: Water
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 243798
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-243798

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	25			25	100	70-130
Toluene-d8	25			25	101	70-130
4-BFB	1.8			2.5	73	70-130

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243798
Date Analyzed:	04/19/2022	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243798

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	73	75	80	92	93	60-130	1.46	20
tert-Amyl methyl ether (TAME)	3.0	3.0	4	74	74	60-130	0.309	20
Benzene	3.6	3.6	4	91	91	60-130	0.0382	20
Bromobenzene	3.1	3.1	4	78	77	60-130	0.436	20
Bromochloromethane	3.5	3.6	4	87	90	60-130	4.13	20
Bromodichloromethane	3.4	3.4	4	84	86	60-130	2.23	20
Bromoform	2.8	3.0	4	70	76	50-130	8.00	20
Bromomethane	2.3	2.5	4	58	62	50-130	5.83	20
2-Butanone (MEK)	14	14	16	87	89	60-130	2.26	20
t-Butyl alcohol (TBA)	14	14	16	85	89	50-130	4.99	20
n-Butyl benzene	3.7	3.6	4	92	91	60-130	1.57	20
sec-Butyl benzene	3.6	3.5	4	90	88	60-130	2.40	20
tert-Butyl benzene	3.3	3.1	4	82	79	60-130	3.85	20
Carbon Disulfide	3.3	3.4	4	83	85	60-130	1.41	20
Carbon Tetrachloride	3.6	3.7	4	91	92	60-130	1.25	20
Chlorobenzene	3.4	3.5	4	85	86	60-130	1.58	20
Chloroethane	3.3	3.3	4	83	83	60-140	0.0717	20
Chloroform	3.6	3.7	4	90	92	60-130	2.19	20
Chloromethane	4.9	5.3	4	124	133,F2	50-130	7.09	20
2-Chlorotoluene	3.3	3.3	4	82	81	60-130	1.10	20
4-Chlorotoluene	3.2	3.2	4	79	80	60-130	0.526	20
Dibromochloromethane	3.0	3.0	4	74	75	50-130	1.85	20
1,2-Dibromo-3-chloropropane	1.1	1.1	1.6	68	72	50-130	5.55	20
1,2-Dibromoethane (EDB)	3.3	3.4	4	83	84	60-130	1.31	20
Dibromomethane	3.4	3.7	4	84	92	60-130	8.25	20
1,2-Dichlorobenzene	3.3	3.4	4	81	85	60-130	3.95	20
1,3-Dichlorobenzene	3.4	3.4	4	84	85	60-130	1.17	20
1,4-Dichlorobenzene	3.3	3.3	4	83	82	60-130	1.06	20
Dichlorodifluoromethane	2.5	2.4	4	62	59	40-140	5.39	20
1,1-Dichloroethane	3.5	3.6	4	88	90	50-130	2.64	20
1,2-Dichloroethane (1,2-DCA)	3.3	3.4	4	83	85	60-130	2.57	20
1,1-Dichloroethene	3.4	3.5	4	86	87	60-130	0.912	20
cis-1,2-Dichloroethene	3.5	3.6	4	87	90	60-130	3.19	20
trans-1,2-Dichloroethene	3.5	3.6	4	88	89	60-130	1.78	20
1,2-Dichloropropane	3.7	3.7	4	92	94	60-130	1.35	20
1,3-Dichloropropane	3.5	3.5	4	88	88	60-130	0.131	20
2,2-Dichloropropane	3.0	3.2	4	75	80	60-130	7.25	20
1,1-Dichloropropene	3.5	3.6	4	89	90	60-130	1.13	20

(Cont.)

Quality Control Report

Client: Petralogix
Date Prepared: 04/19/2022
Date Analyzed: 04/19/2022
Instrument: GC18
Matrix: Water
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 243798
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-243798

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	3.2	3.3	4	81	82	60-130	0.538	20
trans-1,3-Dichloropropene	3.2	3.3	4	81	82	60-130	0.827	20
Diisopropyl ether (DIPE)	3.5	3.5	4	87	86	60-130	0.348	20
Ethylbenzene	3.3	3.3	4	83	84	60-130	0.478	20
Ethyl tert-butyl ether (ETBE)	3.2	3.2	4	79	79	60-130	0.443	20
Freon 113	3.5	3.6	4	88	89	60-130	1.05	20
Hexachlorobutadiene	3.3	3.4	4	83	85	60-130	1.69	20
Hexachloroethane	3.1	3.1	4	78	77	50-130	1.30	20
2-Hexanone	2.9	2.9	4	72	73	50-130	1.48	20
Isopropylbenzene	3.3	3.2	4	83	80	60-130	3.06	20
4-Isopropyl toluene	3.3	3.3	4	83	82	60-130	1.65	20
Methyl-t-butyl ether (MTBE)	3.2	3.2	4	81	81	60-130	0.166	20
Methylene chloride	2.9	2.9	4	72	72	50-130	0.375	20
4-Methyl-2-pentanone (MIBK)	2.9	2.9	4	73	73	50-130	0.0123	20
Naphthalene	3.2	3.4	4	79	85	60-130	6.73	20
n-Propyl benzene	3.3	3.3	4	84	83	60-130	1.22	20
Styrene	3.3	3.4	4	84	85	60-130	1.13	20
1,1,1,2-Tetrachloroethane	3.0	3.1	4	76	77	60-130	1.49	20
1,1,2,2-Tetrachloroethane	3.4	3.4	4	86	85	60-130	1.12	20
Tetrachloroethene	3.3	3.3	4	83	82	60-130	0.913	20
Toluene	3.4	3.4	4	86	85	60-130	1.70	20
1,2,3-Trichlorobenzene	3.1	3.3	4	78	84	60-130	6.43	20
1,2,4-Trichlorobenzene	3.0	3.2	4	75	79	60-130	5.96	20
1,1,1-Trichloroethane	3.5	3.5	4	86	87	60-130	0.588	20
1,1,2-Trichloroethane	3.4	3.5	4	86	86	60-130	0.713	20
Trichloroethene	3.4	3.5	4	86	87	60-130	1.39	20
Trichlorofluoromethane	3.3	3.3	4	82	83	60-130	1.26	20
1,2,3-Trichloropropane	3.4	3.4	4	85	84	60-130	0.507	20
1,2,4-Trimethylbenzene	3.5	3.4	4	88	86	60-130	2.81	20
1,3,5-Trimethylbenzene	3.5	3.4	4	87	85	60-130	3.00	20
Vinyl Chloride	4.5	4.5	4	112	114	60-130	1.77	20
m,p-Xylene	6.8	6.7	8	85	84	60-130	1.22	20
o-Xylene	3.5	3.4	4	86	85	60-130	2.02	20

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243798
Date Analyzed:	04/19/2022	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243798

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	25	25	25	99	102	70-130	2.86	20
Toluene-d8	25	25	25	102	101	70-130	0.428	20
4-BFB	1.9	1.8	2.5	75	73	70-130	2.31	20

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243879
Date Analyzed:	04/20/2022	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243879

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	6.3	40	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.13	0.50	-	-	-
Benzene	ND	0.12	0.20	-	-	-
Bromobenzene	ND	0.13	0.50	-	-	-
Bromochloromethane	ND	0.11	0.50	-	-	-
Bromodichloromethane	ND	0.025	0.050	-	-	-
Bromoform	ND	0.31	0.50	-	-	-
Bromomethane	ND	0.18	0.50	-	-	-
2-Butanone (MEK)	ND	1.5	5.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.5	5.0	-	-	-
n-Butyl benzene	ND	0.23	0.50	-	-	-
sec-Butyl benzene	ND	0.17	0.50	-	-	-
tert-Butyl benzene	ND	0.13	0.50	-	-	-
Carbon Disulfide	ND	0.18	0.50	-	-	-
Carbon Tetrachloride	ND	0.028	0.050	-	-	-
Chlorobenzene	ND	0.11	0.50	-	-	-
Chloroethane	ND	0.20	0.50	-	-	-
Chloroform	ND	0.091	0.10	-	-	-
Chloromethane	ND	0.28	0.50	-	-	-
2-Chlorotoluene	ND	0.23	0.50	-	-	-
4-Chlorotoluene	ND	0.12	0.50	-	-	-
Dibromochloromethane	ND	0.026	0.15	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.010	0.020	-	-	-
1,2-Dibromoethane (EDB)	ND	0.021	0.040	-	-	-
Dibromomethane	ND	0.12	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.16	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.12	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.093	0.50	-	-	-
Dichlorodifluoromethane	ND	0.29	0.50	-	-	-
1,1-Dichloroethane	ND	0.15	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.011	0.020	-	-	-
1,1-Dichloroethene	ND	0.0094	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.093	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.11	0.50	-	-	-
1,2-Dichloropropane	ND	0.019	0.20	-	-	-
1,3-Dichloropropane	ND	0.17	0.50	-	-	-
2,2-Dichloropropane	ND	0.22	0.50	-	-	-
1,1-Dichloropropene	ND	0.085	0.50	-	-	-

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243879
Date Analyzed:	04/20/2022	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243879

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.21	0.50	-	-	-
trans-1,3-Dichloropropene	ND	0.28	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.12	0.50	-	-	-
Ethylbenzene	ND	0.14	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.16	0.50	-	-	-
Freon 113	ND	0.13	0.50	-	-	-
Hexachlorobutadiene	ND	0.15	0.50	-	-	-
Hexachloroethane	ND	0.059	0.20	-	-	-
2-Hexanone	ND	0.32	0.50	-	-	-
Isopropylbenzene	ND	0.16	0.50	-	-	-
4-Isopropyl toluene	ND	0.15	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.16	0.50	-	-	-
Methylene chloride	ND	0.74	2.0	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.44	0.50	-	-	-
Naphthalene	ND	0.15	0.30	-	-	-
n-Propyl benzene	ND	0.12	0.50	-	-	-
Styrene	ND	0.28	2.0	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.16	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.011	0.020	-	-	-
Tetrachloroethene	ND	0.16	0.20	-	-	-
Toluene	ND	0.17	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.24	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.22	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.11	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.11	0.20	-	-	-
Trichloroethene	ND	0.25	0.50	-	-	-
Trichlorofluoromethane	ND	0.14	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.0045	0.0050	-	-	-
1,2,4-Trimethylbenzene	ND	0.18	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.16	0.50	-	-	-
Vinyl Chloride	ND	0.0043	0.0050	-	-	-
m,p-Xylene	ND	0.25	0.50	-	-	-
o-Xylene	ND	0.13	0.50	-	-	-

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243879
Date Analyzed:	04/20/2022	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243879

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	32			25	126	70-130
Toluene-d8	30			25	120	70-130
4-BFB	2.1			2.5	86	70-130

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243879
Date Analyzed:	04/20/2022	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243879

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	85	89	80	107	111	60-130	4.43	20
tert-Amyl methyl ether (TAME)	4.0	4.0	4	99	101	60-130	1.12	20
Benzene	3.8	3.7	4	94	93	60-130	1.05	20
Bromobenzene	3.7	3.7	4	93	93	60-130	0.365	20
Bromochloromethane	4.1	4.1	4	103	102	60-130	0.857	20
Bromodichloromethane	4.1	4.1	4	103	102	60-130	0.534	20
Bromoform	3.5	3.7	4	88	91	50-130	3.43	20
Bromomethane	3.8	4.0	4	96	100	50-130	3.84	20
2-Butanone (MEK)	17	19	16	103	118	60-130	13.7	20
t-Butyl alcohol (TBA)	17	19	16	108	119	50-130	8.90	20
n-Butyl benzene	4.0	3.9	4	101	96	60-130	4.71	20
sec-Butyl benzene	4.0	3.8	4	99	96	60-130	2.88	20
tert-Butyl benzene	3.5	3.5	4	88	87	60-130	2.04	20
Carbon Disulfide	4.3	4.8	4	108	120	60-130	10.4	20
Carbon Tetrachloride	4.2	4.1	4	104	103	60-130	1.37	20
Chlorobenzene	3.8	3.8	4	95	95	60-130	0.0549	20
Chloroethane	4.1	4.1	4	102	101	60-140	0.789	20
Chloroform	4.2	4.1	4	105	103	60-130	1.55	20
Chloromethane	4.0	4.2	4	101	105	50-130	3.88	20
2-Chlorotoluene	3.7	3.7	4	94	92	60-130	1.61	20
4-Chlorotoluene	3.9	3.6	4	99	91	60-130	8.27	20
Dibromochloromethane	3.8	3.8	4	94	95	50-130	1.31	20
1,2-Dibromo-3-chloropropane	1.4	1.4	1.6	85	87	50-130	2.05	20
1,2-Dibromoethane (EDB)	3.9	4.0	4	97	99	60-130	1.87	20
Dibromomethane	4.0	4.1	4	100	102	60-130	1.74	20
1,2-Dichlorobenzene	3.5	3.5	4	88	88	60-130	0.572	20
1,3-Dichlorobenzene	3.8	3.7	4	95	93	60-130	2.15	20
1,4-Dichlorobenzene	3.8	3.6	4	94	91	60-130	3.74	20
Dichlorodifluoromethane	4.0	4.0	4	101	99	40-140	1.97	20
1,1-Dichloroethane	4.2	4.1	4	104	101	50-130	2.72	20
1,2-Dichloroethane (1,2-DCA)	4.3	4.3	4	108	107	60-130	0.679	20
1,1-Dichloroethene	3.9	3.8	4	99	96	60-130	2.48	20
cis-1,2-Dichloroethene	4.0	3.9	4	100	98	60-130	2.35	20
trans-1,2-Dichloroethene	3.9	3.9	4	99	98	60-130	0.825	20
1,2-Dichloropropane	3.9	3.9	4	98	98	60-130	0.241	20
1,3-Dichloropropane	3.4	3.6	4	85	90	60-130	5.80	20
2,2-Dichloropropane	4.5	4.4	4	111	109	60-130	2.41	20
1,1-Dichloropropene	4.1	4.0	4	103	101	60-130	1.42	20

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243879
Date Analyzed:	04/20/2022	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243879

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	3.9	3.9	4	98	98	60-130	0.404	20
trans-1,3-Dichloropropene	4.2	4.0	4	105	99	60-130	5.52	20
Diisopropyl ether (DIPE)	4.0	4.0	4	101	99	60-130	1.59	20
Ethylbenzene	3.8	3.8	4	95	94	60-130	1.44	20
Ethyl tert-butyl ether (ETBE)	4.0	4.0	4	101	101	60-130	0.0372	20
Freon 113	4.0	4.6	4	100	114	60-130	12.8	20
Hexachlorobutadiene	3.8	3.7	4	96	93	60-130	2.15	20
Hexachloroethane	3.5	3.5	4	88	86	50-130	1.72	20
2-Hexanone	3.7	3.9	4	92	98	50-130	5.95	20
Isopropylbenzene	3.8	3.8	4	96	95	60-130	1.12	20
4-Isopropyl toluene	3.9	3.7	4	98	94	60-130	4.91	20
Methyl-t-butyl ether (MTBE)	4.1	4.1	4	101	101	60-130	0.217	20
Methylene chloride	3.8	4.5	4	96	113	50-130	16.0	20
4-Methyl-2-pentanone (MIBK)	3.7	3.9	4	93	97	50-130	4.51	20
Naphthalene	4.1	4.1	4	103	103	60-130	0.205	20
n-Propyl benzene	3.8	3.6	4	95	91	60-130	4.28	20
Styrene	3.5	3.5	4	88	86	60-130	1.39	20
1,1,1,2-Tetrachloroethane	3.6	3.6	4	91	91	60-130	0.635	20
1,1,2,2-Tetrachloroethane	3.5	3.6	4	88	90	60-130	2.33	20
Tetrachloroethene	3.8	3.7	4	95	94	60-130	1.30	20
Toluene	4.1	3.7	4	102	91	60-130	10.8	20
1,2,3-Trichlorobenzene	4.0	3.9	4	100	98	60-130	1.89	20
1,2,4-Trichlorobenzene	4.0	3.9	4	100	98	60-130	1.77	20
1,1,1-Trichloroethane	4.2	4.2	4	104	105	60-130	0.315	20
1,1,2-Trichloroethane	3.7	3.8	4	93	94	60-130	1.50	20
Trichloroethene	3.9	3.8	4	97	96	60-130	1.44	20
Trichlorofluoromethane	4.2	4.6	4	105	115	60-130	9.21	20
1,2,3-Trichloropropane	3.6	3.7	4	90	92	60-130	1.79	20
1,2,4-Trimethylbenzene	3.9	3.9	4	96	97	60-130	1.24	20
1,3,5-Trimethylbenzene	4.3	3.8	4	109	94	60-130	14.1	20
Vinyl Chloride	3.9	4.2	4	99	104	60-130	5.56	20
m,p-Xylene	7.6	7.4	8	95	93	60-130	2.05	20
o-Xylene	3.8	3.8	4	95	95	60-130	0.0103	20

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/20/2022	**BatchID:**	243879
Date Analyzed:	04/20/2022	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243879

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	33	31	25	131,F3	124	70-130	4.76	20
Toluene-d8	32	30	25	126	119	70-130	5.92	20
4-BFB	2.3	2.3	2.5	93	91	70-130	2.35	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/18/2022	**BatchID:**	243720
Date Analyzed:	04/20/2022	**Extraction Method:**	E200.8
Instrument:	ICP-MS2	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243720

QC Summary Report for Dissolved Metals

Analyte	MB Result	MDL	RL			
Antimony	ND	0.089	0.50	-	-	-
Arsenic	ND	0.094	0.50	-	-	-
Barium	ND	1.4	5.0	-	-	-
Beryllium	ND	0.089	0.50	-	-	-
Cadmium	ND	0.065	0.50	-	-	-
Chromium	ND	0.19	0.50	-	-	-
Cobalt	ND	0.075	0.50	-	-	-
Copper	ND	0.17	0.50	-	-	-
Lead	ND	0.088	0.50	-	-	-
Mercury	ND	0.095	0.20	-	-	-
Molybdenum	ND	0.19	0.50	-	-	-
Nickel	ND	0.16	0.50	-	-	-
Selenium	ND	0.17	0.50	-	-	-
Silver	ND	0.15	0.50	-	-	-
Thallium	ND	0.042	0.50	-	-	-
Vanadium	ND	0.15	0.50	-	-	-
Zinc	ND	8.3	15	-	-	-

(Cont.)

Quality Control Report

Client: Petralogix
Date Prepared: 04/18/2022
Date Analyzed: 04/20/2022
Instrument: ICP-MS2
Matrix: Water
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 243720
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L
Sample ID: MB/LCS/LCSD-243720

QC Summary Report for Dissolved Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	52	52	50	103	104	85-115	0.713	20
Arsenic	51	51	50	102	103	85-115	0.390	20
Barium	520	510	500	104	102	85-115	1.21	20
Beryllium	51	51	50	102	103	85-115	0.663	20
Cadmium	49	50	50	99	101	85-115	1.91	20
Chromium	49	49	50	98	99	85-115	0.466	20
Cobalt	51	51	50	102	102	85-115	0.511	20
Copper	50	50	50	99	100	85-115	0.804	20
Lead	49	50	50	98	99	85-115	1.40	20
Mercury	1.2	1.2	1.25	94	96	85-115	2.52	20
Molybdenum	50	51	50	101	102	85-115	1.36	20
Nickel	50	50	50	99	100	85-115	0.961	20
Selenium	52	51	50	103	103	85-115	0.194	20
Silver	49	49	50	98	99	85-115	0.733	20
Thallium	48	48	50	96	96	85-115	0.812	20
Vanadium	49	50	50	98	99	85-115	1.38	20
Zinc	510	520	500	102	103	85-115	0.642	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243790
Date Analyzed:	04/19/2022	**Extraction Method:**	SW5030B
Instrument:	GC12	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243790

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	20	50	-	-	-
MTBE	ND	0.49	1.0	-	-	-
Benzene	ND	0.12	0.50	-	-	-
Toluene	ND	0.11	0.50	-	-	-
Ethylbenzene	ND	0.095	0.50	-	-	-
m,p-Xylene	ND	0.14	1.0	-	-	-
o-Xylene	ND	0.074	0.50	-	-	-
Surrogate Recovery						
aaa-TFT	9.7			10	97	74-117

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	50	56	60	84	93	78-116	10.4	20
MTBE	8.0	8.1	10	80	81	72-122	0.680	20
Benzene	10	10	10	101	100	81-123	0.631	20
Toluene	10	9.9	10	100	99	83-129	0.814	20
Ethylbenzene	10	9.9	10	100	99	88-126	0.415	20
m,p-Xylene	20	20	20	101	101	80-120	0.302	20
o-Xylene	9.9	9.9	10	99	99	80-120	0.275	20
Surrogate Recovery								
aaa-TFT	9.9	9.8	10	99	98	74-117	1.57	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243635
Date Analyzed:	04/19/2022	**Extraction Method:**	SW3050B
Instrument:	ICP-MS4	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243635

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.14	0.50	-	-	-
Lead	ND	0.069	0.50	-	-	-
Surrogate Recovery						
Terbium	540			500	108	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	51	50	50	103	101	75-125	1.72	20
Lead	49	49	50	98	98	75-125	0.511	20
Surrogate Recovery								
Terbium	530	510	500	107	103	70-130	3.62	20

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/19/2022	**BatchID:**	243688
Date Analyzed:	04/19/2022	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243688

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.14	0.50	-	-	-
Lead	ND	0.069	0.50	-	-	-
Surrogate Recovery						
Terbium	520			500	105	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	49	49	50	99	98	75-125	0.870	20
Lead	48	47	50	96	95	75-125	1.55	20
Surrogate Recovery								
Terbium	520	500	500	104	99	70-130	4.47	20

(Cont.)

Quality Control Report

Client: Petralogix
Date Prepared: 04/19/2022
Date Analyzed: 04/20/2022
Instrument: ICP-MS5
Matrix: Soil
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 243747
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/kg
Sample ID: MB/LCS/LCSD-243747
2204991-004BMS/MSD
2204991-004BPDS

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.14	0.50	-	-	-
Lead	ND	0.069	0.50	-	-	-
Surrogate Recovery						
Terbium	540			500	107	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	51	51	50	102	102	75-125	0.123	20
Lead	49	50	50	98	100	75-125	1.76	20
Surrogate Recovery								
Terbium	550	540	500	110	108	70-130	2.30	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Arsenic	1	58	59	50	8.084	100	102	75-125	2.07	20
Lead	1	80	88	50	24.44	111	128,F10	75-125	10.2	20
Surrogate Recovery										
Terbium	1	530	530	500		105	106	70-130	1.05	20

Analyte	PDS Result	SPK Val	SPKRef Val	PDS %REC	PDS Limits
Lead	73	50	24.44	98	75-125

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Arsenic	7.9	8.084	2.28	-
Lead	24	24.44	1.80	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	04/18/2022	**BatchID:**	243676
Date Analyzed:	04/18/2022	**Extraction Method:**	SW3510C
Instrument:	GC6A	**Analytical Method:**	SW8015B
Matrix:	Water	**Unit:**	µg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-243676

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	42	100	-	-	-
TPH-Motor Oil (C18-C36)	ND	190	500	-	-	-
Surrogate Recovery						
C9	610			625	98	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	980	1000	1000	98	104	70-130	5.63	20
Surrogate Recovery								
C9	610	620	625	98	100	70-130	1.49	20

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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 3

WorkOrder: 2204991 **ClientCode: PLGC**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Daniel Kramer
Petralogix
26675 Bruella Road
Galt, CA 95632
(209) 400-5729 FAX:

Email: dkramer@petralogix.com
cc/3rd Party: tscheftner@petralogix.com;
PO:
Project: Dawes Street Phase 2

Bill to:
Accounts Payable
Petralogix
26675 Bruella Road
Galt, CA 95632

Requested TAT: **5 days;**

Date Received: **04/18/2022**
Date Logged: **04/18/2022**

					Requested Tests (See legend below)											
Lab ID	**Client ID**	**Matrix**	**Collection Date**	**Hold**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2204991-001	B1/B2/B3/B4 @ 0.5'	Soil	4/18/2022 11:10	☐	A									A		
2204991-001	B1@ 0.5'	Soil	4/18/2022 10:05	☐					B			B				
2204991-001	B2@ 0.5'	Soil	4/18/2022 10:30	☐									C			
2204991-001	B3@ 0.5'	Soil	4/18/2022 10:57	☐					D				D			
2204991-001	B4@ 0.5'	Soil	4/18/2022 11:10	☐									E			
2204991-002	B1/B2/B3/B4-DUP @0.5'	Soil	4/18/2022 11:10	☐	A									A		
2204991-002	B1-DUP @0.5'	Soil	4/18/2022 10:05	☐					B			B				
2204991-002	B2-DUP @0.5'	Soil	4/18/2022 10:30	☐									C			
2204991-002	B3-DUP @0.5'	Soil	4/18/2022 10:57	☐					D				D			
2204991-002	B4-DUP @0.5'	Soil	4/18/2022 11:10	☐									E			
2204991-003	B1 @ 2'	Soil	4/18/2022 10:25	☐					B			B				
2204991-003	B1/B2/B3/B4 @ 2'	Soil	4/18/2022 11:40	☐	A									A		
2204991-003	B2 @ 2'	Soil	4/18/2022 10:50	☐									C			
2204991-003	B3 @ 2'	Soil	4/18/2022 11:25	☐					D				D			
2204991-003	B4 @ 2'	Soil	4/18/2022 11:40	☐									E			

Test Legend:

1	**8081_ESL_LL_S**	**2**	**8082_PCB_ESL_S [J]**	**3**	**8082_PCB_SG_S [J]**	**4**	**8260B_W**
5	**ASBESTOS_E600PLM_S**	**6**	**CAM17MS_DISS**	**7**	**G-MBTEX_W**	**8**	**PBASMS_TTLC_S**
9	**PBMS_TTLC_S**	**10**	**PRDisposal Fee**	**11**	**PRDISSOLVED**	**12**	**TPH(DMO)_W**

Project Manager: Rosa Venegas **Prepared by: Valerie Alfaro**

The following SampIDs: 009A, 010A, 011A contain testgroup Multi Range_W.

