



**INITIAL STUDY
ENVIRONMENTAL CHECKLIST FORM
File: EID-0016-2017**

1. **Project Title:** Calle Joaquin Commercial Building
2. **Lead Agency:** City of San Luis Obispo
Community Development Department
919 Palm Street
San Luis Obispo, CA 93401
3. **Agency Contacts:** Walter Oetzell, Assistant Planner (805) 781-7593
4. **Project Location:** 1460 Calle Joaquin (APN 053-151-036)
5. **Project Sponsor:** AuzCo Development, LLC
835 Aerovista Place, Suite 230
San Luis Obispo CA 93401
6. **General Plan Designations:**
Tourist Commercial
7. **Zoning:** None (Tourist Commercial (C-T) proposed)
8. **Project Description:** The project applicant proposes to develop about 11,500 square feet of land (0.25 acres), constructing a new two-story commercial building, 27 feet in height and containing 2,850 square feet of floor area on two floors, to be used for services accommodating the traveling public (see Attachment 2: Project Plans). Pedestrian access to the building would be taken from the sidewalk along Calle Joaquin, and vehicle access through a driveway leading to a small (10-space) vehicle parking lot.

Related site improvements include about 3,000 square feet of landscaped area and a 150 square-foot solid waste enclosure. Underground storage chambers will be installed under the parking lot area, providing storage for 1,127 cubic feet of site runoff water. A small pump house building on a concrete pad above a well will be relocated within the site (between the proposed solid waste enclosure and parking area), and a section of 4-inch water pipe associated with the existing pump house will be removed.

The property must be “zoned” before it may be developed, and the applicant requests that the City amend the Zoning Map to designate the property to be within a Tourist Commercial (C-T) Zone, consistent with its Tourist Commercial designation depicted on the City’s General Plan Map.

Development of the property is subject to a 20-foot creek setback extending from the “top of bank” of a channelized section of Prefumo Creek that runs along the southwest end of the property. An exception from the creek setback standard has been requested, to allow the placement of six (6) vehicle parking spaces on permeable paving within portions of the setback area.

9. Project Entitlements Requested:

- a. Zoning to Tourist Commercial (C-T)
- b. Architectural Review
- c. Creek Setback Exception

10. Surrounding Land Use: Service and Manufacturing (Administrative offices, Tire store, Motel); Transportation (US Highway 101); Commercial (Car wash; Auto service station); Open Space (Prefumo Creek)

11. Consultation with Native American Tribes (PRC § 21080.3.1): Formal notification was provided by the City, by mail and by email, to designated contacts of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested such notice. No formal requests for consultation were made in response to this notification.

12. Other public agencies whose approval is required: None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

FISH AND WILDLIFE FEES

	The Department of Fish and Wildlife has reviewed the CEQA document and written no effect determination request and has determined that the project will not have a potential effect on fish, wildlife, or habitat (see attached determination).
X	The project has potential to impact fish and wildlife resources and shall be subject to the payment of Fish and Game fees pursuant to Section 711.4 of the California Fish and Game Code. This initial study has been circulated to the California Department of Fish and Wildlife for review and comment.

STATE CLEARINGHOUSE

X	This environmental document must be submitted to the State Clearinghouse for review by one or more State agencies (e.g. Cal Trans, California Department of Fish and Wildlife, Department of Housing and Community Development). The public review period shall not be less than 30 days (CEQA Guidelines 15073(a)).
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DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made, or agreed to, by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	X
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(s) or “potentially significant unless mitigated” impact(s) on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) 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.	



Tyler Corey, Principal Planner
 for: Michael Codron
 Community Development Director

December 5, 2017

Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 19, "Earlier Analysis," as described in (5) below, may be cross-referenced).
5. Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063 (c) (3) (D)). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they addressed site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance

1. AESTHETICS

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	5,14 3b,3e			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, open space, and historic buildings within a local or state scenic highway?	3b,3e 5,10d			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	5, 14			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	10d			X	

The project site is set at a relatively low elevation within an urbanized area, on flat ground, adjacent to Prefumo Creek and a segment of U.S. Highway 101 that is designated in the City’s General Plan as a Scenic Roadway with high scenic value (Circulation Element Figure 3 – Scenic Roadways). Creeks, hills, and mountains are considered scenic resources (see General Plan glossary definition for “Scenic Resource”), forming a distinctive city backdrop and providing a scenic appearance. The Irish Hills form a visual backdrop to views experienced from Highway 101 while travelling southbound, and Cerro San Luis is part of the backdrop of views experienced travelling northbound. Blocking of views along scenic roadways is considered a significant environmental impact (Conservation and Open Space Element § 9.3.6). Projects in the viewshed of a scenic roadway and adjacent to creeks are considered “sensitive” sites (General Plan Circulation Element § 15.1.2 (A), Community Design Guidelines § 1.2 (E) (2)).

Scenic resources on or immediately adjacent to the site are limited to Prefumo Creek, which exits a concrete culvert at the northwest corner of the site, and travels along its westerly border. The site is undeveloped, but is not within an area designated for Open Space land uses. Existing development north and west of the site is characterized by one- and two-story buildings of various modern and contemporary styles, currently hosting a vehicle service station, an auto dealership, Auto Club offices, a car wash, and a tire store. Existing light sources in the vicinity include exterior site and landscape lighting, building-mounted lighting, illuminated signage, and lighting for Highway 101, adjacent to the site.

- a) *Less than significant impact.* The project will not have a substantial adverse impact on a scenic vista. Extension of the adjacent Tourist Commercial (C-T) Zone over this property would allow for development of the property with structures, which would be visible from the adjacent section of Highway 101, a scenic roadway, looking toward the Irish Hills or toward Cerro San Luis. Structures are subject to compliance with development standards that control building height and site coverage that limit the size and extent of buildings.

Because the project site is considered a “sensitive site” due to its location in the viewshed of a scenic roadway and adjacent to a creek, development of the site is subject to Architectural Review, guided by the City’s Community Design Guidelines, an implementation document for General Plan policies related to the protection of creek resources and maintenance of views of hillsides surrounding the City. The project was reviewed by the City’s Architectural Review Commission on November 13, 2017, and the Commission provided a recommendation to the City Council (see Attachment 8) with findings of

consistency with the Community Design Guidelines, including specific guidance for the preservation and enhancement of views of the hills and placement of buildings against the backdrop of hills (§ § 1.4(C); 3.1 (C.1) & (C.2.d); 7.1).

Visual simulations were prepared by the applicant depicting the appearance of the building proposed with this project, in relation to its visible backdrop at selected vantage points (Attachment 7). As the observer passes the project site, the building occupies only a small portion of the field of view at these vantage points, and quickly moves out of view as the observer continues traveling along the roadway. At least 3/4 (75%) of the view to the Irish Hills is maintained as the observer travels in a southbound direction (Views 1-3). As the observer approaches the site travelling northbound, the building occupies an insignificant portion (less than 10%) of the view toward the distant Santa Margarita Hills (View 4). Closer to the site, Cerro San Luis comes into view, partially obscured by existing development (View 5). At this vantage point, at least 3/4 (75%) of the view to the backdrop view is preserved. The proposed building obscures an additional small portion of the view of Cerro San Luis, but its modest height and tapering form preserves the view of the ridgeline of the Cerro. The full view of Cerro San Luis and Bishop Peak beyond are quickly revealed as the observer continues northbound (View 6).

For purposes of comparison, Table 5.4 of the San Luis Obispo Airport Area Specific Plan offers specific guidelines for view protection from roadways to backdrop hill views. These guidelines suggest that, for consistency with view preservation policies, development allow view of at least 60% of a scenic resource from specific vantage points along scenic roads, mainly looking in the direction of the road toward more distant hill views. Evaluated against this guideline, the visual simulations provided demonstrate that at least 75% of views from this roadway are retained at the selected vantage points, and that, consistent with General Plan policies, views are not “blocked,” and important backdrop features (the Irish Hills, Cerro San Luis) remain dominant.

- b) *Less than significant impact.* The project will not damage scenic resources. Scenic resources on the site are limited to Prefumo creek, running adjacent to the site, and the riparian vegetation along its banks. No other trees, rock outcroppings, open space resources, or historic buildings associated with a scenic highway exist on the site. Scenic resources related to Prefumo Creek will be preserved by conformance to the Creek Setback provisions of the City’s Zoning Regulations (§ 17.16.025), which implement General Plan policies for protection of scenic creek resources and creek-side habitat. As provided in these provisions, an exception from the setback standard is requested by the applicant to allow placement of six (6) unenclosed vehicle parking spaces on permeable paving within portions of the setback area. Granting the exception will not impact the scenic resource of the creek, as only uncovered parking spaces, and no structures, will be allowed within the setback, and the riparian habitat will be preserved undisturbed. The exception will be reviewed by the Planning Commission, who will provide a recommendation to the City Council for final action.
- c) *Less than significant impact.* The project will not degrade the existing visual character or quality of the site and its surroundings. The project was reviewed by the City’s Architectural Review Commission on November 13, 2017, and the Commission provided a recommendation to the City Council (Attachment 8) with findings of consistency with the Community Design Guidelines. These guidelines implement the City’s policies for high-quality architectural design and site planning, with preservation of the City’s visual character and consideration of compatibility with architecture in the vicinity as is a primary goals and principles.
- d) *Less than significant impact.* The project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Lighting proposed with development of the site is subject to conformance with the City’s Night Sky Preservation Regulations (Zoning Regulations

Ch. 17.23), which require outdoor lighting to be designed, installed, and maintained in a manner that prevents nighttime sky light pollution, and limit permitted light intensity on a site. Conformance to the standards provided in these regulations is evaluated on review of construction plans prior to issuance of construction permits. Site lighting is also subject to ongoing conformance to Performance Standards for Illumination (Zoning § 17.18.030), which prohibit creation of nuisance glare on other property.

Conclusion: Potential impacts to aesthetics are less than significant.

2. AGRICULTURAL RESOURCES

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	19				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	19,10c				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	19,10c				X

a-c) *No impact.* The project site is not within an Agricultural Zone, contains no farmland, and is not subject to any Williamson Act contract. It is within an area categorized as “Urban and Built-Up Land” on the California Important Farmland Finder and does not include any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project is limited to construction of a small commercial structure and use of a small parcel for commercial land uses, which will not result in the conversion of any farmland to any other use.

Conclusion: The project does not have the potential to impact agricultural resources.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	3a,16 17			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	16,17			X	

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	16,17		X		
d) Expose sensitive receptors to substantial pollutant concentrations?	16,17		X		
e) Create objectionable odors affecting a substantial number of people?	3a,10c				X

To regulate air pollutant emissions within California, the state has been divided into 15 air basins based on similar meteorological and geographic conditions. San Luis Obispo is located in the South Central Coast Air Basin. Air quality in the San Luis Obispo region is characteristically different than other regions of the County (i.e., the Upper Salinas River Valley and the East County Plain), although the physical features that divide them provide only limited barriers to transport of pollutants between regions.

Both the US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants: those for which the health and other effects are described in criteria documents. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. San Luis Obispo is currently designated as “nonattainment” for the state and federal ambient air quality standards for ground-level ozone and PM_{2.5}, and the state standards for PM₁₀.

The San Luis Obispo County Air Pollution Control District (APCD) is the lead air quality regulatory agency for San Luis Obispo County. The clean-air strategy of APCD includes the preparation of plans and programs for the attainment of CAAQS and NAAQS, and adoption and enforcement of rules and regulations. In 2002, the APCD adopted the 2001 Clean Air Plan for San Luis Obispo County, a comprehensive planning document that provides guidance on how to attain and maintain the state standards for ozone and PM₁₀. It presents a detailed description of the sources and pollutants which impact the jurisdiction, future air quality impacts to be expected under current growth trends, and appropriate control strategies for reducing ozone precursor emissions, thereby improving air quality.

The APCD developed the CEQA Air Quality Handbook (CEQA Handbook) to assist lead agencies with CEQA reviews, providing information on significance thresholds for assessing potential air quality impacts from proposed residential and commercial development, along with recommendations on the level of mitigation necessary to reduce those impacts. The CEQA Handbook includes general screening criteria used by the APCD to determine the type and scope of projects requiring an air quality assessment or mitigation. These criteria are based on project size in an urban setting and are designed to identify those projects with the potential to exceed the APCD’s significance thresholds.

- a) *Less than significant impact.* The proposed project is consistent with the general level of development anticipated and projected in the Clean Air Plan, and consistent with its land use planning strategies. Consistent with policies for Planning Compact Communities (Strategy L-1) and Balancing Jobs and Housing (Strategy L-2), the project site is located within the City’s Urban Reserve Line, near transit service, and in an area already designated in the General Plan for Tourist-Commercial land uses. Therefore, potential impacts would be less than significant.

- b-d) *Less than significant impact, with mitigation incorporated.* CEQA Appendix G states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make significance determinations. Under CEQA, the APCD is a responsible agency for reviewing and commenting on projects that have the potential to cause adverse impacts to air quality. The CEQA Handbook was used to assess potential air quality impacts that may result from the proposed project. The project site is not within 1,000 feet of sensitive receptors, as described in the CEQA Handbook.

Temporary construction impacts: The project involves grading, excavation, and other construction activities on a 0.27-acre site. According to screening emission rates for construction operations provided in the CEQA Handbook, temporary impacts from the project, including, but not limited to, excavation and construction activities and vehicle emissions from heavy duty equipment have the potential to create emissions that exceed air quality standards for temporary and intermediate periods. Construction equipment can be the source of air quality emission impacts, and may be subject to CARB or SLO APCD permitting requirements. Impacts related to vehicle and heavy equipment emissions are considered less than significant with incorporation of standard mitigation measures into the project, as detailed in Mitigation Measures AQ-1 through AQ-3.

Operational impacts: Table 1-1 of the CEQA Handbook indicates that the construction and operation of the proposed 2,800 square-foot commercial building would not be expected to exceed the APCD Greenhouse Gas (GHG) Numerical Threshold (1150 MT/year CO₂e) or the APCD Ozone Precursor Significance Threshold (25 lbs./day ROG+NO_x) for any of the Land Use activities the building could accommodate. For example, a 24-Hour Convenience Market would not be expected to exceed these thresholds unless it were at least 3,200 square feet in area. Therefore, operational phase air quality impacts of this project are considered to be less than significant.

Naturally-Occurring Asbestos: Naturally occurring asbestos (NOA) has been identified by CARB as a toxic air contaminant. Serpentine and ultramafic rocks are very common throughout California and may contain naturally occurring asbestos. The APCD has identified that NOA may be present throughout the City of San Luis Obispo (CEQA Handbook, Technical Appendix 4.4). The proposed project would result in grading and therefore may encounter NOA. Under the State Air Resources Board Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any construction or grading activities at the site the applicant must comply with all applicable requirements outlined in the Asbestos ATCM, which include a geologic investigation to determine if NOA is present, and where applicable, preparation of an Asbestos Dust Mitigation Plan or an Asbestos Health and Safety Program. Impacts related to naturally occurring asbestos are considered to be less than significant with implementation of standard mitigation measures described in Mitigation Measure AQ-4 below.

Asbestos Material in Demolition: This project includes relocation of equipment associated with a well located on the site. Grading and demolition activities have the potential to disturb asbestos that is often found in older structures as well as underground utility pipes and pipelines (i.e. transite pipes or insulation on pipes). Demolition can have potential negative air quality impacts related to the handling, demolition, and disposal of asbestos containing material (ACM). As such, the project may be subject to various regulatory jurisdictions, including the requirements of the National Emission Standard for Hazardous Air Pollutants (40 CFR 61, Subpart M – Asbestos NESHAP). Impacts related to asbestos material in demolition are considered less than significant with incorporation of standard mitigation measures described in Mitigation Measure AQ-5 below.

- e) *No impact.* The project develops the site to accommodate a range of land uses permitted in a Tourist Commercial area. Such uses primarily serve the traveling public and are not expected to create objectionable odors.

Mitigation Measure AQ-1: The following mitigation measures for reducing nitrogen oxides (NOx), reactive organic gases (ROG), and diesel particulate matter (DPM) emissions from construction equipment shall be incorporated into the project:

- a) Maintain all construction equipment in proper tune according to manufacturer's specifications;
- b) Fuel all off-road and portable diesel-powered equipment with CARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- c) Use diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- d) Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- e) Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance;
- f) All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
- g) Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- h) Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- i) Electrify equipment when feasible;
- j) Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- k) Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

Mitigation Measure AQ-2: The following mitigation measures shall be incorporated into the project to minimize nuisance impacts and to significantly reduce fugitive dust emissions:

- a) Reduce the amount of the disturbed area where possible;
- b) Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;
- c) All dirt stock-pile areas should be sprayed daily as needed;
- d) All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible, and building pads should be laid as soon as possible after grading unless seeding or soil binders are used;

Mitigation Measure AQ-3: On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations, limiting diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds and licensed for operation on highways. In general, the regulation specifies that drivers of said vehicles:

- a) Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,
- b) Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area, except as noted in Subsection (d) of the regulation. Signs must be posted in the designated queuing areas and job sites to remind drivers of the 5-minute idling limit.

Mitigation Measure AQ-4: Prior to any construction activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if the area disturbed is exempt from the Asbestos Air Toxics Control Measure (ATCM) regulations. An exemption request must be filed with the San Luis Obispo County Air Pollution Control District (APCD), as applicable. If the site is not exempt from the requirements of the regulation, the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and Asbestos Health and Safety Program for approval by the APCD.

Mitigation Measure AQ-5: Any scheduled demolition activities or disturbance, removal, or relocation of utility pipelines shall be coordinated with the APCD Enforcement Division at (805) 781-5912 to ensure compliance with NESHAP, which include, but are not limited to: 1) written notification, within at least 10 business days of activities commencing, to the APCD; 2) asbestos survey conducted by a Certified Asbestos Consultant; and 3) applicable removal and disposal requirements of identified asbestos-containing material.

Mitigation Measure AQ-6: Prior to any construction activities at the site, the project proponent shall ensure that all equipment and operations are compliant with California Air Resource Board and APCD permitting requirements, by contacting the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

Conclusion: With implementation of the recommended mitigation measures, the project will have a less than significant impact on air quality.

4. BIOLOGICAL RESOURCES

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	23		X		
b) Have a substantial adverse effect, on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	23		X		
c) Have a substantial adverse effect on federally protected wetlands as defined in Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	23				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	23		X		

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	23		X		
f) Conflict with the provisions of an adopted habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	3e				X

The urbanized area of the City of San Luis Obispo lies at the convergence of two main geologic features: the Los Osos Valley which drains westerly into Morro Bay via Los Osos Creek, and the San Luis Valley which drains to the south- southwest into the Pacific Ocean at Avila Beach via San Luis Obispo Creek. San Luis Obispo, Stenner, Prefumo, and Brizzolara Creeks, and numerous tributary channels pass through the city, providing important riparian habitat and migration corridors connecting urbanized areas to less-developed habitats in the larger area surrounding the City. A variety of natural habitats and associated plant communities are present within the City, and support a diverse array of native plants and resident, migratory, and locally nomadic wildlife species, some of which are considered as rare, threatened, or endangered species. However, the largest concentrations of natural and native habitats are located in the larger and less developed areas outside the city limits.

Wildlife occurrences within urban and developed areas would consist primarily of urban- adapted avian species utilizing the abundant tree canopy and concentrated food sources, and common animal species adapted to human presence (raccoon, opossum, striped skunk) and aquatic, semi-aquatic, and terrestrial species resident in or utilizing riparian areas. Occurrences of sensitive natural habitats are present in low-lying riparian and wetland areas. Protective measures are identified in the Conservation and Open Space for rare, threatened, or endangered species. The City of San Luis Obispo maintains a list of “Species of Local Concern” (General Plan Conservation and Open Space Element, Appendix A).

Existing conditions. A Biological Resources Assessment of the project site and proposed development was prepared in May 2017 by SWCA Environmental Consultants (Attachment 4). This assessment describes the existing conditions as having been observed to be riparian and disturbed/ruderal, with disturbance on the property stemming from vehicle and pedestrian usage.

A dry roadside swale dominated by non-native plants flows along the west side of the Highway 101 off-ramp (behind the chain link fence separating US 101 from the property) and into a culvert beneath the ramp. It captures stormwater from US 101 during rain events, but does not flow into the section of Prefumo Creek located on the property. A foot trail along the edge of the riparian vegetation leads into the Prefumo Creek riparian area. A pump house, well and gravel driveway turnaround are approximately 15 feet from the Prefumo Canyon riparian edge. A channelized (i.e., concrete) section of Prefumo Creek is located at the southwest end of the property, flowing in a southeasterly direction beneath Calle Joaquin and US 101 via existing culverts, and into San Luis Obispo Creek near the City’s Wastewater Treatment Plant

Vegetation on the property consists of non-native plant species that typically occur along roadside edges and disturbed areas. Habitats on the property were classified as ruderal (i.e., disturbed) and arroyo willow thicket. The channelized portion of Prefumo Creek is concrete; therefore, plant diversity on the banks of the channel is low. Plant species observed in the arroyo willow thicket were limited to arroyo willow; however, some non-native grasses and forbs that were observed in the ruderal areas were present below the drip line of the willows. A few horsetail (*Equisetum arvense*) and narrow leafed cattails (*Typha domingensis*) were observed starting to grow in soil deposited in the channel from recent rain events. The Biological Resource Assessment further describes the range of plant species observed in ruderal areas of the property.

- a,b) *Less than significant impacts, with mitigation incorporated.*
- d,e) Based on disturbed conditions observed on the property, no special-status plant species from the CNDDDB and CNPS database query results are expected to occur or were observed on the property. The project includes no tree removal.

Prefumo Creek has the potential to support steelhead (*Oncorhynchus mykiss irideus*), California red-legged frog (*Rana draytonii*), and western pond turtle (*Emys marmorata*) since aquatic habitat is present, but these species were not observed during the survey of the property. These species are also not expected in the upland areas of the property due to the disturbed conditions observed, foot traffic, and developed areas surrounding the property (i.e., Calle Joaquin, US 101).

The riparian and ruderal areas on the property have the potential to support migratory nesting birds during the nesting bird season (February 1–October 15); however, no nesting bird activity or nests were identified during the survey of the property.

Several recommendations to avoid and minimize any potential impact to special-status plant species or sensitive areas on the property were provided in the SWCA Biological Resources Assessment and incorporated into Mitigation Measures BIO-1 through BIO-4. These include:

1. Conduct of a pre-construction wildlife survey prior to development activities to determine the presence of any special-status wildlife species or other environmental concerns;
2. Conduct of nesting bird survey prior to any construction activities to be undertaken during the active nesting bird season (Feb. 1 to Oct. 15);
3. Incorporation of the proposed 20-foot creek setback depicted in the project plans (depicted with the requested creek setback exception allowing six (6) parking spaces on permeable pavement within portions of the setback); and
4. Installation of Best Management Practices prior to construction for protection of the riparian area and any special-status wildlife species that could be present.

- c,f) *No impact.* No wetland area was observed or identified within the project site in the Biological Resources Assessment prepared for the site and project. The project site is not within any habitat conservation plan area, and will not conflict with any such plan.

Mitigation Measure BIO-1: Prior to any development activities on the property, a pre-construction wildlife survey shall be conducted by a qualified professional, to determine if any special-status wildlife species or other environmental concerns are present, prior to construction. The survey shall include a survey of the riparian, aquatic, and ruderal areas on the property.

Mitigation Measure BIO-2: A nesting bird survey shall be conducted by a qualified professional two (2) weeks prior to the start of construction activities if activities occur during the active nesting bird season (February 1 to October 15). The survey shall include the riparian and ruderal areas on the property.

Mitigation Measure BIO-3: The proposed 20-foot Creek Setback depicted in project plans reviewed by SWCA Environmental Consultants in their Biological Resources Assessment (dated May 16, 2017) for the site and project shall be incorporated into the project design. Consistent with the above-mentioned plan, up to six (6) uncovered vehicle parking spaces on permeable paving may be located within the creek setback, with a Creek Setback Exception granted pursuant to § 17.16.025 of City's Zoning Regulations.

Mitigation Measure BIO-4: Best Management Practices (e.g., straw wattles, Environmental Sensitive Area, exclusion fencing or silt fencing, etc.) shall be installed prior to construction, for protection of the riparian area and

any special-status wildlife species (i.e., steelhead, California red-legged frog, western pond turtle, and nesting birds) that could be present.

Conclusion: With implementation of the recommended mitigation measures, the project will have a less than significant impact on biological resources.

5. CULTURAL RESOURCES

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historic resource as defined in §15064.5.	6,24				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5	24		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	20		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?	3e		X		

Archaeological evidence demonstrates that Native American groups (including the Chumash) have occupied the Central Coast for at least 10,000 years, and that Native American use of the region may have begun during the late Pleistocene, as early as 9,000 B.C., demonstrating that the accumulation of historical resources began on the Central Coast during the prehistoric era. The City of San Luis Obispo is located within the area historically occupied by the Obispeño Chumash, the northernmost of the Chumash people of California. The Obispeño Chumash occupied much of San Luis Obispo County, including the Arroyo Grande area, and from the Santa Maria River north to approximately Point Estero. The earliest evidence of human occupation in the region comes from archaeological sites along the coast.

The area of San Luis Obispo was first settled by the native Chumash tribe, who established a network of villages along San Luis Obispo Creek. The Spanish colonized Alta California beginning in 1769, and in 1772 Father Junipero Serra founded Mission San Luis Obispo de Tolosa on the banks of San Luis Obispo Creek. In 1850, California was admitted to the Union, and in 1868 San Luis Obispo was officially designated as the county seat. Stagecoach routes were introduced in the 1860s and railroad lines were extended throughout the 1890s, with the Southern Pacific Railroad arriving in the late 1890s. A Chinatown district had been established downtown by the 1870s, after the arrival of Chinese immigrants. In 1903 the California Polytechnic State University was established. An era of growth began in 1945, with the city’s population increasing by 53% between 1945 and 1970.

A Phase I Archaeological Study was prepared for the project on May 16, 2017 by SWCA Environmental Consultants (Attachment 3). The study included a cultural resources records search, a Native American Sacred Lands File search, an archaeological survey of the project area, and preparation of a technical memorandum documenting the results of the inventory and providing management recommendations. Pursuant to Assembly Bill (AB) 52, the City mailed letters on February 14, 2017 to the individual Native American tribes that are currently on the City’s list for consultation. The City received responses from three of the tribal representatives; none of the responses included a request for formal consultation on the proposed project.

- a) *No impact.* A significant impact to a historical resource is characterized as “substantial adverse change” in the significance of the resource, and an impact is considered significant if a project may disturb:

historical architectural resources; known prehistoric or historical cultural resources; or buried, unknown prehistoric, or historical archeological resources. No property within the project site is included in the City's Inventory of Historic Resources. The site is undeveloped, apart from minor well equipment, containing no objects, sites, gardens, sacred places or resources that would meet the criteria for historical significance set out in the City's Historic Preservation Ordinance. The May 16, 2017 SWCA Archaeological Study prepared for the project confirms that no historical resources were identified within the project area.

- b) *Less than significant with incorporation of mitigation measures.* The records search carried out with the May 2017 SWCA Archaeological Study prepared for the project and the field survey conducted at the project site for the study did not identify the presence of unique or previously undocumented archaeological resources, as defined by CEQA, and there is no evidence that archaeological resources are present within the project area. The study concludes that the project area is considered to have low sensitivity for the presence of buried or obscured archaeological resources. A recommendation is provided for action to be taken in the unlikely event that archaeological resources are exposed during project implementation, and this is incorporated into Mitigation Measure CR-1, below.
- c) *Less than significant with incorporation of mitigation measures.* No unique geologic feature is evident at the project site. The only fossil resources likely to occur in the San Luis Obispo area are of Quaternary (Pleistocene) age, the most recent of the three Periods of the Cenozoic Era in the geologic time scale. The Preliminary Geologic Map of the Pismo Beach 7.5' Quadrangle, San Luis Obispo County, California (Version 1, 2011) prepared by the California Natural Resources Agency (Department of Conservation) depicts Young Surficial Deposits in the vicinity of the project site area; specifically, "Qya₂": Young alluvial valley deposits (Holocene to late Pleistocene), which do not fall within the Quaternary (Pleistocene) age range. Given this type of deposit, and the small area of the project site (less than one acre), paleontological resources are not anticipated to occur with the project area. With implementation of Mitigation Measure CR-1, potential impacts to paleontological or geographic features would be considered less than significant.
- d) *Less than significant with incorporation of mitigation measures.* The site is not located within any Burial Sensitivity Areas or contain any Burial Points, as identified in Figure 1 (Cultural Resources) of the Conservation and Open Space Element of the City's General Plan. Notification about the proposed project was provided by the City to designated contacts and tribal representatives of tribes traditionally and culturally affiliated with the geographic area of the project who have requested such notice, pursuant to Public Resources Code § 21080.3.1. No formal request for consultation was received and no Native American human burials, remains, or items associated with Native American burials were identified on or near the site in response to this notification. In the unlikely event that the project results in the discovery of human remains, standard protocol shall be followed, and notifications shall occur, as incorporated into Mitigation Measure CR-2 below.

Mitigation Measure CR-1: Prior to issuance of grading and construction permits, the following shall be included on all grading and construction plan sets: If, during the course of constructing and implementing the proposed Project, archaeological, paleontological, or cultural resources (i.e., prehistoric sites, historic sites, or isolated artifacts and features) are discovered, the contractor shall halt all ground disturbing activities immediately within 50 feet of the discovery, the City shall be notified, and a qualified professional archaeologist, architectural historian, or paleontologist (depending on the nature of the finding) shall be retained to evaluate the find and recommend appropriate mitigation measures. The City shall consider mitigation recommendations presented by the professional, and the City shall consult and agree upon implementation of feasible and appropriate measures. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other

appropriate measures. The City shall be required to implement any mitigation necessary for the protection of archaeological, paleontological, and cultural resources.

Mitigation Measure CR-2: Prior to issuance of grading and construction permits, the following shall be included on all grading and construction plan sets: In the event of human burial discovery, no further disturbance shall occur within 100 feet of the finding until the San Luis Obispo County Coroner has made a determination of origin and disposition pursuant to Public Resources Code § 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission within 24 hours, which will determine and notify a Most Likely Descendant (MLD). The City shall allow the MLD to complete an inspection of the site (typically within 48 hours of notification) and shall comply with MLD recommendations, which may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Conclusion: With implementation of the recommended mitigation measures, the project will have a less than significant impact on cultural resources.

6. GEOLOGY AND SOILS

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:	3d,15		X		
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.				X	
ii. Strong seismic ground shaking?				X	
iii. Seismic-related ground failure, including liquefaction?				X	
iv. Landslides?					X
b) Result in substantial soil erosion or the loss of topsoil?	2,3d 15			X	
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?	3d,15		X		
d) Be located on expansive soil, as defined in Table 1802.3.2 of the California Building Code (2013), creating substantial risks to life or property?	15		X		

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?					X
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San Luis Obispo lies within the southern Coast Range Geomorphic Province, between the Central Valley of California and the Pacific Ocean and extending from Oregon to northern Santa Barbara County. The Coast Range province is structurally complex, and is comprised of sub-parallel northwest-southeast trending faults, folds, and mountain ranges. Rock types in the San Luis Obispo area are mainly comprised of volcanic, metavolcanics, and a mixture of serpentinite and greywacke sandstone. These rocks are highly fractured and are part of the Mesozoic aged Franciscan Formation. Intrusive and extrusive volcanic deposits of Tertiary age and marine sedimentary deposits of the Miocene aged Monterey Formation are also found in the area. The most distinctive geomorphological feature of the San Luis Obispo area is the series of Tertiary aged volcanic plugs (remnants of volcanoes) which extend from the City of San Luis Obispo northwesterly to Morro Bay: Hollister Peak, Bishop Peak, Cerro San Luis Obispo, Islay Hill, and Morro Rock.

Faulting and Seismic Activity: The predominant northwest-southeast trending structures of the Coast Range Province are related to the San Andreas Fault Transform Boundary. Other faults in the San Luis Obispo area that are considered active or potentially active include the San Juan Fault, the Oceano Fault, the Oceanic Fault, the Hosgri Fault, and the Los Osos Fault. Also present are The East and West Huasna Faults, the Nacimiento Fault Zone, the Cambria Fault, and the Edna Fault, which have not yet been officially classified by the California Division of Mines and Geology.

The Alquist-Priolo Earthquake Fault Zone is an area within 500 feet from a known active fault trace that has been designated by the State Geologist. Under the Alquist-Priolo Earthquake Fault Zoning Act, no structure for human occupancy is permitted on the trace of an active fault. The portion of the fault zone closest to the city is located near the southern flank of the Los Osos Valley, northwest of Laguna Lake, but lies just outside of the city limits.

Seismically Induced Ground Acceleration: Seismically induced ground acceleration is the shaking motion that is produced by an earthquake. Probabilistic modeling is done to predict future ground accelerations, taking into consideration design basis earthquake ground motion, applicable to residential or commercial structures, or upper-bound earthquake ground motion, applied to public use facilities like schools or hospitals.

Landslides: Landslides occur when the underlying support can no longer maintain the load of material above it, causing a slope failure. Ground shaking and landslide hazards are mapped by the City and are shown in the General Plan. The city contains extensive hillsides, several of which are underlain by the rocks of the Franciscan group, a source of significant slope instability. Much of the development in San Luis Obispo is in valleys, where there is low potential for slope instability. The actual risk of slope instability is identified by investigation of specific sites, including subsurface sampling, by qualified professionals. The building code requires site-specific investigations and design proposals by qualified professionals in areas that are susceptible to slope instability and landslides.

Liquefaction: Liquefaction is defined as the transformation of a granular material from a solid state to a liquefied state from increased pore water pressure. Structures built on this material can sink into the alluvium, buried structures may rise to the surface, or materials on sloped surfaces may run downhill. Other effects of liquefaction include lateral spread, flow failures, ground oscillations, and loss of bearing strength. Liquefaction is intrinsically linked with the depth of groundwater below the site and the types of sediments underlying an area. The soils in the San Luis Obispo area that are most susceptible to ground shaking, and which contain shallow ground water, are the ones most likely to have a potential for settlement and for liquefaction. The actual risk of settlement or liquefaction is identified by investigation of specific sites, including subsurface sampling, by qualified professionals. Previous

investigations have found that the risk of settlement for new construction can be reduced to an acceptable level through careful site preparation and proper foundation design, and that the actual risk of liquefaction is low.

Differential Settlement: Differential settlement is the downward movement of the land surface resulting from the compression of void space in underlying soils. Compression can occur naturally with the accumulation of sediments over porous alluvial soils within river valleys, and from human activities, including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates. This phenomenon can alter local drainage patterns and result in structural damage. The Safety Element of the City's General Plan identifies portions of the City that are possibly underlain by soft organic soils, with a high potential for settlement.

Subsidence: Ground subsidence occurs where underlying geologic materials (typically loosely consolidated surficial silt, sand, and gravel) undergo a change from looser to tighter compaction, resulting in subsidence of the ground surface. Where compaction increases (either naturally, or due to construction), the geologic materials become denser. As a result, the ground surface overlying the compacting subsurface materials subsides as the underlying geologic materials settle. Ground subsidence can occur under several different conditions, including: ground-water withdrawal, in which water is removed from pore space as the water table drops, causing the ground surface to settle; tectonic subsidence, where the ground surface is warped or dropped lower due to geologic factors such as faulting or folding) and; earthquake-induced shaking that causes sediment liquefaction, which in turn can lead to ground-surface subsidence.

Expansive Soils: Expansive soils are generally clayey, swell when wetted, and shrink when dried. Wetting can occur in many ways (e.g., absorption from the air, rainfall, groundwater fluctuations, lawn watering, broken water or sewer lines, etc.). Soil expansion can cause subtle damage that can reduce structural integrity. Portions of the city are known to exhibit the soil types identified as having a moderate to high potential for expansion.

A Soils Engineering Report was prepared for this project by GeoSolutions, Inc. in July 2017 (Attachment 5). The report explores and evaluates the surface and sub-surface soil conditions at the Site and develops geotechnical information and design criteria for the project, as further described in section 2.0 (Purpose and Scope) of the report. The report concludes that the site is suitable for the proposed development, provided that certain recommendations in the report be incorporated into the project design and specifications to address geotechnical concerns identified in the report. The conclusions and recommendations of the report are incorporated by reference into Mitigation Measure GEO-1, described below. The Building Official will verify conformance to the design and specifications outlined in the report prior to issuance of construction permits for the project.

a, c) *Less than significant impacts, with incorporation of mitigation measures.* Figure 3 (Earthquake Faults – Local Area) of the Safety Element of the City's General Plan depicts no fault lines on the project site or within close proximity. Nevertheless, as the City is within a seismically active area, structures must be designed in compliance with seismic design criteria set out in the California Building Code, to resist seismic ground shaking and minimize the risk of resulting loss, injury, or death. Figure 5 (Ground Shaking & Landslide Hazards) indicates that the project site has a high liquefaction potential, but it is not located within an area having significant landslide potential.

The Soils Engineering Report prepared for this project includes a seismic hazard analysis with estimated site-specific ground motion parameters for seismic design, and a liquefaction hazard assessment. The report concludes that the potential for seismic liquefaction of soils at the site is low, and that, with implementation of the recommendations made in the report to address geotechnical concerns, the potential for seismically induced settlement and differential settlement at the site is considered to be low. Conformance to the California Building Code and City codes, and incorporation of the conclusions and recommendations of the Soils Engineering Report as required by Mitigation Measure GEO-1 will reduce impacts related to seismic hazards and landslide to less than significant levels.

- b) *Less than significant impacts.* The most significant source of potential erosion of on-site soils would be during initial site ground disturbance/construction and from stormwater runoff. All construction projects in the city require the installation, maintenance, routine inspection (i.e. weekly, before predicted rain events, after rain events and during prolonged rain events) and the repair or replacement, as needed, of best management practices (BMPs) throughout the course of a construction project in order to protect local water quality. Erosion control measures required for the project during construction may include, but are not limited to: scheduling ground disturbance to avoid the rain events (if feasible), use of hydro-seeding, planting, and mulch to stabilize soils, dust control to stabilize stockpiles, unpaved roads, and graded areas, protection of storm drain inlets, use of sediment traps, construction of a stabilized page of aggregate and filter fabric at the construction access entrance, street sweeping, and use of silt fencing, sand and gravel bags, and fiber rolls.

As described in the Stormwater Control Plan prepared for this project by Ashley & Vance Engineering, Inc. (Attachment 6), runoff is directed to landscaped areas during operation of the project in order to reduce runoff discharged off-site, and the design of the project results in post-project runoff rates that are lower than pre-project rates.

With implementation of required Best Management Practices (BMPs) and by compliance with Regional Water Quality Control Board Performance Requirements for reduction of runoff, potential impacts related to erosion are considered to be less than significant.

- d) *Less than significant impacts, with incorporation of mitigation measures.* The Soils Engineering Report prepared for the project notes the presence of highly expansive surface soils. The report concludes that with incorporation of the recommendations presented in the report to address geotechnical concerns, including expansive soils, the site is suitable for the proposed development. Conformance to the California Building Code and City codes, and development in accordance with the General Plan Safety Element and with the conclusions and recommendations of the Soils Engineering Report prepared for the project, as addressed by Mitigation Measure GEO-1 below, will reduce impacts related to expansive soil to less than significant levels.
- e) *No impacts.* The project site is served by the City's Sanitary Sewer System and includes no septic tanks or alternative waste water disposal system.

Mitigation Measure GEO-1: All recommendations provided in Section 8.0 (Conclusions and Recommendations) of the Soils Engineering Report prepared for the project (Project SL09150-3, dated July 5, 2017) by GeoSolutions, Inc. for ARH Quiky Investments, LLC, shall be incorporated into the project design, to the satisfaction of the Building Official.

Conclusion: With implementation of the recommended mitigation measures, the project will have a less than significant impact on geology and soils.

7. GREENHOUSE GAS EMISSIONS

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	9,16			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	9,16			X	

Prominent greenhouse gas (GHG) emissions contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Global sources of GHG emissions include fossil fuel combustion in both stationary and mobile sources, fugitive emissions from landfills, wastewater treatment, agricultural sources, deforestation, high global warming potential (GWP) gases from industrial and chemical sources, and other activities. The major sources of GHG emissions in the City are transportation-related emissions from cars and trucks, followed by energy consumption in buildings. Increases in average global temperatures will result in a number of locally-important adverse effects, including sea-level rise, changes to precipitation patterns, and increased frequency of extreme weather events such as heat waves, drought, and severe storms.

Statewide legislation, rules and regulations that apply to GHG emissions include the Global Warming Solutions Act of 2006 (Assembly Bill 32), the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375), Advanced Clean Cars Rule, Low Carbon Fuel Standard, Renewable Portfolio Standard, California Building Codes, and recent amendments to the California Environmental Quality Act (CEQA) pursuant to Senate Bill 97 with respect to analysis of GHG emissions and climate change impacts.

Plans, policies and guidelines have also been adopted at the regional and local level that address GHG emissions and climate change effects in the City. The San Luis Obispo Air Pollution Control District’s (APCD) CEQA Air Quality Handbook includes guidance on GHG emission thresholds and supporting evidence, that may be applied by lead agencies within San Luis Obispo County. The City also adopted a Climate Action Plan (CAP) that includes a GHG emissions inventory, identifies GHG emission reduction targets, and includes specific measures and implementing actions to reduce community-wide GHG emissions, and to help the City build resiliency and adapt to the effects of climate change.

a, b) *Less than significant impact.* Air quality impacts resulting from the buildout of the City’s General Plan have been analyzed in detail under the Environmental Impact Report prepared for the 2014 Update of the Land Use and Circulation Elements (LUCE) of the City’s General Plan. In 2009 the City conducted a GHG emissions inventory of annual emissions for the baseline year 2005. The City’s CAP also included forecasted business-as-usual (BAU) emissions for 2010, 2020 and 2035, which supersedes the emissions forecast included in the 2009 emissions inventory. According to the BAU forecast, communitywide emissions will increase by approximately 9% in 2020, compared to 2005 levels, and will further increase by approximately 21% by 2035, compared to 2005 levels. However, projected growth assumed under the Land Use Element of the General Plan is equal to or slightly less than the growth projections used to estimate worst case future GHG emissions in the CAP. Therefore, expected long-term operational GHG emissions generated by new development is consistent with the land use and zoning evaluated under the LUCE Update and would be consistent with forecasted BAU communitywide emissions in the CAP.

The CAP includes a communitywide GHG emissions reduction target of 15% below 2005 levels, by 2020. To address the forecast increase in long-term operational emission impacts, the CAP includes specific GHG reduction measures designed to achieve this target, in combination with state and federal legislative reductions. As shown in the LUCE Update EIR, with implementation of the GHG reduction measures, communitywide emissions would be reduced to 16% below 2005 levels by the year 2020, exceeding the 15% target. Table 4.7-3 (Consistency of Proposed LUCE Update Policies and Programs with Climate Action Plan Measures and Actions) of the LUCE EIR includes a detailed list of Land Use Element policies and their consistency with applicable CAP measures.

Table 1-1 of the APCD CEQA Air Quality Handbook indicates that the construction and operation of the proposed 2,800 square-foot commercial building would not be expected to exceed the APCD Greenhouse Gas (GHG) Numerical Threshold (1150 MT/year CO₂e) for any of the Land Use activities the building could accommodate. For example, a 24-Hour Convenience Market would not be expected to exceed these thresholds unless it exceeded 3,200 square feet in area. Therefore, operational phase air quality impacts of this project are considered to be less than significant.

Conclusion: Potential impacts from greenhouse gas emissions are less than significant.

8. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	3d			X	
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?	3d			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?					X
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?	21,22				X
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?	10e,18			X	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?					X

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	3d			X	
h) Expose people or structures to a significant risk of-loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	3d				X

As outlined in the Environmental Impact Report prepared for the 2014 Update of the Land Use and Circulation Elements (LUCE) of the City’s General Plan, the analysis of hazards and hazardous material impacts relates to: safety risks posed by airport flight patterns; impeding of adopted emergency response and evacuation plans and; wildland fires where wildlands are adjacent to urbanized areas. It also relates to the routine transport or disposal of hazardous substances, explosion or release of hazardous substances, and emissions or handling of hazardous substances within one-quarter mile of an existing or planned school. The following is a brief outline of the primary identified hazards.

Fire Hazards: Fires have the potential to cause significant losses to life, property, and the environment. Urban fire hazards result from the materials that make up the built environment, the size and organization of structures, and spacing of buildings. Additional factors that can accelerate fire hazards are availability of emergency access, available water volume and pressure for fire suppression, and response time for fire fighters. Fire hazard severity may be a threat in rural areas, including areas on the edge between urban and rural land (the wildland interface).

Hazardous Materials: Hazardous materials are defined as substances with physical and chemical properties of ignitability, corrosivity, reactivity, or toxicity which may pose a threat to human health or the environment, including chemical materials such as petroleum products, solvents, pesticides, herbicides, paints, metals, asbestos, and other regulated materials. Hazards also include known historical spills, leaks, illegal dumping, or other methods of release of hazardous materials to soil, sediment, groundwater, or surface water. If a historical release exists, then there is a risk associated with disturbing the historical release area. The primary risk concerns identified by the City, and identified in the City’s General Plan Safety Element, include radiation hazards and the transportation of hazardous materials in and around the city. Most of these incidents are related to the increasing frequency of transport of chemicals over roadways, railways or through industrial accidents. Highway 101 and the Union Pacific railroad are major transportation corridors through the San Luis Obispo area.

