GEOTECHNICAL EXPLORATION, PROPOSED APPROXIMATELY 450-ACRE INDUSTRIAL PARK WAREHOUSE DEVELOPMENT, SOUTH OF AIR BASE ROAD AND EAST OF ADELANTO ROAD, ASSESSOR'S PARCEL NUMBERS (APNS) 0459-451-51 THROUGH 62, 0459-841-01 THROUGH 15, AND 0459-841-18, CITY OF ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Prepared For

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Project No. CLC000RC23280

February 5, 2024

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February 5, 2024

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Mileski Living Trust
1971 W 190th Street
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Attention: Dave Mileski, Trustee

Subject: Geotechnical Exploration Proposed Approximately 450-Acre Industrial Park Warehouse Development, South of Air Base Road and East of Adelanto Road, Assessor's Parcel Numbers (APNs) 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18, City of Adelanto, San Bernardino County, California

In accordance with your authorization, Leighton Consulting, Inc. (Leighton) has conducted geotechnical exploration for the proposed industrial park warehouse development within Assessor's Parcel Numbers (APNs) 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18, located in the City of Adelanto, San Bernardino County, California. The project site is currently undeveloped and has an area of approximately 450 acres. The proposed development includes seven (7) warehouse buildings. Existing unpaved roadways are located between the proposed warehouses. The purpose of this study has been to collect surface and subsurface geotechnical data at the site with regards to the proposed development, to evaluate the proposed development with respect to site geotechnical conditions, and to provide geotechnical recommendations for design and construction.

Based on our geotechnical exploration, construction of the proposed warehouse development is feasible from a geotechnical standpoint. The most significant geotechnical issues at the site are those related to the potential for strong seismic shaking and potentially near-surface compressible soils. Good planning and design of the project can limit the impact of these constraints. This report presents our findings, conclusions, and geotechnical recommendations for the project.

We appreciate the opportunity to work with you on the development of this project. If you have any questions regarding this report, please call us at your convenience.



Respectfully submitted,
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1.0 INTRODUCTION

1.1 Site Location and Description

The site is approximately 450 acres in area. The irregular-shaped site is located south of Air Base Road, east of Adelanto Road, north of Powerline Road and existing industrial developments, and west of a federal correctional institution, in the City of Adelanto, San Bernardino County, California. The project is within Assessor's Parcel Numbers (APNs) 0459-451-51 through -62, 0459-841-01 through -15, and 0459-841-18.

These parcels contain undeveloped, relatively flat terrain, covered with sparse vegetation. Based on our review of available historical aerial imagery, the area has been undeveloped since 1952, with the surrounding developments nearby being constructed sometime between 1985 and 1994.

Based on the Preliminary Grading Plans prepared by Blue Engineering and Consulting, Inc., dated January 4, 2024, existing site elevations (El.) range from approximate El. 2,920 feet above mean sea level (msl) at the southeast portion of the site to approximately El. 2,895 msl at the northwest portion of the site. The site is relatively flat overall, with local variations in topography from channels and bars typical of alluvial fans.

1.2 Proposed Development

Our understanding of this project is based on email correspondence with Jessica Haughton from Synergy Consulting on August 11, 2023, the proposed *Adelanto Industrial Park* site plan (version 2) prepared by SKH dated September 15, 2023, and the preliminary grading plans prepared by Blue Engineering & Consulting, Inc., dated January 4, 2024. Based on these, we understand that the proposed approximately 450-acre development consists of seven (7) new proposed warehouse buildings (Buildings 1 through 7) with building footprints ranging between 195,391 to 1,574,820 square feet (SF). Building 1 located towards the northwest end of the site adjacent to Adelanto Road has a planned footprint of 195,391 SF, while the rest of the warehouse buildings range between 1,145,728 SF to 1,574,820 SF.

The proposed warehouse building footprints are approximately rectangular in shape, with loading docks on the north and south of each building. The site plan displays various infiltration basins, primarily located north and south of each building. Also planned are drive isles, truck docking areas, parking areas, landscaping, and utilities.

Based on the provided preliminary grading plans, we understand that earthwork to meet proposed warehouse building pad grades range from cuts of approximately 5 feet to fills of approximately 9 feet from existing ground surface. Significant retaining walls are not anticipated based on the preliminary grading plans. Open infiltration basins are planned throughout the development, with basin bottom depths ranging from approximately 5 to 12 feet below existing grade. Structural loading was not available for our review during this time. We anticipate that the warehouses will be composed of concrete tilt-up walls of loading typical for standard warehouse buildings.

1.3 Previous Work

We were provided a copy of the *Environmental Impact Report (EIR) Package (Sch. No. 2008071129)* prepared by RBF Consulting dated January 2009 for a former proposed development at this site (RBF, 2009). A geotechnical investigation report for the then-proposed project at the site prepared by Norcal Engineering (Norcal) dated August 15, 2007 was included in the EIR package; that geotechnical investigation included thirty-eight (38) backhoe test pits and forty-two (42) hand auger borings, however a geotechnical exploration map showing the locations of the previous exploration was not available. Based on the field investigation by Norcal, disturbed topsoil (undocumented artificial fill) was encountered within the upper 12 to 18 inches below ground surface (bgs) consisting of silty sands with gravel and roots. Native soils were noted to primarily consist of clayey sands and silty sands. Groundwater was not encountered in any of the test excavations. Norcal reported that the proposed warehouse development was acceptable from a geotechnical standpoint. Earthwork recommendations included soil removal and replacement to accommodate a minimum 3 feet of compacted fill below proposed building foundations.

1.4 Purpose of Investigation

The purpose of this study has been to evaluate the geotechnical conditions of the property with respect to the proposed development and to provide geotechnical recommendations for design and construction of the development.

1.5 Scope of Investigation

Our geotechnical exploration included hollow-stem auger soil borings, infiltration testing, laboratory testing, surface geologic mapping, seismic refraction surveys, and geotechnical analysis to evaluate existing geotechnical conditions and to develop the conclusions and recommendations contained in this report. The scope of our study has included the following tasks:

- Background Review: We reviewed available, relevant geotechnical and geologic maps and reports and aerial photographs available from our in-house library, available online, or those provided by you.

- Utility Coordination: We contacted Dig Alert (811) prior to excavating borings so that utility companies could mark public utilities onsite. We coordinated our work with you and a site representative.

- Field Exploration: A total of seventy-five (75) hollow-stem auger borings (LB 1-1 through LB 7-10, and LI-1 through LI-12) were logged and sampled onsite on October 26, 2023 through November 8, 2023, to evaluate subsurface conditions. These borings were drilled by a subcontracted truck-mounted drill rig to depths ranging from approximately 8 to 51½ feet bgs. Relatively undisturbed soil samples were obtained at select intervals within the borings using a Modified California split-barrel sampler lined with rings. Standard Penetration Tests (SPT) were conducted at select depths and samples were obtained at those intervals. Representative bulk soil samples were also collected at shallow depths from the borings.

  Excavations were backfilled with onsite soil cuttings generated from drilling activities. Logs of the geotechnical borings are presented in Appendix B. Approximate boring locations are shown on the accompanying Figure 2, *Exploration Location Map*.

We conducted well permeameter tests at twelve locations (LI-1 through LI-12) to evaluate general infiltration rates of the subsurface soils at the depth and location tested. Well permeameter test locations were adjusted based on equipment access. The well permeameter tests were conducted based on the USBR 7300-89 method and in general accordance with San Bernardino County guidelines. Tests consisted of constant head infiltration using a water truck to transport water to each test location. A 2-inch diameter slotted PVC pipe was used within each boring, with sand backfilled around the pipe within the test zone. The tests were conducted at depths ranging from 8 to 15 feet bgs. Infiltration test logs are included in Appendix B.

Multichannel Analysis of Surface Wave (MASW) geophysical surveys were performed along three arrays located within the site to evaluate the Shear Wave Velocity (V_s) distribution within the subsurface strata for the purposes of site characterization.

- Geotechnical Laboratory Testing: We conducted geotechnical laboratory tests on selected relatively undisturbed and bulk soil samples obtained during our field investigation. This laboratory testing program was designed to evaluate engineering characteristics of site soils. Laboratory tests conducted during this investigation include:

  - Maximum dry density and optimum moisture content
  - In situ moisture content and density
  - Sieve analysis for grain-size distribution
  - Expansion Index
  - Atterberg Limits
  - Direct Shear
  - Collapse/ swell-settlement
  - R-Value
  - Water-soluble sulfate concentration in the soil
  - Resistivity, chloride content and pH

  Laboratory tests are provided in Appendix C, Laboratory Test Results.

- Engineering Analysis: Data obtained from our background review, along with data from our field exploration and geotechnical laboratory testing was evaluated and analyzed to develop geotechnical conclusions and provide preliminary recommendations presented in this report.

- Report Preparation: Results of our geotechnical exploration have been summarized in this report, presenting our findings, conclusions and preliminary geotechnical recommendations for design and construction of the proposed development.

2.0 FINDINGS

2.1 Regional Geologic Conditions

The site is located in the western Mojave Desert, in San Bernardino County California, and is part of the Mojave Desert geomorphic province, a broad interior region of isolated mountain ranges separated by broad desert plains and deep alluvial valleys. The Mojave province is wedged and rotates between the Garlock fault (southern boundary of the Sierra Nevada) and the San Andreas fault, where it bends northerly from its northwest trend.

The geology of the region consists primarily of Quaternary-age alluvial deposits, with sediments derived from surrounding mountain ranges. The site is underlain by alluvial sediments of tributaries to the Mojave River, consisting of loose to well-consolidated fine to coarse-grained sand, silt, and gravel. Figure 3, *Regional Geology Map*, presents the site location in relation to the predominate geologic materials (alluvium) of the area. Figure 4, *Regional Fault and Historical Seismicity Map*, presents the site location in relation to active faults and epicenters of relatively large (> M_w 4.0) historical earthquakes.

2.2 Subsurface Soil Conditions

Based upon our review of pertinent geotechnical literature and our subsurface exploration, the site is underlain by Quaternary alluvium (Qa) (see Figure 3, *Regional Geology Map*). Encountered near-surface soils generally consisted of poorly graded sands (SP), poorly graded sands with silt (SP-SM), and silty sands (SM).

Alluvial soils encountered generally consisted of Silty Sand (SM), Sand with Silt (SP-SM), and Sands (SP) down to approximately 20 feet below ground surface (bgs), with a few samples containing an estimated 5 to 20 percent gravel. From 20 feet to 50 feet bgs, the soils encountered were predominantly fine-grained (mostly silts and sandy silts), with interbedded layers of coarse-grained soils (sands to silty sands). The soil profile observed was relatively consistent across the project site. Undocumented artificial fill was not observed at the site. Multiple samples throughout the site were slightly cemented from carbonates, which is common in arid environments. Alluvial soils encountered generally had a medium dense to very dense (mostly very dense) consistency for coarse-grained soils, and

stiff to hard for fine-grained soils based on field Standard Penetration Test (SPT) blow counts.

2.2.1 Compressible and Collapsible Soil

Soil compressibility refers to a soil's potential for settlement when subjected to increased loads as from a fill surcharge. Based on this study, the upper portion of alluvial soils are considered moderately compressible. Complete removal of undocumented fill (if encountered) and partial removal of near surface alluvium will be needed to reduce the potential for adverse total and differential settlement of the proposed improvements.

Collapse potential refers to the potential settlement of a soil under existing stresses upon being wetted. Laboratory tests performed on representative soil samples did not indicate significant collapse. Soil collapse and consolidation are not a significant issue considering the dense, granular nature of the on-site soils.

2.2.2 Expansive Soils

Expansive soils contain significant amounts of clay particles that swell considerably when wetted and shrink when dried. Foundations constructed on these soils are subjected to large uplifting forces caused by the swelling. Without proper measures taken, heaving and cracking of building foundations and slabs-on-grade could result.

Near-surface soils in our exploratory borings predominately consisted of granular silty sand soils, although select locations encountered sandy clays in the upper 5 feet.

Expansion index (EI) tests performed on near-surface representative soil samples and resulted in a value of 11 to 24. Based on the laboratory test result, the predominantly coarse-grained nature of encountered near-surface soils, and our experience with similar sites, the onsite soils are considered to have "very low" to " low" expansion potential.

2.2.3 Sulfate Content

Water-soluble sulfates in soil can react adversely with concrete. However, concrete in contact with soil containing sulfate concentrations of less than 0.1 percent by weight is considered to have negligible sulfate exposure based on American Concrete Institute (ACI) provisions, adopted by the 2022 CBC (CBC, 2022, Chapter 19, and ACI 318, 2014).

Six (6) near-surface soil samples throughout the project site were tested for soluble sulfate content, yielding sulfate contents of less than 0.01 percent by weight. Based on the current laboratory test results, the sulfate content of onsite soils is anticipated to be negligible (Exposure Class S0). Recommendations for concrete in contact with the soil are provided in Section 3.11.

2.2.4 Resistivity, Chloride and pH

Soil corrosivity to ferrous metals can be estimated by the soil's electrical resistivity, chloride content and pH. In general, soil having a minimum resistivity less than 1,000 ohm-cm is considered severely corrosive. Soil with a chloride content of 500 parts-per-million (ppm) or more is considered corrosive to ferrous metals.

As a screening for potentially corrosive soil, six (6) representative soil samples were tested to determine minimum resistivity, chloride content, and pH. The tests indicated a minimum resistivity ranging from 2,100 to of 3,990 ohm-cm, chloride content of 140 to 420 ppm, and pH of 7.8 to 8.2. Based on these results, the onsite soil is considered to be moderately corrosive.

2.3 Groundwater

Groundwater was not encountered within our exploratory borings to a maximum depth of approximately 51 feet bgs performed between October 26, 2023, and November 8, 2023.

Review *of California Department of Water Resources Groundwater Wells* indicated from multiple wells surrounding the site that groundwater depths were deeper than 100 feet bgs during the period of groundwater measurements from 1915 to 1958 and 1995 to 2016.

Based on our review of available groundwater data, groundwater is not a significant constraint for this project.

2.3.1 Regional Subsidence

Regional ground subsidence generally occurs due to rapid and intensive removal of subterranean fluids, typically water or oil. It is generally attributed to the consolidation of sediments as the fluid in the sediment is removed. The total load of the soils in partially saturated or saturated deposits is born by their granular structure and the fluid. When the fluid is removed, the load is born by the sediment alone and it settles.

The project site has been mapped by the U.S. Geological Society (2022) to be outside of an area of land subsidence from removals of significant quantities of water, peat, or oil extraction in the area. Based on this and no known reports indicating land subsidence of the site's area, the potential for significant ground subsidence is considered very low and less than a significant impact.

2.4 Faulting and Seismicity

In general, primary seismic hazards for sites in the region include surface rupture along active faults and strong ground shaking. The potential for fault rupture and seismic shaking are discussed below.

2.4.1 Surface Faulting

Based on our review of available fault maps, no active faults appear to have been mapped on or trending towards the site. The closest mapped active or potentially active faults are presented in the following table.

Table 1. Fault and Distance to Site

Fault Name	Approximate Distance from Site
Mirage Valley fault	8.7 miles to the northwest
Helendale-South Lockhart fault zone	12.2 miles to the northeast
North Frontal thrust	14.3 miles to the southeast
Blake Ranch fault	14.5 miles to the northwest
San Andreas fault	19.2 miles to the southwest

Based on our understanding of the current geologic framework, the potential for future surface rupture of active faults onsite is considered very low.

2.4.2 Seismic Design Parameters

The site is anticipated to experience strong ground shaking during the life of the project resulting from an earthquake occurring along one or more of the major active or potentially active faults in southern California. Accordingly, the project should be designed in accordance with applicable current codes and standards utilizing the appropriate seismic design parameters to reduce seismic risk as defined by California Geological Survey (CGS) Chapter 2 of Special Publication 117a (CGS, 2008). Through compliance with these regulatory requirements and the utilization of appropriate seismic design parameters selected by the design professionals, potential effects relating to seismic shaking can be reduced.

The following seismic parameters should be considered for design under the 2022 edition of the California Building Code (CBC). The following table lists seismic design parameters based on the 2022 CBC and ASCE 7-16 methodology:

Table 2. 2022 CBC Site-Specific Seismic Parameters

Site Seismic Coefficients / Coordinates			Value (g)
	Latitude: 34.568	Longitude: -117.386	
Site-Specific Analysis (ASCE 7-16)	Spectral Response – Class C (short), S_S		1.10
	Spectral Response – Class C (1 sec), S_1		0.43
	Site Modified Peak Ground Acceleration, PGA_M		0.57
	Max. Considered Earthquake Spectral Response Acceleration (short), S_{MS}		1.39
	Max. Considered Earthquake Spectral Response Acceleration – (1 sec), S_{M1}		0.95
	5% Damped Design Spectral Response Acceleration (short), S_{DS}		0.93
	5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}		0.63
	Maximum Considered Earthquake Geometric Mean MCE_G PGA		0.47

The project structural engineer should review the seismic parameters. Site-specific analyses are presented in Appendix D.

As an added check, hazard deaggregation was estimated using the USGS Interactive Deaggregations utility using a Site Class C/D boundary. The results of this analysis indicate that the predominant modal earthquake has a magnitude of approximately 7.9 (M_W) at a distance on the order of 32 kilometers for the Maximum Considered Earthquake (2% probability of exceedance in 50 years), with a corresponding peak ground acceleration of 0.58g.

2.4.5 Site Class

Geophysical survey lines (Arrays 1, 2, and 3) utilizing Multi-channel Analysis of Surface Wave (MASW) methodology were performed towards the western, central, and eastern portions of the site (line locations shown in Figure 2) and yielded a weighted average shear wave to a depth of 100 feet (V_{S100ft}) of 1,191 ft/s to 1,249 ft/s. Two of the three arrays resulted in average shear waves greater than 1,200 ft/s, indicating Site Class C per ASCE 7-16 *Table 20.3-1 Site Classification*.

In addition, we performed an analysis with field Standard Penetration Blowcounts (SPT) from the geotechnical borings that extended to a

maximum depth of 50 feet, which yielded a weighted average N-Value of approximately 63 (with blowcount assumptions for soils below 50 feet). Therefore, based on the criteria in the 2022 CBC and ASCE 7-16, the site is classified as Site Class C, *very dense soil and soft rock*. A summary of Site Class evaluation is included in Appendix D. Geophysical survey data is included in Appendix E.

2.5 Secondary Seismic Hazards

In general, secondary seismic hazards for sites in the region could include soil liquefaction, earthquake-induced settlement, lateral displacement, landslides, and earthquake-induced flooding. The potential for secondary seismic hazards at the site is discussed below.

2.5.1 Liquefaction Potential

Liquefaction is the loss of soil strength due to a buildup of excess pore-water pressure during strong and long-duration ground shaking. Liquefaction is associated primarily with loose (low density), saturated, relatively uniform fine- to medium-grained, clean cohesionless soils. As shaking action of an earthquake progresses, soil granules are rearranged, and the soil densifies within a short period. This rapid densification of soil results in a buildup of pore-water pressure. When the pore-water pressure approaches the total overburden pressure, soil shear strength reduces abruptly and temporarily behaves similar to a fluid. For liquefaction to occur there must be:

(1) loose, clean granular soils,
(2) shallow groundwater, and
(3) strong, long-duration ground shaking

The State of California has not evaluated the property for liquefaction hazards. The site is outside of a zone of liquefaction susceptibility based on mapping from the San Bernardino County General Plan (San Bernardino, 2009).

Due to the dense nature of the granular soils encountered and lack of shallow groundwater, liquefaction is not a significant hazard at this site.

2.5.2 Seismically Induced Settlement

During a strong seismic event, seismically induced settlement can occur within loose to moderately dense, dry or saturated granular soil. Settlement caused by ground shaking is often nonuniformly distributed, which can result in differential settlement.

We have performed analyses to estimate the potential for seismically induced settlement using the method of Tokimatsu and Seed (1987), and based on Martin and Lew (1999), considering the maximum considered earthquake (MCE) peak ground acceleration (PGA_M). Design/historic high groundwater levels of 100 feet below ground surface were used in the analysis. Based on our preliminary analysis, a potential for approximately 1.9 inches of seismic settlement is estimated at the site. Seismic settlement within the upper 40 feet is generally negligible (less than ½ inch). The seismic settlement is primarily due to a relatively loose granular layer encountered consistently in our borings at a depth of approximately 45 feet bgs. Results of our seismic settlement analysis is presented in Appendix D.

If the potential differential settlement is estimated as half of the total seismic settlement over a horizontal distance of 30 feet, this would result in a maximum 1-inch differential settlement in 30 feet, or angular distortion of 0.0027L. The structural engineer should determine Structure Type and Risk Category and evaluate whether the differential settlement estimates described above are tolerable. A copy of ASCE 7-16 Table 12.13-3 is provided as follows for reference.

Table 12.13-3 Differential Settlement Threshold

Structure Type	Risk Category		
	I or II	III	IV
Single-story structures with concrete or masonry wall systems	0.0075L	0.005L	0.002L
Other single-story structures	0.015L	0.010L	0.002L
Multistory structures with concrete or masonry wall systems	0.005L	0.003L	0.002L
Other multistory structures	0.010L	0.006L	0.002L

2.5.3 Lateral Spread

Lateral spread is liquefaction-induced lateral ground movement limited to only a few feet, and, thus, smaller than flow failures. A consideration in lateral spread analysis is to evaluate whether laterally continuous liquefiable layers exist. Due to the lack of shallow groundwater (≤50 feet bgs), lateral spread is considered to be less than significant.

2.5.4 Flow Failures

Based on $(N_1)_{60}$ values from the borings, lack of liquefiable soils, and the relatively flat nature of the site, the site is not considered susceptible to flow slides (large transitional or rotational failures).

2.6 Infiltration Testing

Twelve (12) well permeameter tests (LI-1 through LI-12) were conducted to estimate the infiltration rate at specific locations of the site. Tests LI-1 and LI-2 were located directly north of Building 2; tests LI-3 and LI-4 were located just north of Building 3; tests LI-5 and LI-6 were located just north of Building 4; tests LI-7 and LI-8 were located just north of Building 5; LI-9 was located northwest of Building 6; LI-10 was located northeast of Building 6; LI-11 was located northwest of Building 7; and LI-12 was located directly southwest of Building 7. The locations and depths of the infiltration tests are based on the approximate locations and depths of the proposed infiltration facilities, which you have provided. Tests were performed at different depths to evaluate the differing conditions of subsurface soils. The well permeameter tests were conducted inside the drilled borings at depths of approximately 8, 10, and 15 feet bgs.

A well permeameter test is useful for field measurements of soil infiltration rates, and is suited for testing when the design depth of the basin or chamber is deeper than current existing grades. The test consists of excavating a boring to the depth of the test zone. A layer of clean sand is placed in the boring bottom to support temporary perforated well casing pipe. In addition, sand is poured around the outside of the well casing within the test zone to prevent the boring from caving/collapsing or eroding when water is added. The volume of water percolated during timed intervals is converted into an incremental infiltration rate, which is defined as flow divided by infiltration surface area, in inches per hour. The test was conducted based on the USBR 7300-89 test method.

Small-scale infiltration rates as summarized in the following table. Results of the infiltration testing are provided in Appendix B, and summarized in the table below.

Table 3. Infiltration Test Data

Boring	Test Depth (ft)	Soil Classification (percent fines)	Raw Infiltration Rates (in./hr) [1]
LI-1	3 to 8	Poorly Graded Sand (4% fines)	81
LI-2	10 to 15	Silty Sand (25-30% fines)	3
LI-3	3 to 8	Well Graded Sand w/ Silt and Gravel (6% fines)	53
LI-4	10 to 15	Well Graded Sand w/ Silt and Gravel (10% fines) and Sandy Lean Clay (58% fines)	9.7
LI-5	3 to 8	Well Graded Sand w/ Silt (5% fines)	94
LI-6	10 to 15	Well Graded Sand (5% fines) and Silty Sand (12% fines)	70
LI-7	10 to 15	Poorly Graded Sand w/ Silt (11% fines)	58
LI-8	3 to 8	Poorly Graded Sand w/ Silt (6% fines) and Silty Sand (20% fines)	38
LI-9	3 to 8	Poorly Graded Sand (4% fines)	85
LI-10	5 to 10	Well Graded Sand w/ Silt (6% fines)	50
LI-11	3 to 8	Poorly Graded Sand w/ Silt (9% to 5% fines)	80
LI-12	10 to 15	Well Graded Sand w/ Silt (6% fines)	68

[1] Factor of Safety should be applied to raw rates

As shown in the table above, the infiltration tests generally yielded relatively high infiltration rates. In general, raw infiltration rates were greater than 38 inches per hour, with the exception of tests LI-2 and LI-4 tested at depths of 10 to 15 feet bgs.

At these two test areas, the soils were fine grained (silts and clays) with some sand layers. In general, infiltration is considered feasible at this site. Infiltration recommendations are included in Section 3.7 of this report.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on this study, construction of the proposed warehouse development is feasible from a geotechnical standpoint. No severe geologic or soils related issues were identified that would preclude development of the site for the proposed warehouses. The most significant geotechnical issues at the site are those related to the potential for strong seismic shaking and potentially compressible soils in the near-surface. Good planning and design of the project can limit the impact of these constraints. Remedial recommendations for these and other geotechnical issues are provided in the following sections.

Compressible undocumented fill (if encountered) should be completely removed and properly compacted during earthwork construction. Localized exposures of encountered fill material can be evaluated during grading on a case-by-case basis, and may be left in place if documentation is available and the material appears to be competent based on our field evaluation.

3.1 General Earthwork and Grading

All grading should be performed in accordance with the General Earthwork and Grading Specifications presented in Appendix F, unless specifically revised or amended below or by future recommendations based on final development plans.

3.1.1 Site Preparation

Prior to construction, the site should be cleared of debris, which should be disposed of offsite. Any underground obstructions should be removed. Resulting cavities should be properly backfilled and compacted. Efforts should be made to locate existing utility lines. Those lines should be removed or rerouted if they interfere with the proposed construction, and the resulting cavities should be properly backfilled and compacted.

3.1.2 Removal of Uncontrolled Artificial Fill

Prior to overexcavation and recompaction of the onsite alluvial soil, any uncontrolled artificial fill should be removed and may be reused as compacted fill for the project, provided any oversized rock is suitably handled and any deleterious materials are removed from the site.

3.1.3 Overexcavation and Recompaction

To reduce the potential for adverse total and differential settlement of the proposed structures, the underlying subgrade soil should be prepared in such a manner that a uniform response to the applied loads is achieved.

All undocumented artificial fill (if encountered) within proposed building pads should be removed. Due to the potential for near-surface compressive soils observed in our borings, we recommend that onsite soils in the proposed building pad area, site walls taller than 8 feet, and retaining walls taller than 3 feet, be overexcavated to a depth of 3 feet bgs, or a depth of 2 feet below the bottoms of proposed footings, whichever is deeper.

Where possible, the removal bottom should extend horizontally a minimum of 5 feet from the outside edges of the building footprint and footings (including columns connected to the buildings), or a distance equal to the depth of overexcavation below the footings, whichever is farther. Where this is not achievable, this should be reviewed on a case-by-case basis.

During overexcavation, the soil conditions should be observed by Leighton to further evaluate these recommendations based on actual field conditions encountered. A firm removal bottom should be established across the building footprint to provide uniform foundation support for the proposed structure. Leighton should observe and test the removal bottom prior to placing fill. Deeper overexcavation and recompaction may be recommended locally until a firm removal bottom is achieved.

Areas outside of proposed structures and planned for new asphalt or concrete pavement (such as parking areas or fire lanes), flatwork (such as sidewalks), site walls up to 8 feet tall and retaining walls retaining up to 3 feet of soil, areas to receive fill, and other improvements, should be overexcavated to a minimum depth of 2 feet below existing grade or 18 inches below proposed subgrade (including the footing subgrade for walls), whichever is deeper.

After completion of the overexcavation, and prior to fill placement, the exposed surfaces should be scarified to a minimum depth of 6 inches, moisture conditioned to or slightly above optimum moisture content, and

recompacted to a minimum 90 percent relative compaction, relative to the ASTM D1557 laboratory maximum density.

3.1.4 Fill Placement and Compaction

Onsite soil to be used for compacted structural fill should also be free of organic material debris and oversized material (greater than 8 inches in largest dimension). Any soil to be placed as fill, whether onsite or imported material, should be reviewed and possibly tested by Leighton.

All fill soil should be placed in thin, loose lifts, moisture conditioned, as necessary to at least 2 percentage points above optimum moisture content and compacted to a minimum 90 percent relative compaction. However, the upper 18 inches of fill under the building pads should be compacted to a minimum of 95 percent relative compaction. Relative compaction should be determined in accordance with ASTM Test Method D1557. Aggregate base for pavement should be compacted to a minimum of 95 percent relative compaction.

3.1.5 Import Fill Soil

Import soil to be placed as fill should be geotechnically accepted by Leighton. Preferably at least 3 working days prior to proposed import to the site, the contractor should provide Leighton pertinent information of the proposed import soil, such as location of the soil, whether stockpiled or native in place, and pertinent geotechnical reports if available. We recommend that a Leighton representative visit the proposed import site to observe the soil conditions and obtain representative soil samples. Potential issues may include soil that is more expansive than onsite soil, soil that is too wet, soil that is too rocky or too dissimilar to onsite soils, oversize material, organics, debris, etc.

3.1.6 Shrinkage and Subsidence

The change in volume of excavated and recompacted soil varies according to soil type and location. This volume change is represented as a percentage increase (bulking) or decrease (shrinkage) in volume of fill after removal and recompaction. This value does not factor in removal of debris

or other materials. Subsidence occurs as in-place soil (e.g., natural ground) is moisture-conditioned and densified to receive fill, such as in processing an overexcavation bottom. Subsidence is in addition to shrinkage due to recompaction of fill soil. Field and laboratory data used in our calculations included laboratory-measured maximum dry densities for soil types encountered at the subject site, the measured in-place densities of soils encountered and our experience. We preliminarily estimate the following earth volume changes will occur during grading:

Table 4. Estimated Shrinkage and Subsidence

Shrinkage	Approximately 8 +/- 3 percent
Subsidence (overexcavation bottom processing)	Approximately 0.15 foot

The level of fill compaction, variations in the dry density of the existing soils and other factors influence the amount of volume change. Some adjustments to earthwork volume should be anticipated during grading of the site.

3.1.7 Rippability and Oversized Material

Oversized material (rock or rock fragments greater than 8 inches in dimension) was not observed at the surface during field exploration. Oversize rock, if encountered during grading, should be placed in deeper fills (deeper than 5 feet below finish grade) or removed from structural fill areas. All rocks larger than 24 inches in dimension should be placed in windrows, surrounded by sandy soils, and placed with copious amounts of water. The rock windrows should be placed such that individual rocks are not nested and sandy soil can be worked completely around the rocks. It is imperative that the contractor use copious amounts of water during these operations.

Excavations for proposed utilities can be very difficult in the presence of large (greater than 24 inches) rocks. To facilitate utility construction (but not a geotechnical requirement), removing rocks larger than 24 inches in the upper 5 feet below the rough graded surface or 1 foot below the deepest utility may be considered.

3.2 Shallow Foundation Recommendations

Overexcavation and recompaction of the footing subgrade should be performed as detailed in Section 3.1. The following recommendations are based on the onsite soil conditions and soils with a very low expansion potential.

3.2.1 Minimum Embedment and Width

Based on our preliminary investigation, footings should have a minimum embedment per code requirements, with a minimum width of 24 and 12 inches for isolated and continuous footings, respectively.

3.2.2 Allowable Bearing

An allowable bearing pressure of 3,000 pounds-per-square-foot (psf) may be used, based on an assumed embedment depth of 18 inches and minimum width described above. This allowable bearing value may be increased by 300 psf per foot increase in depth or width to a maximum allowable bearing pressure of 4,500 psf. If higher bearing pressures are required, this should be reviewed on a case-by-case basis and may include additional overexcavation and/or soil reinforcement. These allowable bearing pressures are for total dead load and sustained live loads. Footing reinforcement should be designed by the structural engineer.

3.2.3 Lateral Load Resistance

Soil resistance available to withstand lateral loads on a shallow foundation is a function of the frictional resistance along the base of the footing and the passive resistance that may develop as the face of the structure tends to move into the soil. The frictional resistance between the base of the foundation and the subgrade soil may be computed using a coefficient of friction of 0.40. The passive resistance may be computed using an allowable equivalent fluid pressure of 270 pounds per cubic foot (pcf), assuming there is constant contact between the footing and undisturbed soil. The coefficient of friction and passive resistance may be combined without further reduction.

3.2.4 Increase in Bearing and Friction - Short Duration Loads

The allowable bearing pressure and coefficient of friction values may be increased by one-third when considering loads of short duration, such as those imposed by wind and seismic forces.

3.2.5 Settlement Estimates

The recommended allowable bearing pressure is generally based on a total allowable, post-construction static settlement of 1 inch. Differential settlement due to static loading is estimated at 1 inch over a horizontal distance of 30 feet. Since settlement is a function of footing sustained load, size and contact bearing pressure, differential settlement can be expected between adjacent columns or walls where a large differential loading condition exists.

Seismic differential settlement is assumed to be 1 inch over a horizontal distance of 30 feet for the design-level earthquake, or angular distortion of less than 0.0027L.

3.3 Recommendations for Slabs-On-Grade

Concrete slabs-on-grade should be designed by the structural engineer in accordance with the current CBC for soil with a “very low” expansion potential and considering the potential for liquefaction and seismic settlement. Where conventional light floor loading conditions exist, the following minimum recommendations should be used. More stringent requirements may be required by local agencies, the structural engineer, the architect, or the CBC. Laboratory testing should be conducted at finish grade to evaluate the expansion index of near-surface subgrade soils. In addition, slabs-on-grade should have the following minimum recommended components:

- Subgrade Moisture Conditioning: The subgrade soil should be moisture conditioned to at least 2 percentage points above optimum moisture content to a minimum depth of 12 inches prior to placing the moisture vapor retarder, steel or concrete.

- Moisture Retarder: A minimum of 10-mil moisture retarder should be placed below slabs where moisture-sensitive floor coverings or equipment is planned. The structural engineer should specify pertinent concrete design parameters and moisture migration prevention measures, such as whether a capillary break should be placed under the vapor retarder and whether or not a sand blotter layer should be placed over the vapor retarder. The moisture barrier may be placed directly on subgrade provided gravel or other protruding objects that could puncture the moisture retarder are removed from the subgrade prior to placement. A heavier vapor retarder (such as 15 mil Stego Wrap) placed directly on prepared subgrade may also be used. Moisture retarders can reduce, but not eliminate moisture vapor rise from the underlying soils up through the slab. Moisture retarders should be designed and constructed in accordance with applicable American Concrete Institute, Portland Cement Association, Post-Tensioning Institute, ASTM International, and California Building Code requirements and guidelines.

  Leighton does not practice in the field of moisture vapor transmission evaluation, since this is not specifically a geotechnical issue. Therefore, we recommend that a qualified person, such as the flooring subcontractor and/or structural engineer, be consulted with to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. That person should provide recommendations for mitigation of potential adverse impact of moisture vapor transmission on various components of the structures as deemed appropriate.

- Concrete Thickness and Reinforcement in Warehouse/Industrial Areas: Warehouse/industrial slabs-on-grade should be designed by the structural engineer based on anticipated wheel, equipment, and storage loads. Considering the site conditions, we recommend a minimum slab thickness of 6 inches typical light warehouse loads. Crack control joints should be provided at a maximum spacing of 14 feet on center.

  The structural engineer should consider the following parameters.

  Provided that the slab subgrade soils are compacted to a minimum of 95 percent relative compaction at 1 to 2 percentage points above optimum (as measured by ASTM D 1557), an average subgrade spring constant (modulus of subgrade reaction, k) of 200 pci (with linear deflections up to ¾ inch and a

non-linear response for larger deflections) may be assumed for analysis of loading on slabs-on-grade. This value should not be used for estimation of actual settlements, but is intended to estimate shears, moments, and local distortions. An alternate check may be used by assuming an allowable bearing pressure of 1,100 psf (though the modulus of subgrade reaction method is the preferred method). If soils are allowed to dry out prior to placing concrete, the upper 9 inches should be scarified, moisture conditioned to 1 to 2 percentage points above optimum moisture content, and recompacted to a minimum of 95 percent relative compaction (based on ASTM D1557) prior to placing steel or concrete.

- Concrete Thickness--Office Areas: Slabs-on-grade for office space should be at least 4 inches thick (this is referring to the actual minimum thickness, not the nominal thickness). Reinforcing steel should be designed by the structural engineer, but as a minimum (for conventionally reinforced, 4-inch-thick slabs) should be No. 4 rebar placed at 18 inches on center, each direction, mid-depth in the slab. Crack control joints should be provided at a maximum spacing of 15 feet on center for office areas.

Minor cracking of the concrete as it cures, due to drying and shrinkage, is normal and should be expected. However, cracking is often aggravated by a high water/cement ratio, high concrete temperature at the time of placement, small nominal aggregate size, and rapid moisture loss due to hot, dry, and/or windy weather conditions during placement and curing. Cracking due to temperature and moisture fluctuations can also be expected. Low slump concrete can reduce the potential for shrinkage cracking. Additionally, our experience indicates that reinforcement in slabs and foundations can generally reduce the potential for concrete cracking. The structural engineer should consider these components in slab design and specifications.

3.4 Seismic Design Parameters

Seismic parameters presented in this report should be considered during project design. In order to reduce the effects of ground shaking produced by regional seismic events, seismic design should be performed in accordance with the current CBC. The CBC seismic design parameters listed in Section 2.4.2 of this report should be considered for the seismic analysis of the subject site.

3.5 Retaining Walls

We recommend that retaining walls be backfilled with “very low” expansive soil and constructed with a backdrain in accordance with the recommendations provided on Figure 5 (rear of text). Using expansive soil as retaining wall backfill will result in higher lateral earth pressures exerted on the wall. Based on these recommendations, the following parameters may be used for the design of conventional retaining walls:

Table 5. Lateral Earth Pressures

Static Equivalent Fluid Weight (pcf)	
Condition	Level Backfill
Active	35 pcf
At-Rest	55 pcf
Passive	270 pcf (allowable) (Maximum of 3,000 psf)

The above values do not contain an appreciable factor of safety unless noted, so the structural engineer should apply the applicable factors of safety and/or load factors during design, as specified by the California Building Code.

Cantilever walls that are designed to yield at least 0.001H, where H is equal to the wall height, may be designed using the active condition. Rigid walls and walls braced at the top should be designed using the at-rest condition.

Passive pressure is used to compute soil resistance to lateral structural movement. In addition, for sliding resistance, a frictional resistance coefficient of 0.35 may be used at the concrete and soil interface. The lateral passive resistance should be taken into account only if it is ensured that the soil providing passive resistance, embedded against the foundation elements, will remain intact with time.

In addition to the above lateral forces due to retained earth, surcharge due to improvements, such as an adjacent structure or traffic loading, should be considered in the design of the retaining wall. Loads applied within a 1:1 projection from the surcharging structure on the stem of the wall should be considered in the design.

For retaining walls with a retained height of more than 6 feet, an incremental seismic load applied as a uniform additive pressure of 24 pcf should be considered for a cantilever (unrestrained) wall with level backfill, and 38 pcf for a basement wall (restrained) with level backfill. This pressure is in addition to the static active earth pressures presented above. Earthquake and at-rest earth pressures need not be combined for analyses.

A soil unit weight of 120 pcf may be assumed for calculating the actual weight of the soil over the wall footing.

3.6 Pavement Design

Flexible Pavement: Laboratory R-Value testing was performed on four (4) near-surface samples throughout the project site, which yielded results of 26, 50, 59, and 66. Based on the design procedures outlined in the 2017 Caltrans Highway Design Manual, and using a design R-value of 40, flexible pavement sections may consist of the following for the Traffic Index indicated. Final pavement design should be based on the Traffic Index determined by the project civil engineer and R-value testing provided near the end of grading.

Table 6. Asphalt Pavement Sections

Traffic Index	Asphaltic Concrete (AC) Thickness (inches)	Class 2 Aggregate Base Thickness (inches)
5 or less (auto access)	3.0	4.0
7 (light truck access)	4.0	7.0
8	5.0	8.0
9	5.5	9.5
10	6.5	10.5

If the pavement is to be constructed prior to construction of the structures, we recommend that the full depth of the pavement section be placed in order to support heavy construction traffic. Based on the provided plans, we understand

that proposed streets to be paved include Mesa Linda Road, from Air Expressway to Joshua Avenue; Emerald Road, from Air Expressway to Powerline Road; Joshua Avenue, from Mesa Linda Road to Emerald Road, and Yucca Road, from Mesa Linda Road to Emerald Road.

***Rigid Pavements*:** For onsite Portland Cement Concrete (PCC) pavement in truck drive aisles and parking areas, we recommend a minimum of 7-inch-thick concrete with dowels at construction joints, placed on compacted fill subgrade, with the upper 8 inches compacted to a minimum of 95 percent relative compaction. In areas with car traffic only, we recommend a minimum of 5-inch-thick concrete, placed on compacted fill subgrade with the upper 8 inches compacted to a minimum of 95 percent relative compaction.

The PCC pavement sections should be provided with crack-control joints spaced no more than 14 feet on center each way for 7-inch-thick concrete, and 12 feet for 5-inch-thick concrete. If sawcuts are used, they should have a minimum depth of ¼ of the slab thickness and made within 24 hours of concrete placement.

***Other Pavement Recommendations*:** Irrigation adjacent to pavements without a deep curb or other cutoff to separate landscaping from the paving may result in premature pavement failure.

All pavement construction should be performed in accordance with the Standard Specifications for Public Works Construction or Caltrans Specifications. Field observations and periodic testing, as needed during placement of the base course materials, should be undertaken to ensure that the requirements of the standard specifications are fulfilled.

Prior to placement of aggregate base, the subgrade soil should be processed to a minimum depth of 6 inches, moisture-conditioned, as necessary, and recompacted to a minimum of 95 percent relative compaction. Aggregate base should be moisture conditioned, as necessary, and compacted to a minimum of 95 percent relative compaction.

3.7 Infiltration Recommendations

In general, our geotechnical exploration encountered alluvial soil deposits generally uniform consisting of granular materials including Poorly Graded Sand with Silt (SP-SM) and Silty Sand (SM). Alluvial soils were relatively uniform throughout the project site. Gravels were observed within the exploratory borings, with variable percentages throughout the site. At our test locations, soil samples taken from the infiltration test zone generally showed a percent fines (% silt and clay) ranging from 4 to 20 percent, with the exception of locations at the northwestern portion of the site (LI-2) and north-central portion of the site (LI-4) which contained approximately 30% and 70% fines, respectively. LI-4 encountered a Sandy Clay layer at a depth of approximately 13 feet bgs. A high fines silt layer was generally encountered in our geotechnical borings throughout the site at depths of approximately 15 to 25 feet, therefore infiltration is not recommended at depths deeper than 15 feet below existing ground.

Based on our infiltration testing, field observations and laboratory testing, the project site is considered to be feasible for storm water infiltration. Due to the underlying layer with low infiltration properties, we have evaluated the infiltration rates using a weighted average which considers the yielded infiltration rates of the upper granular layer and the low rates of the underlying cohesive soils. A raw infiltration rate of 15 inches per hour can be utilized for infiltration system design with a maximum bottom depth of 13 feet. If deeper infiltration systems are required, these can be reviewed on a case by case basis for further infiltration recommendations. As site layout and infiltration system design progresses, supplemental infiltration testing could be performed to further refine our infiltration system recommendations.

For the two locations with relatively low infiltration rates (LI-2 and LI-4), soil conditions should be carefully reviewed during construction to ensure that granular layers with good infiltration properties are encountered within the proposed basin bottoms. All basin areas should be observed by a geotechnical representative during construction to confirm presence of granular soils with good infiltration characteristics.

We recommend that a correction factor/safety factor be applied to the infiltration rate in conformance with San Bernardino County guidelines, since monitoring of actual facility performance has shown that actual infiltration rates are lower than

measured in small-scale tests. Infiltration basins are subject to siltation, which can result in reduced infiltration rates. *This small-scale infiltration rate should be divided by a design factor of at least 3 for buried chambers and at least 4 for open basins; although the design/safety factor may be higher based on project-specific aspects.* It should be noted that during periods of prolonged precipitation, underlying soils tend to become saturated to greater depths/extent. Therefore, infiltration rates tend to decrease with prolonged rainfall.

Some design considerations are presented in the following paragraphs:

- **Adjacent Structure Impact**: As infiltrating water can seep within soil strata partially horizontally, it is important to consider impact that infiltration facilities can play on nearby subterranean structures, such as basement walls or open excavations, whether onsite or offsite, and whether existing or planned. Any such nearby features should be identified and evaluated as to whether infiltrating water can impact these facilities. Infiltration facilities should not be constructed adjacent to or under buildings. Setbacks should be discussed with Leighton during the planning process, but a building setback of at least 15 feet horizontally is initially suggested.

- **Infiltration Basins Type and Geometry**: Further testing may be required depending on final design of infiltration facilities. Infiltration rates are anticipated to vary based on location and depth. Infiltration concepts should be discussed with Leighton as infiltration plans are being developed. We should review all infiltration plans, including locations and depths of proposed facilities. Further testing may be required depending on infiltration facilities design details, particularly considering type, depth and location.

- **Siltation and Soil Changes**: These infiltration rates are for a clean, un-silted infiltration surface in native, sandy alluvial soil. These values may be reduced over time as silting of the basin or chamber occurs. Furthermore, if the basin or chamber bottom is allowed to be compacted by heavy equipment, this value is expected to be reduced. Infiltration of water through soil is highly dependent on such factors as grain size distribution of soil particles, gradation (uniform versus well graded), particle shape, fines content and density. Small changes in soil conditions, including density, can cause large differences in observed infiltration rates. Infiltration is not suitable in compacted fill. For open basins

and swales, vegetation within the basin bottoms and sides is expected to help reduce erosion and help maintain infiltration rates.

- **De-silting Weir/Facilities**: Periodic flow of water carrying sediments into the basin or chamber, plus deposition of fine wind-blown sediments and sediments from erosion of basin side walls, will eventually cause the basin bottom or chamber to accumulate a layer of silt, which has the potential to significantly reducing the overall infiltration rate of the basin or chamber. Therefore, we recommend that significant amounts of silt/sediment not be allowed to flow into the facility within stormwater, especially during construction of the project and prior to achieving a mature landscape onsite. We recommend that an easily maintained, robust silt/sediment removal system be installed to pretreat storm water before it enters the infiltration facility. Infiltration facilities should be constructed with spillways or other appropriate means that would prevent overfilling that could damage the facility or adjacent improvements.

- **Drainage/Infiltration Time Cycle**: In general, the rate of infiltration reduces as the head of water in the infiltration facility reduces, and it also reduces with prolonged periods of infiltration. As such, water typically infiltrates much faster near the beginning of and/or immediately after storm events than at times well after a storm when the water level in the facility has receded, since the infiltration rate is then slower due to both lower head and longer overall duration of infiltration. In open basins with compacted or silty bottoms, this could be problematic, in that even if the basin had already infiltrated significant amounts of storm water, the lower several inches or feet of water could remain in the basin for an extended period of time, creating prolonged open-water safety concern (such as potential for mosquitos and waterborne diseases, algae odor, etc.). In a buried/cover infiltration chamber, these conditions would be of less concern.

- **Maintenance**: Infiltration facilities should be routinely monitored, especially before and during the rainy season, and corrective measures should be implemented if and as needed. Things to check for include removal of trash or dumping, proper infiltration, absence of accumulated silt, and that de-silting filters/features are clean and functioning. Pretreatment desilting features should be cleaned and maintained as recommended by the manufacturer or designer. Even with measures to prevent silt from flowing into the infiltration facility, accumulated silt may need to be removed.

3.8 Temporary Excavations

All temporary excavations, including utility trenches, retaining wall excavations and other excavations should be performed in accordance with project plans, specifications and all OSHA requirements.

No surcharge loads should be permitted within a horizontal distance equal to the height of cut or 5 feet, whichever is greater from the top of the slope, unless the cut is shored appropriately. Excavations that extend below an imaginary plane inclined at 45 degrees below the edge of any adjacent existing site foundation should be properly shored to maintain support of the adjacent structures.

Cantilever shoring should be designed based on an active equivalent fluid pressure of 35 pcf. If excavations are braced at the top and at specific design intervals, the active pressure may then be approximated by a rectangular soil pressure distribution with the pressure per foot of width equal to 25H, where H is equal to the depth of the excavation being shored.

During construction, the soil conditions should be regularly evaluated to verify that conditions are as anticipated. The contractor should be responsible for providing the "competent person" required by OSHA, standards to evaluate soil conditions. Close coordination between the competent person and the geotechnical engineer should be maintained to facilitate construction while providing safe excavations.

3.9 Trench Backfill

Utility-type trenches onsite can be backfilled with the onsite material, provided it is free of debris, organic and oversized material. Prior to backfilling the trench, pipes should be bedded and shaded in a granular material that has a sand equivalent of 30 or greater and will allow water to sufficiently permeate. Gravel or rock cannot be used for trench backfill without written approval by Leighton. If gravel or open-graded rock is approved and used as bedding or shading, it should be wrapped in Mirafi 140N filter fabric, or equivalent, to prevent surrounding soil from washing into the pore spaces in the gap graded rock. Shading should extend at least 12 inches above the top of the pipe. The bedding/shading materials should be densified in-place by mechanical means, or in accordance with Greenbook specifications.

Subsequent to pipe bedding and shading, backfill soils should be placed in loose layers, moisture conditioned, as necessary, and mechanically compacted using a minimum standard of 90 percent relative compaction (ASTMS D1557). The thickness of layers should be based on the compaction equipment used in accordance with the Standard Specifications for Public Works Construction (Greenbook). The upper 6 inches in pavement areas should be compacted to 95 percent compaction.

3.10 Surface Drainage

Inadequate control of runoff water and/or poorly controlled irrigation can cause the onsite soils to expand and/or shrink, producing heaving and/or settlement of foundations, flatwork, walls, and other improvements. Maintaining adequate surface drainage, proper disposal of runoff water, and control of irrigation should help reduce the potential for future soil moisture problems.

Positive surface drainage should be designed to be directed away from foundations and toward approved drainage devices, such as gutters, paved drainage swales, or watertight area drains and collector pipes.

Surface drainage should be provided to prevent ponding of water adjacent to the structures. In general, the area around the buildings should slope away from the building. We recommend that unpaved landscaped areas adjacent to the buildings be avoided. Roof runoff should be carried to suitable drainage outlets by watertight drain pipes or over paved areas.

3.11 Sulfate Attack and Corrosion Protection

Based on the results of our laboratory testing and our experience with similar soils, concrete structures in contact with the onsite soil will have negligible exposure to water-soluble sulfates in the soil. Therefore, common Type II cement may be used for concrete construction. The concrete should be designed in accordance with Table 19.3.2.1 of the American Concrete Institute ACI 318-14 provisions (ACI, 2014).

The onsite soil is considered to be moderately corrosive to ferrous metals. It is recommended that any buried pipe be made of non-ferrous material, or that any ferrous pipe be protected by dielectric tape, polyethylene sleeves and/or other

methods, with recommendations from a corrosion engineer. Corrosion information presented in this report should be provided to your underground utility subcontractors. Additional testing and evaluation by a corrosion engineer may be warranted if metallic utilities are planned.

3.12 Additional Geotechnical Services

The preliminary geotechnical recommendations presented in this report are based on subsurface conditions as interpreted from limited subsurface explorations and limited laboratory testing. Our supplemental geotechnical recommendations provided in this report are based on information available at the time the report was prepared and may change as plans are developed. Additional geotechnical investigation and analysis may be required based on final improvement plans. Leighton should review the site and grading plans when available and comment further on the geotechnical aspects of the project. Geotechnical observation and testing should be conducted during excavation and all phases of grading operations. Our conclusions and preliminary recommendations should be reviewed and verified by Leighton during construction and revised accordingly if geotechnical conditions encountered vary from our preliminary findings and interpretations.

Geotechnical observation and testing should be provided:

- After completion of site clearing.
- During overexcavation of compressible soil.
- During compaction of all fill materials.
- After excavation of all footings and prior to placement of concrete.
- During utility trench backfilling and compaction.
- During pavement subgrade and base preparation.
- When any unusual conditions are encountered.

4.0 LIMITATIONS

This report was based in part on data obtained from a limited number of observations, site visits, soil excavations, samples, and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soil or geologic conditions can be present within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, our findings, conclusions, and recommendations presented in this report are based on the assumption that Leighton Consulting, Inc. will provide geotechnical observation and testing during construction.

This report was prepared for the sole use of Mileski Living Trust, for application to the design of the proposed warehouse buildings development in accordance with generally accepted geotechnical engineering practices at this time in California.

See the GBA insert on the following page for important information about this geotechnical engineering report.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled*. No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed*. The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

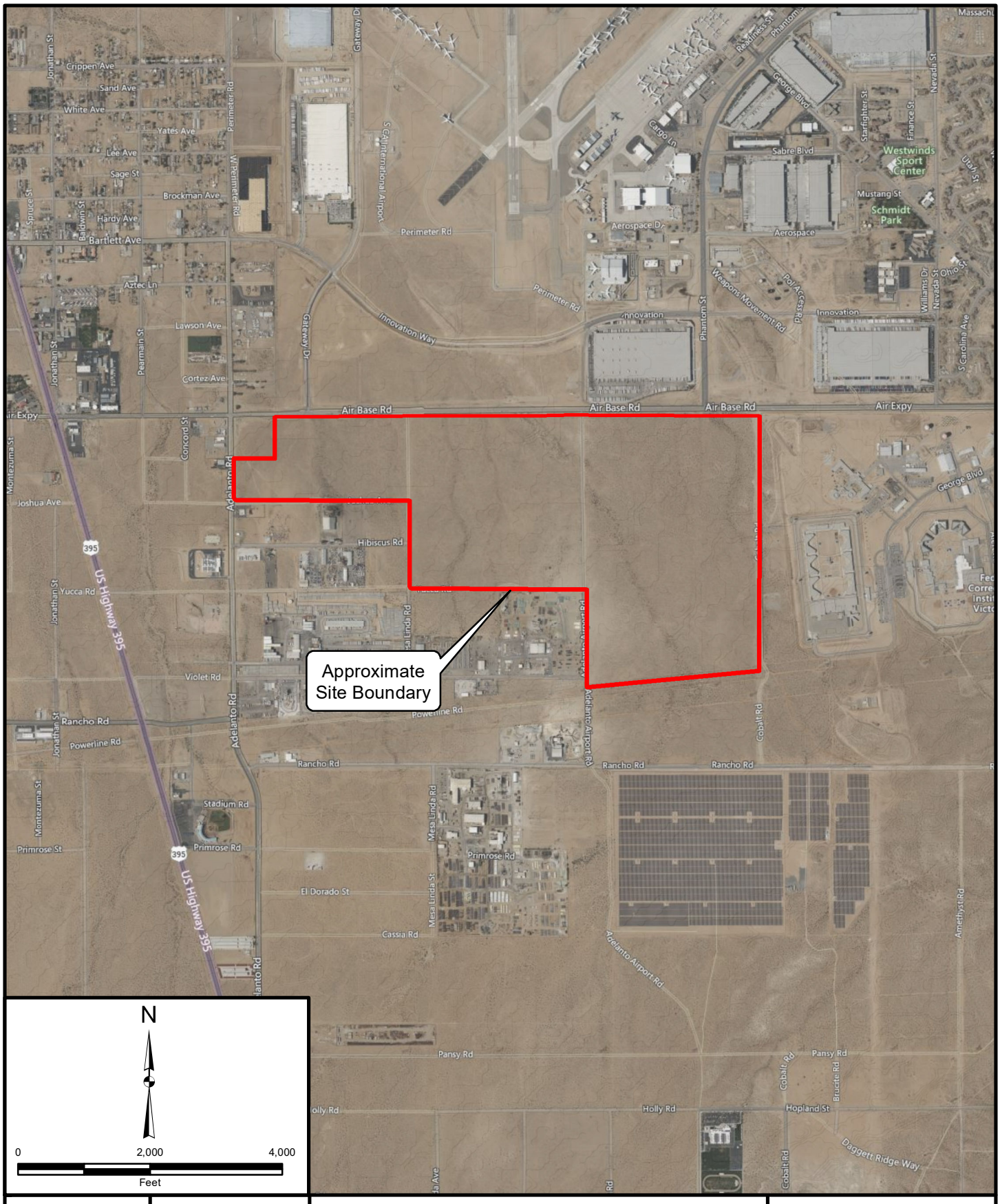
Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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e-mail: info@geoprofessional.org www.geoprofessional.org

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Project: CLC.000RC23280	Eng/Geol: JDH/PB
Scale: 1 " = 2,000 '	Date: November 2023

Reference: © 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus

Author: (mmurphy)

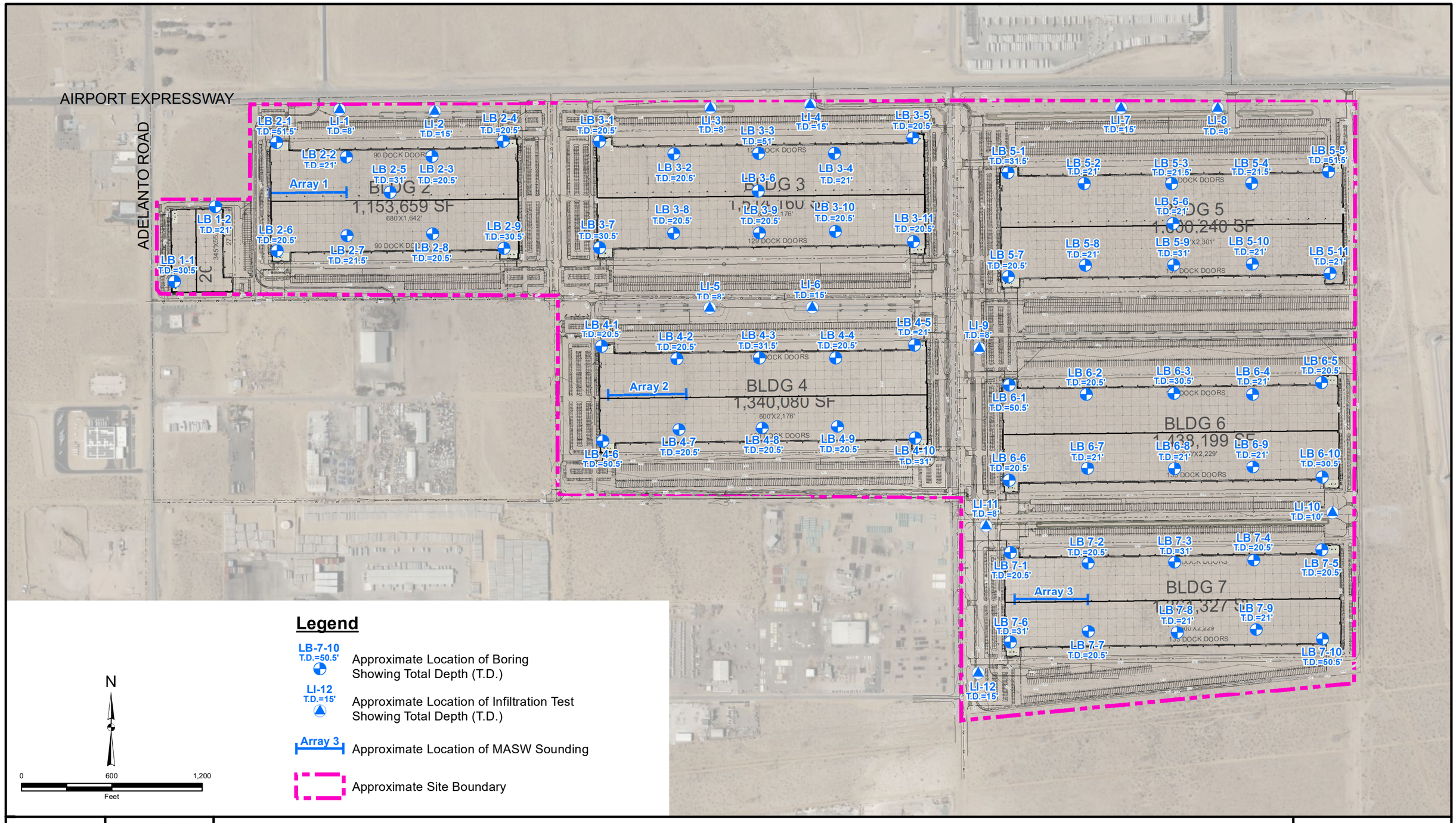
SITE LOCATION MAP

APN 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18
City of Adelanto, California

FIGURE 1

Leighton

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Legend

- LB-7-10 T.D.=50.5' — Approximate Location of Boring Showing Total Depth (T.D.)
- LI-12 T.D.=15' — Approximate Location of Infiltration Test Showing Total Depth (T.D.)
- Array 3 — Approximate Location of MASW Sounding
- Approximate Site Boundary

Project: 23280	Eng/Geol: JDH/PB
Scale: 1 " = 600 '	Date: February 2024
Base Map: BLUE Enginering & Consulting, 1/4/2024.	
Author: (mmurphy)	

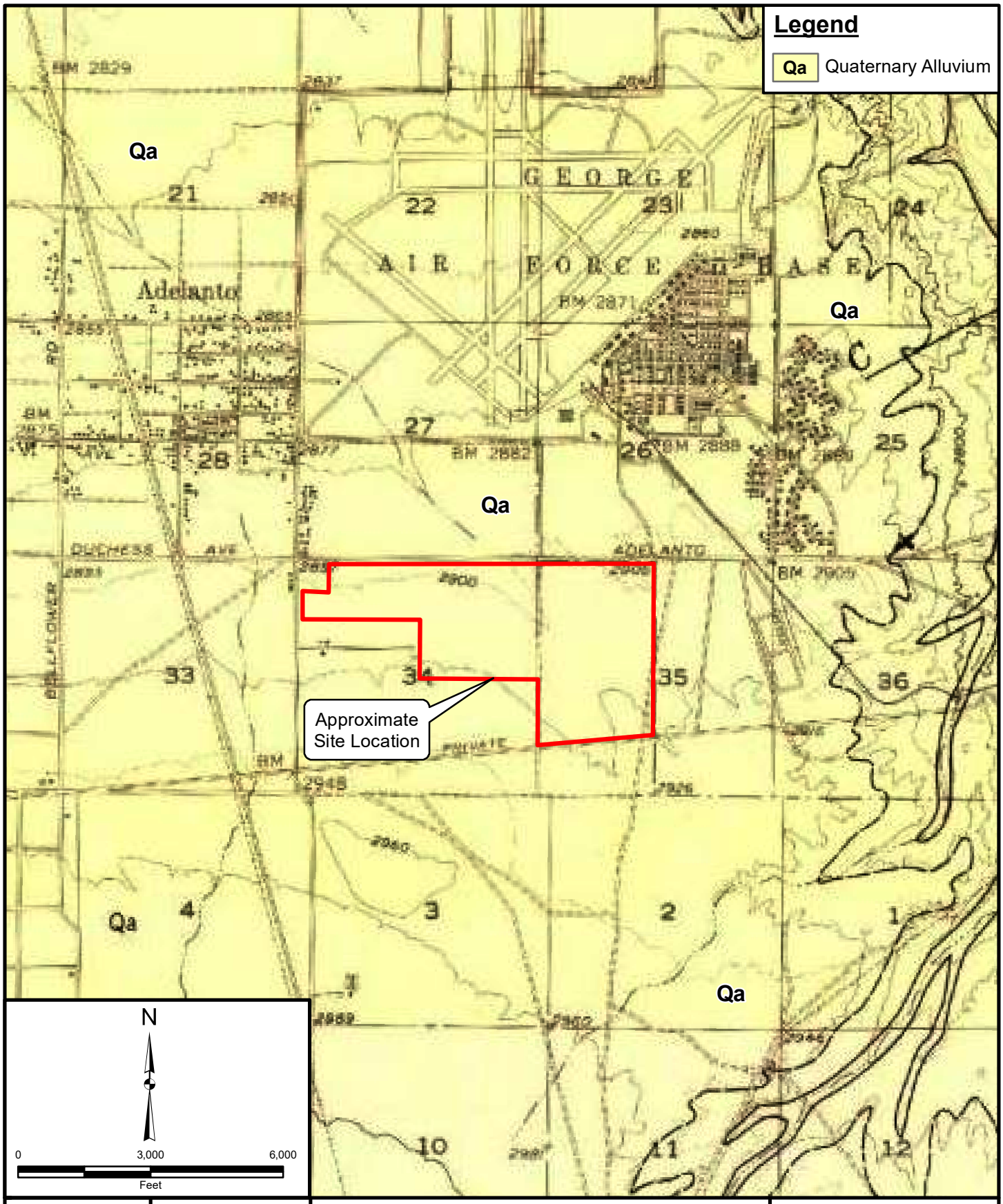
EXPLORATION LOCATION MAP

APN 0459-451-51 through 62, 0459-841-01
through 15, and 0459-841-18
City of Adelanto, California

