

September 4, 2024

Project No.
19633.000.002

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

Subject: Pacific Gateway
Tracy, California

INFILTRATION RATE TEST RESULTS

Dear Mr. Arthur:

As requested, we performed percolation rate testing at the subject property in Tracy, California. The purpose of our services was to provide information pertinent to the design of the proposed project basins. Our scope of services included field exploration, percolation rate testing, converting percolation rates into infiltration rates, and reporting.

PERCOLATION TESTING

Test Preparation

At each of the six proposed basin locations shown in the attached figures, we retained the services of a subcontractor to drill one boring to a depth of 8 to 20 feet. We reviewed subsurface conditions at each location and selected the most appropriate elevations for percolation testing. We performed our percolation tests at the approximate depth below the existing surface, as shown in Table 1 below. An ENGEO representative conducted one to two percolation tests at various elevations within each of the six basin locations.

Ten percolation test holes were installed and presoaked on August 14 through August 16, 2024. The locations of our explorations are approximate and were estimated by utilizing smartphones with GPS; they should be considered accurate only to the degree implied by the method used. The logs of the soil encountered at the percolation test holes and the boring location are attached.

Nine percolation test holes, 2-P01 through 2-P09, were installed using a 4½-inch-diameter solid-flight auger to drill down to the desired test depth. One percolation test hole, 2-P10 was installed by using a 3½-inch-diameter hand-auger to drill down to the desired test depth. Preparation of the percolation test holes began by placing approximately 2 inches of approximately 1-inch-diameter drain rock in the bottom of each hole. A 3-inch-diameter perforated PVC pipe was then placed in the test holes and surrounded by drain rock extending up to the ground surface. The holes were presoaked prior to performing the percolation tests.

Percolation Testing

ENGEO performed percolation testing from August 19 through August 22, 2024. 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. At the start of each test, the hole was refilled with water to approximately 12 inches above the drain rock placed at the bottom of the hole. The water level was then measured at appropriate intervals until the percolation rate stabilized. At the end

of each interval, additional water was added, as needed, to reset the water level to approximately 12 inches above the drain rock.

Percolation Testing Results

Based on our measured field test results, we converted the uncorrected field percolation rates to infiltration (vertical flow) rates using Porchet's Method (Inverse Borehole Method), as summarized in the table below. Infiltration in the lateral and vertical direction is inherent in the rates provided below.

TABLE 1: Infiltration Rates

TEST LOCATION	BASIN IDENTIFICATION	DEPTH (Below the existing ground surface, ft)	SOIL TYPE	ESTIMATED INFILTRATION RATE* (inches/hour)
2-P01	Basin 9	12½	Sandy Lean Clay	0.3
2-P02	Basin 8	8	Silty Gravel with Sand	7.2
2-P03	Basin 7	12	Silty Sand	4.0
2-P04	Basin 6	12½	Sandy Lean Clay	0.1
2-P05	Basin 6	11¼	Sandy Lean Clay	0.6
2-P06	Basin 5	12½	Silty Sand	0.3
2-P07	Basin 5	8½	Clayey Gravel with Sand	8.8
2-P08	Basin 7	7½	Silty Sand	1.5
2-P09	Basin 8	12	Silty Sand with Gravel	1.4
2-P10	Basin 10	8	Sandy Lean Clay	0.5

*Converted using Porchet's Method


The infiltration rates reported above are based on the conditions at the location, depth, and time of the test. Actual infiltration rates can be affected by changes in the subsurface conditions, test methodology, time of year, and the rate and depth at which water is applied. Appropriate engineering judgement should be applied to the use of these test data for stormwater infiltration.

No factors of safety have been applied to these rates. The design engineer should consider appropriate conversion factors or factors of safety for the design of the retention basins. Maintenance should be performed routinely to prevent fine accumulation and or growth of organics.

We strive to perform our professional services in accordance with generally accepted principles and practices currently employed in the area, there is no warranty, express or implied. If you have any questions regarding the contents of this letter, please do not hesitate to contact us.

