Appendix G

Geologic Report and Response to City of Los Angeles Department of Building and Safety Soils Report Review Letter

RTF&A
GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

March 31, 2026

Village Christian School
8930 Village Avenue
Sun Valley, California 91352

Job No. 2013-006-012

Attention: Mr. Tom Konjoyan

Subject: Geologic Report and
Response to City of Los Angeles
Department of Building and Safety
Soils Report Review Letter
Dated January 29, 2026
Proposed Gymnasium and Annex Building
Village Christian School
8930 Village Avenue
Sun Valley, California

Reference: Report of Geotechnical Investigation
By R. T. Frankian & Associates
Dated August 22, 2025
Job No. 2013-006-012

Ladies/Gentlemen:

This submittal serves as a Geologic Report and provides responses to comments from the Building Department for the City of Los Angeles (City). The comments from the City were summarized in a Soils Report Review Letter dated January 29, 2026. The Soils Report Review Letter was issued following the City review of our referenced "Report of Geotechnical Investigation" dated August 22, 2025.

The City comments from the Soils Report Review Letter are shown below in bold type. Our response follows each comment in regular type. The subject Soils Report Review Letter has been included as an attachment to this submittal.

SOILS REPORT REVIEW LETTER

1. Provide a geological report signed by a CA certified engineering geologist as required by the Code and pay the fee for the review of the geological report.

Note: The site is located on a hillside and in a designated seismically induced landslide hazard zone, as shown on the "Seismic Hazard Zones" map issued by the State of California.

This submittal is a Geologic Report and addresses the below comments that were summarized by the City in a Soils Report Review Letter dated January 29, 2026. This report has been signed and stamped by an Engineering Geologist from our office, who is registered in the State of California.

The fees for the review of this Geologic Report will be paid by the person submitting the report for review.

2. Provide a geologic map and cross sections showing top and bottom of slopes; lithologic contacts; bedding attitudes; locations of slumps, landslides, or faults relative to the subject site; existing and proposed topographic profiles; existing and proposed structures; and, required Code setbacks. (7006.3.2).

The requested Geologic Map and cross sections are included as attachments to this submittal.

3. Provide geological cross sections illustrating existing and proposed grades and structures.

Attached Cross Section A-A' through G-G' indicate the existing and proposed grades as well as the existing and proposed structures.

4. Provide a statement of responsibility indicating that you have reviewed and concurred with the laboratory test data prepared by EGLab Inc.. The statement should include the list of tests/recommendations concurred with, as well as dates of the reports containing this data. The laboratory testing should be provided under separate cover with the letterhead of (testing agency), and shall be signed by a licensed civil engineer. P/BC 2023-113.

We have reviewed and concur with the direct shear data provided by EGLab, Inc. as presented in our referenced August 22, 2025, report. Those direct shear tests were performed on remolded sample [HS-1, S-10, at 1'-5'], in-place sample [HS-3, S-2, at 5'], and in-place sample [HS-4, S-2, at 5']. Since this Geologic Report and Response to City of Los Angeles has been stamped and

signed by licensed Geotechnical Engineer and an Engineering Geologist, this submittal should be considered a Statement of Responsibility regarding that test data.

The laboratory testing performed by EGLab, Inc. has been included in Appendix B. As noted, the laboratory data from EGLab, Inc. has been signed and stamped by Ryan Jones, Geotechnical Engineer No. 2852 licensed in the State of California.

5. Provide a complete laboratory testing report prepared by a City of Los Angeles approved testing agency. The report shall be signed and stamped by the engineer in responsible charge of the testing and shall include the testing descriptions and procedures. P/BC 2023-113.

Please see our response to Item No. 4 of this Geologic Report and Response to City of Los Angeles. The laboratory testing data was performed by EGLab, Inc., a testing agency approved by the City of Los Angeles. Their testing report is included in Appendix B.

6. Provide recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way, adjacent property or an existing structure. A plot plan and cross-section(s) showing the construction type, number of stories, and location of the structures adjacent to the excavation shall be part of the excavation plans.

Shoring and/or underpinning is not anticipated to be required for the construction of the Gymnasium and Annex Building project. Furthermore, excavations that would remove lateral support of a public way, adjacent property, or existing structures are not anticipated to be required. Temporary excavations should be made in accordance with the "Temporary Excavations" section of this report.

7. In the event retaining/basement walls are proposed:

a) Provide an updated site map and sections showing the locations and heights of the proposed retaining wall.

Based on the attached updated plan, retaining walls are proposed at the toe of existing graded cut slopes designated as Cut Slopes S-1 and S-3. The proposed retaining wall below S-1 will be up to about 10 feet in height and the retaining wall below S-3 will be up to about 5 feet in height. It is our understanding that basement walls are not proposed.

b) Provide design calculations for the proposed retaining walls based on site specific laboratory data.

The bearing value to be used in the design of retaining walls is presented in the recommendations portion of this report.

8. In the event that there are slopes steeper than 2H:1V on or adjacent to the site:

Within the text of the report below we present 97 years of historical aerial imagery which includes the entire VCS campus as well as the slopes to the west, south, and east extending up to the ridgeline. As is described within text for the images, in that period of time there is only one small surficial failure scar noted on the 1976 (Figure 2.8) aerial image, and that slough did not mobilize enough material to carry shrubs, it was small and shallow. This observation is not only for the slopes adjacent to the project area but for all the slopes that surround the campus.

There have been small (6 feet x 10 feet) areas of sloughing on the campus' western slopes. These features are generally less than one foot in thickness and can be linked to minor modifications such as terracing and over steepening, that have occurred over the past 100 years.

Specific to slopes adjacent to the project area, we have labeled the three slopes S-1, S-2, and S-3, see Figure 1.0 Geotechnical Map. Slopes S-1 and S-3 are graded slopes, graded sometime in the late 1960's to 1970 by Caltrans for aggregate utilized for Interstate 5, the site was a borrow. Both S-1 and S-3 are engineered cut slopes with S-1 being constructed with a terrace drain. These slopes have been exposed to weathering for only about 60 years and given the igneous rock have not had sufficient time to build a colluvial layer thick enough to become mobilized during periods of heavy rain. It is not feasible that surficial failures would bring debris down from either Slopes S-1 or S-3.

Slope S-2, as can be seen, is a spur ridge line extending northward to the proposed project area. Geomorphically the ridge line is rather narrow. As can be seen by evaluating surficial slides that have occurred in these mountains or most any mountain, surficial failures are not prone to travel down ridge lines, but they slough off generally at high angle to the ridge line and into the drainages that bound them. It is improbable that a surficial failure will travel down the narrow ridge line of Slope S-2. If a surficial failure were to occur, it would be thin skinned and would mobilize into the drainages to the ridges east and west that provide sufficient capacity to catch and hold. Mobilized debris would not be moving toward or impacting the proposed project.

a) Provide surficial stability analysis using appropriate shear strengths and soil thickness and indicate the evaluated factor of safety.

Note: The calculations shall be based on a reasonably-assumed volume of the potentially-unstable surficial material on the slope that may be mobilized from off the slope. If the calculations are to be performed by a civil engineer, provide a wet-signature copy of the civil engineer's report in the appendix of the addendum. Alternatively, provide recommendations to trim the unstable fill and soil colluvium on the slope in compliance with the Code.

b) Slope stability calculations shall be performed along an assumed failure plane that yields the lowest factor of safety and shall be based on shear strength parameters which represents the weakest material on the site. (P/BC 2023-049).

c) Provide pseudo-static slope stability analysis in conformance with the most recent version of CGS Special Publication 117 (i.e. SP 117A), Guidelines for Evaluating and Mitigating Seismic Hazards in California (1803.7), and with Information Bulletin P/BC 2023-049.

There are existing slopes designated as S-1, S-2, and S-3 adjacent to the site as shown on the Geotechnical Map, Figure 1.0 and Geologic Map, Figure 1.1. Some of the lower portions of the slopes were graded using what generally appears to be conventional grading standards at the time of grading of 2:1 gradient with terrace benches. The overall slope gradient does exceed 2:1 at several locations. Some of the existing slope gradients that exceed a 2:1 gradient are indicated on the Geologic Sections. However, there are no modifications to these slopes proposed except for the construction of the proposed retaining walls at the toe of the slopes as discussed in our response to Comment No. 7. The previously graded slopes are grossly stable and will not be adversely affected by the proposed development. Updated geotechnical retaining wall design parameters including freeboard and seismic design parameters are included within this response.

GEOLOGIC AND GEOTECHNICAL INVESTIGATION

INTRODUCTION

This report presents the results of a geotechnical investigation performed for the proposed Gymnasium and Annex Building at the subject site. The purpose of the study was to determine the general engineering characteristics of the soils underlying the areas of proposed construction and to provide specific recommendations for grading and the design of foundations and related improvements.

Figures 2.0 "Site Location Map" and 2.1 "Project Location Map" depict the location of the Site. Figures 1.0 "Geotechnical Map" and 1.1 "Geologic Map and Sections" included within this report indicate the proposed development, and the locations of the seven (7) test borings that were drilled under the observation of a representative from our firm to explore the site as part of the geotechnical investigation. Boring logs are included within Appendix A providing descriptions of the earth materials encountered. The results of laboratory tests performed on soil samples obtained from the test borings, and a description of the methods of performing the tests, are presented in Appendix B of this report.

SITE CONDITIONS

The proposed Gymnasium and Annex Building (Site) are located within the campus of the Village Christian School (VCS). For the purposes of description, it will be assumed that nearby Penrose Street is oriented in an east-west direction and that Village Avenue is oriented in a north-south direction.

The proposed Gymnasium and Annex Building will be constructed in the southeastern portion of the VCS campus, to the southeast of the existing Football Practice Field and to the south of the existing Weight Facility building. The proposed structures will be constructed in what is presently a women's softball field.

The existing softball field consists of a relatively level playing field that has a dirt infield and grass outfields. There is an existing descending slope, approximately 10 feet in height, located immediately adjacent to the northwest side of the proposed Annex Building.

Slopes to the western, south, and east of the project site are native, covered with coastal chapparal.

PROPOSED CONSTRUCTION

Preliminary Civil Site Development Plans For Village Christian School were provided by CCE Design Associates Inc. (CCE), dated October 21, 2025, attached as Appendix C, portions of which are utilized as the base map for Figure 1.0. Proposed improvements depicted on CCE's plan are a gym, an annex building, reconfiguration of a portion of Village Avenue, interior reconfiguration of two existing buildings, access flatwork including ramps, walls, and car parking areas.

CCE's plan includes the proposed final grades that marginally modify existing topography of the existing road, baseball field, and field house. Two retaining walls are proposed along the south and east sides of Village Avenue providing additional width to the road.

We have not been provided with structural details nor load data regarding the proposed buildings and improvements. However, we understand that the proposed gymnasium building will be a single-story structure with a mezzanine, and that the annex building will be a single-story structure. It will be assumed that the proposed buildings will generate typical column or point-loads, and typical continuous foundation loads, for the type of construction being planned and that each building will tolerate typical settlement amounts that would be expected for the planned type of construction. We further understand that all of the buildings will be at-grade structures that will not include subterranean construction.

The project described above was the basis for the preparation of the recommendations presented in this report. We should be notified if the description of the project is inaccurate or if significant changes to the development are proposed.

FIELD EXPLORATIONS

A total of seven (7) exploratory test borings were drilled under the observation of RTF&A to determine the subsurface conditions below the site. A truck-mounted, hollow-stem auger drill rig was used to excavate all 7 of the test borings. The attached Geotechnical Map and Geologic Map and Sections, Figures 1.0 and 1.1 depict the locations of the 7 test borings (HS-1 through HS-7).

Relatively undisturbed "ring" samples, and bulk samples obtained from the drill cuttings, were obtained during the drilling of the test borings and transported to our laboratory for testing. The boring logs are presented in Appendix A of this report and the results of the laboratory testing are presented in Appendix B.

LABORATORY TESTS

Laboratory tests were performed on selected samples, obtained from the test borings, to aid in the classification of the soils and to determine the pertinent engineering properties of the soils. The following tests were performed:

- moisture content and dry density determinations,
- direct shear tests,
- consolidation tests,
- expansion index tests, and
- maximum dry density tests.

The results of the moisture and density tests are indicated on the boring logs and the remaining test results are presented in Appendix B of this report.

SEISMIC DESIGN PARAMETERS

As with virtually all property in southern California, the site may be subjected to strong ground shaking during earthquakes on nearby or distant faults. The subject improvements should be designed to resist such shaking in accordance with current codes.

The following coefficients and factors apply to seismic force design of the proposed structures at the site. The parameters were determined using the American Society of Civil Engineers (ASCE) Hazard Tool website. The parameters below are based on the Design Code Reference Document (DCRD) ASCE 7-22 and a Risk Category of II. We defer to the project Structural Engineer to determine the appropriate DCRD to be used for the subject development; we can provide additional parameters, based on an alternate DCRD or Risk Category, upon request and authorization.

Latitude	34.22930308
Longitude	-118.35526793
Site Class	C
S_S	2.35
S_1	0.8
S_{MS}	2.42
S_{M1}	1.12
S_{DS}	1.62
S_{D1}	0.75
PGA_M	0.96

LIQUEFACTION

As discussed in our "Proposal – Report of Geotechnical Investigation" dated June 23, 2025 (P031-2025-012), the scope of this geotechnical investigation does not include a liquefaction analysis for the site. It should be noted that the site is not located in a special "Liquefaction Zone" as determined by the State of California, Department of Conservation, California Geological Survey.

DISCUSSION

The results of our geotechnical investigation indicate that the subject Gymnasium and Annex Building project may be constructed as planned, from a geotechnical perspective. Our geotechnical investigation and laboratory testing indicates that the near surface earth materials are somewhat dry and slightly disturbed, and therefore unsuitable to provide support for the proposed improvements in their present state. Accordingly, removal and recompaction of the upper portion

of the earth materials, as discussed below, will be required below areas where it is proposed to construct improvements. Once the recommended earthwork has been completed, the proposed buildings may be supported by conventional spread foundations seated in the recompacted fill soils and/or suitable naturally deposited soils as discussed in the following "Foundations" section of this report. The areas where removal and recompaction of soil will be required, as well as the recommended removal depths, are discussed in the following "Grading" section of this report.

Following are the results of RTF&A's geologic investigation and updated geotechnical recommendations for the proposed Gymnasium and Annex at Village Christian School. VCS's location is depicted on Figure 2.0 "Site Location Map" with the proposed project's location shown on Figure 2.1 "Project Location Map." The location of the proposed gymnasium and annex are shown on Figures 1.0 and 1.1.

The purpose of the referenced investigation was to determine the general geologic and engineering characteristics of the earth materials underlying the proposed construction, and to provide specific geotechnical recommendations for planned Site improvements. Included in this report are updated foundation and grading recommendations.

EXISTING SITE CONDITIONS

HISTORICAL TOPOGRAPHIC MAPS AND AERIAL IMAGERY

Historical United States Geological Survey (USGS) topographic maps were reviewed, specifically from 1926 (Figure 2.2) and 1946 (Figure 2.3). Figure 2.2 depicts the Site as undeveloped, with Village Avenue as a dirt road.

Figure 2.3 shows very little change from 1926, with no apparent changes to the overall topography at the Site.

Multiple years of aerial imagery were reviewed, starting with a Historical Aerial Image from 1928 (Figure 2.4). Residential development had not begun in the area in 1928, although VCS's campus area appears to be graded and utilized for agriculture. What appears to be an

orchard is on the western portion of the Site. Terracing of the western slopes had been completed in what appears to be agricultural development, possibly a vineyard. Slopes south and east of and adjacent to the project area are in a native condition.

Figure 2.5 (Historical Aerial Image 1944) reveals that the VCS and project area are no longer being farmed, with the south and eastern slopes in a native condition. Terracing of the western slopes was not maintained and only remnants of the benches were present. Additionally, the orchard that was on a portion of the Site is no longer visible. Village Avenue, a graded dirt road was extended and a pad graded.

By 1956 (Figure 2.6) multiple dirt roads had been created that cross the VCS campus area and the project area. These roads have been extended into the drainages and on the ridge lines to the south and east of the project. Development continues along Village Avenue.

Figure 2.7 presents the 1971 aerial image. At this point, Village Christian School is present and the project area has been graded broadly into its current configuration. At the south limits of the project, the roughly 40 feet high cut slope has been graded and the terrace drain is visible. Historical research indicates that the Site was used as a quarry for the construction of Interstate 5, resulting in the observable on Site grading. 1969 was a year of very heavy storm activity causing extremely large numbers of landslides and debris flows through the area. What is evident in this 1971 image is the lack of any observable slope instability scaring. A trail is present along the ridge line to the west, south, and east of the project area.

Figure 2.8, (1976 aerial image) documents that conditions at VCS and the project area have not changed significantly from 1971. The project area remains only graded and the surrounding slopes are in a native condition. A small debris flow scar is observable on a west facing slope that flowed into the drainage up slope of what was to become a parking area.

Depicted on the 1989 aerial image (Figure 2.9) is a baseball field, road, and parking area that is representative of the current project area arrangement. Hillsides bounding the project area remain undeveloped.

In general, Figure 2.10 (2017 aerial image) records the project area with little change from the 1989 image. Trails on the hillsides to the south and east of the project area persist, although

the slopes remain undeveloped. There is a small area of brush cleared at the start of trail within a drainage to the southeast of the project area.

Figure 2.11 presents a 2020 aerial image. Again, in this image there has been little to no observable development or topographic changes from those recorded in the 1989 image (Figure 2.9).

SITE AND SUBSURFACE CONDITONS

GEOLOGIC SETTING

The Site lies within Transverse Ranges Geomorphic Province. Approximately 50 miles wide and about 275 miles long, the Transverse Ranges extend from the Pacific Ocean at Point Arguello eastward to Joshua Tree Nation Monument south of the Mojave Desert. The southern boundary of Transverse Range structures is commonly placed at the Anacapa-Santa Monica-Hollywood-Raymond-Cucamonga zone of interconnected north-dipping thrust faults. The San Andreas Fault zone defines the northern Transverse Ranges Boundary. Included within the Transverse Ranges Province are multiple mountain ranges including the San Gabriel Mountains with major peaks extending to elevations of greater than 10,000 feet above sea level.

Within the Transverse Ranges, and south of the San Gabriel Mountains are the Verdugo Mountains. These mountains are separated from the San Gabriel Mountains by La Cañada Valley. Rocks exposed in the Verdugo Mountains are generally similar to that found in the San Gabriel Mountains (Jennings et al., 1977; Dibblee, 1989, 1991). La Tuna Canyon is primary westward flowing drainage crossing the northern portion of the Verdugo Mountains. The Site is situated near the western end of La Tuna Canyon on its southern side as it broadens and empties into the San Fernando Valley.

Granitic rocks underlie the Site which is about 0.9 miles northeast of the Verdugo Fault and roughly 3.2 miles southwest of the Sierra Madre Fault Zone.

REGIONAL FAULTING

As indicated, the Site is located within a seismically active region of Southern California within the zone of influence of several active and potentially active faults. Figure 2.12 "Regional Fault Map depicts the site in relation to known active and potentially active faults that are expressed at the surface. Review of the United States Geological Survey's (USGS) Interactive Quaternary Faults Database and the USGS's Unified Hazard Tool, indicates that the faults of most influence to the Site are the:

- Verdugo Fault, located approximately .9 miles southeast of the Site and capable of a M7.5 earthquake,
- Sierra Madre Fault, located approximately 4.2 miles northeast of the Site and capable of producing an M7.6 earthquake,
- Santa Susana East Fault, located about 5.6 miles west of the Site and is capable of producing a M6.6 earthquake,

The Verdugo fault is not considered, at this time, to have moved within the last 11,500 years, and therefore it is not considered to be active under the Alquist Priolo Fault Zones Act of 1972 and the Seismic Hazards Mapping Act of 1990. However, roughly 2 miles south of the Site, a portion of the Verdugo Fault is considered to have moved in the latest Quaternary. The fault is considered potentially active.

At this time, the Sierra Madre fault has been determined to have moved within the last 11,500 years (1971), and therefore is considered to be active and is "zoned" under the Alquist Priolo Fault Zones Act of 1972 and the Seismic Hazards Mapping Act of 1990.

Review of selected geologic maps of the area published by the California Geological Survey (CGS) and the USGS depict no fault lines projecting through the Site as shown on Figure 2.12 "Regional Fault Map," Figure 2.13 "Geologic Map – Dibblee 1991, or Figure 2.14 "Seismic Hazards Zone Map".

Review of referenced historical topographic maps (Figures 2.2 and 2.3) and aerial imagery (Figures 2.4 to 2.11) found no readily observable faults or fault line features projecting into or through the Site.

GEOLOGIC STRUCTURE

Underlying the Site is a large body of plutonic igneous rock, specifically quartz diorite. Locally there are areas of gneiss to the east and a hornblende diorite gabbro to the west, neither of which are found on Site or the slopes above the slope.

Geologic structure is minimal, shown only as localized foliations generally striking to the north and dipping to the east as illustrated on the Geologic Map – Dibblee 1991 (Figure 2.13). Field observations revealed the foliation is not pervasive and is poorly developed in some areas surrounding the project area.

Review of historical topographic maps (Figures 2.2 and 2.3) and historical aerial imagery (Figures 2.4 through 2.11) depict no readily observable relevant geomorphic features suggestive of pertinent geologic structures under or projecting into or through the VCS campus or the project area.

FAULTS AND LINEAMENTS

Although the Site is within the zone of influence of several active and potentially active faults, no active or potential active faults are known to project into or through the Site. Figure 2.12, 2.13, and 2.14 show no faults projecting into or through the Site.

The Site was not located within an Alquist-Priolo Special Studies Zone/Earthquake Fault Zone as depicted on Figure 2.14.

Review of the USGS' Interactive Quaternary Faults Database identified no known faults projecting into or through the Site.

Review of referenced historical topographic maps and aerial images (Figures 2.4 through 2.11) revealed no readily observable lineaments or fault line related features projecting into or through the Site. No faults or fault line features were observed or encountered during subsurface explorations. Field observations performed during the field investigation identified no readily observable faults or fault line features on Site or projecting into or through the Site.

LANDSLIDES

Referenced geologic map, Figure 2.13, revealed no landslides near nor projecting into or through the Site.

Figure 2.14, published by the CGS, indicates that portions of the Site's slopes are located within an "Earthquake-Induced Landslide Zone."

Review of the CGS "Landslide Inventory and Deep Landslide Susceptibility Map" (Figure 2.15) indicates the Site is not included within a known or inferred landslide.

Review of referenced historical topographic maps and aerial images (Figures 2.4 through 2.11) revealed no readily observable geomorphic expression of landslide related features projecting into or through the Site. Field observations made during this investigation found no readily observable evidence of landslides projecting into or through the Site.

As indicated in Figure 2.8, the 1976 aerial image recorded a small debris flow scar in a drainage to the south of the project area. Debris appears to have flown down slope into the drainage coming to rest. The adjective "small" is used to describe the flow because it appears that larger sized brush was intact following the sloughing and was not impacted by the material flowing off the slopes. Further, it appears that clean out of the debris occurred. Later images record no remnant of a scar. Proposed development does not extend into the drainage to the extent of the existing parking.

GEOLOGICAL MATERIALS

Site investigations included field mapping and drilling of seven hollow stem boring to a maximum depth of 31 feet below ground surface. Boring logs are presented within Appendix A. These boring logs were included in our referenced and reviewed report although five of the boring logs,HS-3, HS-4, HS-5, HS-6, and HS-7 have been modified by the undersigned geologist based on observation of retained drive samples, field mapping, and previous subsurface investigations at the VCS campus.

Site earth materials identified during this investigation included artificial fill, alluvium, and the granitic bedrock, more specifically quartz diorite. Aerial distribution of Site earth materials is presented on Figures 1.0 and 1.1. An interpretation of subsurface conditions based on surface distribution of earth materials as determined by field mapping, in conjunction with subsurface exploration, and select available references is presented on Geologic Cross Section A-A' through G-G,' Figures 2.0.

Fill (af)

Artificial fill, where encountered was primarily silty sand and sandy silt, with some gravel, moderately dense to dense, and dry to moist. Artificial fill was encountered in all seven of the exploratory borings to a maximum depth of about 6 feet below ground surface. Based on the aerial imagery, this fill material was place during early 1970's as depicted on Figure 2.7.

Alluvium (Qal)

The alluvium was field identified as fine to coarse sand locally with silt and clay and included fine to coarse gravel. Alluvium was moderately dense to dense and slightly moist to moist.

Bedrock (qd)

Quartz diorite was encountered below both artificial fill and alluvium. During the early 1970's grading, the toe of a slope was removed to create a large enough area for the baseball field. In this area, fill was placed directly onto bedrock. Boring logs HS-5 through HS-7 depict this relationship. At the contact between alluvium, which in many cases could be described as colluvium, the quartz diorite bedrock is highly weathered to a soil like consistency. With depth the rock's weathering wains. Quartz diorite was exposed at the surface in cuts surround the project area, and is covered by colluvium on the surrounding slopes. With depth and in areas of cut, the bedrock becomes hard to very hard.

Groundwater and Caving

Groundwater was not encountered during field exploration to the total depth explored. Figure 2.16 "Historic High Groundwater" indicates the Site's historic high groundwater is undetermined, although interpolation of the nearest groundwater contours suggest depth to water

is greater than 70 feet. The contact between fill and bedrock as well as alluvium and bedrock were encountered, as described, and in neither case was groundwater encountered. Seasonal and long-term fluctuations in the groundwater conditions may occur as a result of variations in irrigation, rainfall, surface run-off and other factors.

The potential caving condition is generally unlikely due to cohesive nature of on-Site earth material encountered.

SEISMOLOGICAL AND GEOLOLICAL HAZARDS

GROUND SHAKING ANALYSIS

Neither the location nor magnitude of earthquakes can accurately be predicted at the time of this report. In the past, the Site has been periodically subject to moderate to intense earthquake-induced ground shaking from nearby faults. Considerable damage could occur at the Site and structural improvements during a strong seismic event.

