GEOTECHNICAL INVESTIGATION
PROPOSED CAMBRIDGE SCHOOL
SOUTHWEST CORNER OF CAMINO DEL SUR AND COYOTE BUSH DRIVE
SAN DIEGO, CALIFORNIA

Prepared for:

THE CAMBRIDGE SCHOOL
ATTENTION: MR. BRANDON HONG
12855 BLACK MOUNTAIN ROAD
SAN DIEGO, CALIFORNIA 92129

Prepared by:

CONSTRUCTION TESTING & ENGINEERING, INC.
1441 MONTIEL ROAD, SUITE 115
ESCONDIDO, CALIFORNIA 92026

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1.0 INTRODUCTION AND SCOPE OF SERVICES

1.1 Introduction

This report presents the results of the geotechnical investigation, performed by Construction Testing and Engineering, Inc. (CTE), and provides conclusions and recommendations for the proposed Cambridge School campus in San Diego, California. This investigation was performed in general accordance with the terms of CTE proposal 4830.0623.00012, dated July 6, 2023.

CTE understands that the proposed improvements are to consist of multiple campus buildings, parking areas, driveways, an athletic field, flatwork, landscaping, utilities and other associated improvements. It is understood that the site was previously graded through 2011 to 2013 under the observation of Geocon, Inc. (Geocon, 2014). Based on previous site usage, Toxaphene was found present in site soils. Environmental reports indicate that soils exceeding threshold values were placed in specific encapsulation zones below the depth of recommended removals provided in this report. In accordance with RWQCB-approved 2006 Limited Pesticide Assessment and Soil Reuse Plan, the soil encapsulated was placed at least 10 feet below ultimate ground surface and at least 5 feet above highest anticipated groundwater level. Given noted site conditions, the recent geotechnical investigation including exploratory borings and soil sampling was limited to the area within ten feet below ground surface (bgs) of the existing graded site. It should be noted that the two existing stormwater drainage basins in the northeast corner of the property were not included in the investigation. Further evaluation of the environmental aspects of the underlying soil is not a part of

the proposed scope. Preliminary recommendations for excavations, site preparation, fill placement, and foundation design are presented herein. References reviewed for this report are provided in Appendix A.

1.2 Scope of Services

The scope of services provided included:

- Review of referenced geologic and soils reports.
- Coordination of utility mark-out and location.
- Excavation of exploratory borings and soil sampling utilizing a truck-mounted drill rig.
- Laboratory testing of selected soil samples.
- Description of the geology and evaluation of potential geologic hazards.
- Engineering and geologic analysis.
- Preparation of this summary report.

2.0 SITE DESCRIPTION

The proposed improvement area is located southwest of the Camino Del Sur and Coyote Bush Drive intersection in San Diego, California (Figure 1). The near-rectangular shaped site is bounded by Camino Del Sur to the north, Coyote Bush Drive to the east, Templeton Street to the south, and the property addressed 16067 Babcock Street, San Diego, CA to the west. The general layout of the subject site and proposed improvement area are shown on Figures 1 and 2.

The improvement area generally descends gradually to the northeast with elevations ranging from approximately 528 feet msl in the southwest to approximately 510 feet msl to the east.

3.0 FIELD INVESTIGATION AND LABORATORY TESTING

3.1 Field Investigation

CTE performed the recent subsurface investigation on August 10, 2023, to evaluate underlying soil conditions. This fieldwork consisted of site reconnaissance, and the excavation of seven exploratory soil borings. As indicated, the borings were advanced to a maximum explored depth of 10 feet below ground surface (bgs). Bulk samples were collected from the cuttings, and relatively undisturbed samples were collected by driving Standard Penetration Test (SPT) and Modified California (CAL) samplers. The borings were excavated with a CME-75 truck-mounted drill rig equipped with eight-inch-diameter, hollow-stem augers. Approximate locations of the borings are shown on the attached Figure 2.

Soils were logged in the field by a CTE geologist and were visually classified in general accordance with the Unified Soil Classification System. The field descriptions have been modified, where appropriate, to reflect laboratory test results. Boring logs, including descriptions of the soils encountered, are included in Appendix B.

3.2 Laboratory Testing

Laboratory tests on selected soil samples were scheduled for classification purposes, and to evaluate physical properties and engineering characteristics. Scheduled laboratory tests include:

- In-Place Moisture and Density
- Maximum Density/Proctor
- Expansion Index (EI)
- R-value
- Gradation
- Chemical Characteristics.

Test descriptions and laboratory test results for the selected soils are included in Appendix C.

4.0 GEOLOGY

4.1 General Setting

San Diego is located within the Peninsular Ranges physiographic province that is characterized by northwest-trending mountain ranges, intervening valleys, and predominantly northwest trending regional faults. The region can be further subdivided into the coastal plain area, a central mountain–valley area and the eastern mountain-valley area. The project site is located within the coastal plain area. The coastal plain sub-province ranges in elevation from approximately sea level to 1,200 feet above mean sea level (msl) and is characterized by Cretaceous and Tertiary sedimentary deposits that onlap an eroded basement surface consisting of Jurassic and Cretaceous crystalline rocks that have been repeatedly eroded and infilled, and by alluvial processes throughout the Quaternary Period in response to regional uplift. This has resulted in a geomorphic landscape of uplifted alluvial and marine terraces that are dissected by current active alluvial drainages.

4.2 Geologic Conditions

Based on the regional geologic map prepared by Kennedy and Tan (2007), the near surface geologic unit underlying the site consists of the Tertiary Mission Valley Formation. However, because site explorations were limited due to the noted conditions, only the Previously Placed Fill was encountered throughout the site. Descriptions of the observed soils during the recent investigation are presented below. Near surface geologic materials are depicted on Figure 2.

4.2.1 Previously Placed Fill

Based on as-graded conditions and recent investigation findings, near surface fill materials generally consist of loose to medium dense/soft to stiff, brown to gray-brown, fine- to coarse-grained clayey sand/sandy clay. The previously placed fill was observed in all the borings to the explored depth of approximately 10.0 feet below the ground surface (bgs). As indicated, the fill soils were placed under observation of Geocon in 2014. Based on regional geologic mapping and the as-graded report, the site is underlain at depth by dense sandstone materials of the Tertiary Mission Valley Formation.

4.3 Groundwater Conditions

Groundwater was not encountered in the recent borings to an explored depth of approximately 10.0 feet bgs. While groundwater conditions may vary, especially following periods of sustained precipitation or irrigation, it is generally not anticipated to adversely affect completed improvements, if irrigation is limited and proper site drainage is designed, installed, and maintained per the recommendations of the project civil engineer.

4.4 Geologic Hazards

Geologic hazards that were considered to have potential impacts to site development were evaluated based on field observations, literature review, and laboratory test results. It appears that geologic hazards at the site are primarily limited to those caused by shaking from earthquake-generated ground motions on distant faults. The following paragraphs discuss the geologic hazards considered and their potential risk to the site.

4.4.1 Surface Fault Rupture

In accordance with the Alquist-Priolo Earthquake Fault Zoning Act, (ACT), the State of California established Earthquake Fault Zones around known active faults. The purpose of the ACT is to regulate the development of structures intended for human occupancy near active fault traces in order to mitigate hazards associated with surface fault rupture. According to the California Geological Survey (Special Publication 42, Revised 2018), a fault that has had surface displacement within the last 11,700 years is defined as a Holocene-active fault and is either already zoned or is pending zonation in accordance with the ACT. There are several other definitions of fault activity that are used to regulate dams, power plants, and other critical facilities, and some agencies designate faults that are documented as older than Holocene (last 11,700 years) and younger than late Quaternary (1.6 million years) as potentially active faults that are subject to local jurisdictional regulations.

Based on reconnaissance and review of referenced literature, the site is not located within a local or State designated Earthquake Fault Zone, no known active fault traces underlie or project toward the site, and no known potentially active fault traces project toward the site.

4.4.2 Local and Regional Faulting

The United States Geological Survey (USGS), with support of State Geological Surveys, and reviewed published work by various researchers, have developed a Quaternary Fault and Fold Database of faults and associated folds that are believed to be sources of earthquakes with magnitudes greater than 6.0 that have occurred during the Quaternary (the past 1.6 million years). The faults and folds within the database have been categorized into four Classes (Class A-D) based on the level of evidence confirming that a Quaternary fault is of tectonic origin and whether the structure is exposed for mapping or inferred from fault related deformational features. Class A faults have been mapped and categorized based on age of documented activity ranging from Historical faults (activity within last 150 years), Latest Quaternary faults (activity within last 15,000 years), Late Quaternary (activity within last 130,000 years), to Middle to late Quaternary (activity within last 1.6 million years). Class A faults are considered to have the highest potential to generate earthquakes and/or surface rupture, and the earthquake and surface rupture potential generally increases from oldest to youngest. The evidence for Quaternary deformation and/or tectonic activity progressively decreases for Class B and Class C faults. When geologic evidence indicates

that a fault is not of tectonic origin it is considered to be a Class D structure. Such evidence includes features such as joints, fractures, landslides, or erosional and fluvial scarps that resemble fault scarps, but demonstrate a non-tectonic origin.

The nearest known Class A fault is the Newport-Inglewood Fault Zone (<15,000 years), which is approximately 16.1 miles west of the site. The attached Figure 4 shows regional faults and seismicity with respect to the site.

4.4.3 Historic Seismicity

The level of seismicity within recent history (last 50 years) of the San Diego area is relatively low compared to other areas of southern California and northwestern Baja California. Only a few small to moderate earthquakes have been reported in the San Diego area during the period of instrumental recordings, which began in the early 1900s. Most of the high seismic activity in the region is associated with the Elsinore Fault Zone and the San Jacinto Fault Zone, located approximately 22.2 and 46.1 miles northeast of the site, respectively. In the western portion of San Diego County, a series of small-to-moderate earthquakes in July 1985 were reportedly associated with the Rose Canyon Fault Zone (Reichle, 1985). The largest event in that series was M4.7, which was centered within San Diego Bay. A similar series of earthquakes in coastal San Diego occurred in 1964 (Simons, 1979).

Review of the USGS Earthquake Archives (http://earthquake.usgs. gov/earthquakes/search/) for significant earthquakes within 100 kilometers of the site with magnitudes greater than M5.5 are provided in Table 4.4.3.

TABLE 4.4.3
Regional Earthquake History

EARTHQUAKE DATE (yr-mo-day)	EARTHQUAKE TIME (UTC)	MAGNITUDE	ESTIMATED DEPTH (km)	GENERAL LOCATION
1918-04-21	22:32:29	6.7	10.0	Southern California
1937-03-25	16:49:02	6.0	6.0	WSW of Oasis CA
1954-03-19	09:54:27	6.4	6.0	West of Salton Sea, CA
1968-04-09	02:28:58	6.6	10.0	NNE of Ocotillo Wells

The site could be subjected to significant shaking in the event of a major earthquake on any of the faults discussed above or other faults in the southern California or northern Baja California area.

4.4.4 Liquefaction and Seismic Settlement Evaluation

Liquefaction occurs when saturated fine-grained sands or silts lose their physical strength during earthquake-induced shaking and behave like a liquid. This is due to loss of point-to-point grain contact and transfer of normal stress to the pore water. Liquefaction potential varies with water level, soil type, material gradation, relative density, and probable intensity and duration of ground shaking. Seismic settlement can occur with or without liquefaction; it results from densification of loose soils.

Under the previous grading (Geocon, 2014), topsoil alluvium, and colluvium were removed to dense formational materials and replaced as compacted fill. These compacted fill materials are not considered liquefiable, and underlying, dense formational materials are also not considered liquefiable. Based on the presence of non-liquefiable soils and lack of a shallow groundwater table, the potential for liquefaction or significant seismic settlement at the site is considered to be low.

4.4.5 Landsliding

According to mapping by Tan and Giffen (1995), the site is considered "Generally Susceptible" to landsliding. No landslides are mapped in the site area and no evidence of landsliding was observed during the recent field exploration at the gently sloping site. Existing slopes at the site were generally constructed at a gradient of 2:1 (H:V) or less steep. Based on the noted conditions and investigation findings, landsliding is not considered to be a significant geologic hazard at the subject site.

4.4.8 Compressible and Expansive Soils

Based on investigation observations and testing, the desiccated upper portion of fill materials are considered to be potentially compressible in their current condition. Expansion testing of near surface soils generally indicates a low to moderate expansion potential. However, clayey soils are known to be present in the area and, if encountered during grading, should be blended with granular materials, as necessary, such that the expansion index is no greater than 50. Based on the noted conditions and recommended grading, expansive soils are generally not anticipated to present adverse impacts to site development provided the

recommendations herein are implemented. However, additional evaluation of potential expansion of near-surface fill soils should be conducted during field observations and grading activities.

4.4.9 Corrosive Soils

Testing of representative site soils was performed to evaluate the potential corrosive effects on concrete foundations and buried metallic utilities. Soil environments detrimental to concrete generally have elevated levels of soluble sulfates and/or pH levels less than 5.5. According to the American Concrete Institute (ACI) Table 318 4.3.1, specific guidelines have been provided for concrete where concentrations of soluble sulfate (SO_4) in soil exceed 0.10 percent by weight. These guidelines include low water:cement ratios, increased compressive strength, and specific cement type requirements. A minimum resistivity value less than approximately 5,000 ohm-cm and/or soluble chloride levels in excess of 200 ppm generally indicate a corrosive environment for buried metallic utilities and untreated conduits.

Chemical test results indicate that near-surface soils generally present a negligible corrosion potential for Portland cement concrete. Based on resistivity testing, regional soils have generally been interpreted to have a moderate corrosivity potential to buried metallic improvements. Based on these findings, it may be prudent to utilize plastic piping and conduits where buried and feasible. However, CTE does not practice corrosion engineering.

Therefore, if corrosion of metallic or other improvements is of more significant concern, a qualified corrosion engineer could be consulted. Corrosivity of site improvements may be further evaluated following completion of fine grading and site-specific chemical testing.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 General

CTE concludes that the proposed improvements at the site are feasible from a geotechnical standpoint, provided the recommendations in this report are incorporated into the design and construction of the project. Recommendations for the proposed earthwork and improvements are included in the following sections and Appendix D. However, recommendations in the text of this report supersede those presented in Appendix D should conflicts exist. These recommendations should either be confirmed as appropriate or should be updated following rough grading at the site.

5.2 Site Preparation

Prior to grading, the site should be cleared of any existing vegetation not suitable for structural backfill and be properly disposed of offsite. In areas to receive structures, overexcavation should extend to a minimum depth of 24 inches or to the depth of competent material, whichever is deeper. Overexcavation should extend laterally at least five feet beyond the limits of the proposed improvements, where feasible.

For other proposed improvements, such as pavement and hardscape areas, existing soils should be excavated to the depth of competent materials, or to a minimum of 24 inches below existing grade, whichever depth is shallowest.

Exposed subgrades should be scarified, moisture conditioned, and properly compacted, as described below, prior to receiving compacted fill. Overexcavations adjacent to existing structures or property limits should generally not extend below a 1:1 plane extended down from the property line or as recommended during grading based on the exposed conditions. Depending on the depth and proximity of the existing improvements, alternating slot excavations could potentially be required during earthwork.

Suitability of the bottom of all overexcavations and footing excavations should be verified by a CTE geotechnical representative during site grading. If localized areas of loose or unsuitable materials are encountered at the base of the recommended excavations, deeper removals to the depth of competent material may be necessary.

Existing below-ground utilities should be redirected around the proposed structures. Existing utilities at an elevation to extend through the proposed footings should generally be sleeved and caulked to minimize the potential for moisture migration below the building slabs. Abandoned pipes exposed by grading should be securely capped or filled with minimum two-sack cement/sand slurry to help prevent moisture from migrating beneath foundation and slab soils.

5.3 Site Excavation

Generally, shallow excavation of site materials may be accomplished with heavy-duty construction equipment under normal conditions. Deeper excavations may be difficult and locally require specialized excavation equipment or techniques for advancement.

5.4 Fill Placement and Compaction

Following recommended removals of loose or disturbed soils, the areas to receive fills or improvements should be scarified a minimum of eight inches, moisture conditioned, and properly compacted. Properly blended granular fill and backfill with expansion index less than 50 should be compacted to a minimum relative compaction of 90 percent at approximately three percent above optimum due to clayey soils, as evaluated by ASTM D 1557. The optimum lift thickness for fill soil will depend on the type of compaction equipment used. Generally, backfill should be placed in uniform, horizontal lifts not exceeding eight inches in loose thickness. Fill placement and compaction should be conducted in conformance with local ordinances.

5.5 Fill Materials

Properly blended and moisture conditioned, low expansion potential soils derived from the on-site materials are considered suitable for reuse on the site as compacted fill. If used, these materials should be screened of organics and materials generally greater than three inches in maximum dimension. Irreducible materials greater than three inches in maximum dimension should not be used in shallow fills (within three feet of proposed grades). In utility trenches, adequate bedding should surround pipes.

Imported fill beneath structures and flatwork should have an Expansion Index of 20 or less (ASTM D 4829). Imported fill soils for use in structural or slope areas should be evaluated by the soils engineer before being imported to the site. Although this report is not intended to address environmental conditions at the subject site, we anticipate that imported soils will be screened, sampled, and tested in accordance with appropriate environmental guidelines.

If proposed, retaining wall backfill located within a 45-degree wedge extending up from the bottom of the heel foundation of the wall should consist of soil having an Expansion Index of 20 or less (ASTM D 4829) with less than 30 percent passing the No. 200 sieve. The upper 12 to 18 inches of wall backfill should consist of lower permeability soils, in order to reduce surface water infiltration behind walls. The project structural engineer and/or architect should detail proper wall backdrains, including gravel drain zones, fills, filter fabric and perforated drain pipes. A conceptual wall drainage detail is provided in Figure 4.

5.6 Temporary Construction Slopes

The following recommended slopes should be relatively stable against deep-seated failure but may experience localized sloughing. On-site soils are considered Type C soils with recommended slope ratios as set forth in Table 5.6.

TABLE 5.6
RECOMMENDED TEMPORARY SLOPE RATIOS

SOIL TYPE	SLOPE RATIO (Horizontal: vertical)	MAXIMUM HEIGHT
C (Previously Placed Fill)	1.5:1 (OR FLATTER)	10 Feet

Actual field conditions and soil type designations must be verified by a "competent person" while excavations exist, according to Cal-OSHA regulations. In addition, the above sloping recommendations do not allow for surcharge loading at the top of slopes by vehicular traffic, equipment or materials. Appropriate surcharge setbacks must be maintained from the top of all unshored slopes.

5.7 Foundations and Slab Recommendations

The following recommendations are for preliminary design purposes only. These foundation recommendations should be re-evaluated after review of the project grading and foundation plans, and after completion of rough grading of the building pad areas. Upon completion of rough pad grading, Expansion Index of near surface soils should be verified, and these recommendations should be updated, if necessary.

5.7.1 Foundations

Following the recommended preparatory grading, continuous and isolated spread footings are anticipated to be suitable for use at this site. Foundation dimensions and reinforcement should be based on allowable bearing values of 2,500 pounds per square foot (psf) for footings embedded a minimum of 24-inches below lowest adjacent subgrade elevation. Isolated footings should be at least 24 inches in minimum dimension. The allowable bearing value may be increased by one-third for short-duration loading, which includes the effects of wind or seismic forces. Based on the recommended preparatory grading, it is anticipated that all footings will be founded entirely in properly compacted fill materials. Footings should not span cut to fill interfaces.

Minimum reinforcement for continuous footings should consist of four No. 6 reinforcing bars; two placed near the top and two placed near the bottom, or as per the project structural engineer. The structural engineer should design isolated footing reinforcement. An uncorrected subgrade modulus of 125 pounds per cubic inch is considered suitable for elastic foundation design.

The structural engineer should provide recommendations for reinforcement of spread footings and footings with pipe penetrations. Footing excavations should generally be maintained at a minimum of three percent above optimum moisture content until concrete placement. Exposed soils and potential expansion characteristics should be evaluated at the time of grading to verify that conditions are as anticipated by the preliminary findings.

5.7.2 Foundation Settlement

The maximum total static settlement is expected to be on the order of one inch and the maximum differential settlement is expected to be on the order of 0.5 inch. Due to the generally dense nature of underlying materials, dynamic settlement is not expected to adversely affect the proposed buildings.

5.7.3 Foundation Setback

Footings for structures should be designed such that the horizontal distance from the face of adjacent slopes to the outer edge of the footing is at least 12 feet. In addition, footings should bear beneath a 1:1 plane extended up from the nearest bottom edge of adjacent trenches and/or excavations. Deepening of affected footings may be a suitable means of attaining the prescribed setbacks.

5.7.4 Interior Concrete Slabs

Lightly loaded concrete slabs for non-traffic areas without heavy loading should be a minimum of 5.0 inches thick. Minimum slab reinforcement should consist of No. 4 reinforcing bars placed on maximum 15-inch centers, each way, at or above mid-slab height, but with proper cover. More stringent recommendations per project structural engineer supersede these recommendations, as applicable.

In moisture-sensitive floor areas, a suitable vapor retarder of at least 15-mil thickness (with all laps or penetrations sealed or taped) overlying a four-inch layer of consolidated aggregate base or gravel (or sand with SE of 30 or more) should be installed. An optional maximum two-inch layer of similar material may be placed above the vapor retarder to help protect the membrane during steel and concrete placement. This recommended protection is generally considered typical in the industry. If proposed floor areas or coverings are considered especially sensitive to moisture emissions, additional recommendations from a specialty consultant could be obtained. CTE is not an expert at preventing moisture penetration through slabs. A qualified architect or other experienced professional should be contacted if moisture penetration is a more significant concern.

Slabs subjected to heavier loads will require thicker slab sections and/or increased reinforcement. A 110-pci subgrade modulus is considered suitable for elastic design of minimally embedded improvements such as slabs-on-grade.

Subgrade materials should be maintained or brought to a minimum of three percent or greater above optimum moisture content until slab underlayment and concrete are placed.

5.8 Seismic Design Criteria

The seismic ground motion values listed in the table below were derived in accordance with the ASCE 7-16 Standard that is incorporated into the 2022 California Building Code. This was accomplished by establishing the Site Class based on the soil properties at the site and calculating site coefficients and parameters using the using the SEAOC-OSHPD U.S. Seismic Design Maps application. Seismic ground motion values are based on the approximate site coordinates of 33.0213° latitude and –117.1285° longitude. These values are intended for the design of structures to resist the effects of earthquake ground motions.

TABLE 5.8
SEISMIC GROUND MOTION VALUES (CODE-BASED)
2022 CBC AND ASCE 7-16

PARAMETER	VALUE	2022 CBC/ASCE 7-16 REFERENCE
Site Class	D	ASCE 16, Chapter 20
Mapped Spectral Response Acceleration Parameter, S_S	0.845	Figure 1613.2.1 (1)
Mapped Spectral Response Acceleration Parameter, S_1	0.312	Figure 1613.2.1 (2)
Seismic Coefficient, F_a	1.162	Table 1613.2.3 (1)
Seismic Coefficient, F_v	null	Table 1613.2.3 (2)
MCE Spectral Response Acceleration Parameter, S_{MS}	0.982	Section 1613.2.3
MCE Spectral Response Acceleration Parameter, S_{M1}	Null	Section 1613.2.3
Design Spectral Response Acceleration, Parameter S_{DS}	0.655	Section 1613.2.5(1)
Design Spectral Response Acceleration, Parameter S_{D1}	null	Section 1613.2.5 (2)
Peak Ground Acceleration PGA_M	0.45	ASCE 16, Section 11.8.3

The code-based seismic parameters provided above are considered to be acceptable, and a ground motion hazard analysis is not required, provided that the provisions of Exception 2 in ASCE/SEI 7-16, Section 11.4.8, are applied in structural design.

5.9 Lateral Resistance and Earth Pressures

Lateral loads acting against structures may be resisted by friction between the footings and the supporting soil or passive pressure acting against structures. If frictional resistance is used, allowable coefficients of friction of 0.30 (total frictional resistance equals the coefficient of friction multiplied by the dead load) for concrete cast directly against compacted fill is recommended. A design passive resistance value of 250 pounds per square foot per foot of depth (with a maximum value of 2,000 pounds per square foot) may be used. The allowable lateral resistance can be taken as the sum of the frictional resistance and the passive resistance, provided the passive resistance does not exceed two-thirds of the total allowable resistance.

If proposed, retaining walls backfilled using select granular soils may be designed using the equivalent fluid unit weights given in Table 5.9 below.

TABLE 5.9
EQUIVALENT FLUID UNIT WEIGHTS (G_h)
(pounds per cubic foot)

WALL TYPE	LEVEL BACKFILL	SLOPE BACKFILL 2:1 (HORIZONTAL: VERTICAL)
CANTILEVER WALL (YIELDING)	55	75
RESTRAINED WALL	65	85

Lateral pressures on cantilever retaining walls (yielding walls) over six feet high due to earthquake motions may be calculated based on work by Seed and Whitman (1970). The total lateral earth pressure against a properly drained and backfilled cantilever retaining wall above the groundwater level can be expressed as:

$$P_{AE} = P_A + \Delta P_{AE}$$

For non-yielding (or "restrained") walls, the total lateral earth pressure may be similarly calculated based on work by Wood (1973):

$$P_{KE} = P_K + \Delta P_{KE}$$

Where P_A/b = Static Active Earth Pressure = $G_h H^2/2$

P_K/b = Static Restrained Wall Earth Pressure = $G_h H^2/2$

$\Delta P_{AE}/b$ = Dynamic Active Earth Pressure Increment = $(3/8)\ k_h\ \gamma H^2$

$\Delta P_{KE}/b$ = Dynamic Restrained Earth Pressure Increment = $k_h\ \gamma H^2$

b = unit length of wall (usually 1 foot)

k_h = 1/2* PGA_m (PGA_m given previously Table 5.8)

G_h = Equivalent Fluid Unit Weight (given previously Table 5.9)

H = Total Height of the retained soil

γ = Total Unit Weight of Soil ≈ 135 pounds per cubic foot

*It is anticipated that the 1/2 reduction factor will be appropriate for proposed walls that are not substantially sensitive to movement during the design seismic event. Proposed walls that are more sensitive to such movement could utilize a 2/3 reduction factor. If any proposed walls require minimal to no movement during the design seismic event, no reduction factor to the peak ground acceleration should be used. The project structural engineer of record should determine the appropriate reduction factor to use (if any) based on the specific proposed wall characteristics.

The static and increment of dynamic earth pressure in both cases may be applied with a line of action located at H/3 above the bottom of the wall (SEAOC, 2013).

These values assume non-expansive backfill and free-draining conditions. Measures should be taken to prevent moisture buildup behind all retaining walls. Drainage measures should include free-draining backfill materials and sloped, perforated drains. These drains should discharge to an appropriate off-site location. Waterproofing should be as specified by the project architect.

In addition to the recommended earth pressure, subterranean structure walls adjacent to the streets or other traffic loads should be designed to resist a uniform lateral pressure of 100 psf. This is the result of an assumed 300-psf surcharge behind the walls due to normal street traffic. If the traffic is kept back at least 10 feet or a distance equal to the retained soil height from the subject walls, whichever is less, the traffic surcharge may be neglected. The project architect or structural engineer should determine the necessity of waterproofing the subterranean structure walls to reduce moisture infiltration.

Temporary shoring is generally not anticipated to be necessary based on current conceptual plans. However, temporary shoring recommendations may be provided should conditions arise to necessitate such.

5.10 Exterior Flatwork

Lightly loaded flatwork should be installed with crack-control joints at appropriate spacing as designed by the project architect to reduce the potential for cracking in exterior flatwork caused by minor movement of subgrade soils and concrete shrinkage, it is recommended that such flatwork be installed with crack-control joints at appropriate spacing as designed by the project architect and measure a minimum 5.0 inches in thickness. Additionally, it is recommended that flatwork be

installed with at least No. 4 reinforcing bars at 18-inch centers, each way, at or above mid-height of slab, but with proper concrete cover, or with other reinforcement per the applicable project designer. Flatwork that should be installed with crack control joints, includes sidewalks and architectural features. All subgrades should be prepared according to the earthwork recommendations previously given before placing concrete. Positive drainage should be established and maintained next to all flatwork. Subgrade materials should be maintained at a minimum of three percent above optimum moisture content until the time of concrete placement.

5.11 Vehicular Pavement

The proposed improvements include paved vehicle drive and parking areas. Presented in Table 5.11 are preliminary pavement sections utilizing preliminary Resistance "R" Value. Actual traffic area slab sections to be provided by the structural designer. Beneath proposed pavement areas, the upper 12 inches of subgrade and all base materials should be compacted to 95% relative compaction in accordance with ASTM D1557, and at a minimum of three percent above optimum moisture content.

TABLE 5.11
RECOMMENDED PAVEMENT THICKNESS

Traffic Area	Assumed Traffic Index	Preliminary Subgrade "R"-Value	Asphalt Pavements		Portland Cement Concrete Pavements, on Subgrade Soils (inches)
			AC Thickness (inches)	Class II Aggregate Base Thickness (inches)	
Fire Lanes & Infrequent Heavy Vehicle Access	7.0	5+	4.0	16.0	7.5
Automobile Drive Areas	5.5	5+	3.0	12.0	7.0
Automobile Parking Areas	4.0	5+	3.0	7.0	6.0

* Caltrans Class 2 aggregate base
** Concrete should have a modulus of rupture of at least 600 psi

Following rough site grading, CTE laboratory testing of representative subgrade soils should be performed to verify as-graded "R"-Value and suitability of pavement sections. Asphalt paved areas should be designed, constructed, and maintained in accordance with the recommendations of the Asphalt Institute, or other widely recognized authority. Concrete paved areas should be designed and constructed in accordance with the recommendations of the American Concrete Institute or other widely recognized authority, particularly with regard to thickened edges, joints, and drainage. The Standard Specifications for Public Works construction ("Greenbook") or Caltrans Standard Specifications may be referenced for pavement materials specifications.

5.12 Drainage

Surface runoff should be collected and directed away from improvements by means of appropriate erosion-reducing devices and positive drainage should be established around the proposed improvements. Positive drainage should be directed away from improvements at a gradient of at least two percent for a distance of at least five feet. However, the project civil engineers should evaluate the on-site drainage and make necessary provisions to keep surface water from affecting the site.

Generally, CTE recommends against allowing water to infiltrate building pads or adjacent to slopes. CTE understands that some agencies are encouraging the use of storm-water cleansing devices. Use of such devices tends to increase the possibility of adverse effects associated with high groundwater including slope instability and liquefaction.

5.13 Slopes

Based on anticipated soil strength characteristics slopes, if proposed, should be constructed at ratios of 2:1 (horizontal: vertical) or flatter. These slope inclinations should exhibit factors of safety greater than 1.5.

Although properly constructed slopes on this site should be grossly stable, the soils will be somewhat erodible. Therefore, runoff water should not be permitted to drain over the edges of slopes unless that water is confined to properly designed and constructed drainage facilities. Erosion-resistant vegetation should be maintained on the face of all slopes.

Typically, soils along the top portion of a fill slope face will creep laterally. CTE recommends against building distress-sensitive hardscape improvements within five feet of slope crests.