FIGURE 2

Leighton

Map Saved as Z:\Project Files\MA-NZ\MileskiL\RC23280 Adelanto Warehouses\Maps\23280_F02b_ELM_2024-02-05.mxd on 2/5/2024 11:25:14 AM



Project: CLC.000RC23280	Eng/Geol: JDH/PB
Scale: 1 " = 3,000 '	Date: November 2023
Base Map: USGS, AASG, 2017.	
Author: Leighton Geomatics (mmurphy)	

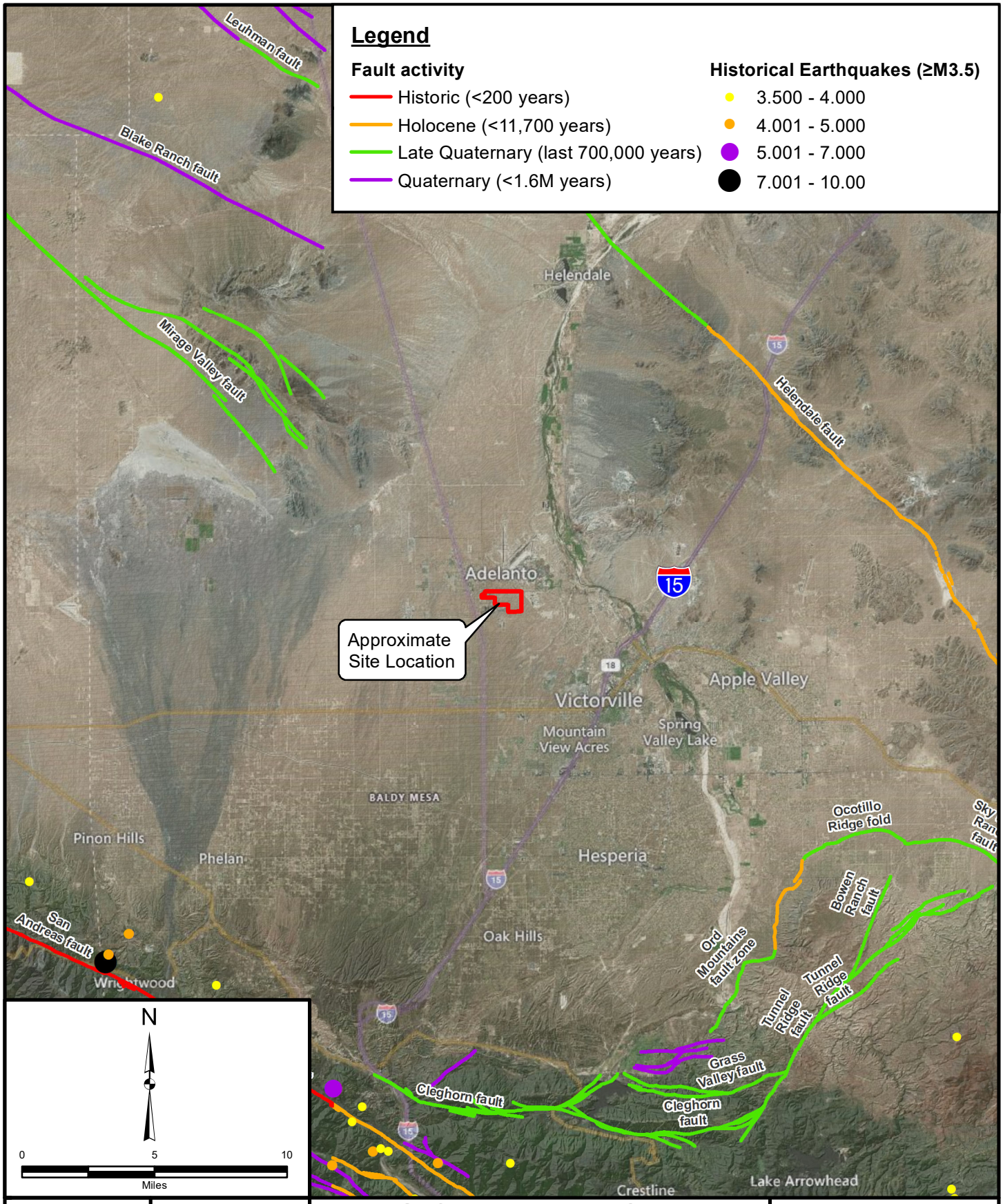
REGIONAL GEOLOGY MAP

APN 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18
City of Adelanto, California

FIGURE 3

Leighton

Map Saved as P:\Drafting\23280\Maps\23280_F03_RGM_2023-11-28.mxd on 11/28/2023 3:19:31 PM



Project: CLC.000RC23280	Eng/Geol: JDH/PB
Scale: 1 " = 5 miles	Date: November 2023
Base Map: ESRI ArcGIS Online 2023 Reference: maps.conservation.ca.gov	

REGIONAL FAULTS AND HISTORIC SEISMICITY MAP

APN 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18
City of Adelanto, California

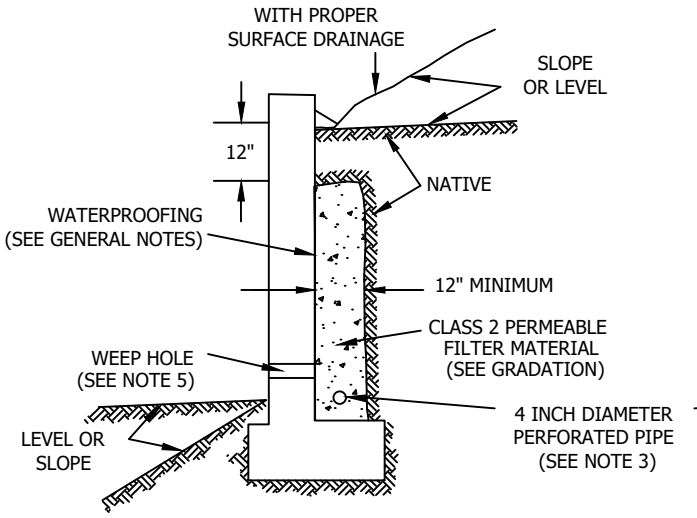
FIGURE 4

Leighton

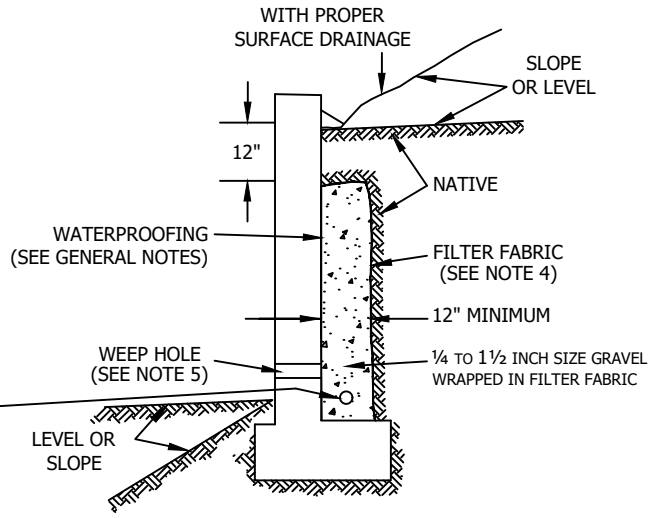
Map Saved as P:\Drafting\23280\Maps\23280_F04_RFHSM_2023-11-28.mxd on 11/28/2023 3:30:08 PM Author: KVM (mmurphy)

SUBDRAIN OPTIONS AND BACKFILL WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

OPTION 1: PIPE SURROUNDED WITH CLASS 2 PERMEABLE MATERIAL



OPTION 2: GRAVEL WRAPPED IN FILTER FABRIC



Class 2 Filter Permeable Material Gradation
Per Caltrans Specifications

Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

GENERAL NOTES:

* Waterproofing should be provided where moisture nuisance problem through the wall is undesirable.
* Water proofing of the walls is not under purview of the geotechnical engineer
* All drains should have a gradient of 1 percent minimum
*Outlet portion of the subdrain should have a 4-inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding)
*Other subdrain backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

Notes:
1) Sand should have a sand equivalent of 30 or greater and may be densified by water jetting.
2) 1 Cu. ft. per ft. of 1/4- to 1 1/2-inch size gravel wrapped in filter fabric
3) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8 inch in diameter placed at the ends of a 120-degree arc in two rows at 3-inch on center (staggered)
4) Filter fabric should be Mirafi 140NC or approved equivalent.
5) Weephole should be 3-inch minimum diameter and provided at 10-foot maximum intervals. If exposure is permitted, weepholes should be located 12 inches above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to be discharged through the curb face or equivalent should be provided. For a basement-type wall, a proper subdrain outlet system should be provided.
6) Retaining wall plans should be reviewed and approved by the geotechnical engineer.
7) Walls over six feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL FOR WALLS 6 FEET OR LESS IN HEIGHT

WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

Leighton

Figure 5

V:\DRAFTING\TEMPLATES\STANDARD-FIGURES\WALL-STANDARD-FIGURES.DWG (09-02-21 9:07:35AM) Plotted by bbain

APPENDIX A

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APPENDIX A

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APPENDIX B

GEOTECHNICAL LOGS

APPENDIX B

FIELD EXPLORATION

Our field investigation consisted of a surface reconnaissance and a subsurface exploration. Approximate exploration locations are shown on Figure 2, *Exploration Location Map*.

Borings: On October 26, 2023 through November 8, 2023, 75 hollow-stem-auger borings (LB 1-1 through LB 7-10 and LI-1 through LI-12) were drilled, logged and sampled to depths ranging from 8 feet to 51 feet below the ground surface. Encountered soils were logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D 2488). Relatively undisturbed soil samples were obtained at selected intervals within these borings using both a Modified California ring-lined and Standard Penetration Test (SPT) split-spoon sampler. Standard Penetration Test (SPT) resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch outside diameter split-spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D 1586). In addition, 2.4-inch inside diameter brass ring samples were obtained using a Modified California sampler driven into the soil with the 140-pound hammer. Near surface bulk soil samples were also collected from the borings. Representative earth-material samples obtained from these subsurface explorations were transported to our geotechnical laboratory for evaluation and appropriate testing.

GEOTECHNICAL BORING LOG LB-1-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), reddish brown, dry, fine to medium sand, 20% fines (field estimate)	-200, SE
2910				R-1	40 50/2"	126	3	SM	@2.5': SILTY SAND (SM), very dense, white and brown, cemented, fine to coarse sand, 15% fines (field estimate)	CR
	5			R-2	50/4"			SM	@5': SILTY SAND (SM), very dense, white and brown, cemented, fine to coarse sand, 15% fines (field estimate)	
2905				R-3	50/6"	113	2	SP	@7.5': Poorly graded SAND (SP), very dense, brown and white, slightly moist, slightly cemented, medium and coarse sand, trace gravel, 5% fines (field estimate)	
	10			R-4	50/6"			SP	@10': Poorly graded SAND (SP), very dense, pinkish brown, slightly moist, slightly cemented, coarse sand, trace gravel, 5% fines (field estimate)	
2900										
	15			S-1	12 16 24			ML	@15': SANDY SILT (ML), hard, brown, slightly moist, slightly cemented, 60% fines (lab), low-plasticity	-200
2895										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM), very dense, light brown, slightly moist, micaceous, fine sand, 20% fines (field estimate)	
2890										
	25			S-2	25 23 31			SP	@25': Poorly graded SAND (SP), very dense, olive brown, slightly moist, medium sand, 5% fines (field estimate)	
2885										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-1-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/4"			SM	@30': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 20% fines (field estimate)	
2880									**Total Depth: 30.33' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-1-2

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), reddish brown, dry, fine to medium sand, 15% fines (field estimate)	
				R-1	50/6"	116	5	ML	@2.5': SILT with SAND (ML), very hard, white and brown, dry, fine to medium sand, cemented, 72% fines (lab), low plasticity	-200
2905	5			R-2	50/4"			SP	@5': Poorly graded SAND wilt Silt (SP-SM), very dense, brown and white, slightly moist, coarse sand, cemented, 10% fines (field estimate)	
				R-3	50/4"			SP	@7.5': Poorly graded SAND wilt Silt (SP-SM), very dense, brown and white, slightly moist, coarse sand, trace gravel, cemented, 10% fines (field estimate)	
2900	10			R-4	50/5"			SM	@10': SILTY SAND (SM), very dense, olive brown, very fine sand, slightly moist, 20% fines (field estimate)	
2895	15			S-1	15 38 50/4"			SM	@15': SILTY SAND (SM), very dense, olive brown, very fine sand, slightly moist, 25% fines (field estimate)	
2890	20			R-5	24 50/5"			ML	@20': SILT (ML), hard, brown, slightly moist, low toughness, 90% fines (field estimate), low plasticity	
2885	25								**Total Depth: 20.91' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, meidum sand, 10% fines (field estimate)	
2905				R-1	26 27 27	112	4	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, pinkish brown, dry, medium sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	11 17 20	124	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), dense, pinkish brown, dry, medium sand, slightly cemented, 10% fines (field estimate)	
2900				R-3	30 50/4"	124	4	SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), very dense, pinkish brown, dry, medium sand, cemented, 10% fines (field estimate)	
	10			R-4	50/5.5"			SP	@10': Poorly graded SAND (SP), very dense, brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2895										
	15			S-1	19 28 26			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 22% fines (lab)	-200
2890										
	20			R-5	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 35% fines (field estimate)	
2885										
	25			S-2	20 50/6"			ML	@25': SILT (ML), hard, brown, slightly moist, low toughness, 40% fines (field estimate), low plasticity	
2880										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/5"			ML	@30': SILT (ML), hard, brown, slightly moist, low toughness, 40% fines (field estimate), low plasticity @31': layer in sample SILTY SAND (SM), fine sand, gray	
2875										
	35			S-3	19 29 37		3	SM	@35': SILTY SAND (SM), very dense, orange and brown, variegated, very fine sand, 22% fines (lab)	-200, AL
2870										
	40			R-7	9 9 11	109	1	SP	@40': Poorly graded SAND (SP), medium dense, pinkish gray, slightly moist, coarse sand, 5% fines (field estimate)	
2865										
	45			S-4	21 50/3"			ML	@45': SILT with Sand (ML), hard, brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity @46': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, slightly cemented, 30% fines (field estimate)	
2860										
	50			R-8	23 36 50/4"			CL	@50': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine sand, high toughness, 70% fines (field estimate), medium plasticity	
2855										
									Total Depth: 51.33' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	55									
2850										
	60									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-2-2

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to coarse sand, 30% fines (field estimate)	
2905				R-1	12 8 9	118	5	SM	@2.5': SM SAND with Gravel (SM), medium dense, tan, slightly moist, fine to coarse sand, slightly cemented, 15% gravel (field estimate), 15% fines (lab)	-200
	5			R-2	13 18 20	111	1	SP	@5': Poorly graded SAND (SP), medium dense, grayish brown, coarse sand, 5% fines (field estimate)	
2900				R-3	18 25 34	120	2	SP	@7.5': Poorly graded SAND (SP), dense, grayish brown, coarse sand, 5% fines (field estimate)	
	10			R-4	18 25 50			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), dense, grayish brown, coarse sand, 15% gravel, 5% fines (field estimate)	
2895										
	15			S-1	16 18 14			SP-SM	@15': Poorly graded SAND with Silt (SP-SM), dense, brown and white, slightly moist, slightly cemented, medium sand, 10% fines (field estimate) lower 2": SILTY SAND (SM), brown, fine sand, 25% fines (field estimate)	
2890										
	20			R-5	25 50/6"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2885									**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-2-3

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	15 19 19	125	2	SP	@2.5': Poorly graded SAND (SP), medium dense, olive, dry, fine to medium sand, 5% fines (field estimate)	
2905	5			R-2	12 14 20				@5': No Recovery	
				R-3	20 40 39	124	1	SP-SM	@7.5': Poorly graded SAND with Silt and Gravel (SP-SM), dense, white, slightly moist, fine to coarse sand, 15% gravel (field estimate), 11% fines (lab)	-200
2900	10			R-4	20 28 22	136	1	SP	@10': Poorly graded SAND (SP), medium dense, white, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2895	15			S-1	22 24 24			SP	@15': Poorly graded SAND (SP), dense, white, slightly moist, medium to coarse sand, 5% fines (field estimate)	
2890	20			R-5	50/5"			ML	@20': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 80% fines (field estimate), low plasticity	
2885	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-4

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, trace of gravel, 20% fines (field estimate)	
2905				R-1	19 21 21	115	2	SP	@2.5': Poorly graded SAND (SP), medium dense, light brown/white, slightly moist, fine to medium sand, 5% fines (field estimate)	
	5			R-2	10 21 22	116	1	SP	@5': Poorly graded SAND (SP), medium dense, light brown/white, slightly moist, fine to medium sand, 5% fines (field estimate)	CO
2900				R-3	17 22 30				@7.5': No Recovery	
	10			R-4	22 39 50/5"			SP	@10': Poorly graded SAND (SP), very dense, light brown/white, slightly moist, fine to coarse sand, trace of caliche and gravel, 5% fines (field estimate)	
2895										
	15			S-1	39 50/6"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
2890										
	20			R-5	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (lab)	-200
2885									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-5

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 15% fines (field estimate)	
2910				R-1	30 50/6"			SM	@2.5': SILTY SAND (SM), very dense, light brown and white, dry, medium to coarse sand, slightly cemented 15% fines (field estimate)	
	5			R-2	17 22 25			SP	@5': Poorly graded SAND with Gravel (SP-GP), dense, light brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2905				R-3	18 24 29				No Recovery	
	10			R-4	25 35 43			SP	@10': Poorly graded SAND (SP), dense, pinkish white, slightly moist, coarse sand, trace gravel, subangular, 5% fines (field estimate)	
2900										
	15			S-1	13 3 50/6"			SM	@15': SILTY SAND (SM), dense, tan, slightly moist, fine sand, 25% fines (field estimate)	
2895										
	20			R-5	50/3"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 25% fines (field estimate)	
2890										
	25			S-2	16 21 27			CL	@25': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine to medium sand, cemented, 62% fines (lab), medium plasticity	-200
2885										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-5

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	43 50/4"			SP	@30': Poorly graded SAND (SP), very dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2880									**Total Depth: 30.83' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-6

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2910				R-1	7 9 11	115	3	SP-SM	@2.5': Poorly graded SAND withSilt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-2	15 22 31				No Recovery	
2905				R-3	15 24 50	125	1	SP	@7.5': Poorly graded SAND (SP), dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
	10			R-4	50/6"			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), very dense, tan, slightly moist, fine sand, 7% fines (lab)	-200
2900										
	15			S-1	15 28 50			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 15% fines (field estimate) sample shoe: SILT (ML), brown, cemented	
2895										
	20			R-5	50/5"			ML	@20': SILT (ML), hard, tan, slightly moist, low toughness, 90% fines (field estimate), low plasticity	
									Total Depth: 20.41' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890										
	25									
2885										
	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-2-7

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 25% fines (field estimate)	DS, MD, SA
				R-1	14 50/6"	126	6	SM	@2.5': SILTY SAND (SM), very dense, white and brown, slightly moist, fine to coarse sand, slightly cemented 20% fines (field estimate)	
2905	5			R-2	23 32 50	130	2	SM	@5': SILTY SAND (SM) (SM), dense, white and brown, slightly moist, coarse sand, slightly cemented, 15% fines (field estimate)	
				R-3	32 50/4"			SM	@7.5': SILTY SAND (SM), very dense, white and brown, slightly moist, coarse sand, slightly cemented, 16% fines (lab)	-200
2900	10			R-4	50/5"			SM	@10': SILTY SAND (SM), dense, white and brown, slightly moist, coarse sand, slightly cemented, 15% fines (field estimate)	
2895	15			S-1	12 18 38			ML	@15': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
2890	20			R-5	24 30 42	105	23	ML	@20': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
									Total Depth: 21.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	25									
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-8

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2915	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 35% fines (field estimate)	
				R-1	11 18 30	126	2	SP-SM	@2.5': Poorly graded SAND with Sily (SP-SM), medium dense, white, slightly moist, fine to coarse sand, slightly cemented, trace of gravel, 10% fines (field estimate)	
2910	5			R-2	19 31 44	105	5	SM	@5': SILTY SAND (SM), dense, white, slightly moist, fine to coarse sand, slightly cemented, 46% fines (lab)	-200
				R-3	50/4"			SM	@7.5': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 44% fines (lab)	-200
2905	10			R-4	34			SM	@10': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 30% fines (field estimate)	
2900	15			S-1	50/3"			SM	@15': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 35% fines (field estimate)	
2895	20			R-5	25 50/6"			SM	@20': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 35% fines (field estimate)	
2890	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-9

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to coarse sand, trace of gravel, 30% fines (field estimate)	
2910				R-1	50/6"	119	4	SM	@2.5': SILTY SAND (SM), very dense, reddish brown and white variegated, slightly moist, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			R-2	25 50/5"			SM	@5': SILTY SAND (SM), very dense, reddish brown and white variegated, slightly moist, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
2905				R-3	50/6"	113	2	SP	@7.5': Poorly graded SAND with Gravel (SP), very dense, reddish brown, slightly moist, medium to coarse sand, 20% fine to coarse gravel, 5% fines (field estimate)	
	10			R-4	50/6"			SP	@10': SILTY SAND (SM), very dense, brown, slightly moist, fine to coarse sand, trace of gravel, 20% fines (field estimate)	
2900										
	15			S-1	31 5.5"			SP	@15': SILTY SAND (SM), very dense, olive, slightly moist, fine sand, 30% fines (field estimate)	
2895										
	20			R-5	50/5"			SP	@20': SILTY SAND (SM), very dense, olive, slightly moist, fine sand, 30% fines (field estimate)	
2890										
	25			S-2	5.5"			ML	@25': SANDY SILT (ML), hard, olive, slightly moist, fine to medium sand, 70% fines (field estimate), low plasticity	
2885										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-9

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	33 50/5"			ML	@30': No Recovery	
2880									**Total Depth: 31' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-1

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2905				R-1	11 14 16	110	2	SP-SM	@2.5': Poorly graded SAND with silt (SP-SM), medium dense, olive brown, slightly moist, fine to coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	18 32 50/5"	123	3	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), very dense, olive brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2900				R-3	16 50/6"			SP	@7.5': Poorly graded SAND (SP), very dense, white/ light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
	10			R-4	18 50/5.5"			SP	@10': Poorly graded SAND (SP), very dense, white/ light brown, slightly moist, fine to coarse sand, slightly cemented, 5% fines (field estimate)	
2895										
	15			S-1	18 24 40			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
2890										
	20			R-5	50/6"			ML	@20': SANDY SILT (ML), hard, brown, slightly moist, fine to medium sand, 70% fines (field estimate), low plasticity	
2885									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-2

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
									This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.	
2905	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 15% fines (field estimate)	
				R-1	7 13 16			SP	@2.5': Poorly graded SAND (SP), medium dense, orange brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2900	5			R-2	10 16 22	114	2		@5': No Recovery	
				R-3	18 22 30	141	1	SP	@7.5': Poorly graded SAND (SP), dense, white, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2895	10			R-4	18 50/6"			SP	@10': Poorly graded SAND (SP), very dense, white, slightly moist, fine to coarse sand, slightly cemented, 5% fines (field estimate)	
2890	15			S-1	22 26 31			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 40% fines (field estimate)	
2885	20			R-5	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 40% fines (field estimate)	
2880	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-3-3

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	CR, SA
				R-1	15 15 16			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, grayish brown, slightly moist, coarse sand, 10% fines (field estimate), loose sample	
2900	5			R-2	13 20 23				@5': Auger slight grinding, no recovery	
				R-3	30 50/4"	121	2	SM	@7.5': SILTY SAND (SM), very dense, grayish brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2895	10			R-4	35 50/5"				@10': No recovery	
2890	15			S-1	16 32 33			SM	@15': SILTY SAND (SM), very dense, light brown, slightly moist, medium to coarse sand, 15% fines (field estimate)	
2885	20			R-5	50/6"	103	3	SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, medium to coarse sand, 20% fines (lab)	-200
2880	25			S-2	27 50/7"			SM	@25': SILTY SAND (SM), very dense, tan, slightly moist, medium to coarse sand, 35% fines (field estimate)	
2875	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-3

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2875	30			R-6	50/4"			SM	@30': SILTY SAND (SM), very dense, tan, slightly moist, medium to coarse sand, 45% fines (field estimate)	
2870	35			S-3	24 50/5 1/2"			ML	@35': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 65% fines (field estimate), low plasticity	
2865	40			R-7	50/5"			ML	@40': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 70% fines (field estimate), low plasticity	
2860	45			S-4	22 36 50			ML	@45': SILT with sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2855	50			R-8	31 50/6"			ML	@50': SILT with sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
									Total Depth: 30.33' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2850	55									
2845	60									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-4

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2895'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2900				R-1	13 9 8	101	5	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), loose, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-2	9 16 22			SP	@5': Poorly graded SAND (SP), medium dense, grayish brown, slightly moist, coarse sand, trace gravel, 2% fines (lab)	CO, -200
2895				R-3	16 27 38	131	1	SP	@7.5': Poorly graded SAND (SP), dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
	10			R-4	38 50/5 1/2"			SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate) Shoe of sampler: SILTY SAND (SM), tan, slightly moist, fine sand, 30% fines (field estimate)	
2890										
	15			S-1	30 30 50/5 1/2"			ML	@15': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2885										
	20			R-5	28 32			CL	@20': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2880									@20.5': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine to medium sand, high dry strength, 70% fines (field estimate), medium plasticity	
	25								**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2875										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-3-5

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
									This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.	
2905	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	RV, -200
				R-1	50/5"			SC	@2.5': CLAYEY SAND (SC), very dense, yellowish brown, slightly moist, fine to medium sand, 40% fines (field estimate)	
2900	5			R-2	50/5"	103	11	SM	@5': SILTY SAND (SM), very dense, olive brown,	
				R-3	33 50/6"	109	1	SW	@7.5': Well graded SAND with Gravel (SW), very dense, pinkish white, slightly moist, coarse sand, 15% gravel (field estimate), 3% fines (lab)	-200
2895	10			R-4	36 50/6"			SP	@10': Poorly graded SAND (SP), very dense, pinkish white, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2890	15			S-1	28 31 32			SP	@15': Poorly graded SAND (SP), very dense, pinkish white, slightly moist, coarse sand, 5% fines (field estimate)	
2885	20			R-5	50/6"				@20': No Recovery	
2880	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-6

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
2905				R-1	14 8 8			GP	@2.5': Poorly graded GRAVEL with Sand (GP), loose, white, slightly moist, fine to coarse sand, coarse gravel, 30% sand, 5% fines (field estimate)	
	5			R-2	8 14 18			SM	@5': SILTY SAND (SM), medium dense, grayish white, slightly moist, fine to coarse sand, trace gravel, 20% fines (field estimate)	
				R-3	20 50/6"			SM	@7.5': No Recovery	
2900										
	10			R-4	40 50/4"	109	3	SM	@10': SILTY SAND (SM), very dense, grayish white, slightly moist, fine to coarse sand, slightly cemented, 30% fines (field estimate)	
2895										
	15			S-1	12 23 24			SP	@15': Poorly graded SAND (SP), dense, light brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate) @16': Sand becomes fine	
2890										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 15% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-3-7

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), light brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	16 16 23	119	1	SP	@2.5': Poorly graded SAND (SP), medium dense, white/ light brown, slightly moist, medium to coarse sand, 5% fines (field estimate)	
2910										
	5			R-2	18 24 36	119	1		@5': Poorly graded SAND (SP), dense, white/ light brown, slightly moist, fine to medium sand, trace of gravel, 5% fines (field estimate)	
2905										
	10			R-3	26 50/6"				@10': Poorly graded SAND with Gravel (SP), very dense, white/ light brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2900										
	15			S-1	36 42 50/5"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 18% fines (lab)	-200
2895										
	20			R-4	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 40% fines (field estimate)	
2890										
	25			S-2	18 25 50			SM SM	@25': SILTY SAND (SM), dense, brown, slightly moist, medium to coarse sand, cemented, 25% fines (field estimate) @26': SILTY SAND (SM), very dense, light brown, slightly moist, fine sand, 37% fines (lab)	 -200
2885										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-7

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-5	50/6"			SM	@30': SILTY SAND (SM), very dense, light brown, slightly moist, fine sand, 45% fines (field estimate)	
									Total Depth: 30.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	35									
2875	40									
2870	45									
2865	50									
2860	55									
2855	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-8

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), light brown, dry, fine to medium sand, 30% fines (field estimate)	
2905				R-1	7 50/6"			SP-SC	@2.5': Poorly graded SAND with Clay and Gravel (SP-SC), very dense, pinkish brown, slightly moist, medium to coarse sand, cemented, 15% GRAVEL, 8% fines (lab)	-200
	5			R-2	27 28 38	121	2	SP	@5': Poorly graded SAND with Gravel (SP), dense, white/ light brown, slightly moist, medium to coarse sand, 15% gravel, 5% fines (field estimate)	
2900				R-3	50/6"			SP	@7.5': Poorly graded SAND with Gravel (SP), dense, white/ light brown, slightly moist, medium to coarse sand, 20% gravel, 5% fines (field estimate) -Auger slightly grinding, gravel gets coarser	
	10			R-4	50/5.5"			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), very dense, brown and white, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
2895										
	15			S-1	30 36 50			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 45% fines (field estimate)	
2890										
	20			R-5	50/6"			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
2885									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-9

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
				R-1	16 15 12	134	1	SP	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, 10% fines (field estimate)	
2905	5			R-2	9 12 14				@5': No Recovery, slight grinding	
				R-3	15 50/6"				@7.5': Soil cuttings: Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, 10% fines (field estimate), cobbles in cuttings	
2900	10			R-4	36 50/6"	120	1		@10': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, 10% fines (field estimate), slight grinding	
2895	15			S-1	15 27 34				@15': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 30% fines (field estimate)	
2890	20			R-5	50/6"				@20': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 30% fines (field estimate)	
2885	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
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- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
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- H HYDROMETER
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- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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GEOTECHNICAL BORING LOG LB-3-10

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	18 17 22	122	1	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, trace gravel, 5% fines (field estimate)	
2905	5			S-1	5 4 7			SP-SM	@5': No Recovery	
				S-2	14 17 17			SP	@7.5': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900	10			R-2	24 50/6"			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, light brown, slightly moist, 20% gravel, 5% fines (field estimate), pieces of cobble in sampler (approximately 1 1/2-inches in diameter)	
2895	15			S-3	14 27 50			SP-GP	@15': Poorly graded SAND with Gravel (SP-GP), very dense, light brown, slightly moist, 20% gravel, 5% fines (field estimate) @20': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 35% fines (field estimate)	
2890	20			R-3	50/3"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 45% fines (field estimate)	
2885	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
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- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
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GEOTECHNICAL BORING LOG LB-3-11

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	37 50/5"	124	1	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, trace gravel, 10% fines (field estimate)	
2900										
	5			S-1	37 50/6"			SM	@5': SILTY SAND (SM), very dense, white and brown, slightly moist, fine to coarse sand, 20% fines (field estimate), cemented, slight auger grinding	
				S-2	35 50/6"			SM	@7.5': SILTY SAND (SM), very dense, white and brown, slightly moist, fine to coarse sand, 15% fines (field estimate), cemented	-200
2895										
	10			R-2	50/3"	119	3	SM	@10': SILTY SAND (SM), very dense, white and brown, slightly moist, medium to coarse sand, 15% fines (field estimate), slightly cemented	
2890										
	15			S-3	20 50/4"			SM	@15': SILTY SAND (SM), very dense, white and brown, slightly moist, very fine sand, 15% fines (field estimate), slightly cemented	
2885										
	20			R-3	50/5"			SM	@20': SILTY SAND (SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 33% fines (lab)	-200
2880										
	25			S-4	44 50/5"			SM	@25': SILTY SAND (SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 30% fines (field estimate)	
2875										
	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-11

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-4	50/6"			SM	@30': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 45% fines (field estimate)	
2870	35								**Total Depth: 30.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2865	40									
2860	45									
2855	50									
2850	55									
2845	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-4-1

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2915'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	RV, EI, -200
				R-1	13 14 20	102	2	SM	@2.5': SILTY SAND (SM), medium dense, yellowish brown, dry, fine to coarse sand, 25% fines (field estimate)	
2915	5			R-2	14 17 25			SM	@5': SILTY SAND (SM), medium dense, yellowish brown, dry, fine to to coarse sand, 20% fines (field estimate)	
				R-3	17 29 32				@7.5': No recovery	
2910	10			R-4	28 35 50	124	1	SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2905	15			S-1	13 14 20			SP	@15': Poorly graded SAND (SP), dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900	20			R-5	50/4"			ML	@20': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
2895	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-2

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2915				R-1	9 7 10			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, medium sand, 10% fines (field estimate)	
	5			R-2	14 18 19	115	2	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, medium sand, 5.1% fines (lab)	-200
2910				R-3	50/6"			SM	@7.5': SILTY SAND (SM), very dense, light brown, sligtly moist, very fine sand, 45% fines (field estimate)	
	10			R-4	50/6"	99	6	SM	@10': SILTY SAND (SM), very dense, light brown, sligtly moist, very fine sand, 45% fines (field estimate)	
2905										
	15			S-1	33 40 46			SM	@15': SILTY SAND (SM), very dense, white and light gray, sligtly moist, very fine sand, 40% fines (field estimate)	
2900										
	20			R-5	50/5"			SP-SM	@20': Poorl graded SAND with Silt (SP-SM), very dense, brown, slightly moist, medium sand, 10% fines (field estimate)	
2895									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2890										
	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-3

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
									This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.	
2915	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	50/6"	105	4	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), very dense, pinkish brown, slightly moist, medium sand, slightly cemeted, 10% fines (field estimate)	
2910	5			R-2	31 50/6"			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), very dense, pinkish brown, slightly moist, medium sand, slightly cemeted, 10% fines (field estimate)	
				R-3	32 50/3"			SP	@7.5': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2905	10			R-4	33 50/6"	139	1	SP	@10': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2900	15			S-1	45 50/5"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 35% fines (field estimate)	
2895	20			R-5	50/3"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 16% fines (lab)	-200
2890	25			S-2	21 30 50/3"			SM	@25': SILTY SAND (SM), very dense, grayish brown, fine to medium sand, 15% fines (field estimate)	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-3

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
2885				R-6	32 24 50			SP	@30': Poorly graded SAND (SP), very dense, gray, slightly moist, fine sand, 5% fines (field estimate)	
									Total Depth: 31.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2880										
	40									
2875										
	45									
2870										
	50									
2865										
	55									
2860										
	60									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-4

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, fine to coarse sand, 10% fines (field estimate)	
2915				R-1	15 17 23	118	1	SP	@2.5': Poorly graded SAND (SP), medium dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			R-2	15 22 44	114	2	SP-GP	@5': Poorly graded SAND with Gravel (SP-GP), dense, light brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2910										
	10			R-3	50/6"				@10': No recovery	
2905										
	15			S-1	15 16 21			SP-GP	@15': Poorly graded SAND with Gravel (SP-GP), dense, light brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2900										
	20			R-4	50/4"			SC	@20': CLAYEY SAND (SC), very dense, tan, slightly moist, fine sand, trace of caliche, 46% fines (lab)	-200, AL
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2895										
	25									
2890										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-4-5

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, fine to medium sand, 10% fines (field estimate)	
				R-1	8 14 12			SP-GP	@2.5': Poorly graded SAND with Gravel (SP-GP), medium dense, brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2905	5			R-2	12 18 27				@5': No recovery	
				R-3	27 50/6"	117	1	SP-GP	@7.5': Poorly graded SAND with Gravel (SP-GP), very dense, white and gray, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2900	10			R-4	50/6"			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, white and gray, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2895	15			S-1	20 25 35			ML	@15': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2890	20			R-5	39 50/4"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
									Total Depth: 21' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	25									
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-4-6

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
2925	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	8 10 11				@2.5': No recovery	
2920	5			R-2	17 21 30	116	1	SP-GP	@5': Poorly graded SAND with Gravel (SP-GP), dense, olive brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
				R-3	30 40 50			SP-GP	@7.5': Well graded SAND with Silt and Gravel (SW-SM), very dense, olive brown, slightly moist, coarse sand, 15% gravel (field estimate), 6% fines (lab)	-200
2915	10			R-4	30 50/6"	114	1	SP-GP	@10': Well graded SAND with Silt and Gravel (SW-SM), very dense, olive brown, slightly moist, coarse sand, 15% gravel, 10% fines (field estimate)	
2910	15			S-1	44 50/3"			CL	@15': LEAN CLAY with Sand (CL), hard, tan, slightly moist, 75% fines (field estimate), medium plasticity	
2905	20			R-5	50/6"	104	8	CL	@20': LEAN CLAY with Sand (CL), hard, tan, slightly moist, 76% fines (lab), medium plasticity	-200, AL
2900	25			S-2	37 50/4"			CL	@25': LEAN CLAY with Sand (CL), hard, tan, slightly moist, 75% fines (field estimate), medium plasticity	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-4-6

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/6"			SM	@30': SILTY SAND (SM), very dense, grayish brown, slightly moist, fine sand, 35% fines (field estimate)	
2895										
	35			S-3	38 50/3"			ML	@35': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 64% fines (lab), low plasticity	-200
2890										
	40			R-7	50/4"			ML	@40': SANDY SILT (ML), hard, light brown, slightly moist, fine to coarse sand, 60% fines (field estimate)	
2885										
	45			S-4	20 36 50			SP	@45': Poorly graded Sand (SP), very dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
2880										
	50			R-8	50/6"			SP-SM	@50': Poorly graded Sand with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2875									**Total Depth: 50.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	55									
2870										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-4-7

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2915'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	CR, DS, MD
2920				R-1	7 10 14	122	1	SP	@2.5': Poorly graded SAND (SP), medium dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			R-2	15 20 23			SP-GP	@5': Poorly graded SAND with Gravel (SP-GP), medium dense, olive brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2915				R-3	28 50/6"			SP-GP	@7.5': Poorly graded SAND with Gravel (SP-GP), very dense, olive brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
	10			R-4	25 30 50/5"	116	1	SP	@10': Poorly graded SAND (SP), very dense, olive brown, moist, coarse sand, 5% fines (field estimate)	
2910										
	15			S-1	27 36 38			SM	@15': SILTY SAND (SM), very dense, white and light tan, slightly moist, very fine sand, 45% fines (field estimate)	
2905										
	20			R-5	50/5"			ML	@20': SANDY SILT (ML), hard, dark brown, slightly moist, fine to coarse sand, 70% fines (field estimate), low plasticity	
2900									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2895										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-4-8

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2917'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	7 15 13	106	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, medium sand, 10% fines (field estimate)	
2920										
	5			R-2	9 10 10				@5': No recovery	
				R-3	13 18 40				@7.5': No recovery Soil cuttings: Poorly graded SAND with Silt (SP-SM), dense, brown, mediun sand, 105 fines (field estimate)	
2915										
	10			R-4	22 35 50/6"	91	0	SP	@10': Poorly graded SAND (SP), very dense, grayish white, slightly moist, coarse sand, 5% fines (field estimate)	
2910										
	15			S-1	50/6"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 45% fines (field estimate)	
2905										
	20			R-5	50/6"			CL	@20': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine to coarse sand, 70% fines (field estimate), medium plasticity	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2900										
	25									
2895										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-4-9

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2914'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 15% fines (field estimate)	
2920				R-1	14 16 21	100	3	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, brown and white, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-2	16 21 28			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, brown and white, slightly moist, coarse sand, trace gravel, 10% fines (field estimate), approximately 2 1/2-inch diameter cobble stuck in shoe of sampler	
2915				R-3	15 39 50	126	0	SP	@7.5': Poorly graded SAND (SP), very dense, grayish white, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	CO
	10			R-4	40 50/5"			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, grayish white, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2910										
	15			S-1	19 34 50			ML	@15': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2905										
	20			R-5	50/4"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2900									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2895										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-4-10

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine and medium sand, 15% fines (field estimate)	
				S-1	5 3 4			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), loose, brown, slightly moist, medium sand, 10% fines (field estimate)	
2915	5			R-1	10 13 27	121	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
				R-2	20 36 33			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2910	10			R-3	28 40 50	99	1	SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, light brown, sligtly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2905	15			S-1	22 36 38			CL	@15': LEAN CLAY with Sand (CL), hard, brown, slightly moist, fine sand, 70% fines (field estimate), medium plasticity	
2900	20			R-4	40 50/4"	124	11	CL	@20': LEAN CLAY with Sand (CL), hard, brown and white, slightly moist, fine sand, 72% fines (lab), medium plasticity	-200
2895	25			S-2	38 40 50/5"			CL	@25': LEAN CLAY with Sand (CL), hard, tan, slightly moist, fine sand, 85% fines (field estimate), medium plasticity	
2890	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-10

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2890	30			R-5	30 50/4"			SM	@30': SILTY SAND (SM), very dense, light brown, slightly moist, fine sand, 35% fines (field estimate)	
									Total Depth: 31' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	35									
2880	40									
2875	45									
2870	50									
2865	55									
2860	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-5-1

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to coarse sand, 30% fines (field estimate)	
2910				R-1	11 17 21	125	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, grayish brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			S-1	8 10 12				@5': No recovery	
2905				R-2	20 50/5"	112	4	SP-SM	@7.5': Poorly graded SAND (SP), dense, pinkish white, slightly moist, coarse sand, 5% fines (field estimate) @8.5': SILT (ML), hard, tan, slightly moist, low toughness, 90% fines (field estimate), low plasticity	
	10			S-2	28 50/5"			CL-ML	@10': SILTY CLAY with Sand (CL-ML), hard, tan, slightly moist, low toughness, 74% fines (lab), low to medium plasticity	-200
2900										
	15			R-3	50/5"			SP-GP	@15': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2895										
	20			S-3	28 50/6"			SP-GP	@20': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, 25% gravel (field estimate), 5% fines (lab)	-200
2890										
	25			R-4	50/6"			SP-GP	@25': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2885										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-5-1

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2880	30			S-4	20 36 40			SM	@30': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
									Total Depth: 31.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2875	35									
2870	40									
2865	45									
2860	50									
2855	55									
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-5-2

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 30% fines (field estimate)	
2910				S-1	10 13 13			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-1	16 20 29	120	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2905				S-2	9 10 19			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	10			R-2	19 23 33			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2900										
	15			S-3	19 23 25			SM	@15': SILTY SAND (SM), dense, light brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2895										
	20			R-3	35 50/6"			SP-GP	@20': Poorly graded SAND with Gravel (SP-GP), very dense, grayish white, slightly moist, coarse sand, 5% fines, 15% gravel (field estimate)	
2890									**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2885										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-5-3

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
				R-1	15 19 25	115	2	SP	@2.5': Poorly graded SAND (SP), medium dense, pinkish brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2905	5			S-1	9 15 14			SW-SM	@5': Well graded SAND with Silt and Gravel (SW-SM), medium dense, pinkish brown, slightly moist, coarse sand, slightly cemented, 15% gravel (field estimate), 7% fines (lab)	-200
				R-2	18 50/6"	120	1	SW-SM	@7.5': Well graded SAND with Silt and Gravel (SW-SM), very dense, pinkish brown, slightly moist, coarse sand, slightly cemented, 10% fines, 20% gravel (field estimate)	
2900	10			S-2	17 18 22			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2895	15			R-3	32 50/5"			SP-SM	@15': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2890	20			S-3	19 25 28			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2885	25								**Total Depth: 21.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-4

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	CR, DS
				R-1	18 23 27	125	1	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, grayish brown, medium sand, 10% fines (field estimate)	
2905	5			S-1	8 5 6			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), dense, grayish brown, medium sand, 10% fines (field estimate)	
				R-2	18 36 25	125	1	SP	@7.5': Poorly graded SAND (SP), dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900	10			S-2	8 10 12			SP	@10': Poorly graded SAND (SP), medium dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895	15			R-3	15 50/5"			SP-SM	@15': No Recovery	
2890	20			S-3	25 34 46			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2885	25								**Total Depth: 21.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-5-5

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0							SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, coarse sand, 10% fines (field estimate)	
				R-1	40 50/4"	113	12	CL	@2.5': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine sand, high dry strength, 70% fines (field estimate), medium plasticity	
2900	5			R-2	50/6"			CL	@5': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine sand, high dry strength, 55% fines (field estimate), medium plasticity	
				R-3	21 32 40	118	1	SP	@7.5': Poorly graded SAND (SP), dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895	10			R-4	19 25 37			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), dense, orange brown, slightly moist, coarse sand, 6% fines (lab)	-200
2890	15			S-1	10 17 19			SP	@15': Poorly graded SAND (SP), dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2885	20			R-5	27 50/6"				@20': No recovery	
2880	25			S-2	27 36 32			SP-SM	@25': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2875	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-5

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2875	30			R-6	37 50/4"			CL	@30': SANDY LEAN CLAY (CL), hard, brown, slightly moist, low toughness, 70% fines (lab), medium plasticity	-200, AL
2870	35			S-3	26 40 50/4"			SP	@35': SILTY SAND (SM), very dense, olive brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2865	40			R-7	50/6"			SM	@40': SILTY SAND (SM), very dense, light brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2860	45			S-4	24 50/6"			CL-ML	@45': SANDY SILTY CLAY (CL-ML), hard, brown, slightly moist, fine sand, 60% fines (lab), low to medium plasticity	-200
2855	50			R-8	50/5"			CL-ML	@50': SANDY SILTY CLAY (CL-ML), hard, brown, slightly moist, fine sand, 70% fines (field estimate), low to medium plasticity	
2850	55								**Total Depth: 50.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2845	60									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-6

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
2910				S-1	19 20 15			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, brown and white, slightly moist, medium sand, 10% fines (field estimate)	
	5			R-1	40 50/5"	124	3	SM	@5': SILTY SAND (SM), very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
2905				S-2	14 15 15			SM	@7.5': SILTY SAND (SM), very dense, pinkish brown, slightly moist, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
	10			R-2	15 36 50	125	1	SP-SM	@10': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2900										
	15			S-3	15 19 26			SP-SM	@15': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2895										
	20			R-3	26 50/4"			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2890									**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2885										
	30									

In-situ conditions encountered at the location and time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-7

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	19 44 50/5"			ML	@2.5': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2905	5			R-2	50/6"	108	7	SC	@5': CLAYEY SAND (SC), very dense, tan, slightly moist, fine to coarse sand, 49% fines (lab)	-200
				R-3	29 50/6"				@7.5': No recovery	
2900	10			R-4	39 50/6"			SW-SM	@10': Soil cuttings: Well graded SAND with Silt and Gravel (SW-SM), light brown, slightly moist, fine to coarse sand, 15% gravel (field estimate), 6% fines (lab)	
2895	15			S-1	20 29 36			SW-SM	@15': Well graded SAND with Silt and Gravel (SW-SM), very dense, grayish white, slightly moist, coarse sand, 15% gravel, 10% fines (field estimate)	-200
2890	20			R-5	50/6"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 80% fines (field estimate), low plasticity	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	25									
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-8

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2907'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to coarse sand, 30% fines (field estimate)	
				R-1	14 22 34	136	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2910	5			R-2	35 35 36			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
				R-3	25 50/6"			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2905	10			R-4	18 36 50			SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2900	15			S-1	14 20 21			SP	@15': Poorly graded SAND (SP), dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2895	20			R-5	29 50/6"			SP-GP	@20': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines, 15% gravel (field estimate)	
									Total Depth: 21' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890	25									
2885	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-9

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, medium sand, 10% fines (field estimate)	
2910				R-1	34 50/6"	127	4	SP-SM	@2.5': Poorly graded SAND with silt (SP-SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	25 50/6"				@5': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2905				S-1	33 21 31			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
	10			R-3	41 50/4"	131	2	SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900										
	15			S-2	21 22 35			SP	@15': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895										
	20			R-4	50/5"			SP	@20': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2890										
	25			S-3	22 41 50/4"			ML	@25': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 60% fines (field estimate), low plasticity	
2885										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-9

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-5	40 50/3"			CL	@30': LEAN CLAY (CL), hard, dark brown, slightly moist, high strength and toughness, 90% fines (field estimate), medium plasticity	
2880									**Total Depth: 31' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-5-10

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2907'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with silt (SP-SM), brown, dry, fine to medium sand, 10% fines (field estimate)	RV, MD, SA
				R-1	36 31 42	99	8	SM	@2.5': SILTY SAND (SM), dense, light brown, fine to coarse sand, slightly cemented, 15% fines (field estimate)	
2910	5			R-2	26 32 44			SM	@5': SILTY SAND (SM), dense, light brown, fine to coarse sand, slightly cemented, 15% fines (field estimate)	
				R-3	29 50/6"	120	2	SP	@7.5': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2905	10			R-4	39 43 50			SP	@10': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2900	15			S-1	10 12 13			SP	@15': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2895	20			R-5	39 50/6"			SP	@20': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2890	25								**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-5-11

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with silt (SP-SM), brown, dry, fine to medium sand, 10% fines (field estimate)	
				R-1	21 40 50/5"			ML	@2.5': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2905	5			R-2	21 38 34	121	6	SP	@5': Poorly graded SAND (SP), dense, gray, slightly moist, fine sand, 5% fines (field estimate)	
				R-3	17 34 50			SP	@7.5': Poorly graded SAND (SP), dense, gray, slightly moist, coarse sand, 5% fines (field estimate)	
2900	10			R-4	34 50/6"				@10': No recovery	
2895	15			S-1	15 18 31			SP	@15': Poorly graded SAND (SP), dense, gray white, slightly moist, coarse sand, 5% fines (field estimate)	
2890	20			R-5	35 50/4"			SP	@20': Poorly graded SAND (SP), dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
2885	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-6-1

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2910				R-1	50/5"			SC	@2.5': CLAYEY SAND (SC): very dense, white and brown, slightly moist, medium to coarse sand, cemented, 40% fines (field estimate)	
	5			R-2	50/6"			SP-SM	@5': Poorly graded SAND with Silt (SP-SM): very dense, reddish brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2905				R-3	28 27 42			SP	@7.5': Poorly graded SAND with Gravel (SP): dense, brown/white variegated, slightly moist, medium to coarse sand, 15% gravel, 5% fines (field estimate) -1 inch diameter cobbles in sampler	
	10			R-4	26 50/6"			SP	@10': Poorly graded SAND with Gravel (SP): very dense, light brown, slightly moist, medium to coarse sand, 15% gravel, 5% fines (field estimate)	
2900										
	15			S-1	26 38 50			SP	@15': Poorly graded SAND with Gravel (SP): very dense, white/gray, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2895										
	20			R-5	50/6"			SC	@20': CLAYEY SAND (SC): very dense, dark brown, slightly moist, fine to coarse sand, cemented, 45% fines (field estimate)	
2890										
	25			S-2	29 37 50/4"			ML	@25': SILT with SAND (ML): hard, tan, slightly moist, fine sand, slight oxidation, 85% low plasticity fines (field estimate)	
2885										
	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-6-1

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/4"			SC	@30': SILT with SAND (ML): hard, tan, slightly moist, fine sand, slight oxidation, 85% low plasticity fines (field estimate)	
2880										
	35			S-3	15 29 38			SC	@35': SILT with SAND (ML): hard, tan, slightly moist, fine sand, slight oxidation, 85% low plasticity fines (field estimate)	
2875										
	40			R-7	36 50/3"			SC	@40': SILT with SAND (ML): hard, olive, slightly moist, fine sand, slight oxidation, 80% low plasticity fines (field estimate)	
2870										
	45			S-4	10 4 5			SP	@45': Poorly graded SAND (SP): loose, olive brown, slightly moist, fine to medium sand, 5% fines (field estimate) @shoe of sampler: SILT (ML): brown and white, slightly moist, 90% low plasticity fines	
2865										
	50			R-8	50/5"			SM	@50': SILTY SAND (SM): very dense, pinkish brown, slightly moist, fine to coarse sand, slightly cemented, 25% fines (field estimate)	
2860									Total Depth: 50.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	55									
2855										
	60									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-6-2

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	50/6"	112	5	SM	@2.5': SILTY SAND (SM), very dense, brown, dry, fine to coarse sand, slightly cemented, 45% fines (field estimate)	
2910										
	5			R-2	40 50/4"	116	3	SM	@5': SILTY SAND (SM), very dense, brown, dry, fine to coarse sand, slightly cemented, 40% fines (field estimate)	
				R-3	34 50/6"			SP	@7.5': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2905										
	10			R-4	40 50/6"			SP	@10': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
									@12': Auger grinding to 15'	
2900										
	15			S-1	50/6"			SP	@15': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2895										
	20			R-5	50/5"			ML	@20': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
									Total Depth: 21.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890										
	25									
2885										
	30									

SOIL DESCRIPTION: This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-3

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2913'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	EI, CR, RV
				R-1	16 14 16	112	1	SP	@2.5': Poorly graded SAND with Gravel (SP): medium dense, light brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2915	5			R-2	9 11 17		2	SP-SM	@5': Poorly graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine sand, trace of gravel, 10% fines (field estimate)	
2910	10			R-3	24 50/5"			SP	@10': Poorly graded SAND with Gravel (SP): very dense, light brown, slightly moist, coarse sand, 35% gravel, 5% fines (field estimate) -2 inch diameter cobble in show	
2905	15			S-1	18 27 34			SP	@15': Poorly graded SAND (SP): very dense, light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2900	20			R-4	25 50/6"			SP	@20': Poorly graded SAND (SP): very dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate) -1.5 inch cobble found in shoe	
2895	25			S-2	25 50/6"			ML	@25': SANDY SILT (ML): hard, tan, slightly moist, fine sand, 60% low plasticity fines (field estimate)	
2890	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-3

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2913'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2890	30			R-5	50/6"			SM	@30': SILTY SAND (SM): very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
									Total Depth: 30.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2885	35									
2880	40									
2875	45									
2870	50									
2865	55									
2860	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-4

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2915				R-1	17 20 22			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
	5			R-2	13 13 22	96	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, medium to coarse sand, trace of gravel and fine cobbles, 10% fines (field estimate)	
2910				R-3	50/4"			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM): very dense, white/ brown, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
	10			R-4	30 42 50/5"	98	1	SP	@10': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2905										
	15			S-1	17 25 32			SP	@15': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2900										
	20			R-5	25 50/6"				@20': NO RECOVERY	
2895									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2890										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-5

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2910				R-1	42 50/4"	121	7	SM	@2.5': SILTY SAND (SM): very dense, white and brown, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			R-2	50/5"			SM	@5': SILTY SAND (SM): very dense, white and brown, slightly moist, medium to coarse sand, slightly cemented, 25% fines (field estimate)	
2905				R-3	29 50/5"	109	9	CL	@7.5': Sandy LEAN CLAY (CL): hard, tan, slightly moist, low toughness, 60% fines (lab)	-200, AL
	10			R-4	50/6"			ML	@10': SANDY SILT (ML): hard, tan, slightly moist, fine sand, 65% low plasticity fines (field estimate)	
2900										
	15			S-1	15 23 26			ML	@15': SANDY SILT (ML): hard, tan, slightly moist, fine sand, 55% low plasticity fines (field estimate)	
2895										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): very dense, white and brown, slightly moist, fine sand, slightly cemented, 30% fines (field estimate)	
2890									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2885										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-6-6

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2909'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2915				R-1	7 9 12	106	2	SW	@2.5': Well graded SAND (SW), medium dense, reddish brown, slightly moist, medium sand, slightly cemented, 5% fines (field estimate)	
	5			R-2	7 12 15			SW	@5': Well graded SAND (SW), medium dense, yellowish brown, slightly moist, medium sand, slightly cemented, 10% fines (field estimate)	
2910				R-3	17 24 27			SW	@7.5': Well graded SAND (SW), medium dense, reddish brown, slightly moist, medium sand, slightly cemented, trace gravel, 10% fines (field estimate)	CO
	10			R-4	17 25 50	108	1	SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), dense, grayish light brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2905										
	15			S-1	25 30 27			SW-SM	@15': Well graded SAND with Silt (SW-SM), very dense, white, slightly moist, fine to coarse sand, trace gravel, 6% fines (lab)	-200
2900										
	20			R-5	50/6"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, trace gravel, 30% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2895										
	25									
2890										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-7

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2907'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2915	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, medium sand, 10% fines (field estimate)	
				R-1	50/5"	122	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), very dense, reddish brown, dry, coarse sand, slightly cemented, 10% fines (field estimate)	
2910	5			R-2	50/6"			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), very dense, reddish brown, dry, coarse sand, slightly cemented, 10% fines (field estimate)	
				R-3	38 50/5"	120	3	SP-GP	@7.5': Poorly graded SAND with Gravel (SP-GP), very dense, reddish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate), approximately 2-inch cobble found in shoe of sampler	
2905	10			R-4	26 34 50			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, reddish brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2900	15			S-1	26 33 45			ML	@15': SANDY SILT (ML), hard, brown, slightly moist, fine to coarse sand, 70% fines (field estimate), low plasticity	
2895	20			R-5	38 50/5"			CL	@20': LEAN CLAY (CL), hard, brown, slightly moist, high toughness and dry strength, 40% fines (field estimate), medium plasticity	
2890	25								**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	30									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-8

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2916'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2920				R-1	7 7 8	108	1	SP	@2.5': Poorly Graded SAND (SP): loose, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			R-2	8 17 18	116	1	SP	@5': Poorly Graded SAND (SP): medium dense, light brown, slightly moist, coarse sand, trace of gravel, 5% fines (field estimate)	
2915				R-3	18 50/6"			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, light brown, slightly moist, coarse sand, trace of gravel and fine cobbles, 5% fines (field estimate)	-200
	10			R-4	20 50/6"			SP	@10': Poorly Graded SAND (SP): very dense, light brown, slightly moist, coarse sand, trace of gravel, 5% fines (field estimate)	
2910										
	15			S-1	17 15 30			SP	@15': Poorly Graded SAND (SP): dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2905										
	20			R-5	36 50/6"				@20': NO RECOVERY	
2900									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-9

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2914'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2920				R-1	26 35 44	119	3	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	28 44 34			SP	@5': Poorly Graded SAND with Gravel (SP): dense, grayish brown, slightly moist, fine to coarse sand, 15% gravel, 5% fines (field estimate)	
2915				R-3	17 50/6"	106	1	SP	@7.5': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 15% gravel, 5% fines (field estimate) -2.5 inch diameter cobble stuck in shoe of sampler	
	10			R-4	26 50/6"			SP	@10': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2910										
	15			S-1	15 22 35			SP	@15': Poorly Graded SAND (SP): very dense, grayish brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2905										
	20			R-5	35 50/5"			SM	@20': SILTY SAND (SM): hard, tan, slightly moist, fine sand, 23% fines (lab)	-200
2900									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-10

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2912'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	40 50/4"			SP-SM	@2.5': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
2915	5			R-2	50/6"	107	2	SP-SM	@5': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel and cobble, 10% fines (field estimate)	
				R-3	50/6"			SP-SM	@7.5': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel and cobble, 10% fines (field estimate)	
2910	10			R-4	50/6"			SP-SM	@10': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel and cobble, 10% fines (field estimate)	
2905										
	15			S-1	20 33 32			SM	@15': SILTY SAND (SM): very dense, tan, slightly moist, fine sand, 18% fines (lab)	-200
2900										
	20			R-5	25 50/5"			SP	@20': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine to medium sand, 5% fines (field estimate)	
2895										
	25			S-2	34 50/6"			ML SP	@25': SILT with SAND (ML): light brown, slightly moist, fine sand, 85% low plasticity fines (field estimate) @25.5': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine sand, 5% fines (field estimate)	
2890	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-10

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2912'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/6"			CL-ML	@30': SANDY SILTY CLAY (CL-ML): hard, tan, slightly moist, fine sand, 52% fines (lab)	-200
2885	35								Total Depth: 30.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2880	40									
2875	45									
2870	50									
2865	55									
2860	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-1

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2916'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	RV
2920				R-1	20 25 24	100	6	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
	5			R-2	12 19 30			SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 7% fines (lab)	-200
2915				R-3	12 19 24			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, grayish brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	CO
	10			R-4	18 50/6"			GP	@10': Poorly Graded GRAVEL with Sand (GP): very dense, light brown, slightly moist, fine to coarse gravel, 30% coarse sand, 5% fines (field estimate) -Cobbles present in sampler	
2910										
	15			S-1	18 24 31			SP	@15': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2905										
	20			R-5	50/5"			ML	@20': SILT with Sand (ML): hard, brown, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2900									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-7-2

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2915				R-1	12 16 19	114	3	SM	@2.5': SILTY SAND (SM): medium dense, brown, slightly moist, fine to coarse sand, 30% fines (field estimate)	
	5			R-2	19 30 50			SM	@5': SILTY SAND (SM): dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 15% fines (field estimate)	
2910				R-3	50/5"				@7.5': NO RECOVERY	
	10			R-4	50/6"			SM	@10': SILTY SAND (SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
2905										
	15			S-1	15 31 40			ML	@15': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2900										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): very dense, brown, slightly moist, medium to coarse sand, slightly cemented, 25% fines (field estimate)	
2895									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2890										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-7-3

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2918'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 20% fines (lab)	DS, MD, SA
				R-1	10 19 40	120	4	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): dense, grayish brown, slightly moist, fine to coarse sand, slightly cemented, 10% fines (field estimate)	
2920	5			R-2	24 25 34			SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): dense, grayish brown, slightly moist, fine to coarse sand, slightly cemented, trace of gravel, 10% fines (field estimate)	
				R-3	50/3"				@7.5': NO RECOVERY	
2915	10			R-4	50/3"			SW-SM	@10': NO RECOVERY From Cuttings: Well-graded SAND with Gravel (SW-SM): very dense, light brown, slightly moist, coarse sand, trace of gravel, 5% fines (field estimate)	
2910	15			S-1	50/6"			SW-SM	@15': Well-graded SAND with Gravel (SW-SM): very dense, grayish white, slightly moist, fine to medium sand, trace of gravel, 7% fines (lab)	SA
2905	20			R-5	29 50/6"			SW-SM	@20':Well-graded SAND with Gravel (SW-SM): very dense, gray, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2900	25			S-2	40 50/3"			SM	@25': SILTY SAND (SM): hard, tan, slightly moist, fine sand, 45% fines (lab)	SA
2895	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-7-3

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2918'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	38 50/6"			SM	@30': SILTy SAND (SM): hard, brown, slightly moist, fine sand	
2890	35								Total Depth: 31' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2885	40									
2880	45									
2875	50									
2870	55									
2865	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-4

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2919'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2925				R-1	20 34 47			SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): dense, light brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	27 50/6"	111	2	SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): very dense, light brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
2920				R-3	23 50/6"			SP	@7.5': Poorly Graded SAND (SP): very dense, tannish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
	10			R-4	16 43 50			SP	@10': Poorly Graded SAND with Gravel (SP): very dense, tannish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2915										
	15			S-1	18 27 35			SP	@15': Poorly Graded SAND (SP): very dense, tannish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2910										
	20			R-5	50/4"			ML	@20': SILT (ML): hard, tan, slightly moist, 90% low plasticity fines (field estimate)	
2905									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2900										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-5