There are a number of faults in the area, as presented, that were, at the time of this report, considered 'active' and that could produce moderate to strong ground shaking at the Site. The possibility of ground acceleration or shaking at the Site could be considered as approximately similar to the Southern California region as a whole.

SURFACE FAULT RUPTURE

The Site does not lie within a designated Alquist-Priolo Earthquake Fault Zone, Figure 2.14. Therefore, the potential for surface fault rupture at the Site during the design life of onsite structures is considered low.

SEISMICALLY INDUCED LANDSLIDES

A landslide is a movement of the ground and is categorized based on the type of material that has failed and the movement type that occurs. A landslide is broadly categorized by its' failure mode, its' movement, and the earth materials involved. Predicting where landslides may occur utilizes this information as well as other factors such as slope steepness, slope height, slope

orientation, relative density of the earth materials, groundwater level, degree of saturation, as well as location, intensity, and duration of ground shaking.

As shown on Figure 2.14, a small portion of the project area is included within an Earthquake-Induced Landslide Zone as identified by the CGS. Figure 2.15 shows the Site is not located in any known or inferred landslides.

The area included within the project that is also within an Earthquake-Induced Landslide Zone is the rock cut slope that was completed by 1971. Geologic mapping of the slope indicates no geologic features that would suggest that there is a slope instability, it is generally massive quartz diorite with no obviously identifiable foliation. Cross Sections A-A', B-B', and C-C' have been constructed through the slope to present the interpreted geometry of the slope.

SUMMARY & CONCLUSIONS

Review of aerial imagery and topographic maps as well as on-Site mapping and field observations suggest that there has been no significant or out of the ordinary erosional or sliding events impacting the Site's slopes for over 90 years.

Past grading operations have created cut slopes which have performed well, mostly due to the bedrock at the Site being crystalline and generally stable. Figure 2.15 (Landslide Inventory Map) confirms that the area is not prone to landslides or debris flows. The small debris flow identified on Figure 2.8 appears to have been a small surficial event that did not impact the site as it is in its current configuration.

The area depicted within the seismically induced landslide zone is depicted on Sections A-A' and C-C', is a graded slope exposing bedrock. No readily observable features suggest that the slope is unstable or potentially unstable.

Rippability of the Site bedrock may be difficult in areas of fresh bedrock, primarily for retaining wall footings along the toe of the bedrock slopes.

Based on the findings in this report, and provided the recommendations of this report are followed, and the designs, grading and construction are properly and adequately executed, it is our

finding that the proposed construction will not be subject to geotechnical hazards from landslides, slippage, or settlement, within the standard limits of geotechnical practice. Further, it is our finding that the proposed construction will not adversely affect the stability of the adjacent properties, with the same provisos listed above.

The major geotechnical considerations that affected the design and construction of the planned construction included the following:

- Soil disturbance as a result of Site excavation and preparation operations.
- Possible difficulty ripping areas of high bedrock.
- Slope setbacks of foundations adjacent to ascending and descending slopes.
- It is anticipated that in years of heavy precipitation, there will be surficial materials sloughing off the Site's slopes.

GEOTECHNICAL RECOMMENDATIONS

The recommendations presented in our referenced "Review of Site Development Plans and Summary of Geotechnical Recommendations" (RTF&A, 2025) remain applicable except where superseded in this submittal.

GENERAL

The recommendations presented in this report are applicable to the construction of the project described in the previous "Proposed Construction" section of this report. If our description of the proposed development is inaccurate due to plan revisions or other reasons, we should be informed so that we may review our recommendations and determine if they will remain applicable for the type of construction that is being planned.

GRADING

As discussed in the previous "Soil Conditions" section of this report, the site is primarily underlain by naturally deposited sands and silts. The upper naturally deposited soils are not suitable in their present state to provide support for the subject improvements. Removal and

recompaction of those upper naturally deposited soils, as discussed below, is recommended to provide support for the subject improvements. To provide reduced and uniform settlement, it is recommended that the upper soils at the site be removed and recompacted below areas where it is proposed to construct improvements.

To provide uniform and reduced settlement below the proposed Gymnasium building, it is recommended that the existing soils within the upper 5 feet of the present grade, or the existing soils within 3 feet of the bottoms of the proposed foundations, whichever is deeper, be removed and replaced as compacted fill. The lateral removal of soil should extend beyond the perimeter of the proposed Gymnasium a distance at least equal to the vertical depth of the removed soils, or 5 feet, whichever is greater. The intent of the recommended grading is to construct compacted fills where the foundations for the proposed Gymnasium building will be underlain by a minimum of 3 feet of compacted fill soil.

To remediate the dry and disturbed soils that are present below the proposed Annex Building, it is recommended that the existing soils within the upper 2 feet of the present grade be removed and replaced as compacted fill. The lateral removal of soil should extend beyond the perimeter of the proposed Annex Building, a distance of at least 5 feet. The intent of the recommended grading for the proposed Annex Building is to replace the existing, dry, disturbed soils with uniformly moist, compacted fill soil. Completion of the recommended grading will allow the foundations for the proposed Annex Building to be founded in compacted fill soil and/or naturally deposited soil. It should be noted that the recompaction of the removed soil along the northwest side of the proposed Annex Building, where adjacent to the existing slope, will involve the reconstruction of the top of the existing slope.

The removal and recompaction of existing soil in areas where it is being proposed to construct free-standing walls, retaining walls, and/or related improvements, should extend at least 2 feet below the present grade, or at least 2 feet below the bottoms of the proposed foundations, whichever is deeper. The lateral removal of soil should extend at least 2 feet beyond the perimeter of foundations for walls and related improvements. Alternatively, and if reduced bearing values are acceptable (see “Foundations” and “Retaining Walls” sections of this report), removal and

recompaction of existing soils could be waived and the bottoms of the foundation excavations for free-standing walls, retaining walls, and/or related improvements could be compacted in-place (using a mechanical compactor) under the observation of a field representative from our office. The soil exposed in the bottoms of foundation excavations that have been compacted in place will be considered acceptable where field density tests indicate that compaction of at least 90 percent of the maximum dry density of the soil has been attained.

Exploratory test borings were not drilled in the areas where it is proposed to construct the access roads. However, it is anticipated that the removal and recompaction of existing soils in areas where it is proposed to construct pavement, hardscape, or related improvements should extend at least 2 feet below the final soil subgrade elevation. If it is required to place compacted fill to establish final grade, the upper 2 feet of the existing grade should be removed and recompacted prior to placing compacted fill to elevate the existing grade. Removal and recompaction of soil should extend at least 2 feet beyond the perimeters of the pavement, hardscape, or related improvement areas, where possible.

Unsuitable earth materials were not encountered within the borings drilled for the subject investigation. However, if unsuitable earth materials are encountered during the course of the grading operations, it will be required to remove those materials and replace them as compacted fill in areas where improvements are planned.

The bottoms of the areas to be filled should be processed prior to placement of compacted fill. Processing should consist of scarifying the upper six to 12 inches of the exposed soils, adjusting the moisture content of the scarified soil to approximately two percent above optimum moisture content, and compaction of the exposed soil to at least 90 percent of the maximum dry density of the soil. The bottoms of areas to be filled should be proof-rolled with relatively heavy grading equipment and be observed and approved by a representative of the Geotechnical Engineer of Record prior to fill placement. It may also be required that a representative from the governing agency observe bottom areas prior to fill placement.

Fill should be placed in layers not exceeding 12 inches in loose thickness, adjusted to approximately optimum moisture content, and compacted to at least 90 percent of the maximum

dry density of the soil as determined by the current ASTM Soil Compaction Method D 1557. Organic and decomposable material should be excluded from the fill, as should solid material exceeding 12 inches in maximum dimension. Fill soils should be placed and compacted under the observation and testing of a representative of the Geotechnical Engineer of Record.

If imported soil is to be used as compacted fill, the imported soil should be relatively non-expansive and similar to the on-site soil. A 40-pound sample of proposed import soil should be submitted to the Geotechnical Engineer of Record at least 48 hours prior to importing it to the job site to determine if the soil would be acceptable for use on the project.

GENERAL GRADING REQUIREMENTS

1. All fills, unless otherwise specifically designed, shall be compacted to at least 90 percent of the maximum dry unit weight as determined by ASTM D 1557 Method of Soil Compaction.

2. No fill shall be placed until the area to receive the fill has been adequately prepared and subsequently approved by the Geotechnical Engineer of Record or his representative.

3. Fill soils should be kept free of debris and organic material.

4. Rocks or hard fragments larger than 12 inches may not be placed in the fill without approval of the Geotechnical Engineer of Record or his representative, and in a manner specified for each occurrence.

5. The fill material shall be placed in layers which shall not exceed 12 inches per layer. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to ensure uniformity of material and moisture content.

6. When the moisture content of the fill material is too low to obtain adequate compaction, water shall be added and thoroughly dispersed until the soil is approximately two percent over optimum moisture content.

7. When the moisture content of the fill material is too high to obtain adequate compaction, the fill material shall be aerated until the soil is approximately two percent over optimum moisture content.

8. Fill and cut slopes should not be constructed at gradients steeper than 2:1 (horizontal: vertical).

TEMPORARY EXCAVATIONS

It will be required to make temporary excavations during the grading and construction phases of the subject development. Temporary excavations are anticipated to be required during the grading phase of the project when removal and recompaction of the upper soils is performed as previously recommended in the "Grading" section of this report. Temporary excavations to be made during the construction phase of the project will include those made during the construction of building foundations, utility line trenches, and related improvements. Temporary excavations are generally anticipated to be less than 8 feet in depth.

Vertical excavations in silty sand should not be permitted to exceed 4 feet in height. Excavations in silty sand that are greater than 4 feet in height, but no greater than 8 feet in height, may be sloped at a gradient of no steeper than ¾:1 (horizontal: vertical) provided that clean sands or materials having low cohesion are not exposed in the excavation. Vertical excavations should not be made in soil consisting of clean sand. Temporary excavations made in clean sand should be sloped at a gradient of 1:1, up to a height of 8 feet. Temporary excavations should be observed by the Geotechnical Engineer of Record and excavation recommendations may be amended as a result of field conditions. Temporary excavations are subject to approval by the Geotechnical Engineer of Record. All regulations of state or federal OSHA should be followed.

The tops of excavations should be barricaded to prevent vehicles and storage loads from being within seven feet of the top of an excavation. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes. The Geotechnical Engineer of Record should be advised of such heavy vehicle loadings so that specific setback requirements can be established.

A berm should be constructed along the top of an excavation, where necessary, to prevent run-off water from flowing over the excavation. This recommendation would be particularly important during the rainy season (normally from November through April), when run-off water can cause excavations to erode. Excavations should be observed by the Geotechnical Engineer of Record so that any necessary modifications, based on variations in the soil conditions encountered, can be made.

CORROSION TESTS

As discussed in our "Proposal – Report of Geotechnical Investigation" dated June 23, 2025 (P031-2025-012), the scope of this geotechnical investigation does not include testing to determine the corrosivity of the site soils. The grading recommended in the previous "Grading" section of this report will alter the current soil conditions. It is recommended that corrosion testing be performed on soil samples obtained following the recommended grading to determine if the site soils will be corrosive to concrete and/or utility lines that are in contact with the site soils.

FOUNDATIONS

Once the grading recommended in this report has been completed, the proposed Gymnasium, Annex Building, and related improvements may be supported by conventional spread foundations. The bearing material should consist of compacted fill soil, placed in accordance with the recommendations presented in this submittal, and/or naturally deposited soil as discussed below. Spread foundations should be designed by the Project Structural Engineer in accordance with the current version of the California Building Code (CBC).

Gymnasium: Assuming that the grading work recommended in the previous "Grading" section of this report has been performed, the foundations for the proposed Gymnasium will be underlain by at least 3 feet of compacted fill. Foundations for the proposed Gymnasium should be established at a depth of at least 24 inches below the lowest adjacent final grade and have a minimum width of 18 inches. Isolated column pad foundations should have dimensions of at least 24 inches in each direction. Foundations meeting these minimum size dimensions may be designed using a bearing value of 2,500 pounds per square foot (psf).

Annex Building: The grading recommended in the previous "Grading" section of this report specifies that the soil within the upper two feet of the present grade should be removed and replaced as compacted fill. The bearing soil for the proposed Annex Building may consist of the replaced compacted fill soil and/or dense naturally deposited soil. The foundations for the proposed Annex Building should be established at a depth of at least 18 inches below the lowest

adjacent final grade and have a minimum width of 12 inches. Foundations meeting these minimum size dimensions may be designed using a bearing value of 2,000 pounds per square foot (psf). As indicated below, it will be required to deepen the northwest perimeter wall foundation of the proposed Annex Building to comply with a H/3 slope setback requirement.

Lightly Loaded Buildings and Free-Standing Walls: If the recommended removal and recompaction of soil discussed in the "Grading" section of this report is performed in proposed lightly loaded buildings, auxillary buildings, or free-standing wall areas, the foundations will be established in compacted fill soil and a bearing value of 2,000 psf may be used for the design of those foundations. If the recommended removal and recompaction of soil is not performed, the exposed soils in the bottoms of the wall foundation excavations should be compacted in place as discussed in the "Grading" section of this report and a bearing value of 1,000 psf should be used for the design of the wall foundations. These foundations should be a minimum of 12 inches in width and depth.

The bearing values indicated above apply to both continuous and isolated footings and may be increased by one-third for the total of all loads, including those attributed to seismic and wind forces. The recommended bearing value is a net value, i.e., the mass of concrete in footings may be neglected when computing the footing dimensions. The excavations for spread foundations must be manually cleaned of loose soils and/or debris prior to casting concrete.

Foundations located at the top of a slope should be set back from the face of the slope a horizontal distance at least equal to 1/3 the height of the slope (H/3, where H is the height of the slope). The minimum required setback distance is 5 feet and the maximum required setback distance is 40 feet. Foundations located at the toe of a slope should be set back a horizontal distance from the toe of the slope a distance at least equal to ½ the height of the slope (H/2, where H is the height of the slope), with a minimum required setback distance of 3 feet and a maximum required setback distance of 15 feet.

Foundations should be deepened, where necessary, to prevent surcharge loads from being imposed upon adjacent foundations or utilities. Surcharge loads should be assumed to be distributed out from the bottom edge of foundations at 45-degree angles. Foundation excavations

should be cleaned of all loose material and be observed and approved by a representative of the Geotechnical Engineer of Record prior to casting concrete.

The Foundation Plans for the subject improvements should be reviewed by the Geotechnical Engineer of Record. The Geotechnical Engineer of Record should sign and stamp the plans, provided the plans have been found to conform to the geotechnical recommendations presented in this report.

LATERAL DESIGN

Lateral resistance at the base of footings or slabs may be assumed to be the product of the dead load and a coefficient of friction of 0.40. Passive pressure on the face of footings and grade beams may also be used to resist lateral forces. A passive pressure of zero at the surface of finished grade, increasing at the rate of 250 psf per foot of depth to a maximum of 2,000 psf, may be used for this project. Passive pressure and friction may be combined without reduction when evaluating the lateral resistance.

SETTLEMENT

Assuming that the grading recommended in this report has been performed, and that the proposed buildings are constructed in accordance with the recommendations presented in this report, we estimate that static settlement for each structure will be up to about 1.0 inches. Static differential settlement for the proposed buildings are expected to be about 0.75 inches within a horizontal distance of 30 feet.

FLOOR SLABS

General: We have not been provided with structural details indicating the type of floors that will be utilized for the proposed buildings. The recommendations in this section of the report are mainly applicable to concrete floor slabs that will be supported by the soil subgrade.

The floor slab recommendations presented in this section of the report are based on the soil

subgrade in the proposed building areas consisting of compacted fill soil placed in accordance with the recommendations summarized in this report. Any near-surface soils that become dried or disturbed during the course of construction should be moisture-conditioned and compacted prior to casting slabs.

As discussed below, the floor slabs for the proposed buildings should consist of either conventional concrete floor slabs, or post-tension floor slabs. Formal structural plans that indicate the floor slabs for the for the project should be reviewed, signed, and stamped by our office prior to initiation of construction.

Conventional Floor Slabs: Concrete floor slabs should have a thickness of at least 5 inches and be reinforced with No. 4 reinforcing bars spaced 18 inches, on center, in orthogonal directions. It is recommended that the soil subgrade be thoroughly moistened prior to casting the concrete slabs. Thicker slabs and additional reinforcement may be required, depending on the floor loads and the structural requirements. The slab thicknesses and reinforcing may be increased or decreased at the direction of the Project Structural Engineer. Floor slabs should be designed in accordance with the current version of the California Building Code (CBC).

Post-Tensioned Floor Slabs: Post-tensioned floor slabs may also be utilized for the subject development. Post-tensioned floor slab design should be designed in accordance with the recommendations of the current CBC. Perimeter edge footings should have a minimum depth of 12 inches. Footing depths should be measured from the lowest adjacent grade or from the top of the floor slab for interior footings.

Net Bearing Value:	An allowable net bearing value of 2,000 psf for footings with a minimum width and depth of 12 inches below the top of slab or lowest adjacent grade may be used.
Coefficient of Friction:	0.75 for pre-stressing, 0.40 for slab friction
Passive Pressure:	250 pcf for level ground condition
Modulus of Subgrade Reaction (K):	150 pounds per cubic inch (pci) for a footing width of one foot. For larger footings or floor slabs, this value should be reduced using the following equation:

$$Kr = K\left[\frac{(B+1)}{2B}\right]^2$$

where:

Kr = Reduced Modulus Value
K = Modulus of Subgrade Reaction for a One-Foot-Wide Plate
B = Width of Large Footing or Slab

Modulus of Elasticity:	1,000 pounds per square inch (psi)
Edge Moisture Variation Distance	
Me (Center Lift):	5.25 feet
Me (Edge Lift):	2.5 feet

Estimated Differential Movement	Very Low	Low
My (swelling):	0.2	0.4
My (shrink):	0.2	0.3

Expansive Soil Conditions: The soils present in the upper portion of the site primarily consist of silty sands and sandy silts. Expansion Index Tests performed on 2 separate samples obtained during the subject investigation indicated Expansion Indexes that were in the Very Low

to Low range. It is expected that the soils encountered during the course of the recommended grading operations will have Expansion Indexes ranging from Very Low to Low. Expansion Index tests should be performed upon the completion of grading to classify the soils present at final grade in the proposed building areas.

Since the soils at final grade are expected to have a Very Low to Low expansion potential, no special treatment of the soil, relative to expansive soil conditions, is anticipated to be required. As mentioned above, Expansion Index tests should be performed at the completion of the recommended grading operations to determine the expansion potential of the soils exposed near final grade in the proposed building areas. In the event that expansive soils are present, recommendations for the construction of foundations and concrete slabs founded on expansive soils would be presented in a report of observation and testing that would be prepared upon completion of the grading operations at the site.

The soil subgrade should be thoroughly moistened prior to casting concrete slabs. As previously mentioned in the "Grading" section of this report, if import soils are required for use as compacted fill, the import soils should be relatively non-expansive and similar to the on-site soils.

Water Vapor: Water vapor transmitted through concrete slabs can cause moisture-related issues. We recommend that an impermeable membrane "vapor barrier" be installed to reduce excess vapor drive through all concrete slabs. The function of the impermeable membrane is to reduce the amount of water vapor transmitted through concrete slabs. Vapor-related impacts should be expected in areas where a vapor barrier is not installed.

The method of vapor barrier mitigation affects the floor slab section thickness which in turn affects the elevation of the rough and fine grade plans that can have a significant effect on earthwork balance issues. It is recommended that the client and design team make an early decision on the method of vapor barrier mitigation that will be used below floor slabs for all areas of the project as early as possible.

Slabs should be underlain by a vapor barrier surrounded by 2 inches of sand above and below the barrier. The vapor barrier should be at least 15 millimeters thick; care should be taken to preserve the continuity and integrity of the barrier beneath the slab. The sand should be

sufficiently moist to remain in place and be stable during construction; however, if the sand above the barrier becomes saturated before placing concrete, the moisture in the sand can become a source of water vapor. It is recommended that the top of all utilities running parallel to the ground surface be kept at least 4 inches below the top of the soil subgrade.

Another factor affecting vapor transmission through slabs is a high water-to-cement ratio in the concrete used for the slab. A high water-to-cement ratio increases the porosity of the concrete, thereby facilitating the transmission of water and water vapor through the slab. The Project Structural Engineer or a concrete mix specialist should provide recommendations for the design of concrete for footings and slabs in accordance with the CBC, with consideration of the above comments.

Alternative methods of providing floor slab water vapor mitigation have also been successfully utilized. If requested, we would be pleased to provide geotechnical comments if it is desired to utilize alternative mitigation methods. The recommendations presented herewith may be superseded by the design team based on their experience with alternative mitigation methods. However, RTF&A assumes no responsibility related to adverse impacts associated with superseding the recommendations of this report.

RETAINING/FREE-STANDING WALLS

General: Grading should be minimized behind the proposed wall and should not include alteration of the steep, natural slopes. The retaining walls should include at least 18 inches of freeboard to prevent material from washing over the top during heavy rain. Additional freeboard may be required in specific locations that will be determined as project retaining plans progress. Our office should review and approve the project Retaining Wall Plans prior to the initiation of construction.

Bearing Value: A bearing value of 2,000 psf may be used for the design of retaining wall foundations, provided that removal and recompaction of soil is performed in accordance with the recommendations presented in the "Grading" section of this report and that the retaining wall foundations are underlain by a minimum of 2 feet of compacted fill soils. If the alternate method

of waiving the removal and recompaction of soil, and the bottoms of the foundation excavations are compacted in place as discussed in the "Grading" section of this report, a bearing value of 1,000 psf should be used for retaining wall design. Retaining wall foundations should be a minimum of 12 inches in width and 18 inches in depth.

Lateral Earth Pressure: Retaining wall backfill should consist of materials with a very low to low potential for expansion. Soils with an expansion potential of medium or higher should not be used as retaining wall backfill. Cantilevered retaining walls, separate and independent of buildings and retaining up to 12 feet of level backfill, may be designed using a lateral pressure equal to that developed by a fluid with a density of 35 pounds per cubic foot, provided the backfill soils are drained and do not exceed a very low to low potential for expansion. Where the retained surface of the backfill is inclined at 2:1, it may be assumed that drained soils will exert a lateral pressure equal to that developed by a fluid with a density of 50 pcf. The pressures indicated assume that a lateral deflection of up to about one percent of the wall height is acceptable at the top of the wall. If it is desired to decrease the amount of potential wall deflection, a greater lateral pressure could be used in the wall design.

For the design of a braced rigid wall, where rotation and lateral movement are not acceptable (as in the case of building walls), it may be assumed that drained, relatively non-expansive soils will exert a rectangular lateral pressure with a maximum pressure equal to 24H psf, where "H" is the wall height in feet. The pressure value and distribution may vary significantly when considering wall rigidity and restraining conditions. The structural characteristics of the wall are referred to the Project Structural Engineer. If requested, we can provide additional geotechnical design parameters for specific restrained conditions.

When placing backfill, walls should be braced. Heavy compaction equipment should not be used any closer to the back of the wall than the height of the wall. Soils having an Expansion Index of greater than 50 should not be utilized for backfill behind walls that are greater than 3 feet in height.

A drainage system should be provided to prevent the development of hydrostatic pressure behind walls. If a drainage system is not installed, the walls should be designed to resist an

additional hydrostatic pressure equal to that developed by a fluid with a density of 55 pcf against the full height of the wall.

In addition to the recommended earth pressure and hydrostatic pressures, the walls should be designed to resist any applicable surcharges due to buildings, walls, storage, or traffic loads. The upper 10 feet of walls adjacent to vehicular traffic areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the walls due to normal traffic. If the traffic is kept back at least 10 feet from the walls, the traffic surcharge may be neglected.

Seismic Lateral Earth Pressure: The preceding recommended values indicate earth pressures for conventional static loading conditions. Ground shaking associated with earthquakes may cause additional pressure on walls. In addition to the previously mentioned lateral earth pressures, it is recommended that all rigid (building) walls of any height and cantilevered retaining walls greater than 6 feet in height, be designed to support an additional seismic earth pressure equal to an inverted equivalent fluid pressure of 29 pcf.

Density of Backfill: When designing retaining walls to resist over-turning, it can be assumed that compacted on-site soils will have a density of 120 pcf.

Drainage: A drainage system should be provided behind retaining walls or the walls should be designed to resist hydrostatic pressures as discussed above. Retaining wall backfill may be drained utilizing a perforated pipe. The perforated pipe should be at least 4 inches in diameter and be placed at the base of the wall, with the perforations pointed down. The pipe should be sloped to provide positive drainage, but in no instance shall the pipe be elevated more than 2 feet above the bottom of the wall. The pipe should be surrounded by at least 6 inches of uniform-sized gravel and be permitted to outlet onto a surface that would not be subject to erosion. Alternatively, the drain could be connected to a suitable outlet device. The gravel should be separated from the surrounding soils by a filter fabric, such as Mirafi 140N or equivalent, wrapped around the gravel ("burrito-wrapped"). Alternatively, the filter fabric and gravel may be omitted when using a continuous slotted pipe and a graded sand that conforms to LACDPW "Graybook," F-1 Designated Filter Material.

Drainage panels, such as Miradrain or equivalent, or a 6- to 12-inch-wide gravel chimney drain should be installed behind retaining walls that are greater than 3 feet in height. The top of the drainage panels or chimney drain should be capped with 18 to 24 inches of compacted on-site soil; the thickness of the cap should be increased to provide a minimum of 3 feet of compacted fill soils under any footing within the area of the backfill, where appropriate. The intent of installing the drainage panels or chimney drain would be to reduce the potential for build-up of water directly behind the walls. Excessive build-up of water could result in wall failure if the wall is not designed to resist hydrostatic forces.

