March 8, 2024

Project No.
13618.000.001

Ms. Nicole Torstvet
Prologis
3353 Gateway Blvd
Fremont, CA 94538

Subject: 407 Spreckels Avenue
Manteca, California

GEOTECHNICAL REPORT UPDATE

Dear Ms. Torstvet:

As requested, we prepared this geotechnical report update for the proposed industrial facility located at 407 Spreckels Avenue in Manteca, California. Our scope of services included reviewing our geotechnical exploration report (Reference 1), performing supplemental borings, percolation testing, laboratory testing, and providing updated geotechnical recommendations for the proposed development. For our use, we were provided with the Conceptual Site Plan dated December 14, 2023.

PROJECT LOCATION AND DESCRIPTION

The project is located at 407 Spreckels Avenue in Manteca, California, as shown in our Vicinity Map, Figure 1. According to the provided site plan and our discussions with you, the proposed improvements have changed slightly from the improvements proposed in Reference 1 and will include an approximately 278,000-square-foot industrial building, an underground water storage/infiltration chamber, parking areas, drive aisles, underground utilities, and associated improvements.

The proposed site layout is shown in our Site Plan, Figure 2. Structural loads and grading are yet to be determined; however, we assume that structural loads will be representative for this type of construction and that grading will consist of subexcavating the existing non-engineered fill and placing it back as an engineered fill across the site to achieve design grades.

PREVIOUS FIELD EXPLORATION

ENGEO previously completed a geotechnical exploration for the subject site (Reference 1), which included borings, test pits, cone penetration tests, and shallow percolation testing (on the eastern edge of the site). The main geotechnical concern stated in the report was the presence of undocumented fill across the majority of the site due to the previous sugar refinery located on site.

SUPPLEMENTAL FIELD EXPLORATION

Our supplemental field exploration included drilling two borings and performing four percolation tests. We performed our field exploration between February 23 and February 28, 2024. The approximate locations of the explorations are shown in the site plan, Figure 2. The locations of our explorations are approximate and were estimated by utilizing smartphones equipped with GPS; they should be considered accurate only to the degree implied by method used.

We retained a truck-mounted Soil Test Ranger drill rig and crew to advance the borings using 4-inch-diameter solid-flight augers. The borings were advanced to a maximum depth of 31½ feet below existing grade. An ENGEO representative logged the borings in the field and collected soil samples using either a 3-inch outside diameter (O.D.) Modified California-type split-spoon sampler fitted with 6-inch-long stainless-steel liners or a 2-inch O.D. standard penetration test (SPT) split-spoon sampler. The samplers were advanced with a 140-pound hammer with a 30-inch drop, employing a rope-and-cathead hammer system. The penetration of the samplers into the native materials was field recorded as the number of blows needed to drive the sampler 18 inches in 6-inch increments. Blow count results on the boring logs were recorded as the number of blows required for the last 1 foot of penetration.

We used field logs to develop the boring logs attached to this letter. The boring logs depict subsurface conditions within the borings at the time the exploration was conducted. Subsurface conditions at other locations may differ from conditions occurring at these boring locations and the passage of time may result in altered subsurface conditions. In addition, stratification lines represent the approximate boundaries between soil types; the transitions may be gradual or gradational.

SURFACE CONDITIONS

According to Google Earth, site grades still range from approximately Elevation 40 to 44 feet (WGS84). We observed the following site features during our field exploration.

- An access road along the perimeter of the site
- Excessive growth of grasses and weeds across the site
- Wood debris in the northeastern corner of the site
- Miscellaneous dumped debris along the northern site boundary
- A metal pipe with a diameter of approximately 4 inches extending approximately 4 feet above ground surface in the eastern portion of the site

Please refer to the Site Plan, Figure 2, for more information on surface conditions.

SUBSURFACE CONDITIONS

The subsurface conditions encountered were similar to those previously encountered and described in Reference 1. Undocumented fill was encountered to a depth of approximately 2½ feet in Boring 2-B1 and approximately 6 feet in Boring 2-B2. The near-surface soil encountered in our borings was non-expansive.

GROUNDWATER CONDITIONS

Groundwater was encountered at a depth of approximately 27 feet below ground surface in Boring 2-B1 and 26½ feet below ground surface in Boring 2-B2. Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not evident at the time measurements were made.

LABORATORY TESTING

We performed laboratory tests on selected soil samples to determine their engineering properties. For this project, we performed sieve analysis and plasticity index testing. Selected soil properties are recorded on the boring logs and all laboratory data is attached to this letter.

CONCLUSIONS AND UPDATED RECOMMENDATIONS

Based on our review of our geotechnical exploration report, the primary geotechnical concerns relating to existing undocumented fill remain valid. It is our opinion that the conclusions and recommendations in the referenced report remain applicable for the project, with the addition of the following supplemental recommendations.

Percolation Testing

We installed and performed four percolation tests at the locations shown in Figure 2. The percolation test holes extended to a maximum depth of approximately 14 feet below the existing ground surface. The test holes were drilled using a drill rig equipped with 4-inch-diameter solid-flight augers.

Preparation of the percolation test holes began by placing approximately 2 inches of fine gravel in the bottom of the holes. A 3-inch-diameter perforated PVC pipe was then placed in the test holes and surrounded by fine gravel. The holes were pre-soaked overnight prior to testing, with measurement of the percolation rate occurring in the following days.