5.14 Controlled Low Strength Materials (CLSM)

Where approved, Controlled Low Strength Materials (CLSM) may be used in deepened footing excavation areas, building pads, and/or adjacent to retaining walls or other structures, provided the appropriate following recommendations are also incorporated. Minimum overexcavation depths recommended herein beneath slabs, flatwork, and other areas may be applicable beneath CLSM if/where CLSM is to be used, and excavation bottoms should be observed by CTE prior to placement of CLSM. Prior to CLSM placement, the excavation should be free of debris, loose soil materials, and water. Once specific areas to utilize CLSM have been determined, CTE should review the locations to determine if additional recommendations are appropriate. CLSM should consist of a minimum three-sack cement/sand slurry with a minimum 28-day compressive strength of 100 psi (or equal to or greater than the maximum allowable short term soil bearing pressure provided herein, whichever is higher) as determined by ASTM D4832. If re-excavation is anticipated, the compressive strength of CLSM should generally be limited to a maximum of 150 psi per ACI 229R-99. Where re-excavation is required, two-sack cement/sand slurry may be used to help limit the compressive strength. The allowable soils bearing pressure and coefficient of friction provided herein should still govern foundation design. CLSM may not be used in lieu of structural concrete where required by the structural engineer.

5.15 Plan Review

CTE should be authorized to review the project grading and foundation plans prior to commencement of earthwork in order to provide additional recommendations, if necessary.

5.16 Construction Observation

The recommendations provided in this report are based on preliminary design information for the proposed construction and the subsurface conditions observed in the soil borings. The interpolated subsurface conditions should be confirmed by CTE during construction with respect to anticipated conditions. Upon completion of precise grading, if necessary, soil samples will be collected to evaluate as-built Expansion Index. Foundation recommendations may be revised upon completion of grading, and as-built laboratory tests results. Additionally, soil samples should be taken in pavement subgrade areas upon rough grading to refine pavement recommendations as necessary.

Recommendations provided in this report are based on the understanding and assumption that CTE will provide the observation and testing services for the project. All earthwork should be observed and tested in accordance with recommendations contained within this report. CTE should evaluate footing excavations before reinforcing steel placement.

6.0 LIMITATIONS OF INVESTIGATION

The field evaluation, laboratory testing, and geotechnical analysis presented in this report have been conducted according to current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No other warranty, expressed or implied, is made regarding the conclusions, recommendations and opinions expressed in this report.

Variations may exist and conditions not observed or described in this report may be encountered during construction. This report is prepared for the project as described. It is not prepared for any other property or party.

The recommendations presented herein have been developed in order to reduce the potential adverse effects of expansive and/or differential soil conditions. However, even with the design and construction precautions provided, some post-construction soil movement and associated distress may occur.

CTE understands that, as part of grading performed under the observation of Geocon, Inc. (grading documented geotechnically by Geocon, 2014), toxaphene-impacted soils were buried and encapsulated at the site. CTE's scope for this project does not include an environmental scope, and hence CTE does not offer conclusions, opinions, or recommendations regarding the environmentally impacted soils at the site.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside CTE's involvement. Therefore, this report is subject to review and should not be relied upon after a period of three years.

CTE's conclusions and recommendations are based on an analysis of the observed conditions. If conditions different from those described in this report are encountered, CTE should be notified and additional recommendations, if required, will be provided subject to CTE remaining as authorized geotechnical consultant of record. This report is for use of the project as described. It should not be utilized for any other project.

CTE appreciates this opportunity to be of service on this project. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

CONSTRUCTION TESTING & ENGINEERING, INC.

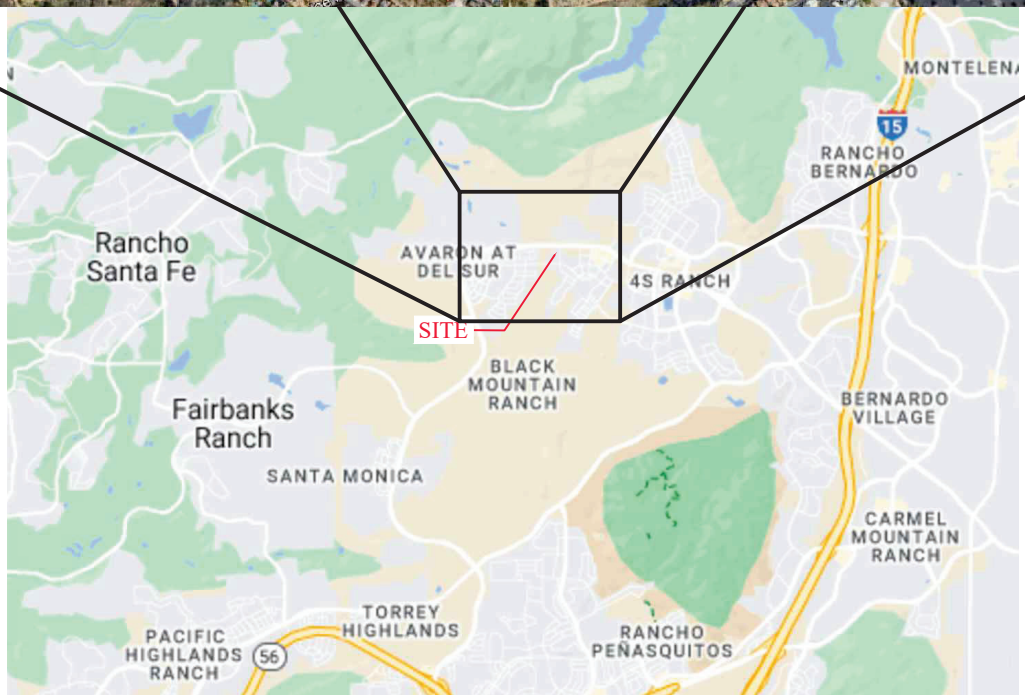
Colm J. Kenny, GE #3201
Principal Engineer

Jay F. Lynch, CEG# 1890
Principal Engineering Geologist

Dylan DeJauregui, PG #10119
Project Geologist

DD/JFL/DTM:ach





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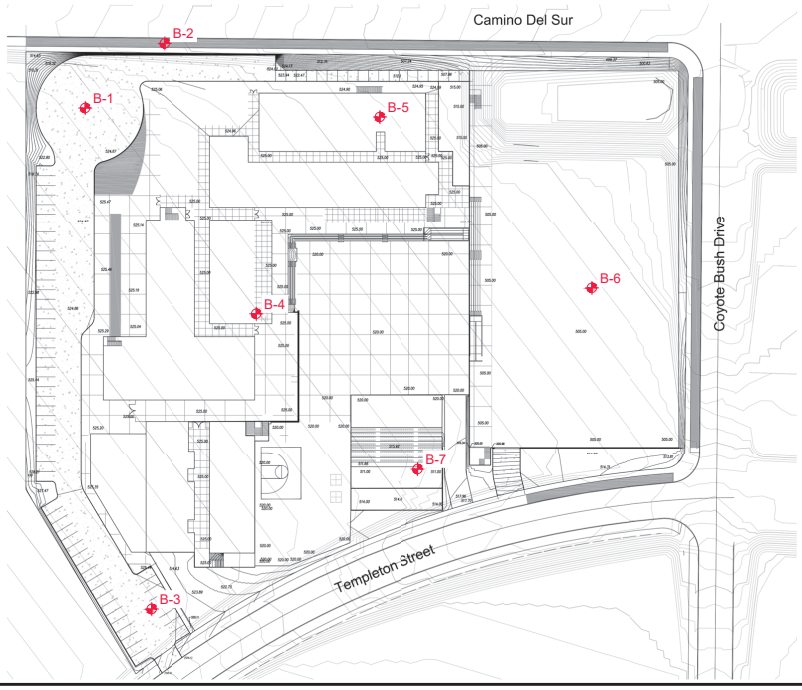
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Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

SITE INDEX MAP

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH DRIVE
SAN DIEGO, CALIFORNIA

SCALE:	DATE:
AS SHOWN	9/23
CTE JOB NO.: 4830.2300106	FIGURE: 1



EXPLANATION

B-7 APPROXIMATE BORING LOCATION

Qppf QUATERNARY PREVIOUSLY PLACED FILL

GRAPHIC SCALE

60' 0 30' 60' 120'

1 inch =60 ft.

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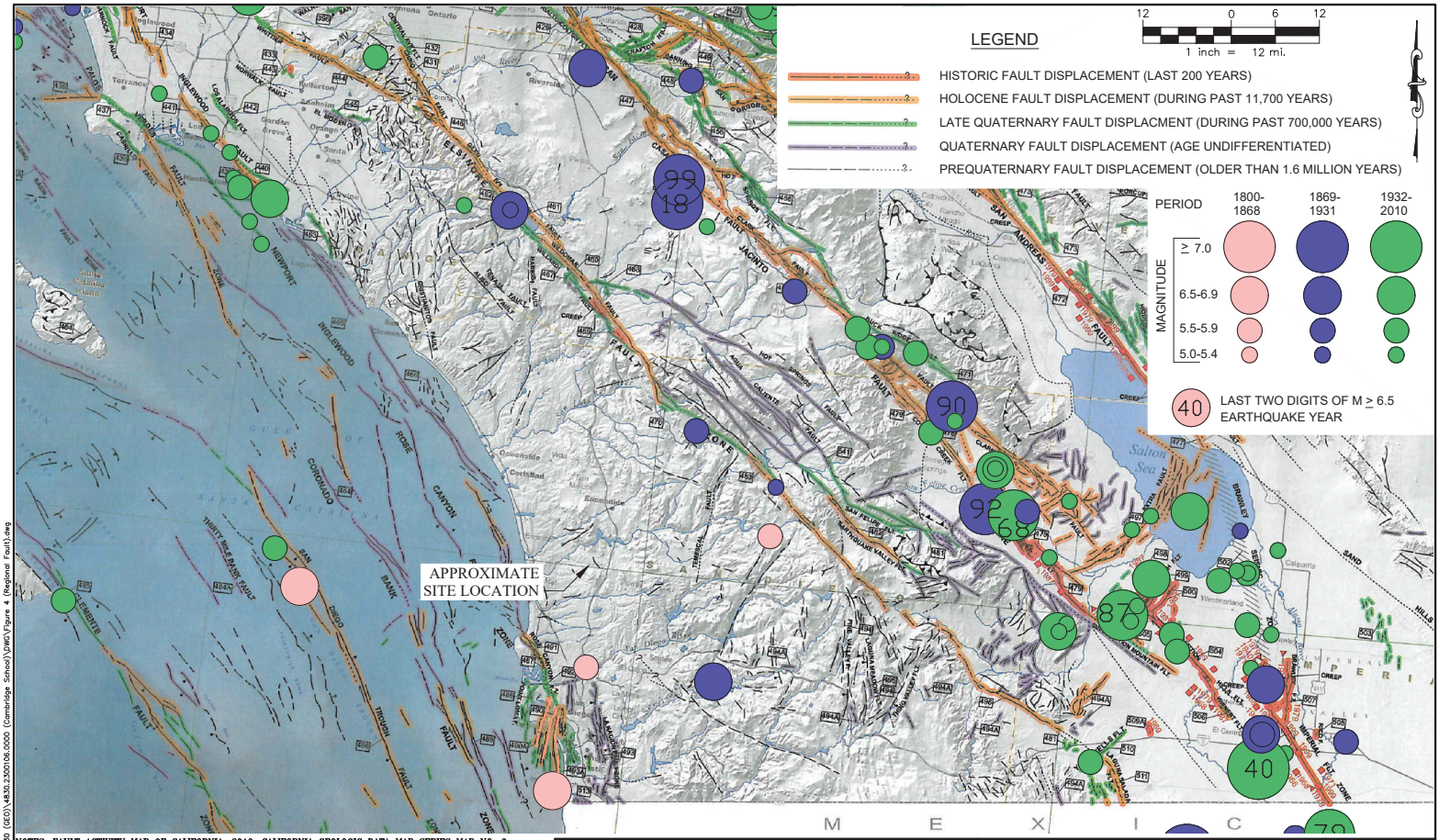
Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

GEOTECHNICAL EXPLORATION LOCATION MAP

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH ROAD
SAN DIEGO, CALIFORNIA

CTE JOB NO.	4830.2300106
SCALE:	1" ~ 60'
DATE:	9/23
FIGURE:	2

S:\Projects\4830 (GEO)\4830.2300106.0000 (Cambridge School)\DWG\Figure 2 (Exploration Map) 11x17.dwg



S:\Projects\4830 (GEO)\4830.2300106.0000 (Cambridge School)\DWG\Figure 4 (Regional Fault).dwg

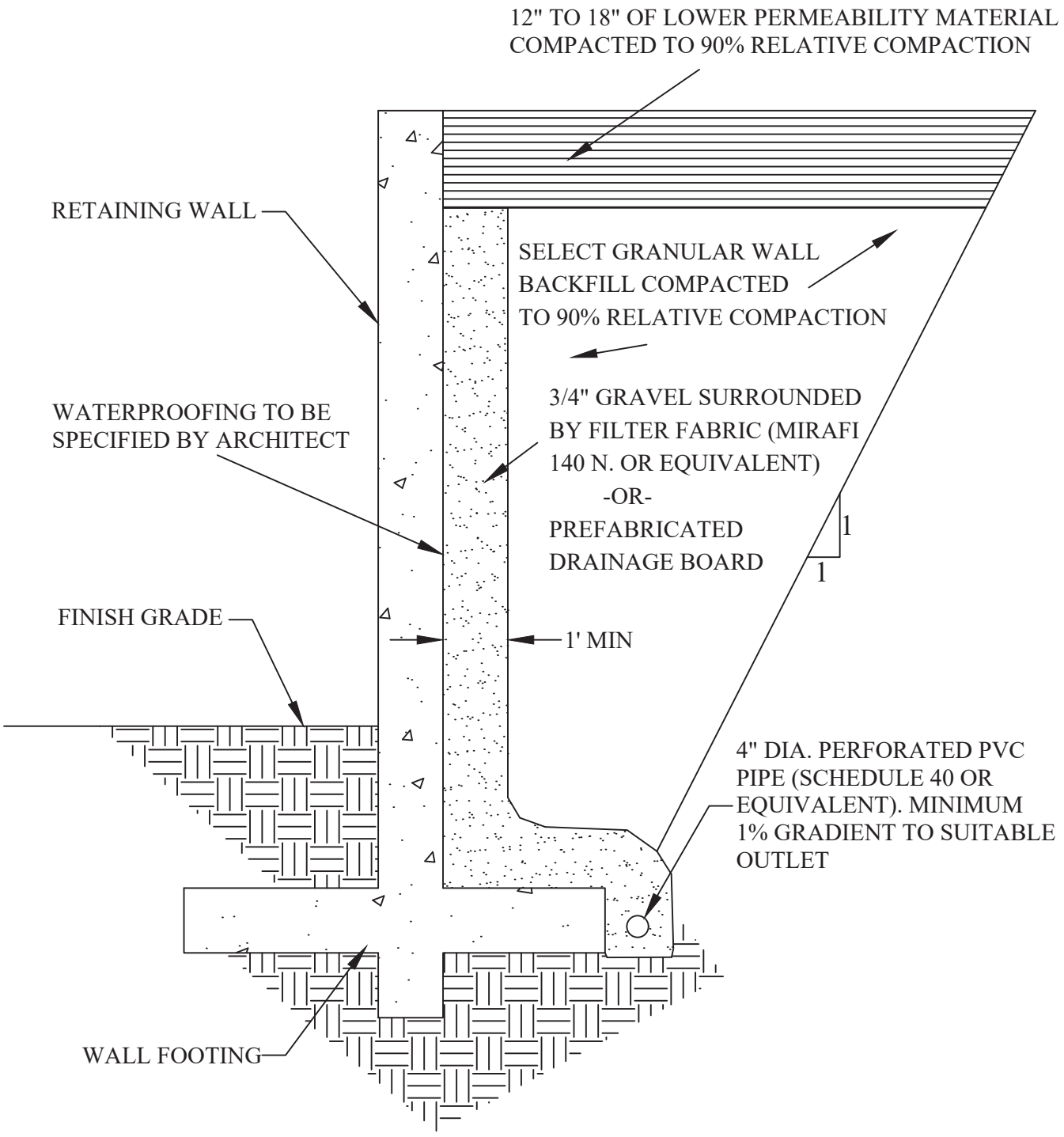
NOTES: FAULT ACTIVITY MAP OF CALIFORNIA, 2010, CALIFORNIA GEOLOGIC DATA MAP SERIES MAP NO. 6;
EPICENTERS OF AND AREAS DAMAGED BY M≥ 5 CALIFORNIA EARTHQUAKES, 1800–1999 ADAPTED AFTER TOPPOZADA, BRANUM, PETERSEN, HALSTORM, CRAMER, AND REICHLE, 2000, CDMG MAP SHEET 49
REFERENCE FOR ADDITIONAL EXPLANATION; MODIFIED WITH CISN AND USGS SEISMIC MAPS

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REGIONAL FAULT AND SEISMICITY MAP

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH ROAD
SAN DIEGO, CALIFORNIA

CTE JOB NO.	4830.2300106
SCALE:	1 inch = 12 miles
DATE:	9/23
FIGURE:	3



*CONCEPTUAL DRAWING

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RETAINING WALL DRAINAGE DETAIL

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH ROAD
SAN DIEGO, CALIFORNIA

SCALE:	DATE:
NO SCALE	9/23
CTE JOB NO.: 4830.2300106	FIGURE: 4

APPENDIX A

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REFERENCES

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APPENDIX B

EXPLORATION LOGS

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1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

DEFINITION OF TERMS

PRIMARY DIVISIONS			SYMBOLS	SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS < 5% FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES, LITTLE OF NO FINES
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS < 5% FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SLIGHTLY PLASTIC CLAYEY SILTS
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY, SANDY, SILTS OR LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT IS 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 SILTY CLAYS
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

GRAIN SIZES

BOULDERS	COBBLES	GRAVEL		SAND			SILTS AND CLAYS
		COARSE	FINE	COARSE	MEDIUM	FINE	

12" 3" 3/4" 4 10 40 200

CLEAR SQUARE SIEVE OPENING U.S. STANDARD SIEVE SIZE

ADDITIONAL TESTS

(OTHER THAN TEST PIT AND BORING LOG COLUMN HEADINGS)

MAX- Maximum Dry Density
GS- Grain Size Distribution
SE- Sand Equivalent
EI- Expansion Index
CHM- Sulfate and Chloride Content , pH, Resistivity
COR - Corrosivity
SD- Sample Disturbed
PM- Permeability
SG- Specific Gravity
HA- Hydrometer Analysis
AL- Atterberg Limits
RV- R-Value
CN- Consolidation
CP- Collapse Potential
HC- Hydrocollapse
REM- Remolded
PP- Pocket Penetrometer
WA- Wash Analysis
DS- Direct Shear
UC- Unconfined Compression
MD- Moisture/Density
M- Moisture
SC- Swell Compression
OI- Organic Impurities

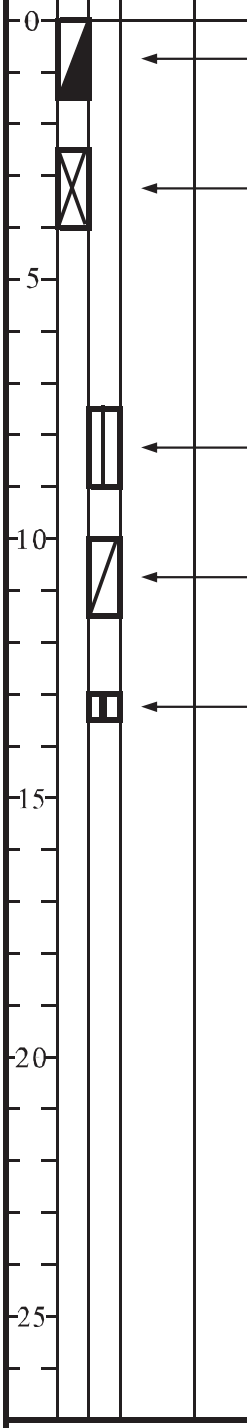
FIGURE: BL1

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT: | DRILLER: | SHEET: of
CTE JOB NO: | DRILL METHOD: | DRILLING DATE:
LOGGED BY: | SAMPLE METHOD: | ELEVATION:

BORING LEGEND

Depth (Feet) | Bulk Sample | Driven Type | Blows/Foot | Dry Density (pcf) | Moisture (%) | U.S.C.S. Symbol | Graphic Log | DESCRIPTION | Laboratory Tests



Block or Chunk Sample

Bulk Sample

Standard Penetration Test

Modified Split-Barrel Drive Sampler (Cal Sampler)

Thin Walled Army Corp. of Engineers Sample

Groundwater Table

Soil Type or Classification Change

? — ? — ? — ? — ? — ? — ? —

Formation Change [(Approximate boundaries queried (?)]

"SM"

Quotes are placed around classifications where the soils exist in situ as bedrock

FIGURE: BL2

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PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	CME-75	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	Bulk Bags, SPT, Rings	ELEVATION:	520 ft msl

BORING LOG: B-1

Depth (Feet)	Sample: Bulk	Sample: Driven	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SM		**PREVIOUSLY PLACED FILL (Qppf):** Loose to medium dense, dry, light-tan, fine- to medium-grained silty sand with trace gravels.	
1									GS
2								Becomes yellow-brown	
3						CL		Stiff, slightly moist, dark gray-brown, fine- to medium-grained sandy clay.	
4			4						
5			6						
6			7						
7									
8									
9			7						MD
10			11						
			15						
11								Excavation terminated at 10.0 ft bgs. (non-refusal) No groundwater encountered. Backfilled with cement from 10 ft to 9 ft bgs. Grouted to surface and compacted with bentonite chips at surface.	
12									
13									

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PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	Manual Hand Auger	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	Bulk Bags	ELEVATION:	509 ft msl

BORING LOG: B-2

Depth (Feet)	Sample: Bulk	Sample: Driven	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**PREVIOUSLY PLACED FILL (Qppf):** Medium to very dense, dry, gray-brown, fine- to coarse-grained clayey sand with trace gravels.	
1				119.1	11.0				
2						CL		Stiff to hard, dry, red-brown, fine- to medium-grained sandy clay.	EI, MAX
3						SC		Medium to very dense, dry, gray-brown, fine- to coarse-grained clayey sand with trace gravels.	
4								Gravels present.	
5								Excavation terminated at 4.5 ft bgs. (refusal on gravels) No groundwater encountered. Backfilled bentonite chips.	
6									
7									
8									
9									
10									
11									
12									
13									

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PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	CME-75	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	Bulk Bags, SPT	ELEVATION:	526 ft msl

BORING LOG: B-3

Depth (Feet)	Bulk Sample	Driven Type	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SM		**PREVIOUSLY PLACED FILL (Qppf):** Loose to medium dense, dry, light-gray, fine- to medium-grained silty sand with trace gravels.	
1				117.0	13.5				MAX
2								Becomes yellow-gray-brown.	RV, CHEM
3						SC		Medium dense, slightly moist, light brown, fine- to medium-grained clayey sand.	
4			5						GS
5			6 15			CL		Very stiff, dry, dark-brown, fine- to medium-grained sandy clay with trace gravels and sand lenses throughout.	
6									
7									
8								Becomes gray-brown.	
9			5 10						
10			50/5"						
11								Excavation terminated at 10.0 ft bgs. (non-refusal) No groundwater encountered. Backfilled with cement from 10 ft to 9 ft bgs. Grouted to surface and compacted with bentonite chips at surface.	
12									
13									

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PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	CME-75	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	SPT, Rings	ELEVATION:	520 ft msl

BORING LOG: B-4

Depth (Feet)	Sample: Bulk	Sample: Driven	Type	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0							SM		**PREVIOUSLY PLACED FILL (Qppf):** Loose, dry, light-gray, fine- to medium-grained silty sand..	
1										
2										
3									Becomes yellow-gray-brown.	
4				2						EI, GS
5				2 3			SC		Medium stiff, dry to slightly moist, light brown, fine- to medium-grained sandy clay with abundant sandy layers.	
6										
7										
8										
9				9 9						
10				12						
11									Excavation terminated at 10.0 ft bgs. (non-refusal) No groundwater encountered. Backfilled with cement from 10 ft to 9 ft bgs. Grouted to surface and compacted with bentonite chips at surface.	
12										
13										

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PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	CME-75	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	SPT	ELEVATION:	513 ft msl

BORING LOG: B-5

Depth (Feet)	Sample: Bulk	Sample: Driven	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SM		**PREVIOUSLY PLACED FILL (Qppf):** Loose, dry, light-gray, fine- to medium-grained silty sand.	
1									
2									
3								Becomes yellow-gray-brown.	
4			3						
5			3			CL		Stiff, dry, gray-brown, fine- to medium-grained sandy clay with trace sandy layers.	
6			3						
7									
8									
9			6			SM/CL		Becomes brown, ine- to medium-grained silty sand and clay.	GS
10			15						
			20						
11								Excavation terminated at 10.0 ft bgs. (non-refusal) No groundwater encountered. Backfilled with cement from 10 ft to 9 ft bgs. Grouted to surface and compacted with bentonite chips at surface.	
12									
13									

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PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	CME-75	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	SPT	ELEVATION:	510 ft msl

BORING LOG: B-6

Depth (Feet)	Sample: Bulk	Sample: Driven	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SM		Gravel at surface **PREVIOUSLY PLACED FILL (Qppf):** Loose to medium dense, dry, light gray-brown, fine- to medium-grained silty sand.	
1									
2									
3								Becomes dark yellow-brown.	
4			3			CL		Stiff, dry, dark brown, fine- to medium-grained sandy clay with trace sandy layers.	
5			3			SC		Loose, slightly moist, yellow-brown, fine- to medium-grained clayey sand.	
6			3						
7									
8								Becomes dense, dry, mottled brown, gray, and light-gray.	
9			6						
10			15 20						
11								Excavation terminated at 10.0 ft bgs. (non-refusal) No groundwater encountered. Backfilled with cement from 10 ft to 9 ft bgs. Grouted to surface and compacted with bentonite chips at surface.	
12									
13									

A Universal Engineering Sciences Company

Construction Testing & Engineering, Inc.

Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

PROJECT:	Cambridge School	WORKERS:	Baja Exploration	SHEET:	1 of 1
CTE JOB NO:	4830.2300106	EXCAVATION METHOD:	CME-75	DRILLING DATE:	8/10/2023
LOGGED BY:	DD	SAMPLE METHOD:	SPT	ELEVATION:	520 ft msl

BORING LOG: B-7

Depth (Feet)	Sample: Bulk	Sample: Driven	Type	Blows/6"	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0							SM		**PREVIOUSLY PLACED FILL (Qppf):** Loose to medium dense, dry, light gray, fine- to medium-grained silty sand.	
1										
2										
3									Becomes yellow-brown.	
4				25						
5				17			CL		Stiff, dry, dark brown, fine- to medium-grained sandy clay with trace sandy layers.	
6				10						
7							SC		Medium dense, slightly moist, mottled gray and brown, fine- to medium-grained clayey sand.	
8										
9				9						
10				13						
				17						
11									Excavation terminated at 10.0 ft bgs. (non-refusal) No groundwater encountered. Backfilled with cement from 10 ft to 9 ft bgs. Grouted to surface and compacted with bentonite chips at surface.	
12										
13										

APPENDIX C

LABORATORY TEST METHODS AND RESULTS

LABORATORY TEST METHODS

Laboratory tests were performed on selected soil samples to evaluate their engineering properties. Tests were performed following test methods of the American Society for Testing and Materials, or other accepted standards. The following presents a brief description of the various test methods used. Laboratory results are presented in the following section of this Appendix.

Classification (ASTM D2487)

Earth materials encountered were visually and texturally classified in accordance with the Unified Soil Classification System (USCS/ASTM D2487) and ASTM D2488. Material classifications are indicated on the logs of the exploratory borings presented in Appendix B.

Particle-size Distribution Tests (ASTM D6913)

Particle-size distribution (gradation) testing was performed on selected samples of the materials encountered in general accordance with the latest version of the ASTM D6913 test method. The test results were utilized in evaluating the soil classifications in accordance with the Unified Soil Classification System and to evaluate the geotechnical engineering characteristics of the tested material. The test results are plotted on grain-size distribution graphs and are presented in the following section of this appendix.

Expansion Index Test (ASTM D4829)

Expansion index testing was performed on selected samples of the earth materials encountered in general accordance with the ASTM D4829 test method. The test determines the expansion potential of the materials encountered. The test results are presented in the following section of this appendix.

Laboratory Compaction Characteristics Test (ASTM D1557)

Laboratory compaction characteristics testing was performed on selected samples of the earth materials encountered in general accordance with the ASTM D1557 test method. The test establishes the laboratory maximum dry density and optimum moisture content of the tested materials and are also used to aid in evaluating the strength characteristics of the materials.

Resistance "R" Value Test (CTM 301/ ASTM D2844)

R-Value testing was performed on selected samples of the earth materials encountered in general accordance with the California Test Method 301/ ASTM D2844. The test results are presented in the following section of this appendix.

Soil Corrosivity Tests

The water-soluble sulfate and chloride content, the resistivity, and pH of selected samples were performed by a third-party laboratory in general accordance with California Test Methods. The tests results are useful in the assessment of the degree of corrosivity of the earth materials encountered with regard to concrete and normal grade steel.