Retaining walls could be constructed utilizing weepholes in lieu of a drainage system consisting of perforated pipe. Weepholes should be at least 4 inches in diameter and be spaced at 8-foot intervals. The bottom of each weephole should be installed approximately 6 inches above the adjacent grade. At least one cubic foot of filter material should be placed behind each weephole and some means to minimize the loss of the material through the weephole should be provided.

The installed drainage system should be observed by the Geotechnical Consultant prior to backfilling the system. Observation of the drainage system may also be required by the reviewing governmental agencies prior to backfilling. The backs of retaining walls should be waterproofed.

PAVEMENT DESIGN

It is assumed that the access roads and parking stalls indicated on the attached Geotechnical Map will consist of asphalt or concrete pavement. Recommendations related to the over-excavation and recompaction of soil in the proposed pavement areas of the development were previously presented in the "Grading" section of this report.

Soil samples should be obtained from the access road areas following the completion of the recommended grading operations. The soil samples should be submitted to a paving consultant for the purposes of performing R-value tests. The results of the R-value tests would be used to determine pavement section recommendations.

For preliminary purposes, it will be assumed that the site soils will have an R-value of 20. The following preliminary pavement section recommendations are based on an R-value of 20. The

final pavement section recommendations should be based on the actual results of R-value tests and may be different than the preliminary pavement section recommendations presented below.

TRAFFIC INDEX	ASPHALT THICKNESS (INCHES)	BASE COURSE THICKNESS (INCHES)
4	4	4
6	4	9
8	5	14

Base course material should consist of either crushed aggregate base (CAB), as defined by Section 200-2.2 of the Standard Specifications for Public Works Construction ("Greenbook"), or Crushed Miscellaneous Base (CMB), as defined by Section 200-2.4 of the Greenbook. The base course material should be compacted to at least 95 percent of the maximum dry density of the material as determined by ASTM Test D1557.

Base course material should be purchased from a supplier who will certify that the base course will meet or exceed the specifications in the Greenbook as indicated. We would, upon request, perform sieve analysis and sand equivalency tests on material delivered to the site that appears suspect. Additional tests could also be performed, upon request, to determine if the material is in compliance with the remainder of the Greenbook specifications.

Final concrete pavement recommendations would be based on the results of R-value tests performed upon the completion of the grading operations. It is anticipated that concrete pavement should be at least 8 inches in thickness and be underlain by at least 4 inches of compacted base course material.

To potentially increase the life of the pavement, concrete curbs and gutters could be deepened to extend 6 inches below the base course material and be seated in the soil subgrade. The intent of deepening the curbs and gutters is to form a "cut-off" wall to reduce the amount of water flow through the base course material from adjacent landscaped areas. Subgrade soils that become saturated as a result of water flowing through base course material can reduce the life of

the pavement. The curb subgrade should be thoroughly moistened prior to casting concrete.

The preliminary pavement section recommendations presented above are based upon assumed Traffic Index values. R. T. Frankian & Associates does not take responsibility for the numerical determination of the Traffic Index values or the areas where they apply within the site. We would be pleased to provide pavement section recommendations for alternative Traffic Index values upon request.

UTILITY TRENCH BACKFILL

Backfill placed in trenches excavated for the installation of utility lines must be compacted to at least 90 percent of the maximum dry density of the soil, from the top of the pipe to finish grade. If requested, detailed recommendations for compaction of utility trenches can be provided.

OBSERVATION/TESTING SERVICES

This report has been prepared assuming that R. T. Frankian & Associates will perform all geotechnical field observations and testing. If the recommendations presented in this report are utilized and observation/testing of the geotechnical work is performed by others, the party performing the observations/testing must review this report and assume responsibility for the recommendations presented herein or provide an additional report. That party would then assume the title "Geotechnical Engineer of Record" for the project and respond to any design and construction-related issues that may arise.

A representative of the Geotechnical Engineer of Record should be present to observe grading and backfill operations as well as foundation excavations for the project. A report presenting the results of these observations and related testing should be issued upon completion of the work.

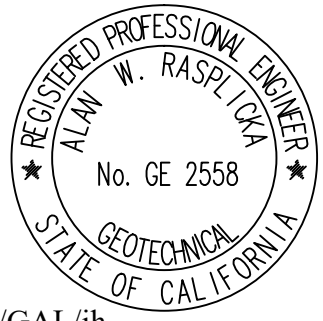
-o0o-

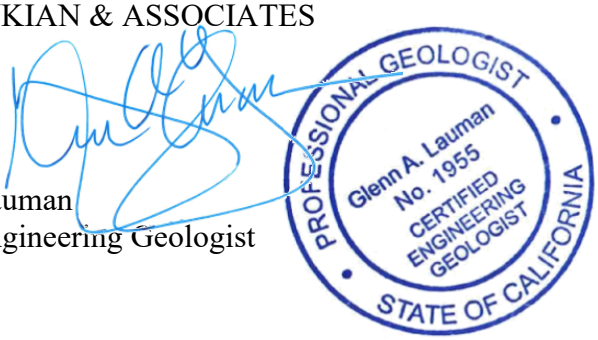
The following are attached and complete this report.

- Soils Report Review Letter dated January 29, 2026 (3 pages)
- Geotechnical Map – Figure 1.0
- Geologic Map & Cross Sections – Figure 1.1
- Historical Topographic Maps and Aerical Imagery – Figures 2.0 – 2.16
- Appendix A – Explorations
  - Unified Soil Classification System, Figure A-1
  - Boring Logs HS-1 through HS-7 (RTF&A)
- Appendix B – Laboratory Tests
  - Maximum Dry Density Test Data (Appendix B Text)
  - Testing Report from EGLab, Inc. (1 page)
  - Direct Shear Test Data (3 pages)
  - Consolidation Test Data (3 pages)
  - Expansion Index Tests (Appendix B Text)
- Appendix C – Project Plans

Respectfully submitted,

R. T. FRANKIAN & ASSOCIATES





by: Glenn A. Lauman
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BKP/AWR/GAL/jh

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SOILS REPORT REVIEW LETTER

January 29, 2026

LOG # 138828
SOILS/GEOLOGY FILE - 2
LAN

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TRACT: 24256
LOT(S): LT 1
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CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Soils Report	2013-006-012	08/22/2025	RTFA

The Grading Division of the Department of Building and Safety has reviewed the referenced report that provide recommendations for the proposed gymnasium, annex building and associated retaining walls. The earth materials at the subsurface exploration locations consist of native soils over bedrock. The consultants recommend to support the proposed structure(s) on conventional foundations bearing on native undisturbed soils and/or properly placed fill.

The site is located in a designated seismically induced landslide hazard zone as shown on the Seismic Hazard Zones map issued by the State of California.

As of January 1, 2026, the City of Los Angeles has adopted the new 2026 Los Angeles Building Code (LABC). The 2026 LABC requirements will apply to all projects where the permit application submittal date is after January 1, 2026.

The review of the subject report(s) cannot be completed at this time and will be continued upon submittal of an addendum to the report which shall include, but not be limited to, the following:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2026 City of LA Building Code. P/BC numbers refer to the applicable Information Bulletin. Information Bulletins can be accessed on the internet at dbs.lacity.gov.)

1. Provide a geological report signed by a CA certified engineering geologist as required by the Code and pay the fee for the review of the geological report.

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Note: The site is located on a hillside and in a designated seismically induced landslide hazard zone, as shown on the "Seismic Hazard Zones" map issued by the State of California.

2. Provide a geologic map and cross sections showing top and bottom of slopes; lithologic contacts; bedding attitudes; locations of slumps, landslides, or faults relative to the subject site; existing and proposed topographic profiles; existing and proposed structures; and, required Code setbacks. (7006.3.2)

3. Provide geological cross sections illustrating existing and proposed grades and structures.

4. Provide a statement of responsibility indicating that you have reviewed and concurred with the, laboratory test data prepared by EGLab Inc.. The statement should include the list of tests/recommendations concurred with, as well as dates of the reports containing these data. The laboratory testing should be provided under separate cover with the letterhead of (testing agency), and shall be signed by a licensed civil engineer. P/BC 2023-113

5. Provide a complete laboratory testing report prepared by a City of Los Angeles approved testing agency. The report shall be signed and stamped by the engineer in responsible charge of the testing and shall include the testing descriptions and procedures. P/BC 2023-113

6. Provide recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way, adjacent property or an existing structure. A plot plan and cross-section(s) showing the construction type, number of stories, and location of the structures adjacent to the excavation shall be part of the excavation plans.

7. In the event that retaining/basement walls are proposed:

    a. Provide an updated site map and sections showing the locations and heights of the proposed retaining wall.

    b. Provide design calculations for the proposed retaining walls based on site specific laboratory data.

8. In the event that there are slopes steeper than 2H:1V on or adjacent to the site:

    a. Provide surficial stability analysis using appropriate shear strengths and soil thickness and indicate the evaluated factor of safety.

        Note: The calculations shall be based on a reasonably-assumed volume of the potentially-unstable surficial material on the slope that may be mobilized from off the slope. If the calculations are to be performed by a civil engineer, provide a wet-signature copy of the civil engineer's report in the appendix of the addendum. Alternatively, provide recommendations to trim the unstable fill and soil colluvium on the slope in compliance with the Code.

    b. Slope stability calculations shall be performed along an assumed failure plane that yields the lowest factor of safety and shall be based on shear strength parameters which represents the weakest material on the site. (P/BC 2023-049)

c. Provide pseudo-static slope stability analysis in conformance with the most recent version of CGS Special Publication 117 (i.e. SP 117A), Guidelines for Evaluating and Mitigating Seismic Hazards in California (1803.7), and with Information Bulletin P/BC 2023-049.

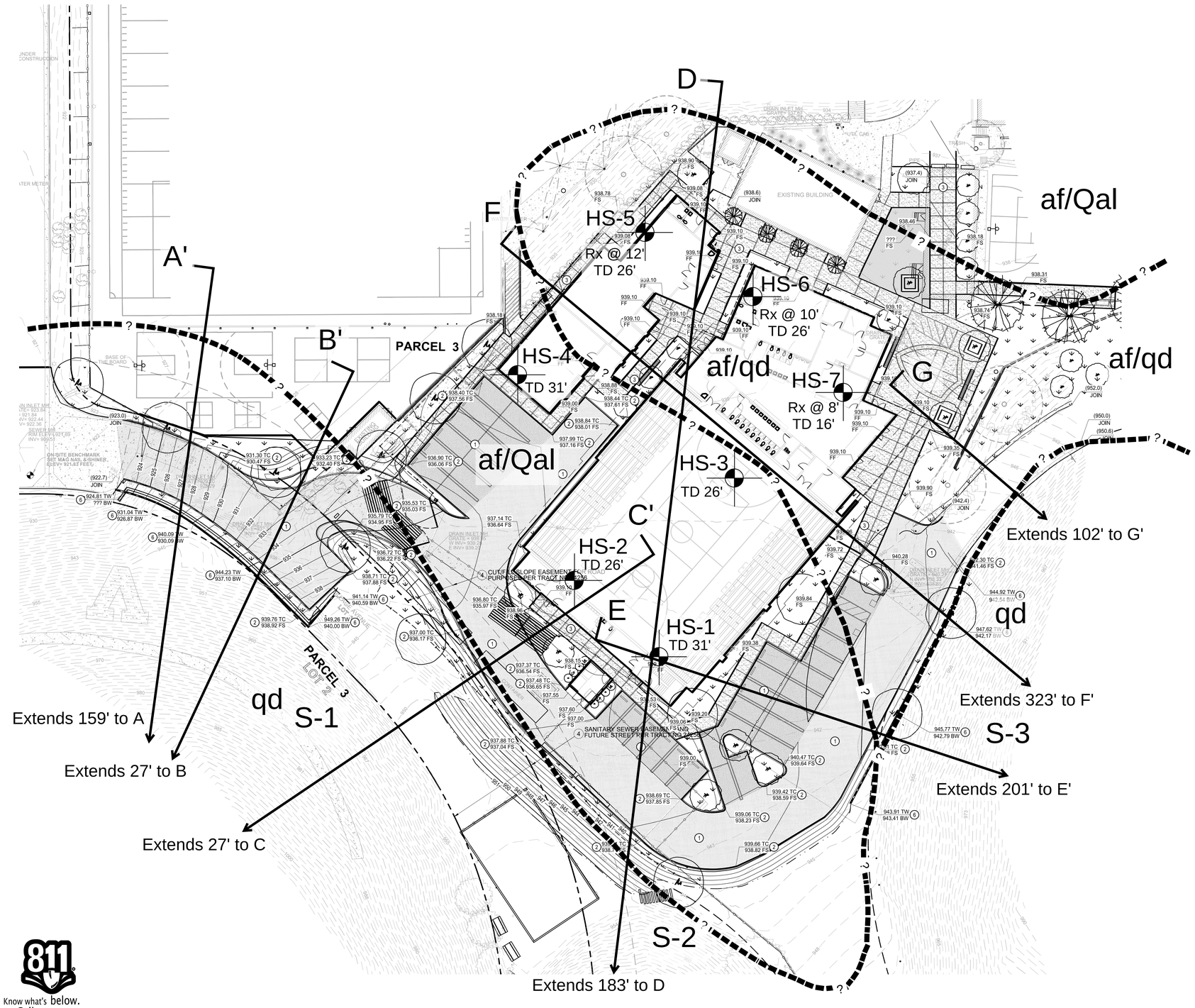
The soils engineer shall prepare a report containing an itemized response to the review items indicated in this letter. If clarification concerning the review letter is necessary, the report review engineer may be contacted. Online submission of the response report in pdf format and the appropriate fees will be required for submittal.

ALAN DANG
Structural Engineering Associate II

AD/ad
Log No. 138828
213-482-0480

cc: RTFA, Project Consultant
VN District Office

GEOTECHICAL MAP



GRADING CONSTRUCTION KEYNOTES / LEGEND

1. CONSTRUCT AC PAVING, TI=X.X; X-INCH ASPHALTIC CONCRETE ON X-INCH AGGREGATE BASE. COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
2. CONSTRUCT 10-INCH P.C.C. CURB PER CITY OF LOS ANGELES STANDARD PLAN S-412-0.
3. CONSTRUCT HARDSCAPE. INSTALL MATERIAL ON 4-INCH AGGREGATE BASE. SEE ARCHITECTURAL PLANS FOR PRODUCT SPECIFICATION. PRODUCT TO BE 4-INCH P.C.C. UNLESS NOTED OTHERWISE.
4. ACCESSIBLE PARKING, SLOPE 2% MAX. IN ANY DIRECTION. STRIPING AND SIGNAGE PER ARCHITECTURAL PLANS.
5. TREATMENT PLANTER PER LID PLANS, SEE SHEET CX.
6. CONSTRUCT RETAINING WALL PER SEPARATE PERMIT, SEE STRUCTURAL PLANS FOR DETAILS. TOP (TW) AND BOTTOM (BOW) WALL ELEVATIONS PER THIS PLAN.

GRADING NOTES

1. EXISTING SURFACE INFORMATION WAS TAKEN FROM A TOPOGRAPHIC SURVEY PROVIDED BY OTHERS. CCE DESIGN ASSOCIATES ASSUMES NO RESPONSIBILITY IN REGARD TO THE ACCURACY OF EXISTING ELEVATIONS AND SURFACE FEATURES.
2. PROVIDE 8-INCHES MINIMUM CLEAR SPACE FROM FINISHED SOIL GRADE (FG) TO BUILDING WALL. CONSTRUCT STEM WALL AT BUILDING PERIMETER WHERE THIS CONDITION CANNOT BE MET.
3. ALL HARDSCAPE ADJACENT TO STRUCTURES SHALL SLOPE AT A MINIMUM OF 2% FOR 5-FEET AWAY FROM THE FOUNDATION.
4. IMPROVEMENTS WITHIN PUBLIC RIGHT OF WAY, INCLUDING (BUT NOT EXCLUSIVE OF) FENCES, DRIVEWAYS, AND UTILITY CONNECTIONS WILL REQUIRE SUBSEQUENT PERMITS FROM THE GOVERNING A.H.J.
5. RETAINING WALLS LOCATED CLOSER TO THE PROPERTY LINE THAN THE HEIGHT OF THE WALL SHALL BE BACKFILLED NO LATER THAN 10 DAYS AFTER CONSTRUCTION OF THE WALL AND NECESSARY STRUCTURAL SUPPORTING MEMBERS UNLESS RECOMMENDED OTHERWISE BY RESPONSIBLE ENGINEER.
6. ADA HANDRAILS, PARKING SIGNS, AND PARKING STRIPING ARE PER ARCHITECTURAL PLANS AND ARE SHOWN HEREON FOR REFERENCE ONLY.
7. TOP OF WALL CALLOUTS REPRESENT TOP OF RETAINED SURFACE AND DO NOT INCLUDE WALL FREEBOARD AS SHOWN ON DETAILS. BOTTOM OF WALL CALLOUTS REPRESENT FACE OF WALL AT FINISHED SURFACE.
8. CLEARING AND GRUBBING OF THE SITE SHOULD CONSIST OF THE REMOVAL OF ASPHALT, CONCRETE SLAB, VEGETATION SUCH AS BRUSH, GRASS, WOOD, STUMPS, TREES, ROOTS OF TREES AND OTHERWISE DELETERIOUS NATURAL MATERIALS FROM THE AREAS TO BE GRADED. CLEARING AND GRUBBING SHOULD EXTEND TO THE OUTSIDE OF ALL PROPOSED EXCAVATION AND FILL AREAS.
9. ALL GRADING SLOPES SHALL BE PLANTED AND SPRINKLERED.
10. STANDARD 12-INCH HIGH BERM IS REQUIRED AT TOP OF ALL GRADED SLOPES.
11. NO FILL SHALL BE PLACED UNTIL THE INSPECTOR HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.
12. MAN-MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% MAX. DRY DENSITY WITHIN 40' BELOW FINISH GRADE AND 93% OF MAX. DRY DENSITY DEEPER THAN 40' BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90% OF MAX. DRY DENSITY) IS JUSTIFIED BY THE SOILS ENGINEER.
13. TEMPORARY EROSION CONTROL TO BE INSTALLED BETWEEN OCTOBER 1 AND APRIL 15.

EXPLANATION

af	Artificial Fill
Qal	Quaternary Alluvium
qd	Quartz Diorite
?	Geologic Contact Dashed where Approximate Queried where Inferred
HS-7 Rx @ 12' TD 26'	RTF&A Hollow Stem Boring Locations with Depth to Rock and Total Depth of Boring
S-3	Slope Delineation

Know what's below. Call before you dig.

NOTICE TO CONTRACTORS

CONTRACTOR TO NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 811 A MINIMUM OF 48 HOURS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES

GEOTECHNICAL MAP

Prepared For: Village Christian School

8930 Village Avenue
Proposed Gymnasium and Annex Building
Sun Valley, California

Scale:	1"=40'	Drawn By:	JH	Checked By:	GAL
Date:	3/31/2026		Figure 1.0		2025-307-010

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0 10 20 40 60
Scale 1" = 20 ft

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

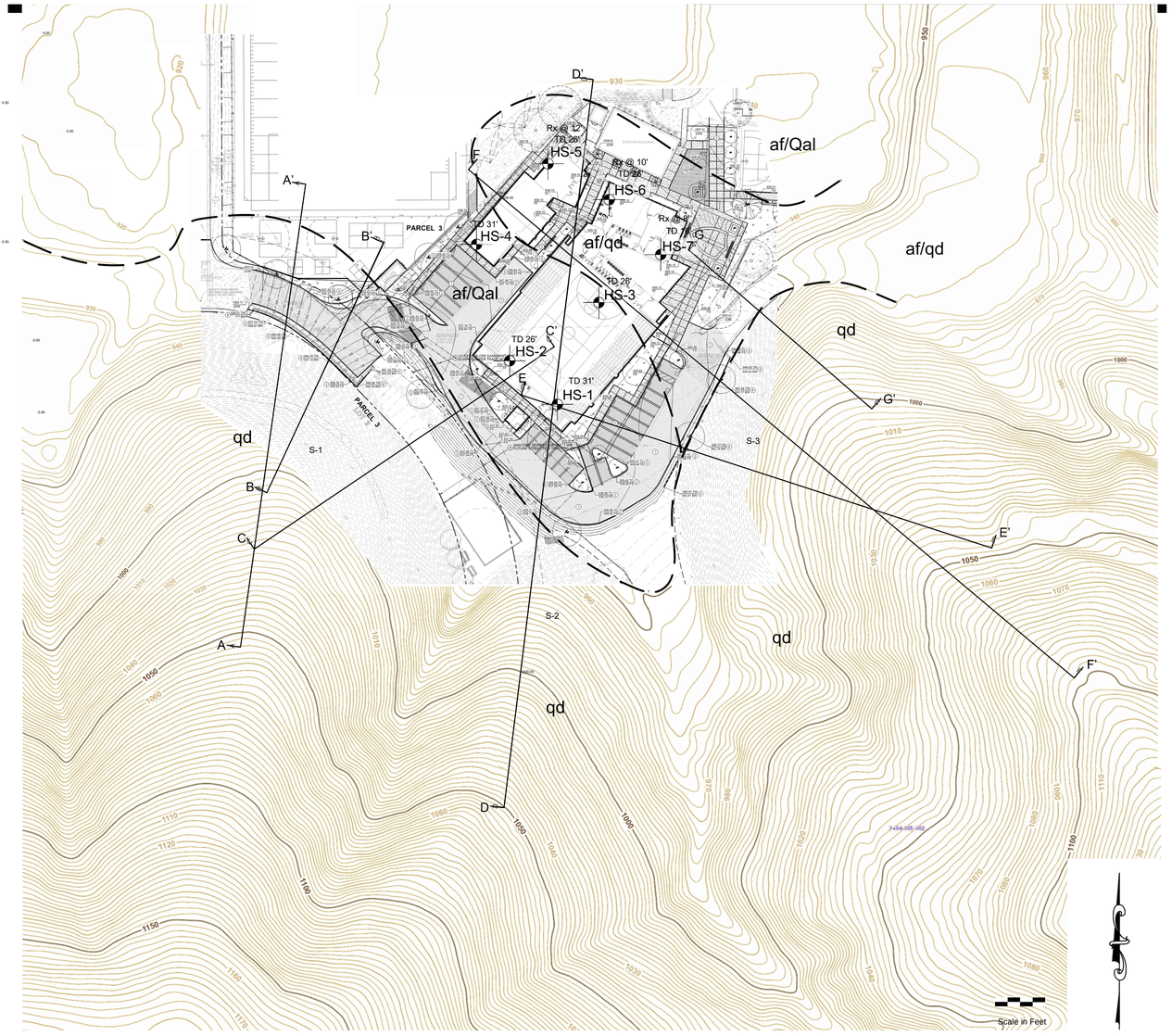
CCE DESIGN ASSOCIATES
Design with Purpose

CCE DESIGN ASSOCIATES, INC
771 E. Daily Drive, Suite 120
Camarillo, CA 93010
805.738.5434
www.ccedesignassociates.com

VILLAGE CHRISTIAN SCHOOL

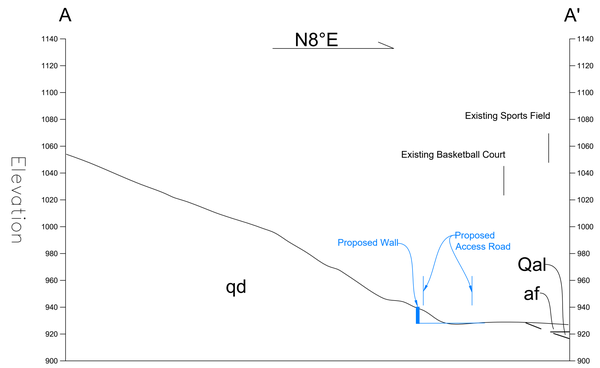
8930 VILLAGE AVENUE
SUN VALLEY, CA 91352

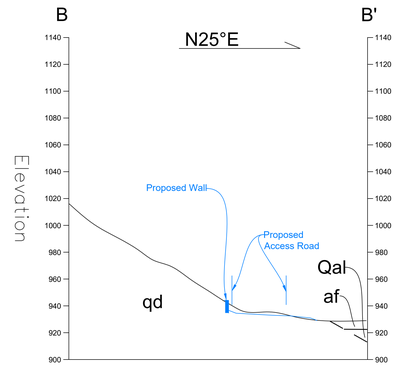
SHEET TITLE:
GRADING PLAN
SHEET NUMBER:
C2
PLOT DATE: 10.21.2025

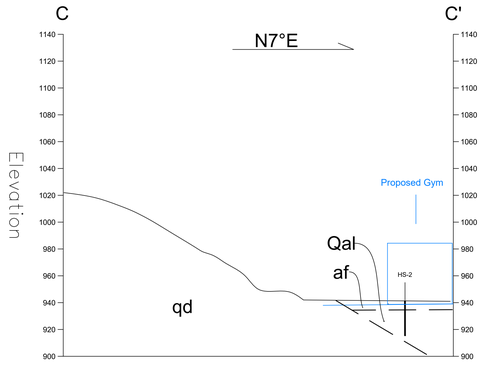


EXPLANATION

- af — Artificial Fill
- Qal — Quaternary Alluvium
- qd — Quartz Diorite
- Geologic Contact
  Dashed where Approximate
  Queried where Inferred
- HS-7 / Rx @ 12' TD 26' — RTF&A Hollow Stem Boring Locations with Depth to Rock and Total Depth of Boring
- Proposed Development







GEOLOGIC MAP & SECTIONS

Prepared For:
Village Christian School
8930 Village Avenue
Proposed Gymnasium and Annex Building
Sun Valley, California

Scale:	1"=40'	Drawn By:	JH	Checked By:	GAL
Date:	3/31/2026		Figure 1.1		2025-307-010