Sincerely,

ENGEO Incorporated



Viridiana Navarro

vn/sdh/ca

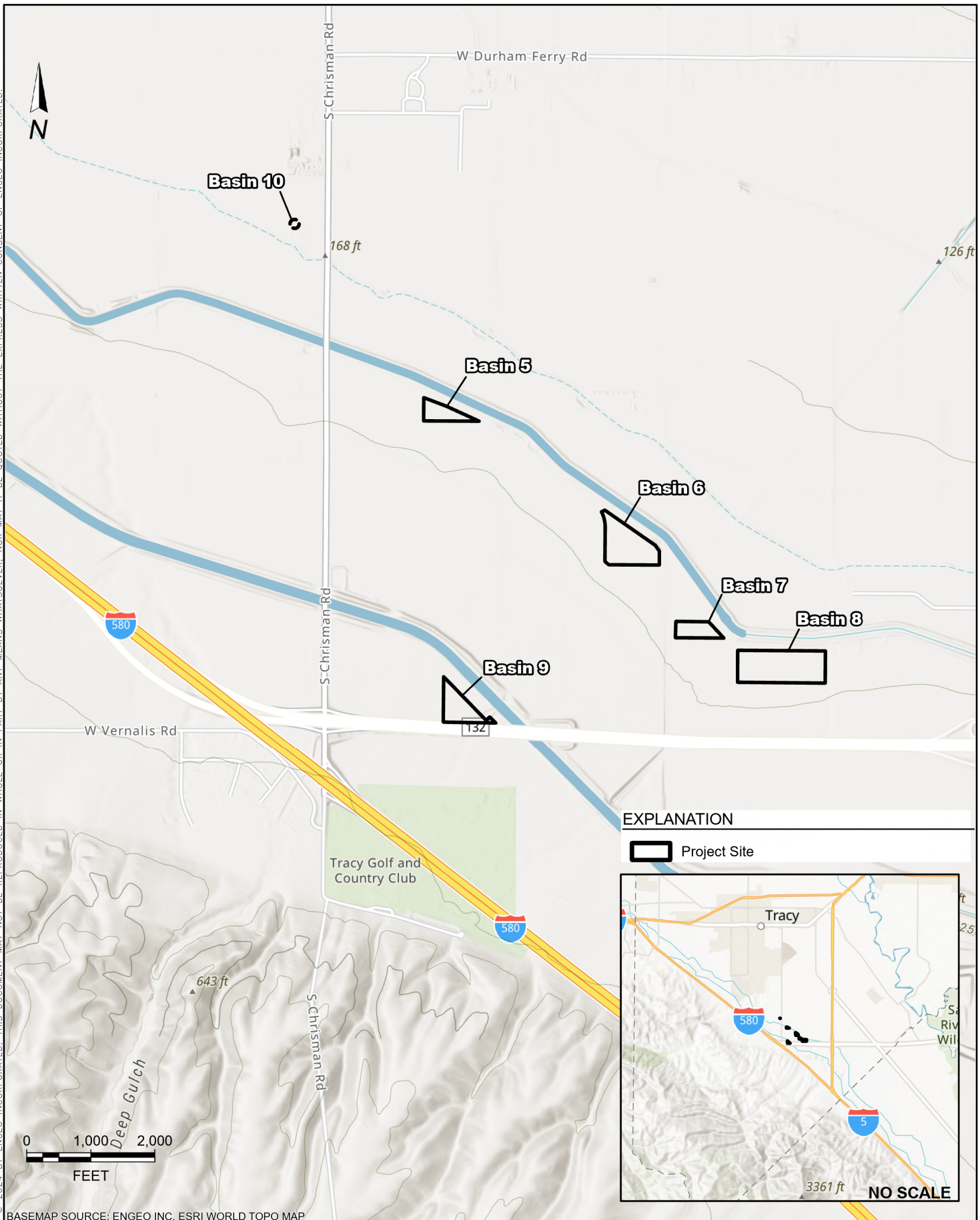
Attachments: Figures
Boring Logs


Steve Harris, GE

FIGURES

- Figure 1 – Vicinity Map - Basins
- Figure 2 – Site Plan - Proposed Basin 5
- Figure 3 – Site Plan - Proposed Basin 6
- Figure 4 – Site Plan - Proposed Basin 7
- Figure 5 – Site Plan - Proposed Basin 8
- Figure 6 – Site Plan - Proposed Basin 9
- Figure 7 – Site Plan - Proposed Basin 10