EXPANSION INDEX
(ASTM D4829)

Sample Location / Depth (feet)	Expansion Index	Expansion Potential
B-2 @ 0 – 3.5	43	LOW

LABORATORY COMPACTION CHARACTERISTICS
(ASTM D1557)

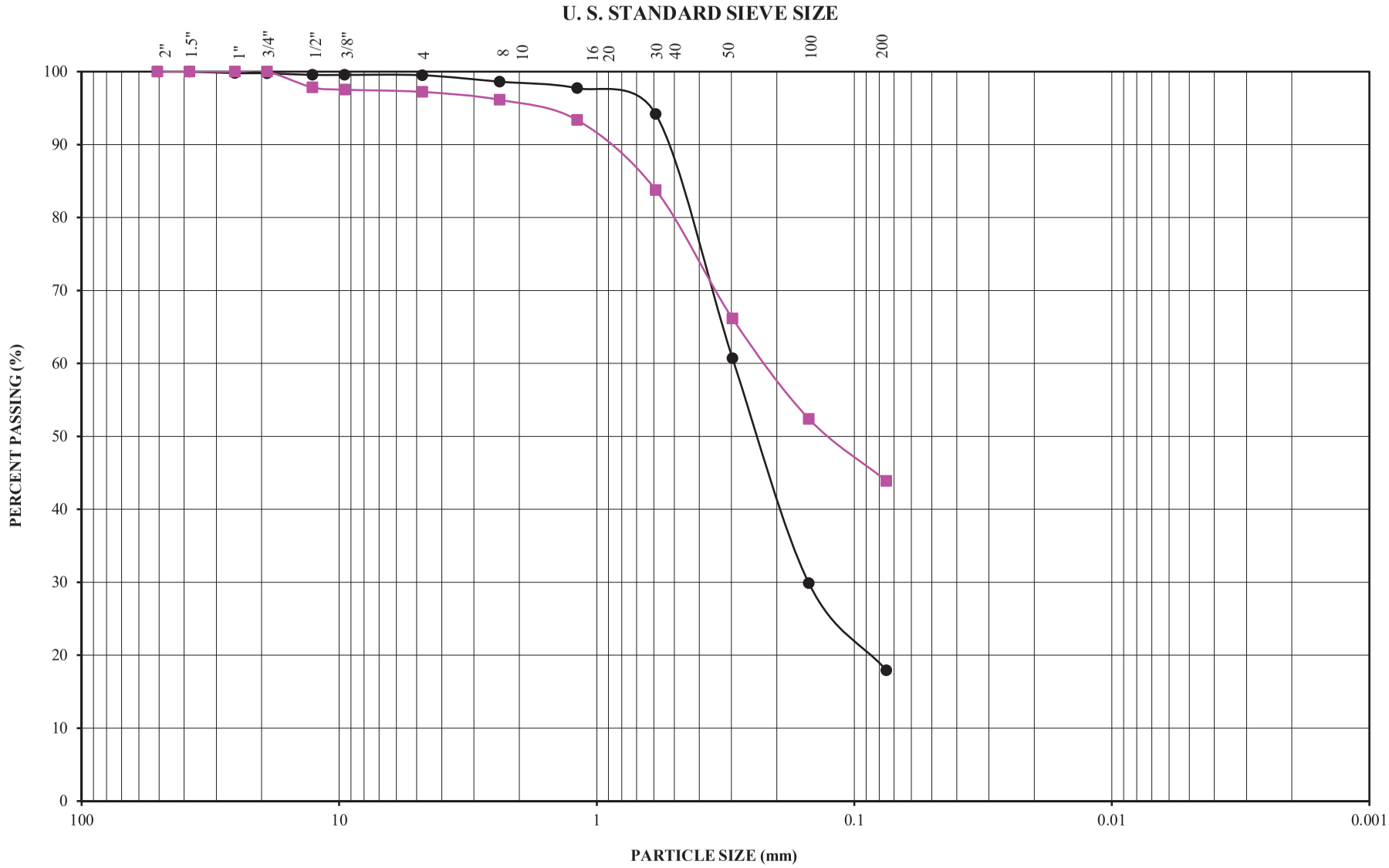
Sample Location / Depth (feet)	Maximum Dry Density (pounds per cubic foot)	Optimum Moisture (percent)
B-2 @ 0 – 3.5	119.1	11.0
B-3 @ 0 – 4	117.0	13.5

R-VALUE
(CTM 301/ASTM D2844)

Sample Location / Depth (feet)	Material Type (USCS)	R-Value
B-3 @ 0 – 4	Light Tan (CL)	8

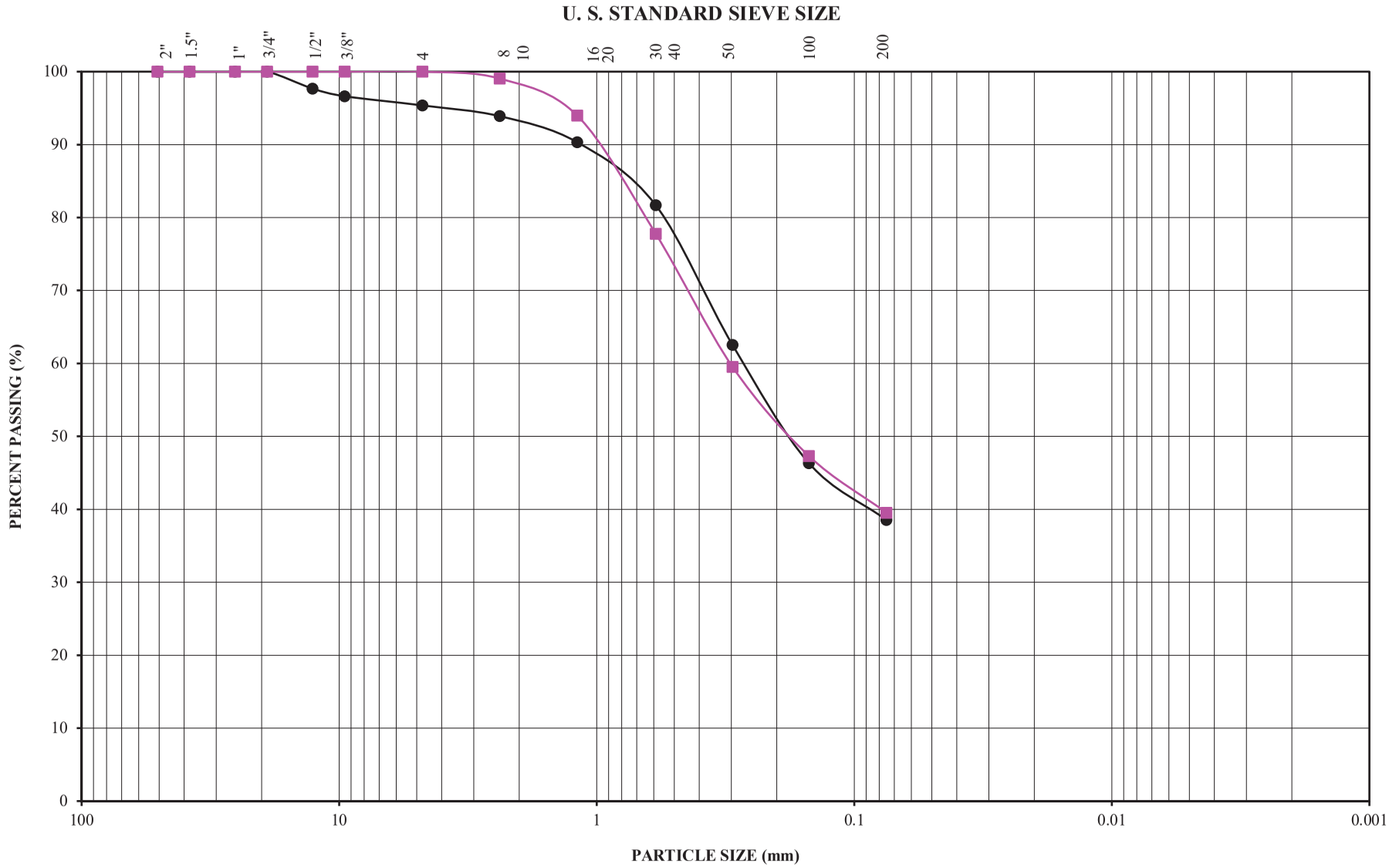
CORROSIVITY
(CTM 417, CTM 422 and CTM 643)

Sample Location / Depth (feet)	Material Type (USCS)	pH	Minimum Resistivity (Ohm-cm)	Water Soluble Sulfates (ppm)	Water Soluble Chlorides (ppm)
B-3 @ 0 – 4	Sandy Clay (SC)	8.46	3690	30.7	19.6



PARTICLE SIZE ANALYSIS

Sample Designation	Sample Depth (feet)	Symbol	Liquid Limit (%)	Plasticity Index	Classification
B-1	0-3	●	N/A	N/A	SM
B-3	4	■	N/A	N/A	SC
UES JOB NUMBER:		4830.2300106		FIGURE:	C-1



PARTICLE SIZE ANALYSIS

Sample Designation	Sample Depth (feet)	Symbol	Liquid Limit (%)	Plasticity Index	Classification
B-4	4	●	N/A	N/A	SC
B-5	8.5	■	N/A	N/A	SC
UES JOB NUMBER:		4830.2300106		FIGURE:	C-2

APPENDIX D

STANDARD SPECIFICATIONS FOR GRADING

Section 1 - General

Construction Testing & Engineering, Inc. presents the following standard recommendations for grading and other associated operations on construction projects. These guidelines should be considered a portion of the project specifications. Recommendations contained in the body of the previously presented soils report shall supersede the recommendations and or requirements as specified herein. The project geotechnical consultant shall interpret disputes arising out of interpretation of the recommendations contained in the soils report or specifications contained herein.

Section 2 - Responsibilities of Project Personnel

The geotechnical consultant should provide observation and testing services sufficient to general conformance with project specifications and standard grading practices. The geotechnical consultant should report any deviations to the client or his authorized representative.

The Client should be chiefly responsible for all aspects of the project. He or his authorized representative has the responsibility of reviewing the findings and recommendations of the geotechnical consultant. He shall authorize or cause to have authorized the Contractor and/or other consultants to perform work and/or provide services. During grading the Client or his authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

The Contractor is responsible for the safety of the project and satisfactory completion of all grading and other associated operations on construction projects, including, but not limited to, earth work in accordance with the project plans, specifications and controlling agency requirements.

Section 3 - Preconstruction Meeting

A preconstruction site meeting should be arranged by the owner and/or client and should include the grading contractor, design engineer, geotechnical consultant, owner's representative and representatives of the appropriate governing authorities.

Section 4 - Site Preparation

The client or contractor should obtain the required approvals from the controlling authorities for the project prior, during and/or after demolition, site preparation and removals, etc. The appropriate approvals should be obtained prior to proceeding with grading operations.

Clearing and grubbing should consist of the removal of vegetation such as brush, grass, woods, stumps, trees, root 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.

Demolition should include removal of buildings, structures, foundations, reservoirs, utilities (including underground pipelines, septic tanks, leach fields, seepage pits, cisterns, mining shafts, tunnels, etc.) and other man-made surface and subsurface improvements from the areas to be graded. Demolition of utilities should include proper capping and/or rerouting pipelines at the project perimeter and cutoff and capping of wells in accordance with the requirements of the governing authorities and the recommendations of the geotechnical consultant at the time of demolition.

Trees, plants or man-made improvements not planned to be removed or demolished should be protected by the contractor from damage or injury.

Debris generated during clearing, grubbing and/or demolition operations should be wasted from areas to be graded and disposed off-site. Clearing, grubbing and demolition operations should be performed under the observation of the geotechnical consultant.

Section 5 - Site Protection

Protection of the site during the period of grading should be the responsibility of the contractor. Unless other provisions are made in writing and agreed upon among the concerned parties, completion of a portion of the project should not be considered to preclude that portion or adjacent areas from the requirements for site protection until such time as the entire project is complete as identified by the geotechnical consultant, the client and the regulating agencies.

Precautions should be taken during the performance of site clearing, excavations and grading to protect the work site from flooding, ponding or inundation by poor or improper surface drainage. Temporary provisions should be made during the rainy season to adequately direct surface drainage away from and off the work site. Where low areas cannot be avoided, pumps should be kept on hand to continually remove water during periods of rainfall.

Rain related damage should be considered to include, but may not be limited to, erosion, silting, saturation, swelling, structural distress and other adverse conditions as determined by the geotechnical consultant. Soil adversely affected should be classified as unsuitable materials and should be subject to overexcavation and replacement with compacted fill or other remedial grading as recommended by the geotechnical consultant.

The contractor should be responsible for the stability of all temporary excavations. Recommendations by the geotechnical consultant pertaining to temporary excavations (e.g., backcuts) are made in consideration of stability of the completed project and, therefore, should not be considered to preclude the responsibilities of the contractor. Recommendations by the geotechnical consultant should not be considered to preclude requirements that are more restrictive by the regulating agencies. The contractor should provide during periods of extensive rainfall plastic sheeting to prevent unprotected slopes from becoming saturated and unstable. When deemed appropriate by the geotechnical consultant or governing agencies the contractor shall install checkdams, desilting basins, sand bags or other drainage control measures.

In relatively level areas and/or slope areas, where saturated soil and/or erosion gullies exist to depths of greater than 1.0 foot; they should be overexcavated and replaced as compacted fill in accordance with the applicable specifications. Where affected materials exist to depths of 1.0 foot or less below proposed finished grade, remedial grading by moisture conditioning in-place, followed by thorough recompaction in accordance with the applicable grading guidelines herein may be attempted. If the desired results are not achieved, all affected materials should be overexcavated and replaced as compacted fill in accordance with the slope repair recommendations herein. If field conditions dictate, the geotechnical consultant may recommend other slope repair procedures.

Section 6 - Excavations

6.1 Unsuitable Materials

Materials that are unsuitable should be excavated under observation and recommendations of the geotechnical consultant. Unsuitable materials include, but may not be limited to, dry, loose, soft, wet, organic compressible natural soils and fractured, weathered, soft bedrock and nonengineered or otherwise deleterious fill materials.

Material identified by the geotechnical consultant as unsatisfactory due to its moisture conditions should be overexcavated; moisture conditioned as needed, to a uniform at or above optimum moisture condition before placement as compacted fill.

If during the course of grading adverse geotechnical conditions are exposed which were not anticipated in the preliminary soil report as determined by the geotechnical consultant additional exploration, analysis, and treatment of these problems may be recommended.

6.2 Cut Slopes

Unless otherwise recommended by the geotechnical consultant and approved by the regulating agencies, permanent cut slopes should not be steeper than 2:1 (horizontal: vertical).

The geotechnical consultant should observe cut slope excavation and if these excavations expose loose cohesionless, significantly fractured or otherwise unsuitable material, the materials should be overexcavated and replaced with a compacted stabilization fill. If encountered specific cross section details should be obtained from the Geotechnical Consultant.

When extensive cut slopes are excavated or these cut slopes are made in the direction of the prevailing drainage, a non-erodible diversion swale (brow ditch) should be provided at the top of the slope.

6.3 Pad Areas

All lot pad areas, including side yard terrace containing both cut and fill materials, transitions, located less than 3 feet deep should be overexcavated to a depth of 3 feet and replaced with a uniform compacted fill blanket of 3 feet. Actual depth of overexcavation may vary and should be delineated by the geotechnical consultant during grading, especially where deep or drastic transitions are present.

For pad areas created above cut or natural slopes, positive drainage should be established away from the top-of-slope. This may be accomplished utilizing a berm drainage swale and/or an appropriate pad gradient. A gradient in soil areas away from the top-of-slopes of 2 percent or greater is recommended.

Section 7 - Compacted Fill

All fill materials should have fill quality, placement, conditioning and compaction as specified below or as approved by the geotechnical consultant.

7.1 Fill Material Quality

Excavated on-site or import materials which are acceptable to the geotechnical consultant may be utilized as compacted fill, provided trash, vegetation and other deleterious materials are removed prior to placement. All import materials anticipated for use on-site should be sampled tested and approved prior to and placement is in conformance with the requirements outlined.

Rocks 12 inches in maximum and smaller may be utilized within compacted fill provided sufficient fill material is placed and thoroughly compacted over and around all rock to effectively fill rock voids. The amount of rock should not exceed 40 percent by dry weight passing the 3/4-inch sieve. The geotechnical consultant may vary those requirements as field conditions dictate.

Where rocks greater than 12 inches but less than four feet of maximum dimension are generated during grading, or otherwise desired to be placed within an engineered fill, special handling in accordance with the recommendations below. Rocks greater than four feet should be broken down or disposed off-site.

7.2 Placement of Fill

Prior to placement of fill material, the geotechnical consultant should observe and approve the area to receive fill. After observation and approval, the exposed ground surface should be scarified to a depth of 6 to 8 inches. The scarified material should be conditioned (i.e. moisture added or air dried by continued discing) to achieve a moisture content at or slightly above optimum moisture conditions and compacted to a minimum of 90 percent of the maximum density or as otherwise recommended in the soils report or by appropriate government agencies.

Compacted fill should then be placed in thin horizontal lifts not exceeding eight inches in loose thickness prior to compaction. Each lift should be moisture conditioned as needed, thoroughly blended to achieve a consistent moisture content at or slightly above optimum and thoroughly compacted by mechanical methods to a minimum of 90 percent of laboratory maximum dry density. Each lift should be treated in a like manner until the desired finished grades are achieved.

The contractor should have suitable and sufficient mechanical compaction equipment and watering apparatus on the job site to handle the amount of fill being placed in consideration of moisture retention properties of the materials and weather conditions.

When placing fill in horizontal lifts adjacent to areas sloping steeper than 5:1 (horizontal: vertical), horizontal keys and vertical benches should be excavated into the adjacent slope area. Keying and benching should be sufficient to provide at least six-foot wide benches and a minimum of four feet of vertical bench height within the firm natural ground, firm bedrock or engineered compacted fill. No compacted fill should be placed in an area after keying and benching until the geotechnical consultant has reviewed the area. Material generated by the benching operation should be moved sufficiently away from

the bench area to allow for the recommended review of the horizontal bench prior to placement of fill.

Within a single fill area where grading procedures dictate two or more separate fills, temporary slopes (false slopes) may be created. When placing fill adjacent to a false slope, benching should be conducted in the same manner as above described. At least a 3-foot vertical bench should be established within the firm core of adjacent approved compacted fill prior to placement of additional fill. Benching should proceed in at least 3-foot vertical increments until the desired finished grades are achieved.

Prior to placement of additional compacted fill following an overnight or other grading delay, the exposed surface or previously compacted fill should be processed by scarification, moisture conditioning as needed to at or slightly above optimum moisture content, thoroughly blended and recompacted to a minimum of 90 percent of laboratory maximum dry density. Where unsuitable materials exist to depths of greater than one foot, the unsuitable materials should be over-excavated.

Following a period of flooding, rainfall or overwatering by other means, no additional fill should be placed until damage assessments have been made and remedial grading performed as described herein.

Rocks 12 inch in maximum dimension and smaller may be utilized in the compacted fill provided the fill is placed and thoroughly compacted over and around all rock. No oversize material should be used within 3 feet of finished pad grade and within 1 foot of other compacted fill areas. Rocks 12 inches up to four feet maximum dimension should be placed below the upper 10 feet of any fill and should not be closer than 15 feet to any slope face. These recommendations could vary as locations of improvements dictate. Where practical, oversized material should not be placed below areas where structures or deep utilities are proposed. Oversized material should be placed in windrows on a clean, overexcavated or unyielding compacted fill or firm natural ground surface. Select native or imported granular soil (S.E. 30 or higher) should be placed and thoroughly flooded over and around all windrowed rock, such that voids are filled. Windrows of oversized material should be staggered so those successive strata of oversized material are not in the same vertical plane.

It may be possible to dispose of individual larger rock as field conditions dictate and as recommended by the geotechnical consultant at the time of placement.

The contractor should assist the geotechnical consultant and/or his representative by digging test pits for removal determinations and/or for testing compacted fill. The contractor should provide this work at no additional cost to the owner or contractor's client.

Fill should be tested by the geotechnical consultant for compliance with the recommended relative compaction and moisture conditions. Field density testing should conform to ASTM Method of Test D 1556-00, D 2922-04. Tests should be conducted at a minimum of approximately two vertical feet or approximately 1,000 to 2,000 cubic yards of fill placed. Actual test intervals may vary as field conditions dictate. Fill found not to be in conformance with the grading recommendations should be removed or otherwise handled as recommended by the geotechnical consultant.

7.3 Fill Slopes

Unless otherwise recommended by the geotechnical consultant and approved by the regulating agencies, permanent fill slopes should not be steeper than 2:1 (horizontal: vertical).

Except as specifically recommended in these grading guidelines compacted fill slopes should be over-built two to five feet and cut back to grade, exposing the firm, compacted fill inner core. The actual amount of overbuilding may vary as field conditions dictate. If the desired results are not achieved, the existing slopes should be overexcavated and reconstructed under the guidelines of the geotechnical consultant. The degree of overbuilding shall be increased until the desired compacted slope surface condition is achieved. Care should be taken by the contractor to provide thorough mechanical compaction to the outer edge of the overbuilt slope surface.

At the discretion of the geotechnical consultant, slope face compaction may be attempted by conventional construction procedures including backrolling. The procedure must create a firmly compacted material throughout the entire depth of the slope face to the surface of the previously compacted firm fill intercore.

During grading operations, care should be taken to extend compactive effort to the outer edge of the slope. Each lift should extend horizontally to the desired finished slope surface or more as needed to ultimately established desired grades. Grade during construction should not be allowed to roll off at the edge of the slope. It may be helpful to elevate slightly the outer edge of the slope. Slough resulting from the placement of individual lifts should not be allowed to drift down over previous lifts. At intervals not

exceeding four feet in vertical slope height or the capability of available equipment, whichever is less, fill slopes should be thoroughly dozer trackrolled.

For pad areas above fill slopes, positive drainage should be established away from the top-of-slope. This may be accomplished using a berm and pad gradient of at least two percent.

Section 8 - Trench Backfill

Utility and/or other excavation of trench backfill should, unless otherwise recommended, be compacted by mechanical means. Unless otherwise recommended, the degree of compaction should be a minimum of 90 percent of the laboratory maximum density.

Within slab areas, but outside the influence of foundations, trenches up to one foot wide and two feet deep may be backfilled with sand and consolidated by jetting, flooding or by mechanical means. If on-site materials are utilized, they should be wheel-rolled, tamped or otherwise compacted to a firm condition. For minor interior trenches, density testing may be deleted or spot testing may be elected if deemed necessary, based on review of backfill operations during construction.

If utility contractors indicate that it is undesirable to use compaction equipment in close proximity to a buried conduit, the contractor may elect the utilization of light weight mechanical compaction equipment and/or shading of the conduit with clean, granular material, which should be thoroughly jetted in-place above the conduit, prior to initiating mechanical compaction procedures. Other methods of utility trench compaction may also be appropriate, upon review of the geotechnical consultant at the time of construction.

In cases where clean granular materials are proposed for use in lieu of native materials or where flooding or jetting is proposed, the procedures should be considered subject to review by the geotechnical consultant. Clean granular backfill and/or bedding are not recommended in slope areas.

Section 9 - Drainage

Where deemed appropriate by the geotechnical consultant, canyon subdrain systems should be installed in accordance with CTE's recommendations during grading.

Typical subdrains for compacted fill buttresses, slope stabilization or sidehill masses, should be installed in accordance with the specifications.

Roof, pad and slope drainage should be directed away from slopes and areas of structures to suitable disposal areas via non-erodible devices (i.e., gutters, downspouts, and concrete swales).

For drainage in extensively landscaped areas near structures, (i.e., within four feet) a minimum of 5 percent gradient away from the structure should be maintained. Pad drainage of at least 2 percent should be maintained over the remainder of the site.

Drainage patterns established at the time of fine grading should be maintained throughout the life of the project. Property owners should be made aware that altering drainage patterns could be detrimental to slope stability and foundation performance.

Section 10 - Slope Maintenance

10.1 - Landscape Plants

To enhance surficial slope stability, slope planting should be accomplished at the completion of grading. Slope planting should consist of deep-rooting vegetation requiring little watering. Plants native to the southern California area and plants relative to native plants are generally desirable. Plants native to other semi-arid and arid areas may also be appropriate. A Landscape Architect should be the best party to consult regarding actual types of plants and planting configuration.

10.2 - Irrigation

Irrigation pipes should be anchored to slope faces, not placed in trenches excavated into slope faces.

Slope irrigation should be minimized. If automatic timing devices are utilized on irrigation systems, provisions should be made for interrupting normal irrigation during periods of rainfall.

10.3 - Repair

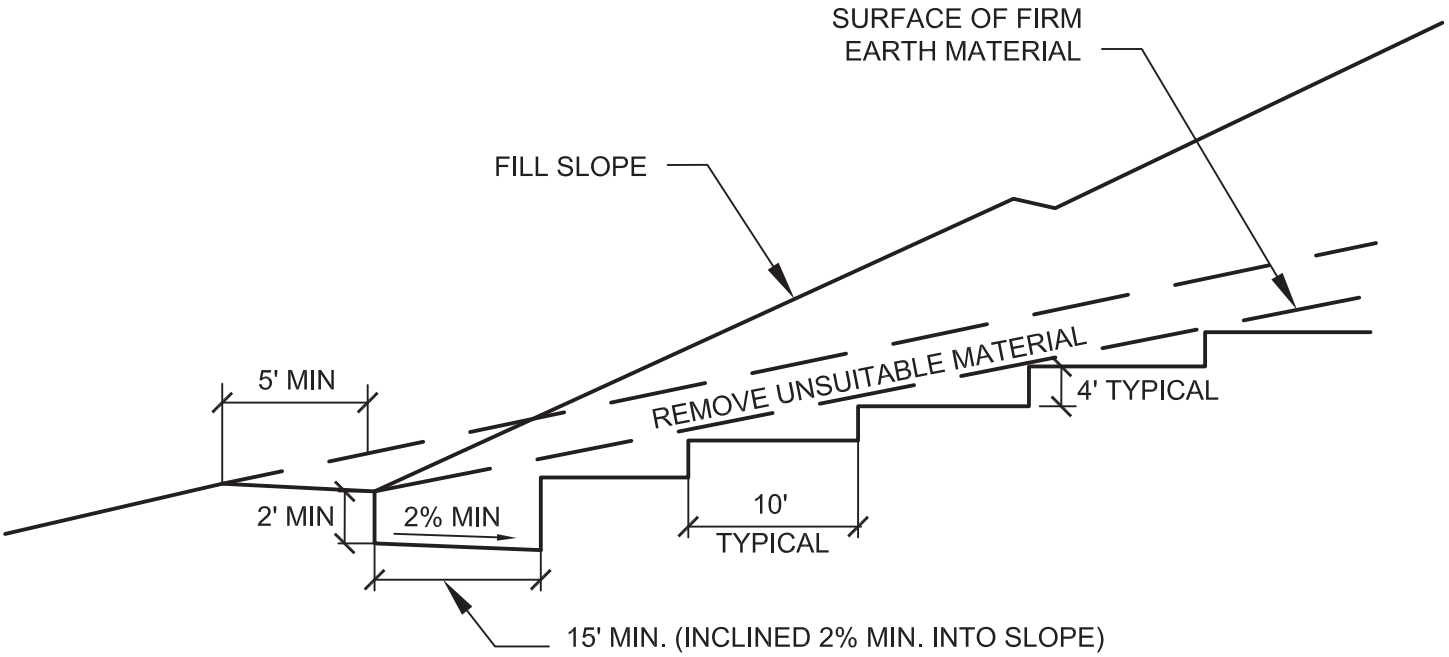
As a precautionary measure, plastic sheeting should be readily available, or kept on hand, to protect all slope areas from saturation by periods of heavy or prolonged rainfall. This measure is strongly recommended, beginning with the period prior to landscape planting.

If slope failures occur, the geotechnical consultant should be contacted for a field review of site conditions and development of recommendations for evaluation and repair.

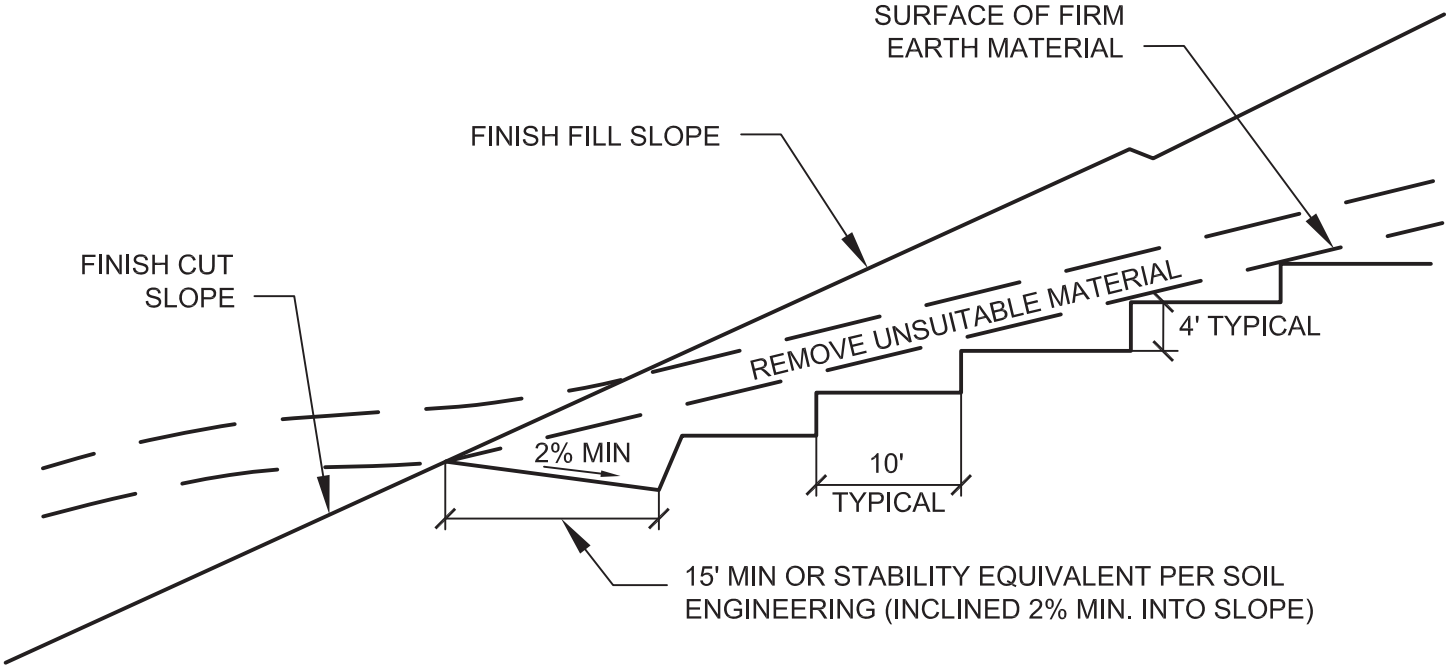
If slope failures occur as a result of exposure to period of heavy rainfall, the failure areas and currently unaffected areas should be covered with plastic sheeting to protect against additional saturation.

In the accompanying Standard Details, appropriate repair procedures are illustrated for superficial slope failures (i.e., occurring typically within the outer one foot to three feet of a slope face).