Comments:

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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CHAIN-OF-CUSTODY RECORD

Page 2 of 3

WorkOrder: 2204991 **ClientCode: PLGC**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

☒ Detection Summary ☐ Excel

Report to:

Daniel Kramer
Petralogix
26675 Bruella Road
Galt, CA 95632
(209) 400-5729 FAX:

Email: dkramer@petralogix.com
cc/3rd Party: tscheftner@petralogix.com;
PO:
Project: Dawes Street Phase 2

Bill to:

Accounts Payable
Petralogix
26675 Bruella Road
Galt, CA 95632

Requested TAT: **5 days;**

Date Received: **04/18/2022**
Date Logged: **04/18/2022**

					Requested Tests (See legend below)											
Lab ID	**Client ID**	**Matrix**	**Collection Date**	**Hold**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2204991-004	B5 @ 0.5'	Soil	4/18/2022 11:55	☐					B			B				
2204991-004	B5/B6/B7/B8 @ 0.5'	Soil	4/18/2022 13:05	☐	A									A		
2204991-004	B6 @ 0.5'	Soil	4/18/2022 12:00	☐									C			
2204991-004	B7 @ 0.5'	Soil	4/18/2022 12:20	☐		D	D		D				D			
2204991-004	B8 @ 0.5'	Soil	4/18/2022 13:05	☐		E	E						E			
2204991-005	B8-DUP @ 0.5'	Soil	4/18/2022 13:05	☐		A	A							A		
2204991-006	B5 @ 2'	Soil	4/18/2022 12:20	☐					B			B				
2204991-006	B5/B6/B7 @ 2' & B8 @ 1'	Soil	4/18/2022 13:55	☐	A									A		
2204991-006	B6 @ 2'	Soil	4/18/2022 13:00	☐									C			
2204991-006	B7 @ 2'	Soil	4/18/2022 13:30	☐		D			D				D			
2204991-006	B8 @ 1'	Soil	4/18/2022 13:55	☐		E	E						E			
2204991-007	B8-DUP @ 1'	Soil	4/18/2022 13:55	☐		A	A							A		
2204991-008	B9 @ 0.5'	Soil	4/18/2022 14:08	☐								B				
2204991-008	B9/B10/B11/B12 @ 0.5'	Soil	4/18/2022 14:17	☐	A									A		
2204991-009	S1	Water	4/18/2022 14:40	☐				C		B	A			A	B	A

Test Legend:

1	**8081_ESL_LL_S**	**2**	**8082_PCB_ESL_S [J]**	**3**	**8082_PCB_SG_S [J]**	**4**	**8260B_W**
5	**ASBESTOS_E600PLM_S**	**6**	**CAM17MS_DISS**	**7**	**G-MBTEX_W**	**8**	**PBASMS_TTLC_S**
9	**PBMS_TTLC_S**	**10**	**PRDisposal Fee**	**11**	**PRDISSOLVED**	**12**	**TPH(DMO)_W**

Project Manager: Rosa Venegas **Prepared by: Valerie Alfaro**

The following SampIDs: 009A, 010A, 011A contain testgroup Multi Range_W.

Comments:

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
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CHAIN-OF-CUSTODY RECORD

Page 3 of 3

WorkOrder: 2204991 **ClientCode: PLGC**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

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Accounts Payable
Petralogix
26675 Bruella Road
Galt, CA 95632

Requested TAT: **5 days;**

Date Received: **04/18/2022**
Date Logged: **04/18/2022**

Lab ID	**Client ID**	**Matrix**	**Collection Date**	**Hold**	**Requested Tests (See legend below)**											
					1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2204991-010	S2	Water	4/18/2022 15:00	☐				C		B	A			A	B	A
2204991-011	S2-DUP	Water	4/18/2022 15:00	☐				C		B	A			A	B	A

Test Legend:

1	**8081_ESL_LL_S**	2	**8082_PCB_ESL_S [J]**	3	**8082_PCB_SG_S [J]**	4	**8260B_W**
5	**ASBESTOS_E600PLM_S**	6	**CAM17MS_DISS**	7	**G-MBTEX_W**	8	**PBASMS_TTLC_S**
9	**PBMS_TTLC_S**	10	**PRDisposal Fee**	11	**PRDISSOLVED**	12	**TPH(DMO)_W**

Project Manager: Rosa Venegas **Prepared by: Valerie Alfaro**

The following SampIDs: 009A, 010A, 011A contain testgroup Multi Range_W.

Comments:

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: PETRALOGIX
Project: Dawes Street Phase 2
Work Order: 2204991
Client Contact: Daniel Kramer
QC Level: LEVEL 2
Contact's Email: dkramer@petralogix.com
Comments:
Date Logged: 4/18/2022

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
001A	B1/B2/B3/B4 @ 0.5'	Soil	SW8081A (OC Pesticides) ESLs	4 / (4:1)	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:10	5 days	4/27/2022		☐	☐
				4 / (4:1)	8OZ GJ, Unpres	☐	☐	☐					☐	☐
001B	B1@ 0.5'	Soil	SW6020 (Arsenic & Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:05	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
001C	B2@ 0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:30	5 days	4/25/2022		☐	☐
001D	B3@ 0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:57	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
001E	B4@ 0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:10	5 days	4/25/2022		☐	☐
002A	B1/B2/B3/B4-DUP @0.5'	Soil	SW8081A (OC Pesticides) ESLs	4 / (4:1)	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:10	5 days	4/27/2022		☐	☐
				4 / (4:1)	8OZ GJ, Unpres	☐	☐	☐					☐	☐
002B	B1-DUP @0.5'	Soil	SW6020 (Arsenic & Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:05	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
002C	B2-DUP @0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:30	5 days	4/25/2022		☐	☐
002D	B3-DUP @0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:57	5 days	4/25/2022		☐	☐

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

U = An unpreserved container was received for a method that suggests a preservation in order to extend hold time for analysis.**

WORK ORDER SUMMARY

Client Name: PETRALOGIX
Client Contact: Daniel Kramer
Contact's Email: dkramer@petralogix.com

Project: Dawes Street Phase 2

Comments:

Work Order: 2204991
QC Level: LEVEL 2
Date Logged: 4/18/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
002D	B3-DUP @0.5'	Soil	Asbestos - PLM	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:57	5 days	4/25/2022		☐	☑
002E	B4-DUP @0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:10	5 days	4/25/2022		☐	☐
003A	B1/B2/B3/B4 @ 2'	Soil	SW8081A (OC Pesticides) ESLs	4 / (4:1)	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:40	5 days	4/27/2022		☐	☐
				2 / (2:1)	8OZ GJ, Unpres	☐	☐	☐					☐	☐
003B	B1 @ 2'	Soil	SW6020 (Arsenic & Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:25	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
003C	B2 @ 2'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 10:50	5 days	4/25/2022		☐	☐
003D	B3 @ 2'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:25	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
003E	B4 @ 2'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:40	5 days	4/25/2022		☐	☐
004A	B5/B6/B7/B8 @ 0.5'	Soil	SW8081A (OC Pesticides) ESLs	4 / (4:1)	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:05	5 days	4/27/2022		☐	☐
				5 / (5:1)	8OZ GJ, Unpres	☐	☐	☐					☐	☐
004B	B5 @ 0.5'	Soil	SW6020 (Arsenic & Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 11:55	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
004C	B6 @ 0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 12:00	5 days	4/25/2022		☐	☐

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: PETRALOGIX
Client Contact: Daniel Kramer
Contact's Email: dkramer@petralogix.com

Project: Dawes Street Phase 2
Comments:

Work Order: 2204991
QC Level: LEVEL 2
Date Logged: 4/18/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
004D	B7 @ 0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 12:20	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
			SW8082 (PCBs w/ Column Style Clean-up)			☐	☐	☐		5 days	4/26/2022		☐	☐
			SW8082 (PCBs Only)			☐	☐	☐		5 days	4/25/2022		☑	☐
004E	B8 @ 0.5'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:05	5 days	4/25/2022		☐	☐
			SW8082 (PCBs w/ Column Style Clean-up)			☐	☐	☐		5 days	4/26/2022		☐	☐
			SW8082 (PCBs Only)			☐	☐	☐		5 days	4/25/2022		☑	☐
005A	B8-DUP @ 0.5'	Soil	SW8082 (PCBs w/ Column Style Clean-up)	1	8OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:05	5 days	4/26/2022		☐	☐
			SW8082 (PCBs Only)			☐	☐	☐		5 days	4/25/2022		☑	☐
006A	B5/B6/B7 @ 2' & B8 @ 1'	Soil	SW8081A (OC Pesticides) ESLs	4 / (4:1)	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:55	5 days	4/27/2022		☐	☐
				5 / (5:1)	8OZ GJ, Unpres	☐	☐	☐					☐	☐
006B	B5 @ 2'	Soil	SW6020 (Arsenic & Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 12:20	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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WORK ORDER SUMMARY

Client Name: PETRALOGIX
Project: Dawes Street Phase 2
Work Order: 2204991
Client Contact: Daniel Kramer
QC Level: LEVEL 2
Contact's Email: dkramer@petralogix.com
Comments:
Date Logged: 4/18/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
006C	B6 @ 2'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:00	5 days	4/25/2022		☐	☐
006D	B7 @ 2'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:30	5 days	4/25/2022		☐	☐
			Asbestos - PLM			☐	☐	☐		5 days	4/25/2022		☐	☑
			SW8082 (PCBs Only)			☐	☐	☐		5 days	4/25/2022		☐	☐
006E	B8 @ 1'	Soil	SW6020 (Lead)	1	16OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:55	5 days	4/25/2022		☐	☐
			SW8082 (PCBs w/ Column Style Clean-up)			☐	☐	☐		5 days	4/26/2022		☐	☐
			SW8082 (PCBs Only)			☐	☐	☐		5 days	4/25/2022		☑	☐
007A	B8-DUP @ 1'	Soil	SW8082 (PCBs w/ Column Style Clean-up)	1	8OZ GJ, Unpres	☐	☐	☐	4/18/2022 13:55	5 days	4/26/2022		☐	☐
			SW8082 (PCBs Only)			☐	☐	☐		5 days	4/25/2022		☑	☐
008A	B9/B10/B11/B12 @ 0.5'	Soil	SW8081A (OC Pesticides) ESLs	4 / (4:1)	8OZ GJ, Unpres	☐	☐	☐	4/18/2022 14:17	5 days	4/27/2022		☐	☐
008B	B9 @ 0.5'	Soil	SW6020 (Arsenic & Lead)	1	8OZ GJ, Unpres	☐	☐	☐	4/18/2022 14:08	5 days	4/25/2022		☐	☐
009A	S1	Water	Multi-Range TPH	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	☐	☐	4/18/2022 14:40	5 days	4/25/2022	1%+	☐	☐
009B	S1	Water	E200.8 (CAM 17) (Dissolved-Lab Filtered)	1	250mL HDPE, unprsv.	☐	☐	☐	4/18/2022 14:40	5 days	4/25/2022	1%+	☐	☐

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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WORK ORDER SUMMARY

Client Name: PETRALOGIX
Client Contact: Daniel Kramer
Contact's Email: dkramer@petralogix.com

Project: Dawes Street Phase 2

Comments:

Work Order: 2204991
QC Level: LEVEL 2
Date Logged: 4/18/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
009C	S1	Water	SW8260B (VOCs)	2	VOA w/ HCl	☐	☐	☐	4/18/2022 14:40	5 days	4/25/2022	1%+	☐	☐
010A	S2	Water	Multi-Range TPH	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	☐	☐	4/18/2022 15:00	5 days	4/25/2022	25%+	☐	☐
010B	S2	Water	E200.8 (CAM 17) (Dissolved-Lab Filtered)	1	250mL HDPE, unprsv.	☐	☐	☐	4/18/2022 15:00	5 days	4/25/2022	25%+	☐	☐
010C	S2	Water	SW8260B (VOCs)	2	VOA w/ HCl	☐	☐	☐	4/18/2022 15:00	5 days	4/25/2022	25%+	☐	☐
011A	S2-DUP	Water	Multi-Range TPH	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	☐	☐	☐	4/18/2022 15:00	5 days	4/25/2022	10%+	☐	☐
011B	S2-DUP	Water	E200.8 (CAM 17) (Dissolved-Lab Filtered)	1	250mL HDPE, unprsv.	☐	☐	☐	4/18/2022 15:00	5 days	4/25/2022	10%+	☐	☐
011C	S2-DUP	Water	SW8260B (VOCs)	2	VOA w/ HCl	☐	☐	☐	4/18/2022 15:00	5 days	4/25/2022	10%+	☐	☐

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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General COC MAI Work Order # 2204991

McCAMPBELL ANALYTICAL, INC.

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Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL	●	Cleanup Approved	●	Dry Weight		Bottle Order #	
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering, Inc
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs
B1@0.5'	4.18.22	10:05	2	Soil	—	X	X	X	
B2@0.5'	↓	10:30	2	↓	↓		X		
B3@0.5'	↓	10:57	2	↓	↓	X	X		
B4@0.5'	↓	11:10	2	↓	↓		X		
B1-DUP@0.5'	↓	10:05	2	Soil	—	X	X	X	
B2-DUP@0.5'	↓	10:30	2	↓	↓		X		
B3-DUP@0.5'	↓	10:57	2	↓	↓	X	X		
B4-DUP@0.5'	↓	11:10	2	↓	↓		X		

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4-18-22	17:52		4/18/22	1752

Comments / Instructions
OCPs w/ clean-up
VOCs ESLs
PCBs ESLs
Lab filter CAM-17
FOR ALL SAMPLES

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 3.0 °C wet Initials MA

Page 1 of 4

General COC

MAI Work Order # 2204991

7

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush	☐	2 Day Rush	☐	3 Day Rush	☐	STD	●	Quote #	
J-Flag / MDL	☐	ESL	●	Cleanup Approved	●	Dry Weight	☐	Bottle Order #	
Delivery Format:	PDF	☐	GeoTracker EDF	☐	EDD	☐	Write On (DW) ☐	Detect Summary	☐

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering, Inc.
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs	PCBs
B1@2'	4-18-22	10:25	2	Soil	—	X	X	X		
B2@2'	↓	10:50	1	↓	↓		X			
B3@2'	↓	11:25	2	↓	↓	X	X			
B4@2'	↓	11:40	1	↓	↓		X			
B5@0.5'	4-18-22	11:55	2	Soil	—	X	X	X		
B6@0.5'	↓	12:00	1				X			
B7@0.5'	↓	12:20	3			X	X			X
B8@0.5'	↓	13:05	3				X			X
~~B-8@0.5'~~ B8-DUP@0.5	✓	13:05	1							X

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Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4/18/22	17:52	Nati [illegible]	4/18/22	1752

Comments / Instructions

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp ______ °C Initials ______

Page 2 of 4

General COC

MAI Work Order # 2204991

7

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL	●	Cleanup Approved	●	Dry Weight		Bottle Order #	
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs	PCBs														
B5@2'	4.18.22	12:20	2	Soil	—	X	X	X																
B6@2'	↓	13:00	1	↓	↓		X																	
B7@2'	↓	13:30	~~2~~3	↓	↓	X	X			X														
B8@1'	↓	13:55	~~2~~3	↓	↓		X			X														
B8-DUP@1'	↓	13:55	1	↓	↓					X														
B9@0.5'	4.18.22	14:08	1		↓		X	X																
B10@0.5'	↓	14:17	↓		↓																			
B11@0.5'	↓	14:15	↓		↓																			
B12@0.5'	↓	14:11	↓		↓																			

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Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4.18.22	17:52		4/18/22	1752

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp ______ °C Initials ______

Page 3 of 4

General COC

MAI Work Order # 2204991

7

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL	●	Cleanup Approved	●	Dry Weight		Bottle Order #	
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering, Inc.
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs		TPH Multi-Range (SW8015B)	CAM-17 (6020)	VOCs (SW8260B)
~~B1@0.5'~~	~~4-18-22~~	~~10:05~~	~~2~~	~~Soil~~									
~~B1-Dup@0.5'~~		~~10:05~~	~~2~~										
+1 S1	4-18-22	14:40		WW							X	X	X
+25 S2	↓	15:00		WW							X	X	X
+10 S2-Dup	↓	15:00		WW							X	X	X

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Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner	4-18-22	17:52		4/18/22	1752

Comments / Instructions
OCPs Clean-up
VOCs ESLs
PCBs ESLs
Lab filter CAM-17

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp ______ °C Initials ______

Page 4 of 4

Sample Receipt Checklist

Client Name: **Petralogix**
Project: **Dawes Street Phase 2**
WorkOrder №: **2204991** Matrix: Soil/Water
Carrier: Client Drop-In

Date and Time Received: **4/18/2022 17:52**
Date Logged: **4/18/2022**
Received by: Valerie Alfaro
Logged by: Valerie Alfaro

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Sample IDs noted by Client on COC?	Yes ☑	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐	
Sampler's name noted on COC?	Yes ☑	No ☐	
COC agrees with Quote?	Yes ☐	No ☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		
Sample/Temp Blank temperature	Temp: 3°C		NA ☐
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
UCMR Samples:			
pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)?	Yes ☐	No ☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]?	Yes ☐	No ☐	NA ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2204991 A

Report Created for: Petralogix

26675 Bruella Road
Galt, CA 95632

Project Contact: Daniel Kramer
Project P.O.:
Project: Dawes Street Phase 2

Project Received: 04/18/2022

Analytical Report reviewed & approved for release on 05/06/2022 by:

Yen Cao

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

Glossary of Terms & Qualifier Definitions

Client: Petralogix **WorkOrder:** 2204991 A
Project: Dawes Street Phase 2

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	CA Title 22
Date Prepared:	05/02/2022-05/03/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/L

Metals (STLC)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1@ 0.5'	**2204991-001B**	**Soil**	**04/18/2022 10:05**	**ICP-MS5 208SMPL.d**	**244635**

Analytes	Result	RL	DF	Date Analyzed
Lead	**0.88**	0.10	1	05/04/2022 19:28

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B2@ 0.5'	**2204991-001C**	**Soil**	**04/18/2022 10:30**	**ICP-MS5 252SMPL.d**	**244750**

Analytes	Result	RL	DF	Date Analyzed
Lead	**0.97**	0.10	1	05/05/2022 21:54

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B3-DUP @0.5'	**2204991-002D**	**Soil**	**04/18/2022 10:57**	**ICP-MS4 261SMPL.d**	**244635**

Analytes	Result	RL	DF	Date Analyzed
Lead	**1.6**	0.10	1	05/04/2022 21:14

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B4-DUP @0.5'	**2204991-002E**	**Soil**	**04/18/2022 11:10**	**ICP-MS4 262SMPL.d**	**244635**

Analytes	Result	RL	DF	Date Analyzed
Lead	**1.0**	0.10	1	05/04/2022 21:18

Analyst(s): WV

(Cont.)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	CA Title 22
Date Prepared:	05/02/2022-05/03/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/L

Metals (STLC)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1 @ 2'	2204991-003B	Soil	04/18/2022 10:25	ICP-MS4 263SMPL.d	244635

Analytes	Result	RL	DF	Date Analyzed
Lead	**1.7**	0.10	1	05/04/2022 21:22

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 0.5'	2204991-004E	Soil	04/18/2022 13:05	ICP-MS4 264SMPL.d	244635

Analytes	Result	RL	DF	Date Analyzed
Lead	**2.5**	0.10	1	05/04/2022 21:26

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 1'	2204991-006E	Soil	04/18/2022 13:55	ICP-MS4 265SMPL.d	244635

Analytes	Result	RL	DF	Date Analyzed
Lead	**15**	0.10	1	05/04/2022 21:30

Analyst(s): WV

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW1311/SW3010
Date Prepared:	05/02/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/L

Metals (TCLP)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B3-DUP @0.5'	**2204991-002D**	**Soil**	**04/18/2022 10:57**	**ICP-MS4 182SMPL.d**	**244641**

Analytes	Result	RL	DF	Date Analyzed
Lead	ND	0.10	1	05/03/2022 21:04

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8 @ 1'	**2204991-006E**	**Soil**	**04/18/2022 13:55**	**ICP-MS4 190SMPL.d**	**244641**

Analytes	Result	RL	DF	Date Analyzed
Lead	**0.15**	0.10	1	05/03/2022 21:36

Analyst(s): DB

Analytical Report

Client: Petralogix
Date Received: 04/18/2022 17:52
Date Prepared: 05/02/2022
Project: Dawes Street Phase 2

WorkOrder: 2204991
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8-DUP @ 1'	**2204991-007A**	**Soil**	**04/18/2022 13:55**	**ICP-MS5 139SMPL.d**	**244527**

Analytes	Result	RL	DF	Date Analyzed
Lead	**180**	0.50	1	05/03/2022 11:44

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	106	70-130	05/03/2022 11:44

Analyst(s): AL

Quality Control Report

Client: Petralogix
Date Prepared: 05/02/2022
Date Analyzed: 05/04/2022
Instrument: ICP-MS5
Matrix: Soil
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 244635
Extraction Method: CA Title 22
Analytical Method: SW6020
Unit: mg/L
Sample ID: MB/LCS/LCSD-244635
2204991-001BMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	MDL	RL			
Lead	ND	0.10	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.5	9.4	10	95	94	75-125	1.62	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1	10	10	10	0.8800	93	96	75-125	2.87	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Lead	0.87	0.8800	1.14	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

(Cont.)

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	05/03/2022	**BatchID:**	244750
Date Analyzed:	05/05/2022	**Extraction Method:**	CA Title 22
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-244750

QC Summary Report for Metals (STLC)

Analyte	MB Result	MDL	RL			
Lead	ND	0.10	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.6	9.8	10	96	98	75-125	2.41	20

Quality Control Report

Client: Petralogix
Date Prepared: 05/02/2022
Date Analyzed: 05/03/2022
Instrument: ICP-MS4
Matrix: Soil
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 244641
Extraction Method: SW1311/SW3010
Analytical Method: SW6020
Unit: mg/L
Sample ID: MB/LCS/LCSD-244641
2204991-002DMS/MSD

QC Summary Report for Metals (TCLP)

Analyte	MB Result	MDL	RL			
Lead	ND	0.10	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.8	9.7	10	98	97	75-125	0.808	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1	9.0	9.9	10	ND	90	99	75-125	9.02	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Lead	ND<0.50	ND	-	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	05/02/2022	**BatchID:**	244527
Date Analyzed:	05/02/2022	**Extraction Method:**	SW3050B
Instrument:	ICP-MS4	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-244527

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Lead	ND	0.069	0.50	-	-	-
Surrogate Recovery						
Terbium	500			500	100	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	47	48	50	95	95	75-125	0.511	20
Surrogate Recovery								
Terbium	520	500	500	103	99	70-130	4.15	20

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1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 2204991 **A** **ClientCode: PLGC**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Daniel Kramer
Petralogix
26675 Bruella Road
Galt, CA 95632
(209) 400-5729 FAX:

Email: dkramer@petralogix.com
cc/3rd Party: tscheftner@petralogix.com;
PO:
Project: Dawes Street Phase 2

Bill to:
Accounts Payable
Petralogix
26675 Bruella Road
Galt, CA 95632

Requested TAT: **5 days;**

Date Received: **04/18/2022**
Date Logged: **04/18/2022**
Date Add-On: **04/29/2022**

					Requested Tests (See legend below)											
Lab ID	**Client ID**	**Matrix**	**Collection Date**	**Hold**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2204991-001	B1@ 0.5'	Soil	4/18/2022 10:05	☐	B											
2204991-001	B2@ 0.5'	Soil	4/18/2022 10:30	☐	C											
2204991-002	B3-DUP @0.5'	Soil	4/18/2022 10:57	☐	D	D										
2204991-002	B4-DUP @0.5'	Soil	4/18/2022 11:10	☐	E											
2204991-003	B1 @ 2'	Soil	4/18/2022 10:25	☐	B											
2204991-004	B8 @ 0.5'	Soil	4/18/2022 13:05	☐	E											
2204991-006	B8 @ 1'	Soil	4/18/2022 13:55	☐	E	E										
2204991-007	B8-DUP @ 1'	Soil	4/18/2022 13:55	☐			A									

Test Legend:

1	**PBMS_STLC_S**	**2**	**PBMS_TCLP_S**	**3**	**PBMS_TTLC_S**	**4**	
5		**6**		**7**		**8**	
9		**10**		**11**		**12**	

Project Manager: Rosa Venegas

Prepared by: Valerie Alfaro

Add-On Prepared By: Maria Venegas

Comments: addtitional analysis added 4/29/22 STAT.

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: PETRALOGIX

Client Contact: Daniel Kramer

Contact's Email dkramer@petralogix.com

Project: Dawes Street Phase 2

Comments: addtitional analysis added 4/29/22 STAT.