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BASEMAP SOURCE: ENGEO INC, ESRI WORLD TOPO MAP

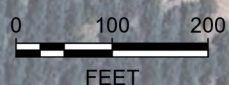
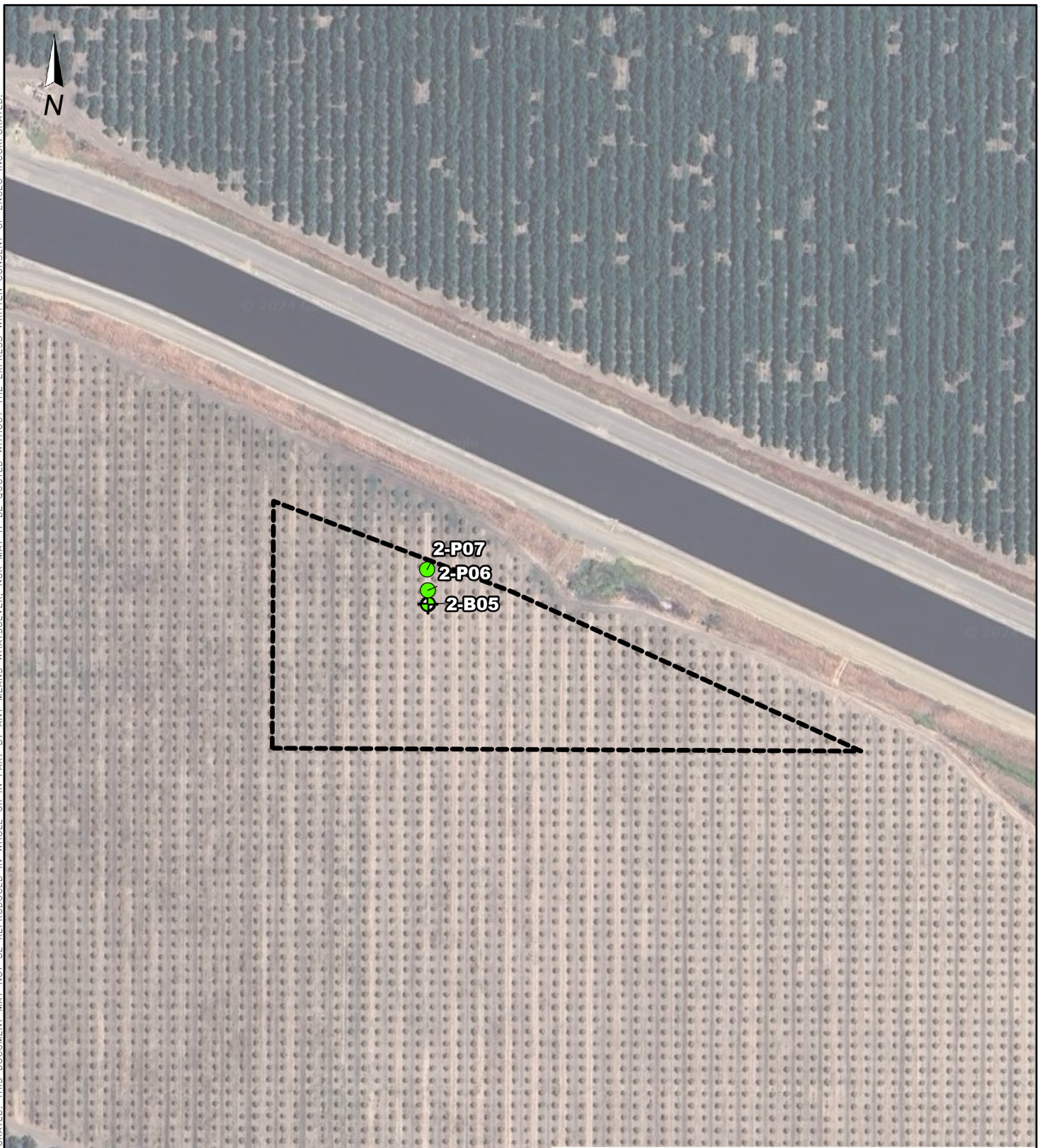