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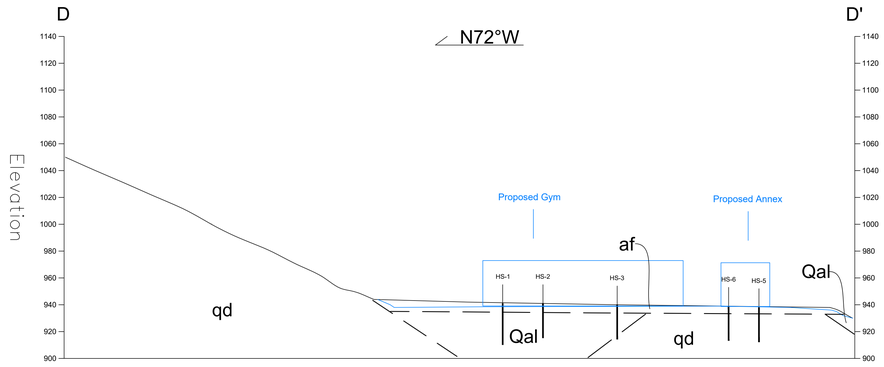
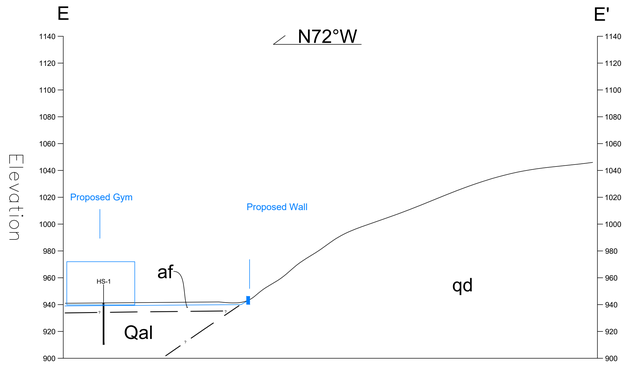
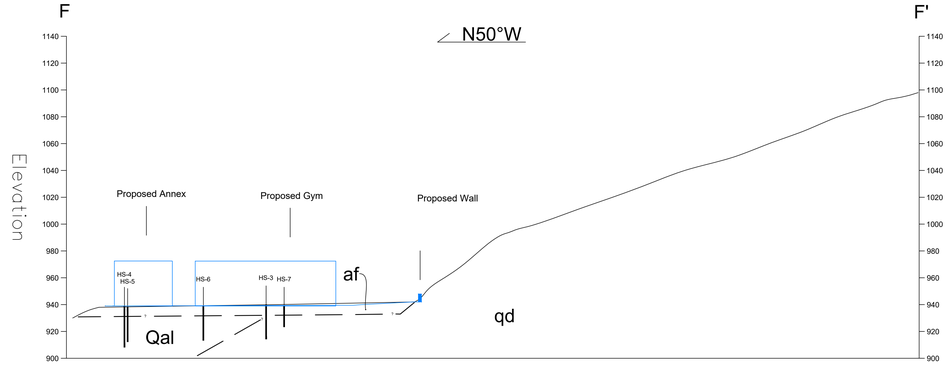
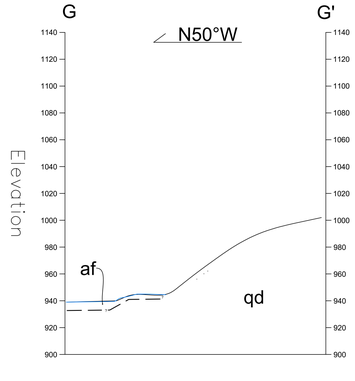
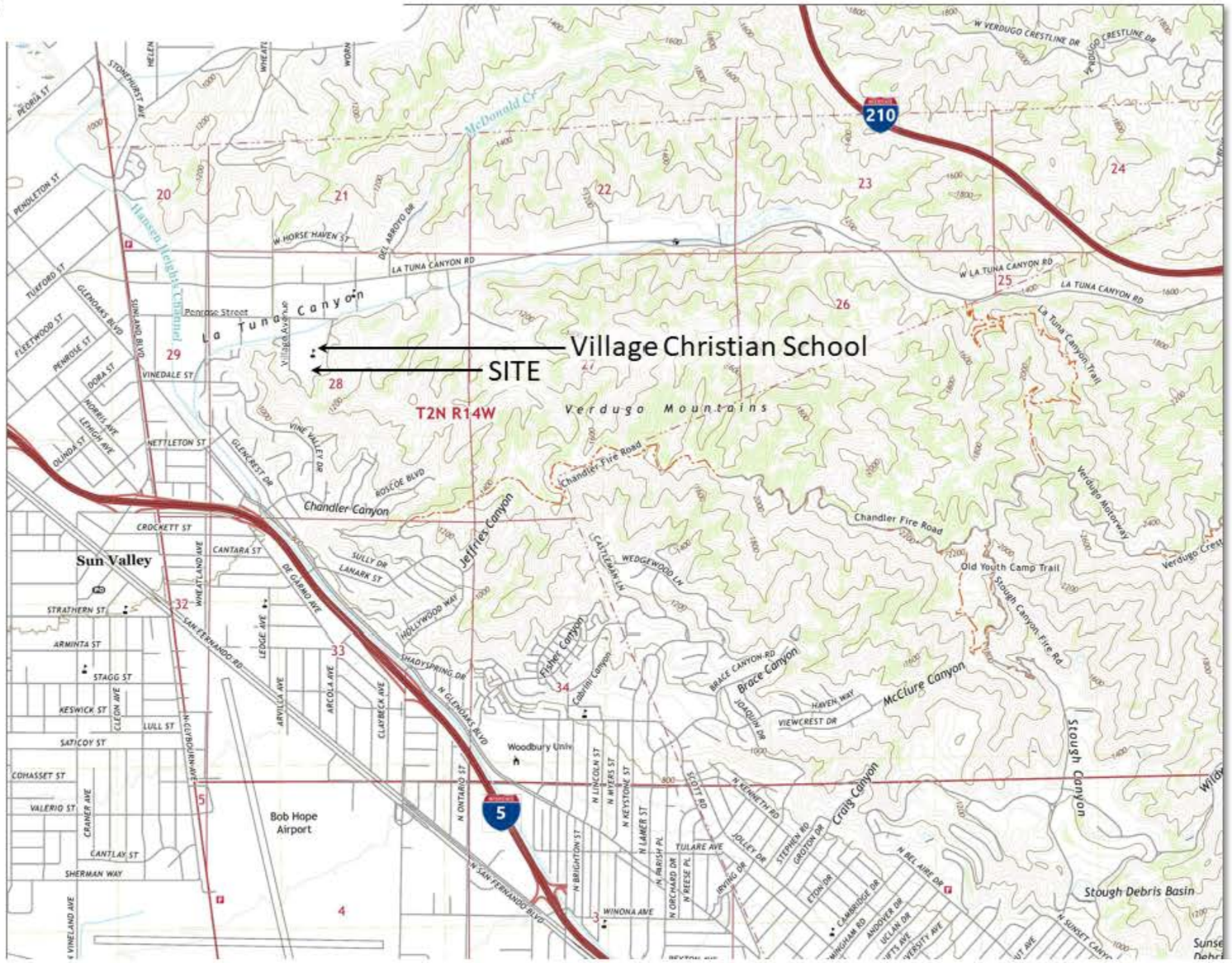








SITE LOCATION MAP



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 11S

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP,	May 2020 - May 2020
Roads	U.S. Census Bureau,	2016 - 2018
Names	GNIS,	1981 - 2021
Hydrography	National Hydrography Dataset,	2001 - 2020
Contours	National Elevation Dataset,	2018
Boundaries	Multiple sources; see metadata file	2019 - 2021
Public Land Survey System	BLM,	2020
Wetlands	FWS National Wetlands Inventory	1976 - 2006

MN
GN
11°57'
212 MILS
0°44'
13 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
LT
Grid Zone Designation
11S

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 40 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

CALIFORNIA
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES

1 San Fernando
2 Sunland
3 Condor Peak
4 Van Nuys
5 Pasadena
6 Beverly Hills
7 Hollywood
8 Los Angeles

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Interstate Route
US Route
State Route
Local Connector
Local Road
4WD

BURBANK, CA
2022

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GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.0

PROJECT LOCATION MAP



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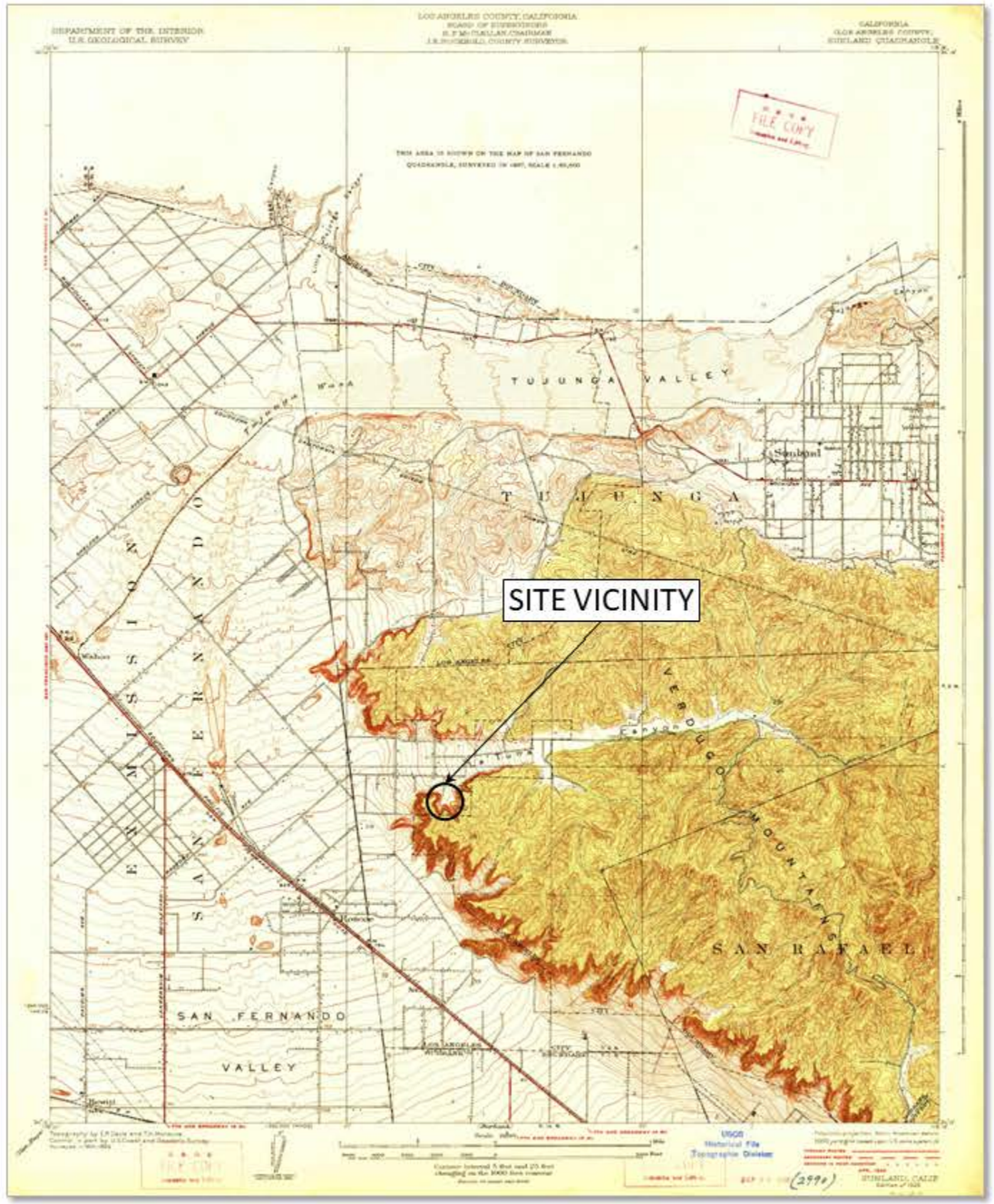
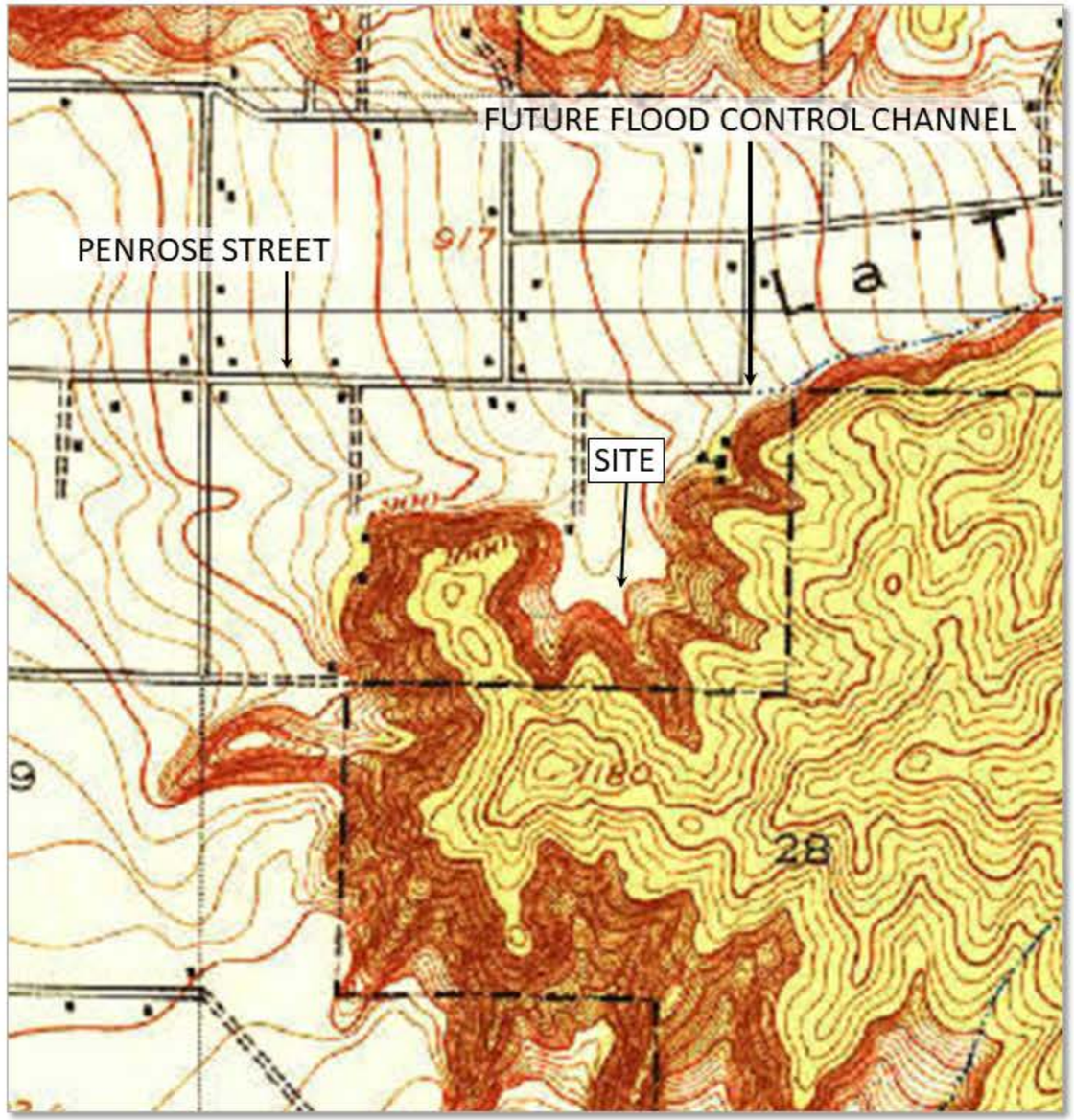
Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.1

HISTORICAL TOPOGRAPHICH MAP 1926





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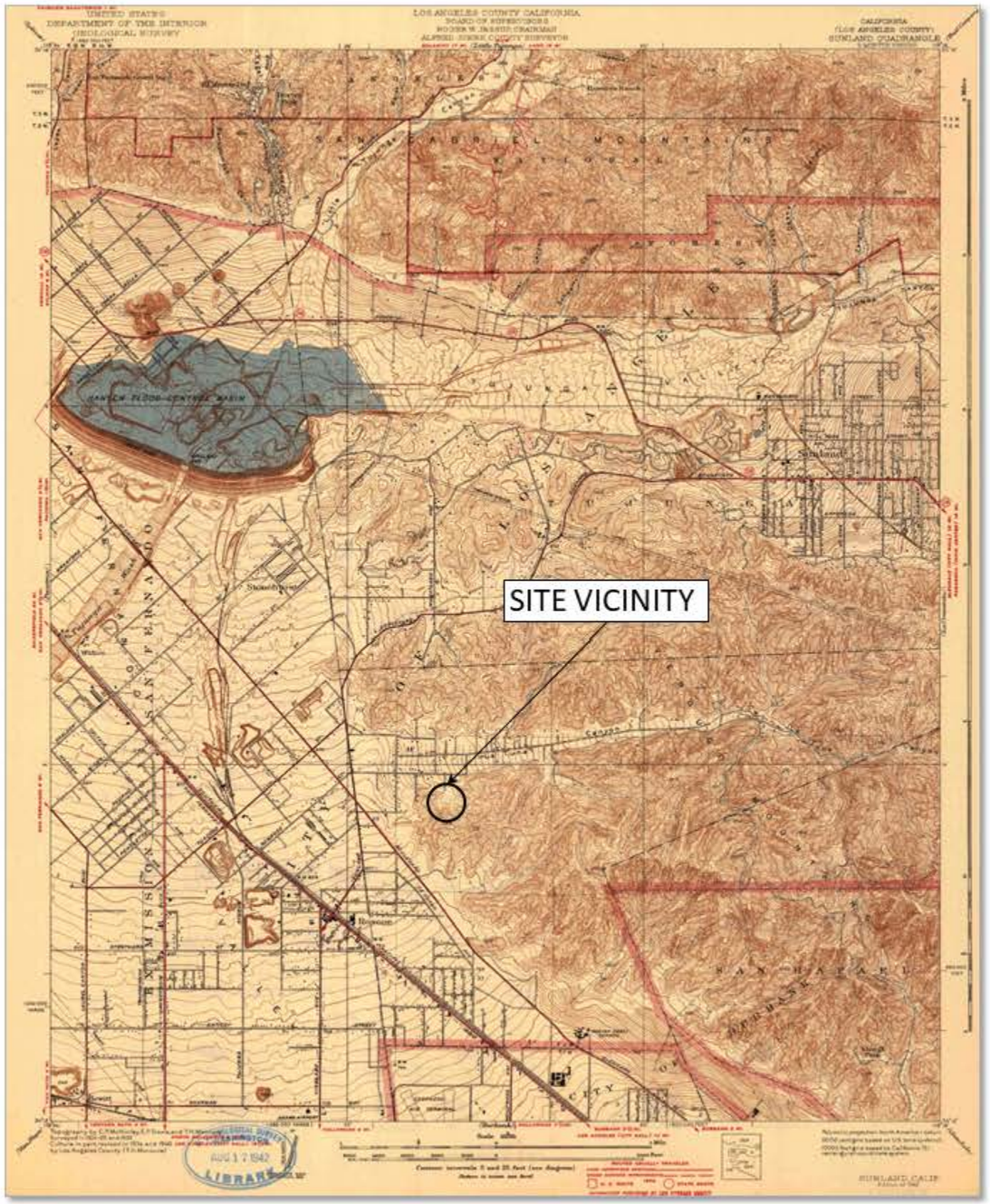
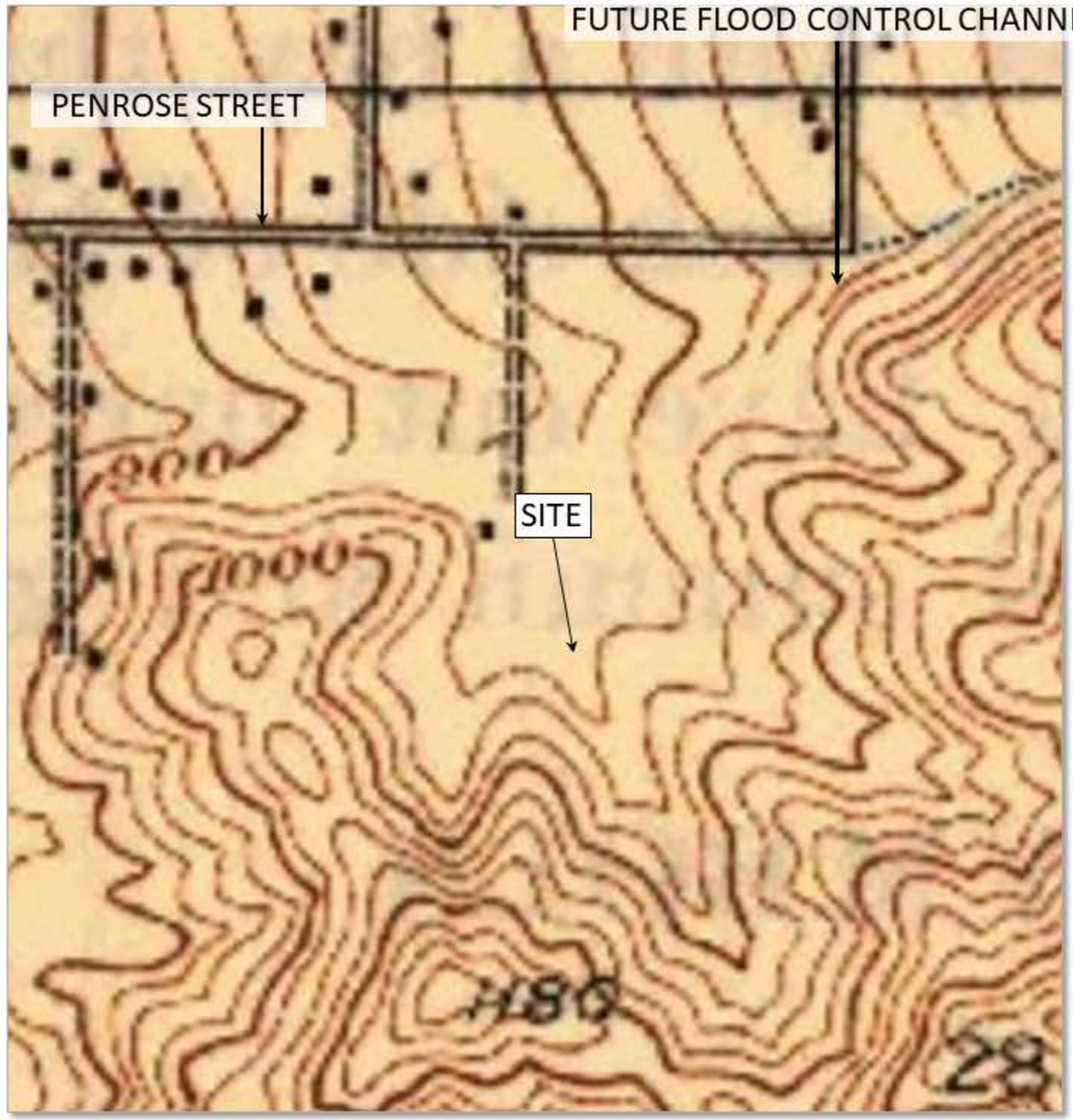
	Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.2

HISTORICAL AERIAL IMAGE 1942





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GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.3

HISTORICAL AERIAL IMAGE 1928





Imagery Report: Flight C-300

Partially Digital

View Index

Country:	United States
State(s):	California
Counties:	California Kern, Los Angeles, Orange, San Bernardino, Ventura
Filed by (catalog):	C-300
Filed by (collection):	C-300
Imagery Location:	Map Room--Utility Shelves Off-site storage--UCLA
Index type:	mosaic, SmartIndex
Index scale:	1:132,500
Size:	frames 7 x 9 inches
Height:	7
Width:	9

Begin date:	1928-01-01
End date:	1928-12-31
Scale:	1:18,000
Overlap:	60%
Sidelap:	20%
Directional orientation:	North-South
Film type:	Nitrate, Copy
Spectral range:	400-700 nm

Note:
Imagery acquired from Teledyne Inc., 1986 and Whittier College, January 2013. Nitrate negatives scanned, 2015.