Airport Hazards: The San Luis Obispo County Airport provides commuter, charter, and private aviation service to the area. The primary hazard associated with land uses near the airport is the risk of aircraft incidents on approach and take-off. The County manages activities on the airport property through the Airport Land Use Commission (ALUC). The ALUC has developed an Airport Land Use Plan (ALUP) for the San Luis Obispo County Regional Airport that was first adopted in 1973, and last updated in May 2005. Development within the Airport Safety Zones set out in the ALUP are subject to the provisions of Chapter 17.57 (Airport Overlay Zone AOZ) of the City’s Zoning Regulations, which includes policies intended to minimize the public’s exposure to potential hazards associated with airport operations.

- a) *Less than significant impact.* Construction and maintenance activities would use a limited amount of hazardous materials such as fuels (gasoline and diesel), oils, and lubricants, paints and paint thinners, glues, cleaners (which could include solvents and corrosives in addition to soaps and detergents), and possibly pesticides and herbicides. Such use must be carried out in compliance with applicable building, health, fire, and safety codes including, but not limited to, Titles 8 and 22 of the CCR, the Uniform Fire Code, and Chapter 6.95 of the California Health and Safety Code. Potential future commercial uses permitted at the site do not include activities that would generate significant amounts of hazardous

materials. Hazardous materials kept at the site would be limited to a small amount of common cleaning chemicals, which would not create a significant hazard to the public or to the environment. The use of small amounts of hazardous materials during construction and operation of the project, in compliance with applicable federal, state, and local regulations, will not create a significant hazard to the public or to the environment through their routine transport, use, or disposal.

- b) *Less than significant impact.* As discussed above, the proposed project will not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or to the environment. Implementation of Title 49, Parts 171–180, of the Code of Federal Regulations and stipulations in the General Plan Safety Element establishing standards by which hazardous materials would be transported within and adjacent to the proposed project would reduce impacts associated with the potential for accidental release during construction or occupancy of the project, or by transporters picking up or delivering hazardous materials to the project site. Where transport of these materials occurs on roads, the California Highway Patrol is the responsible agency for enforcement of regulations. The applicant is required to prepare a Hazardous Materials Business Plan, subject approval by the County Department of Public Health, if potentially hazardous materials (cleaning supplies, oils, paint, fuels, or other compounds) for continued maintenance of the commercial building are stored onsite, documenting the safe and legal storage and use of the materials.
- c) *No impact.* There are no schools, proposed or existing, within a quarter mile (1,320 ft.) of the Project site; therefore, no impact would occur. The nearest schools are the Montessori Children’s School at 4200 South Higuera (0.4 miles to the southeast), and Pacific Beach High School at 11950 Los Osos Valley Road (0.5 miles to the northwest). In addition, as discussed in sections a) and b) above, the proposed Project is the construction and operation of a small commercial structure that would not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or to the environment.
- d) *No impact.* The project is not located on any Hazardous Waste and Substances site compiled by the Department of Toxic Substances Control (DTSC) under Government Code § 65962.5 (“Cortese” List).
- e) *Less than significant impact.* With conformance to standards and policies applicable to development within Airport Overlay Zone (AOZ), impacts related to airport operations are considered less than significant. The project site is located at the southwestern portion of the Airport Land Use Plan area designated in the Airport Land Use Plan for the San Luis Obispo County Regional Airport, within Safety Area 2-b (aircraft operation within the vicinity at altitudes between 501 and 1,000 feet). The project is consistent with the permitted land use and development for the Tourist-Commercial (C-T) Zone, and therefore consistent with limitations on Development Standards and Uses set out in Zoning § 17.57.040 (Airport Overlay Zone) intended to minimize the risk to people and property in the event of an accident or emergency aircraft landing. The project is not within any Noise Contours developed for the Plan, and is thus consistent with Airport Related Noise Policies (Zoning § 17.57.070) without need for further noise mitigation. The project is consistent with Zoning Regulations § 17.57.050 (Airspace Protection), including no structures that would affect navigable airspace, or present other flight hazards. The structure proposed to be built on the site is 27 feet tall. Structures in the Tourist-Commercial (C-T) Zone are subject to a 45-foot height limit.
- f) *No impact.* The project is not within the vicinity of any private airstrip.
- g) *Less than significant impact.* The Project is subject to the provisions of the City’s emergency response and evacuation plans, so impacts related to impaired implementation or physical interference with an adopted emergency response or evacuation plan are considered less than significant.

- h) *No impact.* The Project site is within the City of San Luis Obispo and is not in a wildland hazard area. Surrounding land is developed with urban and commercial uses, and a highway (U.S. Highway 101).

Conclusion: Potential impacts from hazards and hazardous materials are less than significant.

9. HYDROLOGY AND WATER QUALITY

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	2,3d 3e,11			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	3a,3e 11				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?	2,3e 11			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?	2,3d 11			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	2,3e 11			X	
f) Otherwise substantially degrade water quality?	2,3d 3e,11			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	3d,11 13				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	3d,11 13			X	
i) Expose people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	3d,11 13			X	
j) Inundation by seiche, tsunami, or mudflow?	3d				X

The project site is located within the San Luis Obispo Creek Hydrologic Subarea of the Estero Bay Hydrologic Unit, an area stretching roughly 80 miles between the Santa Maria River and the Monterey County line, corresponding to the coastal draining watersheds west of the Coastal Range. The San Luis Obispo Creek watershed drains approximately 84 square miles within this Unit. The City is generally located within a low-lying valley centered on San Luis Obispo Creek, one of four major drainage features that create flood hazards in the City; the others being Stenner Creek, Prefumo Creek, and Old Garden Creek. According to the Regional Water Quality Control Board (RWQCB), water quality in the San Luis Obispo Creek drainage system is generally considered to be good. However, the water quality fluctuates along with seasonal changes in flow rates. In summer months, when the flows decrease and dilution is reduced, water quality decreases. Groundwater within the San Luis Obispo Valley Sub-basin flows toward the south-southwest, following the general gradient of surface topography. Groundwater in the area is considered suitable for agricultural water supply, municipal and domestic supply, and industrial use.

The City regulates the design, construction, and operation of private facilities to ensure they will not have adverse effect on water quality, and the proposed project is subject to several existing regulations and programs, including the City's Storm Water Management Program, the Drainage Design Manual (DDM) of the Waterway Management Plan, and Post Construction Requirements for stormwater control. The City's Waterways Management Plan was prepared as a comprehensive, watershed-based management plan for San Luis Obispo Creek, to identify and develop programs to address flooding, erosion, water quality, and ecological issues in the San Luis Obispo Creek Watershed. It was adopted for the purpose of ensuring water quality and proper drainage within the creek's watershed. The City of San Luis Obispo Stormwater Quality Ordinance (SLOMC Ch. 12.08) also protects and enhances the quality of watercourses and water bodies in a manner pursuant to, and consistent with, the Clean Water Act by reducing pollutants in storm water discharges to the maximum extent practicable, by prohibiting non-storm water discharges to the storm drain system, and improving storm water management.

A Stormwater Control Plan, including a Water Quality Analysis, was prepared for the project by Ashley & Vance Engineering (Attachment 6) to evaluate the specific nature of the hydrology and water quality issues for the site. It addresses the drainage stormwater requirements set forth by the City and by the Regional Water Quality Control Board's Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region. As described within the report, the project, as designed, complies with Requirements applicable to the project: Grading, clearing of native vegetation, and impervious surfaces are minimized, and runoff is directed to landscaped areas, for reduction of runoff (Performance Requirement 1). Runoff is infiltrated via underground storage chambers to on the site for water quality treatment (Performance Requirement 2).

- a, f) *No impact.* The project is not expected to degrade water quality, or to violate water quality standards or waste water discharge requirements. It involves the construction of a small commercial building to accommodate land uses and activities that are permitted by the General Plan in a Tourist Commercial area, along with associated parking, hardscape, and landscaping. Construction and operation of the project is subject to review by the City's Public Works Department for conformance to water quality standards and by the Utilities Department for compliance with waste water discharge requirements, before any construction permit can be issued for the project. Mitigation Measure BIO-1 (see Biological Resources section above) requires preparation of a Stormwater Pollution Prevention Plan, and for Best Management Practices (BMPs) and Pollution Prevention Methods (PPMs) to be incorporated into grading and construction plans for the short and long-term management and protection of water quality.

Discharge of any pollutants (e.g. herbicides, pesticides, janitorial cleaning products, and toxic substances such as motor oil, gasoline, and anti-freeze) or heated water (e.g. from steam cleaning sidewalks) into a storm water system or directly into surface waters is illegal and subject to enforcement action by the RWQCB. Prior to reaching any natural stream or channel, storm water discharges from the Project site first reach the City's wastewater treatment facility, which ensures National Pollutant Discharge Elimination System (NPDES) discharges are within the standards set by the permit.

- b) *No impact.* The project conforms to the use limitations of the Land Use Element, and the City is sole water purveyor within the City limits. A very small portion (about 2%) of the City’s potable water supply is derived from groundwater. Based on review of the Urban Water Management Plan (2016) and review by the City Utilities Department, existing water supply is available to serve the project, and use of municipal water for the project would not deplete groundwater resources. Well equipment is present on the site and will be relocated, but the proposed project will be served by the City water supply, and this well is not proposed to be used in conjunction with this project.
- c,d,e) *Less than significant impact.* The site is a level site adjacent to an area developed for Tourist Commercial land uses, and within an area designated for Tourist Commercial land uses. No alteration of any stream course is proposed with this project. Physical improvement of the site will be required to comply with the drainage requirements of the Waterways Management Plan to avoid erosion, siltation, and excessive or polluted runoff. This plan requires that site development be designed so that post-development site drainage does not significantly exceed pre-development run-off. The Ashley & Vance Stormwater Control Plan for the project concludes that, as designed, the project will result in post-project peak runoff rates that are lower than the pre-project runoff rates.
- g) *No impact.* The project is within Flood Zone AE, but does not include housing.
- h,i) *Less than significant impact.* The project site is located within Flood Zone AE, as shown on the Federal Emergency Management’s National Flood Insurance Program Flood Insurance Rate Map (FIRM). No permit may be issued to construct the project until full compliance with Chapter 17.84 (Floodplain Management Regulations) of the City’s Zoning Regulations is demonstrated. Compliance with the City’s Floodplain Management Regulations reduces potential impacts to a less than significant level.
- j) *No impact.* San Luis Obispo is not subject to flooding as a result of the failure of a levee or dam, nor is it subject to inundation by seiche, tsunami, or mudflow.

Conclusion: Potential impacts to hydrology and water quality are less than significant.

10. LAND USE AND PLANNING

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	3a				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	3a,8				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	3e				X

- a-c) *No impact.* The project includes development of a commercial structure, in conformance to applicable development standards and design guidelines, for Tourist Commercial Land Uses, as allowed in a Tourist Commercial (C-T) Zone. It is subject to Development Review, and must be designed,

constructed, and operated in consistent with the policies of the City's General Plan and with the standards and limitations of the City's Zoning Regulations. It is located at the edge of a developed area, and thus does not divide any established community. It is not located within an area subject to a habitat conservation plan or community conservation plan.

Conclusion: The project does not have the potential for impacts related to land use and planning.

11. MINERAL RESOURCES

Would the project:	Sources	Potentially Significant Issues	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?	3e				X
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?	3e				X

a,b) *No impact.* No known mineral resources are present at the project site, and the site is not designated as a mineral recovery site by the General Plan, a Specific Plan, or other land use plan.

Conclusion: The project does not have the potential to impact mineral resources.

12. NOISE

Would the project result in:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	3c,8 10b			X	
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	3c,8 10b				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	3c,8 10b			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	3c,8 10b			X	
e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	3c,8 18				X

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?					X
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a-d) *Less than significant impact.* The project site is located within a 70dB noise contour depicted in Figure 4 of the Noise Element of the City’s General Plan, with elevated noise levels generated by transportation noise from U.S. Highway 101. The project is designed for traveler-oriented service and retail uses, and is not configured or intended for any of the noise-sensitive uses identified in Figure 1 and Table 1 of the Noise Element. Indoor noise can be reduced to acceptable levels (by 10dB, to 60dB) by following normal construction practices and the Uniform Building Code (UBC). With conformance to normal construction practices and the UBC, impacts related to noise will be less than significant.

Construction of the project is subject to Noise Control regulations in the City’s Municipal Code (SLOMC Ch. 9.12). The proposed project will accommodate Tourist Commercial land uses that are not expected to produce significant levels of noise, ground-borne vibration, or ground-borne noise levels. Furthermore, such land uses must also operate in conformance to Noise Control regulations and to Performance Standards set forth in the City’s Zoning Regulations (Ch. 17.18), for control of unnecessary, excessive, and annoying noise and vibration.

e, f) *No impact.* The project site is not within an Airport Noise Contour depicted within the San Luis Obispo County Regional Airport Land Use Plan, nor is it located within the vicinity of any private airstrip.

Conclusion: Potential impacts from noise are less than significant.

13. POPULATION AND HOUSING

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	3a			X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	3a				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	3a				X

a) *Less than significant impact.* The City’s goal for population growth, as stated in the Land Use Element of the General Plan, is a rate of one percent per year. The proposed project includes only commercial development, and no residential development. Given its small scale, the project is not expected to generate new employment that would be considered substantial. The property is already designated for Tourist Commercial land uses by the General Plan, and development of the site will be consistent with the anticipated use of the site, as described in the Land Use Element. It is within a developed portion of the City served by existing roads and infrastructure, and development of the site would not involve any components that would induce further growth beyond that anticipated in the General Plan.

b,c) *No impact.* The property is undeveloped, and the project will displace no housing units or people.

Conclusion: Potential impacts related to population and housing are less than significant.

14. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of 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:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	3a,3d			X	
b) Police protection?	3a,3d			X	
c) Schools?	3a			X	
d) Parks?	3a,3f			X	
e) Other public facilities?	3a			X	

General Plan policies aim to avoid and mitigate hazards, including fire hazards, by directing development away from hazardous areas, preventing development from increasing hazards for other properties in the area, and mitigating unavoidable hazards (Safety Element § 9.0). Development shall be approved only when adequate fire suppression services and facilities are available or will be made available concurrent with development, considering the setting, type, intensity, and form of the proposed development (§ 3.0). Implementation programs include response performance standards (§ 9.3), and programs for reducing structural hazards, including planning standards, review of development applications, administration of building and fire safety regulations, and conduct of safety inspections (§ § 9.17 through 9.23).

a-e) *Less than significant impact.* The project site is within an area designated in the General Plan for Tourist Commercial land uses and the project accommodates land uses consistent with this designation, at a scale and intensity consistent with General Plan policies for Tourist Commercial areas. These land uses will not significantly increase demand for public services such that new or altered facilities would be needed. The site is served by City’s Fire and Police Departments. It is not located within a fire hazard severity zone nor within a hazardous area. It includes no land uses that would increase hazards for other properties in the area, and is subject to development review to ensure that adequate fire suppression services and facilities are available prior to issuance of any construction permits to develop the property. Allowed land uses would not generate demand for police protection services, increased patrols, or additional units such that new police facilities would need to be constructed to maintain acceptable service levels, and impacts related to police protection would be less than significant.

Consistent with state law, school impact fees are paid to the San Luis Obispo Coastal Unified School District by project developers to offset potential impacts on school facilities. These fees would be directed toward maintaining adequate service levels, which include incremental increases in school capacities, ensuring that any significant impacts to schools which could result from the proposed project would be offset by development fees, reducing potential impacts to a less than significant level.

Conclusion: Potential impacts to public services are less than significant.

15. RECREATION

Would, or does, the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	3a,3f			X	
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	3a,3f			X	

There are 26 parks in the city covering about 150 acres of parkland, consisting of eight community parks, ten neighborhood parks, and eight mini parks. There are also six joint use facilities, and several recreation centers and special facilities (e.g., Damon Garcia Sports Fields and the SLO Swim Center). In addition to developed parks, the City owns or manages over 6,970 acres of open space within and adjacent to San Luis Obispo, some of which provide trails that accommodate hiking and mountain biking.

The City has an adopted standard of providing 10 acres of parkland for each 1,000 residents, and under existing conditions does not meet that standard, having only approximately 3.3 acres of parkland per 1,000 residents. Opportunities to improve compliance with the City’s parkland standard are addressed through recommendations provided in the Parks and Recreation Element City’s General Plan, but the existing condition where the standard is not achieved would continue to exist. However, this is not considered to be a significant environmental impact because the City’s per capita parkland ratio goal is intended to meet the community’s desire for increased recreational opportunities, and is not considered to be a policy adopted for the purpose of avoiding or mitigating an environmental effect.

a,b) *Less than significant impact.* The project is a small-scale commercial development that does increase the residential population of the City, as it does not include residential dwellings. Any increase in the use of parks and recreation facilities that it will generate is expected to be minimal. It does not include recreational facilities, nor will it require the construction or expansion of recreational facilities.

Conclusion: Potential impacts to recreation are less than significant.

16. TRANSPORTATION AND TRAFFIC

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	3a,3b		X		

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	3b				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	3b,18				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	3b				X
e) Result in inadequate emergency access?	3d				X
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	3b				X

a,b) *Less than significant impact, with incorporation of mitigation measures.* The project is consistent with the use and density limitations applicable to a Tourist Commercial area and does not conflict with circulation system or congestion management plans. It is in a developed area of the City served by existing public transit, bicycle and pedestrian facilities. Bicycle parking is required to be provided, in conformance with the City’s Zoning Regulations (§ 17.16.060).

Based on review by the Transportation Division of the City's Public Works Department, the project would generate very few vehicle trips, given the modest amount (2,850 sq. ft.) of commercial space it provides, and the Level of Service (LOS) along this segment of Calle Joaquin and at its intersection with Los Osos Valley Road will be unaffected by the project. The project would not result in significant project-specific adverse effects, but would contribute trips to the intersection at Los Osos Valley Road and Calle Joaquin. City-recommended mitigation for this cumulative impact includes eventual widening of the southbound Calle Joaquin approach to Los Osos Valley Road and addition of an additional turn pocket at the intersection. Therefore, the applicant shall enter into a covenant agreement to pay the "fair share" of the cost of these improvements. In addition, the applicant is required to contribute to the City’s Transportation Impact Fee program, in addition to the Los Osos Valley Road interchange sub-area fee program. This additional fee mechanism was developed by the City to assess planned area development to contribute its fair share to the cost of proposed interchange improvements. Based on implementation of Mitigation Measure TC-1, cumulative impacts would be less than significant.

c) *No impact.* The project is located within the Airport Land Use Planning Area defined by the Airport Land Use Commission of San Luis Obispo County, but has no potential to result in a change in air traffic patterns or in a change in location that would result in a substantial safety risk.

d,e) *No impact.* The project will not modify existing intersections or roadways and has been reviewed by the Fire Marshal and Public Works Department for consistency with applicable standards for site access, including emergency access. Driveways will be consistent with City Engineering Standards for safe ingress and egress. The project accommodates Tourist Commercial land uses that are similar to existing land uses in the vicinity, and so will not increase any hazard from incompatible uses.

Mitigation Measure TC-1: Prior to issuance of grading and construction permits, the applicant shall, to the satisfaction of the Director of Public Works:

- a) Enter into a covenant agreement with the City to contribute the project's "fair share" of cost for widening the southbound Calle Joaquin approach to Los Osos Valley Road and to add an additional turn pocket; and
- b) Contribute its fair share of the Los Osos Valley Road interchange sub-area fees and Traffic Impact Fees.

Conclusion: With implementation of the recommended mitigation measures, the project will have a less than significant impact transportation and traffic.

17. TRIBAL CULTURAL RESOURCES

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:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register as defined in Public Resources Section 5020.1(k)?	3e,6				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	24				X

Pursuant to Assembly Bill (AB) 52, the City mailed letters on February 14, 2017 to the individual Native American tribes that are currently on the City’s list for consultation. The City received responses from three of the tribal representatives; none of the responses included a request for formal consultation on the proposed project.

- a,b) *No impact.* A records search and field survey were carried out as part of the May 16, 2017 SWCA Archaeological Study for the project (Attachment). In the course of the study, California Native American Heritage Commission (NAHC) staff were contacted with a request for review of the Sacred Lands File. In response to this request, NAHC staff indicated that the search was positive for “cultural sites” within the 7.5-minute Pismo Beach U.S. Geological Survey quadrangle, which covers an area ranging from southern San Luis Obispo to Pismo Beach. Notification about the proposed project was provided by the City to designated contacts and tribal representatives of tribes traditionally and culturally affiliated with the geographic area of the project who have requested such notice, pursuant to Public Resources Code § 21080.3.1. No formal request for consultation was received and no Tribal Cultural Resource was identified on or near the site in response to this notification.

Conclusion: The project does not have the potential to impact tribal cultural resources.

18. UTILITIES AND SERVICE SYSTEMS

Would the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	3g			X	
b) Require or result in the construction or expansion of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	3a,3g			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	2,3e			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new and expanded entitlements needed?	3a,3g			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	3a,3g			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	3a,3g			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X	

Water. The City's Utilities Department provides potable and recycled water to the community and is responsible for water supply, treatment, distribution, and resource planning. The City is the sole water provider within the city limits and most of the City's water is supplied from multiple surface water sources. The City also uses groundwater to supplement surface water supplies and recycled water is used to supplement irrigation demand. With the update of the City's Water and Wastewater Element and Urban Water Management Plan in June 2016, the City Council reaffirmed the policy for a multi-source water supply (also see Section 9: Hydrology and Water Quality).

Wastewater. The City's wastewater system includes facilities for collection and treatment of wastewater. The collection system serves residential, commercial, and industrial customers. Sewer service is provided to properties within the city limits, a few residential properties located just outside of the city limits, Cal Poly San Luis Obispo, and the San Luis Obispo County Regional Airport. There are approximately 14,400 service connections. The Water Resource Recovery Facility (WRRF) processes wastewater in accordance with the standards set by the State's Regional Water Quality Control Board (RWQCB). The WRRF removes solids, reduces the amount of nutrients, and eliminates bacteria in the treated wastewater, which is then discharged to San Luis Obispo Creek. It is designed for an average dry weather flow capacity of 5.1 million gallons per day (MGD) and a peak wet weather flow capacity of 22 MGD. In 2015, average flows to the WRRF were approximately 3.5 MGD.

Stormwater: Stormwater management in the City is regulated by local, state, and federal regulations, standards, and criteria related to the computation of runoff, facility design, and quality of runoff discharged to streams. These regulations also may govern or dictate land use and grading activities within the floodplain of a stream or river. The City is the National Pollutant Discharge Elimination System (NPDES) permit holder, responsible for maintaining its Municipal Separate Storm Sewer System and for coordinating the implementation of the Storm Water Management Program. This comprehensive Program is required under the Phase II Storm Water Regulations issued by the State Water Resources Control Board, and overseen by the Central Coast Regional Water Quality Control Board. The primary goal of the Program is to minimize urban runoff that enters the municipal storm drain system carrying bacteria and other pollutants into local creeks and waterways.

Solid Waste: The City's Utilities Department is responsible for administering an exclusive franchise agreement with San Luis Garbage Company to collect and dispose solid waste generated by residential, commercial, and industrial customers in San Luis Obispo. This agreement also includes curbside recycling and green waste service. There are three solid waste disposal facilities within San Luis Obispo County: Chicago Grade Landfill, Paso Robles Trash & Recycling Landfill, and Cold Canyon Landfill. Most solid waste collected in the city is disposed of at the Cold Canyon Landfill. As of 2012, Cold Canyon Landfill is permitted to receive up to 1,620 tons of solid waste per day. Recently approved (2012) expansion of the landfill proves enough capacity to remain open until the year 2040.

Background research for the Integrated Waste Management Act of 1989 (AB 939) shows that Californians dispose of roughly 2,500 pounds of waste per month. Over 90% of this waste goes to landfills, posing a threat to groundwater, air quality, and public health. The Act requires each city and county in California to reduce the flow of materials to landfills by 50% (from 1989 levels) by 2000. To help reduce the waste stream generated by this project, consistent with the City's Source Reduction and Recycling Element, recycling facilities must be accommodated on the project site and a solid waste reduction plan for recycling discarded construction materials must be submitted with the building permit application.

a,e) *Less than significant impact.* The project is served by existing storm water, sewer, and wastewater treatment facilities, and will generate only a small increase in demand for these services, which is not expected to require any new or expanded facilities. The City has an adequate water supply to serve the community's existing and future water needs, as defined by the General Plan. The project conforms to the use limitations of the Land Use Element, and the City is sole water purveyor within the City limits.

f,g) *Less than significant impact.* The project is required by ordinance to include facilities for recycling to reduce the waste stream generated by the project, consistent with the City's Source Reduction and Recycling Element. The incremental additional waste stream generated by this project is not anticipated to create significant impacts to solid waste disposal. Waste collection services will be provided by the San Luis Garbage Company, which maintains standards for placement of and access to waste collection areas to ensure that collection is feasible. Compliance with applicable standards will be evaluated prior to issuance of construction permits to complete the project.

Conclusion: Potential impacts to utilities and service systems are less than significant.

19. MANDATORY FINDINGS OF SIGNIFICANCE

Does the project:	Sources	Potentially Significant Issues	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X		
b) 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 the past projects, the effects of other current projects, and the effects of probable future projects)?			X		
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X		

- a) *Less than significant impacts with mitigation measures incorporated.* The project is an infill commercial development in an urbanized area of the city. Without mitigation, the project could have the potential to have adverse impacts on environmental factors checked in the table Environmental Factors Potentially Affected, on Page 3 of this document. As discussed above, potential impacts to air quality, biological, cultural resources, geology and soils, and transportation and traffic will be less than significant with incorporation of recommended mitigation measures.
- b) *Less than significant impacts with mitigation measures incorporated.* The project would contribute vehicle trips to the intersection at Los Osos Valley Road and Calle Joaquin. City-recommended mitigation for this cumulative impact includes eventual widening of the southbound Calle Joaquin approach to Los Osos Valley Road and addition of an additional turn pocket at the intersection. Remaining impacts of the proposed project are individually limited and not considered “cumulatively considerable.” Incremental changes in certain issue areas can be expected as a result of the proposed project, but all environmental impacts that could occur as a result of the project will be reduced to a less than significant level through compliance with existing regulations discussed, and implementation of the mitigation measures recommended in, this Initial Study for the following resource areas: air quality, biological and cultural resources, geology and soils, and transportation and traffic
- c) *Less than significant impacts with mitigation measures incorporated.* Implementation of the project would result in no environmental effects that would cause substantial direct or indirect adverse effects on human beings. Environmental impacts that could occur from the proposed project would be reduced to a less than significant level through compliance with existing regulations discussed, and implementation of mitigation measures recommended in, this Initial Study for the following resources: air quality, biological and cultural resources, geology and soils, and transportation and traffic.

20. EARLIER ANALYSES

Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063 (c) (3) (D). In this case a discussion should identify the following items:

- a) Earlier analysis used: City of San Luis Obispo Land Use and Circulation Element (LUCE) Update EIR, available for review at the City Community Development Department (919 Palm Street, San Luis Obispo, CA 93401), or at the following web site:
www.slocity.org/government/department-directory/community-development/planning-zoning/general-plan
- b) Impacts adequately addressed: Applicable excerpts, analysis and conclusions from the LUCE Update EIR have been added to impact issue area discussions. Where project specific impacts and mitigation measures have been identified that are not addressed in the LUCE Update EIR, original analysis has been provided and mitigation has been recommended to reduce impact levels as needed.
- c) Mitigation measures: No mitigation measures have been incorporated from earlier analyses.

21. SOURCE REFERENCES

1. Project Plans (September 2016)
2. Ashley & Vance Engineering, Inc., *Stormwater Control Plan; 1460 Calle Joaquin, San Luis Obispo CA.* (June 8, 2016).
3. City of San Luis Obispo, Community Development Department. *General Plan (May 2015).*
 - a) *Land Use Element*
 - b) *Circulation Element*
 - c) *Noise Element*
 - d) *Safety Element*
 - e) *Conservation and Open Space Element*
 - f) *Parks and Recreation Element*
 - g) *Water & Wastewater Element*
4. City of San Luis Obispo, Community Development Department. *Archaeological Resource Preservation Program Guidelines.* (October 2009)
5. City of San Luis Obispo, Community Development Department. *Community Design Guidelines.* (June 2010)
6. City of San Luis Obispo, Community Development Department. *Inventory of Historic Resources.*
7. City of San Luis Obispo. *Climate Action Plan.* (August 2012)
8. City of San Luis Obispo. *Municipal Code*
9. City of San Luis Obispo, *Program Environmental Impact Report, Land Use and Circulation Elements Update (LUCE).* (June 2014)
 - a) *Appendix D: Background Report*
10. City of San Luis Obispo. *Zoning Regulations (March 2015)*
 - a) *§ 17.16.025: Creek Setbacks*
 - b) *Ch. 17.18: Performance Standards*
 - c) *Ch. 17.22: Use Regulation*
 - d) *Ch. 17.23: Night Sky Preservation*
 - e) *Ch. 17.57: Airport Overlay Zone*

11. City of San Luis Obispo Department of Public Works and County of San Luis Obispo, Flood Control District – Zone 9. *Waterway Management Plan, San Luis Obispo Creek Watershed*. (2003)
12. City of San Luis Obispo. *2015 Urban Water Management Plan*. (June 2016)
13. Federal Emergency Management Agency. *Flood Insurance Rate Map No. 06079C1331G*. (November 16, 2012)
14. garcia architecture + design. *Calle Joaquin Commercial – Visual Simulations Studies*. (July 2017)
15. GeoSolutions, Inc. *Soils Engineering Report, 1460 Calle Joaquin (APN: 053-141-036), San Luis Obispo, California, Project SL09150-3*. (July 2017)
16. San Luis Obispo County Air Pollution Control District. *Clean Air Plan for San Luis Obispo County* (2001).
17. San Luis Obispo County Air Pollution Control District. *CEQA Air Quality Handbook, A Guide for Assessing the Air Quality Impacts for Projects Subject to CEQA Review*. (April 2012).
 - a) *Table 1-1: Screening Criteria for Project Air Quality Analysis*
18. San Luis Obispo County, Airport Land Use Commission. *Airport Land Use Plan for the San Luis Obispo County Regional Airport*. (2005).
19. State of California, Department of Conservation. *California Important Farmland Finder*. ONLINE: <http://maps.conservation.ca.gov/ciff/ciff.html>.
20. State of California, Department of Conservation (Natural Resources Agency). *The Preliminary Geologic Map of the Pismo Beach 7.5' Quadrangle, San Luis Obispo County, California (Version 1, 2011)*
21. State of California, Department of Toxic Substances Control. *EnviroStor Database*. [Accessed October 20, 2017]
22. State of California, Water Resources Control Board. *Geotracker Database*. [Accessed October 20, 2017]
23. SWCA Environmental Consultants. *Biological Resources Assessment for the 1460 Calle Joaquin Commercial Building Project, San Luis Obispo, San Luis Obispo County, California / SWCA No. 43241* (May 2017)
24. SWCA Environmental Consultants. *Phase I Archaeological Survey for the 1460 Calle Joaquin Commercial Building Project, San Luis Obispo, San Luis Obispo County, California / SWCA No. 43241* (May 2017)

ATTACHMENTS

1. Vicinity Map
2. Project Plans
3. Archaeological Assessment (SWCA Environmental Consultants)
4. Biological Resources Assessment (SWCA Environmental Consultants)
5. Soils Engineering Report (GeoSolutions, Inc.)
6. Stormwater Control Plan (Ashley & Vance Engineering, Inc.)
7. Visual Simulation Study
8. Architectural Review Commission Resolution (ARC-1020-17)

REQUIRED MITIGATION AND MONITORING PROGRAMS

AIR QUALITY

Mitigation Measure AQ-1: The following mitigation measures for reducing nitrogen oxides (NO_x), reactive organic gases (ROG), and diesel particulate matter (DPM) emissions from construction equipment shall be incorporated into the project:

- a) Maintain all construction equipment in proper tune according to manufacturer's specifications;
- b) Fuel all off-road and portable diesel-powered equipment with CARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- c) Use diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- d) Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- e) Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x exempt area fleets) may be eligible by proving alternative compliance;
- f) All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
- g) Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- h) Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- i) Electrify equipment when feasible;
- j) Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- k) Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

Mitigation Measure AQ-2: The following mitigation measures shall be incorporated into the project to minimize nuisance impacts and to significantly reduce fugitive dust emissions:

- a) Reduce the amount of the disturbed area where possible;
- b) Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;
- c) All dirt stock-pile areas should be sprayed daily as needed;
- d) All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible, and building pads should be laid as soon as possible after grading unless seeding or soil binders are used;

Mitigation Measure AQ-3: On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations, limiting diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds and licensed for operation on highways. In general, the regulation specifies that drivers of said vehicles:

- a) Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,
- b) Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area, except as noted in Subsection (d) of the regulation. Signs must be posted in the designated queuing areas and job sites to remind drivers of the 5-minute idling limit.

- *Monitoring Plan, AQ 1 through AQ-3:* All mitigation measures shall be shown on grading and building plans; and the contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

Mitigation Measure AQ-4: Prior to any construction activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if the area disturbed is exempt from the Asbestos Air Toxics Control Measure (ATCM) regulations. An exemption request must be filed with the San Luis Obispo County Air Pollution Control District (APCD), as applicable. If the site is not exempt from the requirements of the regulation, the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and Asbestos Health and Safety Program for approval by the APCD.

- *Monitoring Plan, AQ 4:* All mitigation measures shall be shown on grading and building plans. In addition, the contractor shall designate a person or persons to monitor compliance with APCD requirements. The name and telephone number of such persons shall be provided to the APCD, Community Development and Public Works Departments prior to commencement of construction. The applicant shall provide documentation of compliance with APCD requirements to City staff prior to issuance of any grading or building permits.

Mitigation Measure AQ-5: Any scheduled demolition activities or disturbance, removal, or relocation of utility pipelines shall be coordinated with the APCD Enforcement Division at (805) 781-5912 to ensure compliance with NESHAP, which include, but are not limited to: 1) written notification, within at least 10 business days of activities commencing, to the APCD, 2) asbestos survey conducted by a Certified Asbestos Consultant, and, 3) applicable removal and disposal requirements of identified asbestos containing material.

- *Monitoring Plan, AQ 5:* All mitigation measures shall be shown on grading and demolition plans. In addition, the contractor shall designate a person or persons to monitor compliance with APCD requirements. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD, Community Development and Public Works Departments prior to commencement of demolition activities.

Mitigation Measure AQ-6: Prior to any construction activities at the site, the project proponent shall ensure that all equipment and operations are compliant with California Air Resource Board and APCD permitting requirements, by contacting the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

- *Monitoring Plan, AQ 6:* All mitigation measures shall be shown on grading and building plans. In addition, the contractor shall designate a person or persons to monitor compliance with APCD requirements. The name and telephone number of such persons shall be provided to the APCD, Community Development and Public Works Departments prior to commencement of construction. The applicant shall provide documentation of compliance with APCD requirements to City staff prior to issuance of any grading or building permits.

BIOLOGICAL RESOURCES

Mitigation Measure BIO-1: Prior to any development activities on the property, a pre-construction wildlife survey shall be conducted by a qualified professional, to determine if any special-status wildlife species or other

environmental concerns are present, prior to construction. The survey shall include a survey of the riparian, aquatic, and ruderal areas on the property.

Mitigation Measure BIO-2: A nesting bird survey shall be conducted by a qualified professional 2 weeks prior to the start of construction activities if activities occur during the active nesting bird season (February 1 to October 15). The survey shall include the riparian and ruderal areas on the property.

- *Monitoring Plan, BIO-1 & BIO-2:* Conduct and completion of these surveys shall be incorporated into required mitigation measures for final approval granted for construction of this project. The Community Development Department and Natural Resources Manager shall verify that these surveys are completed prior to issuance of any construction permit to complete this project.

Mitigation Measure BIO-3: A 20-foot Creek Setback from the existing drainage easement, and consistent with § 17.16.025 of City's Zoning Regulations, shall be incorporated into the project design.

- *Monitoring Plan, BIO-3:* A Creek Setback is a development standard established by the City's Zoning Regulations. Compliance with this measure shall be verified City Community Development Department and Natural Resources Manager. The Creek Setback shall be indicated on all grading and construction plans.

Mitigation Measure BIO-4: Best Management Practices (e.g., straw wattles, Environmental Sensitive Area, exclusion fencing or silt fencing, etc.) shall be installed prior to construction, for protection of the riparian area and any special-status wildlife species (i.e., steelhead, California red-legged frog, western pond turtle, and nesting birds) that could be present.

- *Monitoring Plan, BIO-4:* These measures shall be incorporated into, and noted on, all grading and construction plans. The City Community Development Department and Natural Resources Manager shall verify compliance.

CULTURAL RESOURCES

Mitigation Measure CR-1: Prior to issuance of grading and construction permits, the following shall be included on all grading and construction plan sets: If, during the course of constructing and implementing the proposed Project, archaeological, paleontological, or cultural resources (i.e., prehistoric sites, historic sites, or isolated artifacts and features) are discovered, the contractor shall halt all ground disturbing activities immediately within 50 feet of the discovery, the City shall be notified, and a qualified professional archaeologist, architectural historian, or paleontologist (depending on the nature of the finding) shall be retained to evaluate the find and recommend appropriate mitigation measures. The City shall consider mitigation recommendations presented by the professional, and the City shall consult and agree upon implementation of feasible and appropriate measures. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The City shall be required to implement any mitigation necessary for the protection of archaeological, paleontological, and cultural resources.

Mitigation Measure CR-2: Prior to issuance of grading and construction permits, the following shall be included on all grading and construction plan sets: In the event of human burial discovery, no further disturbance shall occur within 100 feet of the finding until the San Luis Obispo County Coroner has made a determination of origin and disposition pursuant to Public Resources Code § 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission within 24 hours, which will determine and notify a Most Likely Descendant (MLD). The City shall allow the MLD to complete an inspection of the site (typically within 48 hours of

notification) and shall comply with MLD recommendations, which may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials

- *Monitoring Plan, CR-1 & CR-2:* These Mitigation Measures shall be noted on all grading and construction plans, and be clearly visible to contractors and City inspectors. City staff will periodically inspect the site for continued compliance with the above Mitigation Measures.

GEOLOGY AND SOILS

Mitigation Measure GEO-1: All recommendations provided in § 8.0 (Conclusions and Recommendations) of the Soils Engineering Report prepared for the project (Project SL09150-3, dated July 5, 2017) by GeoSolutions, Inc. for ARH Quiky Investments, LLC, shall be incorporated into the project to the satisfaction of the Building Official.

- *Monitoring Plan, GEO-1:* These recommendations shall be incorporated into, and noted on, construction plans. The Building Official shall verify compliance.

TRANSPORTATION AND TRAFFIC

Mitigation Measure TC-1: Prior to issuance of grading and construction permits, the applicant shall, to the satisfaction of the Director of Public Works:

- a) Enter into a covenant agreement with the City to contribute the project's "fair share" of cost for widening the southbound Calle Joaquin approach to Los Osos Valley Road and to add an additional turn pocket; and
 - b) Contribute its fair share of the Los Osos Valley Road interchange sub-area fees and Traffic Impact Fees
- *Monitoring Plan, TC-1:* The Public Works Director will verify compliance with this Mitigation Measure prior to issuance of grading and construction permits for this project.