BENCHING FILL OVER NATURAL

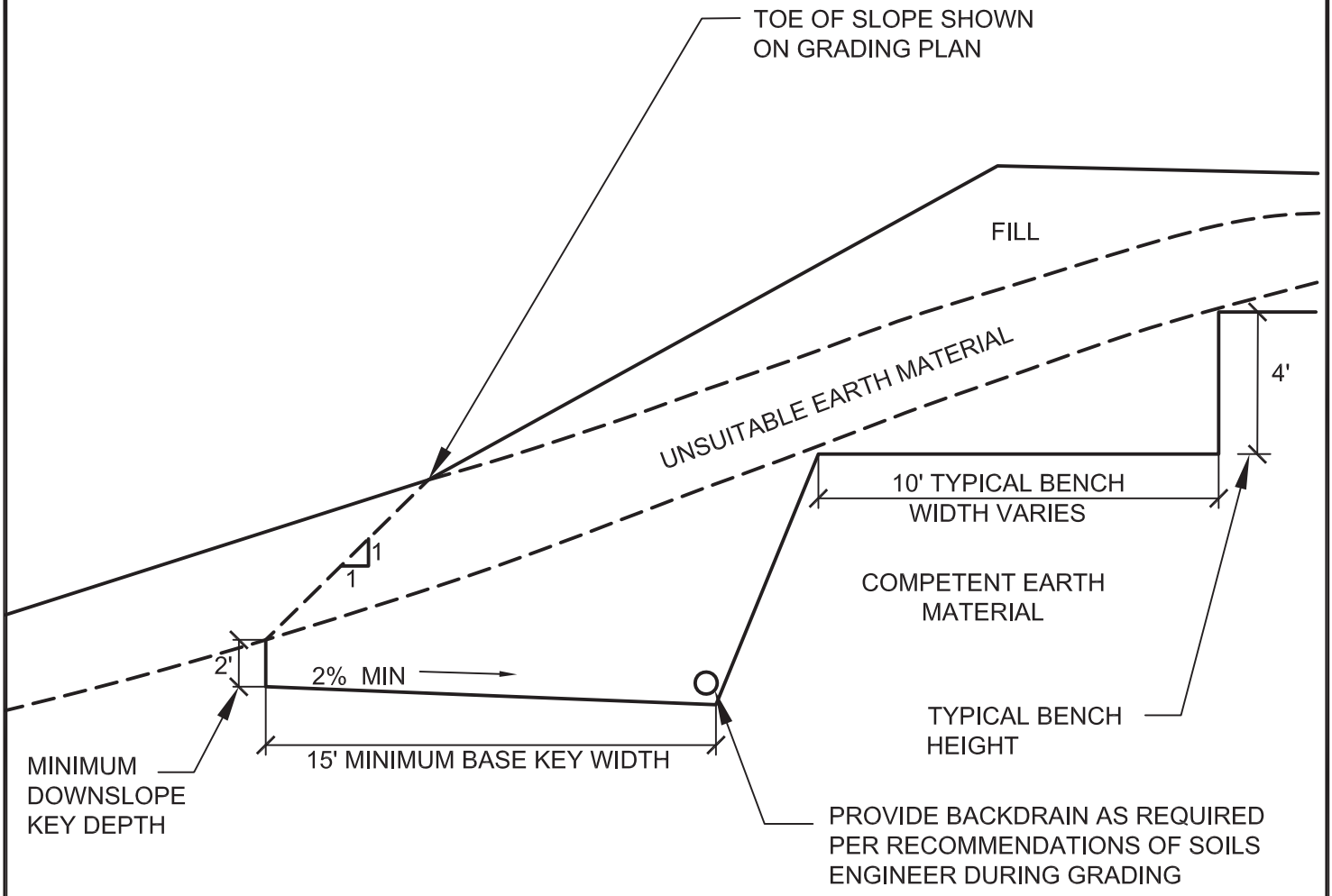


BENCHING FILL OVER CUT



NOT TO SCALE

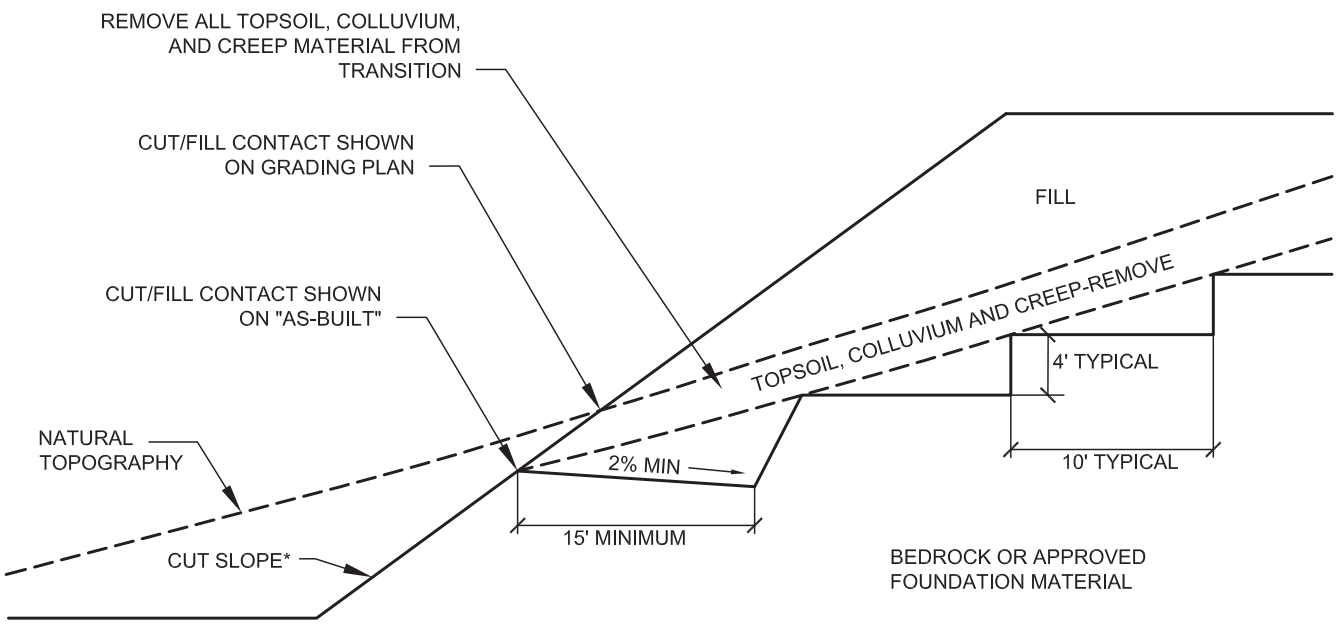
BENCHING FOR COMPACTED FILL DETAIL



WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, BENCHING IS NOT NECESSARY. FILL IS NOT TO BE PLACED ON COMPRESSIBLE OR UNSUITABLE MATERIAL.

NOT TO SCALE

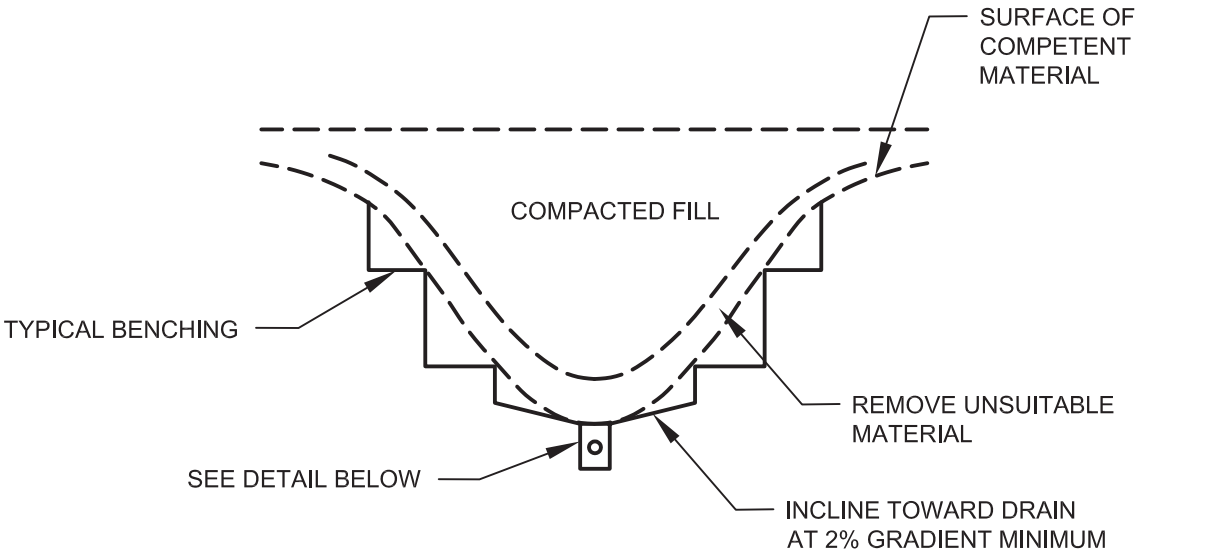
FILL SLOPE ABOVE NATURAL GROUND DETAIL



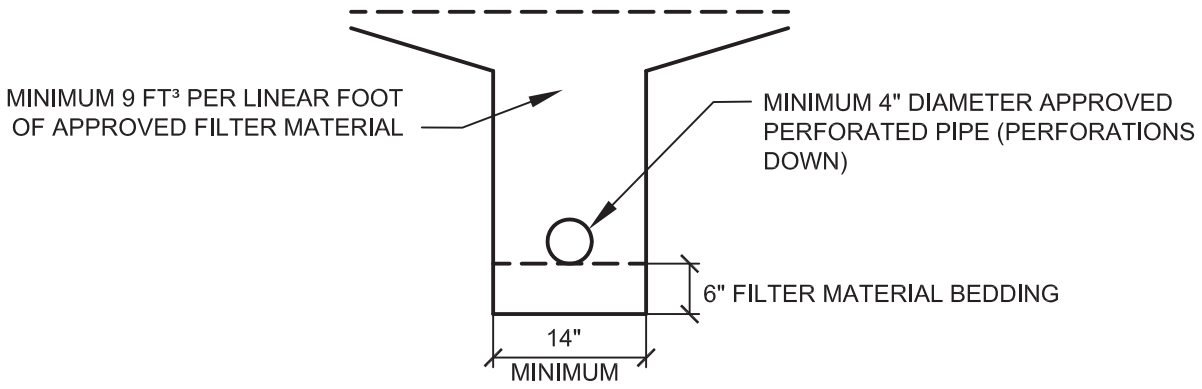
*NOTE: CUT SLOPE PORTION SHOULD BE MADE PRIOR TO PLACEMENT OF FILL

NOT TO SCALE

FILL SLOPE ABOVE CUT SLOPE DETAIL



DETAIL



CALTRANS CLASS 2 PERMEABLE MATERIAL FILTER MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1"	100
¾"	90-100
⅜"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYL-CHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 psi

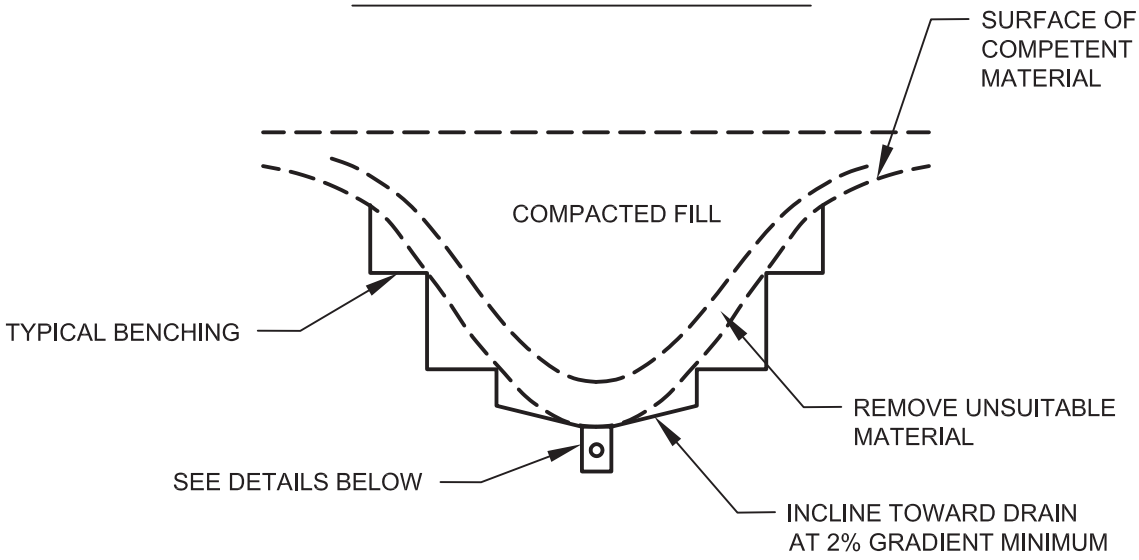
PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA, SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING

LENGTH OF RUN	PIPE DIAMETER
INITIAL 500'	4"
500' TO 1500'	6"
> 1500'	8"

NOT TO SCALE

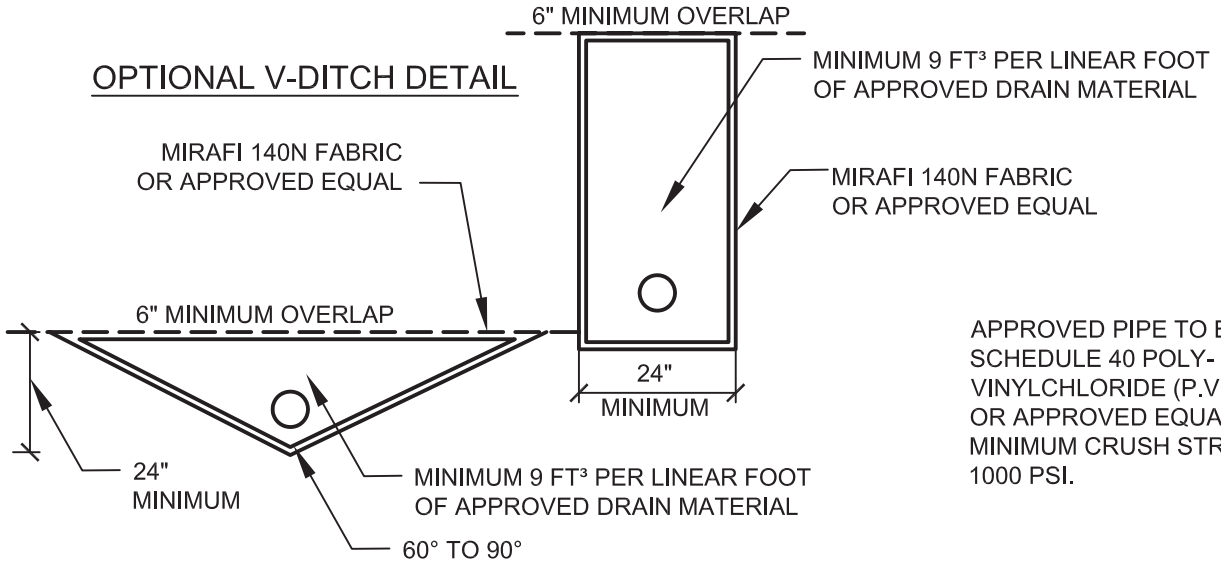
TYPICAL CANYON SUBDRAIN DETAIL

CANYON SUBDRAIN DETAILS



TRENCH DETAILS

OPTIONAL V-DITCH DETAIL



APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYLCHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 PSI.

DRAIN MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1 ½"	88-100
1"	5-40
¾"	0-17
⅜"	0-7
NO. 200	0-3

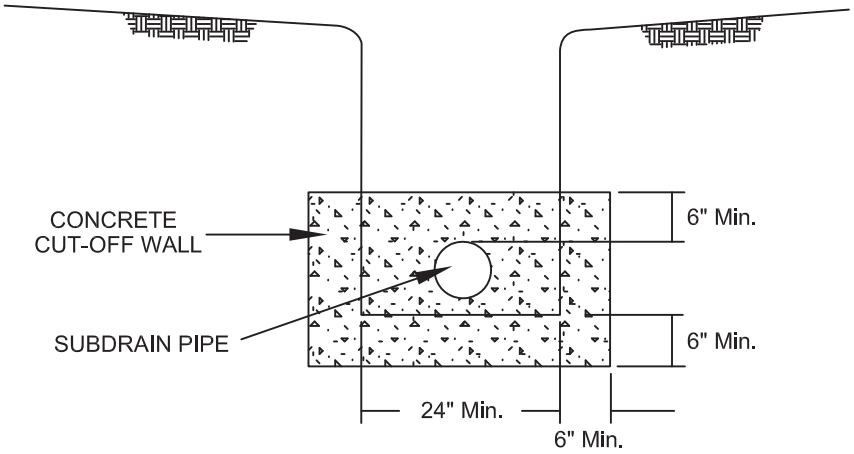
PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA, SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING

LENGTH OF RUN	PIPE DIAMETER
INITIAL 500'	4"
500' TO 1500'	6"
> 1500'	8"

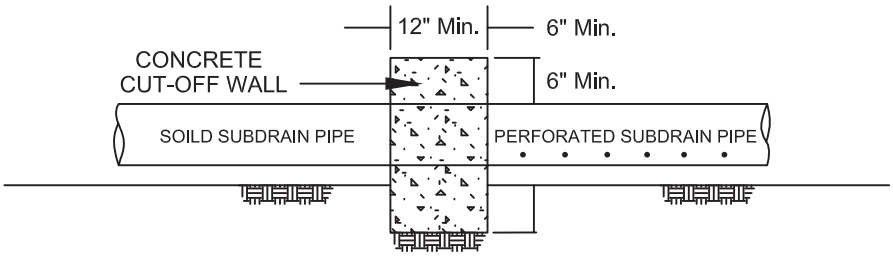
NOT TO SCALE

GEOFABRIC SUBDRAIN

FRONT VIEW



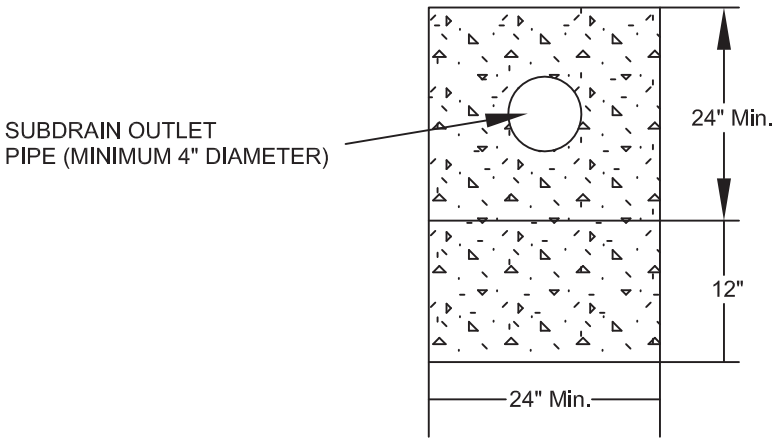
SIDE VIEW



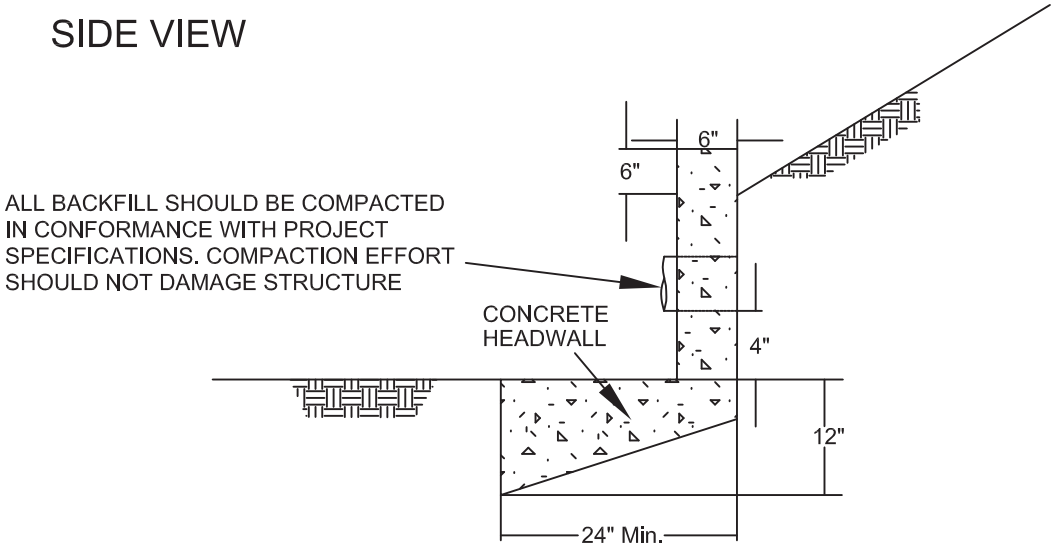
NOT TO SCALE

RECOMMENDED SUBDRAIN CUT-OFF WALL

FRONT VIEW



SIDE VIEW



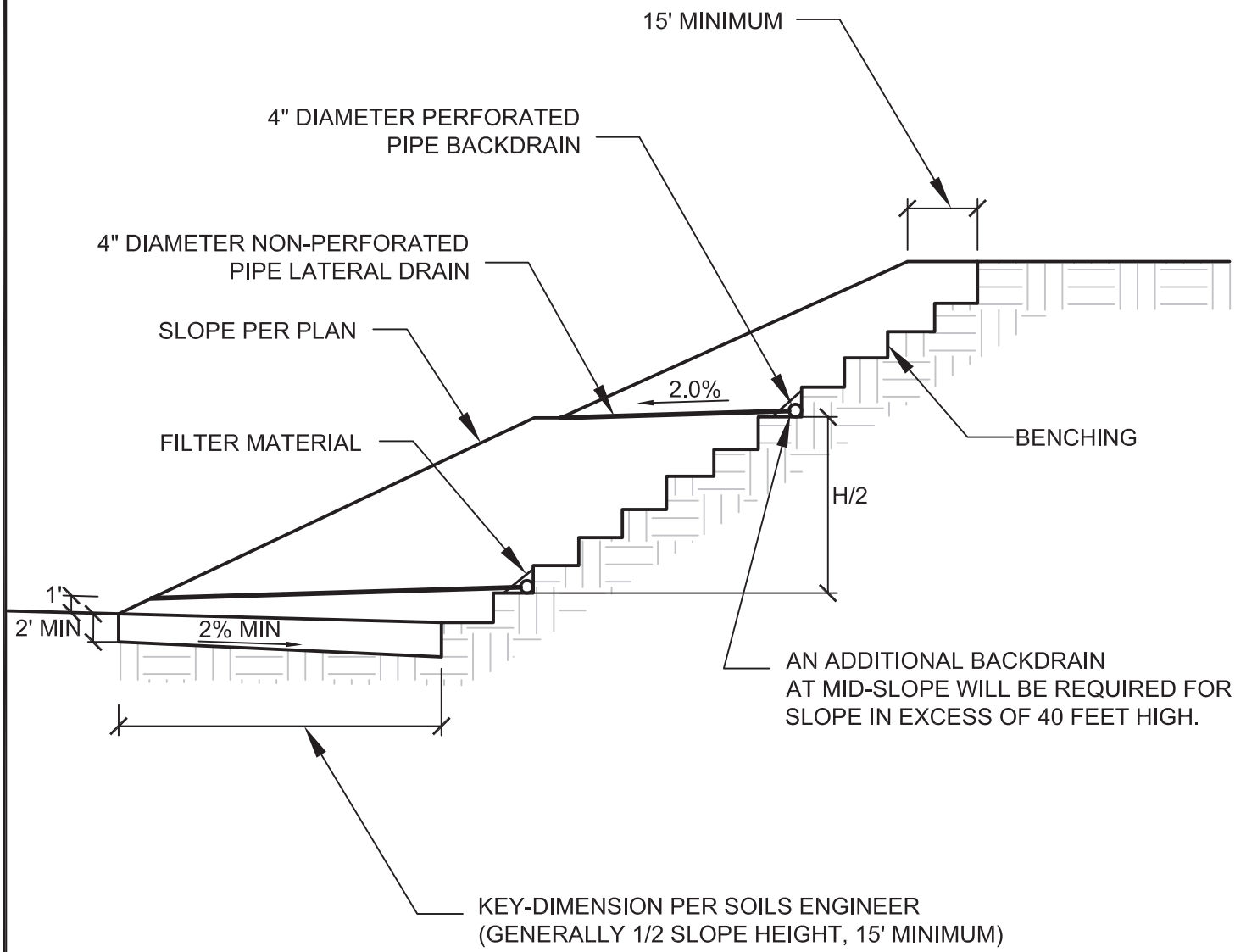
NOTE: HEADWALL SHOULD OUTLET AT TOE OF SLOPE
OR INTO CONTROLLED SURFACE DRAINAGE DEVICE

