Appendix I

PACIFIC GATEWAY
TRACY, CA

GEOTECHNICAL FEASABILITY UPDATE

SUBMITTED TO
Mr. Steve Arthur,
Ridgeline Property Group, LLC
915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

PREPARED BY
ENGEO Incorporated

September 13, 2024
Revised April 29, 2025

PROJECT NO.
19633.000.002

ENGEO
Expect Excellence

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19633.000.002

September 13, 2024
Revised April 29, 2025

Mr. Steve Arthur
Ridgeline Property Group, LLC
915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

Subject: Pacific Gateway
Tracy, CA

GEOTECHNICAL FEASABILITY UPDATE

Dear Mr. Arthur:

We prepared this geotechnical feasibility update report for the proposed development located in Tracy, California, as outlined in our agreement with you, dated July 17, 2024. The accompanying geotechnical feasibility update compiles our field exploration findings, along with our conclusions and recommendations regarding development within the study area. We performed this feasibility study to identify basic geotechnical considerations for the development and potential geologic hazards within the project site.

The proposed development is feasible from a geotechnical engineering viewpoint, provided that subsurface explorations are performed at a future date to confirm the preliminary conclusions presented herein. Based on our feasibility study, the primary geotechnical considerations for the planned development include the potential for existing fill and expansive soil.

If you have any questions or comments regarding this report, please call and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated

Viridiana Navarro

Steve Harris, GE, QSD

vn/sh/cb

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

We prepared this geotechnical feasibility update report for the Pacific Gateway in Tracy, California. We prepared this report as outlined in our agreement dated July 17, 2024. ENGEO previously prepared a preliminary geotechnical exploration report for the property, which provided preliminary geotechnical recommendations based on the areas explored in 2021 (ENGEO,2021). Since the publication of the report, Ridgeline Property Group has acquired new property for the Pacific Gateway project. The new parcels acquired are identified as Assessor's Parcel Numbers (APNs) 253-190-110, 253-180-110, 253-180-060, 253-260-090, 253-260-120, 253-260-130, and 253-260-140.

The purpose of our report is to update the referenced report to include the additional parcels and provide a preliminary assessment of the geotechnical hazards pertinent to the current development and provide preliminary geotechnical recommendations for site development. Ridgeline Property Group authorized us to conduct the following scope of services.

- Review of available historical aerials and geologic maps
- Limited field exploration
- Limited soil sampling and laboratory testing
- Preliminary analysis and conclusions
- Report preparation

This report provides an assessment of geotechnical feasibility and does not provide design recommendations or design parameters; these items can be provided at a future date following supplemental subsurface exploration, sampling, lab testing, and engineering analysis once the project moves to the design phase.

In preparation of this report, we reviewed the previous preliminary geotechnical investigation report for the site, completed by ENGEO on November 30, 2021, and revised January 11, 2023.

We prepared this report for the exclusive use of our client and their consultants for evaluation of feasibility of this project. In the event that any changes are made in the character, design, or layout of the development, we must be contacted to review the conclusions and recommendations contained in this report to evaluate whether modifications are recommended. This document may not be reproduced in whole or in part by any means whatsoever, nor may it be quoted or excerpted without our express written consent.

1.2 PROJECT LOCATION AND DESCRIPTION

The proposed 1,433-acre Pacific Gateway project is located east of I-580, north of State Highway 132, and south of South Tracy Boulevard in Tracy, California, as shown in Figure 1. Based on our review of the provided information, we understand that Areas A, B, C, D, and E will be developed for industrial parks with warehouse and office structures, paved roadways and parking areas, and associated improvements. The conceptual site plan indicates 10 basins will be constructed throughout the site. The site will also include UofSA university campus, consisting of approximately 1.4 million square feet of university buildings and associated infrastructure. Based on our discussions with the project team, we understand the university buildings will be either glass over steel frame construction or concrete tilt-up construction.

Review of publicly available historical aerial photographs indicates that the property was utilized for agriculture, consisting of a mix of row crops, orchards, and dry land farming, since at least 1949. At the time of our site reconnaissance, the majority of the property consisted of active orchards and vineyards.

1.3 PREVIOUS EXPLORATION

ENGEO previously prepared a preliminary geotechnical investigation report (ENGEO, 2021) for the original property of Pacific Gateway. We performed our preliminary field exploration between November 11 and November 16, 2021. Our field exploration included drilling 6 borings and excavation of 15 test pits at various locations across the proposed development, shown on Site Plan, Figure 2.

In our preliminary study, undocumented fill was found in 7 of the 14 test pit locations. The undocumented fill encountered was limited to excavations within existing access roads. The undocumented fill ranged from ½ to 2 feet in thickness.

2.0 FINDINGS

2.1 GEOLOGY AND SEISMICITY

2.1.1 Geology

The subject project in located within the margins of Great Valley and Coast Range Geomorphic Provinces of California. This valley is an elongate, asymmetric trough filled with a thick sequence of sediments beginning in the Jurassic period (180 million years ago) and continues currently. The sediments within the valley vary in thickness and are estimated to be up 10 km deep. These sediments are mostly derived from the erosion of the Sierra Nevada Mountain Range to the east, with lesser amounts of material from the Coast Range Mountains to the west.

As shown in Figure 3, Wagner (1991) mapped the project location as Holocene to Pleistocene aged alluvial fan deposits (Qf) consisting of unconsolidated gravel, sand, silt and clay in addition to Miocene to Pliocene fanglomerate deposits (Mf) consisting of conglomerates, siltstone, and sandstone primarily derived from the Coast Range to the southwest.

2.1.2 Seismicity

The site is located in an area of moderate seismicity. The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone and no known surface expressions of active faults[1] are believed to exist within the site. According to the 2008 National Seismic Hazard Maps Spatial Query, the two nearest earthquake faults zoned as active by the State of California Geological Survey are the Great Valley fault, located approximately 1 mile south, and the Greenville fault, located approximately 11.7 miles west. Other active faults in the region are summarized in the table below. Figure 4 shows the approximate locations of these faults and significant historic earthquakes recorded within the region.

[1] An active fault is defined by the State Mining and Geology Board as one that has had surface displacement within Holocene time (about the last 11,000 years) (California Geological Survey, 2007).

TABLE 2.1.2-1: Active Faults Capable of Producing Significant Ground Shaking at the Site

FAULT NAME	DISTANCE FROM SITE (miles)	DIRECTION FROM SITE	MAXIMUM MOMENT MAGNITUDE
Great Valley	1	South	6.9
Greenville Connected	12	West	7.0
Mount Diablo Thrust	24	West	6.7
Calaveras	26	West	7.0
Hayward-Rodgers Creek	29	West	7.3
Green Valley Connected	36	West	6.8

Portions of the Great Valley fault are considered seismically active blind thrust faults; however, since the Great Valley fault segments are not known to extend to the ground surface, the State of California has not defined Earthquake Fault Zones around postulated traces. The Great Valley fault is considered capable of causing significant ground shaking at the site, but the recurrence interval is believed longer than for more distant, strike-slip faults. Recent studies suggest that this boundary fault may have been the cause of the Vacaville-Winters earthquake sequence of April 1892 (Eaton, 1986; Wong and Biggar, 1989; Moores and others, 1991). Other large (>M_W7) earthquakes have historically occurred in the Bay Area to the west and along the margins of the Central Valley and many earthquakes of low magnitude occur every year.

2.2 FIELD EXPLORATION

We performed our preliminary field exploration on August 16, 2024. Our field exploration included drilling six borings at various locations across the site. The locations of our explorations are approximate and were estimated by utilizing smart phones equipped with GPS; they should be considered accurate only to the degree implied by the method used.

2.2.1 Borings

We observed drilling of six borings at the locations shown in the Site Plan, Figure 2. An ENGEO representative observed the drilling and logged the subsurface conditions at each location. We retained a truck-mounted drill rig and crew to advance the borings using 4½-inch-diameter solid-flight auger methods. The borings were advanced to a maximum depth of approximately 25 feet below existing grade.

Soil samples were collected at frequent intervals using either a 3-inch outside-diameter (O.D.) California-type split-spoon sampler fitted with 6-inch-long brass liners, or a 2-inch O.D. Standard Penetration Test (SPT) split-spoon sampler. The samplers were advanced with a 140-pound hammer with a 30-inch drop, employing a rope-and-cathead hammer system. The penetration of the sampler was field recorded as the number of blows needed to drive the sampler 18 inches in 6-inch increments. The boring logs show the number of blows required for the last 1 foot of penetration, or the number of blows per depth of penetration for samples that met driving refusal. The blow counts depicted on the boring logs have not been converted using any correction factors.

We used the field logs to develop the report logs in Appendix A. The logs depict subsurface conditions at the exploration locations for the date of exploration; however, subsurface conditions may vary with time.

2.3 LABORATORY TESTING

We performed laboratory tests on selected soil samples to evaluate their engineering properties. For this project, we performed unconfined compression testing, plasticity index, hydrometer, and sieve analysis. Select laboratory data is recorded on the exploration logs in Appendix A; other laboratory data is included in Appendix B.

2.4 SURFACE CONDITIONS

We observed the following site features during our 2024 site reconnaissance.

- The majority of the site consists of active orchards
- Vineyards were observed near Area C
- An approximate 1,500 feet long irrigational channel crosses the site near Area C, between the division of southern section of the orchard field and vineyard
- Two existing basins were observed throughout the site. One basin was located along South Chrisman Road and the other existing basin was observed north of the perimeter of Area C.
- A large stockpile of almonds was observed in Area C
- Distribution lines were observed along the perimeter of the property parallel to the Delta Mendota Canal
- Pipeline markers for existing, underground oil and gas lines (Phillips 66 Pipeline LLC – Crude Oil, Pacific Gas & Electric Company – Natural Gas, Crimson Pipeline L.P. – Crude Oil) were observed across the site in Areas C, B, D, trending northwest to southeast.
- Various irrigation features are located along perimeters of site and within orchards
- Water containers observed near the north eastern perimeter of the site in Area C
- Existing residential structures were observed near the southwest perimeter of Area A along South MacArthur Drive, and in Area B along South Chrisman Road

Please refer to the Site Plan, Figure 2, for more information on site features.

2.5 SUBSURFACE CONDITIONS

Based on our preliminary field exploration, the site consists of a surficial layer of lean to fat clay underlain by lean clay with sand, sandy lean clay to silt and sandy silt. We encountered interbedded layers of silty sand, poorly graded sand with silt, and silty sand with gravel clay at depths ranging from 9 to 20 feet below the ground surface in borings. Based on our limited laboratory testing, the surficial soil samples we analyzed consisted of moderate to highly expansive clay with plasticity index (PI) values ranging from 12 to 30.

Consult the Site Plans and exploration logs for specific subsurface conditions at each location. We include our exploration logs in Appendix A. The logs contain the soil type, color, consistency, and visual classification in general accordance with the Unified Soil Classification System. The logs graphically depict the subsurface conditions encountered at the time of exploration.

2.6 GROUNDWATER CONDITIONS

We did not observe static or perched groundwater in any of our subsurface explorations. Our review of publicly available data for groundwater wells in the immediate vicinity of the site indicates that groundwater is greater than 50 feet below the existing grade. Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not evident at the time measurements were made.

3.0 DISCUSSION AND CONCLUSIONS

Based on our review of existing information and limited field exploration, the primary geotechnical concerns that could affect development of the site are potential existing fill and expansive soil. We summarize our conclusions below.

3.1 EXISTING FILL

We did not encounter undocumented or non-engineered fills during our 2024 exploration. However, given the past explorations performed in 2021 (ENGEO, 2021) and history of the site, we expect existing fill to be present.

The undocumented fill encountered in 2021 ranged from ½ to 2 feet in thickness. We expect that a surficial layer of undocumented fill exists along the majority of the access roads throughout the site. We also expect that there is some amount of existing fill adjacent to the existing structures noted in Section 2.4. Based on our limited field exploration and records review, we expect that the undocumented is limited to these areas.

Without documentation regarding the manner of placement, type of material used, and degree of compaction, existing fill encountered at the site should be considered non-engineered. Non-engineered fill can undergo excessive settlement, especially under new fill or building loads. The approximate extent of undocumented fill at the site should be further investigated during a design-level geotechnical exploration. Refer to Section 5.1 for preliminary recommendations regarding existing fill.

3.2 EXPANSIVE SOIL

As discussed in Section 2.5, our limited soil sampling and laboratory testing indicated the near-surface site soil exhibits moderate to high expansion potential.

Expansive soil can change in volume with changes in moisture. It can shrink or swell and cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. Building damage due to volume changes associated with expansive soil can be reduced by: (1) using a rigid mat foundation that is designed to resist the settlement and heave of expansive soil, (2) deepening the foundations to below the zone of moisture fluctuation, i.e. by using deep footings or drilled piers, and/or (3) using footings at normal shallow depths but bottomed on a layer of select fill having a low expansion potential.

To reduce the potential for damage to the planned buildings, we recommend that the upper 18 inches of the building pad, extending at least 5 feet laterally beyond the building pad, be underlain by fill with low expansion potential (PI<12). This may be achieved by either importing material with low expansion potential or chemically stabilizing the native material on site.

We have also provided specific grading recommendations for compaction of clay soil at the site. The purpose of these recommendations is to reduce the swell potential of the clay by compacting the soil at a high moisture content and controlling the amount of compaction. Expansive soil mitigation recommendations are presented in Section 4.1 of this report.

Preliminary grading recommendations for compaction of expansive soil at the site is included in Section 5.0. Preliminary foundation design recommendations are provided in Section 6.0.

3.3 SEISMIC HAZARDS

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is ground rupture, also called surface faulting. The common secondary seismic hazards include ground shaking and ground lurching. The following sections present a discussion of these hazards as they apply to the site. Based on topographic and lithologic data, the risk of regional subsidence or uplift, soil liquefaction, lateral spreading, landslides, tsunamis, flooding or seiches is considered low to negligible at the site.

3.3.1 Ground Rupture

Since there are no known active faults crossing the property and the site is not located within an Earthquake Fault Special Study Zone, it is our opinion that ground rupture is unlikely at the subject property.

3.3.2 Ground Shaking

An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the site, similar to that which has occurred in the past. To mitigate the shaking effects, structures should be designed using sound engineering judgment and the latest California Building Code (CBC) requirements, as a minimum. Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead and live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake (SEAOC, 1996).