VICINITY MAP

EID-0016-2017

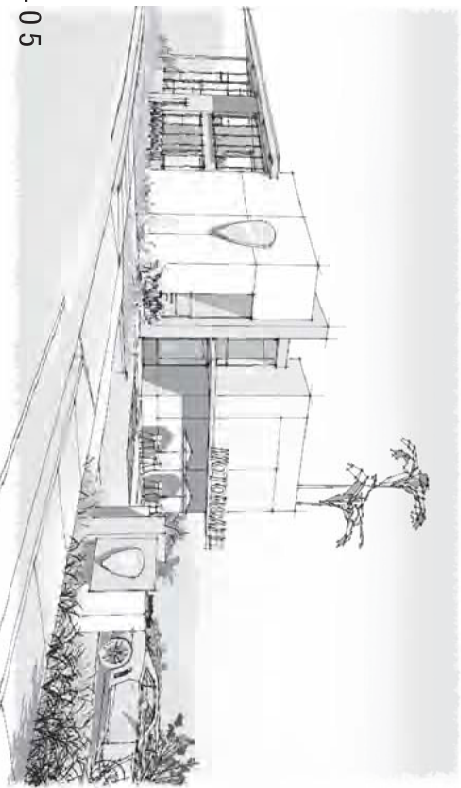
1460 Calle Joaquin



Architectural Review Drawings For:

Calle Joaquin Commercial

1460 Calle Joaquin, San Luis Obispo, California 93405



Symbols / Legend	Project Data	Parking Analysis	Project Directory	Sheet Index				
<p>GENERAL REFERENCES</p> <ul style="list-style-type: none"> 1. AIAA - CODE TO CONFORM WITH 2. CALIFORNIA LETTERS 3. IBC - INTERNATIONAL BUILDING CODE <p>FLOOR REFERENCES</p> <ul style="list-style-type: none"> 1. FLOOR 1 2. FLOOR 2 <p>WALL SECTION REFERENCES</p> <ul style="list-style-type: none"> 1. SECTION 101 2. SECTION 102 <p>CEILING SECTION REFERENCES</p> <ul style="list-style-type: none"> 1. SECTION 103 2. SECTION 104 <p>FOUNDATION REFERENCES</p> <ul style="list-style-type: none"> 1. FOUNDATION 101 2. FOUNDATION 102 	<p>DESCRIPTION:</p> <p>NEW COMMERCIAL BUILDING AND IMPROVEMENTS</p> <p>PROJECT:</p> <p>1460 CALLE JOAQUIN, PROJECT NO. 2023</p> <p>OWNER:</p> <p>DEVOLUTIONS INC.</p> <p>GENERAL NOTES:</p> <ul style="list-style-type: none"> 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA BUILDING CODE. 2. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA ELECTRICAL CODE. 3. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA MECHANICAL CODE. 4. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA PLUMBING CODE. 	<p>VEHICLE PARKING REQUIRED PER SEC. 11-2.03.02 AND TABLE 6:</p> <table border="1"> <tr> <td>COMMERCIAL USE</td> <td># REQUIRED SPACES</td> </tr> <tr> <td>TOTAL VEHICLE PARKING REQUIRED</td> <td># REQUIRED SPACES</td> </tr> </table> <p>ADDITIONAL NOTES:</p> <ul style="list-style-type: none"> 1. ALL SPACES > 9 	COMMERCIAL USE	# REQUIRED SPACES	TOTAL VEHICLE PARKING REQUIRED	# REQUIRED SPACES	<p>PROJECT:</p> <p>1460 CALLE JOAQUIN, PROJECT NO. 2023</p> <p>OWNER:</p> <p>DEVOLUTIONS INC.</p> <p>ARCHITECT:</p> <p>1318 ANCHORAGE STREET #220 SAN LUIS OBISPO, CALIFORNIA 93406</p> <p>DATE:</p> <p>05/24/2024</p>	<p>ARCHITECTURAL REVIEW COMMENTS:</p> <p>1. THE SHEET INDEX IS CORRECT.</p> <p>2. THE SHEET INDEX IS CORRECT.</p> <p>3. THE SHEET INDEX IS CORRECT.</p>
COMMERCIAL USE	# REQUIRED SPACES							
TOTAL VEHICLE PARKING REQUIRED	# REQUIRED SPACES							
Deferred Submittals	Floodproofing Notes	Flood Notes	Project Summary	Project Statement				
<p>DEFERRED SUBMITTALS:</p> <ul style="list-style-type: none"> 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA BUILDING CODE. 2. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA ELECTRICAL CODE. 3. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA MECHANICAL CODE. 4. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2023 CALIFORNIA PLUMBING CODE. 	<p>1. THE STRUCTURE, USE AND MATERIALS IN THIS AREA MAY BE AFFECTED BY FLOODING. THE DESIGNER HAS CONDUCTED A FLOOD PROOFING ANALYSIS ON THE PROPOSED DESIGN. THE ANALYSIS IS BASED ON THE DESIGNATED FLOOD HAZARD ZONE (DHA) AND THE DESIGNATED FLOOD ELEVATION (DFE).</p> <p>2. THE DESIGNER HAS CONDUCTED A FLOOD PROOFING ANALYSIS ON THE PROPOSED DESIGN. THE ANALYSIS IS BASED ON THE DESIGNATED FLOOD HAZARD ZONE (DHA) AND THE DESIGNATED FLOOD ELEVATION (DFE).</p>	<p>KEY MAP:</p> <p>C-1 Zone C-2 Zone C-3 Zone C-4 Zone C-5 Zone C-6 Zone C-7 Zone C-8 Zone C-9 Zone C-10 Zone</p>	<p>PROPOSED SUMMARY:</p> <p>NEW 20,000 SQ. FT. COMMERCIAL BUILDING.</p> <p>DATE:</p> <p>05/24/2024</p>	<p>THE NEW COMMERCIAL BUILDING IS LOCATED ADJACENT TO OTHER EXISTING AND PROPOSED COMMERCIAL BUILDINGS ON THE SAME BLOCK. THE DESIGNER HAS CONDUCTED A FLOOD PROOFING ANALYSIS ON THE PROPOSED DESIGN. THE ANALYSIS IS BASED ON THE DESIGNATED FLOOD HAZARD ZONE (DHA) AND THE DESIGNATED FLOOD ELEVATION (DFE).</p>				
Code Compliance	Vicinity Map	Key Map	Project Location					
<p>CODE COMPLIANCE:</p> <p>2023 CALIFORNIA BUILDING CODE (CBC)</p> <p>2023 CALIFORNIA ELECTRICAL CODE (CEC)</p> <p>2023 CALIFORNIA MECHANICAL CODE (CMC)</p> <p>2023 CALIFORNIA PLUMBING CODE (CPC)</p> <p>2023 CALIFORNIA FIRE CODE (CFC)</p>	<p>VICINITY MAP:</p> <p>PROJECT SITE</p> <p>1460 CALLE JOAQUIN</p> <p>1460 CALLE JOAQUIN</p> <p>1460 CALLE JOAQUIN</p>	<p>KEY MAP:</p> <p>PROJECT SITE</p> <p>1460 CALLE JOAQUIN</p> <p>1460 CALLE JOAQUIN</p> <p>1460 CALLE JOAQUIN</p>	<p>PROJECT LOCATION:</p> <p>1460 CALLE JOAQUIN</p> <p>1460 CALLE JOAQUIN</p> <p>1460 CALLE JOAQUIN</p>					

General Notes

TOPOGRAPHIC SURVEY PREPARED BY WALLACE GROUP BASED ON A FIELD SURVEY PERFORMED JULY 2014.



ginda architecture + design
 1154 miraflores street #220
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 phone: 805.783.0150
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 GEORGE GARDNER, ARCHITECT
 seal:



consultant:

project:
 New Commercial Bldg
 1460 Calle Joaquin
 San Luis Obispo, CA

applicant/owner:
 Anzco
 Developments, Inc.
 835 Aerovista Place
 Suite 230
 San Luis Obispo, CA

sheet title:
 Existing Site
 Topographic Survey

revisions:

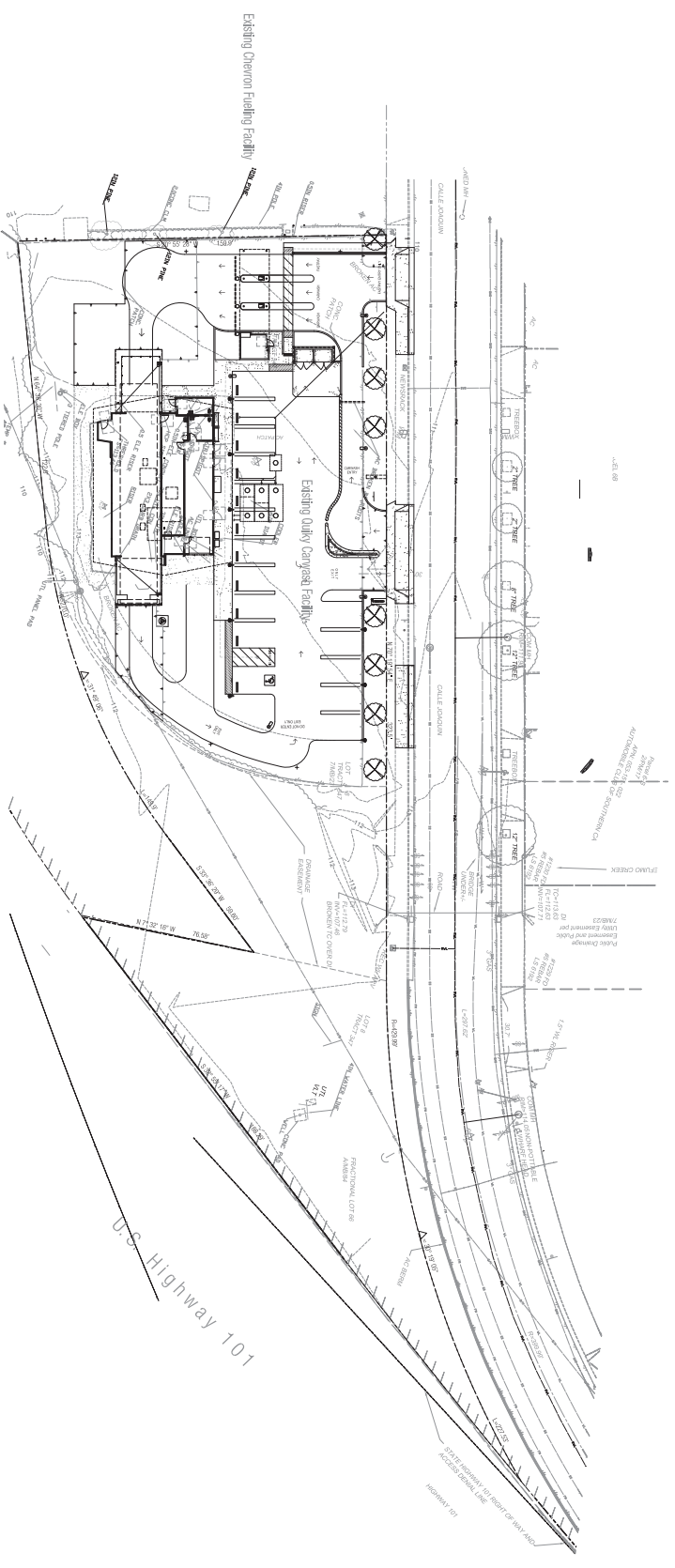
NO.	DATE	DESCRIPTION

legal status:
 The State of California, County of Santa Barbara, and the City of Santa Barbara, California, certify that this map is a true and correct copy of the original map as filed for record in the County of Santa Barbara, California, on July 2, 2014, at 1:58 PM, and that the same is a true and correct copy of the original map as filed for record in the County of Santa Barbara, California, on July 2, 2014, at 1:58 PM, and that the same is a true and correct copy of the original map as filed for record in the County of Santa Barbara, California, on July 2, 2014, at 1:58 PM.

sheet codes:
 sheet no. 13
 total no. sheets 13
 project no. SV1.1249
 project date 16.0506

sheet:

SV1.1



Existing Site Topographic Survey
 NORTH SCALE

Flood Elevation Notes

FOR FLOOD ELEVATION DATA, REFER TO SHEET 16. REFER TO SHEET 16 FOR FLOOD ELEVATION DATA. REFER TO SHEET 16 FOR FLOOD ELEVATION DATA. REFER TO SHEET 16 FOR FLOOD ELEVATION DATA.

Average Natural Grade Summary

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1	2	3	4

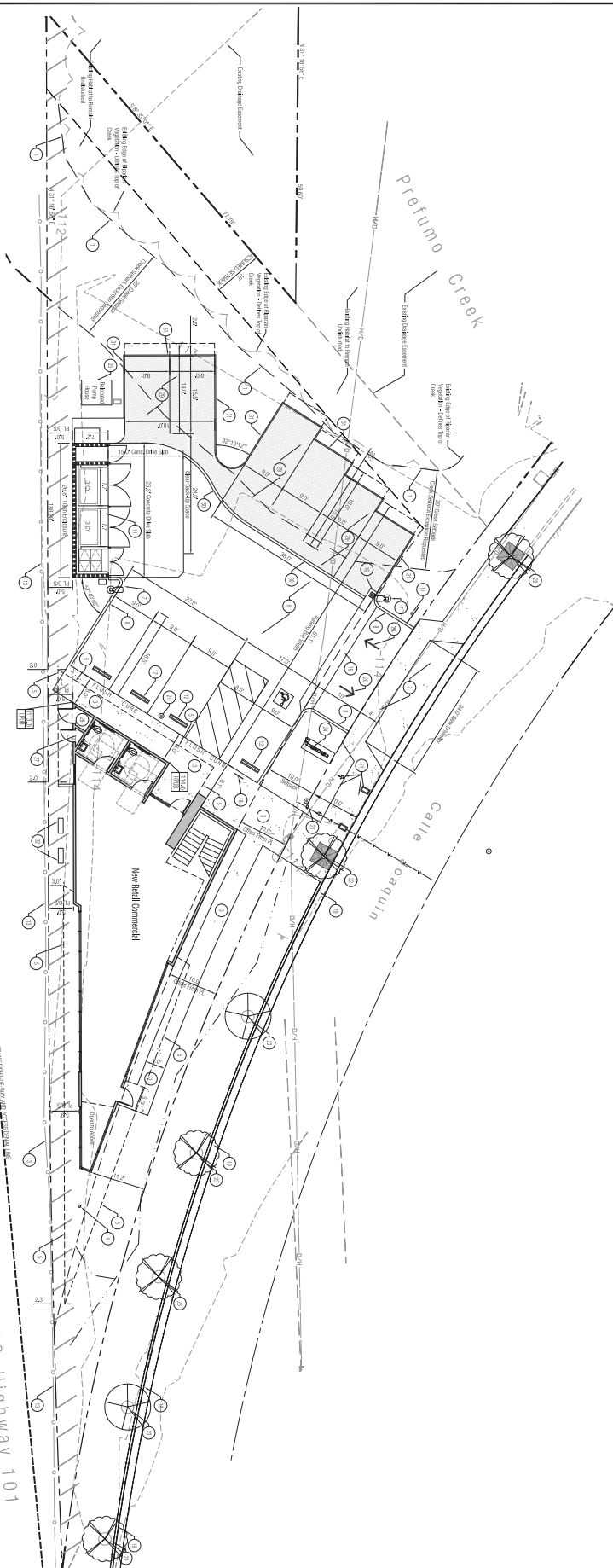
General Notes

1. GENERAL CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE CODES AND REGULATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE CODES AND REGULATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.

Site Plan Notes

1. TOP OF FINISH FLOOR OF BUILDING SHALL BE AS SHOWN ON SHEET 16.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE CODES AND REGULATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE CODES AND REGULATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.

Preliminary Site Plan
SCALE: 1"=10'



g a
+ d



project:
New Commercial Bldg
1460 Calle Joaquin
San Luis Obispo, CA

applicant/owner:
Auzco
Developments, Inc.
835 Aerovista Place
Suite 230
San Luis Obispo, CA

sheet title:
Preliminary
Site Plan

revision	description	date
1	Initial Issue	10/15/2024
2	Revised	10/20/2024
3	Revised	10/25/2024
4	Revised	10/30/2024
5	Revised	11/05/2024
6	Revised	11/10/2024
7	Revised	11/15/2024
8	Revised	11/20/2024
9	Revised	11/25/2024
10	Revised	12/01/2024

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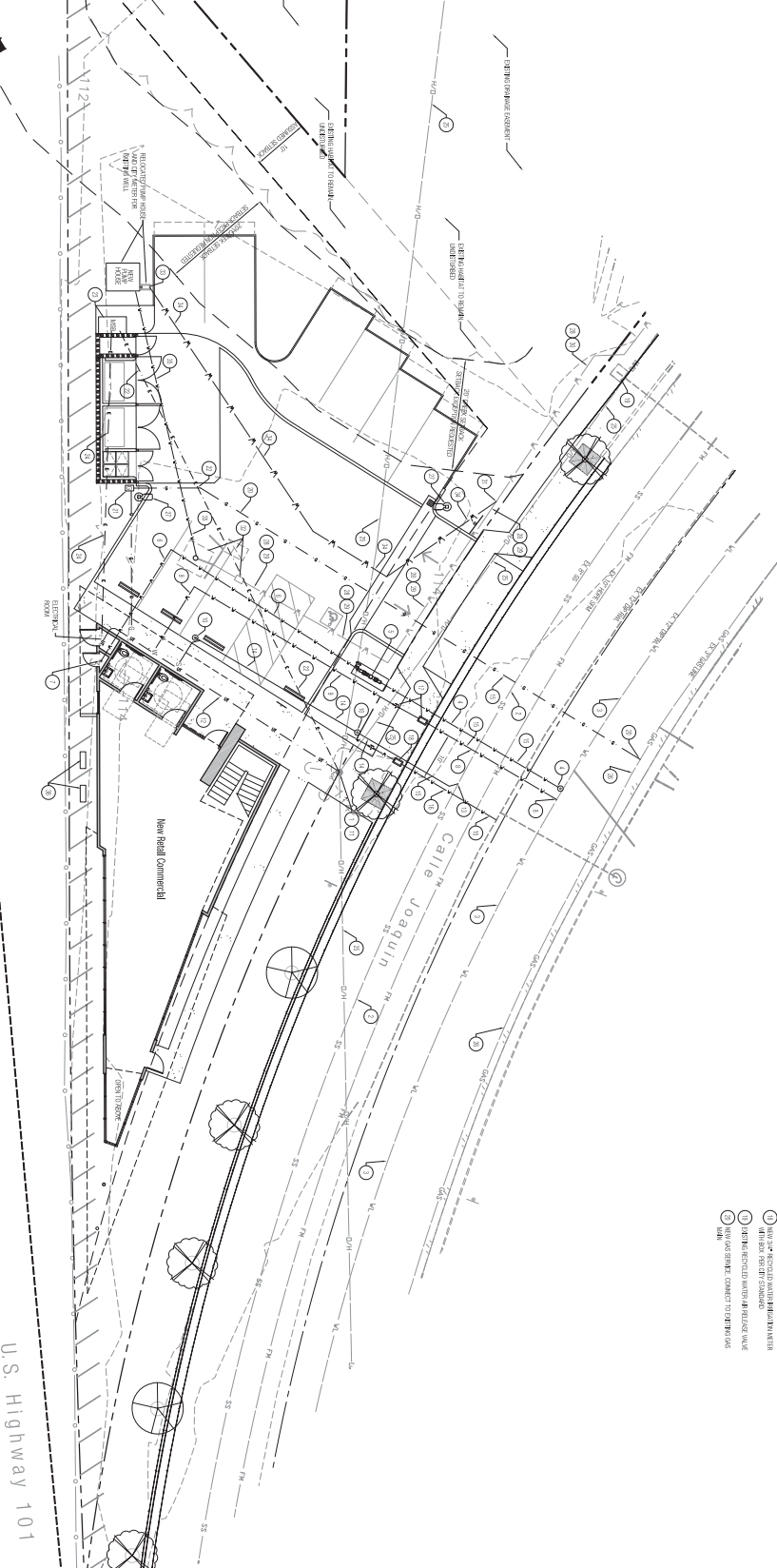
Recycled Water Use

THE SITE IS WITHIN THE CITY'S WATER REUSE MASTER PLAN AND LANDSCAPE IRRIGATION FOR THE PROJECT SHALL UTILIZE RECYCLED WATER. RECYCLED WATER SHALL BE USED FOR IRRIGATION OF CALLE ALONSO.

Legend

1	Recycled Water Main
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Preliminary Site Utility Plan



Utility Reference Notes

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CS2.1

Project: New Commercial Bldg
 1460 Calle Joaquin
 San Luis Obispo, CA

Client: Auzco
 Developments, Inc.
 835 Avovista Place
 Suite 230
 San Luis Obispo, CA

Scale: 1/8" = 1'-0"

Date: 10/15/2024

Sheet: CS2.1

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Legal Notes:
 The use of this plan for any purpose other than that intended by the engineer is prohibited. The engineer is not responsible for any errors or omissions in this plan. The engineer is not responsible for any conditions or circumstances that may arise from the use of this plan. The engineer is not responsible for any conditions or circumstances that may arise from the use of this plan.

Scale: 1/8" = 1'-0"

Date: 10/15/2024

Sheet: CS2.1

Project: New Commercial Bldg
 1460 Calle Joaquin
 San Luis Obispo, CA

Client: Auzco
 Developments, Inc.
 835 Avovista Place
 Suite 230
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Scale: 1/8" = 1'-0"

Date: 10/15/2024

Sheet: CS2.1

Scale: 1/8" = 1'-0"

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Scale: 1/8" = 1'-0"

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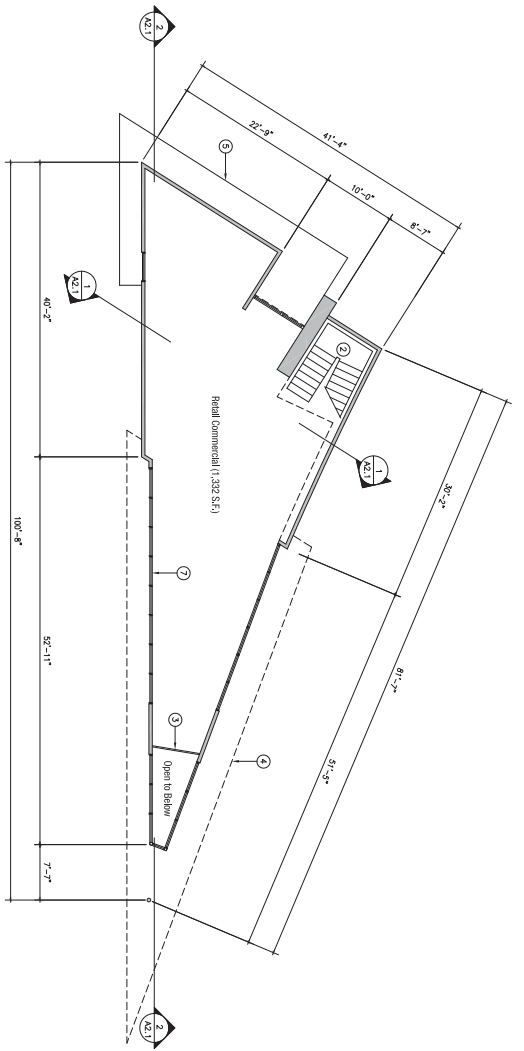
g a d +

girda architecture + design
 1334 Monterey Street #230
 San Luis Obispo, CA 93401
 P: 805.783.1880
 www.girdaarchitecture.com
 GARY@GIRDADesign.com CS2410

Scale: 1/8" = 1'-0"

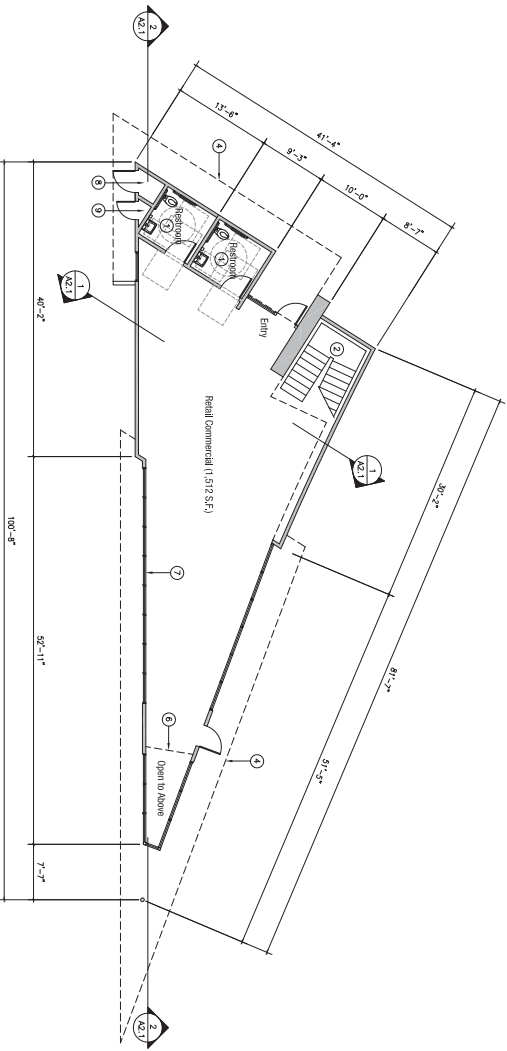
Date: 10/15/2024

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2nd Floor Plan

SCALE: 1/8"=1'-0"



1st Floor Plan

SCALE: 1/8"=1'-0"

Floor Plan Notes

1. ADA RESTROOM
2. ADA TOILET
3. SIGN LIGHT CABINET
4. LINE OF FLOOR ABOVE
5. LINE OF FLOOR BELOW
6. STAIRS
7. STAIRS
8. STAIRS
9. FIRE RISER ROOM



ginda architecture + design
 1334 miraflores street #230
 san luis obispo
 ca 93201
 phone: 805.783.1880
 www.gindaarch.com



consultant:

project:
 New Commercial Bldg
 1460 Calle Joaquin
 San Luis Obispo, CA

applicant/owner:
 Auzco
 Developments, Inc.
 835 Aerovista Place
 Suite 230
 San Luis Obispo, CA

sheet title:
 Floor Plans

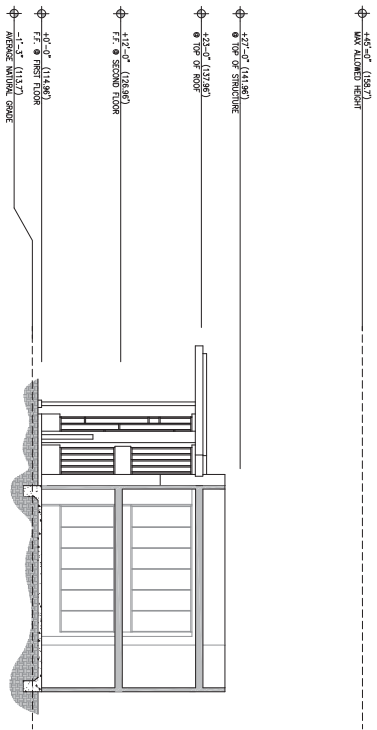
revision	description	date

legal title:
 The State of California, County of San Luis Obispo, and the City of San Luis Obispo, California, hereby certify that the above described project has been approved for construction by the Planning Commission of the City of San Luis Obispo, California, on this 15th day of August, 2015.

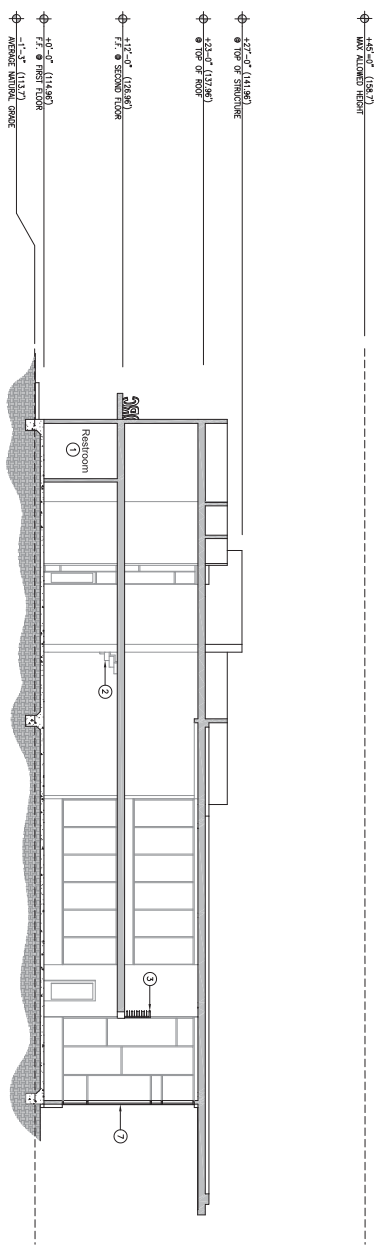
SHORT CODE: 15-08-13
 500' lot size: 11.4299
 600' lot size: 16.0506
 project: 15-0506

sheet:
 A1.1

- ### Floor Plan Notes
1. ADA RESTROOM
 2. ADA SLOPE
 3. SLOPE CHANGE
 4. LINE OF ROOF ABOVE
 5. LINE OF FLOOR ABOVE
 6. LINE OF FLOOR ABOVE
 7. STAIRWAY CLANDIDITY



Section 1
SCALE: 1/8"=1'-0"



Section 2
SCALE: 1/8"=1'-0"



ginda architecture + design
1334 miravia street #220
SAN LUIS OBISPO
CA 95068
PH: 805.783.1880
WWW.GINDAARCHITECTURE.COM
GEORGE GINDA/ARCHITECT
SEAL:



consultant:

project:
New Commercial Bldg
1460 Calle Joaquin
San Luis Obispo, CA

applicant/owner:
Auzco
Developments, Inc.
835 Aerovista Place
Suite 230
San Luis Obispo, CA

sheet title:
Building Sections

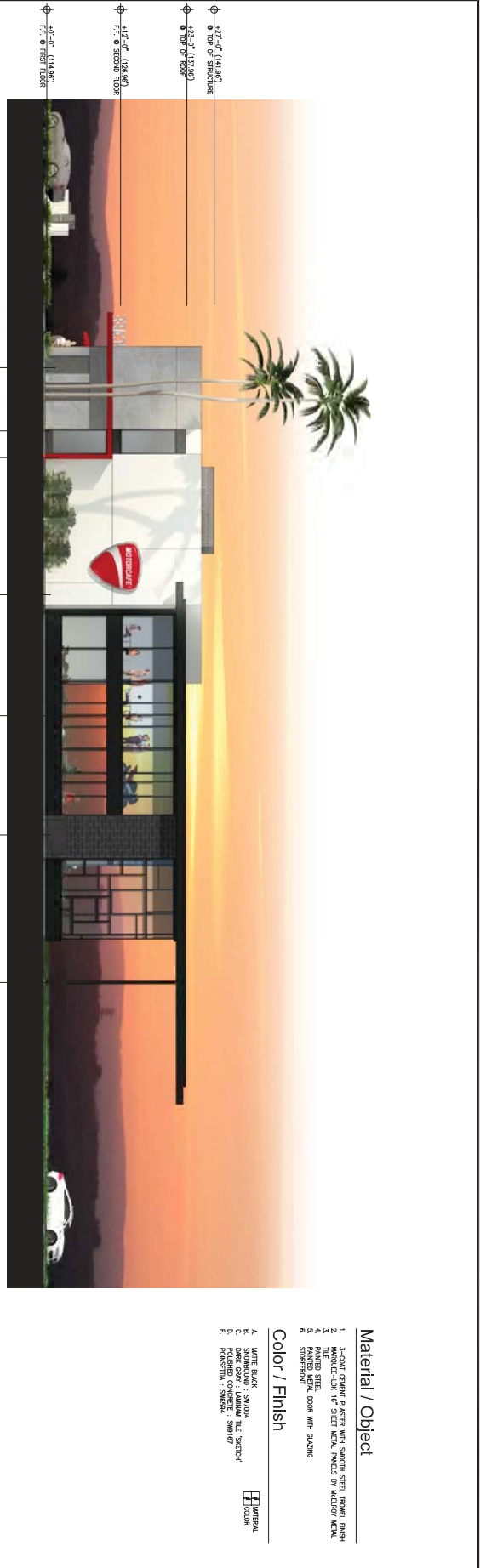
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NO.	DATE	DESCRIPTION

legal title:
The State of California, County of San Luis Obispo, and the City of San Luis Obispo, California, certify that the above described project has been reviewed and approved for construction in accordance with the applicable laws, codes, and regulations of the State of California, the County of San Luis Obispo, and the City of San Luis Obispo, California.

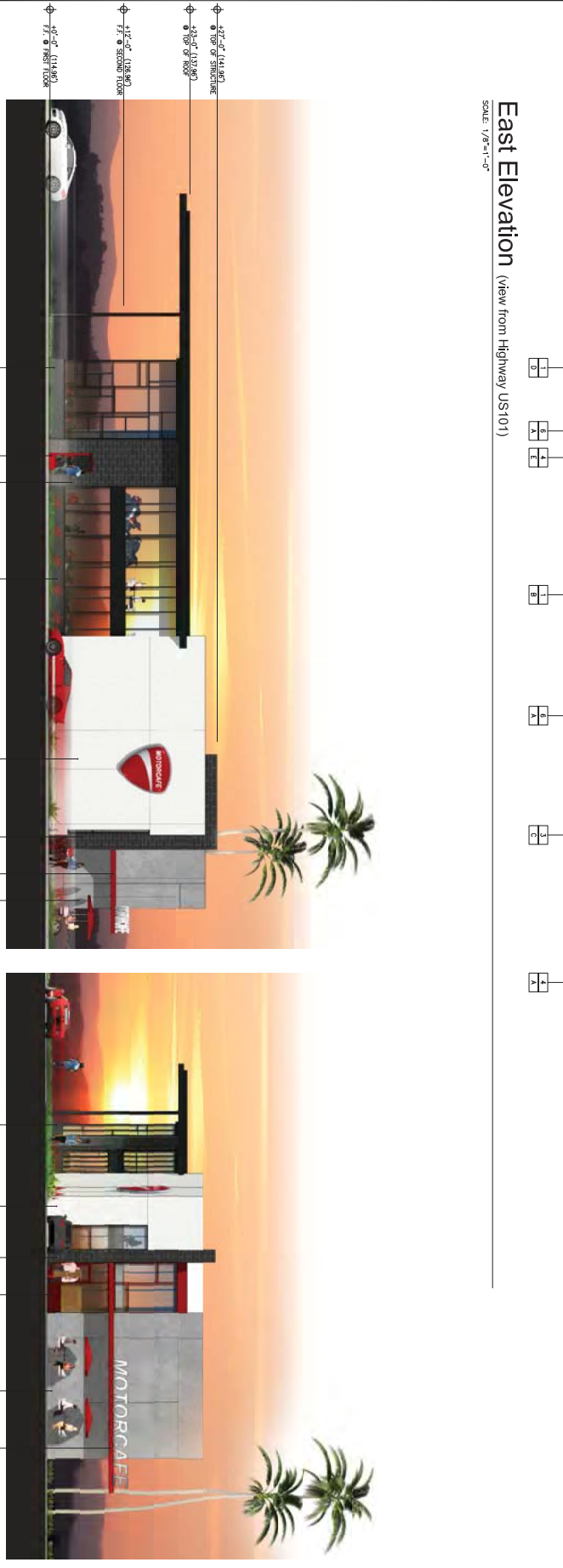
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DRAWN BY: GGG
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DATE: 12/2/2013

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A2.1



East Elevation (view from Highway US101)

SCALE: 1/8"=1'-0"



West Elevation (view from Calle Joaquin)

SCALE: 1/8"=1'-0"

South Elevation

SCALE: 1/8"=1'-0"

- Material / Object**
- 3-COAT COGNIT PASTER WITH SANDY STEEL TROMPI FINISH
 - WROUGHT-IRON 1" SPLIT METAL PANELS BY MALSBOFF METAL
 - PAINTED STEEL
 - PAINTED STEEL DOOR WITH GLAZING
 - SPRINKLER
- Color / Finish**
- A WHITE BLACK
 - B WARM SANDY
 - C DARK GRAY / LAMINA TILE SPECTOR
 - D LIGHT GRAY
 - E FOUNTEIN V. SANDS



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 san luis obispo
 ca 95070
 phone: 805.783.1880
 www.gindaarchitecture.com
 george@gindaah.com
 carolina@gindaah.com

project:

New Commercial Bldg
 1460 Calle Joaquin
 San Luis Obispo, CA

applicant/owner:
 Anzco
 Developments, Inc.
 835 Aerovista Place
 Suite 230
 San Luis Obispo, CA

sheet title:
 Elevations

revision:

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legal title:
 The City of San Luis Obispo, California, County of San Luis Obispo, California, and the Board of Supervisors of the County of San Luis Obispo, California, do hereby certify that the above described project is a public project as defined in the California Public Contract Code, Section 9101. The project is being undertaken for the purpose of providing a public use and is not for the private inurement of any individual or entity. The project is being undertaken for the purpose of providing a public use and is not for the private inurement of any individual or entity. The project is being undertaken for the purpose of providing a public use and is not for the private inurement of any individual or entity.

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 A3.1



View from Calle Joaquin looking north



View from Highway US101 looking south



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 george gandinian czk140



consultant:

project:
 New Commercial Bldg
 1460 Calle Joaquin
 San Luis Obispo, CA

applicant/owner:
 Auzco
 Developments, Inc.
 835 Aerovista Place
 Suite 230
 San Luis Obispo, CA

sheet title:
 Perspectives

revision	date	by	checked
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3	12/14/11	g	g
4	12/14/11	g	g
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legal suite:
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May 16, 2017

George Garcia, AIA, RIBA
Garcia Architecture + Design
1308 Monterey Street, Suite 230
San Luis Obispo, CA 93401

**RE: Phase I Archaeological Survey for the 1460 Calle Joaquin Commercial Building Project,
San Luis Obispo, San Luis Obispo County, California / SWCA No. 43241**

Dear Mr. Garcia:

SWCA Environmental Consultants (SWCA) was retained by Garcia Architecture + Design to provide environmental consulting services consisting of an archaeological survey in support of the development of a commercial building at 1460 Calle Joaquin, San Luis Obispo, San Luis Obispo County, California (project) (Attachment A: Figures 1 and 2). SWCA understands the proposed project involves construction of a new two-story, 2,844-square foot, freeway-oriented commercial building, which is intended for a variety of tourist-oriented commercial tenants and/or users.

The proposed project, which will result in ground-disturbing activities, is within an area deemed to be archaeologically sensitive by the City of San Luis Obispo (City). The project area is adjacent to Prefumo Creek and U.S. Highway 101 (US 101) (Attachment A: Figure 2).

This study includes a cultural resources records search, a Native American Sacred Lands File search, an archaeological survey of the project area, and the preparation of this technical memorandum documenting the results of the inventory and providing management recommendations.

REGULATORY SETTING

The current study was completed under the provisions of the California Environmental Quality Act (CEQA; California Code of Regulations [CCR] Title 14, Section 15064.5 and Public Resources Code [PRC] Section 21083.2).

CEQA requires a lead agency (in this case the City) to determine whether a project may have a significant effect on historical resources. Sections 21083.2 and 21084.1 of the Statutes of CEQA, PRC Section 5024.1, and Section 15064.5 of the CEQA Guidelines were used as the guidelines for the cultural resources study (Governor's Office of Planning and Research 1998). PRC Section 5024.1 requires that any properties that can be expected to be directly or indirectly affected by a proposed project be evaluated for California Register of Historical Resources (CRHR) eligibility. The purpose of the register is to maintain listings of the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change. The term "historical resources" includes a resource listed in, or determined to be eligible for listing in, the CRHR; a resource included in a local register of historical resources; and any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5[a] of the CEQA Guidelines). The criteria for listing properties in the CRHR were expressly

developed in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP).

According to PRC Section 5024.1(c)(1–4), a resource may be considered historically significant if it retains integrity and meets at least one of the following criteria. A property may be listed in the CRHR if the resource:

- (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 in our past;*
- (3) *Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or*
- (4) *Has yielded, or may be likely to yield, information important in prehistory or history.*

Under CEQA, if an archeological site is not a historical resource but meets the definition of a “unique archeological resource” as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A *unique archaeological resource* is defined as follows:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
- (2) *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
- (3) *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Resources that neither meet any of these criteria for listing on the CRHR nor qualify as a *unique archaeological resource* under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, “A nonunique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” (PRC Section 21083.2[h]).

Impacts that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. Impacts to historical resources from the proposed project are thus considered significant if the project physically destroys or damages all or part of a resource, changes the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance or introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

Assembly Bill 52

Assembly Bill (AB) 52 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

CONSULTATION WITH NATIVE AMERICANS

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. As the lead agency, the County is required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

TRIBAL CULTURAL RESOURCES

Section 4 of AB 52 adds PRC Section 21074(a) and (b), which address tribal cultural resources and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - a. Included or determined to be eligible for inclusion in the CRHR.
 - b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1 (a)(9) of AB 52 establishes that “a substantial adverse change to a tribal cultural resource has a significant effect on the environment.” Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures “capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource.” Further, if the California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3 [a]).

METHODS

Literature Search

On May 9, 2017, SWCA Archaeologist Leroy Laurie requested a records search from the Central Coast Information Center (CCIC) of the California Historical Resources Information System (CHRIS), located at the University of California, Santa Barbara. The CCIC data includes the following sources of information, along with official maps and records:

- National Register of Historic Places – Listed Properties
- California Register of Historical Resources
- California Inventory of Historical Resources
- California State Historical Landmarks
- California Points of Historical Interest
- Office of Historic Preservation Historic Property Directory and Determinations of Eligibility

Prior Cultural Resources Studies

The CCIC records search data revealed that 24 cultural resources studies have been conducted within a 0.25-mile radius, two of which overlap with the entire project area (Attachment B).

Previously Recorded Cultural Resources

No previously identified cultural resources are within or adjacent to the project area. No previously identified cultural resources are within a 0.25-mile radius of the project area (Attachment B).

Native American Scoping

Sacred Lands File

SWCA contacted the California Native American Heritage Commission (NAHC) by email on May 9, 2017, requesting a review of the Sacred Lands File. The NAHC responded on May 12, 2017, indicating that the search of the Sacred Lands File was positive for “cultural sites” (Attachment C).

SWCA followed up with Mr. Frank Leinert, Program Analyst at the NAHC, and requested clarification on the positive result on May 15, 2017. Mr. Leinert indicated that the search was positive for the entire 7.5-minute Pismo Beach U.S. Geological Survey quadrangle (which includes roughly the area from southern San Luis Obispo to Pismo Beach; see Attachment A, Figure 1); however, the NAHC is exempt from the disclosure of public records of Native American graves, cemeteries, and sacred places (California Government Code Section 6254(r)) and, as a result, denied SWCA’s request for more specific information. There is no indication that the positive results are directly applicable to the specific project area proposed for development. In addition, the NAHC response letter suggested that Mark Vigil, Chumash, be contacted for further information. Follow-up Native American coordination is not included in the current study’s scope. SWCA assumes the City will be contacting (or has already contacted) Native American organizations as part of their obligations, as applicable, under AB 52.

FIELD METHODS

SWCA Archaeologist Mr. Laurie conducted an intensive pedestrian survey of the project area on May 11, 2017. Mr. Laurie conducted the survey using parallel pedestrian transects spaced no more than 5 feet apart over the entire project area.

The entire project area was accessible; however, surface visibility was variable due to existing vegetation within the Prefumo Creek corridor. Approximately 10 percent of the project area is obscured by dense vegetation. The remaining 90 percent had fair to excellent (50–100 percent) visibility at the time of survey (Attachment A, Figure 2; Attachment D, Photographs 1 and 2). Mr. Laurie examined all areas of exposed ground surface for prehistoric artifacts (e.g., chipped stone tools and production debris, stone milling tools), historic artifacts (e.g., metal, glass, ceramics), soil discoloration that might indicate the presence of a cultural midden, linear features, soil depressions, and other features indicative of the former presence of historic structures or buildings (e.g., foundations).

DISCUSSION

The CCIC records search and the field survey did not identify the presence of previously undocumented archaeological resources within the project area. Although the NAHC letter was positive for “cultural sites” greater area, there is no evidence that archaeological or tribal cultural resources are present within the project area. As defined by CEQA, no historical resources or unique archaeological resources were identified within the project area and no further archaeological study is recommended at this time. Given

the negative results of this and previous studies covering the project area and the vicinity, the project area is considered to have low sensitivity for the presence of buried and/or obscured archaeological resources.

In the unlikely event that archaeological resources are exposed during project implementation, work should stop in the immediate vicinity, and an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards (National Park Service 1983) should be retained to evaluate the find and recommend relevant mitigation measures. In the event that human remains are discovered, State of California Health and Safety Code Section 7050.5 shall be followed.

If you have any questions, please feel free to contact me directly at (805) 543-7095, extension 6805, or email me at llaurie@swca.com.

Sincerely,



Leroy Laurie
Cultural Resource Specialist

Attachments: Attachment A – Figures
Attachment B – Records Search Results
Attachment C – Native American Heritage Commission Correspondence
Attachment D - Photographs

REFERENCES

National Park Service

- 1983 Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines [As Amended and Annotated]. Electronic document. Available at: http://www.nps.gov/history/local-law/arch_stnds_0.htm. Accessed November 19, 2008.

**Attachment A:
Figures**

Figure 1. Project Vicinity and Location Map



Path: G:\Projects\430001\43241_Calle_Joaquin_Comm_Bldg_Bio_&_Cult_Surveys\43241_CalleJoaquin_CR_PrjVicLocUSGS.mxd

Figure 2. Project Area Map



Path: G:\Projects\43000\1P43241_Calle_Joaquin_Comm_Bldg_Bio_&_Cult_Surveys\43241_CalleJoaquin_CR_ProjectArea.mxd

**Attachment B:
Records Search Results**

California
Archaeological
Inventory



SAN LUIS OBISPO AND
SANTA BARBARA COUNTIES

Central Coast Information Center

Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
PHONE (805)-893-2474
FAX (805)-893-8707
EMAIL ccic@anth.ucsb.edu

5/10/2017

Leroy Laurie
SWCA Environmental Consultants
1422 Monterey S. C200
San Luis Obispo, CA 93401

Re: Calle Joaquin Commercial Building (SWCA no. 43241)

The Central Coast Information Center received your record search request for the project area referenced above, located on the Pismo Beach and San Luis Obispo USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a 0.25 mile radius:

As indicated on the data request form, the locations of three reports are provided in the following format: custom GIS maps shapefiles hand-drawn maps

Resources within project area:	None
Resources within ¼ mi radius:	None
Reports within project area:	SL-2386, SL-2391, SL-4706
Reports within ¼ mi radius:	24 reports, see detailed report printout

- Resource Database Printout (list):** enclosed not requested nothing listed
- Resource Database Printout (details):** enclosed not requested nothing listed
- Resource Digital Database Records:** enclosed not requested nothing listed
- Report Database Printout (list):** enclosed not requested nothing listed
- Report Database Printout (details):** enclosed not requested nothing listed
- Report Digital Database Records:** enclosed not requested nothing listed
- Resource Record Copies:** enclosed not requested nothing listed
- Report Copies:** enclosed not requested nothing listed
- OHP Historic Properties Directory:** enclosed not requested nothing listed
- Archaeological Determinations of Eligibility:** enclosed not requested nothing listed

CA Inventory of Historic Resources (1976): enclosed not requested nothing listed

Caltrans Bridge Survey: enclosed not requested nothing listed

Ethnographic Information: enclosed not requested nothing listed

Historical Literature: enclosed not requested nothing listed

Historical Maps: enclosed not requested nothing listed

Local Inventories: enclosed not requested nothing listed

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

Shipwreck Inventory: enclosed not requested nothing listed

Soil Survey Maps: enclosed not requested nothing listed

Please forward a copy of any resulting reports from this project to the office as soon as possible. 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.

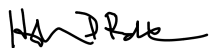
The provision of California Historical Resources Information System (CHRIS) data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records 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, 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 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 record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the CHRIS.

Sincerely,



Hugh Radde, M.A.
Assistant Coordinator

Report Detail: SL-00086

Identifiers

Report No.: SL-00086

Other IDs:

Cross-refs:

Citation information

Author(s): Dills, C.

Year: 1980

Title: Unidentified Trailer Park on Higuera between Creekside Park and Los Verdes Estates, an archaeological Estimate

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size: None given

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User*

9/8/2014 jay

Action taken

Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-00138

Identifiers

Report No.: SL-00138

Other IDs:

Cross-refs:

Citation information

Author(s): Dills, C.

Year: 1975

Title: Information to aid in Interpretive Planning Map for San Luis Obispo (city) and Environs

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Arroyo Grande NE, Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-00311

Identifiers

Report No.: SL-00311

Other IDs:

Cross-refs:

Citation information

Author(s): Dills, C.

Year: 1975

Title: Proposed Expansion of SLO Wastewater Treatment Plant and Repair of Arroyo Grande-Grover City-Oceano Wastewater Facility -- Archaeological Impact.

Affiliation:

No. pages: 4

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Oceano, San Luis Obispo

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>
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<i>Entered:</i> 9/8/2014	jay
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Last modified:

<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
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	9/8/2014	jay	Appended record from Filemaker bibliography database.
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Record status:

Report Detail: SL-00352

Identifiers

Report No.: SL-00352

Other IDs:

Cross-refs:

Citation information

Author(s): Osland, K.

Year: 1981

Title: Archaeological Survey Report for the Proposed Los Osos Valley Road Extension Project near San Luis Obispo 05-SLO-101-25.6/26.0

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User*

9/8/2014 jay

Action taken

Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-00590

Identifiers

Report No.: SL-00590

Other IDs:

Cross-refs:

Citation information

Author(s): Gibson, R.

Year: 1987

Title: Results of Archaeological Surface Survey for the Los Osos Valley Road Business Park, San Luis Obispo County, CA

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes**Associated resources**

Primary No.	Trinomial	Name
P-40-000783	CA-SLO-000783	
P-40-001195	CA-SLO-001195	

No. resources: 2

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach

Address:

PLSS:

Database record metadata

Date	User	
Entered: 9/8/2014	jay	
Last modified:		
IC actions: Date	User	Action taken
9/8/2014	jay	Appended record from Filemaker bibliography database.
Record status:		

Report Detail: SL-01245

Identifiers

Report No.: SL-01245

Other IDs:

Cross-refs:

Citation information

Author(s): Singer, C. and Atwood, J.

Year: 1988

Title: Cultural Resources Survey and Impact Assessment for the Dalidio, Madonna, and McBride Properties near the city of San Luis Obispo, SLO County, CA

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes**Associated resources**

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-40-000124	CA-SLO-000124	

No. resources: 1

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>
Entered: 9/8/2014	jay

Last modified:

<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-01305

Identifiers

Report No.: SL-01305

Other IDs:

Cross-refs:

Citation information

Author(s): Singer, C. and Atwood, J.