To perform the percolation test, we measured the time until relatively stable percolation rates were achieved. Municipal drinking water was used for the percolation testing. It is our opinion that the percolation rate of drinking water should be similar to stormwater. The results of the percolation tests are discussed below.

Percolation Testing Results

The following infiltration rates are based on a falling head percolation test where measurements are recorded for the time it took the water level to drop from a depth of approximately 12 inches from the bottom of the hole to a depth of approximately 6 inches from the bottom of the hole. Infiltration in the lateral and vertical direction is inherent in the rates provided below.

Based on our measured field test results, we converted the uncorrected field percolation rates to infiltration rates using Porchet's Method (Inverse Borehole Method), as summarized in the table below.

TABLE 1: Percolation Testing Results

PERCOLATION TEST HOLE	TEST DEPTH	RAW FIELD PERCOLATION RATE (inches/hour)	CONVERTED PORCHET DESIGN INFILTRATION RATE (inches/hour)	SOIL TYPE
2-P1	14	600	50	Poorly Graded Sand (SP)
2-P2	9½	50	5	Silty Sand (SM)
2-P3	13	70	6	Silty Sand (SM)
2-P4	10	20	2	Silty Sand (SM)

Based on the results of our percolation tests we recommend a design infiltration rate of 5 inches per hour for the western side of the site, and 2 inches per hour for the southern end of the site.

The rates presented in the table above conform to Type A soil in accordance with Table 3-1 of the Multi-Agency Post Construction Stormwater Standards Manual (June, 2015) shown below.

TABLE 2: Table 3-1. Typical Soil Types and Infiltration Rates

Type	Description	Typical Infiltration Rate (in/hr) (1)
A	Sands, gravels	>1.0
B	Sandy loams with moderately fine to moderately coarse textures	0.5-1.0
C	Silty-loams or soils with moderately fine to fine texture	0.17-0.27
D	Clays	0.02-0.10

(1) Infiltrate rates presented are adapted from multiple sources (National Resource Conservation Service, American Society of Civil Engineers, etc.).

Conventional Spread Footing Design Criteria

Based on our updated explorations, the foundation and slab-on-grade recommendations contained in Reference 1 are still valid for the proposed development.

2022 CBC Seismic Design Parameters

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

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

TABLE 3: 2022 CBC Seismic Design Parameters Latitude: 37.79153 Longitude: -121.19926

PARAMETER	VALUE
Site Class	D
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_S (g)	0.77
Mapped MCE_R Spectral Response Acceleration at 1-second Period, S_1 (g)	0.29
Site Coefficient, F_a	1.19
Site Coefficient, F_v	2.02*
MCE_R Spectral Response Acceleration at Short Periods, S_{MS} (g)	0.92
MCE_R Spectral Response Acceleration at 1-second Period, S_{M1} (g)	0.59*
Design Spectral Response Acceleration at Short Periods, S_{DS} (g)	0.61
Design Spectral Response Acceleration at 1-second Period, S_{D1} (g)	0.39*
Mapped MCE Geometric Mean (MCE_G) Peak Ground Acceleration, PGA (g)	0.32
Site Coefficient, F_{PGA}	1.28
MCE_G Peak Ground Acceleration adjusted for Site Class effects, PGA_M (g)	0.41
Long Period Transition-Period, T_L (sec)	8

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

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

CLOSING

It is our opinion that the recommendations contained in Reference 1 are still applicable for the proposed development, with the addition of the supplemental recommendations provided in this letter.

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

Sincerely,

ENGEO Incorporated

Connor Dunn

Steve Harris, GE

cd/sdh/ar

Attachments: Selected References
Figures 1 and 2
Boring Logs
Laboratory Test Data