VICINITY MAP - BASINS
PACIFIC GATEWAY
TRACY, CALIFORNIA

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

FIGURE NO.
1

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EXPLANATION

ALL LOCATIONS ARE APPROXIMATE



Project Site



Boring (ENGEO, 2024)



Percolation Test (ENGEO, 2024)

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022



SITE PLAN - PROPOSED BASIN 5
PACIFIC GATEWAY
TRACY, CALIFORNIA

PROJECT NO. : 19633.000.001

SCALE: AS SHOWN

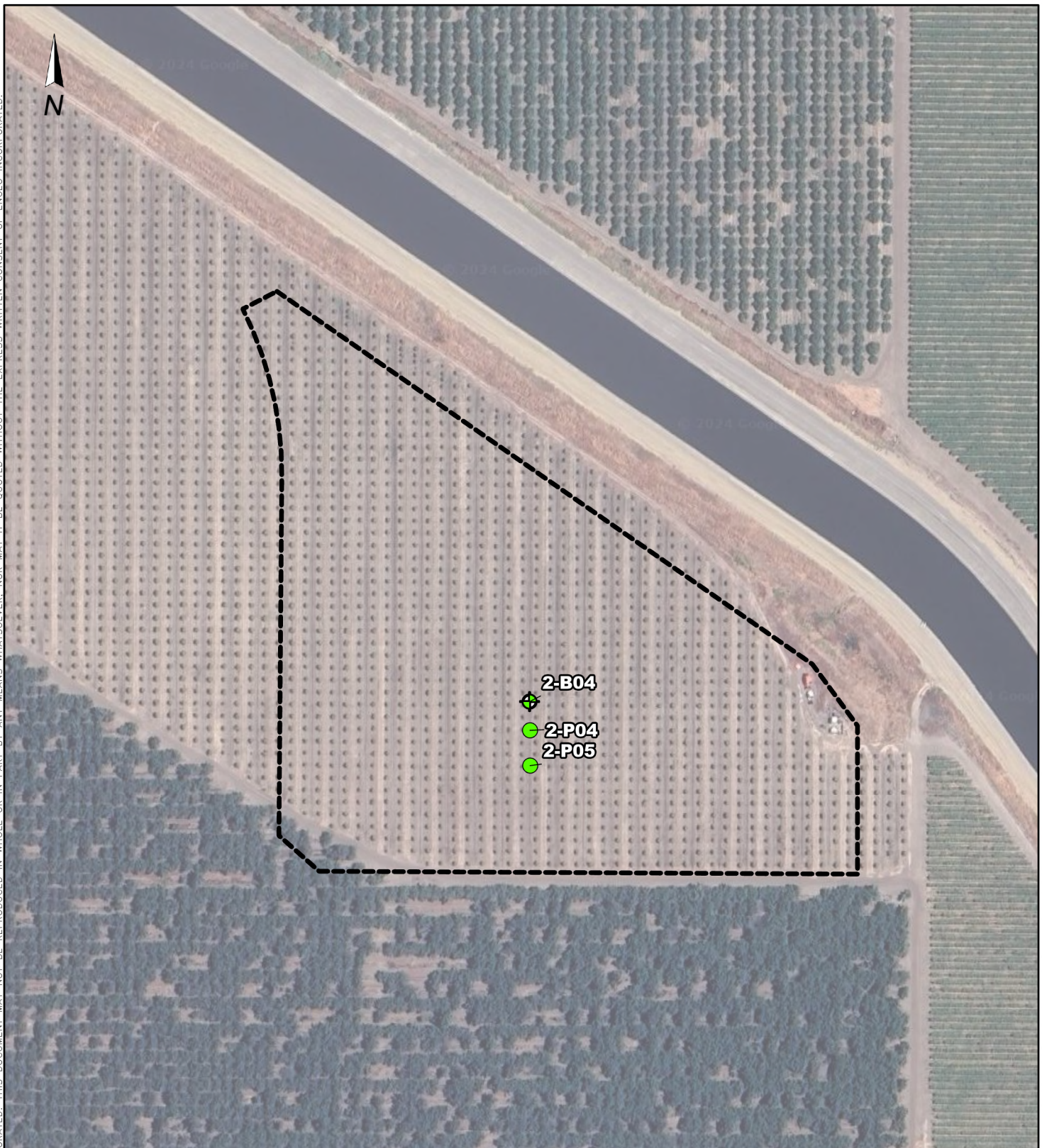
DRAWN BY: MMH

CHECKED BY: SDH

FIGURE NO.

2

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BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022