ALL DISCHARGE SHOULD BE CONTROLLED

THIS DETAIL IS A MINIMUM DESIGN AND MAY BE
MODIFIED DEPENDING UPON ENCOUNTERED
CONDITIONS AND LOCAL REQUIREMENTS

NOT TO SCALE

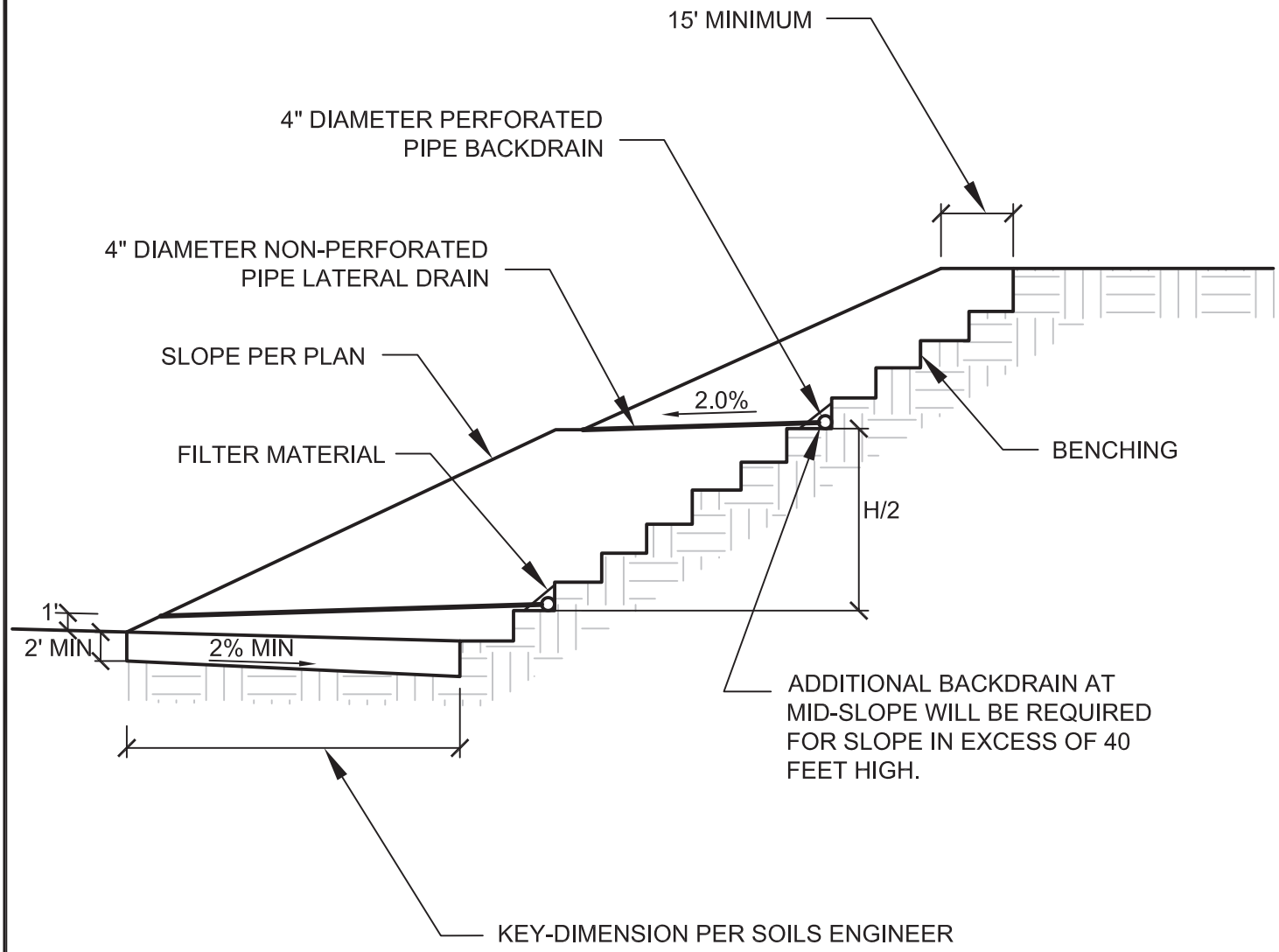
TYPICAL SUBDRAIN OUTLET HEADWALL DETAIL



DIMENSIONS ARE MINIMUM RECOMMENDED

NOT TO SCALE

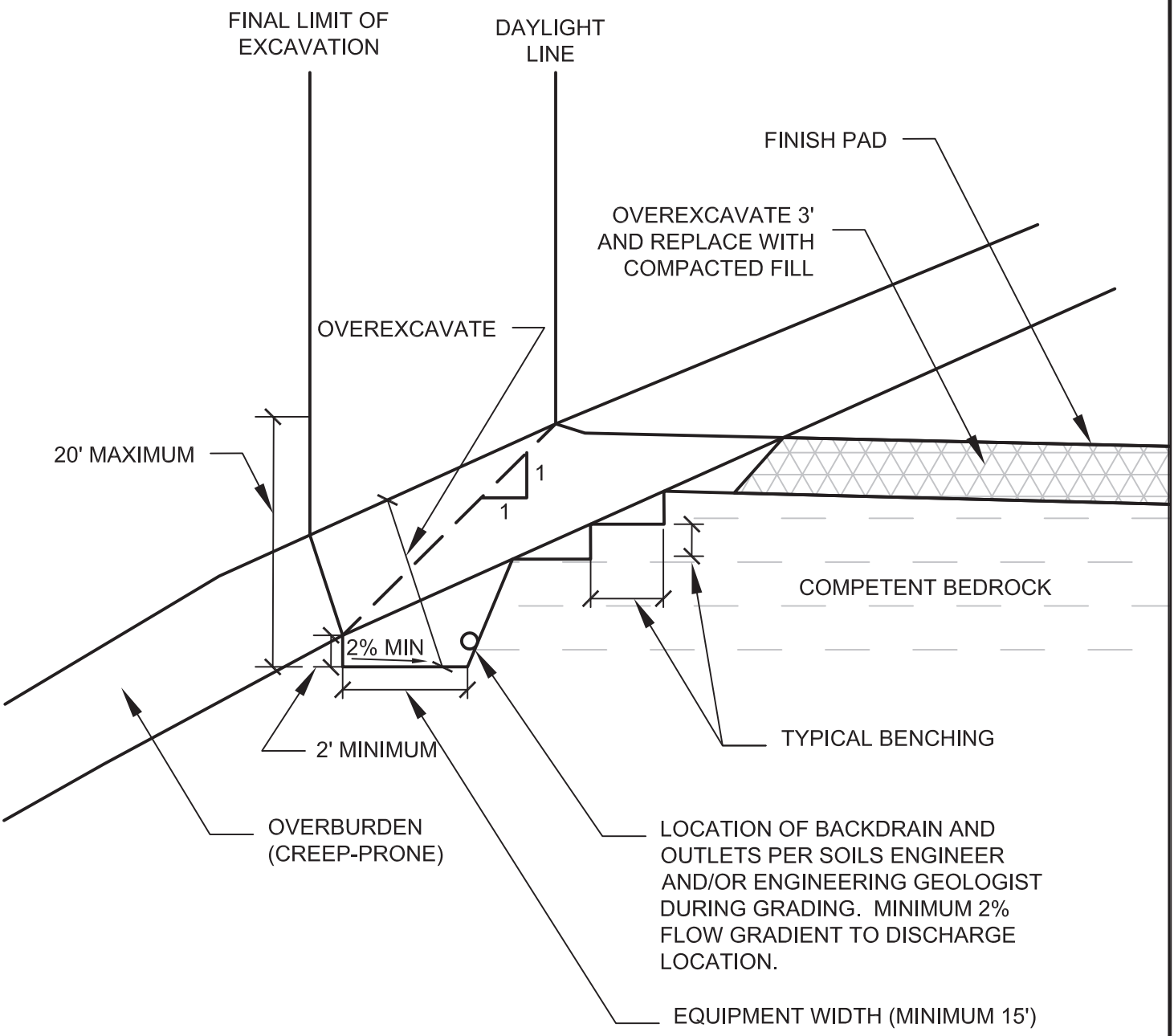
TYPICAL SLOPE STABILIZATION FILL DETAIL



DIMENSIONS ARE MINIMUM RECOMMENDED

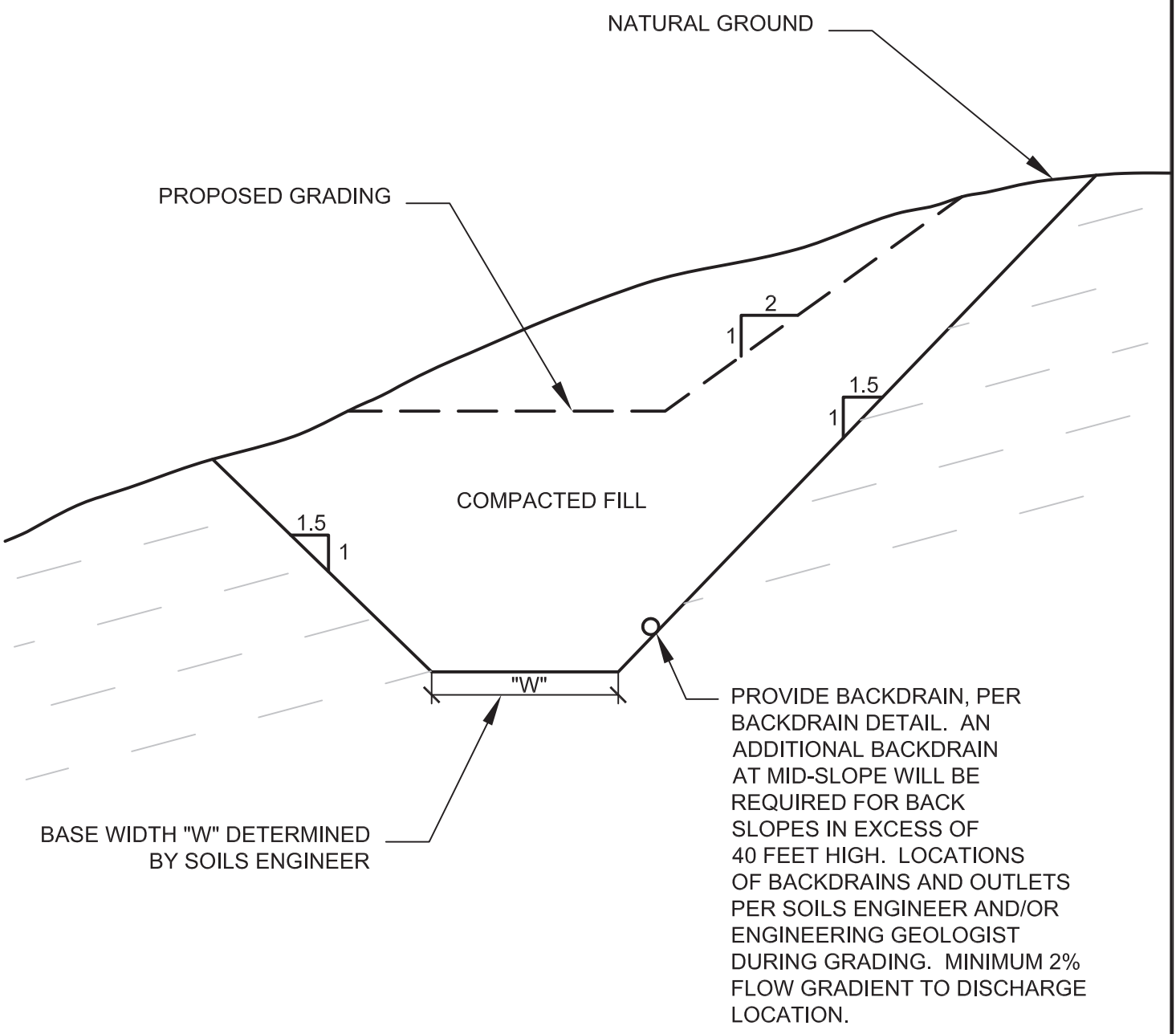
NOT TO SCALE

TYPICAL BUTTRESS FILL DETAIL



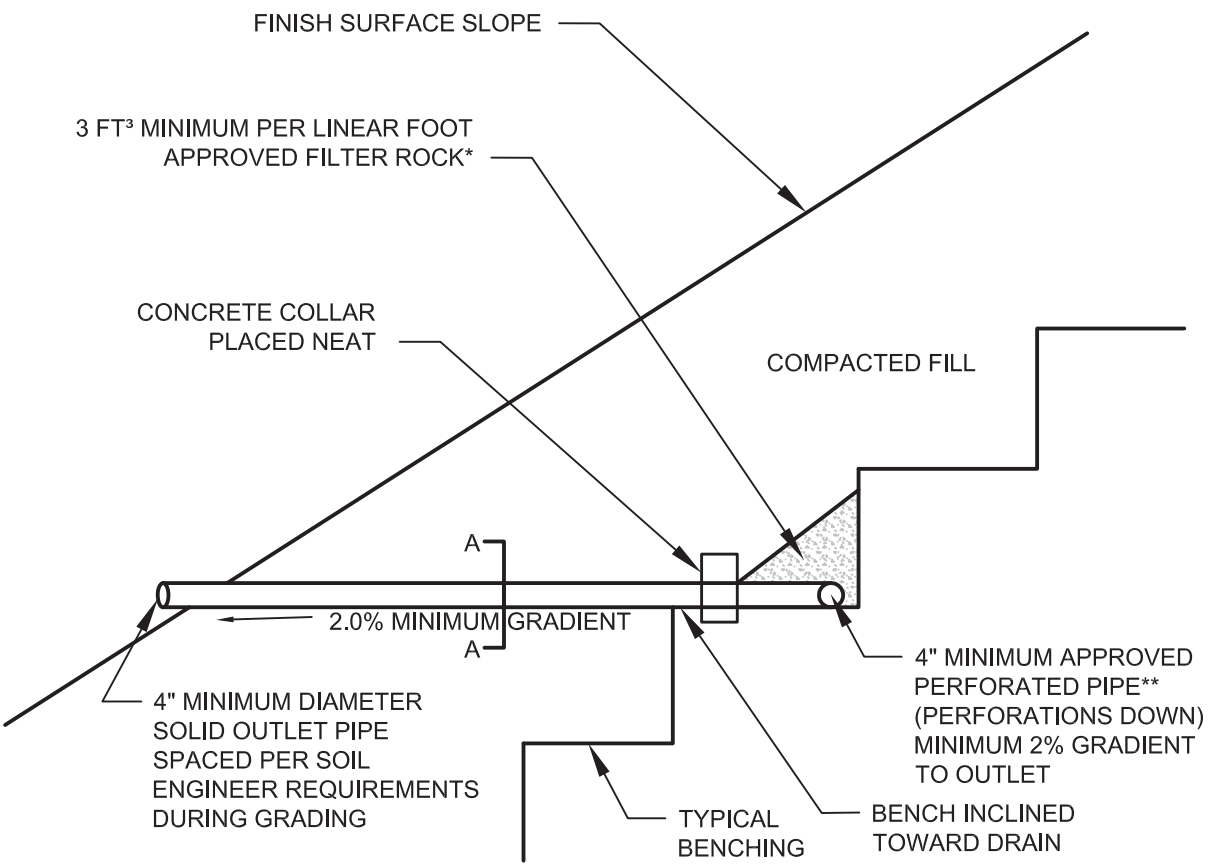
NOT TO SCALE

DAYLIGHT SHEAR KEY DETAIL

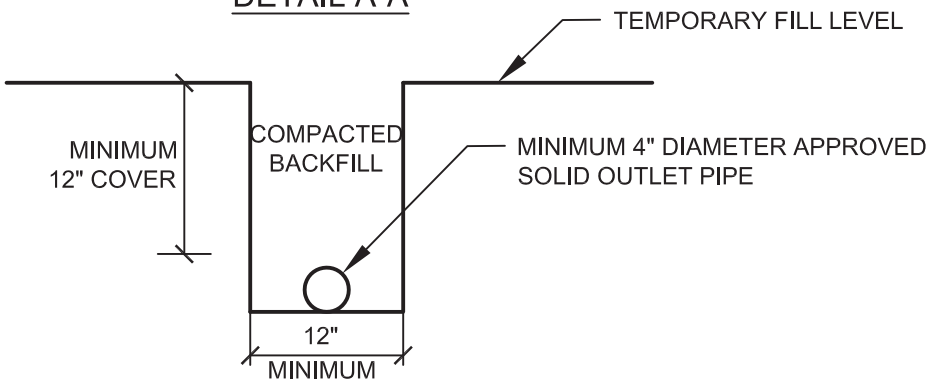


NOT TO SCALE

TYPICAL SHEAR KEY DETAIL



DETAIL A-A



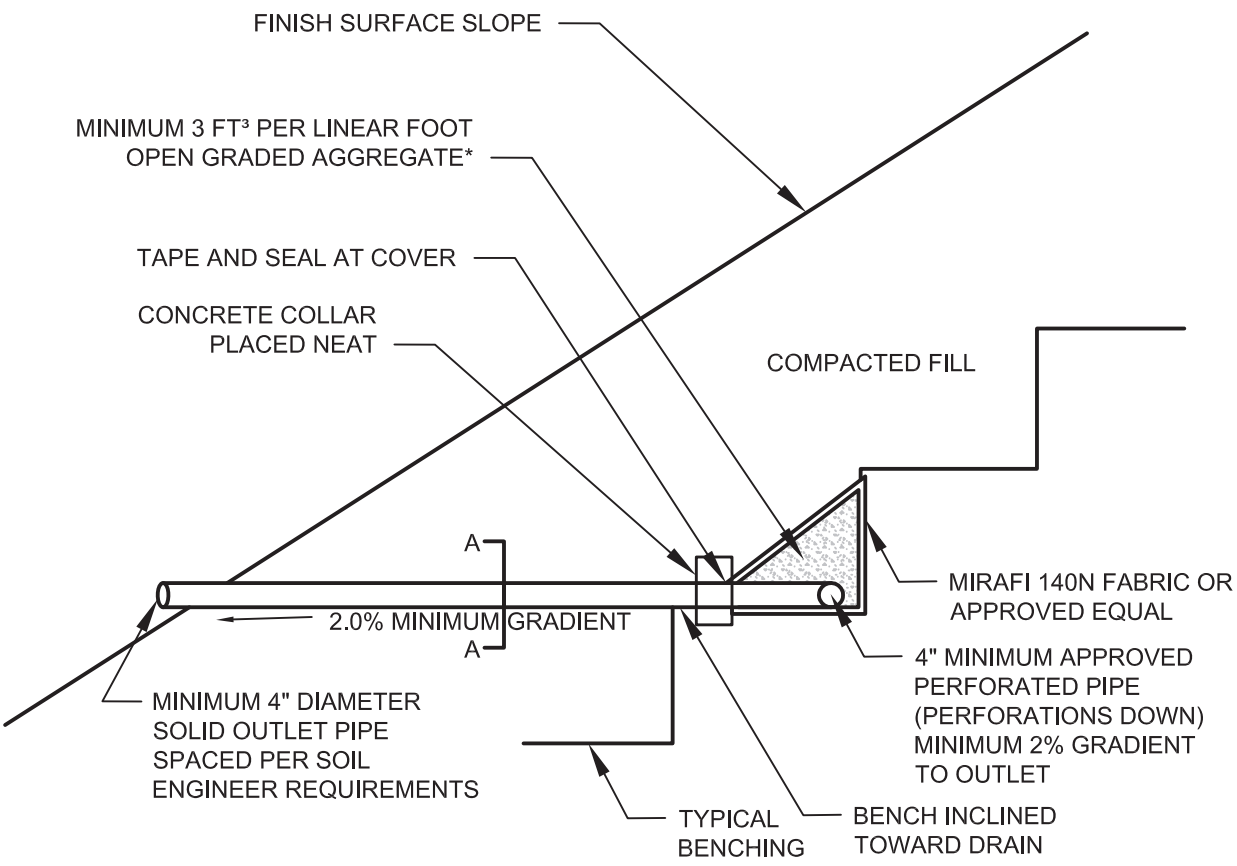
**APPROVED PIPE TYPE:
SCHEDULE 40 POLYVINYL CHLORIDE
(P.V.C.) OR APPROVED EQUAL.
MINIMUM CRUSH STRENGTH 1000 PSI

*FILTER ROCK TO MEET FOLLOWING
SPECIFICATIONS OR APPROVED EQUAL:

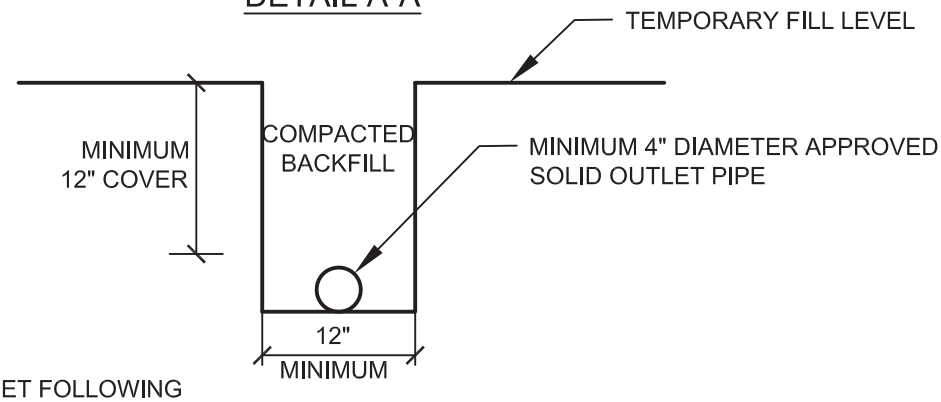
SIEVE SIZE	PERCENTAGE PASSING
1"	100
¾"	90-100
⅜"	40-100
NO. 4	25-40
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

NOT TO SCALE

TYPICAL BACKDRAIN DETAIL



DETAIL A-A

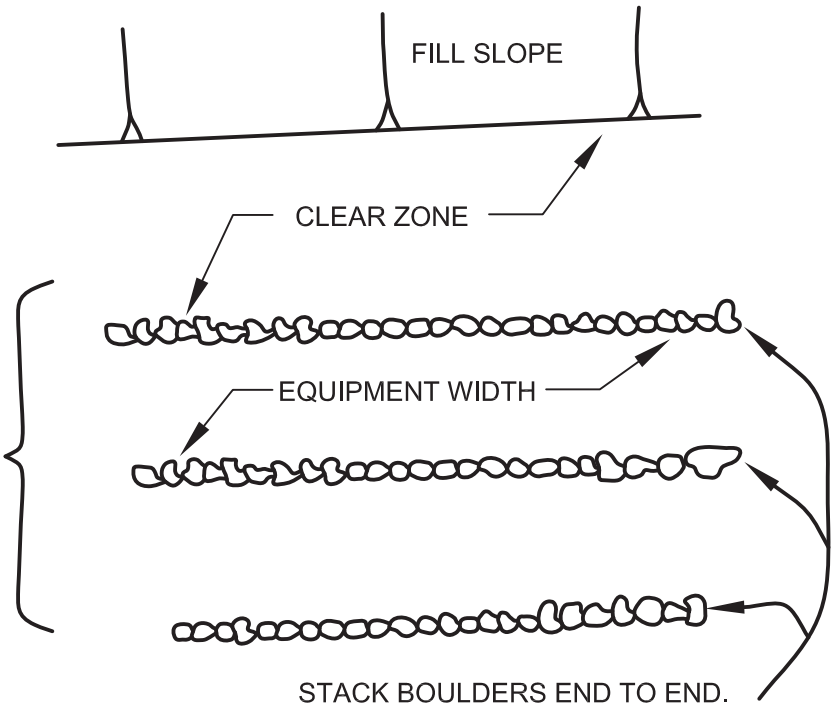


*NOTE: AGGREGATE TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUAL:

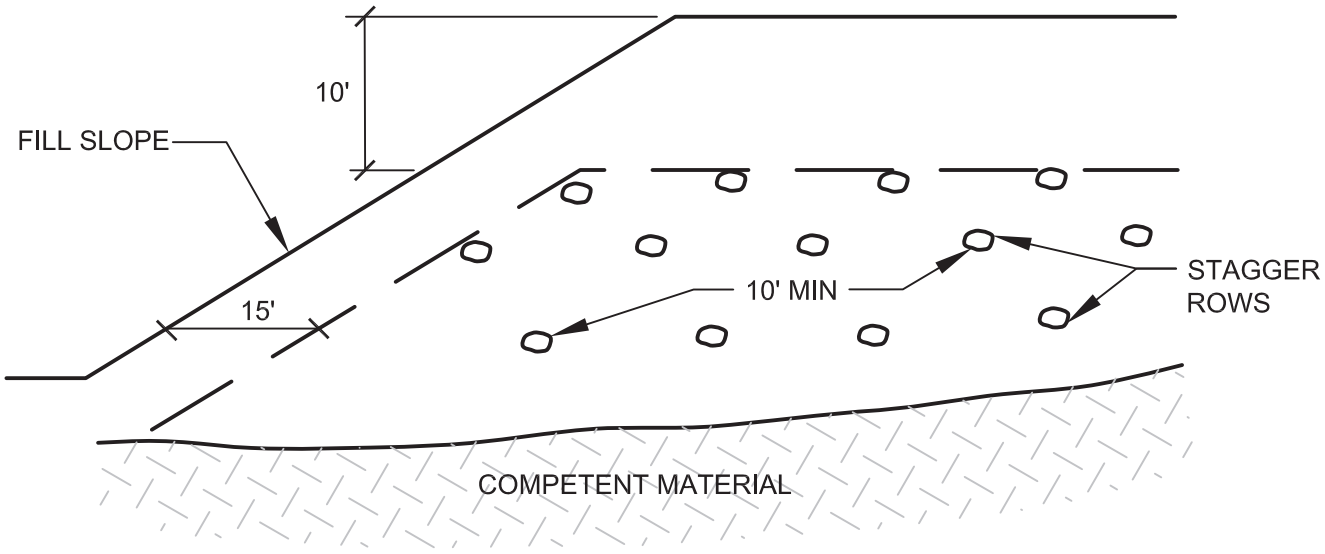
SIEVE SIZE	PERCENTAGE PASSING
1 ½"	100
1"	5-40
¾"	0-17
⅜"	0-7
NO. 200	0-3

NOT TO SCALE

BACKDRAIN DETAIL (GEOFRABIC)

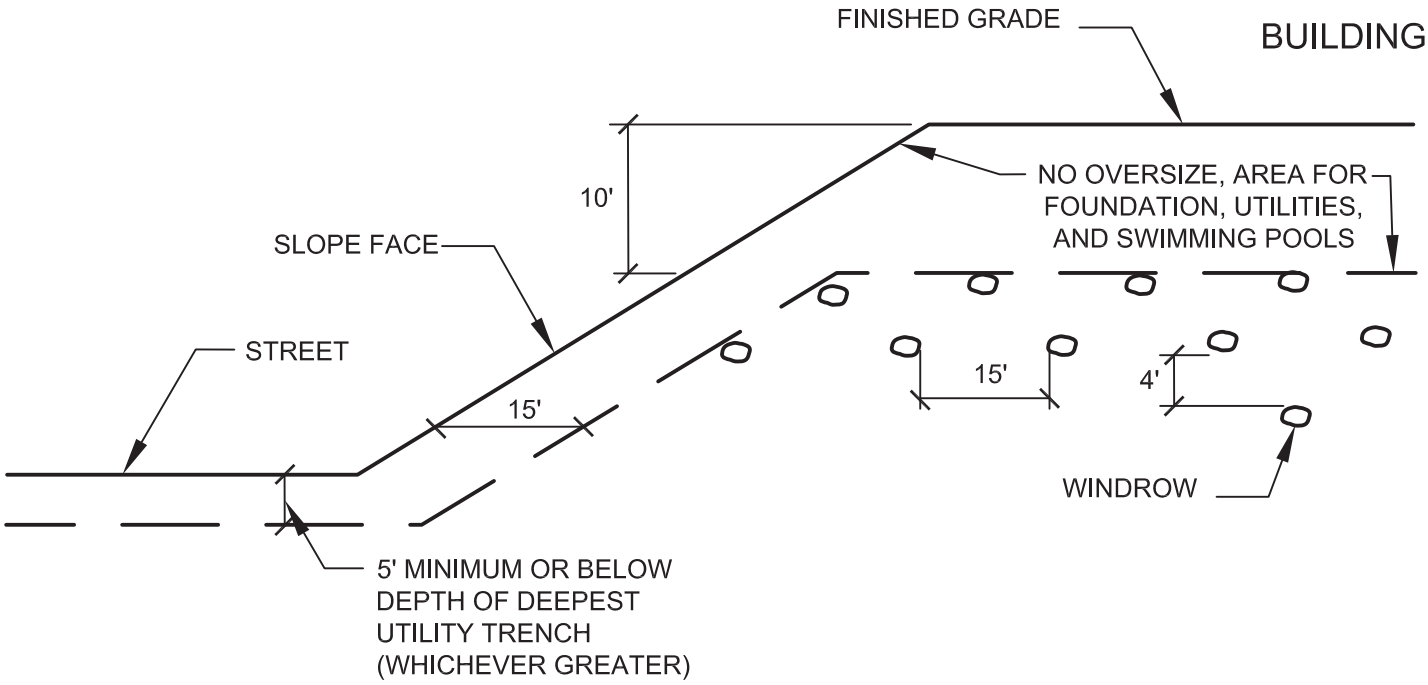


SOIL SHALL BE PUSHED OVER ROCKS AND FLOODED INTO VOIDS. COMPACT AROUND AND OVER EACH WINDROW.

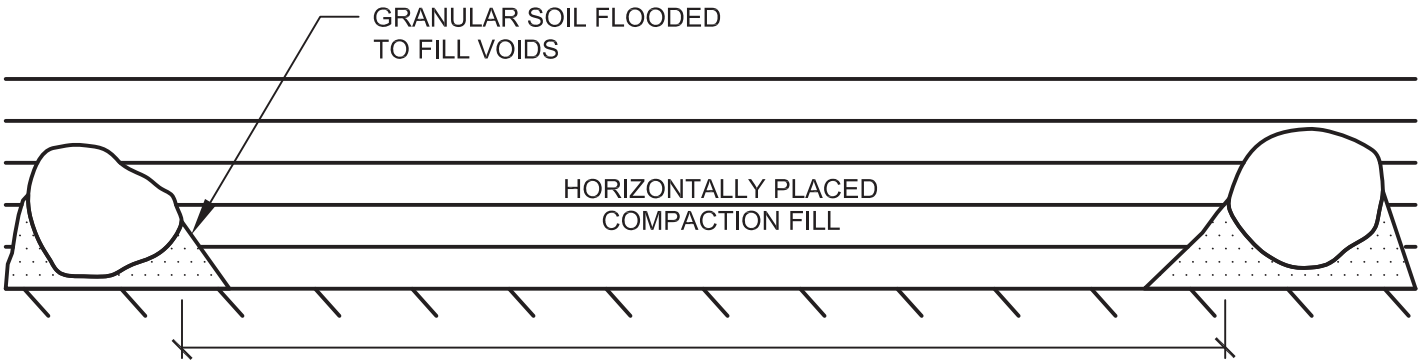


NOT TO SCALE

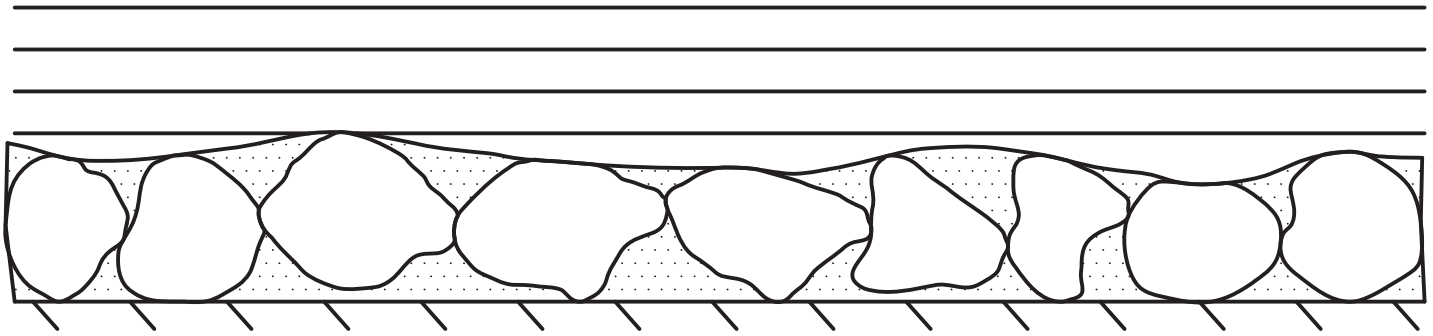
ROCK DISPOSAL DETAIL



TYPICAL WINDROW DETAIL (EDGE VIEW)



PROFILE VIEW

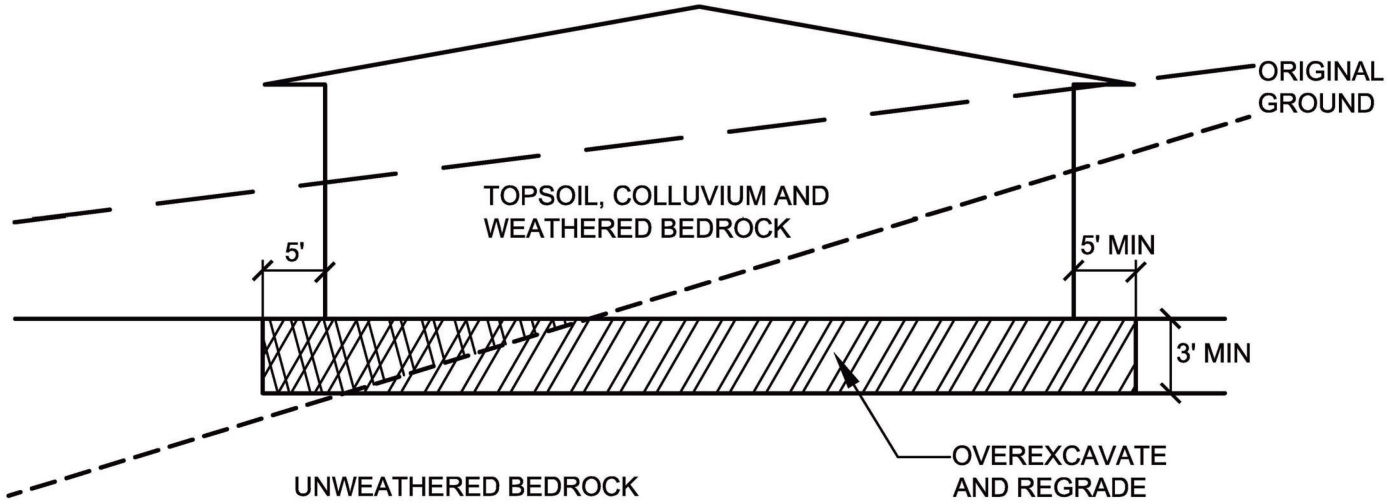


NOT TO SCALE

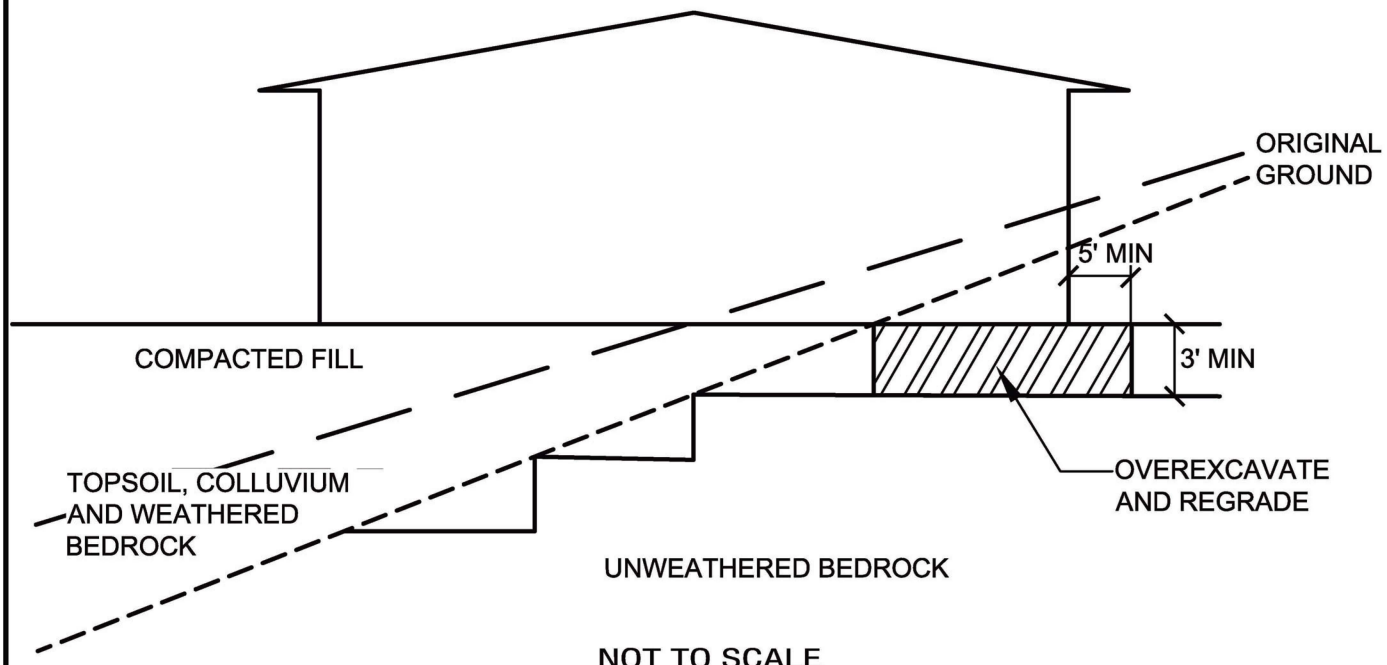
ROCK DISPOSAL DETAIL

GENERAL GRADING RECOMMENDATIONS

CUT LOT



CUT/FILL LOT (TRANSITION)



NOT TO SCALE

TRANSITION LOT DETAIL

Universal Engineering Sciences (UES)
1441 Montiel Road, Suite 115
Escondido, CA 92026
p. 760.746.4955 | TeamUES.com

May 28, 2024

The Cambridge School
12855 Black Mountain Road
San Diego, California 92129

Attention: Mr. Brandon Hong
(858) 484-3488
bhong@cambridgeclassical.org, CC: josh@spearinc.net , amcpherson@atlantissd.com

Subject: Response to Comments and Geotechnical Addendum
Cambridge School
SW Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California

References: End of Document

Mr. Hong:

As requested, Universal Engineering Sciences., (UES) has completed our responses to the City of San Diego's, Preliminary Review Cycle Issue 1Prelim (BDR-Geology) review for the proposed development, located at the southwest Corner of Camino Del Sur and Coyote Bush Drive San Diego, California. The numbers for the responses below correspond to the comments in the City's Single Discipline Review letter, dated January 26, 2024.

This letter includes Appendix A - References and Appendix B - City of San Diego Review Comments, which provides a copy of the Single Discipline Preliminary Review Cycle Issue comments dated January 26, 2024.

Comment Issue No. 2: The Architect of work must show the limits of grading on the grading plan. The limits of grading must encompass the limits of recommended remedial grading provided by the project's geotechnical consultant. This must be delineated on the plans with a call out and or symbol.

Response: UES has prepared the attached Figure 2 Geotechnical Exploration Location Map, based on the preliminary grading plans issued by Spear & Associates (2023) for the project. Figure 2 shows the anticipated limits of remedial grading, which coincide with the approximate property line.

Comment Issue No. 3: Submit a geotechnical addendum or update letter that specifically addresses the proposed development for the purposes of environmental review and the following:

Response: UES has prepared this response letter and geotechnical addendum to address the current comments by the City of San Diego. UES has not addressed the proposed development for the purposes of environmental review, which is not within UES's current scope of work for the project.

Comment Issue No. 4: The geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level.

Response: Based on our review of the preliminary grading plans issued by Spear & Associates (2023), the site is suitable for the proposed development as designed provided the design and construction of the project incorporates the recommendations included in the referenced geotechnical report by CTE (2023a), additional recommendations contained herein, and recommendations provided during construction based on exposed conditions.

Comment Issue No. 5: The project's geotechnical consultant should provide a conclusion regarding if the proposed development will destabilize or result in settlement of adjacent property or the Right-of-Way.