3.3.3 Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soil most susceptible to liquefaction is clean, loose, saturated, uniformly graded, fine-grained sand. We encountered poorly graded sand with silt in boring 2-B5, however the sand encountered in other borings often contained a significant amount of fine-grained material and were medium dense. In addition, groundwater was not encountered to the terminal depth of our borings. For these reasons and based upon engineering judgment, it is our opinion on a preliminary basis that the potential for liquefaction at the site is low during seismic shaking. This should be studied further with additional explorations and analysis during a design-level study.

3.4 2022 CBC SEISMIC DESIGN PARAMETERS

The 2022 CBC utilizes seismic design criteria established in the ASCE/SEI Standard "Minimum Design Loads and Associated Criteria for Buildings and Other Structures," (ASCE 7-16). Based on the subsurface conditions encountered, we characterized the site as Site Class D.

ASCE 7-16 requires a site-specific ground-motion hazard analysis for Site Class D sites with a mapped S_1 value greater than or equal to 0.2. However, Section 11.4.8 of ASCE 7-16 and Supplement No. 3 provide an exception to this requirement. A site-specific ground-motion hazard analysis is not required where the value of the parameter S_{M1} determined by Equation 11.4-2 and shown in Table 1 is increased by 50 percent for developing the mapped Risk-Targeted Maximum Considered Earthquake (MCE_R) spectral response, calculating S_{D1}, and evaluating C_s in accordance with Chapter 12 of ASCE 7-16.

In Table 3.4-1 below, we provide the CBC seismic parameters based on the United States Geological Survey's (USGS') Seismic Design Maps for your use. When using this table, considerations should be given to exceptions in Section 11.4.8 of ASCE 7-16, as described in this report.

TABLE 3.4-1: 2022 CBC Seismic Design Parameters, Latitude: 37.64872 Longitude: -121.3987

PARAMETER	VALUE
Site Class	D
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_S (g)	1.270
Mapped MCE_R Spectral Response Acceleration at 1-second Period, S_1 (g)	0.435
Site Coefficient, F_a	1.00
Site Coefficient, F_v	1.865*
MCE_R Spectral Response Acceleration at Short Periods, S_{MS} (g)	1.270
MCE_R Spectral Response Acceleration at 1-second Period, S_{M1} (g)	0.811*
Design Spectral Response Acceleration at Short Periods, S_{DS} (g)	0.847
Design Spectral Response Acceleration at 1-second Period, S_{D1} (g)	0.541*
Mapped MCE Geometric Mean (MCE_G) Peak Ground Acceleration, PGA (g)	0.535
Site Coefficient, F_{PGA}	1.1
MCE_G Peak Ground Acceleration adjusted for Site Class effects, PGA_M (g)	0.589
Long period transition-period, T_L (sec)	8

*The parameters above should only be used for calculation of T_s, determination of Seismic Design Category, and, when taking the exceptions under Items 1 and 2 of ASCE 7-16 Section 11.4.8. (Supplement Number 3 https://ascelibrary.org/doi/epdf/10.1061/9780784414248.sup3).

We recommend that we collaborate with the structural engineer of record to further evaluate the effects of taking the exception on the structural design and identify the need for performing a site-specific ground-motion hazard analysis. We can prepare a proposal for a site-specific ground-motion hazard analysis, if requested.

4.0 CONSTRUCTION MONITORING

Our experience and that of our profession clearly indicate that the risk of costly design, construction, and maintenance problems can be significantly lowered by retaining the design geotechnical engineering firm to:

1. Review the final grading and foundation plans and specifications prior to construction to evaluate whether our recommendations have been implemented, and to provide additional or modified recommendations, as needed. This also allows us to check if any changes have occurred in the nature, design or location of the proposed improvements and provides the opportunity to prepare a written response with updated recommendations.
2. Perform construction monitoring to check the validity of the assumptions we made to prepare this report. Earthwork operations should be performed under the observation of our representative to check that the site is properly prepared, the selected fill materials are satisfactory, and that placement and compaction of the fill has been performed in accordance with our recommendations and the project specifications. Sufficient notification to us prior to earthwork is important.

If we are not retained to perform the services described above, then we are not responsible for any party's interpretation of our report and subsequent addenda, letters, and verbal discussions.

5.0 PRELIMINARY EARTHWORK RECOMMENDATIONS

As used in this report, relative compaction refers to the in-place dry unit weight of soil expressed as a percentage of the maximum dry unit weight of the same soil, as determined by the ASTM D1557 laboratory compaction test procedure, latest edition. Compacted soil is not acceptable if it is unstable; it should exhibit only minimal flexing or pumping, as observed by an ENGEO representative.

The term "moisture condition" refers to adjusting the moisture content of the soil by either drying if too wet or adding water if too dry. We define "structural areas" as any area sensitive to settlement of compacted soil. These areas include, but are not limited to building pads, sidewalks, pavement areas, and retaining walls.

The following recommendations should be considered preliminary and should be verified in a design-level report.

5.1 SITE PREPARATION

Site development will commence with the general clearing of the site and the excavation and removal of buried structures. Areas to be developed should be cleared of all surface and subsurface deleterious materials, including existing structures and associated foundation systems, buried utilities and irrigation lines, septic systems, debris, and designated fencing, trees, shrubs, and associated roots. All debris should be removed from any location to be graded and from areas to receive fill or structures. The depth of removal of such materials should be determined by our representative in the field at the time of grading.

All undocumented fills encountered during grading, including fill placed during our exploratory test pits, should be removed to competent native soil, as determined in the field by ENGEO. We expect that in the locations where there are existing structures, we will need to overexcavate 2 feet of

material and rip and additional 12 inches to confirm that all pipes, foundations, and debris are removed. The subexcavation area should extend approximately 10 feet beyond the footprints of the existing structures. Additional subexcavation may be required based on our field observations. Provided the excavated soil is free from debris, it can be placed back as engineered fill.

Existing vegetation should be removed from areas to receive fill or improvements. Tree roots should be removed down to a depth of approximately 2 feet below existing grade. Once the orchards are removed, we will need to overexcavate approximately 12 inches of material and rip and additional 12 inches to mitigate the areas disturbed by removing the orchards.

All excavations from demolition and clearing below design grades should be cleaned to a firm undisturbed native soil surface determined by our representative. This surface should then be scarified, moisture conditioned, and backfilled with compacted engineered fill, in accordance with Section 5.4.

5.2 OVER-OPTIMUM SOIL MOISTURE CONDITIONS

The contractor should anticipate encountering excessively over-optimum (wet) soil moisture conditions during winter or spring grading, or during or following periods of rain. Wet soil can make proper compaction difficult or impossible. Wet soil conditions can be mitigated by:

1. Frequent spreading and mixing during warm dry weather,
2. Mixing with drier materials,
3. Mixing with a lime and/or cement product, or
4. Stabilizing with aggregate or geotextile stabilization fabric, or both.

Options 3 and 4 should be evaluated by ENGEO prior to implementation.

5.3 ACCEPTABLE FILL

On-site soil may be suitable as fill material provided it is processed to remove concentrations of organic material, debris, and particles greater than 8 inches in maximum dimension.

Imported fill materials should meet the above requirements and have a plasticity index equal to or less than the on-site material. If nonexpansive material is imported for the building pads, it should have a plasticity index of less than 12. Allow ENGEO to sample and test proposed imported fill materials at least 5 days prior to delivery to the site.

5.4 FILL COMPACTION

5.4.1 Grading in Structural Areas

Perform subgrade compaction prior to fill placement, following cutting operations, and in areas left at grade as follows.

1. Scarify to a depth of at least 12 inches.
2. Moisture condition soil to at least 3 percentage points over the optimum moisture content for expansive soil (PI ≥ 12) and to at least 1 percentage point over the optimum moisture content for soil with low expansion potential (PI < 12).

3. Compact the soil to between 90 percent relative compaction. Prior to aggregate base placement, compact the upper 6 inches of finish pavement subgrade to at least 92 percent relative compaction for expansive soil or at least 95 percent relative compaction for soil with low expansion potential.

After the subgrade has been compacted, place and compact acceptable fill as follows.

1. Spread fill in loose lifts that do not exceed 12 inches.
2. Moisture condition soil to at least 3 percentage points over the optimum moisture content for expansive soil (PI ≥ 12) and to at least 1 percentage point over the optimum moisture content for soil with low expansion potential (PI < 12).
3. Compact fill to between 90 percent relative compaction. Prior to aggregate base placement, compact the upper 6 inches of finish pavement subgrade to at least 92 percent relative compaction for expansive soil or at least 95 percent relative compaction for soil with low expansion potential.

Compact the pavement Caltrans Class 2 aggregate base section to at least 95 percent relative compaction (ASTM D1557). Moisture condition aggregate base to or slightly above the optimum moisture content prior to compaction.

Where lime or cement treatment of the soil is used to mitigate expansive soil conditions, we recommend the type of chemical admixture (lime, quicklime, or cement) and percentage of chemical additive be based on testing of actual foundation soil after mass grading is substantially completed. Based on our experience, on a preliminary basis we estimate that chemical treatment with approximately 4 percent lime (by dry unit weight) may be appropriate to reduce the plasticity of the on-site soil. The soil should be moisture conditioned to at least 3 percentage points above the optimum moisture content before mixing. The mixing should be performed in accordance with the current version of Caltrans Standard Specifications with the following exceptions.

1. Following mixing, the treated soil should be allowed to fully hydrate prior to compaction.
2. Following hydration, the treated soil should compacted according to ASTM D1557 to at least 95 percent relative compaction at, or slightly above, the optimum moisture content.

We recommend that the chemical treatment be performed by a specialty contractor experienced in this type of work.

5.4.2 Underground Utility Backfill

5.4.2.1 General

The contractor is responsible for conducting trenching and shoring in accordance with Cal/OSHA requirements. Project consultants involved in utility design should specify pipe bedding materials.

5.4.2.2 Structural Areas

Place and compact trench backfill as follows.

1. Trench backfill should have a maximum particle size of 6 inches.

2. Moisture condition trench backfill to a minimum of 3 percent above the optimum moisture content. Moisture condition backfill outside the trench.
3. Place fill in loose lifts not exceeding 12 inches.
4. Compact fill to 90 percent minimum relative compaction.

Where utility trenches cross underneath buildings, we recommend that a plug be placed within the trench backfill to help prevent the normally granular bedding materials from acting as a conduit for water to enter beneath the building. The plug should be constructed using a sand cement slurry (minimum 28-day compressive strength of 500 psi) or relatively impermeable native soil for pipe bedding and backfill. We recommend that the plug extend for a distance of at least 3 feet in each direction from the point where the utility enters the building perimeter.

Jetting of backfill is not an acceptable means of compaction.

5.5 SITE DRAINAGE

The project civil engineer is responsible for designing surface drainage improvements. With regard to geotechnical engineering issues, we recommend that finish grades be sloped away from buildings and pavements to the maximum extent practical to reduce the potentially damaging effects of expansive soil. As a minimum, we recommend the following.

1. Discharge roof downspouts into closed conduits and direct away from foundations and pavements to appropriate drainage devices.
2. Do not allow water to pond near foundations, pavements, or exterior flatwork.

6.0 PRELIMINARY FOUNDATION RECOMMENDATIONS

It is anticipated that the proposed development will consist of concrete tilt-up warehouse structures and university buildings consisting of either glass over steel frame construction or concrete tilt-up construction. Based on our limited field exploration, laboratory testing, and engineering analysis, we recommend that the proposed buildings be supported on continuous or isolated spread footing foundation systems with slab-on-grade floors bearing in compacted subgrade with low expansion potential.

We developed preliminary structural improvement recommendations using data obtained from our limited field exploration and laboratory test results. The following recommendations should be considered preliminary and should be verified in a design-level report.

6.1 BUILDING PAD SUBGRADE PREPARATION

We recommend the upper 18 inches of the building pad, and to at least 5 feet laterally beyond, should consist of imported low-expansive fill with a Plasticity Index less than 12. Alternatively, the upper 18 inches of the finished building pad, and to at least 5 feet laterally beyond, can be chemically treated to reduce the plasticity of site soil.

If chemical treatment is selected as an alternative to importing low-expansive fill for building pad construction, the type of chemical admixture (lime, quicklime, or cement) and percentage of chemical additive should be based on testing of actual foundation soil after mass grading is substantially completed. Based on our experience, on a preliminary basis, we estimate that

chemical treatment with approximately 4 percent lime (by dry unit weight) may be appropriate to reduce the plasticity of on-site soil. Chemical treatment should be performed by a specialty contractor experienced in this type of work. In addition, excavations performed in chemically treated soil, such as for utility trenches, should be stockpiled and protected for reuse in the upper backfill area to match the treated section.

6.2 FOOTING DIMENSIONS AND ALLOWABLE BEARING CAPACITY

Preliminary minimum footing dimensions are presented in Table 6.2-1 below.

TABLE 6.2-1: Preliminary Minimum Footing Dimensions

FOOTING TYPE	MINIMUM DEPTH (inches)	MINIMUM WIDTH (inches)
Continuous	**24**	**12**
Isolated	**24**	**24**

Minimum footing depths shown above are taken from the lowest adjacent pad grade.

On a preliminary basis, conventional footing foundations can be designed for a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) for dead-plus-live loads. Increase this bearing capacity by one-third for the short-term effects of wind or seismic loading.

The maximum allowable bearing pressure is a net value; the weight of the footing may be neglected for design purposes. All footings located adjacent to utility trenches should have their bearing surfaces below an imaginary 1:1 (horizontal:vertical) plane projected upward from the bottom edge of the trench to the footing.

A subgrade modulus can be provided in a design-level geotechnical report.

6.3 INTERIOR SLAB-ON-GRADE

We anticipate that the operation of the warehouse facilities will include forklift and rack loads on the interior concrete slab. While no loading information was provide for our review, we developed our preliminary recommendations assuming a lightly loaded industrial concrete floor. This would include only small racks and forklifts.