SELECTED REFERENCES

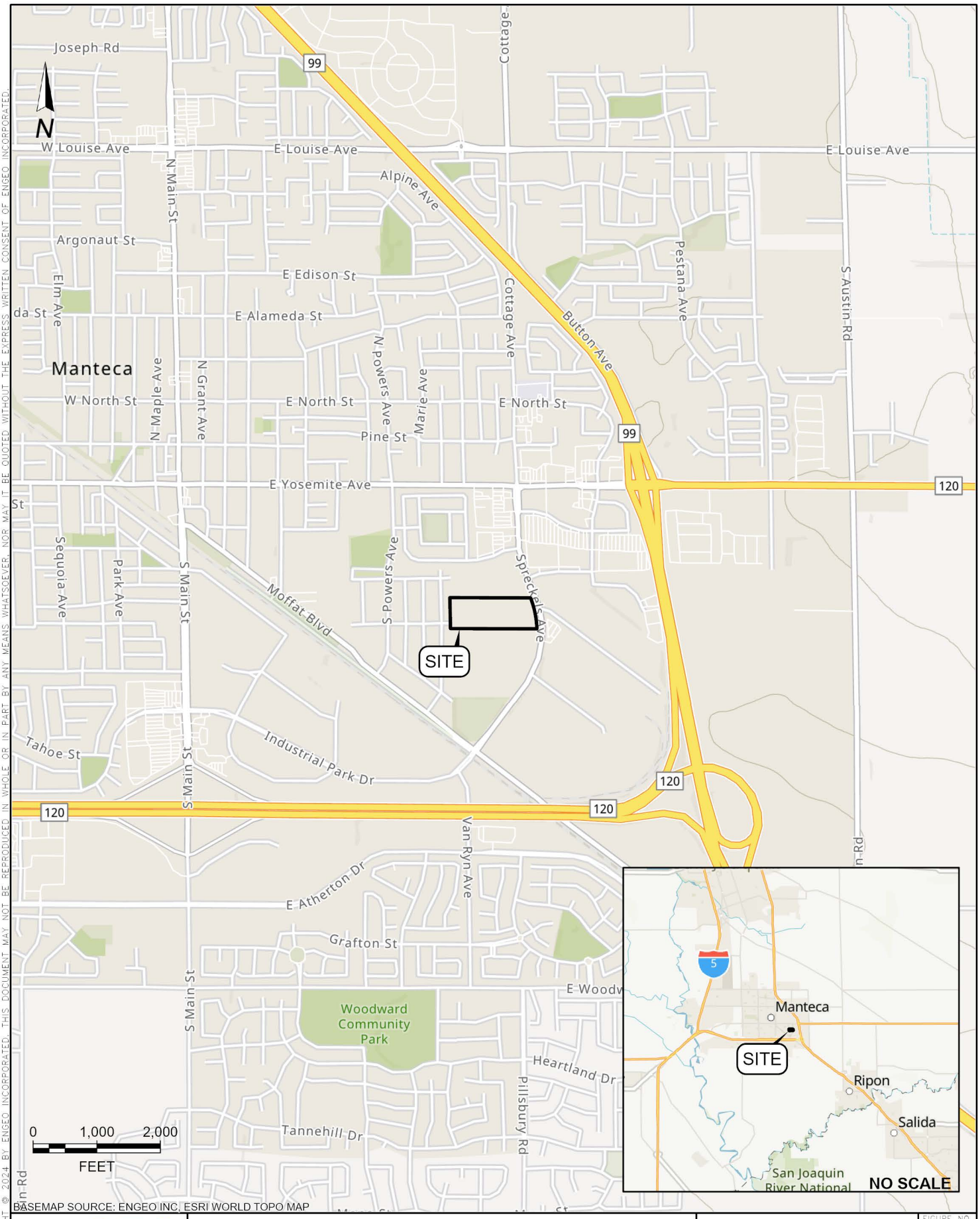
1. ENGEO. 2017. Geotechnical Exploration, 407 Spreckels Avenue, Manteca, California. January 24, 2017. Project No. 13618.000.000.

2. Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-16).

3. Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-16) Supplement Number 3.