Physical Details:	black and white, paper prints, positive transparencies, negative transparencies, cut frame, vertical view
Copyright:	Reproduction rights held by the Regents of the University of California
Flown by:	Fairchild Aerial Surveys
Contractor/requestor:	Los Angeles County
Acquired from:	Teledyne Corp.; Whittier College
Est. frame count:	3823

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Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.4

HISTORICAL AERIAL IMAGE 1944



Imagery Report: Flight DDF-1944

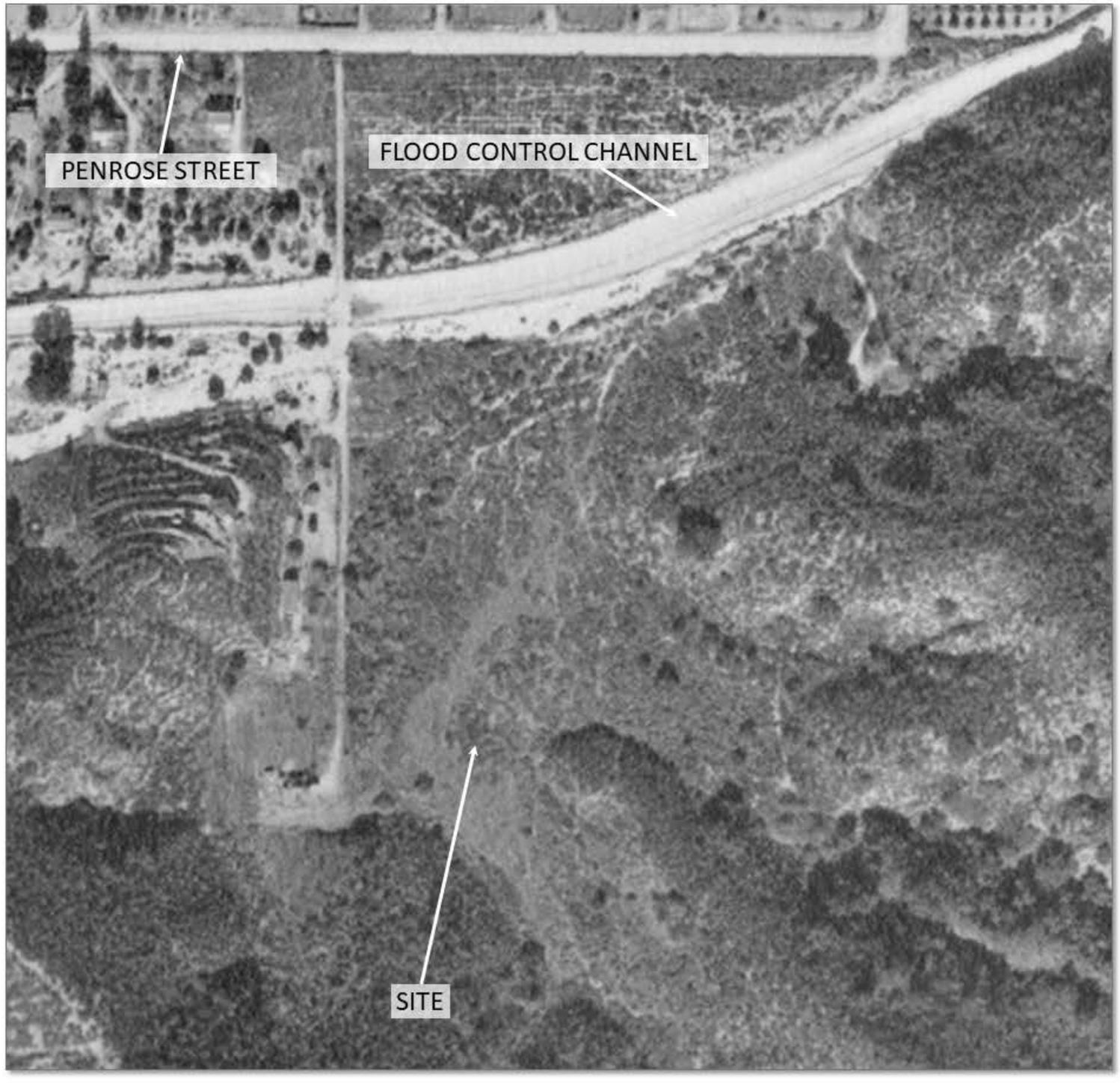
Digital

View Index

Country:	United States
State(s):	California
Counties:	California Los Angeles, Ventura
Filed by (catalog):	DDF-1944
Filed by (collection):	DDF-1944
Imagery Location:	Map Rooms--Utility Shelves Off-site storage--Iron Mountain
Index type:	mosaic
Size:	frames 9 X 9 inches
Height:	9
Width:	9

Begin date:	1944-11-22
End date:	1945-02-23
Scale:	1:10,000
Overlap:	60%
Directional orientation:	East-West
Altitude:	10,000
Lens focal length:	12 inches

Note:	Los Angeles River watershed: Ventura County Line to Irwindale area. Camera and Altitude information derived from Fairchild records for C-8229 which covers same geographic area.
Physical Details:	black and white; paper prints; vertical view;
Copyright:	Copyright © UC Regents. All Rights Reserved.
Flown by:	Fairchild Aerial Surveys
Contractor/requestor:	United States Department of Agriculture - Forest Service Region 5
Acquired from:	UCLA
Est. frame count:	1638



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GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.5

HISTORICAL AERIAL IMAGE 1956



Imagery Report: Flight C-22555

Digital

View Index

Country:	United States
State(s):	California
Counties:	California: Los Angeles, Orange, Ventura
Filed by (catalog):	C-22555
Filed by (collection):	C-22555
Imagery Location:	Map Room--Utility Shelves Room 2552
Index type:	mosaic, SmartIndex
Index scale:	1:140,000
Size:	frames 9 x 9 inches
Height:	9
Width:	9

Begin date:	1956-07-01
End date:	1956-09-30
Scale:	1:14,400
Scale:	1:12,000
Overlap:	60%
Sidelap:	20%
Directional orientation:	East-West
Altitude:	14,400
Lens focal length:	12 inches (304.8mm)
Film type:	Camera, Copy
Generation held:	1st and 2nd generation

Note:
Photographs and negatives are 1:14,400. Flight also exists as a 3-volume bound atlas of orthophoto quarter (scale ~1:12,000) quadrangles (stored offsite). Imagery acquired from Whittier College, January 2013.

Physical Details:	black and white, paper prints, negative transparencies, film roll; cut frame, vertical view.
Copyright:	Copyright © UC Regents. All Rights Reserved.
Flown by:	Fairchild Aerial Surveys
Acquired from:	Teledyne, Inc., Whittier College
Est. frame count:	1193



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Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.6

HISTORICAL AERIAL IMAGE 1971



Imagery Report: Flight TG-2755

Digital

View Index

Country:	United States
State(s):	California
Counties:	California: Los Angeles
Filed by (catalog):	TG-2755
Filed by (collection):	TG-2755
Imagery Location:	Map Room--Utility Shelves Off-site storage--Iron Mountain
Index type:	line
Index scale:	1:62,500
Size:	frames 9 x 9 inches
Height:	9
Width:	9

Begin date:	1971-03-01
End date:	1971-04-30
Scale:	1:10,440
Overlap:	60%
Sidelap:	20%
Directional orientation:	Various
Altitude:	5,220
Lens focal length:	6 inches
Generation held:	1st and 2nd generations

Note:
Index states flight is color infrared; negatives and prints held in MIL's collection are black and white.

Physical Details:	black and white; paper prints; negative transparencies; film roll; cut frame; vertical view;
Copyright:	Copyright © UC Regents. All Rights Reserved.
Flown by:	Teledyne Geotronics
Contractor/requestor:	Remote Sensing Community Analysis Bureau, City of Los Angeles
Acquired from:	Teledyne, Inc.
Est. frame count:	1199



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Prepared For: VILLAGE CHRISTIAN SCHOOL	Scale: As Shown	Drawn By: JH	Project Number: 2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.7

HISTORICAL AERIAL IMAGE 1976





Imagery Report: Flight TG-7600

Digital

View Index

Country:	United States
State(s):	California
Counties:	California Los Angeles, Orange, San Bernardino, Ventura
Filed by (catalog):	TG-7600
Filed by (collection):	TG-7600
Imagery Location:	Map Room--Utility Shelves Off-site storage--Iron Mountain Room 2552
Index type:	mosaic
Index scale:	1:96,000
Size:	frames 9 X 9 inches

Begin date:	1976-02-01
End date:	1976-04-30
Scale:	1:24,000
Overlap:	60%
Sidelap:	20%
Directional orientation:	East-West
Altitude:	12,000
Lens focal length:	6 inches (152.4mm)
Generation held:	1st and 2nd generations

Note:
South Los Angeles County, LA Basin, San Fernando Valley, and Santa Clarita Valley to Castaic Lake. Coverage extends into Orange, San Bernardino, and Ventura counties.

Physical Details:	black and white; paper prints; negative transparencies; digital copy; film roll; cut frame; vertical view;
Copyright:	unknown
Flown by:	Teledyne Geotronics
Acquired from:	Teledyne, Inc.
Est. frame count:	780

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Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.8

AERIAL IMAGE 1989



Imagery Report: Flight WAC-89CA

Partially Digital

View Index

Country:	United States
State(s):	California
Counties:	California, Alpine, Amador, Calaveras, El Dorado, Fresno, Los Angeles, Madera, Mariposa, Merced, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Stanislaus, Tuolumne, Ventura
Filed by (catalog):	WAC-89CA
Filed by (collection):	WAC-89CA
Imagery Location:	Map Room- Utility Shelves
Index type:	line, SmartIndex
Index scale:	1:300,000
Size:	frames 9 x 9 inches
Height:	9
Width:	9

Begin date:	1989-03-30
End date:	1989-10-17
Scale:	1:31,680
Overlap:	60
Directional orientation:	North-South
Lens focal length:	6 inches
Film type:	Kodak, Black & White
Spectral range:	400-700 nm
Generation held:	1st and 2nd generation

Note:
Stereo mapping coverage of various counties in California. Imagery acquired from Western Aerial Contractors; July 2016

Physical Details:	black and white; paper prints; negative transparencies; film roll; cut frame; vertical view;
Copyright:	unknown
Flown by:	Western Aerial Contractors, Inc.
Acquired from:	Western Aerial Contractors
Est. frame count:	9818



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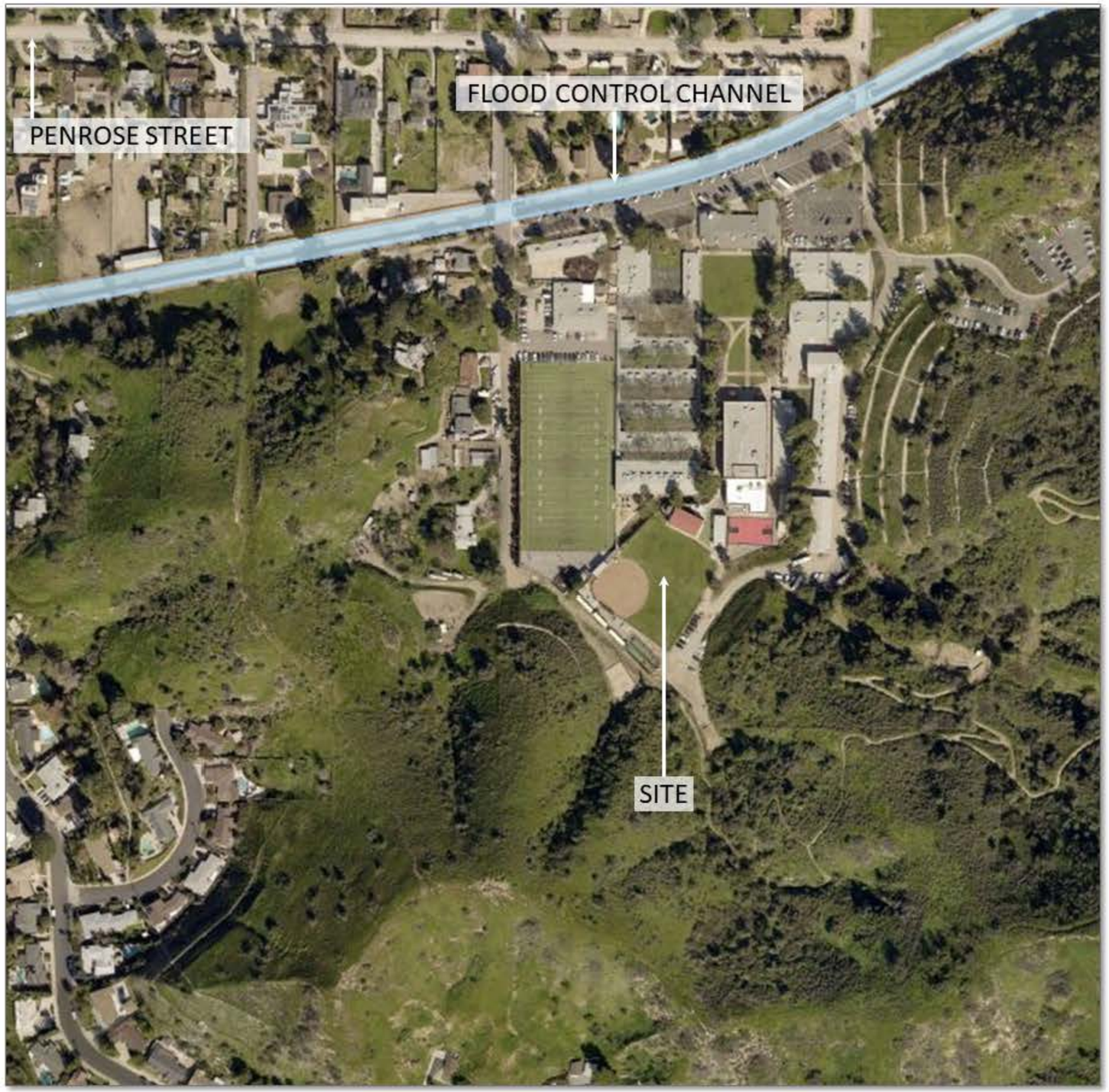
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.9

AERIAL IMAGE 2017



Los Angeles County Department of Regional Planning & Zoning Information
GIS-Net Public,
Accessed May 17, 2022

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AERIAL IMAGE 2020



Los Angeles County Department of Regional Planning & Zoning Information
GIS-Net Public,
Accessed May 17, 2022

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Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.11

GEOLOGIC MAP – DIBBLEE 1991

LANDSLIDE DEBRIS

Qls *Landslide debris*

Qof
Qoa
Qog

OLDER DISSECTED SURFICIAL SEDIMENTS
Slightly consolidated alluvial sediments

Qof *Alluvial fan gravel, and sand derived from San Gabriel Mountains; undissected in quadrangle; includes some* **Qg** *in canyons*
Qoa *remnants of older alluvial gravel, and sand*
Qog *high remnants of brown older alluvial fan cobble-boulder gravel*

qd / gqd

QUARTZ DIORITE
(Wilson Diorite of Miller 1934; Crook et al.* 1987; granodiorite of Oakeshott 1958)
Late Mesozoic (early Cretaceous?) age (*+/-102 m.y.)

qd *Gray, medium-grained quartz diorite with variations to diorite; composed of sodic plagioclase feldspar (oligoclase-andesine), biotite, hornblende, and minor quartz; massive to vaguely gneissoid; somewhat incoherent where weathered, complexly intruded by* **gr**
gqd *Gneissoid quartz diorite, similar to* **qd**, *but gneissoid, in southeastern Verdugo Mountains; porphyritic with small phenocrysts of white feldspar and of black hornblende in dark, very fine grained ground mass; in many places contains remnants of gneiss similar to gn, but too small to map; in few places contains dark gray-brown andesitic dikes, also too small to map*

hd

HORNBLENDE DIORITE-GABBRO
(Rubio Diorite of Miller 1934)

hd *Amphibolite: dark gray to black, massive, medium-grained diorite-gabbro, composed mostly of hornblende and calcic plagioclase feldspar associated with biotite-rich gneiss (***gn***); includes coarse grained white veinlets of mostly feldspar; engulfed with gneiss in quartz diorite*

an | sy | lgb | jgb | fgb

ANORTHOSITE-GABBRO COMPLEX
Unusual plutonic complex of massive medium-grained plagioclase feldspar-rich rocks and associated dark mafic rocks exposed north of San Gabriel Fault zone; intrusive into Mendenhall Gneiss (mgn); (described by Carter 1980, 1982)
Precambrian age

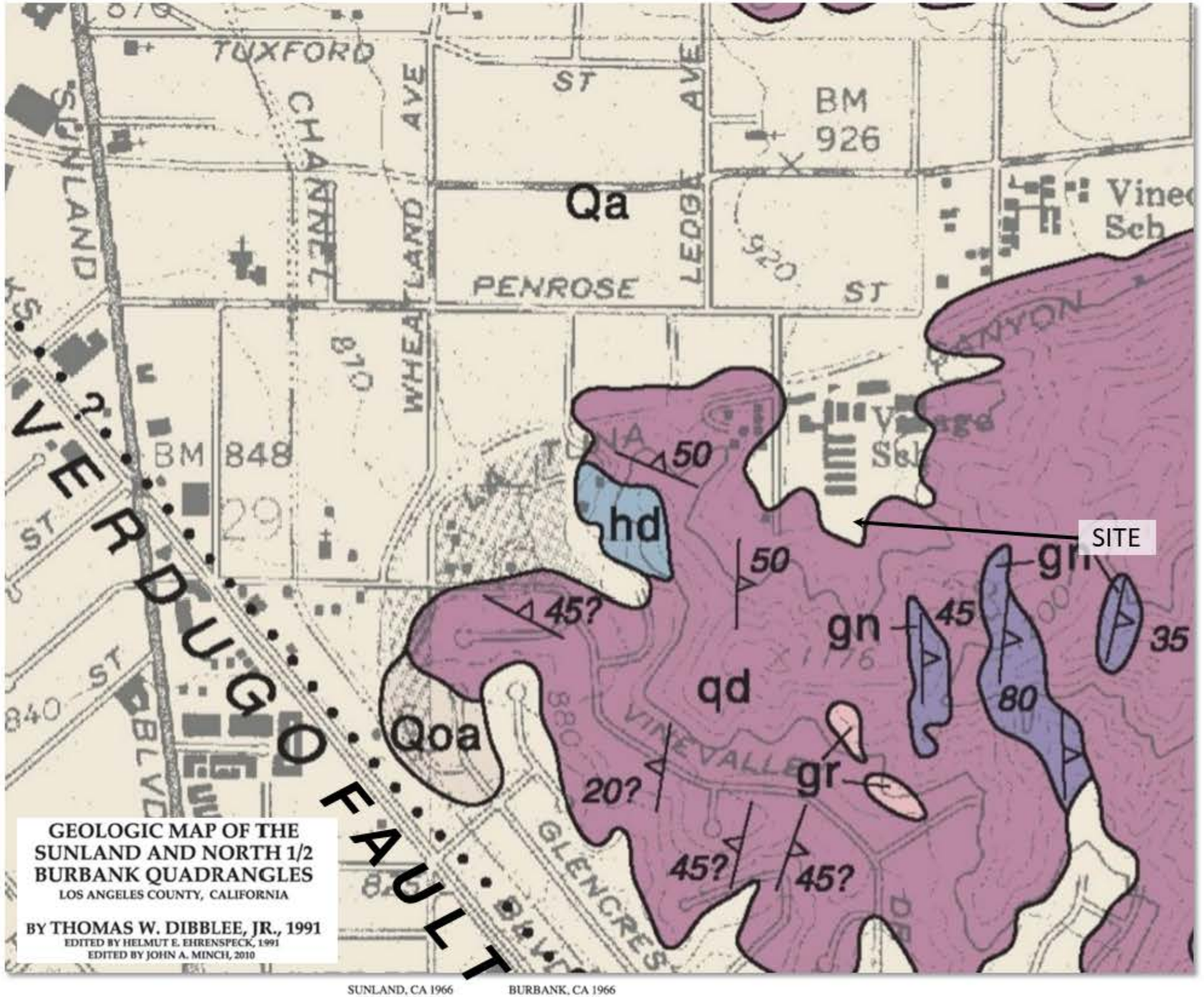
an *Anorthosite: gray to white, composed almost entirely of plagioclase feldspar (andesine)*
sy *Syenite: tan, composed of plagioclase feldspar, lesser amounts of potassic feldspar (microcline-perthite) and specks of magnetite (altered from Augite); rock variably stained brown by limonite (derived from magnetite) where weathered*
lgb *Leucogabbro: light gray, composed of plagioclase feldspar (andesine-labradorite) and minor hornblende-chlorite (altered from pyroxene?)*
jgb *Jotunite-norite-gabbro-diorite mafic complex: massive, medium grained, dark greenish brown, locally compositionally layered, composed of variable amounts of hornblende, chlorite, biotite and actinolite (all after pyroxene) and ilmonite-magnetite; weathers to reddish soil*
fgb *Ferro-gabbro: more mafic than* **jgb**, *and contains heavy black nodules of ilmenite-magnetite*

METAMORPHIC ROCKS

mq | mi | gn

GNEISSIC ROCKS
Exposed southwest of San Gabriel Fault; (includes dioritic gneiss and Placerita series of Oakeshott 1958; Placerita Formation of Miller 1934)
Cretaceous age or older
Rocks severely metamorphosed under conditions of high temperature and pressure, probably from metasedimentary rocks; complexly injected, recrystallized and migmatized by qd, in places complexly intruded by gr

gn *Medium to dark gray biotite-quartz-feldspar gneiss; hard coherent, but much fractured; ranges from thin-layered gneiss to somewhat incoherent gneissoid quartz diorite or biotite diorite; includes small remnants of metaquartzite, biotite schist-gneiss locally containing graphite and hornfelsic gneiss, containing calc-silicate minerals (garnet, epidote, diopside, and sillimanite)*
mi *Small lenses of white layered marble and associated calc-silicate rocks*
mq *Metaquartzite with coarse grained feldspar*



SUNLAND, CA 1966
PHOTOREVISED 1988
DMA 2352 IV SE – Series V895

BURBANK, CA 1966
PHOTOREVISED 1972
DMA 2352 III NE – Series V895

1000 0 1000

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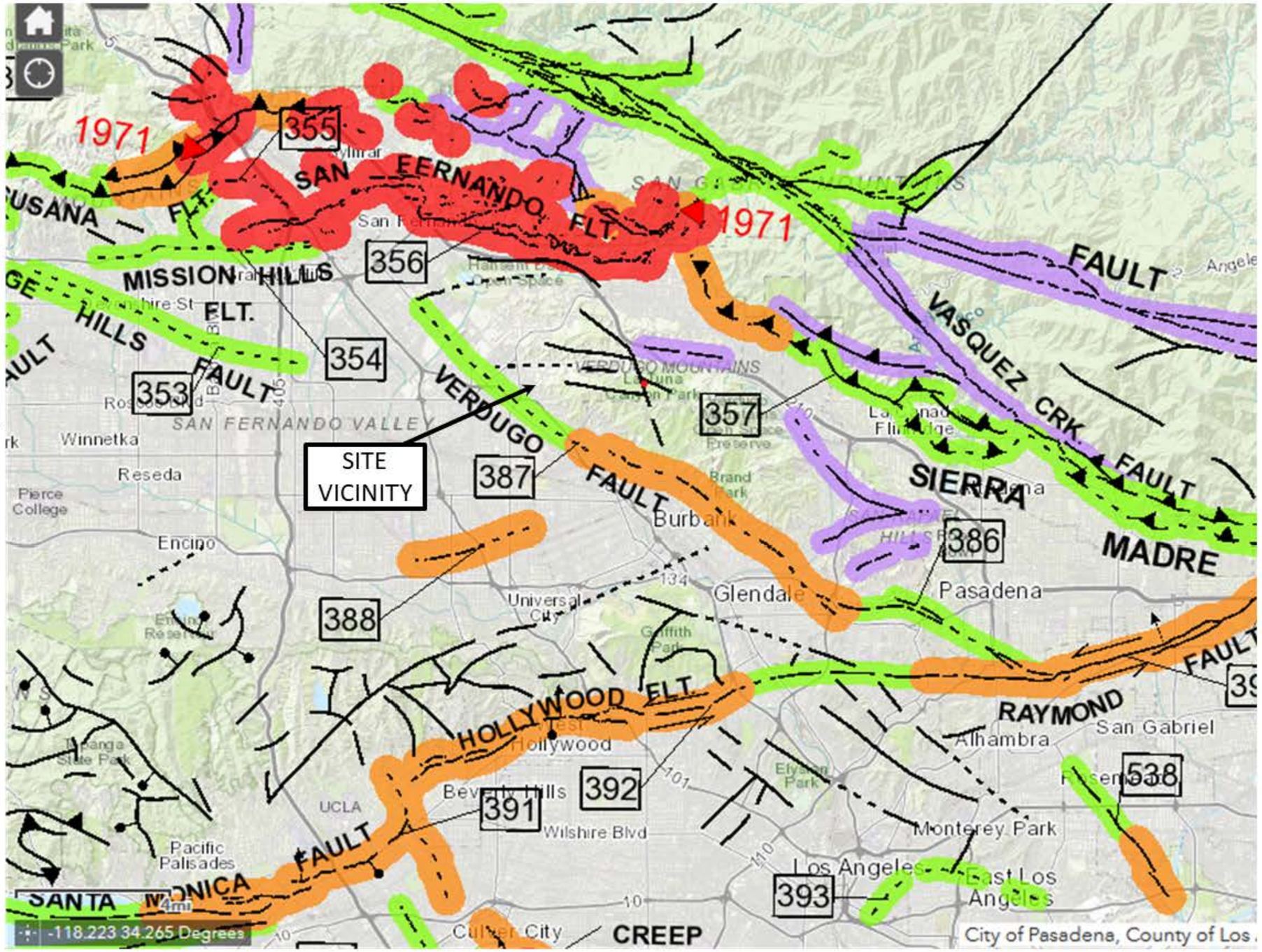
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.12

REGIONAL FAULT MAP

Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION: ON LAND	DESCRIPTION: OFFSHORE
Quaternary	Late Quaternary	Historic	200			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	11,700			Displacement during Holocene time	Fault offsets seafloor sediments or strata of Holocene age.
	Early Quaternary	Pleistocene	700,000			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
						Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			1,600,000			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
			4.5 billion				



From: "Fault Activity Map of California," compiled by Charles W. Jennings and William A. Bryant, California Geological Survey, Map No. 6, California Geologic Data Map Series, 2010

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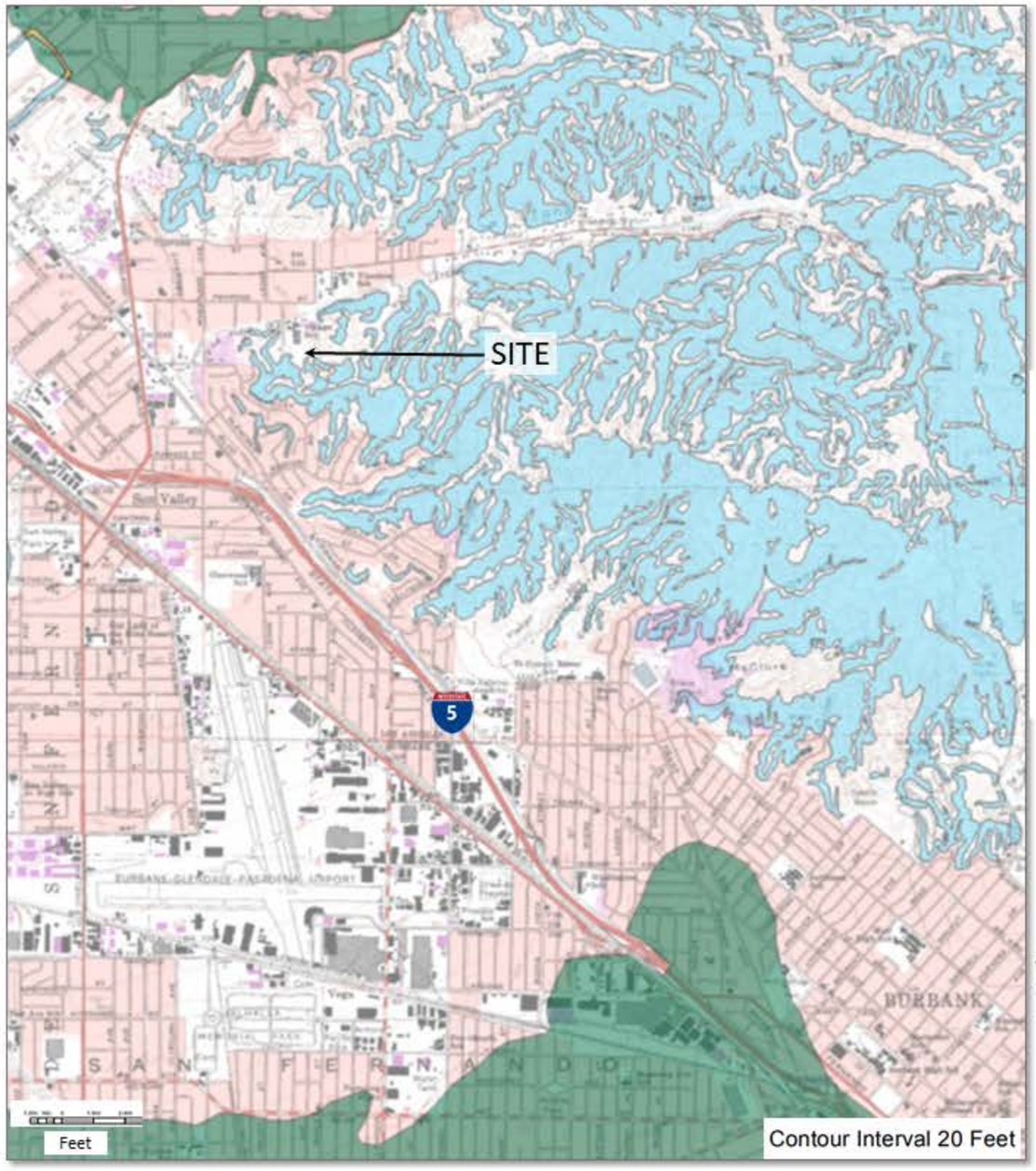
Prepared For:	Scale:	Drawn By:	Project Number:
VILLAGE CHRISTIAN SCHOOL	As Shown	JH	2013 – 006-012
Site: 10332 Penrose Street, Sun Valley, CA 91352	**Date:** March 2026	**Checked By:** GL	**Figure Number:** 2.13

SEISMIC HAZARDS ZONE MAP





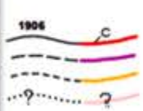
Fault Traces

- Accurately Located
- Approximately Located
- Approximately Located, Queried
- Inferred
- Inferred, Queried
- Concealed
- Concealed, Queried
- Aerial Photo Lineament

MAP EXPLANATION

EARTHQUAKE FAULT ZONES

Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.