As previously discussed, due to the expansive nature of the onsite material, the interior slabs should be underlain by 18 inches of low expansive imported material or chemically treated native material. Interior concrete floors that will support forklift or rack loads should be underlain by 6 inches of granular base having an R-value of at least 50 and a Plasticity Index less than 12. The base should be compacted to at least 95 percent relative compaction (ASTM D1557) to provide firm, uniform support for the slab-on-grade. These 6 inches of base may be considered part of the low expansive fill recommended in Section 5.4 of this report.

Prior to construction of the slab, the surface should be proof-rolled with heavy equipment to check that the base material is uniformly compacted and does not deflect under equipment loads. Prior to placing the base material, the building subgrade should be prepared in accordance with Section 5.0.

The slab thickness and reinforcement should be designed by the structural engineer based on the intended use and loading of the slab.

Post-construction cracking of concrete slabs-on-grade is inherent in any project, especially where soil expansion potential is high. Adequate slab reinforcement should be provided to satisfy the anticipated use and loading requirements.

When buildings are constructed with concrete slab-on-grade, water vapor from beneath the slab will migrate through the slab and into the building. This water vapor can be reduced but not stopped. Vapor transmission can negatively affect floor coverings and lead to increased moisture within a building. When water vapor migrating through the slab would be undesirable, we recommend the following to reduce, but not stop, water vapor transmission upward through the slab-on-grade.

1. Install a vapor retarder membrane directly beneath the slab. Seal the vapor retarder at all seams and pipe penetrations. Vapor retarders shall conform to Class A vapor retarder in accordance with ASTM E 1745, latest edition, “Standard Specification for Plastic Water Vapor Retarders used in Contact with Soil or Granular Fill under Concrete Slabs.”
2. Use a concrete water-cement ratio for slabs-on-grade of no more than 0.50.
3. Provide inspection and testing during concrete placement to check that the proper concrete and water cement ratio are used.
4. Moist cure slabs for a minimum of 3 days or use other equivalent curing specified by the structural engineer.

7.0 PRELIMINDARY PAVEMENT DESIGN

7.1 FLEXIBLE PAVEMENTS

Based on our limited field exploration and laboratory testing, we determined an R-Value of 5 to be appropriate for untreated native soil.

Using estimated traffic indexes for various pavement loading requirements, we developed the following recommended pavement sections using Topic 633 of the Caltrans Highway Design Manual (including the asphalt factor of safety). The recommendations in Table 7.1-1 should be considered preliminary and should be verified in a design-level report.

TABLE 7.1-1: Preliminary Asphalt Concrete Pavement Section Recommendations

TRAFFIC INDEX	ASPHALT CONCRETE (inches)	CLASS 2 AB (inches) NO LIME TREATMENT OF SUBGRADE
5	3	10
6	3½	13
7	4	16
8	5	18
9	5½	21
10	6½	23
11	7	26
12	8	28

The civil engineer should determine the appropriate traffic indexes based on the estimated traffic loads and frequencies.

7.2 RIGID PAVEMENTS

We developed the preliminary rigid pavement sections in accordance with the methods contained in the Guide for the Design and Construction of Concrete Parking Lots, based on ACI 330R-08. Table 7.2-1 presents recommended PCCP and aggregate base (AB) thicknesses for various allowable Average Daily Truck Traffic (ADTT) indices that correspond to R-values of 5 for untreated subgrade and the use of concrete with a Modulus of Rupture equal to 500 psi, which corresponds to a compressive strength of approximately 4,000 psi.

TABLE 7.2-1: Preliminary Concrete Pavement Section Recommendations, Class 2 AB

ADTT	AXLE CATEGORY	SECTION	
		PCCP (INCHES) NO LIME TREATMENT OF SUBGRADE	CLASS 2 AB (INCHES)
100	C	7.0	6
300	C	7.5	6
700	D	8.5	6

7.3 SUBGRADE AND AGGREGATE BASE COMPACTION

Compact finish subgrade and aggregate base in accordance with Section 5.4. Aggregate Base should meet the requirements for ¾-inch maximum Class 2 AB in accordance with Section 26-1.02B of the latest Caltrans Standard Specifications.

8.0 DESIGN-LEVEL GEOTECHNICAL REPORT

This report presents preliminary geotechnical findings, conclusions and recommendations intended for preliminary planning purposes only. A design-level geotechnical exploration and assessment should be performed when development plans are available. The design-level geotechnical report should further discuss topics presented in this report and address the following items.

- Field exploration and laboratory testing to support design-level recommendations based on the actual development layout.
- Design-level analyses related to geologic and geotechnical hazards.
- Design-level earthwork, improvements, and construction recommendations.

9.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report presents geotechnical recommendations for design of the improvements discussed in Section 1.3 for the Pacific Gateway project. If changes occur in the nature or design of the project, we should be allowed to review this report and provide additional recommendations, if any. It is the responsibility of the owner to transmit the information and recommendations of this report to the appropriate organizations or people involved in design of the project, including but not limited to developers, owners, buyers, architects, engineers, and designers. The conclusions and

recommendations contained in this report are solely professional opinions and are valid for a period of no more than 2 years from the date of report issuance.

We strive to perform our professional services in accordance with generally accepted principles and practices currently employed in the area; there is no warranty, express or implied. There are risks of earth movement and property damages inherent in building on or with earth materials. We are unable to eliminate all risks; therefore, we are unable to guarantee or warrant the results of our services.

This report is based upon field and other conditions discovered at the time of report preparation. We developed this report with limited subsurface exploration data. We assumed that our subsurface exploration data are representative of the actual subsurface conditions across the site. Considering possible underground variability of soil and groundwater, additional costs may be required to complete the project. We recommend that the owner establish a contingency fund to cover such costs. If unexpected conditions are encountered, ENGEO must be notified immediately to review these conditions and provide additional and/or modified recommendations, as necessary.

Our services did not include excavation sloping or shoring, soil volume change factors, flood potential, or a geohazard exploration. In addition, our geotechnical exploration did not include work to determine the existence of possible hazardous materials. If any hazardous materials are encountered during construction, the proper regulatory officials must be notified immediately.

This document must not be subject to unauthorized reuse, that is, reusing without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time.

Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO's documents. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO's scope of services does not include on-site construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims arising from or resulting from the performance of such services by other persons or entities, and from any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

We determined the lines designating the interface between layers on the exploration logs using visual observations. The transition between the materials may be abrupt or gradual. The exploration logs contain information concerning samples recovered, indications of the presence of various materials such as clay, sand, silt, rock, existing fill, etc., and observations of groundwater encountered. The field logs also contain our interpretation of the subsurface conditions between sample locations. Therefore, the logs contain both factual and interpretative information. Our recommendations are based on the contents of the final logs, which represent our interpretation of the field logs.

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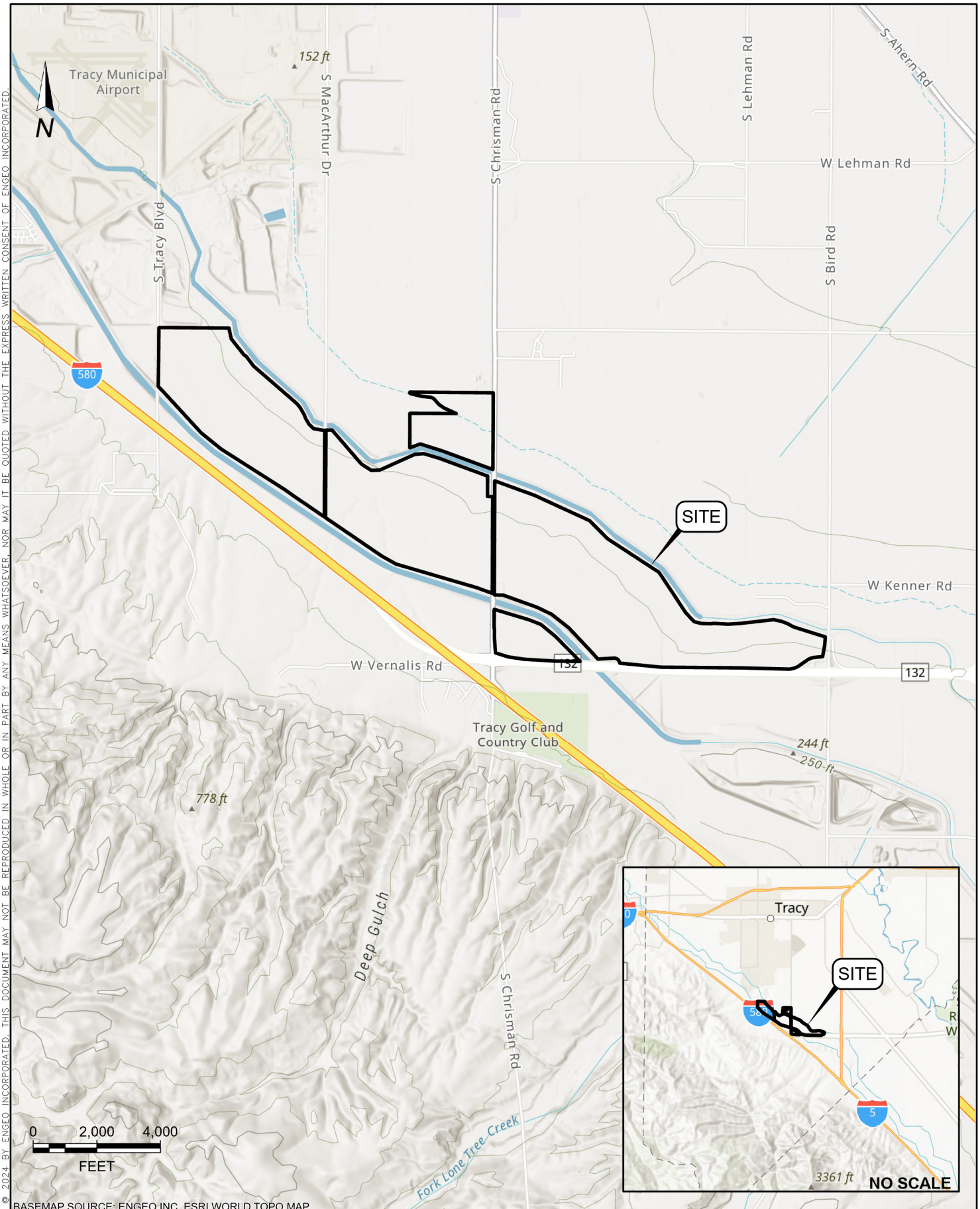
FIGURES



BASEMAP SOURCE: ENGEO INC, ESRI WORLD TOPO MAP

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VICINITY MAP

PACIFIC GATEWAY

TRACY, CALIFORNIA

PROJECT NO. :	19633.000.001
SCALE:	AS SHOWN
DRAWN BY: MMH	CHECKED BY: SDH

FIGURE NO. 1

ORIGINAL FIGURE PRINTED IN COLOR

PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\19633\19633000001\GEOTECH\GEX 2024\GOLDEN STATE LOGISITCS HUB.APRX
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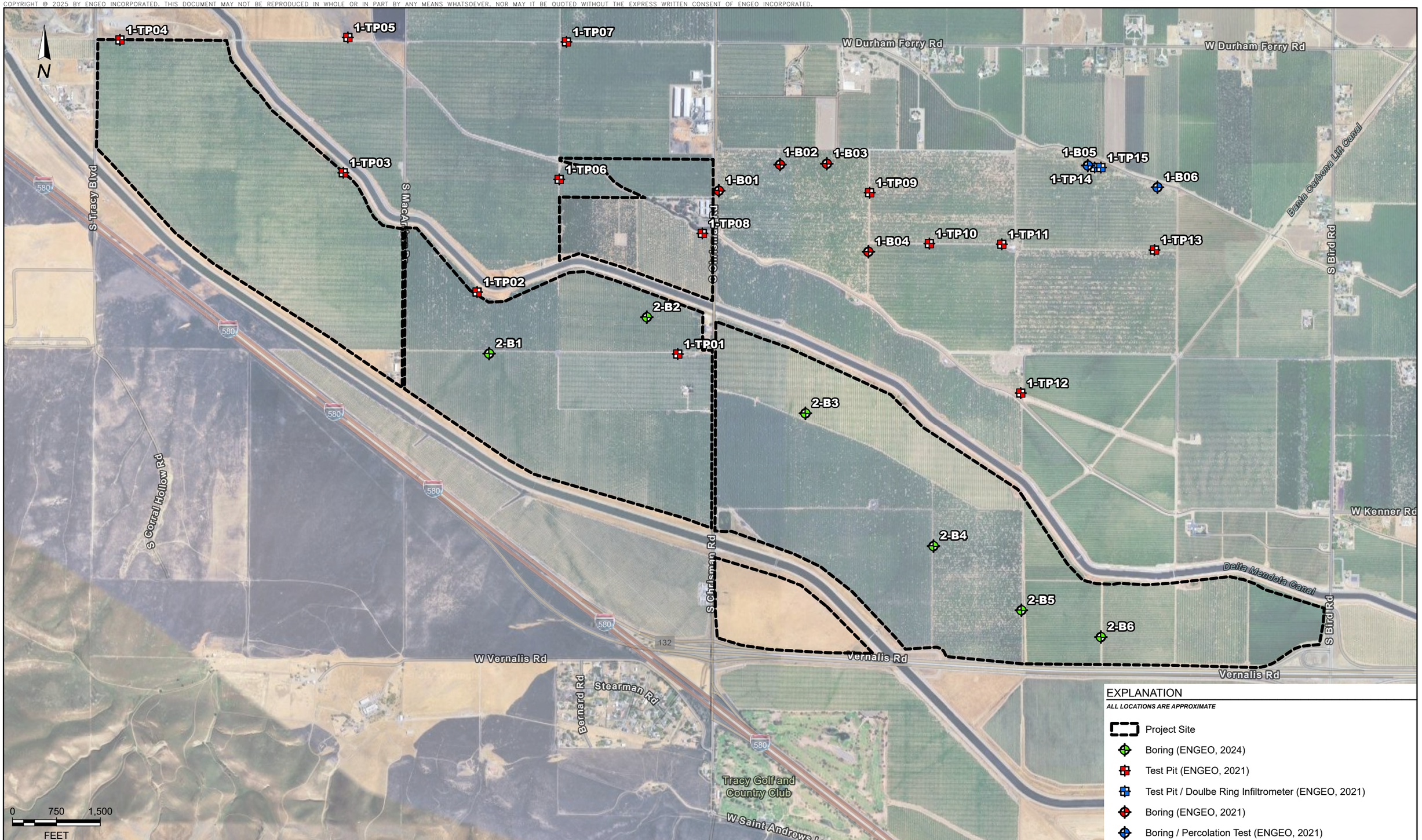