Work Order: 2204991

QC Level: LEVEL 2

Date Logged: 4/18/2022

Date Add-On: 4/29/2022

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001B	B1@ 0.5'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 10:05	5 days*	5/10/2022		☐	0
001C	B2@ 0.5'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 10:30	5 days*	5/10/2022		☐	0
002D	B3-DUP @0.5'	Soil	SW6020 (Lead) (TCLP)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 10:57	5 days*	5/10/2022		☐	0
			SW6020 (Lead) (STLC)			☐	☐		5 days*	5/10/2022		☐	0
002E	B4-DUP @0.5'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 11:10	5 days*	5/10/2022		☐	0
003B	B1 @ 2'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 10:25	5 days*	5/10/2022		☐	0
004E	B8 @ 0.5'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 13:05	5 days*	5/10/2022		☐	0
006E	B8 @ 1'	Soil	SW6020 (Lead) (TCLP)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 13:55	5 days*	5/10/2022		☐	0
			SW6020 (Lead) (STLC)			☐	☐		5 days*	5/10/2022		☐	0
007A	B8-DUP @ 1'	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	☐	4/18/2022 13:55	5 days	5/6/2022		☐	0

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 2204991

McCAMPBELL ANALYTICAL, INC.

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Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF COUSTODY RECORD

Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL	●	Cleanup Approved	●	Dry Weight		Bottle Order #	
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering, Inc
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	~~OCPs~~	STLC Pb	TCLP Pb
B1@0.5'	4.18.22	10:05	2	Soil	—	X	X	X		X	
B2@0.5'	↓	10:30	2	↓	↓		X			X	
B3@0.5'	↓	10:57	2	↓	↓	X	X				
B4@0.5'	↓	11:10	2	↓	↓		X				
B1-DUP@0.5'	↓	10:05	2	Soil	—	X	X	X			
B2-DUP@0.5'	↓	10:30	2	↓	↓		X				
B3-DUP@0.5'	↓	10:57	2	↓	↓	X	X			X	X
B4-DUP@0.5'	↓	11:10	2	↓	↓		X			X	

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4-18-22	17:52		4/18/22	1752

Comments / Instructions
OCPs w/ clean-up
VOCs ESLs
PCBs ESLs
Lab filter CAM-17
FOR ALL SAMPLES

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Added 4/29/22 STAT

Temp 3.0 °C wet Initials MA

Page 1 of 4

General COC

MAI Work Order # 2204991

McCAMPBELL ANALYTICAL, INC.

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www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush ☐ 2 Day Rush ☐ 3 Day Rush ☐ STD ● Quote #
J-Flag / MDL ☐ ESL ☐ Cleanup Approved ● Dry Weight ☐ Bottle Order #
Delivery Format: PDF ☐ GeoTracker EDF ☐ EDD ☐ Write On (DW) ☐ Detect Summary ☐

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering, Inc.
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs	PCBs	STLC Pb
B1@2'	4-18-22	10:25	2	Soil	—	X	X	X			X
B2@2'	↓	10:50	1	↓	↓		X				
B3@2'		11:25	2			X	X				
B4@2'		11:40	1				X				
B5@0.5'	4-18-22	11:55	2	Soil	—	X	X	X			
B6@0.5'	↓	12:00	1				X				
B7@0.5'		12:20	2			X	X			X	
B8@0.5'		13:05	3				X			X	X
~~B8@0.5'~~ B8-DUP@0.5		13:05	1							X	

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Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4/18/22	17:52		4/18/22	1752

Comments / Instructions

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp ______ °C Initials ______

Page 2 of 4

General COC

MAI Work Order # 2204991

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CHAIN OF CUSTODY RECORD

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J-Flag / MDL	☐	ESL	○	Cleanup Approved	○	Dry Weight	☐	Bottle Order #	
Delivery Format: PDF	☐	GeoTracker EDF	☐	EDD	☐	Write On (DW)	☐	Detect Summary	☐

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs	PCBs	STLC Pb	TCLP Pb
B5@2'	4.18.22	12:20	2	Soil	—	X	X	X				
B6@2'	↓	13:00	1	↓	↓		X					
B7@2'	↓	13:30	3	↓	↓	X	X			X		
B8@1'	↓	13:55	3	↓	↓		X			X	X	X
B8-DUP@1'	↓	13:55	1	↓	↓		X			X		
B9@0.5'	4.18.22	14:08	1		↓		X	X				
B10@0.5'	↓	14:17	↓		↓							
B11@0.5'	↓	14:15	↓		↓							
B12@0.5'	↓	14:11	↓		↓							

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Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4.18.22	17:52		4/18/22	1752

Comments / Instructions

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp ______ °C Initials ______

Page 3 of 4

Analytical Report

WorkOrder: 2204991 B

Report Created for: Petralogix

26675 Bruella Road
Galt, CA 95632

Project Contact: Daniel Kramer
Project P.O.:
Project: Dawes Street Phase 2

Project Received: 04/18/2022

Analytical Report reviewed & approved for release on 05/17/2022 by:

Angela Rydelius
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in a case narrative.

NELAP ACCREDITED TNI LABORATORY

Glossary of Terms & Qualifier Definitions

Client: Petralogix **WorkOrder:** 2204991 B
Project: Dawes Street Phase 2

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	CA Title 22
Date Prepared:	05/10/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/L

Metals (STLC)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8-DUP @ 1'	2204991-007A	Soil	04/18/2022 13:55	ICP-MS4 193SMPL.d	245193

Analytes	Result	RL	DF	Date Analyzed
Lead	**0.79**	0.10	1	05/12/2022 20:13

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B9 @ 0.5'	2204991-008B	Soil	04/18/2022 14:08	ICP-MS4 233SMPL.d	245193

Analytes	Result	RL	DF	Date Analyzed
Lead	**2.9**	0.10	1	05/12/2022 22:49

Analyst(s): DB

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	SW1311/SW3010
Date Prepared:	05/10/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/L

Metals (TCLP)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B8-DUP @ 1'	**2204991-007A**	**Soil**	**04/18/2022 13:55**	**ICP-MS5 238SMPL.d**	**245192**

Analytes	Result	RL	DF	Date Analyzed
Lead	ND	0.10	1	05/11/2022 20:36

Analyst(s): AL

Quality Control Report

Client: Petralogix
Date Prepared: 05/10/2022
Date Analyzed: 05/12/2022
Instrument: ICP-MS4
Matrix: Soil
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 245193
Extraction Method: CA Title 22
Analytical Method: SW6020
Unit: mg/L
Sample ID: MB/LCS/LCSD-245193
2204991-007AMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	MDL	RL			
Lead	ND	0.10	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.6	9.6	10	96	96	75-125	0.0418	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1	10	11	10	0.7924	95	98	75-125	3.44	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Lead	0.79	0.7924	0.303	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

Quality Control Report

Client: Petralogix
Date Prepared: 05/10/2022
Date Analyzed: 05/11/2022
Instrument: ICP-MS5
Matrix: Soil
Project: Dawes Street Phase 2

WorkOrder: 2204991
BatchID: 245192
Extraction Method: SW1311/SW3010
Analytical Method: SW6020
Unit: mg/L
Sample ID: MB/LCS/LCSD-245192

QC Summary Report for Metals (TCLP)

Analyte	MB Result	MDL	RL			
Lead	ND	0.10	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.8	9.7	10	98	97	75-125	0.657	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 2204991 **B** **ClientCode: PLGC**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☐ Excel

Report to:
Daniel Kramer
Petralogix
26675 Bruella Road
Galt, CA 95632
(209) 400-5729 FAX:

Email: dkramer@petralogix.com
cc/3rd Party: tscheftner@petralogix.com;
PO:
Project: Dawes Street Phase 2

Bill to:
Accounts Payable
Petralogix
26675 Bruella Road
Galt, CA 95632

Requested TAT: **5 days;**

Date Received: **04/18/2022**
Date Logged: **04/18/2022**
Date Add-On: **05/10/2022**

					Requested Tests (See legend below)											
Lab ID	**Client ID**	**Matrix**	**Collection Date**	**Hold**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2204991-007	B8-DUP @ 1'	Soil	4/18/2022 13:55	☐	A	A										
2204991-008	B9 @ 0.5'	Soil	4/18/2022 14:08	☐	B											

Test Legend:

1	**PBMS_STLC_S**	**2**	**PBMS_TCLP_S**	**3**		**4**	
5		**6**		**7**		**8**	
9		**10**		**11**		**12**	

Project Manager: Rosa Venegas

Prepared by: Valerie Alfaro

Add-On Prepared By: Maria Venegas

Comments: addtitional analysis added 4/29/22 STAT. STLC & TCLP Pb added to 007A & 008B 5/10/22 STAT.

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

WORK ORDER SUMMARY

Client Name: PETRALOGIX
Client Contact: Daniel Kramer
Contact's Email dkramer@petralogix.com

Project: Dawes Street Phase 2

Comments: addtitional analysis added 4/29/22 STAT. STLC & TCLP Pb added to 007A & 008B 5/10/22 STAT.

Work Order: 2204991
QC Level: LEVEL 2
Date Logged: 4/18/2022
Date Add-On: 5/10/2022

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
007A	B8-DUP @ 1'	Soil	SW6020 (Lead) (TCLP)	1	8OZ GJ, Unpres	☐	☐	4/18/2022 13:55	5 days*	5/19/2022		☐	0
			SW6020 (Lead) (STLC)			☐	☐		5 days*	5/19/2022		☐	0
008B	B9 @ 0.5'	Soil	SW6020 (Lead) (STLC)	1	8OZ GJ, Unpres	☐	☐	4/18/2022 14:08	5 days*	5/19/2022		☐	0

NOTES: * STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 2204991

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush	☐	2 Day Rush	☐	3 Day Rush	☐	STD	●	Quote #	
J-Flag / MDL	☐	ESL	●	Cleanup Approved	●	Dry Weight	☐	Bottle Order #	
Delivery Format:	PDF	☐	GeoTracker EDF	☐	EDD	☐	Write On (DW)	☐	Detect Summary ☐

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs	PCBs	STLC Pb	TCLP Pb
B5@2'	4.18.22	12:20	2	Soil	—	X	X	X	X			
B6@2'	↓	13:00	1	↓	↓		X					
B7@2'	↓	13:30	3	↓	↓	X	X			X		
B8@1'	↓	13:55	3	↓	↓		X			X	X	X
B8-DUP@1'	↓	13:55	1	↓	↓		X			X	X	X
B9@0.5'	4.18.22	14:08	1		↓		X	X	X		X	
B10@0.5'	↓	14:17	↓		↓							
B11@0.5'	↓	14:15	↓		↓							
B12@0.5'	↓	14:11	↓		↓							

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions
Added 5/10/22 STAT

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4.18.22	17:52		4/18/22	1752

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp ______ °C Initials ______

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2204991 C

Report Created for: Petralogix

26675 Bruella Road
Galt, CA 95632

Project Contact: Daniel Kramer
Project P.O.:
Project: Dawes Street Phase 2

Project Received: 04/18/2022

Analytical Report reviewed & approved for release on 05/25/2022 by:

Christine Askari
Project Manager

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1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

Glossary of Terms & Qualifier Definitions

Client: Petralogix **WorkOrder:** 2204991 C

Project: Dawes Street Phase 2

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Received:	04/18/2022 17:52	**Extraction Method:**	CA Title 22
Date Prepared:	05/18/2022	**Analytical Method:**	SW6020
Project:	Dawes Street Phase 2	**Unit:**	mg/L

Metals (STLC)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B3@ 0.5'	**2204991-001D**	**Soil**	**04/18/2022 10:57**	**ICP-MS4 101SMPL.d**	**245711**

Analytes	Result	RL	DF	Date Analyzed
Lead	**1.2**	0.10	1	05/23/2022 16:42

Analyst(s): AL

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B1-DUP @0.5'	**2204991-002B**	**Soil**	**04/18/2022 10:05**	**ICP-MS4 102SMPL.d**	**245711**

Analytes	Result	RL	DF	Date Analyzed
Lead	**1.0**	0.10	1	05/23/2022 16:46

Analyst(s): AL

Quality Control Report

Client:	Petralogix	**WorkOrder:**	2204991
Date Prepared:	05/18/2022	**BatchID:**	245711
Date Analyzed:	05/23/2022	**Extraction Method:**	CA Title 22
Instrument:	ICP-MS3, ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/L
Project:	Dawes Street Phase 2	**Sample ID:**	MB/LCS/LCSD-245711

QC Summary Report for Metals (STLC)

Analyte	MB Result	MDL	RL			
Lead	ND	0.10	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.9	9.9	10	99	99	75-125	0.338	20

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 2204991 **C** **ClientCode: PLGC**

☐ WaterTrax ☐ CLIP ☐ EDF ☒ EQuIS ☒ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

☒ Detection Summary ☐ Excel

Report to:
Daniel Kramer
Petralogix
26675 Bruella Road
Galt, CA 95632
(209) 400-5729 FAX:

Email: dkramer@petralogix.com
cc/3rd Party: tscheftner@petralogix.com;
PO:
Project: Dawes Street Phase 2

Bill to:
Accounts Payable
Petralogix
26675 Bruella Road
Galt, CA 95632

Requested TAT: **5 days;**

Date Received: **04/18/2022**
Date Logged: **04/18/2022**
Date Add-On: **05/17/2022**

					Requested Tests (See legend below)											
Lab ID	**Client ID**	**Matrix**	**Collection Date**	**Hold**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2204991-001	B3@ 0.5'	Soil	4/18/2022 10:57	☐	D											
2204991-002	B1-DUP @0.5'	Soil	4/18/2022 10:05	☐	B											

Test Legend:

1	PBMS_STLC_S	2		3		4	
5		6		7		8	
9		10		11		12	

Project Manager: Rosa Venegas

Prepared by: Valerie Alfaro

Add-On Prepared By: Maria Venegas

Comments: addtitional analysis added 4/29/22 STAT. STLC & TCLP Pb added to 007A & 008B 5/10/22 STAT. STLC Pb added to 001D & 002B 5/17/22 STAT.

NOTE: Soil samples are discarded 60 days after receipt unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: PETRALOGIX

Client Contact: Daniel Kramer

Contact's Email dkramer@petralogix.com

Project: Dawes Street Phase 2

Comments: addtitional analysis added 4/29/22 STAT. STLC & TCLP Pb added to 007A & 008B 5/10/22 STAT. STLC Pb added to 001D & 002B 5/17/22 STAT

Work Order: 2204991

QC Level: LEVEL 2

Date Logged: 4/18/2022

Date Add-On: 5/17/2022

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001D	B3@ 0.5'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 10:57	5 days*	5/27/2022		☐	0
002B	B1-DUP @0.5'	Soil	SW6020 (Lead) (STLC)	1	16OZ GJ, Unpres	☐	☐	4/18/2022 10:05	5 days*	5/27/2022		☐	0

NOTES: *** STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).**

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

MAI Work Order # 2204991

McCAMPBELL ANALYTICAL, INC.
1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD	●	Quote #	
J-Flag / MDL		ESL	●	Cleanup Approved	●	Dry Weight		Bottle Order #	
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary

Report To: Daniel Kramer Bill To: Daniel Kramer
Company: Petralogix Engineering, Inc
Email: dkramer@petralogix.com
Alt Email: tscheftner@petralogix.com Tele:
Project Name: Dawes Street Phase 2 Project #:
Project Location: Rancho Cordova PO #
Sampler Signature: Tonya Scheftner

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Asbestos (PLM)	Lead	Arsenic	OCPs	STLC Pb	TCLP Pb
B1@0.5'	4.18.22	10:05	2	Soil	—	X	X	X		X	
B2@0.5'	↓	10:30	2	↓	↓		X			X	
B3 @0.5'		10:57	2			X	X			X	
B4@0.5'		11:10	2				X				
B1-Dup@0.5'		10:05	2	Soil	—	X	X	X		X	
B2-DUP@0.5'		10:30	2	↓	↓		X				
B3-DUP@0.5'		10:57	2			X	X			X	X
B4-DUP@0.5'	↓	11:10	2				X			X	

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Tonya Scheftner / Petralogix	4.18.22	17:52		4/18/22	17:52

Comments / Instructions
OCPs w/ clean-up
VOCs ESLs
PCBs ESLs
Lab filter CAM-17 FOR ALL SAMPLES

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 3.0 °C Initials MA
wet

Added 4/29/22 STAT

Added 5/17/22 STAT

Page 1 of 4

SGS FORENSIC LABORATORIES

Amended Report

Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)
NVLAP Lab Code: 101459-0

McCampbell Analytical, Inc.
Account Payable
1534 Willow Pass Rd

Pittsburg, CA 94565

Client ID: A31409
Report Number: B332063
Date Received: 04/20/22
Date Analyzed: 04/25/22
Date Printed: 04/26/22
First Reported: 04/25/22

Job ID/Site: 2204991 - Dawes Street Phase 2

Date(s) Collected: 04/18/2022

SGSFL Job ID: A31409
Total Samples Submitted: 10
Total Samples Analyzed: 10

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
B1@0.5`	12556461						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B3@0.5`	12556462						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B1/-DUP@0.5,	12556463						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B3/-DUP@0.5`	12556464						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B1@2`	12556465						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B3@2`	12556466						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B5@0.5`	12556467						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B7@0.5`	12556468						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							

Report Number: B332063
Client Name: McCampbell Analytical, Inc. **Date Printed:** 04/26/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
B5@2`	12556469						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
B7@2`	12556470						
Layer: Brown Soil			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							

Note: Amended sample ID

Tad Thrower

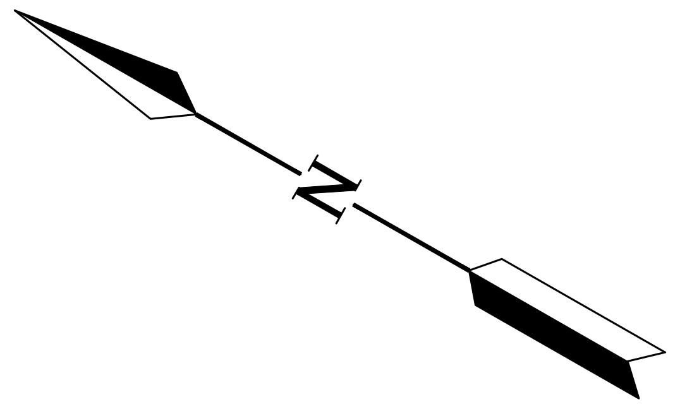
Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

petralogix

geophysics - environmental - geology

APPENDIX C



LEGEND:

WATER	🟦
STORM DRAIN	🟩
SEWER	🟦
ELECTRICAL	🟥
IRRIGATION	🟦
GAS	🟨
UNKNOWN	🟪
COMMUNICATIONS	🟧

NOTES:
UTILITY LOCATIONS MAY NOT BE TO SCALE
Not all utilities may be shown.
Some laterals were not accessible & were therefore not located.
Depths shown are to center of conductive utility & are generally +/−10% of actual depth, when not distorted by adjacent conductors. Critical depths require verification by potholing.

B&B
LOCATING INC.
4535 MISSOURI FLAT RD.
SUITE 2C
PLACERVILLE, CA 95667
(916) 799-8904
www.bandblocating.com
chadb@bandblocating.com

UNDERGROUND UTILITY LOCATION MAP
FOR
10275 DAWES STREET

CITY OF RANCHO CORDOVA
STATE OF CALIFORNIA

NOTES:
1. ALL DEPTHS ARE TO TOP OF PIPE
2. DATE OF AERIAL IMAGE UNKOWN

SCALE
HORIZ.: 1"20'
DATE: 8-12-21

SHEET
1 OF 1

APPENDIX F

TRANSPORTATION IMPACT ANALYSIS

FOR

LOS RIOS COMMUNITY COLLEGE DISTRICT
RANCHO CORDOVA CENTER
PHASE 2 BUILDING AND PARKING

Rancho Cordova CA

Prepared For:

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June 8, 2022

5245-03

TRANSPORTATION IMPACT ANALYSIS FOR
LOS RIOS COMMUNITY COLLEGE DISTRICT
RANCHO CORDOVA CENTER
PHASE 2 BUILDING AND PARKING

TABLE OF CONTENTS

June 8, 2022

KDA

TRAFFIC IMPACT ANALYSIS
LOS RIOS COMMUNITY COLLEGE DISTRICT
RANCHO CORDOVA CENTER - PHASE 2 BUILDING AND PARKING

INTRODUCTION

Study Purpose and Project Description

This traffic impact study presents an analysis of the transportation impacts associated with development of Phase 2 of the Los Rios Community College District's approved Rancho Cordova Center. The Rancho Cordova Center (RCC) site is located on the north side of Folsom Blvd at the Mather Field Road / Paseo Drive intersection within the approved Folsom Blvd Specific Plan area, as noted in Figure 1. RCC Phase 1 which has been completed and is operational, features a 30,000± square foot building and parking is located on the east side of Paseo Drive. Phase 2 will provide a new 21,000 square foot building and another 84 parking spaces. Figure 2 illustrates Phase 2 within the plan area.

Overall Analysis Approach

CEQA Analysis. This transportation impact study presents an analysis of the project effects based on the current requirements of the California Environmental Quality Act (CEQA). The CEQA evaluation addresses the project's impacts based on regional Vehicle Miles Traveled (VMT) pursuant to SB 743, as well as alternative transportation modes and safety.

Traffic Operational Analysis. A traffic operational analysis was conducted to evaluate the projects effects within the context of City of Rancho Cordova General Plan policies regarding Operating Level of Service. That analysis considered the project's effects on weekday a.m. and p.m. peak hour traffic operations under the following scenarios:

- Existing Peak Hour Conditions
- Existing plus Project Peak Hour Conditions

The quality of traffic flow is typically governed by the operation of intersections along arterial and collector street systems. To provide a basis for comparison of operating conditions with and without traffic generated by the proposed project the following three (3) study area intersections were evaluated:

- Folsom Blvd / Mather Field Road / Paseo Drive
- Paseo Drive / El Caprice Drive
- Folsom Blvd / Dawes Street

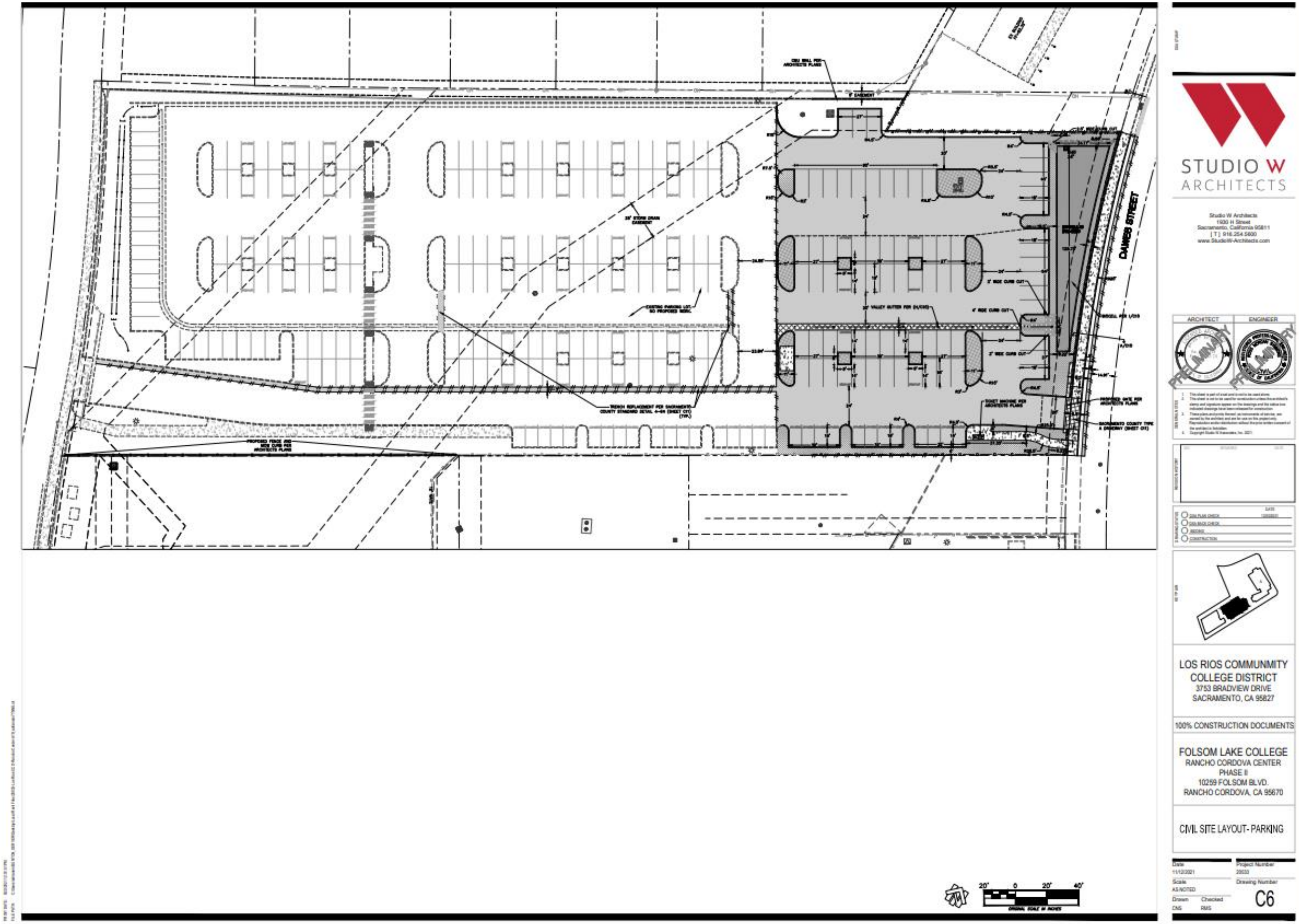
Cumulative traffic conditions were previously addressed for the RCC Master Plan's original environmental review. Because the proposed project is consistent with the Facilities Master Plan, its cumulative traffic impacts have already been assessed and applicable mitigation measures identified. No new cumulative analysis has been undertaken.

VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

5245-03 RA 6/9/2022

figure 1



SITE PLAN

figure 2

PROJECT CHARACTERISTICS

Development of the proposed project will potentially attract persons to the site via private automobile, on foot or by bicycle and using transit vehicles. This section of the transportation impact study describes the characteristics of project-related travel.

Vehicular Trip Generation

The number of automobile trips that are expected to be generated by development of the proposed project has been estimated using published trip generation data. The Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual, 10th Edition*, has been used.

ITE Trip Generation Manual trip generation rates for the land use category 540, "Community College", have been applied to the proposed project. The trip generation rates and the resulting trip generation estimates are presented in Tables 1 and 2, respectively. As shown, the proposed 21,000 square foot building is projected to generate a total of 43 a.m. and 39 p.m. peak hour trips.

The proposed parking supply in and of itself does not generate new traffic at the site. The parking supply will serve the new building as well as existing students and other growth anticipated under the Master Plan.

TABLE 1
TRIP GENERATION RATES

Land Use	Daily	AM Peak Hour		PM Peak Hour	
		Rate	In / Out	Rate	In / Out
Community College (ITE 540)	20.25	2.07	77% / 36%	1.86	50% / 50%

Source: Trip Generation Manual, 10th Edition. Trip rates per 1,000 gsf.

TABLE 2
PROJECT TRIP GENERATION

Land Use	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
New Building (21,000 sf)	425	30	13	43	14	15	39

Trip Distribution

The distribution of vehicle trips associated with Phase 2 building will likely be similar to the patterns exhibited today. The distribution has been estimated based on existing traffic patterns observed at the Folsom Blvd / Mather Field Road / Paseo Drive intersection. Table 3 presents the trip distribution percentages for the proposed project used for the traffic analysis.

TABLE 3
PROJECT TRIP DISTRIBUTION

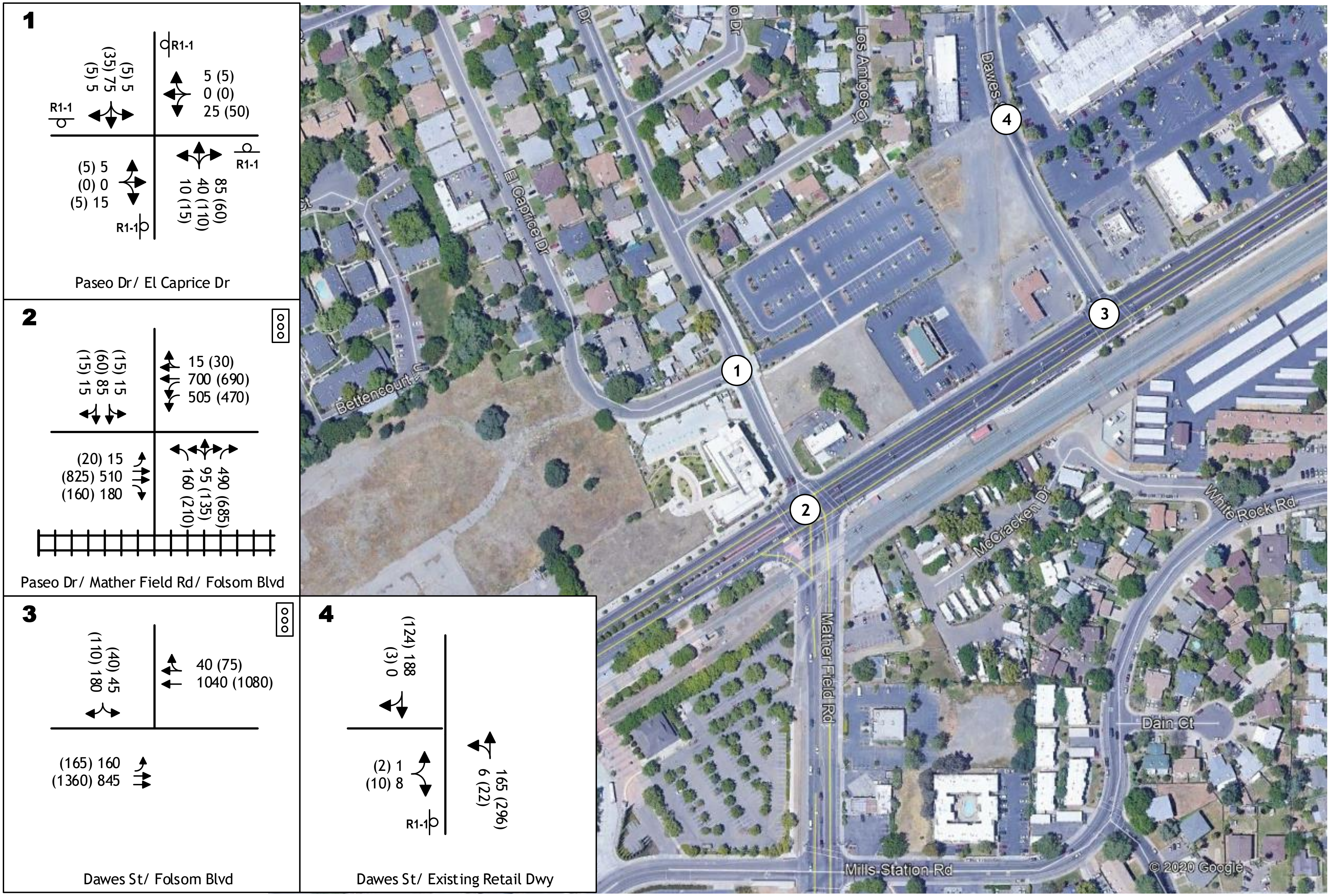
Direction	Route	Share of Total Traffic
East	Folsom Blvd	15%
South	Mather Field Road	70%
West	Folsom Blvd	15%
Total		100%

Trip Assignment

Trips that would be generated by the proposed project have been assigned to the study area street system based on the location of existing and proposed RCC parking lot driveways, the location of existing and new on-site parking, the existence of any turn restrictions at area intersections and the distribution estimates discussed above.

In addition, the use of a new driveway on Dawes Street could be expected to divert a portion of the traffic already traveling to the RCC parking area via Paseo Drive. In this case, traffic arriving and departing to the east via Folsom Blvd could be diverted to the new driveway.

Figure 3 displays the project related traffic volumes (including diversion to Dawes Street) at each study intersection during the a.m. and p.m. peak hours.



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

figure 3

EXISTING TRANSPORTATION SETTING

Existing Facilities

This transportation impact study presents analyses of traffic operating conditions at intersections and roadways near the project that may be affected by the proposed project as well as assessment of facilities for alternative transportation modes.

Roadways. The following is a description of roadways that provide vehicular access to the proposed project site.

Folsom Blvd is a major east-west route across the Sacramento Metropolitan area in general and the City of Rancho Cordova in particular. Folsom Blvd runs generally parallel to US 50 and follows an alignment along the north side of the highway in the area of the proposed project. Folsom Blvd is a divided four-lane facility. The posted speed limit is 45 mph.

Mather Field Road is a major north-south facility that extends south from an intersection on Folsom Blvd to US 50 and to the northern access to Mather Field. Mather Field Road is a four-lane divided roadway between Folsom Blvd and US 50, and the posted speed limit is 45 mph.

Paseo Drive is a local street that extends north from Folsom Blvd into the residential area beyond the RCC. Paseo Drive is a two-lane road, and a prima facie 25 mph speed limit applies. On-street parking is prohibited on Paseo Drive from the RCC parking lot access south to Folsom Blvd but is allowed to the north.

El Caprice Drive is a two-lane local street that extends north from Paseo Drive at the RCC parking access to Malaga Way. On-street parking is permitted and a 25 mph prima facie speed limit applies.

Dawes Street is a local street that extends north from a “Tee” intersection on Folsom Blvd into the residential neighborhoods west of Rancho Cordova HS. Dawes Street is a two-lane road, and a 25 mph speed limit is posted. On-street parking is permitted, and there are numerous residential and commercial driveways along the length of the street.

Intersections. This analysis focusses on the operation of two existing intersections in the area of the project as well as the projects new driveway on Folsom Blvd.

The ***Folsom Blvd / Mather Field Road / Paseo Drive intersection*** is controlled by a traffic signal with split north-south phases that are linked to the adjoining LRT crossing roughly 50 feet south of the intersection. Each approach leg on Folsom Blvd has two through travel lanes plus auxiliary left turn lanes. The westbound Folsom Blvd approach has two left turn lanes that are each 360 feet long. The eastbound Folsom Blvd approach has a single 215 foot long left turn lane.

The three-lane northbound Mather Field Road approach has a left turn lane, a combined left+thru+right turn lane and a separate right turn lane. There are two left turn lanes that are 440 feet long, including the area of the LRT crossing. The two-lane southbound approach is striped as a combined left+thru lane and a combined thru+right turn lane. Crosswalks are striped on all three legs of the intersection, and bike lanes exist on these streets.

The ***Folsom Blvd / Dawes Street intersection*** is a "Tee" controlled by a traffic signal. Each approach leg on Folsom Blvd has two through travel lanes, and eastbound Folsom Blvd has a left turn lane that is 150 feet long. The single lane southbound Dawes Street approach has a combined left turn and right turn lane. Crosswalks are striped on all four legs of the intersection, and sidewalks exist on these streets.

The ***Paseo Drive / El Caprice Drive / RCC Parking access intersection*** is controlled by an all-way stop. Each approach has as single travel lane, and a marked crosswalk exists on the south leg.

There is an ***existing driveway on Dawes Street*** located just north of the RCC property. The driveway provides access to the commercial businesses just north of RCC, and there is a paved connection from that point to businesses located along Folsom Blvd. This driveway will remain, but that connection will be eliminated with the proposed parking lot construction.

Pedestrian Facilities. Sidewalks exist on the streets surrounding the project site, and crosswalks are marked as noted at study intersections. Crosswalks at signalized intersection are equipped with pedestrian actuation, and accessible ramps are available.

Bicycle Facilities. Class 2 bicycle lanes exist along both sides of Folsom Blvd in the vicinity of the project and on Mather Field Road.

Light Rail Transit. The ***SacRT Gold line*** runs along the south side of Folsom Blvd between the City of Folsom and the Historic Valley Station in downtown Sacramento. http://www.sacrt.com/systemmap/ The Blue line provides service on 15 minute headways on weekdays from 5:00 a.m. to 11:30 p.m. The Mather Field / Mills Station is located on the southwest corner of the Folsom Blvd / Mather Field Road / Paseo Drive intersection across from the RCC.

RT bus routes serve the area via the SacRT Mather Field / Mills station. **Routes 21, 72, 75 and** 78 link the project with the Sunrise Blvd corridor to the north and to various locations in the southern Rancho Cordova / Rosemont area.

Vehicle Miles Traveled Approach

Phase 2 of the LRCCD's RCC is part of an approved Master Plan that has already been subject to QECA evaluation. While analysis of the project's impact based on regional Vehicle Miles Traveled is not required, the following information is proved for informational purposes.

Background. The CEQA Guidelines and the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research, 2018) encourage all public agencies to develop and publish thresholds of significance to assist with determining when a project would have significant transportation impacts based on the new metric of VMT, rather than operating

Level of Service (LOS). The CEQA Guidelines generally state that projects that decrease VMT can be assumed to have a less than significant transportation impact. The CEQA Guidelines do not provide any specific criteria on how to determine what level of project VMT would be considered a significant impact.

The City of Rancho Cordova has methods for addressing VMT in their Transportation Impact Guidelines (June 2, 2020).

This VMT evaluation follows these steps:

1. Project Description: Assemble information to determine study requirements including screening analysis.
2. Screening Criteria: Screening criteria for land use projects is reviewed to determine whether VMT analysis is required.
3. Significance Thresholds: Significance thresholds are reviewed to define what constitutes an acceptable level of VMT and what requires mitigation measures.
4. Analysis Methodology: Applicable analysis procedures for evaluating VMT for land use projects are selected and employed.
5. Mitigation: Projects that are found to have a significant impact are required to implement mitigation measures to reduce impacts to a less than significant level (or to the extent feasible).

Screening. Under OPR direction, the following categories of land development projects are judged to have a less than significant impact on regional VMT.

- Location Based Screening for Residential and Office/Business Professional/Industrial Uses
    - Near Transit
    - In VMT efficiency areas where evidence exists that development yields VMT metrics that satisfy the OPR recommended significance criteria of a 15% reduction (i.e., 85% of average).

- Other Factors
    - Small projects (i.e., generating fewer than 237 daily trips)
    - Local-serving retail
    - Local-serving public uses
    - Affordable housing

The City's guidelines speak to two screening criteria that could be applicable to this project.

Presumption of Less Than Significant Impact Near Transit Stations. Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor will have a less-than-significant impact on VMT. Under Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.")

Map-Based Screening for Residential and Office/Business Professional/ Industrial Projects. Residential and office projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT. Maps created with VMT data, for example from a travel survey or a travel demand model, can illustrate areas that are currently below threshold VMT (see recommendations below). Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.

Locally Serving Uses. Various types of projects which primarily serve the local community can be assumed to divert trips that would otherwise be made to more distant destinations can be presumed to have a less than significant impact on regional VMT.

Local-Serving Retail Project under City Guidelines: A retail (or recreational) project is local-serving if it is consistent with the land uses accepted by the City and has a gross floor area no more than the following:

- 125,000 square feet, if located within the City's Infill Area
- 200,000 square feet, if located within the City's Growth Area

A retail project may also be defined as local-serving if a market study demonstrates that it is based on the size of its market area. Adding retail square footage (even if it is less than the gross floor area listed above) to an existing "regional" retail shopping area is not screened out. Hotels and motels are not considered local serving retail.

Locally Serving Public/Quasi-Public Facility: The project is a locally serving public facility if it serves the surrounding community or is a public facility that is a passive use. Locally serving public/quasi-public facilities under City guidelines include:

Public K-12 schools (elementary school, middle school, and high school)
Day care center
Library
Post Office
Neighborhood park
Open Space
Police and Fire stations
Utility substations
Water sanitation and waste management facilities

However, Non-Locally Serving Public Facilities cannot be screened out, and under City guidelines these uses include:

Airport
University/college

Community college
Private schools (elementary school, middle school, and high school)
Religious institutions
Clubs, lodges, and private meeting halls
Theaters and Auditoriums
Museums

Preliminary City Information. The preliminary information shared by the City of Rancho Cordova addresses these two screening categories. Attachment 1 (p 8/17) of the materials developed by the City (attached) identifies the Mather Field / Mills Station and identifies a ½ mile radius around the station. Similarly, the City employed the City's regional traffic model to perform tour-based analysis of the VMT characteristic of location within the City to identify those locations having Low VMT characteristics. Attachment 1 (p. 10/17) of the City materials identifies the limits of the areas within Low VMT generating areas or within ½ mile of transit.

Significance Thresholds. Development projects that do not meet the screening criteria are to include a detailed evaluation of the VMT produced by the project. The significance thresholds and specific VMT metric used to measure VMT are described by land use type. In the case of Public Facilities that cannot satisfy screening criteria the threshold is "No Net Increase in Total Regional VMT".

Analysis Methodology. SACSIM19 is an "activity-based" regional model that addresses the six-county SACOG region and simulates people's activities on a "typical" weekday, and it tracks travel of individuals throughout the day in trip "tours." It allocates household and employment to the parcel level, which allows the model to capture smaller-scale land use changes and differences. SACSIM19 is sensitive to the local physical environment, including the presence (or absence) of pedestrian and bicycle facilities, the patterns of local street networks (e.g., grid vs. cul-de-sacs), and the density, proximity and mix of surrounding land uses (i.e.. employment destinations, schools, retail, parks, etc.). SACSIM forecasts automobile, transit, bicycle, and walk trips. SACSIM19 requires a detailed definition of household population/demographics and employment by type at a parcel-level of geography. The City's adopted travel demand model, which is a focused version of SACOG's adopted SACSIM19 regional model added traffic analysis zones (TAZs) to the regional travel demand model to support traffic forecasts on additional City roadways than the major roadways in SACOG's regional model.

As part of the "SB 743 Implementation Tools Project," SACOG has two recommended methods for project-level VMT estimation. For land development projects in the City of Rancho Cordova, the following methods should be used:

- Method 1 above (use of a regional travel demand model) should be used for all "large" projects or other projects that meet any of the checklist criteria outlined in Table 4. For the purposes of the selection of methods for VMT analysis, the City has defined "large" projects as those that generate more than 3,500 daily trip ends, which is equivalent to about 350 single family dwelling units or about 300,000 square feet of office. The City has determined that this level of development is reasonable for requiring use of a regional travel demand model.

- Method 1 or Method 2 (use of a customized spreadsheet or web-based tool) can be used for the analysis of projects that do not exceed the previous criteria.

Non VMT Significance Criteria

In addition to the VMT-based "thresholds of significance", a project may have a significant CEQA transportation impact if it causes one or more of the following:

- Eliminates or adversely affects an existing bikeway or pedestrian facility in a way that would discourage its use; or
- Interferes with the implementation of a planned bikeway as shown in the Bicycle Master Plan, or be in conflict with the Pedestrian Master Plan; or
- Fails to provide adequate access for bicyclists and pedestrians, resulting in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts; or
- Eliminates or adversely affects existing transit access, service, or operations; or
- Interferes with the implementation of planned transit service; or
- Substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Traffic Operations Evaluation Methodology

Intersection Level of Service Analysis Procedures. Level of Service (LOS) analysis provides a basis for describing existing traffic conditions in terms of operating Levels of Service and peak period queue lengths. Level of Service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 4.

Level of Service Analysis Procedures. Level of Service (LOS) analysis provides a basis for describing existing traffic conditions and for evaluating the significance of project-related traffic impacts. Level of Service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 4 and further discussed below.

The study intersections have been analyzed using methods presented in the *Highway Capacity Manual (HCM)*. To account for the effects of Light Rail crossings on traffic flow *Synchro 10.0* / SimTraffic software has been used to calculate the Levels of Service at study intersections. Assumptions relating to peak hour factor (PHF = 1.00) followed City of Rancho Cordova direction and Sacramento County traffic study guidelines.

TABLE 4
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection
A	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/vehicle
B	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/vehicle and ≤ 15 sec/vehicle
C	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/vehicle and ≤ 25 sec/vehicle
D	Significant congestion of critical approaches, but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/vehicle and ≤ 35 sec/vehicle
E	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/vehicle and ≤ 50 sec/vehicle
F	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/vehicle

Source: HCM, 6th Edition.

95th Percentile Queue Estimation. The length of peak period queues at study intersections have been evaluated to confirm that the available storage lengths are adequate. 95th percentile queue lengths are a byproduct of the SimTraffic simulation.

Standards of Significance / Level of Service Thresholds. In this transportation impact analysis, the significance of the proposed project's effect on traffic operating conditions is not an impact under CEQA but is presented to confirm consistency with City of Rancho Cordova's General Plan policies. The project's effect on traffic operating conditions is considered significant if implementation of the project would result in LOS changing from levels considered acceptable to levels considered unacceptable, or if the project would significantly worsen an already unacceptable LOS without the project. Relevant policies for the study area consist of the following:

City of Rancho Cordova. The General Plan Circulation Element includes policies relating to Level of Service.

Policy C.1.2 - Seek to maintain operations on all roadways and intersections at Level of Service D or better at all times, including peak travel times, unless maintaining this Level of Service would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of Level of Service D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated project. Please see Policy C.1.3 for additional policy guidance related to this issue.

The City has further specified that the measure identified in Sacramento County's transportation Impact Analysis guidelines can be applied to determine whether the incremental effect of a project's traffic is significantly inconsistent with General Plan policy. An increase of five or more seconds of control delay at an intersection operating at an unacceptable level would be inconsistent with the LOS goal.

Existing Traffic Conditions and Levels of Service

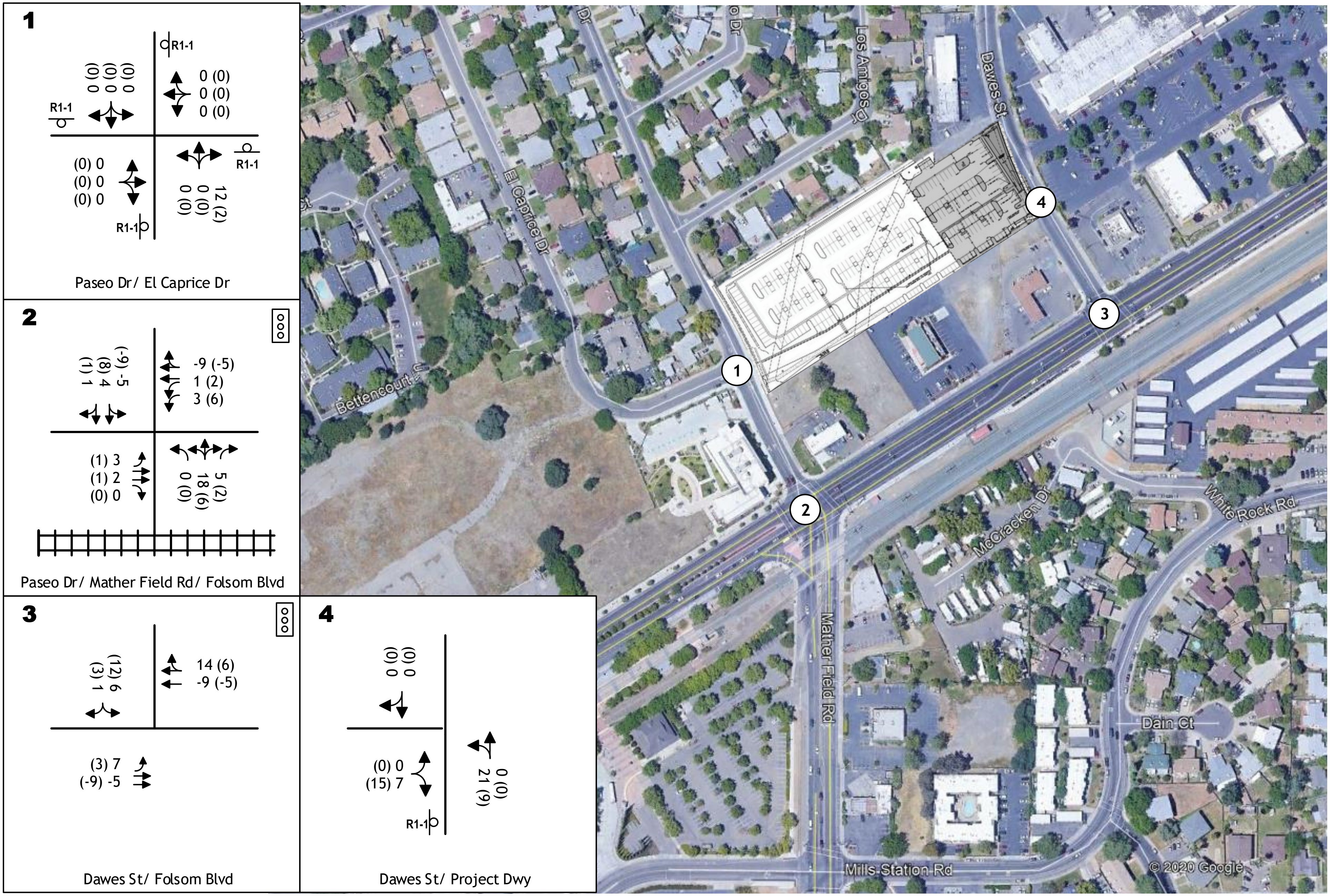
The following is a description of existing traffic operating conditions in the study area.

Traffic Volumes. For this analysis weekday a.m. and p.m. peak hour traffic volumes were assembled for study area intersections. Because recent traffic volumes are likely affected by school closures as well as the overall changes in area travel patterns caused by the COVID-19 virus, methods were considered for developing volumes that would represent Year 2020 development levels with local schools open and without the effects of COVID-19. As a practice, recent traffic counts collected before COVID-19 are the best data source. New traffic counts adjusted based on historic data are another source if the volumes can be manually adjusted and validated based on data from adjoining locations.

In the case, traffic volume counts were available for the Folsom Blvd / Mather Field Road / Paseo Drive intersection. These counts were conducted on November 11, 2019. New traffic counts were conducted at the Paseo Drive / El Caprice Drive / RCC Parking Access intersection for this study on January 14, 2021. Because the RCC was not hosting on-campus classes at that time, no traffic entered or exited the parking area, and it was necessary to adjust the counts based on the volume of traffic arriving from or departing to the Folsom Blvd intersection. Traffic counts were also conducted at the Folsom Blvd /Dawes Street intersection and at the exiting driveway on Folsom Blvd on April 20, 2022. On-site classes had returned to RCC at that time. These counts were also adjusted as needed to match the 2019 volumes entering and departing via the Folsom Blvd / Mather Field Road / Paseo Drive intersection.

Resulting Existing traffic volumes representing current conditions with COVID-19 adjustment and with existing RCC facility in operation are presented in Figure 4.

It is important to note that schools in general, including community colleges, experience short periods of peak traffic volumes before and after class breaks that result in traffic conditions in excess of those occurring over the breadth of the peak hour. This delay and congestion can be worse than identified herein during the periods immediately before and after the time when classes start each period.



PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

5245-03 RA 6/8/2022

figure 4

Current Levels of Service. Table 5 identifies adjusted Year 2020 peak hour Levels of Service at study locations. As indicated, the study area intersections operate at LOS D or better today.

TABLE 5
EXISTING INTERSECTION LEVEL OF SERVICE

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
Folsom Blvd / Mather Field Road	Signal	35	D	47	D
Paseo Drive / El Caprice Drive	All-way Stop	6	A	7	A
Folsom Blvd / Dawes Street	Signal	12	B	11	B
Results based on SimTraffic simulation.					

95th Percentile Queues. The length of left turn lane queues was determined from the HCM LOS results. As indicated in Table 6, with one exception all existing 95th percentile queues can be accommodated within the available storage in the left turn lanes on Folsom Blvd and other approaches. In the p.m. peak hour the NB left turn lane queue on Mather Field Road exceeds the available storage.

TABLE 6
EXISTING PEAK PERIOD QUEUES

Intersection	Direction	Lane	Storage (feet)	AM Peak Hour		PM Peak Hour	
				Volume (veh/hr)	95th % Queue (feet)	Volume (vph)	95th % Queue (feet)
Folsom Blvd / Mather Field Rd	SB	Left	115[1]	60	95	45	100
		Right	115	55	80	45	70
	NB	Left	270	160	195	210	**395**
		Left+thru+right	500	290	300	410	515
		Right	500	295	260	280	470
	EB	Left	215	15	70	20	115
	WB	Left	360	505	260	470	**410**
Paseo Drive / El Caprice Drive	NB	Total	225	135	70	185	90
Folsom Blvd / Dawes Street	EB	Left	150	140	125	146	135

BOLD values exceed available storage by 20 feet.
[1] distance to El Caprice Dr intersection is 225 feet

Traffic Signal Warrants. Current traffic volumes at the all way stop-controlled Paseo Drive / El Caprice Drive intersection were compared to the criteria contained in the Manual of Uniform Traffic Control Devices (MUTCD), Warrant 3 (Peak Hour Volume). A traffic signal is not warranted.

PROJECT IMPACTS / EFFECTS

Project VMT Impacts

Screening. While as an approved project Phase 2 may not require VMT analysis, it is possible to make a determination of the project's potential impact to regional VMT based on OPR direction, City guidelines and the background information developed by the City. We considered the screening criteria suggested by OPR and the adopted City guidelines.

Proximity to Transit. The RCC is immediately adjacent to the exiting Mather Field / Mills Station on the Gold Line. A student would walk about 400 feet from the Center to the Gold Line platform. However, while the RCC is clearly located within ½ mile of the station this screening criteria is only applicable to residences, retail and office/ Business Professional/Industrial buildings. Thus, under the City guidelines it cannot be presumed that the project's VMT impact would be less than significant because it is near the Mather Field / Mills Station. As a practical matter development of this use in close proximity to the Gold Line can be expected to result in transit use that would reduce project VMT.

Low VMT Generating Area. The RCC is located within a low VMT generating area as identified by the City of Rancho Cordova with regards to average "per capita" and "per employee" VMT. However, under OPR guidance this screening criteria is only applicable to residences, industrial uses and office buildings. Thus, it cannot be presumed that the project's VMT impact would be less than significant because it is located in a low VMT generating location.

Locally Serving Public Use. It is likely that the continuing expansion of LRCCD's RCC will provide city residents with increased opportunities to take classes that would otherwise require travel to other LRCCD sites. Creation of satellite facilities throughout the region to more conveniently serve area residents is the LRCCD's planning philosophy. However, the City of Rancho Cordova's guidelines to not distinguish between the District's community center facilities and the large regional campuses (i.e., Sac City, American River, Cosumnes River, etc.) and has determined that all community colleges are to be classified as a non-locally serving use.

Based on the identified screening criteria an additional analysis to identify the project's net effect on total regional VMT across the six county SACOG region would need to be determined.

Impact to Alternative Transportation Modes

The project's impacts to alternative transportation modes would not be significant, because:

Pedestrian / Bicycle Facilities. Bike lanes and sidewalks are already available. The project does not eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use. There are no planned bikeways shown in the Bicycle Master Plan that would be affected by the project, nor is the project in conflict with the Pedestrian Master Plan. The project provides adequate access for bicyclists and pedestrians including the existing Paseo Drive crosswalk.

The project would add a driveway on Dawes Street in the area with existing sidewalks. Thus, the possibility exists for an incremental increase in conflicts between automobiles accessing the RCC parking lots and pedestrians and cyclists along Dawes Street. Because the traffic volume on Dawes Street is relatively low, the introduction of additional automobile traffic does not represent a significant safety impact due to vehicular conflicts.

Transit. Students and staff will be able to take advantage of the existing Light Rail Gold Line which is only about 400 feet from the RCC. The proposed project does not eliminate or adversely affect existing transit access, service, or operations, not would the project interfere with the implementation of planned transit service.

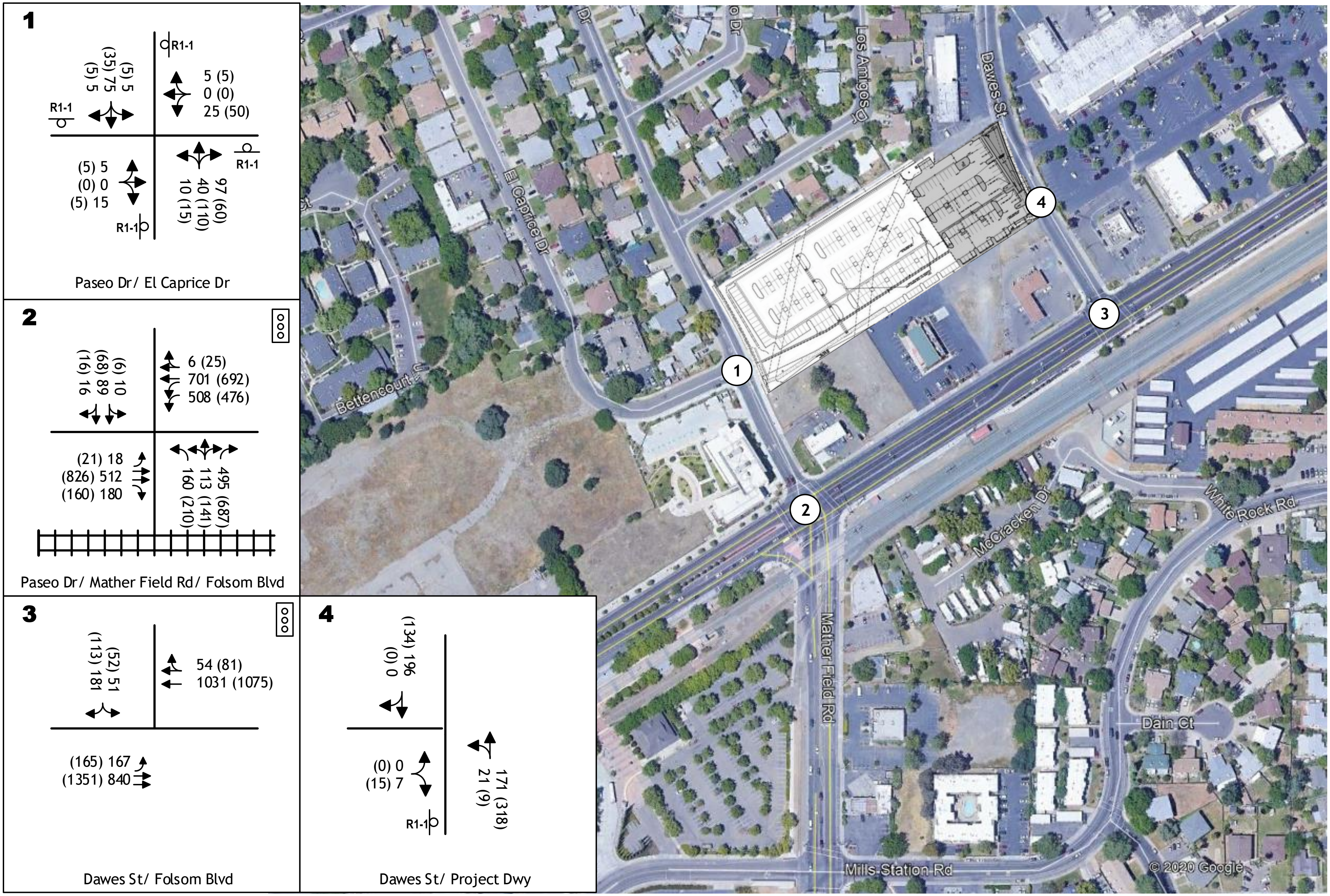
Design Features. The project dos not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). As noted above, the project would add another driveway on Dawes Street. While other minor driveways already exist in this area, the project would not increase the number of motorists attempting to access the street, and the impact on safety is not significant.

Existing Plus Project Traffic Operating Conditions

Traffic Volumes. Figure 5 presents the sum of current traffic, Phase 2 trips and exiting traffic diverted to the new driveway.

Level of Service. Table 7 displays the peak hour LOS at each study intersection under the Existing plus Project condition. As shown, the addition of project generated traffic is projected to result in relatively minor increases in delay at each of the two existing study intersections, and projected Levels of Service remain within the City of Rancho Cordova's minimum LOS D standard. These impacts are considered less than significant, and improvements are not required. The Level of Service for motorists waiting to exit the site via the new driveway on Dawes Street is LOS A, and this also satisfies the City's minimum LOS standard.

95th Percentile Queues. The length of left turn lane queues was determined from the HCM LOS results. As indicated in Table 8, with the same current exception all existing 95th percentile queues can be accommodated within the available storage in the left turn lanes on Folsom Blvd and other approaches. The project does not, however, lengthen the p.m. peak hour queue in the NB left turn lane on Mather Field Road, so its effect is not significant.



EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

figure 5

TABLE 7
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE

		AM Peak Hour				PM Peak Hour			
		Existing		Existing Plus Project		Existing		Existing Plus Project	
Intersection	**Control**	**Average Delay (sec/veh)**	**LOS**	**Average Delay (Sec/veh)**	**LOS**	**Average Delay (sec/veh)**	**LOS**	**Average Delay (sec/veh)**	**LOS**
Folsom Blvd / Mather Field Road	Signal	35	D	37	D	47	D	48	D
Paseo Drive / El Caprice Drive	All-way Stop	6	A	6	A	7	A	7	A
Folsom Blvd / Dawes Street	Signal	12	B	13	B	11	B	12	B
Dawes Street / New Access	EB Stop			3	A			3	A

Results based on SimTraffic simulation.

BOLD values exceed LOS D

TABLE 8
EXISTING PLUS PROJECT PEAK PERIOD QUEUES

				AM Peak Hour				PM Peak Hour			
				Existing		Existing Plus Project		Existing		Existing Plus Project	
Intersection	**Direction**	**Lane**	**Storage (feet)**	**Volume (veh/hr)**	**95th % Queue (feet)**	**Volume (vph)**	**95th % Queue (feet)**	**Volume (vph)**	**95th % Queue (feet)**	**Volume (vph)**	**95th % Queue (feet)**
Folsom Blvd / Mather Field Rd	SB	Left	115[1]	60	95	59	95	45	100	45	80
		Right	115	55	80	59	85	45	70	45	55
	NB	Left	270	160	195	160	215	210	**395**	210	**395**
		Left+thru+right	500	290	300	304	320	410	515	414	495
		Right	500	295	260	304	275	410	470	414	460
	EB	Left	215	15	70	21	85	20	115	21	145
	WB	Left	360	505	260	508	295	470	280	476	285
Paseo Drive / El Caprice Dr	NB	Total	225	135	70	147	80	185	90	185	85
Folsom Blvd / Dawes Street	EB	Left	150	140	125	167	130	143	135	165	145

BOLD values exceed available storage by 20 feet. [1] distance to El Caprice Dr intersection is 225 feet

Construction Impacts

Project Effects. Construction may disrupt the transportation network near the project site. Because the project includes improvements a new access on a public street, typical effects like temporary lane closures, street closures, sidewalk closures, and bikeway closures are possible. Pedestrian and bicycle circulation on the campus may be disrupted temporarily. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. Truck activities could result in degraded roadway operating conditions. Therefore, these temporary impacts are considered significant.

Mitigation. Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City of Rancho Cordova's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained. At a minimum, the plan shall include:

- Description of trucks including: number and size of trucks per day, expected arrival / departure times, truck circulation patterns.
- Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.
- Description of access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.

SUMMARY AND CONCLUSIONS

This transportation impact analysis presents an analysis of the CEQA impacts and traffic operational effects associated with development of Phase 2 of the Los Rios Community College District's RCC. The new building will accommodate classrooms, offices and facilities, and will be a two-story containing approximately 21,000 gross square feet. 106 additional parking spaces are proposed.

The analysis addresses the project impacts under the California Environmental Quality Act (CEQA) including evaluation of its impacts on:

- Regional Vehicle Miles Traveled (VMT)
- Alternative Transportation Modes
- Safety

Because the project is consistent with the RCCs Facilities Master Plan, its cumulative impacts were addressed as part of the campus' original CEQA review, and no further cumulative analysis is required.

A traffic operational analysis was conducted to evaluate the projects effects and to confirm consistency with the goals and polices of the Rancho Cordova General Plan.

Existing Traffic Operating Conditions

Existing Traffic Volumes. Traffic volume data was assembled for this study including data for the Folsom Blvd / Paseo Drive / Mather Field Road intersection collected in November 2019 when area schools were in regular session. Traffic volume data collected in 2021 at the Paseo Drive / El Caprice Drive / parking access intersection was adjusted to match the available Non-COVID 19 data. Traffic volume counts were made at the Folsom Blvd / Dawes Street intersection in April 2022 when RCC had returned to on campus classes and similarly adjusted.

Existing Intersection Levels of Service (LOS) / Queueing. All study intersections currently operate satisfactorily within the minimum LOS standards of the City of Rancho Cordova. Level of Service "D" or better conditions are currently experienced at the study intersections during the a.m. and p.m. peak hours. With one exception all peak period queues remain within available storage, and traffic signal warrants are not met.

Project Trip Generation

The number of vehicle trips that are expected to be generated by development of the proposed project has been estimated using published trip generation data. The Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 10th Edition*, has been used.

ITE Trip Generation Manual estimates for the land use category 540, "Community College", have been applied to the proposed project. The proposed 21,000 sf building is projected to generate a total of 43 a.m. and 39 p.m. peak hour trips. While the proposed parking lot addition does not by itself generate new trips to and from the campus some existing traffic will be diverted to the proposed Folsom Blvd driveway.

Vehicle Miles Traveled (VMT) Impacts

The potential project impacts based on regional VMT were evaluated within the context of guidance published by the Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018), as well as direction contained in the City of Rancho Cordova's transportation impact analysis guidelines.

Screening. While as an approved project Phase 2 may not require VMT analysis, it is possible to make a determination of the project's potential impact to regional VMT based on OPR direction and the background information developed by the City. We considered the screening criteria suggested by OPR and the City guidelines.

Proximity to Transit. The RCC is immediately adjacent to the existing Mather Field / Mills Station on the Gold Line. A student would walk about 400 feet from the Center to the Gold Line platform. However, while the RCC is clearly located within ½ mile of the station this screening criteria is only applicable to residences, retail and office buildings. Thus, under the draft City guidelines it cannot be presumed that the project's VMT impact would be less than significant because it is near the Mather Field / Mills Station. As a practical matter development of this use in close proximity to the Gold Line can be expected to result in transit use that would reduce project VMT.

Low VMT Generating Area. The RCC is located within a low VMT generating area as identified by the City of Rancho Cordova with regards to average "per capita" and "per employee" VMT. However, under OPR guidance this screening criteria is only applicable to residences, industrial uses and office buildings. Thus, under OPR it cannot be presumed that the project's VMT impact would be less than significant because it is located in a low VMT generating location.

Locally Serving Public Use. It is likely that the continuing expansion of LRCCD's RCC will provide city residents with increased opportunities to take classes that would otherwise require travel to other LRCCD sites. Creation of satellite facilities throughout the region to more conveniently serve area residents is the LRCCD's planning philosophy. However, the City of Rancho Cordova's guidelines to not distinguish between the District's Community Center facilities and the large regional campuses (i.e., Sac City, American River, Cosumnes River, etc.) and has determined that all community colleges are to be classified as a non-locally serving use.

Based on the identified screening criteria additional analysis to identify the project's net effect on total regional VMT across the six county SACOG region is needed.

Impacts to Alternative Transportation Modes / Safety

The project does not have a significant impact to facilities serving bicyclists, pedestrians and transit users. The project includes use of a new driveway on Dawes Street, and other driveways already exit in this area. The volume of traffic on Dawes Street today is low and sidewalks already exist in this area. The project's impacts are not significant.

Existing Plus Project Traffic Conditions

The trips accompanying the project were superimposed onto existing background traffic. The addition of project generated traffic is projected to result in relatively minor increases in delay at each of the study intersections. Level of Service will remain within adopted minimum standards at intersections. With one exception peak period queues remain within available storage, and the project does not lengthen the queue at that location. Traffic signal warrants are not satisfied. These effects are consistent with the goals and policies of the City of Rancho Cordova General Plan and improvements are not required.

Construction Impacts

Pedestrian and bicycle circulation on the campus may be disrupted temporarily. Heavy vehicles, equipment and trucks would access the site and may need to be staged for construction. Truck activities could result in degraded roadway operating conditions. Therefore, these temporary impacts are considered significant.

Mitigation. Prior to the beginning of construction, a construction traffic management plan shall be prepared to the satisfaction of the City's Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on roadways are maintained.

APPENDICES

Level of Service Calculations

Traffic Counts

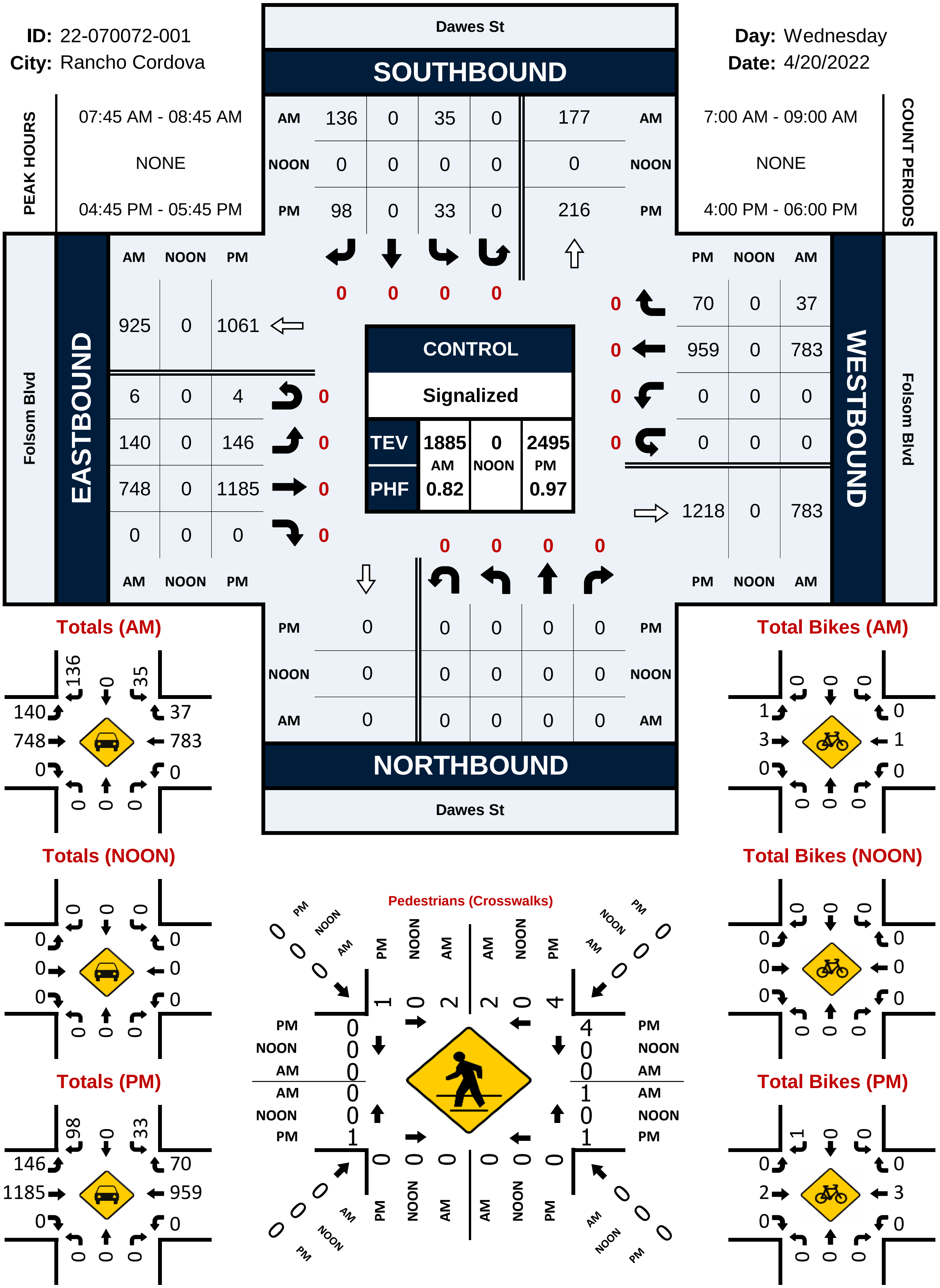
Prepared by National Data & Surveying Services

Dawes St & Folsom Blvd

Peak Hour Turning Movement Count

ID: 22-070072-001
City: Rancho Cordova

Day: Wednesday
Date: 4/20/2022



National Data & Surveying Services Intersection Turning Movement Count

Location: Dawes St & Folsom Blvd
City: Rancho Cordova
Control: Signalized

Project ID: 22-070072-001
Date: 4/20/2022

Data - Totals

NS/EW Streets:	Dawes St				Dawes St				Folsom Blvd				Folsom Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	6	0	17	0	11	92	0	3	0	154	2	0	285
7:15 AM	0	0	0	0	5	0	26	0	12	125	0	1	0	197	4	0	370
7:30 AM	0	0	0	0	6	0	21	0	25	137	0	0	0	193	5	0	387
7:45 AM	0	0	0	0	5	0	33	0	38	197	0	1	0	160	12	0	446
8:00 AM	0	0	0	0	10	0	34	0	56	234	0	3	0	222	14	0	573
8:15 AM	0	0	0	0	13	0	37	0	22	150	0	1	0	221	7	0	451
8:30 AM	0	0	0	0	7	0	32	0	24	167	0	1	0	180	4	0	415
8:45 AM	0	0	0	0	9	0	19	0	26	134	0	2	0	172	5	0	367
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	61	0	219	0	214	1236	0	12	0	1499	53	0	3294
APPROACH %'s :					21.79%	0.00%	78.21%	0.00%	14.64%	84.54%	0.00%	0.82%	0.00%	96.59%	3.41%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	35	0	136	0	140	748	0	6	0	783	37	0	1885
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.673	0.000	0.919	0.000	0.625	0.799	0.000	0.500	0.000	0.882	0.661	0.000	0.822
						0.855				0.763				0.869			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	16	0	28	0	32	272	0	2	0	228	10	0	588
4:15 PM	0	0	0	0	6	0	22	0	27	275	0	3	0	223	19	0	575
4:30 PM	0	0	0	0	18	0	15	0	27	277	0	3	0	250	14	0	604
4:45 PM	0	0	0	0	8	0	23	0	25	305	0	1	0	237	18	0	617
5:00 PM	0	0	0	0	3	0	28	0	34	301	0	1	0	255	22	0	644
5:15 PM	0	0	0	0	11	0	20	0	39	281	0	0	0	253	16	0	620
5:30 PM	0	0	0	0	11	0	27	0	48	298	0	2	0	214	14	0	614
5:45 PM	0	0	0	0	5	0	25	0	32	268	0	1	0	234	9	0	574
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	78	0	188	0	264	2277	0	13	0	1894	122	0	4836
APPROACH %'s :					29.32%	0.00%	70.68%	0.00%	10.34%	89.15%	0.00%	0.51%	0.00%	93.95%	6.05%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	33	0	98	0	146	1185	0	4	0	959	70	0	2495
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.000	0.875	0.000	0.760	0.971	0.000	0.500	0.000	0.940	0.795	0.000	0.969
						0.862				0.959				0.929			