Response: Based on our review of the preliminary grading plans provided by Spear & Associates (2023), it is anticipated that if site grading is performed in substantial accordance with the recommendations included in the referenced geotechnical report (CTE, 2023a), additional recommendations contained herein, and recommendations provided during construction based on exposed conditions, the proposed development will not destabilize or result in settlement of adjacent property or the Right-of-Way.

Comment Issue No. 6: According to the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 53, indicating unfavorable geologic structure. It is understood that the site was previously graded and fill placed. Please indicate if any potentially adverse geologic structure could impact the proposed development.

Response: As indicated in the referenced geotechnical report (CTE, 2023a), no potentially adverse geologic structures were encountered that could impact the proposed development at the site.

Comment Issue No. 7: It was indicated in the submitted report that compressible alluvium/colluvium was removed from the project site during grading in 2014. Please clarify if all compressible alluvium was removed from the proposed development area.

Response: According to the subsurface exploration performed by CTE (2023a) and review of the as-graded compaction report issued by Geocon (2014) for the site, compressible alluvium/colluvium has been removed from the proposed development area and the existing engineered fill was placed on the underlying competent formational materials.

Comment Issue No. 8: The geotechnical consultant indicated previously placed fill on the site property. An opinion should be provided regarding the suitability of existing fill to support additional fill or proposed structures.

Response: As indicated in the referenced geotechnical report (CTE, 2023a), previously placed fill is considered suitable for support of additional fill or proposed structures provided that the desiccated upper portion of fill materials be overexcavated to a minimum depth of 24 inches or to the depth of competent fill material, whichever is deeper. Overexcavation should extend laterally at least five feet beyond the limits of the proposed improvements, where feasible. For other proposed improvements, such as pavement and hardscape areas, existing soils should be excavated to a minimum of 24 inches below existing grade or to the depth of competent fill materials, whichever depth is deeper.

Comment Issue No. 9: Please clarify if additional E.I data was collected across the site. Does the E.I provided represent the conditions across the whole proposed development area?

Response: As indicated in Appendix C of the referenced geotechnical report (CTE, 2023a), an expansion index test on a sample collected from CTE boring B-2 at 0 to 3.5 ft. depth exhibited an E.I. value of 43 corresponding to "low" expansion potential. Geocon (2014) performed three expansion index tests on finish grade samples collected from the project site which indicated E.I. values of 21, 56 and 86 corresponding to "low" and "medium" expansion potential. UES anticipates that after site grading is completed, site improvements may be designed for "low" expansion potential (E.I. ≤ 50). At the completion of site grading, UES will perform expansion index tests on finish grade soil samples to verify the expansion potential and provide additional recommendations, if considered necessary.

Comment Issue No. 10: Please clarify if additional removals of previously placed fill will be required in areas with low blow counts such as B1, B3-5.

Response: As indicated in our response to Comment 8, in areas to receive structures overexcavation should extend to a minimum depth of 24 inches or to the depth of competent material, whichever is deeper. During grading, UES may recommend deeper removals, where needed, to expose competent fill materials.

Comment Issue No. 11: Please provide the full reference to the Geocon As-Graded report including location, PTS # and drawing number.

Response: The full reference is: Geocon, 2014, "Final Report of Testing and Observation Services during Grading Black Mountain Ranch, North Village East, Unit 11 (Town Center Lots 1 through 29) and Motor Courts, I.O. No. 23425237, P.T.S. No. 83713, V.T.M. 40-0528, Drawing No. 33873, San Diego, California," Geocon Project No. 07096-32-44, dated February 19, 2014.

Comment Issue No. 12: Please provide two representative geologic/ geotechnical cross sections that show the existing and proposed grades, the distribution of fill and geologic units. Show the anticipated area of recommended remedial grading, including temporary slopes (if applicable). (approx. N-S & E-W).

Response: UES has prepared Figures 2A and 2B showing two representative geologic/geotechnical cross sections A-A' and B-B' (approx. W-E & N-S), including the requested information at the locations shown in Figure 2.

Comment Issue No. 13: Please provide an updated geologic map showing fill and geology. If remedial grading is recommended, show the limits of the recommended remedial grading on the geotechnical map. Please include the limits of grading provided by the Geocon's As-graded report and delineate areas/removals of alluvium/colluvium. Please include locations of cross sections. Note, the geotechnical consultant should determine if the limits of grading may impact environmental resources on the site.

Response: UES has prepared Figure 2, Geotechnical Exploration Location Map including the requested information. As described in the response to Comment 7, Geocon (2014) indicated that compressible alluvium/colluvium has been removed from the proposed development area. UES does not anticipate that the limits of grading will impact environmental resources on the site. However, UES has not addressed the proposed development for the purposes of environmental review, which is not within UES's scope of work for the project.

This document is subject to the same limitations as the referenced geotechnical reports. The opportunity to be of service is appreciated. If you have any questions, please contact our office.

Respectfully,
Universal Engineering Sciences (UES)

Colm J. Kenny, GE #3201
Senior Engineer



Andres Bernal, GE #2715
Senior Engineer



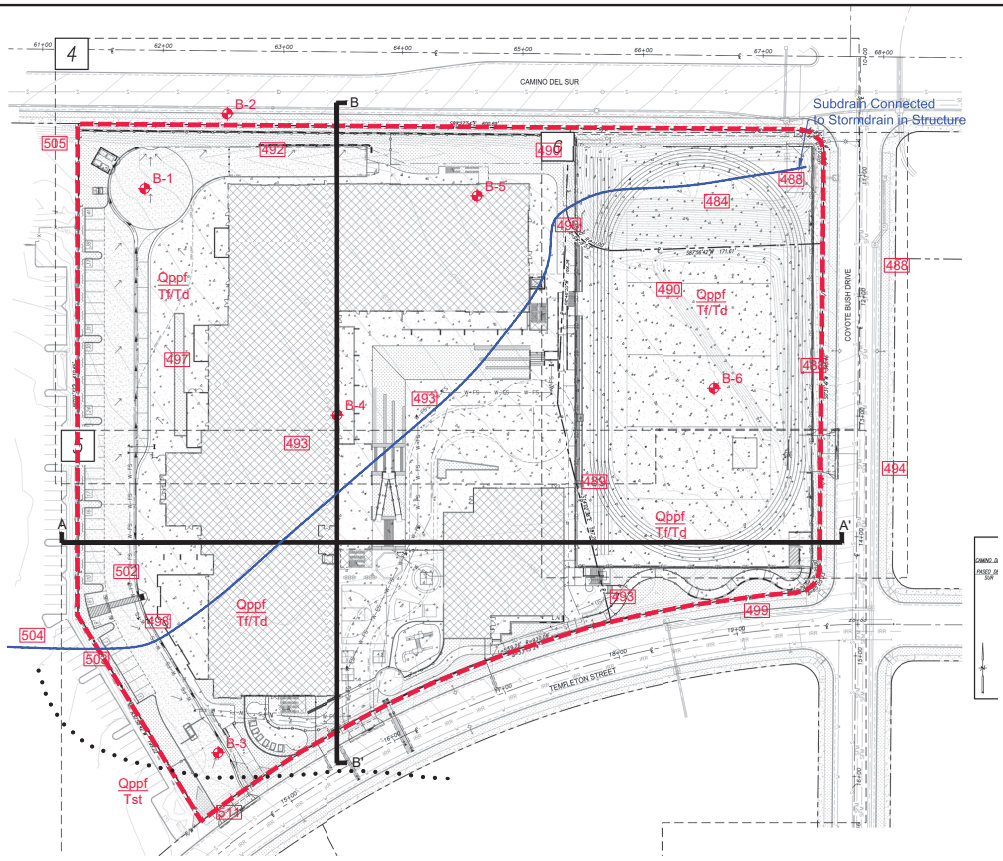
AB/CJK:ach

FIGURES:

Figure 2 - Geotechnical Exploration Location Map
Figure 2A - Geologic Cross Section A-A'
Figure 2B - Geologic Cross Section B-B'

APPENDICES:

Appendix A - References
Appendix B - City of San Diego Review Comments



GRAPHIC SCALE

80' 0 40' 80' 160'

1 inch = 80 ft.

EXPLANATION

- B-7 — APPROXIMATE BORING LOCATION (UES,2023)
- Qppf — QUATERNARY PREVIOUSLY PLACED FILL
- Tf/Td — FRIARS FORMATION/DEL MAR FORMATION (UNDIFFERENTIATED, GEOCON, 2014)
- Tst — STADIUM CONGLOMERATE (GEOCON, 2014)
- APPROXIMATE LOCATION OF GEOLOGIC CONTACT (DOTTED WHERE BURIED, GEOCON, 2014)
- 502 — APPROXIMATE ELEVATION AT BASE OF FILL (GEOCON, 2014)
- APPROXIMATE LOCATION OF SUBDRAIN (GEOCON, 2014)
- APPROXIMATE LIMITS OF GRADING
- A A' — GEOLOGIC CROSS SECTION

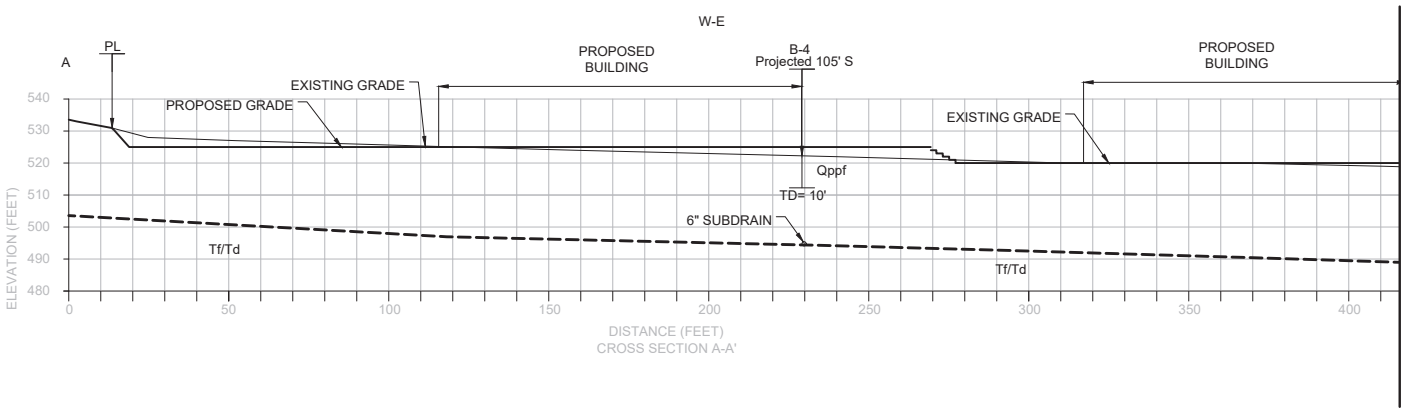
UES

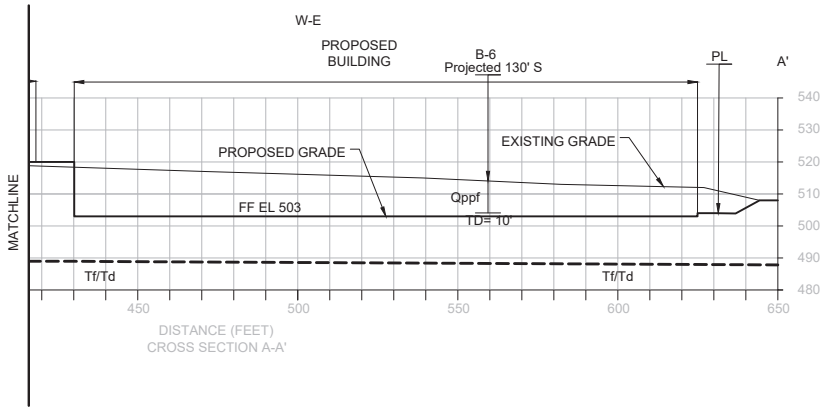
GEOTECHNICAL EXPLORATION LOCATION MAP

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH ROAD
SAN DIEGO, CALIFORNIA

SITE JOB NO.	4830.2300106
SCALE:	1" = 80'
DATE:	5/24
FIGURE:	2

S:\Projects\4830 (GEO)\4830.23\4830.2300106.0000 (Cambridge School)\DWG\Figure 2 (Exploration Map)(5-24).dwg





EXPLANATION

B-4	APPROXIMATE BORING LOCATION
Qppf	QUATERNARY PREVIOUSLY PLACED FILL
Tf/Td	FRIARS FORMATION/DEL MAR FORMATION (UNDIFFERENTIATED, GEOCON, 2014)
- - - -	APPROXIMATE GEOLOGIC CONTACT (GEOCON, 2013)

30' 0 15' 30'

1 inch = 30 ft.

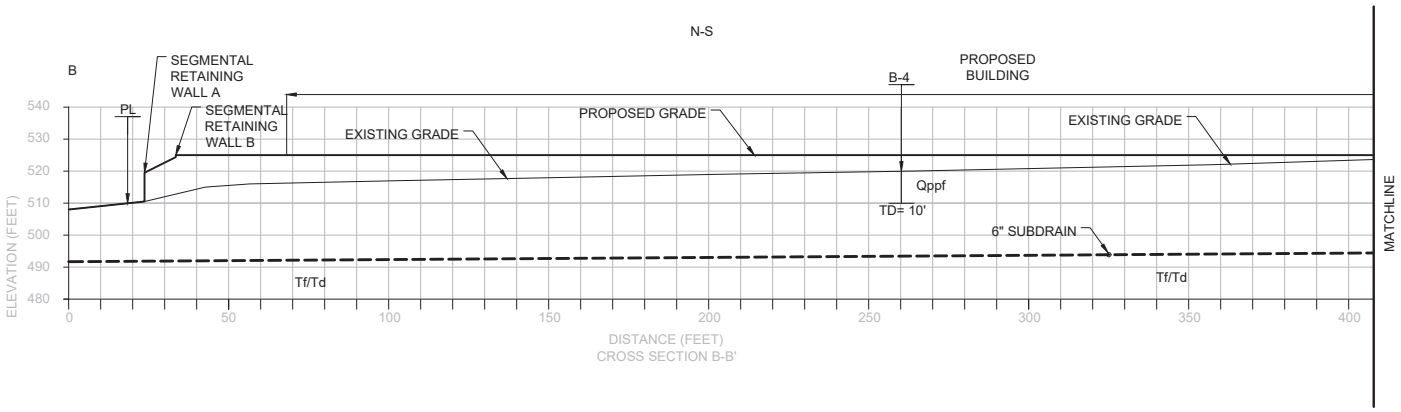
UES

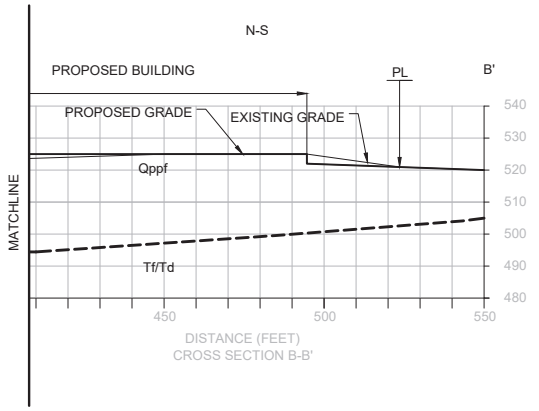
GEOLOGIC CROSS SECTION

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH ROAD
SAN DIEGO, CALIFORNIA

CTE JOB NO.	4830.2300106
SCALE:	1" = 30'
DATE:	5/24
FIGURE:	2A

S:\Projects\4830 (GEO)\4830.23\4830.2300106.0000 (Cambridge School)\DWG\Fig 2A (Cross Section A).dwg





EXPLANATION

B-4	APPROXIMATE BORING LOCATION
Qppf	QUATERNARY PREVIOUSLY PLACED FILL
Tf/Td	FRIARS FORMATION/DEL MAR FORMATION (UNDIFFERENTIATED, GEOCON, 2014)
- - - -	APPROXIMATE GEOLOGIC CONTACT (GEOCON, 2013)

30' 0 15' 30'

1 inch = 30 ft.

UES™

GEOLOGIC CROSS SECTION

PROPOSED CAMBRIDGE SCHOOL
SW CORNER OF CAMINO DEL SUR & COYOTE BUSH ROAD
SAN DIEGO, CALIFORNIA

CTE JOB NO.	4830.2300106
SCALE:	1" = 30'
DATE:	5/24
FIGURE:	2B

S:\Projects\4830 (GEO)\4830.23\4830.2300106.0000 (Cambridge School)\DWG\Fig 2B (Cross Section B).dwg

APPENDIX A

REFERENCES

REFERENCES

1. CTE, 2023a, “Geotechnical Investigation, Proposed Cambridge School, Southwest Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California 92127,” CTE Job No. 4830.2300106, dated October 5, 2023.
2. CTE, 2023b, “Infiltration Feasibility Condition Letter, Cambridge School, Southwest Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California 92127,” CTE Job No. 4830.2300106, dated December 6, 2023.
3. Geocon, 2005, “Black Mountain Ranch (Del Sur), North Village East, San Diego, California, Placement of Soil Containing Toxaphene,” Geocon Project No. 07096-32-17, dated October 11, 2005.
4. Geocon, 2006, “Limited Pesticide Assessment and Soils Reuse Plan, Black Mountain Ranch North Village East and Future Golf Course Site, San Diego, California,” Geocon Project No. 08003-06-21, dated February 7, 2006.
5. Geocon, 2013a, “Updated Limits of Toxaphene in Soil and Placement Areas, Black Mountain Ranch North Village East, San Diego, California,” Geocon Project No. 07096-32-44, dated March 20, 2013.
6. Geocon, 2013b, “Transmittal, Black Mountain Ranch (Del Sur) North Village East, San Diego, California,” Geocon Project No. 07096-32-44, dated June 5, 2013.
7. Geocon, 2014, “Final Report of Testing and Observation Services during Grading Black Mountain Ranch, North Village East, Unit 11 (Town Center Lots 1 through 29) and Motor Courts, I.O. No. 23425237, P.T.S. No. 83713, V.T.M. 40-0528, Drawing No. 33873, San Diego, California,” Geocon Project No. 07096-32-44, dated February 19, 2014.
8. Geocon, 2016, “Transmittal of Laboratory Analysis Results, Del Sur Town Center, Lots 1 and 2, San Diego, California,” Geocon Project No. 07096-32-98A, dated February 24, 2016.
9. Spear & Associates, 2023, Preliminary Grading Plans, The Cambridge School – CUP, 0 Templeton Street, San Diego, California 92127, Sheets C-1 though C-6, dated November 30, 2023.

APPENDIX B

CITY OF SAN DIEGO REVIEW COMMENTS

File	Num	Comment Content	Reviewer	Group	Comment I Cycle	Page Reference Sheet Number	Created At	Updated At	Consultant
	1	Information Only (No response required):Please note, the addendum/update letter requested in this review must be uploaded with the "Geotechnical Report Addendum" PDF file option only. Please note, to avoid additional reviews, do not attempt to submit any additional document using the "Geotechnical Investigation Report" PDF file option as this will overwrite the previously submitted record geotechnical document for the project. Please note, that geotechnical documents that are uploaded incorrectly are unacceptable as record documents.References Reviewed:Geotechnical Investigation, Proposed Cambridge School, Southwest Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California, prepared by Construction Testing & Engineering Inc., dated October 5, 2023 (their project no. 4830.2300106)Site Plans: The Cambridge School CUP Submittal, San Diego, California, prepared HED., dated November 20, 2023; civil plans by Spear & Associates Inc.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	
	2	The Architect of work must show the limits of grading on the grading plan. The limits of grading must encompass the limits of recommended remedial grading provided by the project's geotechnical consultant. This must be delineated on the plans with a call out and or symbol.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES, Spear & HED
	3	Submit a geotechnical addendum or update letter that specifically addresses the proposed development for the purposes of environmental review and the following:	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	4	The geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	5	The project's geotechnical consultant should provide a conclusion regarding if the proposed development will destabilize or result in settlement of adjacent property or the Right-of-Way.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	6	According to the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 53, indicating unfavorable geologic structure. It is understood that the site was previously graded and fill placed. Please indicate if any potentially adverse geologic structure could impact the proposed development.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	7	It was indicated in the submitted report that compressible alluvium/colluvium was removed from the project site during grading in 2014. Please clarify if all compressible alluvium was removed from the proposed development area.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	8	The geotechnical consultant indicated previously placed fill on the site property. An opinion should be provided regarding the suitability of existing fill to support additional fill or proposed structures.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	9	Please clarify if additional E.I data was colleUESd across the site. Does the E.I provided represent the conditions across the whole proposed development area?	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	10	Please clarify if additional removals of previously placed fill will be required in areas with low blow counts such a at B1, B3-5.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	11	Please provide the full reference to the Geocon As Graded report including location, PTS # and drawing number.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	12	Please provide two representative geologic/ geotechnical cross sections that show the existing and proposed grades, the distribution of fill and geologic units. Show the anticipated area of recommended remedial grading, including temporary slopes (if applicable). (approx. N-S & E-W)	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES
	13	Please provide an updated geologic map showing fill and geology. If remedial grading is recommended, show the limits of the recommended remedial grading on the geotechnical map. Please include the limits of grading provided by the Geocon's As graded report, and delineate areas/removals of alluvium/colluvium. Please include locations of cross sections. Note, the geotechnical consultant should determine if the limits of grading may impact environmental resources on the site.	Xiomara Rosenblatt-Dailey	GEOL	Open		2024-01-26T21:	26-Jan-24	UES

		The project is located at (APN:678-690-7000, 678-690-7100, 678-690-7200) in the CC-4-5 Zone within the Black Mountain Ranch Community Plan Area. The project is for a (Process 3) Conditional Use permit for construction of a new Pre K-12 campus with 3 story classroom building, 1 story multipurpose building and a track and sports field over semi-subterranean parking structure located at the intersection of Camino del Sur and Coyote Bush Dr. APN 6786907000, APN6786907100 & APN6786907200. The 6.52 acre site is in the CC-4-5 base zone within the Black Mountain Ranch Community Plan Area, Council District 5 Info								
Site Develc	14	Only	Abdirahman Buul	PLAN	Closed	1ST	1	GN000	2024-02-07T22:	7-Feb-24
	15	The vicinity map does not appear to have the streets labeled correctly.	Abdirahman Buul	PLAN	Open				2024-02-07T22:	7-Feb-24
		Per SDMC Table 131-05B, a Kindergarten through Grade 12 school is listed as a (L) Limited Use. Which may include location limitations or the requirement for a use or development permit.								
	16		Abdirahman Buul	PLAN	Open				2024-02-07T22:	7-Feb-24
		Per SDMC 141.0407(b)(3)(A), outside of a Sustainable Development Area, the facility design shall not accommodate more than 300 students, except that a new school may replace an existing school with current enrollment over 300 students if the result is no increase in the number of students.								
	17		Abdirahman Buul	PLAN	Open				2024-02-07T22:	7-Feb-24
		Per the Black Mountain Ranch North Community plan, the parcel is designated under Employment, the								
	18	proposed Use is listed as an Institutional one per the SDMC, please clarify.	Abdirahman Buul	PLAN	Open				2024-02-07T22:	7-Feb-24
		Please indicate if a Preliminary Review has been done for this specific Use, others have been located for								
	19	this premises which do not include the proposed development.	Abdirahman Buul	PLAN	Open				2024-02-07T22:	7-Feb-24
		GENERAL: These comments are draft and subject to change until presented by the City's assigned Development Project Manager in conjunction with the project Assessment Letter. Staff is unable to process formal, intermediate plan changes and updates outside the full submitted cycle. A formal response to these comments must be made through the resubmittal process in response to the full Assessment Letter. Your DSD Development Project Manager can assist with further questions.								
	20		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		RESUBMITTAL REQUIREMENTS: Applicant written response to all staff comment is required with each resubmittal. Any technical report requiring revisions must be submitted in a WORD strikeout/underline (SOUL) format. The City's expectation is that the applicant/consultant respond to comments and text edits; revisions are carried through the technical report as necessary; a thorough quality control/assurance is provided (i.e. complete read through of document beyond specific edits/comments). Failure to resubmit a SOUL format or complete revisions may extend the review of the technical study.								
	21		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Project Scope: The project proposes a Conditional Use permit for the construction of a new Pre K-12 campus with a 182,868 square-foot (sf) 3 story classroom building, a 10,904 sf 1 story multipurpose building and a track and sports field over a 70,766 sf semi-subterranean parking structure on a vacant parcel located at the intersection of Camino del Sur and Coyote Bush Dr. The 6.52 acre site is in the CC-4-5 base zone within the Black Mountain Ranch Community Plan Area, Council District 5.								
	22		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		PREVIOUS ENVIRONMENTAL: The project site is located within the North Village portion of the Black Mountain Ranch Subarea. In June 1998, the City of San Diego certified the Final Environmental Impact Report (FEIR) for the Black Mountain Ranch (Subarea I) Subarea Plan in the North City Future Urbanizing Area (NCFUA) (Land Development Review [LDR] Np. 96-7902, SCH No. 97111070). The 1998 FEIR encompassed the remaining 1,408 acres of Subarea I in the NCFA of the City of San Diego. These 1,408 acres comprised 893 acres from the previousty approved 3,777-acre Black Mountain Ranch II project (DEP No. 95-0173: SCH No. 95041041) as well as the 515-acre perimeter parcels surrounding the Black Mountain Ranch ownership. In November 2001, an addendum to FEIR 96-7902 was approved which included an amendment to the Subarea I Plan; a third amendment to the Development Agreement; a revision to the approved North Village VTM; a Street Vacation; Rezone; PDP; and SDP. In September 2009, an addendum to FEIR 96-7902 (Project No. 14244/SCH No. 96-7902 was approved, which allowed for further refinement to the 1998 FEIR and the 2001 Addendum, including a total of 1,433 residential units, a mixed-use village core with a 515,000-square foot employment/office center with 225,000 square-feet of commercial/retail space; a 300-room hotel; 277 .5 acres of open space and 5 individual park areas; a middle school site; a transit center; a fire station; and other on- and off-site infrastructure improvements on a 967.5 acre site.								
	23		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Land Use: LAND DEVELOPMENT CODE (LDC)EAS defers to LDR Planning on LDC issues; refer to their								
	24	comments for further direction.	Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Transportation: In 2020 the City changed from the Traffic Impact Study Manual to the Transportation Study Manual (TSM) to address all transportation modes. As a result of Senate Bill 743, an update was needed to address the required shift from a level of service (LOS) analysis to a vehicle miles travelled (VMT) CEQA analysis. There is a project screening process, and new requirements for both a project's CEQA transportation impact analysis and Local Mobility Analysis (LMA). A Traffic Memo titled Project Information Form and Local Mobility Analysis requirements for the Cambridge Private School Project prepared by LOS Engineering, Inc., dated November 30, 2023 was received. EAS defers to DSD-Transportation on VMT impacts. Please see their comments								
	25		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Agriculture: The 96-7902 EIR concluded that although portions of the Subarea are in limited current agricultural use, no prime farmlands would be removed and the loss of agricultural land is not considered a significant direct impact. However, the cumulative effects of the loss of agricultural land from conversion are considered significant. No mitigation was identified. It does not appear that the project is located on a site with agricultural resources/Williamson act contract. According to the California Department of Conservation (DOC) California Important Farmland Finder, the project site is located on Farmland of Local Importance (2018). However, the site is zoned for commercial uses and is not currently supporting agricultural uses. No impacts are anticipated. EAS has no further comments related to this issue. Pertinent information will be included in the required environmental document.								
	26		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Aesthetics/ Visual: The project site does not appear to be located on any view corridors or in proximity to any scenic views. The project would be conditioned to meet setback and height requirements per the Land Development Code (LDC). Please defer to LDR-Planning's review for any comments regarding height,								
	27	setbacks, or community charaUESr comments.	Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Air Quality / Odor The 96-7902 EIR identified significant and unavoidable direct and cumulative Air Quality Impacts and includes mitigation measures to reduce fugitive dust impacts. The proposed project includes the construction of a new Pre K-12 campus with a 182,868 square-foot (sf) 3 story classroom building, a 10,904 sf 1 story multipurpose building and a track and sports field over a 70,766 sf semi-subterranean parking structure. According to the City's CEQA Significance Thresholds, if a project would expose sensitive receptors to substantial pollutant concentrations, then there could potentially be significant impact for air quality. The project site is located across Templeton Street to the south from an age 55+ gated community and is in the vicinity of other residential uses. Therefore, an Air Quality report is required for the proposed project. Impact analysis for air quality should ensure that current air quality regulatory compliance attainment status is not adversely affeUESd. The analysis should include stationary sources of emission from new development, as well as impacts from mobile sources during and post-construction on sensitive receptors.								
	28		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Biological Resources: The 96-7902 EIR identified significant Biological Resource Impacts and included mitigation for Upland Vegetation and Sensitive Species, Riparian Vegetation, and Other Measures to Minimize Impacts. The site appears to have been previously graded and contains ruderal vegetation. The site is not located within or adjacent to the City's MHPA. The Geotechnical Report submitted for the project shows the project is overlain with fill soil. Per the City's Biology Guidelines (2018), In general, if the site has been legally graded or grubbed and/or is chararized by ruderal species, is not included in the City's MHPA, and does not support wetlands or Tier I, II or III habitat, it likely does not support significant biological resources. Please provide as-graded plans on the site which allowed for the prior grading and proof that biological impacts were mitigated previously.								
	29		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		Geologic Conditions: A Geotechnical Investigation prepared by Construction Testing & Engineering, Inc dated October 5, 2023 was received. EAS defers to DSD-Geology for review of the Geotechnical Report								
	30	and geological issues. Please see their comments.	Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24
		GHG: On August 2nd, 2022, the San Diego City Council approved the Climate Action Plan Update Package Municipal Code, Land Development Manual, and Local Coastal Program Amendments (CAP Consistency Regulations). A second reading took place on September 13 and O-2023-4 amending the SDMC, all relating to Climate Action Plan Consistency Regulations was adopted by the City Council. The regulations apply to new projects outside of the Coastal Zone that are deemed complete starting Oct. 23, 2022. As such, the proposed project is subject to the new CAP Consistency Regulations. EAS defers to DSD-Planning and DSD-Landscape for the application of CAP Consistency Regulation requirements.								
	31		Marlene Watanabe	ENVR	Open				2024-02-08T00:	7-Feb-24