Year: 1989

Title: Cultural resources survey and impact assessment for the City of San Luis Obispo wastewater plant, San Luis Obispo County, California.

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-02363**Identifiers***Report No.:* SL-02363*Other IDs:**Cross-refs:***Citation information***Author(s):* Gibson, Robert O.*Year:* 1993*Title:* Inventory of Cultural Resources for the Water Reclamation Project, City of San Luis Obispo, CA.*Affiliation:**No. pages:**No. maps:**Attributes:**Inventory size:* 12 linear miles*Disclosure:**Collections:***General notes****Associated resources**

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-40-000030	CA-SLO-000030	
P-40-000044	CA-SLO-000044	
P-40-000064	CA-SLO-000064	
P-40-000124	CA-SLO-000124	
P-40-000400	CA-SLO-000400	
P-40-000785	CA-SLO-000785	
P-40-000891	CA-SLO-000891	
P-40-000914	CA-SLO-000914	
P-40-001262	CA-SLO-001262H	
P-40-001406	CA-SLO-001406	
P-40-001419	CA-SLO-001419H	Kozak Lot
P-40-001427	CA-SLO-001427	Garcia Ranch Site
P-40-001449	CA-SLO-001449H	
P-40-001493	CA-SLO-001493	

No. resources: 14*Has informals:***Location information***County(ies):* San Luis Obispo*USGS quad(s):* San Luis Obispo*Address:**PLSS:***Database record metadata***Date* *User**Entered:* 9/8/2014 jay*Last modified:**IC actions:* *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-02386

Identifiers

Report No.: SL-02386

Other IDs:

Cross-refs:

Citation information

Author(s): Levulett, V.

Year: 1991

Title: Caltrans Archaeological Survey Report, Project SLO-101 26.0/26.9Fence Installation

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size: None given

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-02391

Identifiers

Report No.: SL-02391

Other IDs:

Cross-refs:

Citation information

Author(s): Anastasio, R.

Year: 1993

Title: Re: Archaeological Monitoring of Suubsurface Construction at 293 El Portal, Lot 13, Block 7, Tract 57, El Pismo Manor #1 (APN 010-184-002)

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size: None given

Disclosure:

Collections:

General notes**Associated resources**

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-40-000801	CA-SLO-000801	

No. resources: 1

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>		
Entered: 9/8/2014	jay		
<i>Last modified:</i>			
<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-02529

Identifiers

Report No.: SL-02529

Other IDs:

Cross-refs:

Citation information

Author(s): Singer, C., J. Atwood, and J. Frierman

Year: 1993

Title: It Came From Beneath the Streets: An Archaeological Report on the Expansion of the City of San Luis Obispo Wastewater Treatment System

Affiliation:

No. pages: 141

No. maps:

Attributes:

Inventory size: 3.5 linear miles

Disclosure:

Collections:

General notes**Associated resources**

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-40-001449	CA-SLO-001449H	

No. resources: 1

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>
Entered: 9/8/2014	jay

Last modified:

<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-02917

Identifiers

Report No.: SL-02917

Other IDs:

Cross-refs:

Citation information

Author(s): Orlins, R, Barter, E, Rivers, B, and Gibson, R

Year: 1994

Title: Coastal Branch, Phase II State Water Project Cultural Resources Survey Reach 3 San Luis Obispo County, California
94296-0001

Affiliation:

No. pages:

No. maps:

Attributes:

Inventory size: 179,520 m linear

Disclosure:

Collections:

General notes**Associated resources**

Primary No.	Trinomial	Name
P-40-001314	CA-SLO-001314H	
P-40-001634	CA-SLO-001634	
P-40-001635	CA-SLO-001635	
P-40-001636	CA-SLO-001636	
P-40-001637	CA-SLO-001637	
P-40-001638	CA-SLO-001638	
P-40-001639	CA-SLO-001639	

No. resources: 7

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Santa Margarita, Shedd Canyon, Wilson Corner

Address:

PLSS:

Database record metadata

Date	User
------	------

Entered: 9/8/2014 jay

Last modified:

IC actions:	Date	User	Action taken
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9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-03662

Identifiers

Report No.: SL-03662

Other IDs:

Cross-refs:

Citation information

Author(s): Parker, John

Year: 1998

Title: Cultural Resource Investigation of the San Simeon Creek Road Storm Damage Repair Project, P12K136

Affiliation:

No. pages: 5

No. maps:

Attributes:

Inventory size: 150 ft

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pebblestone Shut-In

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User*

9/8/2014 jay

Action taken

Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-03899

Identifiers

Report No.: SL-03899

Other IDs:

Cross-refs:

Citation information

Author(s): Cuevas, Kimberly

Year: 1999

Title: Cultural Resource Inventory Report, Calf Canyon Prescribed Fire

Affiliation:

No. pages: 5

No. maps:

Attributes:

Inventory size: 1040 Acres

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Santa Margarita

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User*

9/8/2014 jay

Action taken

Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-04031

Identifiers

Report No.: SL-04031

Other IDs:

Cross-refs:

Citation information

Author(s): Wilson, Kelda

Year: 2000 (Feb)

Title: Cultural Resources Study, State Route 101 Fence Replacement

Affiliation: Department of Transportation/San Luis Obispo

No. pages: 6

No. maps: 2

Attributes: Archaeological, Field study

Inventory size: None Given

Disclosure: Not for publication

Collections: No

General notes**Associated resources**

No. resources: 0

Has informals: No

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified: 1/18/2016 CCIC3

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-04097

Identifiers

Report No.: SL-04097

Other IDs:

Cross-refs:

Citation information

Author(s): Robert O. Gibson

Year: 2000 (Aug)

Title: Results of archival records search and Phase One Archaeological Surface Survey for the Marriott Hotel Project, Calle Joaquin, San Luis Obispo, Ca

Affiliation: Gibson's Archaeological Consulting

No. pages: 16

No. maps: 4

Attributes: Archaeological, Field study

Inventory size: 5.60 Acres

Disclosure: Not for publication

Collections: No

General notes**Associated resources**

No. resources: 0

Has informals: No

Location information

County(ies): San Luis Obispo

USGS quad(s): San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified: 2/1/2016 CCIC3

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-04110

Identifiers

Report No.: SL-04110

Other IDs:

Cross-refs:

Citation information

Author(s): Gibson, Robert O.

Year: 2000 (May)

Title: Results of phase one archaeological surface survey and records search for the McBride parcels, San Luis Obispo Auto Park Plaza Project along Highway 101, City of San Luis Obispo, CA

Affiliation: Gibson's Archaeological Consulting

No. pages: 8

No. maps: 3

Attributes: Archaeological, Field study

Inventory size: 25.6 acres

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): San Luis Obispo

USGS quad(s): San Luis Obispo

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>
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<i>Entered:</i> 9/8/2014	jay
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<i>Last modified:</i> 2/11/2016	CCIC3
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<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
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	9/8/2014	jay	Appended record from Filemaker bibliography database.
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Record status:

Report Detail: SL-04706

Identifiers

Report No.: SL-04706

Other IDs:

Cross-refs:

Citation information

Author(s): Conway, Thor

Year: 2002

Title: Archaeological Background for the Los Osos Valley Road / Highway 101 Interchange PEAR Phase 1 Cultural Resources Survey, San Luis Obispo, CA

Affiliation:

No. pages: 23

No. maps:

Attributes: Archaeological, Field study

Inventory size: Not given

Disclosure:

Collections:

General notes

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-05125

Identifiers

Report No.: SL-05125

Other IDs:

Cross-refs:

Citation information

Author(s): Baloian, Randy

Year: 2004

Title: Cultural Resources Studies for the City of San Luis Obispo Waste Water Treatment Plant Bypass Silt Removal Project near San Luis Obispo Creek

Affiliation: Applied EarthWorks, Inc.

No. pages: 4

No. maps:

Attributes: Archaeological, Field study

Inventory size: 6000 square meters

Disclosure: Not for publication

Collections: No

General notes

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>	
<i>Entered:</i> 9/8/2014	jay	
<i>Last modified:</i> 1/12/2016	CCIC3	
<i>IC actions:</i> <i>Date</i>	<i>User</i>	<i>Action taken</i>
9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-05332

Identifiers

Report No.: SL-05332

Other IDs:

Cross-refs:

Citation information

Author(s): Thor Conway

Year: 2004 (Dec)

Title: An Archaeological Surface Survey for the Ocean Park Hotels Project, 1625 Calle Joaquin, San Luis Obispo, San Luis Obispo County, California

Affiliation: Heritage Discoveries Inc.

No. pages: 16

No. maps:

Attributes: Archaeological, Field study

Inventory size: 1.8 acres

Disclosure: Not for publication

Collections: No

General notes**Associated resources**

No. resources: 0

Has informals: No

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach

Address: Address

1625 Calle Joaquin

City

San Luis Obispo

Assessor's parcel no.

Zip code

PLSS:

Database record metadata

Date User

Entered: 9/8/2014 jay

Last modified: 4/27/2016 User

IC actions: Date User

9/8/2014 jay

Action taken

Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-05350

Identifiers

Report No.: SL-05350

Other IDs:

Cross-refs:

Citation information

Author(s): Clay A. Singer

Year: 2004 (Dec)

Title: Cultural resources survey and impact assessment for a +/-25 acre property in the City of San Luis Obispo County, California [APN 067-242-012/013]

Affiliation: C.A. Singer & Associates, Inc.

No. pages: 5

No. maps:

Attributes: Archaeological, Field study

Inventory size: ~25 acres

Disclosure: Not for publication

Collections: No

General notes**Associated resources**

No. resources: 0

Has informals: No

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified: 5/6/2016 CCIC4

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-05699

Identifiers

Report No.: SL-05699

Other IDs:

Cross-refs:

Citation information

Author(s): Ogden, Allyson and Terry Joslin

Year: 2002

Title: Negative Archaeological Survey Report for the Changeable Message Signs Project

Affiliation:

No. pages: 8

No. maps:

Attributes: Archaeological, Field study

Inventory size: <1 acres

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Cambria, Paso Robles, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-05729

Identifiers

Report No.: SL-05729

Other IDs:

Cross-refs:

Citation information

Author(s): Gibson, R.O.

Year: 2005

Title: Archaeological Survey Report for the Bob Jones City to the Sea Bike Trail Segment 3 Project in the City of San Luis Obispo Area, San Luis Obispo County, CA

Affiliation:

No. pages: 42

No. maps:

Attributes: Archaeological, Field study

Inventory size: 52800 square feet

Disclosure:

Collections:

General notes**Associated resources**

No. resources: 0

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): Pismo Beach, San Luis Obispo

Address:

PLSS:

Database record metadata

Date *User*

Entered: 9/8/2014 jay

Last modified:

IC actions: *Date* *User* *Action taken*

9/8/2014 jay Appended record from Filemaker bibliography database.

Record status:

Report Detail: SL-06133

Identifiers

Report No.: SL-06133

Other IDs:

Cross-refs:

Citation information

Author(s): Conway, Thor.

Year: 2007

Title: Archaeological Surface Survey for the Prefumo Creek Commons Project, Los Osos Valley Road & Froom Rancy Way, San Luis Obispo, San Luis Obispo County, California

Affiliation:

No. pages: 10

No. maps:

Attributes: Archaeological, Field study

Inventory size: .5 linear miles

Disclosure:

Collections:

General notes**Associated resources**

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-40-000205	CA-SLO-000205	
P-40-001002	CA-SLO-001002H	
P-40-001195	CA-SLO-001195	
P-40-001365	CA-SLO-001365	
P-40-001780	CA-SLO-001780H	

No. resources: 5

Has informals:

Location information

County(ies): San Luis Obispo

USGS quad(s): San Luis Obispo

Address:

PLSS:

Database record metadata

<i>Date</i>	<i>User</i>	
<i>Entered:</i> 9/8/2014	jay	
<i>Last modified:</i>		
<i>IC actions:</i> <i>Date</i>	<i>User</i>	<i>Action taken</i>
9/8/2014	jay	Appended record from Filemaker bibliography database.

Record status:

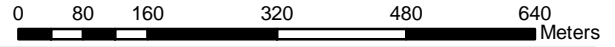
CALLE JOAQUIN COMMERCIAL BUILDING (SWCA no. 43241)

ATTACHMENT 3

Customer Name: Leroy Laurie, SWCA Environmental Consultants
Project Location: Pismo Beach Quadrangle; San Luis Obispo Quadrangle

Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Reports Map 1 of 3



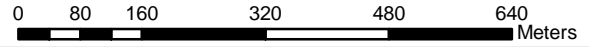
CALLE JOAQUIN COMMERCIAL BUILDING (SWCA no. 43241)

ATTACHMENT 3

Customer Name: Leroy Laurie, SWCA Environmental Consultants
Project Location: Pismo Beach Quadrangle; San Luis Obispo Quadrangle

Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Reports Map 2 of 3



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

CALLE JOAQUIN COMMERCIAL BUILDING (SWCA no. 43241)

ATTACHMENT 3

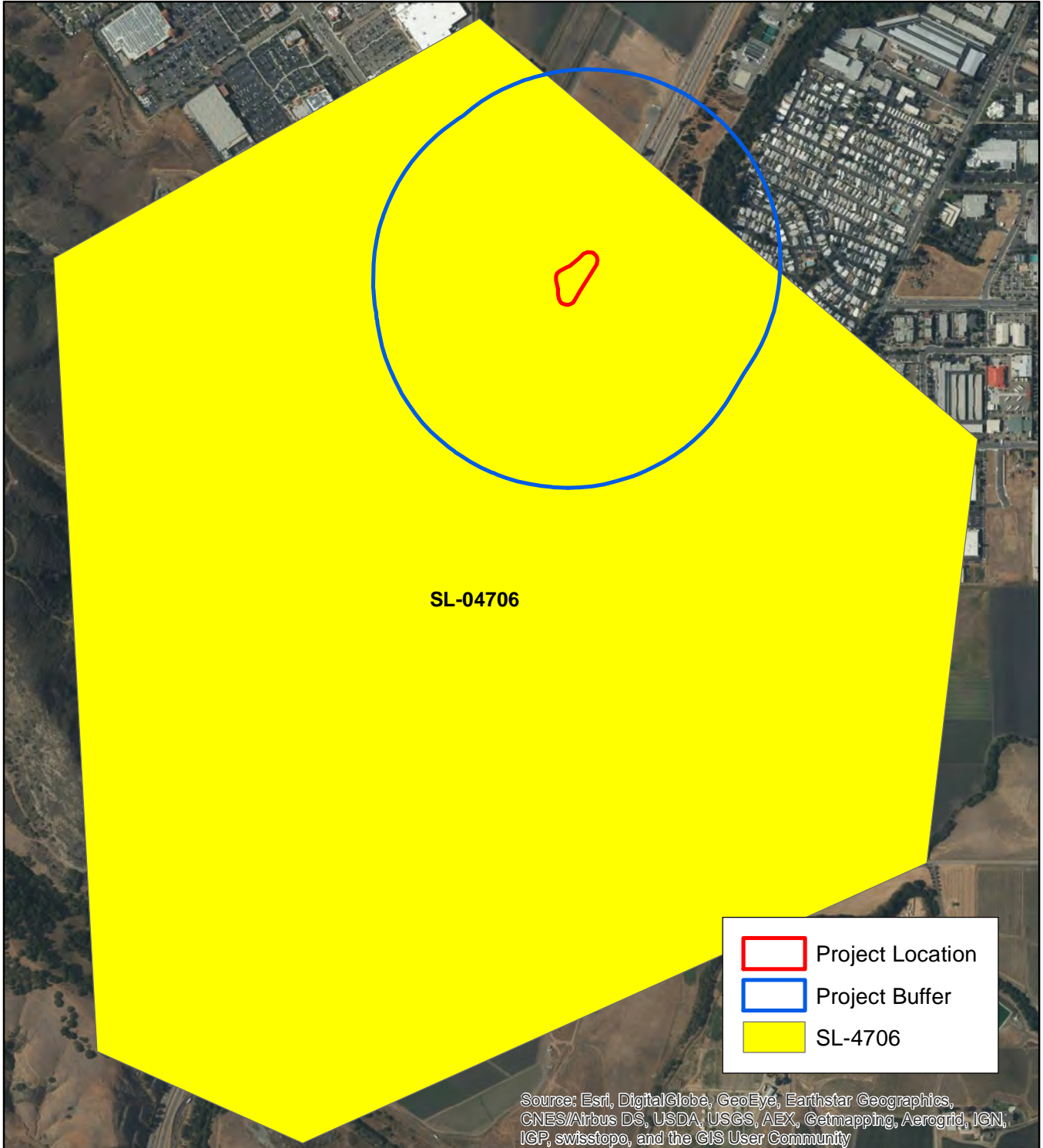
Customer Name: Leroy Laurie, SWCA Environmental Consultants
Project Location: Pismo Beach Quadrangle; San Luis Obispo Quadrangle



Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Reports Map 3 of 3

0 110 220 440 660 880
Meters



**Attachment C:
Native American Heritage Commission Correspondence**

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search (May 9, 2017)

Project: Calle Joaquin Commercial Building Project (SWCA Project No. 43241)

County: San Luis Obispo

USGS Quadrangle(s) Name(s): Pismo Beach

California Polytechnic University San Luis Obispo; T31S, R12E, Sec 10 Mt.
Diablo Meridian.

Company/Firm/Agency: SWCA Environmental Consultants

Contact Person: Leroy Laurie

Street Address: 1422 Monterey Street, C-200

City: San Luis Obispo Zip: 93401

Phone: 805.440.8712

Fax: 805.543.2367 _Email: llaurie@swca.com

Project Description: The proposed project involves construction of a new 2-story, 2,844 square foot, freeway oriented commercial building, intended for a variety of tourist-oriented commercial tenants and/or users. The lot is currently vacant.

NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



May 12, 2017

Leroy Laurie
SWCA Environmental Consultants

Email to: llaurie@swca.com

RE: Calle Joaquin Commercial Building Project SWCA Project No. 43241, San Luis Obispo
County

Dear Mr. Laurie,

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results indicate Native American cultural sites are present. Please contact Mark Vigil 805-481-2461 for more information. Other sources for cultural resources should also be contacted for information regarding known and/or recorded sites.

Enclosed is a list of Native American tribes who may also have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at frank.lienert@nahc.ca.gov

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Lienert', written over a horizontal line.

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contacts
5/12/2017

ATTACHMENT 3

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 Chumash
Santa Ynez , CA 93460
kkahn@santaynezchumash.org
(805) 688-7997
(805) 686-9578 Fax

yak tityu tityu - Northern Chumash Tribe
Mona Olivas Tucker, Chairwoman
660 Camino Del Rey Chumash
Arroyo Grande , CA 93420
olivas.mona@gmail.com
(805) 489-1052 Home
(805) 748-2121 Cell

Barbareno/Ventureno Band of Mission Indians
Julie Lynn Tumamait-Stennslie, Chair
365 North Poli Ave Chumash
Ojai , CA 93023
jtumamait@hotmail.com
(805) 646-6214

Northern Chumash Tribal Council
Fred Collins, Spokesperson
67 South Street Chumash
San Luis Obispo , CA 93401
fcollins@northernchumash.org
(805) 801-0347 (Cell)

Salinan Tribe of Monterey, San Luis Obispo Counties
Patti Dunton, Tribal Administrator
7070 Morro Road, Suite A Salinan
Atascadero , CA 93422
salinantribe@aol.com
(805) 464-2650
(805) 235-2730 Cell
(805) 460-9204

Barbareno/Ventureno Band of Mission Indians
Eleanor Arrellanes
P.O. Box 5687 Chumash
Ventura , CA 93005
805-701-3246

Xolon-Salinan Tribe
Karen White, Council Chairperson
PO Box 7045 Salinan
Spreckels , CA 93962
blukat41@yahoo.com
831-238-1488

Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.
331 Mira Flores Court Chumash
Camarillo , CA 93012
805-427-0015

Coastal Band of the Chumash Nation
Mia Lopez, Chairperson
Chumash
cbcntribalchair@gmail.com
(805) 324-0135

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

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 Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the updated contact list for Calle Joaquin Commercial Building Project SWCA Project No. 43241, San Luis Obispo County

**Attachment D:
Photographs**



Photograph 1. View of project area facing east.



Photograph 1. View of project area facing south.



Sound Science. Creative Solutions.

San Luis Obispo Office
1422 Monterey Street, Suite C200
San Luis Obispo, CA 93401
Tel 805.543.7095 Fax 805.543.2367
www.swca.com

May 16, 2017

George Garcia, AIA, RIBA
Garcia Architecture + Design
1308 Monterey Street, Suite 230
San Luis Obispo, CA 93401

Re: Biological Resources Assessment for the 1460 Calle Joaquin Commercial Building, San Luis Obispo, San Luis Obispo County, California / SWCA No. 43241

Dear Mr. Garcia:

Thank you for your interest in having SWCA Environmental Consultants (SWCA) conduct a Biological Resources Assessment (BRA) for your Architectural Review and Zone Text Amendment application for a development of a commercial building at 1460 Calle Joaquin, San Luis Obispo, San Luis Obispo County, California (project). SWCA understands the proposed project involves construction of a new two-story, 2,844-square foot, freeway-oriented commercial building, which is intended for a variety of tourist-oriented commercial tenants and/or users.

The assessment of the property included a survey of the proposed building footprint and adjacent areas to document existing site conditions, and SWCA's professional opinion on which special-status species may occur on the property. SWCA has also provided recommendations to avoid and minimize any potential impacts to special-status plant species or sensitive areas on the property.

METHODOLOGY

A botanical/wildlife survey of the property and was performed by SWCA Biologist Barrett Holland on May 3, 2017. Prior to conducting the survey, SWCA reviewed project site plans prepared by Garcia Architecture + Design (dated April 30, 2017) and conducted a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB 2017) to identify reported occurrences of sensitive resources within the U.S. Geological Survey (USGS) 7.5-minute quadrangle for San Luis Obispo and Pismo Beach. In addition to the CNDDDB query, the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants of California (CNPS 2017) was reviewed to provide information on rare plants that are known to occur in the area. Botanical resources on the property were identified using dichotomous keys as necessary (Baldwin et al. 2012; Hoover 1970). Plant communities were classified per *A Manual of California Vegetation* (Sawyer et al. 2009)

EXISTING CONDITIONS

The property is situated between Calle Joaquin and U.S. Highway 101 (US 101), northeast of Los Osos Valley Road (refer to Figure 1). A channelized (i.e., concrete) section of Prefumo Creek is located at the southwest end of the property and flows in a southeasterly direction beneath Calle Joaquin and US 101 via existing culverts, and flows into San Luis Obispo Creek near the City of San Luis Obispo's Wastewater Treatment Plant (refer to Attachment A, Photo 1).

Figure 1. Project Vicinity Map



Path: G:\Projects\43000\143241_Calle_Joaquin_Comm_Bldg_Bio_&_Cult_Surveys\43241_CalleJoaquin_ProjectVicinityMap.mxd

Conditions on the property were observed to be riparian and disturbed/ruderal. Disturbance on the property stems from vehicle and pedestrian usage. There is a foot trail along the edge of the riparian vegetation that leads into the Prefumo Creek riparian area. The trail leading into the riparian area was observed along the chain link fence that separates US 101 from the property (i.e., the east property boundary). A roadside swale is located on the east side of the chain link fence and captures stormwater from US 101 during rain events. This swale was dry and dominated by non-native plants and didn't flow into the section of Prefumo Creek located on the property. The swale flows along the west side of the US 101/Los Osos Valley Road off-ramp and flows into a culvert beneath the ramp. Stormwater eventually reaches San Luis Obispo Creek via a detention basin located between US 101 and the off-ramp. A pump house/well and gravel driveway turnaround is also located on the property, approximately 15 feet from Prefumo Canyon riparian edge (refer to Attachment A, Photo 2).

Vegetation

Vegetation on the property consists of non-native plant species (refer to Attachment A, Photo 3) that typically occur along roadside edges and disturbed areas. Habitats on the property were classified as ruderal (i.e., disturbed) and arroyo willow thicket (Sawyer et al. 2009) (refer to Figure 2). The channelized portion of Prefumo Creek was concrete; therefore, plant diversity on the banks of the channel was low. Plant species observed in the arroyo willow thicket were limited to arroyo willow (*Salix lasiolepis*) (refer to Attachment A, Photo 4); however, some non-native grasses and forbs that were observed in the ruderal areas were present below the drip line of the willows. Some woody debris and soil was lodged in the channel from recent rain events, and a few horsetail (*Equisetum arvense*) and narrow leafed cattails (*Typha domingensis*) individuals were observed starting to grow in the deposited soil. Plant species observed in ruderal areas on the property (i.e., proposed building footprint) include brome (*Bromus* spp.), sweet fennel (*Foeniculum vulgare*), oats (*Avena* spp.), black mustard (*Brassica nigra*), short-pod mustard (*Hirschfeldia incana*), filaree (*Erodium* spp.), wild radish (*Raphanus sativa*), prickly lettuce (*Lactuca serriola*), bristly-ox tongue (*Helminthotheca echioides*), Italian thistle (*Carduus pycnocephalus*), horseweed (*Erigeron canadensis*), milk thistle (*Silybum marianum*), pearly everlasting (*Gnaphalium californicum*), rattail fescue (*Festuca myuros*), cudweed (*Pseudognaphalium luteo-album*), dog fennel (*Anthemis cotula*), plantain (*Plantago lanceolatum*), and smilo grass (*Piptatherum miliaceum*) (refer to Attachment A, Photos 5 and 6).

RESULTS

Based on disturbed conditions observed on the property due to vehicles, foot traffic, and homeless people who use an existing trail that leads into the riparian area, no special-status plant species from the CNDDDB and CNPS database query results are expected to occur or were observed on the property. Prefumo Creek has the potential to support steelhead (*Oncorhynchus mykiss irideus*), California red-legged frog (*Rana draytonii*), and western pond turtle (*Emys marmorata*) since aquatic habitat is present, but these species were not observed during the survey of the property. These species are also not expected in the upland areas of the property due to the disturbed conditions observed, foot traffic, and developed areas surrounding the property (i.e., Calle Joaquin, US 101). The riparian and ruderal areas on the property have the potential to support migratory nesting birds during the nesting bird season (February 1–October 15); however, no nesting bird activity or nests were identified during the survey of the property.

Figure 2. Habitat Map



RECOMMENDATIONS

A pre-construction wildlife survey is recommended prior to any development activities on the property and should include a survey of the riparian, aquatic, and ruderal areas on the property. This survey would be initiated to determine if any special-status wildlife species or other environmental concerns are present prior to construction. A nesting bird survey is also recommended 2 weeks prior to the start of construction activities if activities occur during the active nesting bird season (i.e., February 1–October 15) and should include the riparian and ruderal areas on the property. Per project site plans, a 20-foot creek setback is proposed from the existing drainage easement which is consistent with the City of San Luis Obispo's zoning regulations for this particular area. Best Management Practices (e.g., straw wattles, Environmental Sensitive Area/exclusion fencing or silt fencing, etc.) are also recommended to be installed prior to construction to protect the riparian area and any special-status wildlife species (i.e., steelhead, California red-legged frog, western pond turtle, and nesting birds) that could potentially be present.

Thank you for the opportunity to work with you. Should you have any questions regarding the letter report or if you would like to request support for future survey efforts, please contact Bill Henry, Director, at (805) 543-7095, extension 6804, or via email at bhenry@swca.com.

Sincerely,



Barrett Holland
Biologist/Certified Arborist (WE-10287A)

REFERENCES

- Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California*. Second edition. University of California Press, Berkeley.
- California Native Plant Society (CNPS). 2017. Electronic Inventory of Endangered and Rare Plants. Available at: www.cnps.org/. Accessed May 1, 2017.
- California Natural Diversity Data Base (CNDDB). 2017. Rarefind 5.0 data output for known occurrences within 5 miles of the project site.
- Hoover, Robert F. 1970. *The vascular plants of San Luis Obispo County, California*. University of California Press: Berkeley, California.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens 2009. *A Manual of California Vegetation*. Second edition. California Native Plant Society. Sacramento, CA.

**Attachment A.
Photo Documentation**



PHOTO 1:

View looking northeast.

Note channelized portion of Prefumo Creek that flows southeast beneath Calle Joaquin.

Photo taken on May 3, 2017.



PHOTO 2:

View of the pump house on the property looking east toward US 101 and the existing trail used by homeless people (refer to yellow arrow) to enter the riparian area and the riparian edge (refer to red arrow).

Photo taken on May 3, 2017.



PHOTO 3:

View looking south across the property and down Calle Joaquin.

Note disturbed conditions, non-native vegetation, and the area where vehicles use the property.

Photo taken on May 3, 2017.



PHOTO 4:

View of the riparian area/arroyo willow thicket looking southeast.

Note concrete channel and aquatic habitat.

Photo taken on May 3, 2017.



PHOTO 5:

View of ruderal habitat looking east toward US 101.

Note dense non-native grasses and forbs, chain link fence along the east boundary, and the drainage swale (not visible because of plants; refer to yellow arrow) along US 101.

Photo taken on May 3, 2017.



PHOTO 6:

View of ruderal habitat and area of the project site used by vehicles, viewing southwest along Calle Joaquin.

Note disturbed conditions and areas dominated by non-native grasses and forbs.

Photo taken on May 3, 2017.

**SOILS ENGINEERING REPORT
1460 CALLE JOAQUIN
APN: 053-141-036
SAN LUIS OBISPO, CALIFORNIA**

PROJECT SL09150-3

Prepared for

**ARH Quiky Investments, LLC
503 Bath Street
Santa Barbara, California 93101**

Prepared by

**GEOSOLUTIONS, INC.
220 HIGH STREET
SAN LUIS OBISPO, CALIFORNIA 93401
(805) 543-8539**

©

July 5, 2017



SOILS ENGINEERING REPORT

Dear ARH Quiky:

July 5, 2017
SL09150-3

Client:
ARH Quiky
Investments LLC
503 Bath Street
Santa Barbara,
California 93101

Project name:
1460 Calle Joaquin

This Soils Engineering Report has been prepared for the proposed commercial structure and improvements to be located at 1460 Calle Joaquin, APN: 053-141-036, San Luis Obispo, California. Geotechnically, the site is suitable for the proposed development provided the recommendations in this report for site preparation, earthwork, foundations, slabs, retaining walls, and pavement sections are incorporated into the design.

It is anticipated that a graded pad will be constructed for the proposed commercial building and that all foundations will be supported by engineered fill. Due to the presence of highly expansive surface soils, non-expansive import material is recommended beneath concrete slabs-on-grade and exterior concrete flatwork. All foundations are to be excavated into uniform material to limit the potential for distress of the foundation systems due to differential settlement. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions or require additional assistance, please feel free to contact the undersigned at (805) 543-8539.

Sincerely,

GeoSolutions, Inc.

Kraig R. Crozier
Kraig R. Crozier, PE
Principal, C61361



220 High Street
San Luis Obispo CA 93401
805.543.8539

1021 Tama Lane, Suite 105
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info@geosolutions.net

sbinfo@geosolutions.net

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USGS Design Map Detailed Report

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**SOILS ENGINEERING REPORT
1460 CALLE JOAQUIN
APN: 053-141-036
SAN LUIS OBISPO, CALIFORNIA**

PROJECT SL09150-3

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed commercial structure with improvements to be located at 1460 Calle Joaquin, APN: 053-141-036, San Luis Obispo, California. See Figure 1: Site Location Map for the general location of the project area. Figure 1: Site Location Map was obtained from the computer program *Topo USA 8.0* (DeLorme, 2009).

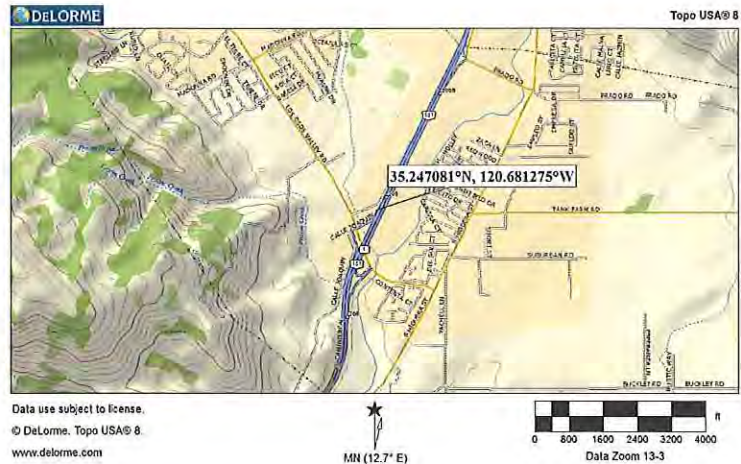


Figure 1: Site Location Map

1.1 Site Description

1460 Calle Joaquin is located at 35.247081 degrees north latitude and 120.681275 degrees west longitude at a general elevation of 112 feet above mean sea level. The property is irregularly shaped and 1.17 acres in size. The nearest intersection is where Calle Joaquin intersects Los Osos Valley Road approximately 450 feet to the southeast of the property. The project property will hereafter be referred to as the "Site." See Figure 2: Site Plan for the general layout of the Site.

The Site is relatively flat. Surface drainage follows the topography to the southeast.

1.2 Project Description

The proposed commercial structure and site improvements are to be located throughout the Site. The structure is anticipated to be two stories in height. At the time of the preparation of this report, the proposed commercial structure is to be constructed using light wood or light gauge steel framing.

It is anticipated that the proposed commercial structure will utilize a slab-on-grade lower floor system. Dead and sustained live loads are currently unknown, but they are anticipated to be moderate with maximum continuous footing and column loads estimated to be approximately 2.0 kips per linear foot and 20 kips, respectively.

2.0 PURPOSE AND SCOPE

The purpose of this study was to explore and evaluate the surface and sub-surface soil conditions at the Site and to develop geotechnical information and design criteria. The scope of this study includes the following items:

1. A literature review of available published and unpublished geotechnical data pertinent to the project site including geologic maps, and available on-line or in-house aerial photographs.
2. A field study consisting of site reconnaissance and subsurface exploration including exploratory CPT soundings in order to formulate a description of the sub-surface conditions at the Site.
3. Laboratory testing performed on representative soil samples that were collected during our field study.
4. Engineering analysis of the data gathered during our literature review, field study, and laboratory testing.
5. Development of recommendations for site preparation and grading as well as geotechnical design criteria for building foundations, retaining walls, pavement sections, underground utilities, and drainage facilities.



Figure 2: Site Plan

3.0 FIELD AND LABORATORY INVESTIGATION

The field investigation was conducted on May 5, 2017 using a CPT truck. Two exploratory soundings were advanced to a maximum depth of 56 feet below ground surface (bgs) at the approximate locations indicated on Figure 3: Google Earth Image. Sounding CPT-1 was placed using the CPT truck and was terminated at approximately 50.5 feet bgs. Boring B-2 was placed using the CPT truck and was terminated at approximately 56 feet bgs.

Data gathered during the field investigation suggest that the soil materials at the Site consist of alluvial soil overlying competent formational material at depth. The surface material at the Site generally consisted of very dark grayish brown sandy fat CLAY (CH) encountered in a very moist and firm to stiff condition and brown sandy CLAY (CL) with some gravel encountered in a dry condition to approximately 2.0 to 15 feet bgs. The sub-surface materials consisted of black sandy CLAY (CL) encountered in a very moist and firm to stiff condition.

The field investigation was conducted on May 5, 2017 using a CPT Truck provided by Middle Earth Geo Testing, Inc. Two CPT soundings were advanced to a maximum depth of approximately 56 feet bgs at the approximate locations indicated on Figure 2: Site Plan.

An electric cone was used during the CPT sounding. The electric cone has a 35.7-mm diameter cone-shaped tip with a 60° apex angle, a 35.7-mm diameter by 133.7-mm long cylindrical sleeve, and a pore pressure transducer.

The CPT soundings were advanced to provide a nearly-continuous soil behavior profile and to better characterize the Site. See **Appendix A** for CPT data and for a description and classification of the soil behavior types.



Figure 3: Google Earth Image

Regional site geology was obtained by using the *Geologic Map of the Pismo Beach Quadrangle* (Dibblee, 2006) and the MapView internet application (USGS, 2013); the later application is available from the United States Geological Survey website (USGS, 2013) and compiles existing geologic maps. The majority of all underlying material at the Site was interpreted as Surficial Sediments. Groundwater was encountered at approximately 5 feet bgs, although it should be expected that groundwater elevations may vary seasonally and with irrigation practices. See Figure 4: Regional Geologic Map.

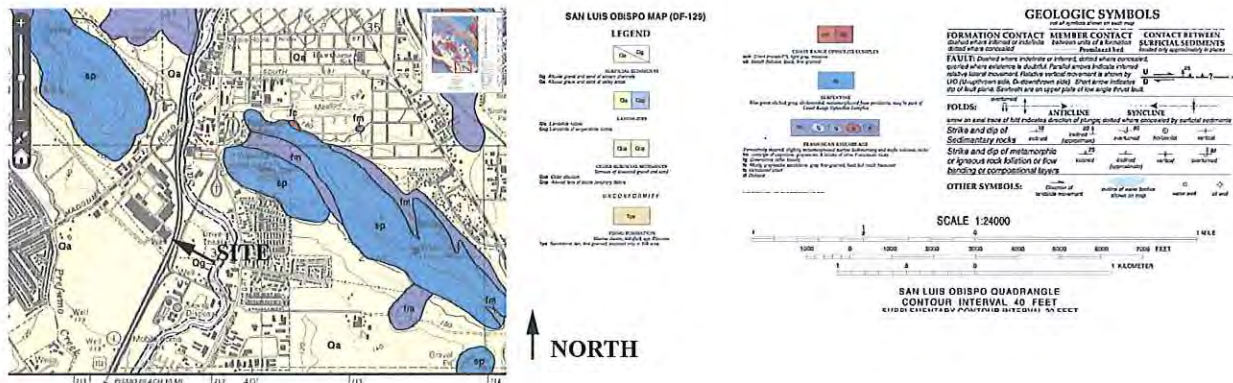


Figure 4: Regional Geologic Map

A project engineer has reviewed a continuous log of the soils encountered at the time of field investigation. See **Appendix A** for the Sounding Logs from the field investigation.

Laboratory tests were performed on soil samples that were obtained from the Site during the field investigation. The results of these tests are listed below in Table 1: Engineering Properties. Laboratory data reports and detailed explanations of the laboratory tests performed during this investigation are provided in **Appendix B**.

Table 1: Engineering Properties

Sample Name	Sample Description	USCS Specification	Expansion Index	Expansion Potential	Maximum Dry Density, γ_d (pcf)	Optimum Moisture (%)	Plasticity Index	Fines Content (%)
A	Very Dark Grayish Brown Sandy Fat CLAY	CH	146	Very High	105.8	17.6	48	92.5

4.0 HYDROLOGIC SOIL GROUP

Based on the Web Soil Survey provided by the Natural Resources Conservation Service, the Site was initially designated as containing Hydrologic Soil Group C. Group C soil conditions are less than favorable for infiltration of storm water and runoff due to; very low infiltration rates (high runoff potential), clays with high shrink-swell potential, and soils that are shallow over nearly impervious material. Based on the sub-surface data obtained during the field investigation and the results of the laboratory testing, it is our opinion that the entire Site is best defined as Hydrologic Soil Group C.

Any proposed LID improvements must take into consideration that the on-site soils are expansive with poor infiltration properties. Infiltration of concentrated storm water runoff adjacent to improvements constructed over expansive soils is not recommended as this can result in an increased potential for differential settlement and damage to improvements.

5.0 SEISMIC DESIGN CONSIDERATIONS

Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. According to section 1613 of the 2016 CBC (CBSC, 2016), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7 2010 Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-10 (ASCE, 2013). The Site soil profile classification (Site Class) can be determined by the average soil properties in the upper 100 feet of the Site profile and the criteria provided in Table 20.3-1 of ASCE7-10.

Spectral response accelerations, peak ground accelerations, and site coefficients provided in this report were obtained using the computer-based U.S. Seismic Design Map tool available from the United States Geological Survey website (USGS, 2013). This program utilizes the methods developed in the 1997, 2000, 2003, 2008 and 2013 errata editions of the NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures in conjunction with user-inputted Site latitude and longitude coordinates to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

Site coordinates of 35.247081 degrees north latitude and -120.681275 degrees west longitude were used in the web-based probabilistic seismic hazard analysis (USGS, 2013). Based on the results from the in-situ tests performed during the field investigation, the Site was defined as **Site Class D**, "Stiff Soil" profile per ASCE7-10, Chapter 20. Relevant seismic design parameters obtained from the program area summarized in Table 2: Seismic Design Parameters. Refer to **Appendix C** for more information regarding the seismic hazard analysis performed for the project and detailed results.

Table 2: Seismic Design Parameters

Site Class	D, "Stiff Soil"
Seismic Design Category	D
1-Second Period Design Spectral Response Acceleration, S_{D1}	0.487g
Short-Period Design Spectral Response Acceleration, S_{DS}	0.847g
Site Specific MCE Peak Ground Acceleration, PGA_M	0.535g

6.0 LIQUEFACTION HAZARD ASSESSMENT

Liquefaction occurs when saturated cohesionless soils lose shear strength due to earthquake shaking. Ground motion from an earthquake may induce cyclic reversals of shear stresses of large amplitude. Lateral and vertical movement of the soil mass combined with the loss of bearing strength can result from this phenomenon. Liquefaction potential of soil deposits during earthquake activity depends on soil type, void ratio, groundwater conditions, the duration of shaking, and confining pressures on the potentially liquefiable soil unit. Fine, poorly graded loose sand, shallow groundwater, high intensity earthquakes, and long duration of ground shaking are the principal factors leading to liquefaction.

Based on the consistency and relative density of the in-situ soils the potential for seismic liquefaction of soils at the Site is low. Assuming that the recommendations of the Soils Engineering Report are implemented, the potential for seismically induced settlement and differential settlement at the Site is considered to be low.

7.0 GENERAL SOIL-FOUNDATION DISCUSSION

It is anticipated that a graded pad will be constructed for the proposed commercial building and that all foundations will be supported by engineered fill. Due to the presence of highly expansive surface soils, non-expansive import material is recommended beneath concrete slabs-on-grade and exterior concrete flatwork. All foundations are to be excavated into uniform material to limit the potential for distress of the foundation systems due to differential settlement. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The Site is suitable for the proposed development provided the recommendations presented in this report are incorporated into the project plans and specifications.

The primary geotechnical concerns at the Site are:

1. The presence of highly expansive material. Influx of water from irrigation, leakage from the commercial structure, or natural seepage could cause expansive soil problems. Foundations supported by expansive soils should be designed by a Structural Engineer in accordance with the 2016 California Building Code.
2. The potential for differential settlement occurring between foundations supported on two soil materials having different settlement characteristics, such as native soil and engineered fill. Therefore, it is important that all of the foundations are founded in equally competent uniform material in accordance with this report.

8.1 Preparation of Building Pad

1. It is anticipated that a graded engineered fill pad will be developed for the proposed commercial building with footings founded in engineered fill. Due to the presence of highly expansive surface soils, replacement of the native soils with non-expansive import material is recommended for beneath slab-on-grade and exterior concrete flatwork areas. As alternatives, the pad may be constructed entirely with non-expansive import material per section 8.1.3, which will allow for a reduction in foundation depth and increase in allowable bearing capacity, or a post-tension foundation system may be utilized with limited grading required per section 8.1.4.
2. For the development of an engineered fill pad with native soil, the native material should be over-excavated at least 48 inches below existing grade, 18 inches below the bottom of the footings, to competent material, or to one-half the depth of the deepest fill(measured from the bottom of the deepest footing); whichever is greatest. The limits of over-excavation should extend a minimum of 5 feet beyond the perimeter foundation, to property lines or existing improvements, whichever is least. The exposed surface should be scarified to a depth of 6 inches; moisture conditioned to 3 percent over optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12). The over-excavated material should then be processed as engineered fill up to within 24 inches of slab-sub-grade elevation. The upper 24 inches of engineered fill within the building pad area should consist of approved non-expansive import material, such as a class II/III aggregate sub-base material, processed as engineered fill. Onsite soil and rock material is suitable as fill material up to within 24 inches of slab-sub-grade, provided it is processed to remove concentrations of organic material, debris, and other particles. GeoSolutions, Inc. should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported non-expansive fill materials. Refer to Figure 7: Sub-Slab Detail for under-slab drainage material and **Appendix D** for more details on fill placement.
3. For the development of a non-expansive engineered fill pad, the native material should be over-excavated at least 60 inches below existing grade, 45 inches below the bottom of the footings, to competent material, or to one-half the depth of the deepest fill(measured from the bottom of the deepest footing); whichever is greatest. The limits of over-excavation should extend a minimum of 5 feet beyond the perimeter foundation, to property lines or existing improvements, whichever is least. The exposed surface should be scarified to a depth of 6 inches; moisture conditioned to 3 percent over optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12). The over-excavated material should then be replaced with an approved non-expansive import material such as a class II/III aggregate sub-base material, processed as engineered fill. GeoSolutions, Inc. should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported fill materials. Refer to Figure 7: Sub-Slab Detail for under-slab drainage material and Appendix D for more details on fill placement.
4. For the development of a engineered fill pad to support a post-tension concrete foundation system, the native material should be over-excavated at least 24 inches below existing grade, 12 inches below the bottom of the footings, to competent material, or to one-half the depth of the deepest fill(measured from the bottom of the deepest footing); whichever is greatest. The limits of over-excavation should extend a minimum of 5 feet beyond the perimeter foundation, to property lines or existing improvements, whichever is least. The exposed surface should be scarified to a depth of 6 inches; moisture conditioned to 3 percent over optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12). The over-excavated material should then be processed as engineered fill. GeoSolutions, Inc. should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported fill materials. Refer to Figure 7: Sub-Slab Detail for under-slab drainage material and Appendix D for more details on fill placement.