SITE PLAN - PROPOSED BASIN 6
PACIFIC GATEWAY
TRACY, CALIFORNIA

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

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

PROJECT NO. : 19633.000.001

SCALE: AS SHOWN

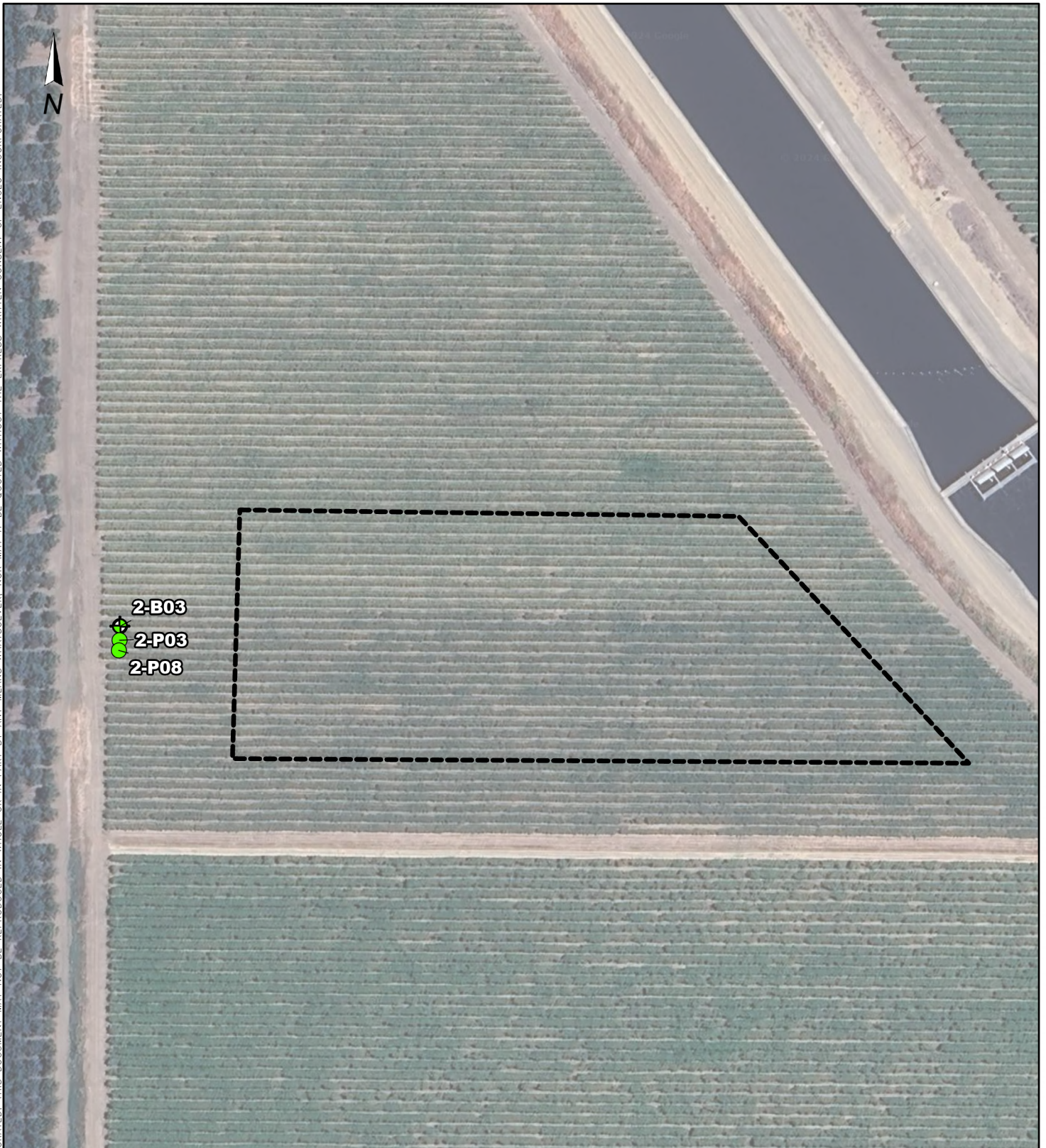
DRAWN BY: MMH

CHECKED BY: SDH

FIGURE NO.

3

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BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022



SITE PLAN - PROPOSED BASIN 7
PACIFIC GATEWAY
TRACY, CALIFORNIA

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