	Health & Safety: HAZMAT: The 96-7902 EIR identified hazardous material impacts to be less than significant and no mitigation was required. It appears the site is not on the Geotracker or EnviroStor clean-up databases according to a search done on these data bases on February 5, 2024. However, the site has been historically used for agricultural purposes and the Geotechnical Report submitted for the project indicates toxaphene was found present in site soils and soils exceeding threshold values were placed in specific encapsulation zones. The City's CEQA Significance Thresholds (2022) indicates a significant impact may occur if the site is: "h. Located on a site presently or previously used for agricultural purposes. Pesticides are routinely used during agricultural operations. Pesticides do not degrade easily; therefore, a soils assessment may be required. Contact the San Diego County Department of Environmental Health Site Assessment and Mitigation Program for guidance regarding each project site." The project proposes excavation for the semi-subterranean parking structure and therefore, requires additional evaluation for potential impacts associated with past agricultural use. Please provide a Phase I ESA. Depending on the results, additional requirements may apply. Additionally, the project includes non-residential uses. Please submit a DSD Form DS-165 "Hazardous Materials Questionnaire". Refer to the City's Information Bulletin 116 for additional information. Please provide a completed form to EAS in the next submittal.						
32	Historical Resources: ARCHAEOLOGY: According to the 96-7902 EIR, The Subarea I site has been subject to a number of archaeological and historic site surveys in preceding years. Project impacts were assessed after a complete resurvey of the property and site testing program during 1991-1992 conduUESd by RECON and ASI to evaluate the significance of all sites within the Black Mountain Ranch II VTM/PRD and future development areas. An additional site investigation to identify cultural resources within the remainder of Subarea I (perimeter properties) was conduUESd during 1993 and no additional cultural resource sites were located. The 96-7902 EIR determined adoption of the Subarea I Plan and associated future development outside that already approved for Black Mountain Ranch II VTM/PRD would not impact significant cultural resources. No mitigation was required. The project site is within the area previously surveyed. Additionally, as stated in the Geotechnical report submitted, the project site has been previously disturbed and fill soils overly the site to at least a depth of 10 feet. Therefore, no additional work or monitoring is required. BUILT ENVIRONMENT: The project site is vacant and no structures older than 45 years of age exist on the site. As such, no built environment impacts would occur. EAS has no further comment on this issue area.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
33	Hydrology/Drainage: The proposed site is designated for Flood Zone X, which indicates an area of minimal flood hazard. A Hydrology and Hydraulic Report prepared by Spear & Associates, Inc., dated 11/30/23 was received. EAS defers to Engineering on storm water, drainage, and hydrology requirements and the review of this report. Any comments made by DSD-Engineering on this issue area must be addressed before EAS can make an environmental determination on the project.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
34	Noise: The 96-7902 EIR identified significant Noise impacts and included mitigation for traffic noise, construction-related noise impacts, pump station noise, MCAS Miramar, and power line noise. The project must conform to the City of San Diego Municipal Code Noise and Abatement Control Ordinance Section 59.5.04 and the General Plan Noise Element. Please provide a Noise Report detailing the potential noise impacts of the project both during and post construction and what measures, if any, are necessary in order to comply with City noise standards. Temporary construction noise which exceeds 75 dB (A) Leq at a sensitive receptor would be considered significant. The project site is located across Templeton Street to the south from an age 55+ gated community and is in the vicinity of other residential uses.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
35	Paleontological Resources: The 96-7902 EIR determined significant impacts on paleontological resources. With implementation of paleontological monitoring as mitigation, impacts were determined to be below a level of significance. Per the Geotechnical Report received, based on the regional geologic map prepared by Kennedy and Tan (2007), the near surface geologic unit underlying the site consists of the Tertiary Mission Valley Formation. However, because site explorations were limited due to the noted conditions, only the Previously Placed Fill was encountered throughout the site. Placed fill has no sensitivity for paleontological resources and Ardath Shale is considered to have a high sensitivity for paleontological resources. Grading information found on the site plans indicate the following earthwork: 22,000 cy to a depth of 17 ft and 22,000 cyds fill to a depth of 12 feet and import/export of 0 cyds. Paleontological monitoring during grading activities may be required under San Diego Municipal Code section 142.0151 if it is determined that the project's earth movement quantity exceeds the Paleontological threshold (if greater than 1,000 cubic yards and ten feet deep for formations with a high sensitivity rating). Please be aware that monitoring may also be required for shallow grading (less than ten feet) when a site has been previously graded and/or unweathered formations are present at the surface. Based on this information provided, it appears paleontological monitoring will be required. Paleontological monitoring will be carried forward as mitigation if the 96-7902 EIR is tiered from.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
36	Public Services & Facilities: The project proposes a new Pre K-12 campus with a 182,868 square-foot (sf) 3 story classroom building, a 10,904 sf 1 story multipurpose building and a track and sports field over a 70,766 sf semi-subterranean parking structure. For police and fire-rescue services, the project exceeds the threshold of 100,000 square feet or more of nonresidential construction is therefore, required to be reviewed by Police and Fire for potential hazards and impacts to response times and the provision of services. Please see the City's Significance Thresholds under Public Services and Facilities for additional information. Police and Fire will be added as reviewers on the next review cycle.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
37	Public Utilities: Per the City's CEQA significance thresholds, projects that include the construction, demolition, and/or renovation of 40,000 square feet or more of building space are required to implement a project specific Waste Management Plan (WMP). Please provide a Waste Management Plan. The WMP will need to be reviewed by the City's Environmental Services Department (ESD). EAS will coordinate with the DPM to add an Environmental Services Department reviewer on the next review cycle/resubmittal.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
38	Tribal Cultural Resources (AB52): Assembly Bill 52 (Gatto 2014), more commonly known as AB 52, was signed into State Law July 1, 2015. It requires public agencies to consult with California Native American tribes to determine potential impacts to significant Tribal Cultural Resources during the CEQA review. In accordance with the requirements of Public Resources Code 21080.3.1, if required, EAS staff will distribute notifications to the Iipay Nation of Santa Isabel, the Jamul Indian Village and San Pasqual Band of Mission Indians for possible consultation on this project. These notifications are typically sent when a CEQA determination on the appropriate environmental document is made because project changes could result in further delays. Please note that a tribe must submit a request for consultation within 30 days of initial notification. If no request is made, the environmental processing timeline can proceed. If a request for consultation is made, this process can be on-going and could result in additional measures that would avoid or mitigate a significant effect on Tribal Cultural Resources. The environmental processing timeline will be held in abeyance until the consultation process has been completed.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
39	Water Quality: EAS defers to Engineering on water quality issues. A Priority Development Project Storm Water Quality Management Plan prepared by Spear & Associates, Inc., dated 11/20/23 was received. EAS defers to DSD-Engineering for Water Quality Issues and the review of this report. Please refer to their	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
40	comments. EAS will coordinate with staff. Water and Sewer Informational Note 1: These comments are draft and subject to change until presented by the City's assigned Development Project Manager in conjunction with the project Assessment Letter. Staff is unable to process formal, intermediate plan changes and updates outside the full submitted cycle. A formal response to these comments must be made through the resubmittal process in response to the full Assessment Letter. Your DSD Development Project Manager can assist with further questions.	Gary Nguyen	WRSR	Open	2024-02-08T00:	7-Feb-24
41	Wildfire: The project site is located in a Very High Fire Hazard Severity Zone. Please provide information on fire resistant building materials that will be used to construct the proposed project.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
42	ENVIRONMENTAL DETERMINATION: Until the requested information has been provided, staff is not able to complete the environmental review for the project and the environmental processing timeline will be held in abeyance. EAS will coordinate with the other reviewers as the review progresses regarding any additional potential environmental impacts. Please be aware that the environmental review may change in response to any project changes and/or new information. Additionally, the new information may lead to the requirement of new and/or additional technical studies. A determination as to the appropriate environmental document will be made based on all reviewed and submitted information.	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
43	Water and Sewer Informational Note 2: Water and sewer capacity charges will be due at the time of building permit issuance. Capacity charges, as well as service and meter size, are determined by the Water Meter Data Card which is completed during the building plan review process. Any questions regarding water and sewer capacity fees should be addressed to Information and Application Services	Marlene Watanabe	ENVR	Open	2024-02-08T00:	7-Feb-24
44	(619-446-5000).	Gary Nguyen	WRSR	Open	2024-02-08T00:	7-Feb-24

	45	Water and Sewer Informational Note 3: Water and Sewer Informational Note 3: All on-site water and sewer facilities shown on the drawing are private and shall be designed to meet the requirements of the California Uniform Plumbing Code and shall be reviewed as part of the building permit plan check.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	46	Water and Sewer Informational Note 4 : All on-site water and sewer facilities shown on the drawing are private and shall be designed to meet the requirements of the California Uniform Plumbing Code and shall be reviewed as part of the building permit plan check.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	47	Water and Sewer Informational Note 5: All proposed public water and sewer facilities, must be designed and construUESd in accordance with established criteria in the most current edition of the City of San Diego Water and Sewer Facility Design Guidelines and City regulations, standards and practices pertaining thereto.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	48	Water and Sewer Informational Note 6: If a 3" or larger water meter is required for this project, the owner/permittee shall construct the new meter and private backflow device on site, above ground, within an adequately sized water easement, in a manner satisfactory to the Public Utilities Department and the City Engineer.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	49	Water and Sewer Informational Note 7: All water services to the site, including domestic, irrigation, and fire will require private, above ground, back flow prevention devices (BFPDs). BFPDs are typically located on private property, in line with the service and immediately adjacent to the right-of-way. The Public Utilities Department will not permit the required BFPDs to be located below grade or within the structure.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	50	Water and Sewer Informational Note 8: No trees or shrubs exceeding three feet in height at maturity shall be installed within ten feet of any sewer and five feet of any water facilities.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	51	Please direct any questions you may have regarding the information, comments, or conditions contained in this review to Gary Nguyen via email at NguyenVH@sandiego.gov.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	52	The Developer will be required to prepare a potable water study as part of any development or building permit submittal. The study will indicate what water improvements and what pressure zones are required to meet the current Public Utilities Department standards for domestic, fire and irrigation demands for the project.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	53	The Developer is required to prepare a water study as part of any development or building permit submittal. The study will indicate what water improvements and what pressure zones are required to meet the current Public Utilities Department standards for domestic, fire and irrigation demands for the project.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	54	The Developer is required to install all facilities, as required by the accepted water and sewer studies, necessary to serve this development.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	55	Please obtain the reference drawing number corresponding to the utility improvements within the Templeton St ROW. Reference drawing 33870-D are for improvements in Camino del Sur.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	56	Label the material of the sewer main in Templeton Street.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	57	As of 12/31/2023, the City's Recycled Water Program will not permit new irrigation service connection to the Northern Service Area. The following link contains additional information about the City's recycle water:https://www.sandiego.gov/public-utilities/sustainability/recycled-water/switchingPlease show irrigation service connection to the distribution water main.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	58	Show the fire backflow in line with the fire service.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	59	Please label all on site water and sewer utilities as private.	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
	60	Where is Construction Note 12 on the drawing?	Gary Nguyen	WRSR	Open			2024-02-08T00:	7-Feb-24
Site Develc	61	DEVELOPMENT IMPACT FEE (DIF):This development project may be subject to development impact fees during the building permit review process.The current estimated Citywide DIF are:Parks: $Fire: $110,411.29Library: $280,504.35Mobility: $ $541,910.53 Link to Citywide Fees Calculator:https://www.sandiego.gov/sites/default/files/citywide_dif_calculator.xlsxTOTAL ESTIMATED DIF = $ $932,826.16 ACTIVE TRANSPORTATION IN-LIEU FEE (ATILF):This development project is located in Mobility Zone 4. Development located in Mobility Zone 4 is required to pay the ATILF per SDMC Section 143.1103.The current ATILF is $1,612.68 per excess vehicle mile traveled (VMT).Estimated ATILF = $144,174 Link to ATILF calculator:https://www.sandiego.gov/sites/default/files/active-transportation-in-lieu-fee-calculator.xlsxCREDIT FOR DEMOLITION:Existing buildings may be eligible for a Development Impact Fee (DIF) credit. During the building review process, please include a Demolition Plan and its Demolition Permit Application Number on the plans of your next submittal.TIMING AND METHODS OF DIF PAYMENTS:Development Impact Fees are generally due no later than before requesting the final inspection of completed building(s) per San Diego Municipal Code Section 142.0640. Applicants reserve the option to pay at Building Permit issuance.At the final inspection of the completed building(s), email impactfees@sandiego.gov to schedule a DIF payment.Once payment is scheduled, you may pay online or in person. Accepted online payment methods are checks and credit/debit cards. Accepted in-person payment methods are checks, money orders, or cashier's checks payable to "City Treasurer." Credit/debit cards are not accepted for in-person payments.(INFORMATION ONLY)FEE SCHEDULE:Development Impact Fees are subject to an annual inflationary rate increase at the beginning of each new fiscal year (July 1st).The current DIF Schedule can be accessed at:https://www.sandiego.gov/sites/default/files/feeschedule.pdfNOTICE:These comments are draft and subject to change until presented by the City's assigned Development Project Manager in conjunction with the development project Assessment Letter. Staff is unable to process formal, intermediate plan changes and updates outside the full submitted cycle. A formal response to these comments must be made through the resubmittal process in response to the full Assessment Letter. The DSD Development Project Manager can assist with further questions.	Alfonso Gastelum	PLFF	Closed	1ST	2	GN001	2024-02-08T22:	8-Feb-24
Site Develc	62	The following comments are draft and subject to change until presented by the City's assigned Development Project Manager in conjunction with the Project Assessment Letter. Staff is unable to process formal, intermediate plan changes and updated outside the full cycle. A formal response to these comments must be made through the resubmittal process in response to the full Assessment Letter. Your DSD Development Project Manager can assist with further questions.	Rey Rebolledo	LDSC	Open	1ST	1	GN000	2024-02-16T20:	16-Feb-24
Site Develc	63	Project Information:Conditional Use permit for construction of a new Pre K-12 campus with 3 story classroom building, 1 story multipurpose building and a track and sports field over semi-subterranean parking structure located at the intersection of Camino del Sur and Coyote Bush Dr. APN 6786907000, APN6786907100 & APN6786907200. The 6.52 acre site is in the CC-4-5 base zone within the Black Mountain Ranch Community Plan Area, Council District 5. Site was previously designated for an Employment Center.	Rey Rebolledo	LDSC	Open	1ST	1	GN000	2024-02-16T21:	16-Feb-24
Site Develc	64	Incorrect orientation of the north arrow. Please revise.	Rey Rebolledo	LDSC	Open	1ST	9	AS101	2024-02-16T21:	16-Feb-24
Site Develc	65	Please provide the actual MAWA and ETWU formulas being used to complete the Landscape Worksheet.	Rey Rebolledo	LDSC	Open	1ST	16	L004	2024-02-16T21:	16-Feb-24
Site Develc	66	Street Yard: Please highlight/hatch all the planting areas being quantified for the Landscape Calculations.	Rey Rebolledo	LDSC	Open	1ST	17	L005	2024-02-16T21:	16-Feb-24
Site Develc	67	Remaining Yard: The Remaining Yard is measured from the property line to the setback line. The setback line on sheet AS102 is offset ten feet from the property line. Please adjust the Remaining Yard Boundary and update the Landscape Calculation worksheet as necessary.	Rey Rebolledo	LDSC	Open	1ST	17	L005	2024-02-16T21:	16-Feb-24
Site Develc	68	Climate Action Plan Consistency Regulations – Applicability [143.1403(a)]: Non-residential development that adds more than 1,000 square feet and results in 5,000 square feet or more of total gross floor area, excluding unoccupied spaces such as mechanical equipment and storage areas; are subject to the Climate Action Plan Consistency Regulations. – Information Only.	Rey Rebolledo	LDSC	Open	1ST	17	L005	2024-02-16T21:	16-Feb-24
Site Develc	69	Required Street Trees [143.1410(a)]: Development on a premises that contains a street yard or abuts a public right-of-way with a "Furnishings Zone" (as defined in the 2017 Street Design Manual of the Land Development Manual), shall provide canopy form street trees to shade at least 50 percent of the "Throughway Zone" area.The number of canopy form trees provided shall not be less than what is required by the Landscape Regulations in Chapter 14, Article 2, Division 4.Refer to the following link for the Street Design Manual: https://www.sandiego.gov/sites/default/files/73_street_design_manual_march_2017-final.pdf(Info Only)	Rey Rebolledo	LDSC	Open	1ST	17	L005	2024-02-16T21:	16-Feb-24
Site Develc	70	Methodology for Street Tree Shading Measurement: The shade coverage of a canopy form tree shall be determined by the expeUESd canopy at 10-year maturity, per SDMC 143.1410 (a)(1)(C). To simplify the process of determining compliance, the true angle of deflection of natural sunlight shall not be considered. Shaded areas shall be assumed to be only those portions of the Throughway directly beneath the shading canopy or drip line. Where multiple canopies overlap, credit shall be only be given to the surface area shaded; multiple credit is not counted for overlapping canopies. (Info Only)	Rey Rebolledo	LDSC	Open	1ST	17	L005	2024-02-16T21:	16-Feb-24
Site Develc	71	Compliance Diagram for Street Tree Shading: Provide a Landscape Diagram with the following information to demonstrates compliance with the Throughway shading per the Climate Action Plan Consistency Regulations:1. A landscape plan showing planting scheme for all areas within the Furnishing Zone; 2. Tree canopies drawn to scale representing the estimated canopy at a ten-year growth period based on species specified;3. The total area in square feet of the Throughway Zone; 4. The total area in square feet of the shaded area provided by tree canopies over the Throughway Zone. 5. The percent achieved of shaded area to Throughway Zone area	Rey Rebolledo	LDSC	Open	1ST	17	L005	2024-02-16T21:	16-Feb-24

Site Develc	72	Compliance Table for Street Tree Shading: Provide a table summarizing the following:1. Total throughway area in square feet; 2. Total shaded area achieved by canopies in square feet; 3. Percent achieved of shaded area to Throughway Zone area.4. The number of trees provided.	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	73	Required Premises Trees [143.1415]: In support of increasing the Urban Tree Canopy for carbon sequestration and air quality enhancement, the development shall provide two canopy form trees shall be provided on the premises for every 5,000 square feet of lot area, with a minimum of one tree per premises.	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	74	Please clearly show and identify proposed trees as CAP required trees on the site plan demonstrating compliance with the above requirement.	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	75	Provide the following note on the Landscape Plan: ""All landscape and irrigation shall conform to the standards of the City-Wide Landscape Regulations and the City of San Diego Land Development Manual Landscape Standards and all other landscape related City and Regional Standards.""	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	76	Provide the following note on the Landscape Plan: "Mulch: All required planting areas and all exposed soil areas without vegetation shall be covered with mulch to a minimum depth of 3 inches per SDMC 142.0413(c), excluding slopes requiring revegetation per SDMC 142.0411."	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	77	Provide the following note on the Landscape Plan: "A minimum root zone of 40sf in area shall be provided for all trees. The minimum dimension for this area shall be 5 feet, per SDMC 142.0403(b)(6)."	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	78	Provide the following note on the Landscape Plan: "Tree root barriers shall be installed where trees are placed within 5 feet of public improvements including walks, curbs, or street pavements or where new public improvements are placed adjacent to existing trees. The root barrier will not wrap around the root ball." Please clearly identify the installation of root barriers in the locations subject to these conditions per 142.0403(b).	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	79	Provide the following note on the Landscape Plan: ""Trees shall be maintained so that all branches over pedestrian walkways are 6 feet above the walkway grade and branches over vehicular travel ways are 16 feet above the grade of the travel way per the SDMC 142.0403(b)(11)."	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	80	Provide the following note on the Landscape Plan: "All pruning shall comply with the standards of the American National Standards Institute (ANSI) for tree care operations and the International Society of Arboriculture (ISA) for tree pruning per SDMC 142.0403(b)(8). Topping of trees is not permitted."	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
Site Develc	81	Provide the following note on the Landscape Plan: "If any required landscape indicated on the approved construction document plans is damaged or removed, it shall be repaired and/or replaced in kind and equivalent size per the approved documents to the satisfaction of the Development Services Department within 30 days of damage."	Rey Rebolledo	LDSC	Open	1ST		17 L005	2024-02-16T21:	16-Feb-24
	82	Please contact Brian Reschke, Chair of the Black Mountain Ranch Community Planning Group at (858) 603-2040 or via e-mail at rppb.chair@gmail.com to make arrangements to present your project.	Sara Osborn	CMPG	Open				2024-02-17T01:	16-Feb-24
Site Develc	83	Provide compass and scale for Fire Access Plan.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	84	The gate width at West fire lane meets width requirements for divided roadway. However, confirm the gate will have a Knox key switch as a manual override for Fire and call out on Fire Access Plan. .	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	85	One entire side of the building shall be within 15'-30' (from fire lane to roof's edge/ top of parapet). It appears there are some portions of the building covered, but not the entire West side or equivalent. Please revise aerial ladder access to meet CFC requirements. D105.3 Proximity to building. One or more of the required access routes meeting this condition shall be located not less than 15 feet (4572 mm) and not greater than 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the fire code official.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	86	Remove fire hydrant radii per SDFD internal discussion. The radius does not illustrate the intent of CFC 507.5.1. 507.5.1 Where required.Where a portion of the facility or building hereafter construUESd or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	87	Identify red curb areas on Fire Access Plan per Legend.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	88	Confirm if there is a curb proposed at loading zone.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	89	Fire hydrant is subject to obstruction with current proximity to loading zone. Fire hydrant shall be clear 20' in either direction when adjacent to a roadway per CFC Appendix D.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	90	Given numerous internal discussions, a gate is preferred over removable bollards for fire department emergency access due to padlocks, rust, etc. Please revise.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T19:	1-Mar-24
Site Develc	91	Fire hydrant location at East cul-de-sac is not an ideal location per fire ground operations and potential visibility issues. Please relocate more southerly on East fire lane.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T20:	1-Mar-24
Site Develc	92	Provide red curb along entire West fire lane to avoid vehicular obstruction during drop off/pick up times.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T20:	1-Mar-24
Site Develc	93	Provide Knox Box at main building entry and call out on Fire Access Plan.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T20:	1-Mar-24
Site Develc	94	Confirm how East vehicular entry gate will be locked and accessible for emergency vehicles.	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T20:	1-Mar-24
Site Develc	95	Fire reserves the right to provide additional comments based on subsequent submittal revisions. Contact Fire-Plan Reviewer by email with any questions or if clarification is needed for Fire comments listed	Willard Larson	FIPR	Open	1ST		10 AS102	2024-03-01T20:	1-Mar-24
Site Develc	96	The project site is governed by an existing discretionary (PTS 142244 PDP/SDP 497493/497494 that consists of mixed-use granted development, residential, office, commercial, and public facilities within a 642-acres of Black Mountain Ranch Community Plan Area (APN No. 678-690-7100 & 678-710-7000). The property is zoned CC-4-5, allowing a mix of pedestrian-oriented, community-service commercial, and residential uses. The site is regulated by the North Village Community Design Guidelines, which included deviations to setbacks and mandated FAR, Height, and lot subdivision requirements. The proposed project site's land use designation is industrial employment in Figure LU-2 of the General Plan Land Use and Street System. The General Plan land use is further refined in the Black Mountain Ranch Subarea Plan, which designates the site for Employment use and the site is zoned for Community Commercial uses. Schools are an allowed use in the underlying zone. Conformance with the requirements of the base zone would implement the General Plan and Community Plan Land Use. The Employment LU is implemented by the Urban Village Overlay Zone (UVOZ) and the CC-4-5 zone. Schools are allowed with a CUP within the CC-4-5 zone and the UVOZ requirements have been implemented through the North Village Core Design Guidelines. Provided the project meets the requirements Educational Facilities set forth in LDC, 141.0407, the project would be consistent with the Subarea Plan.	Abdirahman Buul	PLAN	Closed	1ST		1 GN000	2024-03-07T00:	6-Mar-24
	97	Please present the following Findings Per SDMC 126.0305,	Abdirahman Buul	PLAN	Open				2024-03-07T00:	6-Mar-24
	98	Please demonstrate conformance with all applicable Development Regulation listed in SDMC Table 131-05E. (the proposal does not appear to comply with the Building Façade)	Abdirahman Buul	PLAN	Open				2024-03-07T00:	6-Mar-24
	99	Per SDMC 141.0407(b)(5)(B), The design of the structures shall incorporate architectural elements that help to diminish building bulk. The proposal does not appear to diminish bulk.	Abdirahman Buul	PLAN	Open				2024-03-07T00:	6-Mar-24
	100	Please demonstrate conformance with all applicable Urban Village overlay Zone (UVOZ) Development Standard Deviations of the BMR North Village Design Guidelines (page 122)	Abdirahman Buul	PLAN	Open				2024-03-07T00:	6-Mar-24
Site Develc	101	General: These comments are draft and subject to change until presented by the City's assigned Development Project Manager in conjunction with the project Assessment Letter. Staff is unable to process formal, intermediate plan changes and updates outside the full submitted cycle. A formal response to these comments must be made through the resubmittal process in response to the full Assessment Letter. Your DSD Development Project Manager can assist with further questions. (Information Only – No Action Required) Project Description:BLACK MOUNTAIN RANCH (Process 3) Conditional Use Permit (CUP) for the construction of a proposed Pre K-12 campus with a 3-story classroom building with 29 classrooms for a total of 652 students (with 528 pre-k through 9th grade students and 135 10th, 11th, and 12th grade students), and 12,369 SF office, 5,083 SF 1-story multipurpose building and a track and sports field over a semi-subterranean parking structure with approximately 194 parking spaces and 41 surface parking spaces for a total of approximately 235 parking spaces, located at the southwest corner of Camino del Sur and Coyote Bush Dr (APNs: 678-690-7000, 678-690-7100 and 678-690-7200). The 6.52 acre vacant site is in the CC-4-5 base zone, Mobility Zone 4, and Urban Village Overlay Zone within the Black Mountain Ranch Community Plan Area, Council District 5.	Mary Rose Ann Santos	TRNS	Open	1ST		1 GN000	2024-03-18T21:	18-Mar-24
Site Develc	102	Governing Permit:The site is governed by PDP No. 497493, SDP No. 497494, MHPA, Boundary Line Adjustment No. 643464, Black Mountain Ranch North Village MMRP, Amending PDP/SDP No. 40-0528 (PTS# 142244 – Black Mountain Ranch North Village). Per the Exhibit 'A' of PTS# 142244, an employment use was approved at this site where a pre-k through 12 private school is now being proposed.	Mary Rose Ann Santos	TRNS	Open	1ST		2 GN001	2024-03-18T21:	18-Mar-24
Site Develc	103	Other Reviews:A single preliminary review for LDR – Planning under PTS# 700322 was completed in March 2022 for a proposed continuing care retirement community. (Info only)	Mary Rose Ann Santos	TRNS	Open	1ST		2 GN001	2024-03-18T21:	18-Mar-24
Site Develc	104		Mary Rose Ann Santos	TRNS	Open	1ST		2 GN001	2024-03-18T21:	18-Mar-24

		Public Improvements:In addition to the roadway and parkway width dimensions shown on the civil sheets (C-4, C-5 and C-6, the plans should clearly show and dimension all existing and proposed public improvements fronting the property and provide full roadway cross sections of all fronting streets including right-of-way to right-of-way line, centerline to property line distance, centerline to curb line distance, striping with lane dimensions, and location of sidewalk and width, in order to determine any potential street dedication or improvement requirements.									
Site Develc	105	Public Improvements:Per the Black Mountain Ranch Subarea Plan, Camino Del Sur's functional and ultimate street classification is a 4-lane major roadway with existing buffered Class II bike lanes. Per the City's Street Design Manual, a 22-foot wide parkway with 6-foot wide non-contiguous sidewalk should be provided. Per Sheet C-4, the existing parkway along the project's frontage on Camino Del Sur is 10 ft wide with 5 ft wide non-contiguous sidewalk. Please revise plans to dedicate and improve to provide a 22-foot wide parkway with 6 ft wide non-contiguous sidewalk. In addition, per the Black Mountain Ranch Subarea Plan, both Coyote Bush Drive and Templeton Street's functional and ultimate street classification is a 2-lane collector. Per the City's Street Design Manual, a 12-foot parkway with non-contiguous sidewalk should be provided. Per Sheet C-5, the parkway along both Coyote Bush Drive and Templeton Street is 12 ft wide with a 5-foot wide non-contiguous sidewalk.	Mary Rose Ann Santos	TRNS	Open	1ST	6	C-4	2024-03-18T21:	18-Mar-24
Site Develc	106	Trip Generation:Per the school data under project data on Sheet GN001, the project anticipates a total of 652 students, including 528 preschool/kindergarten through 9th grade students and 135 10th, 11th and 12th grade students. Please specify the number of students anticipated for each grade. Please also provide information/counts/rates from the existing school site at 12855 Black Mountain Road. This information is needed to estimate the anticipated trip generation for the proposed pre-k through 12th grade school.	Mary Rose Ann Santos	TRNS	Open	1ST	6	C-4	2024-03-18T21:	18-Mar-24
Site Develc	107	Environmental Review:Please address whether the project intends to tier off a previously approved EIR with its environmental review and whether it intends to use VMT or Level of Service (LOS) as the CEQA metric for transportation.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	108	Local Mobility Analysis (LMA) /Vehicle Miles Traveled (VMT):Additional information regarding whether the project intends to use VMT or LOS as the CEQA metric for transportation is needed to determine whether the project will require a LMA and VMT analysis.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	109	Scoping Memo:Staff has reviewed a document titled "Project Information Form and Scoping Memo for a Local Mobility Analysis and Vehicle Miles Traveled for the Cambridge Private School Project (PRJ-1109086)," dated December 30, 2023, prepared by LOS Engineering. Comments on the scoping memo were e-mailed to the applicant's traffic consultant on 3/18/2024. The applicant's traffic consultant should address all comments prior to resubmittal.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	110	Mobility Choices: The project is subject to the Complete Communities: Mobility Choices ordinance (effective January 8, 2021 outside the Coastal Zone and July 11, 2022 within the Coastal Zone). The project is located within Mobility Zone 4. Therefore, the project shall pay an Active Transportation In Lieu Fee per SDMC Section 143.1103(c).	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	111	Driveways:The proposed school is located within three parcels. Sheet C-1 shows that the project is proposing a total of three (3) driveways including a 30-foot wide driveway along Coyote Bush Drive, and two (2) driveways along Templeton Street including a 30-foot wide westerly driveway and a 26-foot wide easterly driveway. It appears that both proposed driveways on Templeton Street front APN: 678-690-7000. Per the Design Standards in the Community Design Element of the Black Mountain Ranch Subarea Plan, driveway cuts opening to the public streets will be limited to one per parcel. However, it appears that the proposed 26-foot wide driveway will be for emergency access only per the fire access site plan, Sheet AS102. Please clarify whether this driveway will be for emergency access only and label it accordingly on the plans. Remove the proposed curb cut for the proposed emergency access only and replace with rolled curb. Typically, Fire requires a gate and knox box for emergency access only. Please call out the proposed knox box on the plans. Lastly, the proposed gate should not swing outward into the public right-of-way. Please clarify and revise plans accordingly. For consistency, please label and dimension all proposed driveways throughout the plan set.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	112	Parking Requirements:Parking for the proposed kindergarten through grade 9 classrooms shall be provided at a rate of 2 spaces/classroom if no assembly area or 30 spaces/1,000 SF of assembly area per SDMC Section 142.0530(c), Table 142-05G (outside a Transit Area Overlay Zone or Parking Standards Transit Priority Area). Per the parking table on Sheet GN001, the project will include a total of 29 classrooms for kindergarten through 9th grade, including 14 classrooms on Level 1, 13 classrooms on Level 2, and 8 classrooms on Level 2. Please clarify why there are two separate Level 2 classroom totals noted in the parking table on Sheet GN001. In addition, it appears that there are classrooms proposed on Level 3 for grades 5 and 6 per Sheet AC102. Also, per the applicant's letter of request dated 12/13/2023, the proposed project will include 528 classrooms for K-9, 135 classrooms for grades 10-12, and 12,369 SF of administrative office. Please correct these discrepancies. Please provide a summary table specifying the grade level in each classroom, including room number. For grade 10-12 classrooms, specify whether the rooms will include an assembly area and provide its associated square footage. This information is needed to determine the minimum parking spaces required for the pre-k through 12th grade classrooms.Sheet A101C and AS101 show a total of 235 parking spaces proposed, including 194 parking spaces within a subterranean parking structure and 41 surface parking spaces. Additional information is needed to determine the minimum parking spaces required for the entire site.	Mary Rose Ann Santos	TRNS	Open	1ST	3	C-1	2024-03-18T21:	18-Mar-24
Site Develc	113	Parking Requirements - Offices:Parking for the proposed 12,369 SF of office shall be provided at a rate of 3.3/1,000 SF (outside a Transit Area or Parking Standards Transit Priority Area) per SDMC Section 142.05G 142.0530(c), Table 142-05G. A minimum of 41 (12,369 SF x 3.3./1,000) parking spaces are required for the proposed office use.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	114	Parking Requirements – Assembly Uses:Per Sheet A101B, the proposed project will include a gym, field deck assembly bleachers, and a 5,083 SF multi-purpose room, whereas the parking table on Sheet GN001states a 3,900 SF multi-purpose room; please correct this discrepancy. Per the parking table on Sheet GN001, the gym and field deck assembly bleachers could each accommodate a maximum of 351 occupants. Parking for these assembly uses shall be provided at a rate of 1 per 3 seats or 1 per 60 inches of bench seating, whichever is greater; or 30 per 1,000 SF of assembly area if seating is not fixed (outside a Transit Area or PSTPA) per SDMC Section 142.05G 142.0530(c), Table 142-05G. The parking calculations on Sheet GN001 calculated the minimum parking spaces required for the gym and field deck based on the maximum number of occupants. Please provide a floor plan for the gym and field deck that shows any proposed seating and bench seating with dimensions and square footage. This information is needed to determine the minimum parking spaces required for the proposed gym and field deck assembly uses. Per Sheet A101B, the proposed 5,083 SF multi-purpose room will have approximately 394 seats. A minimum of 131 (394 x 1 space/3 seats = 131) parking spaces are required for the multi-purpose room.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	115	Parking Requirements – Assembly Use:Per the parking calculations on Sheet GN001, event spaces will not be used during school hours. In addition, the parking table for assembly use provides a parking calculation for the minimum parking spaces required for two simultaneous events at only two of the three assembly areas. Please provide the minimum parking spaces required if all three assembly areas are used simultaneously.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	116	Accessible Parking:Accessible parking spaces shall be provided in accordance with the 2022 California Building Code Section 11B-208, Table 11-B-208.2 and Section 11B-208.2.4. Please show and dimension these spaces on the plans. The minimum accessible parking space requirements will be determined once the minimum automobile parking spaces for the proposed school have been determined.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	117	Carpool/Zero Emissions Vehicle Parking: Per SDMC Section 142.0530 (d)(1), designated parking spaces for carpool/vanpool vehicles (vehicles containing two or more persons), electric vehicles, and zero emissions vehicles (any vehicles certified to zero-emissions standards) shall be provided for non-residential development at the ratio indicated in Section 142.0530(d)(1)(B), unless exempt under Section 142.0530(d)(1)(C). The required designated parking spaces for carpool vehicles and zero emissions vehicles are to be provided within the overall minimum parking requirement, not in addition to it. The minimum carpool/zero emissions vehicle parking requirements will be determined once minimum automobile parking spaces for the proposed school has been determined.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	118	Electric Vehicle Charging Spaces: Electric vehicle charging spaces and EV capable spaces provided with electric vehicle supply equipment (EVSE) shall based on the total number of nonresidential parking spaces provided per 2022 California Green Building Code (CGBC) Table 5.106.5.3.1. The minimum EV spaces and EV capable spaces will be determined once the automobile parking space requirements have been determined.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	119	Motorcycle Parking: Per SDMC Section 142.0530(g), motorcycle parking shall be provided at a ratio of 2 percent of the number of automobile parking spaces provided or two spaces, whichever is greater. The minimum motorcycle parking spaces will be determined once the automobile parking space requirements have been determined.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24
Site Develc	120		Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24