5. There is potential that soils encountered at the required over-excavation depth may exhibit soft, compressible conditions. If pumping soils are encountered at the bottom of the excavation, stabilization will be necessary and may require the installation of a woven geotextile fabric, such as Mirafi 600x or equivalent, on the prepared bottom of the excavation. If the soil within the excavation is not stable enough for proper installation of the geotextile fabric, rock stabilization of the exposed sub-grade may be required, with the placement and compaction of 3-inch to 8-inch diameter (gabion) crushed stone into the soft sub-grade, until stability is achieved, as observed and approved by a representative of this firm. Alternative recommendations may be prepared based on the conditions encountered.
6. The recommended soil moisture content should be maintained during construction and following construction of the proposed development. Where soil moisture content is not maintained, desiccation cracks may develop which indicate a loss of soil compaction, leading to the potential for damage to foundations, flatwork, pavements, and other improvements. Soils that have become cracked due to moisture loss should be removed sufficient depth to repair the cracked soil as observed by the soils engineer, and the removed materials should then be moisture conditioned to approximately 3 percent over optimum value, and compacted.

8.2 Preparation of Paved Areas

1. Pavement areas should be excavated to approximate sub-grade elevation or to competent material; whichever is deeper. The exposed surface should be scarified an additional depth of 12 inches, moisture conditioned to 3% over optimum moisture content, and compacted to a minimum relative density of 95 percent (ASTM D1557-12 test method). The top 12 inches of sub-grade soil under all pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum.
2. Sub-grade soils should not be allowed to dry out or have excessive construction traffic between moisture conditioning and compaction, and placement of the pavement structural section.
3. Due to the expansive potential of the soils at the Site, the base courses beneath unreinforced pavement sections may fail, causing cracking of the pavement surfaces, as the sub-grade materials move laterally during expansive shrink-swell cycles.
4. Therefore, in order to minimize the potential for the failure of pavement sections at the Site, GeoSolutions, Inc. recommends that a laterally-reinforcing geotextile grid, such as Tensar BX1100, Syntec SBX11, ADS BX114GG, or equivalent, be installed to reinforce the base courses under paved areas at the Site.
5. GeoSolutions, Inc. should be contacted prior to the design and construction of pavement sections at the Site in order to assist in the selection of an appropriate laterally-reinforcing biaxial geogrid product and to provide recommendations regarding the procedures for the installation of geogrid products at the Site.

8.3 Pavement Design

1. All paving construction and materials used should conform to applicable sections of the latest edition of the State of California Department of Transportation Standard Specifications.
2. As indicated previously, the top 12 inches of sub-grade soil under asphaltic concrete pavement sections should be compacted to a minimum relative density of 95 percent

based on the ASTM D1557-12 test method at slightly above optimum moisture content. Aggregate bases and sub-bases should also be compacted to a minimum relative density of 95 percent based on the aforementioned test method.

3. The following table provides the recommended Hot Mix Asphalt (HMA) pavement sections based on an **R-Value of less than 5**.
4. All pavement sections should be crowned for good drainage. All pavement construction and materials used should conform to Sections 25, 26 and 39 of the latest edition of the State of California Department of Transportation Standard Specifications.
5. In order to minimize the potential for cracking of the pavement surfaces at the Site due to lateral movement of the base courses during expansive shrink-swell cycles of the sub-grade materials, GeoSolutions, Inc. recommends that a laterally-reinforcing geotextile grid, such as Tensar BX1100, Syntec SBX11, ADS BX114GG, or equivalent, be installed between the prepared sub-grade and base materials at the Site.
6. GeoSolutions, Inc. should be contacted prior to the design and construction of the pavement sections to provide recommendations regarding the selection of and installation of an appropriate laterally-reinforcing biaxial geogrid product.

Table 3: Recommended Pavement Structural Sections

Traffic Index	Street Section Thickness in Inches	
	HMA	AB
4.5	3.00	9.00
5.0	3.00	10.50

HMA = Hot Mix Asphalt meeting Caltrans Specification HMA Type A ½ inch mix
 AB = Aggregate Base meeting Caltrans Specification for Class 2 aggregate base (R-Value = 78 Min)

8.4 Conventional Foundations

1. Conventional continuous and spread footings with grade beams may be used for support of the proposed structure. Isolated pad footings are not permitted. Foundations must be designed in accordance to section 1808.6, 2016 CBC, Foundations on Expansive Soils.
2. Minimum footing and grade beam sizes and depths in engineered fill should conform to the following table, as observed and approved by a representative of GeoSolutions, Inc.

Table 4: Minimum Footing and Grade Beam Dimensions

Footings in Expansive Native Fill (per Section 8.1.2)		
	Perimeter Footings	Grade Beams
Minimum Width	12 inches (one story) 15 inches (two story)	12 inches
Minimum Depth	30 inches	18 inches
Minimum Reinforcing*	6 #5 bars (3 top / 3 bottom)	4 #5 bars (2 top / 2 bottom)
Spacing	-	16 feet on-center each way
* Steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel (see WRI Design of Slab-on-Ground Foundations and ACI 318, Section 26.6.6 – Placing Reinforcement).		
Footings in Non-Expansive Fill (per Section 8.1.3)		
	Perimeter Footings	Grade Beams
Minimum Width	12 inches (one story) 15 inches (two story)	12 inches
Minimum Depth	18 inches	12 inches
Minimum Reinforcing*	2 #5 bars (1 top / 1 bottom)	2 #4 bars (1 top / 1 bottom)
Spacing	-	25 feet on-center each way
* Steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel (see WRI Design of Slab-on-Ground Foundations and ACI 318, Section 26.6.6 – Placing Reinforcement).		

3. Minimum reinforcing for footings should conform to the recommendations provided in Table 4: Minimum Footing and Grade Beam Dimensions which meets the specifications of Section 1808.6 of the 2016 California Building Code for the soil conditions at the Site. Reinforcing steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel in accordance with WRI Design of Slab-on-Ground Foundations, and ACI 318, Section 26.6.6 – Placing Reinforcement.
4. A representative of this firm should observe and approve all foundation excavations for required embedment depth prior to the placement of reinforcing steel and/or concrete. Concrete should be placed only in excavations that are free of loose, soft soil and debris and that have been maintained in a moist condition with no desiccation cracks present.
5. An allowable dead plus live load bearing pressure of **1,500 psf** may be used for the design of footings founded in engineered fill comprised of expansive soil (per Section 8.1.2), and may be increased to **2,000 psf** if the building pad area is constructed entirely of non-expansive import material (per Section 8.1.3).
6. Allowable bearing capacities may be increased by one-third when transient loads such as wind and/or seismicity are included.
7. A total settlement of less than 1 inch and a differential settlement of less than 1 inch in 30 feet are anticipated.

8. Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the engineered fill and the bottom of the footings. For resistance to lateral loads, a friction factor of **0.30** may be utilized for sliding resistance at the base of footings extending into engineered fill. A passive pressure of **250-pcf** equivalent fluid weight may be used against the side of shallow footings in engineered fill. If friction and passive pressures are combined to resist lateral forces acting on shallow footings, the lesser value should be reduced by 50 percent.
9. Foundation excavations should be observed and approved by a representative of this firm prior to the placement of reinforcing steel and/or concrete.
10. Foundation design should conform to the requirements of Chapter 18 of the latest edition of the CBC (CBSC, 2016).
11. The base of all grade beams and footings should be level and stepped as required to accommodate any change in grade while still maintaining the minimum required footing embedment and slope setback distance.

8.5 Post-Tensioned Slabs

1. As an alternative to a non-expansive fill pad or grade beam type of foundation system, a post-tension foundation system may be utilized to support the proposed structure.
2. Post-tensioned slabs should be designed according to the method recommended in the Design and Construction of Post-Tensioned Slabs-on-Ground (PTI, 2012 PTI DC 10.5-12). As a guideline, the following soil design criteria for the post-tensioned slab foundations may be used:

Table 5: Post-Tension Foundation Criteria

POST-TENSION FOUNDATION DESIGN CRITERIA				
Expansion Potential	Center Lift All Perimeter Beam Conditions		Edge Lift 24 Inch Deep Edge Beam	
	Em (ft.)	Ym (in.)	Em (ft.)	Ym (in.)
Very High	6.0	2.3	2.9	-1.39
Footing/Slab Dimensions				
The footing width, depth and structural slab-on-grade thickness should be specified by the architect/engineer based upon the soil parameters provided in this report and the 2016 CBC.				
Slab Subgrade Moisture Recommendations				
Very High Expansive Potential	Minimum of 140 percent of optimum moisture content to a depth of 30 inches prior to concrete placement.			

3. The following values were assumed when developing the above design values (Table 5) using the computer program Volflo v1.5: Soil fabric factor $F_F = 1.1$, $K_0 = 0.33$ (drying) 0.67 (wetting); Thornthwaite Moisture Index = -20; constant suction value $pF = 3.8$; depth to constant suction = 9 feet; post equilibrium case assumed with wet (swelling) cycle going from 3.8 pF to 3.0 pF and drying (shrinking) cycle going from 3.8 pF to 4.5 pF.

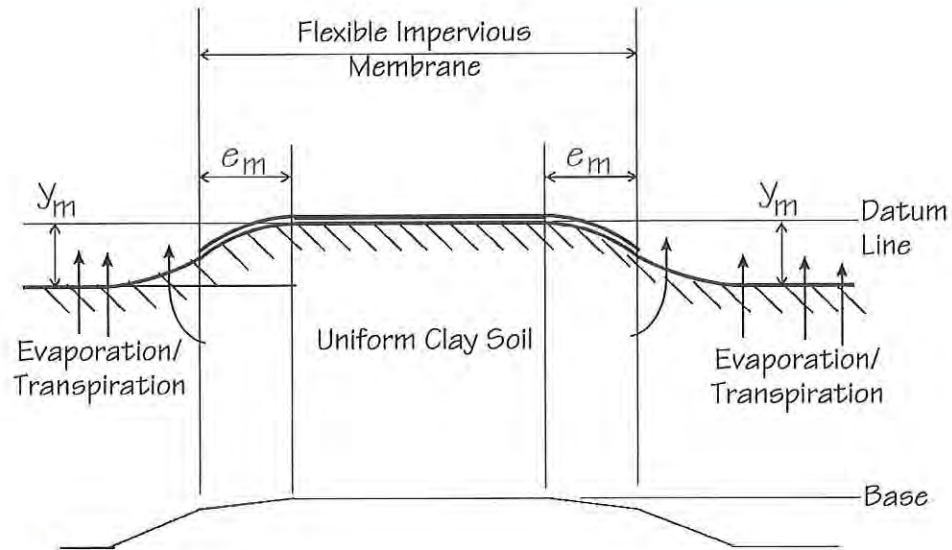


Figure 5: Center Lift Diagram

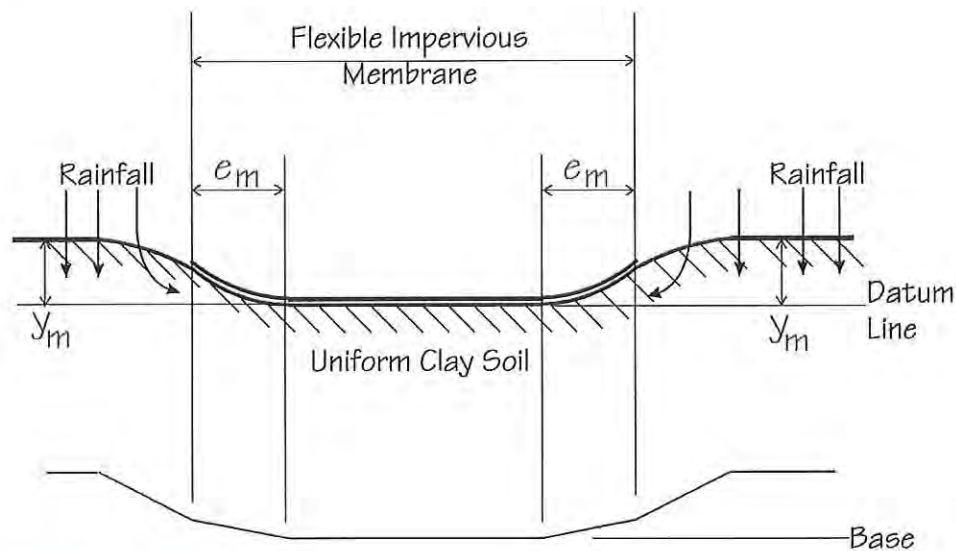


Figure 6: Edge Lift Diagram

4. These values should be confirmed after grading based upon soil conditions at subgrade level on the building pads. The post-tensioned slabs should be designed to impose a maximum allowable bearing pressure of 1,000 pounds per square foot (psf) for dead-plus-live loads. This value may be increased by one-third when considering total loads including wind or seismic loads.
5. A minimum slab thickness of 9 inches is recommended. The perimeter should be thickened to at least 12 inches, and the minimum backfill height of soil against the slab at the perimeter should be 6 inches. The final foundation plans should be reviewed by the Soils Engineer when they become available to verify conformance with these recommendations.

8.6 Slab-On-Grade Construction

1. Concrete slabs-on-grade and flatwork should not be placed directly on unprepared native materials. Preparation of sub-grade to receive concrete slabs-on-grade and flatwork should be processed as discussed in the preceding sections of this report. Concrete slabs should be placed only over sub-grade that is free of loose, soft soil and debris that has been maintained in a moist condition with no desiccation cracks present.
2. Concrete slabs-on-grade should be a minimum of 4 inches thick and should be reinforced with No. 3 reinforcing bars placed at 12 inches on-center both ways at or slightly above the center of the structural section. Reinforcing bars should have a minimum clear cover of 1.5 inches. The aforementioned reinforcement may be used for anticipated uniform floor loads not exceeding 200 psf. If floor loads greater than 200 psf are anticipated, a Structural Engineer should evaluate the slab design.
3. Concrete for all slabs should be placed at a maximum slump of less than 5 inches. Excessive water content is the major cause of concrete cracking. If fibers are used to aid in the control of cracking, a water-reducing admixture may be added to the concrete to increase slump while maintaining a water/cement ratio, which will limit excessive shrinkage. Control joints should be constructed as required to control cracking.
4. Where concrete slabs-on-grade are to be constructed for interior conditioned spaces, the slabs should be underlain by a minimum of four inches of clean free-draining material, such as a ½ inch coarse aggregate mix, to serve as a cushion and a capillary break. Where moisture susceptible storage or floor coverings are anticipated, a 15-mil Stego Wrap membrane (or equivalent installed per manufacturer's specifications) should be placed between the free-draining material and the slab to minimize moisture condensation under the floor covering. See Figure 7: Sub-Slab Detail for the placement of under-slab drainage material. It is suggested, but not required, that a two-inch thick sand layer be placed on top of the membrane to assist in the curing of the concrete, increasing the depth of the under-slab material to a total of six inches. The sand should be lightly moistened prior to placing concrete.

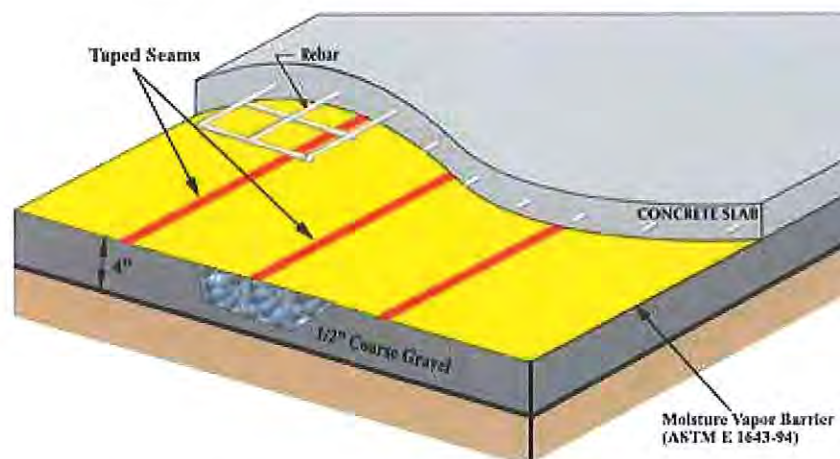


Figure 7: Sub-Slab Detail

5. It should be noted that for a vapor barrier installation to conform to manufacturer's specifications, sealing of penetrations, joints and edges of the vapor barrier membrane are typically required. As required by the California Building Code, joints in the vapor

barrier should be lapped a minimum of 6 inches. If the installation is not performed in accordance with the manufacturer's specifications, there is an increased potential for water vapor to affect the concrete slabs and floor coverings.

6. The most effective method of reducing the potential for moisture vapor transmission through concrete slabs-on-grade would be to place the concrete directly on the surface of the vapor barrier membrane. However, this method requires a concrete mix design specific to this application with low water-cement ratio in addition to special concrete finishing and curing practices, to minimize the potential for concrete cracks and surface defects. The contractor should be familiar with current techniques to finish slabs poured directly onto the vapor barrier membrane.
7. Moisture condensation under floor coverings has become critical due to the use of water-soluble adhesives. Therefore, it is suggested that moisture sensitive slabs not be constructed during inclement weather conditions.

8.7 Exterior Concrete Flatwork

1. Due to the presence of expansive surface soils within the proposed development areas, there is a potential for considerable soil movement and distress to reinforced concrete flatwork if conventional measures are used, such as the placement of 4 to 6 inches of imported sand materials placed beneath concrete flatwork. Heaving and cracking are anticipated to occur. To reduce the potential for movement associated with expansive soils, we recommend the placement of a minimum of **24 inches of approved non-expansive import material placed as engineered fill beneath the flatwork**.
2. Minimum flatwork for conventional pedestrian areas should be a minimum of 4 inches thick and consist of No. 3 (#3) rebar spaced at 24 inches on-center each-way at or slightly above the center of the structural section.
3. Flatwork should be constructed with frequent joints to allow for movement due to fluctuations in temperature and moisture content in the adjacent soils. Flatwork at doorways, driveways, curbs and other areas where restraining the elevation of the flatwork is desired, should be doweled to the perimeter foundation by a minimum of No. 3 reinforcing steel dowels, spaced at a maximum distance of 24 inches on-center.
4. As an alternative, interlocking concrete pavers may be utilized for exterior improvements in lieu of reinforced concrete flatwork. Concrete pavers, when installed in accordance with manufacturers' recommendations and industry standards (ICPI), allow for a greater degree of soil movement as they are part of a flexible system. If interlocking concrete pavers are selected for use in the driveway area, the structural section should be underlain by a woven geotextile fabric, such as Mirafi 500x or equivalent, to function as a separation layer and to provide additional support for vehicle tire loads.

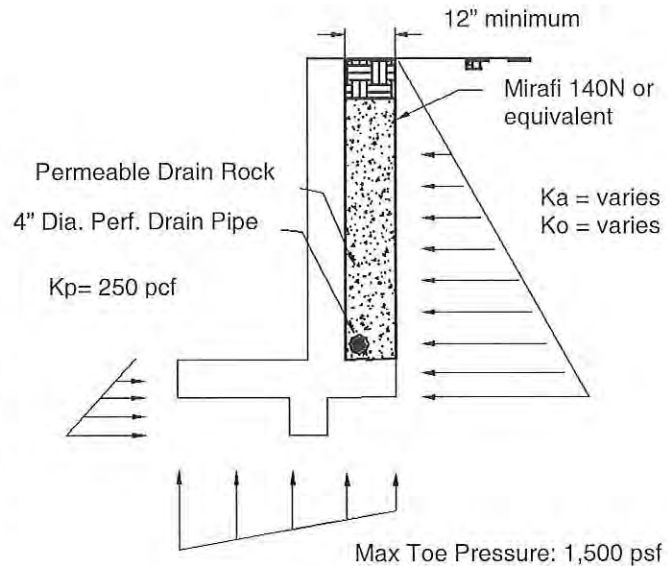
8.8 Retaining Walls

1. Retaining walls should be designed to resist lateral pressures from adjacent soils and surcharge loads applied behind the walls. We recommend using the lateral pressures presented in Table 6: Retaining Wall Design Parameters and Figure 8: Retaining Wall Detail for the design of retaining walls at the Site. The Active Case may be used for the design of unrestrained retaining walls, and the At-Rest Case may be used for the design of restrained retaining walls.

Table 6: Retaining Wall Design Parameters

Lateral Pressure and Condition	Equivalent Fluid Pressure, pcf
Static, Active Case, Engineered Fill – Native ($\gamma'K_A$)	70
Static, Active Case, Engineered Fill – Granular Import ($\gamma'K_A$)	35
Static, At-Rest Case, Engineered Fill – Native ($\gamma'K_0$)	90
Static, At-Rest Case, Engineered Fill – Granular Import ($\gamma'K_0$)	50
Static, Passive Case, Engineered Fill – Native ($\gamma'K_0$)	250

2. The above values for equivalent fluid pressure are based on retaining walls having level retained surfaces, having an approximately vertical surface against the retained material, and retaining granular backfill material or engineered fill composed of native soil within the active wedge. See Figure 8: Retaining Wall Detail and Figure 9: Retaining Wall Active and Passive Wedges for a description of the location of the active wedge behind a retaining wall.



3. Proposed retaining walls having a retained surface that slopes upward from the top of the wall should be designed for an additional equivalent fluid pressure of 1 pcf for the active case and 1.5 pcf for the at-rest case, for every degree of slope inclination.

Figure 8: Retaining Wall Detail

4. We recommend that the proposed retaining walls at the Site have an approximately vertical surface against the retained material. If the proposed retaining walls are to have sloped surfaces against the retained material, the project designers should contact the Soils Engineer to determine the appropriate lateral earth pressure values for retaining walls located at the Site.

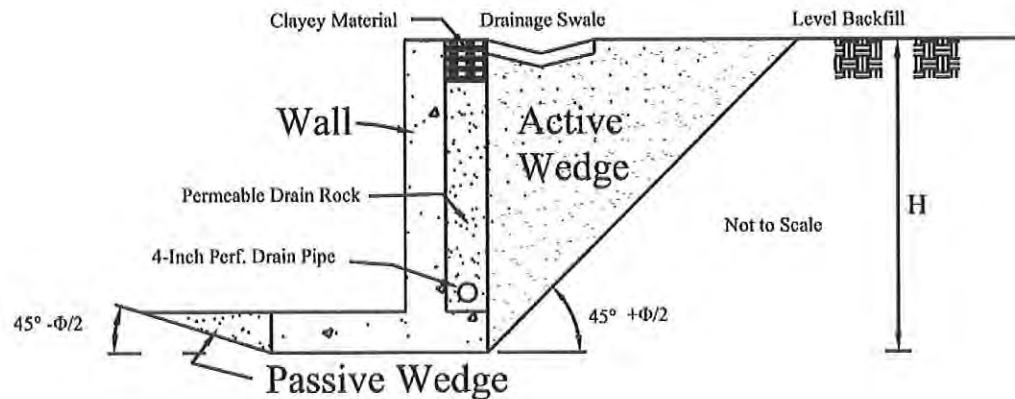


Figure 9: Retaining Wall Active and Passive Wedges

5. Retaining wall foundations should be founded a minimum of 36 inches below lowest adjacent grade in engineered fill as observed and approved by a representative of GeoSolutions, Inc. A coefficient of friction of **0.30** may be used between engineered fill and concrete footings. Project designers may use a maximum toe pressure of **1,500 psf** for the design of retaining wall footings founded in engineered fill.
6. For earthquake conditions, retaining walls greater than 6 feet in height should be designed to resist an additional seismic lateral soil pressure of **30 pcf** equivalent fluid pressure for unrestrained walls (active condition). The pressure resultant force from earthquake loading should be assumed to act a distance of $\frac{1}{3}H$ above the base of the retaining wall, where H is the height of the retaining wall. Seismic active lateral earth pressure values were determined using the simplified dynamic lateral force component (SEAOC 2010) utilizing the design peak ground acceleration, PGA_M , discussed in Section 4.0 ($PGA_M = 0.535g$). The dynamic increment in lateral earth pressure due to earthquakes should be considered during the design of retaining walls at the Site. Based on research presented by Dr. Marshall Lew (Lew et al., 2010), lateral pressures associated with seismic forces should not be applied to restrained walls (at-rest condition).
7. Seismically induced forces on retaining walls are considered to be short-term loadings. Therefore, when performing seismic analyses for the design of retaining wall footings, we recommend that the allowable bearing pressure and the passive pressure acting against the sides of retaining wall footings be increased by a factor of one-third.
8. In addition to the static lateral soil pressure values reported in Table 6: Retaining Wall Design Parameters, the retaining walls at the Site should be designed to support any design live load, such as from vehicle and construction surcharges, etc., to be supported by the wall backfill. If construction vehicles are required to operate within 10 feet of a retaining wall, supplemental pressures will be induced and should be taken into account in the design of the retaining wall.
9. The recommended lateral earth pressure values are based on the assumption that sufficient sub-surface drainage will be provided behind the walls to prevent the build-up of hydrostatic pressure. To achieve this we recommend that a granular filter material be placed behind all proposed walls. The blanket of granular filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to 12 inches from the ground surface. The top 12 inches should consist of moisture conditioned,

compacted, clayey soil. Neither spread nor wall footings should be founded in the granular filter material used as backfill.

10. A 4-inch diameter perforated or slotted drainpipe (ASTM D1785 PVC) should be installed near the bottom of the filter blanket with perforations facing down. The drainpipe should be underlain by at least 4 inches of filter type material and should daylight to discharge in suitably projected outlets with adequate gradients. The filter material should consist of a clean free-draining aggregate, such as a coarse aggregate mix. If the retaining wall is part of a structural foundation, the drainpipe must be placed below finished slab sub-grade elevation.
11. The filter material should be encapsulated in a permeable geotextile fabric. A suitable permeable geotextile fabric, such as non-woven needle-punched Mirafi 140N or equal, may be utilized to encapsulate the retaining wall drain material and should conform to Caltrans Standard Specification 88-1.03 for underdrains.
12. For hydrostatic loading conditions (i.e. no free drainage behind retaining wall), an additional loading of 45-pcf equivalent fluid weight should be added to the active and at-rest lateral earth pressures. If it is necessary to design retaining structures for submerged conditions, the allowed bearing and passive pressures should be reduced by 50 percent. In addition, soil friction beneath the base of the foundations should be neglected.
13. Precautions should be taken to ensure that heavy compaction equipment is not used adjacent to walls, so as to prevent undue pressure against, and movement of the walls.
14. The use of water-stops/impermeable barriers should be used for any basement construction, and for building walls that retain earth.

9.0 ADDITIONAL GEOTECHNICAL SERVICES

The recommendations contained in this report are based on a limited number of borings and on the continuity of the sub-surface conditions encountered. GeoSolutions, Inc. assumes that it will be retained to provide additional services during future phases of the proposed project. These services would be provided by GeoSolutions, Inc. as required by the City of San Luis Obispo, the 2016 CBC, and/or industry standard practices. These services would be in addition to those included in this report and would include, but are not limited to, the following services:

1. Consultation during plan development.
2. Plan review of grading and foundation documents prior to construction and a report certifying that the reviewed plans are in conformance with our geotechnical recommendations.
3. Consultation during selection and placement of a laterally-reinforcing biaxial geogrid product.
4. Construction inspections and testing, as required, during all grading and excavating operations beginning with the stripping of vegetation at the Site, at which time a site meeting or pre-job meeting would be appropriate.
5. Special inspection services during construction of reinforced concrete, structural masonry, high strength bolting, epoxy embedment of threaded rods and reinforcing steel, and welding of structural steel.
6. Preparation of construction reports certifying that building pad preparation and foundation excavations are in conformance with our geotechnical recommendations.

7. Preparation of special inspection reports as required during construction.
8. In addition to the construction inspections listed above, section 1705.6 of the 2016 CBC (CBSC, 2016) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 7: Required Verification and Inspections of Soils:

Table 7: Required Verification and Inspections of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

10.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed during our study. Should any variations or undesirable conditions be encountered during the development of the Site, GeoSolutions, Inc. should be notified immediately and GeoSolutions, Inc. will provide supplemental recommendations as dictated by the field conditions.
2. This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and incorporated into the project plans and specifications. The owner or his/her representative is responsible to ensure that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.
3. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Therefore, this report should not be relied upon after a period of 3 years without our review nor should it be used or is it applicable for any properties other than those studied. However many events such as floods, earthquakes, grading of the adjacent properties and building and municipal code changes could render sections of this report invalid in less than 3 years.

REFERENCES

REFERENCES

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APPENDIX A

Field Investigation

CPT Logs

Classification Data With Soil Behavior Types

FIELD INVESTIGATION

The field investigation was conducted on May 5, 2017, using the Middle-Earth Cone Penetration Test (CPT) sounding equipment. The three CPT soundings to a maximum depth of 56 feet bgs. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures consistent with the scope of the services authorized to GeoSolutions, Inc.

The CPT sounding with a 20-ton electronic CPT cone is advanced with measurements for cone bearing (q_c), sleeve friction (f_s), and pore water pressure (u_2) measurements recorded at approximately 5-cm intervals. This provides a near continuous hydro geologic log. All CPT soundings are performed in accordance with ASTM D5778-95 (re-approved 2002) standards.

Disturbed bulk samples are obtained from cuttings developed during boring operations. The bulk samples are selected for classification and testing purposes and may represent a mixture of soils within the noted depths. Recovered samples are placed in transport containers and returned to the laboratory for further classification and testing.

Logs of the soundings showing the depths and descriptions of the soils encountered, geologic structure where applicable, penetration resistance, and results of in-place density and moisture content tests are presented in this appendix. The logs represent the interpretation of field logs and tests, the interpolation of soil conditions between samples and the results of laboratory observations and tests. The noted stratification lines represent the approximate boundaries between the surface soil types. The actual transition between soil types may be gradual.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		LABORATORY CLASSIFICATION CRITERIA		GROUP SYMBOLS	PRIMARY DIVISIONS
COARSE GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS	Clean gravels (less than 5% fines*)	C_u greater than 4 and C_z between 1 and 3	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			Not meeting both criteria for GW	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
	More than 50% of coarse fraction retained on No. 4 (4.75mm) sieve	Gravel with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	GM	Silty gravels, gravel-sand-silt mixtures
			Atterberg limits plot below "A" line and plasticity index greater than 7	GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS	Clean sand (less than 5% fines*)	C_u greater than 6 and C_z between 1 and 3	SW	Well graded sands, gravelly sands, little or no fines
			Not meeting both criteria for SW	SP	Poorly graded sands and gravelly and sands, little or no fines
	More than 50% of coarse fraction passes No. 4 (4.75mm) sieve	Sand with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	SM	Silty sands, sand-silt mixtures
			Atterberg limits plot above "A" line and plasticity index greater than 7	SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS 50% or more passes No. 200 sieve	SILTS AND CLAYS (liquid limit less than 50)	Inorganic soil	$PI < 4$ or plots below "A"-line	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		Inorganic soil	$PI > 7$ and plots on or above "A" line**	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic Soil	LL (oven dried)/ LL (not dried) < 0.75	OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (liquid limit 50 or more)	Inorganic soil	Plots below "A" line	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		Inorganic soil	Plots on or above "A" line	CH	Inorganic clays of high plasticity, fat clays
		Organic Soil	LL (oven dried)/ LL (not dried) < 0.75	OH	Organic silts and organic clays of high plasticity
Peat	Highly Organic	Primarily organic matter, dark in color, and organic odor	PT	Peat, muck and other highly organic soils	

*Fines are those soil particles that pass the No. 200 sieve. For gravels and sands with between 5 and 12% fines, use of dual symbols is required (i.e. GW-GM, GW-GC, GP-GM, or GP-GC).

**If the plasticity index is between 4 and 7 and it plots above the "A" line, then dual symbols (i.e. CL-ML) are required. the "A" line, then dual symbols (i.e. CL-ML) are required.

CLASSIFICATIONS BASED ON PERCENTAGE OF FINES

Less than 5%, Pass No. 200 (75mm)sieve)
More than 12% Pass N. 200 (75 mm) sieve
5%-12% Pass No. 200 (75 mm) sieve

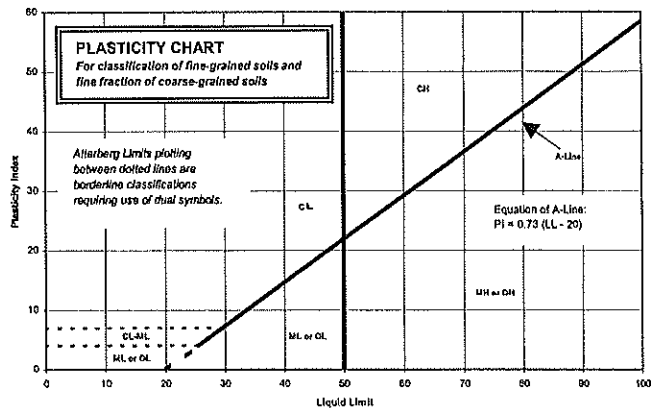
GW, GP, SW, SP
GM, GC, SM, SC
Borderline Classification
requiring use of dual symbols

CONSISTENCY

CLAYS AND PLASTIC SILTS	STRENGTH TON/SQ. FT ++	BLOWS/FOOT +
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	Over 4	Over 32

RELATIVE DENSITY

SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/FOOT +
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	Over 50



Drilling Notes:

- + Number of blows of a 140-pound hammer falling 30-inches to drive a 2-inch O.D. (1-3/8-inch I.D.) split spoon (ASTM D1586).
- ++ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D1586), pocket penetrometer, torvane, or visual observation.

- I. Sampling and blow counts
 - a. California Modified - number of blows per foot of a 140 pound hammer falling 30 inches
 - b. Standard Penetration Test - number of blows per 12 inches of a 140 pound hammer falling 30 inches

- Types of Samples:
 X - Sample
 SPT - Standard Penetration
 CA - California Modified
 N - Nuclear Gauge
 PO - Pocket Penetrometer (tons/sq.ft.)

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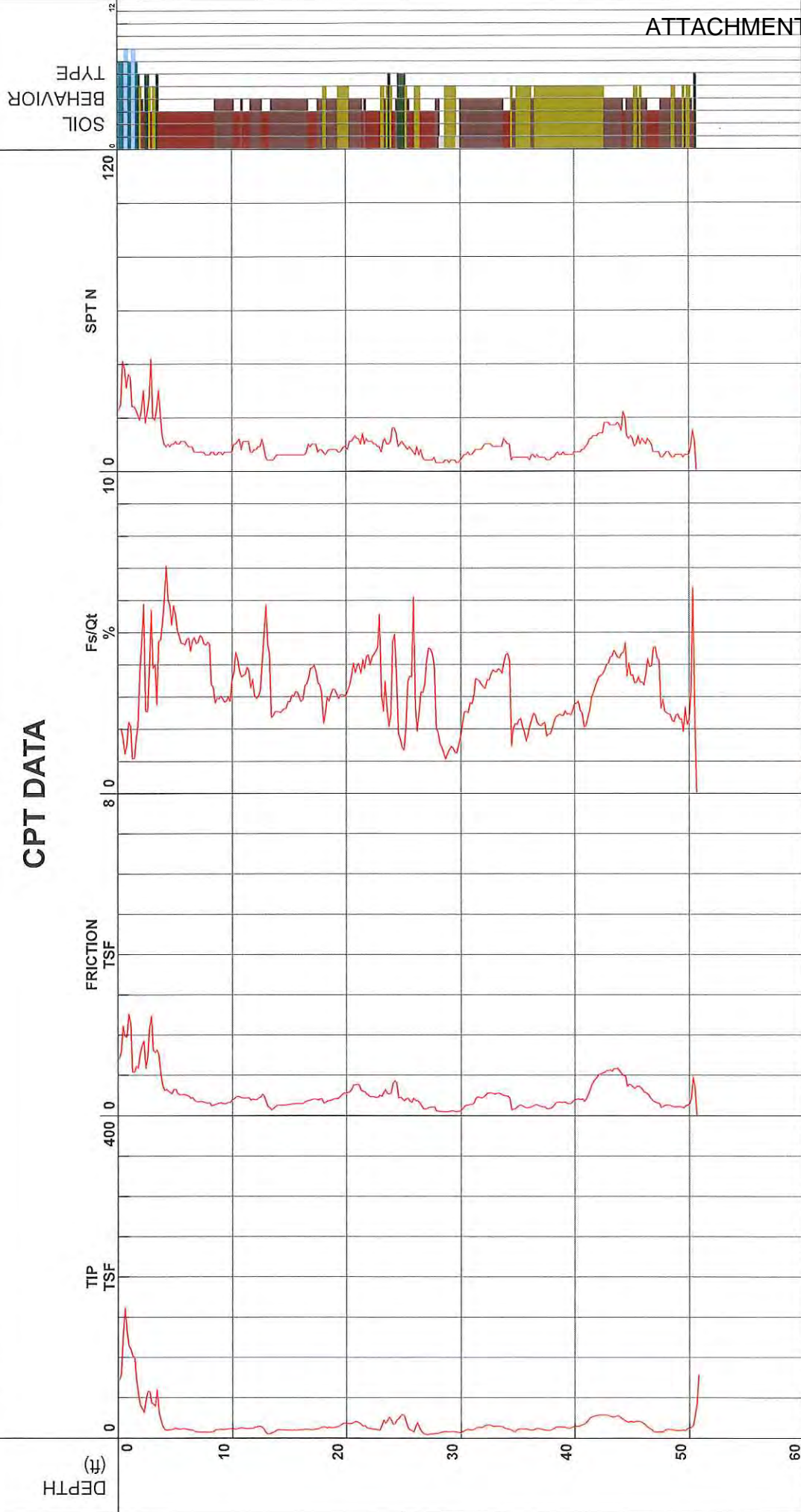
Project 1460 Calle Joaquin
 Job Number SL09150-3
 Hole Number CPT-01
 EST GW Depth During Test

Operator RC JM
 Cone Number DDG1281
 Date and Time 5/5/2017 7:50:19 AM
 5.10 ft

Filename SDF(807).cpt
 GPS
 Maximum Depth 50.85 ft

CPT DATA

Net Area Ratio .8



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

Cone Size 10cm squared

*Soil behavior type and SPT based on data from UBC-1983

GeoSolutions Inc



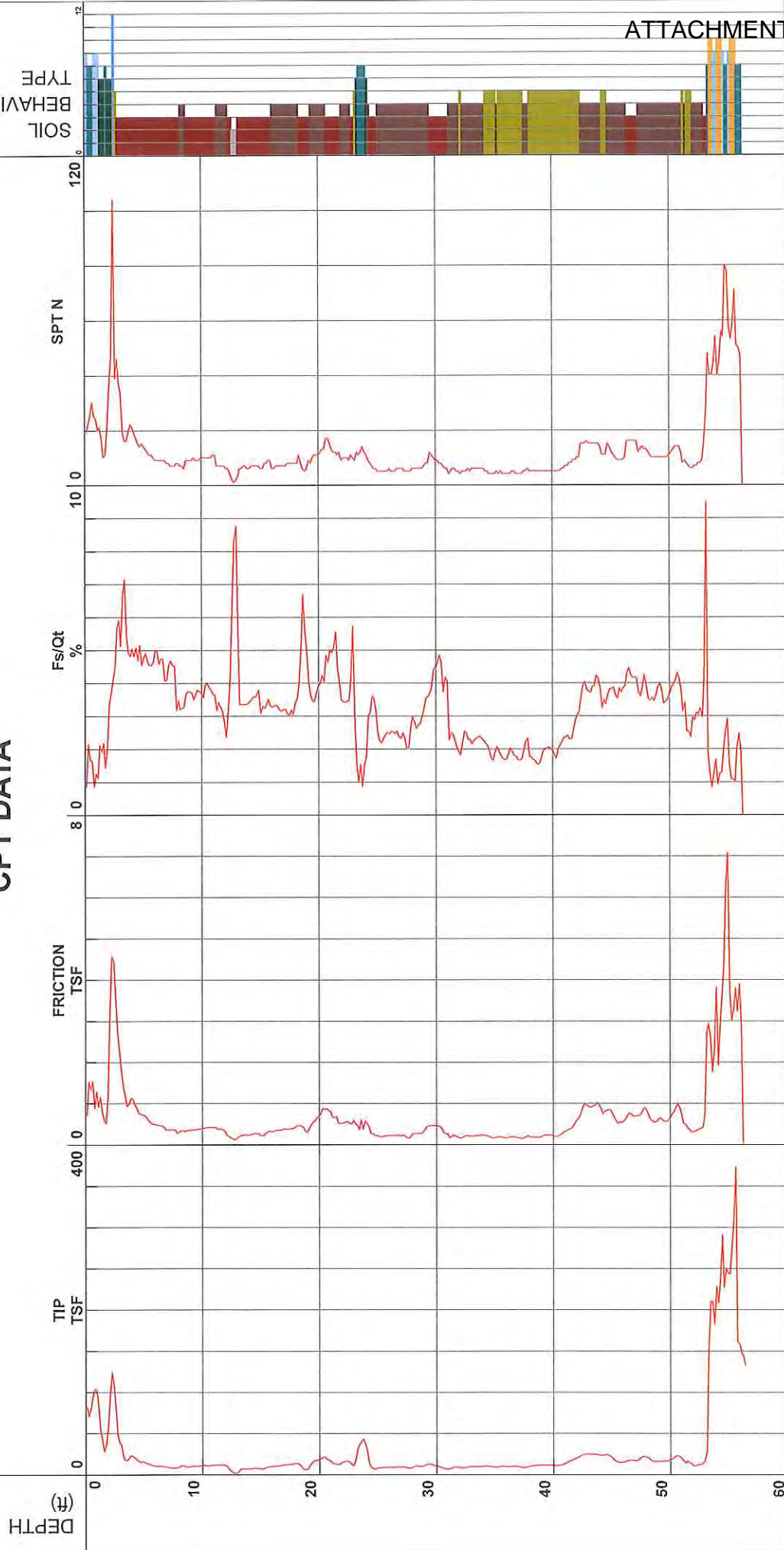
Project 1460 Calle Joaquin
 Job Number SL09150-3
 Hole Number CPT-02
 EST GW Depth During Test

Operator RC JM
 Cone Number DDG1281
 Date and Time 5/5/2017 8:30:22 AM
 5.00 ft

Filename SDF(808).cpt
 GPS
 Maximum Depth 56.43 ft

Net Area Ratio .8

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

Cone Size 10cm squared
 *Soil behavior type and SPT based on data from UBC-1983

APPENDIX B

Laboratory Testing

Soil Test Reports

LABORATORY TESTING

This appendix includes a discussion of the test procedures and the laboratory test results performed as part of this investigation. The purpose of the laboratory testing is to assess the engineering properties of the soil materials at the Site. The laboratory tests are performed using the currently accepted test methods, when applicable, of the American Society for Testing and Materials (ASTM).

Undisturbed and disturbed bulk samples used in the laboratory tests are obtained from various locations during the course of the field exploration, as discussed in **Appendix A** of this report. Each sample is identified by sample letter and depth. The Unified Soils Classification System is used to classify soils according to their engineering properties. The various laboratory tests performed are described below:

Expansion Index of Soils (ASTM D4829-08) is conducted in accordance with the ASTM test method and the California Building Code Standard, and are performed on representative bulk and undisturbed soil samples. The purpose of this test is to evaluate expansion potential of the site soils due to fluctuations in moisture content. The sample specimens are placed in a consolidometer, surcharged under a 144-psf vertical confining pressure, and then inundated with water. The amount of expansion is recorded over a 24-hour period with a dial indicator. The expansion index is calculated by determining the difference between final and initial height of the specimen divided by the initial height.

Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557-12_{e1}) is performed to determine the relationship between the moisture content and density of soils and soil-aggregate mixtures when compacted in a standard size mold with a 10-lbf hammer from a height of 18 inches. The test is performed on a representative bulk sample of bearing soil near the estimated footing depth. The procedure is repeated on the same soil sample at various moisture contents sufficient to establish a relationship between the maximum dry unit weight and the optimum water content for the soil. The data, when plotted, represents a curvilinear relationship known as the moisture density relations curve. The values of optimum water content and modified maximum dry unit weight can be determined from the plotted curve.

Liquid Limit, Plastic Limit, and Plasticity Index of Soils (ASTM D4318-05) are the water contents at certain limiting or critical stages in cohesive soil behavior. The liquid limit (LL or W_L) is the lower limit of viscous flow, the plastic limit (PL or W_P) is the lower limit of the plastic stage of clay and plastic index (PI or I_P) is a range of water content where the soil is plastic. The Atterberg Limits are performed on samples that have been screened to remove any material retained on a No. 40 sieve. The liquid limit is determined by performing trials in which a portion of the sample is spread in a brass cup, divided in two by a grooving tool, and then allowed to flow together from the shocks caused by repeatedly dropping the cup in a standard mechanical device. To determine the Plastic Limit a small portion of plastic soil is alternately pressed together and rolled into a 1/8-inch diameter thread. This process is continued until the water content of the sample is reduced to a point at which the thread crumbles and can no longer be pressed together and re-rolled. The water content of the soil at this point is reported as the plastic limit. The plasticity index is calculated as the difference between the liquid limit and the plastic limit.