Active Fault Traces
Faults considered to have been active during Holocene time and to have potential for surface rupture: Solid Line in Black or Red where Accurately Located; Long Dash in Black or Solid Line in Purple where Approximately Located; Short Dash in Black or Solid Line in Orange where Inferred; Dotted Line in Black or Solid Line in Rose where Concealed; Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

BURBANK QUADRANGLE

EARTHQUAKE FAULT ZONES	SEISMIC HAZARD ZONES
OFFICIAL MAP	OFFICIAL MAP
Released: January 1, 1979	Released: March 25, 1999
STATE GEOLOGIST	STATE GEOLOGIST

SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

OVERLAPPING EARTHQUAKE FAULT AND SEISMIC HAZARD ZONES

Overlap of Earthquake Fault Zone and Liquefaction Zone
Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone.

Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone.

Note: Mitigation methods differ for each zone –
AP Act only allows avoidance; Seismic Hazard Mapping Act allows mitigation by engineering/geotechnical design as well as avoidance.

Reference: Earthquake Zones of Required Investigation, Burbank 7.5 minute Quadrangle, California Geological Survey

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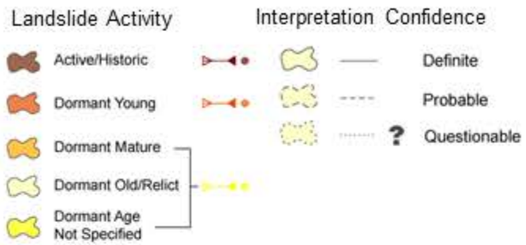
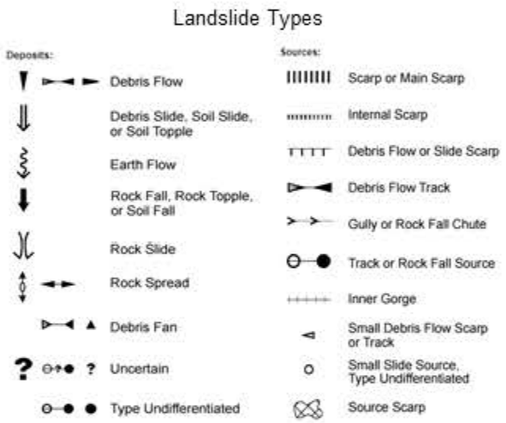
Site: 10332 Penrose Street, Sun Valley, CA 91352	Date: March 2026	Checked By: GL	Figure Number: 2.14

LANDSLIDE INVENTORY MAP





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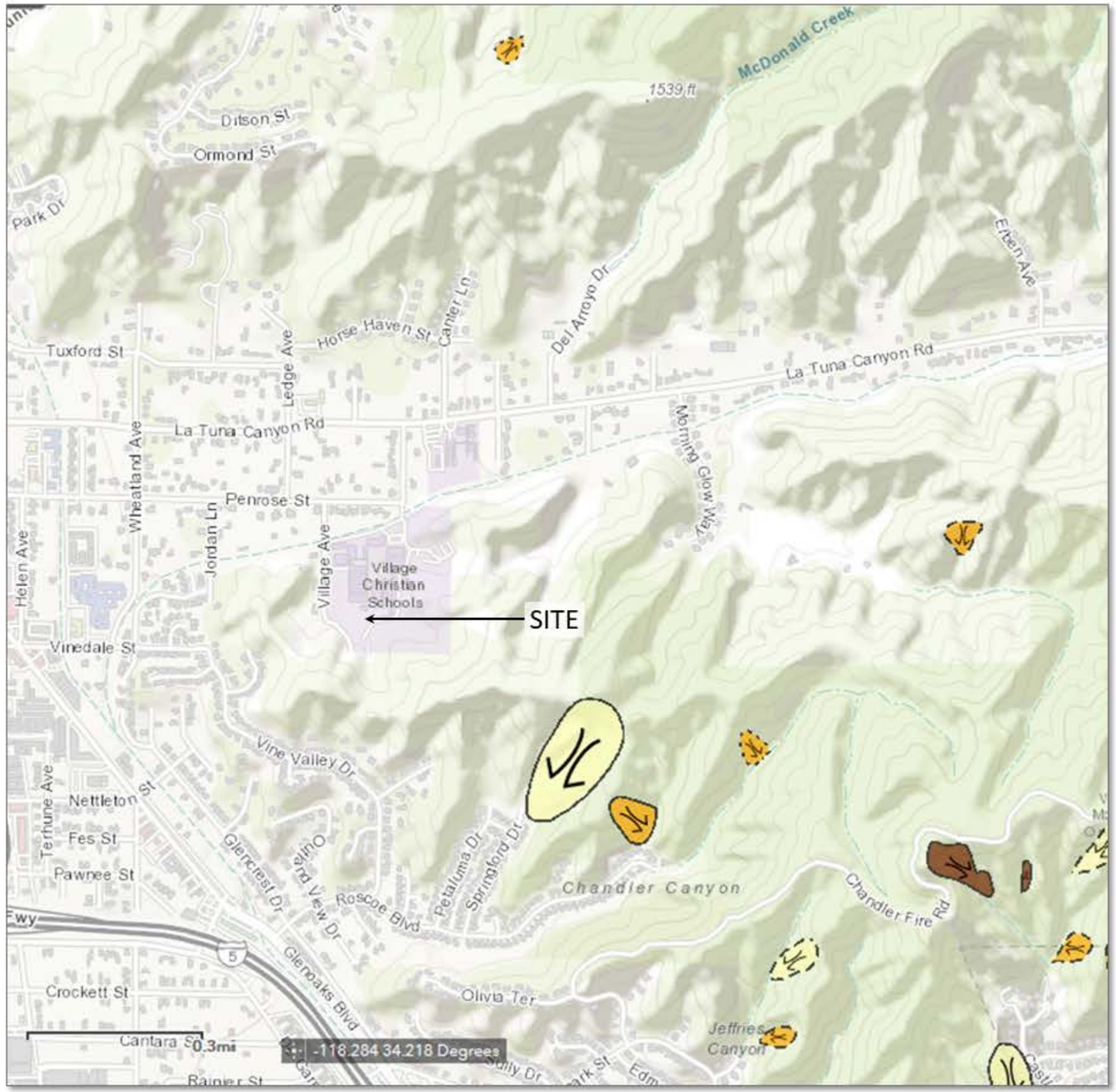
https://maps.conservation.ca.gov/cgs/lsi/app/



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HISTORICAL GROUNDWATER MAP

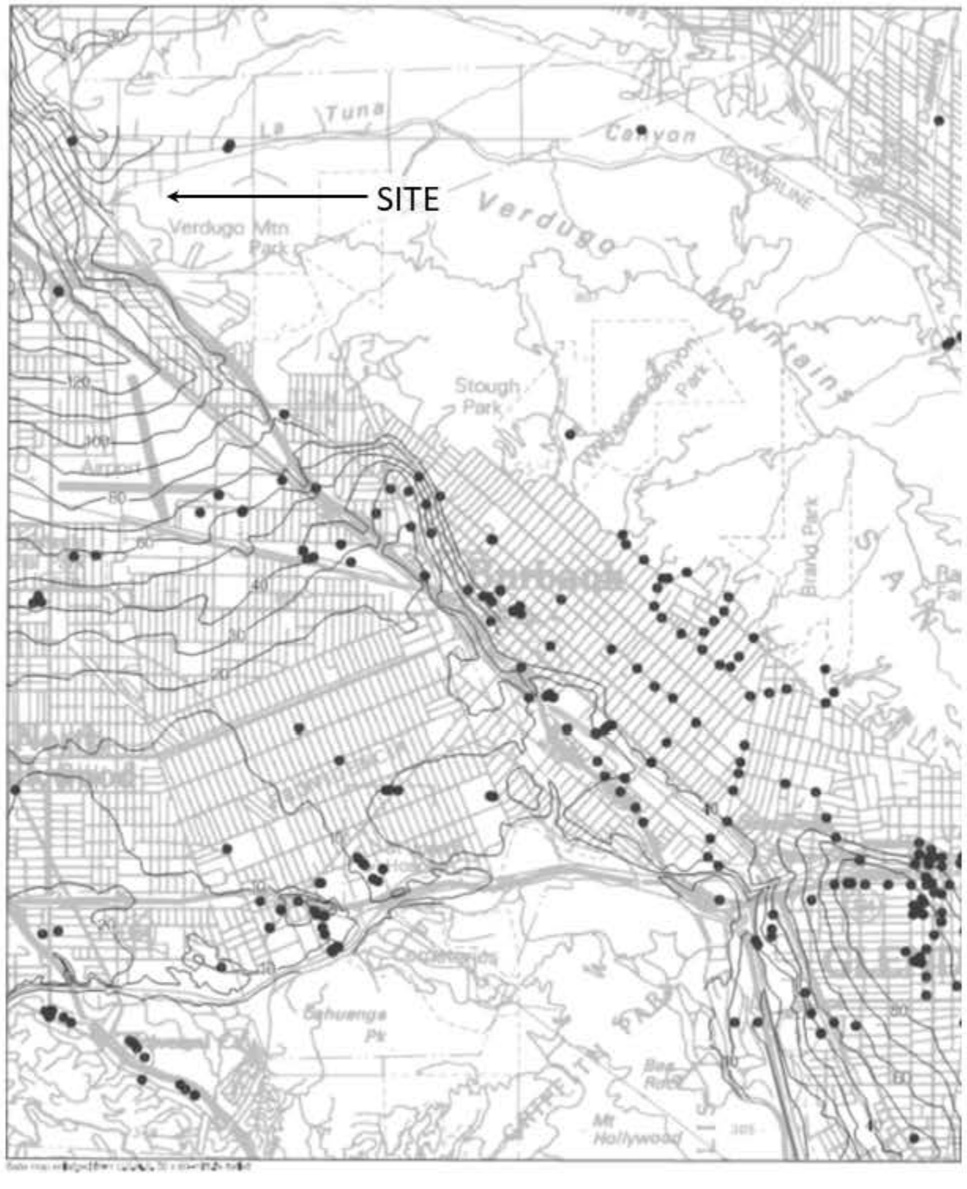
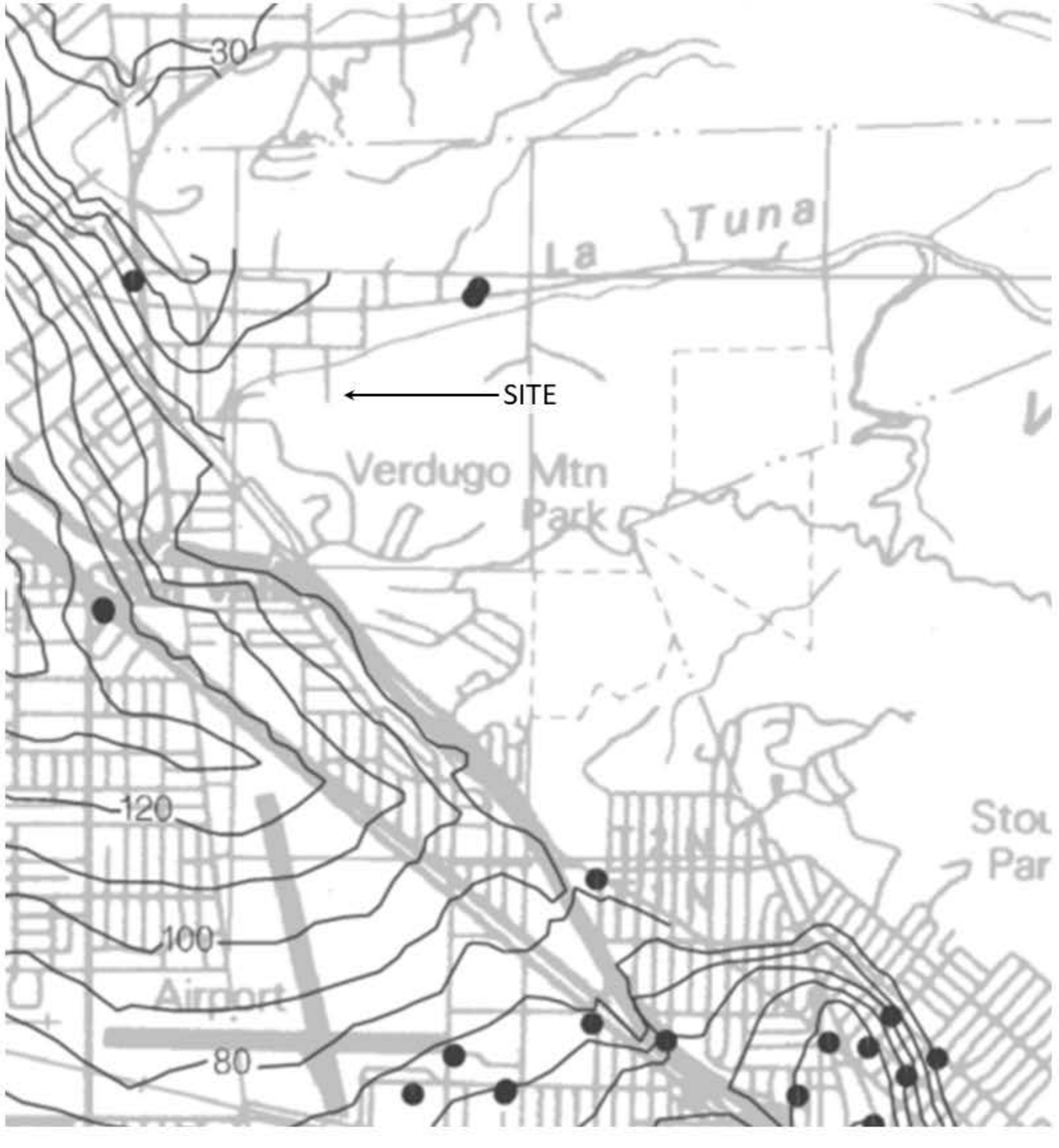


Plate 1.2 Historically Highest Ground Water Contours and Borehole Log Data Locations, Burbank Quadrangle.

● Borehole Site — 30 — Depth to ground water in feet

ONE MILE
SCALE



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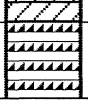
Village Christian School
March 31, 2026
2013-006-012

APPENDIX A

Explorations

GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

MAJOR DIVISION			GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS More than 50% retained on No. 200 (75 μm) sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 (4.75mm) sieve	CLEAN GRAVELS (Little or no fines)		GW	Well graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES (Appreciable amount of fines)		GM	Silty gravel, gravel-sand-silt mixture
				GC	Clayey gravels, gravel-sand-clay mixture
	SANDS More than 50% of coarse fraction passes No. 4 (4.75 mm) sieve	CLEAN SANDS (Little or no fines)		SW	Well graded sands, gravelly-sands, little or no fines
				SP	Poorly graded sands, gravelly-sands, little or no fines
		SANDS WITH FINES (Appreciable amount of fines)		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS 50% or more passes No. 200 (75 μm) sieve	SILTS AND CLAYS (Liquid limit LESS than 50)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (Liquid limit GREATER than 50)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
				CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS				PT	Peat and other highly organic soils

*Based on the material passing the 3-inch (76 mm) sieve.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by a combination of group symbols.

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	Fine	Medium	Coarse	Fine	Coarse		
	No. 200	No. 40	No. 10	No. 4	3/4 in.	3 in.	12 in.

REFERENCE: ASTM D-2487

UNIFIED SOIL CLASSIFICATION SYSTEM

SAMPLE KEY:

- FRANKIAN LINED-BARREL SAMPLER (3.50" O.D., 2.625" I.D., 8.0" LONG SAMPLE TUBE)
- STANDARD PENETRATION TEST (ASTM D-1586)
- CALIFORNIA SAMPLER
- NO RECOVERY / DISTURBED SAMPLE
- BULK SAMPLE

BORING HS-1

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-31'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SOIL TYPE	
					ML	SANDY SILT: damp, light brown
31	3	123	- -		SM	SILTY SAND: fine to coarse grained, occasional fine gravel, dense, damp, tan
29	7.7	128	-	5		some fine gravel, moist, brown
11	6.1	117	-			less dense
8	5.5	113	-	10		
6	6.8	113	-			
8	5.4	118	-	15		
10	7.4	113	-	20		
10	6.8	117	-	25		reddish brown
10	9.1	114	-	30		
				35		Bottom of Boring at 31 feet. No water.
				40		

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 8/8/25

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-2

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-26'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	SOIL TYPE	
				SM	SILTY SAND: slightly silty, damp, tan
20	6.9	120	-		fine to coarse grained, trace fine gravel, dense, moist, brown
23	6.4	135	-		occasional fine gravel, trace coarse gravel, light brown
34	8.8	128	-		trace fine gravel, no coarse gravel
16	5.5	123	-		no fine gravel
12	6	117	-		
14	5	117	-		
18	5.2	117	-		
	3.7	114			reddish brown
					Bottom of Boring at 26 feet. No water.

DEPTH (FEET): 5, 10, 15, 20, 25, 30, 35, 40

SAMPLE LOCATION / GRAPHIC LOG

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 8/8/25

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-3

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-26'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	SOIL TYPE	
				ML	SANDY SILT: fine to medium grained, occasional coarse grained, damp, light brown
21	5.3	129	-	SW	SAND: fine to coarse grained, some fine to coarse gravel, dense, moist, light brown
16	12.5	121	-	SC	CLAYEY SAND: fine to coarse grained, medium dense, moist, brown
16	9.8	123	-		
7	6.8	114	-	SM	**QUATERNARY ALLUVIUM** SILTY SAND: fine to coarse grained, trace fine gravel, medium dense to dense, moist, reddish brown
7	8.2	116	-		some fine gravel
17	8.5	128	-		dense
					light brown
22	13.7	118	-		some fine to coarse gravel, very moist
30	9.2	120	-		no gravel, very dense, moist, brown
					Bottom of Boring at 26 feet. No water.

DEPTH (FEET): 5, 10, 15, 20, 25, 30, 35, 40

SAMPLE LOCATION / GRAPHIC LOG

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 3/30/26

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-4

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-31'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	SOIL TYPE	
				SM	SILTY SAND: dry, tan
54	2.1	136	-	SW	SAND: fine to coarse grained, trace fine gravel, very dense, damp, light brown
17	9.5	121	-	SC	CLAYEY SAND: fine to coarse grained, dense, damp, light brown
12	3.6	112	-	SW	SAND: fine to coarse grained, some fine gravel, loose to moderately dense, damp, tan
18	12	121	-	SW	**QUATERNARY ALLUVIUM** SAND: fine to coarse grained, locally with clay and silt, trace fine gravel, dense, moist, brown
7	5.3	112	-		loose to moderately dense, moist, tan
28	5.7	117	-	SM	SILTY SAND: fine to coarse grained, very dense, moist, brown
11	4.9	113	-		
16	5	119	-		trace fine gravel
59	9.7	128	-		no gravel
					Bottom of Boring at 31 feet. No water.

DEPTH (FEET): 5, 10, 15, 20, 25, 30, 35, 40

SAMPLE LOCATION / GRAPHIC LOG

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 3/30/26

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-5

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-26'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	SOIL TYPE	
				SM	SILTY SAND: fine to medium grained, moist, brown
24	3.7	130	-		fine to coarse grained, dense
23	4.3	130	-		trace coarse gravel
28	10.5	123	-		no gravel, very moist
24	10.4	122	-	SW	SAND: fine to coarse grained, dense, very moist, tan
34	8.6	118	-		**BEDROCK** QUARTZ DIORITE: weathered locally to soil like consistency, dense, moist, brown
30	8.9	118	-		
18	5.5	127	-		
28	6.8	105	-		
					Bottom of Boring at 26 feet. No water.

DEPTH (FEET): 5, 10, 15, 20, 25, 30, 35, 40

SAMPLE LOCATION / GRAPHIC LOG

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 3/30/26

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-6

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-26'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	DEPTH (FEET)	SOIL TYPE	
				0	SM	SILTY SAND: fine to coarse grained, dense, moist, brown
19	9.3	124	-			
26	9.7	119	-	5		gravel
28	6	119	-			no cobble, damp, light brown
30	7.7	116	-	10		**BEDROCK**
						QUARTZ DIORITE: weathered locally to soil like consistency, very dense, moist, light brown
20	11.5	123	-			dense, brown
30	7.1	122	-	15		very dense, brown
88	11.7	122	-	20		slightly weathered
50/6"	7.3	115	-	25		Sample Refusal, rock is hard, slightly weathered
						Bottom of Boring at 26 feet. No water.
				30		
				35		
				40		

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 3/30/26

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

BORING HS-7

JOB NUMBER: 2013-006
DATE DRILLED: 7/17/25
EQUIPMENT USED: 8" Diameter Hollow-Stem Auger with Heavy Duty Sampler
DRILLING CO.: Choice
LOGGED BY: MM
DEPTH: 0-16'

BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (LBS. PER CU. FT.)	N-VALUE	SOIL TYPE	
				ML	SANDY SILT: damp, light brown
60	2.4	134	-	SW	SAND: fine to coarse grained, very dense, damp, tan
60	2.3	121	-		trace fine gravel, rock
35	8.8	123	-		**BEDROCK**
80	3.3	122	-		QUARTZ DIORITE: weathered locally to soil like consistency, very dense, damp, tan
100/6"	2.5	123	-		slightly weathered
80	3.2	121	-		
					Bottom of Boring at 16 feet. No water.

DEPTH (FEET): 5, 10, 15, 20, 25, 30, 35, 40

SAMPLE LOCATION / GRAPHIC LOG

Note: The log of subsurface conditions shown hereon is approximate and applies only at the specific location and date indicated. It is not warranted to be representative of subsurface conditions at other locations or times.

BOREHOLE LOG 2013-006.GPJ FRANKIAN.GDT 3/30/26

LOG OF BORING

R.T. FRANKIAN & ASSOCIATES

Village Christian School
March 31, 2026
2013-006-012

APPENDIX B

Laboratory Tests

RTF&A
GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

APPENDIX B

LABORATORY TESTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

Moisture and Density Tests: Moisture content and unit dry density tests were performed on samples of undisturbed soil obtained in the test borings. Dry density and field moisture information is useful in correlating field and laboratory data and in providing an indication of the variations of soil characteristics. The results of these tests are shown on the Log of Borings in Appendix A.

Direct Shear Tests: Direct shear tests were performed on remolded bulk samples to determine the strength of the soils. The tests were performed after soaking the samples to near-saturated moisture content and at various surcharge pressures. The results of the direct shear tests are indicated on the attached summary of "Direct Shear Tests."

Consolidation Tests: Confined consolidation tests were performed on selected undisturbed samples at and below the proposed foundation level. Tests were performed on samples at or near the field moisture state. Samples of bearing soils that may become inundated were also tested in an artificially saturated state. For purposes of presentation, the results of the pertinent consolidation tests performed are shown on the attached summary of "Consolidation Tests."