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- Project Site
- Boring (ENGEO, 2024)
- Test Pit (ENGEO, 2021)
- Test Pit / Doulbe Ring Infiltrometer (ENGEO, 2021)
- Boring (ENGEO, 2021)
- Boring / Percolation Test (ENGEO, 2021)

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SITE PLAN

PACIFIC GATEWAY

TRACY, CALIFORNIA

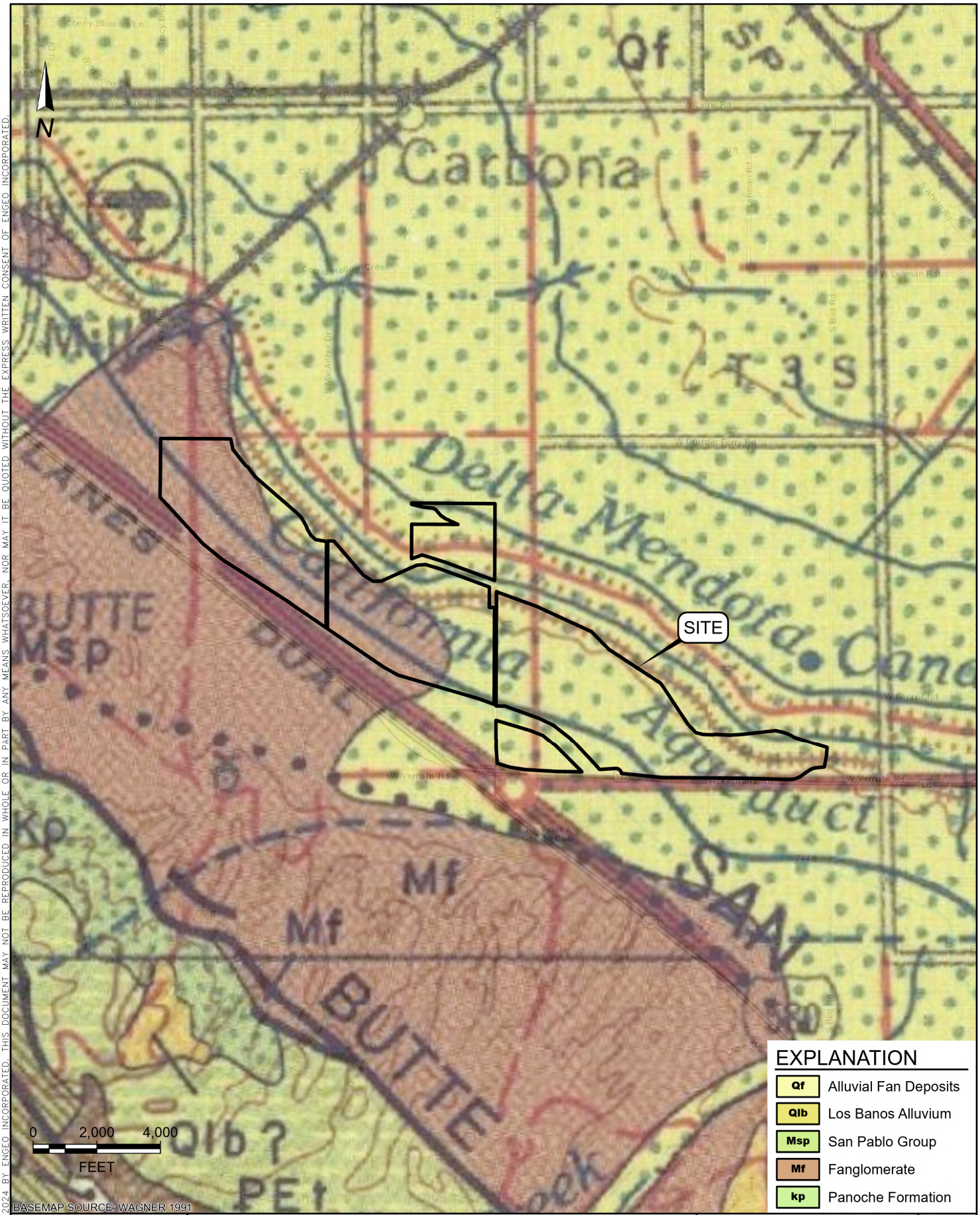
PROJECT NO. :	19633.000.001
SCALE:	AS SHOWN
DRAWN BY:	MMH
CHECKED BY:	SDH

FIGURE NO. 2

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022

PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\19633\19633000001\GEOTECH\GEX 2024\GOLDEN STATE LOGISITCS HUB.APRX
LAYOUT: 02. SITE PLAN 11X17 LANDSCAPE USER: MHAWKINS

ORIGINAL FIGURE PRINTED IN COLOR



BASEMAP SOURCE: WAGNER 1991

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REGIONAL GEOLOGIC MAP

PACIFIC GATEWAY

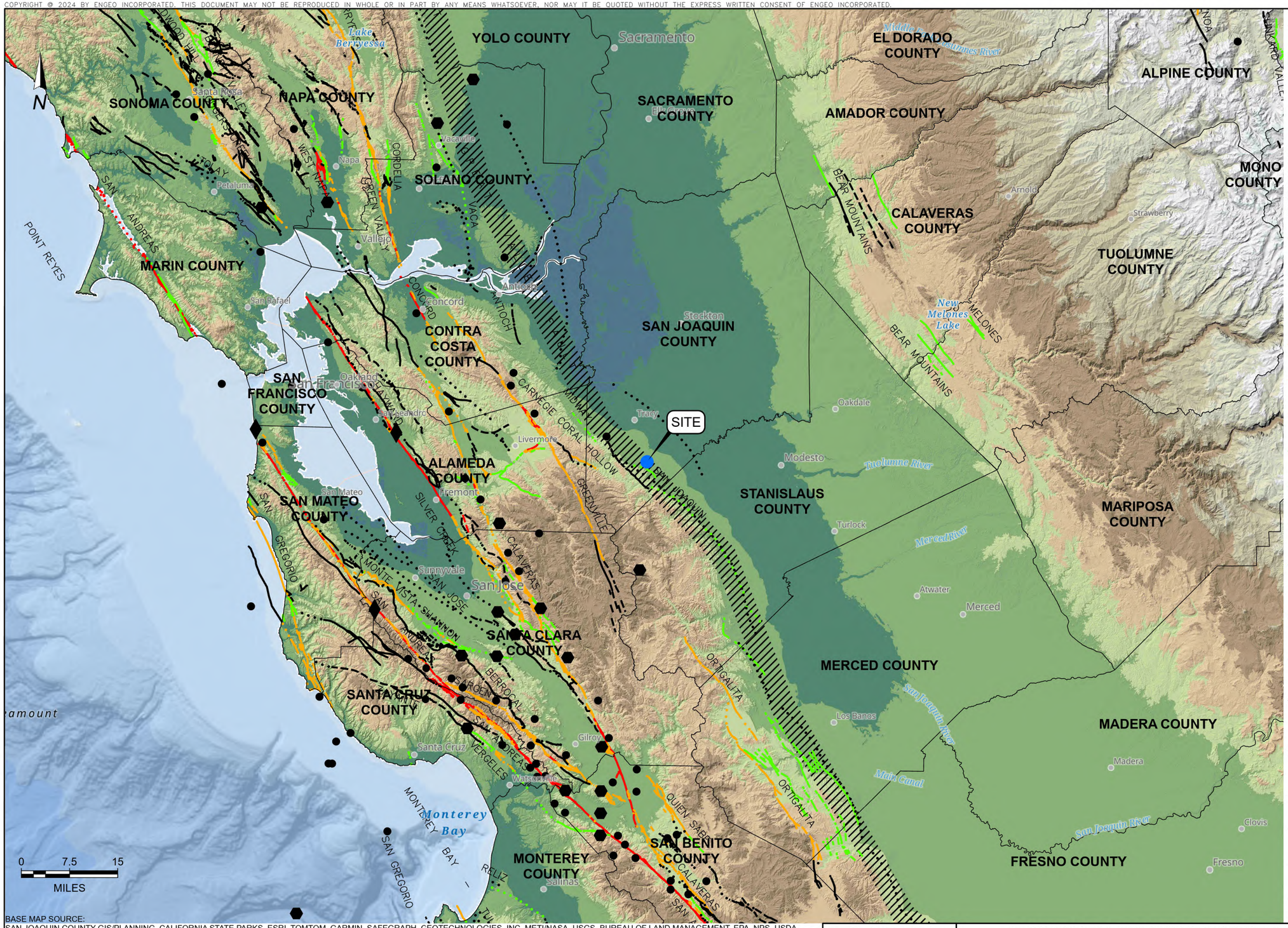
TRACY, CALIFORNIA

PROJECT NO. :	19633.000.001
SCALE:	AS SHOWN
DRAWN BY: MMH	CHECKED BY: SDH

FIGURE NO. 3

ORIGINAL FIGURE PRINTED IN COLOR

PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\19633\19633000001\GEOTECH\GEX 2024\GOLDEN STATE LOGISITCS HUB.APRX
LAYOUT: 03. GEOLOGIC 8.5 X 11 PORTRAIT USER: MHAWKINS



EXPLANATION

- Project Site

HISTORIC EARTHQUAKE EPICENTERS

- Magnitude 5-6
- Magnitude 6-7
- Magnitude 7+
- Historic Blind Thrust Fault Zone

QUATERNARY FAULTS 2020

Based on time of most recent surface deformation

- Historical (<150 Years), Well Constrained Location
- Historical (<150 Years), Moderately Constrained Location
- Historical (<150 Years), Inferred Location
- Latest Quaternary (<15,000 Years), Well Constrained Location
- Latest Quaternary (<15,000 Years), Moderately Constrained Location
- Latest Quaternary (<15,000 Years), Inferred Location
- Latest Quaternary (<15,000 Years), Inferred Location
- Late Quaternary (<130,000 Years), Moderately Constrained Location
- Late Quaternary (<130,000 Years), Inferred Location
- Middle And Late Quaternary (<750,000 Years), Well Constrained Location
- Middle And Late Quaternary (<750,000 Years), Moderately Constrained Location
- Middle And Late Quaternary (<750,000 Years), Inferred Location
- Undifferentiated Quaternary(<1.6 Million Years), Well Constrained Location
- Undifferentiated Quaternary(<1.6 Million Years), Moderately Constrained Location
- Undifferentiated Quaternary(<1.6 Million Years), Inferred Location
- Class B (Various Age), Well Constrained Location
- Class B (Various Age), Moderately Constrained Location
- Class B (Various Age), Inferred Location

BASE MAP SOURCE:
SAN JOAQUIN COUNTY GIS/PLANNING, CALIFORNIA STATE PARKS, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, BUREAU OF LAND MANAGEMENT, EPA, NPS, USDA, USFWS, CSUMB, ESRI, GARMIN, NATURALVUE, ESRI, GEBCO, GARMIN, NATURALVUE, SAN JOAQUIN COUNTY GIS/PLANNING, CALIFORNIA STATE PARKS, ESRI, TOMTOM, GARMIN, SAFEGRAPH, FAO, METI/NASA, USGS, BUREAU OF LAND MANAGEMENT, EPA, NPS, USFWS
COLOR HILLSHADE IMAGE BASED ON THE NATIONAL ELEVATION DATA SET (NED) AT 30 METER RESOLUTION
U.S.G.S. QUATERNARY FAULT DATABASE, 2020
C.G.S. HISTORIC EARTHQUAKE DATABASE

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REGIONAL FAULTING AND SEISMICITY MAP

PACIFIC GATEWAY

TRACY, CALIFORNIA

PROJECT NO. :	19633.000.001
SCALE:	AS SHOWN
DRAWN BY:	MMH
CHECKED BY:	SDH

FIGURE NO. 4

ORIGINAL FIGURE PRINTED IN COLOR

PATH: G:\DRAFTING\PROJECTS_18000 TO 19999\19633\19633000001\GEOTECH\GEX 2024\GOLDEN STATE LOGISITCS HUB.APRX
LAYOUT: 04. FAULT&SEISMICITY 11 X 17 LANDSCAPE USER: MHAWKINS

APPENDIX A

BORING LOG KEY
EXPLORATION LOGS

KEY TO BORING LOGS

MAJOR TYPES			DESCRIPTION
COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW - Well graded gravels or gravel-sand mixtures GP - Poorly graded gravels or gravel-sand mixtures
		GRAVELS WITH OVER 12 % FINES	GM - Silty gravels, gravel-sand and silt mixtures GC - Clayey gravels, gravel-sand and clay mixtures
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 5% FINES	SW - Well graded sands, or gravelly sand mixtures SP - Poorly graded sands or gravelly sand mixtures
		SANDS WITH OVER 12 % FINES	SM - Silty sand, sand-silt mixtures SC - Clayey sand, sand-clay mixtures
FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50 % OR LESS		ML - Inorganic silt with low to medium plasticity CL - Inorganic clay with low to medium plasticity OL - Low plasticity organic silts and clays
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 %		MH - Elastic silt with high plasticity CH - Fat clay with high plasticity OH - Highly plastic organic silts and clays
	HIGHLY ORGANIC SOILS		PT - Peat and other highly organic soils

For fine-grained soils with 15 to 29% retained on the #200 sieve, the words "with sand" or "with gravel" (whichever is predominant) are added to the group name.