		Motorcycle Parking: Sheet A101C labels an area at the southwest corner of the parking structure labeled as "motorcycle." Please revise plans to provide show and label each motorcycle parking space with dimensions per SDMC 142.0560(f). Motorcycle spaces shall be at least 3 feet wide and 8 feet long.									
Site Develc	121		Mary Rose Ann Santos	TRNS	Open	1ST	23	A101C	2024-03-18T21:	18-Mar-24	
		Short-term Bicycle Parking: Per SDMC Section 142.0530(e)(1)(A), unless exempt under Section 142.0530(e)(1)(D), short-term bicycle parking spaces are required for non-residential development. The minimum number of required short-term bicycle parking spaces shall be two; or 0.1 per 1,000 square feet of building floor area, excluding floor area devoted to parking; or 5% of the provided automobile parking space minimum, whichever is greater. The minimum short-term parking spaces will be determined once the automobile parking space requirements have been determined.									
Site Develc	122		Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24	
		Short-term Bicycle Parking: Sheet A101C shows bicycle spaces at the northwest corner of the parking structure. Per the parking table on Sheet GN001,19 short-term bicycle spaces will be provided. Please label and call out the number of proposed short-term bicycle parking spaces on the plans.									
Site Develc	123		Mary Rose Ann Santos	TRNS	Open	1ST	23	A101C	2024-03-18T21:	18-Mar-24	
		Long-term Bicycle Parking:Per SDMC Section 142.0530(e)(2)(A), long-term bicycle parking spaces are intended for use by employees and shall be required for non-residential development at a rate of 5% of the provided automobile parking for any premises with more than ten full-time employees, unless exempt under Section 142.0530(e)(2)(D). The minimum long-term parking spaces will be determined once the automobile parking space requirements have been determined. Per the parking table on Sheet GN001,12 long-term bicycle spaces will be provided. Please show and label all proposed long-term bicycle parking spaces per SDMC Section 142.0530(e)(2)(B).									
Site Develc	124		Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24	
		Climate Action Plan (CAP) Regulations:Per SDMC Section 143.1410(b), development on a premises with 250 linear feet or more of street frontage shall provide and maintain at least one of the following (SDMC Section 143.1410(b)(1)-(6)) publicly accessible pedestrian amenities for every 250 linear feet of street frontage to the satisfaction of the Development Services Department. Please provide the linear feet at each project frontage. Please also show and label all proposed accessible pedestrian amenities for every 250 linear feet of street frontage on the plans.									
Site Develc	125		Mary Rose Ann Santos	TRNS	Open	1ST	9	AS101	2024-03-18T21:	18-Mar-24	
		CAP Regulations:Per SDMC Section 143.1410(c), at least 50 percent of all residential and non-residential bicycle parking spaces required in accordance with Chapter 14, Article 2, Division 5 shall be supplied with individual outlets for electric charging at each bicycle parking space. Please show and label these on the									
Site Develc	126	plans.	Mary Rose Ann Santos	TRNS	Open	1ST	9	AS101	2024-03-18T21:	18-Mar-24	
		Transit:Please revise the vicinity map on Sheet GN001 to show the location and indicate the walking									
Site Develc	127	distance (in feet) to the nearest bus stop.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24	
		Visibility Triangles:No fences/shrubs higher than 24 inches in height are permitted in the visibility areas of the proposed driveways and street intersections. Revise the plans to show visibility triangles with dimensions at each corner of all proposed driveways and clearly note on the plans that no objects higher than 24 inches will be proposed in the visibility areas. It appears that visibility triangles are shown at the intersection of Camino Del Sur/Coyote Bush Dr and Templeton St/Coyote Bush Dr on Sheet C-1, C-4, C-5, C-6, AS101, AC101, A101C. Please also dimension these visibility triangles per SDMC Section 113.0273, Diagram 113-02SS throughout the plan set. Also, it appears that a portion of the proposed retaining wall (greater than 3 ft in height) along Camino Del Sur is within the visibility area at the intersection of Templeton St/Coyote Bush Drive as shown on AS101. Please remove the retaining wall within the visibility area or demonstrate adequate sight distance through an intersection sight distance analysis prepared by a registered civil or registered traffic engineer.									
Site Develc	128		Mary Rose Ann Santos	TRNS	Open	1ST	3	C-1	2024-03-18T21:	18-Mar-24	
		Sight Distance Analysis:In addition to visibility triangles, please demonstrate the provision of adequate sight distance (including vertical and horizontal as appropriate) at all proposed project driveways per City of San Diego Street Design Manual Section 6.1.3(8) in conformance with AASHTO standards. Please use a design speed of 30 mph for a two-lane collector pre the City's Street Design Manual. A sight distance analysis should be prepared by a registered civil or registered traffic engineer.									
Site Develc	129		Mary Rose Ann Santos	TRNS	Open	1ST	3	C-1	2024-03-18T21:	18-Mar-24	
		Gates: The site plan, Sheet AS 101 shows a proposed gate at the proposed 26 ft wide driveway (which appears to be for emergency access only) along Templeton Street. Please revise plans so that the gates do not swing outward into the public right of way. Plans also show proposed gates at the proposed 30 ft wide driveway entrance on Templeton Street and at the proposed 30 ft wide driveway entrance on Coyote Bush Drive. Please dimension the distance between the gate and property line at both driveways and demonstrate that no queuing will occur in the public right-of-way. Please also provide information regarding how the proposed gates will operate.									
Site Develc	130		Mary Rose Ann Santos	TRNS	Open	1ST	9	AS101	2024-03-18T21:	18-Mar-24	
		Ramp to Parking Structure:Please provide the grade (% slope) of the ramp leading to the proposed subterranean parking structure with appropriate transitions with dimensions per SDMC Section									
Site Develc	131	142.0560(j)(9).	Mary Rose Ann Santos	TRNS	Open	1ST	9	AS101	2024-03-18T21:	18-Mar-24	
		Vicinity Map:The proposed project is located west of Coyote Bush Drive (not Garretson Street). Please revise the vicinity map on Sheet GN001 accordingly. In addition, please also label Coyote Bush Drive and									
Site Develc	132	Templeton Street on the vicinity map on Sheet C-1.	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24	
		Vehicular Circulation:Sheet A101C shows one-way vehicular circulation in the proposed parking structure. Please also show the vehicular circulation (directional arrows) at both east-west drive aisles in the northern and southern portions of the proposed parking structure on Sheet A101C.									
Site Develc	133		Mary Rose Ann Santos	TRNS	Open	1ST	23	A101C	2024-03-18T21:	18-Mar-24	
		CIP Projects:Per the City's CIP Project Map Viewer website (https://webmaps.sandiego.gov/cippublic/), there are currently no CIP projects in the vicinity of the project site. (Info only)									
Site Develc	134		Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24	
		Additional Comments:Pending a redesign and/or comments from other reviewing disciplines. LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (Info									
Site Develc	135	only – no action required).	Mary Rose Ann Santos	TRNS	Open	1ST	2	GN001	2024-03-18T21:	18-Mar-24	
		The Engineering Review Section has reviewed the subject development and have the following comments that need to be addressed prior to a Public Hearing / Public Notice of Decision. Upon resubmittal, we will complete our review of the Conditional Use Permit Plans.									
	136		Hoss Florezabihi	ERVW	Open				2024-03-21T22:	21-Mar-24	
		The San Diego Water Board adopted Order No. R9-2013-0001, NPDES No. CAS0109266, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region. This project will be required to adhere to the City of San Diego Storm Water Standards in effect at the time of approval of ministerial permit. The current Storm Water Development Regulations became effective on February 16, 2016 and this project will be subject to									
	137	those regulations.	Hoss Florezabihi	ERVW	Open				2024-03-21T22:	21-Mar-24	
		Based on DS-560 this is a Priority project and subject to Pollutant removal/control and hydro-modification									
	140	requirements .	Hoss Florezabihi	ERVW	Open				2024-03-22T17:	22-Mar-24	
		SWQMP -- Form I-5 -Please note any ""No "" answer requires explanation as to why as instruUESd on the									
	141	form. Provide accordingly.	Hoss Florezabihi	ERVW	Open				2024-03-22T17:	22-Mar-24	
		SWQMP -- While three Modular Wetlands and a detention basin is called on form I-6 ,only 2 devises are									
	142	shown on DMA.	Hoss Florezabihi	ERVW	Open				2024-03-22T18:	22-Mar-24	
		SWQMP- Revise DMA exhibit / add legend and show location of each BMP s and clearly show conveyance									
	143	to POC#1 ,	Hoss Florezabihi	ERVW	Open				2024-03-22T18:	22-Mar-24	
	144	SWQMP -- Revise report and provide form I-6 for all BMPs.	Hoss Florezabihi	ERVW	Open				2024-03-22T19:	22-Mar-24	
		SWQMP -- Revise DMA exhibit and clearly show each DMA's boundary , why are you showing A 1 and A2									
	145	which have to do with drainage report? The DMA should clearly show DMA A , B , O and SM and thirer related BMPs .	Hoss Florezabihi	ERVW	Open				2024-03-22T19:	22-Mar-24	
		SWQMP -- Please note "No Infiltration" conditions as proposed by Dec. 6,2023 letter must be per requirements of C.1 and C1.1 (provide point by point analysis) OR else LDR-Geology of DSD must									
	146	review/approve the testing procedure.	Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	UES Letter
		SWQMP -- Hydro -mod -- Provide a call out and show location of the orifice and size in plan view exhibit .									
	147		Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	
		Drainage Report -- Please add a legend to drainage map to identify all surface area (pervious /impervious									
	148	) . Is sport field surface synthetic or grass ?	Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	
		Please note Municipal Code 142.0610(a0) requires all public improvements and dedications be up to									
	149	current standards prior to issuance of building permit ..	Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	
		Please provide a public improvement plan showing all existing and proposed improvements along with their corresponding dimensions including curb to property line adjacent to the site.									
	150		Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	
	151	Please provide a dimensioned street section for all public street adjacent to the site.	Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	
		Please show visibility Triangles for all proposed driveways as well as the corner consistent with Municipal									
	152	Code requirements .	Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	
		Please provide a detailed written response to all comments stating how/where the comments are addressed regardless you agree or not and in case of disagreement express your reasoning.									
	153		Hoss Florezabihi	ERVW	Open				2024-03-22T20:	22-Mar-24	

Universal Engineering Sciences (UES)
1441 Montiel Road, Suite 115
Escondido, CA 92026
p. 760.746.4955 | TeamUES.com

June 20, 2024

The Cambridge School
12855 Black Mountain Road
San Diego, California 92129

Attention: Mr. Brandon Hong
(858) 484-3488
bhong@cambridgeclassical.org, CC: josh@spearinc.net , amcpherson@atlantissd.com

Subject: Response to Comment and Infiltration Feasibility Condition Letter for Stormwater BMP
Cambridge School
SW Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California

References: End of Document

Mr. Hong:

As requested, Universal Engineering Sciences., (UES) has prepared a response to the City of San Diego's, Preliminary Review Cycle Issue 1Prelim (Environmental) review for the proposed development, located at the southwest Corner of Camino Del Sur and Coyote Bush Drive San Diego, California. This letter includes Appendix A - References and Appendix B - City of San Diego Review Comments, which provides a copy of the Single Discipline Preliminary Review Cycle Issue Comment 146 dated March 22, 2024.

Comment Issue No. 146: SWQMP - Please note "No Infiltration" conditions as proposed by Dec. 6, 2023 letter must be per requirements of C.1 and C1.1 (provide point by point analysis) OR else LDR-Geology of DSD must review/approve the testing procedure.

Response: UES has prepared this Infiltration Feasibility Condition Letter supporting a "no infiltration" condition for the BMP basins within the proposed Cambridge School development located in the City of San Diego, California. This letter has been prepared in accordance with the guidance presented in Appendix C, Section C.1.1 - Infiltration Feasibility Condition Letter of the City of San Diego BMP Design Manual (2021).

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The near-trapezoidal shaped site covers approximately 6.52 acres and is bounded by Camino Del Sur to the north, Coyote Bush Drive to the east, Templeton Street to the south, and an existing industrial development to the west. The improvement area is currently vacant and descends gradually to the northeast with elevations ranging from approximately 528 feet msl in the southwest to approximately 510 feet msl to the east.

UES understands that the proposed improvements consist of multiple campus buildings, a partially underground parking garage, driveways, an athletic field, flatwork, landscaping, utilities and other associated improvements.

STORM WATER MANAGEMENT DISCUSSION

We understand storm water management devices are being proposed in accordance with the City of San Diego Storm Water Standards Manual (2021). If not properly constructed, there is a potential for distress to improvements and properties located hydrologically down gradient or adjacent to these devices. Factors such as the amount of water to be detained, its residence time, and soil permeability have an important effect on seepage transmission and potential adverse impacts that may occur if the storm water management features are not properly designed and constructed. If infiltration of storm water runoff occurs, downstream properties may be subjected to seeps, springs, slope instability, raised groundwater, movement of foundations and slabs, or other undesirable impacts as a result of concentrated water infiltration.

Presented below is a discussion for each item requested in Appendix C.1.1 of the 2021 City of San Diego Storm Water Standards.

- *The phase of the project in which the geotechnical engineer first analyzed the site for infiltration feasibility.*

  The site was first analyzed for infiltration feasibility in the planning phase.

- *Results of previous geotechnical analysis conducted in the project area, if any.*

  The site was graded starting on 2011 through 2013 under the observation of Geocon, Inc. (Geocon, 2014). Based on previous site usage, Toxaphene was found present in site soils. Environmental reports by Geocon (2013, 2016) indicate that soils exceeding threshold values were placed in specific encapsulation zones below the depth of recommended removals provided in those reports. In accordance with RWQCB-approved 2006 Limited Pesticide Assessment and Soil Reuse Plan, the encapsulated soil was placed at least 10 feet below ultimate ground surface and at least 5 feet above highest anticipated groundwater level. Given the noted site conditions, the geotechnical investigation by CTE (2023a) included seven exploratory borings and soil sampling limited to 10 feet below existing ground surface (bgs) at the graded site. The two existing stormwater drainage basins in the northeast corner of the property were not included in the CTE (2023a) investigation.

  Previously placed fill was encountered in all CTE (2023a) borings to the explored depth of approximately 10 feet bgs and generally consisted of loose to medium dense/soft to stiff, brown to gray-brown, fine- to coarse-grained clayey sand/sandy clay. According to the as-graded report by Geocon (2014), the site is mantled by previously placed fill to approximate depths ranging between 16 and 25 feet underlain by dense sandstone materials of the undifferentiated Del Mar/Friars Formation or Stadium Conglomerate in the southwestern corner of the site. Groundwater was not encountered by CTE (2023a) and is not expected to impact site development. As indicated by Geocon (2018), “depth to groundwater is anticipated to be in excess of 50 feet and groundwater flow direction is expected to be generally to the west toward the Pacific Ocean with local variations associated with topography.”

- *The development status of the site prior to the project application (i.e., new development with raw ungraded land, or redevelopment with existing graded conditions).*

  As indicated above, the project site has been sheet graded and is currently vacant.

- *The history of design discussions for the project footprint, resulting in the final design determination.*

  UES (previously as CTE) began providing geotechnical consulting services in 2023 with the current design team.

- *Full/partial infiltration BMP standard setbacks to underground utilities, structures, retaining walls, fill slopes, and natural slopes applicable to the DMA that prevent full/partial infiltration.*

  According to the attached Post Development Management Area plan for the Cambridge School "SWQMP Report" prepared by Spear and Associates (2024), the proposed BMP areas are located along the northern, eastern and southeastern limits of the site in the vicinity of Camino del Sur, Coyote Bush Drive, and Templeton Street, respectively. As indicated above, the site is mantled by previously placed fill to approximate depths ranging between 16 and 25 feet. The BMPs will be constructed in the vicinity of the proposed partially underground garage structure and several retaining walls.

  In summary, proposed structures and retaining walls are located within the 10-foot minimum setback requirement for BMPs designated in Section C.1 – Simple Feasibility Criteria of the current City of San Diego BMP Design Manual (2021). Additionally, the proposed BMPs are located in areas of existing fill soils greater than 5 feet thick. Based on these conditions, the BMPs should be designed for a "no infiltration" condition.

- *Physical impairments (i.e., fire road egress, public safety considerations, etc.) that prevent full/partial infiltration.*

  Physical impairments are not anticipated to prevent full/partial infiltration.

- *The consideration of site design alternatives to achieve partial/full infiltration within the DMA.*

  The artificial fill soils at the project site do not possess adequate permeability to support full infiltration. Partial infiltration at a rate of 0.05 in/hr or greater may be possible; however, this would likely require import or manufacture of select permeable soils to be utilized beneath the basin as a 'conduit' to more permeable strata at depth. This option is highly cost prohibitive and not considered a reasonable mitigation in accordance with the current BMP Design Manual.

- *The extent site design BMP requirements were included in the overall design.*

  The following narrative is from the Civil Engineer (Spear & Associates) regarding storm water BMP design:

  > The project proposes the following Source Control and Site Design BMP besides the proposed Biofiltration BMP for Pollutant Control.
  >
  > Source Control:
  > 1. SC-A Onsite storm drain inlet stenciling
  > 2. SC-C Interior parking garage floor drains plumbed to sewer
  >
  > Site Design:
  > 1. 4.3.3 Minimize impervious area
  > 2. 4.3.4 Minimize compaction of soil
  > 3. 4.3.7 Landscaping with native or drought tolerant species

- *Conclusion or recommendation from the geotechnical engineer regarding the DMA's infiltration condition.*

  The proposed BMPs will be located within the 10-foot required setback to proposed retaining walls, a partially underground garage structure and within areas of existing fill soil that is greater than 5 feet in thickness. There is a high likelihood that infiltrating water will flow laterally and negatively impact nearby onsite and offsite improvements. Of particular concern is the encapsulated zone of toxaphene impacted fill present at an approximate depth of 10 ft. The potential geotechnical hazard could be mitigated by lining the BMP improvements with an impermeable membrane.

  It is our professional opinion that the geotechnical hazards associated with infiltrating stormwater in the proposed BMPs as currently planned cannot be reasonably mitigated and should be avoided. Therefore, UES recommends a "no infiltration" condition for the proposed BMPs.

This document is subject to the same limitations as the referenced geotechnical reports. The opportunity to be of service is appreciated. If you have any questions, please contact our office.

Respectfully,
Universal Engineering Sciences (UES)



Andres Bernal, GE #2715
Senior Geotechnical Engineer

AB/CJK:ach

ATTACHMENT:
Post Development Management Area for The Cambridge School "SWQMP Report" (Spear and Associates, 2024)

APPENDICES:
Appendix A - References
Appendix B - City of San Diego Review Comments

APPENDIX A

REFERENCES

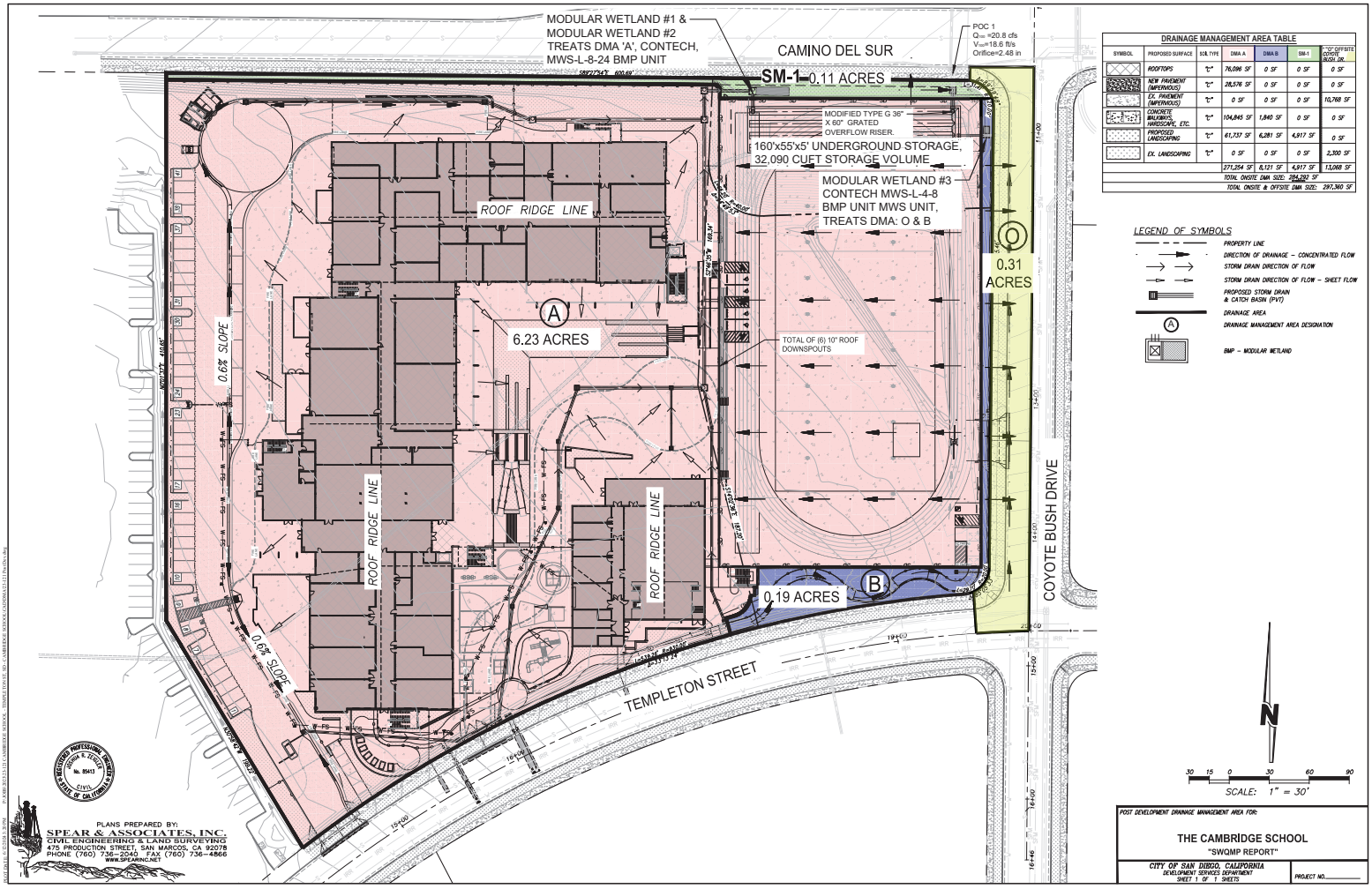
REFERENCES

1. CTE, 2023a, “Geotechnical Investigation, Proposed Cambridge School, Southwest Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California 92127,” CTE Job No. 4830.2300106, dated October 5, 2023.
2. CTE, 2023b, “Infiltration Feasibility Condition Letter, Cambridge School, Southwest Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California 92127,” CTE Job No. 4830.2300106, dated December 6, 2023.
3. Geocon, 2005, “Black Mountain Ranch (Del Sur), North Village East, San Diego, California, Placement of Soil Containing Toxaphene,” Geocon Project No. 07096-32-17, dated October 11, 2005.
4. Geocon, 2006, “Limited Pesticide Assessment and Soils Reuse Plan, Black Mountain Ranch North Village East and Future Golf Course Site, San Diego, California,” Geocon Project No. 08003-06-21, dated February 7, 2006.
5. Geocon, 2013a, “Updated Limits of Toxaphene in Soil and Placement Areas, Black Mountain Ranch North Village East, San Diego, California,” Geocon Project No. 07096-32-44, dated March 20, 2013.
6. Geocon, 2013b, “Transmittal, Black Mountain Ranch (Del Sur) North Village East, San Diego, California,” Geocon Project No. 07096-32-44, dated June 5, 2013.
7. Geocon, 2014, “Final Report of Testing and Observation Services during Grading Black Mountain Ranch, North Village East, Unit 11 (Town Center Lots 1 through 29) and Motor Courts, I.O. No. 23425237, P.T.S. No. 83713, V.T.M. 40-0528, Drawing No. 33873, San Diego, California,” Geocon Project No. 07096-32-44, dated February 19, 2014.
8. Geocon, 2016, “Transmittal of Laboratory Analysis Results, Del Sur Town Center, Lots 1 and 2, San Diego, California,” Geocon Project No. 07096-32-98A, dated February 24, 2016.
9. Geocon, 2018, “Phase I Environmental Site Assessment report, Del Sur Town Center, Blocks F (Avante) And G (Skye), San Diego, California,” Geocon Project No. 08003-62-31, dated September 4, 2018.
10. Spear & Associates, 2023, Preliminary Grading Plans, The Cambridge School – CUP, 0 Templeton Street, San Diego, California 92127, Sheets C-1 though C-6, dated November 30, 2023.
11. Spear & Associates, 2024, Post Development Management Area for The Cambridge School “SWQMP Report”, plot dated June 12, 2024.
12. UES, 2024, “Response to Comments and Geotechnical Addendum, Cambridge School, SW Corner of Camino Del Sur and Coyote Bush Drive, San Diego, California,” UES Project No. 4830.2300106, dated May 28, 2024.

APPENDIX B

CITY OF SAN DIEGO REVIEW COMMENTS

File	Number	Comment Content	Reviewer	Group	Comment	Cycle	Page Reference Sheet Number	Created At	Updated At
	146	SWQMP -- Please note "No Infiltration" conditions as proposed by Dec. 6,2023 letter must be per requirements of C.1 and C1.1 (provide point by point analysis) OR else LDR-Geology of DSD must review/approve the testing procedure.	Hoss Florezabihi	ERVW	Open			2024-03-22T20:(	22-Mar-24



DRAINAGE MANAGEMENT AREA TABLE						
SYMBOL	PROPOSED SURFACE	SOIL TYPE	DMA A	DMA B	SM-1	"O" OFFSITE COYOTE BUSH. DR.
	ROOFTOPS	"C"	76,096 SF	0 SF	0 SF	0 SF
	NEW PAVEMENT (IMPERVIOUS)	"C"	28,576 SF	0 SF	0 SF	0 SF
	EX. PAVEMENT (IMPERVIOUS)	"C"	0 SF	0 SF	0 SF	10,768 SF
	CONCRETE WALKWAYS, HARDSCAPE, ETC.	"C"	104,845 SF	1,840 SF	0 SF	0 SF
	PROPOSED LANDSCAPING	"C"	61,737 SF	6,281 SF	4,917 SF	0 SF
	EX. LANDSCAPING	"C"	0 SF	0 SF	0 SF	2,300 SF
			271,254 SF	8,121 SF	4,917 SF	13,068 SF
			TOTAL ONSITE DMA SIZE:		284,292 SF	
			TOTAL ONSITE & OFFSITE DMA SIZE:			297,360 SF

LEGEND OF SYMBOLS

- PROPERTY LINE
- DIRECTION OF DRAINAGE – CONCENTRATED FLOW
- STORM DRAIN DIRECTION OF FLOW
- STORM DRAIN DIRECTION OF FLOW – SHEET FLOW
- PROPOSED STORM DRAIN & CATCH BASIN (PVT)
- DRAINAGE AREA
- DRAINAGE MANAGEMENT AREA DESIGNATION
- BMP – MODULAR WETLAND

PLANS PREPARED BY:
SPEAR & ASSOCIATES, INC.
CIVIL ENGINEERING & LAND SURVEYING
475 PRODUCTION STREET, SAN MARCOS, CA 92078
PHONE (760) 736-2040 FAX (760) 736-4866
WWW.SPEARINC.NET

REGISTERED PROFESSIONAL ENGINEER
DONALD R. SLATE
No. 85413
CIVIL
STATE OF CALIFORNIA

POST DEVELOPMENT DRAINAGE MANAGEMENT AREA FOR:

THE CAMBRIDGE SCHOOL

"SWQMP REPORT"

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET 1 OF 1 SHEETS

PROJECT NO._____