Maximum Density Tests: The maximum dry densities and optimum moisture contents of bulk soil samples obtained from the test borings were determined in our laboratory in accordance with the current ASTM Soil Compaction Method D 1557. The maximum dry density of each soil sample was determined from that portion of the sample that passed through the No. 4 sieve. The results of the maximum dry density tests are as follows:

Soil Description and Classification	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
(HS-1 @ 1'-5') Medium brown, silty, very fine to fine with occasional medium sand (SM)	129.5	9.5
(HS-5 @ 1'-5') Medium brown, silty, very fine to fine with occasional clay size (SM)	136.5	6.5

The optimum moisture contents are in percent of dry weight and the maximum dry densities are in pounds per cubic foot (pcf). The double-letter soil classification that follows each soil description is in accordance with the Uniform Soil Classification System (ASTM D 2487-00).

Expansion Index Tests: Expansion Index tests provide an index to the expansion potential of soils when inundated with water. This test method controls variables that influence the expansive characteristics of soils. Bulk soil samples were obtained from the test borings drilled for the subject investigation and Expansion Index tests were performed on the samples in accordance with ASTM Standard D4829. The results of the tests are presented below:

Sample No.	Expansion Index	Expansion Category
HS-1 @ 1'-5'	15	Very Low
HS-5 @ 1'-5'	42	Low

EGLAB, INC.,
11819 Goldring Road, Unit D, Arcadia, CA 91006
Ph: 626-263-3588; Fax: 626-263-3599; Email: ryan@eglab.com

February 23, 2026

R.T. Frankian & Associates
26027 Huntington Ln, Unit A
Santa Clarita, CA 91355

Attn: Mr. Scott Rudd

RE: LABORATORY TEST RESULTS/REPORT
Project Name: Village Christian Schools Project
Project No.: 2013-006-012
EGLAB Job No.: 25-013-014

Dear Mr. Rudd:

We have completed the testing program conducted on samples from the above project. The tests were performed in accordance with testing procedures as follows:

TEST	METHOD
Direct Shear	ASTM D3080

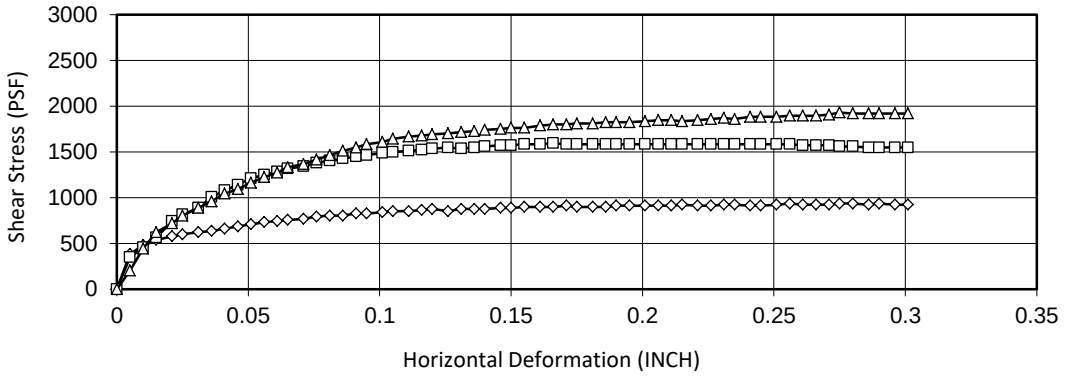
Enclosed is the Summary of Test Results.

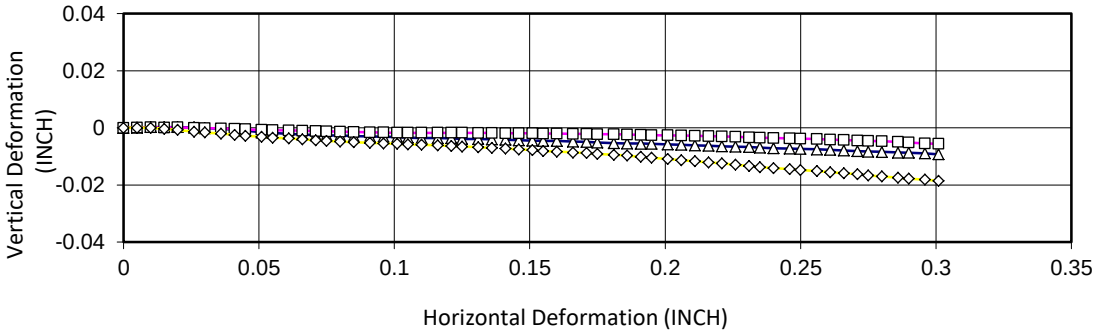
We appreciate the opportunity to provide testing services to R.T. Frankian & Associates. Should you have any questions, please call the undersigned.

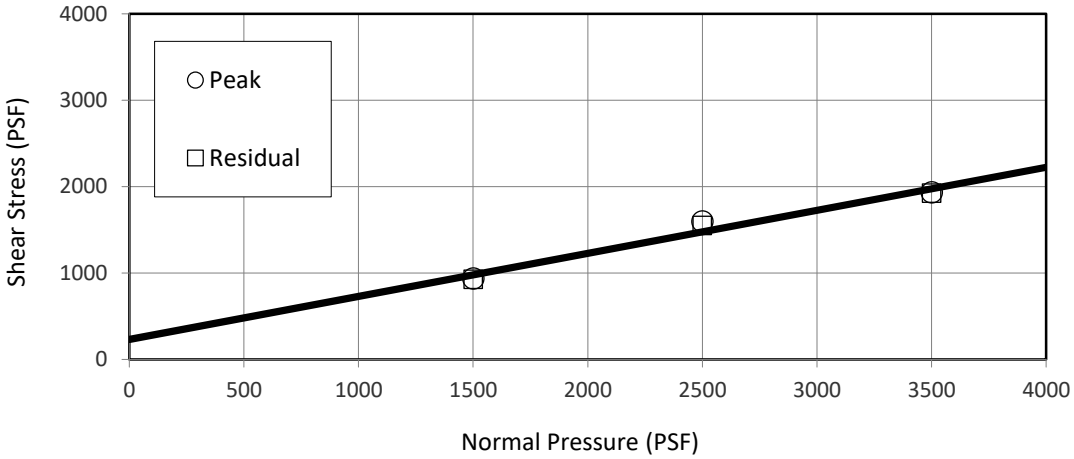
Sincerely yours,
EGLAB, Inc.



Ryan Jones, GE
Principal Engineer







Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
HS-1	S-10	1.0-5.0	Ring	SC	○	243	26
					□	219	26

Note: Sample was remolded to **126.5 pcf** dry density and 8**.5%** moisture
Shear rate: **0.01 in/min**

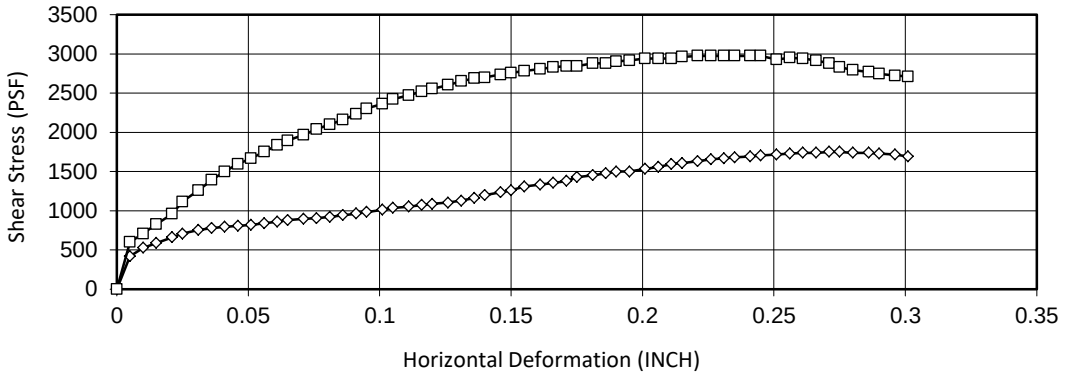
Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)
1500	8.5	16.8
2500	8.5	15.8
3500	8.5	15.4

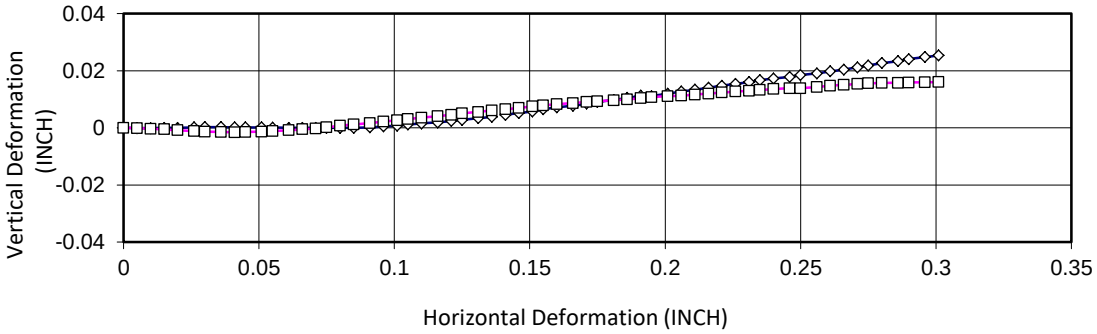
EGLAB, INC.

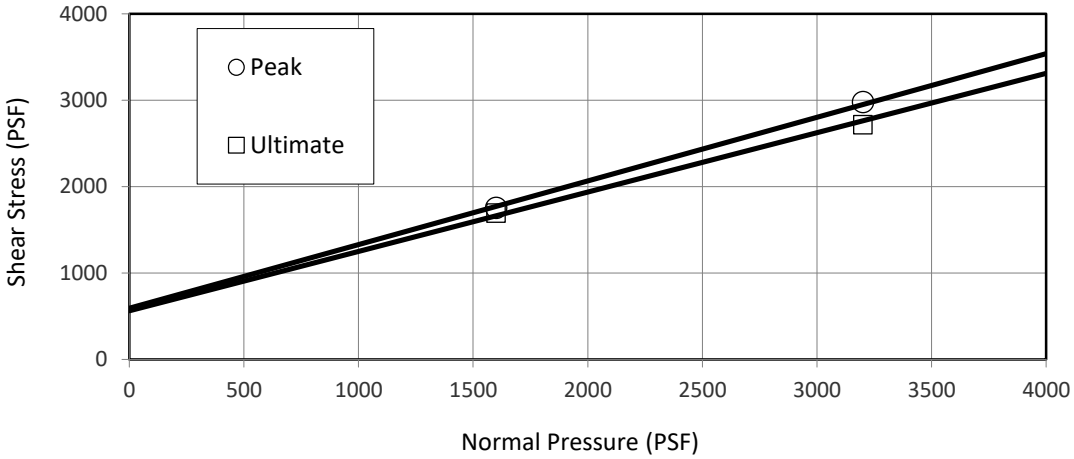
Project Name:
Village Christian Schools Project
Client: R.T. Frankian & Associates
Project No.: 2013-006-012
EGLAB Project No.: 25-013-004

DIRECT SHEAR

08/25 (ASTM D3080) Figure







Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
HS-3	S-2	5.0	Ring	SC	○	591	36
					□	563	34

Note: Shear rate: **0.01 in/min**

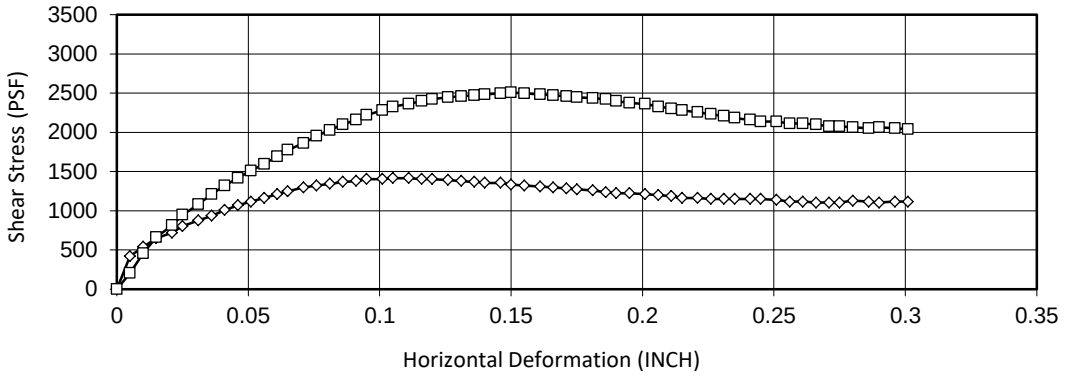
Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
1600	13.4	14.0	125.6	100
3200	13.4	14.7	128.1	100

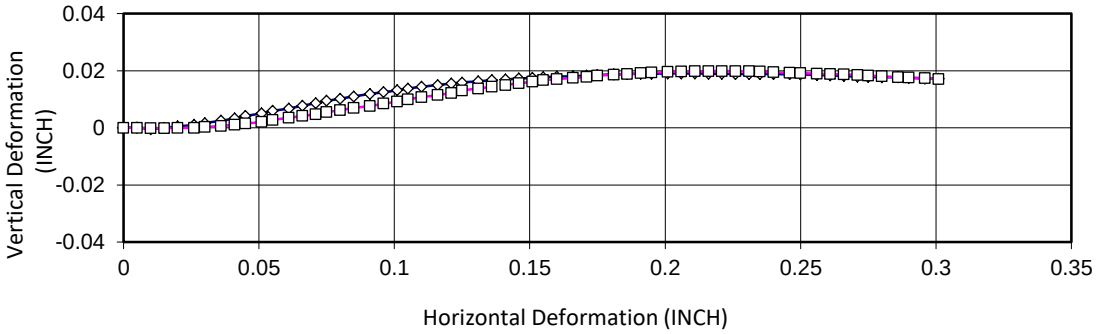
EGLAB, INC.

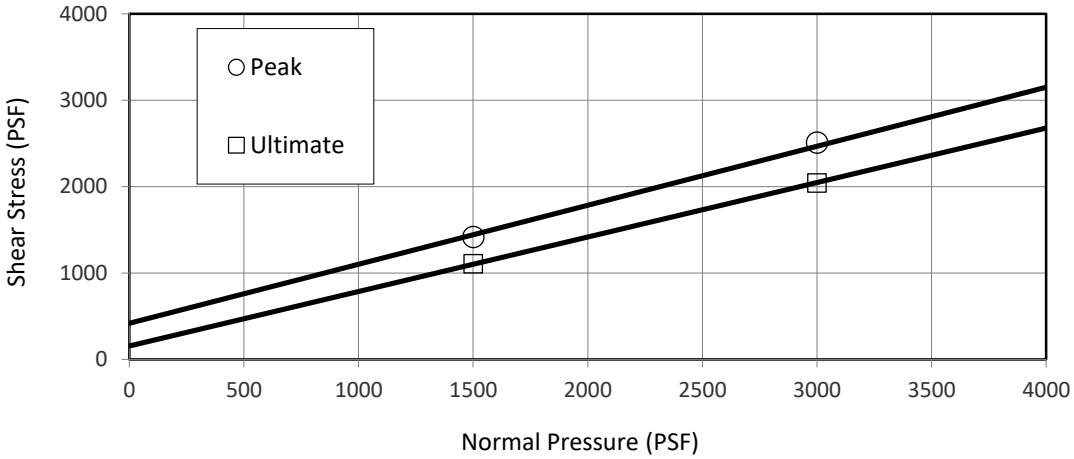
Project Name:
Village Christian Schools Project
Client: R.T. Frankian & Associates
Project No.: 2013-006-012
EGLAB Project No.: 25-013-004

DIRECT SHEAR

08/25 (ASTM D3080) Figure







Boring No.	Sample No.	Depth (ft)	Sample Type	Soil Type	Symbol	Cohesion (PSF)	Friction Angle
HS-4	S-2	5.0	Ring	SC	○	420	34
					□	154	32

Note: Shear rate: **0.01 in/min**

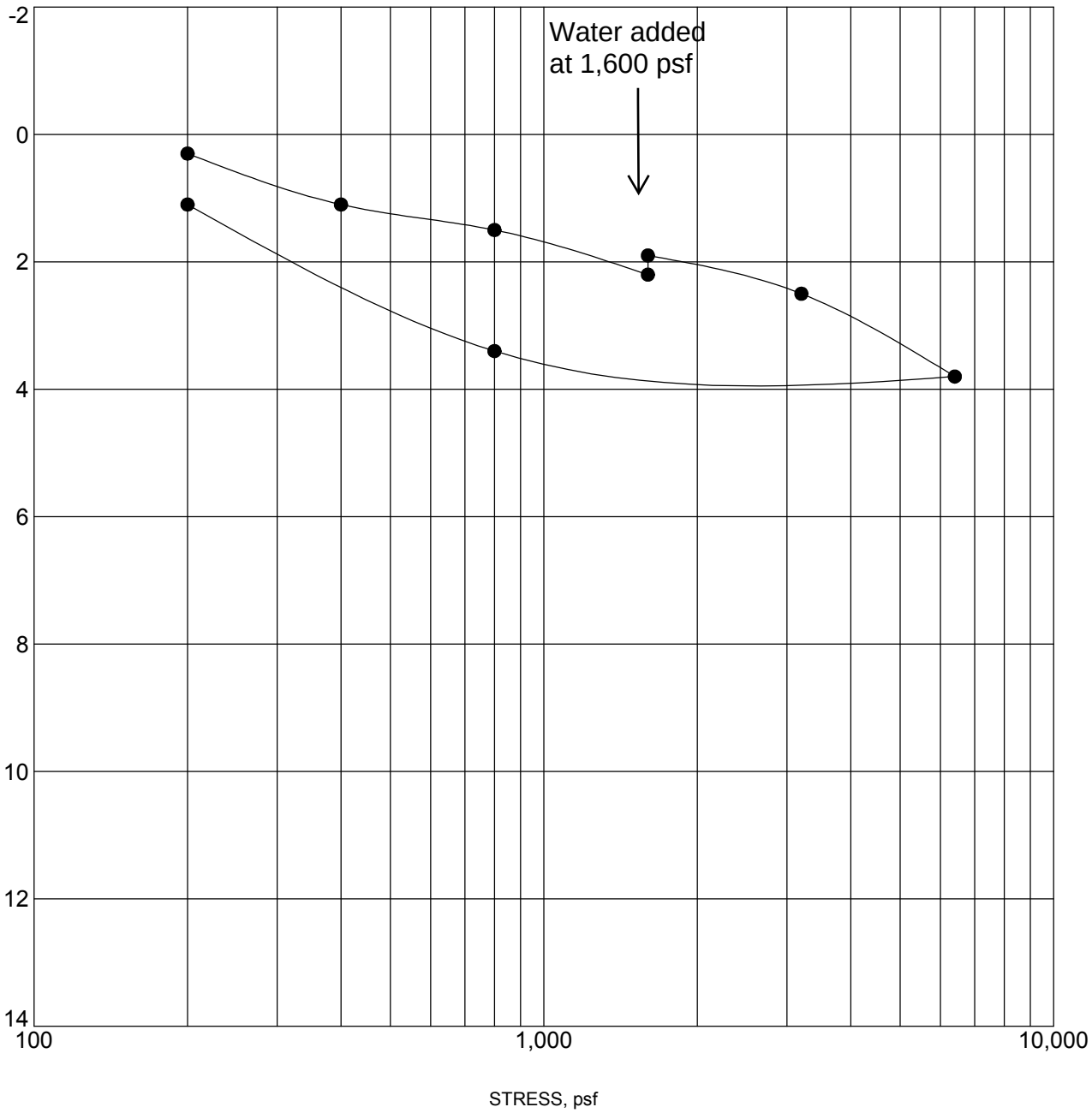
Normal Stress (psf)	Initial Moisture (%)	Final Moisture (%)	γ_d (pcf)	S (%)
1500	11.6	13.9	125.7	100
3000	11.6	14.0	127.6	100

EGLAB, INC.

Project Name:
Village Christian Schools Project
Client: R.T. Frankian & Associates
Project No.: 2013-006-012
EGLAB Project No.: 25-013-004

DIRECT SHEAR

08/25 (ASTM D3080) Figure



Water added at 1600 psf

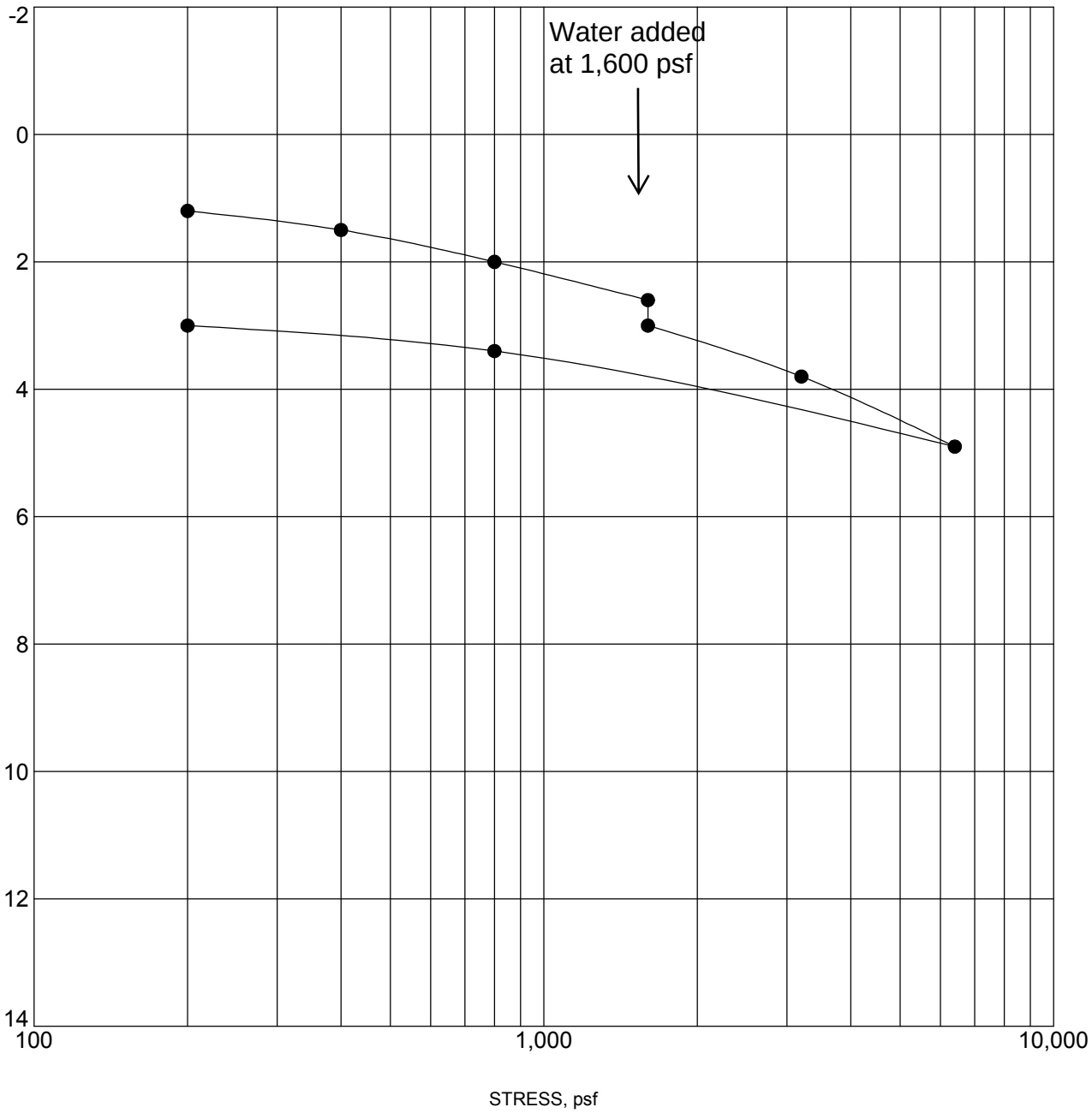
Specimen Identification		Classification
●	**HS-5 1-5'**	Remolded to dry density of
⊠		130.5 pcf at 9.3% moisture
▲		
★		
⊙		
✿		

R. T. Frankian & Associates
26027 Huntington Lane, Suite A
Santa Clarita CA 91355
Telephone: 818 531 1501
Fax: 818 531 1510

CONSOLIDATION TEST

JOB NUMBER: 2013-006

REPORT DATED:



Water added at 1600 psf

Specimen Identification		Classification		
●	**HS-5 5.0'**			
⊠				
▲				
★				
⊙				
✪				