For fine-grained soil with >30% retained on the #200 sieve, the words "sandy" or "gravelly" (whichever is predominant) are added to the group name.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE SIZE					CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4 "	3"	12"		
SILTS AND CLAYS	SAND			GRAVEL			COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE			

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FOOT (S.P.T.)
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH*
VERY SOFT	0-1/4
SOFT	1/4-1/2
MEDIUM STIFF	1/2-1
STIFF	1-2
VERY STIFF	2-4
HARD	OVER 4

SAMPLER SYMBOLS

- Modified California (3" O.D.) sampler
- California (2.5" O.D.) sampler
- S.P.T. - Split spoon sampler
- Shelby Tube
- Dames and Moore Piston
- Continuous Core
- Bag Samples
- Grab Samples
- NR No Recovery

MOISTURE CONDITION

DRY	Dusty, dry to touch
MOIST	Damp but no visible water
WET	Visible freewater

LINE TYPES

- ———— Solid - Layer Break
- – – – – – Dashed - Gradational or approximate layer break

GROUNDWATER SYMBOLS

- Groundwater level during drilling
- Stabilized groundwater level

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) sampler

* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by pocket penetrometer

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LOG OF BORING 2-B1

LATITUDE: 37.652472 LONGITUDE: -121.410996

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 16½ ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 215 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			FAT CLAY WITH SAND (CH), dark brown, very stiff to hard, moist, high plasticity, fine- to coarse-grained sand, carbonates present			35	53	23	30	84				>4.5*	PP
			LEAN CLAY (CL), yellowish brown, stiff to hard, moist, medium plasticity, <15% fine-grained sand, contains silt fines			9									
			SANDY LEAN CLAY (CL), yellowish brown, stiff, moist, low plasticity, 30-40% fine- to medium-grained sand												
5	210		LEAN CLAY (CL), dark brown, soft, wet, medium to high plasticity, <15% fine-grained sand			18									
			SANDY LEAN CLAY (CL), yellowish brown, hard, moist, medium plasticity, 30-40% fine- to coarse-grained sand												
10	205		Grades to contain 5-10% fine gravel			50/6"								>4.5*	PP
15	200		Grades to contain <5% fine gravel			50								>4.5*	PP
														>4.5*	PP
			Bottom of boring at approximately 16½ feet below ground surface. No groundwater encountered at time of drilling.												

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LOG OF BORING 2-B2

LATITUDE: 37.654251 LONGITUDE: -121.401709

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 25 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 190 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY WITH SAND (CL), dark brown, hard, moist, medium plasticity, 15-25% fine- to coarse-grained sand, rootlets present												
						31								>4.5*	PP
														>4.5*	PP
			Grades to brown, contains carbonates, no rootlets present			10									
5	185		Grades to light brown mottled with dark brown			29								>4.5*	PP
														>4.5*	PP
			SILT (ML), very light yellowish brown, hard, moist, low to medium plasticity, <15% fine- to medium-grained, contains clay fines												
10	180					50/6"								>4.5*	PP
			LEAN CLAY WITH SAND (CL), yellowish brown, hard, moist, high plasticity, 15-25% fine- to medium-grained sand, carbonates present												
			Grades to brown, very stiff												
15	175					65								3.0*	PP
			LEAN CLAY WITH SAND (CL), yellowish brown, very stiff to hard, moist, medium plasticity, 15-25% fine-grained sand											>4.5*	PP
			Grades to hard, maganese oxide present												
			SANDY LEAN CLAY (CL), yellowish brown, hard, moist, medium plasticity, 30-40% fine-grained sand											4.5*	PP
20	170														

LOG - GEOTECHNICAL_SU+QU W/ ELEV 19633000002_PH004_2-B01 THROUGH 2-B06.GPJ ENGEO INC.GDT 9/12/24

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LOG OF BORING 2-B2

LATITUDE: 37.654251 LONGITUDE: -121.401709

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 25 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 190 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			SILTY SAND (SM), yellowish brown, medium dense, moist, 15-20% fines, fine- to medium-grained sand			38									
			LEAN CLAY WITH SAND (CL), yellowish brown, very stiff, moist, medium plasticity, 15-25% fine- to medium-grained sand			47									
25	165		Bottom of boring at approximately 25 feet below ground surface. No groundwater encountered at time of drilling.												

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LOG OF BORING 2-B3

LATITUDE: 37.649813 LONGITUDE: -121.392297

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 16½ ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 204 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY (CL), dark brown, stiff to hard, moist, medium to high plasticity, <15% fine- to medium-grained sand			21								>4.5*	PP
			LEAN CLAY WITH SAND (CL), yellowish brown, very stiff to hard, moist, medium plasticity, 15-25% fine- to medium-grained sand, 5-10% fine gravel			21									
	200														
5			SANDY SILT (ML), light yellowish brown, very stiff, moist, medium plasticity, slow dilatancy, 30-40% fine-grained sand			40									
			LEAN CLAY WITH SAND (CL), yellowish brown, very stiff, moist, medium plasticity, 15-25% fine- to coarse-grained sand												
	195														
10						20									
			Grades to Brown												
	190														
15															
			LEAN CLAY WITH SAND (CL), olive brown, very stiff, moist, medium plasticity, 15-25% fine- grained sand, contains silt fines			25	31	19	12					3.0*	PP
			Bottom of boring at approximately 16½ feet below ground surface. No groundwater encountered at time of drilling.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV 19633000002_PH004_2-B01 THROUGH 2-B06.GPJ ENGEO INC.GDT 9/12/24

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LOG OF BORING 2-B4

LATITUDE: 37.643639 LONGITUDE: -121.384667

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 23 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 215 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			SANDY LEAN CLAY (CL), dark brown, stiff to hard, moist, medium plasticity, 30-40% fine- to medium-grained sand, rootlets present, carbonates present			20								>4.5*	PP
			Grades to yellowish brown			8									
			LEAN CLAY WITH SAND (CL), brown, soft, moist to wet, medium plasticity, 15-25% fine- to medium-grained sand												
5	210		SANDY LEAN CLAY WITH GRAVEL (CL), yellowish brown, hard, moist, medium plasticity, approximately 15% gravel, 30-40% sand			14								>4.5*	PP
			SILTY SAND (SM), yellowish brown, medium dense, moist, 15-25% fines, <5% fine gravel, fine- to coarse-grained sand			22									
			SANDY LEAN CLAY (CL), yellowish brown, moist, low to medium plasticity, 30-40% fine- to coarse-grained sand, <5% gravel, contains silt fines												
15	200		SANDY SILT (ML), yellowish brown, medium stiff to hard, moist, medium plasticity, fine-grained sand			16				61				>4.5*	PP
			LEAN CLAY WITH SAND (CL), yellowish brown, hard, moist, medium plasticity, 15-25% fine- to medium-grained sand												
20	195		SANDY LEAN CLAY (CL), yellowish brown, very stiff, moist, low to medium plasticity, 30-40% fine- to coarse-grained sand			38									
						18									
			Bottom of boring at approximately 23 feet below ground surface. No groundwater encountered at time of drilling.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV 19633000002_PH004_2-B01 THROUGH 2-B06.GPJ ENGEO INC.GDT 9/12/24

ENGEO
Expect Excellence

LOG OF BORING 2-B5

LATITUDE: 37.640666 LONGITUDE: -121.379444

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 203 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
0			LEAN CLAY (CL), dark brown, stiff to hard, moist, medium plasticity, <15% fine-grained sand, <5% fine to coarse gravel			22								>4.5*	PP
														4.5*	PP
	200		SANDY LEAN CLAY (CL), yellowish brown, medium stiff, moist, medium plasticity, 30-40% fine- to coarse-grained sand, 5-10% fine gravel			6									
5			Grades to soft Grades to hard			15						110		1.58	UC
	195														
10			POORLY GRADED SAND WITH SILT (SP-SM), yellowish brown, medium dense, moist, contains fine gravel, fine- to coarse-grained sand			26				9					
	190		SILTY SAND WITH GRAVEL (SM), yellowish brown, medium dense, moist, fine- to coarse-grained sand												
15						12				21					
	185		LEAN CLAY WITH SAND (CL), brown, stiff, moist, medium plasticity, 15-25% fine- to medium-grained sand												
			SANDY LEAN CLAY (CL), yellowish brown, stiff, moist, medium plasticity, 30-40% fine- to medium-grained sand			24									
20			Bottom of boring at approximately 20 feet below ground surface. No groundwater encountered at time of drilling.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV 19633000002_PH004_2-B01 THROUGH 2-B06.GPJ ENGEO INC.GDT 9/12/24

ENGEO
Expect Excellence

LOG OF BORING 2-B6

LATITUDE: 37.639445 LONGITUDE: -121.37474

Geotechnical Exploration
Pacific Gateway
Tracy, CA
19633.000.002

DATE DRILLED: 8/16/2024
HOLE DEPTH: Approx. 15 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 197 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

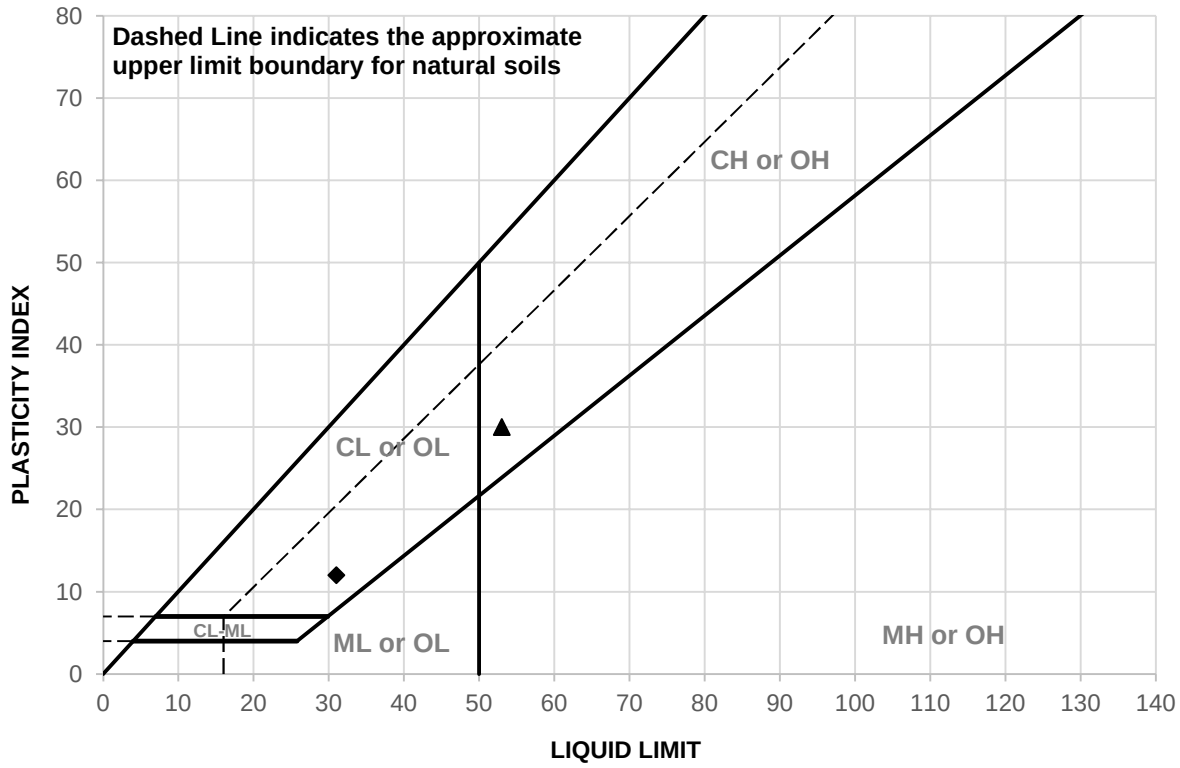
Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY WITH SAND (CL), brown, hard, moist, medium plasticity, 15-25% fine- to medium-grained sand, <5% fine gravel, rootlets present												
	195		SILT WITH SAND (ML), yellowish brown, hard, moist, medium plasticity, slow dilatancy, 15-25% fine- to medium-grained sand, <5% fine gravel			24								>4.5*	PP
						13								>4.5*	PP
5			SANDY LEAN CLAY (CL), dark brown, soft, wet, low plasticity, 30-40% fine- to medium-grained sand												
			Grades to moist, stiff to hard			40								2*	PP
														>4.5*	PP
	190		SILTY SAND WITH GRAVEL (SM), yellowish brown, medium dense, moist, 15-25% fines, fine- to medium-grained sand, fine to coarse gravel												
10			Grades to very dense			50/6"				23					
	185		LEAN CLAY WITH GRAVEL (CL), yellowish brown, moist, low plasticity, 15-25% fine gravel												
			SILTY SAND WITH GRAVEL (SM), yellowish brown, medium dense, moist, 30-40% fines, fine- to medium-grained sand, fine to coarse gravel			50/6"									
15			Bottom of boring at approximately 15 feet below ground surface. No groundwater encountered at time of drilling.												