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Plan



BASEMAP SOURCE: ENGEO INC, ESRI WORLD TOPO MAP

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VICINITY MAP

407 SPRECKLES AVENUE

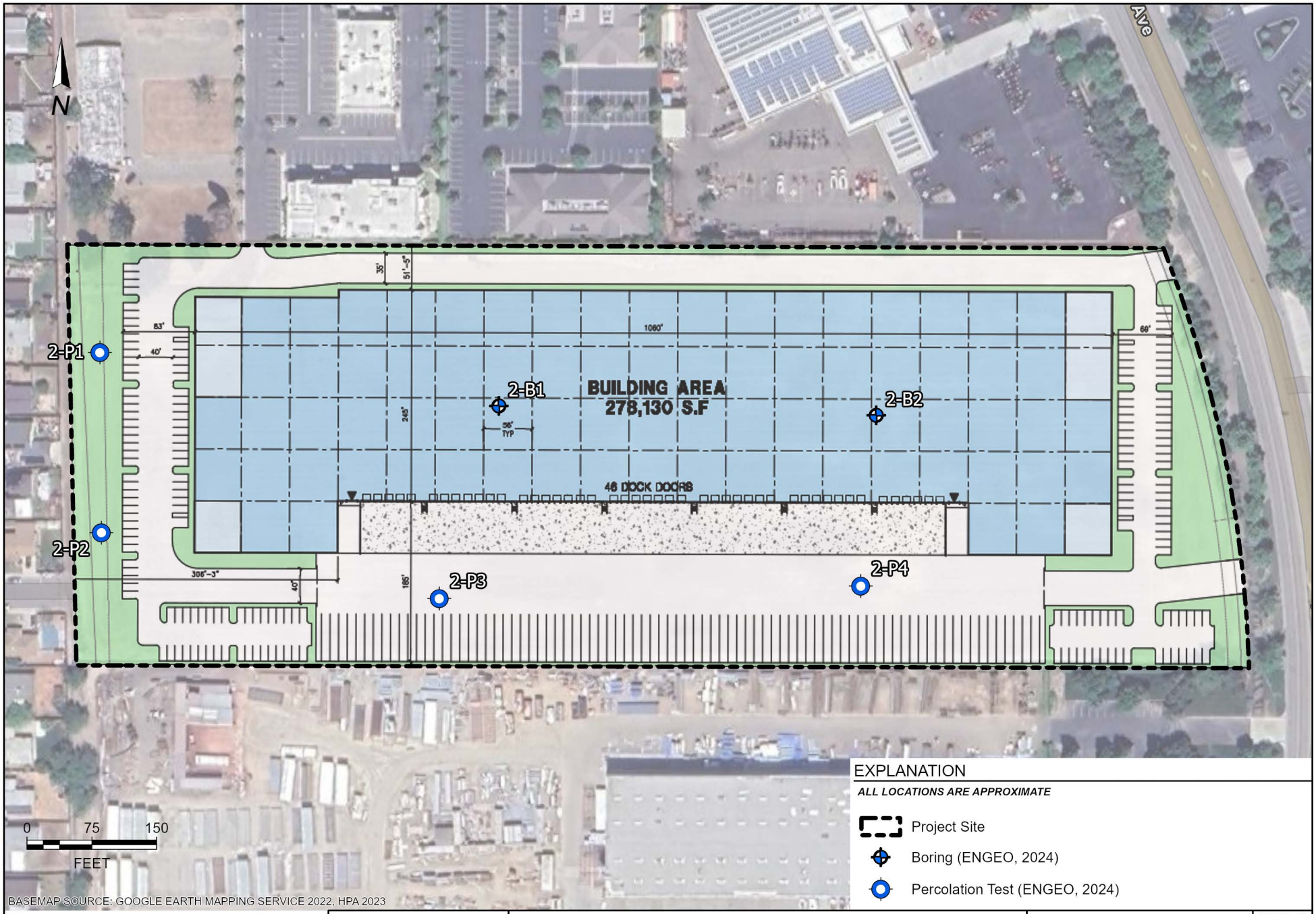
MANTECA, CALIFORNIA

PROJECT NO. :	13618.000.001
SCALE:	AS SHOWN
DRAWN BY: CMG	CHECKED BY: SDH

FIGURE NO. 1

PATH: G:\DRAFTING\PROJECTS_12000 TO 13999\13618\13618000001\GEOTECH\GEX\13618000001_407_SPRECKLES_AVENUE_GEX.APRX
LAYOUT: 01. VICINITY 8.5 X 11 PORTRAIT USER: CGUERIN

ORIGINAL FIGURE PRINTED IN COLOR



BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022, HPA 2023

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- Project Site
- Boring (ENGEO, 2024)
- Percolation Test (ENGEO, 2024)

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SITE PLAN

407 SPRECKLES AVENUE

MANTECA, CALIFORNIA

PROJECT NO. :	13618.000.001
SCALE:	AS SHOWN
DRAWN BY: CMG	CHECKED BY: SDH

FIGURE NO. 2

PATH: G:\DRAFTING\PROJECTS_12000 TO 13999\13618\13618000001\GEOTECH\GEX\13618000001_407_SPRECKLES_AVENUE_GEX.APRX
LAYOUT: 02. SITE PLAN 8.5 X11 LANDSCAPE USER: CGUERIN

ORIGINAL FIGURE PRINTED IN COLOR

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KEY TO BORING LOGS
BORING LOGS

13618.000.001
March 8, 2024

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LOG OF BORING 2-B1

LATITUDE: 37.792110° LONGITUDE: -121.199989°

Geotechnical Exploration
407 Spreckels Ave
Manteca, CA
13618.000.001

DATE DRILLED: 2/23/2024
HOLE DEPTH: Approx. 31½ ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 41 ft.

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

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
0	40		SILTY SAND (SM), dark brown, medium dense, moist, low plasticity, fine- to coarse-grained sand, approximately 30-35% fines [UNDOCUMENTED FILL]												
			SILTY SAND (SM), dark yellowish brown, medium dense, moist, low plasticity, fine- to coarse-grained sand, approximately 25-30% fines [NATIVE]			47									
						19				27					
5	35		Non-plastic			26	NV	NP	NP	33					
			Increase in fines content, low plasticity			54									
10	30		POORLY GRADED SAND (SP), light gray, medium dense, moist, fine- to coarse-grained sand, less than 5% fines, mica present												
			SILTY SAND (SM), yellowish brown, dense, moist, fine- to coarse-grained sand, approximately 15-20% fines												
15	25		Grades to light gray, decreasing fines content			38				19					
			CLAYEY SAND (SC), yellowish brown, medium dense to dense, moist, fine- to coarse-grained sand, approximately 20-25% fines												
20															

LOG - GEOTECHNICAL_SU+QU W/ ELEV_BORINGS_GINT_13618.GPJ ENGEO INC.GDT 3/7/24

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LOG OF BORING 2-B1

LATITUDE: 37.792110° LONGITUDE: -121.199989°

Geotechnical Exploration
407 Spreckels Ave
Manteca, CA
13618.000.001

DATE DRILLED: 2/23/2024
HOLE DEPTH: Approx. 31½ ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 41 ft.

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

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
	20		CLAYEY SAND (SC), dark yellowish brown, medium dense, moist, fine- to coarse-grained sand, approximately 35-45% fines			30									
25	15		LEAN CLAY (CL), yellowish brown, very stiff, moist, low to medium plasticity, approximately 10-15% fine- to medium-grained sand, mica present, iron oxide present			46				86				2.25*	PP
			SILT (ML), dark greenish gray, very stiff, moist to wet, low plasticity, slow to rapid dilatancy, approximately 5-10% fine-grained sand, oxidized rootlets present		▽										
			SANDY SILT (ML), grayish brown, stiff, wet, low plasticity, slow to rapid dilatancy, approximately 35-45% fine-grained sand												
30	10		SILTY SAND (SM), grayish brown, very dense, wet, fine- to medium-grained sand, approximately 35-45% fines			95									
			Bottom of boring at approximately 31½ feet below ground surface. Groundwater observed at approximately 27 feet below ground surface during drilling.												

LOG - GEOTECHNICAL_SU+QU W/ ELEV_BORINGS_GINT_13618.GPJ ENGEO INC.GDT 3/7/24

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LOG OF BORING 2-B2

LATITUDE: 37.792103° LONGITUDE: -121.198438°

Geotechnical Exploration
407 Spreckels Ave
Manteca, CA
13618.000.001

DATE DRILLED: 2/23/2024
HOLE DEPTH: Approx. 30¾ ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 44 ft.