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2916'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 40% fines (field estimate)	
2920				R-1	27 50/5"	97	3	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
	5			R-2	36 50/5"	120	3	SM	@5': SILTY SAND (SM): very dense, pinkish brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2915				R-3	33 50/4"			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, light brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel, 10% fines (field estimate)	
	10			R-4	50/6"			GP	@10': Poorly Graded GRAVEL with Sand (GP): very dense, white and ligh brown variegated, slightly moist, fine to coarse gravel, 20% medium to coarse sand, 5% fines (field estimate)	
2910										
	15			S-1	22 50/5"			ML	@15': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2905										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): very dense, grayish brown, slightly moist, fine sand, 35% fines (field estimate)	
2900									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-7-6

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2921'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2925				R-1	10 21 24			SP	@2.5': Poorly Graded SAND (SP): dense, light brown, slightly moist, medium to coarse sand, 5% fines (field estimate)	
	5			R-2	14 27 32				@5': NO RECOVERY	
2920				R-3	40 50/6"			SM	@7.5': SILTY SAND (SM): very dense, light brown, slightly moist, medium to coarse sand, 13% fines (lab)	-200
	10			R-4	32 50/3"			SM	@10': SILTY SAND (SM): very dense, brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
2915										
	15			S-1	29 50/6"			ML	@15': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2910										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): hard, tan, slightly moist, fine sand, 49% fines (lab)	-200
2905										
	25			S-2	39 50/6"			ML	@25': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 85% low plasticity fines (field estimate)	
2900										
	30									

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SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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GEOTECHNICAL BORING LOG LB-7-6

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2921'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	29 50/6"				@30': NO RECOVERY	
2895									Total Depth: 31' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	35									
2890										
	40									
2885										
	45									
2880										
	50									
2875										
	55									
2870										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-7

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2915'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	CR, RV
2920				R-1	28 42 50	111	3	SM	@2.5': SILTY SAND (SM): very dense, brown and white, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			R-2	28 50/6"			SM	@5': Poorly Graded SAND (SP): very dense, brown, slightly moist, medium to coarse sand, trace of gravel, 5% fines (field estimate)	
2915				R-3	22 50/6"				@7.5': NO RECOVERY	
	10			R-4	43 50/4"			SM	@10': Poorly Graded SAND with Gravel and Cobble (SP): very dense, light brown, slightly moist, fine to coarse sand, 30% gravel and cobble (up to 1.5 inches diameter), 5% fines (field estimate)	
2910										
	15			S-1	44 50/6"			ML	@15': SILT with Sand (ML): hard, tannish brown, slightly moist, fine sand, 85% low plasticity fines (field estimate)	
2905										
	20			R-5	50/6"			SM	@20': SILT with Sand (ML): hard, tannish brown, slightly moist, fine sand, 85% low plasticity fines (field estimate)	
2900									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-7-8

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2914'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND (SP-SM): brown, dry, fine to medium sand	
2920				R-1	10 14 17			SP-SM	@2.5': Poorly graded SAND (SP-SM): medium dense, brown, slightly moist, fine to coarse sand	
	5			R-2	11 16 30	117	2	SP-SM	@5': Poorly graded SAND (SP-SM): medium dense, brown and white, slightly moist, fine to coarse sand, slightly cemented, 10% fines (lab)	-200
2915				R-3	50/6"			SP-SM	@7.5': Poorly graded SAND (SP-SM): very dense, brown and white, slightly moist, fine to coarse sand, slightly cemented	
	10			R-4	50/4"			SP-SM	@10': Poorly graded SAND (SP-SM): very dense, brown and white, slightly moist, fine to coarse sand, slightly cemented	
2910										
	15			S-1	31 44 40			ML	@15': SILT (ML): hard, tannish brown, slightly moist, 90% low plasticity fines (field estimate)	
2905										
	20			R-5	40 50/3"			ML	@20': SILT (ML): hard, tannish brown, slightly moist, 90% low plasticity fines (field estimate)	
2900									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-9

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2921'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2925				R-1	40 50/2"	106	3	SM	@2.5': SILTY SAND (SM): very dense, grayish brown, slightly moist, fine to medium sand, slightly cemented, trace of gravel, 15% fines (field estimate)	
	5			R-2	50/6"	116	3	SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): very dense, brown, slightly moist, fine to coarse sand, 10% fines (field estimate)	
2920				R-3	50/6"			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, brown, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
	10			R-4	38 50/5.5"			SP	@10': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2915										
	15			S-1	18 21 40			SP-SM	@15': Poorly Graded SAND with Silt (SP-SM): very dense, grayish white, slightly moist, fine to coarse sand, trace of gravel, 10% fines (field estimate)	
2910										
	20			R-5	40 50/5"			SP	@20': Poorly Graded SAND (SP): very dense, light brown, slightly moist, medium to coarse sand, 5% fines (field estimate)	
2905									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2900										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LB-7-10

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2925	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 40% fines (field estimate)	
				R-1	10 12 12			SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2920	5			R-2	6 12 20	115	2	SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
				R-3	15 32 38			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): dense, light brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel, 5% fines (lab)	-200
2915	10			R-4	28 50/6"	114	1	SP	@10': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2910	15			S-1	38 32 34			SP-SM	@15': Poorly Graded SAND with Silt (SP-SM): very dense, grayish brown, slightly moist, fine to coarse sand, trace of gravel, 10% fines (field estimate)	
2905	20			R-5	50/5"			SC	@20': CLAYEY SAND (SC): hard, tan, slightly moist, fine sand, 48% (lab)	-200, AL
2900	25			S-2	40 50/3"			SC	@25': CLAYEY SAND (SC): hard, tan, slightly moist,	
2895	30									

SOIL DESCRIPTION: This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-10

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2895	30			R-6	50/4"			SM	@30': SILTY SAND (SM): very dense, grayish brown, slightly moist, fine to coarse sand, slightly cemented, 40% fines (field estimate)	
2890	35			S-3	20 45 50/5"			ML	@35': SILT (ML): hard, tan, slightly moist, slight oxidation present, 90% low plasticity fines (field estimate)	
2885	40			R-7	50/5"			SM	@40': SILTY SAND (SM): very dense, light gray, slightly moist, fine to medium sand, 35% fines (field estimate)	
2880	45			S-4	30 34 40			SM	@45': SILTY SAND (SM): very dense, orange/ light brown, slightly moist, fine to medium sand, 35% fines (field estimate)	
2875	50			R-8	50/6"			CL	@50': LEAN CLAY (CL): hard, brown, slightly moist, high dry strength, 95% medium plasticity fines (field estimate)	
2870	55								Total Depth: 50.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2865	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LI-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2898'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 35% fines (field estimate)	
				S-1	10 11 11			SP	@3': Poorly graded SAND (SP), medium dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900	5			S-2	7 6 8			SP	@6': Poorly graded SAND (SP), medium dense, orange brown, slightly moist, coarse sand, 4% fines (lab)	-200
2895	10								**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2890	15									
2885	20									
2880	25									
2875	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LI-2

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2900	5								@5': Poorly graded SAND with Silt (SP-SM), reddish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895	10			S-1	50/6"			SM	@10': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 30% fines (field estimate)	
2890				S-2	32 50/6"			SM	@13.5': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 6% fines (field estimate)	SA
	15								**Total Depth: 15' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2885	20									
2880	25									
2875	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-3

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2898'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2900	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				S-1	15 16 23			SP-SM	@3': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, trace gravel, 10% fines (field estimate)	
2895	5			S-2	11 15 21			SW-SM	@6': Well graded SAND with Silt and Gravel (SW-SM), dense, light brown, slightly moist, coarse sand, 24% gravel, 6% fines (lab)	
2890	10								**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2885	15									
2880	20									
2875	25									
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-4

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
2895										
	5								@5': Poorly graded SAND (SP), brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2890										
	10			S-1	30 28 40			SW-SM	@10': Well graded SAND with Silt and Gravel (SW-SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 15% gravel (field estimate), 10% fines (lab)	-200
2885				S-2	10 15 28			CL	@13': SANDY LEAN CLAY (CL), hard, tan, slightly moist, fine sand, 58% fines (lab), medium plasticity	-200
	15								**Total Depth: 15' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2880										
	20									
2875										
	25									
2870										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LI-5

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2915	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				S-1	3 5 8			SP-SM	@3': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, coarse sand, 10% fines (field estimate)	
2910	5			S-2	7 9 13			SW-SM	@6': Well graded SAND with Silt (SW-SM), medium dense, gray, slightly moist, medium sand, 5% fines (lab)	SA
2905	10								**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2900	15									
2895	20									
2890	25									
2885	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LI-6

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
2910	5							SP-SM	@5': Poorly graded SAND with Silt (SP-SM), grayish brown, slightly moist, coarse sand, trace gravel, 10% fines (field estimate)	
2905	10			S-1	11 22 15			SP	@10': Poorly graded SAND (SP), dense, olive brown, slightly moist, medium sand, 5% fines (field estimate)	
2900	15			S-2	15 22 40			SW-SM	@13': Well graded SAND with Silt and Gravel (SW-SM), very hard, slightly moist, fine sand, 15% gravel (field estimate), 12% fines (lab)	-200
									Total Depth: 15' bgs **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2895	20									
2890	25									
2885	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LI-7

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2905										
	5								@5': Poorly graded SAND with Silt (SP-SM), brown, slightly moist, coarse sand, 10% fines (field estimate)	
2900										
	10			S-1	10 13 26			SP-SM	@10': Poorly graded SAND with Silt (SP), dense, light brown, slightly moist, coarse sand	
2895										
				S-2	25 28 46			SP-SM	@13': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, 11% fines (lab)	SA
	15									
2890									**Total Depth: 15' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
	20									
2885										
	25									
2880										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LI-8

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
2900				S-1	8 20 18			SM	@3': @Surface: SILTY SAND (SM), medium dense, brown, dry, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			S-2	8 14 19			SP-SM	@6': Poorly graded SAND with Silt and Gravel (SP-SM), dense, brown, slightly moist, coarse sand, 6% fines (lab)	-200
2895										
	10								**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2890										
	15									
2885										
	20									
2880										
	25									
2875										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-9

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 35% fines (field estimate)	
2910				S-1	11 16 9			SP	@3': Poorly Graded SAND (SP): medium dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
	5									
2905				S-2	12 12 15			SP	@6': Poorly Graded SAND with Gravel (SP): medium dense, light brown, slightly moist, coarse sand, trace of gravel, 4% fines (lab)	-200
	10									
2900									Total Depth: 8' bgs No groundwater encountered during drilling Infiltration Test Performed at 3 to 8' bgs Boring backfilled with soil cuttings to surface.	
	15									
2895										
	20									
2890										
	25									
2885										
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-10

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 35% fines (field estimate)	
2915	5			S-1	16 18 21			SW-SM	@5': Well graded SAND with Silt (SW-SM): dense, light brown, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
				S-2	14 18 22			SW-SM	@7.5': Well graded SAND with Silt (SW-SM): dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 6% fines (lab)	SA
2910	10									
2905	15								Total Depth: 10' bgs No groundwater encountered during drilling Infiltration Test Performed at 5 to 10' bgs Boring backfilled with soil cuttings to surface.	
2900	20									
2895	25									
2890	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

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GEOTECHNICAL BORING LOG LI-11

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2912'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
				S-1	6 9 12			SP-SM	@3': Poorly graded SAND with Silt (SP-SM): medium dense, white and brown, slightly moist, medium to coarse sand, slightly cemented, 9% fines (lab)	-200
2915	5			S-2	9 13 14			SP-SM	@6': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, medium to coarse sand, 5% fines (lab)	-200
2910	10								Total Depth: 8' bgs No groundwater encountered during drilling Infiltration Test Performed at 3 to 8' bgs Boring backfilled with soil cuttings to surface.	
2905	15									
2900	20									
2895	25									
2890	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-12

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2922'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 35% fines (field estimate)	
2930										
	5							SM	@5': SILTY SAND (SM): brown, slightly moist, fine to coarse sand, 25% fines (field estimate)	
2925										
	10			S-1	19 22 40			SP-SM	@10': Well Graded SAND with Silt and Gravel (SW-SM): very dense, olive brown, slightly moist, fine sand, micaceous, 10% fines (field estimate)	
2920				S-2	22 40 42			SP-SM	@13': Well Graded SAND with Silt and Gravel (SW-SM): very dense, olive brown, slightly moist, medium to coarse sand, 6% fines (lab)	SA
	15								Total Depth: 15' bgs No groundwater encountered during drilling Infiltration Test Performed at 10 to 15' bgs Boring backfilled with soil cuttings to surface.	
2915										
	20									
2910										
	25									
2905										
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

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Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280

Exploration #/Location: *LI-1*

Depth Boring drilled, bgs (ft): 8

Tested by: JP

USCS Soil Type in test zone: SP-SM

Weather (start to finish): Overcast

Water Source/pH: Tap

Measured boring diameter: 8 in. 4 in. Well Radius

Depth to GW or aquitard, bgs: 100 ft

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 88

Average depth of water in well, "h" (in.): 8

approx. h/r: 2.1

Tu (Fig. 8) (ft): 92.7

Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surfac	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 96

Use of Barrels: No

Use of Flow Meter: Yes

Test Type: Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse

Data logger ID:

Field Data / **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Data from Flow Meter: Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date: 11/13/2023	Start time: 13:00	Gallons																				
11/13/23	13:10	344.7		7.30					10	87.6	8.4											
11/13/23	13:12	348.82		7.30				2	12	87.6	8.4	0	8	952	0	952	476	28552	261	0.9	50.82	100.70
11/13/23	13:14	351.37		7.30				2	14	87.6	8.4	0	8	589	0	589	295	17671	261	0.9	31.46	62.33
11/13/23	13:16	355.12		7.30				2	16	87.6	8.4	0	8	866	0	866	433	25988	261	0.9	46.26	91.66
11/13/23	13:18	358.24		7.30				2	18	87.6	8.4	0	8	721	0	721	360	21622	261	0.9	38.49	76.26
11/13/23	13:20	361.4		7.30				2	20	87.6	8.4	0	8	730	0	730	365	21899	261	0.9	38.98	77.24
11/13/23	13:25	370.16		7.30				5	25	87.6	8.4	0	8	2024	0	2024	405	24283	261	0.9	43.23	85.64
11/13/23	13:30	379.03		7.30				5	30	87.6	8.4	0	8	2049	0	2049	410	24588	261	0.9	43.77	86.72
11/13/23	13:35	388.05		7.30				5	35	87.6	8.4	0	8	2084	0	2084	417	25003	261	0.9	44.51	88.19
11/13/23	13:40	396.67		7.30				5	40	87.6	8.4	0	8	1991	0	1991	398	23895	261	0.9	42.53	84.27
11/13/23	13:45	405.31		7.30				5	45	87.6	8.4	0	8	1996	0	1996	399	23950	261	0.9	42.63	84.47
11/13/23	13:50	414.4		7.30				5	50	87.6	8.4	0	8	2100	0	2100	420	25197	261	0.9	44.85	88.87
11/13/23	13:55	423.15		7.30				5	55	87.6	8.4	0	8	2021	0	2021	404	24255	261	0.9	43.18	85.55
11/13/23	14:00	432.03		7.30				5	60	87.6	8.4	0	8	2051	0	2051	410	24615	261	0.9	43.82	86.82
11/13/23	14:05	441.09		7.30				5	65	87.6	8.4	0	8	2093	0	2093	419	25114	261	0.9	44.71	88.58
11/13/23	14:10	450.07		7.30				5	70	87.6	8.4	0	8	2074	0	2074	415	24893	261	0.9	44.31	87.79
11/13/23	14:15	459.2		7.30				5	75	87.6	8.4	0	8	2109	0	2109	422	25308	261	0.9	45.05	89.26
11/13/23	14:20	468.06		7.30				5	80	87.6	8.4	0	8	2047	0	2047	409	24560	261	0.9	43.72	86.62
11/13/23	14:25	476.31		7.30				5	85	87.6	8.4	0	8	1906	0	1906	381	22869	261	0.9	40.71	80.66
11/13/23	14:30	484.6		7.30				5	90	87.6	8.4	0	8	1915	0	1915	383	22980	261	0.9	40.91	81.05
11/13/23	14:35	493.48		7.30				5	95	87.6	8.4	0	8	2051	0	2051	410	24615	261	0.9	43.82	86.82
11/13/23	14:40	502.53		7.30				5	100	87.6	8.4	0	8	2091	0	2091	418	25087	261	0.9	44.66	88.48
11/13/23	14:45	512.11		7.30				5	105	87.6	8.4	0	8	2213	0	2213	443	26556	261	0.9	47.27	93.66
11/13/23	14:50	521.3		7.30				5	110	87.6	8.4	0	8	2123	0	2123	425	25475	261	0.9	45.35	89.85
11/13/23	14:55	530.44		7.30				5	115	87.6	8.4	0	8	2111	0	2111	422	25336	261	0.9	45.10	89.36
11/13/23	15:00	539.32		7.30				5	120	87.6	8.4	0	8	2051	0	2051	410	24615	261	0.9	43.82	86.82
11/13/23	15:05	548.51		7.30				5	125	87.6	8.4	0	8	2123	0	2123	425	25475	261	0.9	45.35	89.85
11/13/23	15:10	557.68		7.30				5	130	87.6	8.4	0	8	2118	0	2118	424	25419	261	0.9	45.25	89.65
																			Minimum Rate:			62.33
													Raw Rate for design, prior to application of adjustment factors:									**81.00**

Results of Falling Head Infiltration Test

Project: RC23280

Exploration #/Location: *LI-2*

Depth Boring drilled, bgs (ft): 15

Tested by: JP

USCS Soil Type in test zone: SM

Weather (start to finish): Overcast

Water Source/pH: Tap

Measured boring diameter: 8 in. 4 in. Well Radius

Depth to GW or aquitard, bgs: 100 ft

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

	ft	in.	Total (in.)
Depth to bottom of well measured from top of a	15. ft	4. in.	184
Casing stickup measured above top of auger (	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Initial estimated Depth to Water Surface (in.): 155

Average depth of water in well, "h" (in.): 23

approx. h/r: 5.7

Tu (Fig. 8) (ft): 87.1

Tu>3h?: yes, OK

Depth of well bottom below top of casing (in): 190

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	No
Test Type:	Falling Head

Field Data **Calculations**

Date	Time	Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:											from supply	from Δh	Total						
11/13/2023	10:00	ft	in.																	
11/13/23	10:01	13.75					1	159.0	25.0											
11/13/23	10:02	14.25				1	2	165.0	19.0	-6	22	0	104	104	104	6227	603	0.9	3.98	9.52
11/13/23	10:03	14.45				1	3	167.4	16.6	-2.4	18	0	42	42	42	2491	498	0.9	1.85	4.61
11/13/23	10:04	14.65				1	4	169.8	14.2	-2.4	15	0	42	42	42	2491	437	0.9	2.33	5.25
11/13/23	10:05	14.80				1	5	171.6	12.4	-1.8	13	0	31	31	31	1868	385	0.9	2.09	4.48
11/13/23	10:11	13.1					11	151.2	32.8											
11/13/23	10:12	13.6				1	12	157.2	26.8	-6	30	0	104	104	104	6227	799	0.9	2.33	7.18
11/13/23	10:13	13.9				1	13	160.8	23.2	-3.6	25	0	62	62	62	3736	679	0.9	1.71	5.08
11/13/23	10:14	14.3				1	14	165.6	18.4	-4.8	21	0	83	83	83	4981	573	0.9	3.29	8.01
11/13/23	10:33	12.7					33	146.4	37.6											
11/13/23	10:34	12.9				1	34	148.8	35.2	-2.4	36	0	42	42	42	2491	965	0.9	0.59	2.38
11/13/23	10:35	13.1				1	35	151.2	32.8	-2.4	34	0	42	42	42	2491	905	0.9	0.66	2.54
11/13/23	10:36	13.3				1	36	153.6	30.4	-2.4	32	0	42	42	42	2491	844	0.9	0.74	2.72
11/13/23	10:37	13.5				1	37	156.0	28.0	-2.4	29	0	42	42	42	2491	784	0.9	0.85	2.93
11/13/23	10:38	13.65				1	38	157.8	26.2	-1.8	27	0	31	31	31	1868	731	0.9	0.70	2.35
11/13/23	10:39	13.8				1	39	159.6	24.4	-1.8	25	0	31	31	31	1868	686	0.9	0.78	2.51
11/13/23	10:40	14.1				1	40	163.2	20.8	-3.6	23	0	62	62	62	3736	618	0.9	2.02	5.57
11/13/23	10:41	14.25				1	41	165.0	19.0	-1.8	20	0	31	31	31	1868	550	0.9	1.13	3.13
11/13/23	10:42	14.35				1	42	166.2	17.8	-1.2	18	0	21	21	21	1245	513	0.9	0.82	2.24
11/13/23	10:43	14.5				1	43	168.0	16.0	-1.8	17	0	31	31	31	1868	475	0.9	1.45	3.63
11/13/23	10:44	14.6				1	44	169.2	14.8	-1.2	15	0	21	21	21	1245	437	0.9	1.07	2.63
11/13/23	10:45	14.7				1	45	170.4	13.6	-1.2	14	0	21	21	21	1245	407	0.9	1.21	2.82
11/13/23	10:50	13					50	150.0	34.0											
11/13/23	10:51	13.3				1	51	153.6	30.4	-3.6	32	0	62	62	62	3736	860	0.9	1.13	4.01
11/13/23	10:52	13.55				1	52	156.6	27.4	-3	29	0	52	52	52	3113	777	0.9	1.10	3.70
11/13/23	10:53	13.8				1	53	159.6	24.4	-3	26	0	52	52	52	3113	701	0.9	1.31	4.09
11/13/23	10:54	14.05				1	54	162.6	21.4	-3	23	0	52	52	52	3113	626	0.9	1.60	4.59
11/13/23	10:55	14.3				1	55	165.6	18.4	-3	20	0	52	52	52	3113	550	0.9	2.01	5.21
11/13/23	10:56	14.45				1	56	167.4	16.6	-1.8	18	0	31	31	31	1868	490	2.9	4.32	11.01
11/13/23	10:57	14.65				1	57	169.8	14.2	-2.4	15	0	42	42	42	2491	437	2.9	7.29	16.45
11/13/23	11:02	12.9					62	148.8	35.2											
11/13/23	11:03	13.2				1	63	152.4	31.6	-3.6	33	0	62	62	62	3736	890	2.9	3.32	12.13
11/13/23	11:04	13.6				1	64	157.2	26.8	-4.8	29	0	83	83	83	4981	784	2.9	5.78	18.35
11/13/23	11:05	13.7				1	65	158.4	25.6	-1.2	26	0	21	21	21	1245	709	2.9	1.50	5.08
11/13/23	11:06	14				1	66	162.0	22.0	-3.6	24	0	62	62	62	3736	648	2.9	5.81	16.64
11/13/23	11:07	14.2				1	67	164.4	19.6	-2.4	21	0	42	42	42	2491	573	2.9	4.55	12.56
11/13/23	11:08	14.4				1	68	166.8	17.2	-2.4	18	0	42	42	42	2491	513	0.9	1.76	4.48
11/13/23	11:09	14.6				1	69	169.2	14.8	-2.4	16	0	42	42	42	2491	452	0.9	2.19	5.08
11/13/23	11:10	14.8				1	70	171.6	12.4	-2.4	14	0	42	42	42	2491	392	0.9	2.83	5.86
																	Minimum Rate:			2.24
												Raw Rate for design, prior to application of adjustment factors:								**3.00**

Results of Falling Head Infiltration Test

Project: RC23280

Exploration #/Location: *LI-2*

Depth Boring drilled, bgs (ft): 15

Tested by: JP

USCS Soil Type in test zone: SM

Weather (start to finish): Overcast

Water Source/pH: Tap

Measured boring diameter: 8 in. 4 in. Well Radius

Depth to GW or aquitard, bgs: 100 ft

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

	ft	in.	Total (in.)
Depth to bottom of well measured from top of a	15. ft	4. in.	184
Casing stickup measured above top of auger (	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Initial estimated Depth to Water Surface (in.): 155

Average depth of water in well, "h" (in.): 23

approx. h/r: 5.8

Tu (Fig. 8) (ft): 87.1

Tu>3h?: yes, OK

Depth of well bottom below top of casing (in): 190

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	No
Test Type:	Falling Head

Field Data **Calculations**

Date	Time	Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:											from supply	from Δh	Total						
11/13/2023	10:00	ft	in.																	
11/13/23	11:18	12.85					78	148.2	35.8											
11/13/23	11:19	13.15				1	79	151.8	32.2	-3.6	34	0	62	62	62	3736	905	0.9	1.03	3.81
11/13/23	11:20	13.35				1	80	154.2	29.8	-2.4	31	0	42	42	42	2491	829	0.9	0.77	2.77
11/13/23	11:21	13.65				1	81	157.8	26.2	-3.6	28	0	62	62	62	3736	754	0.9	1.42	4.57
11/13/23	11:22	13.85				1	82	160.2	23.8	-2.4	25	0	42	42	42	2491	679	0.9	1.08	3.38
11/13/23	11:23	14.05				1	83	162.6	21.4	-2.4	23	0	42	42	42	2491	618	0.9	1.27	3.71
11/13/23	11:24	14.25				1	84	165.0	19.0	-2.4	20	0	42	42	42	2491	558	0.9	1.52	4.12
11/13/23	11:25	14.4				1	85	166.8	17.2	-1.8	18	0	31	31	31	1868	505	0.9	1.31	3.41
11/13/23	11:26	14.6				1	86	169.2	14.8	-2.4	16	0	42	42	42	2491	452	0.9	2.19	5.08
11/13/23	11:27	14.7				1	87	170.4	13.6	-1.2	14	0	21	21	21	1245	407	0.9	1.21	2.82
11/13/23	11:30	12.65					90	145.8	38.2											
11/13/23	11:31	13				1	91	150.0	34.0	-4.2	36	0	73	73	73	4359	958	0.9	1.11	4.20
11/13/23	11:32	13.3				1	92	153.6	30.4	-3.6	32	0	62	62	62	3736	860	0.9	1.13	4.01
11/13/23	11:33	13.5				1	93	156.0	28.0	-2.4	29	0	42	42	42	2491	784	0.9	0.85	2.93
11/13/23	11:34	13.7				1	94	158.4	25.6	-2.4	27	0	42	42	42	2491	724	0.9	0.97	3.17
11/13/23	11:35	13.9				1	95	160.8	23.2	-2.4	24	0	42	42	42	2491	664	0.9	1.13	3.46
11/13/23	11:36	14.15				1	96	163.8	20.2	-3	22	0	52	52	52	3113	596	0.9	1.75	4.82
11/13/23	11:37	14.35				1	97	166.2	17.8	-2.4	19	0	42	42	42	2491	528	0.9	1.67	4.35
11/13/23	11:38	14.45				1	98	167.4	16.6	-1.2	17	0	21	21	21	1245	483	0.9	0.91	2.38
11/13/23	11:39	14.6				1	99	169.2	14.8	-1.8	16	0	31	31	31	1868	445	0.9	1.63	3.87
11/13/23	11:40	14.75				1	100	171.0	13.0	-1.8	14	0	31	31	31	1868	400	0.9	1.96	4.31
11/13/23	11:43	12.7					103	146.4	37.6											
11/13/23	11:44	13				1	104	150.0	34.0	-3.6	36	0	62	62	62	3736	950	0.9	0.95	3.63
11/13/23	11:45	13.25				1	105	153.0	31.0	-3	33	0	52	52	52	3113	867	0.9	0.91	3.31
11/13/23	11:46	13.45				1	106	155.4	28.6	-2.4	30	0	42	42	42	2491	799	0.9	0.82	2.87
11/13/23	11:47	13.65				1	107	157.8	26.2	-2.4	27	0	42	42	42	2491	739	0.9	0.94	3.11
11/13/23	11:48	13.85				1	108	160.2	23.8	-2.4	25	0	42	42	42	2491	679	0.9	1.08	3.38
11/13/23	11:49	14.05				1	109	162.6	21.4	-2.4	23	0	42	42	42	2491	618	0.9	1.27	3.71
11/13/23	11:50	14.3				1	110	165.6	18.4	-3	20	0	52	52	52	3113	550	0.9	2.01	5.21
11/13/23	11:51	14.4				1	111	166.8	17.2	-1.2	18	0	21	21	21	1245	498	2.9	2.71	7.23
11/13/23	11:52	14.6				1	112	169.2	14.8	-2.4	16	0	42	42	42	2491	452	2.9	6.87	15.90
11/13/23	11:53	14.7				1	113	170.4	13.6	-1.2	14	0	21	21	21	1245	407	2.9	3.78	8.84
11/13/23	11:54	14.8				1	114	171.6	12.4	-1.2	13	0	21	21	21	1245	377	2.9	4.30	9.54
11/13/23	11:58	13					118	150.0	34.0											
11/13/23	11:59	13.25				1	119	153.0	31.0	-3	33	0	52	52	52	3113	867	2.9	2.84	10.37
11/13/23	12:00	13.45				1	120	155.4	28.6	-2.4	30	0	42	42	42	2491	799	2.9	2.56	9.00
11/13/23	12:01	13.7				1	121	158.4	25.6	-3	27	0	52	52	52	3113	731	2.9	3.82	12.30
11/13/23	12:02	13.8				1	122	159.6	24.4	-1.2	25	0	21	21	21	1245	679	0.9	0.52	1.69
11/13/23	12:03	14				1	123	162.0	22.0	-2.4	23	0	42	42	42	2491	633	0.9	1.22	3.63
11/13/23	12:04	14.25				1	124	165.0	19.0	-3	21	0	52	52	52	3113	565	0.9	1.91	5.08
11/13/23	12:05	14.35				1	125	166.2	17.8	-1.2	18	0	21	21	21	1245	513	0.9	0.82	2.24
11/13/23	12:06	14.5				1	126	168.0	16.0	-1.8	17	0	31	31	31	1868	475	0.9	1.45	3.63
11/13/23	12:07	14.65				1	127	169.8	14.2	-1.8	15	0	31	31	31	1868	430	0.9	1.72	4.01
11/13/23	12:08	14.75				1	128	171.0	13.0	-1.2	14	0	21	21	21	1245	392	0.9	1.29	2.93
																	Minimum Rate:			1.69
												Raw Rate for design, prior to application of adjustment factors:								**3.00**

Results of Falling Head Infiltration Test

Project:	RC23280
Exploration #/Location:	*LI-2*
Depth Boring drilled, bgs (ft):	15
Tested by:	JP
USCS Soil Type in test zone:	SM
Weather (start to finish):	Overcast
Water Source/pH:	Tap
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

	ft	in.	Total (in.)
Depth to bottom of well measured from top of a	15. ft	4. in.	184
Casing stickup measured above top of auger (	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 190

Initial estimated Depth to Water Surface (in.): 157
Average depth of water in well, "h" (in.): 21
approx. h/r: 5.3
Tu (Fig. 8) (ft): 86.9
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	No
Test Type:	Falling Head

Field Data **Calculations**

Date	Time	Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:											from supply	from Δh	Total						
11/13/2023	10:00	ft	in.																	
11/13/23	12:12	12.85					132	148.2	35.8											
11/13/23	12:14	13.35				2	134	154.2	29.8	-6	33	0	104	104	52	3113	875	0.9	0.99	3.28
11/13/23	12:16	13.65				2	136	157.8	26.2	-3.6	28	0	62	62	31	1868	754	0.9	0.71	2.28
11/13/23	12:18	14.00				2	138	162.0	22.0	-4.2	24	0	73	73	36	2179	656	0.9	1.09	3.06
11/13/23	12:20	14.35				2	140	166.2	17.8	-4.2	20	0	73	73	36	2179	550	0.9	1.50	3.65
11/13/23	12:22	14.55				2	142	168.6	15.4	-2.4	17	0	42	42	21	1245	467	0.9	1.03	2.46
11/13/23	12:24	14.75				2	144	171.0	13.0	-2.4	14	0	42	42	21	1245	407	0.9	1.32	2.82
11/13/23	12:26	14.9				2	146	172.8	11.2	-1.8	12	0	31	31	16	934	354	0.9	1.21	2.43
																	Minimum Rate:			2.28
																	Raw Rate for design, prior to application of adjustment factors:			**3.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280

Exploration #/Location: LI-3

Depth Boring drilled, bgs (ft): 8

Tested by: JP

USCS Soil Type in test zone: SP-SM

Weather (start to finish): Overcast

Water Source/pH: Tap

Measured boring diameter: 8 in. 4 in. Well Radius

Depth to GW or aquitard, bgs: 100 ft

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse

Data logger ID:

Initial estimated Depth to Water Surface (in.): 86

Average depth of water in well, "h" (in.): 10

approx. h/r: 2.4

Tu (Fig. 8) (ft): 92.8

Tu>3h?: yes, OK

Depth of well bottom below top of casing (in): 96

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels: No

Use of Flow Meter: Yes

Test Type: Constant Head

Field Data | **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled?	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:	Reading (gallons)	Interval Pulse Count	ft	in.		(or Comments)							from supply	from Δh	Total						
11/14/2023	8:00	Gallons																				
11/14/23	8:00	575.3		7.20					0	86.4	9.6											
11/14/23	8:05	582.05		7.20				5	5	86.4	9.6	0	10	1559	0	1559	312	18711	292	0.9	28.08	59.17
11/14/23	8:10	588.6		7.20				5	10	86.4	9.6	0	10	1513	0	1513	303	18157	292	0.9	27.25	57.41
11/14/23	8:15	595.17		7.20				5	15	86.4	9.6	0	10	1518	0	1518	304	18212	292	0.9	27.33	57.59
11/14/23	8:20	602.02		7.20				5	20	86.4	9.6	0	10	1582	0	1582	316	18988	292	0.9	28.50	60.04
11/14/23	8:25	608.4		7.20				5	25	86.4	9.6	0	10	1474	0	1474	295	17685	292	0.9	26.54	55.92
11/14/23	8:30	615.22		7.20				5	30	86.4	9.6	0	10	1575	0	1575	315	18905	292	0.9	28.37	59.78
11/14/23	8:35	621.63		7.20				5	35	86.4	9.6	0	10	1481	0	1481	296	17769	292	0.9	26.67	56.19
11/14/23	8:40	627.8		7.20				5	40	86.4	9.6	0	10	1425	0	1425	285	17103	292	0.9	25.67	54.08
11/14/23	8:45	634.26		7.20				5	45	86.4	9.6	0	10	1492	0	1492	298	17907	292	0.9	26.88	56.62
11/14/23	8:50	640.39		7.20				5	50	86.4	9.6	0	10	1416	0	1416	283	16992	292	0.9	25.50	53.73
11/14/23	8:55	647.62		7.20				5	55	86.4	9.6	0	10	1670	0	1670	334	20042	292	0.9	30.08	63.37
11/14/23	9:00	654.2		7.20				5	60	86.4	9.6	0	10	1520	0	1520	304	18240	292	0.9	27.38	57.68
11/14/23	9:05	661.11		7.20				5	65	86.4	9.6	0	10	1596	0	1596	319	19155	292	0.9	28.75	60.57
11/14/23	9:10	667.82		7.20				5	70	86.4	9.6	0	10	1550	0	1550	310	18600	292	0.9	27.92	58.81
11/14/23	9:15	673.02		7.20				5	75	86.4	9.6	0	10	1201	0	1201	240	14414	292	0.9	21.63	45.58
11/14/23	9:20	679.36		7.20				5	80	86.4	9.6	0	10	1465	0	1465	293	17574	292	0.9	26.38	55.57
11/14/23	9:25	685.13		7.20				5	85	86.4	9.6	0	10	1333	0	1333	267	15994	292	0.9	24.01	50.58
11/14/23	9:30	692.36		7.20				5	90	86.4	9.6	0	10	1670	0	1670	334	20042	292	0.9	30.08	63.37
11/14/23	9:35	699.8		7.20				5	95	86.4	9.6	0	10	1719	0	1719	344	20624	292	0.9	30.95	65.21
11/14/23	9:40	705.46		7.20				5	100	86.4	9.6	0	10	1307	0	1307	261	15690	292	0.9	23.55	49.61
11/14/23	9:45	712.1		7.20				5	105	86.4	9.6	0	10	1534	0	1534	307	18406	292	0.9	27.63	58.20
11/14/23	9:50	718.52		7.20				5	110	86.4	9.6	0	10	1483	0	1483	297	17796	292	0.9	26.71	56.27
11/14/23	9:55	725.14		7.20				5	115	86.4	9.6	0	10	1529	0	1529	306	18351	292	0.9	27.54	58.03
11/14/23	10:00	731.26		7.20				5	120	86.4	9.6	0	10	1414	0	1414	283	16965	292	0.9	25.46	53.64
																			Minimum Rate:			45.58
														Raw Rate for design, prior to application of adjustment factors:								**53.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280
Exploration #/Location:	LI-4
Depth Boring drilled, bgs (ft):	15
Tested by:	JP
USCS Soil Type in test zone:	SP-SM
Weather (start to finish):	Sunny
Water Source/pH:	Tap
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surfa	15. ft	4. in.	184
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	7.6 in.	7.6
Depth to top of sand from top of casing	10. ft	0. in.	

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Initial estimated Depth to Water Surface (in.): 129
Average depth of water in well, "h" (in.): 48
approx. h/r: 11.9
Tu (Fig. 8) (ft): 89.3
Tu>3h?: yes, OK

Depth of well bottom below top of casing (in): 192

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Field Data | **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled?	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:	Reading (gallons)	Interval Pulse Count				(or Comments)							from supply	from Δh	Total						
11/14/2023	10:00	Gallons		ft	in.																	
11/14/23	10:20	748.09		12.20					20	138.8	45.2											
11/14/23	10:25	753.36		12.20				5	25	138.8	45.2	0	45	1217	0	1217	243	14608	1186	0.9	2.31	11.35
11/14/23	10:30	758.42		12.20				5	30	138.8	45.2	0	45	1169	0	1169	234	14026	1186	0.9	2.22	10.90
11/14/23	10:35	763.5		12.20				5	35	138.8	45.2	0	45	1173	0	1173	235	14082	1186	0.9	2.23	10.94
11/14/23	10:40	768.4		12.20				5	40	138.8	45.2	0	45	1132	0	1132	226	13583	1186	0.9	2.15	10.56
11/14/23	10:45	773.71		12.20				5	45	138.8	45.2	0	45	1227	0	1227	245	14719	1186	0.9	2.33	11.44
11/14/23	10:50	777.19		12.20				5	50	138.8	45.2	0	45	804	0	804	161	9647	1186	0.9	1.53	7.50
11/14/23	10:55	781.08		12.20				5	55	138.8	45.2	0	45	899	0	899	180	10783	1186	0.9	1.71	8.38
11/14/23	11:00	785.1		12.20				5	60	138.8	45.2	0	45	929	0	929	186	11143	1186	0.9	1.76	8.66
11/14/23																						
11/14/23	11:05	788.54		11.95					65	135.8	48.2											
11/14/23	11:10	793.61		11.95				5	70	135.8	48.2	0	48	1171	0	1171	234	14054	1262	0.9	2.01	10.27
11/14/23	11:15	798.73		11.95				5	75	135.8	48.2	0	48	1183	0	1183	237	14193	1262	0.9	2.03	10.37
11/14/23	11:20	804.3		11.95				5	80	135.8	48.2	0	48	1287	0	1287	257	15440	1262	0.9	2.21	11.28
11/14/23	11:25	809.51		11.95				5	85	135.8	48.2	0	48	1204	0	1204	241	14442	1262	0.9	2.06	10.55
11/14/23	11:30	814.63		11.95				5	90	135.8	48.2	0	48	1183	0	1183	237	14193	1262	0.9	2.03	10.37
11/14/23	11:35	819.52		11.95				5	95	135.8	48.2	0	48	1130	0	1130	226	13555	1262	0.9	1.94	9.90
11/14/23	11:40	824.8		11.95				5	100	135.8	48.2	0	48	1220	0	1220	244	14636	1262	0.9	2.09	10.69
11/14/23	11:45	830.35		11.95				5	105	135.8	48.2	0	48	1282	0	1282	256	15385	1262	0.9	2.20	11.24
11/14/23	11:50	835.41		11.95				5	110	135.8	48.2	0	48	1169	0	1169	234	14026	1262	0.9	2.01	10.25
11/14/23	11:55	840.7		11.95				5	115	135.8	48.2	0	48	1222	0	1222	244	14664	1262	0.9	2.10	10.71
11/14/23	12:00	845.66		11.95				5	120	135.8	48.2	0	48	1146	0	1146	229	13749	1262	0.9	1.97	10.05
11/14/23	12:05	850.42		11.90				5	125	135.2	48.8	0.6	49	1100	-10	1089	218	13070	1269	0.9	1.83	9.49
11/14/23	12:10	855.64		11.90				5	130	135.2	48.8	0	49	1206	0	1206	241	14470	1277	0.9	2.03	10.45
11/14/23	12:15	860.55		11.90				5	135	135.2	48.8	0	49	1134	0	1134	227	13611	1277	0.9	1.91	9.83
11/14/23	12:20	865.47		11.90				5	140	135.2	48.8	0	49	1137	0	1137	227	13638	1277	0.9	1.91	9.85
11/14/23	12:25	870.52		11.90				5	145	135.2	48.8	0	49	1167	0	1167	233	13999	1277	0.9	1.96	10.11
11/14/23	12:30	875.49		11.90				5	150	135.2	48.8	0	49	1148	0	1148	230	13777	1277	0.9	1.93	9.95
11/14/23	12:35	880.36		11.90				5	155	135.2	48.8	0	49	1125	0	1125	225	13500	1277	0.9	1.89	9.75
11/14/23	12:40	884.7		11.90				5	160	135.2	48.8	0	49	1003	0	1003	201	12030	1277	0.9	1.69	8.69
11/14/23	12:45	889.62		11.90				5	165	135.2	48.8	0	49	1137	0	1137	227	13638	1277	0.9	1.91	9.85
11/14/23	12:50	894.54		11.90				5	170	135.2	48.8	0	49	1137	0	1137	227	13638	1277	0.9	1.91	9.85
11/14/23	12:55	899.37		11.90				5	175	135.2	48.8	0	49	1116	0	1116	223	13389	1277	0.9	1.88	9.67
11/14/23	13:00	904.46		11.90				5	180	135.2	48.8	0	49	1176	0	1176	235	14109	1277	0.9	1.98	10.19
																			Minimum Rate:			7.50
																			Raw Rate for design, prior to application of adjustment factors:			**9.70**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280
Exploration #/Location: *LI-5*
Depth Boring drilled, bgs (ft): 8
Tested by: JP
USCS Soil Type in test zone: SP-SM
Weather (start to finish): Sunny
Water Source/pH: Tap
Measured boring diameter: 8 in. — 4 in. Well Radius
Depth to GW or aquitard, bgs: 100 ft
Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 88
Average depth of water in well, "h" (in.): 8
approx. h/r: 2.1
Tu (Fig. 8) (ft): 92.7
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surfac	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 96

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

Flow Meter ID: SN2000249 — Meter Units: Gallons — 0.05 gallons/pulse — Data logger ID:

Field Data / **Calculations**

Date (Start Date: 11/14/2023)	Time (Start time: 13:00)	Data from Flow Meter: Reading (gallons) — Gallons	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
11/14/23	13:20	913.78		7.30					20	87.6	8.4											
11/14/23	13:25	924.06		7.30				5	25	87.6	8.4	0	8	2375	0	2375	475	28496	261	0.9	50.73	100.50
11/14/23	13:30	934.32		7.30				5	30	87.6	8.4	0	8	2370	0	2370	474	28441	261	0.9	50.63	100.31
11/14/23	13:35	944.15		7.30				5	35	87.6	8.4	0	8	2271	0	2271	454	27249	261	0.9	48.51	96.10
11/14/23	13:40	954.2		7.30				5	40	87.6	8.4	0	8	2322	0	2322	464	27859	261	0.9	49.59	98.25
11/14/23	13:45	964.18		7.30				5	45	87.6	8.4	0	8	2305	0	2305	461	27665	261	0.9	49.25	97.57
11/14/23	13:50	974.32		7.30				5	50	87.6	8.4	0	8	2342	0	2342	468	28108	261	0.9	50.04	99.13
11/14/23	13:55	984.25		7.30				5	55	87.6	8.4	0	8	2294	0	2294	459	27526	261	0.9	49.00	97.08
11/14/23	14:00	994.51		7.30				5	60	87.6	8.4	0	8	2370	0	2370	474	28441	261	0.9	50.63	100.31
11/14/23	14:05	1004.3		7.30				5	65	87.6	8.4	0	8	2266	0	2266	453	27193	261	0.9	48.41	95.91
11/14/23	14:10	1014.8		7.30				5	70	87.6	8.4	0	8	2421	0	2421	484	29051	261	0.9	51.71	102.46
11/14/23	14:15	1024.7		7.30				5	75	87.6	8.4	0	8	2294	0	2294	459	27526	261	0.9	49.00	97.08
11/14/23	14:20	1035		7.30				5	80	87.6	8.4	0	8	2363	0	2363	473	28358	261	0.9	50.48	100.01
11/14/23	14:25	1044.9		7.30				5	85	87.6	8.4	0	8	2294	0	2294	459	27526	261	0.9	49.00	97.08
11/14/23	14:30	1054.8		7.30				5	90	87.6	8.4	0	8	2285	0	2285	457	27415	261	0.9	48.80	96.69
11/14/23	14:35	1064.6		7.30				5	95	87.6	8.4	0	8	2261	0	2261	452	27138	261	0.9	48.31	95.71
11/14/23	14:40	1074.2		7.30				5	100	87.6	8.4	0	8	2222	0	2222	444	26667	261	0.9	47.47	94.05
11/14/23	14:45	1084.4		7.30				5	105	87.6	8.4	0	8	2359	0	2359	472	28302	261	0.9	50.38	99.82
11/14/23	14:50	1094.8		7.30				5	110	87.6	8.4	0	8	2393	0	2393	479	28718	261	0.9	51.12	101.29
11/14/23	14:55	1104.5		7.30				5	115	87.6	8.4	0	8	2245	0	2245	449	26944	261	0.9	47.96	95.03
11/14/23	15:00	1114.6		7.30				5	120	87.6	8.4	0	8	2326	0	2326	465	27914	261	0.9	49.69	98.45
11/14/23																						
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11/14/23																						
																			Minimum Rate:			94.05
													Raw Rate for design, prior to application of adjustment factors:									**94.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280
Exploration #/Location:	LI-6
Depth Boring drilled, bgs (ft):	8
Tested by:	JP
USCS Soil Type in test zone:	SP-SM
Weather (start to finish):	Sunny
Water Source/pH:	H2O
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	14. ft	6.5 in.	175
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	7.5 in.	7.5
Depth to top of sand from top of casing	3. ft	0. in.	

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Initial estimated Depth to Water Surface (in.): 136
Average depth of water in well, "h" (in.): 31
approx. h/r: 7.6
Tu (Fig. 8) (ft): 88.6
Tu>3h?: yes, OK

Depth of well bottom below top of casing (in): 182

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Field Data | **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled?	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:	Reading (gallons)	Interval Pulse Count	ft	in.		(or Comments)							from supply	from Δh	Total						
11/16/23	13:52	Gallons																				
11/16/23	14:11	3275.4		12.90					19	147.3	27.2											
11/16/23	14:16	3300.5		12.86				5	24	146.8	27.7	0.48	27	5805	-8	5797	1159	69561	740	0.9	23.44	86.67
11/16/23	14:21	3326		12.82				5	29	146.3	28.2	0.48	28	5886	-8	5878	1176	70531	752	0.9	23.15	86.47
11/16/23	14:26	3351.3		12.78				5	34	145.9	28.6	0.48	28	5835	-8	5827	1165	69921	764	0.9	22.38	84.37
11/16/23	14:31	3376.7		12.75				5	39	145.5	29.0	0.36	29	5879	-6	5873	1175	70473	775	0.9	22.15	83.87
11/16/23	14:36	3402		12.72				5	44	145.1	29.4	0.36	29	5842	-6	5836	1167	70029	784	0.9	21.61	82.38
11/16/23	14:41	3427.2		12.69				5	49	144.8	29.7	0.36	30	5821	-6	5815	1163	69780	793	0.9	21.14	81.15
11/16/23	14:46	3452.5		12.67				5	54	144.5	30.0	0.24	30	5844	-4	5840	1168	70082	800	0.9	20.99	80.73
11/16/23	14:51	3477.9		12.65				5	59	144.3	30.2	0.24	30	5863	-4	5859	1172	70304	806	0.9	20.80	80.38
11/16/23	14:56	3503		12.63				5	64	144.1	30.4	0.204	30	5803	-4	5799	1160	69590	812	0.9	20.39	79.02
11/16/23	15:01	3528.3		12.61				5	69	143.8	30.7	0.276	31	5844	-5	5840	1168	70074	818	0.9	20.24	78.98
11/16/23	15:06	3553.4		12.60				5	74	143.7	30.8	0.12	31	5800	-2	5798	1160	69580	823	0.9	20.00	77.95
11/16/23	15:11	3578.6		12.59				5	79	143.6	30.9	0.12	31	5824	-2	5821	1164	69857	826	0.9	19.96	77.98
11/16/23	15:16	3603.5		12.57				5	84	143.3	31.2	0.24	31	5754	-4	5750	1150	69001	830	0.9	19.47	76.60
11/16/23	15:21	3628.8		12.56				5	89	143.2	31.3	0.12	31	5835	-2	5833	1167	69996	835	0.9	19.65	77.29
11/16/23	15:26	3653.9		12.54				5	94	143.0	31.5	0.24	31	5798	-4	5794	1159	69527	839	0.9	19.27	76.36
11/16/23	15:31	3678.7		12.53				5	99	142.9	31.6	0.12	32	5733	-2	5731	1146	68776	844	0.9	18.97	75.13
11/16/23	15:36	3704		12.52				5	104	142.7	31.8	0.12	32	5847	-2	5845	1169	70134	847	0.9	19.23	76.34
11/16/23	15:41	3729.1		12.51				5	109	142.6	31.9	0.12	32	5791	-2	5789	1158	69469	850	0.9	18.94	75.34
11/16/23	15:46	3754.2		12.50				5	114	142.5	32.0	0.12	32	5800	-2	5798	1160	69580	853	0.9	18.86	75.20
11/16/23	15:51	3779.1		12.49				5	119	142.4	32.1	0.12	32	5754	-2	5752	1150	69026	856	0.9	18.61	74.34
11/16/23	15:56	3804.1		12.48				5	124	142.3	32.2	0.12	32	5773	-2	5771	1154	69247	859	0.9	18.56	74.31
11/16/23	16:01	3829		12.48				5	129	142.3	32.2	0	32	5752	0	5752	1150	69023	861	0.9	18.51	73.94
11/16/23	16:06	3853.8		12.47				5	134	142.1	32.4	0.12	32	5729	-2	5727	1145	68721	862	0.9	18.31	73.49
																			Minimum Rate:			73.49
														Raw Rate for design, prior to application of adjustment factors:								**70.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280

Exploration #/Location: *LI-7*

Depth Boring drilled, bgs (ft): 15

Tested by: JP

USCS Soil Type in test zone: SP-SM

Weather (start to finish): Overcast

Water Source/pH: H2O

Measured boring diameter: 8 in. — 4 in. Well Radius

Depth to GW or aquitard, bgs: 100 ft

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 150

Average depth of water in well, "h" (in.): 23

approx. h/r: 5.8

Tu (Fig. 8) (ft): 87.5

Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	14. ft	10.5 in.	179
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	5.5 in.	5.5
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 184

Use of Barrels: **No**

Use of Flow Meter: **Yes**

Test Type: Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse

Data logger ID:

Field Data / **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date 11/15/2023	Start time: 8:20	Gallons																				
11/15/23	8:25	1151.30		13.52					5	156.7	21.8											
11/15/23	8:30	1167.21		13.50				5	10	156.5	22.0	0.24	22	3675	-4	3671	734	44053	600	0.9	20.92	67.67
11/15/23	8:35	1182.99		13.51				5	15	156.6	21.9	-0.12	22	3645	2	3647	729	43767	602	0.9	21.05	67.06
11/15/23	8:40	1198.90		13.51				5	20	156.6	21.9	0	22	3675	0	3675	735	44103	600	0.9	21.18	67.74
11/15/23	8:45	1214.82		13.51				5	25	156.6	21.9	0	22	3678	0	3678	736	44130	600	0.9	21.19	67.78
11/15/23	8:50	1230.69		13.45				5	30	155.9	22.6	0.72	22	3666	-12	3654	731	43842	609	0.9	19.91	66.34
11/15/23	8:55	1246.51		13.46				5	35	156.0	22.5	-0.12	23	3654	2	3656	731	43878	617	0.9	20.28	65.58
11/15/23	9:00	1262.10		13.46				5	40	156.0	22.5	0	22	3601	0	3601	720	43215	615	0.9	19.94	64.75
11/15/23	9:05	1278.31		13.42				5	45	155.5	23.0	0.48	23	3745	-8	3736	747	44834	621	0.9	19.95	66.53
11/15/23	9:10	1294.11		13.41				5	50	155.4	23.1	0.12	23	3650	-2	3648	730	43773	629	0.9	19.40	64.17
11/15/23	9:15	1310.10		13.35				5	55	154.7	23.8	0.72	23	3694	-12	3681	736	44175	639	0.9	18.59	63.69
11/15/23	9:20	1325.99		13.35				5	60	154.7	23.8	0	24	3671	0	3671	734	44047	648	0.9	18.68	62.62
11/15/23	9:25	1341.70		13.35				5	65	154.7	23.8	0	24	3629	0	3629	726	43548	648	0.9	18.47	61.91
11/15/23	9:30	1357.42		13.35				5	70	154.7	23.8	0	24	3631	0	3631	726	43576	648	0.9	18.48	61.95
11/15/23	9:35	1373.30		13.36				5	75	154.8	23.7	-0.12	24	3668	2	3670	734	44044	647	0.9	18.85	62.76
11/15/23	9:40	1389.30		13.36				5	80	154.8	23.7	0	24	3696	0	3696	739	44352	645	0.9	18.95	63.35
11/15/23	9:45	1404.89		13.35				5	85	154.7	23.8	0.12	24	3601	-2	3599	720	43191	647	0.9	18.30	61.55
11/15/23	9:50	1421.10		13.34				5	90	154.6	23.9	0.12	24	3745	-2	3742	748	44909	650	0.9	18.88	63.70
11/15/23	9:55	1436.41		13.33				5	95	154.5	24.0	0.12	24	3537	-2	3535	707	42414	653	0.9	17.70	59.88
11/15/23	10:00	1451.96		13.33				5	100	154.5	24.0	0	24	3592	0	3592	718	43105	654	0.9	18.01	60.72
11/15/23	10:05	1467.69		13.31				5	105	154.2	24.3	0.24	24	3634	-4	3629	726	43554	657	0.9	17.89	61.07
11/15/23	10:10	1483.20		13.31				5	110	154.2	24.3	0	24	3583	0	3583	717	42994	660	0.9	17.70	60.01
11/15/23	10:15	1498.92		13.31				5	115	154.2	24.3	0	24	3631	0	3631	726	43576	660	0.9	17.94	60.82
11/15/23	10:20	1514.72		13.16				5	120	152.4	26.1	1.8	25	3650	-31	3619	724	43424	683	0.9	15.79	58.60
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																			Minimum Rate:			58.60
														Raw Rate for design, prior to application of adjustment factors:								**58.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280

Exploration #/Location: *LI-8*
Depth Boring drilled, bgs (ft): 8
Tested by: JP
USCS Soil Type in test zone: SP-SM
Weather (start to finish): Overcast
Water Source/pH: H2O
Measured boring diameter: 8 in. 4 in. Well Radius
Depth to GW or aquitard, bgs: 100 ft
Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 69
Average depth of water in well, "h" (in.): 24
approx. h/r: 6.0
Tu (Fig. 8) (ft): 94.2
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh
Well pack sand porosity: 0.3
Casing outer diameter, in.: 2.3
Casing inner diameter, in.: 2.1
Cross-sectional area, in.^2: 17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	7. ft	9. in.	93
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 93

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data / **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Data from Flow Meter: Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date 11/15/2023	Start time: 11:05	Gallons																				
11/15/23	11:23	1552.18		6.10					18	73.2	19.8											
11/15/23	11:28	1561.59		6.05				5	23	72.6	20.4	0.6	20	2174	-10	2163	433	25960	555	0.9	13.70	43.09
11/15/23	11:33	1571.08		6.00				5	28	72.0	21.0	0.6	21	2192	-10	2182	436	26182	571	0.9	13.25	42.31
11/15/23	11:38	1580.64		5.95				5	33	71.4	21.6	0.6	21	2208	-10	2198	440	26376	586	0.9	12.81	41.52
11/15/23	11:43	1591.50		5.80			Began Raining	5	38	69.6	23.4	1.8	23	2509	-31	2478	496	29730	616	0.9	12.67	44.51
11/15/23	11:53	1612.99		5.83				10	48	70.0	23.0	-0.36	23	4964	6	4970	497	29823	634	0.9	13.33	43.37
11/15/23	12:03	1634.77		5.78				10	58	69.4	23.6	0.6	23	5031	-10	5021	502	30125	637	0.9	12.82	43.61
11/15/23	12:13	1656.88		5.72				10	68	68.6	24.4	0.72	24	5107	-12	5095	509	30570	653	0.9	12.43	43.13
11/15/23	12:23	1678.64		5.71				10	78	68.5	24.5	0.12	24	5027	-2	5024	502	30147	664	0.9	12.25	41.85
11/15/23	12:33	1700.65		5.65				10	88	67.8	25.2	0.72	25	5084	-12	5072	507	30431	675	0.9	11.77	41.59
11/15/23	12:43	1722.04		5.65				10	98	67.8	25.2	0	25	4941	0	4941	494	29647	684	0.9	11.55	39.98
11/15/23	12:53	1743.85		5.61				10	108	67.3	25.7	0.48	25	5038	-8	5030	503	30179	690	0.9	11.38	40.34
11/15/23	13:03	1765.11		5.50				10	118	66.0	27.0	1.32	26	4911	-23	4888	489	29329	712	0.9	10.18	37.96
11/15/23	13:13	1787.01		5.50				10	128	66.0	27.0	0	27	5059	0	5059	506	30353	729	0.9	10.66	38.39
11/15/23	13:23	1808.79		5.50				10	138	66.0	27.0	0	27	5031	0	5031	503	30187	729	0.9	10.60	38.18
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Minimum Rate: 37.96

Raw Rate for design, prior to application of adjustment factors: **38.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	77
Exploration #/Location:	*LI-9*	Average depth of water in well, "h" (in.):	19
Depth Boring drilled, bgs (ft):	8	approx. h/r:	4.6
Tested by:	JP	Tu (Fig. 8) (ft):	93.5
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Overcast		
Water Source/pH:	H2O		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 96

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data / **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date 11/16/2023	Start time: 10:50	Gallons																				
11/16/23	11:15	2745.49		6.75					25	81.0	15.0											
11/16/23	11:20	2764.97		6.70				5	30	80.4	15.6	0.6	15	4500	-10	4490	898	53874	435	0.9	41.55	114.23
11/16/23	11:25	2784.42		6.67				5	35	80.0	16.0	0.36	16	4493	-6	4487	897	53841	447	0.9	40.41	111.07
11/16/23	11:30	2803.90		6.64				5	40	79.7	16.3	0.36	16	4500	-6	4494	899	53924	456	0.9	39.23	109.04
11/16/23	11:35	2823.39		6.60				5	45	79.2	16.8	0.48	17	4502	-8	4494	899	53927	466	0.9	37.59	106.57
11/16/23	11:40	2842.87		6.56				5	50	78.7	17.3	0.48	17	4500	-8	4492	898	53899	479	0.9	36.11	103.83
11/16/23	11:45	2862.40		6.52				5	55	78.2	17.8	0.48	18	4511	-8	4503	901	54038	491	0.9	34.83	101.54
11/16/23	11:50	2881.75		6.50				5	60	78.0	18.0	0.24	18	4470	-4	4466	893	53588	500	0.9	34.02	98.87
11/16/23	11:55	2902.04		6.45				5	65	77.4	18.6	0.6	18	4687	-10	4677	935	56119	510	0.9	33.81	101.40
11/16/23	12:00	2922.10		6.43				5	70	77.2	18.8	0.24	19	4634	-4	4630	926	55557	521	0.9	33.04	98.35
11/16/23	12:05	2942.08		6.41				5	75	76.9	19.1	0.24	19	4615	-4	4611	922	55335	527	0.9	32.32	96.84
11/16/23	12:10	2962.36		6.40				5	80	76.8	19.2	0.12	19	4685	-2	4683	937	56191	531	0.9	32.58	97.50
11/16/23	12:15	2982.12		6.39				5	85	76.7	19.3	0.12	19	4565	-2	4562	912	54750	534	0.9	31.46	94.46
11/16/23	12:20	3002.00		6.37				5	90	76.4	19.6	0.24	19	4592	-4	4588	918	55058	539	0.9	31.03	94.19
11/16/23	12:25	3022.09		6.35				5	95	76.2	19.8	0.24	20	4641	-4	4637	927	55640	545	0.9	30.81	94.14
11/16/23	12:30	3041.88		6.35				5	100	76.2	19.8	0	20	4571	0	4571	914	54858	548	0.9	30.48	92.30
11/16/23	12:35	3062.00		6.34				5	105	76.1	19.9	0.12	20	4648	-2	4646	929	55748	549	0.9	30.65	93.54
11/16/23	12:40	3081.13		6.34				5	110	76.1	19.9	0	20	4419	0	4419	884	53028	551	0.9	29.20	88.74
11/16/23	12:45	3101.84		6.33				5	115	76.0	20.0	0.12	20	4784	-2	4782	956	57383	552	0.9	31.27	95.76
11/16/23	12:50	3121.66		6.33				5	120	76.0	20.0	0	20	4578	0	4578	916	54941	554	0.9	29.99	91.44
11/16/23	12:55	3142.01		6.31				5	125	75.7	20.3	0.24	20	4701	-4	4697	939	56360	557	0.9	30.14	93.29
11/16/23	13:00	3161.75		6.31				5	130	75.7	20.3	0	20	4560	0	4560	912	54719	560	0.9	29.36	90.09
11/16/23																						
																			Minimum Rate:			88.74
													Raw Rate for design, prior to application of adjustment factors:									**85.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280
Exploration #/Location:	LI-10
Depth Boring drilled, bgs (ft):	10
Tested by:	JP
USCS Soil Type in test zone:	SP-SM
Weather (start to finish):	Overcast
Water Source/pH:	H2O
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

Initial estimated Depth to Water Surface (in.):	87
Average depth of water in well, "h" (in.):	25
approx. h/r:	6.2
Tu (Fig. 8) (ft):	92.7
Tu>3h?:	yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	9. ft	8. in.	116
Casing stickup measured above top of auger (or ground surface) (+ is up)	0. ft	4. in.	4
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 120