Particle Size Analysis of Soils (ASTM D422-63R02) is used to determine the particle-size distribution of fine and coarse aggregates. In the test method the sample is separated through a series of sieves of progressively smaller openings for determination of particle size distribution. The total percentage passing each sieve is reported and used to determine the distribution of fine and coarse aggregates in the sample.

GeoSolutions, Inc. **SOILS REPORT** **(805) 543-8539**

Project:	1460 Calle Joaquin	Date Tested:	January 20, 2015
Client:		Project #:	SL09150-1
Sample:	A	Depth:	3.0 Feet
Location:	B-1	Lab #:	15962
		Sample Date:	January 19, 2015
		Sampled By:	PM/SP

Soil Classification
ASTM D2487-06, D2488-06

Result: Very Dark Grayish Brown Sandy Fat CLAY

Specification: CH

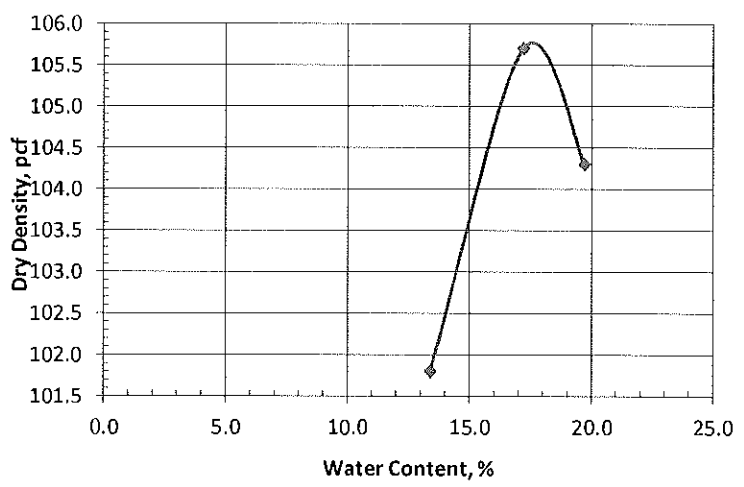
Sieve Analysis
ASTM D422-63R02

Sieve Size	Percent Passing	Project Specifications
3"		
2"		
1 1/2"		
1"		
3/4"		
No. 4	100	
No. 8	99	
No. 16	99	
No. 30	98	
No. 50	97	
No. 100	95	
No. 200	92.5	

Sand Equivalent Cal 217 (06/2011)

1		SE
2		
3		
4		

Laboratory Maximum Density
ASTM D1557-07



Mold ID	n/a	Mold Diameter, ins.	4.00
No. of Layers	5	Weight of Rammer, lbs.	10.00
No. of Blows	25		

Plasticity Index
ASTM D4318-05

Liquid Limit:	70
Plastic Limit:	22
Plasticity Index:	48

Estimated Specific Gravity for 100% Saturation Curve = 2.5

Expansion Index
ASTM D4829-08

Expansion Index:	146
Expansion Potential:	Very High
Initial Saturation, %:	50

Trial #	1	2	3	4
Water Content:	13.4	17.2	19.7	
Dry Density:	101.8	105.7	104.3	
Maximum Dry Density, pcf:		105.8		
Optimum Water Content, %:		17.6		

Moisture-Density ASTM D2937-04, **Moisture Content** ASTM D2216-05

Sample	Depth (ft)	Water Content (%)	Dry Density (pcf)	Relative Density	Sample Description

Report By: Aaron Eichman

APPENDIX C

Seismic Hazard Analysis

USGS Design Map Summary Report

USGS Design Map Detailed Report

SEISMIC HAZARD ANALYSIS

According to section 1613 of the 2016 CBC (CBSC, 2016), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7 2010 Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-10 (ASCE, 2013). Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. As per section 1613.3.2 of the 2016 CBC, the Site soil profile classification is determined by the average soil properties in the upper 100 feet of the Site profile and can be determined based on the criteria provided in Table 20.3-1 of ASCE7-10.

ASCE7-10 provides recommendations for estimating site-specific ground motion parameters for seismic design considering a Risk-targeted Maximum Considered Earthquake (MCE_R) in order to determine *design spectral response accelerations* and a Maximum Considered Earthquake Geometric Mean (MCE_G) in order to determine probabilistic geometric mean *peak ground accelerations*.

Spectral accelerations from the MCE_R are based on a 5% damped acceleration response spectrum and a 1% exceedance in 50 years (4975-year return period). *Maximum* short period (S_s) and 1-second period (S_1) spectral accelerations are interpolated from the MCE_R -based ground motion parameter maps for bedrock, provided in ASCE7-10. These spectral accelerations are then multiplied by site-specific coefficients (F_a , F_v), based on the Site soil profile classification and the maximum spectral accelerations determined for bedrock, to yield the *maximum* short period (S_{MS}) and 1-second period (S_{M1}) spectral response accelerations at the Site. According to section 11.2 of ASCE7-10 and section 1613 of the 2016 CBC, buildings and structures should be specifically proportioned to resist *design* earthquake ground motions. Section 1613.3.4 of the 2016 CBC indicates the site-specific *design* spectral response accelerations for short (S_{DS}) and 1-second (S_{D1}) periods can be taken as two-thirds of *maximum* ($S_{DS} = 2/3 * S_{MS}$ and $S_{D1} = 2/3 * S_{M1}$).

Per ASCE7-10, Section 21.5, the probabilistic maximum mean peak ground acceleration (PGA) corresponding to the MCE_G can be computed assuming a 2% probability of exceedance in 50 years (2475-year return period) and is initially determined from mapped ground accelerations for bedrock conditions. The site-specific peak ground acceleration (PGA_M) is then determined by multiplying the PGA by the site-specific coefficient F_h (where F_h is a function of Site Class and PGA).

Spectral response accelerations, peak ground accelerations, and site coefficients provided in this report were obtained using the web-based U.S. Seismic Design Map tool available from the United States Geological Survey website (USGS, 2013). This program utilizes the methods developed in the 1997, 2000, 2003, 2008 and 2013 errata editions of the NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures in conjunction with user-inputted Site latitude and longitude coordinates to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classifications A through E. Output from the web-based program are included in this Appendix.

USGS Design Maps Summary Report

User-Specified Input

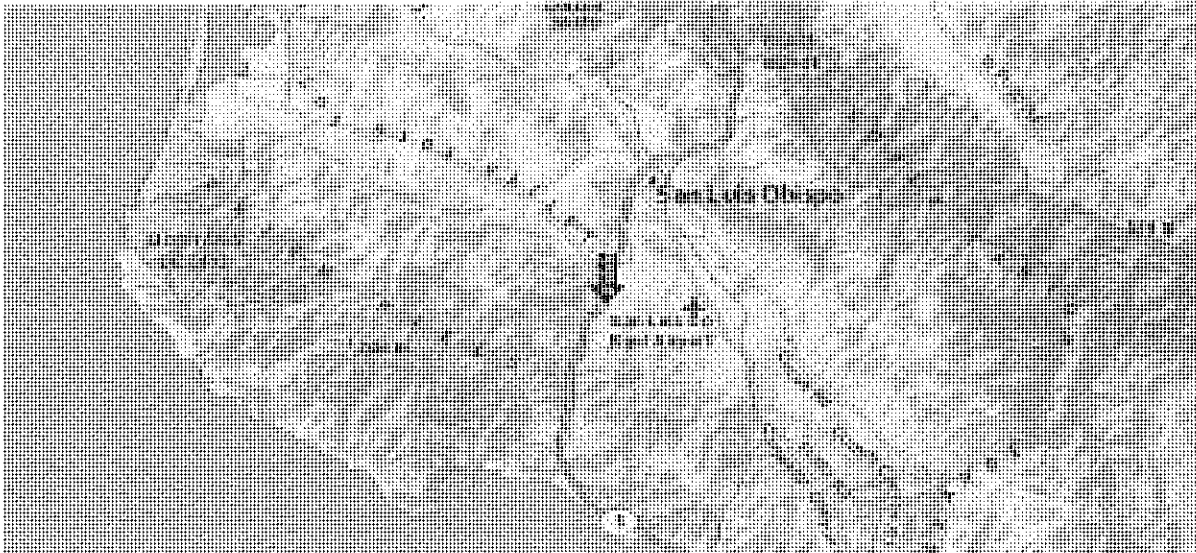
Report Title 1460 Calle Joaquin
Wed July 5, 2017 16:33:01 UTC

Building Code Reference Document ASCE 7-10 Standard
(which utilizes USGS hazard data available in 2008)

Site Coordinates 35.24708°N, 120.68128°W

Site Soil Classification Site Class D – “Stiff Soil”

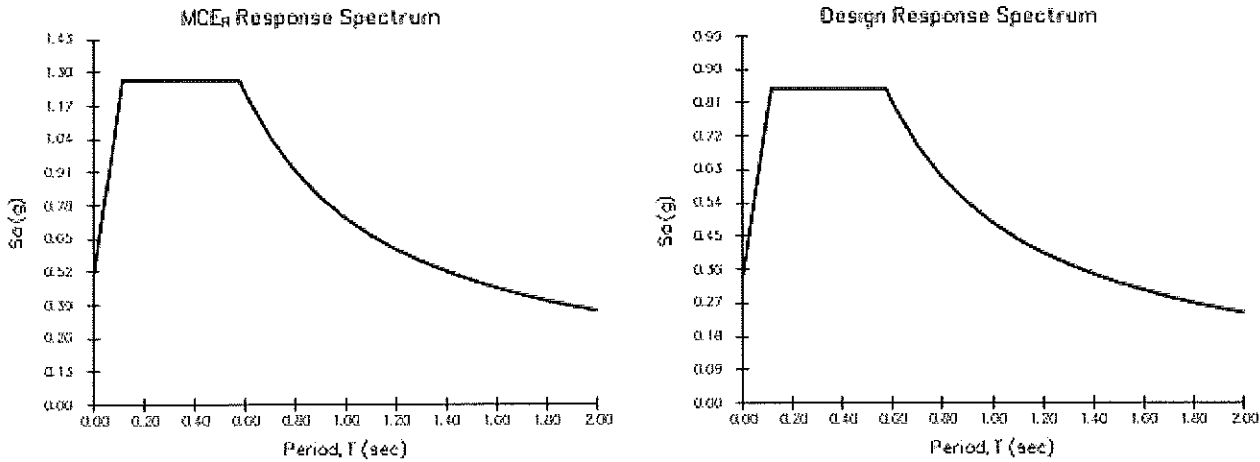
Risk Category I/II/III



USGS-Provided Output

$S_s = 1.270 \text{ g}$ $S_{MS} = 1.270 \text{ g}$ $S_{DS} = 0.847 \text{ g}$
 $S_1 = 0.480 \text{ g}$ $S_{M1} = 0.730 \text{ g}$ $S_{D1} = 0.487 \text{ g}$

For information on how the S_s and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the “2009 NEHRP” building code reference document.



For PGA_M , T_L , C_{RS} , and C_{R1} values, please [view the detailed report](#).

Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.


Design Maps Detailed Report

ASCE 7-10 Standard (35.24708°N, 120.68128°W)

Site Class D – “Stiff Soil”, Risk Category I/II/III

Section 11.4.1 — Mapped Acceleration Parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_s) and 1.3 (to obtain S_1). Maps in the 2010 ASCE-7 Standard are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 11.4.3.

From Figure 22-1 ^[1]

$S_s = 1.270 \text{ g}$

From Figure 22-2 ^[2]

$S_1 = 0.480 \text{ g}$

Section 11.4.2 — Site Class

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class D, based on the site soil properties in accordance with Chapter 20.

Table 20.3-1 Site Classification

Site Class	\bar{v}_s	\bar{N} or \bar{N}_{ch}	\bar{s}_u
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf
Any profile with more than 10 ft of soil having the characteristics: <ul style="list-style-type: none"> • Plasticity index $PI > 20$, • Moisture content $w \geq 40\%$, and • Undrained shear strength $\bar{s}_u < 500$ psf 			
F. Soils requiring site response analysis in accordance with Section 21.1	See Section 20.3.1		

For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Section 11.4.3 – Site Coefficients and Risk-Targeted Maximum Considered Earthquake (MCE_R) Spectral Response Acceleration Parameters

Table 11.4-1: Site Coefficient F_a

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at Short Period				
	$S_s \leq 0.25$	$S_s = 0.50$	$S_s = 0.75$	$S_s = 1.00$	$S_s \geq 1.25$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_s

For Site Class = D and $S_s = 1.270$ g, $F_a = 1.000$

Table 11.4-2: Site Coefficient F_v

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at 1-s Period				
	$S_1 \leq 0.10$	$S_1 = 0.20$	$S_1 = 0.30$	$S_1 = 0.40$	$S_1 \geq 0.50$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_1

For Site Class = D and $S_1 = 0.480$ g, $F_v = 1.520$

Equation (11.4-1): $S_{MS} = F_a S_S = 1.000 \times 1.270 = 1.270 \text{ g}$

Equation (11.4-2): $S_{M1} = F_v S_1 = 1.520 \times 0.480 = 0.730 \text{ g}$

Section 11.4.4 — Design Spectral Acceleration Parameters

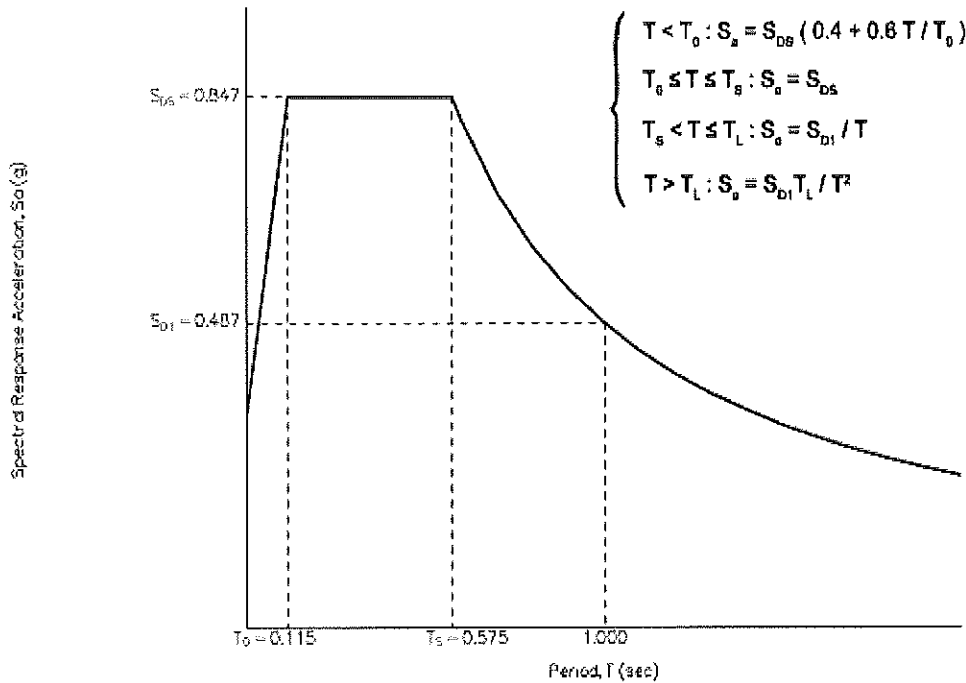
Equation (11.4-3): $S_{DS} = \frac{2}{3} S_{MS} = \frac{2}{3} \times 1.270 = 0.847 \text{ g}$

Equation (11.4-4): $S_{D1} = \frac{2}{3} S_{M1} = \frac{2}{3} \times 0.730 = 0.487 \text{ g}$

Section 11.4.5 — Design Response Spectrum

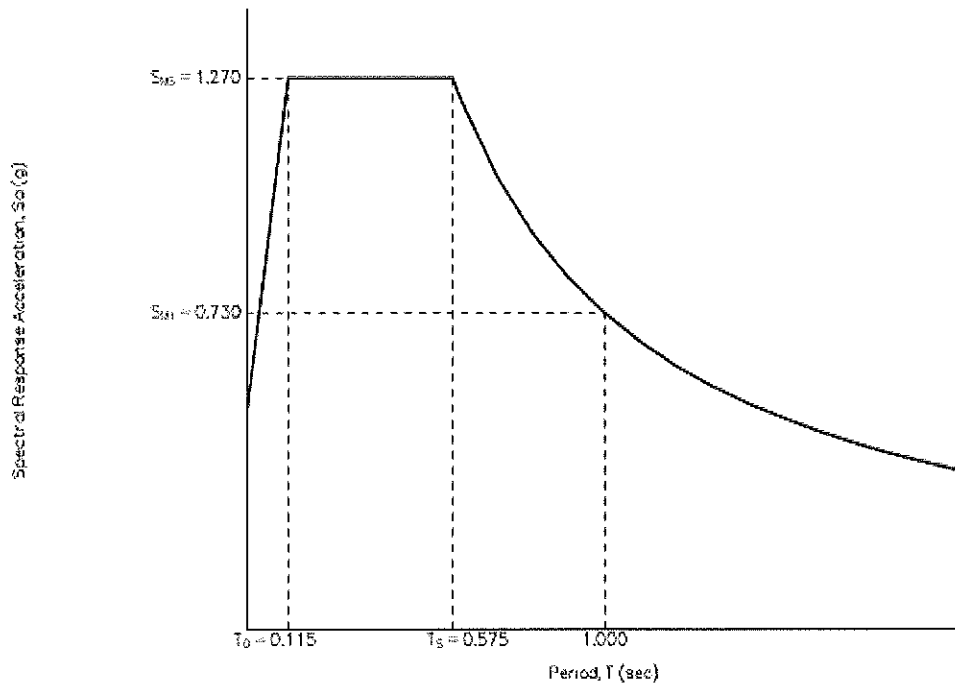
From **Figure 22-12** ^[3] $T_L = 8 \text{ seconds}$

Figure 11.4-1: Design Response Spectrum



Section 11.4.6 — Risk-Targeted Maximum Considered Earthquake (MCE_R) Response Spectrum

The MCE_R Response Spectrum is determined by multiplying the design response spectrum above by 1.5.



Section 11.8.3 — Additional Geotechnical Investigation Report Requirements for Seismic Design Categories D through F

From **Figure 22-7** ^[4]

$$PGA = 0.535$$

Equation (11.8-1):

$$PGA_M = F_{PGA}PGA = 1.000 \times 0.535 = 0.535 \text{ g}$$

Table 11.8-1: Site Coefficient F_{PGA}

Site Class	Mapped MCE Geometric Mean Peak Ground Acceleration, PGA				
	PGA ≤ 0.10	PGA = 0.20	PGA = 0.30	PGA = 0.40	PGA ≥ 0.50
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of PGA

For Site Class = D and PGA = 0.535 g, $F_{PGA} = 1.000$

Section 21.2.1.1 — Method 1 (from Chapter 21 – Site-Specific Ground Motion Procedures for Seismic Design)

From **Figure 22-17** ^[5]

$$C_{RS} = 0.904$$

From **Figure 22-18** ^[6]

$$C_{R1} = 0.941$$

Section 11.6 — Seismic Design Category

Table 11.6-1 Seismic Design Category Based on Short Period Response Acceleration Parameter

VALUE OF S_{DS}	RISK CATEGORY		
	I or II	III	IV
$S_{DS} < 0.167g$	A	A	A
$0.167g \leq S_{DS} < 0.33g$	B	B	C
$0.33g \leq S_{DS} < 0.50g$	C	C	D
$0.50g \leq S_{DS}$	D	D	D

For Risk Category = I and $S_{DS} = 0.847 g$, Seismic Design Category = D

Table 11.6-2 Seismic Design Category Based on 1-S Period Response Acceleration Parameter

VALUE OF S_{D1}	RISK CATEGORY		
	I or II	III	IV
$S_{D1} < 0.067g$	A	A	A
$0.067g \leq S_{D1} < 0.133g$	B	B	C
$0.133g \leq S_{D1} < 0.20g$	C	C	D
$0.20g \leq S_{D1}$	D	D	D

For Risk Category = I and $S_{D1} = 0.487 g$, Seismic Design Category = D

Note: When S_1 is greater than or equal to $0.75g$, the Seismic Design Category is **E** for buildings in Risk Categories I, II, and III, and **F** for those in Risk Category IV, irrespective of the above.

Seismic Design Category \equiv "the more severe design category in accordance with Table 11.6-1 or 11.6-2" = D

Note: See Section 11.6 for alternative approaches to calculating Seismic Design Category.

References

1. Figure 22-1: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-1.pdf
2. Figure 22-2: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-2.pdf
3. Figure 22-12: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-12.pdf
4. Figure 22-7: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-7.pdf
5. Figure 22-17: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-17.pdf
6. Figure 22-18: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-18.pdf

APPENDIX D

Preliminary Grading Specifications

PRELIMINARY GRADING SPECIFICATIONS

A. General

1. These preliminary specifications have been prepared for the subject site; GeoSolutions, Inc. should be consulted prior to the commencement of site work associated with site development to ensure compliance with these specifications.
2. GeoSolutions, Inc. should be notified at least 72 hours prior to site clearing or grading operations on the property in order to observe the stripping of surface materials and to coordinate the work with the grading contractor in the field.
3. These grading specifications may be modified and/or superseded by recommendations contained in the text of this report and/or subsequent reports.
4. If disputes arise out of the interpretation of these grading specifications, the Soils Engineer shall provide the governing interpretation.

B. Obligation of Parties

1. The Soils Engineer should provide observation and testing services and should make evaluations to advise the client on geotechnical matters. The Soils Engineer should report the findings and recommendations to the client or the authorized representative.
2. The client should be chiefly responsible for all aspects of the project. The client or authorized representative has the responsibility of reviewing the findings and recommendations of the Soils Engineer. During grading the client or the authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.
3. The contractor is responsible for the safety of the project and satisfactory completion of all grading and other operations on construction projects, including, but not limited to, earthwork in accordance with project plans, specifications, and controlling agency requirements.

C. Site Preparation

1. The client, prior to any site preparation or grading, should arrange and attend a meeting which includes the grading contractor, the design Structural Engineer, the Soils Engineer, representatives of the local building department, as well as any other concerned parties. All parties should be given at least 72 hours notice.
2. All surface and sub-surface deleterious materials should be removed from the proposed building and pavement areas and disposed of off-site or as approved by the Soils Engineer. This includes, but is not limited to, any debris, organic materials, construction spoils, buried utility line, septic systems, building materials, and any other surface and subsurface structures within the proposed building areas. Trees designated for removal on the construction plans should be removed and their primary root systems grubbed under the observations of a representative of GeoSolutions, Inc. Voids left from site clearing should be cleaned and backfilled as recommended for structural fill.
3. Once the Site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. A representative of GeoSolutions, Inc. should determine the required depth of stripping at the time of work being completed. Strippings may either be disposed of off-site or stockpiled for future use in landscape areas, if approved by the landscape architect.

D. Site Protection

1. Protection of the Site during the period of grading and construction should be the responsibility of the contractor.
2. The contractor should be responsible for the stability of all temporary excavations.
3. During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the contractor should install check-dams, de-silting basins, sand bags, or other devices or methods necessary to control erosion and provide safe conditions.

E. Excavations

1. Materials that are unsuitable should be excavated under the observation and recommendations of the Soils Engineer. Unsuitable materials include, but may not be limited to: 1) dry, loose, soft, wet, organic, or compressible natural soils; 2) fractured, weathered, or soft bedrock; 3) non-engineered fill; 4) other deleterious materials; and 5) materials identified by the Soils Engineer or Engineering Geologist.
2. Unless otherwise recommended by the Soils Engineer and approved by the local building official, permanent cut slopes should not be steeper than 2:1 (horizontal to vertical). Final slope configurations should conform to section 1804 of the 2016 California Building Code unless specifically modified by the Soil Engineer/Engineering Geologist.
3. The Soil Engineer/Engineer Geologist should review cut slopes during excavations. The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

F. Structural Fill

1. Structural fill should not contain rocks larger than 3 inches in greatest dimension, and should have no more than 15 percent larger than 2.5 inches in greatest dimension.
2. Imported fill should be free of organic and other deleterious material and should have very low expansion potential, with a plasticity index of 12 or less. Before delivery to the Site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.

G. Compacted Fill

1. Structural fill using approved import or native should be placed in horizontal layers, each approximately 8 inches in thickness before compaction. On-site inorganic soil or approved imported fill should be conditioned with water to produce a soil water content near optimum moisture and compacted to a minimum relative density of 90 percent based on ASTM D1557-12_{e1}.
2. Fill slopes should not be constructed at gradients greater than 2-to-1 (horizontal to vertical). The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.
3. If fill areas are constructed on slopes greater than 10-to-1 (horizontal to vertical), we recommend that benches be cut every 4 feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of 2 percent gradient into the slope.

4. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Key depths are to be observed and approved by a representative of GeoSolutions, Inc. Sub-drains shall be placed in the keyway and benches as required.

H. Drainage

1. During grading, a representative of GeoSolutions, Inc. should evaluate the need for a sub-drain or back-drain system. Areas of observed seepage should be provided with sub-surface drains to release the hydrostatic pressures. Sub-surface drainage facilities may include gravel blankets, rock filled trenches or Multi-Flow systems or equal. The drain system should discharge in a non-erosive manner into an approved drainage area.
2. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed on building pads or adjacent to foundations. Final grading should be the responsibility of the contractor, general Civil Engineer, or architect.
3. Concentrated surface water runoff within or immediately adjacent to the Site should be conveyed in pipes or in lined channels to discharge areas that are relatively level or that are adequately protected against erosion.
4. Water from roof downspouts should be conveyed in solid pipes that discharge in controlled drainage localities. Surface drainage gradients should be planned to prevent ponding and promote drainage of surface water away from building foundations, edges of pavements and sidewalks. For soil areas we recommend that a minimum of 2 percent gradient be maintained.
5. Attention should be paid by the contractor to erosion protection of soil surfaces adjacent to the edges of roads, curbs and sidewalks, and in other areas where hard edges of structures may cause concentrated flow of surface water runoff. Erosion resistant matting such as Miramat, or other similar products, may be considered for lining drainage channels.
6. Sub-drains should be placed in established drainage courses and potential seepage areas. The location of sub-drains should be determined after a review of the grading plan. The sub-drain outlets should extend into suitable facilities or connect to the proposed storm drain system or existing drainage control facilities. The outlet pipe should consist of a non-perforated pipe the same diameter as the perforated pipe.

I. Maintenance

1. Maintenance of slopes is important to their long-term performance. Precautions that can be taken include planting with appropriate drought-resistant vegetation as recommended by a landscape architect, and not over-irrigating, a primary source of surficial failures.
2. Property owners should be made aware that over-watering of slopes is detrimental to long term stability of slopes.

J. Underground Facilities Construction

1. The attention of contractors, particularly the underground contractors, should be drawn to the State of California Construction Safety Orders for "Excavations, Trenches, Earthwork." Trenches or excavations greater than 5 feet in depth should be shored or sloped back in accordance with OSHA Regulations prior to entry.

2. Bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand to be used as bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics. Sand bedding should be compacted by mechanical means to achieve at least 90 percent relative density based on ASTM D1557-12_{e1}.
3. On-site inorganic soils, or approved import, may be used as utility trench backfill. Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs, and vehicle pavements. In these areas, backfill should be conditioned with water (or allowed to dry), to produce a soil water content of about 2 to 3 percent above the optimum value and placed in horizontal layers, each not exceeding 8 inches in thickness before compaction. Each layer should be compacted to at least 90 percent relative density based on ASTM D1557-12_{e1}. The top lift of trench backfill under vehicle pavements should be compacted to the requirements given in report under Preparation of Paved Areas for vehicle pavement sub-grades. Trench walls must be kept moist prior to and during backfill placement.

K. Completion of Work

1. After the completion of work, a report should be prepared by the Soils Engineer retained to provide such services. The report should including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved Soils Engineering Report.
2. Soils Engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions within Chapter 18 of the 2016 CBC.

Stormwater Control Plan

Prepared for:

Garcia Architecture and Design
1308 Monterey Street, #230
San Luis Obispo, CA 93401

Prepared By:

Ashley & Vance Engineering, Inc.
1413 Monterey Street
San Luis Obispo, CA 93401
805.545.0010



Calle Joaquin

1460 Calle Joaquin
San Luis Obispo, CA 93401

AV Job Number 16553
June 8, 2016

Resubmitted June 26, 2017

Calle Joaquin



June 8, 2016

Attn: George Garcia

Garcia Architecture and Design
1308 Monterey Street, #230
San Luis Obispo, CA 93401

Subject: Calle Joaquin

Re: Stormwater Control Plan-Performance Requirements 1 and 2

George:

Please find enclosed the Stormwater Control Plan for the above-referenced project addressing performance requirements 1 and 2

Calculations for the volume of water required for treatment were prepared using the Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region.

As detailed in the project conclusion, this project is well suited to meet the City of San Luis Obispo and the Water Board's goals for stormwater mitigation

Please contact me for any clarifications or supporting information you need with reference to this plan.

Regards,

A handwritten signature in blue ink that reads 'Kathleen Allwine'.

Kathleen Allwine, PE



Ken Brown, PE
Principal Engineer

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Calle Joaquin



Introduction and Background

The intent of this report is to address the stormwater requirements set forth by the Regional Water Quality Control Board's Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region. Calculations to determine the amount of water requiring treatment and retention were performed using the Santa Barbara Urban Hydrograph Method per the Water Boards requirements.

This project will result in a net impervious area of over 5,000 sf of impervious surface and is thus subject to performance requirement 1 and 2.

Existing Conditions

The existing site is a triangular shaped lot adjacent to Highway 101 on Calle Joaquin in the City of San Luis Obispo. The onsite soils are type C and the existing cover is grassland. The site slopes to the South West at slopes of up to 2% to an existing drainage that outlet to San Luis Obispo Creek. The site does not receive runoff from adjacent lots.

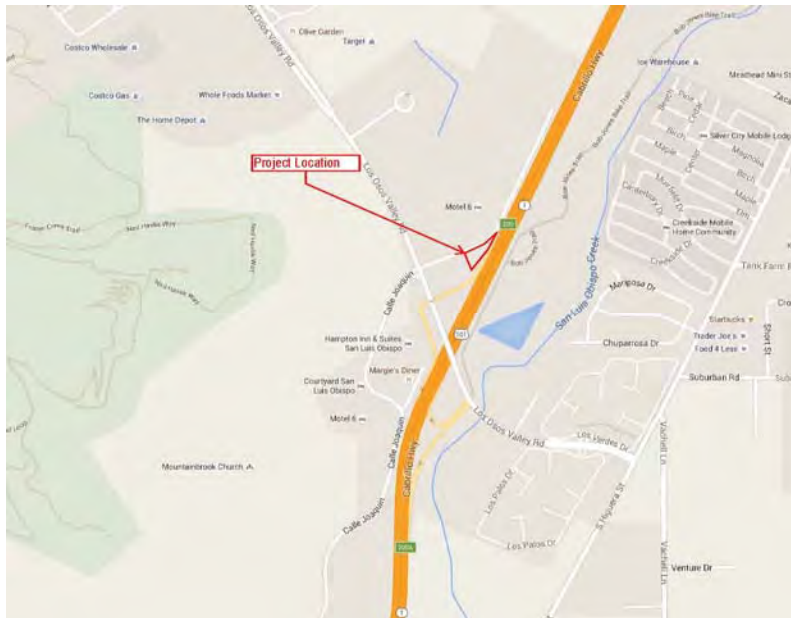
Proposed Project

The proposed project will include construction of a commercial building and associated parking, hardscape and landscaping.

Site Location Description

This site is located on Calle Joaquin, near Highway 101 and Los Osos Valley Road.

Vicinity Map



Water Quality Analysis

This project is located within watershed management zone 1 and is part of a project that creates and replaces over 64,000 square feet of impervious area and thus is required to treat the 85th percentile storm for this region. The table below lists the project statistics.

WMZ	1
95th Percentile Storm	1.2"
Total Site Area	11572 sf
Total Existing Impervious Area	0 sf
Total New Impervious Area	6067 sf
Total Replaced Impervious Area	0 sf
Net Impervious Area	6067 sf

Performance Requirement 1-Site Design and Runoff Reduction

The project directs runoff from sidewalks, roof area, and parking to landscaped areas prior to discharging off-site.

Performance requirement 2-Water Quality Treatment

This project is required to provide treatment for the 85th percentile storm volume. Based on the HydroCAD model of the site, this results in 523 cubic feet of water. This will be accomplished by infiltrating the volume from the 85th percentile storm via underground storage chambers. When the water percolates through the onsite soils, pollutants will be contained within the soil onsite. The onsite chamber system will provide for 1127 cubic feet of water. The system is oversized to mitigate the post construction peak runoff rates.

Hydrologic Analysis

This project will result in an increase in impervious area, however, post project peak runoff rates will be lower than the pre-project runoff rates due to the excess storage within the underground chambers. The following table shows the pre-project and post-project runoff rates and shows a reduction in rate for all design storms. Full HydroCAD calculations are included at the end of this report.

	2 year	5 year	10 year	25 year	50 year	100 year
Pre Project Peak Runoff (cfs)	0.06	0.22	0.35	0.41	0.55	0.62
Post Project Peak Runoff (cfs)	0.05	0.12	0.15	0.17	0.41	0.52
% Reduction	16.7	45.5	57.1	58.5	25.5	16.1

Flood Control

Review of the HEC-RAS model of Prefumo creek through this area shows that the 100-year event is contained within the creek bank. The FEMA map of this area further shows that the site is outside of the 100-year floodplain. A cross section of Prefumo Creek with the 100-year water surface elevation is included at the end of this report, as well as the FEMA map of this area.

Source Control Measures

Site activities and identification of potential sources of pollutants

This project will include the construction of a commercial building with associated parking, hardscape and landscaping. The main sources of pollutants will include fuels, oils, and dust from the vehicles in the parking lot as well as trash and debris from sidewalks and chemicals and fertilizers used to maintain the landscaping.

Pollutant and Source Control Table

Potential Source of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
Landscape/ Outdoor Pesticide Use/Building and Grounds Maintenance	<p>Design Landscaping to minimize irrigation and runoff, to promote surface infiltration and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution</p> <p>Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions</p>	<p>Maintain landscaping using minimum or no pesticides</p> <p>See applicable operational BMPs in Fact Sheet CS-41 "Building and Grounds Maintenance" in the CASQA Stormwater Quality Handbook</p> <p>Provide IPM information to new owners, lessees, and operators</p>



Plazas, sidewalks, and roadways		Sweep Plazas, sidewalks, and roadways regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer, not to a storm drain.
---------------------------------	--	---

Stormwater Facilities Operations and Maintenance

In order to maintain stormwater quality, the onsite storage chambers will need to be properly maintained.

Ownership and Responsibility for Maintenance in Perpetuity

All Stormwater Control Measures are required conditions at the time of project approval. The failure to maintain or the physical removal of any features described herein is a zoning violation and can result in penalties including but not limited to fines, property liens, and other actions for enforcement of a civil judgment.

Summary of Maintenance Requirements for Stormwater Facilities



The onsite chambers are shown in the Post Construction Drainage Exhibit and are located in the parking lot. The chambers shall be inspected in October of each year prior to the rainy season and after each rain event greater than 1.2 inches in 24 hours. During the October inspection, any accumulated sediment shall be removed via an industrial vacuum.

Conclusion

This project retains the amount of stormwater to reduce discharge to pre-development rates, as well as provides treatment and infiltration for the volume of water required by the Regional Water Quality Control Board.



LEGEND

	PERVIOUS AREA	5505 SF
	IMPERVIOUS AREA	6067 SF
	TOTAL AREA	11572 SF



DRAINAGE EXHIBIT

POST PROJECT

CALLE JOAQUIN
SAN LUIS OBISPO, CA

Ashley & Vance
ENGINEERING, INC.

1419 Monterey Street
San Luis Obispo, CA 93401
(805) 546-0010 • (833) 744-0070
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CIVIL • STRUCTURAL

Flood Exhibits

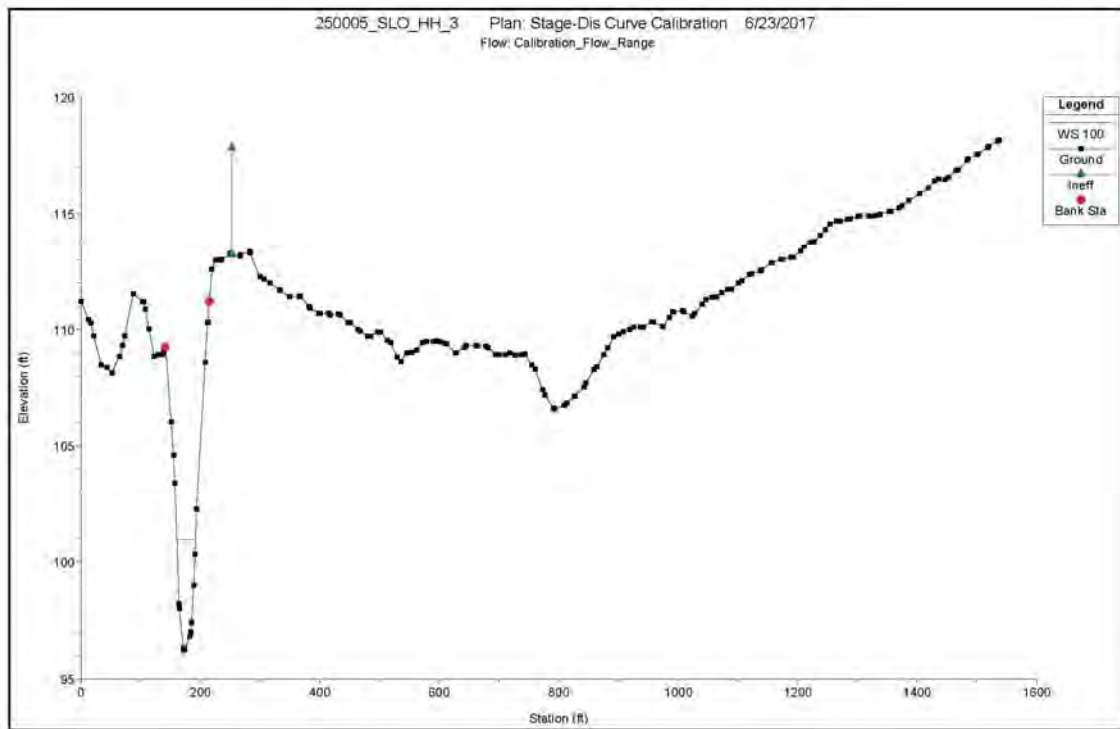
Cross section Location Through Site



Calle Joaquin



Cross Section with 100 year Water Surface Elevation





Stormwater Control Plan for Post Construction Requirements

Application Submittal

- Where directions state "**Done**" that means no additional information or forms below that point needs to be filled out or furnished.
- See **Exhibits** for Watershed Management Zones, Basins, & Urban Sustainability Areas
- Use "n/a" where information requested is not applicable. If you are unsure regarding how to fill out any of the information, please come in and request assistance from a staff person.

Project Information

Step 1

Applicant Name:			
Application No:			
Project Name:		Calle Joaquin New Commercial Building	
Location Address:		1460 Calle Joaquin, San Luis Obispo CA	
Location APN:			
Site Zoning:		Residential	
Project Type: ✓	<input checked="" type="checkbox"/>	Commercial	<input type="checkbox"/>
	<input type="checkbox"/>	Industrial	<input type="checkbox"/>
	<input type="checkbox"/>	Mixed Use	<input type="checkbox"/>
	<input type="checkbox"/>		Detached Single Family Residential
	<input type="checkbox"/>		Multi-unit Residential
	<input type="checkbox"/>		Public
Project Phase:			
Project Description:		Construction of a new single family residence and associated improvements	
Total Project Site Area =		0.27	
a	Total New Impervious Surface Area =	6067	
b	Total Replaced Impervious Surface Area =	0	
c	Total Existing Impervious Area =	0	
d	Total Impervious Area of Completed Project =	6067	
e	Net Impervious Area: (a+b) – (c-d) = OR where (c-d) is a negative number: (a+b) =	6067	

Your project is NOT subject to Post Construction Requirements if...

Step 2

<input type="checkbox"/> Area (a+b) of project is < 2,500 square feet – Done OR <input type="checkbox"/> Area (a+b) of project is ≥ 2,500 square feet, and is a project type listed below (✓ type) – Done <ul style="list-style-type: none"> <input type="checkbox"/> Road & parking surface repair – slurry & fog & crack seal, pothole & spot patching, overlay & resurfacing & other damage repair with no expansion <input type="checkbox"/> Road & parking shoulder grading <input type="checkbox"/> Road & parking cleaning, repairing, maintaining, reshaping, regarding drainage systems <input type="checkbox"/> Sidewalk & bike path / lane project – no other impervious service created and runoff is directed to vegetated area <input type="checkbox"/> Curb & gutter improvement or replacement – no other impervious created <input type="checkbox"/> Underground utility project – surface replaced in kind <input type="checkbox"/> Utility vaults – Ex: lift stations, backflows <input type="checkbox"/> Fuel storage – above ground with spill containment <input type="checkbox"/> Photovoltaic systems – on existing impervious surface, over pervious surface with vegetated cover, buffer strip at the most down gradient row of panels <input type="checkbox"/> Second story – no increase in building footprint <input type="checkbox"/> Decks & stairs & walkways – raised with space below for drainage <input type="checkbox"/> Temporary structures – in place less than 6 months
--



Stormwater Control Plan for Post Construction Requirements

Otherwise, your project is subject to the Post Construction Requirements

Project Site Details

Step 3

Watershed Management Zone:	1		
Urban Sustainability Area Name:	none	<input type="checkbox"/>	✓ Meet USA Conditions

- See Area calculations in Step 1 to compare to thresholds in each Step below
- Where directions state "Go To", fill out and attach the referenced Form and any supporting documents

Step 4

Project is $\geq 2,500$ square feet
<input checked="" type="checkbox"/> Yes - Go To Requirement 1 – Site Design & Runoff Reduction - <u>Form 1</u> AND THEN Go To Step 5

Step 5

Detached single family residential project where Area (e) is $\geq 15,000$ square feet OR Project where Area (e) $\geq 5,000$ square feet
<input checked="" type="checkbox"/> Yes - Go To Requirement 2 – Water Quality Treatment - <u>Form 2</u> AND THEN Go To Step 6
<input type="checkbox"/> No - Done

Step 6

Detached single family residential project where Area (e) $\geq 15,000$ square feet OR Project where Area (a+b) $\geq 15,000$ square feet
AND is in Watershed Management Zone 4,7,10 over a ground water basin OR in Zone 1,2,5,6,8,9
<input type="checkbox"/> Yes - Go To Requirement 3 – Runoff Retention - <u>Form 3</u> AND THEN Go To Step 7
<input checked="" type="checkbox"/> No - Done

Step 7

Project where Area (a+b) $\geq 22,000$ square feet AND is in Watershed Management Zone 1,2,3,6,9
<input type="checkbox"/> Yes - Go To Requirement 4 – Peak Management - <u>Form 4</u>
<input type="checkbox"/> No - Done

Exhibits

1. Watershed Management Zones
2. Groundwater Basin Location
3. Watershed Management Zone Revision Request
4. Urban Sustainability Conditions and Maps of Approved Areas

Stormwater Control Plan for Post Construction Requirements**Form 1****Requirement 1 – Site Design and Runoff Reduction:**

Identify the strategies used to reduce runoff through site design. Strategies 1-5 required.

Describe or attach simple plan details for 1. – 5.

1. Limit disturbance of creeks and natural drainage features and setback development from these features.
No natural drainage features are associated with this project
2. Minimize compaction of highly permeable soils
No highly permeable soils onsite.
3. Minimize clearing of native vegetation and grading, conserving natural areas and maximizing undisturbed areas, and developing along natural landforms.
Clearing and grading will be minimized to the maximum extent practicable.
4. Minimize impervious surfaces including roadways and parking lots
Impervious surfaces are minimized to the maximum extent practicable.
5. Other (Optional): Identify strategy(s) and describe or show how it will be done in the project.
6. Do **one** of the following: ✓
 - Direct roof run off into cistern, rain barrel, or vegetated area
 - Direct driveway and/or parking area into vegetated area
 - Construct surfaces (bike lanes, walks, driveways, parking areas) with permeable surfaces

Stormwater Control Plan for Post Construction Requirements

Form 2

Requirement 2 – Water Quality Treatment:

(Reference Post Construction Stormwater Management Requirements for Development Projects in the Central Coast Region – Adopted July 12, 2013 California Regional Water Quality Control Board Central Coast Region – for details regarding requirements – Section B.3 and Section C. Alternative Compliance.)

Treatment

Location ✓ On Site Off Site - Alternative Compliance

Measure Used ✓ 1. Harvesting, infiltration, evapotranspiration
 2. Bio-filtration Treatment (*Document inability to use 1.*)
 3. Non-Retention Based Treatment (*Document inability to use 1. or 2.*)

Description of structural controls:

Runoff will be directed to underground storage chambers that will infiltrate runoff onsite.