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

PROJECT NO. : 19633.000.001

SCALE: AS SHOWN

DRAWN BY: MMH

CHECKED BY: SDH

FIGURE NO.

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BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022



SITE PLAN - PROPOSED BASIN 8
PACIFIC GATEWAY
TRACY, CALIFORNIA

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

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

PROJECT NO. : 19633.000.001

SCALE: AS SHOWN

DRAWN BY: MMH

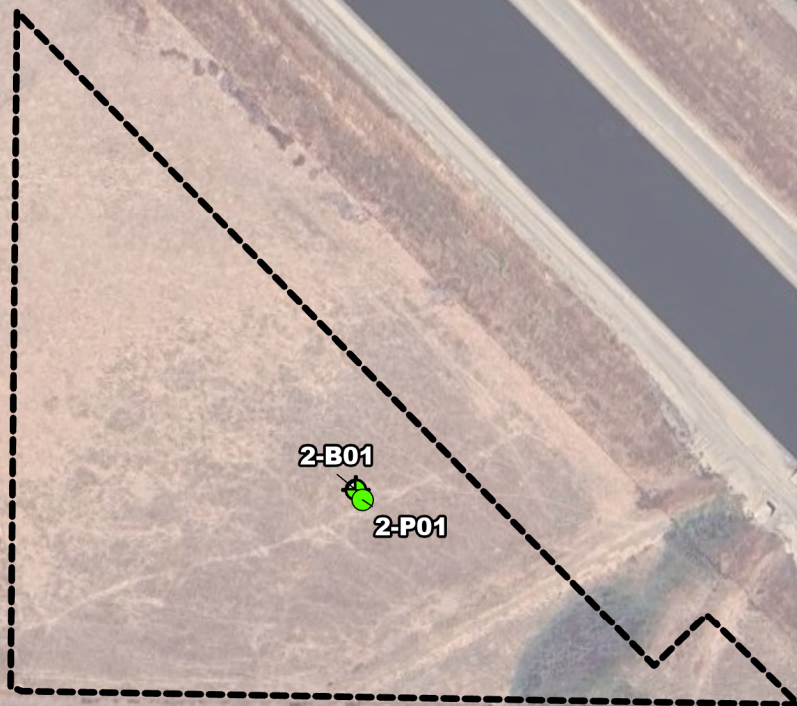
CHECKED BY: SDH

FIGURE NO.