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled?	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:	Reading (gallons)	Interval Pulse Count	ft	in.		(or Comments)							from supply	from Δh	Total						
11/15/2023	14:05	Gallons																				
11/15/23	14:21	1864.70		8.12					16	93.4	22.6											
11/15/23	14:26	1880.01		8.11				5	21	93.3	22.7	0.12	23	3537	-2	3535	707	42414	619	0.9	19.29	63.19
11/15/23	14:31	1896.00		8.04				5	26	92.5	23.5	0.84	23	3694	-15	3679	736	44150	631	0.9	18.88	64.52
11/15/23	14:36	1912.10		8.02				5	31	92.2	23.8	0.24	24	3719	-4	3715	743	44579	644	0.9	18.91	63.77
11/15/23	14:41	1928.41		8.02				5	36	92.2	23.8	0	24	3768	0	3768	754	45211	647	0.9	19.22	64.38
11/15/23	14:46	1943.92		7.98				5	41	91.8	24.2	0.48	24	3583	-8	3575	715	42894	653	0.9	17.62	60.51
11/15/23	14:51	1959.01		7.94				5	46	91.3	24.7	0.48	24	3486	-8	3477	695	41730	666	0.9	16.65	57.80
11/15/23	14:56	1974.33		7.93				5	51	91.2	24.8	0.12	25	3539	-2	3537	707	42442	673	0.9	16.87	58.13
11/15/23	15:06	2004.00		7.90				10	61	90.8	25.2	0.36	25	6854	-6	6848	685	41085	679	0.9	15.95	55.77
11/15/23	15:16	2033.53		7.87				10	71	90.4	25.6	0.36	25	6821	-6	6815	682	40891	688	0.9	15.54	54.78
11/15/23	15:26	2061.10		7.82				10	81	89.8	26.2	0.6	26	6369	-10	6358	636	38150	700	0.9	13.97	50.23
11/15/23	15:36	2092.56		7.79				10	91	89.5	26.5	0.36	26	7267	-6	7261	726	43566	712	0.9	15.67	56.39
11/15/23	15:46	2121.99		7.75				10	101	89.0	27.0	0.48	27	6798	-8	6790	679	40740	723	0.9	14.25	51.96
11/15/23	15:56	2151.58		7.70				10	111	88.4	27.6	0.6	27	6835	-10	6825	682	40949	736	0.9	13.84	51.26
11/15/23																						
																			Minimum Rate:			50.23
																			Raw Rate for design, prior to application of adjustment factors:			**50.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280

Exploration #/Location:	*LI-11*		Initial estimated Depth to Water Surface (in.):	78
Depth Boring drilled, bgs (ft):	8		Average depth of water in well, "h" (in.):	18
Tested by:	JP		approx. h/r:	4.6
USCS Soil Type in test zone:	SP-SM		Tu (Fig. 8) (ft):	93.5
Weather (start to finish):	Overcast		Tu>3h?:	yes, OK
Water Source/pH:	H2O			
Measured boring diameter:	8	in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100	ft		

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	8. ft	0.5 in.	96.5
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 97

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date 11/16/2023	Start time: 7:50	Gallons		ft	in.																	
11/16/23	8:19	2244.31		6.73					29	80.8	15.7											
11/16/23	8:24	2262.20		6.70				5	34	80.4	16.1	0.36	16	4133	-6	4126	825	49516	450	0.9	36.72	101.35
11/16/23	8:29	2280.31		6.66				5	39	79.9	16.6	0.48	16	4183	-8	4175	835	50101	461	0.9	35.58	100.20
11/16/23	8:34	2298.35		6.64				5	44	79.7	16.8	0.24	17	4167	-4	4163	833	49957	470	0.9	34.91	97.99
11/16/23	8:39	2316.22		6.63				5	49	79.6	16.9	0.12	17	4128	-2	4126	825	49511	475	0.9	34.33	96.19
11/16/23	8:44	2334.37		6.61				5	54	79.3	17.2	0.24	17	4192	-4	4188	838	50259	479	0.9	34.09	96.72
11/16/23	8:49	2352.20		6.58				5	59	79.0	17.5	0.36	17	4119	-6	4113	823	49353	487	0.9	32.44	93.51
11/16/23	8:54	2370.29		6.55				5	64	78.6	17.9	0.36	18	4179	-6	4173	835	50071	496	0.9	31.98	93.13
11/16/23	8:59	2388.50		6.52				5	69	78.2	18.3	0.36	18	4207	-6	4200	840	50403	505	0.9	31.29	92.07
11/16/23	9:04	2406.37		6.51				5	74	78.1	18.4	0.12	18	4128	-2	4126	825	49511	511	0.9	30.56	89.37
11/16/23	9:09	2424.30		6.50				5	79	78.0	18.5	0.12	18	4142	-2	4140	828	49677	514	0.9	30.38	89.15
11/16/23	9:14	2442.31		6.49				5	84	77.9	18.6	0.12	19	4160	-2	4158	832	49899	517	0.9	30.24	89.02
11/16/23	9:19	2460.11		6.47				5	89	77.6	18.9	0.24	19	4112	-4	4108	822	49292	521	0.9	29.27	87.18
11/16/23	9:24	2478.25		6.45				5	94	77.4	19.1	0.24	19	4190	-4	4186	837	50234	527	0.9	29.29	87.83
11/16/23	9:29	2496.20		6.45				5	99	77.4	19.1	0	19	4146	0	4146	829	49757	530	0.9	29.12	86.50
11/16/23	9:34	2514.28		6.44				5	104	77.3	19.2	0.12	19	4176	-2	4174	835	50093	532	0.9	29.00	86.83
11/16/23	9:39	2532.16		6.44				5	109	77.3	19.2	0	19	4130	0	4130	826	49563	533	0.9	28.74	85.67
11/16/23	9:44	2550.10		6.43				5	114	77.2	19.3	0.12	19	4144	-2	4142	828	49705	535	0.9	28.52	85.68
11/16/23	9:49	2568.30		6.43				5	119	77.2	19.3	0	19	4204	0	4204	841	50450	536	0.9	29.00	86.72
11/16/23	9:54	2586.09		6.41				5	124	76.9	19.6	0.24	19	4109	-4	4105	821	49264	539	0.9	27.72	84.20
11/16/23	9:59	2604.12		6.40				5	129	76.8	19.7	0.12	20	4165	-2	4163	833	49954	544	0.9	27.91	84.67
11/16/23	10:04	2622.00		6.40				5	134	76.8	19.7	0	20	4130	0	4130	826	49563	545	0.9	27.74	83.78
11/16/23	10:09	2639.99		6.40				5	139	76.8	19.7	0	20	4156	0	4156	831	49868	545	0.9	27.91	84.29
																			Minimum Rate:			83.78
												Raw Rate for design, prior to application of adjustment factors:										**78.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280
Exploration #/Location:	LI-10
Depth Boring drilled, bgs (ft):	15
Tested by:	JP
USCS Soil Type in test zone:	SP-SM
Weather (start to finish):	Sunny
Water Source/pH:	H2O
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

Initial estimated Depth to Water Surface (in.):	135
Average depth of water in well, "h" (in.):	37
approx. h/r:	9.3
Tu (Fig. 8) (ft):	88.8
Tu>3h?:	yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	14. ft	10. in.	178
Casing stickup measured above top of auger (or ground surface) (+ is up)	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 184

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled?	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:	Reading (gallons)	Interval Pulse Count	ft	in.		(or Comments)							from supply	from Δh	Total						
11/17/23	7:40	Gallons																				
11/17/23	8:07	3990.67		12.64					27	145.7	32.3											
11/17/23	8:12	4020.21		12.60				5	32	145.2	32.8	0.48	33	6824	-8	6815	1363	81785	869	0.9	21.29	86.80
11/17/23	8:17	4049.80		12.56				5	37	144.7	33.3	0.48	33	6835	-8	6827	1365	81924	881	0.9	20.86	85.76
11/17/23	8:22	4079.51		12.51				5	42	144.1	33.9	0.6	34	6863	-10	6853	1371	82232	894	0.9	20.35	84.77
11/17/23	8:27	4109.07		12.46				5	47	143.5	34.5	0.6	34	6828	-10	6818	1364	81816	909	0.9	19.71	82.95
11/17/23	8:32	4138.70		12.43				5	52	143.2	34.8	0.36	35	6845	-6	6838	1368	82060	921	0.9	19.49	82.10
11/17/23	8:37	4168.25		12.41				5	57	142.9	35.1	0.24	35	6826	-4	6822	1364	81863	929	0.9	19.25	81.24
11/17/23	8:42	4197.98		12.39				5	62	142.7	35.3	0.24	35	6868	-4	6863	1373	82362	935	0.9	19.16	81.21
11/17/23	8:47	4227.27		12.36				5	67	142.3	35.7	0.36	36	6766	-6	6760	1352	81117	942	0.9	18.57	79.34
11/17/23	8:52	4256.89		12.33				5	72	142.0	36.0	0.36	36	6842	-6	6836	1367	82032	952	0.9	18.49	79.48
11/17/23	8:57	4286.11		12.31				5	77	141.7	36.3	0.24	36	6750	-4	6746	1349	80948	959	0.9	18.07	77.81
11/17/23	9:02	4315.63		12.30				5	82	141.6	36.4	0.12	36	6819	-2	6817	1363	81805	964	0.9	18.18	78.26
11/17/23	9:07	4345.01		12.28				5	87	141.4	36.6	0.24	37	6787	-4	6783	1357	81392	968	0.9	17.89	77.50
11/17/23	9:12	4374.62		12.26				5	92	141.1	36.9	0.24	37	6840	-4	6836	1367	82029	974	0.9	17.85	77.63
11/17/23	9:17	4404.00		12.24				5	97	140.9	37.1	0.24	37	6787	-4	6783	1357	81392	980	0.9	17.53	76.55
11/17/23	9:22	4433.33		12.22				5	102	140.6	37.4	0.24	37	6775	-4	6771	1354	81253	986	0.9	17.33	75.95
11/17/23	9:27	4462.69		12.20				5	107	140.4	37.6	0.24	37	6782	-4	6778	1356	81336	992	0.9	17.17	75.57
11/17/23	9:32	4491.95		12.18				5	112	140.2	37.8	0.24	38	6759	-4	6755	1351	81059	998	0.9	16.95	74.85
11/17/23	9:37	4521.40		12.17				5	117	140.0	38.0	0.12	38	6803	-2	6801	1360	81610	1003	0.9	16.99	75.02
11/17/23	9:42	4550.63		12.15				5	122	139.8	38.2	0.24	38	6752	-4	6748	1350	80976	1007	0.9	16.68	74.11
11/17/23	9:47	4580.00		12.13				5	127	139.6	38.4	0.24	38	6784	-4	6780	1356	81364	1013	0.9	16.60	74.02
11/17/23	9:52	4609.13		12.12				5	132	139.4	38.6	0.12	39	6729	-2	6727	1345	80723	1018	0.9	16.40	73.11
11/17/23	9:57	4638.44		12.11				5	137	139.3	38.7	0.12	39	6771	-2	6769	1354	81222	1021	0.9	16.42	73.34
11/17/23	10:02	4667.70		12.10				5	142	139.2	38.8	0.12	39	6759	-2	6757	1351	81084	1024	0.9	16.31	73.00
11/17/23	10:07	4696.95		12.09				5	147	139.1	38.9	0.12	39	6757	-2	6755	1351	81056	1027	0.9	16.23	72.76
11/17/23	10:12	4726.12		12.07				5	152	138.8	39.2	0.24	39	6738	-4	6734	1347	80809	1031	0.9	16.01	72.22
11/17/23	10:17	4755.30		12.06				5	157	138.7	39.3	0.12	39	6741	-2	6739	1348	80862	1036	0.9	15.96	71.96
11/17/23	10:22	4784.60		12.05				5	162	138.6	39.4	0.12	39	6768	-2	6766	1353	81195	1039	0.9	15.95	72.04
11/17/23	10:27	4813.70		12.03				5	167	138.4	39.6	0.24	40	6722	-4	6718	1344	80615	1044	0.9	15.67	71.22
11/17/23	10:32	4842.81		12.01				5	172	138.1	39.9	0.24	40	6724	-4	6720	1344	80643	1050	0.9	15.53	70.83
11/17/23	10:37	4872.00		12.00				5	177	138.0	40.0	0.12	40	6743	-2	6741	1348	80890	1054	0.9	15.52	70.74
11/17/23	10:42	4901.11		11.99				5	182	137.9	40.1	0.12	40	6724	-2	6722	1344	80668	1057	0.9	15.40	70.35
11/17/23	10:47	4930.10		11.98				5	187	137.8	40.2	0.12	40	6697	-2	6695	1339	80335	1060	0.9	15.27	69.86
11/17/23																						
11/17/23																						
11/17/23																						
																			Minimum Rate:			69.86
																			Raw Rate for design, prior to application of adjustment factors:			**68.00**

APPENDIX C

LABORATORY TEST RESULTS

APPENDIX C

GEOTECHNICAL LABORATORY TESTING

The geotechnical laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site and to aid in verifying soil classification.

In-Situ Moisture and Density: The natural water content (ASTM D 2216) and in-situ dry density (ASTM D 2937) were determined for recovered relatively undisturbed ring-lined barrel drive samples, from our subsurface explorations. Results of these tests are shown on the logs at the appropriate sample depths, in Appendix B.

Expansion Index: An Expansion Index (EI) test was performed on a bulk sample of the site soils, in general accordance with the ASTM D 4829 Standard Test Method. Results of this test are presented on the "Expansion Index" sheet in this appendix.

Sieve Analysis: Sieve analyses (ASTM D 422) were performed on selected subsurface soil samples. These tests were performed to assist in the classification of the soil. Results of these tests are presented on the "*Particle Size Analysis of Soils*" figures.

Collapse Potential: Collapse potential tests were performed on selected soil samples in general accordance with ASTM Standard Test Method D 5333. Test results are presented on the "*One Dimensional Swell or Settlement*" figure.

Modified Proctor Compaction Curve: A laboratory modified Proctor compaction test (ASTM D 1557) was performed on a bulk soil sample to determine maximum laboratory dry density and optimum moisture content. Result of this test is presented on the following "*Modified Proctor Compaction Test*" plot in this appendix.

Percent Passing No. 200 Sieve: Percent fines (silt and clay) passing the No. 200 U.S. Standard Sieve was determined for soil samples in accordance with ASTM D1140 Standard Test Method. Samples were dried and passed through a No. 4 sieve, then a No. 200 sieve. Result of grain size analyses, as percent by dry weight passing the No. 200 U.S. Standard Sieve, is tabulated in this appendix and entered on our boring logs.

R-value Test: One R-value test was performed on collected bulk soil sample to evaluate pavement support characteristics of the near-surface soils. R-value test was performed in accordance with Caltrans Standard Test Method 301. The test result is presented in this appendix.

Remolded Direct Shear: One Remolded Direct Shear test was performed on a collected bulk soil sample to determine the shear strength of soils at sloped areas. Direct Shear test was performed in accordance with ASTM D3080-04. The test result is presented in this appendix.

Corrosivity Tests: To evaluate the corrosion potential of the subsurface soils at the site, we tested representative bulk samples collected during our subsurface investigation for pH, resistivity and soluble sulfate and chloride content testing. Results of these tests are presented at the end of this appendix.

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/21/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	11/28/23
Boring No.:	LB-2-7	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Note: Corrected dry density calculation assumes specific gravity of 2.70 and moisture content of 1.0% for oversize particles

Preparation Method:	X	Moist	Scalp Fraction (%)		Rammer Weight (lb.) = 10.0
		Dry	#3/4		Height of Drop (in.) = 18.0
Compaction Method	X	Mechanical Ram	#3/8		
		Manual Ram	#4	12.7	Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3896	3982	3995			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2088	2174	2187			
Wet Weight of Soil + Cont. (g)	951.7	937.0	899.8			
Dry Weight of Soil + Cont. (g)	902.1	869.6	819.4			
Weight of Container (g)	89.0	89.3	88.5			
Moisture Content (%)	6.10	8.64	11.00			
Wet Density (pcf)	138.6	144.4	145.2			
Dry Density (pcf)	130.7	132.9	130.8			

Maximum Dry Density (pcf)	**132.9**	**Optimum Moisture Content (%)**	**8.6**
Corrected Dry Density (pcf)	**136.6**	**Corrected Moisture Content (%)**	**7.6**

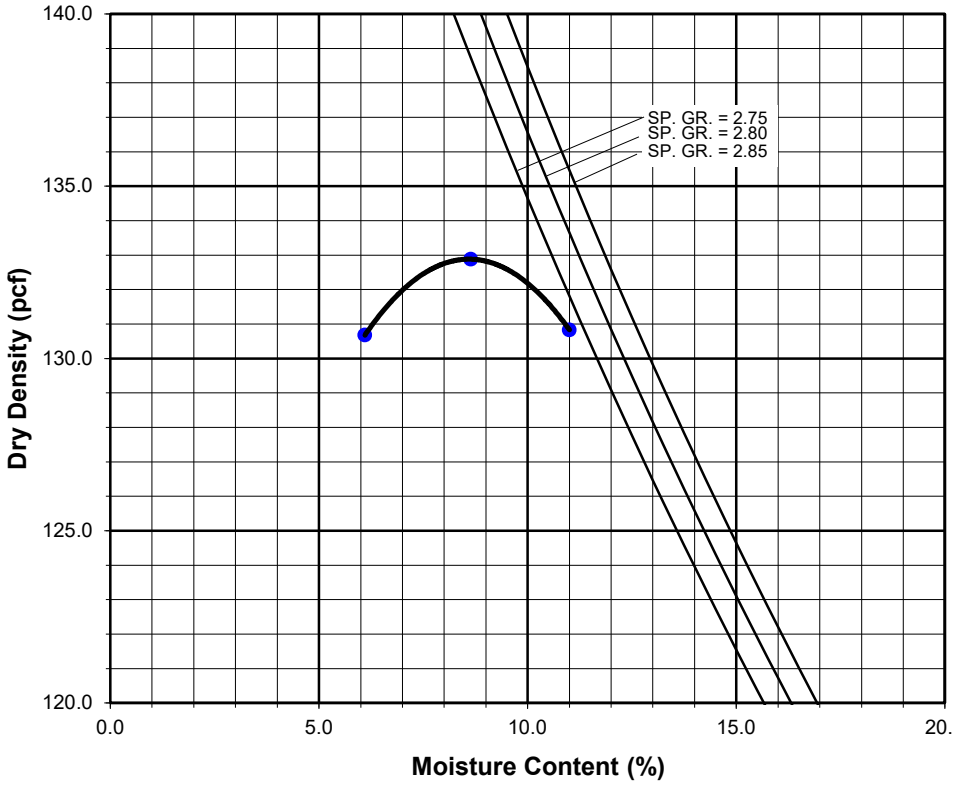
X Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

☐ Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

☐ Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
13:66:21
GR:SA:FI

Atterberg Limits:
LL,PL,PI



MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/30/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/13/23
Boring No.:	LB-3-3	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Pale brown silty sand (SM)				

Preparation Method: [X] Moist [ ] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03320 *Ram Weight = 10 lb.; Drop = 18 in.*

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3841	3934	3879			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2033	2126	2071			
Wet Weight of Soil + Cont. (g)	866.8	977.1	892.8			
Dry Weight of Soil + Cont. (g)	810.5	895.3	801.4			
Weight of Container (g)	88.4	89.3	76.9			
Moisture Content (%)	7.80	10.15	12.62			
Wet Density (pcf)	135.0	141.2	137.5			
Dry Density (pcf)	125.2	128.2	122.1			

Maximum Dry Density (pcf) **128.3** **Optimum Moisture Content (%)** **9.8**

PROCEDURE USED

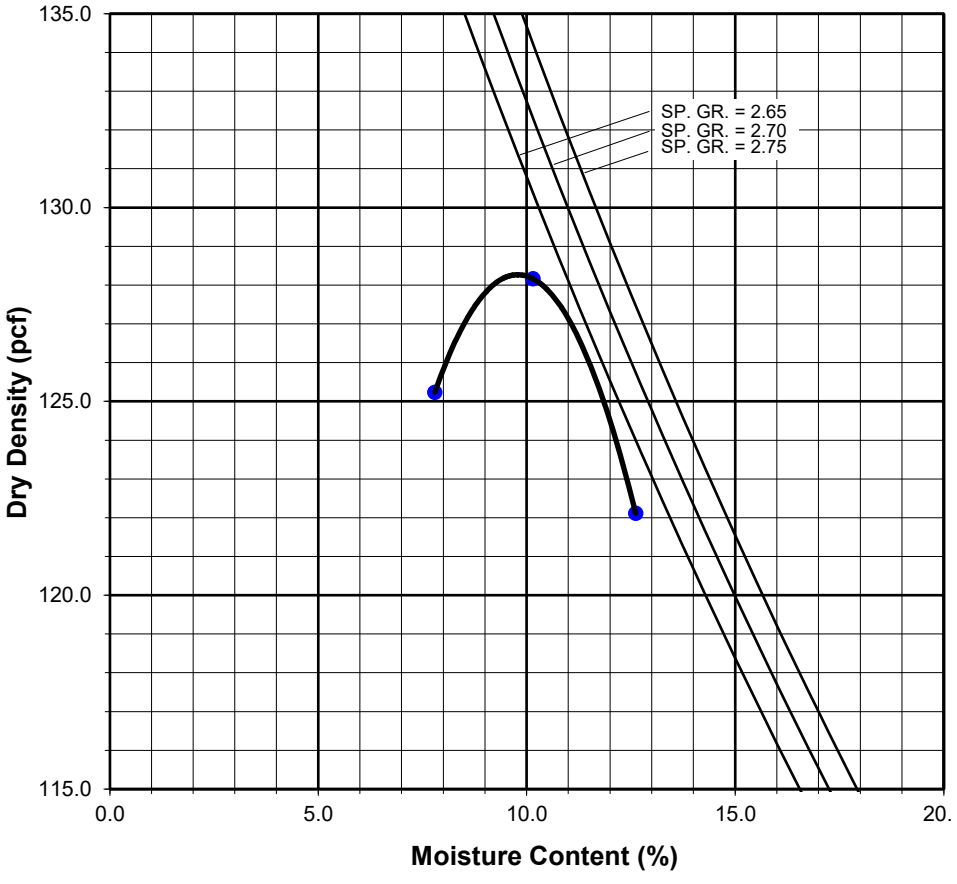
[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
1:62:37
GR:SA:FI

Atterberg Limits:
LL,PL,PI



MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/29/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/01/23
Boring No.:	LB-4-7	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Dark yellowish brown clayey sand (SC)				

Note: Corrected dry density calculation assumes specific gravity of 2.70 and moisture content of 1.0% for oversize particles

Preparation Method:	X	Moist	
		Dry	
Compaction Method	X	Mechanical Ram	
		Manual Ram	

Scalp Fraction (%)	
#3/4	
#3/8	
#4	7.3

Rammer Weight (lb.) = 10.0

Height of Drop (in.) = 18.0

Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3890	3943	3858			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2082	2135	2050			
Wet Weight of Soil + Cont. (g)	926.2	971.8	874.6			
Dry Weight of Soil + Cont. (g)	863.7	889.8	784.0			
Weight of Container (g)	76.1	76.0	77.1			
Moisture Content (%)	7.94	10.08	12.82			
Wet Density (pcf)	138.3	141.8	136.1			
Dry Density (pcf)	128.1	128.8	120.7			

Maximum Dry Density (pcf)	**129.3**	**Optimum Moisture Content (%)**	**9.3**
Corrected Dry Density (pcf)	**131.5**	**Corrected Moisture Content (%)**	**8.7**

[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

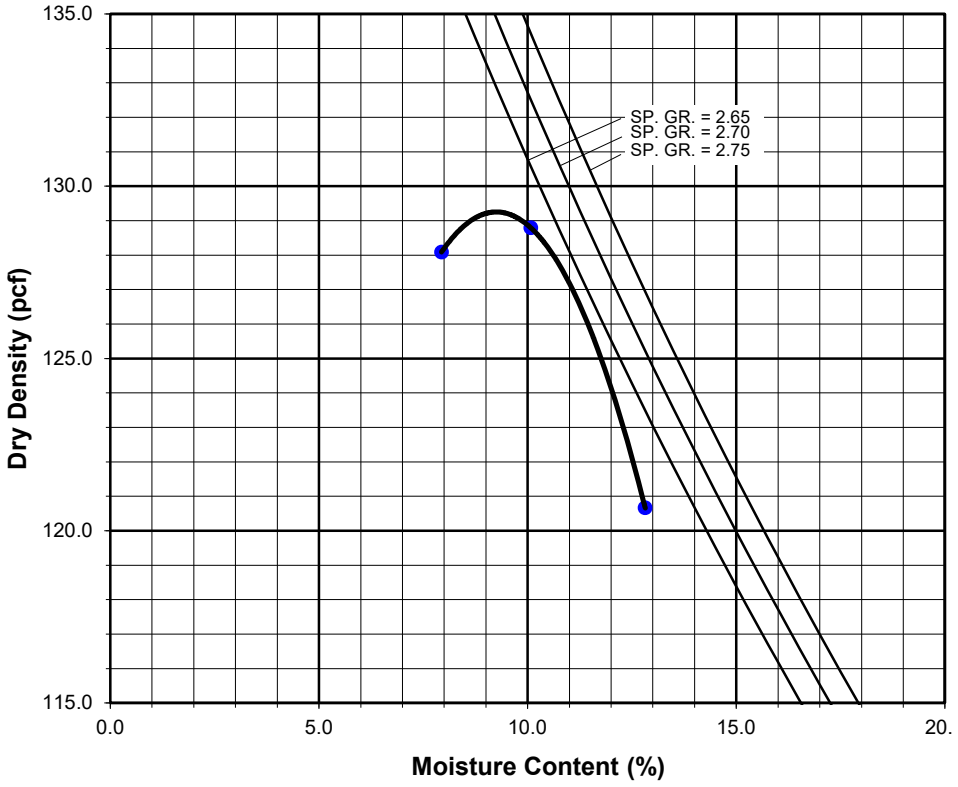
[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:

GR:SA:FI

Atterberg Limits:

LL,PL,PI



MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/29/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/04/23
Boring No.:	LB-5-10	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Preparation Method: [X] Moist [ ] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03320 *Ram Weight = 10 lb.; Drop = 18 in.*

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3806	3928	3926			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	1998	2120	2118			
Wet Weight of Soil + Cont. (g)	802.2	935.0	826.1			
Dry Weight of Soil + Cont. (g)	766.2	874.3	756.7			
Weight of Container (g)	75.7	78.0	75.6			
Moisture Content (%)	5.21	7.62	10.19			
Wet Density (pcf)	132.7	140.8	140.6			
Dry Density (pcf)	126.1	130.8	127.6			

Maximum Dry Density (pcf) **130.9** **Optimum Moisture Content (%)** **8.0**

PROCEDURE USED

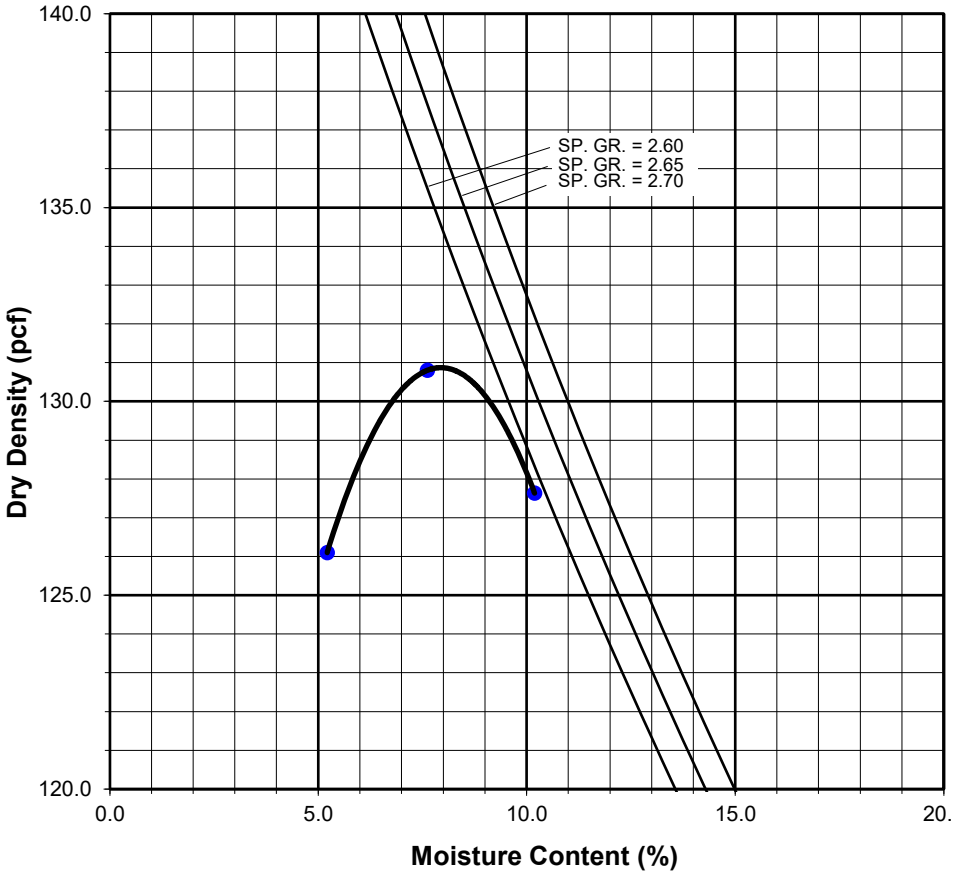
[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
2:72:26
GR:SA:FI

Atterberg Limits:
LL,PL,PI



MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	RMC/KJ	Date:	11/30/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/01/23
Boring No.:	LB-7-3	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Note: Corrected dry density calculation assumes specific gravity of 2.70 and moisture content of 1.0% for oversize particles

Preparation Method:	X	Moist	
		Dry	
Compaction Method	X	Mechanical Ram	
		Manual Ram	

Scalp Fraction (%)	
#3/4	
#3/8	
#4	6.6

Rammer Weight (lb.) = 10.0

Height of Drop (in.) = 18.0

Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3917	3987	3981			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2109	2179	2173			
Wet Weight of Soil + Cont. (g)	833.0	926.2	1076.6			
Dry Weight of Soil + Cont. (g)	790.9	860.9	978.3			
Weight of Container (g)	74.4	77.1	74.4			
Moisture Content (%)	5.88	8.33	10.88			
Wet Density (pcf)	140.0	144.7	144.3			
Dry Density (pcf)	132.3	133.6	130.1			

Maximum Dry Density (pcf) 133.7

Corrected Dry Density (pcf) 135.5

Optimum Moisture Content (%) 7.8

Corrected Moisture Content (%) 7.4

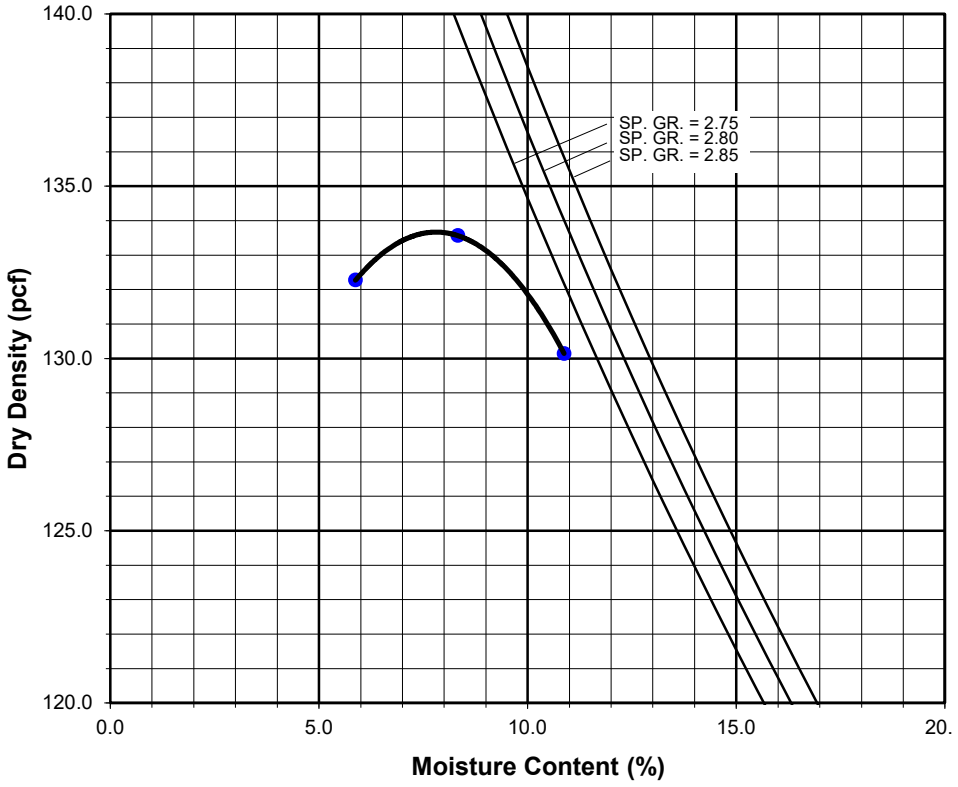
[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
7:73:20
GR:SA:FI

Atterberg Limits:
LL,PL,PI



Boring No.	LB-1-1	LB-1-2	LB-2-1	LB-2-1	LB-2-2	LB-2-3	LB-2-4	LB-2-5
Sample No.	S-1	R-1	S-1	S-3	R-1	R-3	R-5	S-2
Depth (ft.)	15.0	2.5	15.0	35.0	2.5	7.5	20.0	25.0
Sample Type	SPT	Ring	SPT	SPT	Ring	Ring	Ring	SPT
Soil Identification	Brown sandy silt s(ML)	Dark reddish brown silt with sand (ML)s	Light brown silty sand (SM)	Light brown silty sand (SM)	Dark yellowish brown silty sand with gravel (SM)g	Very light brown poorly-graded sand with silt and gravel (SP-SM)g	Light brown silty sand (SM)	Light brown sandy lean clay s(CL)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sample Dry Weight Determination								
Weight of Sample + Container (g)	501.1	927.6	581.0	650.1	1164.5	1003.0	614.2	528.8
Weight of Container (g)	109.4	300.2	76.7	236.6	300.3	108.5	107.3	107.3
Weight of Dry Sample (g)	391.7	627.4	504.3	413.5	864.2	894.5	506.9	421.5
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	A
Dry Weight of Sample + Cont. (g)	272.0	475.9	469.5	556.2	1036.2	907.5	441.0	269.0
Weight of Container (g)	109.4	300.2	76.7	236.6	300.3	108.5	107.3	107.3
Dry Weight of Sample (g)	162.6	175.7	392.8	319.6	735.9	799.0	333.7	161.7
% Passing No. 200 Sieve	**58.5**	**72.0**	**22.1**	**22.7**	**14.8**	**10.7**	**34.2**	**61.6**
% Retained No. 200 Sieve	41.5	28.0	77.9	77.3	85.2	89.3	65.8	38.4

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: ACS/JD Date: 11/16/23

Boring No.	LB-2-6	LB-2-7	LB-2-8	LB-2-8	LB-3-7	LB-3-7	LB-3-8	LI-1
Sample No.	R-4	R-3	R-2	R-3	S-1	S-2b	R-1	S-2
Depth (ft.)	10.0	7.5	5.0	7.5	15.0	26.0	2.5	6.0
Sample Type	Ring	Ring	Ring	Ring	SPT	SPT	Ring	SPT
Soil Identification	Light brown poorly-graded sand with silt (SP-SM)	Reddish brown silty sand (SM)	Light brown silty sand (SM)	Light brown silty sand (SM)	Light brown silty sand (SM)	Light brown silty sand (SM)	Yellowish brown poorly-graded sand with clay and gravel (SP-SC)g	Yellowish brown poorly-graded sand (SP)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sample Dry Weight Determination								
Weight of Sample + Container (g)	725.3	846.1	622.8	582.8	566.5	374.4	789.7	518.3
Weight of Container (g)	243.8	236.7	108.0	107.4	75.3	76.2	234.4	77.0
Weight of Dry Sample (g)	481.5	609.4	514.8	475.4	491.2	298.2	555.3	441.3
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	A
Dry Weight of Sample + Cont. (g)	690.1	748.7	384.1	373.9	479.7	263.7	743.5	502.0
Weight of Container (g)	243.8	236.7	108.0	107.4	75.3	76.2	234.4	77.0
Dry Weight of Sample (g)	446.3	512.0	276.1	266.5	404.4	187.5	509.1	425.0
% Passing No. 200 Sieve	**7.3**	**16.0**	**46.4**	**43.9**	**17.7**	**37.1**	**8.3**	**3.7**
% Retained No. 200 Sieve	92.7	84.0	53.6	56.1	82.3	62.9	91.7	96.3

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: ACS/JD Date: 11/16/23

Boring No.	LB-1-1							
Sample No.	B-1							
Depth (ft.)	0-5							
Sample Type	Bulk							
Soil Identification	Strong brown silty sand (SM)							
No Moisture Correction; ASTM D 1140 modified to include splitting the sample on the #4 sieve								
Total Sample Dry Weight Determination								
Dry Weight of Soil + Container (g)	5702.7							
Weight of Container (g)	222.7							
Dry Weight of Soil (g)	5480.0							
Sample Dry Weight Determination, Retained on Sieve #4								
Dry Weight of Sample + Cont. (g)	513.1							
Weight of Container (g)	77.0							
Weight of Dry Sample (g)	436.1							
Sample Dry Weight Determination, Passing Sieve #4								
Dry Weight of Sample + Cont. (g)	669.7							
Weight of Container (g)	107.5							
Weight of Dry Sample (g)	562.2							
After Wash								
Method (A or B)	A							
Dry Weight of Sample + Cont. (g)	503.4							
Weight of Container (g)	107.5							
Weight of Dry Sample (g)	395.9							
% Passing No. 4 Sieve	92.0							
% Retained No. 4 Sieve	8.0							
% Passing No. 200 Sieve	**27.2**							

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: ACS/JD Date: 11/16/23

Boring No.	LB-3-3	LB-3-4	LB-3-5	LB-3-11	LB-3-11	LB-4-2	LB-4-3	LB-4-4
Sample No.	R-5	R-2	R-3	S-2	R-3	R-2	R-5	R-4
Depth (ft.)	20.0	5.0	7.5	7.5	20.0	5.0	20.0	20.0
Sample Type	Ring	Ring	Ring	SPT	Ring	Ring	Ring	Ring
Soil Identification	Light brown silty sand (SM)	Light yellowish brown poorly-graded sand (SP)	Light yellowish brown well-graded sand with gravel (SW)g	Light yellowish brown well-graded sand with clay and gravel (SW-SC)g	Light olive brown silty sand (SM)	Light yellowish brown poorly-graded sand with silt (SP-SM)	Yellowish brown silty sand (SM)	Gray clayey sand (SC), caliche noted
Moisture Correction								
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weight of Container (g)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Moisture Content (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Dry Weight Determination								
Weight of Sample + Container (g)	442.40	537.95	561.20	491.10	397.10	837.50	861.50	411.27
Weight of Container (g)	107.42	76.06	76.45	72.35	78.86	75.41	159.53	76.41
Weight of Dry Sample (g)	334.98	461.89	484.75	418.75	318.24	762.09	701.97	334.86
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	B
Dry Weight of Sample + Cont. (g)	375.35	530.83	546.52	446.52	291.12	798.82	752.32	254.85
Weight of Container (g)	107.42	76.06	76.45	72.35	78.86	75.41	159.53	76.41
Dry Weight of Sample (g)	267.93	454.77	470.07	374.17	212.26	723.41	592.79	178.44
% Passing No. 200 Sieve	**20.0**	**1.5**	**3.0**	**10.6**	**33.3**	**5.1**	**15.6**	**46.7**
% Retained No. 200 Sieve	80.0	98.5	97.0	89.4	66.7	94.9	84.4	53.3

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: G. Bathala Date: 12/06/23

Boring No.	LB-4-6	LB-4-6	LB-4-6	LB-4-10	LB-5-1	LB-5-1	LB-5-3	LB-5-5
Sample No.	R-3	R-5	S-3	R-4	S-2	S-3	S-1	R-4
Depth (ft.)	7.5	20.0	35.0	20.0	10.0	20.0	5.0	10.0
Sample Type	Ring	Ring	SPT	Ring	SPT	SPT	SPT	Ring
Soil Identification	Light yellowish brown well-graded sand with silt and gravel (SW-SM)g	Light gray lean clay with sand (CL)s	Gray sandy silt s(ML), caliche noted	Gray lean clay with sand (CL)s	Yellowish brown silty clay with sand (CL-ML)s	Light yellowish brown well-graded sand with gravel (SW)g	Yellowish brown well-graded sand with silt and gravel (SW-SM)g	Light brown poorly-graded sand with silt (SP-SM)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weight of Container (g)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Moisture Content (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Dry Weight Determination								
Weight of Sample + Container (g)	1004.80	434.42	422.00	387.00	343.90	511.50	601.20	950.70
Weight of Container (g)	107.54	107.38	82.24	75.79	74.04	76.42	72.34	110.65
Weight of Dry Sample (g)	897.26	327.04	339.76	311.21	269.86	435.08	528.86	840.05
Container No.:								
After Wash								
Method (A or B)	A	B	A	B	B	A	A	A
Dry Weight of Sample + Cont. (g)	955.49	185.61	205.10	164.30	145.54	492.35	565.92	905.45
Weight of Container (g)	107.54	107.38	82.24	75.79	74.04	76.42	72.34	110.65
Dry Weight of Sample (g)	847.95	78.23	122.86	88.51	71.50	415.93	493.58	794.80
% Passing No. 200 Sieve	**5.5**	**76.1**	**63.8**	**71.6**	**73.5**	**4.4**	**6.7**	**5.4**
% Retained No. 200 Sieve	94.5	23.9	36.2	28.4	26.5	95.6	93.3	94.6

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: G. Bathala Date: 12/06/23

Boring No.	LB-5-5	LB-5-5	LB-5-7	LB-5-7	LB-6-6	LI-4	LI-4	LI-6
Sample No.	R-6	S-4	R-2	S-1	S-1	S-1	S-2	S-2
Depth (ft.)	30.0	45.0	5.0	15.0	15.0	10.0	13.0	13.0
Sample Type	Ring	SPT	Ring	SPT	SPT	SPT	SPT	SPT
Soil Identification	Olive brown sandy lean clay s(CL)	Olive sandy silty clay s(CL-ML)	Yellowish brown clayey sand (SC)	Light gray well-graded sand with silt and gravel (SW-SM)g	Light gray well-graded sand with silt and gravel (SW-SM)g	Yellowish brown poorly-graded sand with silt and gravel (SW-SM)g	Gray sandy lean clay s(CL), caliche noted	Light gray well-graded sand with silt and gravel (SW-SM)g
Moisture Correction								
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weight of Container (g)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Moisture Content (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Dry Weight Determination								
Weight of Sample + Container (g)	382.67	387.60	389.32	695.20	714.70	700.70	388.10	961.20
Weight of Container (g)	74.01	78.90	76.42	75.40	75.42	73.46	76.55	109.83
Weight of Dry Sample (g)	308.66	308.70	312.90	619.80	639.28	627.24	311.55	851.37
Container No.:								
After Wash								
Method (A or B)	B	B	B	A	A	A	B	A
Dry Weight of Sample + Cont. (g)	168.14	206.09	235.34	659.73	678.90	637.22	209.04	863.16
Weight of Container (g)	74.01	78.90	76.42	75.40	75.42	73.46	76.55	109.83
Dry Weight of Sample (g)	94.13	127.19	158.92	584.33	603.48	563.76	132.49	753.33
% Passing No. 200 Sieve	**69.5**	**58.8**	**49.2**	**5.7**	**5.6**	**10.1**	**57.5**	**11.5**
% Retained No. 200 Sieve	30.5	41.2	50.8	94.3	94.4	89.9	42.5	88.5

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: G. Bathala Date: 12/08/23

Boring No.	LB-3-5	LB-4-1						
Sample No.	B-1	B-1						
Depth (ft.)	0-5	0-5						
Sample Type	Bulk	Bulk						
Soil Identification	Brown silty sand (SM)	Dark yellowish brown silty sand (SM)						
No Moisture Correction; ASTM D 1140 modified to include splitting the sample on the #4 sieve								
Total Sample Dry Weight Determination								
Dry Weight of Soil + Container (g)	2928.9	3401.8						
Weight of Container (g)	230.3	280.2						
Dry Weight of Soil (g)	2698.6	3121.6						
Sample Dry Weight Determination, Retained on Sieve #4								
Dry Weight of Sample + Cont. (g)	320.1	169.0						
Weight of Container (g)	229.9	76.1						
Weight of Dry Sample (g)	90.2	92.9						
Sample Dry Weight Determination, Passing Sieve #4								
Dry Weight of Sample + Cont. (g)	579.0	627.7						
Weight of Container (g)	77.6	109.2						
Weight of Dry Sample (g)	501.4	518.5						
After Wash								
Method (A or B)	A	A						
Dry Weight of Sample + Cont. (g)	403.8	486.1						
Weight of Container (g)	77.6	109.2						
Weight of Dry Sample (g)	326.2	376.9						
% Passing No. 4 Sieve	96.7	97.0						
% Retained No. 4 Sieve	3.3	3.0						
% Passing No. 200 Sieve	**33.8**	**26.5**						

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: K. Jumig Date: 12/04/23

Boring No.	LB-6-5	LB-6-8	LB-6-9	LB-6-10	LB-6-10	LB-7-1	LB-7-6	LB-7-6
Sample No.	R-3	R-3	R-5	S-1	R-6	R-2	R-3	R-5
Depth (ft.)	7.5	7.5	20.0	15.0	30.0	5.0	7.5	20.0
Sample Type	Ring	Ring	Ring	SPT	Ring	Ring	Ring	Ring
Soil Identification	Olive brown sandy lean clay s(CL)	Pale brown poorly-graded sand with silt (SP-SM)	Pale brown silty sand (SM)	Pale brown silty sand (SM)	Pale brown sandy silty clay s(CL-ML)	Pale brown poorly-graded sand with silt (SP-SM)	Pale brown silty sand (SM)	Pale brown silty sand (SM)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sample Dry Weight Determination								
Weight of Sample + Container (g)	637.6	847.7	686.5	782.8	761.4	840.3	779.4	607.4
Weight of Container (g)	109.8	74.7	110.9	220.2	249.7	110.4	110.1	107.1
Weight of Dry Sample (g)	527.8	773.0	575.6	562.6	511.7	729.9	669.3	500.3
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	A
Dry Weight of Sample + Cont. (g)	323.6	809.5	551.1	679.7	495.1	789.1	692.9	364.2
Weight of Container (g)	109.8	74.7	110.9	220.2	249.7	110.4	110.1	107.1
Dry Weight of Sample (g)	213.8	734.8	440.2	459.5	245.4	678.7	582.8	257.1
% Passing No. 200 Sieve	**59.5**	**4.9**	**23.5**	**18.3**	**52.0**	**7.0**	**12.9**	**48.6**
% Retained No. 200 Sieve	40.5	95.1	76.5	81.7	48.0	93.0	87.1	51.4

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: JD/KJ Date: 12/08/23

Boring No.	LB-7-8	LB-7-10	LB-7-10	LI-8	LI-9	LI-11	LI-11	
Sample No.	R-2	R-3	R-5	S-2	S-2	S-1	S-2	
Depth (ft.)	5.0	7.5	20.0	6.0	6.0	3.0	6.0	
Sample Type	Ring	Ring	Ring	SPT	SPT	SPT	SPT	
Soil Identification	Pale brown poorly-graded sand with silt and gravel (SP-SM)g	Pale brown poorly-graded sand with silt (SP-SM)	Yellowish brown clayey sand (SC)	Yellowish brown poorly-graded sand with silt and gravel (SP-SM)g	Light yellowish brown poorly-graded sand with gravel (SP)g	Yellowish brown poorly-graded sand with silt (SP-SM)	Light yellowish brown poorly-graded sand with silt (SP-SM)	
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sample Dry Weight Determination								
Weight of Sample + Container (g)	939.1	1065.7	558.3	651.2	387.1	817.9	900.6	
Weight of Container (g)	107.2	302.0	82.4	107.3	76.7	77.1	76.1	
Weight of Dry Sample (g)	831.9	763.7	475.9	543.9	310.4	740.8	824.5	
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	
Dry Weight of Sample + Cont. (g)	853.5	1023.9	326.2	617.5	374.6	750.0	856.5	
Weight of Container (g)	107.2	302.0	82.4	107.3	76.7	77.1	76.1	
Dry Weight of Sample (g)	746.3	721.9	243.8	510.2	297.9	672.9	780.4	
% Passing No. 200 Sieve	**10.3**	**5.5**	**48.8**	**6.2**	**4.0**	**9.2**	**5.3**	
% Retained No. 200 Sieve	89.7	94.5	51.2	93.8	96.0	90.8	94.7	

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: JD/KJ Date: 12/08/23

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-2-7
Sample No.: B-1
Soil Identification: Yellowish brown silty sand (SM)

Tested By: K. Jumig Date: 11/21/23
Checked By: J. Ward Date: 12/11/23
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	CP-17	4-C	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	4647.9	683.8	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	222.9	108.4	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	4425.0	575.4	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	4-C
	Wt. of Dry Soil + Container (g)	555.4
	Wt. of Container (g)	108.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	447.0

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
3"	75.0			
1 1/2"	37.5	0.0		100.0
1"	25.0	104.3		97.6
3/4"	19.0	165.5		96.3
1/2"	12.5	289.9		93.4
3/8"	9.5	371.8		91.6
#4	4.75	560.3		87.3
#8	2.36		38.6	81.4
#16	1.18		99.2	72.2
#30	0.600		173.9	60.9
#50	0.300		252.0	49.1
#100	0.150		342.3	35.4
#200	0.075		436.3	21.1
PAN				

GRAVEL: **13 %**
SAND: **66 %**
FINES: **21 %**
GROUP SYMBOL: **SM**

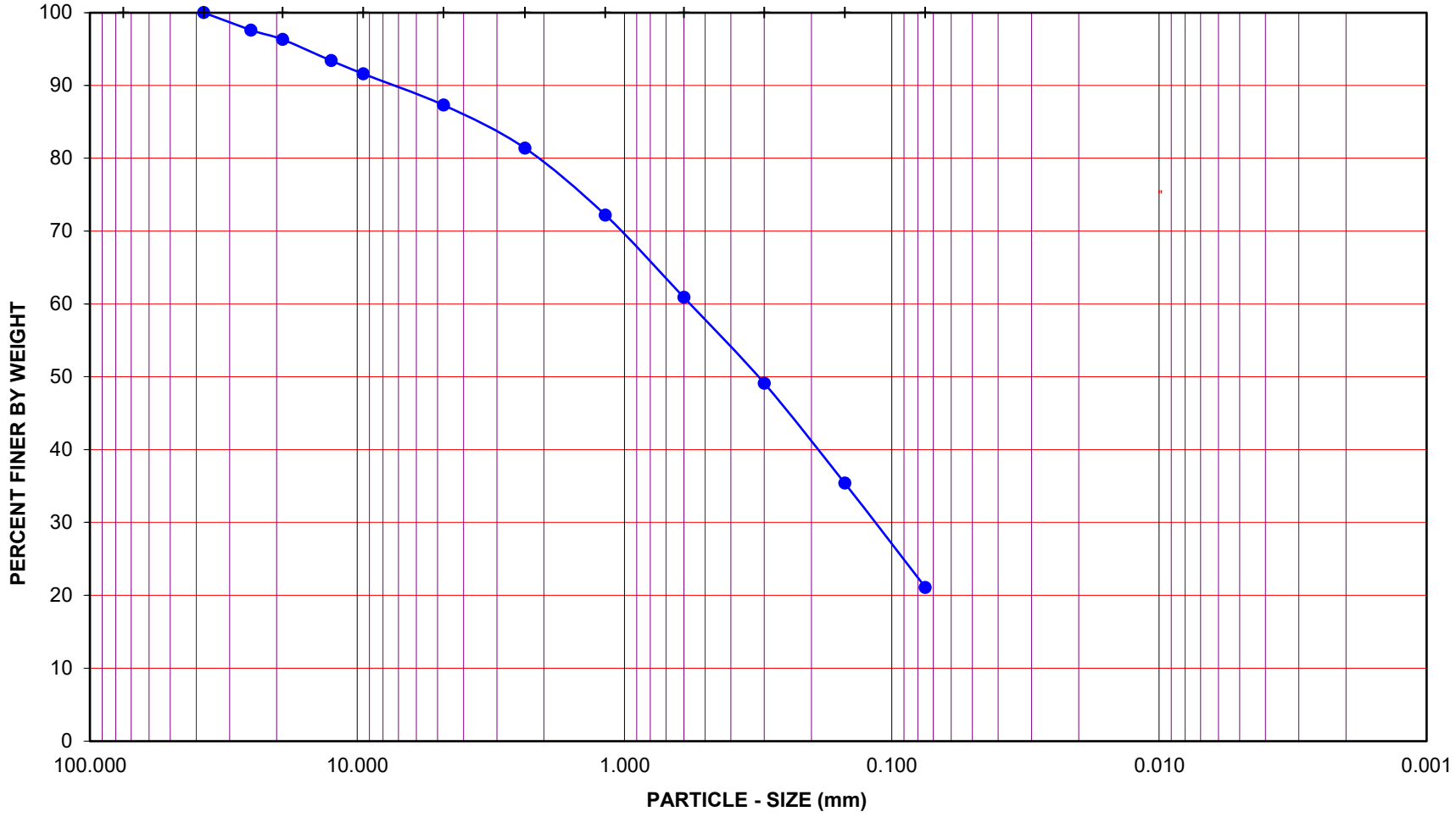
Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-2-7 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) 13 : 66 : 21

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Dec-23

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-3-3
Sample No.: B-1
Soil Identification: Pale brown silty sand (SM)

Tested By: K. Jumig Date: 12/04/23
Checked By: J. Ward Date: 12/27/23
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	A12	923	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	3356.8	608.2	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	231.9	107.8	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	3124.9	500.4	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	923
	Wt. of Dry Soil + Container (g)	432.4
	Wt. of Container (g)	107.8
	Dry Wt. of Soil Retained on # 200 Sieve (g)	324.6

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.5			
1"	25.0			
3/4"	19.0	0.0		100.0
1/2"	12.5	5.6		99.8
3/8"	9.5	8.5		99.7
#4	4.75	17.3		99.4
#8	2.36		8.9	97.6
#16	1.18		40.2	91.4
#30	0.600		91.4	81.2
#50	0.300		160.7	67.5
#100	0.150		243.6	51.0
#200	0.075		314.8	36.9
PAN				

GRAVEL: **1 %**
SAND: **62 %**
FINES: **37 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

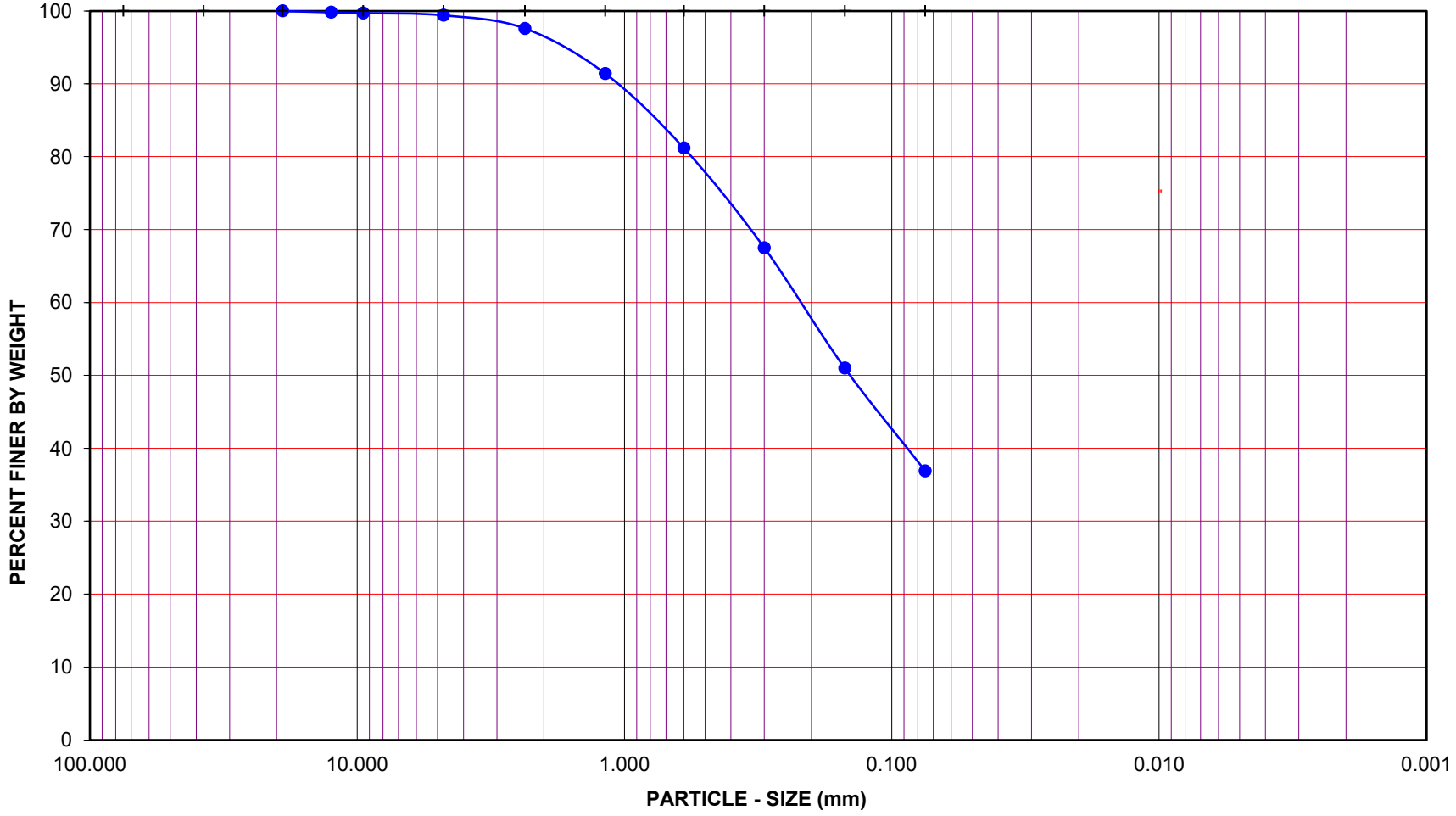
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LB-3-3 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Pale brown silty sand (SM)

GR:SA:FI : (%) 1 : 62 : 37

Dec-23

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-5-10
Sample No.: B-1
Soil Identification: Yellowish brown silty sand (SM)

Tested By: K. Jumig Date: 12/01/23
Checked By: J. Ward Date: 12/27/23
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	918A	IMC-1	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	2257.6	801.9	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	105.3	300.1	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	2152.3	501.8	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	IMC-1
	Wt. of Dry Soil + Container (g)	685.1
	Wt. of Container (g)	300.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	385.0

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.5			
1"	25.0			
3/4"	19.0	0.0		100.0
1/2"	12.5	2.3		99.9
3/8"	9.5	18.3		99.1
#4	4.75	47.3		97.8
#8	2.36		25.0	92.9
#16	1.18		84.7	81.3
#30	0.600		150.3	68.5
#50	0.300		212.2	56.4
#100	0.150		281.7	42.9
#200	0.075		367.9	26.1
PAN				

GRAVEL: **2 %**
SAND: **72 %**
FINES: **26 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

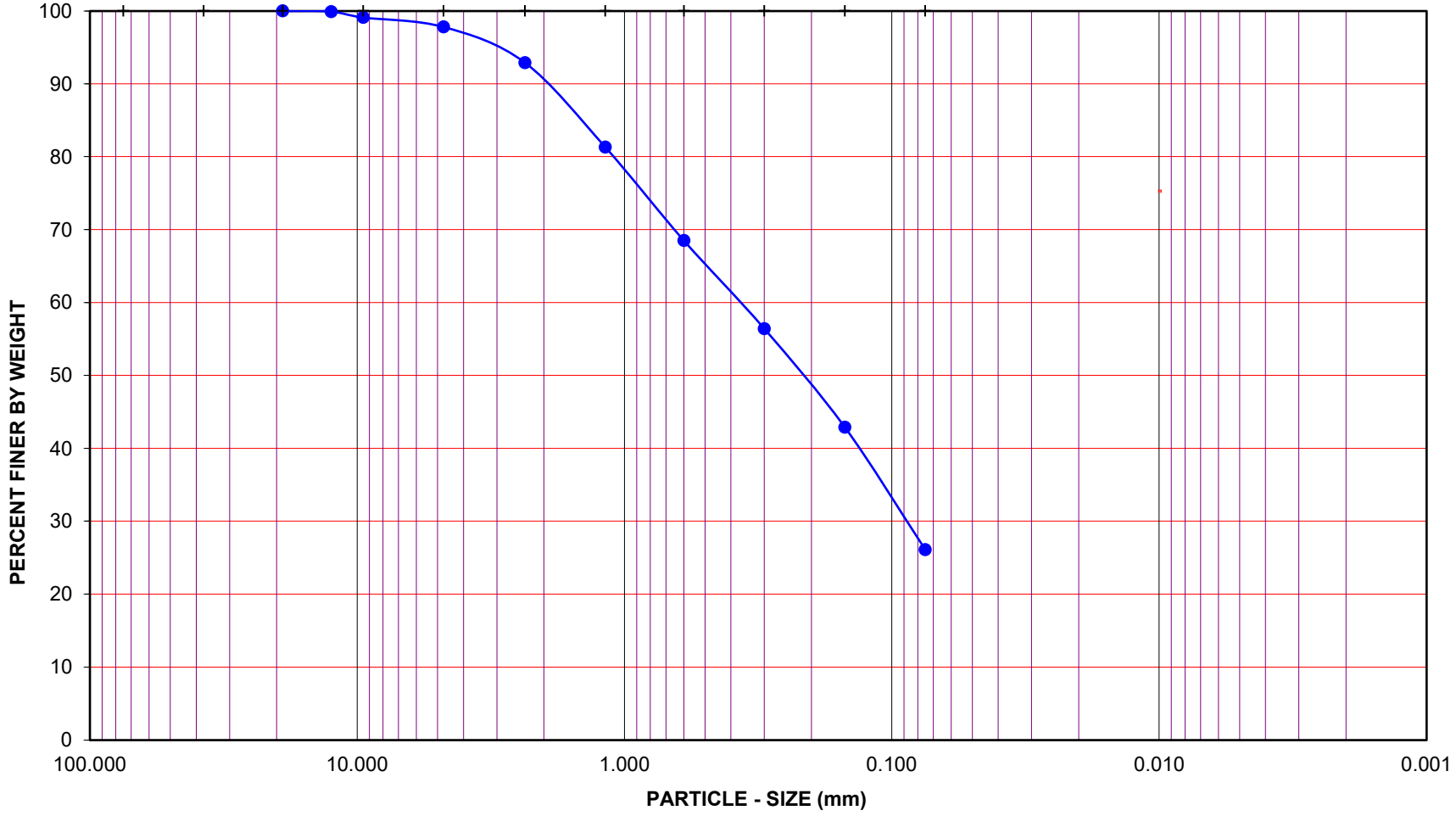
Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

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PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LB-5-10 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) 2 : 72 : 26

Dec-23

SA LB-5-10, B-1 @ 0-5

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-7-3
Sample No.: B-1
Soil Identification: Yellowish brown silty sand (SM)

Tested By: K. Jumig Date: 12/04/23
Checked By: J. Ward Date: 01/19/24
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	P-10	D-81	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	3154.4	619.7	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	277.4	107.9	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	2877.0	511.8	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	D-81
	Wt. of Dry Soil + Container (g)	523.1
	Wt. of Container (g)	107.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	415.2

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
3"	75.0			
1 1/2"	37.5			
1"	25.0	0.0		100.0
3/4"	19.0	10.5		99.6
1/2"	12.5	54.0		98.1
3/8"	9.5	68.9		97.6
#4	4.75	191.2		93.4
#8	2.36		67.7	81.0
#16	1.18		154.3	65.2
#30	0.600		217.8	53.7
#50	0.300		279.5	42.4
#100	0.150		345.0	30.4
#200	0.075		402.1	20.0
PAN				

GRAVEL: **7 %**
SAND: **73 %**
FINES: **20 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