APPENDIX B

LABORATORY TEST DATA

Liquid and Plastic Limits Test Report
Unconfined Compression Test
Particle Size Distribution Report

LIQUID AND PLASTIC LIMITS TEST REPORT
ASTM D4318



	SAMPLE ID	DEPTH (ft)	MATERIAL DESCRIPTION	LL	PL	PI
▲	2-B1@1.5	1.5	See exploration logs	53	23	30
◆	2-B3@16	16	See exploration logs	31	19	12

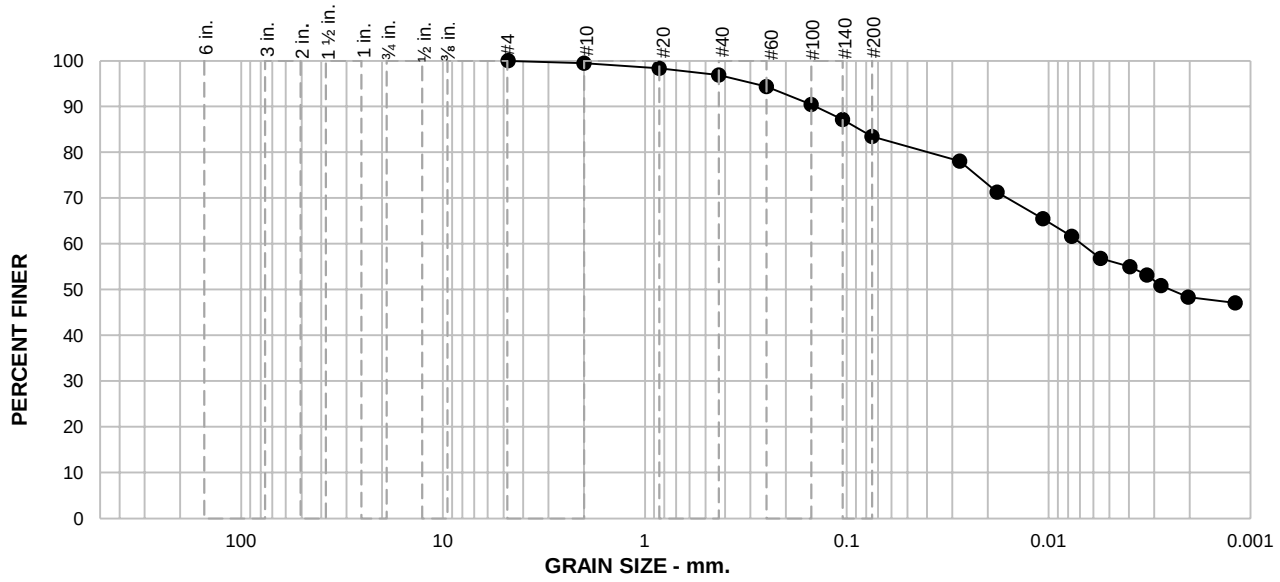
	SAMPLE ID	TEST METHOD	REMARKS
▲	2-B1@1.5	PI: ASTM D4318, Wet Method	
◆	2-B3@16	PI: ASTM D4318, Wet Method	

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group, LLC
PROJECT NAME: Pacific Gateway
PROJECT NO: 19633.000.002 PH004
PROJECT LOCATION: Tracy, CA
REPORT DATE: 9/10/2024
TESTED BY: V. Nunez
REVIEWED BY: K. Lecce

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D422



SAMPLE ID: 2-B1@1.5

DEPTH (ft): 1.5

LOCATION: 2-B1

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
			0.5	2.6	13.4	35.2	48.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.5		
#20	98.3		
#40	96.9		
#60	94.3		
#100	90.4		
#140	87.1		
#200	83.5		
0.0276 mm.	78.1		
0.0180 mm.	71.3		
0.0107 mm.	65.5		
0.0077 mm.	61.6		
0.0055 mm.	56.8		
0.0040 mm.	55.0		
0.0033 mm.	53.2		
0.0028 mm.	50.9		
0.0020mm.	48.3		
0.0012mm.	47.1		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = 23 LL = 53 PI = 30

COEFFICIENTS

D_{90} = 0.1437 mm D_{85} = 0.0863 mm D_{60} = 0.0069 mm

D_{50} = 0.0025 mm D_{30} = D_{15} =

D_{10} = C_u = C_c =

CLASSIFICATION

USCS = CH

REMARKS

Silt/clay division of 0.002mm used
PI: ASTM D4318, Wet Method
USCS: ASTM D2487

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group, LLC

PROJECT NAME: Pacific Gateway

PROJECT NO: 19633.000.002 PH004

PROJECT LOCATION: Tracy, CA

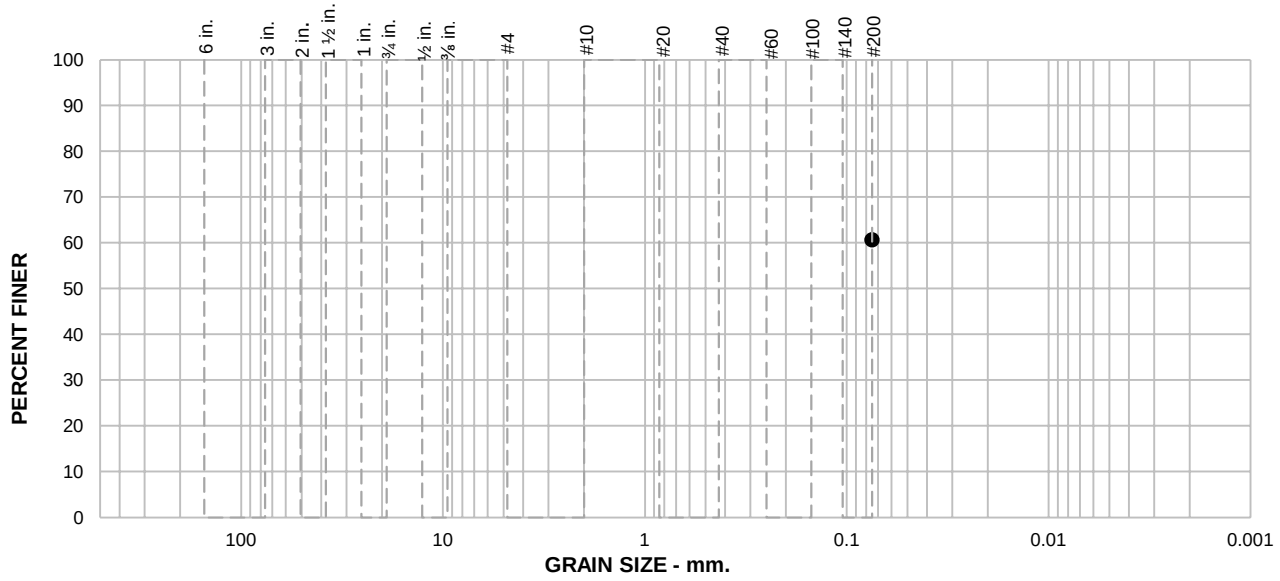
REPORT DATE: 9/10/2024

TESTED BY: V. Nunez

REVIEWED BY: K. Lecce

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 2-B4@16

DEPTH (ft): 16

LOCATION: 2-B4

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						61	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61		

SOIL DESCRIPTION

See exploration log

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = D_{85} = D_{60} =
D_{50} = D_{30} = D_{15} =
D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

Soak time = 180 min
Dry sample weight = 724.6 g
Largest particle size ≥ No. 4 Sieve

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group, LLC

PROJECT NAME: Pacific Gateway

PROJECT NO: 19633.000.002 PH004

PROJECT LOCATION: Tracy, CA

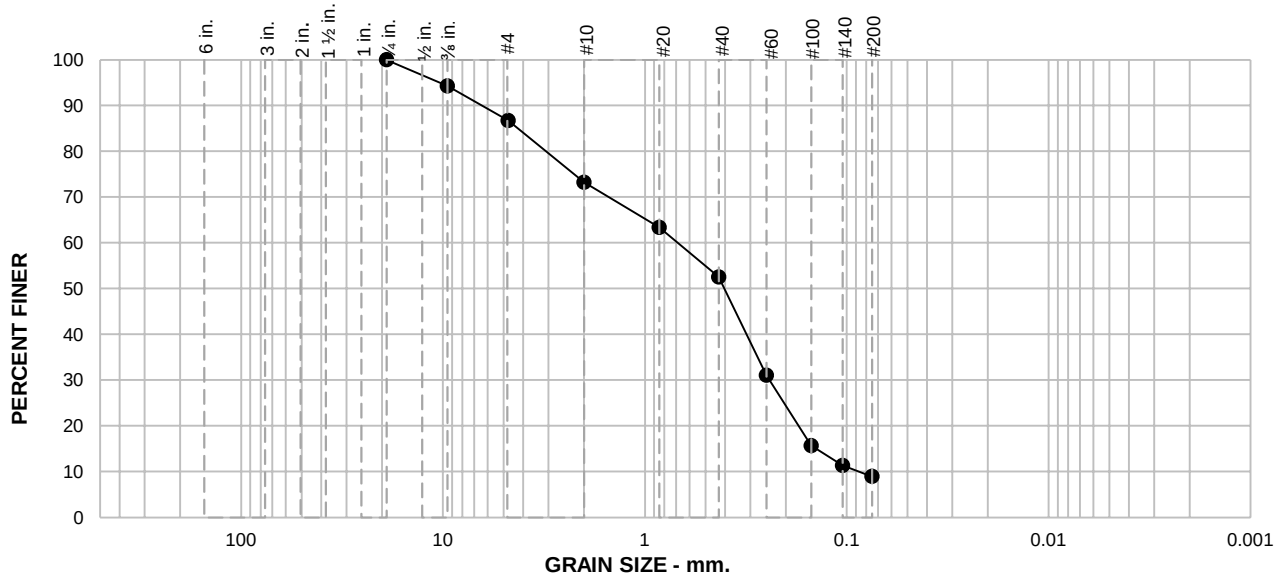
REPORT DATE: 9/9/2024

TESTED BY: J. Tarinda

REVIEWED BY: K. Lecce

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method B



SAMPLE ID: 2-B5@10-11.5

DEPTH (ft): 10-11.5

LOCATION: 2-B5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		13	14	20	44	9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.75 in.	100		
0.38 in.	94		
#4	87		
#10	73		
#20	63		
#40	53		
#60	31		
#100	16		
#140	11		
#200	9		

SOIL DESCRIPTION

See exploration log

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = 6.4002 mm D_{85} = 4.1979 mm D_{60} = 0.6928 mm

D_{50} = 0.3993 mm D_{30} = 0.2416 mm D_{15} = 0.1397 mm

D_{10} = 0.0887 mm C_u = 7.81 C_c = 0.95

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group, LLC

PROJECT NAME: Pacific Gateway

PROJECT NO: 19633.000.002 PH004

PROJECT LOCATION: Tracy, CA

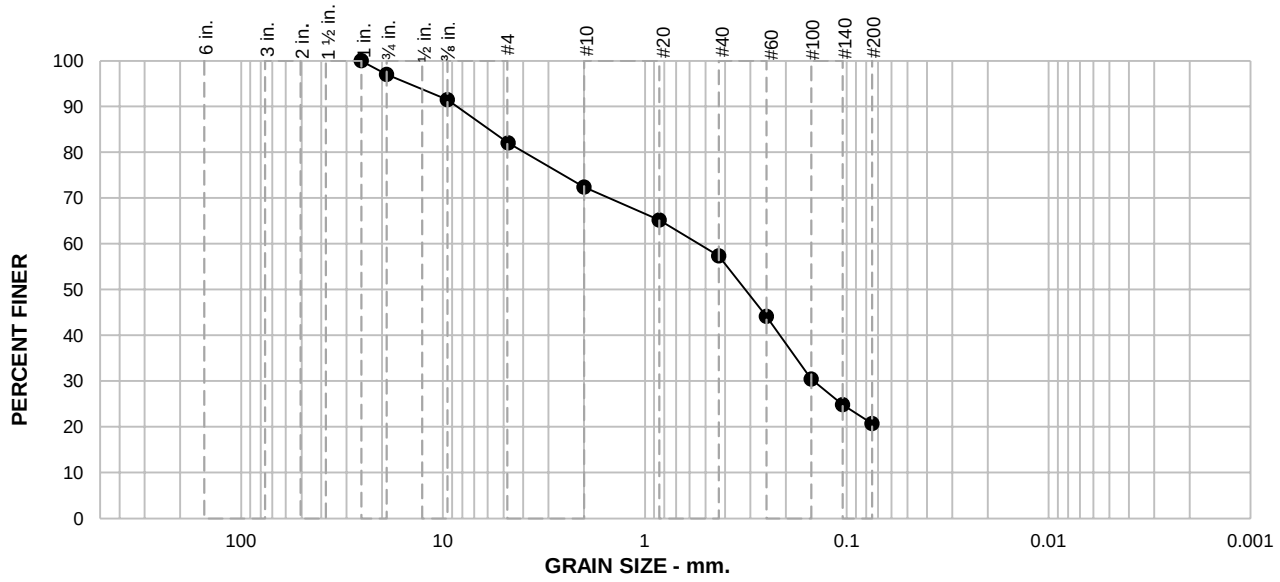
REPORT DATE: 9/9/2024

TESTED BY: J. Tarinda

REVIEWED BY: K. Lecce

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method B



SAMPLE ID: 2-B5@15-16.5

DEPTH (ft): 15-16.5

LOCATION: 2-B5

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
	3	15	10	15	36	21	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1 in.	100		
0.75 in.	97		
0.38 in.	91		
#4	82		
#10	72		
#20	65		
#40	57		
#60	44		
#100	30		
#140	25		
#200	21		

SOIL DESCRIPTION

See exploration log

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = 8.8164 mm D_{85} = 5.9899 mm D_{60} = 0.5552 mm

D_{50} = 0.3211 mm D_{30} = 0.1500 mm D_{15} =

D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group, LLC

PROJECT NAME: Pacific Gateway

PROJECT NO: 19633.000.002 PH004

PROJECT LOCATION: Tracy, CA

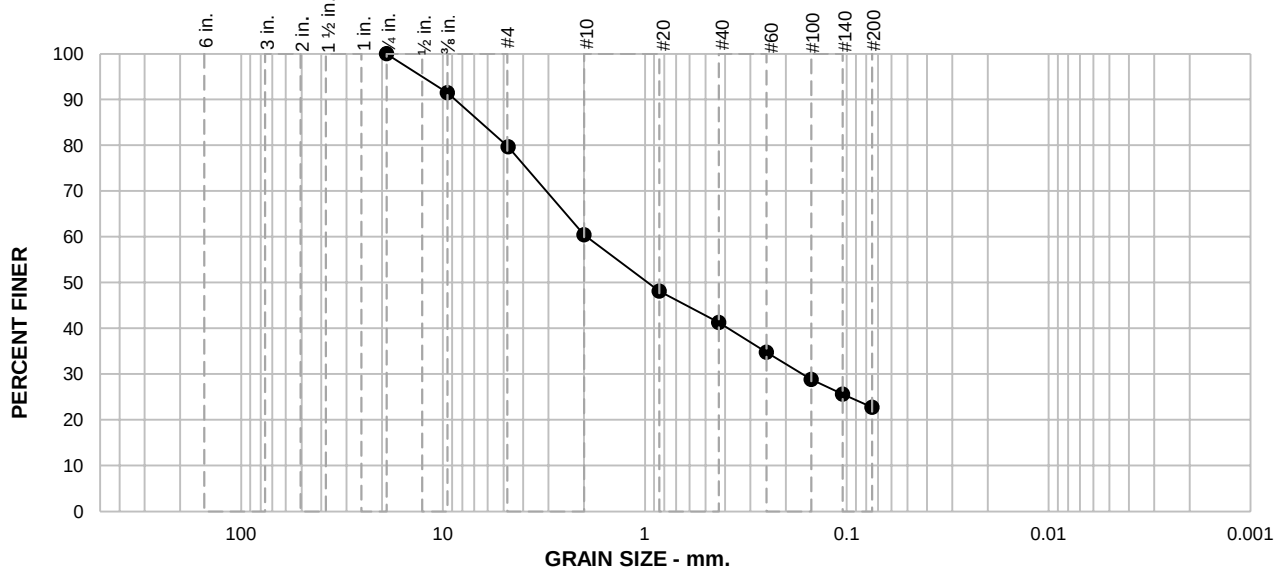
REPORT DATE: 9/9/2024

TESTED BY: J. Tarinda

REVIEWED BY: K. Lecce

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D6913, Method B



SAMPLE ID: 2-B6 @10-11.5

DEPTH (ft): 10-11.5

LOCATION: 2-B6

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		20	20	19	18	23	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.75 in.	100		
0.38 in.	92		
#4	80		
#10	60		
#20	48		
#40	41		
#60	35		
#100	29		
#140	26		
#200	23		