National Data & Surveying Services Intersection Turning Movement Count

Location: Dawes St & Folsom Blvd
City: Rancho Cordova
Control: Signalized

Project ID: 22-070072-001
Date: 4/20/2022

Data - Bikes

NS/EW Streets:	Dawes St				Dawes St				Folsom Blvd				Folsom Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	2	7	0	0	0	3	0	0	12
APPROACH %'s :									22.22%	77.78%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	3	0	0	0	1	0	0	5
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.000	0.250	0.000	0.000	0.417
									0.500				0.250				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	1	0	0	2	0	0	0	5	1	0	9
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	83.33%	16.67%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	2	0	0	0	3	0	0	6
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.750	0.000	0.000	0.500
					0.250				0.500				0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: Dawes St & Folsom Blvd
City: Rancho Cordova
Project ID: 22-070072-001
Date: 4/20/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Dawes St		Dawes St		Folsom Blvd		Folsom Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	1
7:30 AM	1	0	0	0	1	0	0	0	2
7:45 AM	0	1	0	0	0	0	0	0	1
8:00 AM	1	0	0	0	0	0	0	0	1
8:15 AM	1	0	0	0	1	0	0	0	2
8:30 AM	0	1	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	2	0	0	0	3
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	3	4	0	0	4	0	0	0	11
APPROACH %'s :	42.86%	57.14%			100.00%	0.00%			
PEAK HR :	**07:45 AM - 08:45 AM**								TOTAL
PEAK HR VOL :	2	2	0	0	1	0	0	0	5
PEAK HR FACTOR :	0.500	0.500			0.250				0.625
	1.000				0.250				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	2	2	0	0	2	0	0	0	6
4:15 PM	0	2	0	0	0	1	0	0	3
4:30 PM	2	2	0	0	1	2	0	0	7
4:45 PM	1	0	0	0	0	3	0	0	4
5:00 PM	0	2	0	0	0	0	1	0	3
5:15 PM	0	1	0	0	0	1	0	0	2
5:30 PM	0	1	0	0	1	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	5	10	0	0	4	7	1	0	27
APPROACH %'s :	33.33%	66.67%			36.36%	63.64%	100.00%	0.00%	
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	1	4	0	0	1	4	1	0	11
PEAK HR FACTOR :	0.250	0.500			0.250	0.333	0.250		0.688
	0.625				0.417		0.250		

Prepared by National Data & Surveying Services

Dawes St & Dawes Wine & Spirits/Rosie's Country Kitchen Dwy

Peak Hour Turning Movement Count

ID: 22-070072-002
City: Rancho Cordova

Day: Wednesday
Date: 4/20/2022

PEAK HOURS		COUNT PERIODS
07:45 AM - 08:45 AM	AM	7:00 AM - 09:00 AM
NONE	NOON	NONE
04:45 PM - 05:45 PM	PM	4:00 PM - 06:00 PM

Dawes St
SOUTHBOUND

	↵	↓	↳	↺	⇧	
AM	0	188	0	0	166	AM
NOON	0	0	0	0	0	NOON
PM	3	124	0	0	187	PM
	0	0	0	0		

Dawes Wine & Spirits/Rosie's Country Kitchen Dwy
EASTBOUND

	AM	NOON	PM	
⇦	6	0	25	
↺	0	0	0	0
↰	1	0	2	0
→	0	0	0	0
↴	8	0	10	0

Dawes Wine & Spirits/Rosie's Country Kitchen Dwy
WESTBOUND

		PM	NOON	AM
0	↰	0	0	0
0	←	0	0	0
0	↲	0	0	0
0	↺	0	0	0
	⇨	0	0	0

CONTROL

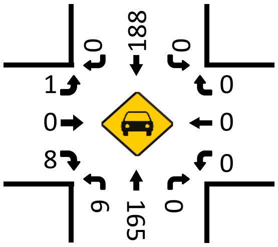
No Control

	AM	NOON	PM
TEV	368	0	346
PHF	0.74		0.87

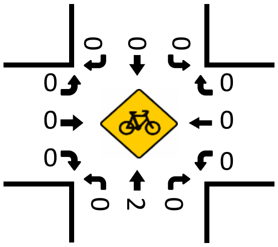
NORTHBOUND
Dawes St

		0	0	0	0	
	⇩	↺	↰	↑	↱	
PM	134	0	22	185	0	PM
NOON	0	0	0	0	0	NOON
AM	196	0	6	165	0	AM

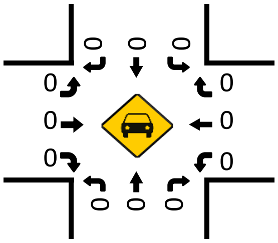
Totals (AM)



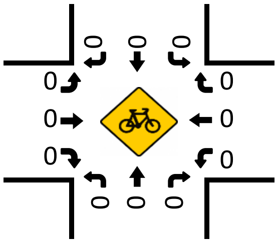
Total Bikes (AM)



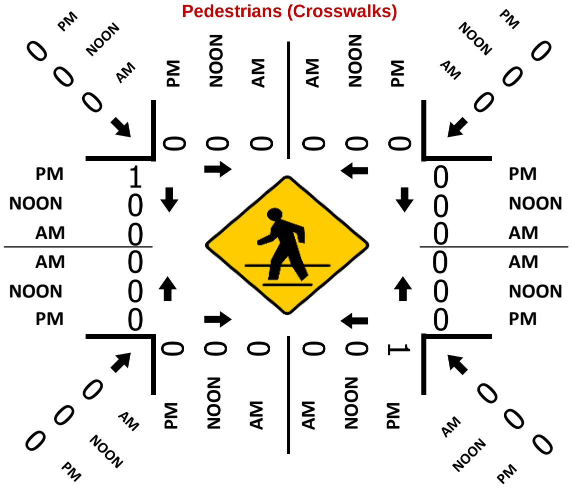
Totals (NOON)



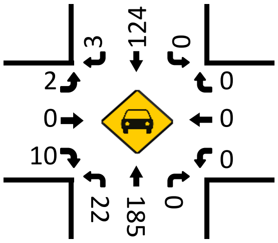
Total Bikes (NOON)



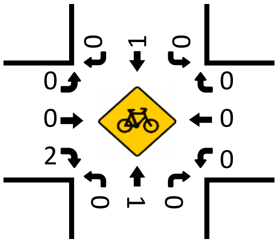
Pedestrians (Crosswalks)



Totals (PM)



Total Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Dawes St & Dawes Wine & Spirits/Rosie's Country Kitchen Dwy
City: Rancho Cordova
Control: No Control

Project ID: 22-070072-002
Date: 4/20/2022

Data - Totals

NS/EW Streets:	Dawes St				Dawes St				Dawes Wine & Spirits/Rosie's Country Kitchen Dwy				Dawes Wine & Spirits/Rosie's Country Kitchen Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	8	0	0	0	29	0	0	0	0	0	0	0	0	0	0	37
7:15 AM	0	20	0	0	0	38	0	0	0	0	0	0	0	0	0	0	58
7:30 AM	0	27	0	0	0	31	0	0	0	0	0	0	0	0	0	0	58
7:45 AM	0	49	0	0	0	45	0	0	0	0	1	0	0	0	0	0	95
8:00 AM	3	66	0	0	0	53	0	0	0	0	2	0	0	0	0	0	124
8:15 AM	1	27	0	0	0	53	0	0	1	0	4	0	0	0	0	0	86
8:30 AM	2	23	0	0	0	37	0	0	0	0	1	0	0	0	0	0	63
8:45 AM	3	26	0	0	0	39	0	0	0	0	2	0	0	0	0	0	70
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	9	246	0	0	0	325	0	0	1	0	10	0	0	0	0	0	591
APPROACH %'s :	3.53%	96.47%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	9.09%	0.00%	90.91%	0.00%					
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	6	165	0	0	0	188	0	0	1	0	8	0	0	0	0	0	368
PEAK HR FACTOR :	0.500	0.625	0.000	0.000	0.000	0.887	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.742
	0.620				0.887				0.450								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	9	39	0	0	0	37	1	0	2	0	6	0	0	0	0	0	94
4:15 PM	2	37	0	0	0	29	0	0	0	0	3	0	0	0	0	0	71
4:30 PM	1	36	0	0	0	24	0	0	0	0	2	0	0	0	0	0	63
4:45 PM	6	31	0	0	0	31	0	0	0	0	2	0	0	0	0	0	70
5:00 PM	3	50	0	0	0	28	1	0	1	0	3	0	0	0	0	0	86
5:15 PM	8	51	0	0	0	30	0	0	1	0	1	0	0	0	0	0	91
5:30 PM	5	53	0	0	0	35	2	0	0	0	4	0	0	0	0	0	99
5:45 PM	3	34	0	0	0	29	0	0	1	0	2	0	0	0	0	0	69
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	37	331	0	0	0	243	4	0	5	0	23	0	0	0	0	0	643
APPROACH %'s :	10.05%	89.95%	0.00%	0.00%	0.00%	98.38%	1.62%	0.00%	17.86%	0.00%	82.14%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	22	185	0	0	0	124	3	0	2	0	10	0	0	0	0	0	346
PEAK HR FACTOR :	0.688	0.873	0.000	0.000	0.000	0.886	0.375	0.000	0.500	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.874
	0.877				0.858				0.750								

National Data & Surveying Services Intersection Turning Movement Count

Location: Dawes St & Dawes Wine & Spirits/Rosie's Country Kitchen Dwy
City: Rancho Cordova
Control: No Control

Project ID: 22-070072-002
Date: 4/20/2022

Data - Bikes

NS/EW Streets:	Dawes St				Dawes St				Dawes Wine & Spirits/Rosie's Country Kitchen Dwy				Dawes Wine & Spirits/Rosie's Country Kitchen Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
	0.250																

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	2	0	0	0	0	2	0	0	0	0	0	5
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	0	4
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
	0.250				0.250				0.500								

National Data & Surveying Services Intersection Turning Movement Count

Location: Dawes St & Dawes Wine & Spirits/Rosie's Country Kitchen Dwy **Project ID:** 22-070072-002
City: Rancho Cordova **Date:** 4/20/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Dawes St		Dawes St		Dawes Wine & Spirits/Rosie's Country		Dawes Wine & Spirits/Rosie's Country		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0
APPROACH %'s :									
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	1
5:45 PM	1	0	0	0	0	0	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	1	0	1	0	0	0	1	4
APPROACH %'s :	50.00%	50.00%	0.00%	100.00%			0.00%	100.00%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	1	2
PEAK HR FACTOR :				0.250				0.250	0.500
			0.250				0.250		

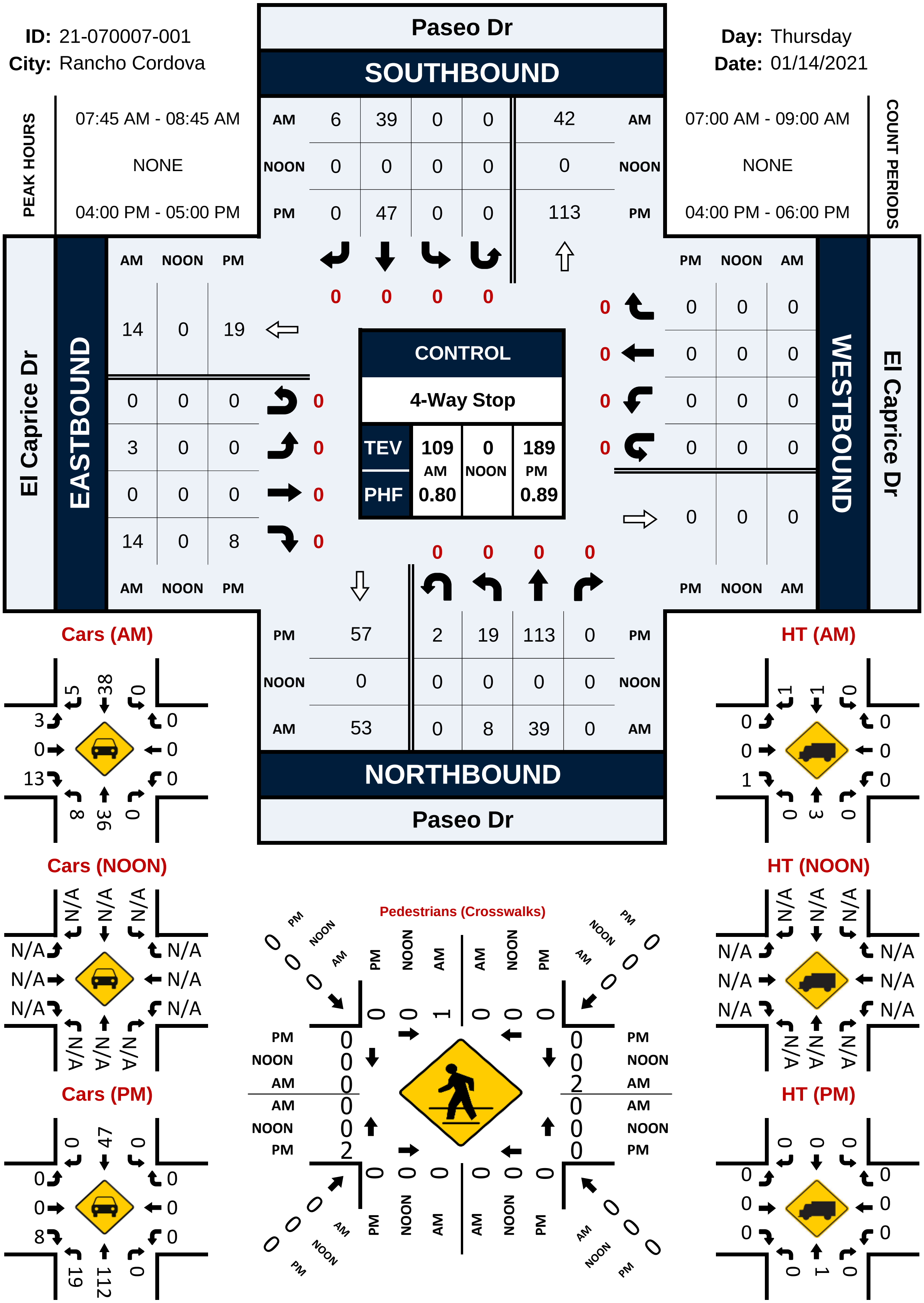
Prepared by National Data & Surveying Services

Paseo Dr & El Caprice Dr

Peak Hour Turning Movement Count

ID: 21-070007-001
City: Rancho Cordova

Day: Thursday
Date: 01/14/2021



National Data & Surveying Services

Intersection Turning Movement Count

Location: Paseo Dr & El Caprice Dr
City: Rancho Cordova
Control: 4-Way Stop

Project ID: 21-070007-001
Date: 1/14/2021

Total

NS/EW Streets:	Paseo Dr				Paseo Dr				El Caprice Dr				El Caprice Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	2	0	0	0	0	2	0	0	0	0	0	5
7:15 AM	1	7	0	0	0	9	0	0	0	0	1	0	0	0	0	0	18
7:30 AM	0	6	0	0	0	11	0	0	0	0	1	0	0	0	0	0	18
7:45 AM	2	10	0	0	0	16	0	0	0	0	2	0	0	0	0	0	30
8:00 AM	2	11	0	0	0	10	0	0	0	0	0	0	0	0	0	0	23
8:15 AM	1	8	0	0	0	8	0	0	1	0	4	0	0	0	0	0	22
8:30 AM	3	10	0	0	0	5	6	0	2	0	8	0	0	0	0	0	34
8:45 AM	3	9	0	0	0	9	3	0	0	0	4	0	0	0	0	0	28
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	12	62	0	0	0	70	9	0	3	0	22	0	0	0	0	0	178
APPROACH %'s :	16.22%	83.78%	0.00%	0.00%	0.00%	88.61%	11.39%	0.00%	12.00%	0.00%	88.00%	0.00%					
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	8	39	0	0	0	39	6	0	3	0	14	0	0	0	0	0	109
PEAK HR FACTOR :	0.667	0.886	0.000	0.000	0.000	0.609	0.250	0.000	0.375	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.801
	0.904				0.703				0.425								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	7	30	0	1	0	11	0	0	0	0	4	0	0	0	0	0	53
4:15 PM	6	29	0	0	0	13	0	0	0	0	0	0	0	0	0	0	48
4:30 PM	2	28	0	1	0	11	0	0	0	0	4	0	0	0	0	0	46
4:45 PM	4	26	0	0	0	12	0	0	0	0	0	0	0	0	0	0	42
5:00 PM	4	30	0	0	0	8	0	0	0	0	1	0	0	0	0	0	43
5:15 PM	5	21	0	1	0	7	0	0	0	0	2	0	0	0	0	0	36
5:30 PM	3	31	0	1	0	4	0	0	1	0	1	0	0	0	0	0	41
5:45 PM	3	33	0	1	0	10	0	0	1	0	1	0	0	0	0	0	49
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	228	0	5	0	76	0	0	2	0	13	0	0	0	0	0	358
APPROACH %'s :	12.73%	85.39%	0.00%	1.87%	0.00%	100.00%	0.00%	0.00%	13.33%	0.00%	86.67%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	19	113	0	2	0	47	0	0	0	0	8	0	0	0	0	0	189
PEAK HR FACTOR :	0.679	0.942	0.000	0.500	0.000	0.904	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.892
	0.882				0.904				0.500								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Paseo Dr & El Caprice Dr
City: Rancho Cordova
Control: 4-Way Stop

Project ID: 21-070007-001
Date: 1/14/2021

Cars

NS/EW Streets:	Paseo Dr				Paseo Dr				El Caprice Dr				El Caprice Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	2	0	0	0	0	2	0	0	0	0	0	5
7:15 AM	1	7	0	0	0	9	0	0	0	0	1	0	0	0	0	0	18
7:30 AM	0	5	0	0	0	11	0	0	0	0	1	0	0	0	0	0	17
7:45 AM	2	10	0	0	0	15	0	0	0	0	2	0	0	0	0	0	29
8:00 AM	2	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	22
8:15 AM	1	7	0	0	0	8	0	0	1	0	4	0	0	0	0	0	21
8:30 AM	3	9	0	0	0	5	5	0	2	0	7	0	0	0	0	0	31
8:45 AM	2	9	0	0	0	9	3	0	0	0	4	0	0	0	0	0	27
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	11	58	0	0	0	69	8	0	3	0	21	0	0	0	0	0	170
APPROACH %'s :	15.94%	84.06%	0.00%	0.00%	0.00%	89.61%	10.39%	0.00%	12.50%	0.00%	87.50%	0.00%					
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	8	36	0	0	0	38	5	0	3	0	13	0	0	0	0	0	103
PEAK HR FACTOR :	0.67	0.900	0.000	0.000	0.000	0.633	0.250	0.000	0.375	0.000	0.464	0.000	0.000	0.000	0.000	0.000	0.831
		0.917				0.717				0.444							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	7	30	0	1	0	11	0	0	0	0	4	0	0	0	0	0	53
4:15 PM	6	29	0	0	0	13	0	0	0	0	0	0	0	0	0	0	48
4:30 PM	2	28	0	1	0	11	0	0	0	0	4	0	0	0	0	0	46
4:45 PM	4	25	0	0	0	12	0	0	0	0	0	0	0	0	0	0	41
5:00 PM	4	30	0	0	0	8	0	0	0	0	1	0	0	0	0	0	43
5:15 PM	5	21	0	1	0	7	0	0	0	0	2	0	0	0	0	0	36
5:30 PM	3	31	0	1	0	4	0	0	1	0	1	0	0	0	0	0	41
5:45 PM	3	33	0	1	0	10	0	0	1	0	1	0	0	0	0	0	49
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	34	227	0	5	0	76	0	0	2	0	13	0	0	0	0	0	357
APPROACH %'s :	12.78%	85.34%	0.00%	1.88%	0.00%	100.00%	0.00%	0.00%	13.33%	0.00%	86.67%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	19	112	0	2	0	47	0	0	0	0	8	0	0	0	0	0	188
PEAK HR FACTOR :	0.68	0.933	0.000	0.500	0.000	0.904	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.887
		0.875				0.904				0.500							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Paseo Dr & El Caprice Dr
City: Rancho Cordova
Control: 4-Way Stop

Project ID: 21-070007-001
Date: 1/14/2021

HT

NS/EW Streets:	Paseo Dr				Paseo Dr				El Caprice Dr				El Caprice Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	4	0	0	0	1	1	0	0	0	1	0	0	0	0	0	8
APPROACH %'s :	20.00%	80.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	3	0	0	0	1	1	0	0	0	1	0	0	0	0	0	6
PEAK HR FACTOR :	0.000	0.750	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
	0.750				0.500				0.250								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
	0.250																

National Data & Surveying Services

Intersection Turning Movement Count

Location: Paseo Dr & El Caprice Dr
City: Rancho Cordova
Control: 4-Way Stop

Project ID: 21-070007-001
Date: 1/14/2021

Bikes

NS/EW Streets:	Paseo Dr				Paseo Dr				El Caprice Dr				El Caprice Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
					0.250												

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
APPROACH %'s :	50.00%	50.00%	0.00%	0.00%													
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
	0.250																

National Data & Surveying Services

Intersection Turning Movement Count

Location: Paseo Dr & El Caprice Dr
City: Rancho Cordova

Project ID: 21-070007-001
Date: 1/14/2021

Pedestrians (Crosswalks)

NS/EW Streets:	Paseo Dr		Paseo Dr		El Caprice Dr		El Caprice Dr		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	1	0	0	1
8:00 AM	1	0	0	0	0	1	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	0	1
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	1	0	0	0	0	3	0	1	5
APPROACH %'s :	100.00%	0.00%			0.00%	100.00%	0.00%	100.00%	
PEAK HR :	**07:45 AM - 08:45 AM**								TOTAL
PEAK HR VOL :	1	0	0	0	0	2	0	0	3
PEAK HR FACTOR :	0.250					0.500			0.375
	0.250				0.500				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	1	2	0	0	1	2	6
5:15 PM	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	0	0	1	2	1	0	3	3	10
APPROACH %'s :			33.33%	66.67%	100.00%	0.00%	50.00%	50.00%	
PEAK HR :	**04:00 PM - 05:00 PM**								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2	0	2
PEAK HR FACTOR :							0.500		0.500
							0.500		

Prepared by National Data & Surveying Services

Mather Field Rd & Folsom Blvd

Peak Hour Turning Movement Count

ID: Historical
City: Rancho Cordova

Day: Wednesday
Date: 11/13/2019

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

Mather Field Rd SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	13	84	13	0	126
NOON	0	0	0	0	0
PM	13	57	13	0	182
	0.5	1	0.5	0	

Folsom Blvd EASTBOUND

		AM	NOON	PM
⇦		869	0	893
↶	0	0	0	3
↱	1	14	0	19
→	2	510	0	824
↴	1	181	0	159

Folsom Blvd WESTBOUND

		PM	NOON	AM
↰	0	30	0	16
←	2	668	0	698
↲	2	470	0	503
↶	0	0	0	0
⇨		1519	0	1014

CONTROL

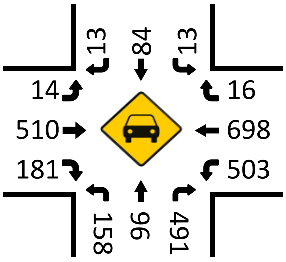
Signalized

	AM	NOON	PM
TEV	2777	0	3280
PHF	0.93		0.97

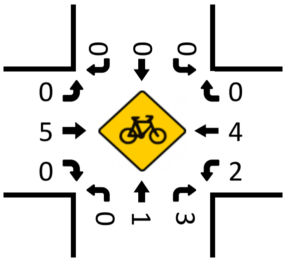
Mather Field Rd NORTHBOUND

	⇩	↶	↰	↑	↱
		0	0	3	0
PM	686	0	209	133	682
NOON	0	0	0	0	0
AM	768	0	158	96	491

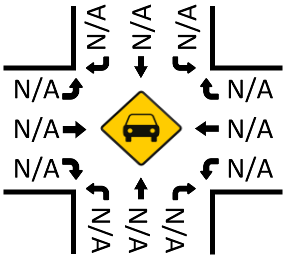
Total Vehicles (AM)



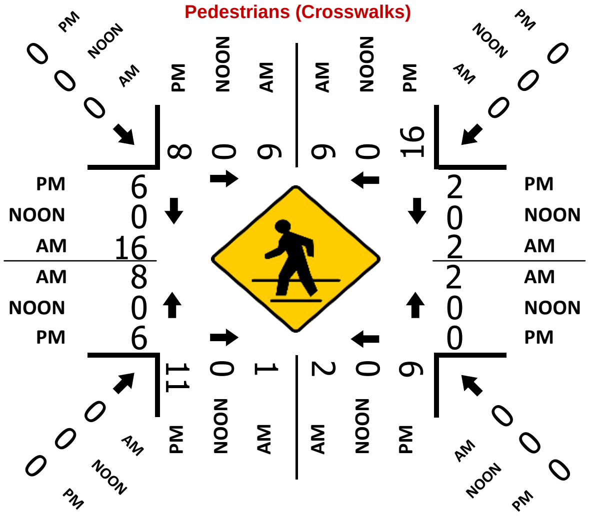
Bikes (AM)



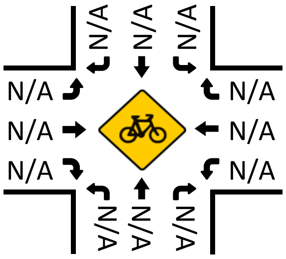
Total Vehicles (Noon)



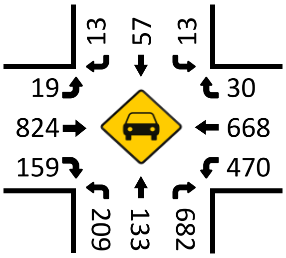
Pedestrians (Crosswalks)



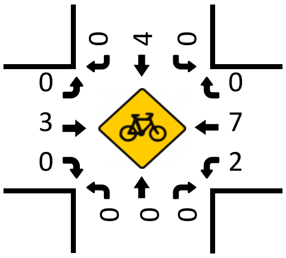
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Mather Field Rd & Folsom Blvd
City: Rancho Cordova
Control: Signalized