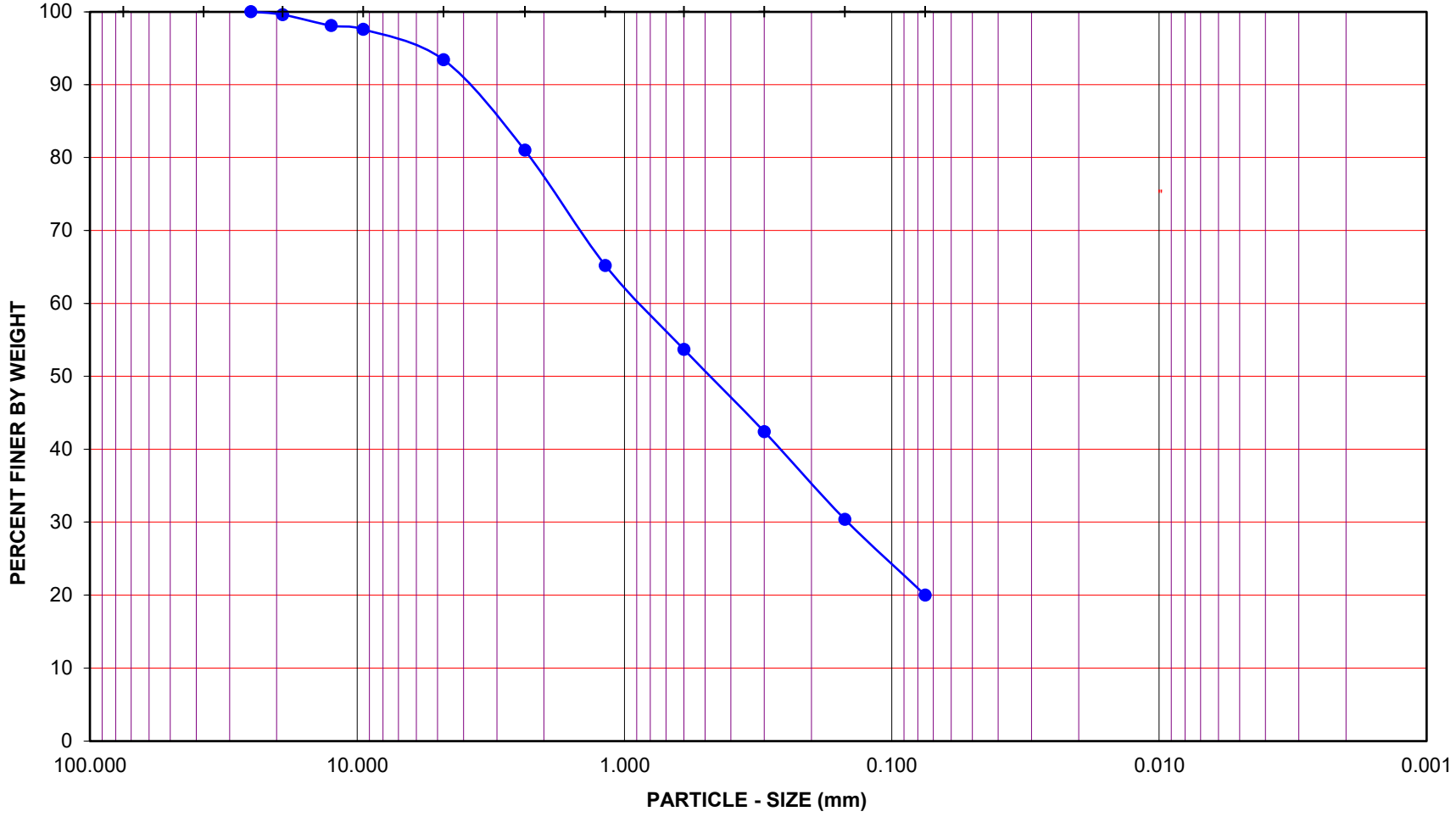
Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

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PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LB-7-3 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) 7 : 73 : 20

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-7-3
Sample No.: S-1
Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

Tested By: K. Jumig Date: 01/08/24
Checked By: J. Ward Date: 01/19/24
Depth (feet): 15.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	610	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	422.9	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	89.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	333.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	610
	Wt. of Dry Soil + Container (g)	402.7
	Wt. of Container (g)	89.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	313.5

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	21.0	93.7
1/2"	12.5	50.4	84.9
3/8"	9.5	72.4	78.3
#4	4.75	98.6	70.5
#8	2.36	135.8	59.3
#16	1.18	196.5	41.1
#30	0.600	249.1	25.4
#50	0.300	279.3	16.3
#100	0.150	297.8	10.8
#200	0.075	310.6	6.9
PAN			

GRAVEL: **30 %**
SAND: **63 %**
FINES: **7 %**
GROUP SYMBOL: **(SW-SM)g**

Cu = D60/D10 = 17.86
Cc = $(D30)^2/(D60*D10)$ = 1.61

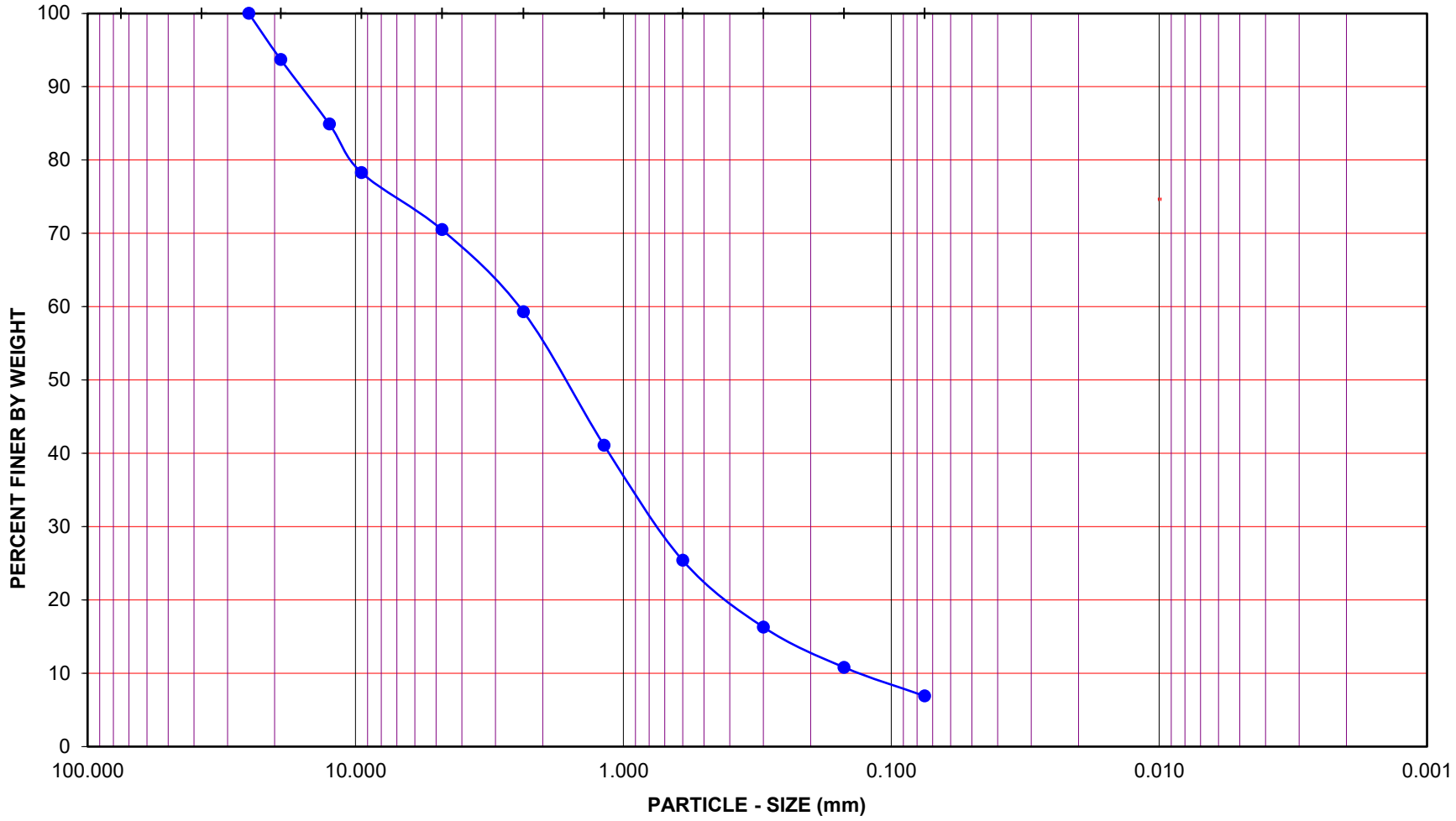
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-7-3 Sample No.: S-1

Depth (feet): 15.0 Soil Type : (SW-SM)g

Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 30 : 63 : 7

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PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-7-3
Sample No.: S-2
Soil Identification: Grayish brown silty sand (SM)

Tested By: K. Jumig Date: 01/08/24
Checked By: J. Ward Date: 01/19/24
Depth (feet): 25.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	749	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	369.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	77.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	291.8	Moisture Content (%)	0.0

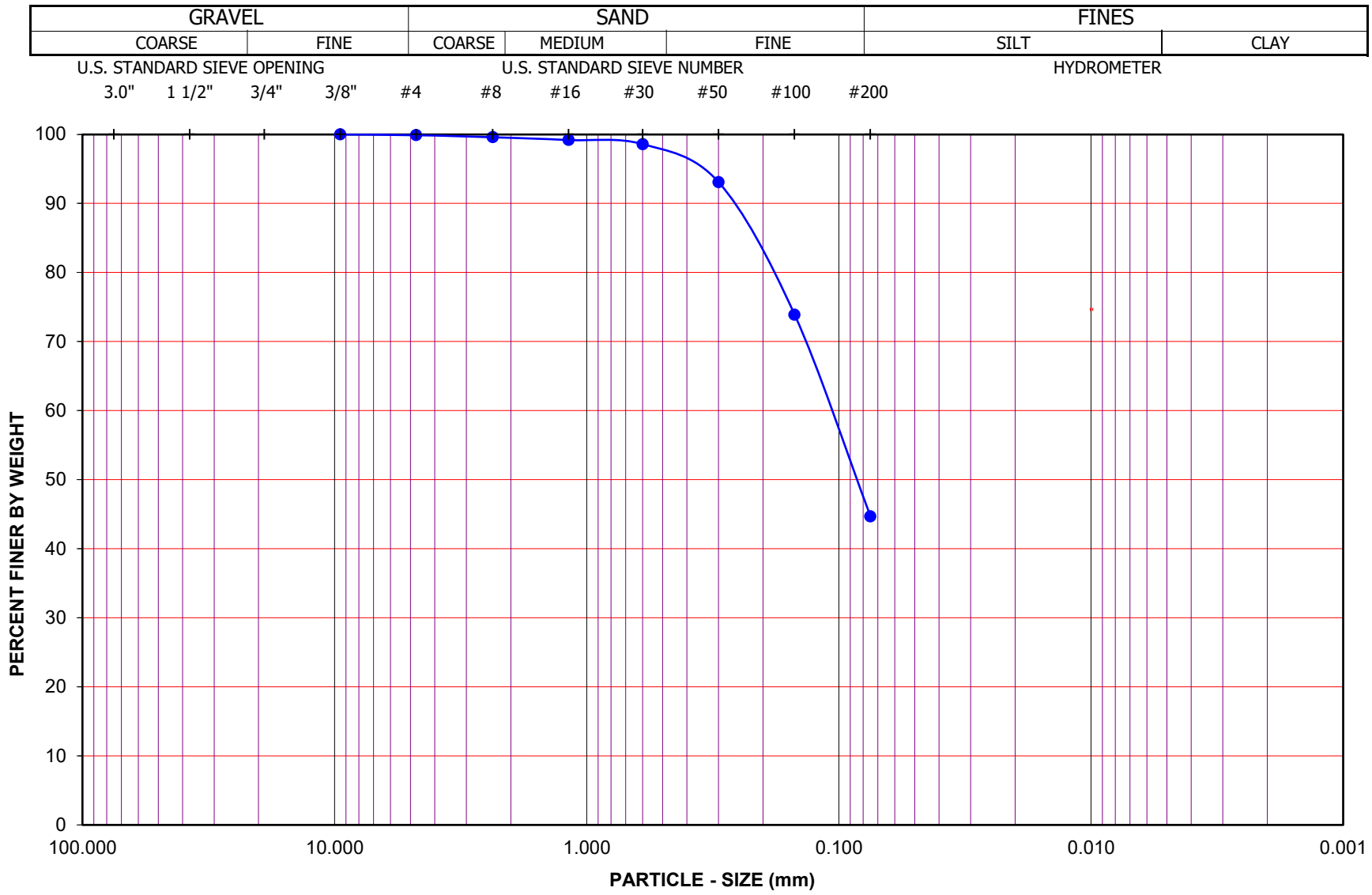
After Wet Sieve	Container No.	749
	Wt. of Dry Soil + Container (g)	251.2
	Wt. of Container (g)	77.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	174.0

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.2	99.9
#8	2.36	1.3	99.6
#16	1.18	2.2	99.2
#30	0.600	4.0	98.6
#50	0.300	20.0	93.1
#100	0.150	76.2	73.9
#200	0.075	161.4	44.7
PAN			

GRAVEL: **0 %**
SAND: **55 %**
FINES: **45 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-7-3 Sample No.: S-2

Depth (feet): 25.0 Soil Type : SM

Soil Identification: Grayish brown silty sand (SM)

GR:SA:FI : (%) 0 : 55 : 45

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/08/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/27/23
Boring No.:	LI-3	Depth (feet):	6.0		
Sample No.:	S-2				
Soil Identification:	Light yellowish brown well-graded sand with silt and gravel (SW-SM)g				

		Moisture Content of Total Air - Dry Soil	
Container No.:	CP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	638.6	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	74.8	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	563.8	Moisture Content (%)	0.0

After Wet Sieve	Container No.	CP
	Wt. of Dry Soil + Container (g)	605.5
	Wt. of Container (g)	74.8
	Dry Wt. of Soil Retained on # 200 Sieve (g)	530.7

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	40.1	92.9
1/2"	12.5	87.6	84.5
3/8"	9.5	98.7	82.5
#4	4.75	136.2	75.8
#8	2.36	201.1	64.3
#16	1.18	298.7	47.0
#30	0.600	398.7	29.3
#50	0.300	475.1	15.7
#100	0.150	511.4	9.3
#200	0.075	529.0	6.2
PAN			

GRAVEL: **24 %**

SAND: **70 %**

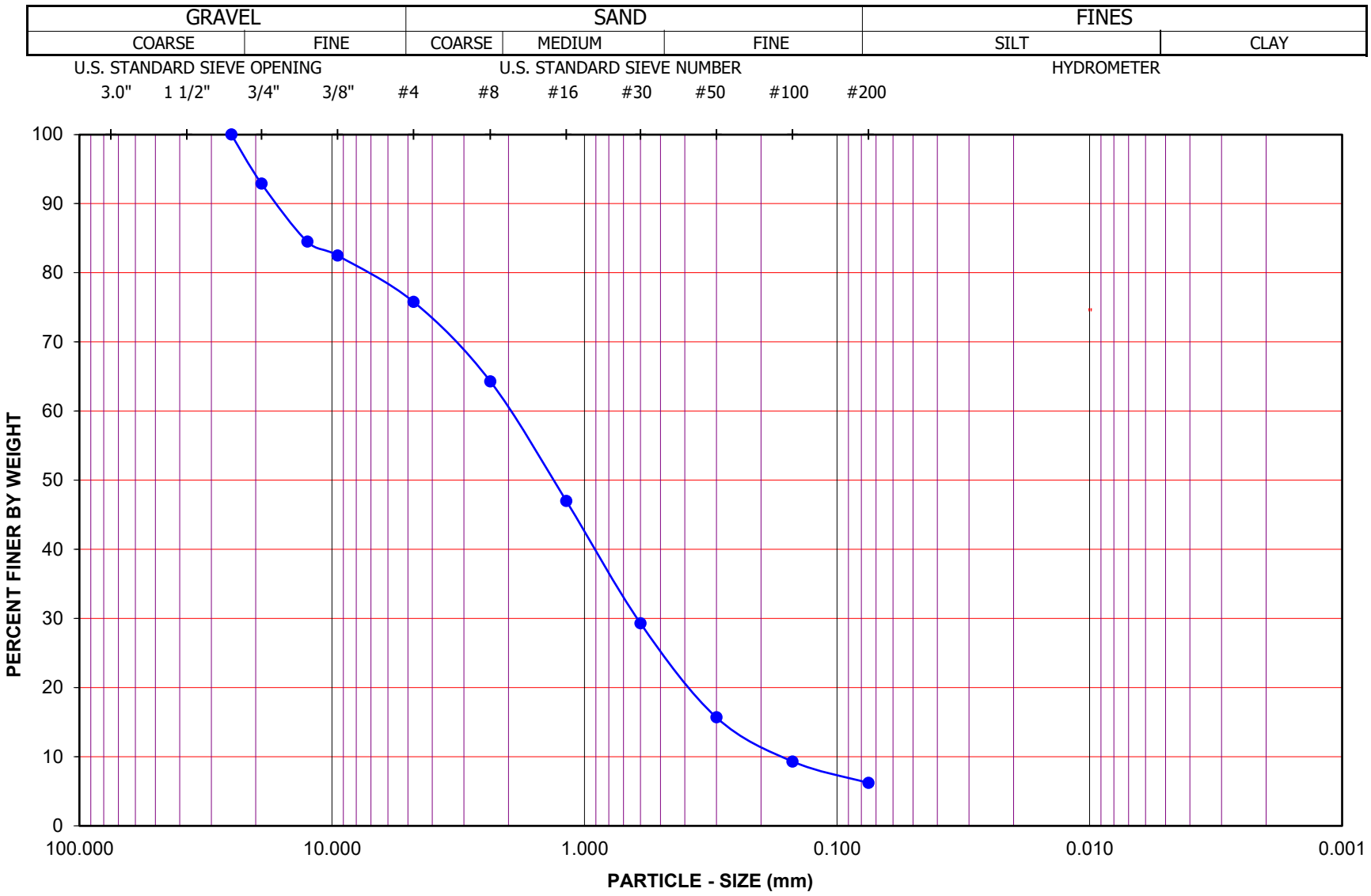
FINES: **6 %**

GROUP SYMBOL: **(SW-SM)g**

Cu = D60/D10 = 11.76

Cc = $(D30)^2/(D60*D10)$ = 1.09

Remarks:



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LI-3 Sample No.: S-2

Depth (feet): 6.0 Soil Type : (SW-SM)g

Soil Identification: Light yellowish brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 24 : 70 : 6

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Dec-23

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/08/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/27/23
Boring No.:	LI-5	Depth (feet):	6.0		
Sample No.:	S-2				
Soil Identification:	Light yellowish brown well-graded sand with silt and gravel (SW-SM)g				

		Moisture Content of Total Air - Dry Soil	
Container No.:	923	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	861.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	107.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	753.1	Moisture Content (%)	0.0

After Wet Sieve	Container No.	923
	Wt. of Dry Soil + Container (g)	829.3
	Wt. of Container (g)	107.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	721.4

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	41.0	94.6
1/2"	12.5	65.3	91.3
3/8"	9.5	86.4	88.5
#4	4.75	132.5	82.4
#8	2.36	205.0	72.8
#16	1.18	360.3	52.2
#30	0.600	531.7	29.4
#50	0.300	649.2	13.8
#100	0.150	697.4	7.4
#200	0.075	719.5	4.5
PAN			

GRAVEL:	**18 %**		
SAND:	**77 %**		
FINES:	**5 %**		
GROUP SYMBOL:	**(SW-SM)g**	Cu = D60/D10 =	6.52
		Cc = $(D30)^2/(D60*D10)$ =	1.08

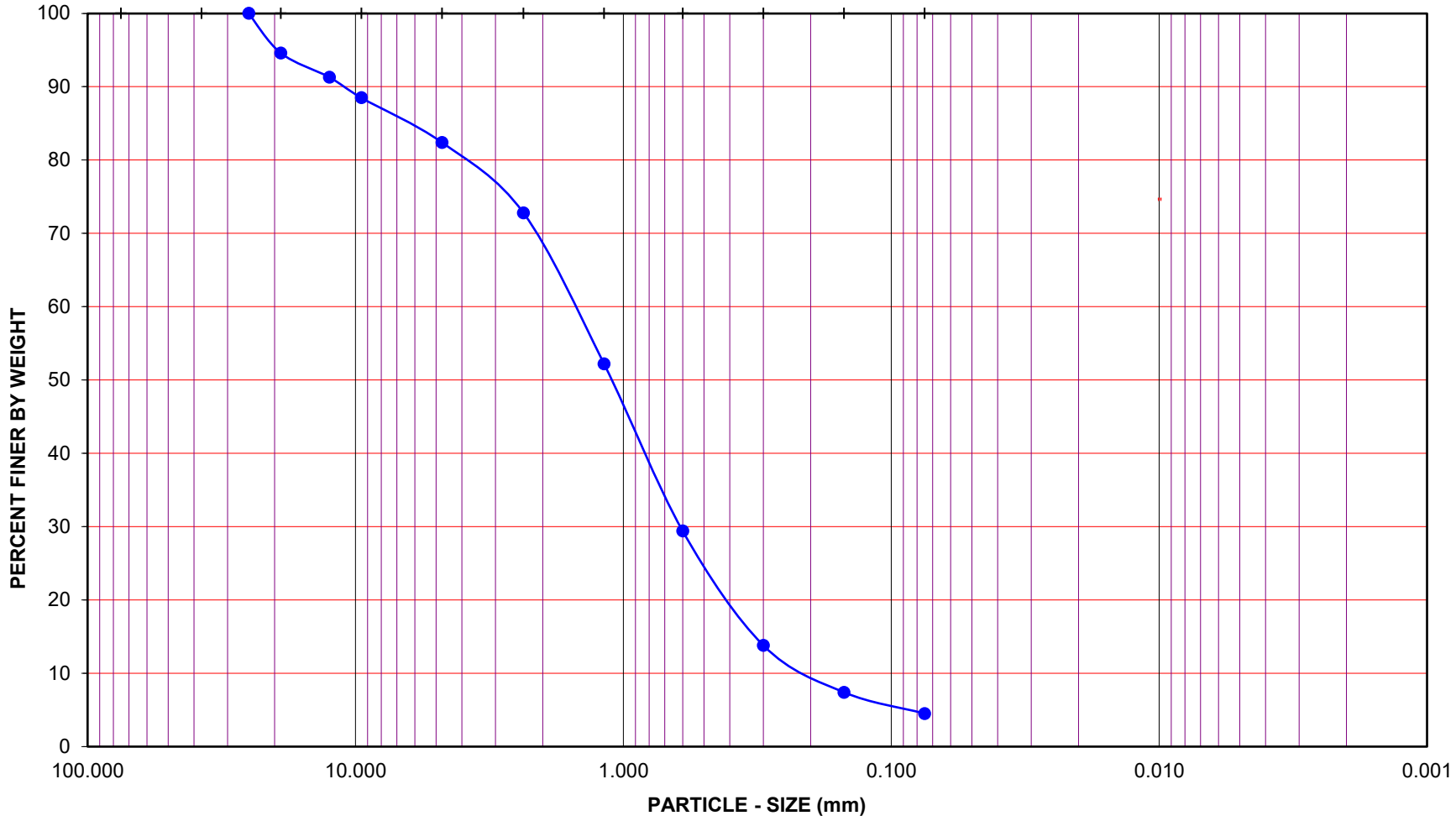
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LI-5 Sample No.: S-2

Depth (feet): 6.0 Soil Type : (SW-SM)g

Soil Identification: Light yellowish brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 18 : 77 : 5

Dec-23

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-7
Sample No.: S-2
Soil Identification: Yellowish brown poorly-graded sand with silt (SP-SM)

Tested By: J. Domingo Date: 01/10/24
Checked By: J. Ward Date: 01/19/24
Depth (feet): 13.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	936	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	1239.8	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	107.1	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	1132.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	936
	Wt. of Dry Soil + Container (g)	1130.1
	Wt. of Container (g)	107.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	1023.0

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	13.3	98.8
1/2"	12.5	59.1	94.8
3/8"	9.5	83.8	92.6
#4	4.75	144.8	87.2
#8	2.36	273.2	75.9
#16	1.18	496.3	56.2
#30	0.600	715.2	36.9
#50	0.300	880.9	22.2
#100	0.150	964.5	14.8
#200	0.075	1010.7	10.8
PAN			

GRAVEL: **13 %**
SAND: **76 %**
FINES: **11 %**
GROUP SYMBOL: **SP-SM**

Cu = D60/D10 = 25.93
Cc = $(D30)^2/(D60*D10)$ = 2.56

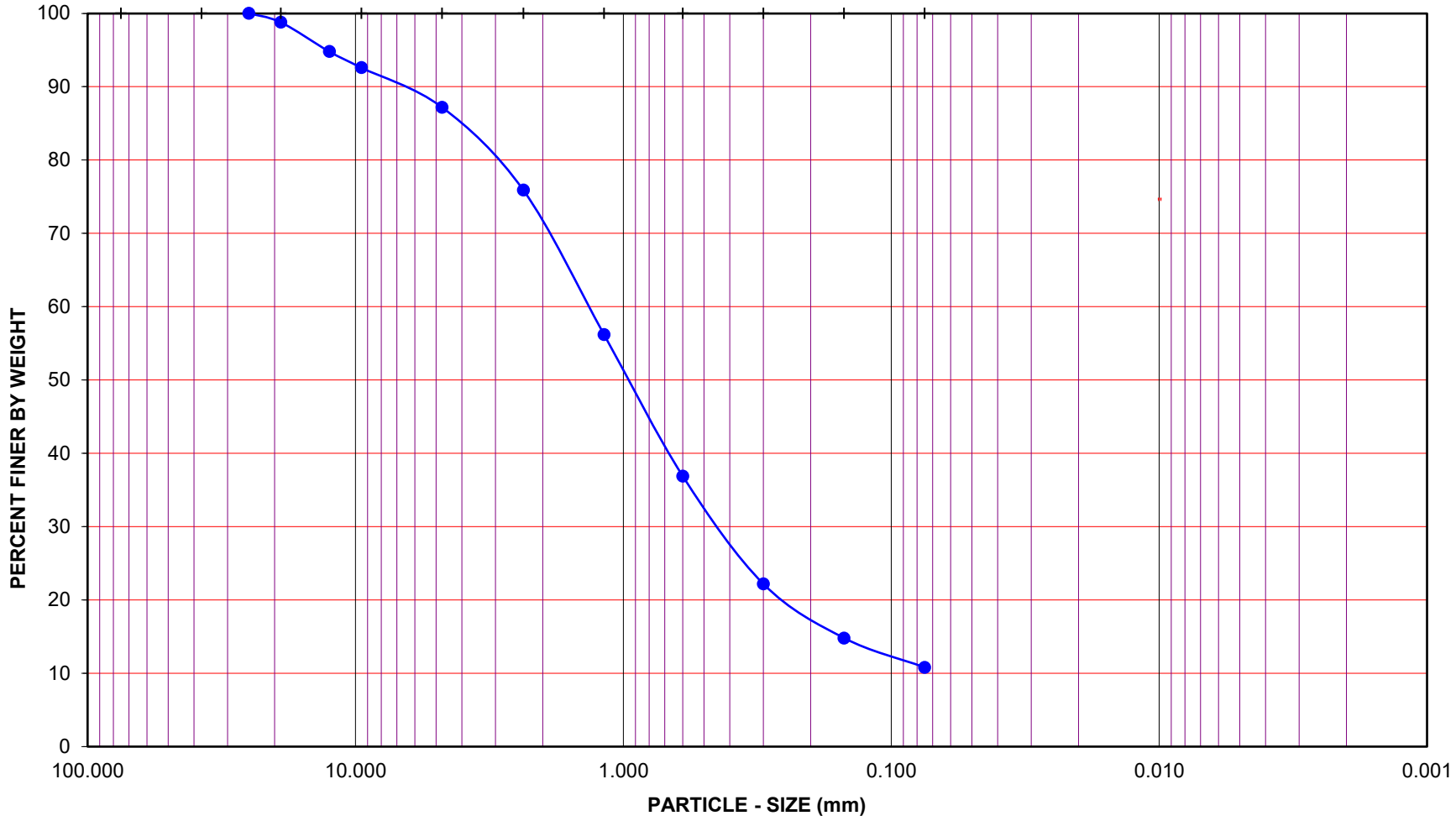
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LI-7 Sample No.: S-2

Depth (feet): 13.5 Soil Type : SP-SM

Soil Identification: Yellowish brown poorly-graded sand with silt (SP-SM)

GR:SA:FI : (%) 13 : 76 : 11

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	12/07/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LI-10	Depth (feet):	7.5		
Sample No.:	S-2				
Soil Identification:	Light yellowish brown well-graded sand with silt (SW-SM)				

		Moisture Content of Total Air - Dry Soil	
Container No.:	537	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	694.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	82.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	611.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	537
	Wt. of Dry Soil + Container (g)	658.8
	Wt. of Container (g)	82.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	576.3

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0	0.0	100.0
1/2"	12.5	3.5	99.4
3/8"	9.5	17.6	97.1
#4	4.75	68.5	88.8
#8	2.36	158.7	74.1
#16	1.18	313.5	48.7
#30	0.600	443.2	27.5
#50	0.300	517.8	15.4
#100	0.150	553.7	9.5
#200	0.075	573.7	6.2
PAN			

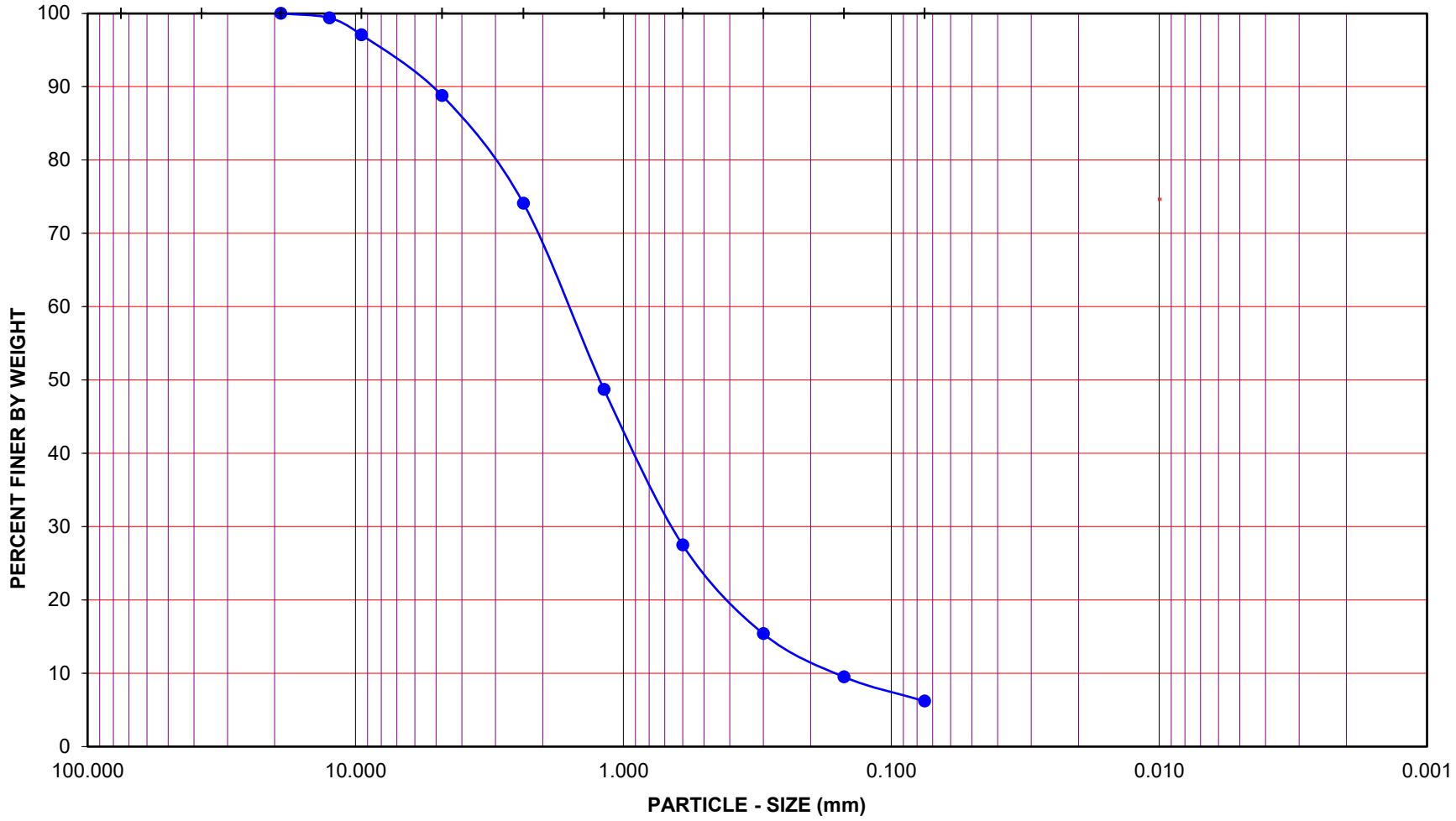
GRAVEL:	**11 %**		
SAND:	**83 %**		
FINES:	**6 %**		
GROUP SYMBOL:	**SW-SM**	Cu = D60/D10 =	9.38
		Cc = $(D30)^2/(D60*D10)$ =	1.93

Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING | U.S. STANDARD SIEVE NUMBER | HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LI-10 Sample No.: S-2

Depth (feet): 7.5 Soil Type : SW-SM

Soil Identification: Light yellowish brown well-graded sand with silt (SW-SM)

GR:SA:FI : (%) 11 : 83 : 6

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-12
Sample No.: S-2
Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

Tested By: J. Domingo Date: 12/07/23
Checked By: J. Ward Date: 01/19/24
Depth (feet): 13.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	723	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	821.6	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	77.4	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	744.2	Moisture Content (%)	0.0

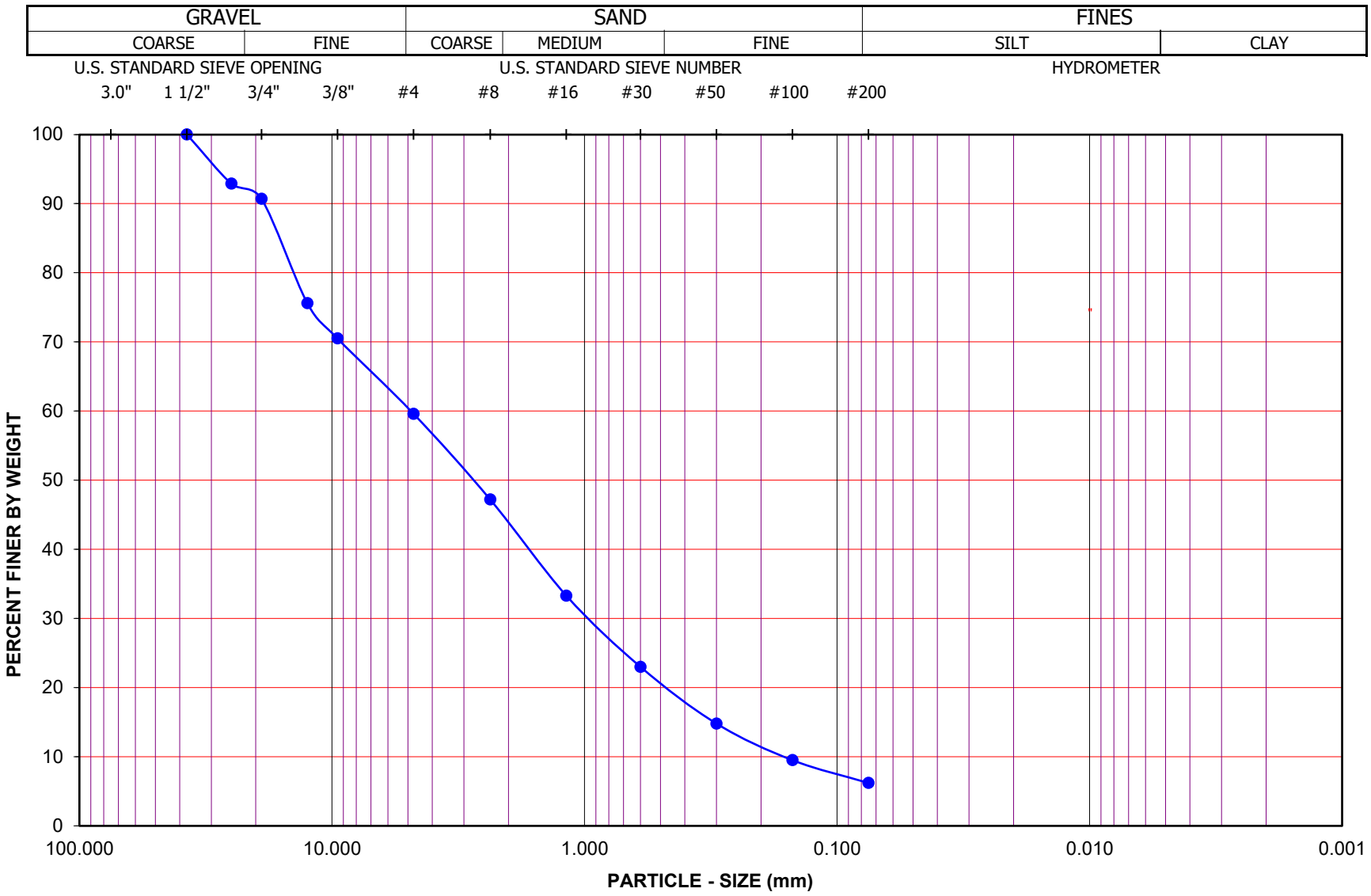
After Wet Sieve	Container No.	723
	Wt. of Dry Soil + Container (g)	779.9
	Wt. of Container (g)	77.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	702.5

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5	0.0	100.0
1"	25.0	52.8	92.9
3/4"	19.0	68.9	90.7
1/2"	12.5	181.9	75.6
3/8"	9.5	219.3	70.5
#4	4.75	300.6	59.6
#8	2.36	393.0	47.2
#16	1.18	496.2	33.3
#30	0.600	573.2	23.0
#50	0.300	634.2	14.8
#100	0.150	673.7	9.5
#200	0.075	698.0	6.2
PAN			

GRAVEL: **40 %**
SAND: **54 %**
FINES: **6 %**
GROUP SYMBOL: **(SW-SM)g**

Cu = D60/D10 = 30.63
Cc = $(D30)^2/(D60*D10)$ = 1.23

Remarks:



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LI-12 Sample No.: S-2

Depth (feet): 13.0 Soil Type : (SW-SM)g

Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 40 : 54 : 6

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

SAND EQUIVALENT TEST

DOT CA Test 217

Project Name: MileskiL/Adelanto Warehouses

Tested By: J. Domingo Date: 11/27/23

Project No. : RC23280

Input By: J. Ward Date: 12/11/23

Boring No.	Sample No.	Depth (ft.)	Soil Type	T1	T2	T3	T4	R1	R2	SE	Average SE
LB-1-1	B-1	0-5	Strong brown silty sand (SM)	08:24	08:34	08:37	08:57	11.4	2.1	19	**20**
				08:28	08:38	08:41	09:01	11.5	2.3	20	
				08:32	08:42	08:45	09:05	11.6	2.1	19	

T1 = Starting Time

T2 = (T1 + 10 min) Begin Agitation

(131 cycles in 45 sec)

T3 = Settlement Starting Time

T4 = (T3 + 20 min) Take Clay Reading (R1)

and Sand Reading (R2)

Sand Equivalent = R2 / R1 * 100

Record SE as Next Higher Integer

EXPANSION INDEX of SOILS
ASTM D 4829

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	GEB/ACS	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-4-1	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Dark yellowish brown silty sand (SM)				

Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0235
Wt. Comp. Soil + Mold (g)	605.40	442.70
Wt. of Mold (g)	191.40	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	819.60	634.10
Dry Wt. of Soil + Cont. (g)	751.90	571.20
Wt. of Container (g)	0.00	191.40
Moisture Content (%)	9.00	16.56
Wet Density (pcf)	124.9	130.5
Dry Density (pcf)	114.6	111.9
Void Ratio	0.472	0.506
Total Porosity	0.320	0.336
Pore Volume (cc)	66.3	71.2
Degree of Saturation (%) [S_{meas}]	**51.6**	88.4

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
12/04/23	11:00	1.0	0	0.4345
12/04/23	11:10	1.0	10	0.4340
Add Distilled Water to the Specimen				
12/04/23	11:36	1.0	26	0.4500
12/05/23	9:00	1.0	1310	0.4580
12/05/23	11:30	1.0	1460	0.4580

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**24**

EXPANSION INDEX of SOILS
ASTM D 4829

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Berdy	Date:	12/01/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LB-6-3	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0100
Wt. Comp. Soil + Mold (g)	603.80	441.99
Wt. of Mold (g)	191.40	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	819.60	633.39
Dry Wt. of Soil + Cont. (g)	751.90	569.79
Wt. of Container (g)	0.00	191.40
Moisture Content (%)	9.00	16.81
Wet Density (pcf)	124.4	132.0
Dry Density (pcf)	114.1	113.0
Void Ratio	0.477	0.492
Total Porosity	0.323	0.330
Pore Volume (cc)	66.9	68.9
Degree of Saturation (%) [S_{meas}]	**50.9**	92.3

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
12/01/23	10:53	1.0	0	0.5100
12/01/23	11:03	1.0	10	0.5090
Add Distilled Water to the Specimen				
12/01/23	12:03	1.0	60	0.5175
12/04/23	6:09	1.0	4026	0.5200
12/04/23	7:23	1.0	4100	0.5200

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**11**

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	11/20/23
Project No. :	RC23280	Input By:	J. Ward	Date:	12/11/23
Boring No.:	LB-2-1	Checked By:	J. Ward		
Sample No.:	S-3	Depth (ft.)	35.0		
Soil Identification:	Light brown silty sand (SM)				

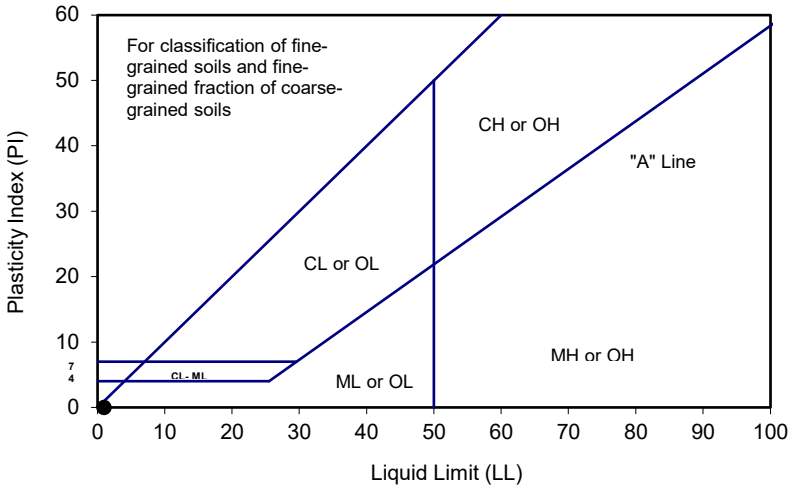
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			6			
Wet Wt. of Soil + Cont. (g)	**Cannot be rolled:**		27.43	**Cannot get more than 6 blows:**		
Dry Wt. of Soil + Cont. (g)	**NonPlastic**		23.04	**NonPlastic**		
Wt. of Container (g)			1.05			
Moisture Content (%) [Wn]			19.96			

Liquid Limit	**NP**
Plastic Limit	**NP**
Plasticity Index	**NP**
Classification	**NP**

PI at "A" - Line = 0.73(LL-20) =

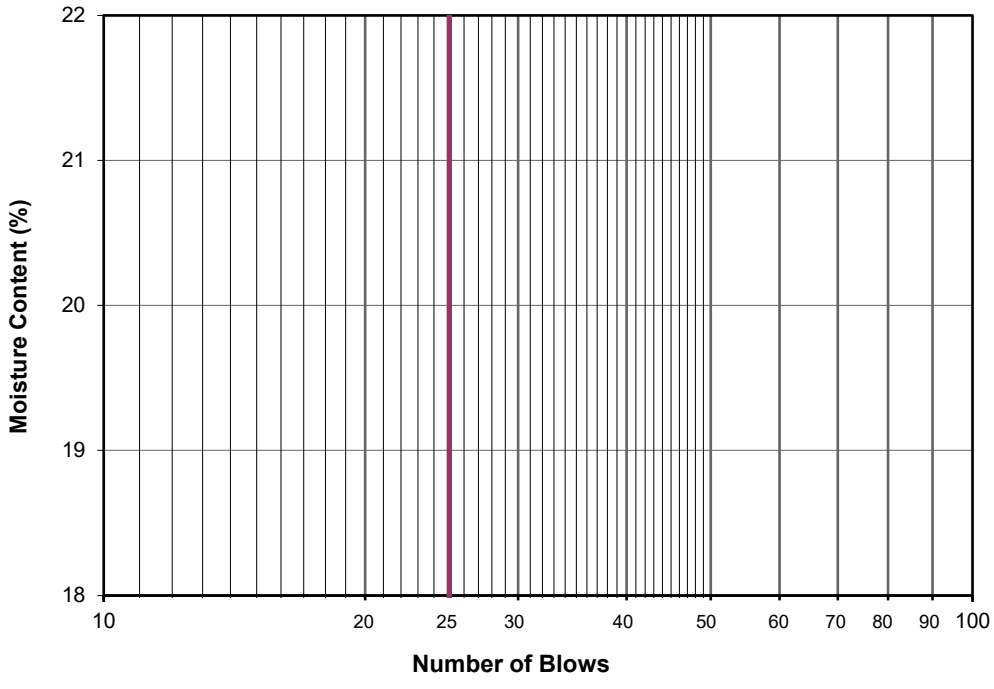
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

	Wet Preparation Multipoint - Wet
X	Dry Preparation Multipoint - Dry
X	Procedure A Multipoint Test
	Procedure B One-point Test



ATTERBERG LIMITS
ASTM D 4318

Project Name:	MileskiL/Adelando Warehouses	Tested By:	J. Domingo	Date:	12/11/23
Project No. :	RC23280	Input By:	G. Bathala	Date:	12/13/23
Boring No.:	LB-4-4	Checked By:	J. Ward		
Sample No.:	R-4	Depth (ft.)	20.0		
Soil Identification:	Gray clayey sand (SC), caliche noted				

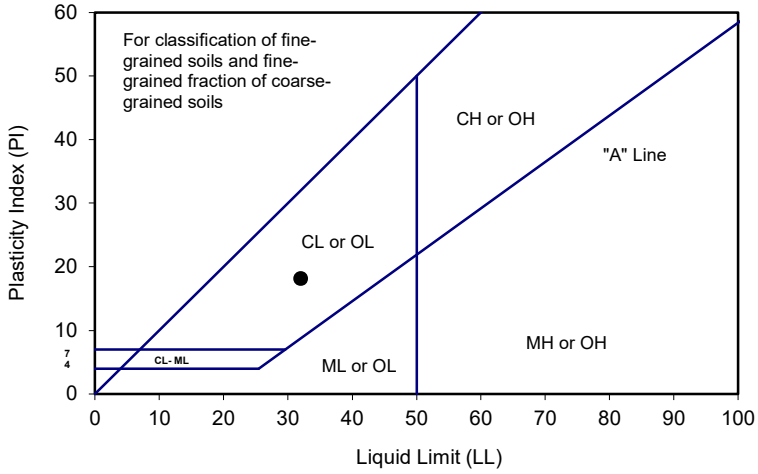
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			30	24	17	
Wet Wt. of Soil + Cont. (g)	9.12	9.39	22.62	22.34	22.73	
Dry Wt. of Soil + Cont. (g)	8.13	8.38	17.52	17.18	17.17	
Wt. of Container (g)	1.01	1.09	1.05	1.06	1.12	
Moisture Content (%) [Wn]	13.90	13.85	30.97	32.01	34.64	

Liquid Limit	**32**
Plastic Limit	**14**
Plasticity Index	**18**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 8.76

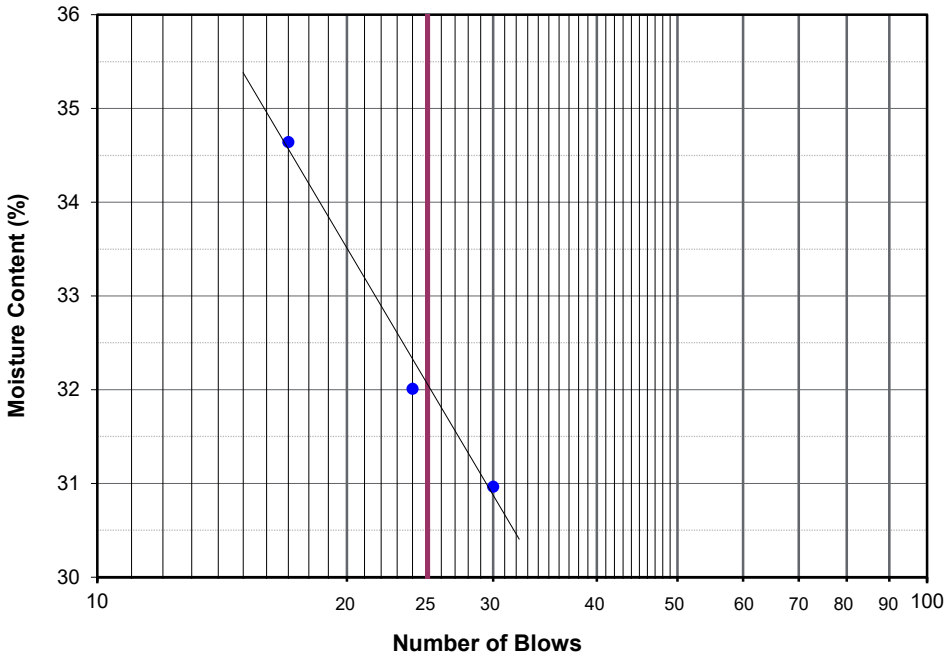
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

- [ ] Wet Preparation
  Multipoint - Wet
- [X] Dry Preparation
  Multipoint - Dry
- [X] Procedure A
  Multipoint Test
- [ ] Procedure B
  One-point Test



ATTERBERG LIMITS
ASTM D 4318

Project Name:	MileskiL/Adelando Warehouses	Tested By:	J. Domingo	Date:	12/12/23
Project No. :	RC23280	Input By:	G. Bathala	Date:	12/13/23
Boring No.:	LB-4-6	Checked By:	J. Ward		
Sample No.:	R-5	Depth (ft.)	20.0		
Soil Identification:	Light gray lean clay with sand (CL)s				

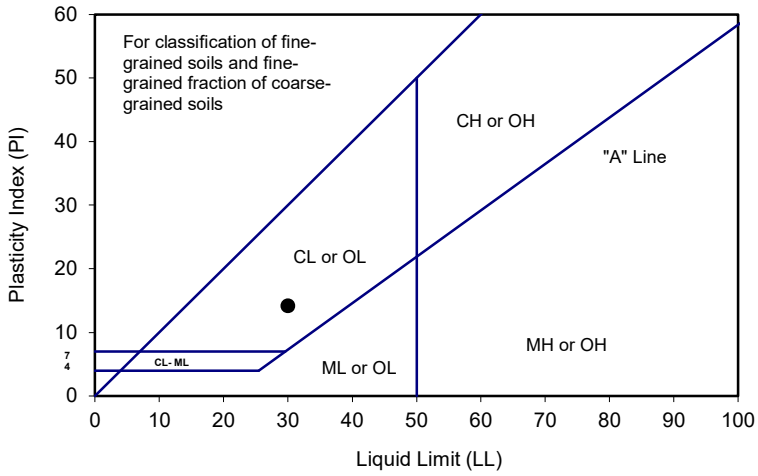
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			30	24	18	
Wet Wt. of Soil + Cont. (g)	9.29	9.40	23.58	23.06	23.16	
Dry Wt. of Soil + Cont. (g)	8.17	8.26	18.45	17.87	17.85	
Wt. of Container (g)	1.07	1.08	1.05	1.10	1.05	
Moisture Content (%) [Wn]	15.77	15.88	29.48	30.95	31.61	

Liquid Limit	**30**
Plastic Limit	**16**
Plasticity Index	**14**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 7.3

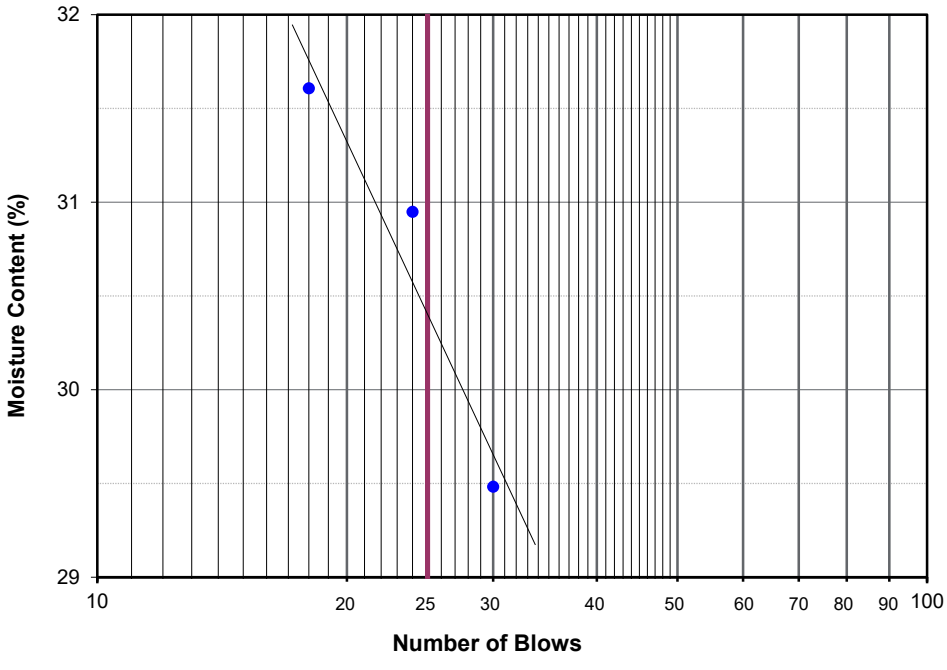
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

	Wet Preparation
	Multipoint - Wet
X	Dry Preparation
	Multipoint - Dry
X	Procedure A
	Multipoint Test
	Procedure B
	One-point Test



ATTERBERG LIMITS
ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	11/28/23
Project No. :	RC23280	Input By:	G. Bathala	Date:	12/13/23
Boring No.:	LB-5-5	Checked By:	J. Ward		
Sample No.:	R-6	Depth (ft.)	30.0		
Soil Identification:	Olive brown sandy lean clay s(CL)				

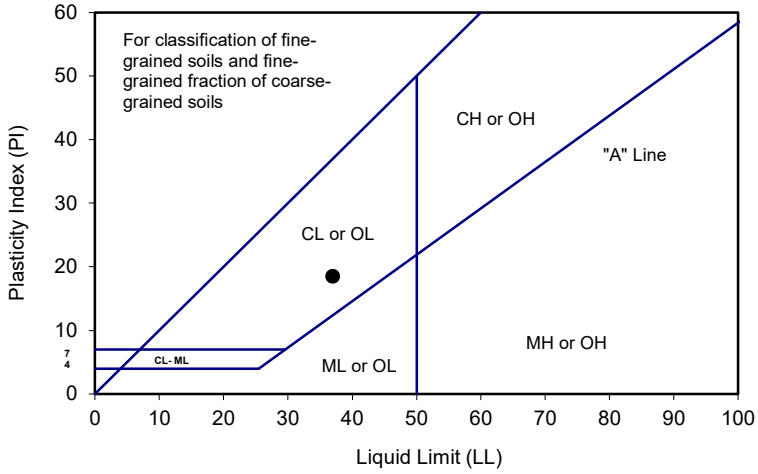
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			32	25	19	
Wet Wt. of Soil + Cont. (g)	9.79	9.70	23.68	23.88	23.28	
Dry Wt. of Soil + Cont. (g)	8.43	8.35	17.80	17.72	17.15	
Wt. of Container (g)	1.07	1.08	1.06	1.02	1.05	
Moisture Content (%) [Wn]	18.48	18.57	35.13	36.89	38.07	

Liquid Limit	**37**
Plastic Limit	**19**
Plasticity Index	**18**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 12.41

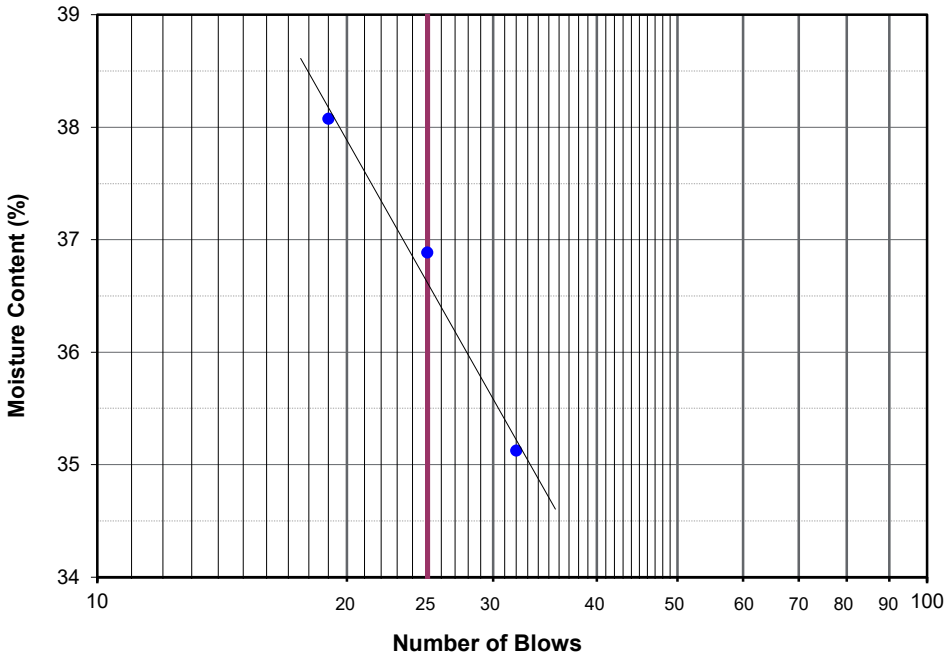
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

- [ ] Wet Preparation
  Multipoint - Wet
- [X] Dry Preparation
  Multipoint - Dry
- [X] Procedure A
  Multipoint Test
- [ ] Procedure B
  One-point Test



ATTERBERG LIMITS
ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	01/09/23
Project No. :	RC23280	Input By:	J. Domingo	Date:	01/10/23
Boring No.:	LB-6-5	Checked By:	J. Ward		
Sample No.:	R-3	Depth (ft.)	7.5		
Soil Identification:	Olive brown sandy lean clay s(CL)				

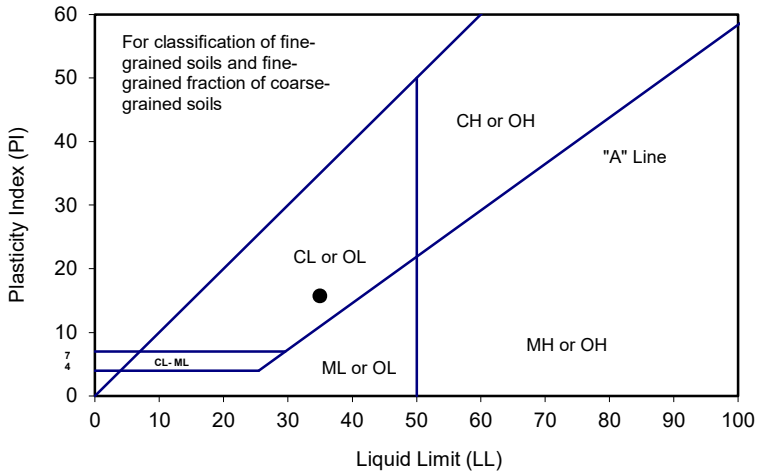
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			30	24	17	
Wet Wt. of Soil + Cont. (g)	9.84	9.79	22.80	22.55	22.46	
Dry Wt. of Soil + Cont. (g)	8.42	8.39	17.27	16.95	16.75	
Wt. of Container (g)	1.07	1.11	1.06	1.03	1.00	
Moisture Content (%) [Wn]	19.32	19.23	34.11	35.18	36.25	

Liquid Limit	**35**
Plastic Limit	**19**
Plasticity Index	**16**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 10.95

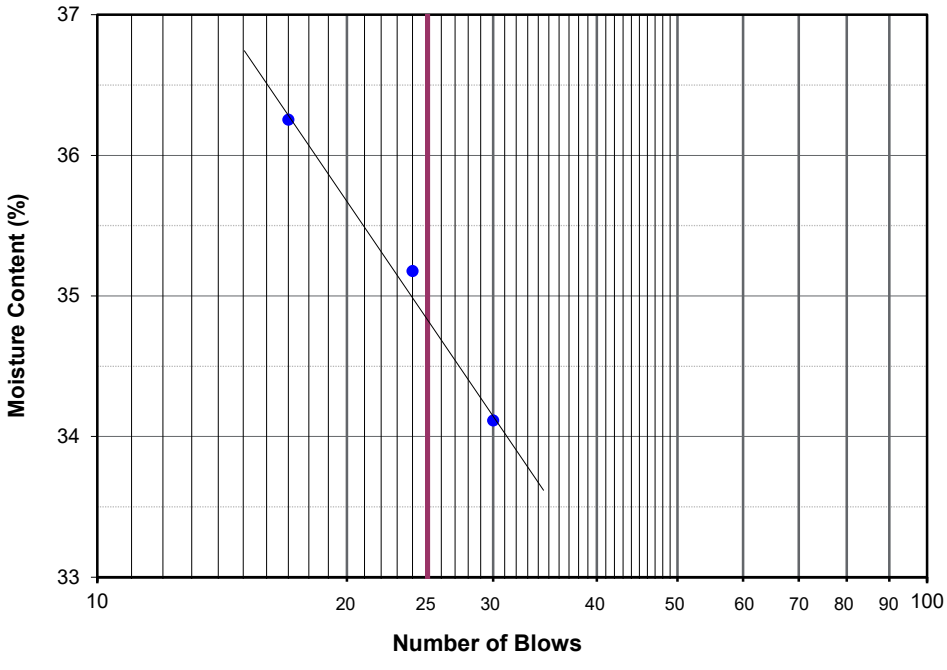
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

- [ ] Wet Preparation
  Multipoint - Wet
- [X] Dry Preparation
  Multipoint - Dry
- [X] Procedure A
  Multipoint Test
- [ ] Procedure B
  One-point Test



ATTERBERG LIMITS
ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	12/13/23
Project No. :	RC23280	Input By:	J. Domingo	Date:	12/14/23
Boring No.:	LB-7-10	Checked By:	J. Ward		
Sample No.:	R-5	Depth (ft.)	20.0		
Soil Identification:	Yellowish brown clayey sand (SC)				

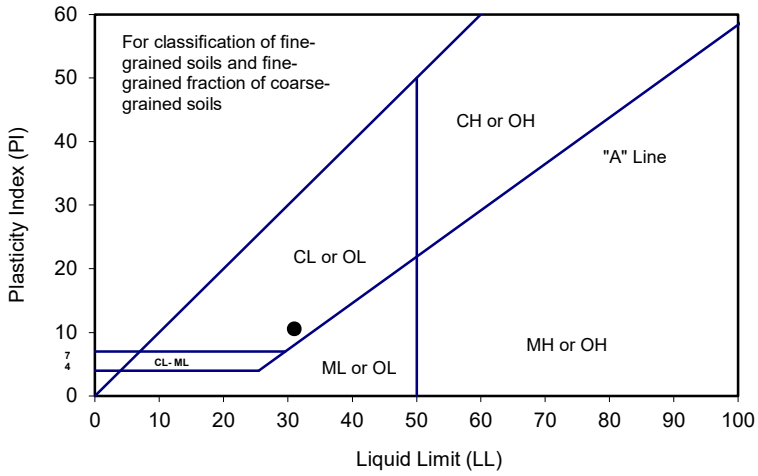
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			33	27	18	
Wet Wt. of Soil + Cont. (g)	9.56	9.65	23.79	23.07	23.26	
Dry Wt. of Soil + Cont. (g)	8.13	8.17	18.61	17.84	17.74	
Wt. of Container (g)	1.02	1.06	1.06	1.04	1.16	
Moisture Content (%) [Wn]	20.11	20.82	29.52	31.13	33.29	