SOIL DESCRIPTION

See exploration log

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

D_{90} = 8.4821 mm D_{85} = 6.3474 mm D_{60} = 2.0000 mm

D_{50} = 0.9803 mm D_{30} = 0.1633 mm D_{15} =

D_{10} = C_u = C_c =

CLASSIFICATION

USCS =

REMARKS

USCS: ASTM D2487

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group, LLC

PROJECT NAME: Pacific Gateway

PROJECT NO: 19633.000.002 PH004

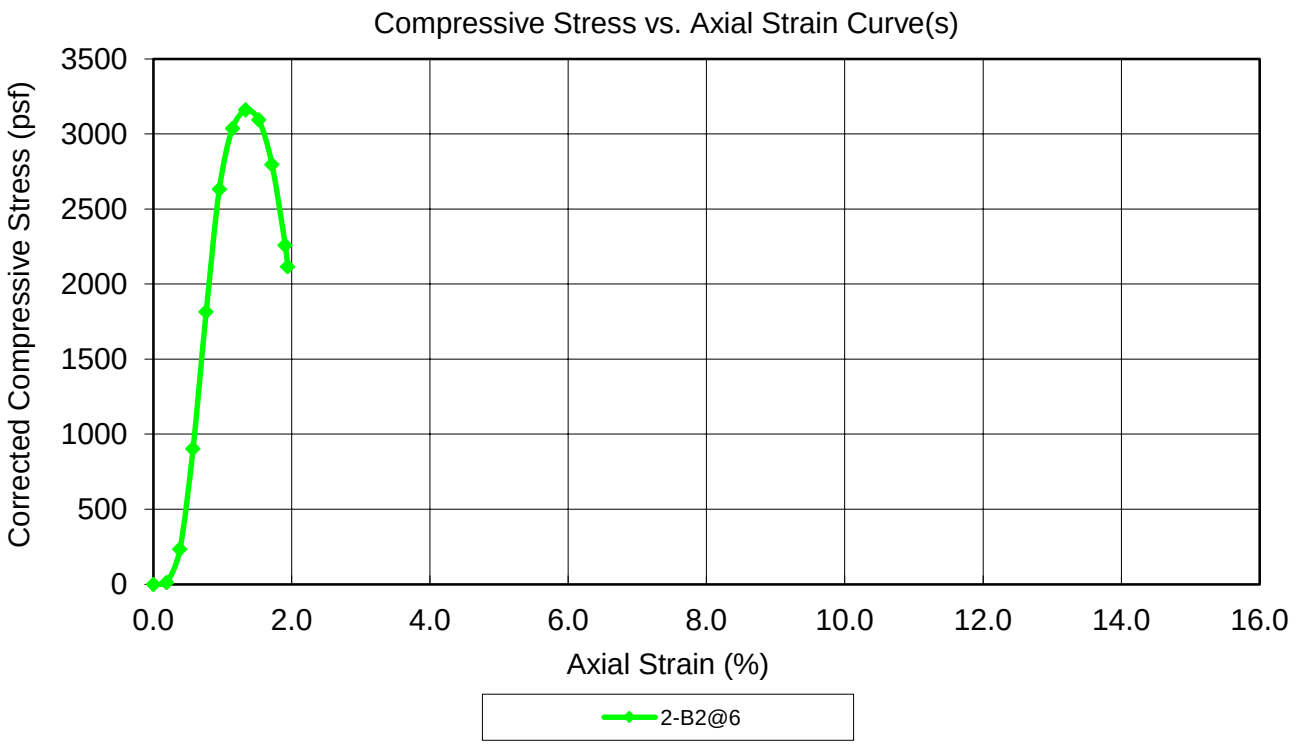
PROJECT LOCATION: Tracy, CA

REPORT DATE: 9/9/2024

TESTED BY: J. Tarinda

REVIEWED BY: K. Lecce

UNCONFINED COMPRESSION TEST REPORT
(ASTM D2166)



BEFORE TEST	SPECIMEN 2-B5 @6
Test Moisture Content (%)	11.89
Dry Density (pcf)	109.9
Saturation (%)	59.3
Void Ratio	0.55
Diameter (in)	2.390
Height (in)	5.250
Height-To-Diameter Ratio	2.20
TEST DATA	
Unconfined Compressive Strength (psf)	3160
Undrained Shear Strength (psf)	1579.79
Strain Rate (in/min)	0.050
Specific Gravity (ASSUMED)	2.720
Strain at Failure(%)	1.33
Test Remarks	

SPECIMEN	DESCRIPTION
2-B5 @6	See exploration logs

ENGEO
Expect Excellence

PROJECT NAME: Pacific Gateway
PROJECT NO: 19633.000.002 PH004
CLIENT: Ridgeline Logistics Group, LLC
LOCATION: Tracy, CA

Test Date: 9/6/2024
Tested By: J. Tarinda
Reviewed By: K. Lecce

APPENDIX C

PREVIOUS EXPLORATION LOGS AND LABORATORY TESTING RESULTS (ENGEO, 2021)

LOG OF BORING 1-B01

ENGEO Expect Excellence

LATITUDE: 37.66022 LONGITUDE: -121.397533

Geotechnical Feasibilty
Pacific Gateway
Tracy, California
19633.000.001

DATE DRILLED: 11/15/2021
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS84): Approx. 159 ft.

LOGGED / REVIEWED BY: C. Johnson / SH
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY (CL), brown, hard, moist, medium plasticity, 10% fine- to coarse-grained sand, <5% fine to coarse gravel												
			Grades to yellowish brown, stiff			38								>4.5*	PP
														>4.5*	PP
						7									
	155														
5			Grades to 15% fine- to coarse-grained sand												
						9									
			Grades to <5% fine- to coarse-grained sand												
	150														
10			Grades to 10% fine- to coarse grained sand, very stiff			37								>4.5*	PP
	145														
15						22									
			CLAYEY SAND (SC), yellowish brown, medium dense, moist, fine- to coarse-grained sand, 20% fines												
	140					54									
20			Bottom of boring at approximately 20 feet below ground surface. Groundwater not encountered during drilling.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV 1-BS.GPJ ENGEO INC.GDT 1/10/23

LOG OF BORING 1-B02

Expect Excellence

LATITUDE: 37.662131 LONGITUDE: -121.39397

Geotechnical Feasibilty
Pacific Gateway
Tracy, California
19633.000.001

DATE DRILLED: 11/15/2021
HOLE DEPTH: Approx. 16½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS84): Approx. 150 ft.

LOGGED / REVIEWED BY: C. Johnson / SH
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY (CL), dark brown, medium stiff, moist, medium plasticity, <5% fine to coarse gravel												
						18								3.25*	PP
			SANDY LEAN CLAY (CL), yellowish brown, medium stiff, moist, low plasticity, 40% fine- to coarse-grained sand, <5% fine gravel											3.0*	PP
						7									
5	145		LEAN CLAY (CL), yellowish brown, very stiff, moist, medium plasticity, 5% fine- to coarse-grained sand												
						37									
10	140														
			CLAYEY SAND (SC), yellowish brown, medium dense, moist, fine- to coarse-grained sand, 25% fines, <5% fine gravel			20									
			Grades to 40% fines, 10% fine- to coarse-grained gravel												
15	135					40									
			LEAN CLAY WITH SAND (CL), yellowish brown, very stiff, moist, medium plasticity, 15% fine- to coarse-grained sand												
			Bottom of boring at approximately 16 1/2 feet below ground surface. Groundwater not encountered during drilling.												

ENGEO
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LOG OF BORING 1-B03

LATITUDE: 37.662157 LONGITUDE: -121.391202

Geotechnical Feasibilty
Pacific Gateway
Tracy, California
19633.000.001

DATE DRILLED: 11/15/2021
HOLE DEPTH: Approx. 17½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS84): Approx. 145 ft.

LOGGED / REVIEWED BY: C. Johnson / SH
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY (CL), dark brown, moist, medium plasticity, 5% fine- to coarse-grained sand, <5% fine to coarse gravel												
			LEAN CLAY WITH SAND (CL), yellowish brown, hard, moist, medium plasticity, 15% fine- to coarse-grained sand, <5% coarse gravel			30								>4.5*	PP
5	140		Grades to very stiff			25									
			Grades to hard, 5% fine- to coarse-grained sand			68								>4.5*	PP
			Grades to 15% fine- to coarse-grained sand												
10	135		POORLY GRADED SAND WITH CLAY (SP-SC), yellowish brown, medium dense to dense, moist, fine- to coarse-grained sand, 10% fines, 10% fine to coarse gravel			30									
			CLAYEY SAND (SC), yellowish brown, medium dense to dense, moist, fine- to coarse-grained sand, 40% fines												
15	130		POORLY GRADED SAND WITH CLAY AND GRAVEL (SP-SC), yellowish brown, medium dense, moist, fine- to coarse-grained sand, 25% fine to coarse gravel, 5-10% fines			43								>4.5*	PP
			LEAN CLAY (CL), yellowish brown, hard, moist, medium plasticity, <5% fine- to coarse-grained sand												
			Bottom of boring at approximately 17 1/2 feet below ground surface. Groundwater not encountered during drilling.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV 1-BS.GPJ ENGEO INC.GDT 1/10/23

LOG OF BORING 1-B04

ENGEO Expect Excellence

LATITUDE: 37.657422 LONGITUDE: -121.388672

Geotechnical Feasibilty
Pacific Gateway
Tracy, California
19633.000.001

DATE DRILLED: 11/15/2021
HOLE DEPTH: Approx. 19 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS84): Approx. 156 ft.

LOGGED / REVIEWED BY: C. Johnson / SH
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
	155		SANDY LEAN CLAY (CL), dark brown, hard, moist, medium plasticity, 30% fine- to coarse-grained sand			24								>4.5*	PP
														>4.5*	PP
			LEAN CLAY WITH SAND (CL), yellowish brown, hard, moist, medium plasticity, 15% fine- to coarse-grained sand			24									
5															
	150		LEAN CLAY (CL), yellowish brown, very stiff, moist, medium plasticity, <5% fine- to coarse-grained sand			16									
10															
	145		Grades to hard, medium to high plasticity, 5% fine- to coarse-grained sand			70								>4.5*	PP
			SANDY LEAN CLAY (CL), yellowish brown, hard, moist, medium plasticity, 40% fine- to coarse-grained sand												
15						38									
	140		LEAN CLAY (CL), yellowish brown, hard, moist, medium to high plasticity, <5% fine- to coarse-grained sand			68								>4.5*	PP
			Bottom of boring at approximately 19 feet below ground surface. Groundwater not encountered during drilling.												

LOG OF BORING 1-B05

Expect Excellence

LATITUDE: 37.661565 LONGITUDE: -121.375773

Geotechnical Feasibilty
Pacific Gateway
Tracy, California
19633.000.001

DATE DRILLED: 11/15/2021
HOLE DEPTH: Approx. 20½ ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS84): Approx. 127 ft.

LOGGED / REVIEWED BY: C. Johnson / SH
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
	125		LEAN CLAY (CL), dark brown, stiff, moist, medium plasticity, 5% fine- to coarse-grained sand												
			LEAN CLAY WITH SAND (CL), yellowish brown, stiff, moist, medium plasticity, 15% fine- to coarse-grained sand			13									
5			SANDY LEAN CLAY (CL), yellowish brown, very stiff, moist, low plasticity, 30-40% fine- to coarse-grained sand												
	120					25									
			LEAN CLAY WITH SAND (CL), dark yellowish brown, very stiff, moist, medium plasticity, 15% fine- to coarse-grained sand												
10						22									
	115		LEAN CLAY (CL), dark yellowish brown, very stiff, moist, medium plasticity, <5% fine- to coarse-grained sand												
						26									
15															
						27									
			CLAYEY SAND (SC), yellowish brown, medium dense, moist, fine- to coarse-grained sand, 35% fines												
	110		LEAN CLAY (CL), yellowish brown, very stiff, moist, medium plasticity, 5% fine- to coarse-grained sand												
						25									
			SANDY LEAN CLAY (CL), yellowish brown, stiff, moist, low plasticity, 35% fine- to coarse-grained sand			18									
20			Bottom of boring at approximately 20 1/2 feet below ground surface. Groundwater not encountered during drilling.												

LOG OF BORING 1-B06

Expect Excellence

LATITUDE: 37.660573 LONGITUDE: -121.371652

Geotechnical Feasibilty
Pacific Gateway
Tracy, California
19633.000.001

DATE DRILLED: 11/15/2021
HOLE DEPTH: Approx. 15 ft.
HOLE DIAMETER: 4.0 in.
SURF ELEV (WGS84): Approx. 129 ft.

LOGGED / REVIEWED BY: C. Johnson / SH
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: 140 lb. Rope and Cathead

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			LEAN CLAY (CL), dark brown, moist, medium plasticity, <5% fine- to coarse-grained sand												
	125		SANDY LEAN CLAY (CL), yellowish brown, medium stiff, moist, low plasticity, 30% fine- to coarse-grained sand												
5						7									
	120		Grades to 35% medium- to coarse-grained sand			10									
10			Grades to 20-30% fine- to coarse-grained sand			14									
			POORLY GRADED SAND WITH CLAY (SP-SC), yellowish brown, medium dense, moist, fine- to coarse-grained sand, 10% fines												
	115		SANDY LEAN CLAY (CL), yellowish brown, stiff, moist, low plasticity, 30-40% fine- to coarse-grained sand, contains silt fines			15									
15			Bottom of boring at approximately 15 feet below ground surface. Groundwater not encountered during drilling.												