5

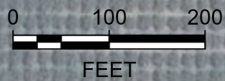
ORIGINAL FIGURE PRINTED IN COLOR

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Vernalis Rd

Vernalis Rd



EXPLANATION

ALL LOCATIONS ARE APPROXIMATE



Project Site



Boring (ENGEO, 2024)



Percolation Test (ENGEO, 2024)

BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022



SITE PLAN - PROPOSED BASIN 9
PACIFIC GATEWAY
TRACY, CALIFORNIA

PROJECT NO. : 19633.000.001

SCALE: AS SHOWN

DRAWN BY: MMH

CHECKED BY: SDH

FIGURE NO.

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ORIGINAL FIGURE PRINTED IN COLOR

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BASEMAP SOURCE: GOOGLE EARTH MAPPING SERVICE 2022



SITE PLAN - PROPOSED BASIN 10
PACIFIC GATEWAY
TRACY, CALIFORNIA

EXPLANATION

● Percolation Test (ENGEO, 2024)

PROJECT NO. : 19633.000.001

SCALE: AS SHOWN

DRAWN BY: MMH

CHECKED BY: SDH

FIGURE NO.

7

ORIGINAL FIGURE PRINTED IN COLOR

BORING LOGS

LOG OF BORING 2-B01

LATITUDE: 37.639195

LONGITUDE: -121.390024

Geotechnical Exploration
Pacific Gateway
Tracy, California
19633.000.002

DATE DRILLED: 8/14/2024
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 251 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: N/A

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			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
							Liquid Limit	Plastic Limit	Plasticity Index						
250			LEAN CLAY WITH SAND (CL), dark brown, moist, low to medium plasticity, <15% fine- to medium-grained sand, <5% fine gravel, contains rootlets												
			LEAN CLAY WITH SAND (CL), brown, moist, medium to high plasticity, 15-25% fine- to medium-grained sand												
245			SANDY LEAN CLAY WITH GRAVEL (CL), yellowish brown, moist, medium plasticity, 15-20% fine-grained sand, 15-20% fine-gravel												
240			SANDY SILT (ML), yellowish brown, moist, low plasticity, 30-40% fine-grained sand												
235			SANDY SILT (ML), yellowish brown, moist, low plasticity, 25-30% fine-grained sand, 5-10% fine- to coarse gravel												
			Grades to contain 15-20% fine to coarse gravel												
20			Bottom of boring at approximately 20 feet below ground surface. No groundwater encountered at time of drilling.												

LOG OF BORING 2-B02

LATITUDE: 37.641144

LONGITUDE: -121.374717

Geotechnical Exploration
Pacific Gateway
Tracy, California
19633.000.002

DATE DRILLED: 8/15/2024
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 192 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: N/A

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			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
							Liquid Limit	Plastic Limit	Plasticity Index						
190			SANDY LEAN CLAY (CL), yellowish brown, moist, medium plasticity, 30-40% fine-grained sand												
5			SANDY LEAN CLAY WITH GRAVEL (CL), yellowish brown, moist, medium plasticity, 30-35% fine-grained sand, 15% fine to coarse gravel												
185			SILTY GRAVEL WITH SAND (GM), grayish brown, moist, medium plasticity, 15-20% fines, 15-20% fine to coarse-grained sand, fine- to coarse gravel												
10															
180															
15															
175			LEAN CLAY WITH SAND (CL), yellowish brown, hard, moist, medium plasticity, 15-25% fine- to medium-grained sand												
20			Bottom of boring at approximately 20 feet below ground surface. No groundwater encountered at time of drilling.												

LOG OF BORING 2-B03

LATITUDE: 37.642684

LONGITUDE: -121.379187

Geotechnical Exploration
Pacific Gateway
Tracy, California
19633.000.002

DATE DRILLED: 8/15/2024
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 196 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: N/A

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			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
							Liquid Limit	Plastic Limit	Plasticity Index						
195			LEAN CLAY WITH SAND (CL), dark brown, moist, medium plasticity, 15-25% fine- to coarse-grained sand, <5% fine gravel												
5															
190			LEAN CLAY WITH SAND (CL), yellowish brown, moist, low to medium plasticity, 15-25% fine- to coarse-grained sand												
10															
185			SANDY SILT (ML), light yellowish brown, moist, low plasticity, 30-40% fine- to coarse-grained sand												
15															
180			SANDY LEAN CLAY WITH GRAVEL (CL), yellowish brown, moist, low to medium plasticity, 30-35% fine- to coarse-grained sand, 15% fine gravel												
			SANDY LEAN CLAY (CL), light yellowish brown, moist, low to medium plasticity, 30-40% fine- to coarse-grained sand												
20															
			Bottom of the boring at approximately 20 feet below ground surface. No groundwater encountered at the time of drilling.												