Liquid Limit	**31**
Plastic Limit	**20**
Plasticity Index	**11**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 8.03

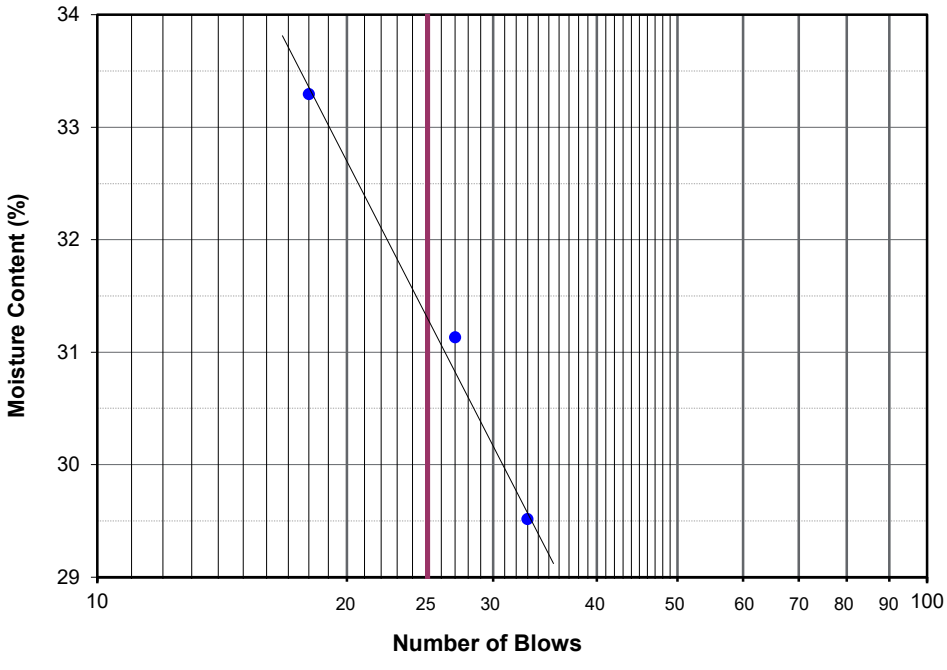
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

- [ ] Wet Preparation
  Multipoint - Wet
- [X] Dry Preparation
  Multipoint - Dry
- [X] Procedure A
  Multipoint Test
- [ ] Procedure B
  One-point Test



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	11/21/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/11/23
Boring No.:	LB-2-4	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Light brown poorly-graded sand (SP)				

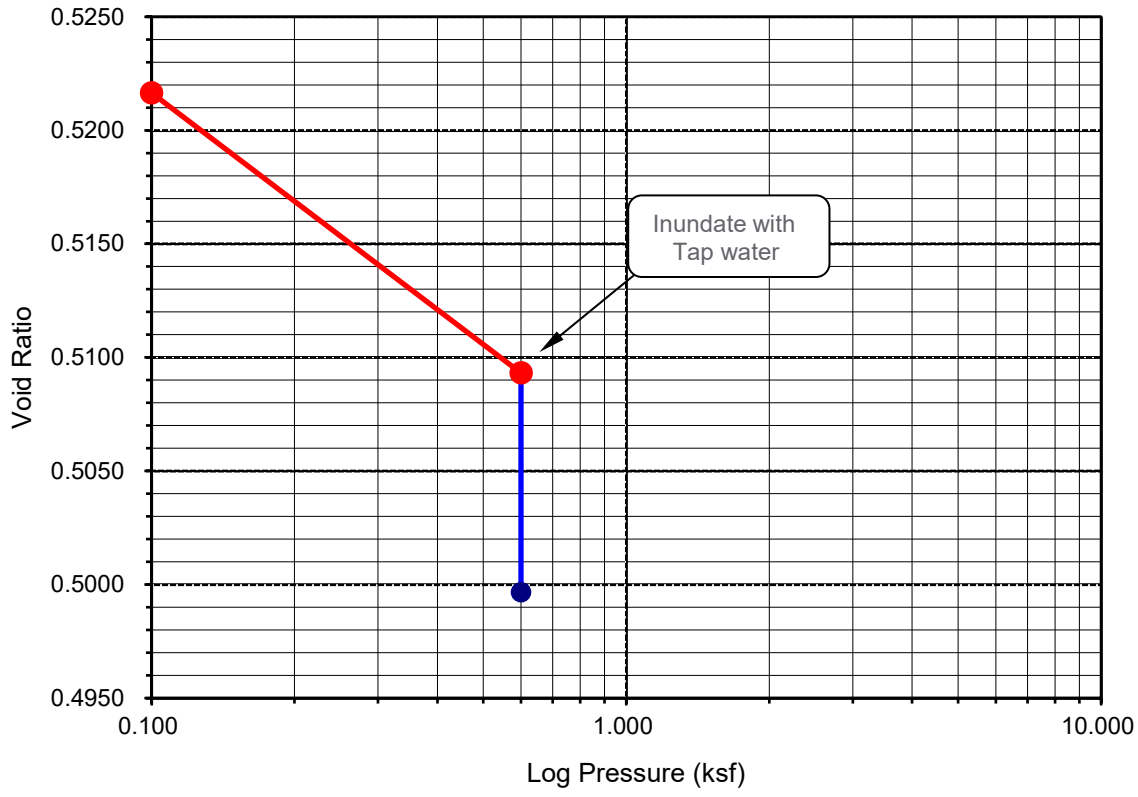
Initial Dry Density (pcf):	110.7
Initial Moisture (%):	0.90
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0435
Diameter(in):	2.415

Final Dry Density (pcf):	112.7
Final Moisture (%) :	14.7
Initial Void ratio:	0.5223
Specific Gravity(assumed):	2.70
Initial Saturation (%)	4.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0439	0.9996	0.00	-0.04	0.5217	-0.04
0.600	0.0535	0.9900	0.15	-1.00	0.5093	-0.85
H2O	0.05985	0.9837	0.15	-1.64	0.4997	-1.49

Percent Swell (+) / Settlement (-) After Inundation = -0.64

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-3-4	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Light yellowish brown poorly-graded sand (SP)				

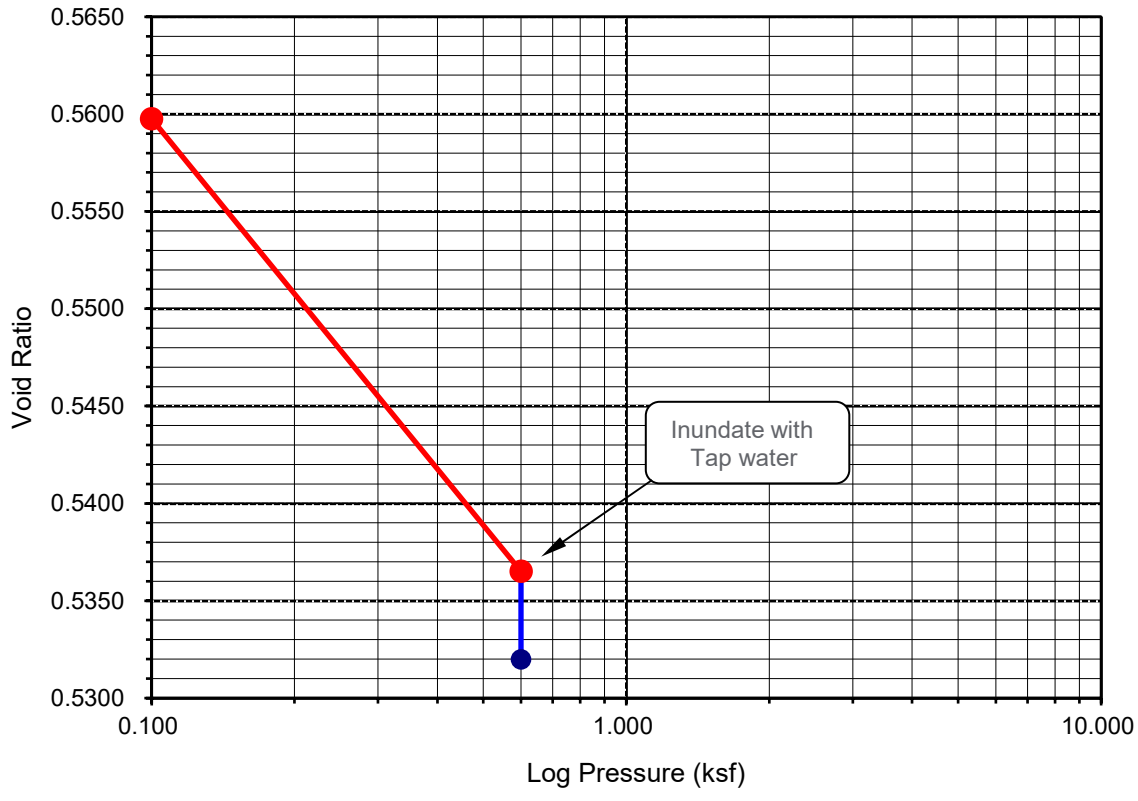
Initial Dry Density (pcf):	108.0
Initial Moisture (%):	0.43
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0445
Diameter(in):	2.415

Final Dry Density (pcf):	110.3
Final Moisture (%) :	18.6
Initial Void ratio:	0.5602
Specific Gravity(assumed):	2.70
Initial Saturation (%)	2.1

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0448	0.9997	0.00	-0.03	0.5598	-0.03
0.600	0.0611	0.9834	0.14	-1.66	0.5365	-1.52
H2O	0.0640	0.9805	0.14	-1.95	0.5320	-1.81

Percent Swell (+) / Settlement (-) After Inundation = -0.29

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

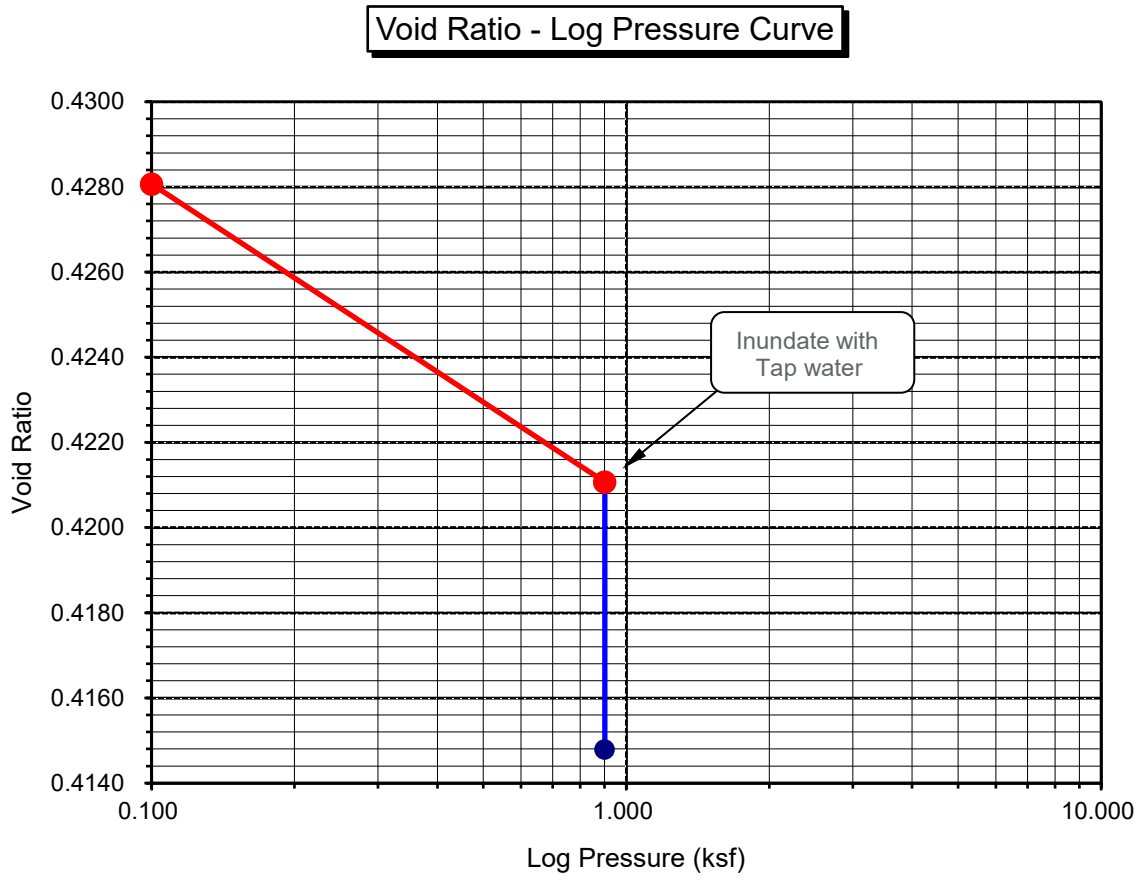
Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/05/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-4-9	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		
Sample Description:	Light brown well-graded sand with gravel (SW)g				

Initial Dry Density (pcf):	118.0
Initial Moisture (%):	0.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0309
Diameter(in):	2.415

Final Dry Density (pcf):	119.5
Final Moisture (%) :	11.7
Initial Void ratio:	0.4282
Specific Gravity(assumed):	2.70
Initial Saturation (%)	2.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0310	0.9999	0.00	-0.01	0.4281	-0.01
0.900	0.0372	0.9937	0.13	-0.63	0.4211	-0.50
H2O	0.0416	0.9893	0.13	-1.07	0.4148	-0.94

Percent Swell (+) / Settlement (-) After Inundation = -0.44



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

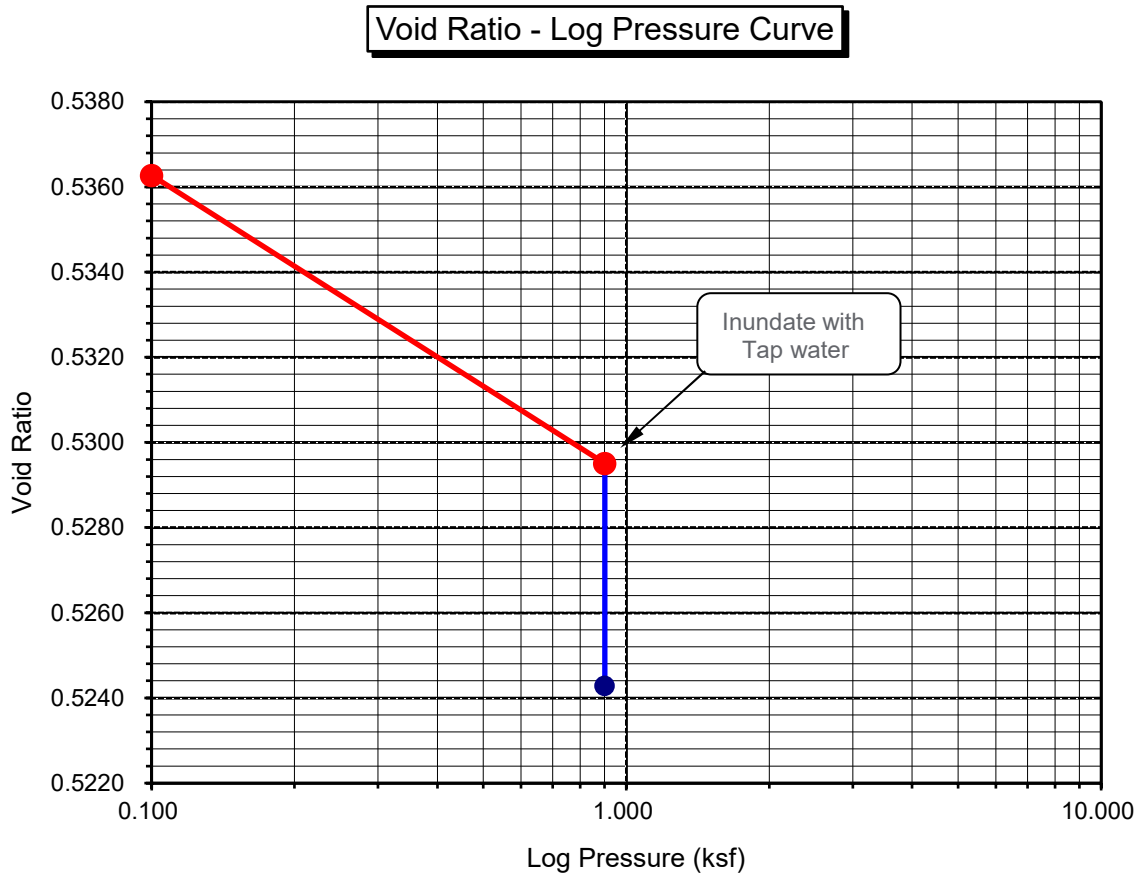
Project Name:	MileskiL/Adelanto Warehouses		Tested By:	G. Bathala	Date: 12/04/23
Project No.:	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-6-6		Sample Type:	Ring	
Sample No.:	R-3		Depth (ft.)	7.5	
Sample Description:	Light brown well-graded sand (SW)				

Initial Dry Density (pcf):	109.7
Initial Moisture (%):	0.76
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0829
Diameter(in):	2.415

Final Dry Density (pcf):	111.1
Final Moisture (%) :	16.8
Initial Void ratio:	0.5366
Specific Gravity(assumed):	2.70
Initial Saturation (%)	3.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0831	0.9998	0.00	-0.02	0.5363	-0.02
0.900	0.0897	0.9932	0.22	-0.68	0.5295	-0.46
H2O	0.0931	0.9898	0.22	-1.02	0.5243	-0.80

Percent Swell (+) / Settlement (-) After Inundation = -0.34



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/08/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LB-7-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		

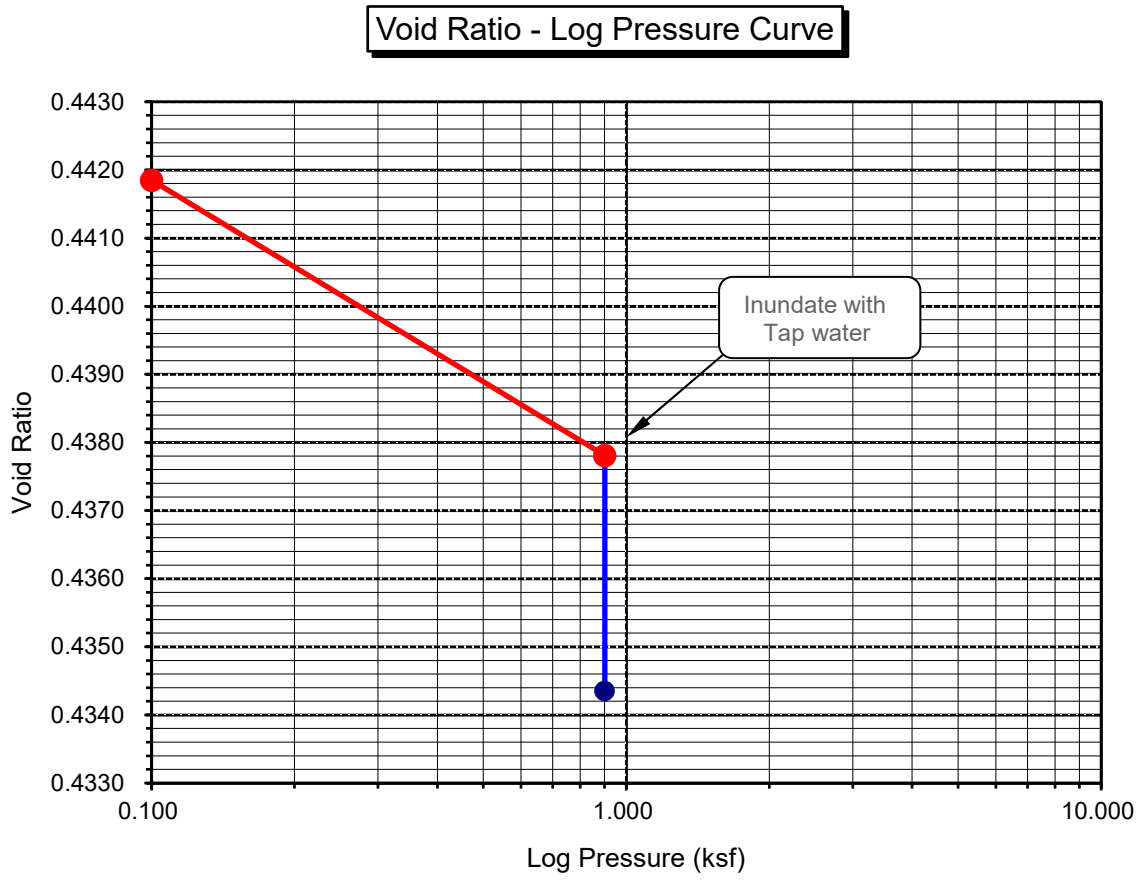
Sample Description: Light gray well-graded sand with gravel (SW)g

Initial Dry Density (pcf):	116.9
Initial Moisture (%):	0.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0866
Diameter(in):	2.415

Final Dry Density (pcf):	117.9
Final Moisture (%) :	13.5
Initial Void ratio:	0.4423
Specific Gravity(assumed):	2.70
Initial Saturation (%)	2.7

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0869	0.9997	0.00	-0.03	0.4418	-0.03
0.900	0.0912	0.9954	0.15	-0.46	0.4378	-0.31
H2O	0.0936	0.9930	0.15	-0.70	0.4343	-0.55

Percent Swell (+) / Settlement (-) After Inundation = -0.24



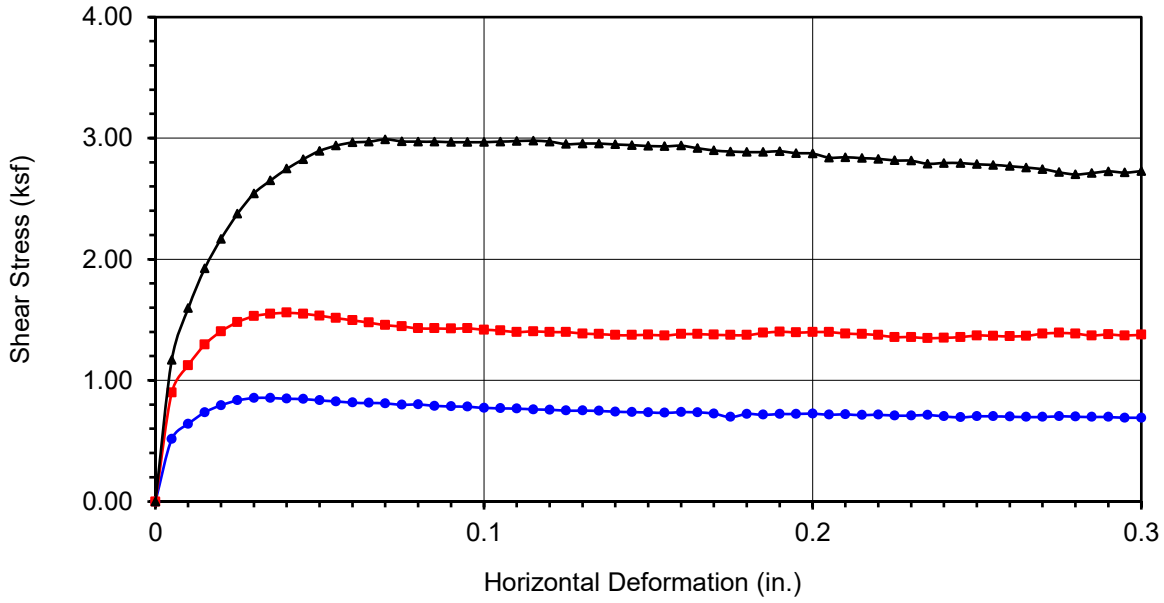
DIRECT SHEAR TEST

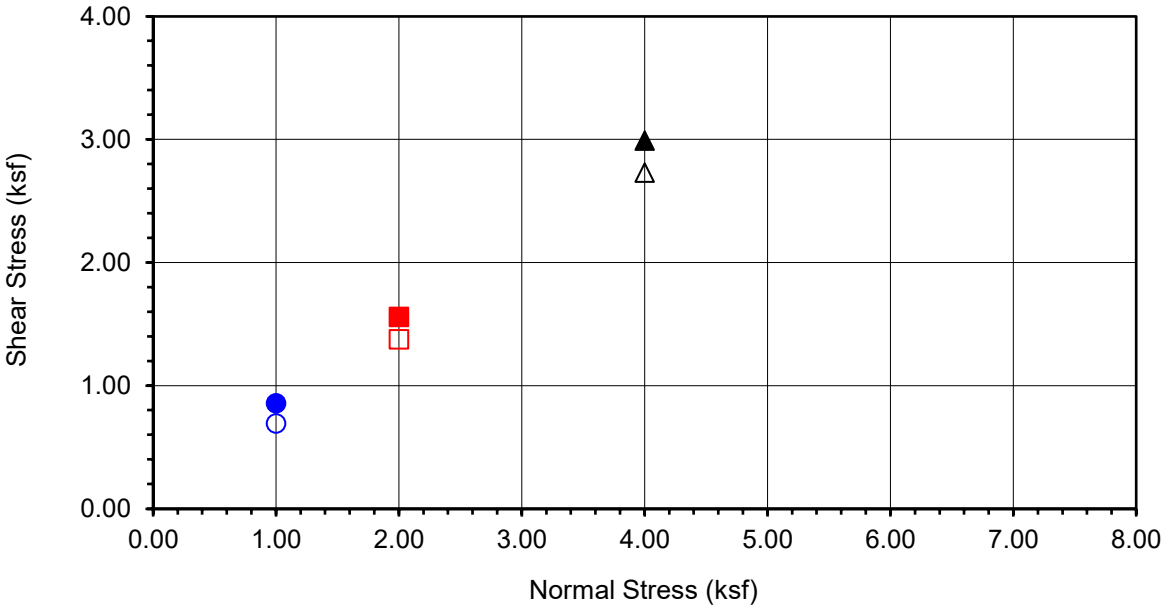
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	11/28/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/11/23
Boring No.:	LB-2-7	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Yellowish brown silty sand (SM)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	200.73	201.66	201.86
Weight of Ring(gm):	44.52	45.30	45.49
Before Shearing			
Weight of Wet Sample+Cont.(gm):	151.03	151.03	151.03
Weight of Dry Sample+Cont.(gm):	142.52	142.52	142.52
Weight of Container(gm):	39.90	39.90	39.90
Vertical Rdg.(in): Initial	0.0000	0.2605	0.2549
Vertical Rdg.(in): Final	-0.0067	0.2758	0.2747
After Shearing			
Weight of Wet Sample+Cont.(gm):	212.85	197.86	215.72
Weight of Dry Sample+Cont.(gm):	195.00	180.84	199.17
Weight of Container(gm):	52.94	38.48	56.00
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-2-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Yellowish brown silty sand (SM)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.855	■ 1.559	▲ 2.990
Shear Stress @ End of Test (ksf)	○ 0.692	□ 1.377	△ 2.729
Deformation Rate (in./min.)	0.0033	0.0033	0.0033
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	8.29	8.29	8.29
Dry Density (pcf)	120.0	120.1	120.1
Saturation (%)	55.3	55.5	55.5
Soil Height Before Shearing (in.)	0.9933	0.9847	0.9802
Final Moisture Content (%)	12.6	12.0	11.6

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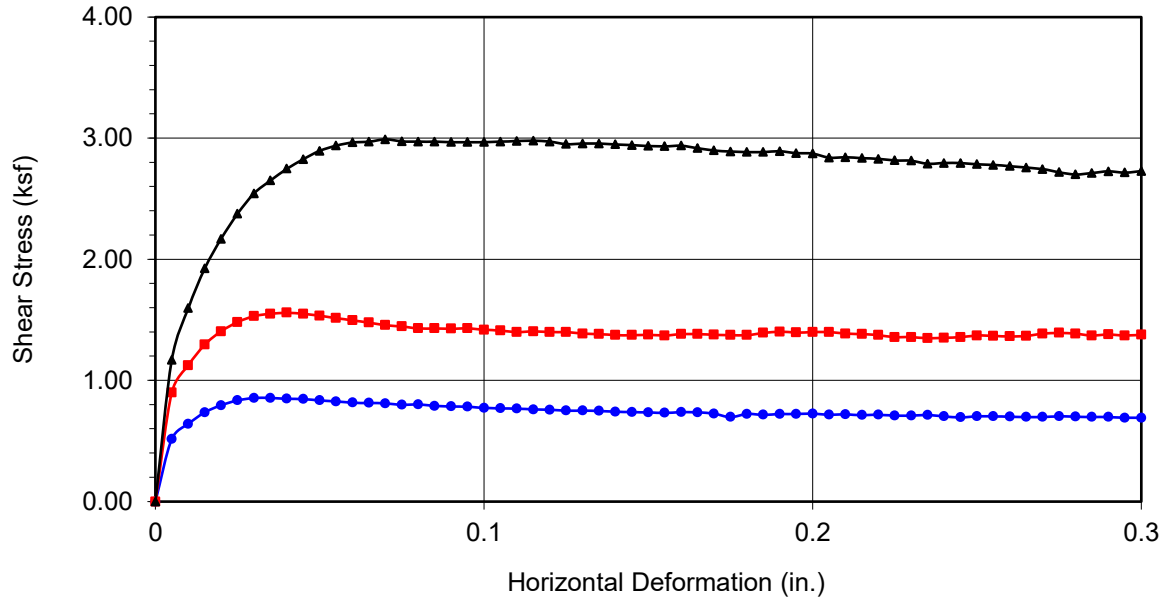
DIRECT SHEAR TEST RESULTS

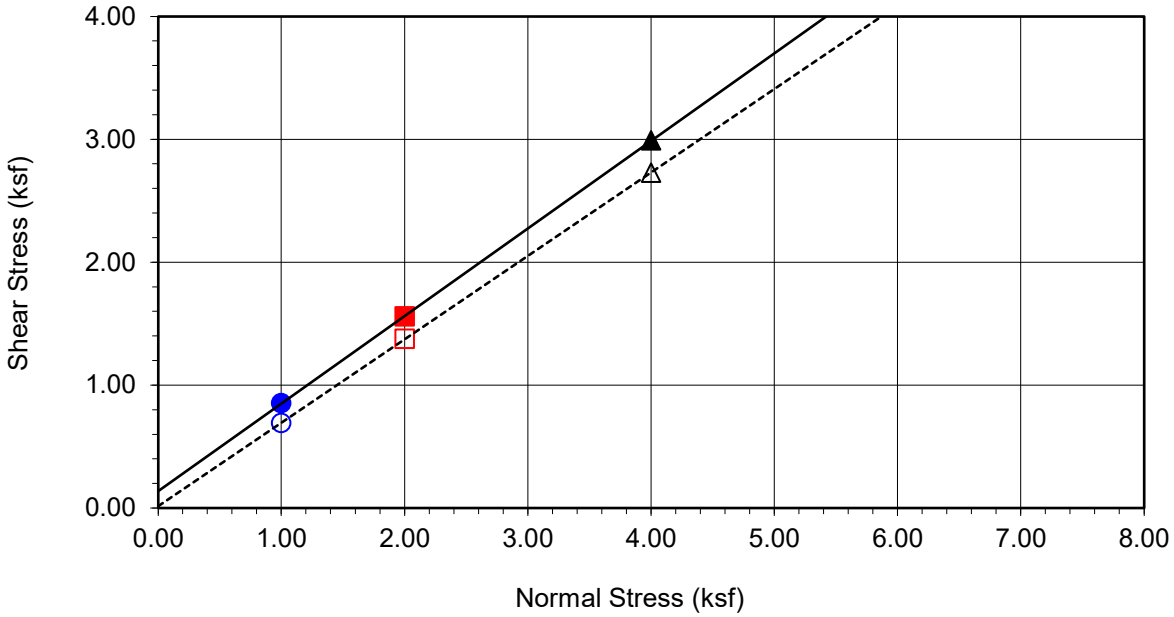
Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

11-23





Boring No.	**LB-2-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Yellowish brown silty sand (SM)

Strength Parameters

	C (psf)	ϕ (°)
Peak	140	35
Ultimate	16	34

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.855	■ 1.559	▲ 2.990
Shear Stress @ End of Test (ksf)	○ 0.692	□ 1.377	△ 2.729
Deformation Rate (in./min.)	0.0033	0.0033	0.0033
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	8.29	8.29	8.29
Dry Density (pcf)	120.0	120.1	120.1
Saturation (%)	55.3	55.5	55.5
Soil Height Before Shearing (in.)	0.9933	0.9847	0.9802
Final Moisture Content (%)	12.6	12.0	11.6

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DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

11-23

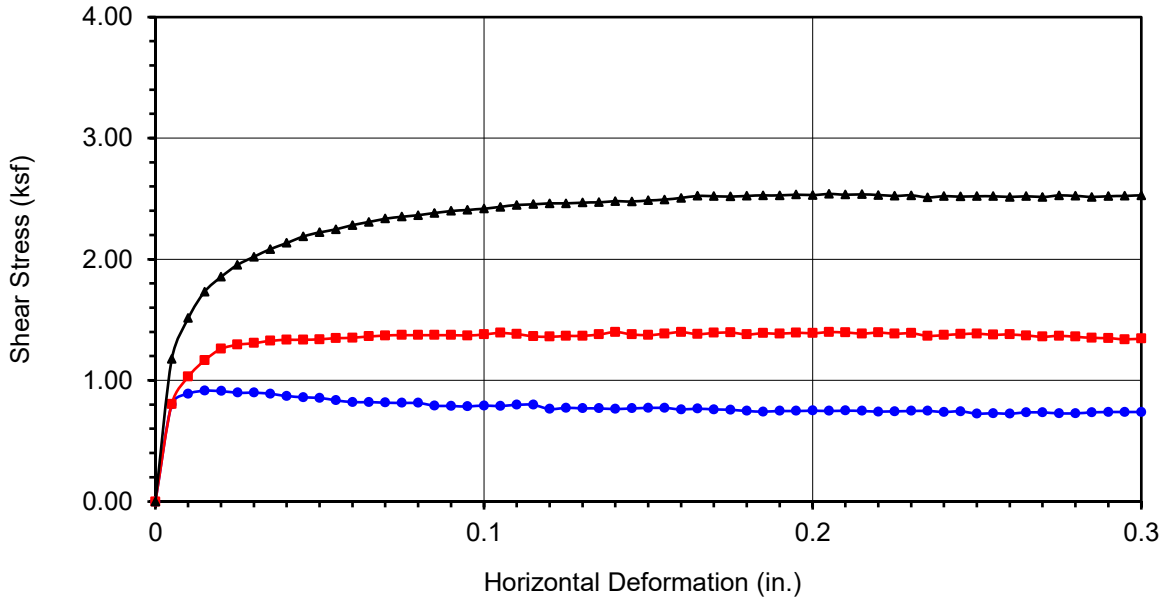
DIRECT SHEAR TEST

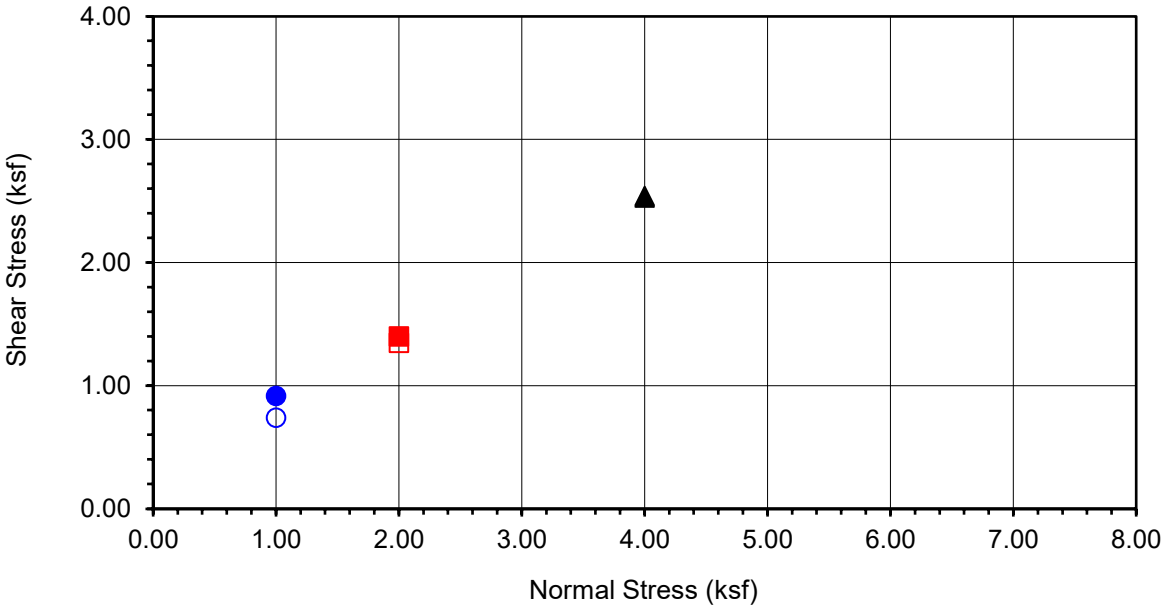
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/01/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-4-7	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Dark yellowish brown clayey sand (SC)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	198.68	198.36	196.43
Weight of Ring(gm):	45.29	44.51	42.57
Before Shearing			
Weight of Wet Sample+Cont.(gm):	173.69	173.69	173.69
Weight of Dry Sample+Cont.(gm):	164.51	164.51	164.51
Weight of Container(gm):	68.53	68.53	68.53
Vertical Rdg.(in): Initial	0.0000	0.2637	0.2557
Vertical Rdg.(in): Final	-0.0063	0.2764	0.2742
After Shearing			
Weight of Wet Sample+Cont.(gm):	196.48	198.62	224.77
Weight of Dry Sample+Cont.(gm):	175.76	178.67	205.68
Weight of Container(gm):	36.53	39.91	66.52
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-4-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Dark yellowish brown clayey sand (SC)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.915	■ 1.399	▲ 2.540
Shear Stress @ End of Test (ksf)	○ 0.739	□ 1.346	△ 2.528
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.56	9.56	9.56
Dry Density (pcf)	116.4	116.8	116.8
Saturation (%)	57.7	58.2	58.3
Soil Height Before Shearing (in.)	0.9937	0.9873	0.9815
Final Moisture Content (%)	14.9	14.4	13.7

Leighton

DIRECT SHEAR TEST RESULTS

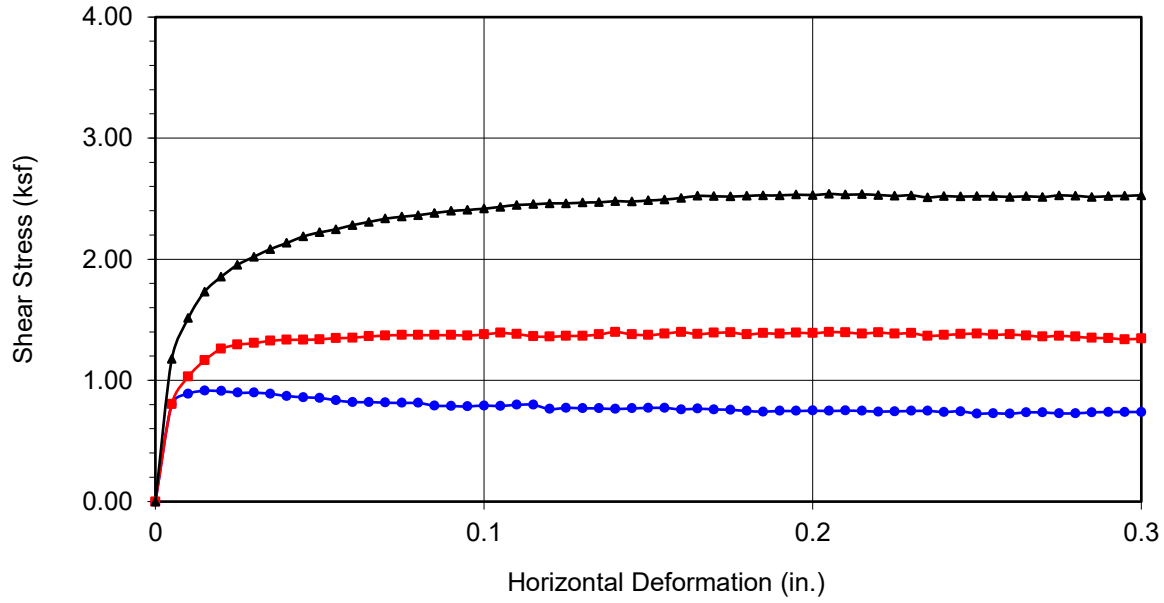
Consolidated Drained - ASTM D 3080

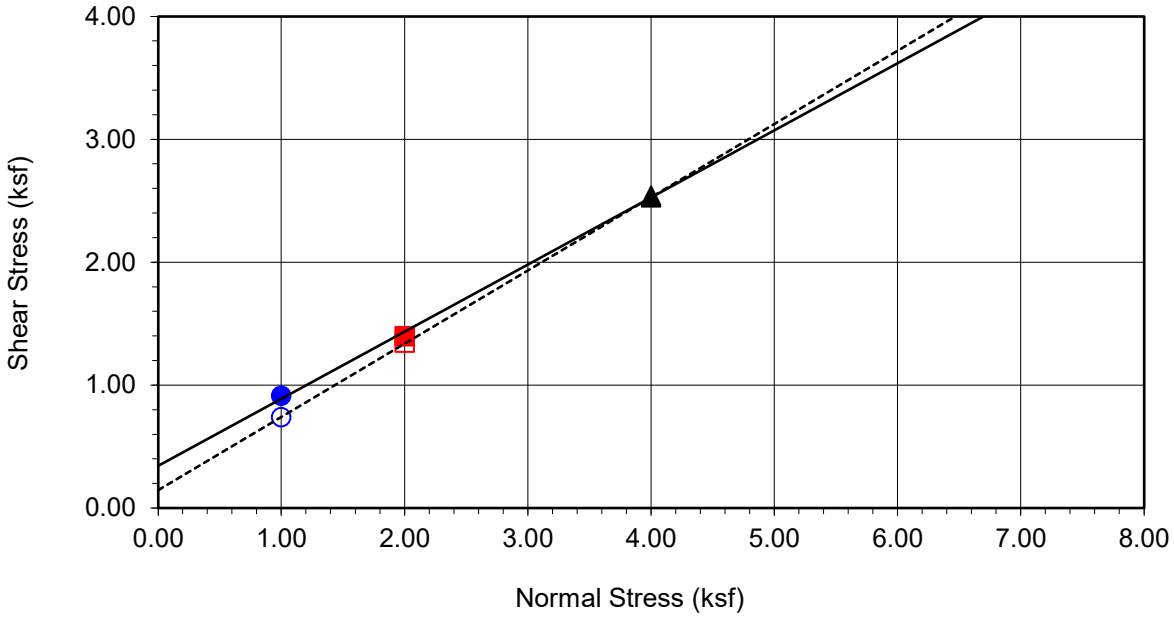
Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

DS LB-4-7, B-1 @ 0-5





Boring No.	**LB-4-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Dark yellowish brown clayey sand (SC)

Strength Parameters

	C (psf)	ϕ (°)
Peak	345	29
Ultimate	148	31

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.915	■ 1.399	▲ 2.540
Shear Stress @ End of Test (ksf)	○ 0.739	□ 1.346	△ 2.528
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.56	9.56	9.56
Dry Density (pcf)	116.4	116.8	116.8
Saturation (%)	57.7	58.2	58.3
Soil Height Before Shearing (in.)	0.9937	0.9873	0.9815
Final Moisture Content (%)	14.9	14.4	13.7

Leighton

DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

DS LB-4-7, B-1 @ 0-5

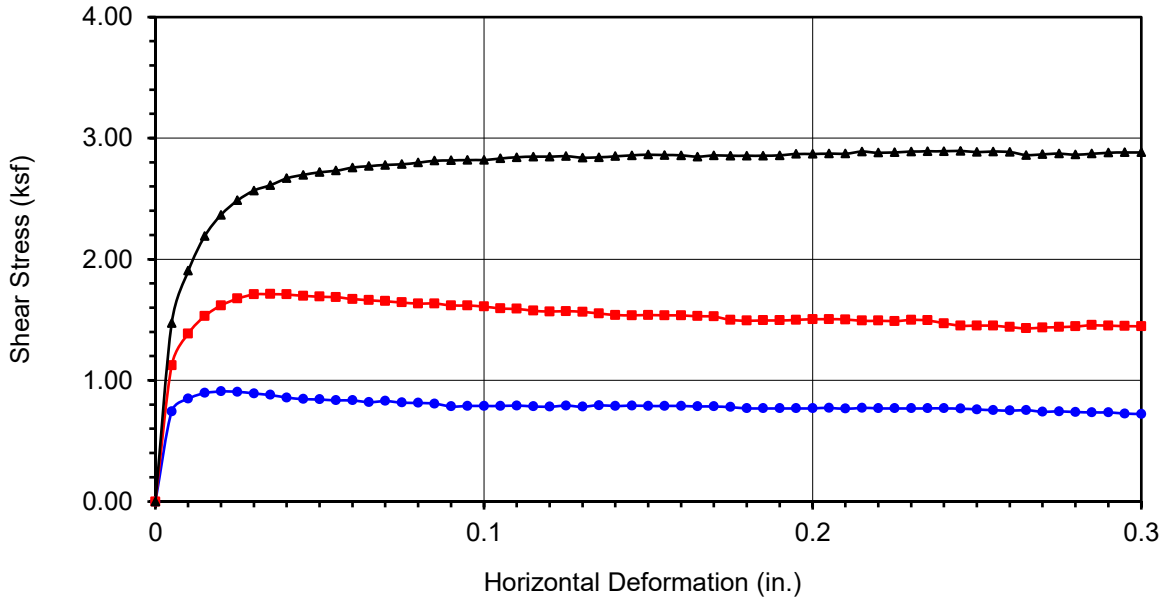
DIRECT SHEAR TEST

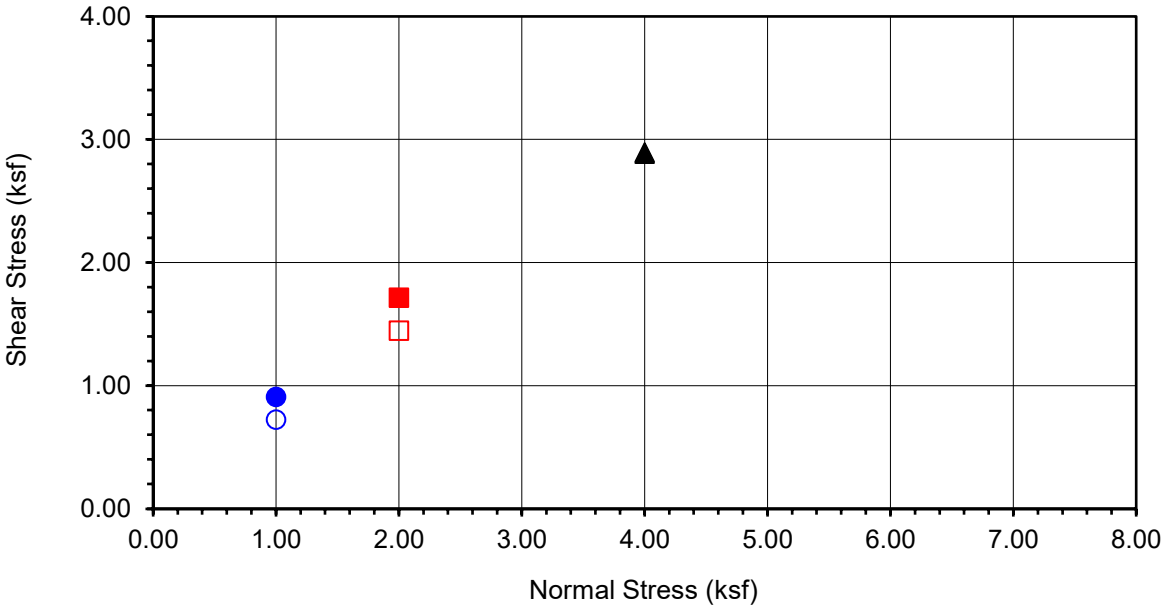
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-5-4	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Yellowish brown clayey sand (SC)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	196.28	199.05	198.34
Weight of Ring(gm):	42.58	45.29	44.50
Before Shearing			
Weight of Wet Sample+Cont.(gm):	192.33	192.33	192.33
Weight of Dry Sample+Cont.(gm):	181.02	181.02	181.02
Weight of Container(gm):	38.28	38.28	38.28
Vertical Rdg.(in): Initial	0.2595	0.2321	0.0000
Vertical Rdg.(in): Final	0.2612	0.2415	-0.0080
After Shearing			
Weight of Wet Sample+Cont.(gm):	217.12	224.09	218.18
Weight of Dry Sample+Cont.(gm):	196.05	204.11	198.76
Weight of Container(gm):	55.12	63.41	57.22
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-5-4**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Yellowish brown clayey sand (SC)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.909	■ 1.713	▲ 2.895
Shear Stress @ End of Test (ksf)	○ 0.723	□ 1.446	△ 2.883
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.92	7.92	7.92
Dry Density (pcf)	118.4	118.5	118.5
Saturation (%)	50.6	50.6	50.7
Soil Height Before Shearing (in.)	0.9983	0.9906	0.9920
Final Moisture Content (%)	15.0	14.2	13.7

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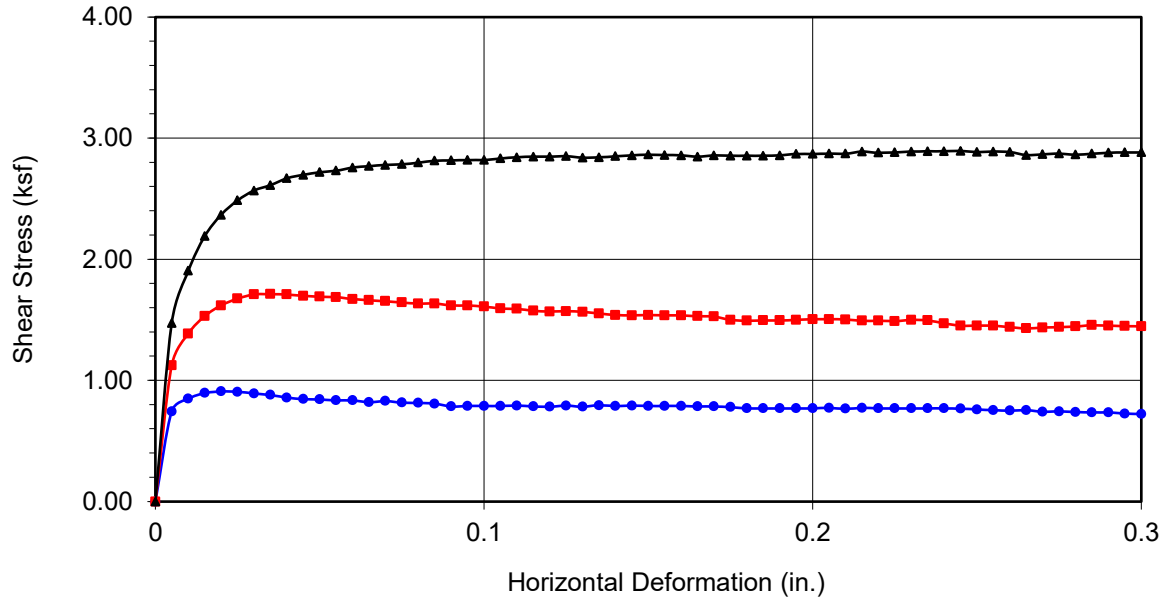
DIRECT SHEAR TEST RESULTS

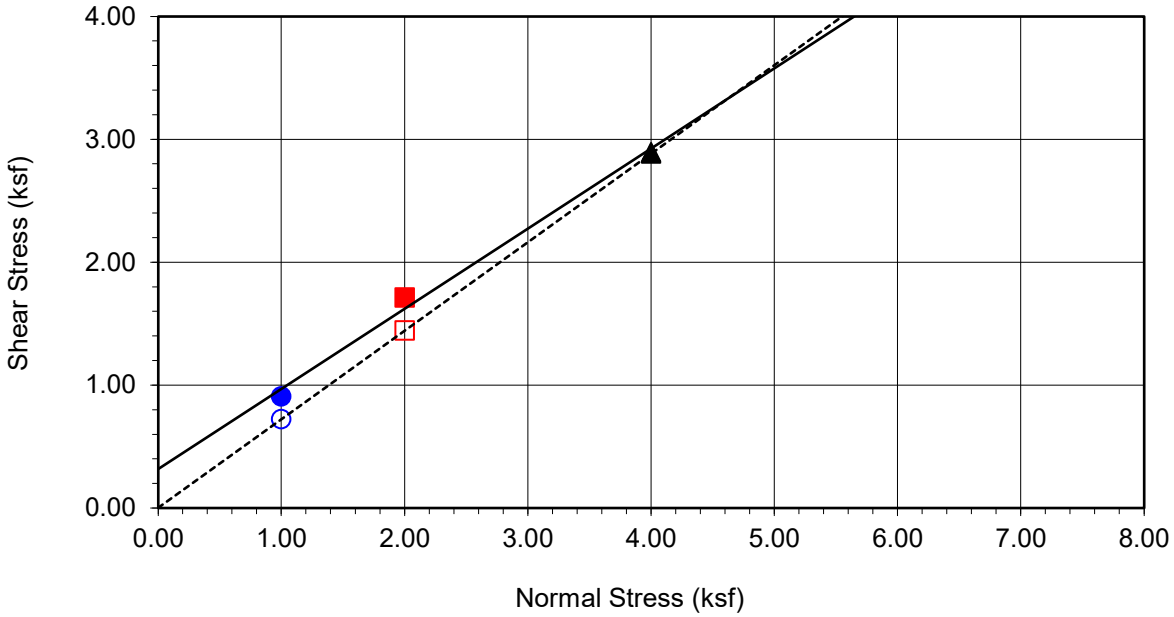
Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23





Boring No.	**LB-5-4**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Yellowish brown clayey sand (SC)

Strength Parameters

	C (psf)	ϕ (°)
Peak	318	33
Ultimate	5	36

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.909	■ 1.713	▲ 2.895
Shear Stress @ End of Test (ksf)	○ 0.723	□ 1.446	△ 2.883
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.92	7.92	7.92
Dry Density (pcf)	118.4	118.5	118.5
Saturation (%)	50.6	50.6	50.7
Soil Height Before Shearing (in.)	0.9983	0.9906	0.9920
Final Moisture Content (%)	15.0	14.2	13.7

Leighton

DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

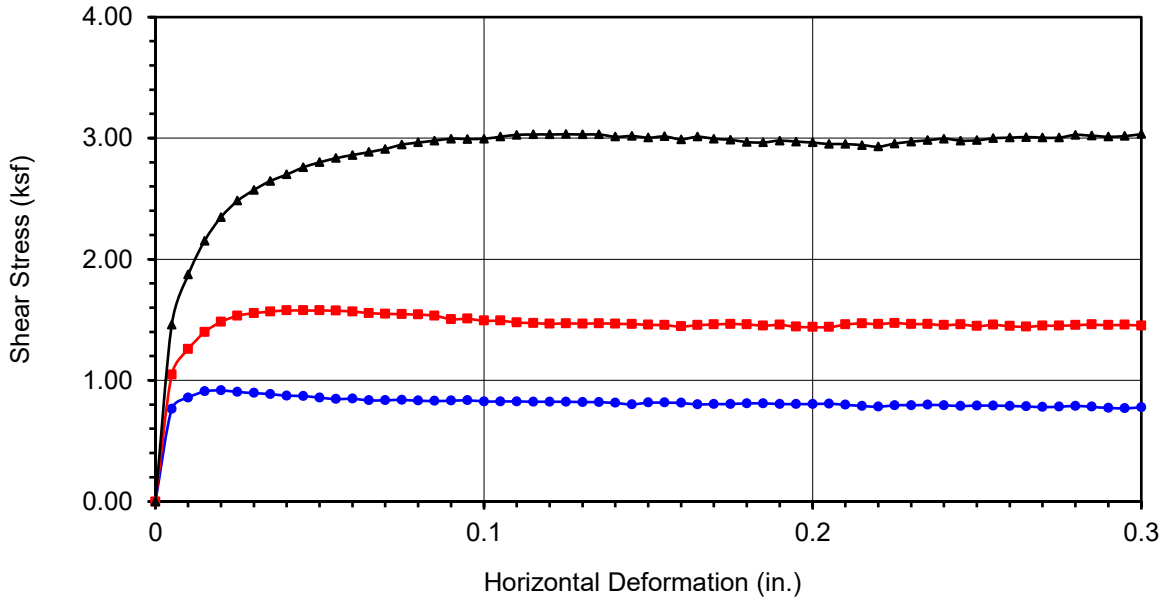
DIRECT SHEAR TEST

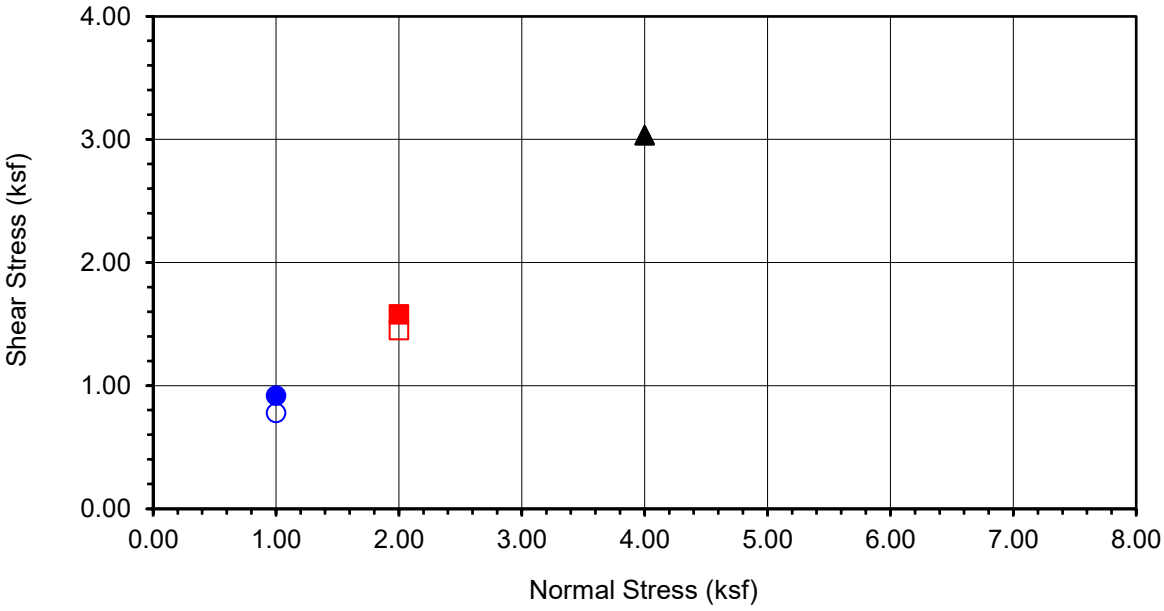
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LB-7-3	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Yellowish brown silty sand (SM)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	199.19	201.20	202.24
Weight of Ring(gm):	42.57	44.51	45.28
Before Shearing			
Weight of Wet Sample+Cont.(gm):	168.85	168.85	168.85
Weight of Dry Sample+Cont.(gm):	160.72	160.72	160.72
Weight of Container(gm):	55.29	55.29	55.29
Vertical Rdg.(in): Initial	0.2886	0.2549	0.0000
Vertical Rdg.(in): Final	0.2994	0.2762	-0.0202
After Shearing			
Weight of Wet Sample+Cont.(gm):	215.42	196.48	198.02
Weight of Dry Sample+Cont.(gm):	198.48	180.10	182.18
Weight of Container(gm):	55.29	36.52	38.29
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-7-3**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Yellowish brown silty sand (SM)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.918	■ 1.578	▲ 3.034
Shear Stress @ End of Test (ksf)	○ 0.777	□ 1.452	△ 3.034
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.71	7.71	7.71
Dry Density (pcf)	120.9	121.0	121.2
Saturation (%)	52.9	52.9	53.3
Soil Height Before Shearing (in.)	0.9892	0.9787	0.9798
Final Moisture Content (%)	11.8	11.4	11.0

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DIRECT SHEAR TEST RESULTS

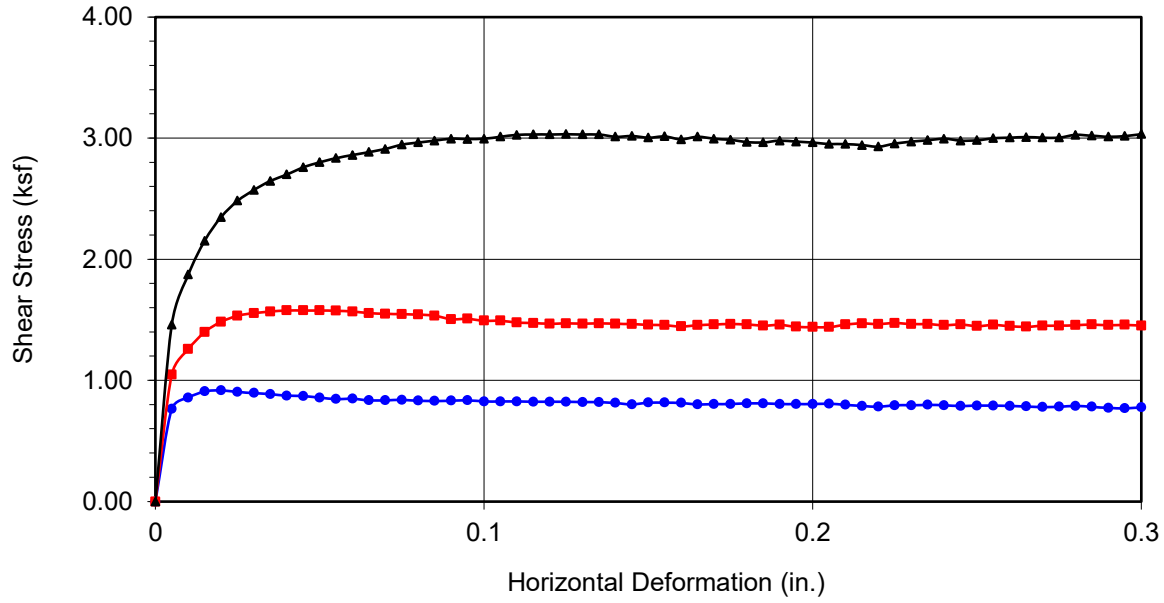
Consolidated Drained - ASTM D 3080

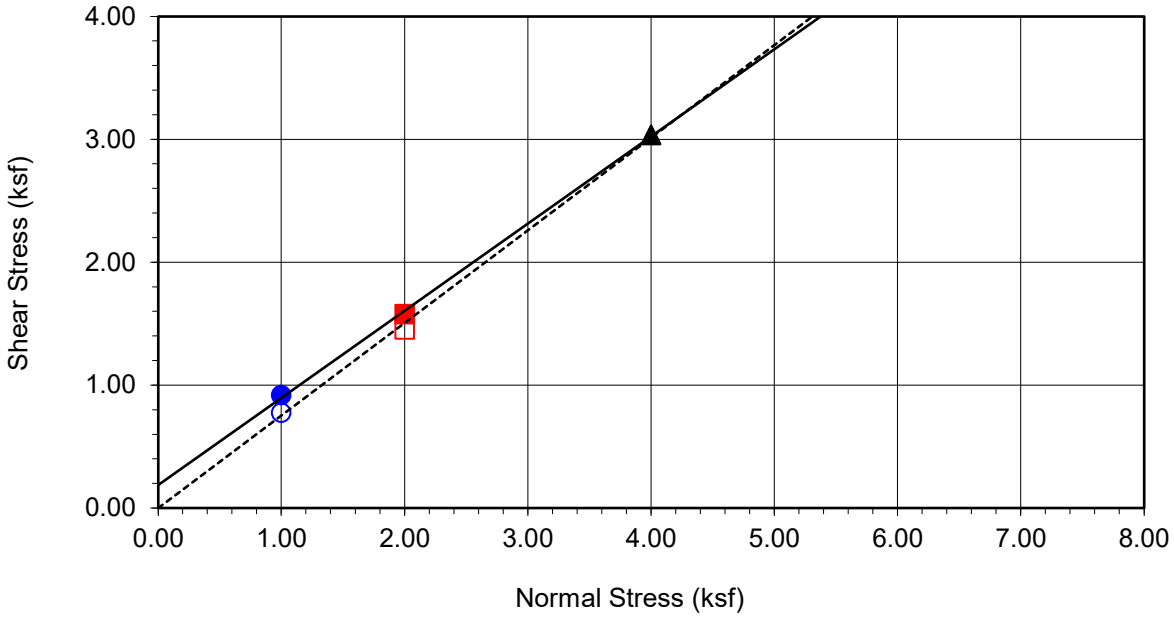
Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