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

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
0	40		SILTY SAND (SM), dark brown, loose, moist, less than 5% fine to coarse non-native gravel, approximately 30-35% fines, fine- to coarse-grained sand [UNDOCUMENTED FILL]												
			SILTY SAND (SM), dark yellowish brown, loose, moist, approximately 30-35% fines, fine- to coarse-grained sand [UNDOCUMENTED FILL]			12									
5						8									
						24				26					
	35		SILTY SAND (SM), brown, medium dense, approximately 20-30% fines, fine- to medium-grained sand [NATIVE]												
10			POORLY GRADED SAND WITH SILT (SP-SM), brown, medium dense, moist, approximately 5-10% fines, fine- to coarse-grained sand, mica present			55									
	30		SILTY SAND (SM), approximately 12-15% fines, fine-to coarse-grained sand, mica present												
15			SILTY SAND (SM), light gray, dense, moist, fine- to coarse-grained sand, less than 15-20% fines, mica present			31									
	25														
20															

LOG - GEOTECHNICAL_SU+QU W/ ELEV_BORINGS_GINT_13618.GPJ ENGEO INC.GDT 3/7/24

ENGEO
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LOG OF BORING 2-B2

LATITUDE: 37.792103° LONGITUDE: -121.198438°

Geotechnical Exploration
407 Spreckels Ave
Manteca, CA
13618.000.001

DATE DRILLED: 2/23/2024
HOLE DEPTH: Approx. 30¾ ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 44 ft.

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

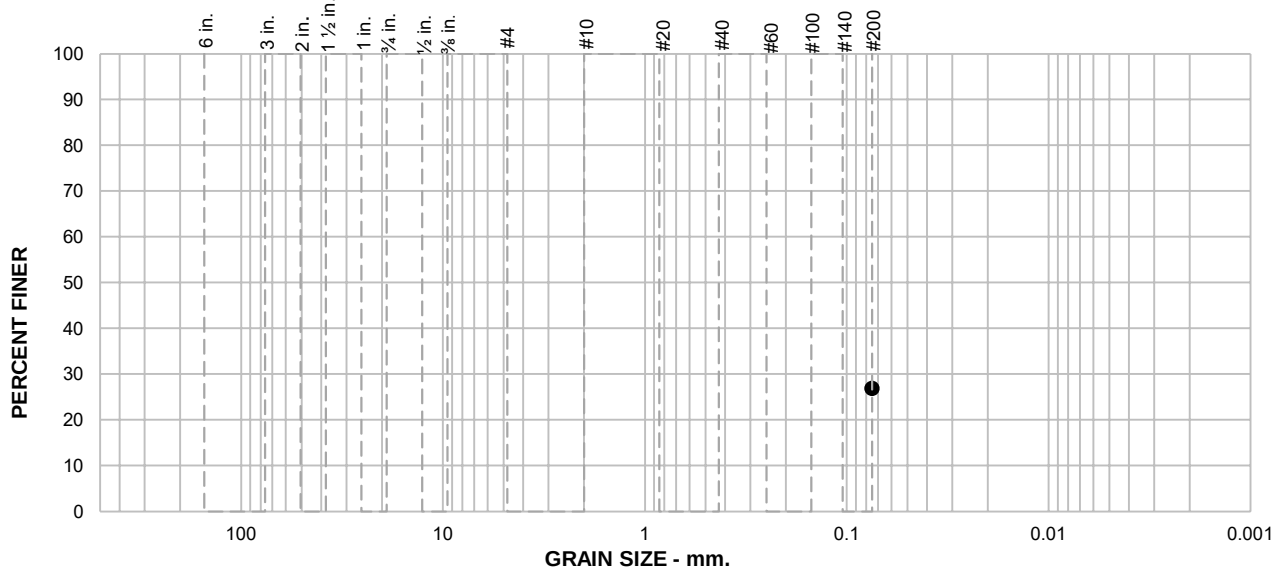
Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			SILTY SAND (SM), brown, medium dense, moist, approximately 20-30% fines, fine- to medium-grained sand			27									
			SILT (ML), brown to pale brown, stiff, moist, approximately 10-15% fine-grained sand, mica present, iron oxide present												
20			SANDY SILT (ML), grayish brown, very stiff, moist, approximately 30-35% fine- to medium-grained sand, low plasticity, iron oxide present												
25			SILTY SAND (SM), grayish brown, very dense, very moist to wet, fine- to coarse-grained sand, approximately 15-20% fines, low plasticity		▼	50/5.5"									
15			POORLY GRADED SAND WITH SILT (SP-SM), grayish brown, very dense, wet, approximately 5-10% fines, fine- to coarse-grained sand												
30						50/3"									
			Bottom of boring at approximately 31 feet below ground surface. Groundwater observed at approximately 26½ feet below ground surface during drilling.												