LOG OF BORING 2-B04

LATITUDE: 37.646107

LONGITUDE: -121.381358

Geotechnical Exploration
Pacific Gateway
Tracy, California
19633.000.002

DATE DRILLED: 8/15/2024
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 197 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: N/A

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			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
							Liquid Limit	Plastic Limit	Plasticity Index						
195			FAT CLAY (CH), dark brown, moist, high plasticity, <15% fine- to coarse-grained sand, <5% fine gravel												
5			LEAN CLAY WITH SAND (CL), yellowish brown, moist, medium plasticity, 15-25% fine- to coarse-grained sand												
190			SANDY LEAN CLAY (CL), yellowish brown, moist, low plasticity, 30-40% fine- to coarse-grained sand												
10			SANDY LEAN CLAY (CL), yellowish brown, moist, low plasticity, 25-30% fine- to coarse-grained sand, 15-25% fine to coarse gravel												
185															
15															
180			LEAN CLAY (CL), light yellowish brown, moist, medium to high plasticity, <15% fine-grained sand, 5% fine to coarse gravel, contains silt fines												
20			Bottom of the boring at approximately 20 feet below ground surface. No groundwater encountered at the time of drilling.												

LOG OF BORING 2-B05

LATITUDE: 37.652084

LONGITUDE: -121.391686

Geotechnical Exploration
Pacific Gateway
Tracy, California
19633.000.002

DATE DRILLED: 8/15/2024
HOLE DEPTH: Approx. 20 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 192 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: N/A

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			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
							Liquid Limit	Plastic Limit	Plasticity Index						
190			FAT CLAY WITH SAND (CH), dark brown, moist, high plasticity, 15-25% fine- to medium-grained sand												
5			Grades to brown												
185			LEAN CLAY WITH SAND (CL), yellowish brown, moist, medium to high plasticity, 20-25% fine-grained sand												
10			SANDY LEAN CLAY (CL), yellowish brown, moist, medium plasticity, 30-40% fine-grained sand												
180			SILTY SAND (SM), yellowish brown, moist, 30-40% fines, fine- to coarse-grained sand												
15			SANDY LEAN CLAY (CL), yellowish brown, moist, medium plasticity, 30-40% fine-grained sand												
175			Grades to contain 5% coarse gravel												
20			Grades to contain no gravel												
			Bottom of boring at approximately 20 feet below ground surface. No groundwater encountered at time of drilling.												

[illegible]

LOG OF BORING 2-P02

LATITUDE: 37.641201

LONGITUDE: -121.374715

Geotechnical Exploration
Pacific Gateway
Tracy, California
19633.000.002

DATE DRILLED: 8/15/2024
HOLE DEPTH: Approx. 8 ft.
HOLE DIAMETER: 4½ in.
SURF ELEV (WGS84): Approx. 192 ft.

LOGGED / REVIEWED BY: V. Navarro / ZAC
DRILLING CONTRACTOR: West Coast Exploration
DRILLING METHOD: Solid Flight Auger
HAMMER TYPE: N/A

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			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
							Liquid Limit	Plastic Limit	Plasticity Index						
190	2.5		SANDY LEAN CLAY (CL), yellowish brown, moist, medium plasticity, 30-40% fine- to coarse-grained sand												
5.0			Grades to contain 5-10% fine to coarse gravel												
185	7.5		SILTY GRAVEL WITH SAND (GC), grayish brown, moist, medium plasticity, 15-25% fines, 15-25% fine- to coarse grained sand												
			Bottom of boring at approximately 8 feet below ground surface. No groundwater encountered at time of drilling.												

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]