Project ID: Historical
Date: 11/13/2019

Total

NS/EW Streets:	Mather Field Rd				Mather Field Rd				Folsom Blvd				Folsom Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0.5	1	0.5	0	1	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	41	22	70	0	1	9	1	0	4	57	32	0	116	157	6	0	516
7:15 AM	63	32	109	0	0	21	6	0	3	82	48	0	88	192	6	0	650
7:30 AM	53	29	137	0	2	15	4	0	5	123	40	0	128	183	4	0	723
7:45 AM	37	33	144	0	4	27	2	0	4	119	54	0	118	200	2	0	744
8:00 AM	34	20	110	0	3	22	4	0	2	141	41	0	135	138	5	0	655
8:15 AM	34	14	100	0	4	20	3	0	3	127	46	0	122	177	5	0	655
8:30 AM	41	16	84	0	3	18	6	0	5	102	45	0	132	116	4	0	572
8:45 AM	28	20	83	0	4	15	3	0	3	114	31	1	93	110	13	0	518
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	331	186	837	0	21	147	29	0	29	865	337	1	932	1273	45	0	5033
APPROACH %'s :	24.45%	13.74%	61.82%	0.00%	10.66%	74.62%	14.72%	0.00%	2.35%	70.21%	27.35%	0.08%	41.42%	56.58%	2.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	158	96	491	0	13	84	13	0	14	510	181	0	503	698	16	0	2777
PEAK HR FACTOR :	0.745	0.727	0.852	0.000	0.813	0.778	0.813	0.000	0.700	0.904	0.838	0.000	0.931	0.873	0.800	0.000	0.933
		0.850				0.833				0.958				0.951			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0.5	1	0.5	0	1	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	43	25	141	0	7	18	2	0	5	210	35	0	129	160	4	0	779
4:15 PM	66	28	162	0	3	14	4	0	4	205	35	0	93	142	5	0	761
4:30 PM	44	42	168	0	3	15	5	0	7	221	44	0	110	138	3	0	800
4:45 PM	55	42	171	0	2	12	2	0	8	206	34	0	122	138	7	0	799
5:00 PM	39	34	161	0	2	15	4	0	4	223	45	1	117	193	9	0	847
5:15 PM	63	30	169	0	6	17	7	0	4	202	39	2	94	169	4	0	806
5:30 PM	52	27	181	0	3	13	0	0	3	193	41	0	137	168	10	0	828
5:45 PM	50	34	127	0	1	14	1	0	1	183	50	0	96	150	7	0	714
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	412	262	1280	0	27	118	25	0	36	1643	323	3	898	1258	49	0	6334
APPROACH %'s :	21.08%	13.41%	65.51%	0.00%	15.88%	69.41%	14.71%	0.00%	1.80%	81.95%	16.11%	0.15%	40.73%	57.05%	2.22%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	209	133	682	0	13	57	13	0	19	824	159	3	470	668	30	0	3280
PEAK HR FACTOR :	0.829	0.792	0.942	0.000	0.542	0.838	0.464	0.000	0.594	0.924	0.883	0.375	0.858	0.865	0.750	0.000	0.968
		0.955				0.692				0.920				0.915			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mather Field Rd & Folsom Blvd
City: Rancho Cordova
Control: Signalized

Project ID: Historical
Date: 11/13/2019

Bikes

NS/EW Streets:	Mather Field Rd				Mather Field Rd				Folsom Blvd				Folsom Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0.5	1	0.5	0	1	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	3
7:15 AM	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
7:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	3
7:45 AM	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3
8:00 AM	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	0	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2	6	0	1	0	0	0	0	7	1	0	2	5	0	0	24
APPROACH %'s :	0.00%	25.00%	75.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	87.50%	12.50%	0.00%	28.57%	71.43%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	1	3	0	0	0	0	0	0	5	0	0	2	4	0	0	15
PEAK HR FACTOR :	0.000	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.500	0.333	0.000	0.000	0.536
	0.500								0.417				0.500				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0.5	1	0.5	0	1	2	1	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0	4
4:45 PM	0	0	0	0	0	1	0	0	0	2	0	0	1	3	0	0	7
5:00 PM	0	0	0	0	0	3	0	0	0	0	0	0	1	1	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1	1	0	0	5	1	0	0	6	0	0	3	12	0	0	29
APPROACH %'s :	0.00%	50.00%	50.00%	0.00%	0.00%	83.33%	16.67%	0.00%	0.00%	100.00%	0.00%	0.00%	20.00%	80.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	4	0	0	0	3	0	0	2	7	0	0	16
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.375	0.000	0.000	0.500	0.583	0.000	0.000	0.571
					0.333				0.375				0.563				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mather Field Rd & Folsom Blvd
Project ID: Historical
City: Rancho Cordova
Date: 11/13/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Mather Field Rd		Mather Field Rd		Folsom Blvd		Folsom Blvd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
7:00 AM	1	1	0	0	3	0	0	0	5
7:15 AM	3	0	3	0	0	0	4	0	10
7:30 AM	3	3	0	0	1	1	1	6	15
7:45 AM	4	2	1	2	1	1	1	6	18
8:00 AM	1	2	0	0	0	0	0	3	6
8:15 AM	1	2	0	0	0	0	6	1	10
8:30 AM	1	1	0	0	0	0	2	1	5
8:45 AM	4	1	2	1	0	0	4	1	13
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	18	12	6	3	5	2	18	18	82
APPROACH %'s :	60.00%	40.00%	66.67%	33.33%	71.43%	28.57%	50.00%	50.00%	
PEAK HR :	**07:30 AM - 08:30 AM**								TOTAL
PEAK HR VOL :	9	9	1	2	2	2	8	16	49
PEAK HR FACTOR :	0.563	0.750	0.250	0.250	0.500	0.500	0.333	0.667	0.681
	0.750		0.250		0.500		0.857		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	1	7	4	1	1	2	1	3	20
4:15 PM	1	9	2	3	0	1	1	3	20
4:30 PM	1	2	1	6	0	5	0	2	17
4:45 PM	3	0	5	0	0	0	2	0	10
5:00 PM	4	7	3	3	0	2	3	1	23
5:15 PM	0	4	2	0	0	0	1	3	10
5:30 PM	1	5	1	3	0	0	0	2	12
5:45 PM	1	4	1	0	0	1	2	4	13
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
TOTAL VOLUMES :	12	38	19	16	1	11	10	18	125
APPROACH %'s :	24.00%	76.00%	54.29%	45.71%	8.33%	91.67%	35.71%	64.29%	
PEAK HR :	**04:45 PM - 05:45 PM**								TOTAL
PEAK HR VOL :	8	16	11	6	0	2	6	6	55
PEAK HR FACTOR :	0.500	0.571	0.550	0.500		0.250	0.500	0.500	0.598
	0.545		0.708		0.250		0.750		

25: Mather Field Road/Mather Field Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	68.9	82.7	19.5	4.9	13.7

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T
Maximum Queue (ft)	325	352	181	244	211	40	55	107
Average Queue (ft)	46	59	51	122	93	11	30	49
95th Queue (ft)	200	240	132	209	181	34	51	110
Link Distance (ft)	2926	906		356	356	63	63	63
Upstream Blk Time (%)						0	0	7
Queuing Penalty (veh)						0	0	19
Storage Bay Dist (ft)			245					
Storage Blk Time (%)				0				
Queuing Penalty (veh)				1				

25: Mather Field Road/Mather Field Rd Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	68.9	82.7	19.5	4.9	13.7

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T
Maximum Queue (ft)	325	352	181	244	211	40	55	107
Average Queue (ft)	46	59	51	122	93	11	30	49
95th Queue (ft)	200	240	132	209	181	34	51	110
Link Distance (ft)	2926	906		356	356	63	63	63
Upstream Blk Time (%)						0	0	7
Queuing Penalty (veh)						0	0	19
Storage Bay Dist (ft)			245					
Storage Blk Time (%)				0				
Queuing Penalty (veh)				1				

1: Paseo Dr & Caprice Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1	0.1
Total Del/Veh (s)	2.8	4.1	6.4	5.8	5.7

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	32.0	38.3	11.0	45.3	30.0

3: Folsom Blvd & Dawes St Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.4	0.0	0.2
Total Del/Veh (s)	9.5	14.5	11.5	12.0

4: Dawes St & Exist D/W Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1
Total Del/Veh (s)	3.0	1.0	0.1	0.6

27: Bradshaw Road & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.2	0.0	0.2
Total Del/Veh (s)	19.2	20.4	18.1	21.8	19.4

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	400.2

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	56	85	54
Average Queue (ft)	14	21	42	31
95th Queue (ft)	36	47	69	47
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	110	310	315	80	276	294	291	296	71	86	80	106
Average Queue (ft)	18	179	186	5	159	174	165	172	31	67	44	52
95th Queue (ft)	67	271	277	38	241	261	265	271	67	89	80	93
Link Distance (ft)		2932	2932				664	664	63	63	63	264
Upstream Blk Time (%)									4	31	2	
Queuing Penalty (veh)									10	77	5	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		5					0					
Queuing Penalty (veh)		1					0					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	103
Average Queue (ft)	36
95th Queue (ft)	77
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	154	177	177	324	269	158
Average Queue (ft)	69	52	68	153	101	72
95th Queue (ft)	123	130	144	264	199	128
Link Distance (ft)		664	664	2267	2267	416
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				

Intersection: 4: Dawes St & Exist D/W

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	22
Average Queue (ft)	6	1
95th Queue (ft)	25	11
Link Distance (ft)	374	416
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	L	L	T	T	L	L	T	TR	L
Maximum Queue (ft)	63	196	191	114	129	164	168	160	124	125	130	48
Average Queue (ft)	19	111	114	47	69	71	91	77	27	57	50	15
95th Queue (ft)	48	170	172	95	114	135	148	132	79	114	100	39
Link Distance (ft)		4038	4038			2193	2193	1106	1106	1106	1106	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300							175
Storage Blk Time (%)		0	0				1					
Queuing Penalty (veh)		0	0				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	72	53	40
Average Queue (ft)	30	12	5
95th Queue (ft)	61	37	23
Link Distance (ft)	256	256	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 93

1: Paseo Dr & Caprice Dr Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Del/Veh (s)	4.4	2.3	4.6	2.2	7.2	8.1	5.3	4.6	6.1	2.5	5.7

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	64.1	36.8	7.6	50.3	30.2	22.1	19.1	19.4	6.7	46.9	49.8	15.7

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	30.0

3: Folsom Blvd & Dawes St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.2	0.0	0.0	0.2
Total Del/Veh (s)	20.5	7.6	14.8	6.6	17.6	10.2	12.0

4: Dawes St & Exist D/W Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.2	0.1
Total Del/Veh (s)	4.0	2.8	2.9	0.9	0.1	0.6

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.3	0.6	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0
Total Del/Veh (s)	34.4	25.3	13.2	30.0	16.6	6.1	25.9	20.2	9.3	29.6	26.8	6.2

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	19.4

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	400.2

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	56	85	54
Average Queue (ft)	14	21	42	31
95th Queue (ft)	36	47	69	47
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	110	310	315	80	276	294	291	296	71	86	80	106
Average Queue (ft)	18	179	186	5	159	174	165	172	31	67	44	52
95th Queue (ft)	67	271	277	38	241	261	265	271	67	89	80	93
Link Distance (ft)		2932	2932				664	664	63	63	63	264
Upstream Blk Time (%)									4	31	2	
Queuing Penalty (veh)									10	77	5	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		5					0					
Queuing Penalty (veh)		1					0					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	103
Average Queue (ft)	36
95th Queue (ft)	77
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	154	177	177	324	269	158
Average Queue (ft)	69	52	68	153	101	72
95th Queue (ft)	123	130	144	264	199	128
Link Distance (ft)		664	664	2267	2267	416
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				

Intersection: 4: Dawes St & Exist D/W

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	22
Average Queue (ft)	6	1
95th Queue (ft)	25	11
Link Distance (ft)	374	416
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	L	L	T	T	L	L	T	TR	L
Maximum Queue (ft)	63	196	191	114	129	164	168	160	124	125	130	48
Average Queue (ft)	19	111	114	47	69	71	91	77	27	57	50	15
95th Queue (ft)	48	170	172	95	114	135	148	132	79	114	100	39
Link Distance (ft)		4038	4038			2193	2193	1106	1106	1106	1106	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300							175
Storage Blk Time (%)		0	0				1					
Queuing Penalty (veh)		0	0				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	72	53	40
Average Queue (ft)	30	12	5
95th Queue (ft)	61	37	23
Link Distance (ft)	256	256	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 93

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	5	0	15	25	0	5	10	40	85	5	75	5
Future Vol, veh/h	5	0	15	25	0	5	10	40	85	5	75	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	15	25	0	5	10	40	85	5	75	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.6	7.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	25%	83%	6%
Vol Thru, %	30%	0%	0%	88%
Vol Right, %	63%	75%	17%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	20	30	85
LT Vol	10	5	25	5
Through Vol	40	0	0	75
RT Vol	85	15	5	5
Lane Flow Rate	135	20	30	85
Geometry Grp	1	1	1	1
Degree of Util (X)	0.14	0.022	0.037	0.097
Departure Headway (Hd)	3.723	3.936	4.396	4.101
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	957	895	805	870
Service Time	1.769	2.023	2.477	2.146
HCM Lane V/C Ratio	0.141	0.022	0.037	0.098
HCM Control Delay	7.4	7.1	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.3

HCM 6th Edition methodology does not support clustered intersections.

3: Folsom Blvd & Dawes St

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱		⋎	
Traffic Volume (veh/h)	160	845	1040	40	45	180
Future Volume (veh/h)	160	845	1040	40	45	180
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	845	1040	40	45	180
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	205	2086	1295	50	56	222
Arrive On Green	0.12	0.59	0.37	0.37	0.17	0.17
Sat Flow, veh/h	1781	3647	3582	134	323	1292
Grp Volume(v), veh/h	160	845	530	550	226	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1846	1622	0
Q Serve(g_s), s	3.5	5.1	10.6	10.6	5.3	0.0
Cycle Q Clear(g_c), s	3.5	5.1	10.6	10.6	5.3	0.0
Prop In Lane	1.00			0.07	0.20	0.80
Lane Grp Cap(c), veh/h	205	2086	660	685	279	0
V/C Ratio(X)	0.78	0.41	0.80	0.80	0.81	0.00
Avail Cap(c_a), veh/h	1118	6246	3123	3245	1629	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.1	4.5	11.2	11.2	15.9	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.9	0.8	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.9	3.0	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.5	4.5	12.1	12.1	18.0	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		1005	1080		226	
Approach Delay, s/veh		6.9	12.1		18.0	
Approach LOS		A	B		B	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.6	19.4				28.0		11.9
Change Period (Y+Rc), s	4.0	4.6				4.6		5.0
Max Green Setting (Gmax), s	25.0	70.0				70.0		40.0
Max Q Clear Time (g_c+I1), s	5.5	12.6				7.1		7.3
Green Ext Time (p_c), s	0.1	2.1				2.1		0.1

Intersection Summary			
HCM 6th Ctrl Delay			10.4
HCM 6th LOS			B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	1	8	6	165	188	0
Future Vol, veh/h	1	8	6	165	188	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	8	6	165	188	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	365	188	188	0	-	0
Stage 1	188	-	-	-	-	-
Stage 2	177	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	635	854	1386	-	-	-
Stage 1	844	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	632	854	1386	-	-	-
Mov Cap-2 Maneuver	632	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	854	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	9.4		0.3		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1386	-	822	-	-
HCM Lane V/C Ratio	0.004	-	0.011	-	-
HCM Control Delay (s)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Future Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	839		431	1200		447	406	362	36	364	162
Arrive On Green	0.02	0.24	0.00	0.12	0.34	0.00	0.13	0.23	0.23	0.02	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	1777	1585	1781	3554	1585
Grp Volume(v), veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Cycle Q Clear(g_c), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	839		431	1200		447	406	362	36	364	162
V/C Ratio(X)	0.85	0.77		0.71	0.50		0.56	0.52	0.80	0.83	0.34	0.34
Avail Cap(c_a), veh/h	659	4359		1605	4345		1618	2183	1947	696	2351	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	18.8	0.0	22.2	13.9	0.0	21.6	17.8	19.2	25.8	22.0	22.0
Incr Delay (d2), s/veh	16.0	0.6	0.0	0.8	0.5	0.0	0.4	0.4	1.6	16.3	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.1	0.0	1.6	2.4	0.0	1.3	1.9	2.9	0.5	0.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	19.4	0.0	23.0	14.4	0.0	22.0	18.2	20.8	42.1	22.2	22.5
LnGrp LOS	D	B		C	B		C	B	C	D	C	C
Approach Vol, veh/h		680			900			750			210	
Approach Delay, s/veh		20.5			17.3			20.5			25.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	23.3	12.1	10.6	12.1	18.0	5.5	17.2
Change Period (Y+Rc), s	5.5	5.5	* 5.3	* 5.2	5.5	* 5.5	* 4.4	* 5.2
Max Green Setting (Gmax), s	19.5	64.5	* 25	* 35	24.5	* 65	* 21	* 65
Max Q Clear Time (g_c+I1), s	3.0	9.0	5.6	3.7	6.5	10.9	2.9	11.1
Green Ext Time (p_c), s	0.0	6.6	0.1	0.3	0.2	1.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

25: Mather Field Road/Mather Field Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	67.0	94.7	38.5	4.7	26.2

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	B39	B39	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T	T	T
Maximum Queue (ft)	269	366	304	417	394	117	62	43	48	105
Average Queue (ft)	42	64	141	257	223	13	5	9	30	37
95th Queue (ft)	184	262	309	418	375	84	48	30	50	98
Link Distance (ft)	2926	906		356	356	1701	1701	63	63	63
Upstream Blk Time (%)				4	2			0	0	5
Queuing Penalty (veh)				0	0			0	0	11
Storage Bay Dist (ft)			245							
Storage Blk Time (%)			0	13						
Queuing Penalty (veh)			1	45						

25: Mather Field Road/Mather Field Rd Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	67.0	94.7	38.4	4.7	26.2

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	B39	B39	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T	T	T
Maximum Queue (ft)	269	366	304	417	394	117	62	43	48	105
Average Queue (ft)	42	64	141	257	223	13	5	9	30	37
95th Queue (ft)	184	262	309	418	375	84	48	30	50	98
Link Distance (ft)	2926	906		356	356	1701	1701	63	63	63
Upstream Blk Time (%)				4	2			0	0	5
Queuing Penalty (veh)				0	0			0	0	11
Storage Bay Dist (ft)			245							
Storage Blk Time (%)			0	13						
Queuing Penalty (veh)			1	45						

1: Paseo Dr & Caprice Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1	0.0
Total Del/Veh (s)	3.0	4.5	8.0	5.6	6.9

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	48.8	42.3	13.3	50.5	35.4

3: Folsom Blvd & Dawes St Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.3	0.0	0.1
Total Del/Veh (s)	10.0	12.4	11.3	11.0

4: Dawes St & Exist D/W Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	3.3	1.0	0.2	0.8

27: Bradshaw Road & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.2	0.0	0.2
Total Del/Veh (s)	19.5	20.4	17.8	21.3	19.5

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	1460.9

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	58	115	54
Average Queue (ft)	7	27	51	24
95th Queue (ft)	27	50	87	47
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	217	428	439	51	306	318	299	334	77	107	98	114
Average Queue (ft)	30	272	279	3	171	185	167	179	47	74	62	51
95th Queue (ft)	113	398	407	26	267	281	269	282	85	94	96	98
Link Distance (ft)		2932	2932				664	664	63	63	63	264
Upstream Blk Time (%)									16	50	5	
Queuing Penalty (veh)									56	171	18	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		21			0	0	0					
Queuing Penalty (veh)		4			1	1	0					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	91
Average Queue (ft)	29
95th Queue (ft)	68
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	187	241	262	310	231	140
Average Queue (ft)	72	71	87	130	93	55
95th Queue (ft)	134	162	178	227	181	101
Link Distance (ft)		664	664	2267	2267	416
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	0	1				
Queuing Penalty (veh)	2	1				

Intersection: 4: Dawes St & Exist D/W

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	42
Average Queue (ft)	10	5
95th Queue (ft)	33	25
Link Distance (ft)	374	416
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	L	L	T	T	L	L	T	TR	L
Maximum Queue (ft)	69	192	192	123	129	156	160	143	112	131	165	73
Average Queue (ft)	19	111	114	47	73	73	89	77	24	55	53	16
95th Queue (ft)	47	171	174	100	116	130	140	127	70	108	112	46
Link Distance (ft)		4038	4038			2193	2193	1106	1106	1106	1106	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300							175
Storage Blk Time (%)		0	0				0					
Queuing Penalty (veh)		0	0				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	72	61	35
Average Queue (ft)	30	12	5
95th Queue (ft)	60	41	22
Link Distance (ft)	256	256	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 254

1: Paseo Dr & Caprice Dr Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	3.9	2.2	4.6	3.1	8.0	9.0	6.2	4.8	6.0	2.8	6.9

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	71.2	56.4	8.1	60.5	30.7	25.4	22.5	23.4	8.5	58.8	59.1	13.4

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	35.4

3: Folsom Blvd & Dawes St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.3	0.3	0.0	0.0	0.1
Total Del/Veh (s)	19.8	8.8	12.8	6.5	17.7	9.4	11.0

4: Dawes St & Exist D/W Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.2	0.1	0.1
Total Del/Veh (s)	5.6	2.9	2.6	0.8	0.2	0.0	0.8

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.3	0.6	0.0	0.0	0.0	0.1	0.2	0.3	0.0	0.0	0.0
Total Del/Veh (s)	35.7	26.1	13.3	30.1	16.3	6.2	26.1	19.9	9.1	29.8	25.4	6.5

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	19.5

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	1460.9

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	58	115	54
Average Queue (ft)	7	27	51	24
95th Queue (ft)	27	50	87	47
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	217	428	439	51	306	318	299	334	77	107	98	114
Average Queue (ft)	30	272	279	3	171	185	167	179	47	74	62	51
95th Queue (ft)	113	398	407	26	267	281	269	282	85	94	96	98
Link Distance (ft)		2932	2932				664	664	63	63	63	264
Upstream Blk Time (%)									16	50	5	
Queuing Penalty (veh)									56	171	18	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		21			0	0	0					
Queuing Penalty (veh)		4			1	1	0					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	91
Average Queue (ft)	29
95th Queue (ft)	68
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	187	241	262	310	231	140
Average Queue (ft)	72	71	87	130	93	55
95th Queue (ft)	134	162	178	227	181	101
Link Distance (ft)		664	664	2267	2267	416
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	0	1				
Queuing Penalty (veh)	2	1				

Intersection: 4: Dawes St & Exist D/W

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	42
Average Queue (ft)	10	5
95th Queue (ft)	33	25
Link Distance (ft)	374	416
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	L	L	T	T	L	L	T	TR	L
Maximum Queue (ft)	69	192	192	123	129	156	160	143	112	131	165	73
Average Queue (ft)	19	111	114	47	73	73	89	77	24	55	53	16
95th Queue (ft)	47	171	174	100	116	130	140	127	70	108	112	46
Link Distance (ft)		4038	4038			2193	2193	1106	1106	1106	1106	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300							175
Storage Blk Time (%)		0	0				0					
Queuing Penalty (veh)		0	0				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	72	61	35
Average Queue (ft)	30	12	5
95th Queue (ft)	60	41	22
Link Distance (ft)	256	256	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 254

1: Paseo Dr & Caprice Dr

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	0	5	50	0	5	15	110	60	5	35	5
Future Vol, veh/h	5	0	5	50	0	5	15	110	60	5	35	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	50	0	5	15	110	60	5	35	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.9	7.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	50%	91%	11%
Vol Thru, %	59%	0%	0%	78%
Vol Right, %	32%	50%	9%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	185	10	55	45
LT Vol	15	5	50	5
Through Vol	110	0	0	35
RT Vol	60	5	5	5
Lane Flow Rate	185	10	55	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.201	0.012	0.068	0.052
Departure Headway (Hd)	3.903	4.287	4.465	4.144
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	912	840	790	854
Service Time	1.957	2.287	2.562	2.22
HCM Lane V/C Ratio	0.203	0.012	0.07	0.053
HCM Control Delay	7.9	7.3	7.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0	0.2	0.2

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱		↰↱	
Traffic Volume (veh/h)	165	1360	1080	75	40	110
Future Volume (veh/h)	165	1360	1080	75	40	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	165	1360	1080	75	40	110
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	2227	1350	94	50	137
Arrive On Green	0.12	0.63	0.40	0.40	0.12	0.12
Sat Flow, veh/h	1781	3647	3465	234	433	1191
Grp Volume(v), veh/h	165	1360	569	586	151	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1828	1634	0
Q Serve(g_s), s	3.3	8.6	10.5	10.5	3.4	0.0
Cycle Q Clear(g_c), s	3.3	8.6	10.5	10.5	3.4	0.0
Prop In Lane	1.00			0.13	0.26	0.73
Lane Grp Cap(c), veh/h	212	2227	711	732	188	0
V/C Ratio(X)	0.78	0.61	0.80	0.80	0.80	0.00
Avail Cap(c_a), veh/h	1197	6686	3343	3440	1757	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.9	4.2	9.8	9.8	16.0	0.0
Incr Delay (d2), s/veh	2.4	0.1	0.8	0.8	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.6	2.6	2.6	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.3	4.3	10.6	10.6	19.0	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		1525	1155		151	
Approach Delay, s/veh		5.8	10.6		19.0	
Approach LOS		A	B		B	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.4	19.5				27.9		9.3
Change Period (Y+Rc), s	4.0	4.6				4.6		5.0
Max Green Setting (Gmax), s	25.0	70.0				70.0		40.0
Max Q Clear Time (g_c+I1), s	5.3	12.5				10.6		5.4
Green Ext Time (p_c), s	0.1	2.4				3.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	2	10	22	296	124	3
Future Vol, veh/h	2	10	22	296	124	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	10	22	296	124	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	466	126	127	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	555	924	1459	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	545	924	1459	-	-	-
Mov Cap-2 Maneuver	545	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	721	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	9.4		0.5		0	
HCM LOS	A					

Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1459	-	828	-	-
HCM Lane V/C Ratio		0.015	-	0.014	-	-
HCM Control Delay (s)		7.5	0	9.4	-	-
HCM Lane LOS		A	A	A	-	-
HCM 95th %tile Q(veh)		0	-	0	-	-

HCM 6th Signalized Intersection Summary
27: Bradshaw Road & Folsom Blvd

PM EXISTING
06/06/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Future Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	839		431	1200		447	406	362	36	364	162
Arrive On Green	0.02	0.24	0.00	0.12	0.34	0.00	0.13	0.23	0.23	0.02	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	1777	1585	1781	3554	1585
Grp Volume(v), veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Cycle Q Clear(g_c), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	839		431	1200		447	406	362	36	364	162
V/C Ratio(X)	0.85	0.77		0.71	0.50		0.56	0.52	0.80	0.83	0.34	0.34
Avail Cap(c_a), veh/h	659	4359		1605	4345		1618	2183	1947	696	2351	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	18.8	0.0	22.2	13.9	0.0	21.6	17.8	19.2	25.8	22.0	22.0
Incr Delay (d2), s/veh	16.0	0.6	0.0	0.8	0.5	0.0	0.4	0.4	1.6	16.3	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.1	0.0	1.6	2.4	0.0	1.3	1.9	2.9	0.5	0.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	19.4	0.0	23.0	14.4	0.0	22.0	18.2	20.8	42.1	22.2	22.5
LnGrp LOS	D	B		C	B		C	B	C	D	C	C
Approach Vol, veh/h		680			900			750			210	
Approach Delay, s/veh		20.5			17.3			20.5			25.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	23.3	12.1	10.6	12.1	18.0	5.5	17.2
Change Period (Y+Rc), s	5.5	5.5	* 5.3	* 5.2	5.5	* 5.5	* 4.4	* 5.2
Max Green Setting (Gmax), s	19.5	64.5	* 25	* 35	24.5	* 65	* 21	* 65
Max Q Clear Time (g_c+I1), s	3.0	9.0	5.6	3.7	6.5	10.9	2.9	11.1
Green Ext Time (p_c), s	0.0	6.6	0.1	0.3	0.2	1.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

25: Mather Field Road/Mather Field Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	65.3	72.4	20.5	5.1	13.9

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T
Maximum Queue (ft)	296	330	197	276	246	54	64	110
Average Queue (ft)	43	60	55	133	104	15	33	47
95th Queue (ft)	196	234	142	231	197	41	55	111
Link Distance (ft)	2926	906		356	356	63	63	63
Upstream Blk Time (%)				0	0	0	0	8
Queuing Penalty (veh)				0	0	0	0	20
Storage Bay Dist (ft)			245					
Storage Blk Time (%)			0	1				
Queuing Penalty (veh)			0	2				

25: Mather Field Road/Mather Field Rd Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	65.3	72.4	20.5	5.1	13.9

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T
Maximum Queue (ft)	296	330	197	276	246	54	64	110
Average Queue (ft)	43	60	55	133	104	15	33	47
95th Queue (ft)	196	234	142	231	197	41	55	111
Link Distance (ft)	2926	906		356	356	63	63	63
Upstream Blk Time (%)				0	0	0	0	8
Queuing Penalty (veh)				0	0	0	0	20
Storage Bay Dist (ft)			245					
Storage Blk Time (%)			0	1				
Queuing Penalty (veh)			0	2				

1: Paseo Dr & Caprice Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1	0.1
Total Del/Veh (s)	2.9	4.1	6.9	5.9	6.0

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	32.7	41.8	11.1	47.0	31.6

3: Folsom Blvd & Dawes St Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.4	0.1	0.2
Total Del/Veh (s)	10.0	15.5	11.5	12.7

5: Dawes St & Proj Dwy Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1
Total Del/Veh (s)	2.8	1.0	0.3	0.7

27: Bradshaw Road & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.2	0.0	0.2
Total Del/Veh (s)	19.3	20.0	17.8	22.0	19.3

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	419.9

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	56	91	68
Average Queue (ft)	13	22	46	31
95th Queue (ft)	35	49	77	52
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	169	321	331	80	316	331	314	309	75	85	77	106
Average Queue (ft)	21	180	187	8	176	194	171	176	32	68	45	52
95th Queue (ft)	84	279	286	47	270	293	279	277	71	87	78	94
Link Distance (ft)		2932	2932				662	662	63	63	63	264
Upstream Blk Time (%)									5	32	2	
Queuing Penalty (veh)									14	81	5	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		6			0	0	0					
Queuing Penalty (veh)		1			0	0	0					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	101
Average Queue (ft)	40
95th Queue (ft)	82
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	153	157	167	270	235	154
Average Queue (ft)	73	51	72	154	104	79
95th Queue (ft)	127	121	143	240	196	135
Link Distance (ft)		662	662	2271	2271	213
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	1	0				

Intersection: 5: Dawes St & Proj Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	48
Average Queue (ft)	7	4
95th Queue (ft)	27	25
Link Distance (ft)	376	213
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	L	L	T	T	L	L	T	TR	L
Maximum Queue (ft)	57	219	204	111	129	181	192	140	111	139	130	58
Average Queue (ft)	18	111	115	44	67	68	89	80	23	58	44	15
95th Queue (ft)	44	182	177	90	109	138	155	128	67	116	99	43
Link Distance (ft)		4038	4038			2193	2193	1106	1106	1106	1106	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300							175
Storage Blk Time (%)		0	0				1					
Queuing Penalty (veh)		0	1				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	66	58	36
Average Queue (ft)	30	14	5
95th Queue (ft)	58	43	22
Link Distance (ft)	256	256	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 104

1: Paseo Dr & Caprice Dr Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	4.8	2.4	4.3	2.9	7.4	8.8	6.0	4.7	6.1	3.3	6.0

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	71.7	37.3	7.7	54.3	32.4	22.7	18.7	20.3	6.7	49.9	50.9	18.8

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	31.6

3: Folsom Blvd & Dawes St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.2	0.0	0.1	0.2
Total Del/Veh (s)	20.5	7.9	15.9	6.7	16.8	10.1	12.7

5: Dawes St & Proj Dwy Performance by movement

Movement	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Del/Veh (s)	2.8	2.4	0.9	0.3	0.7

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.3	0.5	0.0	0.0	0.0	0.1	0.2	0.3	0.0	0.0	0.0
Total Del/Veh (s)	35.8	25.7	13.2	29.6	16.1	6.3	26.2	19.6	8.4	32.9	26.4	6.0

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	19.3

Total Zone Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	419.9

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	56	91	68
Average Queue (ft)	13	22	46	31
95th Queue (ft)	35	49	77	52
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	169	321	331	80	316	331	314	309	75	85	77	106
Average Queue (ft)	21	180	187	8	176	194	171	176	32	68	45	52
95th Queue (ft)	84	279	286	47	270	293	279	277	71	87	78	94
Link Distance (ft)		2932	2932				662	662	63	63	63	264
Upstream Blk Time (%)									5	32	2	
Queuing Penalty (veh)									14	81	5	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		6			0	0	0					
Queuing Penalty (veh)		1			0	0	0					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	101
Average Queue (ft)	40
95th Queue (ft)	82
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	153	157	167	270	235	154
Average Queue (ft)	73	51	72	154	104	79
95th Queue (ft)	127	121	143	240	196	135
Link Distance (ft)		662	662	2271	2271	213
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	1	0				

Intersection: 5: Dawes St & Proj Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	48
Average Queue (ft)	7	4
95th Queue (ft)	27	25
Link Distance (ft)	376	213
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	L	L	T	T	L	L	T	TR	L
Maximum Queue (ft)	57	219	204	111	129	181	192	140	111	139	130	58
Average Queue (ft)	18	111	115	44	67	68	89	80	23	58	44	15
95th Queue (ft)	44	182	177	90	109	138	155	128	67	116	99	43
Link Distance (ft)		4038	4038			2193	2193	1106	1106	1106	1106	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300							175
Storage Blk Time (%)		0	0				1					
Queuing Penalty (veh)		0	1				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	66	58	36
Average Queue (ft)	30	14	5
95th Queue (ft)	58	43	22
Link Distance (ft)	256	256	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			175
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 104

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	0	15	25	0	5	10	40	97	5	75	5
Future Vol, veh/h	5	0	15	25	0	5	10	40	97	5	75	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	15	25	0	5	10	40	97	5	75	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.7	7.4	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	25%	83%	6%
Vol Thru, %	27%	0%	0%	88%
Vol Right, %	66%	75%	17%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	20	30	85
LT Vol	10	5	25	5
Through Vol	40	0	0	75
RT Vol	97	15	5	5
Lane Flow Rate	147	20	30	85
Geometry Grp	1	1	1	1
Degree of Util (X)	0.151	0.022	0.037	0.097
Departure Headway (Hd)	3.704	3.957	4.417	4.11
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	963	891	801	868
Service Time	1.749	2.044	2.498	2.155
HCM Lane V/C Ratio	0.153	0.022	0.037	0.098
HCM Control Delay	7.4	7.1	7.7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.3

HCM 6th Edition methodology does not support clustered intersections.

HCM 6th Signalized Intersection Summary
3: Folsom Blvd & Dawes St

AM EX PL PROJ
06/06/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱		Y	
Traffic Volume (veh/h)	167	840	1031	54	51	181
Future Volume (veh/h)	167	840	1031	54	51	181
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	840	1031	54	51	181
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	214	2094	1276	67	63	223
Arrive On Green	0.12	0.59	0.37	0.37	0.18	0.18
Sat Flow, veh/h	1781	3647	3528	180	356	1263
Grp Volume(v), veh/h	167	840	533	552	233	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1838	1625	0
Q Serve(g_s), s	3.7	5.2	11.0	11.0	5.6	0.0
Cycle Q Clear(g_c), s	3.7	5.2	11.0	11.0	5.6	0.0
Prop In Lane	1.00			0.10	0.22	0.78
Lane Grp Cap(c), veh/h	214	2094	660	683	287	0
V/C Ratio(X)	0.78	0.40	0.81	0.81	0.81	0.00
Avail Cap(c_a), veh/h	1087	6073	3036	3141	1587	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.5	4.5	11.6	11.6	16.2	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.9	0.9	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	3.1	3.2	1.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	4.6	12.5	12.4	18.3	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		1007	1085		233	
Approach Delay, s/veh		7.1	12.5		18.3	
Approach LOS		A	B		B	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.9	19.8				28.7		12.2
Change Period (Y+Rc), s	4.0	4.6				4.6		5.0
Max Green Setting (Gmax), s	25.0	70.0				70.0		40.0
Max Q Clear Time (g_c+I1), s	5.7	13.0				7.2		7.6
Green Ext Time (p_c), s	0.1	2.2				2.1		0.1

Intersection Summary		
HCM 6th Ctrl Delay		10.7
HCM 6th LOS		B

5: Dawes St & Proj Dwy

06/06/2022

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	0	7	21	171	196	0
Future Vol, veh/h	0	7	21	171	196	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	21	171	196	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	409	196	196	0	-	0
Stage 1	196	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	599	845	1377	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	589	845	1377	-	-	-
Mov Cap-2 Maneuver	589	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1377	-	845	-	-
HCM Lane V/C Ratio	0.015	-	0.008	-	-
HCM Control Delay (s)	7.7	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

27: Bradshaw Road & Folsom Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Future Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	839		431	1200		447	406	362	36	364	162
Arrive On Green	0.02	0.24	0.00	0.12	0.34	0.00	0.13	0.23	0.23	0.02	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	1777	1585	1781	3554	1585
Grp Volume(v), veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Cycle Q Clear(g_c), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	839		431	1200		447	406	362	36	364	162
V/C Ratio(X)	0.85	0.77		0.71	0.50		0.56	0.52	0.80	0.83	0.34	0.34
Avail Cap(c_a), veh/h	659	4359		1605	4345		1618	2183	1947	696	2351	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	18.8	0.0	22.2	13.9	0.0	21.6	17.8	19.2	25.8	22.0	22.0
Incr Delay (d2), s/veh	16.0	0.6	0.0	0.8	0.5	0.0	0.4	0.4	1.6	16.3	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.1	0.0	1.6	2.4	0.0	1.3	1.9	2.9	0.5	0.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	19.4	0.0	23.0	14.4	0.0	22.0	18.2	20.8	42.1	22.2	22.5
LnGrp LOS	D	B		C	B		C	B	C	D	C	C
Approach Vol, veh/h		680			900			750			210	
Approach Delay, s/veh		20.5			17.3			20.5			25.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	23.3	12.1	10.6	12.1	18.0	5.5	17.2
Change Period (Y+Rc), s	5.5	5.5	* 5.3	* 5.2	5.5	* 5.5	* 4.4	* 5.2
Max Green Setting (Gmax), s	19.5	64.5	* 25	* 35	24.5	* 65	* 21	* 65
Max Q Clear Time (g_c+I1), s	3.0	9.0	5.6	3.7	6.5	10.9	2.9	11.1
Green Ext Time (p_c), s	0.0	6.6	0.1	0.3	0.2	1.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

25: Mather Field Road/Mather Field Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	63.6	84.5	38.9	5.2	26.6

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	B39	B39	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T	T	T
Maximum Queue (ft)	259	387	293	423	382	112	58	44	54	109
Average Queue (ft)	41	74	141	255	228	9	3	12	29	42
95th Queue (ft)	178	289	309	403	363	83	48	36	52	103
Link Distance (ft)	2926	906		356	356	1701	1701	63	63	63
Upstream Blk Time (%)				3	1			0	0	7
Queuing Penalty (veh)				0	0			0	0	15
Storage Bay Dist (ft)			245							
Storage Blk Time (%)			0	13						
Queuing Penalty (veh)			0	44						

25: Mather Field Road/Mather Field Rd Performance by movement

Movement	EBT	WBT	NBT	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	63.6	84.5	38.9	5.2	26.6

Intersection: 25: Mather Field Road/Mather Field Rd

Movement	EB	WB	NB	NB	NB	B39	B39	SB	SB	SB
Directions Served	T	T	T	T	T	T	T	T	T	T
Maximum Queue (ft)	259	387	293	423	382	112	58	44	54	109
Average Queue (ft)	41	74	141	255	228	9	3	12	29	42
95th Queue (ft)	178	289	309	403	363	83	48	36	52	103
Link Distance (ft)	2926	906		356	356	1701	1701	63	63	63
Upstream Blk Time (%)				3	1			0	0	7
Queuing Penalty (veh)				0	0			0	0	15
Storage Bay Dist (ft)			245							
Storage Blk Time (%)			0	13						
Queuing Penalty (veh)			0	44						

1: Paseo Dr & Caprice Dr Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1	0.0
Total Del/Veh (s)	3.1	4.3	7.9	5.4	6.8

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	49.9	42.3	13.9	49.0	36.0

3: Folsom Blvd & Dawes St Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.4	0.0	0.2
Total Del/Veh (s)	10.5	13.4	12.8	11.9

5: Dawes St & Proj Dwy Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	3.1	0.8	0.3	0.7

27: Bradshaw Road & Folsom Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.2	0.0	0.2
Total Del/Veh (s)	19.2	20.1	17.9	21.7	19.3

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	1426.0

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	51	100	60
Average Queue (ft)	8	26	51	23
95th Queue (ft)	28	49	82	48
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	269	463	467	82	298	315	340	350	76	108	95	85
Average Queue (ft)	38	289	296	5	171	192	172	180	49	76	64	42
95th Queue (ft)	146	427	429	36	260	285	301	305	87	93	96	77
Link Distance (ft)		2932	2932				662	662	63	63	63	264
Upstream Blk Time (%)									19	54	6	
Queuing Penalty (veh)									67	187	20	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		23				0	0					
Queuing Penalty (veh)		5				0	1					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	69
Average Queue (ft)	23
95th Queue (ft)	54
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	195	274	279	265	232	146
Average Queue (ft)	77	77	94	141	102	66
95th Queue (ft)	143	180	190	225	185	113
Link Distance (ft)		662	662	2271	2271	205
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	1	1				
Queuing Penalty (veh)	4	1				

Intersection: 5: Dawes St & Proj Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	33	31
Average Queue (ft)	12	2
95th Queue (ft)	35	15
Link Distance (ft)	376	205
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	L	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	72	201	205	114	136	168	181	30	156	127	128	132
Average Queue (ft)	18	112	112	46	72	70	89	1	80	27	58	48
95th Queue (ft)	48	174	174	95	119	137	151	27	132	82	111	103
Link Distance (ft)		4038	4038			2193	2193		1106	1106	1106	1106
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300			150				
Storage Blk Time (%)		0	0				1					
Queuing Penalty (veh)		0	1				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	62	70	63	49
Average Queue (ft)	15	30	11	6
95th Queue (ft)	43	61	38	24
Link Distance (ft)		256	256	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	175			175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 285

1: Paseo Dr & Caprice Dr Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	4.0	2.2	4.4	2.8	8.0	8.7	6.4	4.2	5.9	2.7	6.8

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0
Total Del/Veh (s)	74.2	57.4	8.3	61.1	30.2	26.1	22.7	24.6	8.9	48.5	58.0	10.0

2: Mather Field Rd/Paseo Dr & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	36.0

3: Folsom Blvd & Dawes St Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.3	0.0	0.0	0.2
Total Del/Veh (s)	21.9	9.1	13.9	7.0	17.6	10.6	11.9

5: Dawes St & Proj Dwy Performance by movement

Movement	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.2	0.1
Total Del/Veh (s)	3.1	2.4	0.8	0.2	0.7

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.3	0.6	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0
Total Del/Veh (s)	33.8	25.8	12.9	29.6	15.8	6.2	26.4	20.4	8.4	30.9	26.9	6.6

27: Bradshaw Road & Folsom Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	19.3

Total Zone Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	1426.0

Intersection: 1: Paseo Dr & Caprice Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	51	100	60
Average Queue (ft)	8	26	51	23
95th Queue (ft)	28	49	82	48
Link Distance (ft)	577	276	264	1027
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	L	T	TR	L	LTR	R	LT
Maximum Queue (ft)	269	463	467	82	298	315	340	350	76	108	95	85
Average Queue (ft)	38	289	296	5	171	192	172	180	49	76	64	42
95th Queue (ft)	146	427	429	36	260	285	301	305	87	93	96	77
Link Distance (ft)		2932	2932				662	662	63	63	63	264
Upstream Blk Time (%)									19	54	6	
Queuing Penalty (veh)									67	187	20	
Storage Bay Dist (ft)	210			770	375	375						
Storage Blk Time (%)		23				0	0					
Queuing Penalty (veh)		5				0	1					

Intersection: 2: Mather Field Rd/Paseo Dr & Folsom Blvd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	69
Average Queue (ft)	23
95th Queue (ft)	54
Link Distance (ft)	264
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Folsom Blvd & Dawes St

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	195	274	279	265	232	146
Average Queue (ft)	77	77	94	141	102	66
95th Queue (ft)	143	180	190	225	185	113
Link Distance (ft)		662	662	2271	2271	205
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150					
Storage Blk Time (%)	1	1				
Queuing Penalty (veh)	4	1				

Intersection: 5: Dawes St & Proj Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	33	31
Average Queue (ft)	12	2
95th Queue (ft)	35	15
Link Distance (ft)	376	205
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	L	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	72	201	205	114	136	168	181	30	156	127	128	132
Average Queue (ft)	18	112	112	46	72	70	89	1	80	27	58	48
95th Queue (ft)	48	174	174	95	119	137	151	27	132	82	111	103
Link Distance (ft)		4038	4038			2193	2193		1106	1106	1106	1106
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			300	300			150				
Storage Blk Time (%)		0	0				1					
Queuing Penalty (veh)		0	1				0					

Intersection: 27: Bradshaw Road & Folsom Blvd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	62	70	63	49
Average Queue (ft)	15	30	11	6
95th Queue (ft)	43	61	38	24
Link Distance (ft)		256	256	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	175			175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 285

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	0	5	50	0	5	15	110	60	5	35	5
Future Vol, veh/h	5	0	5	50	0	5	15	110	60	5	35	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	50	0	5	15	110	60	5	35	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.9	7.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	50%	91%	11%
Vol Thru, %	59%	0%	0%	78%
Vol Right, %	32%	50%	9%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	185	10	55	45
LT Vol	15	5	50	5
Through Vol	110	0	0	35
RT Vol	60	5	5	5
Lane Flow Rate	185	10	55	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.201	0.012	0.068	0.052
Departure Headway (Hd)	3.903	4.287	4.465	4.144
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	912	840	790	854
Service Time	1.957	2.287	2.562	2.22
HCM Lane V/C Ratio	0.203	0.012	0.07	0.053
HCM Control Delay	7.9	7.3	7.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0	0.2	0.2

HCM 6th Edition methodology does not support clustered intersections.

	↗	→	←	↖	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↱		Y	
Traffic Volume (veh/h)	165	1351	1075	81	52	113
Future Volume (veh/h)	165	1351	1075	81	52	113
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	165	1351	1075	81	52	113
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	212	2211	1336	101	65	142
Arrive On Green	0.12	0.62	0.40	0.40	0.13	0.13
Sat Flow, veh/h	1781	3647	3443	252	515	1119
Grp Volume(v), veh/h	165	1351	570	586	166	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	1825	1643	0
Q Serve(g_s), s	3.4	8.9	10.9	10.9	3.8	0.0
Cycle Q Clear(g_c), s	3.4	8.9	10.9	10.9	3.8	0.0
Prop In Lane	1.00			0.14	0.31	0.68
Lane Grp Cap(c), veh/h	212	2211	709	728	208	0
V/C Ratio(X)	0.78	0.61	0.80	0.81	0.80	0.00
Avail Cap(c_a), veh/h	1165	6508	3254	3342	1720	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.4	4.4	10.2	10.2	16.2	0.0
Incr Delay (d2), s/veh	2.4	0.1	0.8	0.8	2.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.8	2.7	2.8	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.7	4.5	11.0	11.0	18.9	0.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		1516	1156		166	
Approach Delay, s/veh		6.0	11.0		18.9	
Approach LOS		A	B		B	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	8.5	19.8	28.4	9.8
Change Period (Y+Rc), s	4.0	4.6	4.6	5.0
Max Green Setting (Gmax), s	25.0	70.0	70.0	40.0
Max Q Clear Time (g_c+I1), s	5.4	12.9	10.9	5.8
Green Ext Time (p_c), s	0.1	2.4	3.9	0.1

Intersection Summary			
HCM 6th Ctrl Delay			8.8
HCM 6th LOS			A

5: Dawes St & Proj Dwy

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	0	15	9	318	134	0
Future Vol, veh/h	0	15	9	318	134	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	9	318	134	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	470	134	134	0	-	0
Stage 1	134	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	552	915	1451	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	548	915	1451	-	-	-
Mov Cap-2 Maneuver	548	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	9		0.2		0
HCM LOS	A				

Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1451	-	915	-	-
HCM Lane V/C Ratio		0.006	-	0.016	-	-
HCM Control Delay (s)		7.5	0	9	-	-
HCM Lane LOS		A	A	A	-	-
HCM 95th %tile Q(veh)		0	-	0.1	-	-

	⤴	→	⤵	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Future Volume (veh/h)	35	645	780	305	595	35	250	210	290	30	125	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	839		431	1200		447	406	362	36	364	162
Arrive On Green	0.02	0.24	0.00	0.12	0.34	0.00	0.13	0.23	0.23	0.02	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	3456	1777	1585	1781	3554	1585
Grp Volume(v), veh/h	35	645	0	305	595	0	250	210	290	30	125	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Cycle Q Clear(g_c), s	1.0	8.9	0.0	4.5	7.0	0.0	3.6	5.5	9.1	0.9	1.7	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	839		431	1200		447	406	362	36	364	162
V/C Ratio(X)	0.85	0.77		0.71	0.50		0.56	0.52	0.80	0.83	0.34	0.34
Avail Cap(c_a), veh/h	659	4359		1605	4345		1618	2183	1947	696	2351	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	18.8	0.0	22.2	13.9	0.0	21.6	17.8	19.2	25.8	22.0	22.0
Incr Delay (d2), s/veh	16.0	0.6	0.0	0.8	0.5	0.0	0.4	0.4	1.6	16.3	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.1	0.0	1.6	2.4	0.0	1.3	1.9	2.9	0.5	0.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	19.4	0.0	23.0	14.4	0.0	22.0	18.2	20.8	42.1	22.2	22.5
LnGrp LOS	D	B		C	B		C	B	C	D	C	C
Approach Vol, veh/h		680			900			750			210	
Approach Delay, s/veh		20.5			17.3			20.5			25.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	23.3	12.1	10.6	12.1	18.0	5.5	17.2
Change Period (Y+Rc), s	5.5	5.5	* 5.3	* 5.2	5.5	* 5.5	* 4.4	* 5.2
Max Green Setting (Gmax), s	19.5	64.5	* 25	* 35	24.5	* 65	* 21	* 65
Max Q Clear Time (g_c+I1), s	3.0	9.0	5.6	3.7	6.5	10.9	2.9	11.1
Green Ext Time (p_c), s	0.0	6.6	0.1	0.3	0.2	1.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.