LABORATORY TEST DATA

13618.000.001
March 8, 2024

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 2-B01@3.5

DEPTH (ft): 3.5

LOCATION: 2-B01

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						26.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	26.9		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

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

CLASSIFICATION

USCS =

REMARKS

Soak time = 180 min
Dry sample weight = 343.8 g
Largest particle size < No. 4 Sieve

* (no specification provided)

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CLIENT: Prologis

PROJECT NAME: 407 Spreckels Ave Percolation Testing

PROJECT NO: 13618.000.001 PH001

PROJECT LOCATION: Manteca, CA

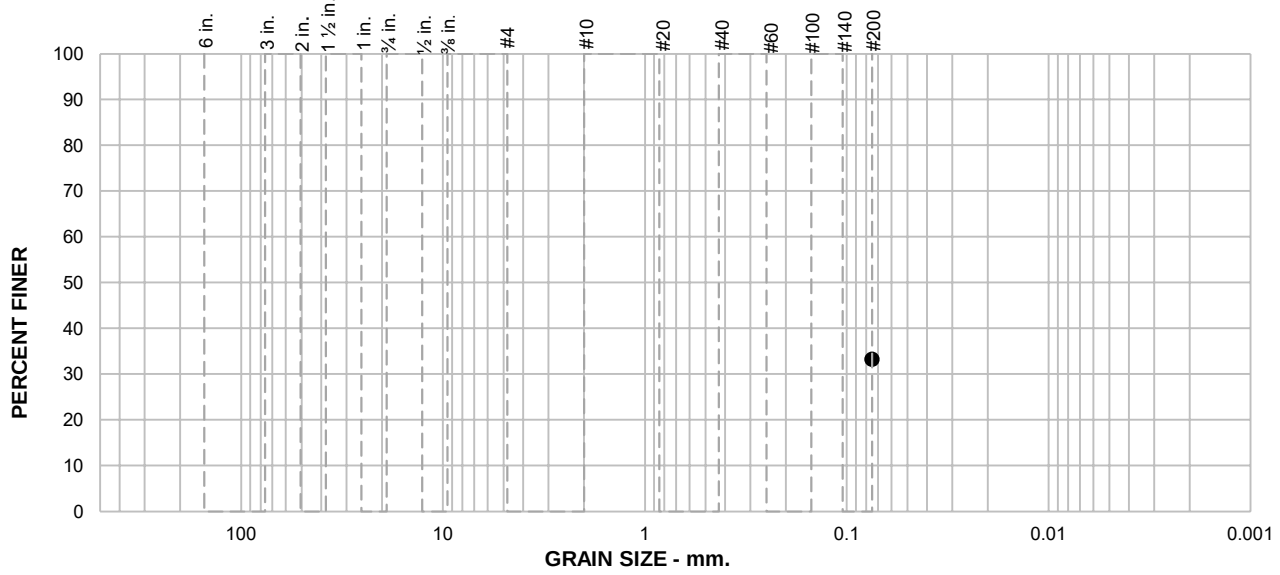
REPORT DATE: 3/5/2024

TESTED BY: K. Lecce

REVIEWED BY: V. Nunez

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 2-B01@7

DEPTH (ft): 7

LOCATION: 2-B01

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						33.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	33.2		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = NP LL = NV PI = NP

COEFFICIENTS

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

CLASSIFICATION

USCS =

REMARKS

PI: ASTM D4318, Wet Method

Soak time = 180 min
Dry sample weight = 341.2 g
Largest particle size < No. 4 Sieve

* (no specification provided)

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CLIENT: Prologis

PROJECT NAME: 407 Spreckels Ave Percolation Testing

PROJECT NO: 13618.000.001 PH001

PROJECT LOCATION: Manteca, CA

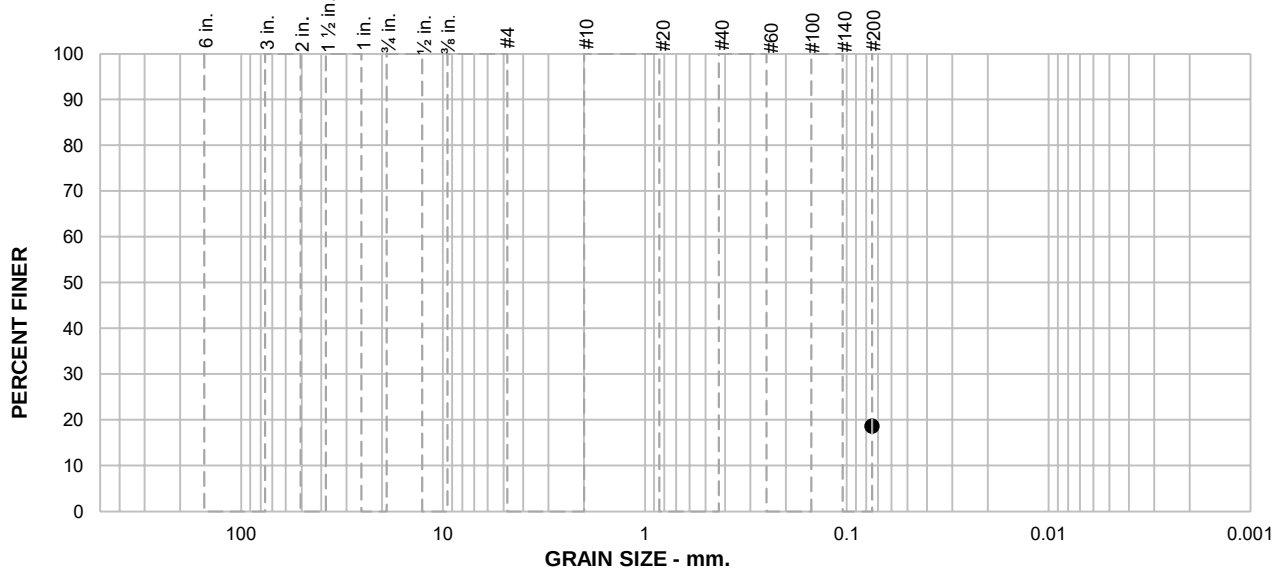
REPORT DATE: 3/5/2024

TESTED BY: K. Lecce

REVIEWED BY: V. Nunez

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 2-B01@15.5

DEPTH (ft): 15.5

LOCATION: 2-B01

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						18.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18.6		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