ENGEO Expect Excellence	TEST PIT LOG
Pacific Gateway Tracy, California 19633.000.001	Logged By: Jason Sedore Logged Date: November 11, 2021

Test Pit Number	Depth (feet)	Description
1-TP01	0 – 3	FAT CLAY (CH), dark grayish brown, hard (Pocket Penetrometer >4.5 tsf at 2 feet), moist, high plasticity, <15% fine- to medium-grained sand, contains gravel Bottom of test pit at approximately 3 feet below ground surface. No groundwater encountered during excavation.
1-TP02	0 – 1½ 1 ½ - 3	LEAN CLAY WITH SAND (CL), dark grayish brown mottled with brown, very stiff (Pocket Penetrometer = 3.5 tsf at 1 foot), moist, medium to high plasticity, 15-25% fine- to medium-grained sand, contains silt fines and gravel FAT CLAY (CH) very dark grayish brown, hard (Pocket Penetrometer >4.5 tsf at 2 feet), moist, high plasticity, <15% fine-grained sand Bottom of test pit at approximately 3 feet below ground surface. No groundwater encountered during excavation.
1-TP03	0 – 2 2 – 3	FAT CLAY (CH), very dark brown mottled with yellowish brown, hard (Pocket Penetrometer = 4.0 tsf at 1 foot), moist, high plasticity, <15% fine-grained sand [Undocumented Fill] FAT CLAY (CH), very dark brown, hard, moist, high plasticity, <15% fine-grained sand [Native] Bottom of test pit at approximately 3 feet below ground surface. No groundwater encountered during excavation.
1-TP04	0 – 6	SANDY LEAN CLAY (CL), grayish brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium plasticity, 30-40% fine-grained sand, contains fine gravel Grades to brown, low to medium plasticity, contains silt fines at 3½ feet Grades to yellowish brown to brown, contains carbonates at 4½ feet Bottom of test pit at approximately 6 feet below ground surface. No groundwater encountered during excavation.

ENGEO Expect Excellence	TEST PIT LOG
Pacific Gateway Tracy, California 19633.000.001	Logged By: Jason Sedore Logged Date: November 11, 2021

Test Pit Number	Depth (feet)	Description
1-TP05	0 – 3	SANDY LEAN CLAY (CL), dark grayish brown, medium to high plasticity, 30-40% fine-grained sand, <10% fine to coarse gravel, contains cobbles
	3 – 5½	SILTY GRAVEL WITH SAND (GM), brown, dense to very dense, moist, fine to coarse, subangular to to subrounded gravel, 25-35% fine- to coarse-grained sand, 15-20% fines, contains cobbles
		Bottom of test pit at approximately 5½ feet below ground surface. No groundwater encountered during excavation.
1-TP06	0 – 4	FAT CLAY (CH), very dark grayish brown, hard (Pocket Penetrometer >4.5 tsf), moist, high plasticity, <15% fine-grained sand
		Grades to brown, contains carbonates at 3 feet
	4 – 5	LEAN CLAY (CL), brown, very stiff to hard, moist, medium plasticity, <15% fine-grained sand, contains silt fines and carbonates
	5 – 5½	SANDY LEAN CLAY (CL), brown to yellowish brown, moist, medium plasticity, 30-40% fine-grained sand, contains silt fines
		Bottom of test pit at approximately 5½ feet below ground surface. No groundwater encountered during excavation.
1-TP07	0 – ⅔	SANDY LEAN CLAY (CL), dark brown with strong brown, hard, moist, medium plasticity, 30-40% fine- to coarse-grained sand, contains debris [Undocumented Fill]
	⅔ – 2½	FAT CLAY (CH), brown mottled with grayish brown, hard (Pocket Penetrometer >4.5 tsf), moist, high plasticity, <15% fine-grained sand [NATIVE]
	2½ – 4	LEAN CLAY WITH SAND (CL), brown, very stiff (Pocket Penetrometer = 3.5 to 4.0 tsf), moist, medium plasticity, 15-25% fine-grained sand, contains silt fines
	4 – 6½	SANDY LEAN CLAY (CL), brown, very stiff (Pocket Penetrometer = 3.75 to 4.0 tsf), moist, medium plasticity, 30-40% fine-grained sand, contains silt fines
		Bottom of test pit at approximately 6½ feet below ground surface. No groundwater encountered during excavation.

ENGEO Expect Excellence	TEST PIT LOG
Pacific Gateway Tracy, California 19633.000.001	Logged By: Jason Sedore Logged Date: November 11, 2021

Test Pit Number	Depth (feet)	Description
1-TP08	0 – 1	FAT CLAY WITH SAND (CH), very dark grayish brown, very stiff (Pocket Penetrometer = 3.5 to 4.0 tsf), moist, high plasticity, <15% fine-grained sand, <15% fine gravel [Undocumented Fill]
	1 – 4	FAT CLAY (CH), very dark brown to very dark grayish brown, very stiff (Pocket Penetrometer = 3.0 tsf), moist, high plasticity, <15% fine-grained sand [Native] Grades to hard at 3½ feet (Pocket Penetrometer >4.5 tsf)
	4 – 5	LEAN CLAY WITH SAND (CL), brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium to high plasticity, 15-25% fine-grained sand
	5 – 6½	SANDY LEAN CLAY (CL), brown to yellowish brown, moist, medium plasticity, 30-40% fine-grained sand, contains silt fines and carbonates Bottom of test pit at approximately 6½ feet below ground surface. No groundwater encountered during excavation.
1-TP09	0 – ½	SANDY LEAN CLAY (CL), dark grayish brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium plasticity, 30-40% fine- to coarse-grained sand, contains gravel [Undocumented Fill]
	½ - 4½	SANDY LEAN CLAY (CL), dark grayish brown, hard (Pocket Penetrometer 4.0 to 4.5 tsf), moist, medium plasticity, 30-40% fine-grained sand, contains silt fines Graded to brown, very stiff (Pocket Penetrometer = 3.0 tsf), contains carbonates at 4 feet Bottom of test pit at approximately 4½ feet below ground surface. No groundwater encountered during excavation.

ENGEO Expect Excellence	TEST PIT LOG
Pacific Gateway Tracy, California 19633.000.001	Logged By: Jason Sedore Logged Date: November 11, 2021

Test Pit Number	Depth (feet)	Description
1-TP10	0 – ¾	FAT CLAY WITH SAND (CH), dark brown, hard (Pocket Penetrometer >4.5 tsf), moist, high plasticity, 10-20% fine- to medium-grained sand, <10% fine gravel
	¾ – 3½	FAT CLAY (CH), dark brown mottled with brown, hard (Pocket Penetrometer >4.5 tsf), moist, high plasticity, <15% fine-grained sand, contains carbonates
	3½ – 4	SANDY LEAN CLAY (CL), brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium plasticity, 30-40% fine-grained sand
	4 – 5	SILTY SAND (SM), brown, moist, fine-grained sand, 25-35% fines
		Bottom of test pit at approximately 5 feet below ground surface. No groundwater encountered during excavation.
1-TP11	0 – 1	FAT CLAY WITH SAND (CH), dark grayish brown, very stiff to hard (Pocket Penetrometer = 4.0 to 4.5 tsf), moist, high plasticity, <15% fine- to coarse-grained sand, 5-10% fine gravel [UNDOCUMENTED FILL]
	1 – 2	FAT CLAY (CH), dark grayish brown, very stiff to hard (Pocket Penetrometer = 4.0 tsf), moist, high plasticity, <15% fine- to coarse-grained sand [NATIVE]
	2 – 3½	LEAN CLAY WITH SAND (CL), brown mottled with dark brown, very stiff to hard (Pocket Penetrometer = 3.5 to 4.5 tsf), moist, 15-25% fine-grained sand, contains silt fines
	3½ – 5	SANDY LEAN CLAY (CL), yellowish brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium plasticity, 30-40% fine-grained sand, contains silt fines and carbonates
		Bottom of test pit at approximately 5 feet below ground surface. No groundwater encountered during excavation.

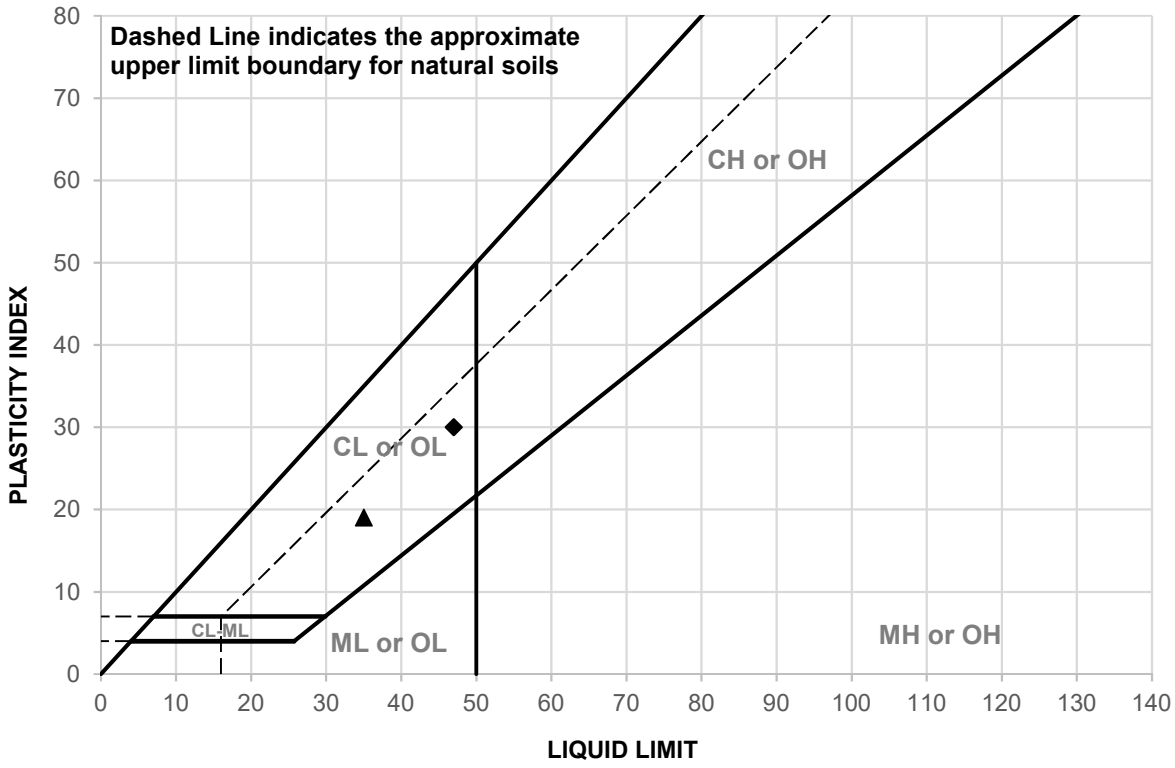
ENGEO Expect Excellence	TEST PIT LOG
Pacific Gateway Tracy, California 19633.000.001	Logged By: Jason Sedore Logged Date: November 11, 2021

Test Pit Number	Depth (feet)	Description
1-TP12	0 – 2	SANDY LEAN CLAY (CL), brown to grayish brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium plasticity, 30-40% fine- to coarse-grained sand, <10% gravel [UNDOCUMENTED FILL]
	2 – 4½	SANDY LEAN CLAY (CL), brown to grayish brown, hard (Pocket Penetrometer >4.5 tsf), moist, medium plasticity, 30-40% fine- to medium-grained sand, trace gravel [NATIVE] Grades to brown with silt fines at 3¾ feet Bottom of test pit at approximately 4½ feet below ground surface. No groundwater encountered during excavation.
1-TP13	0 – 1	FAT CLAY (CH), very dark brown, hard (Pocket Penetrometer >4.5 tsf), moist, high plasticity, <15% fine- to coarse-grained sand, trace gravel [UNDOCUMENTED FILL]
	1 – 2	FAT CLAY (CH), very dark brown, hard (Pocket Penetrometer >4.5 tsf), moist, high plasticity, <15% fine- to coarse-grained sand, trace gravel [NATIVE]
	2 – 5	LEAN CLAY (CL), yellowish brown, very stiff to hard (Pocket Penetrometer = 3.0 to 4.0 tsf), moist, medium plasticity, contains carbonates Grades to brown at 4 feet Bottom of test pit at approximately 5 feet below ground surface. No groundwater encountered during excavation.
1-TP14	0 – 5	LEAN CLAY (CL), dark brown, moist, medium plasticity, <5% fine- to coarse-grained sand Grades to dark yellowish brown at 2½ feet
	5 – 7	SANDY SILT (ML), yellowish brown, moist, low plasticity, 20-30% fine- to coarse-grained sand Bottom of test pit at approximately 7 feet below ground surface. No groundwater encountered during excavation.

ENGEO Expect Excellence	TEST PIT LOG
Pacific Gateway Tracy, California 19633.000.001	Logged By: Jason Sedore Logged Date: November 11, 2021

Test Pit Number	Depth (feet)	Description
1-TP15	0 – 5½	LEAN CLAY (CL), dark brown, moist, medium plasticity, <5% fine- to coarse-grained sand Grades to dark yellowish brown, 10% fine- to coarse-grained sand at 3½ feet
	5½ – 8	SANDY SILT (ML), yellowish brown, moist, low plasticity, 30-40% fine- to coarse grained sand Bottom of test pit at approximately 8 feet below ground surface. No groundwater encountered during excavation.

LIQUID AND PLASTIC LIMITS TEST REPORT
ASTM D4318



SAMPLE ID	DEPTH (ft)	MATERIAL DESCRIPTION	LL	PL	PI
1-TP09 @ 1'	1 foot	See exploration logs	35	16	19
1-TP13 @ 1'	1 foot	See exploration logs	47	17	30

SAMPLE ID	TEST METHOD	REMARKS
1-TP09 @ 1'	PI: ASTM D4318, Wet Method	
1-TP13 @ 1'	PI: ASTM D4318, Wet Method	

ENGEO
Expect Excellence

CLIENT: Ridgeline Property Group
PROJECT NAME: Pacific Gateway
PROJECT NO: 19633.000.001 PH001
PROJECT LOCATION: Tracy, CA
REPORT DATE: 11/18/2021
TESTED BY: D. Bryant
REVIEWED BY: K. Lecce

ENGEO

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