Alternative compliance measures:**Attachments**

- *Attach treatment/sizing calculations, including any volume treated with off-site compliance.*
- *Attach construction and planting details and specifications for bio-filtration options*
- *Attach documentation regarding Treatment Measure selection*
- *Attach infeasibility analysis where alternative compliance is proposed.*

Certification

I **Ken Brown** certify that the systems selected and sized, as demonstrated in the attached calculations, meet the Water Quality Treatment required for this project per the Post Construction Requirements adopted by the Central Coast Regional Water Quality Control Board. Where identified in the attached documentation, Water Quality Treatment will be met through alternative compliance.



6.8.16

Signature

Date

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Page 1

Summary for Subcatchment 1S: Post

Runoff = 0.16 cfs @ 9.98 hrs, Volume= 0.024 af, Depth= 1.10"

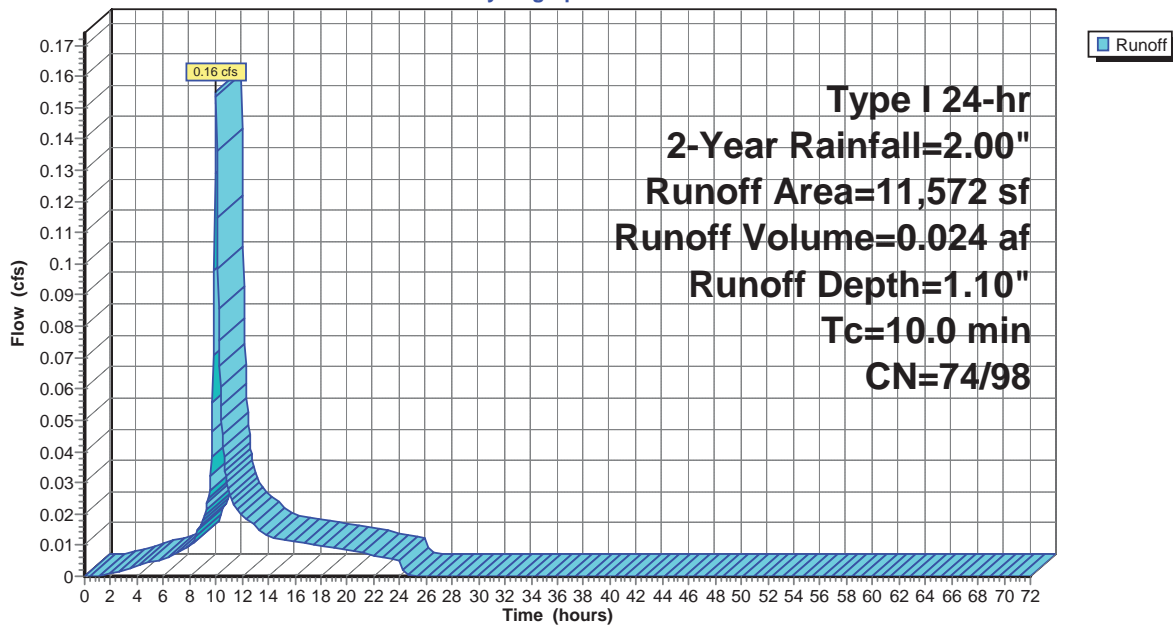
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 2-Year Rainfall=2.00"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



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Type I 24-hr 2-Year Rainfall=2.00"

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Page 2

Summary for Subcatchment 3S: Pre

Runoff = 0.06 cfs @ 10.00 hrs, Volume= 0.012 af, Depth= 0.52"

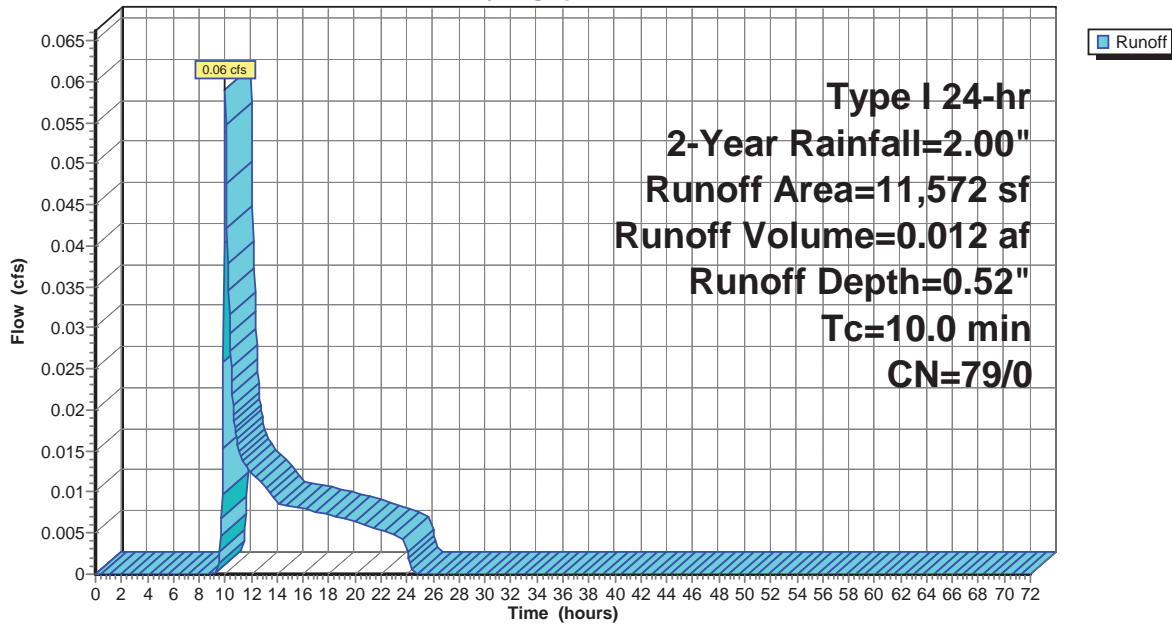
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 2-Year Rainfall=2.00"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



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Type I 24-hr 2-Year Rainfall=2.00"

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Page 3

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 1.10" for 2-Year event
 Inflow = 0.16 cfs @ 9.98 hrs, Volume= 0.024 af
 Outflow = 0.05 cfs @ 10.43 hrs, Volume= 0.024 af, Atten= 67%, Lag= 27.2 min
 Discarded = 0.00 cfs @ 10.43 hrs, Volume= 0.013 af
 Primary = 0.05 cfs @ 10.43 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.73' @ 10.43 hrs Surf.Area= 0.018 ac Storage= 0.007 af

Plug-Flow detention time= 261.9 min calculated for 0.024 af (100% of inflow)
 Center-of-Mass det. time= 262.2 min (1,016.1 - 753.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 10.43 hrs HW=100.73' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.05 cfs @ 10.43 hrs HW=100.73' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.43 fps)
 ↳ **3=Orifice/Grate** (Controls 0.00 cfs)

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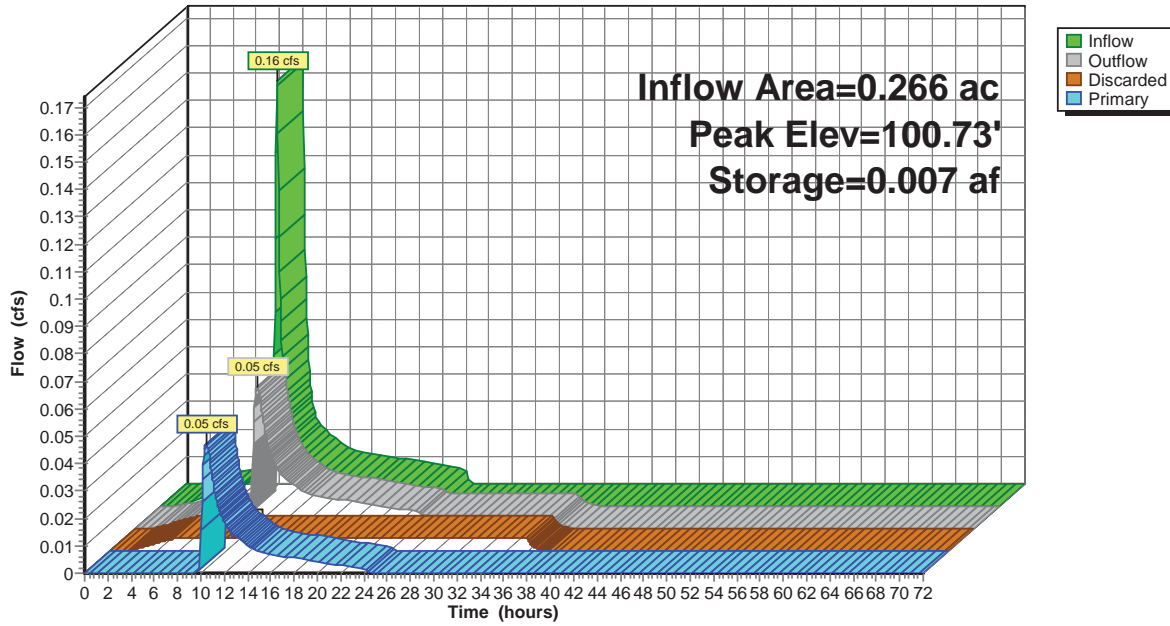
Type I 24-hr 2-Year Rainfall=2.00"

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Page 4

Pond 5P: (new Pond)

Hydrograph



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Type I 24-hr 5-year Rainfall=3.50"

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Page 5

Summary for Subcatchment 1S: Post

Runoff = 0.34 cfs @ 9.98 hrs, Volume= 0.051 af, Depth= 2.30"

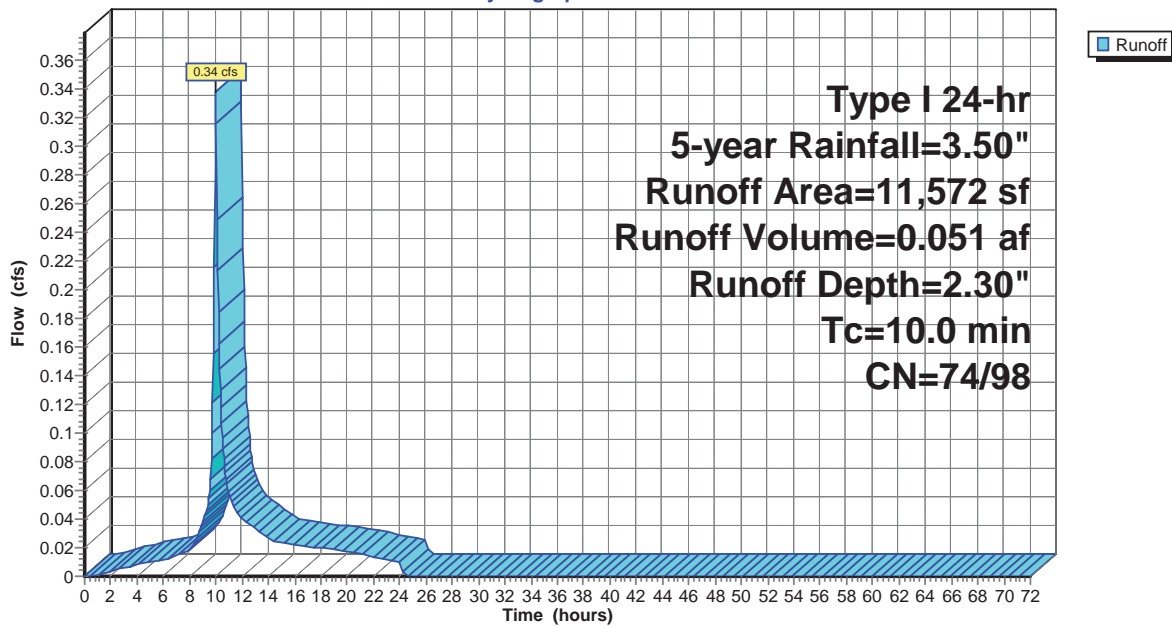
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 5-year Rainfall=3.50"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



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Type I 24-hr 5-year Rainfall=3.50"

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Page 6

Summary for Subcatchment 3S: Pre

Runoff = 0.23 cfs @ 9.99 hrs, Volume= 0.035 af, Depth= 1.57"

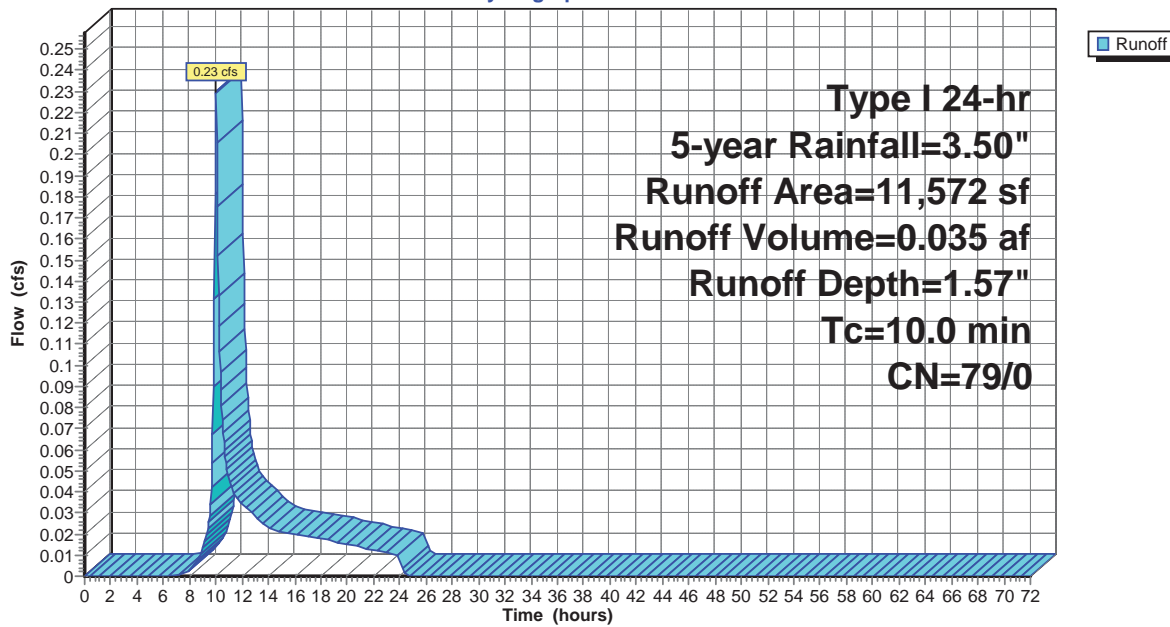
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 5-year Rainfall=3.50"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



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Type I 24-hr 5-year Rainfall=3.50"

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Page 7

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 2.30" for 5-year event
 Inflow = 0.34 cfs @ 9.98 hrs, Volume= 0.051 af
 Outflow = 0.12 cfs @ 10.38 hrs, Volume= 0.051 af, Atten= 64%, Lag= 24.1 min
 Discarded = 0.00 cfs @ 10.38 hrs, Volume= 0.013 af
 Primary = 0.12 cfs @ 10.38 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.19' @ 10.38 hrs Surf.Area= 0.018 ac Storage= 0.013 af

Plug-Flow detention time= 161.7 min calculated for 0.051 af (100% of inflow)
 Center-of-Mass det. time= 162.1 min (907.3 - 745.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 10.38 hrs HW=101.19' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.12 cfs @ 10.38 hrs HW=101.19' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.12 cfs @ 3.58 fps)
 ↳ **3=Orifice/Grate** (Controls 0.00 cfs)

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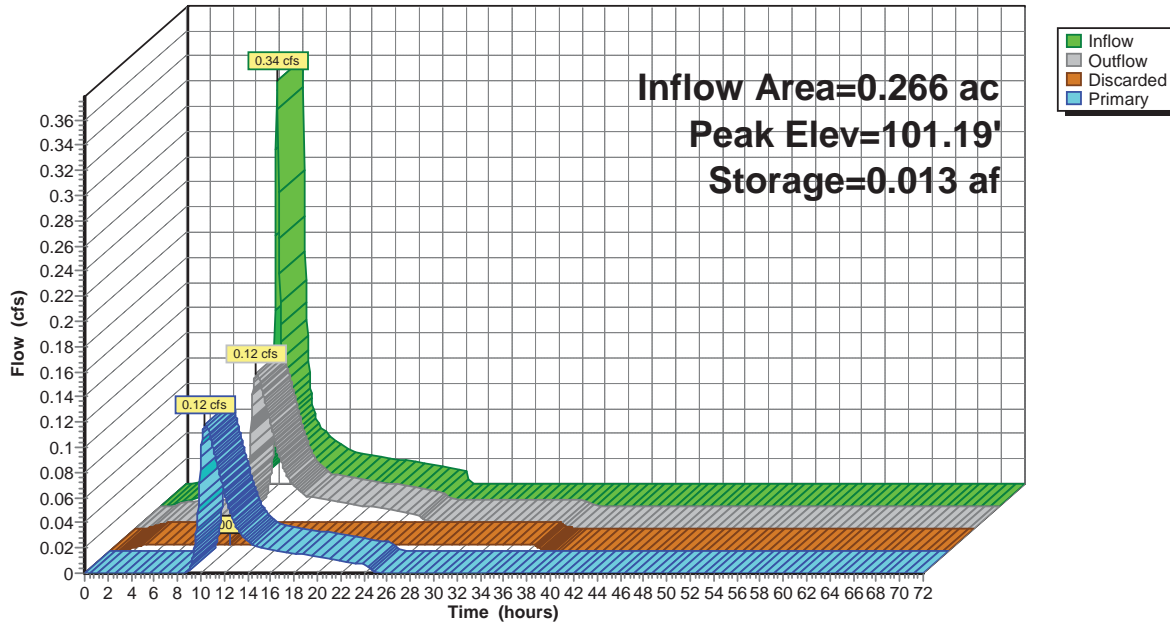
Type I 24-hr 5-year Rainfall=3.50"

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Page 8

Pond 5P: (new Pond)

Hydrograph



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Type I 24-hr 10-Year Rainfall=4.50"

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Page 9

Summary for Subcatchment 1S: Post

Runoff = 0.47 cfs @ 9.98 hrs, Volume= 0.070 af, Depth= 3.17"

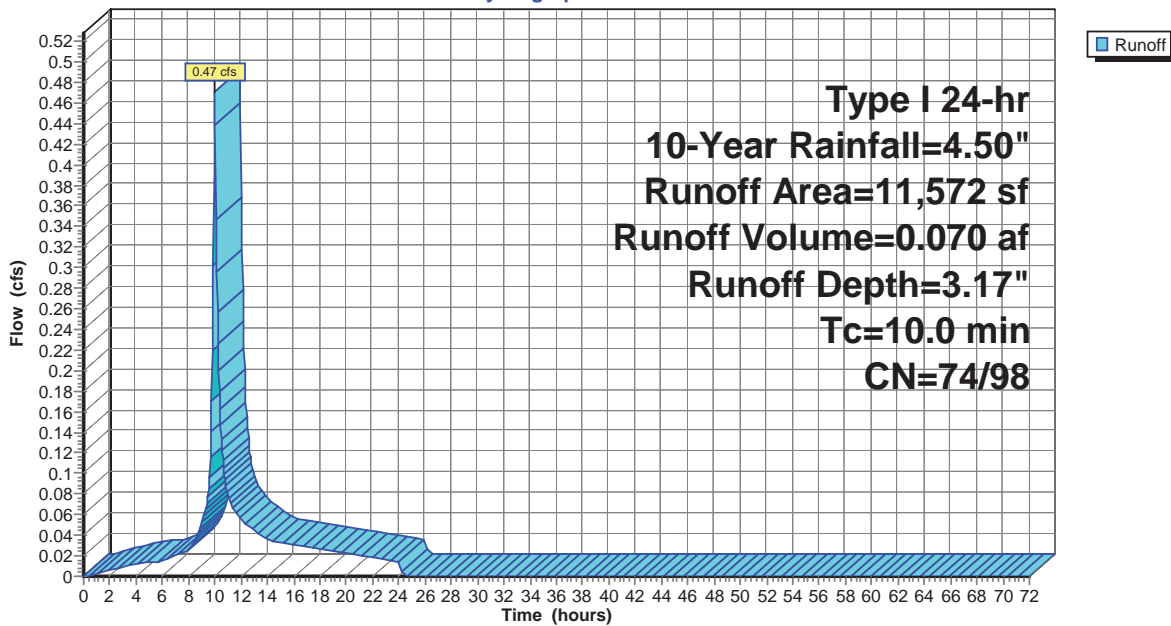
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



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Type I 24-hr 10-Year Rainfall=4.50"

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Page 10

Summary for Subcatchment 3S: Pre

Runoff = 0.36 cfs @ 9.98 hrs, Volume= 0.053 af, Depth= 2.38"

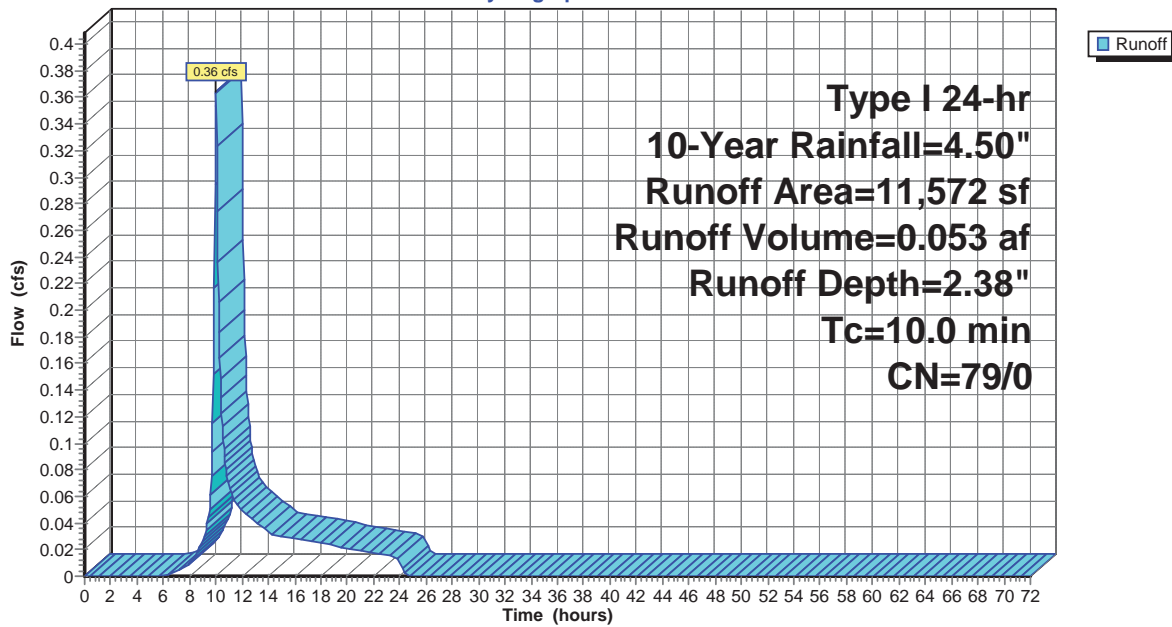
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



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Type I 24-hr 10-Year Rainfall=4.50"

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Page 11

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 3.17" for 10-Year event
 Inflow = 0.47 cfs @ 9.98 hrs, Volume= 0.070 af
 Outflow = 0.15 cfs @ 10.42 hrs, Volume= 0.070 af, Atten= 67%, Lag= 26.8 min
 Discarded = 0.00 cfs @ 10.42 hrs, Volume= 0.014 af
 Primary = 0.15 cfs @ 10.42 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.54' @ 10.42 hrs Surf.Area= 0.018 ac Storage= 0.017 af

Plug-Flow detention time= 136.6 min calculated for 0.070 af (100% of inflow)
 Center-of-Mass det. time= 137.1 min (877.6 - 740.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 10.42 hrs HW=101.54' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.15 cfs @ 10.42 hrs HW=101.54' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.15 cfs @ 4.58 fps)
 ↳ **3=Orifice/Grate** (Controls 0.00 cfs)

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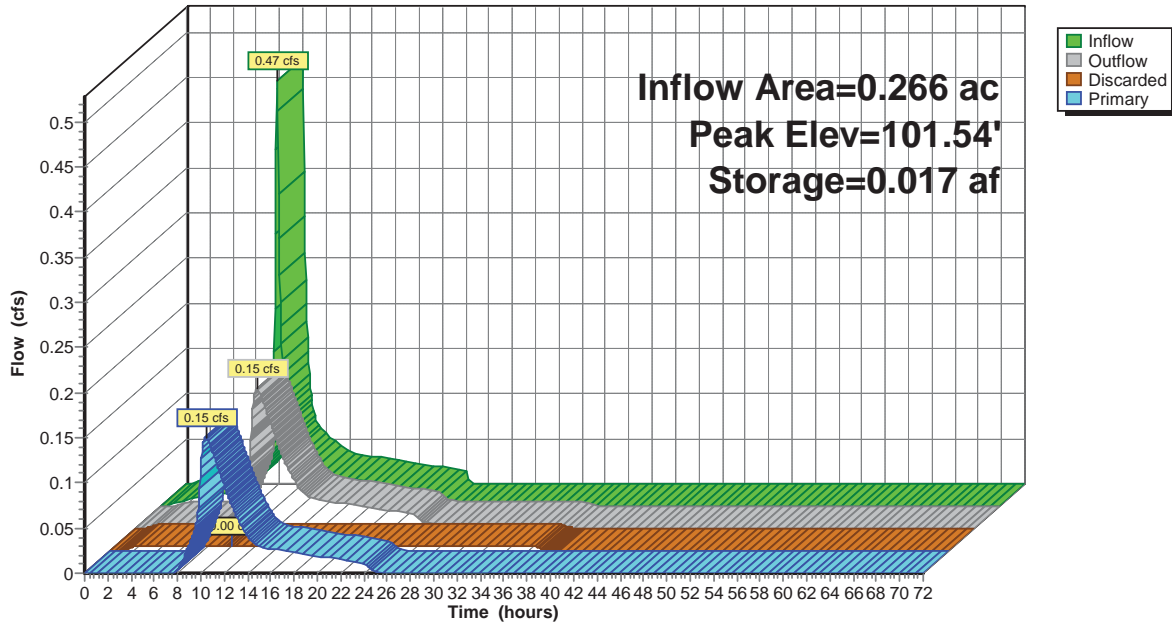
Type I 24-hr 10-Year Rainfall=4.50"

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Page 12

Pond 5P: (new Pond)

Hydrograph



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Type I 24-hr 25-Year Rainfall=5.00"

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Page 13

Summary for Subcatchment 1S: Post

Runoff = 0.54 cfs @ 9.98 hrs, Volume= 0.080 af, Depth= 3.62"

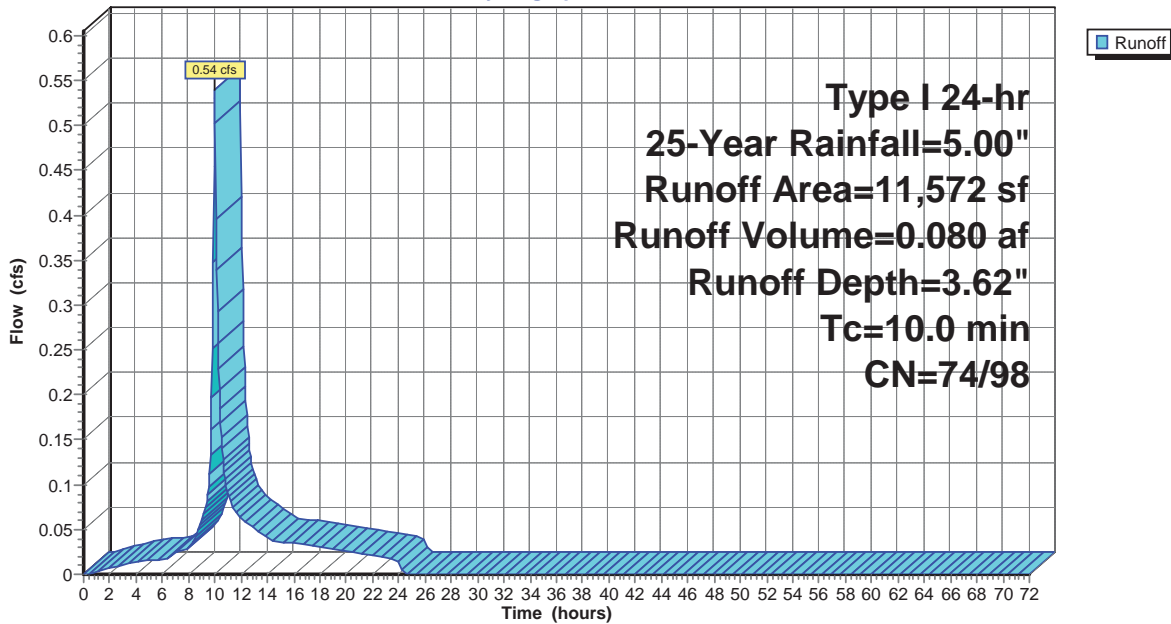
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 25-Year Rainfall=5.00"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



16553 PRE AND POST

Type I 24-hr 25-Year Rainfall=5.00"

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Summary for Subcatchment 3S: Pre

Runoff = 0.44 cfs @ 9.98 hrs, Volume= 0.062 af, Depth= 2.80"

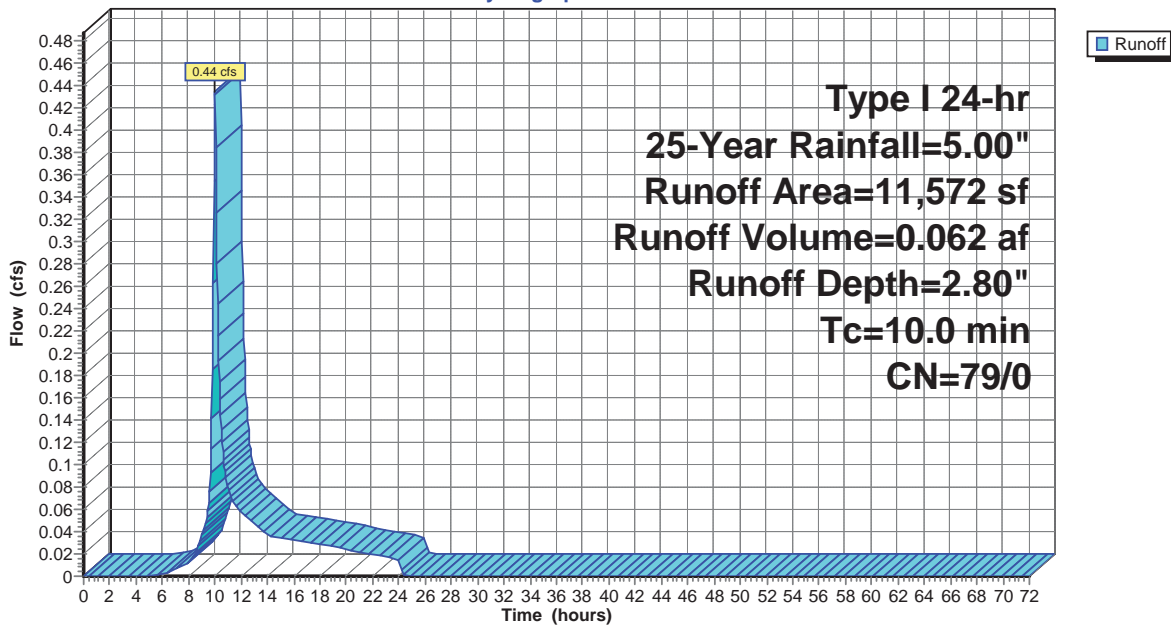
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 25-Year Rainfall=5.00"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



16553 PRE AND POST

Type I 24-hr 25-Year Rainfall=5.00"

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Page 15

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 3.62" for 25-Year event
 Inflow = 0.54 cfs @ 9.98 hrs, Volume= 0.080 af
 Outflow = 0.17 cfs @ 10.44 hrs, Volume= 0.080 af, Atten= 68%, Lag= 27.8 min
 Discarded = 0.00 cfs @ 10.44 hrs, Volume= 0.014 af
 Primary = 0.17 cfs @ 10.44 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.75' @ 10.44 hrs Surf.Area= 0.018 ac Storage= 0.020 af

Plug-Flow detention time= 129.1 min calculated for 0.080 af (100% of inflow)
 Center-of-Mass det. time= 129.0 min (867.4 - 738.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 10.44 hrs HW=101.75' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.17 cfs @ 10.44 hrs HW=101.75' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.17 cfs @ 5.09 fps)
 ↳ **3=Orifice/Grate** (Controls 0.00 cfs)

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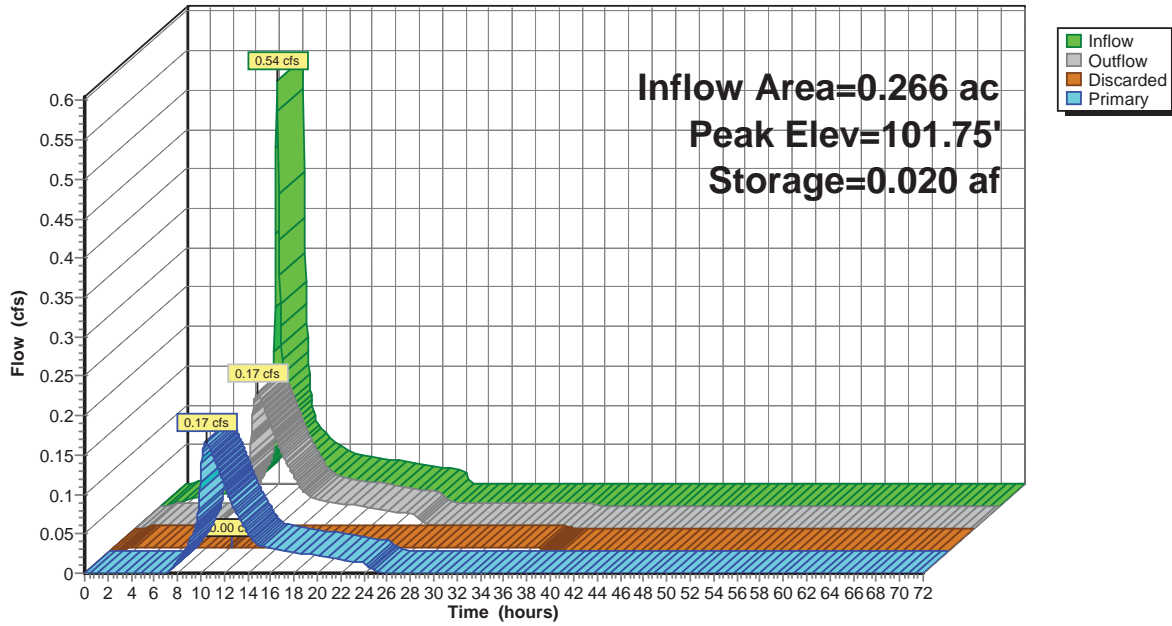
Type I 24-hr 25-Year Rainfall=5.00"

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Page 16

Pond 5P: (new Pond)

Hydrograph



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Type I 24-hr 50-Year Rainfall=6.00"

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Page 17

Summary for Subcatchment 1S: Post

Runoff = 0.68 cfs @ 9.98 hrs, Volume= 0.100 af, Depth= 4.54"

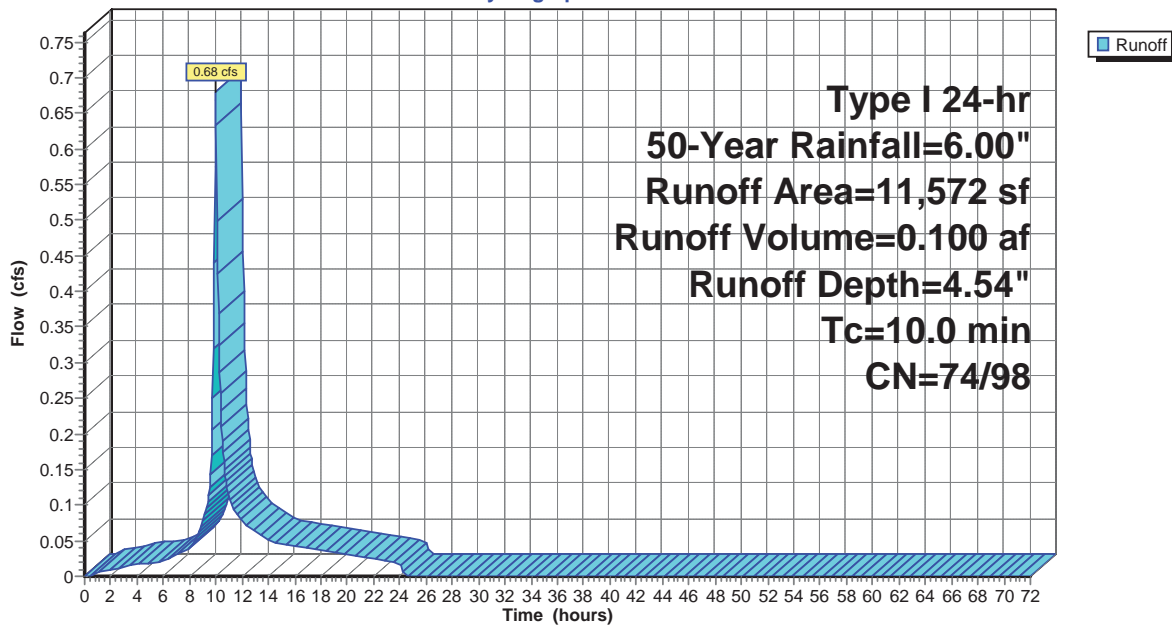
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 50-Year Rainfall=6.00"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



16553 PRE AND POST

Type I 24-hr 50-Year Rainfall=6.00"

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Page 18

Summary for Subcatchment 3S: Pre

Runoff = 0.58 cfs @ 9.98 hrs, Volume= 0.081 af, Depth= 3.68"

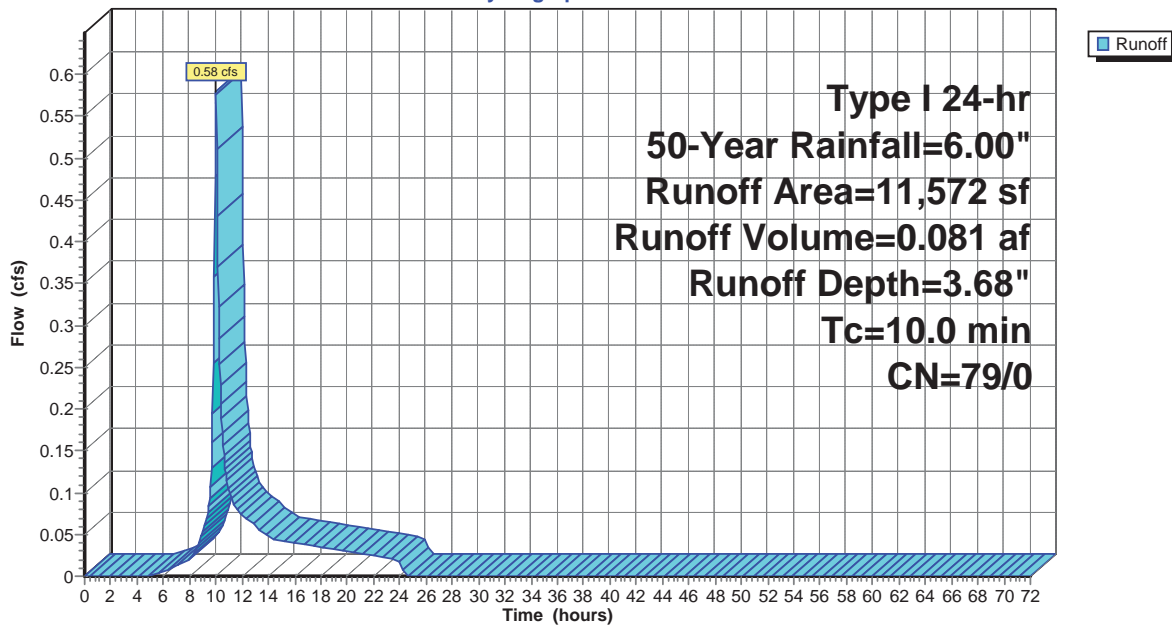
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 50-Year Rainfall=6.00"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



16553 PRE AND POST

Type I 24-hr 50-Year Rainfall=6.00"

Prepared by Ashley & Vance Engineering Inc.