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

CLASSIFICATION

USCS =

REMARKS

Soak time = 180 min
Dry sample weight = 268.2 g
Largest particle size < No. 4 Sieve

* (no specification provided)

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CLIENT: Prologis

PROJECT NAME: 407 Spreckels Ave Percolation Testing

PROJECT NO: 13618.000.001 PH001

PROJECT LOCATION: Manteca, CA

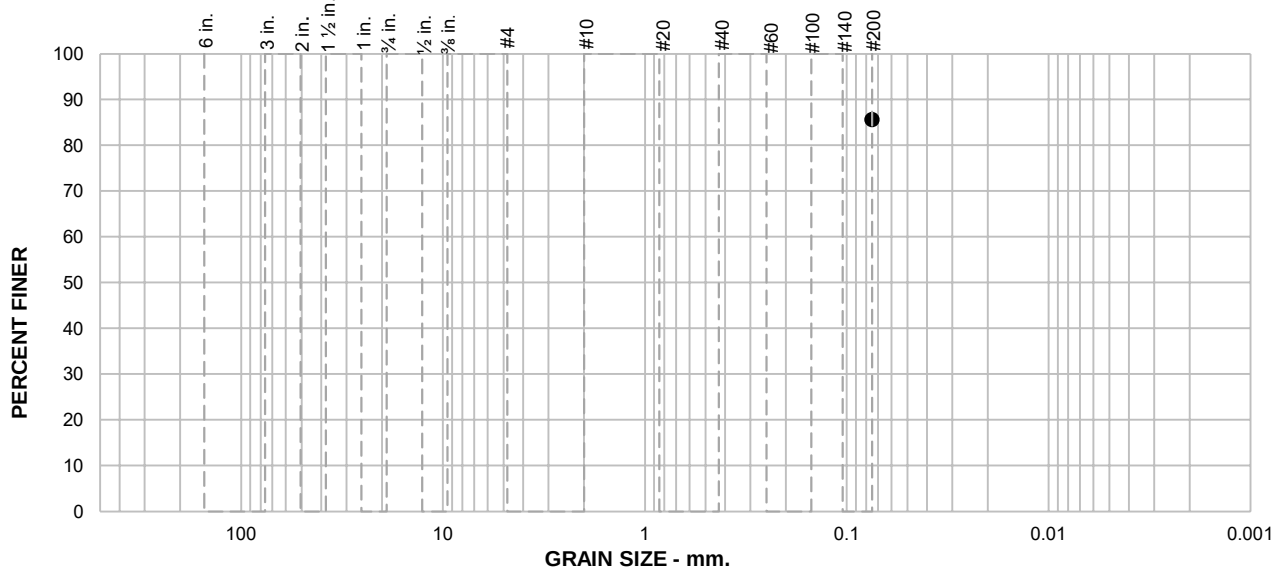
REPORT DATE: 3/5/2024

TESTED BY: K. Lecce

REVIEWED BY: V. Nunez

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 2-B01@25

DEPTH (ft): 25

LOCATION: 2-B01

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						85.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	85.6		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = LL = PI =

COEFFICIENTS

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

CLASSIFICATION

USCS =

REMARKS

Soak time = 180 min
Dry sample weight = 282.8 g
Largest particle size < No. 4 Sieve