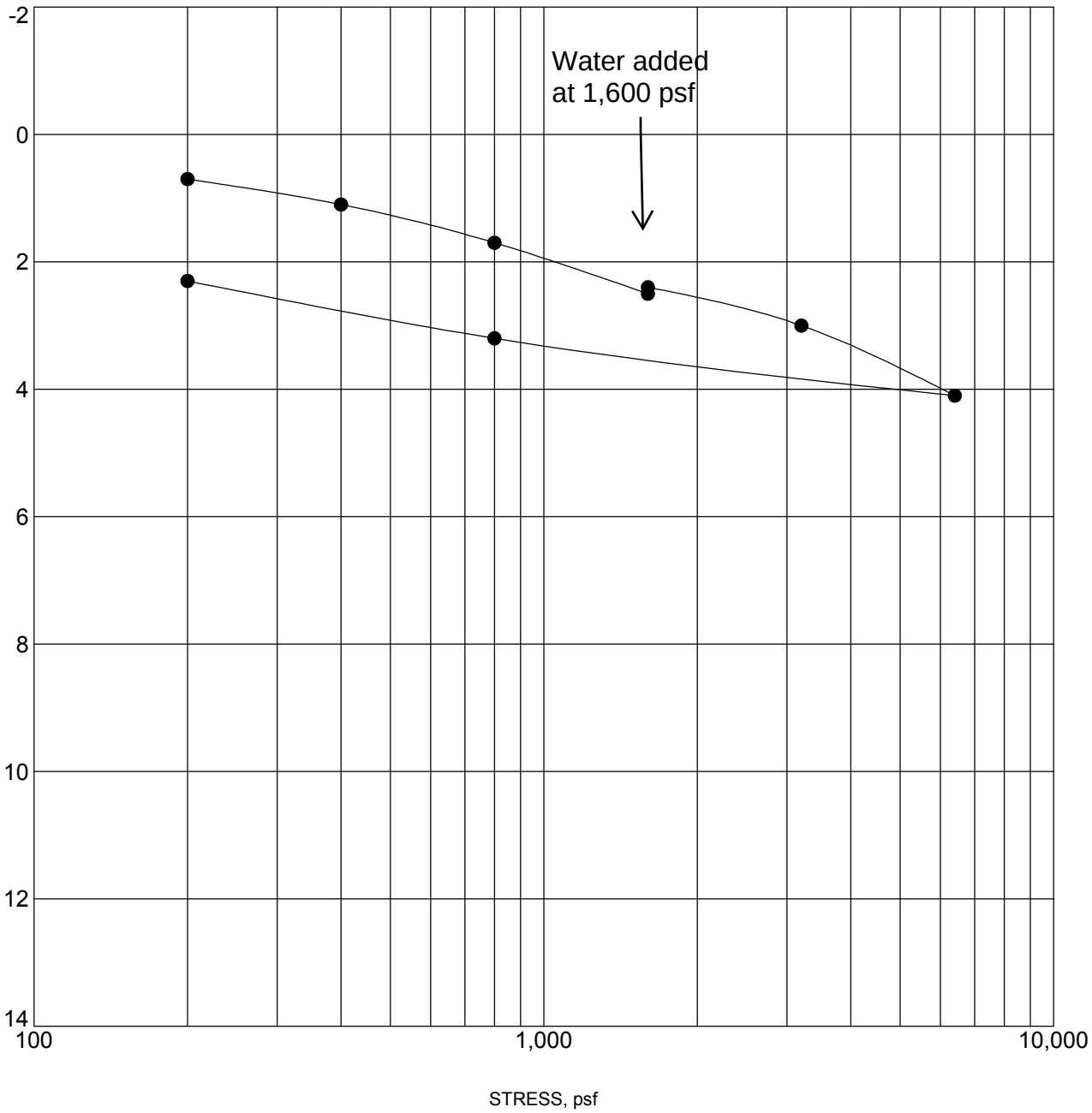
R. T. Frankian & Associates
26027 Huntington Lane, Suite A
Santa Clarita CA 91355
Telephone: 818 531 1501
Fax: 818 531 1510

CONSOLIDATION TEST

JOB NUMBER: 2013-006

REPORT DATED:

US CONSOL STRAIN 2013-006.GPJ FRANKIAN.GDT 8/22/25



Water added at 1600 psf

Specimen Identification		Classification		
●	**HS-7 8.0'**			
⊠				
▲				
★				
⊙				
✪				

R. T. Frankian & Associates
26027 Huntington Lane, Suite A
Santa Clarita CA 91355
Telephone: 818 531 1501
Fax: 818 531 1510

CONSOLIDATION TEST

JOB NUMBER: 2013-006

REPORT DATED:

Village Christian School
March 31, 2026
2013-006-012

APPENDIX C

Project Plans

RTF&A
GEOTECHNICAL ENGINEERING & ENGINEERING GEOLOGY

PRELIMINARY CIVIL SITE DEVELOPMENT PLANS FOR VILLAGE CHRISTIAN SCHOOL

LEGEND

BOUNDARY LINES

- CENTER LINE
- EASEMENT LINE
- PROPERTY LINE / RIGHT OF WAY LINE

HARDSCAPE LINES

- CURB (EXISTING AND PROPOSED)
- CURB & GUTTER (EXISTING AND PROPOSED)
- SIDEWALK (EXISTING AND PROPOSED)
- FENCE (EXISTING AND PROPOSED)
- STRIPING
- EDGE OF PAVEMENT

GRADING ELEMENTS

- MINOR CONTOUR (EXISTING AND PROPOSED)
- 250 — MAJOR CONTOUR (EXISTING AND PROPOSED)
- TOP OF SLOPE
- TOE OF SLOPE
- GB — GRADE BREAK
- R — RIDGE
- LIMITS OF GRADING / DAYLIGHT LINE
- CUT-FILL BOUNDARY

UTILITY ELEMENTS

- (S) — S — SEWER (EXISTING AND PROPOSED)
- (W) — W — WATER (EXISTING AND PROPOSED)
- (SD) — SD — STORM DRAIN (EXISTING AND PROPOSED)
- (G) — G — GAS (EXISTING AND PROPOSED)
- FIRE HYDRANT (EXISTING AND PROPOSED)
- WV — WATER VALVE (EXISTING AND PROPOSED)
- WATER METER (EXISTING AND PROPOSED)
- SEWER MANHOLE (EXISTING AND PROPOSED)
- STORM DRAIN STRUCTURE (EXISTING AND PROPOSED)

ABBREVIATIONS

AD	AREA DRAIN	FG	FINISHED GRADE
BOW	BOTTOM OF WALL (AT GROUND)	FS	FINISHED SURFACE
BW	BACK OF WALK	GFF	GARAGE FINISHED FLOOR
BLDG	BUILDING	GB	GRADE BREAK
CB	CATCH BASIN	HP	HIGH POINT
CO	CLEANOUT	INV	INVERT ELEVATION
CONC	CONCRETE	LP	LOW POINT
CMP	CORRUGATED METAL PIPE	LT	LIGHT
DR	DOOR	MH	MANHOLE
DS	DOWN SPOUT	PV	PAVEMENT
DIP	DUCTILE IRON PIPE	POC	POINT OF CONNECTION
ESMT	EASEMENT	R	RIDGE
EG	EXISTING GRADE	RIM	RIM ELEVATION
EW	EDGE OF WALK	RD	ROOF DRAIN
FC	FACE OF CURB	TC	TOP OF CURB
FW	FACE OF WALL	TG	TOP OF GRATE
FF	FINISHED FLOOR	TW	TOP OF WALL
FDC	FIRE DEPARTMENT CONNECTION	T	TRANSFORMER
FH	FIRE HYDRANT	WM	WATER METER
FL	FLOW LINE	WV	WATER VALVE
FF	FINISHED FLOOR		



LOCATION MAP

N.T.S.

8930 VILLAGE AVENUE, SUN VALLEY CALIFORNIA 91362
APN 2404-001-006

PROJECT INFORMATION

PROJECT OWNER:
VILLAGE CHRISTIAN SCHOOL
8930 VILLAGE AVENUE
SUN VALLEY, CA 91352
CONTACT: XXX
PHONE: (XXX) XXX-XXXX

JOB ADDRESS / PARCEL APN:
8930 VILLAGE AVENUE
SUN VALLEY, CA 91352
PARCEL APN: 2404-001-006

RESPONSIBLE CIVIL ENGINEER:
RANDY CHAPMAN, P.E.
CCE DESIGN ASSOCIATES, INC.
771 E. DAILY DRIVE, SUITE 120
CAMARILLO, CA 93010
(805) 738-5434

ARCHITECT:
FRANCO & ASSOCIATES INC.
12345 VENTURA BLVD H
STUDIO CITY, CA 91604
CONTACT: XXX
PHONE: (818) 754-2030

LANDSCAPE ARCHITECT:
MSJ LANDSCAPE ARCHITECTURE
507 30TH STREET
NEWPORT BEACH, CA 92663
CONTACT: MARK SCHATTINGER
PHONE: (949) 675-9964

SURVEY:
ATLAS GEOSPATIAL
2191 EL CAMINO REAL, SUITE 208L
OCEANSIDE, CA 92054
CONTACT: XXX
PHONE: (888) 364-1973

DRAWING SHEET INDEX

C1	COVER SHEET
C2	GRADING PLAN
C3	GRADING PLAN

EARTHWORK CALCULATIONS

EARTHWORK QUANTITIES:

CUT:	5,300 CUBIC YARDS
FILL:	300 CUBIC YARDS
NET:	5,000 CUBIC YARDS (EXPORT)
OVER-EX VOLUME:	4,914 CUBIC YARDS GYM BLDG 541 CUBIC YARDS ANNEX BLDG

NOTE:
EARTHWORK QUANTITIES PRESENTED HEREON ARE FOR PERMITTING PURPOSES ONLY, CONTRACTOR IS RESPONSIBLE FOR DETERMINING THEIR OWN EARTHWORK QUANTITIES FOR BIDDING PURPOSES.
A 25% SWELL FACTOR HAS BEEN INCLUDED FOR THE OVER-EX CALCULATIONS.

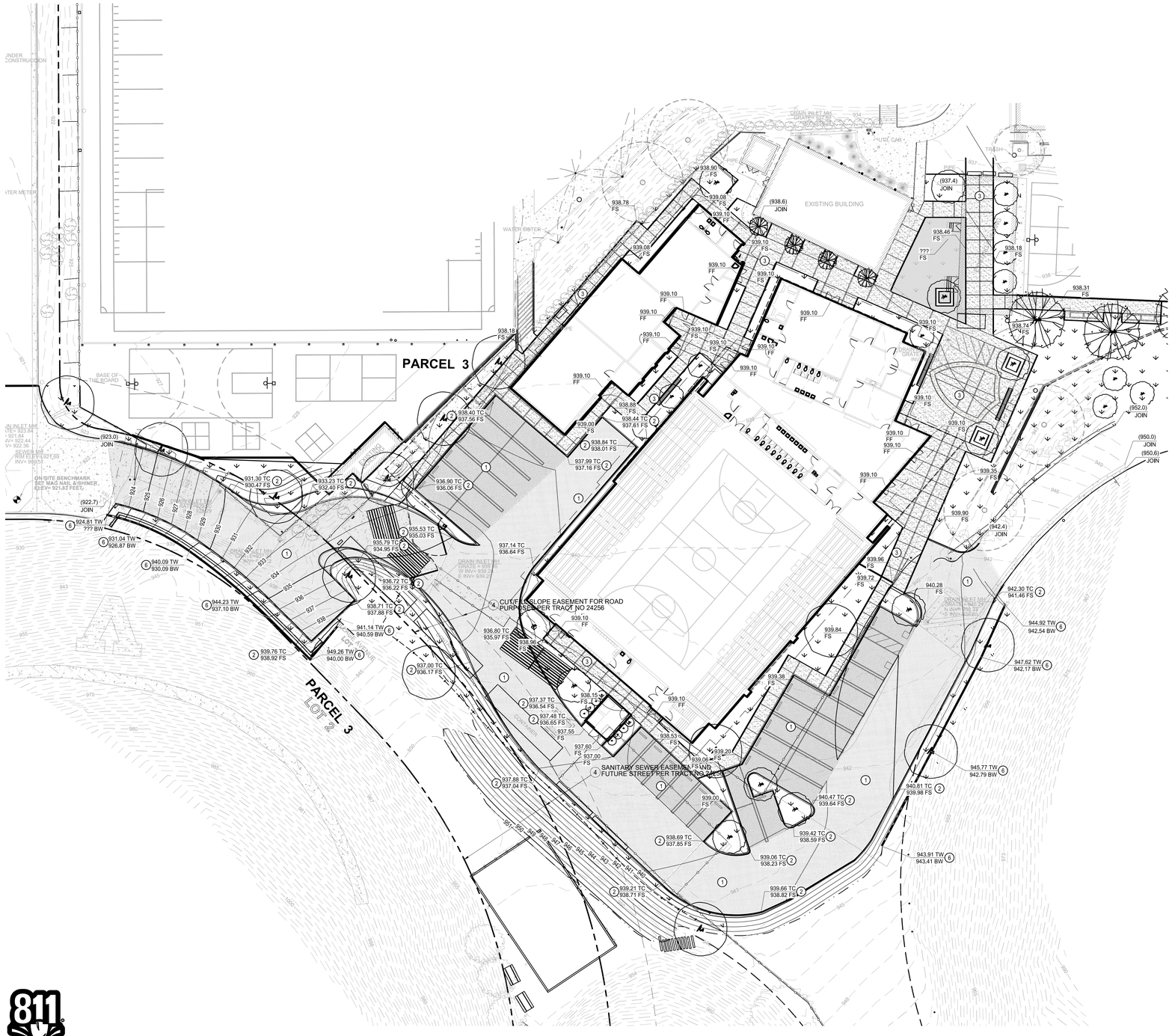
NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

CCE DESIGN ASSOCIATES, INC
771 E. Daily Drive, Suite 120
Camarillo, CA 93010
805.738.5434
www.ccedesignassociates.com

VILLAGE CHRISTIAN SCHOOL

8930 VILLAGE AVENUE
SUN VALLEY, CA 91352

SHEET TITLE:
COVER SHEET
SHEET NUMBER:
C1
PLOT DATE: 10.21.2025



GRADING CONSTRUCTION KEYNOTES / LEGEND

1. CONSTRUCT AC PAVING, TI=X.X; X-INCH ASPHALTIC CONCRETE ON X-INCH AGGREGATE BASE. COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
2. CONSTRUCT 10-INCH P.C.C. CURB PER CITY OF LOS ANGELES STANDARD PLAN S-412-0.
3. CONSTRUCT HARDSCAPE. INSTALL MATERIAL ON 4-INCH AGGREGATE BASE. SEE ARCHITECTURAL PLANS FOR PRODUCT SPECIFICATION. PRODUCT TO BE 4-INCH P.C.C. UNLESS NOTED OTHERWISE.
4. ACCESSIBLE PARKING, SLOPE 2% MAX. IN ANY DIRECTION. STRIPING AND SIGNAGE PER ARCHITECTURAL PLANS.
5. TREATMENT PLANTER PER LID PLANS, SEE SHEET CX.
6. CONSTRUCT RETAINING WALL PER SEPARATE PERMIT, SEE STRUCTURAL PLANS FOR DETAILS. TOP (TW) AND BOTTOM (BOW) WALL ELEVATIONS PER THIS PLAN.

GRADING NOTES

1. EXISTING SURFACE INFORMATION WAS TAKEN FROM A TOPOGRAPHIC SURVEY PROVIDED BY OTHERS. CCE DESIGN ASSOCIATES ASSUMES NO RESPONSIBILITY IN REGARD TO THE ACCURACY OF EXISTING ELEVATIONS AND SURFACE FEATURES.
2. PROVIDE 8-INCHES MINIMUM CLEAR SPACE FROM FINISHED SOIL GRADE (FG) TO BUILDING WALL. CONSTRUCT STEM WALL AT BUILDING PERIMETER WHERE THIS CONDITION CANNOT BE MET.
3. ALL HARDSCAPE ADJACENT TO STRUCTURES SHALL SLOPE AT A MINIMUM OF 2% FOR 5-FEET AWAY FROM THE FOUNDATION.
4. IMPROVEMENTS WITHIN PUBLIC RIGHT OF WAY, INCLUDING (BUT NOT EXCLUSIVE OF) FENCES, DRIVEWAYS, AND UTILITY CONNECTIONS WILL REQUIRE SUBSEQUENT PERMITS FROM THE GOVERNING A.H.J.
5. RETAINING WALLS LOCATED CLOSER TO THE PROPERTY LINE THAN THE HEIGHT OF THE WALL SHALL BE BACKFILLED NO LATER THAN 10 DAYS AFTER CONSTRUCTION OF THE WALL AND NECESSARY STRUCTURAL SUPPORTING MEMBERS UNLESS RECOMMENDED OTHERWISE BY RESPONSIBLE ENGINEER.
6. ADA HANDRAILS, PARKING SIGNS, AND PARKING STRIPING ARE PER ARCHITECTURAL PLANS AND ARE SHOWN HEREON FOR REFERENCE ONLY.
7. TOP OF WALL CALLOUTS REPRESENT TOP OF RETAINED SURFACE AND DO NOT INCLUDE WALL FREEBOARD AS SHOWN ON DETAILS. BOTTOM OF WALL CALLOUTS REPRESENT FACE OF WALL AT FINISHED SURFACE.
8. CLEARING AND GRUBBING OF THE SITE SHOULD CONSIST OF THE REMOVAL OF ASPHALT, CONCRETE SLAB, VEGETATION SUCH AS BRUSH, GRASS, WOOD, STUMPS, TREES, ROOTS OF TREES AND OTHERWISE DELETERIOUS NATURAL MATERIALS FROM THE AREAS TO BE GRADED. CLEARING AND GRUBBING SHOULD EXTEND TO THE OUTSIDE OF ALL PROPOSED EXCAVATION AND FILL AREAS.
9. ALL GRADING SLOPES SHALL BE PLANTED AND SPRINKLERED.
10. STANDARD 12-INCH HIGH BERM IS REQUIRED AT TOP OF ALL GRADED SLOPES.
11. NO FILL SHALL BE PLACED UNTIL THE INSPECTOR HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.
12. MAN-MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% MAX. DRY DENSITY WITHIN 40' BELOW FINISH GRADE AND 93% OF MAX. DRY DENSITY DEEPER THAN 40' BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90% OF MAX. DRY DENSITY) IS JUSTIFIED BY THE SOILS ENGINEER.
13. TEMPORARY EROSION CONTROL TO BE INSTALLED BETWEEN OCTOBER 1 AND APRIL 15.

Know what's below.
Call before you dig.

NOTICE TO CONTRACTORS

CONTRACTOR TO NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 811 A MINIMUM OF 48 HOURS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES

0 10 20 40 60
Scale 1" = 20 ft

NOT FOR CONSTRUCTION - FOR PLAN CHECK ONLY

CCE DESIGN ASSOCIATES, INC
771 E. Daily Drive, Suite 120
Camarillo, CA 93010
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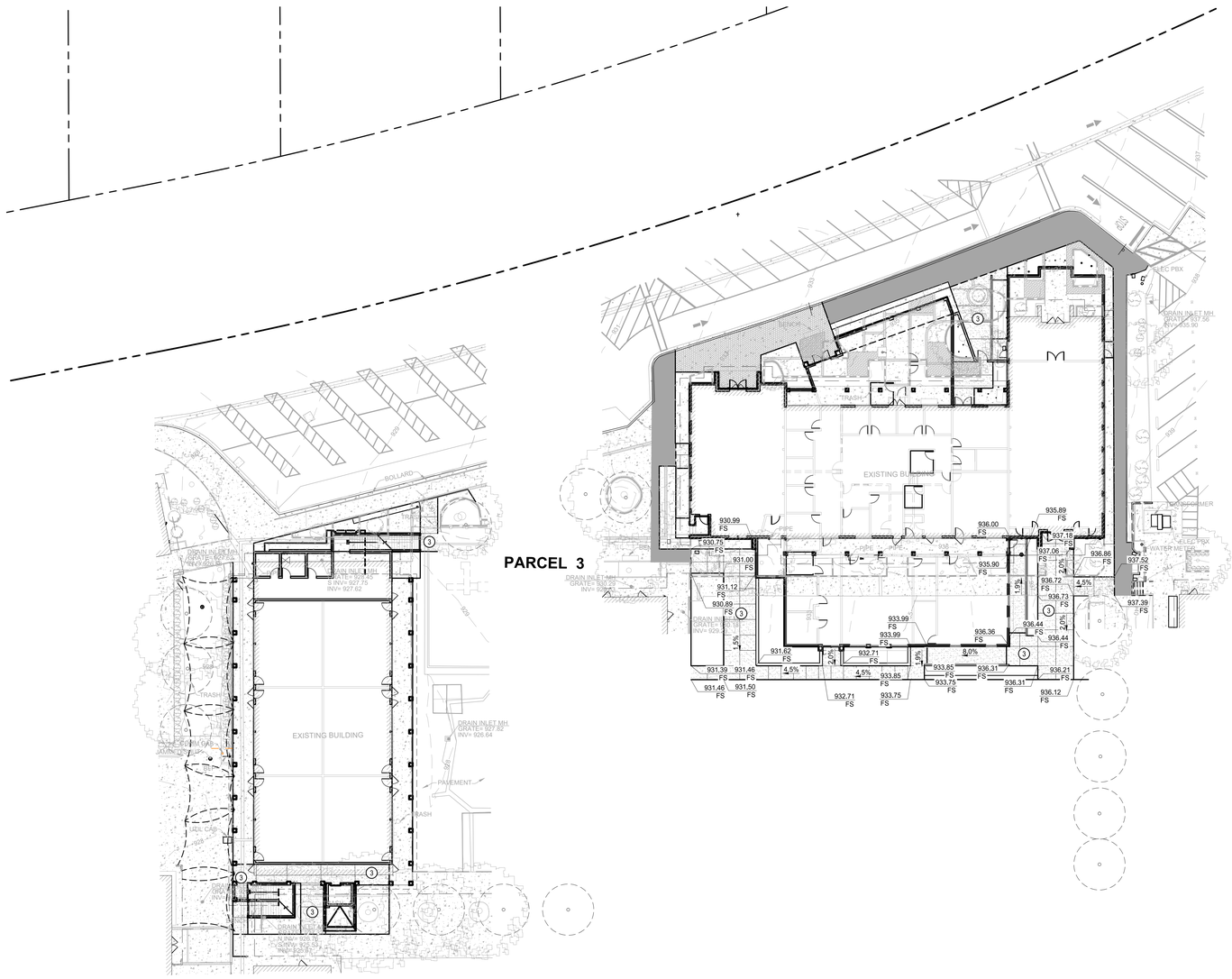
VILLAGE CHRISTIAN SCHOOL

8930 VILLAGE AVENUE
SUN VALLEY, CA 91352

SHEET TITLE:
GRADING PLAN
SHEET NUMBER:
C2
PLOT DATE: 10.21.2025



GRADING CONSTRUCTION KEYNOTES / LEGEND

1. CONSTRUCT AC PAVING, TI=X.X: X-INCH ASPHALTIC CONCRETE ON X-INCH AGGREGATE BASE. COMPACTION PER GEOTECHNICAL REPORT. CONFIRM PAVING SECTION WITH SITE GEOTECHNICAL ENGINEER BASED ON FINAL R VALUES.
2. CONSTRUCT 10-INCH P.C.C. CURB PER CITY OF LOS ANGELES STANDARD PLAN S-412-0.
3. CONSTRUCT HARDSCAPE, INSTALL MATERIAL ON 4-INCH AGGREGATE BASE, SEE ARCHITECTURAL PLANS FOR PRODUCT SPECIFICATION. PRODUCT TO BE 4-INCH P.C.C. UNLESS NOTED OTHERWISE.
4. ACCESSIBLE PARKING, SLOPE 2% MAX. IN ANY DIRECTION. STRIPING AND SIGNAGE PER ARCHITECTURAL PLANS.
5. TREATMENT PLANTER PER LID PLANS, SEE SHEET CX.
6. CONSTRUCT RETAINING WALL PER SEPARATE PERMIT, SEE STRUCTURAL PLANS FOR DETAILS. TOP (TW) AND BOTTOM (BOW) WALL ELEVATIONS PER THIS PLAN.

GRADING NOTES

1. EXISTING SURFACE INFORMATION WAS TAKEN FROM A TOPOGRAPHIC SURVEY PROVIDED BY OTHERS. CCE DESIGN ASSOCIATES ASSUMES NO RESPONSIBILITY IN REGARD TO THE ACCURACY OF EXISTING ELEVATIONS AND SURFACE FEATURES.
2. PROVIDE 8-INCHES MINIMUM CLEAR SPACE FROM FINISHED SOIL GRADE (FG) TO BUILDING WALL. CONSTRUCT STEM WALL AT BUILDING PERIMETER WHERE THIS CONDITION CANNOT BE MET.
3. ALL HARDSCAPE ADJACENT TO STRUCTURES SHALL SLOPE AT A MINIMUM OF 2% FOR 5-FEET AWAY FROM THE FOUNDATION.
4. IMPROVEMENTS WITHIN PUBLIC RIGHT OF WAY, INCLUDING (BUT NOT EXCLUSIVE OF) FENCES, DRIVEWAYS, AND UTILITY CONNECTIONS WILL REQUIRE SUBSEQUENT PERMITS FROM THE GOVERNING A.H.J.
5. RETAINING WALLS LOCATED CLOSER TO THE PROPERTY LINE THAN THE HEIGHT OF THE WALL SHALL BE BACKFILLED NO LATER THAN 10 DAYS AFTER CONSTRUCTION OF THE WALL AND NECESSARY STRUCTURAL SUPPORTING MEMBERS UNLESS RECOMMENDED OTHERWISE BY RESPONSIBLE ENGINEER.
6. ADA HANDRAILS, PARKING SIGNS, AND PARKING STRIPING ARE PER ARCHITECTURAL PLANS AND ARE SHOWN HEREON FOR REFERENCE ONLY.
7. TOP OF WALL CALLOUTS REPRESENT TOP OF RETAINED SURFACE AND DO NOT INCLUDE WALL FREEBOARD AS SHOWN ON DETAILS. BOTTOM OF WALL CALLOUTS REPRESENT FACE OF WALL AT FINISHED SURFACE.
8. CLEARING AND GRUBBING OF THE SITE SHOULD CONSIST OF THE REMOVAL OF ASPHALT, CONCRETE SLAB, VEGETATION SUCH AS BRUSH, GRASS, WOOD, STUMPS, TREES, ROOTS OF TREES AND OTHERWISE DELETERIOUS NATURAL MATERIALS FROM THE AREAS TO BE GRADED. CLEARING AND GRUBBING SHOULD EXTEND TO THE OUTSIDE OF ALL PROPOSED EXCAVATION AND FILL AREAS.
9. ALL GRADING SLOPES SHALL BE PLANTED AND SPRINKLERED.
10. STANDARD 12-INCH HIGH BERM IS REQUIRED AT TOP OF ALL GRADED SLOPES.
11. NO FILL SHALL BE PLACED UNTIL THE INSPECTOR HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.
12. MAN-MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% MAX. DRY DENSITY WITHIN 40' BELOW FINISH GRADE AND 93% OF MAX. DRY DENSITY DEEPER THAN 40' BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90% OF MAX. DRY DENSITY) IS JUSTIFIED BY THE SOILS ENGINEER.
13. TEMPORARY EROSION CONTROL TO BE INSTALLED BETWEEN OCTOBER 1 AND APRIL 15.

811 Know what's below. Call before you dig.

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