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Page 19

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 4.54" for 50-Year event
 Inflow = 0.68 cfs @ 9.98 hrs, Volume= 0.100 af
 Outflow = 0.42 cfs @ 10.21 hrs, Volume= 0.100 af, Atten= 38%, Lag= 13.9 min
 Discarded = 0.00 cfs @ 10.21 hrs, Volume= 0.014 af
 Primary = 0.41 cfs @ 10.21 hrs, Volume= 0.086 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 102.06' @ 10.21 hrs Surf.Area= 0.018 ac Storage= 0.022 af

Plug-Flow detention time= 114.2 min calculated for 0.100 af (100% of inflow)
 Center-of-Mass det. time= 114.7 min (849.4 - 734.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 10.21 hrs HW=102.06' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.40 cfs @ 10.21 hrs HW=102.06' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 5.74 fps)
 ↳ **3=Orifice/Grate** (Weir Controls 0.21 cfs @ 0.78 fps)

16553 PRE AND POST

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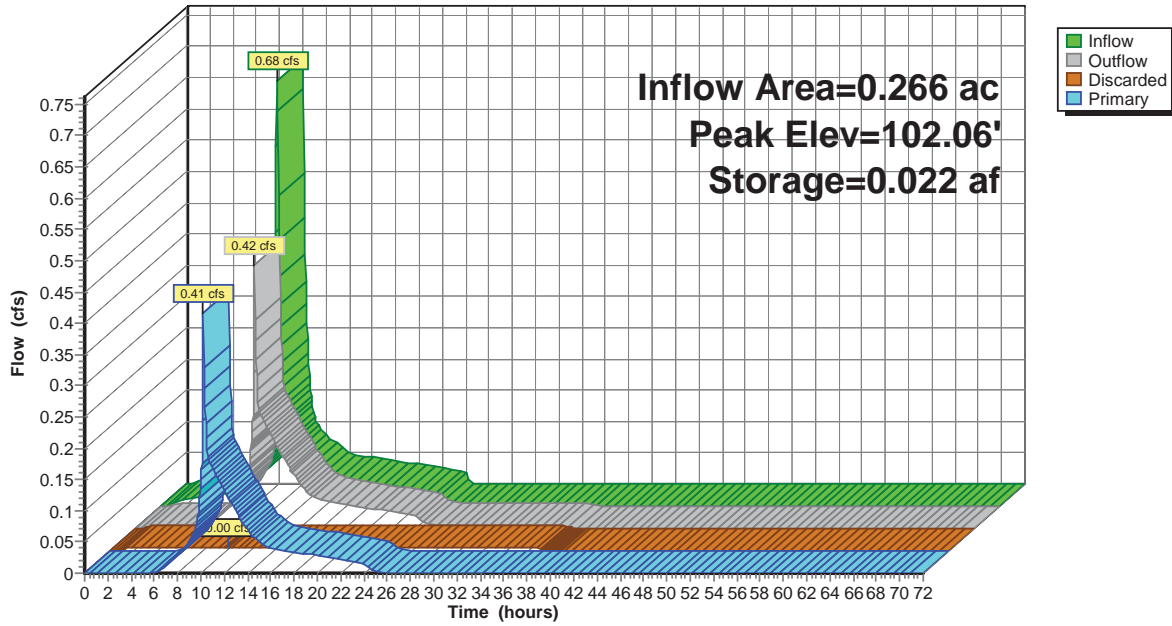
Type I 24-hr 50-Year Rainfall=6.00"

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Page 20

Pond 5P: (new Pond)

Hydrograph



16553 PRE AND POST

Type I 24-hr 100-Year Rainfall=6.50"

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Page 21

Summary for Subcatchment 1S: Post

Runoff = 0.75 cfs @ 9.98 hrs, Volume= 0.111 af, Depth= 5.00"

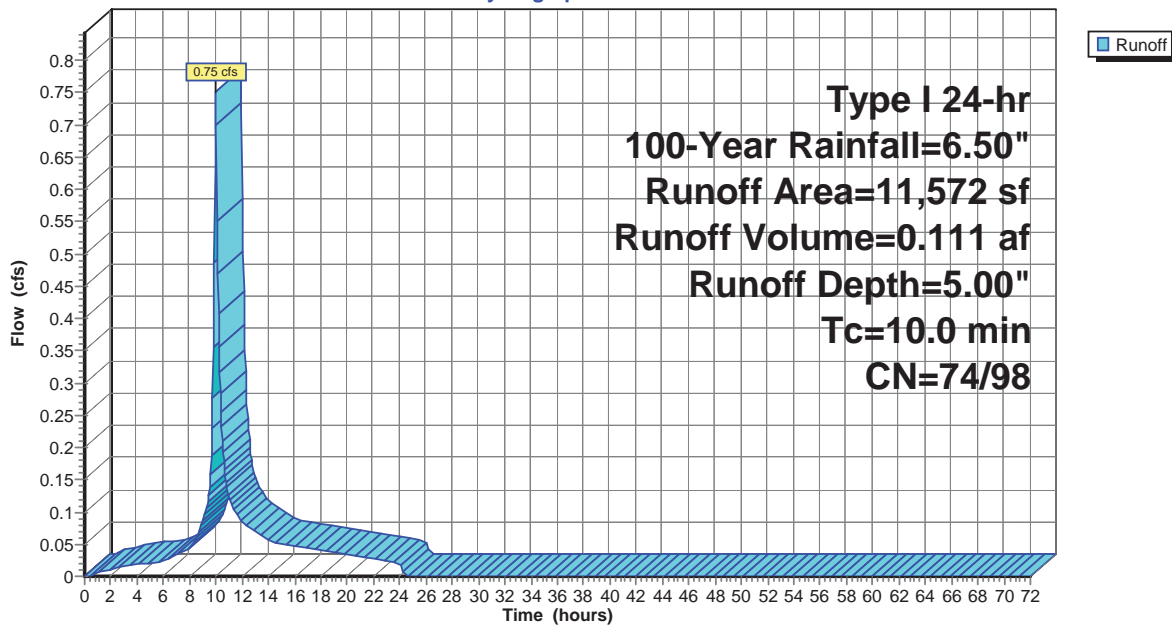
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



16553 PRE AND POST

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Type I 24-hr 100-Year Rainfall=6.50"

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Page 22

Summary for Subcatchment 3S: Pre

Runoff = 0.65 cfs @ 9.98 hrs, Volume= 0.091 af, Depth= 4.13"

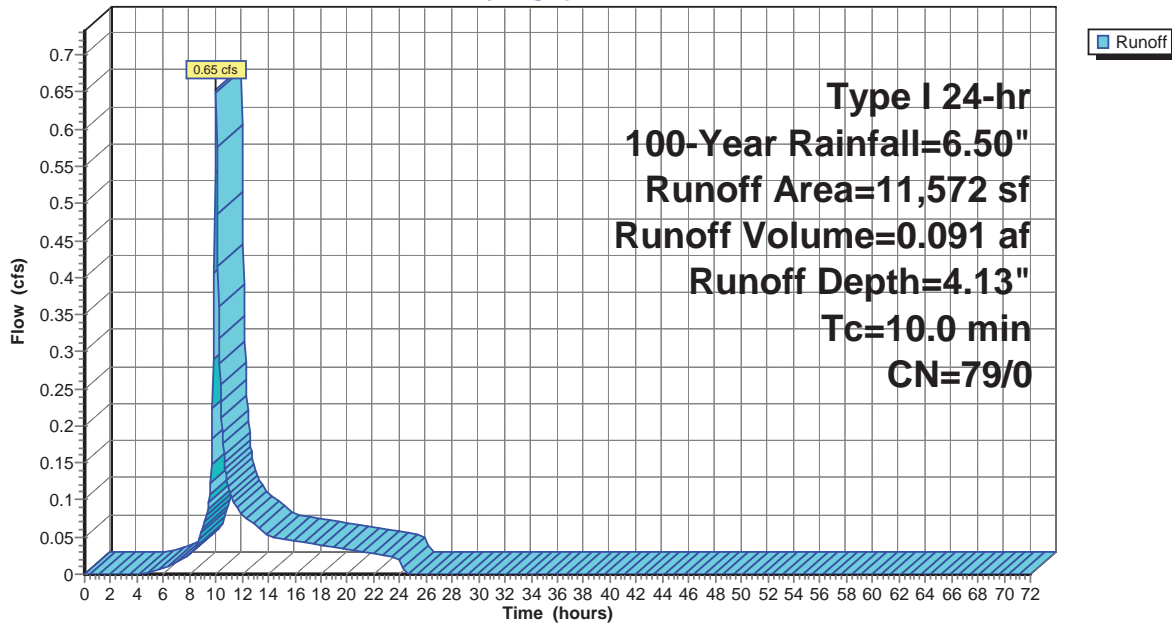
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



16553 PRE AND POST

Type I 24-hr 100-Year Rainfall=6.50"

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Page 23

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 5.00" for 100-Year event
 Inflow = 0.75 cfs @ 9.98 hrs, Volume= 0.111 af
 Outflow = 0.52 cfs @ 10.13 hrs, Volume= 0.111 af, Atten= 31%, Lag= 8.9 min
 Discarded = 0.01 cfs @ 10.13 hrs, Volume= 0.014 af
 Primary = 0.52 cfs @ 10.13 hrs, Volume= 0.097 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 102.08' @ 10.13 hrs Surf.Area= 0.018 ac Storage= 0.023 af

Plug-Flow detention time= 107.7 min calculated for 0.111 af (100% of inflow)
 Center-of-Mass det. time= 108.2 min (841.1 - 733.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 10.13 hrs HW=102.07' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.50 cfs @ 10.13 hrs HW=102.07' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 5.78 fps)
 ↳ **3=Orifice/Grate** (Weir Controls 0.31 cfs @ 0.89 fps)

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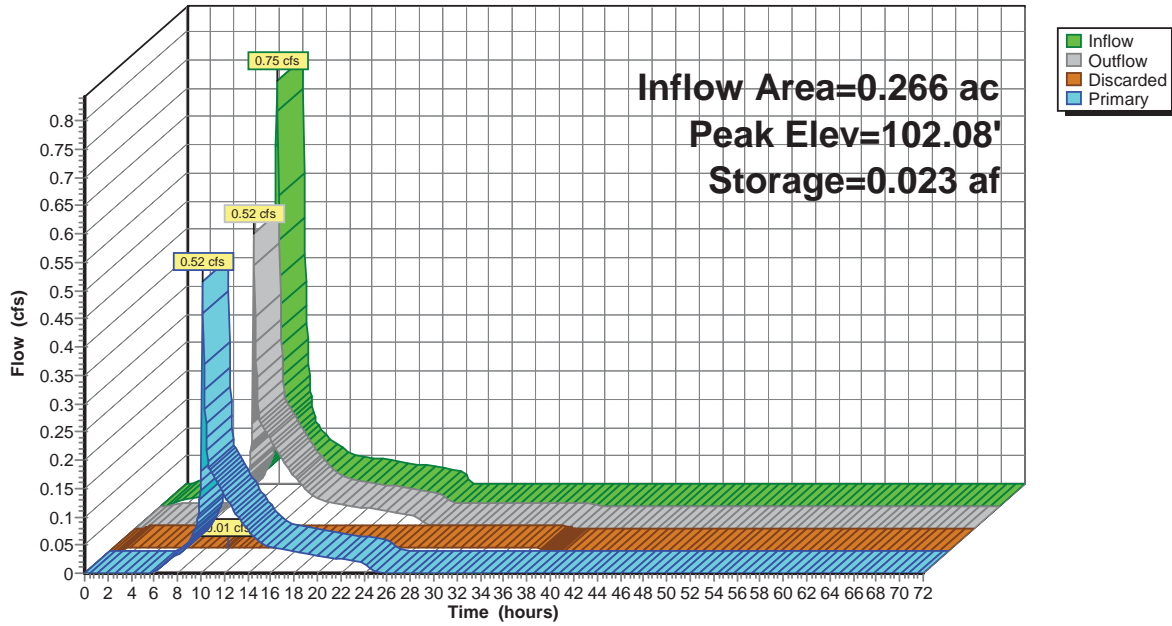
Type I 24-hr 100-Year Rainfall=6.50"

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Page 24

Pond 5P: (new Pond)

Hydrograph



16553 PRE AND POST

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Type I 24-hr _85th Rainfall=1.20"

Printed 6/26/2017

Page 25

Summary for Subcatchment 1S: Post

Runoff = 0.08 cfs @ 9.98 hrs, Volume= 0.012 af, Depth= 0.55"

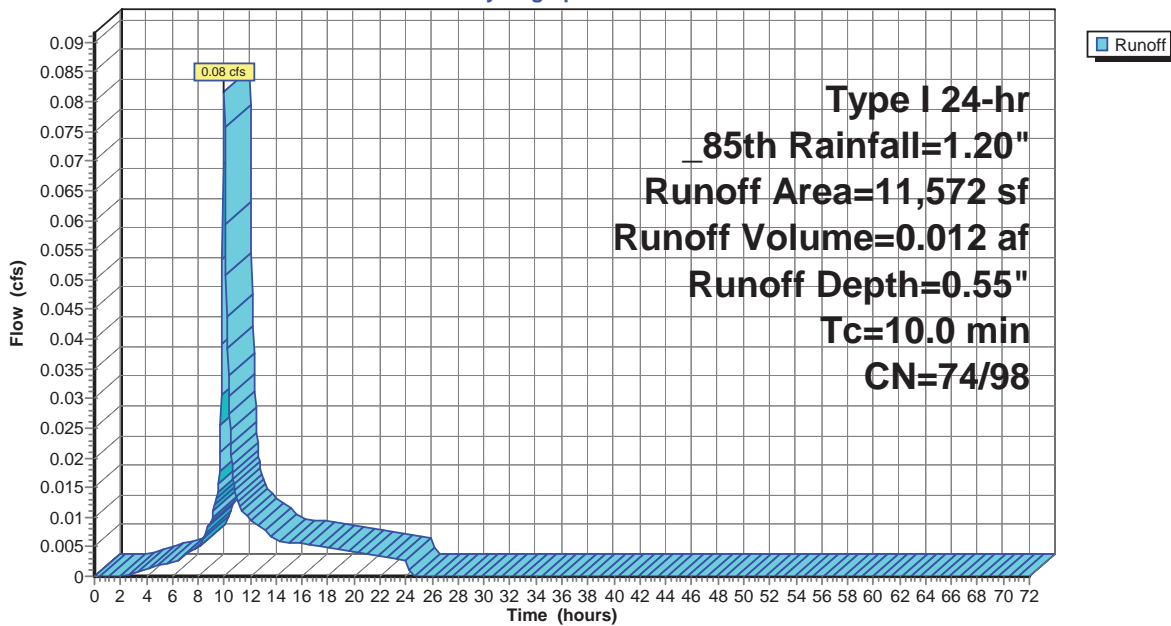
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr _85th Rainfall=1.20"

Area (sf)	CN	Description
5,505	74	Pasture/grassland/range, Good, HSG C
* 6,067	98	
11,572	87	Weighted Average
5,505	74	47.57% Pervious Area
6,067	98	52.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1S: Post

Hydrograph



16553 PRE AND POST

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Type I 24-hr _85th Rainfall=1.20"

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Page 26

Summary for Subcatchment 3S: Pre

Runoff = 0.00 cfs @ 10.38 hrs, Volume= 0.003 af, Depth= 0.13"

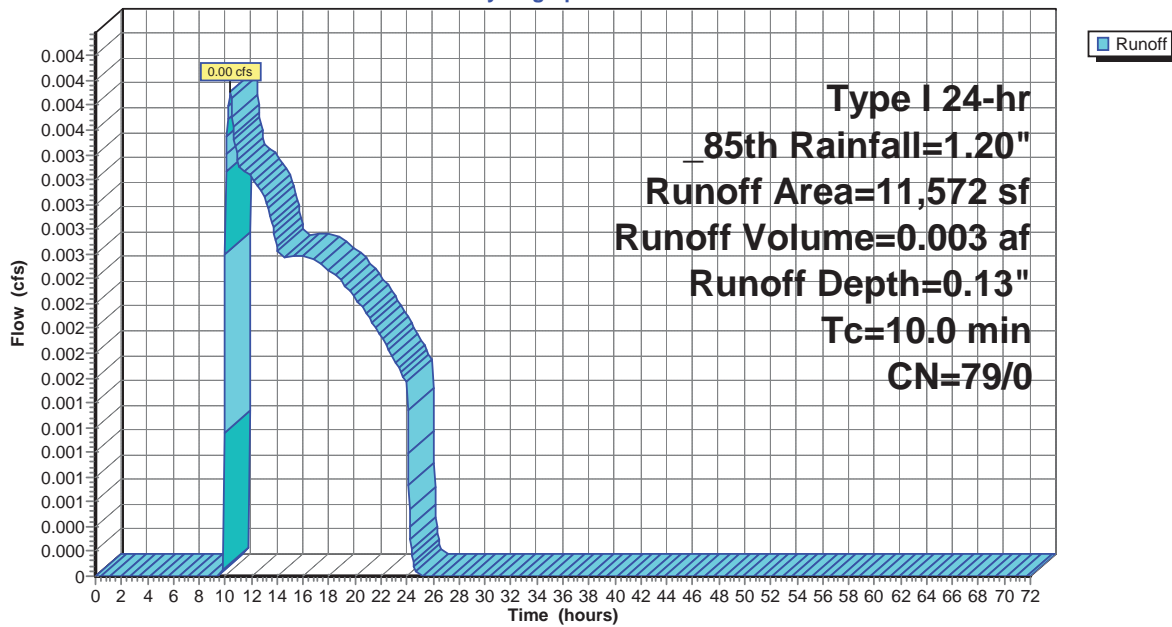
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type I 24-hr _85th Rainfall=1.20"

Area (sf)	CN	Description
11,572	79	Pasture/grassland/range, Fair, HSG C
11,572	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 3S: Pre

Hydrograph



16553 PRE AND POST

Prepared by Ashley & Vance Engineering Inc.

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Type I 24-hr _85th Rainfall=1.20"

Printed 6/26/2017

Page 27

Summary for Pond 5P: (new Pond)

Inflow Area = 0.266 ac, 52.43% Impervious, Inflow Depth = 0.55" for _85th event
 Inflow = 0.08 cfs @ 9.98 hrs, Volume= 0.012 af
 Outflow = 0.01 cfs @ 13.27 hrs, Volume= 0.012 af, Atten= 91%, Lag= 197.4 min
 Discarded = 0.00 cfs @ 13.27 hrs, Volume= 0.011 af
 Primary = 0.00 cfs @ 13.27 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 100.59' @ 13.27 hrs Surf.Area= 0.018 ac Storage= 0.005 af

Plug-Flow detention time= 421.7 min calculated for 0.012 af (100% of inflow)
 Center-of-Mass det. time= 421.9 min (1,181.0 - 759.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	100.00'	0.013 af	14.50'W x 54.00'L x 2.54'H Field A 0.046 af Overall - 0.013 af Embedded = 0.033 af x 40.0% Voids
#2A	100.50'	0.013 af	Cultec R-150XLHD x 20 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 4 rows
		0.026 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.00'
#2	Primary	100.55'	1.0" Vert. Orifice/Grate X 2.00 columns X 3 rows with 0.5" cc spacing C= 0.600
#3	Primary	102.00'	18.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 13.27 hrs HW=100.59' (Free Discharge)
 ↳ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 13.27 hrs HW=100.59' (Free Discharge)
 ↳ **2=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.64 fps)
 ↳ **3=Orifice/Grate** (Controls 0.00 cfs)

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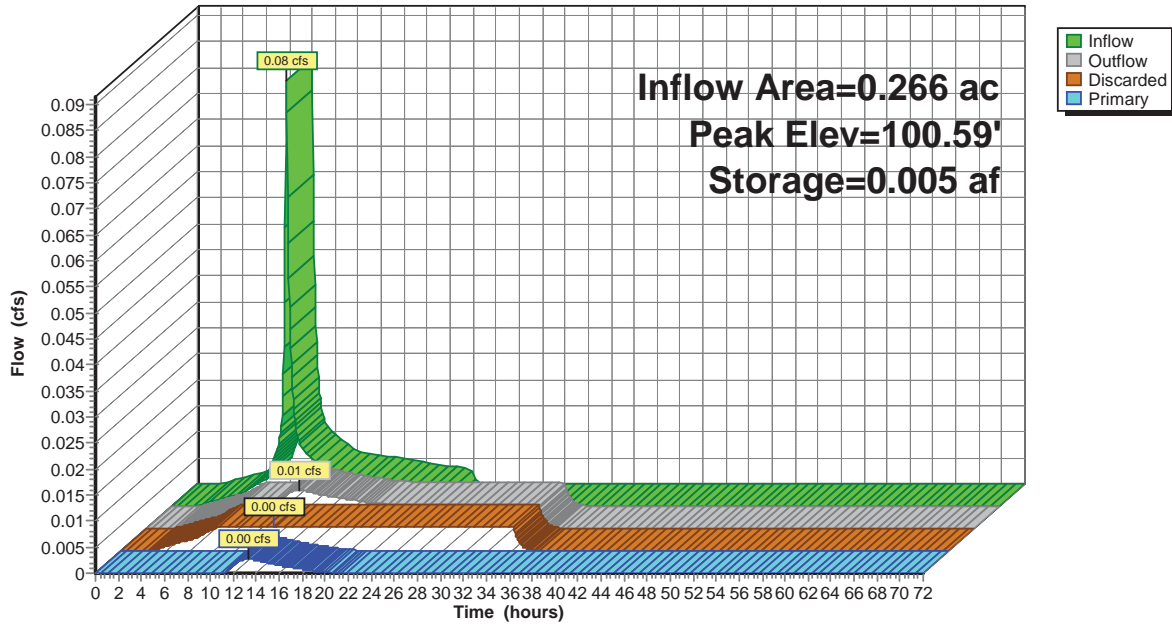
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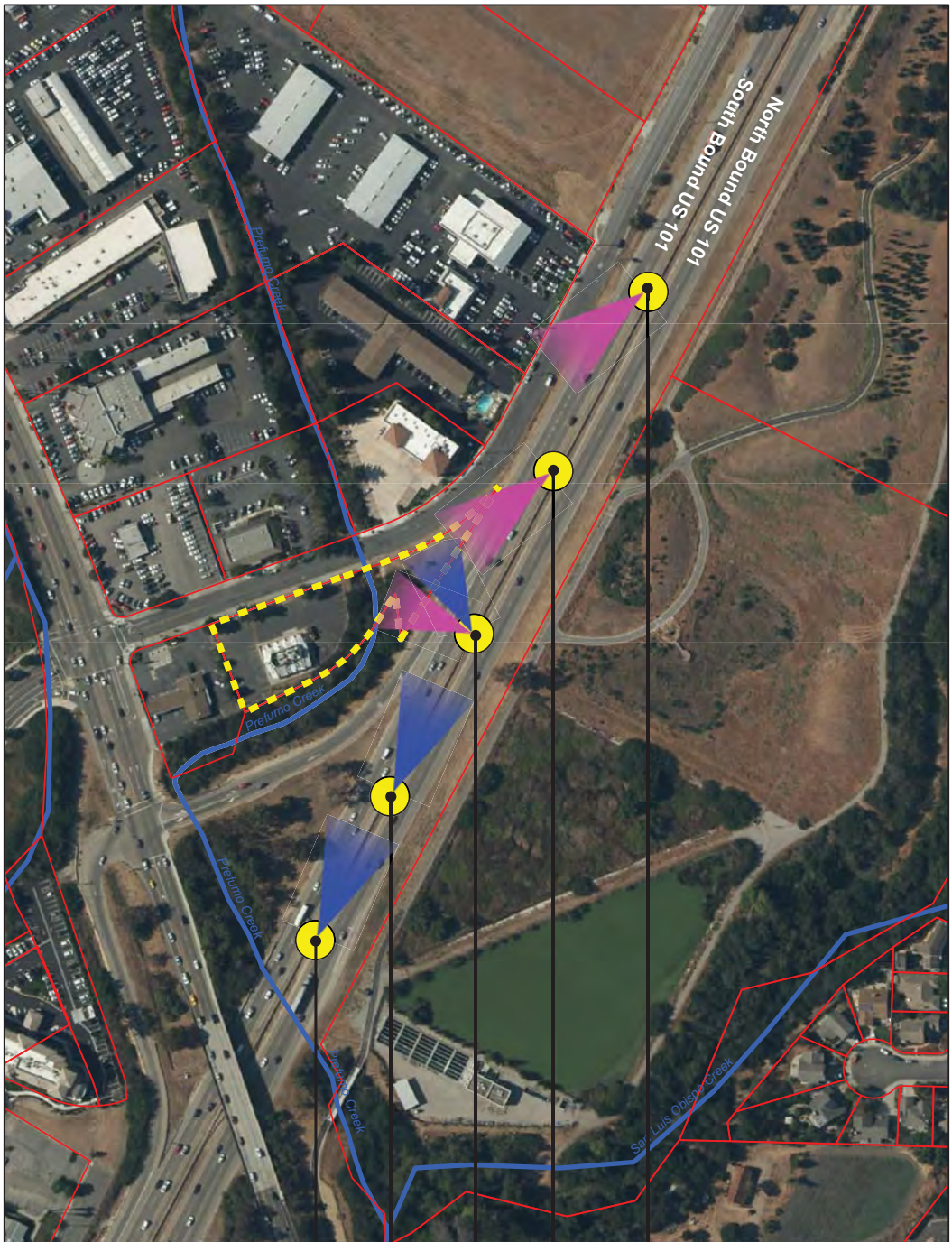
Printed 6/26/2017

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Pond 5P: (new Pond)

Hydrograph





Visual Simulation Description

These visual simulations depict the "before and after views" resulting from the project, and the relationship between the project and scenic resources, from vantage points shown along this section of Highway 101 approaching and adjacent to the project site. These visual simulations have been prepared in a "neutral" realistic manner that neither downplays nor exaggerates the effect of the project on scenic resources.

- View #1 South Bound
 - View #2 South Bound
 - View #3 South Bound
 - View #6 North Bound
 - View #5 North Bound
 - View #4 North Bound
- = Site Project

Calle Joaquin Commercial - Visual Simulations Studies taken from Highway 101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703



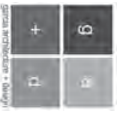


Calle Joaquin Commercial - View 1 "Before"

South Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703





Calle Joaquin Commercial - View 1 Visual Simulation

South Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703



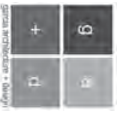


Calle Joaquin Commercial - View 2 "Before"

South Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703





Calle Joaquin Commercial - View 2 Visual Simulation

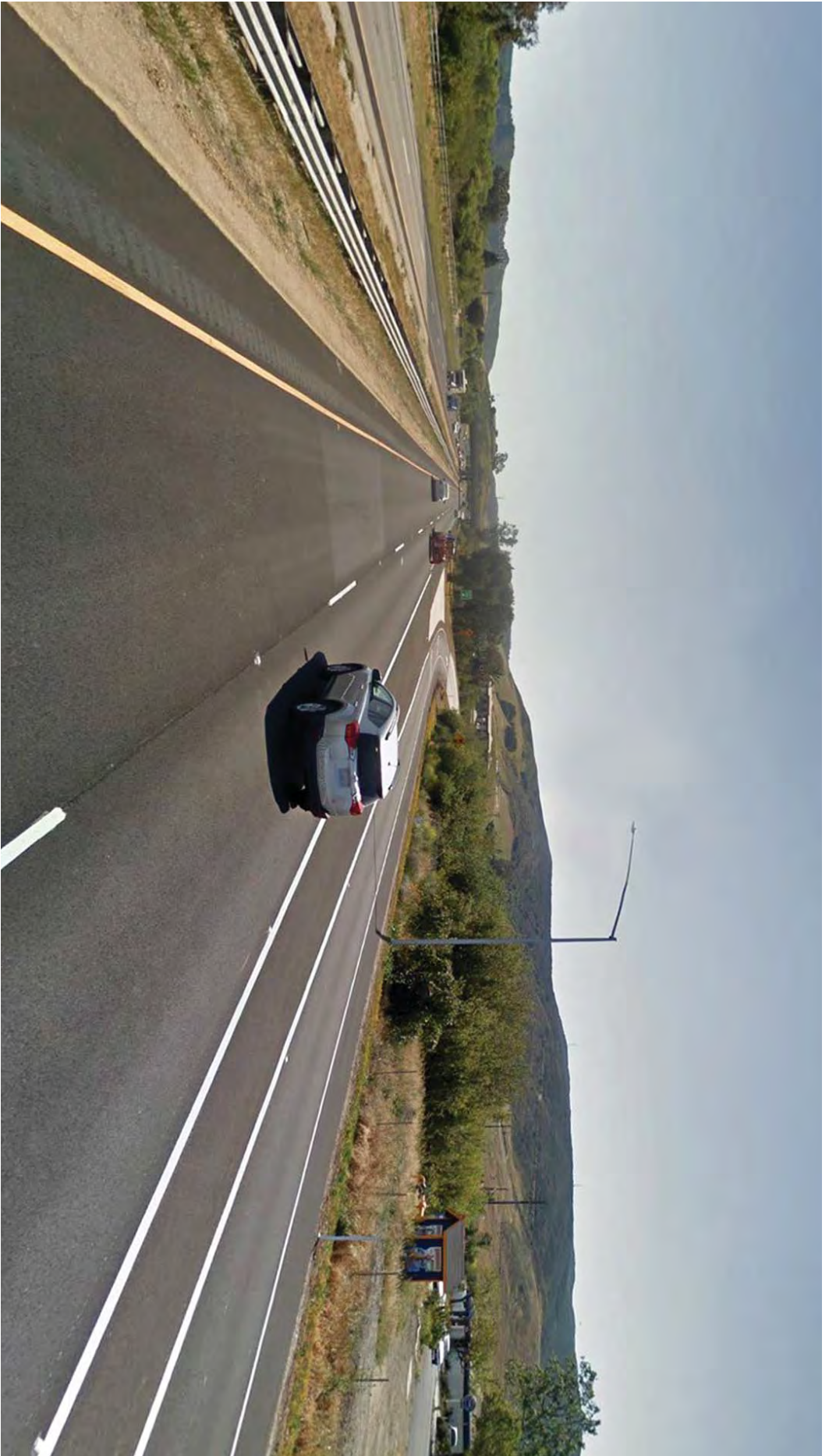
South Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703

g	d
+	d

globe icon

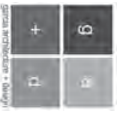


Calle Joaquin Commercial - View 3 "Before"

South Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703





Calle Joaquin Commercial - View 3 Visual Simulation

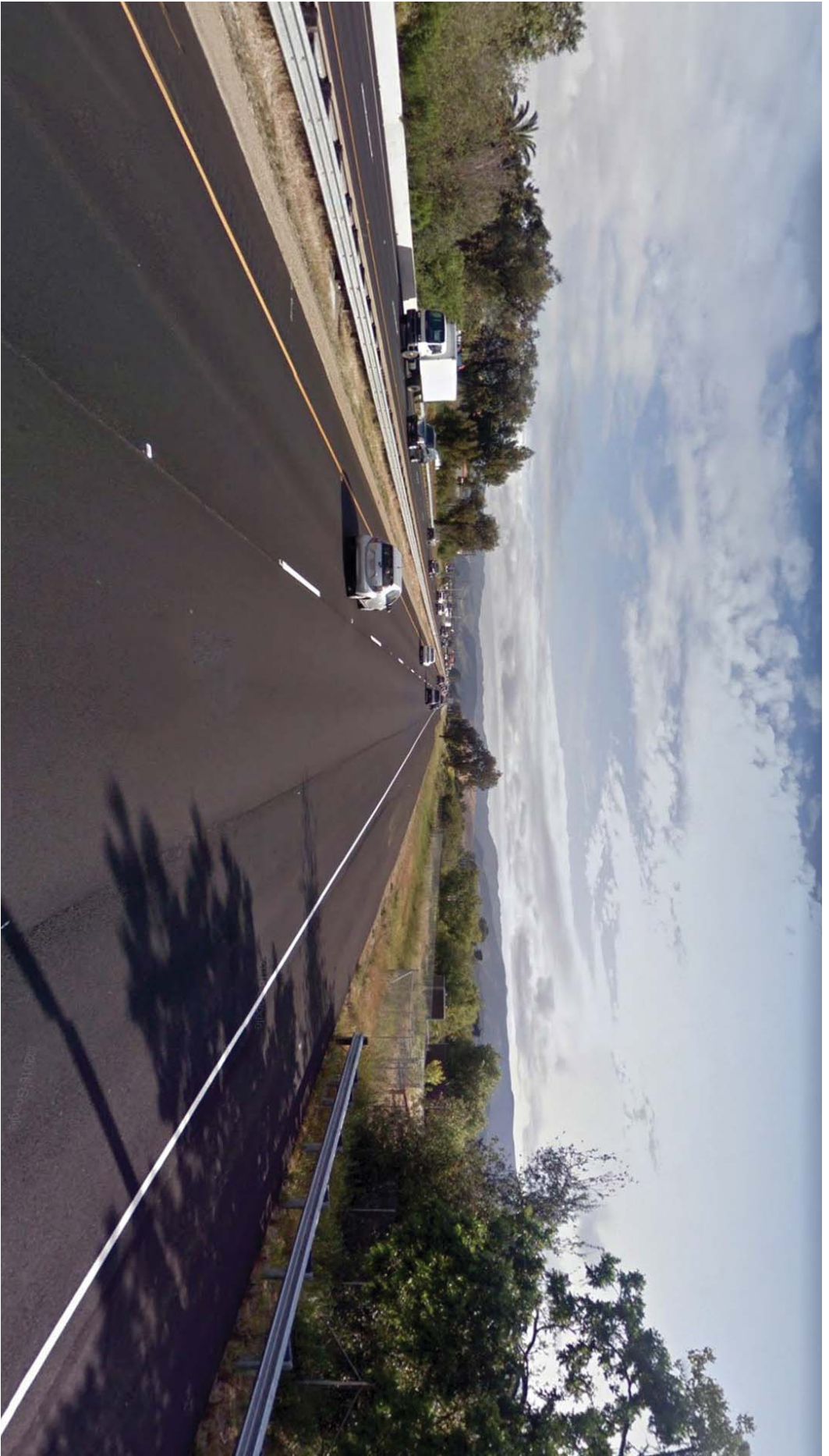
South Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703

g	d
+	d

globe icon



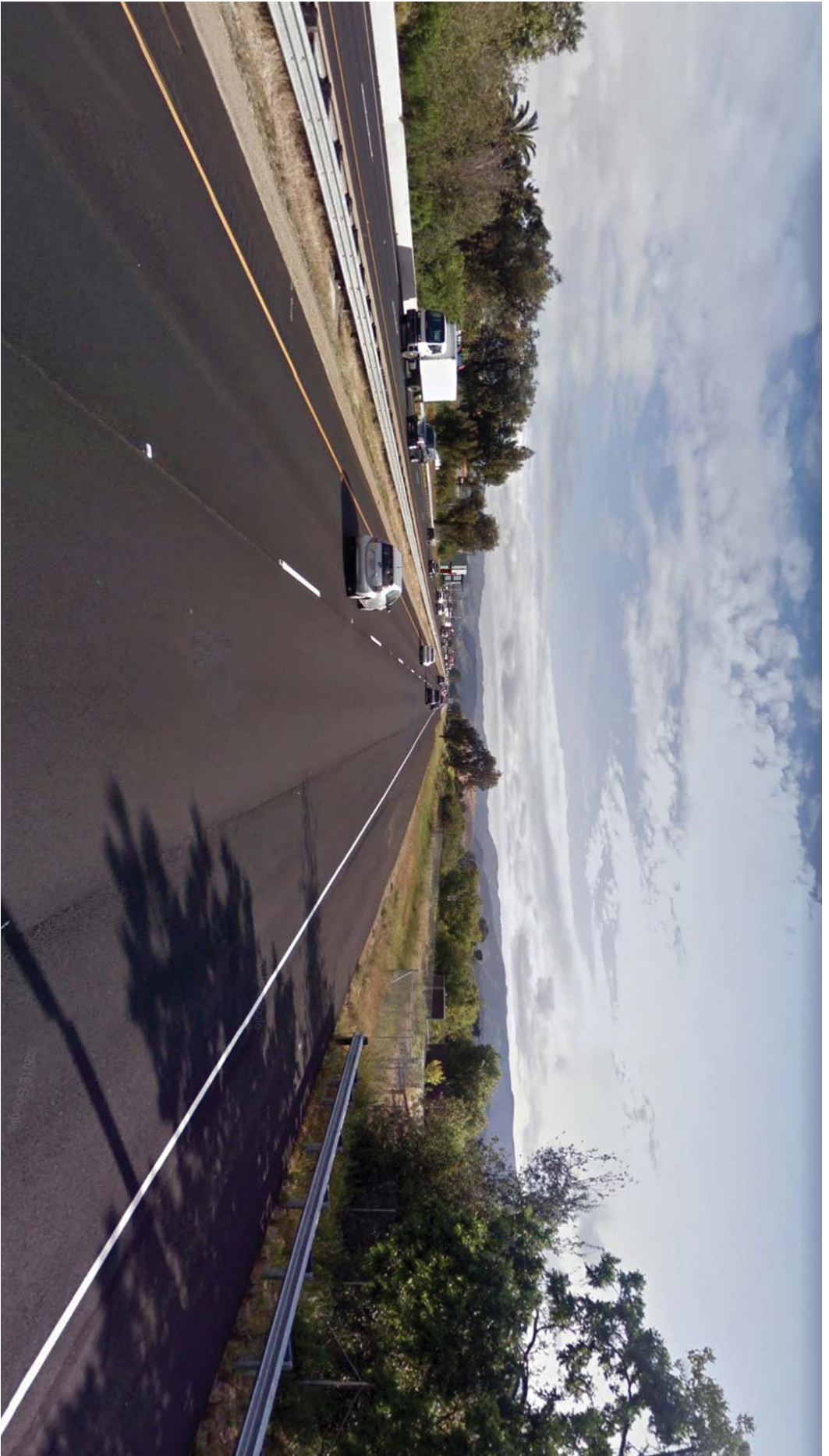
Calle Joaquin Commercial - View 4 "Before"

North Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703





Calle Joaquin Commercial - View 4 Visual Simulation

North Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703

g	+
d	+

globe icon



Calle Joaquin Commercial - View 5 "Before"

North Bound HW101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703





Calle Joaquin Commercial - View 5 Visual Simulation

North Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703

g	d
+	d

grass enclosure - 10m/7'



Calle Joaquin Commercial - View 6 "Before"

North Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703

g	d
+	d

gms inc/10/18/18 - 10/18/18



Calle Joaquin Commercial - View 6 Visual Simulation

North Bound US101

1 4 6 0 C a l l e J o a q u i n S a n L u i s O b i s p o C A 9 3 4 0 5

17.0703

g	d
+	d

gms inc/urban - 10/07/17

RESOLUTION NO. ARC-1020-17**A RESOLUTION OF THE ARCHITECTURAL REVIEW COMMISSION OF THE CITY OF SAN LUIS OBISPO RECOMMENDING TO THE CITY COUNCIL DESIGN APPROVAL OF THE NEW COMMERCIAL SITE AND BUILDING LOCATED AT 1460 CALLE JOAQUIN, AS DEPICTED IN THE STAFF REPORT AND ATTACHMENTS DATED NOVEMBER 13, 2017, 1460 CALLE JOAQUIN (ARCH-3413-2016)**

WHEREAS, on June 24, 2016 the applicant, AuzCo. Development, LLC, submitted a request for architectural review of the proposed construction of a two-story commercial building on property located at 1460 Calle Joaquin (ARCH-3413-2016); and

WHEREAS, the Architectural Review Commission of the City of San Luis Obispo conducted a public hearing in the Council Chamber of City Hall, 990 Palm Street, San Luis Obispo, California, on November 13, 2017, to consider the application; and

WHEREAS, the Architectural Review Commission of the City of San Luis Obispo has duly considered all evidence, including the testimony of the applicant, interested parties, and evaluation and recommendations by staff; and

WHEREAS, notices of said public hearings were made at the time and in the manner required by law; and

NOW, THEREFORE, BE IT RESOLVED by the Architectural Review Commission of the City of San Luis Obispo as follows:

SECTION 1. Findings. The Architectural Review Commission hereby recommends to the City Council design approval of the new commercial site and building (application ARCH-3413-2016), based on the following findings:

1. As conditioned, the proposed site and building design are consistent with the goals and policies of the City's General Plan. The project will accommodate Tourist-Commercial land uses on an appropriately located site in an urbanized area where such uses have already concentrated, and near a freeway interchange, consistent with Land Use Element (LUE) policies (§3.1.1, §3.12, §3.6.2).
2. As conditioned, the project is consistent with the goals and policies of the Conservation and Open Space Element (COSE) of the City's General Plan related to Views (§9). The adjacent section of U.S. Highway 101 is designated as a Scenic Roadway with high scenic value consistent with §9.3.5. Visual Simulation Studies have been provided by the applicant, and these demonstrate that development of the proposed building preserves approximately 3/4 of the view toward the Irish Hills, as viewed along the section of highway adjacent the project. The building does not block views or "wall off" the roadway (§9.2.1, §9.3.6). Extensive use of glazing as a building surface provides additional visibility through the building toward hill views beyond.
3. As conditioned, the proposed building is consistent with land use limitations and development standards of the City's Zoning Regulations. The site and proposed

building are designed to accommodate land uses and activities permitted in a Tourist Commercial (C-T) Zone (§17.22.090). The project conforms to applicable development standards set out in Chapter 17.16 including those for density, yards, coverage, building height, and parking space requirements.

4. As conditioned, the project is consistent with guidance for commercial development provided by the City's Community Design Guidelines. The building architecture exhibits proper proportion, balanced form, and well-articulated and appropriately detailed elevations, resulting in an attractive and distinctive design, consistent with General Design Principles (Ch. 2). It demonstrates consideration for the architectural style, shape, and massing of neighboring structures, which are modern in style and accommodate auto- and tourist-oriented activities (§3.1(C.1a)). Sensitive building design, and retention of riparian vegetation demonstrates consideration for views and the natural features of the site (§3.1(C.1) & 7.1(B.3)).

SECTION 2. Environmental Review. An Initial Study is being prepared for the proposed project in accordance with the provisions of the California Environmental Quality Act (CEQA). The Initial Study for the project will be prepared and circulated for public review. The Planning Commission and City Council will review the Initial Study of environmental impact prior to final action on the project.

SECTION 3. Action. The Architectural Review Commission hereby recommends to the City Council design approval of the new commercial site and building (application ARCH-3413-2016), subject to the following conditions:

Planning (Community Development)

1. **Conformance to approved plans and conditions.** Plans submitted for construction permits shall be in substantial compliance with the plans approved under this application, and with all conditions of project approval. Any change to the approved design, colors, materials, or landscaping, or to any conditions of approval must be reviewed and approved by the Community Development Director or Architectural Review Commission, as deemed appropriate. A separate full-size sheet shall be included in construction plans, listing all conditions of project approval, with reference made in the margin of the listed conditions as to where in plans requirements are addressed.
2. **Retention of riparian vegetation.** Existing riparian vegetation within the area demarcated by the dashed line labeled "Existing Edge of Riparian Vegetation on the Preliminary Site Plan included with this architectural review application) shall remain undisturbed.
3. **Solid waste enclosure screening.** Plans submitted for construction permits to complete this project shall include additional measures to further screen the solid waste enclosure area from public view, particularly along the southern edge of the site, adjacent to U.S. Highway 101, in a manner consistent with Community Design Guidelines § 6.1 (F), to the satisfaction of the Community Development Director. Such measures may include utilization of surrounding landscaping for further screening, techniques such as trailing vines on walls, and berming along site and rear walls.

4. Signs. No approval is granted to any signage depicted in these plans. Project signage is subject to the issuance of Sign Permits, pursuant to the provisions of the City's Sign Regulations (SLOMC Ch. 15.40).

Engineering Development Review (Community Development, Public Works)

5. Projects involving the construction of new structures requires that complete frontage improvements be installed or that existing improvements be upgraded per city standard. MC 12.16.050
6. The building plan submittal shall show the build-out of curb, gutter, and sidewalk per city engineering standards along the complete property frontage. The termination of sidewalk may require the installation of a curb ramp. Any request to defer sidewalk installation shall be reviewed and approved by the City Engineer and Community Development Director.
7. Development of the driveway and parking areas shall comply with the Parking and Driveway Standards for dimension, maneuverability, slopes, drainage, and materials. Alternate paving materials are recommended for water quantity and/or quality control purposes and in the area of existing or proposed trees and where the driveway or parking area may occur within the dripline of any tree. Alternate paving material shall be approved to the satisfaction of the Planning Division.
8. The building plan submittal shall include a complete site utility plan. All existing and proposed utilities along with utility company meters shall be shown. Existing underground and overhead services shall be shown along with any proposed alterations or upgrades. The current overhead services configuration shall be clearly shown on the plans. Any required ADA path of travel shall consider existing utility poles, guy wires, and vaults accordingly. Services to the new structures shall be underground. All work in the public right-of-way shall be shown or noted.
9. Provisions for trash, recycle, and green waste containment, screening, and collection shall be approved to the satisfaction of the City and San Luis Obispo Garbage Company. The respective refuse storage area and on-site conveyance shall consider convenience, aesthetics, safety, and functionality. Drainage from the trash enclosure shall comply with the City Engineering Standard 1010.B regarding water quality treatment prior to discharge to the storm drain system or gutter.
10. The building plan submittal shall include a complete grading, drainage and topo plan. The grading and drainage plan shall show existing structures and grades located within 15' of the property lines in accordance with the grading ordinance. The plan shall consider historic offsite drainage tributary to this property that may need to be conveyed along with the improved on-site drainage. This development will alter and/or increase the storm water runoff from this site. The improved or altered drainage shall be directed to the street and not across adjoining property lines unless the drainage is conveyed within recorded easements or existing waterways.
11. The building plan submittal shall include a final drainage report in accordance with the Drainage Design Manual and the Post Construction Stormwater Requirements.

12. The building plan submittal shall show compliance with the Post Construction Stormwater Requirements as promulgated by the Regional Water Quality Control Board for developed sites. Include a complete Post Construction Stormwater Control Plan Template as available on the City's Website.
13. An operations and maintenance manual will be required for the post construction stormwater improvements. The manual shall be provided at the time of building permit application and shall be accepted by the City prior to building permit issuance. A private stormwater conveyance agreement will be required and shall be recorded prior to final inspection approvals.
14. This property is located within a designated flood zone as shown on the Flood Insurance Rate Map (FIRM) for the City of San Luis Obispo. As such, any new structures shall comply with all Federal Emergency Management Agency (FEMA) requirements and the city's Floodplain Management Regulations per Municipal Code Chapter 17.84.
15. This property is located in an AE flood zone. The buildings and/or building service equipment shall be elevated or flood-proofed to at least one foot above the Base Flood Elevation (BFE). Additional freeboard to 2' above the BFE may result in additional savings on flood insurance and is encouraged. The pump house and water well development or retention shall comply with the Floodplain Management Regulations and Department of Water Resources Requirements for protecting equipment and groundwater resources respectively. The City recommends processing a Letter of Map Amendment (determination document) to remove the structure or a portion of the property from the Special Flood Hazard Area to eliminate mandatory flood insurance requirements.
16. The building plan submittal shall show all existing trees on the property with a trunk diameter of 3" or greater. Offsite trees along the adjoining property lines with canopies and/or root systems that extend onto the property shall be shown to remain and be protected. Include the diameter and species of all trees. Tree canopies should generally be shown to scale for reference. The plan shall show all existing and proposed street trees.
17. The building plan submittal shall show new street tree plantings. Street trees are required at a rate of one 15-gallon street tree for each 35 linear-feet of frontage. Tree species and planting requirements shall be per City Engineering Standards.
18. Street trees along the northerly frontage of Calle Joaquin shall be placed in tree wells, parkway, or with horizontal and vertical controls to accommodate future sidewalk installation if approved for deferral, to the satisfaction of the Public Works Director.
19. Tree protection measures shall be implemented to the satisfaction of the City Arborist. The City Arborist shall review and approve the proposed tree protection measures prior to commencing with any demolition, grading, or construction. The City Arborist shall approve any safety pruning, the cutting of substantial roots, or grading within the dripline of trees. A city-approved arborist shall complete safety pruning. Any required tree protection measures shall be shown or noted on the building plans.

Building (Community Development)

20. Plans submitted for construction permits to complete this project shall include the following construction methods and materials: Ignition resistant exterior wall coverings; Fire sprinkler protection in attic areas (at least one “pilot head”); Ember resistant vent systems for attics and under floor areas, protected eaves, and Class ‘A’ roof coverings as identified in the California Building Code Chapter 7.

Utilities

21. Building permit submittal shall clarify size of existing and proposed water services and water meters for the project, including both potable and recycled water.
22. The existing well shall be relocated to a “low impact activity” per the California Water Resources Control Board guide for private wells, or shall rehabilitate the well casing and well infrastructure to protect the groundwater basin in accordance to California Department of Water Resources Standard Bulletin 74-81 and 74-90.
23. Where automobiles are serviced, greased, repaired, or washed, separators shall be provided to prevent the discharge of oil, grease, and other substances harmful or hazardous to the City’s wastewater collection system consistent with City standards.

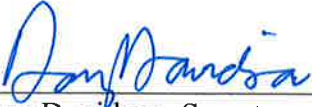
Indemnity

24. The applicant shall defend, indemnify and hold harmless the City and/or its agents, officers and employees from any claim, action or proceeding against the City and/or its agents, officers or employees to attack, set aside, void or annul, the approval by the City of this project, and all actions relating thereto, including but not limited to environmental review Indemnified Claims”). The City shall promptly notify the applicant of any Indemnified Claim upon being presented with the Indemnified Claim and the City shall fully cooperate in the defense against an Indemnified Claim.

On motion by Commissioner Beller, seconded by Commissioner Smith, and on the following roll call vote:

AYES: Commissioners Nemcik, Smith, Beller, Vice-Chair Soll, and Chair Wynn
 NOES: None
 REFRAIN: None
 ABSENT: Commissioners Rolph, Root

The foregoing resolution was passed and adopted this 13th day of November 2017.



 Doug Davidson, Secretary
 Architectural Review Commission