DS LB-7-3, B-1 @ 0-5





Boring No.	**LB-7-3**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Yellowish brown silty sand (SM)

Strength Parameters

	C (psf)	ϕ (°)
Peak	190	35
Ultimate	0	37

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.918	■ 1.578	▲ 3.034
Shear Stress @ End of Test (ksf)	○ 0.777	□ 1.452	△ 3.034
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.71	7.71	7.71
Dry Density (pcf)	120.9	121.0	121.2
Saturation (%)	52.9	52.9	53.3
Soil Height Before Shearing (in.)	0.9892	0.9787	0.9798
Final Moisture Content (%)	11.8	11.4	11.0

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DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

DS LB-7-3, B-1 @ 0-5

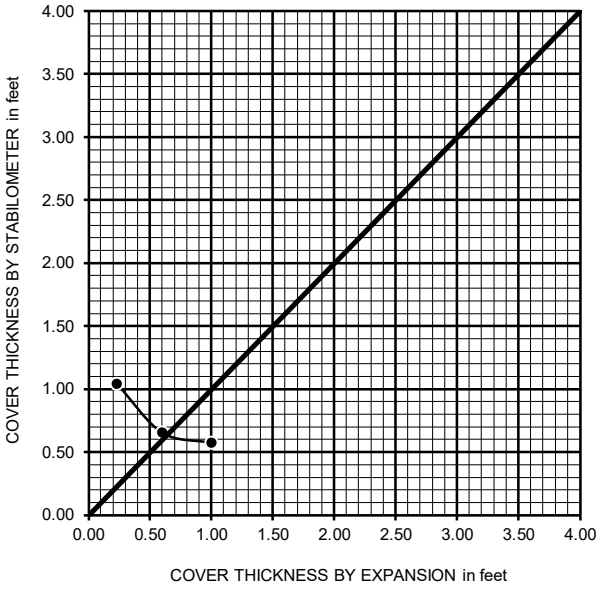
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-3-5	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Brown silty sand (SM)	DATE COMPLETED:	12/12/2023

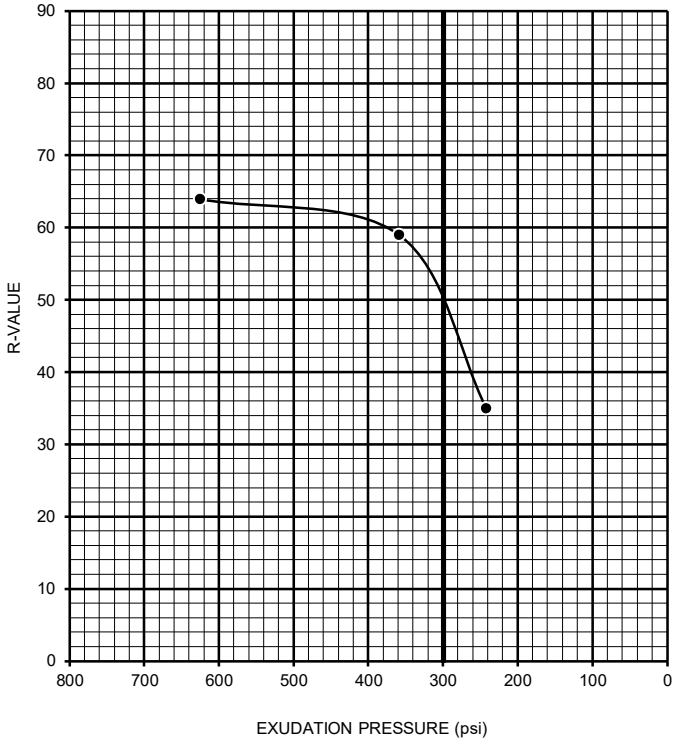
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	14.0	14.7	15.8
HEIGHT OF SAMPLE, Inches	2.42	2.45	2.55
DRY DENSITY, pcf	119.0	116.3	115.3
COMPACTOR PRESSURE, psi	180	140	80
EXUDATION PRESSURE, psi	625	359	242
EXPANSION, Inches x 10exp-4	30	18	7
STABILITY Ph 2,000 lbs (160 psi)	37	45	80
TURNS DISPLACEMENT	4.35	4.50	4.65
R-VALUE UNCORRECTED	66	59	35
R-VALUE CORRECTED	64	59	35

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.58	0.66	1.04
EXPANSION PRESSURE THICKNESS, ft.	1.00	0.60	0.23

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	60
R-VALUE BY EXUDATION:	50
EQUILIBRIUM R-VALUE:	50

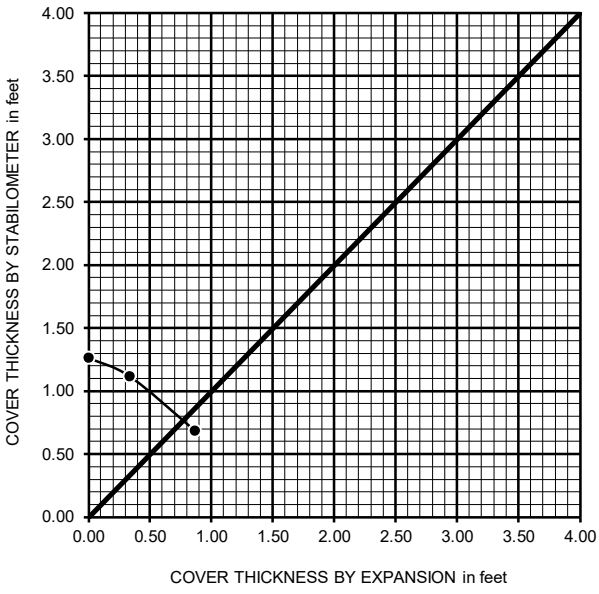
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-4-1	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Dark yellowish brown silty sand (SM)	DATE COMPLETED:	12/13/2023

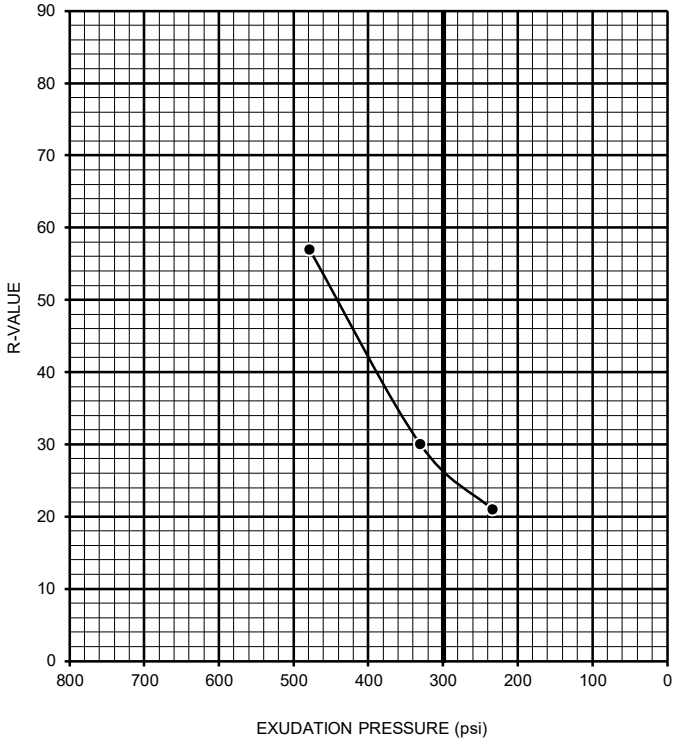
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	11.6	12.3	13.5
HEIGHT OF SAMPLE, Inches	2.45	2.52	2.50
DRY DENSITY, pcf	125.6	124.2	121.8
COMPACTOR PRESSURE, psi	170	110	70
EXUDATION PRESSURE, psi	479	331	234
EXPANSION, Inches x 10exp-4	26	10	0
STABILITY Ph 2,000 lbs (160 psi)	58	94	107
TURNS DISPLACEMENT	3.27	4.05	4.57
R-VALUE UNCORRECTED	57	30	21
R-VALUE CORRECTED	57	30	21

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.69	1.12	1.26
EXPANSION PRESSURE THICKNESS, ft.	0.87	0.33	0.00

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	51
R-VALUE BY EXUDATION:	26
EQUILIBRIUM R-VALUE:	26

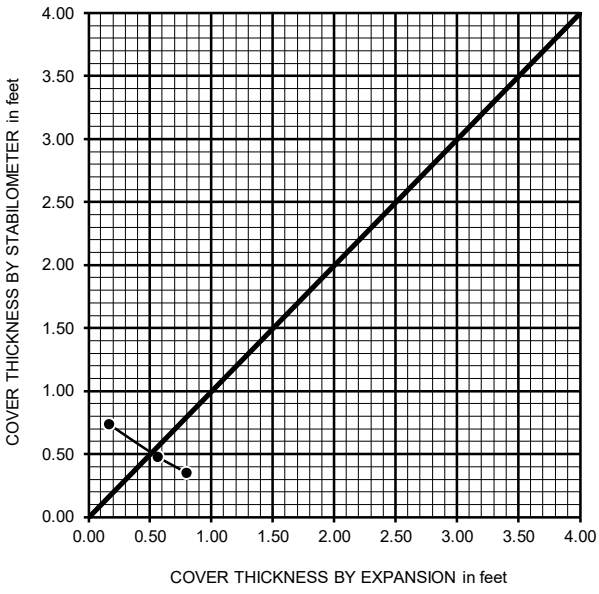
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-5-10	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Yellowish brown silty sand (SM)	DATE COMPLETED:	12/12/2023

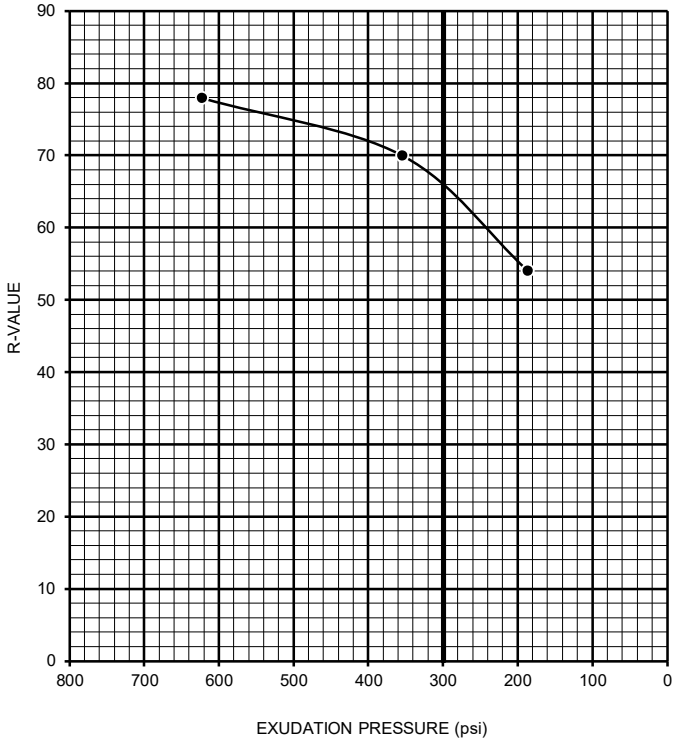
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	9.1	9.8	10.9
HEIGHT OF SAMPLE, Inches	2.47	2.53	2.53
DRY DENSITY, pcf	128.0	126.9	125.5
COMPACTOR PRESSURE, psi	300	225	115
EXUDATION PRESSURE, psi	623	355	187
EXPANSION, Inches x 10exp-4	24	17	5
STABILITY Ph 2,000 lbs (160 psi)	21	28	45
TURNS DISPLACEMENT	4.80	5.05	5.35
R-VALUE UNCORRECTED	78	70	54
R-VALUE CORRECTED	78	70	54

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.35	0.48	0.74
EXPANSION PRESSURE THICKNESS, ft.	0.80	0.57	0.17

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	68
R-VALUE BY EXUDATION:	66
EQUILIBRIUM R-VALUE:	66

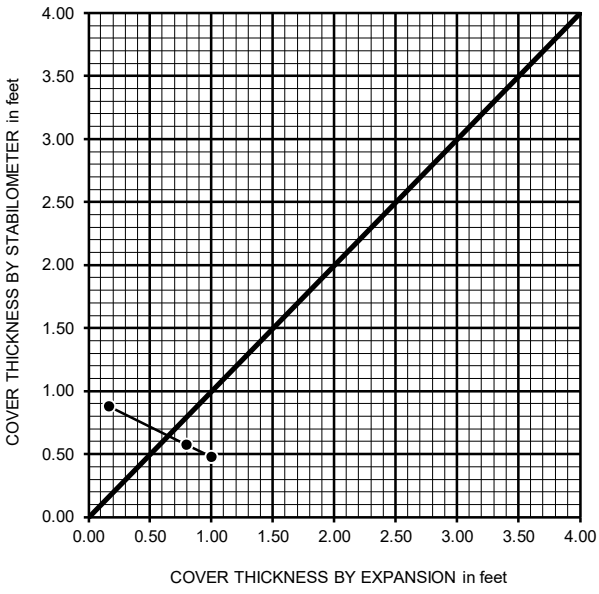
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-7-1	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Yellowish brown sandy silt s(ML)	DATE COMPLETED:	12/12/2023

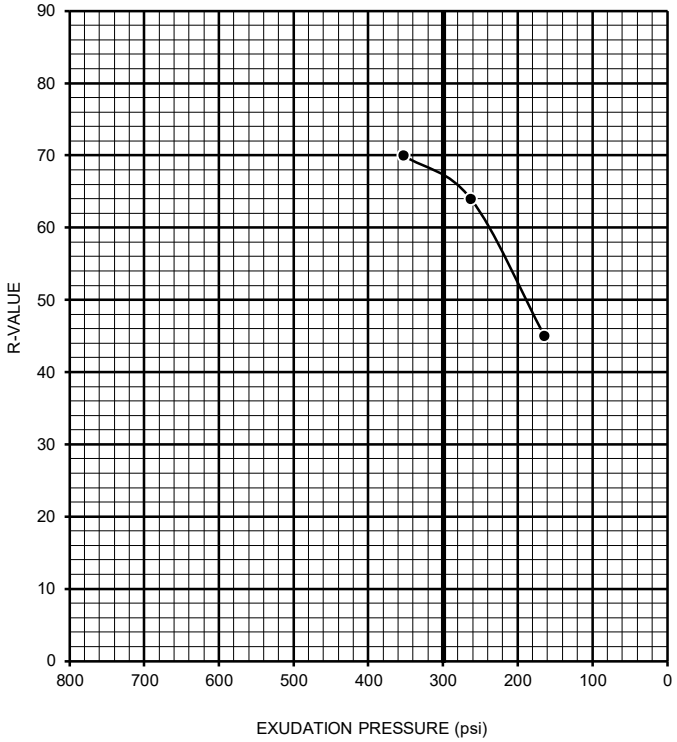
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	13.9	14.6	15.6
HEIGHT OF SAMPLE, Inches	2.52	2.48	2.55
DRY DENSITY, pcf	115.4	114.8	114.5
COMPACTOR PRESSURE, psi	275	200	100
EXUDATION PRESSURE, psi	352	263	164
EXPANSION, Inches x 10exp-4	30	24	5
STABILITY Ph 2,000 lbs (160 psi)	28	35	60
TURNS DISPLACEMENT	4.94	5.06	5.15
R-VALUE UNCORRECTED	70	64	45
R-VALUE CORRECTED	70	64	45

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.48	0.58	0.88
EXPANSION PRESSURE THICKNESS, ft.	1.00	0.80	0.17

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	59
R-VALUE BY EXUDATION:	67
EQUILIBRIUM R-VALUE:	59

TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: MileskiL/Adelanto Warehouses Tested By : G. Berdy Date: 11/27/23

Project No. : RC23280 Checked By: J. Ward Date: 12/11/23

Boring No.	LB-1-1			
Sample No.	B-1			
Sample Depth (ft)	0-5			
Soil Identification:	Strong brown SM			
Wet Weight of Soil + Container (g)	0.00			
Dry Weight of Soil + Container (g)	0.00			
Weight of Container (g)	1.00			
Moisture Content (%)	0.00			
Weight of Soaked Soil (g)	100.23			

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	0			
Crucible No.	9			
Furnace Temperature (°C)	860			
Time In / Time Out	6:15/7:00			
Duration of Combustion (min)	45			
Wt. of Crucible + Residue (g)	22.5119			
Wt. of Crucible (g)	22.5084			
Wt. of Residue (g) (A)	0.0035			
PPM of Sulfate (A) x 41150	144.02			
PPM of Sulfate, Dry Weight Basis	**144**			

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15			
ml of AgNO3 Soln. Used in Titration (C)	0.7			
PPM of Chloride (C -0.2) * 100 * 30 / B	100			
PPM of Chloride, Dry Wt. Basis	**100**			

pH TEST, DOT California Test 643

pH Value	**7.95**			
Temperature °C	20.4			

SOIL RESISTIVITY TEST

DOT CA TEST 643

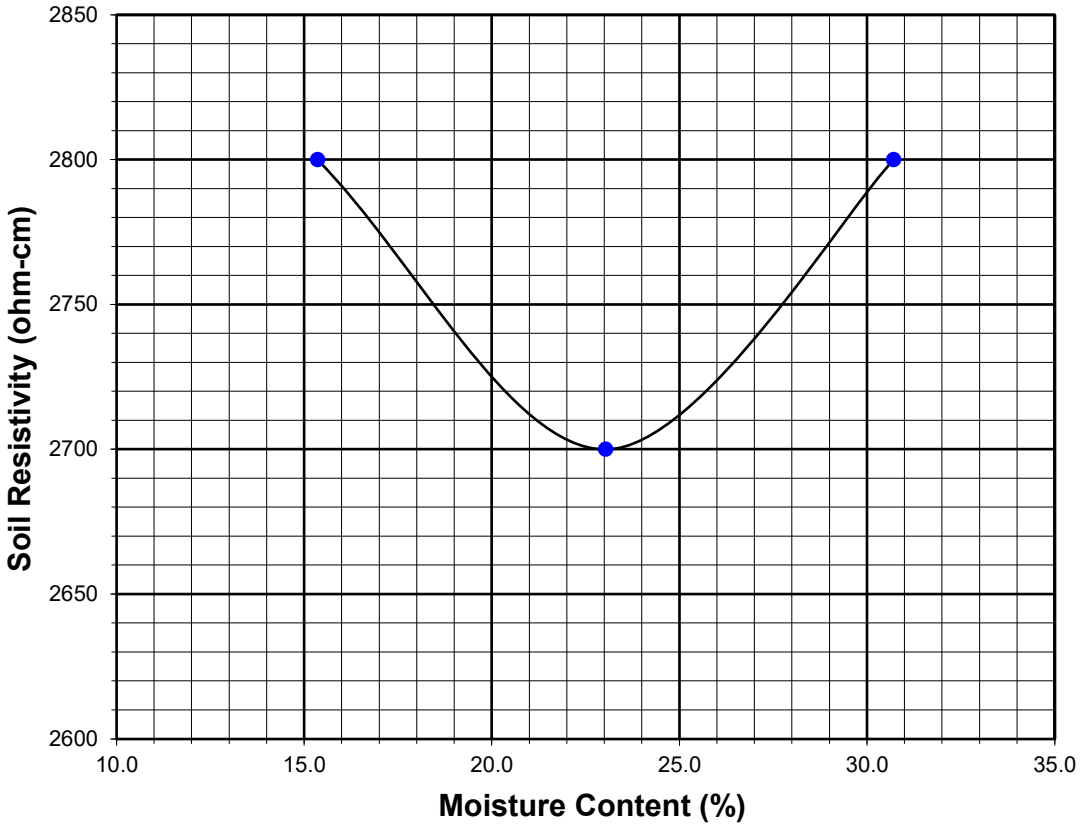
Project Name: MileskiL/Adelanto Warehouses
Tested By : J. Domingo Date: 12/01/23
Project No. : RC23280
Checked By: J. Ward Date: 12/11/23
Boring No.: LB-1-1
Depth (ft.) : 0-5
Sample No. : B-1
Soil Identification:* Strong brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	15.36	2800	2800
2	30	23.03	2700	2700
3	40	30.71	2800	2800
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.25
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2700	**23.0**	**144**	**100**	**7.95**	**20.4**



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: MileskiL/Adelanto Warehouses Tested By : G. Berdy Date: 11/28/23

Project No. : RC23280 Checked By: J. Ward Date: 12/28/23

Boring No.	LB-3-3	LB-4-7	LB-5-4	
Sample No.	B-1	B-1	B-1	
Sample Depth (ft)	0-5	0-5	0-5	
Soil Identification:	Pale brown SM	Dark yellowish brown SC	Yellowish brown SC	
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	
Weight of Container (g)	1.00	1.00	1.00	
Moisture Content (%)	0.00	0.00	0.00	
Weight of Soaked Soil (g)	100.13	100.35	100.10	

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	10	5	9	
Crucible No.	301	303	304	
Furnace Temperature (°C)	860	860	860	
Time In / Time Out	7:00/7:45	7:00/7:45	7:00/7:45	
Duration of Combustion (min)	45	45	45	
Wt. of Crucible + Residue (g)	61.8948	60.2041	65.4195	
Wt. of Crucible (g)	61.8930	60.2022	65.4172	
Wt. of Residue (g) (A)	0.0018	0.0019	0.0023	
PPM of Sulfate (A) x 41150	74.07	78.18	94.65	
PPM of Sulfate, Dry Weight Basis	**74**	**78**	**95**	

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15	15	5	
ml of AgNO3 Soln. Used in Titration (C)	1.4	0.9	0.7	
PPM of Chloride (C -0.2) * 100 * 30 / B	240	140	300	
PPM of Chloride, Dry Wt. Basis	**240**	**140**	**300**	

pH TEST, DOT California Test 643

pH Value	**8.18**	**7.80**	**7.72**	
Temperature °C	21.7	21.0	21.0	

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 12/07/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-3-3		Depth (ft.) :	0-5	
Sample No. :	B-1				

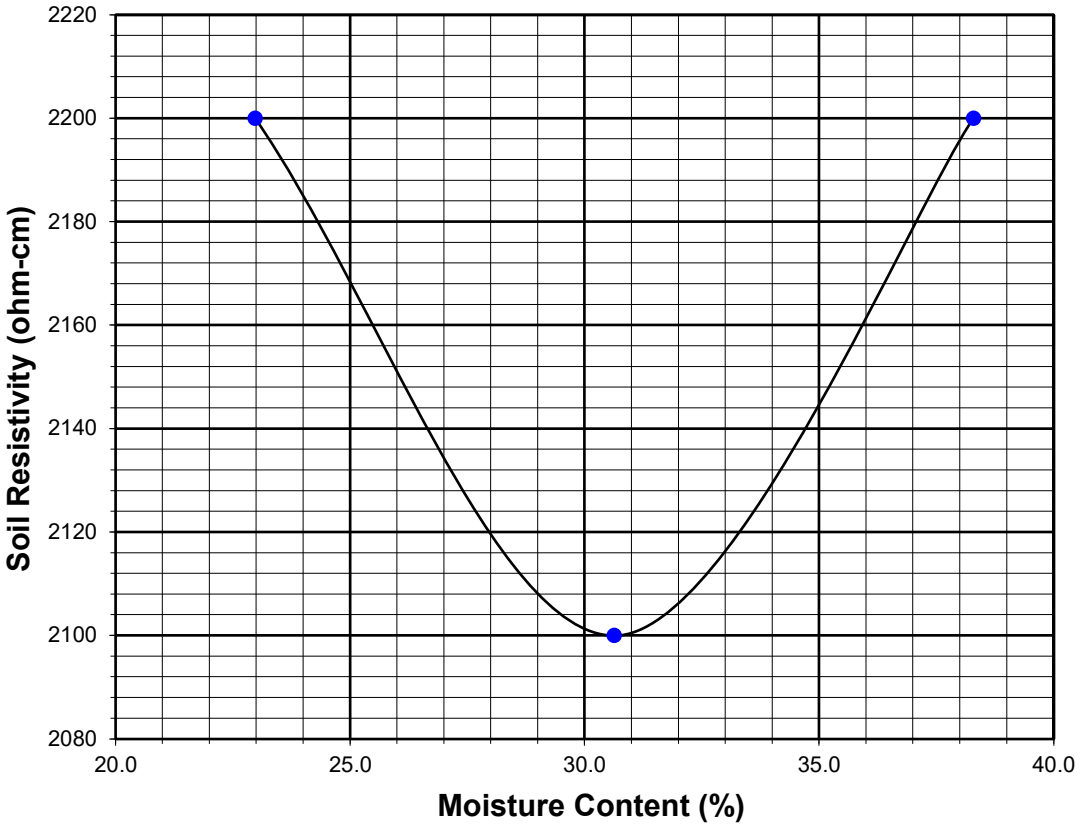
Soil Identification:* Pale brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	22.97	2200	2200
2	40	30.63	2100	2100
3	50	38.29	2200	2200
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.58
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2100	**30.6**	**74**	**240**	**8.18**	**21.7**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	J. Domingo	Date: 12/06/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-4-7		Depth (ft.) :	0-5	
Sample No. :	B-1				

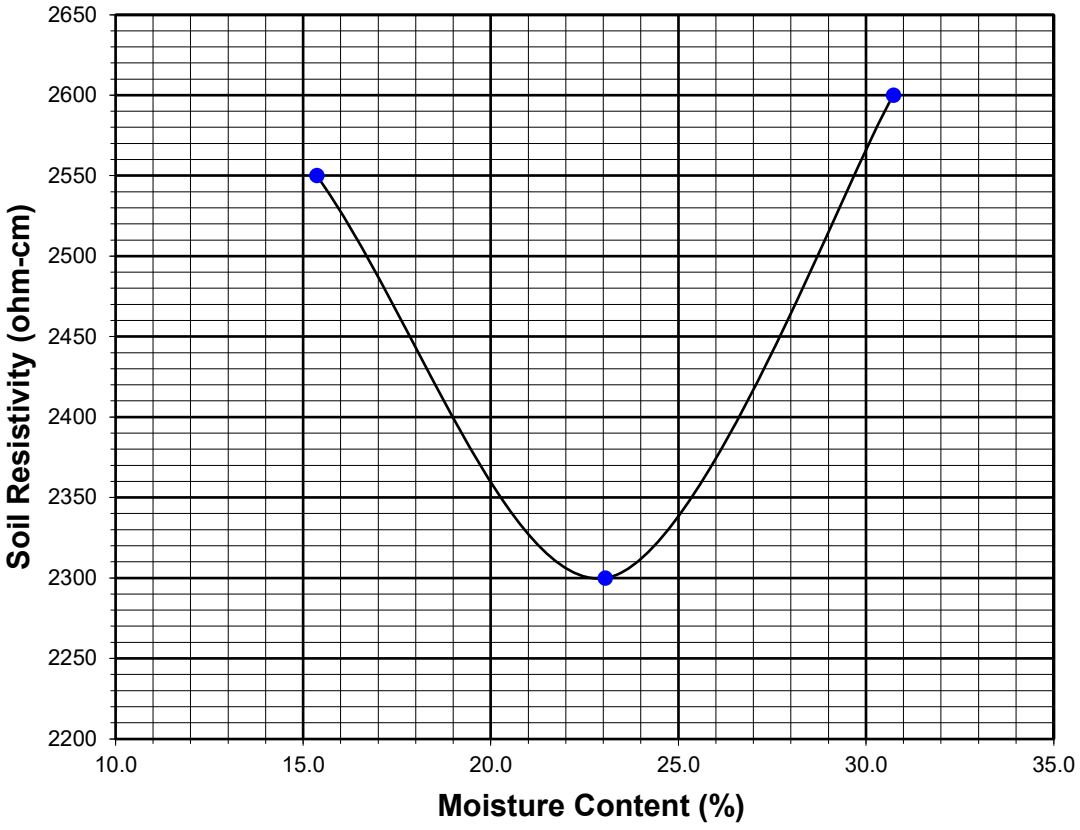
Soil Identification:* Dark yellowish brown SC

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	15.37	2550	2550
2	30	23.05	2300	2300
3	40	30.73	2600	2600
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.16
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2300	**23.0**	**78**	**140**	**7.80**	**21.0**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 12/07/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-5-4		Depth (ft.) :	0-5	
Sample No. :	B-1				

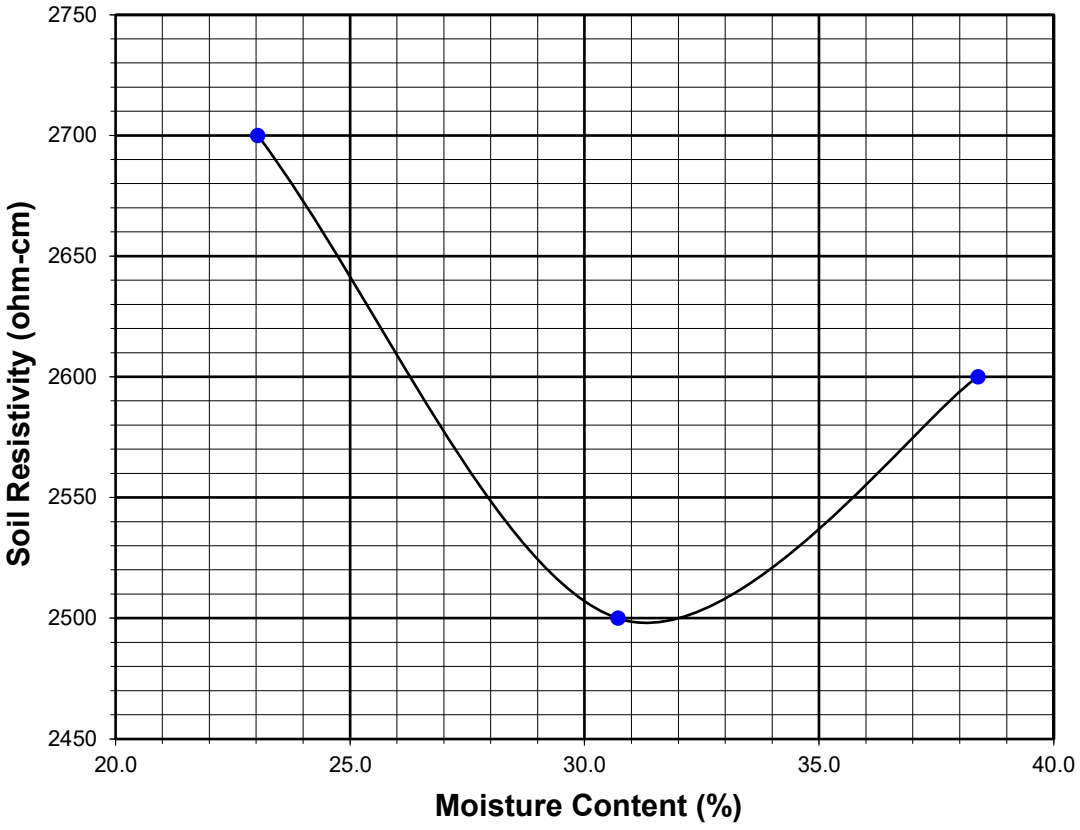
Soil Identification:* Yellowish brown SC

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	23.03	2700	2700
2	40	30.71	2500	2500
3	50	38.39	2600	2600
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.25
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2500	**31.3**	**95**	**300**	**7.72**	**21.0**



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: MileskiL/Adelanto Warehouses Tested By : GEB/JD Date: 12/01/23

Project No. : RC23280 Checked By: J. Ward Date: 01/19/24

Boring No.	LB-6-3	LB-7-7		
Sample No.	B-1	B-1		
Sample Depth (ft)	0-5	0-5		
Soil Identification:	Yellowish brown SM	Yellowish brown SM		
Wet Weight of Soil + Container (g)	0.00	0.00		
Dry Weight of Soil + Container (g)	0.00	0.00		
Weight of Container (g)	1.00	1.00		
Moisture Content (%)	0.00	0.00		
Weight of Soaked Soil (g)	100.22	100.31		

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	9	4		
Crucible No.	9	304		
Furnace Temperature (°C)	860	860		
Time In / Time Out	9:15/10:00	7:15/8:00		
Duration of Combustion (min)	45	45		
Wt. of Crucible + Residue (g)	22.5094	65.4212		
Wt. of Crucible (g)	22.5086	65.4201		
Wt. of Residue (g) (A)	0.0008	0.0011		
PPM of Sulfate (A) x 41150	32.92	45.26		
PPM of Sulfate, Dry Weight Basis	**33**	**45**		

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15	5		
ml of AgNO3 Soln. Used in Titration (C)	0.9	0.9		
PPM of Chloride (C -0.2) * 100 * 30 / B	140	420		
PPM of Chloride, Dry Wt. Basis	**140**	**420**		

pH TEST, DOT California Test 643

pH Value	**8.24**	**8.21**		
Temperature °C	20.2	22.0		

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 12/07/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 01/19/24
Boring No.:	LB-6-3		Depth (ft.) :	0-5	
Sample No. :	B-1				

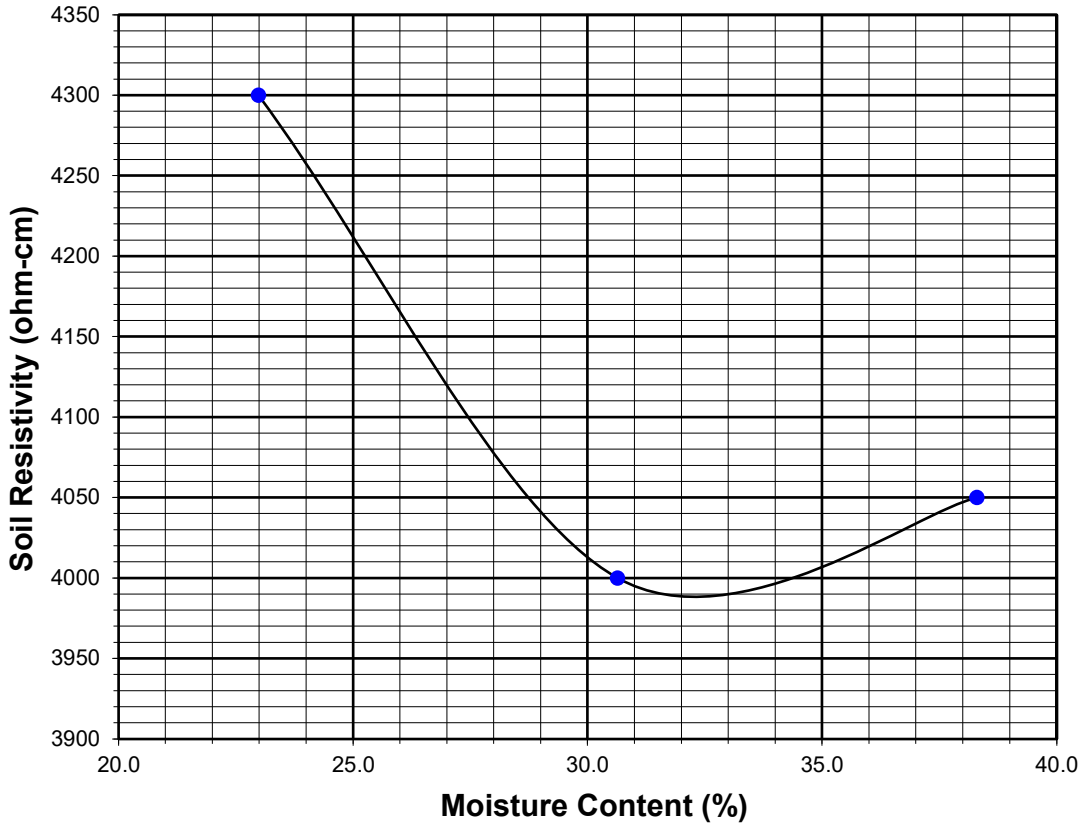
Soil Identification:* Yellowish brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	22.98	4300	4300
2	40	30.64	4000	4000
3	50	38.30	4050	4050
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.55
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
3990	**32.3**	**33**	**140**	**8.24**	**20.2**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 01/15/24
Project No. :	RC23280		Checked By:	J. Ward	Date: 01/19/24
Boring No.:	LB-7-7		Depth (ft.) :	0-5	
Sample No. :	B-1				

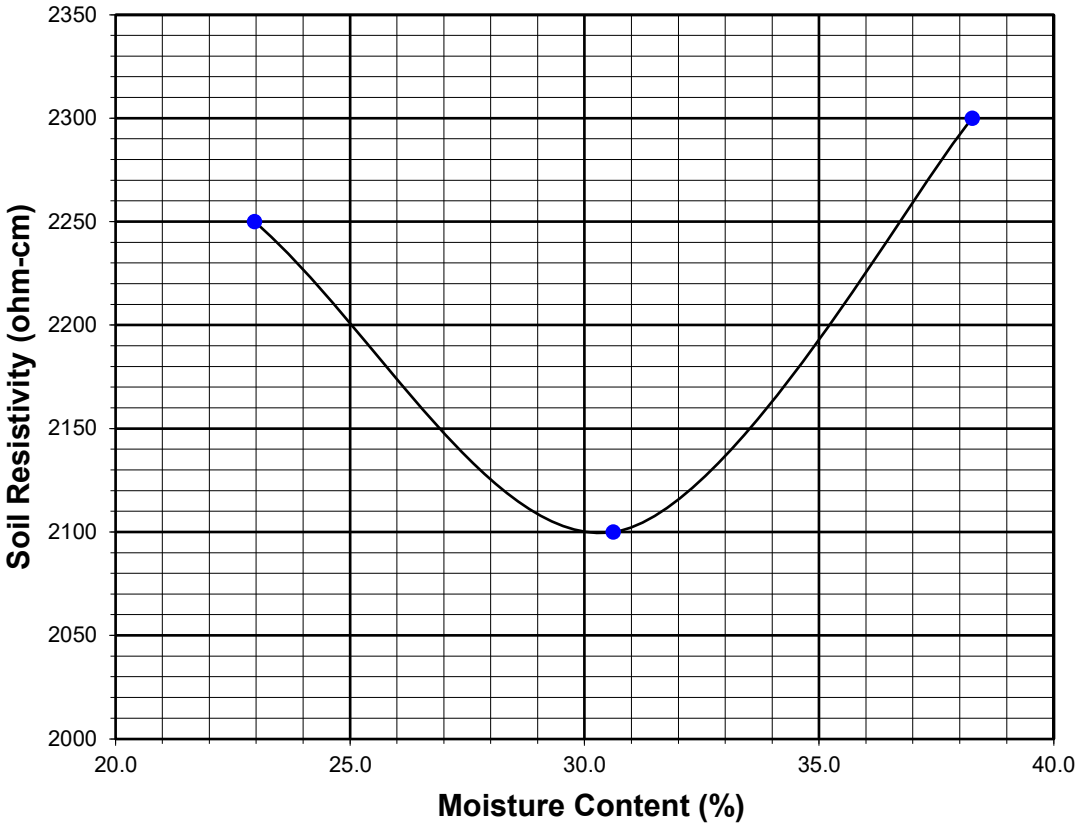
Soil Identification:* Yellowish brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	22.96	2250	2250
2	40	30.61	2100	2100
3	50	38.27	2300	2300
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.66
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2100	**30.3**	**45**	**420**	**8.21**	**22.0**



APPENDIX D

SUMMARY OF SEISMIC HAZARD ANALYSIS

Leighton
a verdantas company

Determination of Site Class and Estimation of Shear Wave Velocity

Project: CLC.000RC23280 Adelanto Warehouses

Depth (ft)	di, Layer Thick (ft)	Field Blow Counts, Ni Corrected for Cs and sampler type Blows per foot (bpf)						Average Ni (bpf)	Ni Hammer Corr:	di / Ni
		LB 2-1	LB 3-3	LB 4-6	LB 5-5	LB 6-1	LB 7-10		**1.3**	
5	7.5	22	26	31	60	60	19	36	47	0.16
10	5	60	60	60	37	60	60	56	73	0.07
15	5	54	65	100	36	88	66	68	89	0.06
20	5	60	60	60	60	60	60	60	78	0.06
25	5	100	100	100	68	100	100	95	100	0.05
30	5	60	60	60	60	60	60	60	78	0.06
35	5	66	100	100	100	67	100	89	100	0.05
40	5	12	60	60	60	60	60	52	68	0.07
45	5	100	86	86	100	9	74	76	99	0.05
50	7.5	60	60	60	60	60	60	60	78	0.10
60	10		40	*Assumed based on blowcount at 50'				40	52	0.19
70	10		40					40	52	0.19
80	10		40					40	52	0.19
90	10		40					40	52	0.19
100	5		40					40	52	0.10
Summatio	100									1.60
									Navg = Sum(di) / Sum(di / Ni) =	**63**

Extract of ASCE 7-16 Table 20.3-1 Site Classification (2019 CBC 1613A.2.2):

Site Class	Soil Profile Name	Avg. N upper 100' from	to	Vs30 (ft/sec) from	to	Vs30 (m/s) from	to	Site Avg N	Interpolated vs30 (ft/s)
A	Hard Rock	-		5000	10000	1524	3048		
B	Rock	-		2500	5000	762	1524		
C	VD soil & soft rock	**50.01**	**100**	**1200**	**2500**	366	762	63	1527
D	Stiff Soil	15	50	600	1200	183	366		
E	Soft Soil	0	14.999	0	600	0	183		
F		-	-			0	0		

SITE CLASS, Table 20.3-1: **C**

Estimation of Average Shear Wave Velocity in upper 100 ft (Vs30):

	ft/s	m/s
Approx. Vs30 (interpolation of Table 20.3-1) =	1527	465
Approx. Vs30 sands (Imai and Tonouchi, 1982) =	1283	391
Approx. Vs30 sands (Sykora and Stokoe, 1983) =	1069	326
Approx. Vs30 (Maheswari, Boominathan, Dodagoudar, 2009) =	1047	319

Liquefaction Susceptibility Analysis: SPT Method

Leighton

Youd and Idriss (2001), Martin and Lew (1999)

Description: Adelanto Industrial Warehouse Park; Case 1; PGAm 0.568; design GW 100; No overex 0
Project No.: CLC.000RC23280
Nov 2023

General Boring Information:

Boring No.	Existing GW Depth (ft)	Design GW Depth (ft)	Design Fill Height (ft)	Overex. depth bgs (ft)	Ground Surface Elev (ft)	design gw elve
LB 2-1	90	100		0	2906	2806
LB 3-3	90	100		0	2906	2806
LB 4-6	90	100		0	2926	2826
LB 5-5	90	100		0	2905	2805
LB 6-1	90	100		0	2912	2812
LB 7-10	90	100		0	2926	2826
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0

Boring Location Coordinates	
X (ft)	Y (ft)
0.0	0.0
3199.4	-91.6
2149.7	-1992.7
6987.7	-237.9
4853.4	-1640
6923.3	-3351

General Parameters:	
a_{max} =	0.57g
M_W =	7.9
MSF eq:	1
MSF =	0.88
Hammer Efficiency =	84
C_E =	1.40
C_B =	1
C_S for SPT?	TRUE
Unlined, but room for liner	
Rod Stickup (feet) =	3
Ring sample correction =	0.65

Summary of Liquefaction Susceptibility Analysis: SPT Method

Leighton

Liquefaction Method: Youd and Idriss (2001). Seismic Settlement Method: Tokimatsu and Seed (1987) and Martin and Lew (1999).

Project: Adelanto Industrial Warehouse Park; Case 1; PGAm 0.568; design GW 100; No overex 0

Project No.: LC.000RC23280

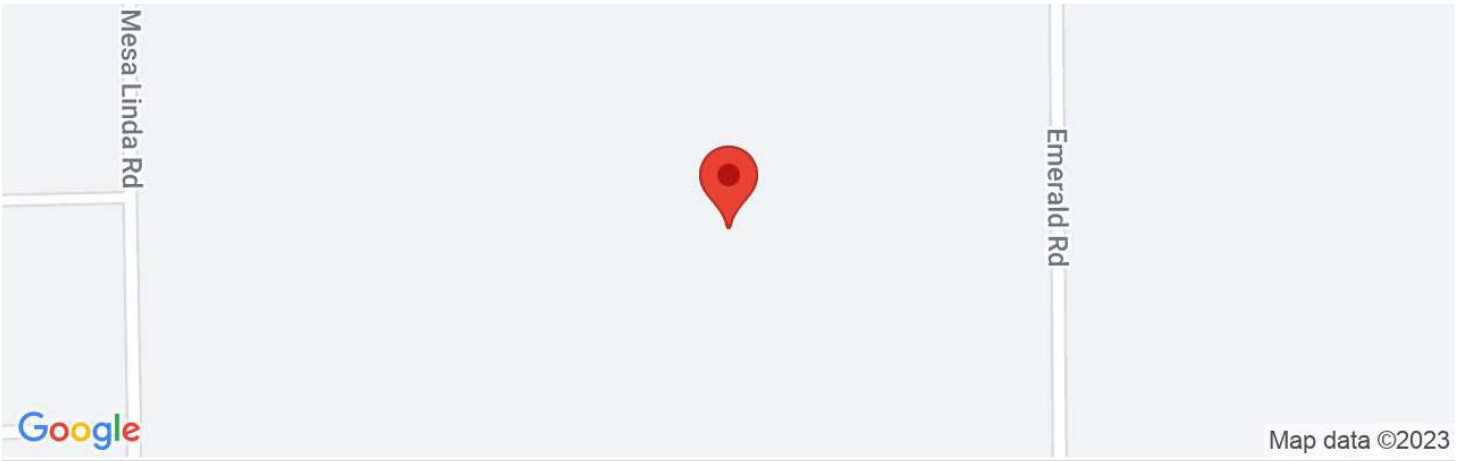
Boring No.	Approx. Layer Depth (ft)	SPT Depth (ft)	Approx Layer Thick-ness (ft)	Plasticity ("n"=non susc. to liq.)	Estimated Fines Cont (%)	γ_t (pcf)	N_m or B (blows/ft)	Sampler Type (enter 2 if mod CA Ring)	Cs	N_m (corrected for Cs and ring->SPT) (blows/ft)	Exist σ_{vo}' (psf)	$(N_1)_{60}$	$(N_1)_{60CS}$	**$CRR_{7.5}$**	Design σ_{vo}' (psf)	$CSR_{7.5}$	CSR_M	**Liquefaction Factor of Safety**	$(N_1)_{60CS}$ (for Settle-ment) (blows/ft)	Dry Sand Strain (%) (Tok/ Seed 87) (%)	Sat Sand Strain (%) (Tok/ Seed 87) (%)	Seismic Sett. of Layer (in.)	**Cummulative Seismic Settlement** (in.)
LB 2-1	0 to 3.8	2.5	3.8		10	120	54	2	1	35.1	300	62.7	64.9	>Range	300	0.37	0.42	**NonLiq**	64.9	0.01		0.00	0.7
LB 2-1	3.8 to 6.3	5	2.5		10	120	37	2	1	24.1	600	42.9	44.7	>Range	600	0.36	0.42	**NonLiq**	44.7	0.02		0.00	0.7
LB 2-1	6.3 to 8.8	7.5	2.5		10	120	100	2	1	65.0	900	110.9	114.2	>Range	900	0.36	0.41	**NonLiq**	114.2	0.01		0.00	0.7
LB 2-1	8.8 to 12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	0.7
LB 2-1	12.5 to 17.5	15	5.0		**22**	120	54	1	1.3	70.2	1800	90.0	102.3	>Range	1800	0.36	0.41	**NonLiq**	102.3	0.01		0.01	0.7
LB 2-1	17.5 to 22.5	20	5.0		35	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.7
LB 2-1	22.5 to 27.5	25	5.0		90	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.7
LB 2-1	27.5 to 32.5	30	5.0		90	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.7
LB 2-1	32.5 to 37.5	35	5.0		**22**	120	66	1	1.3	85.8	4200	84.7	96.5	>Range	4200	0.33	0.38	**NonLiq**	96.5	0.02		0.01	0.7
LB 2-1	37.5 to 42.5	40	5.0		5	120	20	2	1	13.0	4800	12.0	**12.0**	0.131	4800	0.31	0.36	**NonLiq**	12.0	1.10		0.66	0.7
LB 2-1	42.5 to 47.5	45	5.0		85	120	100	1	1.3	130.0	5400	113.2	140.8	>Range	5400	0.30	0.34	**NonLiq**	140.8	0.01		0.01	0.0
LB 2-1	47.5 to 52.0	50	4.5		70	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0
LB 3-3	0 to 3.8	2.5	3.8		10	120	31	2	1	20.2	300	36.0	37.6	>Range	300	0.37	0.42	**NonLiq**	37.6	0.02		0.01	0.1
LB 3-3	3.8 to 6.3	5	2.5		10	120	43	2	1	28.0	600	49.9	51.8	>Range	600	0.36	0.42	**NonLiq**	51.8	0.01		0.00	0.1
LB 3-3	6.3 to 8.8	7.5	2.5		20	120	100	2	1	65.0	900	110.9	123.3	>Range	900	0.36	0.41	**NonLiq**	123.3	0.01		0.00	0.1
LB 3-3	8.8 to 12.5	10	3.8		20	120	100	2	1	65.0	1200	102.0	113.8	>Range	1200	0.36	0.41	**NonLiq**	113.8	0.01		0.00	0.1
LB 3-3	12.5 to 17.5	15	5.0		15	120	65	1	1.3	84.5	1800	108.3	116.0	>Range	1800	0.36	0.41	**NonLiq**	116.0	0.01		0.01	0.1
LB 3-3	17.5 to 22.5	20	5.0		35	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.1
LB 3-3	22.5 to 27.5	25	5.0		35	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.1
LB 3-3	27.5 to 32.5	30	5.0		45	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.0
LB 3-3	32.5 to 37.5	35	5.0		65	120	100	1	1.3	130.0	4200	128.3	159.0	>Range	4200	0.33	0.38	**NonLiq**	159.0	0.01		0.01	0.0
LB 3-3	37.5 to 42.5	40	5.0		70	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 3-3	42.5 to 47.5	45	5.0		85	120	86	1	1.3	111.8	5400	97.3	121.8	>Range	5400	0.30	0.34	**NonLiq**	121.8	0.01		0.01	0.0
LB 3-3	47.5 to 52.0	50	4.5		85	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0
LB 4-6	0 to 3.8	2.5	3.8		5	120	21	2	1	13.7	300	24.4	24.4	0.280	300	0.37	0.42	**NonLiq**	24.4	0.06		0.03	0.1
LB 4-6	3.8 to 6.3	5	2.5		5	120	51	2	1	33.2	600	59.2	59.2	>Range	600	0.36	0.42	**NonLiq**	59.2	0.01		0.00	0.1
LB 4-6	6.3 to 8.8	7.5	2.5		5	120	90	2	1	58.5	900	99.8	99.8	>Range	900	0.36	0.41	**NonLiq**	99.8	0.01		0.00	0.1
LB 4-6	8.8 to 12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	0.1
LB 4-6	12.5 to 17.5	15	5.0		90	120	100	1	1.3	130.0	1800	166.6	204.9	>Range	1800	0.36	0.41	**NonLiq**	204.9	0.01		0.00	0.1
LB 4-6	17.5 to 22.5	20	5.0		90	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.1
LB 4-6	22.5 to 27.5	25	5.0		90	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.1
LB 4-6	27.5 to 32.5	30	5.0		35	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.0
LB 4-6	32.5 to 37.5	35	5.0		85	120	100	1	1.3	130.0	4200	128.3	159.0	>Range	4200	0.33	0.38	**NonLiq**	159.0	0.01		0.01	0.0
LB 4-6	37.5 to 42.5	40	5.0		60	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 4-6	42.5 to 47.5	45	5.0		5	120	86	1	1.3	111.8	5400	97.3	97.3	>Range	5400	0.30	0.34	**NonLiq**	97.3	0.02		0.01	0.0

Boring No.	Approx. Layer Depth			SPT Depth	Approx Layer Thick-ness	Plasticity ("n"=non susc. to liq.)	Estimated Fines Cont	γ_t	N_m or B	Sampler Type (enter 2 if mod CA Ring)	Cs	N_m (corrected for Cs and ring->SPT)	Exist σ_{vo}'	$(N_1)_{60}$	$(N_1)_{60CS}$	**$CRR_{7.5}$**	Design σ_{vo}'	$CSR_{7.5}$	CSR_M	**Liquefaction Factor of Safety**	$(N_1)_{60CS}$ (for Settle-ment)	Dry Sand Strain (%) (Tok/ Seed 87)	Sat Sand Strain (%) (Tok/ Seed 87)	Seismic Sett. of Layer	**Cummulative Seismic Settlement**
	(ft)			(ft)	(ft)		(%)	(pcf)	(blows/ft)			(blows/ft)	(psf)				(psf)				(blows/ft)	(%)	(%)	(in.)	(in.)
LB 4-6	47.5	to	52.0	50	4.5		10	120	100	2	1	65.0	6000	53.7	55.7	>Range	6000	0.28	0.32	**NonLiq**	55.7	0.02		0.01	0.0
LB 5-5	0	to	3.8	2.5	3.8		70	120	100	2	1	65.0	300	116.0	144.2	>Range	300	0.37	0.42	**NonLiq**	144.2	0.00		0.00	0.1
LB 5-5	3.8	to	6.3	5	2.5		55	120	100	2	1	65.0	600	116.0	144.2	>Range	600	0.36	0.42	**NonLiq**	144.2	0.01		0.00	0.1
LB 5-5	6.3	to	8.8	7.5	2.5		5	120	72	2	1	46.8	900	79.8	79.8	>Range	900	0.36	0.41	**NonLiq**	79.8	0.01		0.00	0.1
LB 5-5	8.8	to	12.5	10	3.8		5	120	62	2	1	40.3	1200	63.3	63.3	>Range	1200	0.36	0.41	**NonLiq**	63.3	0.01		0.01	0.1
LB 5-5	12.5	to	17.5	15	5.0		5	120	36	1	1.3	46.8	1800	60.0	60.0	>Range	1800	0.36	0.41	**NonLiq**	60.0	0.01		0.01	0.1
LB 5-5	17.5	to	22.5	20	5.0		5	120	100	2	1	65.0	2400	80.6	80.6	>Range	2400	0.35	0.40	**NonLiq**	80.6	0.02		0.01	0.1
LB 5-5	22.5	to	27.5	25	5.0		10	120	68	1	1.3	88.4	3000	98.1	101.1	>Range	3000	0.35	0.40	**NonLiq**	101.1	0.02		0.01	0.1
LB 5-5	27.5	to	32.5	30	5.0		20	120	100	2	1	65.0	3600	69.3	78.4	>Range	3600	0.34	0.39	**NonLiq**	78.4	0.02		0.01	0.0
LB 5-5	32.5	to	37.5	35	5.0		5	120	100	1	1.3	130.0	4200	128.3	128.3	>Range	4200	0.33	0.38	**NonLiq**	128.3	0.01		0.01	0.0
LB 5-5	37.5	to	42.5	40	5.0		40	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 5-5	42.5	to	47.5	45	5.0		70	120	100	1	1.3	130.0	5400	113.2	140.8	>Range	5400	0.30	0.34	**NonLiq**	140.8	0.01		0.01	0.0
LB 5-5	47.5	to	52.0	50	4.5		70	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0
LB 6-1	0	to	3.8	2.5	3.8		40	120	100	2	1	65.0	300	116.0	144.2	>Range	300	0.37	0.42	**NonLiq**	144.2	0.00		0.00	1.9
LB 6-1	3.8	to	6.3	5	2.5		10	120	100	2	1	65.0	600	116.0	119.4	>Range	600	0.36	0.42	**NonLiq**	119.4	0.01		0.00	1.9
LB 6-1	6.3	to	8.8	7.5	2.5		5	120	69	2	1	44.9	900	76.5	76.5	>Range	900	0.36	0.41	**NonLiq**	76.5	0.01		0.00	1.9
LB 6-1	8.8	to	12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	1.9
LB 6-1	12.5	to	17.5	15	5.0		5	120	88	1	1.3	114.4	1800	146.6	146.6	>Range	1800	0.36	0.41	**NonLiq**	146.6	0.01		0.01	1.9
LB 6-1	17.5	to	22.5	20	5.0		45	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	1.9
LB 6-1	22.5	to	27.5	25	5.0		85	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	1.9
LB 6-1	27.5	to	32.5	30	5.0		85	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	1.9
LB 6-1	32.5	to	37.5	35	5.0		85	120	67	1	1.3	87.1	4200	86.0	108.2	>Range	4200	0.33	0.38	**NonLiq**	108.2	0.01		0.01	1.8
LB 6-1	37.5	to	42.5	40	5.0		80	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	1.8
LB 6-1	42.5	to	47.5	45	5.0		5	120	9	1	1.1	9.9	5400	8.6	**8.6**	0.101	5400	0.30	0.34	**NonLiq**	8.6	3.02		1.81	1.8
LB 6-1	47.5	to	52.0	50	4.5		25	120	100	2	1	65.0	6000	53.7	64.1	>Range	6000	0.28	0.32	**NonLiq**	64.1	0.02		0.01	0.0
LB 7-10	0	to	3.8	2.5	3.8		5	120	24	2	1	15.6	300	27.8	27.8	0.364	300	0.37	0.42	**NonLiq**	27.8	0.05		0.02	0.1
LB 7-10	3.8	to	6.3	5	2.5		5	120	32	2	1	20.8	600	37.1	37.1	>Range	600	0.36	0.42	**NonLiq**	37.1	0.06		0.02	0.1
LB 7-10	6.3	to	8.8	7.5	2.5		10	120	70	2	1	45.5	900	77.6	80.2	>Range	900	0.36	0.41	**NonLiq**	80.2	0.01		0.00	0.1
LB 7-10	8.8	to	12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	0.1
LB 7-10	12.5	to	17.5	15	5.0		10	120	66	1	1.3	85.8	1800	110.0	113.2	>Range	1800	0.36	0.41	**NonLiq**	113.2	0.01		0.01	0.1
LB 7-10	17.5	to	22.5	20	5.0		70	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.1
LB 7-10	22.5	to	27.5	25	5.0		80	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.1
LB 7-10	27.5	to	32.5	30	5.0		40	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.0
LB 7-10	32.5	to	37.5	35	5.0		90	120	100	1	1.3	130.0	4200	128.3	159.0	>Range	4200	0.33	0.38	**NonLiq**	159.0	0.01		0.01	0.0
LB 7-10	37.5	to	42.5	40	5.0		35	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 7-10	42.5	to	47.5	45	5.0		35	120	74	1	1.3	96.2	5400	83.7	105.5	>Range	5400	0.30	0.34	**NonLiq**	105.5	0.02		0.01	0.0

Boring No.	Approx. Layer Depth (ft)		SPT Depth (ft)	Approx Layer Thick-ness (ft)	Plasticity ("n"=non susc. to liq.)	Estimated Fines Cont (%)	γ_t (pcf)	N_m or B (blows/ft)	Sampler Type (enter 2 if mod CA Ring)	Cs	N_m (corrected for Cs and ring->SPT) (blows/ft)	Exist σ_{vo}' (psf)	$(N_1)_{60}$	$(N_1)_{60CS}$	**$CRR_{7.5}$**	Design σ_{vo}' (psf)	$CSR_{7.5}$	CSR_M	**Liquefaction Factor of Safety**	$(N_1)_{60CS}$ (for Settle-ment) (blows/ft)	Dry Sand Strain (%) (Tok/ Seed 87) (%)	Sat Sand Strain (%) (Tok/ Seed 87) (%)	Seismic Sett. of Layer (in.)	**Cummulative Seismic Settlement** (in.)
LB 7-10	47.5	to 52.0	50	4.5		95	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

Latitude, Longitude: 34.568165, -117.386110



Date	11/28/2023, 4:46:58 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.1	MCE_R ground motion. (for 0.2 second period)
S_1	0.429	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.32	Site-modified spectral acceleration value
S_{M1}	0.643	Site-modified spectral acceleration value
S_{DS}	0.88	Numeric seismic design value at 0.2 second SA
S_{D1}	0.429	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.473	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.568	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	1.1	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.178	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.429	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.466	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.473	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.934	Mapped value of the risk coefficient at short periods

Type	Value	Description
C_{R1}	0.92	Mapped value of the risk coefficient at a period of 1 s
C_V	1.12	Vertical coefficient

DISCLAIMER

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U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Please also see the new USGS Earthquake Hazard Toolbox for access to the most recent NSHMs for the conterminous U.S. and Hawaii.