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Prologis

PROJECT NAME: 407 Spreckels Ave Percolation Testing

PROJECT NO: 13618.000.001 PH001

PROJECT LOCATION: Manteca, CA

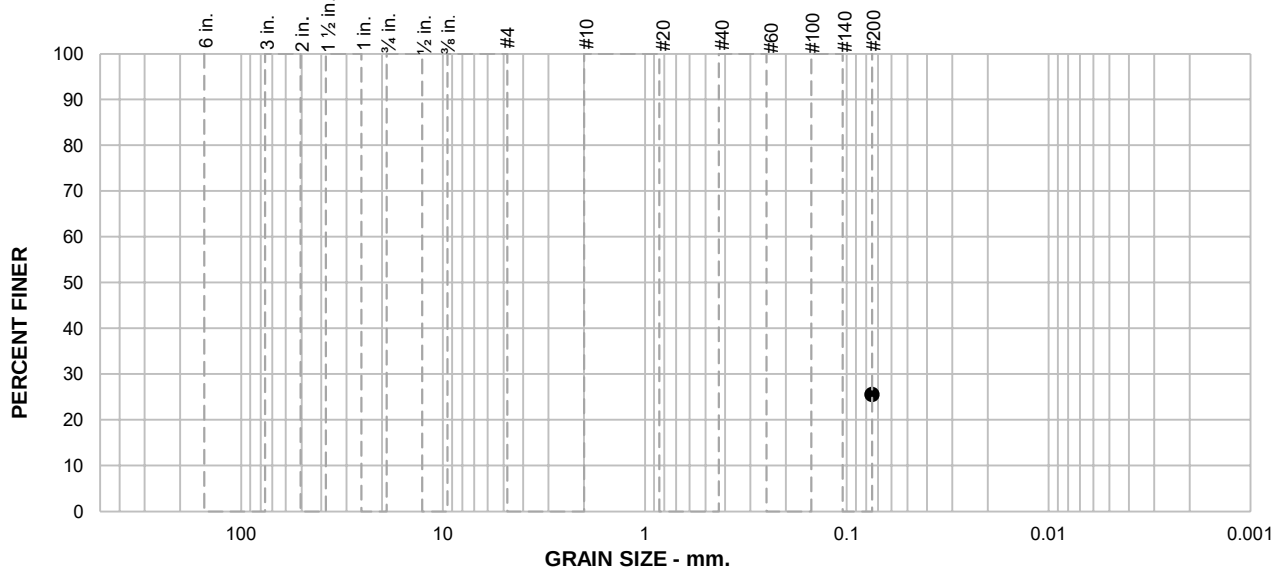
REPORT DATE: 3/5/2024

TESTED BY: K. Lecce

REVIEWED BY: V. Nunez

PARTICLE SIZE DISTRIBUTION REPORT

ASTM D1140, Method B



SAMPLE ID: 2-B02@6

DEPTH (ft): 6

LOCATION: 2-B02

% +75mm	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
						25.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	25.6		

SOIL DESCRIPTION

See exploration logs

ATTERBERG LIMITS

PL = NP LL = NV PI = NP

COEFFICIENTS

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

CLASSIFICATION

USCS =

REMARKS

PI: ASTM D4318, Wet Method

Soak time = 180 min
Dry sample weight = 310.6 g
Largest particle size < No. 4 Sieve

* (no specification provided)

ENGEO
Expect Excellence

CLIENT: Prologis

PROJECT NAME: 407 Spreckels Ave Percolation Testing

PROJECT NO: 13618.000.001 PH001

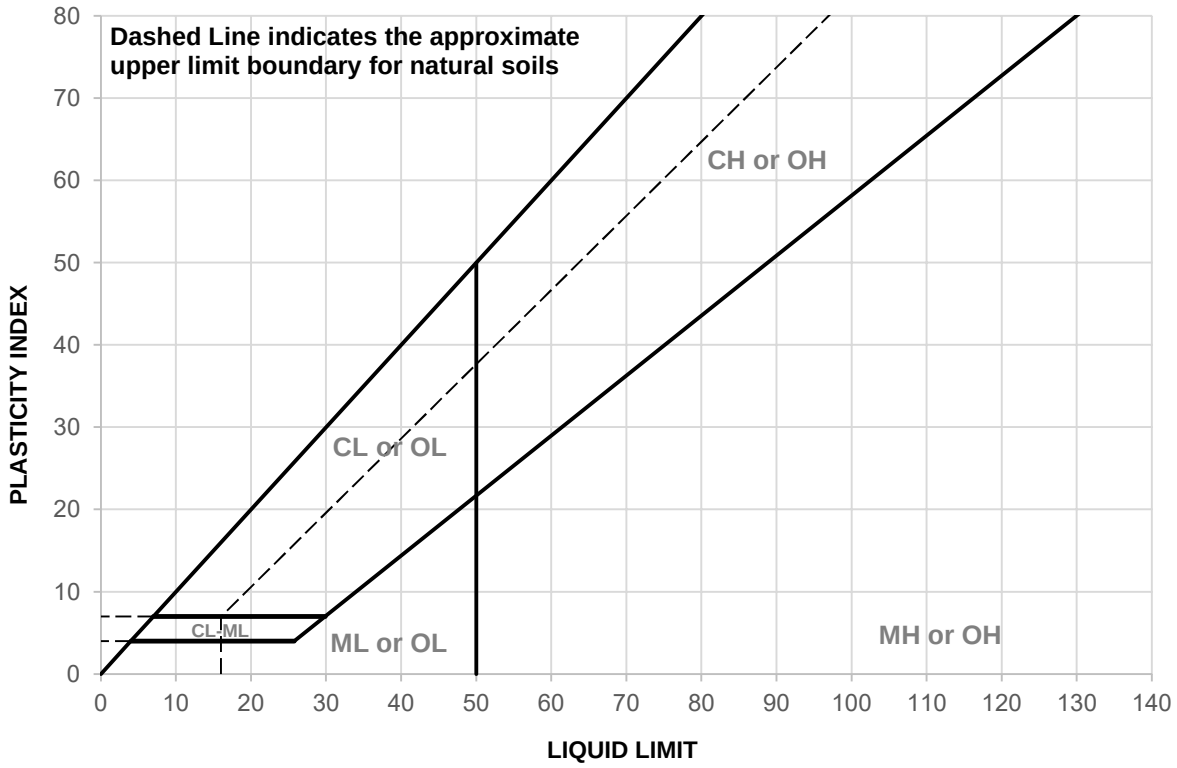
PROJECT LOCATION: Manteca, CA

REPORT DATE: 3/5/2024

TESTED BY: K. Lecce

REVIEWED BY: V. Nunez

LIQUID AND PLASTIC LIMITS TEST REPORT
ASTM D4318



	SAMPLE ID	DEPTH (ft)	MATERIAL DESCRIPTION	LL	PL	PI
▲	2-B01@7	7	See exploration logs	NV	NP	NP
◆	2-B02@6	6	See exploration logs	NV	NP	NP

	SAMPLE ID	TEST METHOD	REMARKS
▲	2-B01@7	PI: ASTM D4318, Wet Method	
◆	2-B02@6	PI: ASTM D4318, Wet Method	

ENGEO
Expect Excellence

CLIENT: Prologis
PROJECT NAME: 407 Spreckels Ave Percolation Testing
PROJECT NO: 13618.000.001 PH001
PROJECT LOCATION: Manteca, CA
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TESTED BY: V. Nunez
REVIEWED BY: K. Lecce