Input

Edition

Dynamic: Conterminous U.S. 2014 (u…

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

34.568165

Time Horizon

Return period in years

2475

Longitude

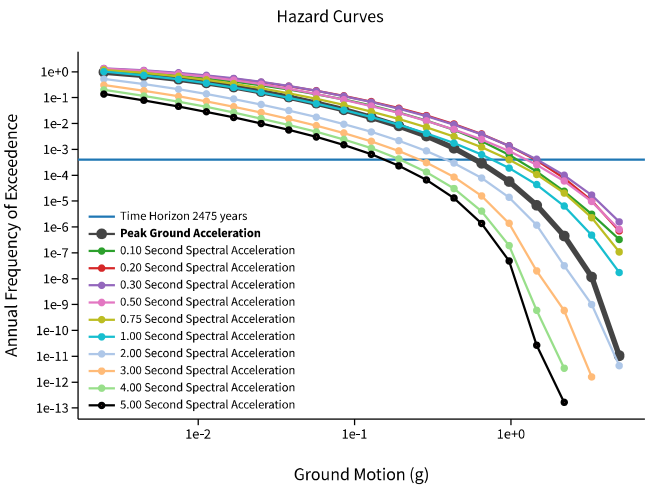
Decimal degrees, negative values for western longitudes

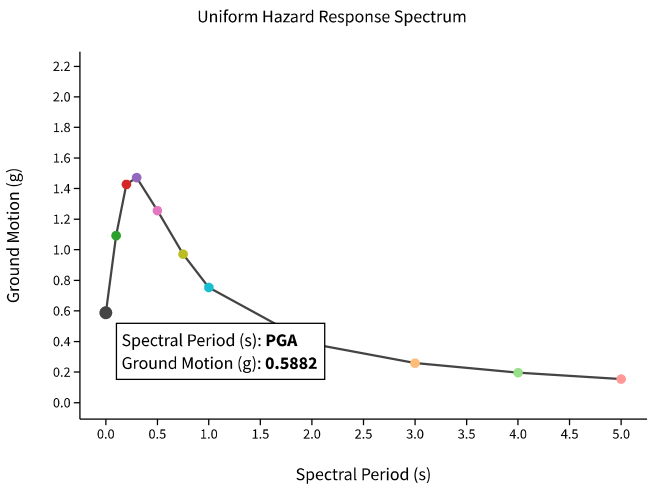
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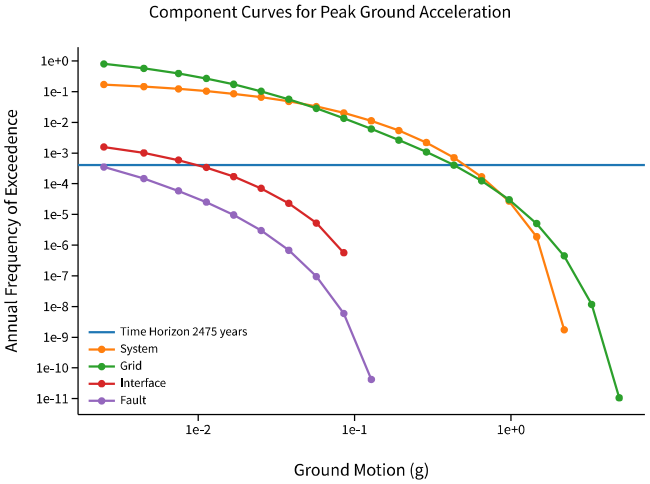
Site Class

360 m/s (C/D boundary)

Hazard Curve





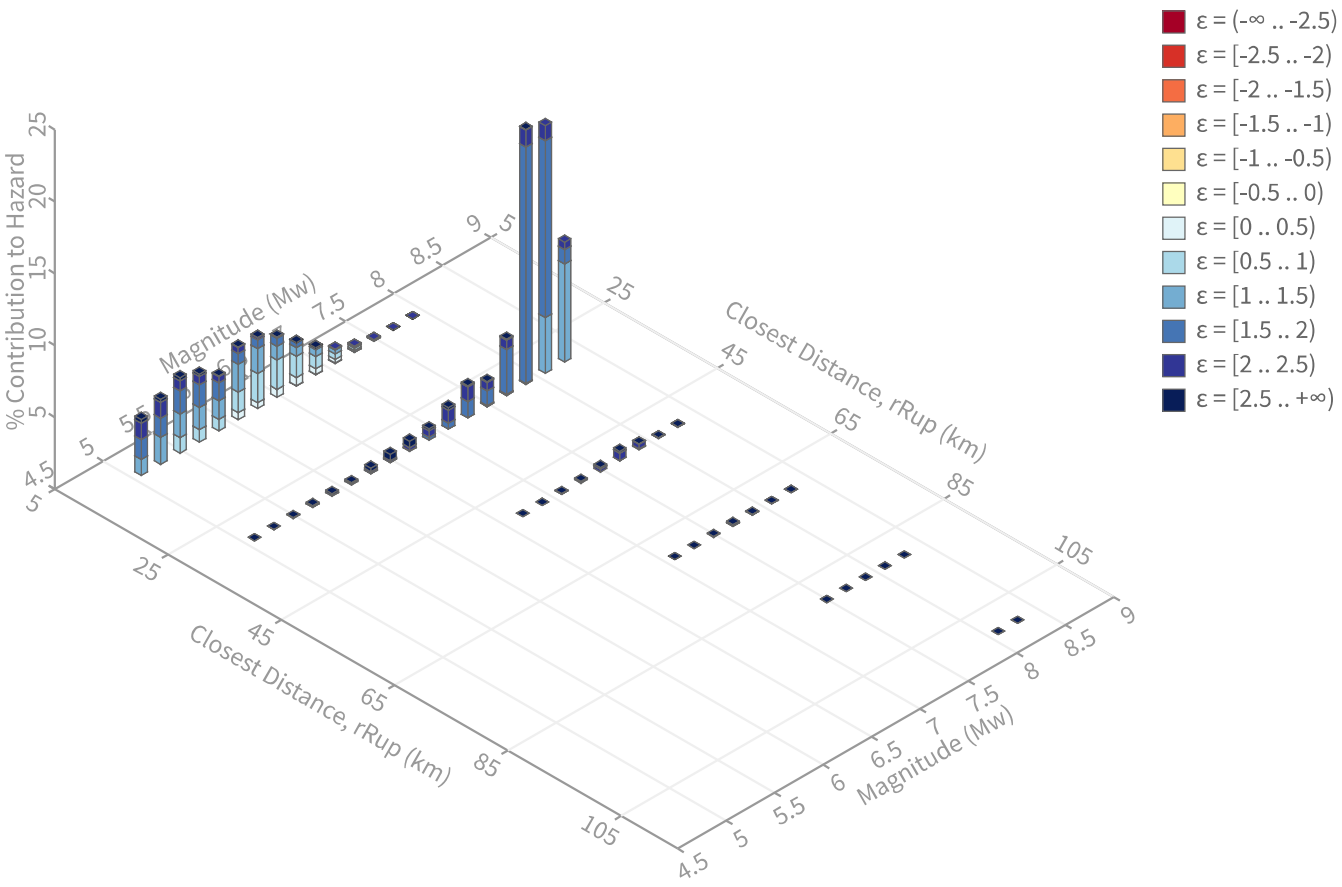


View Raw Data

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.5882133 g

Recovered targets

Return period: 2916.9124 yrs
Exceedance rate: 0.00034282825 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.09 %

Mean (over all sources)

m: 7.06
r: 22.13 km
ε_0: 1.56 σ

Mode (largest m-r bin)

m: 7.9
r: 32.08 km
ε_0: 1.76 σ
Contribution: 17.7 %

Mode (largest m-r-ε_0 bin)

m: 7.91
r: 32.04 km
ε_0: 1.72 σ
Contribution: 16.45 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM32	System							28.17
San Andreas (Mojave S) [14]		31.74	8.00	1.68	117.549°W	34.316°N	208.12	22.05
UC33brAvg_FM31	System							28.07
San Andreas (Mojave S) [14]		31.74	8.01	1.67	117.549°W	34.316°N	208.12	21.94
UC33brAvg_FM31 (opt)	Grid							21.89
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.663		10.09	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.663		10.09	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.21
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.21
UC33brAvg_FM32 (opt)	Grid							21.87
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.663		10.10	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.663		10.10	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.20
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.20

PACIFIC EARTHQUAKE ENGINEERING RESEARCH CENTER

WEIGHTED AVERAGE of 2014 NGA WEST-2 GMPEs

Last updated: 04 14 15

by Emel Seyhan, PhD, PEER & UCLA -- email: emel.seyhan@gmail.com, peer_center@berkeley.edu

This excel file will be updated as necessary on the PEER website to fix any typos or other errors. Please check the website frequently for new versions at: http://peer.berkeley.edu/ngawest2/databases/

Legend	Pre-defined option	Main input variable	Calculated variable	Input var. flag	Internal variable

GMPE averaging	**Geometric**

Weighted average of the natural logarithm of the spectral values

GMPEs	ASK14	BSSA14	CB14	CY14	I14
Weight	0.25	0.25	0.25	0.25	0

# of std. dev.	1
Damping ratio (%)	5

Modification factors are calculated in Sheet DSF

ASK14 Abrahamson & Silva & Kamai 2014 NGA West-2 Model
BSSA14 Boore & Stewart & Seyhan & Atkinson 2014 NGA West-2 Model
CB14 Campbell & Bozorgnia 2014 NGA West-2 Model
CY14 Chiou & Youngs 2014 NGA West-2 Model
I14 Idriss 2014 NGA West-2 Model

RotD50 Horizontal Component of PGA, PGV and *IMs*

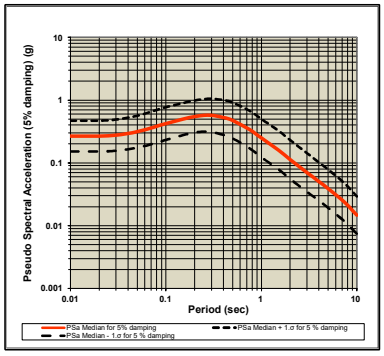
Input variables | **Errors and warnings**

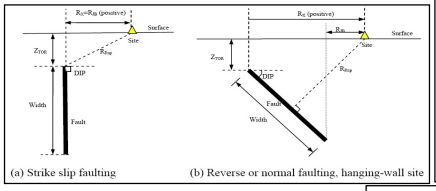
M_w	8.18
R_{RUP} (km)	32.7
R_{JB} (km)	31.7
R_X (km)	31.7
Ry0 (km)	999 *If unknown use 999*
V_{S30} (m/sec)	372
U (BSSA13)	0 *1: Unspecified fault mech.*
F_{RV}	0 *1: reverse fault*
F_{NM}	0 *1: normal fault*
F_{HW}	0 *1: hanging wall side*
Dip (deg)	90
Z_{TOR} (km)	7.86 *If unknown use 999*
Z_{HYP} (km)	999 *If unknown use 999*
$Z_{1.0}$ (km)	0.05 *If unknown use 999*
$Z_{2.5}$ (km)	0.21 *If unknown use 999*
W (km)	13.1 *If unknown use 999*
Vs30Flag	inferred *Choose options for V_{s30} from the list*
F_{AS}	no *Aftershock effect is not applicable.*
Region	California *Choose region from the list*

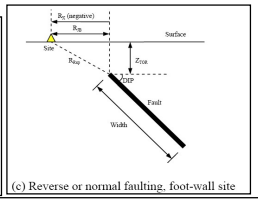
Calculated Variables/Flags

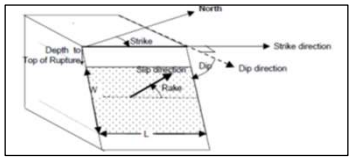
ΔDPP	0 *Always 0 for median calcs.*
PGA, (g)	0.183
Z_{BOT} (km) (CB14)	15 *Enter for default W calcs*
SS	1 *auto calculated*
$V_{s30Flag}$	0 *inferred*
F_{AS}	0 *Aftershock effect is not applicable.*
Region	0 *California*
Option for Sa value	1 *Weighted average of the natural logarithm of the spectral values*

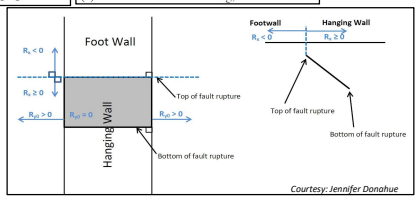
GMP	T (s)	Baseline: 5% Damping: PSa Median for 5% damping	PSa Median + 1.σ for 5% damping	PSa Median - 1.σ for 5% damping	S_d Median for 5% damping	User defined: 5% Damping: PSa Median for 5% damping	PSa Median + 1.σ for 5 % damping	PSa Median - 1.σ for 5 % damping	Sd Median for 5 % damping
PSa (g), S_d (cm)	0.01	0.26758	0.47042	0.15220	0.00066	0.26758	0.47042	0.15220	0.00066
	0.02	0.26732	0.47049	0.15188	0.00265	0.26732	0.47049	0.15188	0.00265
	0.03	0.27667	0.49000	0.15622	0.00618	0.27639	0.48951	0.15606	0.00617
	0.05	0.31249	0.56134	0.17395	0.01939	0.31280	0.56190	0.17413	0.01941
	0.075	0.37120	0.67542	0.20401	0.05183	0.37232	0.67744	0.20462	0.05199
	0.1	0.42120	0.76742	0.23117	0.10456	0.42288	0.77049	0.23210	0.10498
	0.15	0.49599	0.89394	0.27520	0.27703	0.49748	0.89662	0.27602	0.27786
	0.2	0.54624	0.98279	0.30361	0.54239	0.54788	0.98574	0.30452	0.54402
	0.25	0.57091	1.03554	0.31475	0.88576	0.57148	1.03658	0.31507	0.88664
	0.3	0.56800	1.04955	0.30739	1.26898	0.56970	1.05270	0.30831	1.27279
	0.4	0.52772	0.99897	0.27877	2.09598	0.52877	1.00097	0.27933	2.10018
	0.5	0.47126	0.90820	0.24454	2.92462	0.47173	0.90911	0.24478	2.92754
	0.75	0.34011	0.67728	0.17079	4.74908	0.34045	0.67796	0.17096	4.75383
	1	0.24743	0.49924	0.12263	6.14225	0.24743	0.49924	0.12263	6.14225
	1.5	0.16119	0.32750	0.07933	9.00290	0.16135	0.32783	0.07941	9.01190
	2	0.11343	0.23083	0.05574	11.26309	0.11332	0.23060	0.05569	11.25182
	3	0.07033	0.14317	0.03455	15.71296	0.07033	0.14317	0.03455	15.71296
	4	0.05072	0.10223	0.02516	20.14507	0.05062	0.10203	0.02511	20.10478
	5	0.03905	0.07882	0.01935	24.23328	0.03897	0.07866	0.01931	24.18482
	7.5	0.02336	0.04695	0.01162	32.61598	0.02322	0.04667	0.01155	32.42028
	10	0.01482	0.02944	0.00746	36.77849	0.01474	0.02929	0.00742	36.59460
PGA (g)	0	0.26571	0.46677	0.15126	0.00066	0.26571	0.46677	0.15126	0.00066
PGV (cm/s)	-1	32.04326	58.21419	17.63780	0.07954	NA	NA	NA	NA











Definition of Parameters

Damping ratio = Viscous damping ratio (%) See Sanaz et al. (2012) PEER Report
PSA = Pseudo-absolute acceleration response spectrum (g)
PGA = Peak ground acceleration (g)
PGV = Peak ground velocity (cm/s)
S_d = Relative displacement response spectrum (cm)
M_w = Moment magnitude
R_{RUP} = Closest distance to coseismic rupture (km), used in ASK13, CB13 and CY13. See Figures a, b and c for illustation
R_{JB} = Closest distance to surface projection of coseismic rupture (km). See Figures a, b and c for illustation
R_X = Horizontal distance from top of rupture measured perpendicular to fault strike (km). See Figures a, b and c for illustation
R_{y0} = The horizontal distance off the end of the rupture measured parallel to strike (km)
V_{S30} = The average shear-wave velocity (m/s) over a subsurface depth of 30 m
U = Unspecified-mechanism factor: 1 for unspecified; 0 otherwise
F_{RV} = Reverse-faulting factor: 0 for strike slip, normal, normal-oblique; 1 for reverse, reverse-oblique and thrust
F_{NM} = Normal-faulting factor: 0 for strike slip, reverse, reverse-oblique, thrust and normal-oblique; 1 for normal
F_{HW} = Hanging-wall factor: 1 for site on down-dip side of top of rupture; 0 otherwise
Dip = Average dip of rupture plane (degrees)
Z_{TOR} = Depth to top of coseismic rupture (km)
Z_{HYP} = Hypocentral depth from the earthquake
$Z_{1.0}$ = Depth to Vs=1 km/sec
$Z_{2.5}$ = Depth to Vs=2.5 km/sec
W = Fault rupture width (km)
$V_{S30flag}$ = 1 for measured, 0 for inferred Vs30
F_{AS} = 0 for mainshock; 1 for aftershock
Region = Specific regions considered in the models, Click on Region to see codes
ΔDPP = Directivity term, direct point parameter; uses 0 for median predictions
PGA, (g) = Peak ground acceleration on rock (g), this specific cell is updated in the cell for BSSA14 and CB14, for others it is taken account for in the macros
Z_{BOT} (km) = The depth to the bottom of the seismogenic crust
Z_{BOR} (km) = The depth to the bottom of the rupture plane
SS = 1 for strike slip, automatically updated in the cell

Input variables with defaults (If entered 999 as input):

Red colored value: The value is used in the code when input is unknown

DEFAULTs	USER defined	ASK14	BSSA14	CB14	CY14	I14
W (km)	13.10			15.000		
$Z_{1.0}$ (km)	0.050	0.050			0.389	
$\delta Z_{1.0}$ (km)	-0.339		-0.339			
$Z_{2.5}$ (V_{S30}=1100)(km)	0.210			0.398		
$Z_{2.5}$ (V_{S30})(km)	0.210			1.374		
Z_{hyp} (km)	999.00			10.227		
Z_{tor} (km)	7.86			0.000	0.000	
Z_{BOR} (km)	-			15.000		

ACKNOWLEDGEMENTS

Nick Gregor, Bechtel
Silvia Mazzoni, Consultant

All NGA West-2 participants are acknowledged for their constructive comments and feedback.

PROBABILISTIC RESPONSE SPECTRA

Period (S)	UHGM (g)	C_R	Ordinated Value (g)	Max Dir SF	Max Dir RTGM (g)	Probabilistic Response (g)
0.01	0.588	0.934	0.549	1.1	0.604	0.604
0.10	1.092	0.934	1.020	1.1	1.122	1.122
0.20	1.427	0.934	1.333	1.1	1.466	1.466
0.30	1.472	0.932	1.372	1.124	1.542	1.542
0.50	1.256	0.929	1.166	1.175	1.370	1.370
0.75	0.971	0.924	0.898	1.2375	1.111	1.111
1.00	0.753	0.920	0.693	1.3	0.901	0.901
2.00	0.385	0.920	0.354	1.35	0.478	0.478
3.00	0.258	0.920	0.238	1.4	0.333	0.333
4.00	0.196	0.920	0.180	1.45	0.261	0.261
5.00	0.154	0.920	0.142	1.5	0.213	0.213

Peak Sa		Fa	1.2Fa	Peak Sa < 1.2Fa	Deterministic Needed?
1.542		1.2	1.44	NO	YES

UHGM - Obtained from Unified Hazard Maps
RTGM - Risk Target Ground Motion

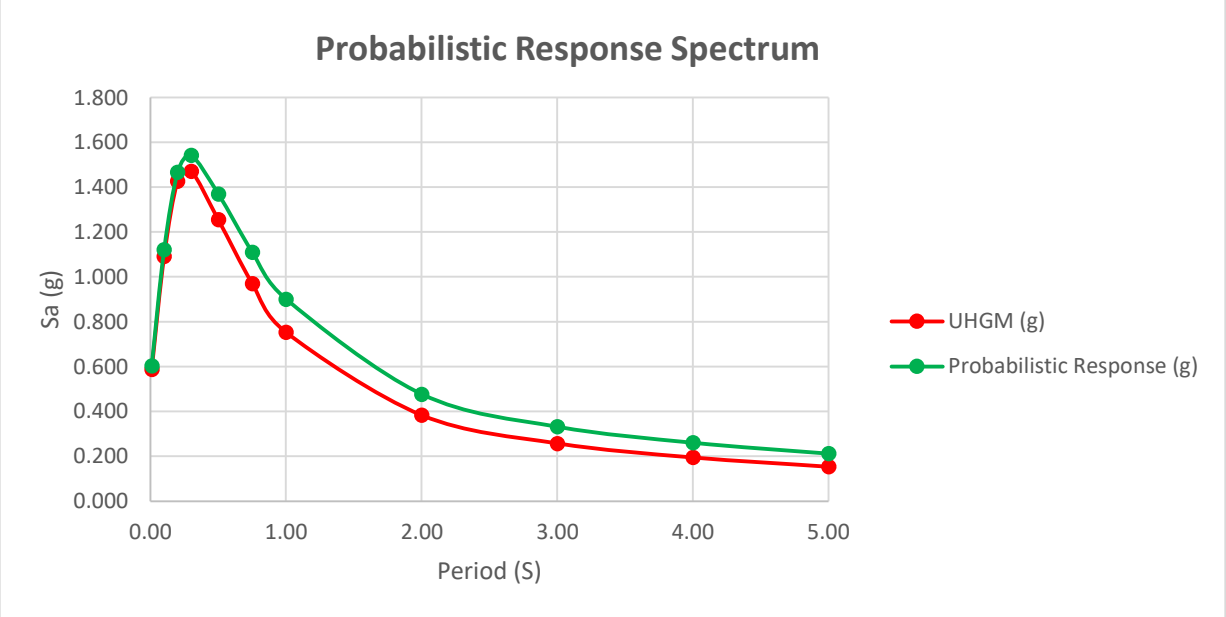


Exhibit C-1

DETERMINISTIC RESPONSE SPECTRUM

Period (S)	84th Percentile for 5% Damping	Max Dir SF	Max Dir Deterministic Sa	Scaled Max Dir Deterministic Sa
0.01	0.470	1.1	0.517	0.787
0.1	0.770	1.1	0.848	1.289
0.2	0.986	1.1	1.084	1.650
0.3	1.053	1.124	1.183	1.800
0.5	0.909	1.175	1.068	1.625
0.75	0.678	1.2375	0.839	1.276
1	0.499	1.3	0.649	0.987
2	0.231	1.35	0.311	0.474
3	0.143	1.4	0.200	0.305
4	0.102	1.45	0.148	0.225
5	0.079	1.5	0.118	0.179

Obtained from NGA West 2 GMPE Worksheet - UCERF3 fault

CALCS

Peak Sa	Fa	1.5Fa	Peak Sa < 1.5Fa	Scaling Factor
1.183	1.2	1.8	YES	1.521

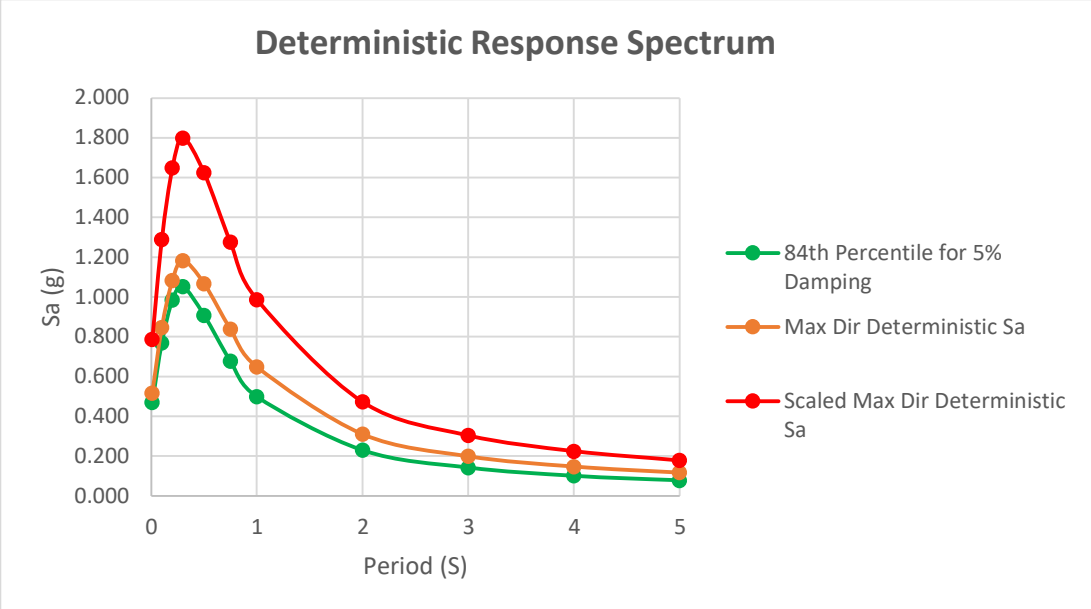


Exhibit C-2

SPECTRA COMPARISION

Period (s)	Probabilistic Response (g)	Scaled Max Dir Deterministic Sa (g)	MCE_{R^*} Response Spectra S_{aM} (g)	2/3 MCER Response Spectra Sa (g)
0.01	0.604	0.787	0.604	0.403
0.1	1.122	1.289	1.122	0.748
0.2	1.466	1.650	1.466	0.978
0.3	1.542	1.800	1.542	1.028
0.5	1.370	1.625	1.370	0.913
0.75	1.111	1.276	1.111	0.740
1	0.901	0.987	0.901	0.601
2	0.478	0.474	0.474	0.316
3	0.333	0.305	0.305	0.203
4	0.261	0.225	0.225	0.150
5	0.213	0.179	0.179	0.120

MCER* is the lesser of the probabilistic and deterministic spectra

CALCS

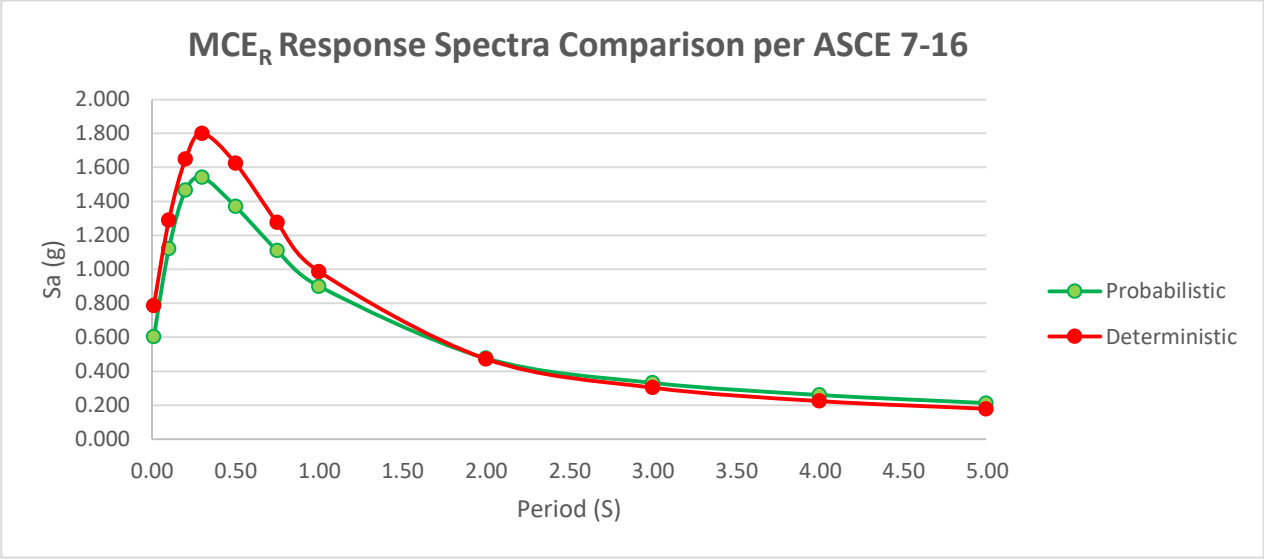


Exhibit C-3

S_S	1.100
S_1	0.429
Fa	1.2
Fv	1.5
S_{MS}	1.320
S_{M1}	0.644
S_{DS}	0.880
S_{D1}	0.429

since S_1 >0.2

T_0	0.100
T_S	0.500

PGA	0.473
PGA_M	0.568

Period (S)	Code-Based Sa (g)	80% Code-Based Sa (g)	2/3 MCER Response Spectra Sa (g)	Design Response Spectra Sa (g)
0.01	0.405	0.324	0.403	0.403
0.10	0.880	0.704	0.748	0.748
0.20	0.880	0.704	0.978	0.978
0.30	0.880	0.704	1.028	1.028
0.50	0.858	0.686	0.913	0.913
0.75	0.572	0.458	0.740	0.740
1.00	0.429	0.343	0.601	0.601
2.00	0.215	0.172	0.316	0.316
3.00	0.143	0.114	0.203	0.203
4.00	0.107	0.086	0.150	0.150
5.00	0.086	0.069	0.120	0.120

FROM SEISMIC MAPS (ATC OR OSHPD)
CALCS

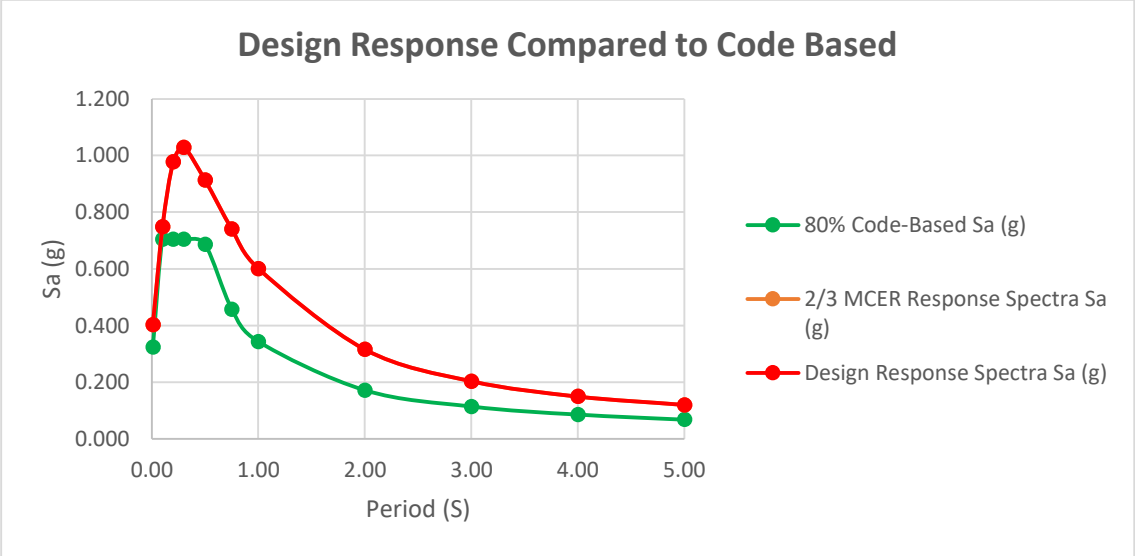


Exhibit C-4

Period (s)	MCER* Response Spectra SaM (g)	Design Response Spectra Sa (g)	Design Values (g)	
0.01	0.604	0.403	0.363	
0.10	1.122	0.748	0.673	
0.20	1.466	0.978	**0.880**	= S_{DS}
0.30	1.542	1.028	0.925	
0.50	1.370	0.913	0.822	
0.75	1.111	0.740	0.666	
1.00	0.901	0.601	**0.601**	= S_{D1}
2.00	0.474	0.316	0.631	
3.00	0.305	0.203	0.610	
4.00	0.225	0.150	0.600	
5.00	0.179	0.120	0.598	

Max Sa between T=0.2s and 5s is **1.028**

S_{DS} = 0.9 X Max Sa = **0.925**

S_{MS} = 1.5*S_{DS} = **1.388**

Short Period Spectrum

V_{S30} = 560 m/s > 365 m/s **Site Class C**

Max T*S_a between T=1s and 5s is **0.631**

Therefore, S_{D1} = **0.631**

S_{M1} = 1.5*S_{D1} = **0.947**

Long Period Spectrum

Probabilistic PGA	**0.588**
Deterministic PGA	**0.470**
80% Code-Based PGA_M	**0.454**
Site-Specific PGA	**0.470**

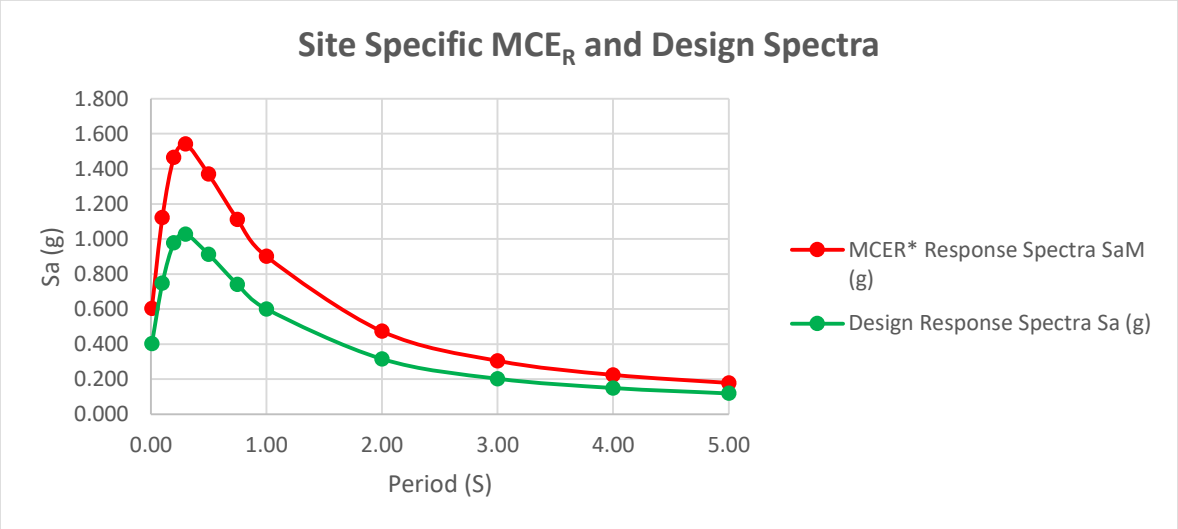


Exhibit C-5

SUMMARY TABLE

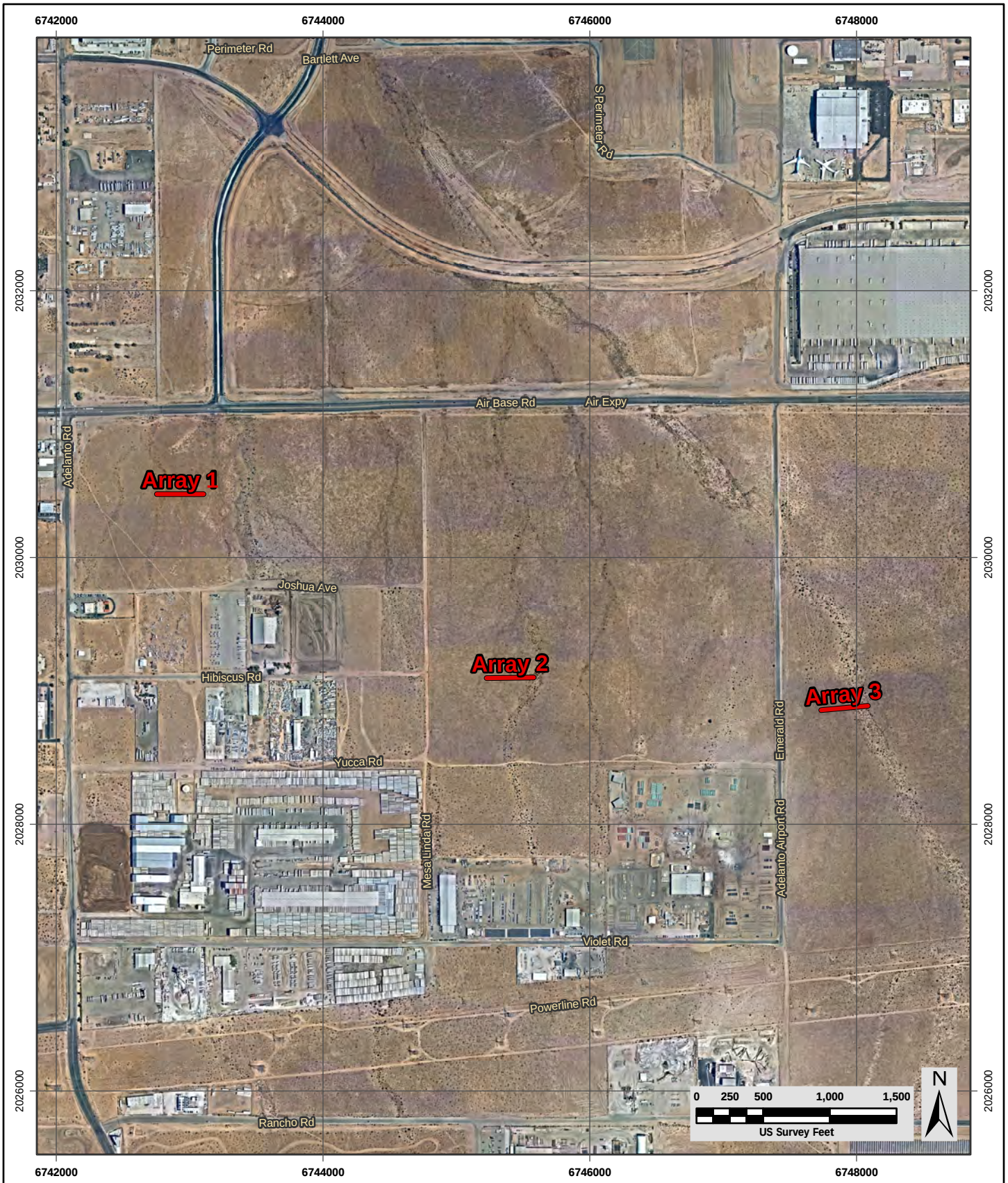
Site-Specific Seismic Analysis (per ASCE 7-16)

	Site Seismic Coefficients / Coordinates	Value	
	Latitude	34.5682	
	Longitude	-117.3861	
Mapped Spectra (OSHPD)	Spectral Response – Class C (short), S_S	1.10	Exhibit C-4
	Spectral Response – Class C (1 sec), S_1	0.43	Exhibit C-4
	Site Modified Peak Ground Acceleration, PGA_M	0.57	Exhibit C-4
Site-Specific Response Spectra	Max. Considered Earthquake Spectral Response Acceleration (short), S_{MS}	1.39	Exhibit C-5
	Max. Considered Earthquake Spectral Response Acceleration – (1 sec), S_{M1}	0.95	Exhibit C-5
	5% Damped Design Spectral Response Acceleration (short), S_{DS}	0.93	Exhibit C-5
	5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.63	Exhibit C-5
	Maximum Considered Earthqauke Geometric Mean MCE_G PGA	0.47	Exhibit C-5

APPENDIX E

GEOPHYSICAL DATA

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Active Surface Wave Array (MASW)

Notes:
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Base map source: Nearmap (7-2023)

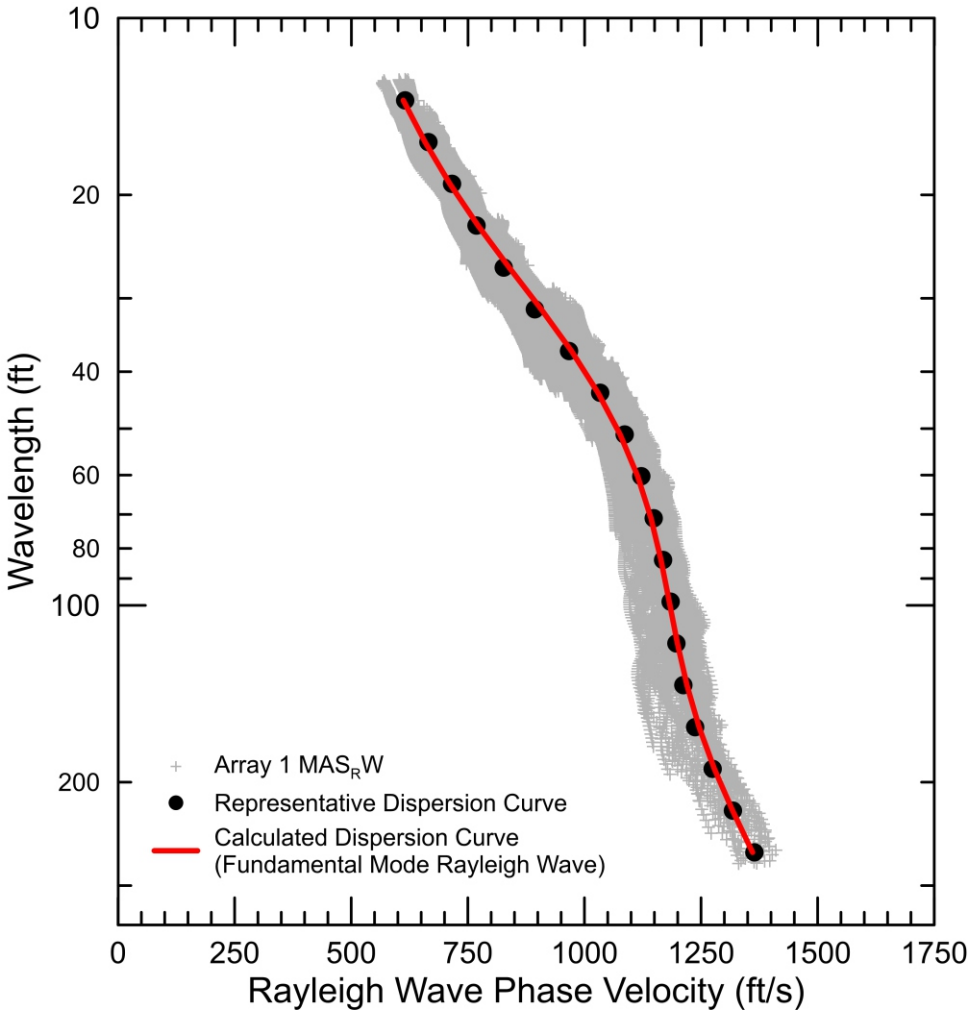
GEOVision geophysical services

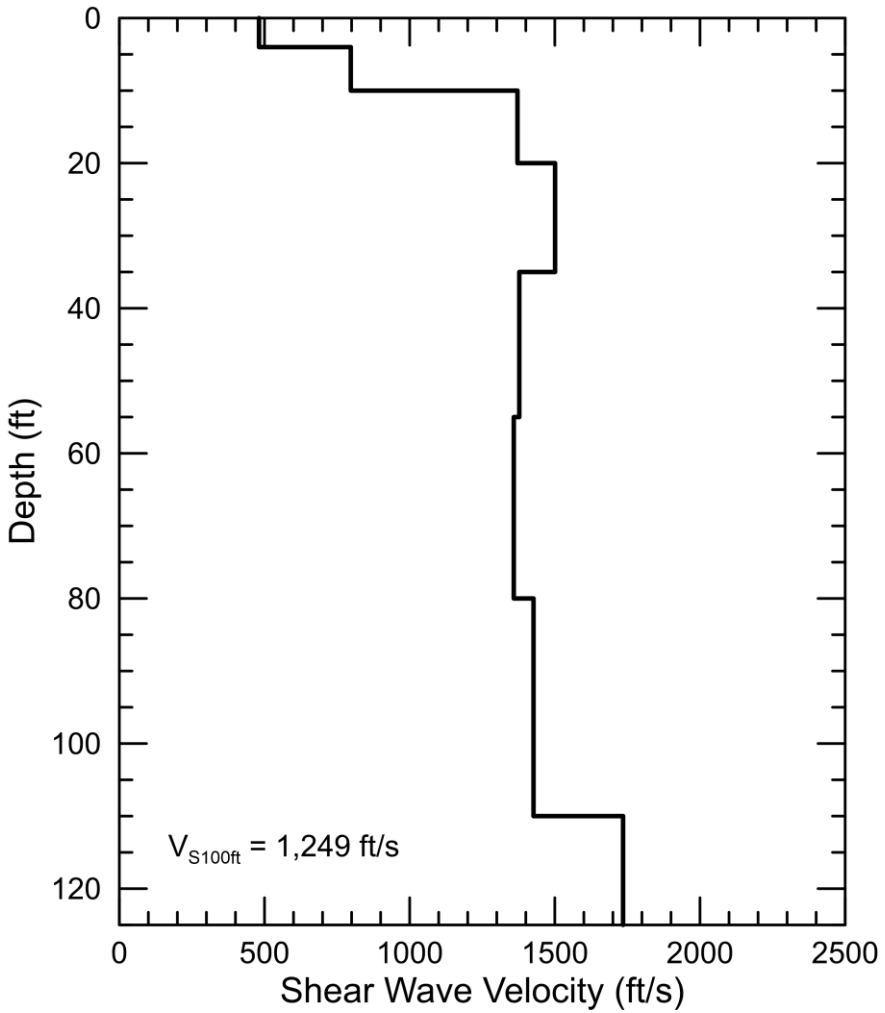
Date:	12/6/2023
GV Project:	23435
Developed by:	C Xiong
Drawn by:	T Rodriguez
Approved by:	A Martin
File Name:	GV_23435

FIGURE 1
SITE MAP

ADELANTO WAREHOUSES
ADELANTO, CALIFORNIA

PREPARED FOR
LEIGHTON GROUP, INC.





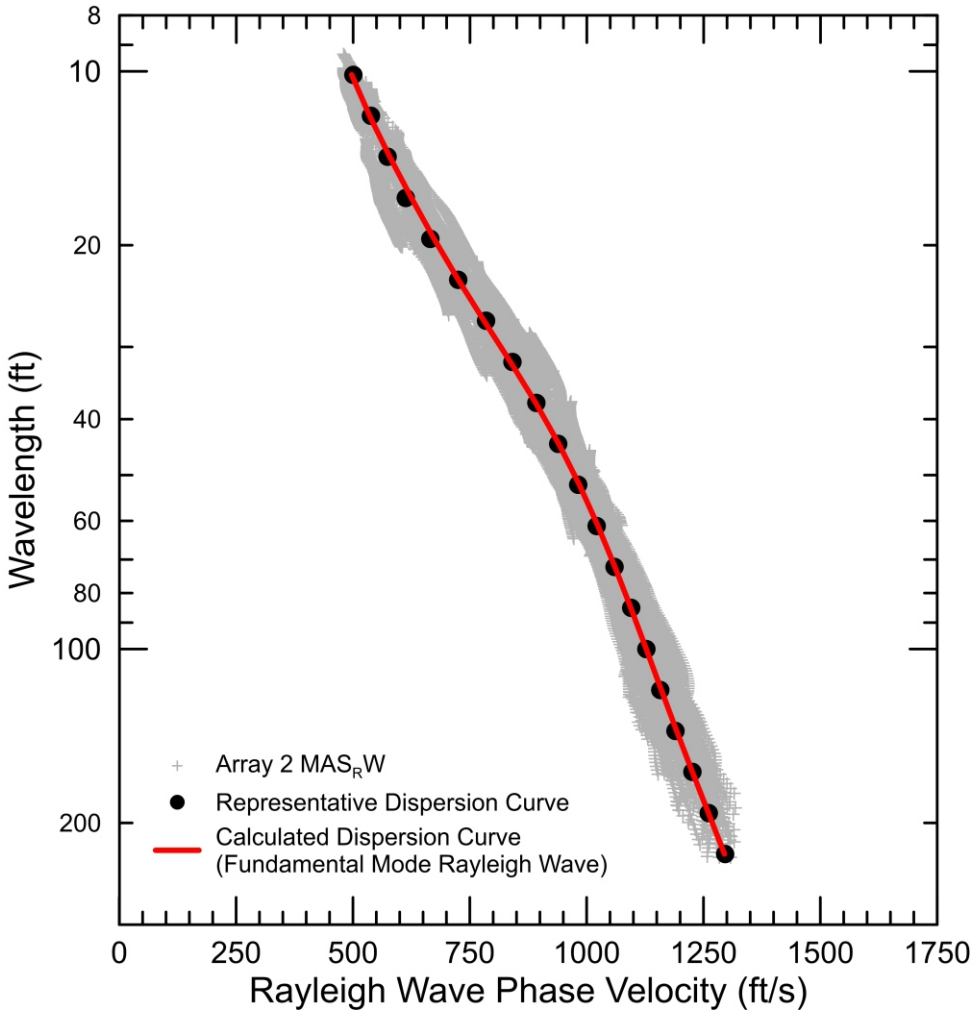
GEOVision geophysical services

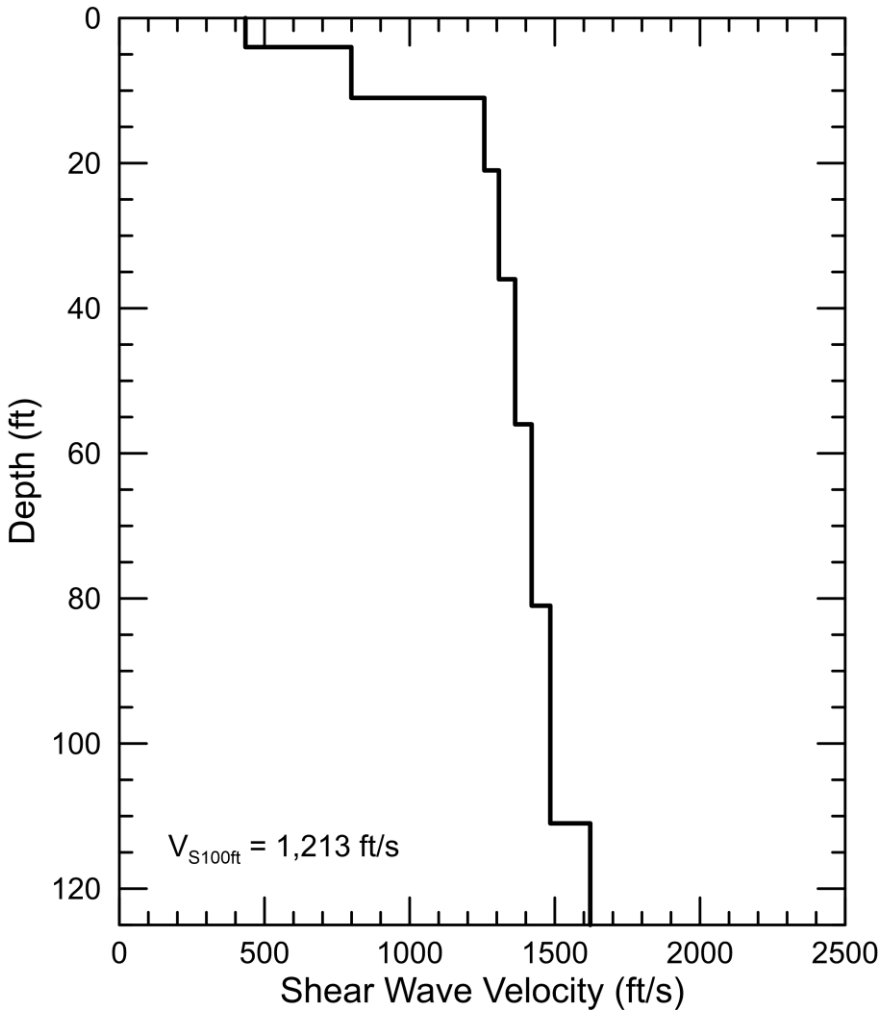
FIGURE 2
SURFACE WAVE MODEL - ARRAY 1

Project No: 23435
Date: DEC 15, 2023
Drawn By: A. Martin
Approved By:
R:\GVProjects\2023\23435 Leighton\Report\Figure 2.cdr

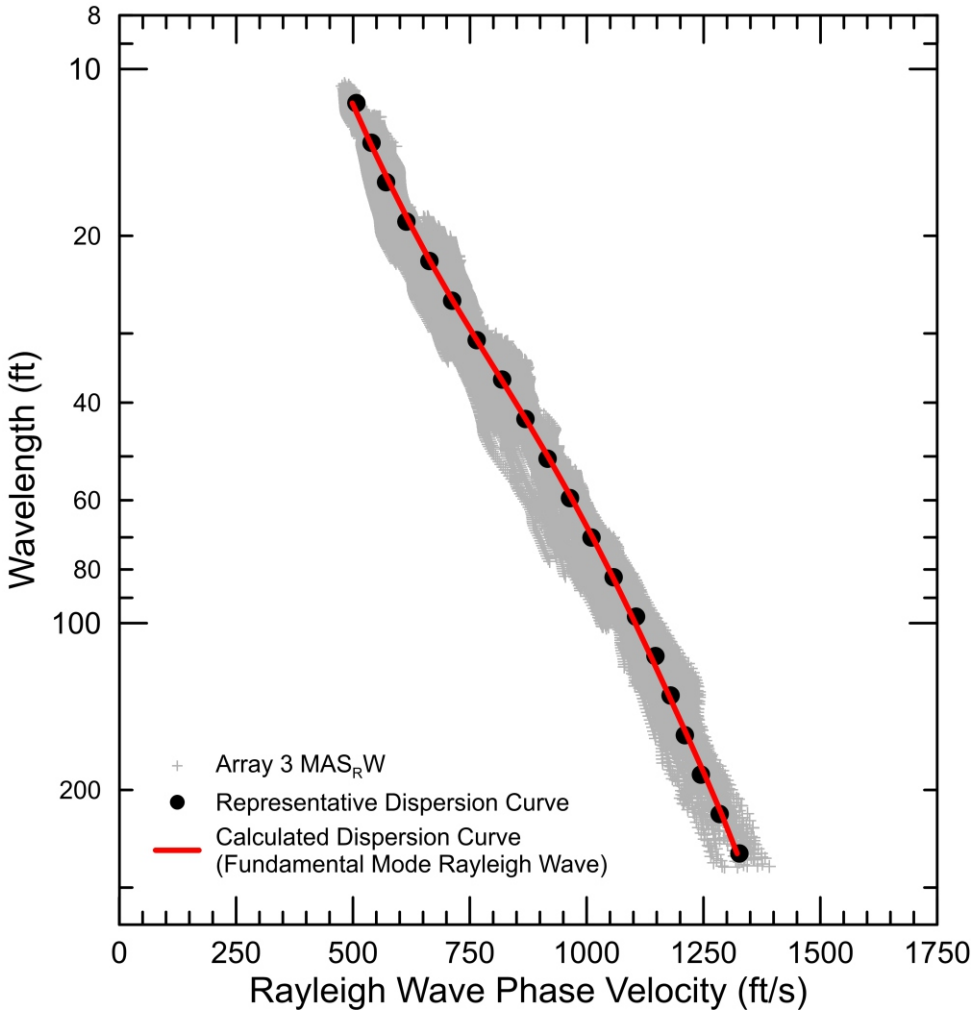
ADELANTO WAREHOUSES
ADELANTO, CALIFORNIA

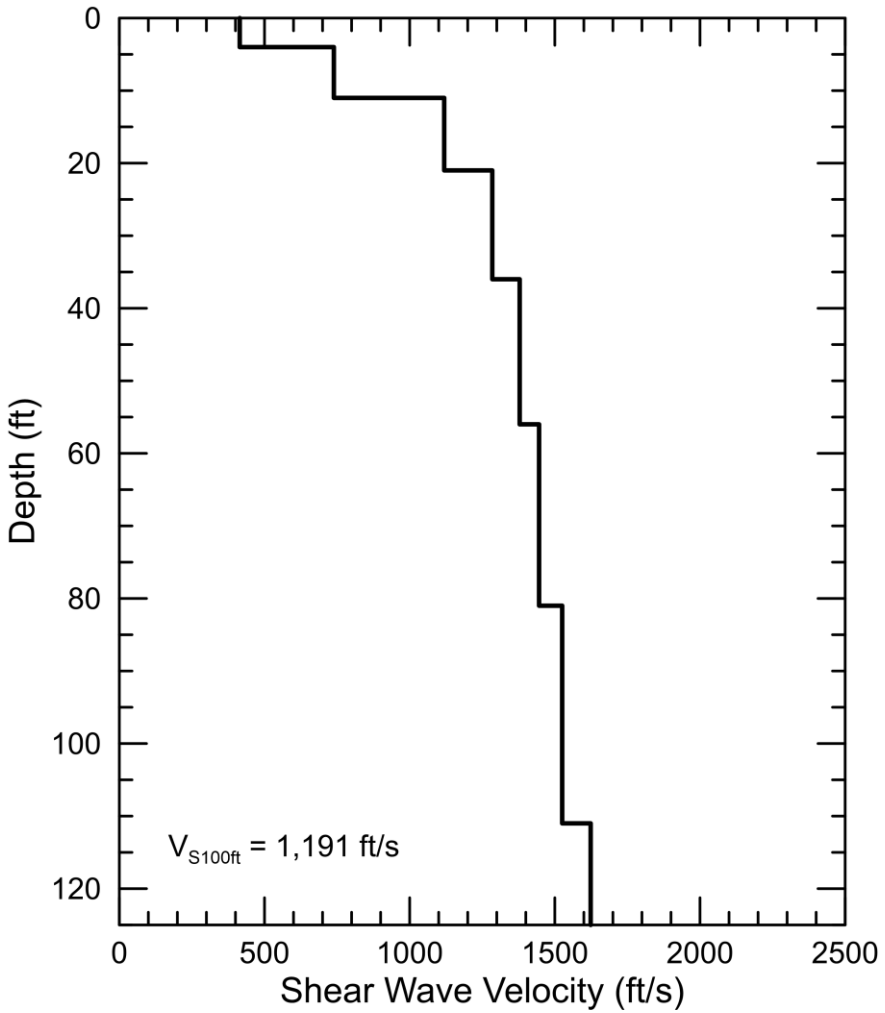
PREPARED FOR
LEIGHTON GROUP, INC.





GEOVision geophysical services	FIGURE 3 SURFACE WAVE MODEL - ARRAY 2
Project No: 23435 Date: DEC 15, 2023 Drawn By: A. Martin Approved By: Antony J Martin R:\GVProjects\2023\23435 Leighton\Report\Figure 3.cdr	ADELANTO WAREHOUSES ADELANTO, CALIFORNIA PREPARED FOR LEIGHTON GROUP, INC.





GEOVision geophysical services	FIGURE 4 SURFACE WAVE MODEL - ARRAY 3
Project No: 23435 Date: DEC 15, 2023 Drawn By: A. Martin Approved By: Antony J Martin R:\GVProjects\2023\23435 Leighton\Report\Figure 4.cdr	ADELANTO WAREHOUSES ADELANTO, CALIFORNIA PREPARED FOR LEIGHTON GROUP, INC.

APPENDIX F

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

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APPENDIX **F**

LEIGHTON CONSULTING, INC.

EARTHWORK AND GRADING GUIDE SPECIFICATIONS

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D-1.0 GENERAL

D-1.1 Intent

These Earthwork and Grading Guide Specifications are for grading and earthwork shown on the current, approved grading plan(s) and/or indicated in the Leighton Consulting, Inc. geotechnical report(s). These Guide Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the project-specific recommendations in the geotechnical report shall supersede these Guide Specifications. Leighton Consulting, Inc. shall provide geotechnical observation and testing during earthwork and grading. Based on these observations and tests, Leighton Consulting, Inc. may provide new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

D-1.2 Role of Leighton Consulting, Inc.

Prior to commencement of earthwork and grading, Leighton Consulting, Inc. shall meet with the earthwork contractor to review the earthwork contractor's work plan, to schedule sufficient personnel to perform the appropriate level of observation, mapping and compaction testing. During earthwork and grading, Leighton Consulting, Inc. shall observe, map, and document subsurface exposures to verify geotechnical design assumptions. If observed conditions are found to be significantly different than the interpreted assumptions during the design phase, Leighton Consulting, Inc. shall inform the owner, recommend appropriate changes in design to accommodate these observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include (1) natural ground after clearing to receiving fill but before fill is placed, (2) bottoms of all "remedial removal" areas, (3) all key bottoms, and (4) benches made on sloping ground to receive fill.

Leighton Consulting, Inc. shall observe moisture-conditioning and processing of the subgrade and fill materials, and perform relative compaction testing of fill to determine the attained relative compaction. Leighton Consulting, Inc. shall provide *Daily Field Reports* to the owner and the Contractor on a routine and frequent basis.

D-1.3 The Earthwork Contractor

The earthwork contractor (Contractor) shall be qualified, experienced and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Guide

Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing grading and backfilling in accordance with the current, approved plans and specifications.

The Contractor shall inform the owner and Leighton Consulting, Inc. of changes in work schedules at least one working day in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that Leighton Consulting, Inc. is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish earthwork and grading in accordance with the applicable grading codes and agency ordinances, these Guide Specifications, and recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of Leighton Consulting, Inc., unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, adverse weather, etc., are resulting in a quality of work less than required in these specifications, Leighton Consulting, Inc. shall reject the work and may recommend to the owner that earthwork and grading be stopped until unsatisfactory condition(s) are rectified.

D-2.0 PREPARATION OF AREAS TO BE FILLED

D-2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies and Leighton Consulting, Inc.. Care should be taken not to encroach upon or otherwise damage native and/or historic trees designated by the Owner or appropriate agencies to remain. Pavements, flatwork or other construction should not extend under the “drip line” of designated trees to remain.

Leighton Consulting, Inc. shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 3 percent of organic materials (by dry weight: ASTM D2974). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area. As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that

are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

D-2.2 Processing

Existing ground that has been declared satisfactory for support of fill, by Leighton Consulting, Inc., shall be scarified to a minimum depth of 6 inches (15 cm). Existing ground that is not satisfactory shall be over-excavated as specified in the following Section D-2.3. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

D-2.3 Overexcavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by Leighton Consulting, Inc. during grading. All undocumented fill soils under proposed structure footprints should be excavated

D-2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), (>20 percent grade) the ground shall be stepped or benched. The lowest bench or key shall be a minimum of 15 feet (4.5 m) wide and at least 2 feet (0.6 m) deep, into competent material as evaluated by Leighton Consulting, Inc.. Other benches shall be excavated a minimum height of 4 feet (1.2 m) into competent material or as otherwise recommended by Leighton Consulting, Inc.. Fill placed on ground sloping flatter than 5:1 (horizontal to vertical units), (<20 percent grade) shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

D-2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by Leighton Consulting, Inc. as suitable to receive fill. The Contractor shall obtain a written acceptance (*Daily Field Report*) from Leighton Consulting, Inc. prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys and benches.

D-3.0 FILL MATERIAL

D-3.1 Fill Quality

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by Leighton Consulting, Inc. prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to Leighton Consulting, Inc. or mixed with other soils to achieve satisfactory fill material.

D-3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 6 inches (15 cm), shall not be buried or placed in fill unless location, materials and placement methods are specifically accepted by Leighton Consulting, Inc.. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 feet (3 m) measured vertically from finish grade, or within 2 feet (0.61 m) of future utilities or underground construction.

D-3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of Section D-3.1, and be free of hazardous materials ("contaminants") and rock larger than 3-inches (8 cm) in largest dimension. All import soils shall have an Expansion Index (EI) of 20 or less and a sulfate content no greater than ($\leq$) 500 parts-per-million (ppm). A representative sample of a potential import source shall be given to Leighton Consulting, Inc. at least four full working days before importing begins, so that suitability of this import material can be determined and appropriate tests performed.

D-4.0 FILL PLACEMENT AND COMPACTION

D-4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill, as described in Section D-2.0, above, in near-horizontal layers not exceeding 8 inches (20 cm) in loose thickness. Leighton Consulting, Inc. may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers, and only if the building officials with the appropriate jurisdiction approve. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

D-4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM) Test Method D 1557.

D-4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, each layer shall be uniformly compacted to not-less-than (≥) 90 percent of the maximum dry density as determined by ASTM Test Method D 1557. In some cases, structural fill may be specified (see project-specific geotechnical report) to be uniformly compacted to at-least (≥) 95 percent of the ASTM D1557 modified Proctor laboratory maximum dry density. For fills thicker than (>) 15 feet (4.5 m), the portion of fill deeper than 15 feet below proposed finish grade shall be compacted to 95 percent of the ASTM D1557 laboratory maximum density. Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

D-4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by back rolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet (1 to 1.2 m) in fill elevation, or by other methods producing satisfactory results acceptable to Leighton Consulting, Inc.. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of the ASTM D1557 laboratory maximum density.

D-4.5 Compaction Testing

Field-tests for moisture content and relative compaction of fill soils shall be performed by Leighton Consulting, Inc.. Location and frequency of tests shall be at the Leighton Consulting, Inc. field representative(s) discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at fill/bedrock benches).

D-4.6 Compaction Test Locations

Leighton Consulting, Inc. shall document approximate elevation and horizontal coordinates of each density test location, relying on site survey control provided by others. The Contractor shall coordinate with the project surveyor to assure that

sufficient grade stakes are established so that Leighton Consulting, Inc. can determine test locations with sufficient accuracy. Adequate grade stakes shall be provided.

D-5.0 EXCAVATION

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by Leighton Consulting, Inc. during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by Leighton Consulting, Inc. based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, then observed and reviewed by Leighton Consulting, Inc. prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by Leighton Consulting, Inc..

D-6.0 TRENCH BACKFILLS

D-6.1 Safety

The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations. Work should be performed in accordance with Article 6 of the *California Construction Safety Orders*, 2015 Edition or more current (see also: http://www.dir.ca.gov/title8/sb4a6.html).

D-6.2 Bedding and Backfill

All utility trench bedding and backfill shall be performed in accordance with applicable provisions of the 2018 Edition of the *Standard Specifications for Public Works Construction* (Green Book). Bedding material shall have a Sand Equivalent greater than 30 (SE>30). Bedding shall be placed to 1-foot (0.3 m) over the top of the conduit, and densified by jetting in areas of granular soils, if allowed by the permitting agency. Otherwise, the pipe-bedding zone should be backfilled with Controlled Low Strength Material (CLSM) consisting of at least (≥) one-sack of Portland cement per cubic-yard of sand, conforming to Section 201-6 of the 2018 Edition of the *Standard Specifications for Public Works Construction* (Green Book). Backfill over the bedding zone shall be placed and densified mechanically to a minimum of 90 percent of relative compaction (ASTM D1557) from 1 foot (0.3 m) above the top of the conduit to the surface. Backfill above the pipe zone shall **not** be jetted. Jetting of the bedding around the conduits shall be observed by Leighton Consulting, Inc. and backfill above the pipe zone (bedding) shall be observed and tested by Leighton Consulting, Inc..

D-6.3 Lift Thickness

Lift thickness of trench backfill shall not exceed those allowed in the *Standard Specifications for Public Works Construction* unless the Contractor can demonstrate to Leighton Consulting, Inc. and the Owner that their proposed fill lift can be compacted to the specified relative compaction using the proposed alternative equipment and method; and only if the building official, with the appropriate jurisdiction, approves this proposed lift thickness.