May 23, 2023

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Cambria 60 Partners LLC
14180 Dallas Parkway, Suite 730
Dallas, Texas 75254

Attention: Mr. Ron Rakunas

Project No.: **23G131-2**

Subject: **Results of Infiltration Testing**
Phelan 20 Industrial Building
Phelan Road, 650± feet east of Los Banos Avenue
Hesperia, California

Reference: Geotechnical Investigation, Phelan 20 Industrial Building, Phelan Road, 650± feet east of Los Banos Avenue, Hesperia, California, prepared by Southern California Geotechnical, Inc. (SCG), prepared for Cambria 60 Partners LLC, SCG Project No. 23G131-1, dated May 23, 2023.

Mr. Rakunas:

In accordance with your request, we are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 23P122R2, dated March 30, 2023. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site soils. The infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Site and Project Description

The subject site is located on the south side of Phelan Road, 650± feet east of Los Banos Avenue in Hesperia, California. The site is bounded to the north by Phelan Road, to the west by a vacant lot and a single-family residence, and to the south and east by vacant parcels. The Oro Grande Wash is located to the southeast of the property. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of a rectangular-shaped parcel, 19.3± acres in size. The site is vacant and undeveloped. Ground surface cover throughout the site consists of exposed soils with moderate to heavy native grass, weed and shrub growth. Small trees are also present throughout the site in sparse concentration.

Detailed topographic information was obtained from a schematic site plan, prepared by RGA. Based on the elevation data provided on that plan, the overall site topography generally slopes

22885 Savi Ranch Parkway ▾ Suite E ▾ Yorba Linda ▾ California ▾ 92887
voice: (714) 685-1115 ▾ fax: (714) 685-1118 ▾ www.socalgeo.com

downward to the northeast at a gradient of 2± percent. The Oro Grande Wash is located to the southeast of the property. The bottom of the Oro Grande Wash extends approximately 50 to 60± feet below the adjacent site grades. A descending slope extends from the site downward to the wash at an inclination of approximately 4h:1v (horizontal to vertical).

Proposed Development

Based on the site plan that was provided to our office, the site will be developed with one (1) industrial building, 420,000± ft² in size. The building will be located in the west-central area of the site, with dock-high doors along a portion of the east building wall. The building will be surrounded by asphaltic concrete pavements in the automobile parking and drive areas, Portland cement concrete pavements in the truck court, and areas of concrete flatwork and landscape planters.

We understand that this project may use on-site storm water infiltration. Based on an infiltration test location exhibit, prepared by Huitt-Zollars, Inc., the project civil engineer, the infiltration system will consist of a detention/infiltration basin and a below-grade chamber system located in the northeastern area of the site. The bottoms of the infiltration systems are expected to extend to depths of 10 to 12± feet below the existing site grades.

Concurrent Study

SCG concurrently conducted a geotechnical investigation at the subject site, which is referenced above. As part of this study, seven (7) borings were advanced to depths of 15 to 25± feet below existing site grades. All of the borings encountered native younger alluvial soils at the ground surface, extending to depths ranging from 5½ to 12± feet below existing site grades. These soils generally consist of very loose to medium dense silty fine sands, varying medium to coarse sand, clay and gravel content. Native older alluvium was encountered beneath the younger alluvium at all of the boring locations, extending to at least the maximum explored depth of 25± feet below existing site grades. The older alluvial soils consist of medium dense to very dense silty fine to coarse sands with occasional clayey fine to coarse sands, with varying gravel content. Some of the samples of the older alluvial soils were weakly cemented.

Free water was not encountered during the drilling of the borings. Based on the lack of water within the borings, and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of 25± feet at the time of the subsurface exploration.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the lack of any water within the borings and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of 25± feet at the time of the subsurface exploration.

As part of our research, we also reviewed recent groundwater data available for wells within the vicinity of the site. Recent water level data was obtained from the California Department of

Water Resources website, http://www.water.ca.gov/waterdatalibrary/. The nearest monitoring well with available records in this database is located 800 feet to the southeast, adjacent to the Oro Grande Wash. Water level readings within this monitoring well indicates a groundwater level of 658± feet below the ground surface in September 2022.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of four (4) backhoe-excavated trenches, extending to depths of 10 to 11± feet below existing site grades. The trenches were logged during excavation by a member of our staff. The approximate locations of the infiltration trenches (identified as Infiltration Trench Nos. I-1 through I-4) are indicated on the Infiltration Test Location Plans, enclosed as Plate 2 of this report.

Geotechnical Conditions

Native alluvium was encountered at the ground surface at all infiltration trenches, extending to at least the maximum depth explored of 11± feet below ground surface. The younger alluvium generally consisted of medium dense silty fine sands, with varying medium to coarse sand and gravel content, extending to a depth of 4± feet. Below these materials, the older alluvium consisted of medium dense to dense well-graded sands, with varying silt and gravel content, and occasional cobbles. The Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are presented in this report.

Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the storm water infiltration system that will be used at the subject site. As previously mentioned, the infiltration testing was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At the test locations, the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing Procedure

Infiltration testing was performed at all of the trench locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests.

The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the existing soils at the trench locations, the volumetric measurements were made at 5-minute increments, except for Infiltration Test No. I-4 which were read at 15-minute increments. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates for the infiltration tests are calculated in centimeters per hour and then converted to inches per hour. The rates are summarized below:

Infiltration Test No.	**Depth (feet)**	**Soil Description**	**Measured Infiltration Rate (inches/hour)**
I-1	11	Light Brown Gravelly fine to coarse Sand, little Silt	16.5
I-2	10	Gray Brown Gravelly fine to coarse Sand, trace Silt, occasional Cobbles	22.3
I-3	10	Light Brown Gravelly fine to medium Sand, little to some coarse Sand, little fine Gravel, trace Silt	19.8
I-4	10	Light Brown fine to medium Sand, some coarse Sand, little Silt, trace fine Gravel	2.6

Laboratory Testing

Moisture Content

The moisture contents for the recovered soil samples within the trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the bottom of each infiltration test trench have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented on Plates C-1 through C-4 of this report.

Design Recommendations

Four (4) infiltration tests were performed at the subject site. As noted above, the infiltration rates at these locations range from 2.6 to 22.3 inches per hour.

Based on the results of the infiltration testing, we recommend the following infiltration rates for the proposed infiltration systems:

Infiltration System	Infiltration System Type	Infiltration System Location	Infiltration Rate (Inches per Hour)
A	Basin	Northeast	19.4
B	Chamber	Northeast	11.2

It should be noted that the average measured infiltration rate for each infiltration system was utilized for our recommendation.

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration system to identify the soil classification at the base of the retention basin. It should be confirmed that the soils at the base of the proposed infiltration system corresponds with those presented in this report to ensure that the performance of the system will be consistent with the rates reported herein.

The design of the proposed storm water infiltration system should be performed by the project civil engineer, in accordance with the City of Hesperia and/or County of San Bernardino guidelines. However, it is recommended that the system be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the system. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rate recommended above is based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rates.** It should be noted that the recommended infiltration rates are based on infiltration testing at four (4) discrete locations and the overall infiltration rate of the storm water infiltration system could vary considerably.

Infiltration Rate Considerations

The infiltration rates presented herein was determined in accordance with the City of Hesperia and/or County of San Bernardino guidelines and are considered valid only for the time and place of the actual test. Varying subsurface conditions will exist in other areas of the site, which could alter the recommended infiltration rates presented above. The infiltration rates will decline over time between maintenance cycles as silt or clay particles accumulate on the BMP surface. The infiltration rate is highly dependent upon a number of factors, including density, silt and clay content, grainsize distribution throughout the range of particle sizes, and particle shape. Small changes in these factors can cause large changes in the infiltration rates.

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. Changes in soil moisture content will affect the infiltration rate. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Compaction of the soils at the bottom of the infiltration system can significantly reduce the infiltration ability of the basins. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration systems to identify the soil classification at the base of each system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rates reported herein.

We recommend that scrapers and other rubber-tired heavy equipment not be operated on the basin bottom, or at levels lower than 2 feet above the bottom of the system, particularly within basins. As such, the bottom 24 inches of the infiltration systems should be excavated with non-rubber-tired equipment, such as excavators.

Basin Maintenance

The proposed project may include infiltration basins. Water flowing into these basins will carry some level of sediment. Wind-blown sediments and erosion of the basin side walls will also contribute to sediment deposition at the bottom of the basin. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal basin maintenance program should be established to ensure that these silt and clay deposits are removed from the basin on a regular basis. Appropriate vegetation on the basin sidewalls and bottom may reduce erosion and sediment deposition.

Basin maintenance should also include measures to prevent animal burrows, and to repair any burrows or damage caused by such. Animal burrows in the basin sidewalls can significantly increase the risk of erosion and piping failures.

Chamber Maintenance

The proposed project may include below-grade infiltration chambers. Water flowing into these chambers will carry some level of sediment. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal chamber maintenance program should be established to ensure that these silt and clay deposits are removed from the chamber on a regular basis.

Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration area could potentially be damaged due to saturation of the subgrade soils. **The proposed infiltration systems for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the building(s), it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

The infiltration system designer should also give special consideration to the effect that the proposed infiltration systems may have on nearby subterranean structures, open excavations, or descending slopes. In particular, infiltration systems should not be located near the crest of descending slopes, particularly where the slopes are comprised of granular soils. Such systems will require specialized design and analysis to evaluate the potential for slope instability, piping failures and other phenomena that typically apply to earthen dam design. This type of analysis is beyond the scope of this infiltration test report, but these factors should be considered by the infiltration system designer when locating the infiltration systems.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rates contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between trench locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

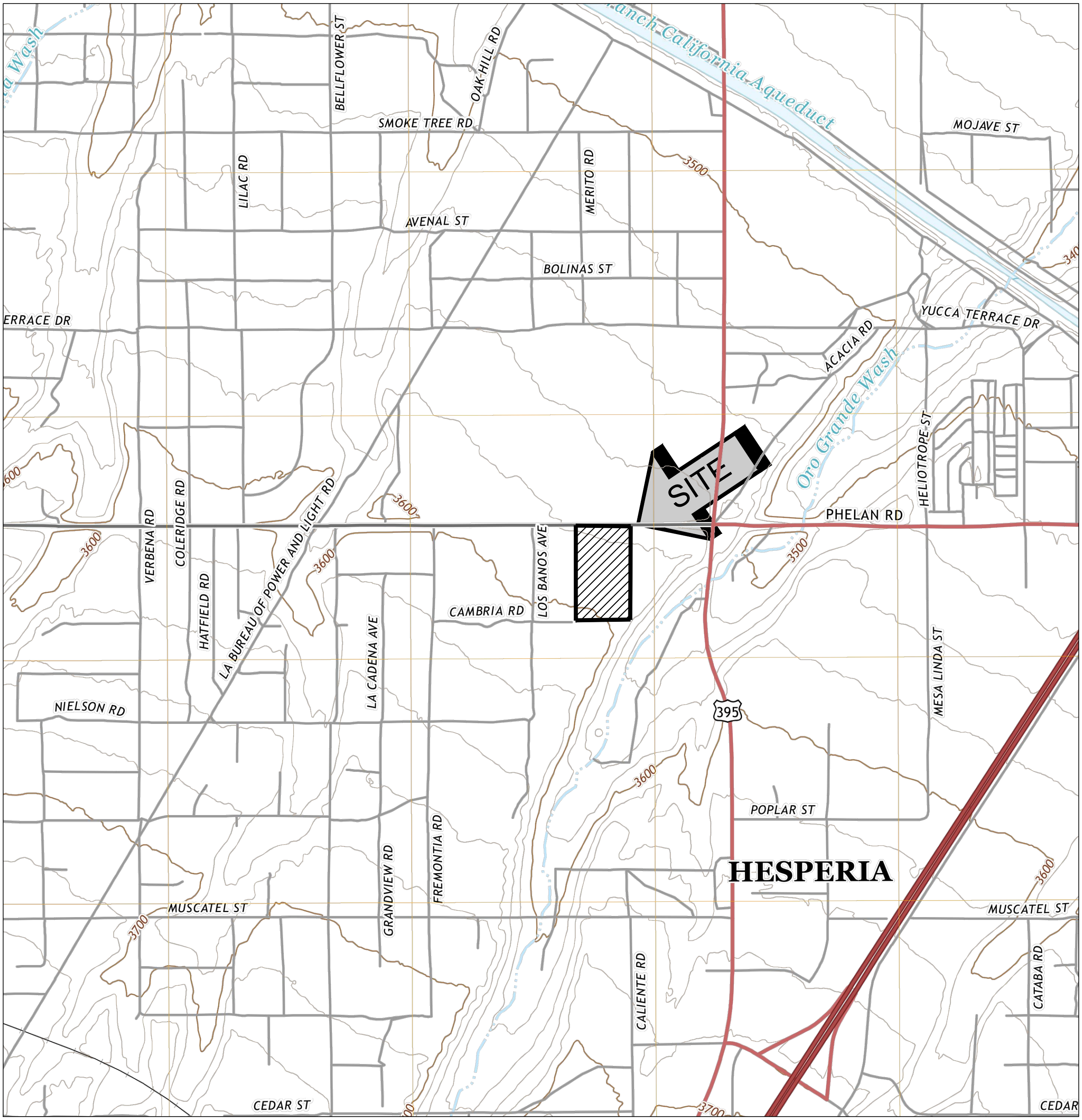
Pablo Montes Jr.
Project Engineer

Robert G. Trazo, GE 2655
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER ROBERT TRAZO No. 2655 GEOTECHNICAL STATE OF CALIFORNIA

Distribution: (1) Addressee

Enclosures:
- Plate 1 - Site Location Map
- Plate 2 - Infiltration Test Location Plan
- Trench Log Legend and Logs (6 pages)
- Infiltration Test Results Spreadsheets (4 pages)
- Grain Size Distribution Graphs (4 pages)



SOURCE: USGS TOPOGRAPHIC MAP OF THE BALDY MESA QUADRANGLE, SAN BERNARDINO COUNTY, CALIFORNIA, 2021.

SITE LOCATION MAP

PHELAN 20 INDUSTRIAL BUILDING

HESPERIA, CALIFORNIA

SCALE: 1" = 2000'

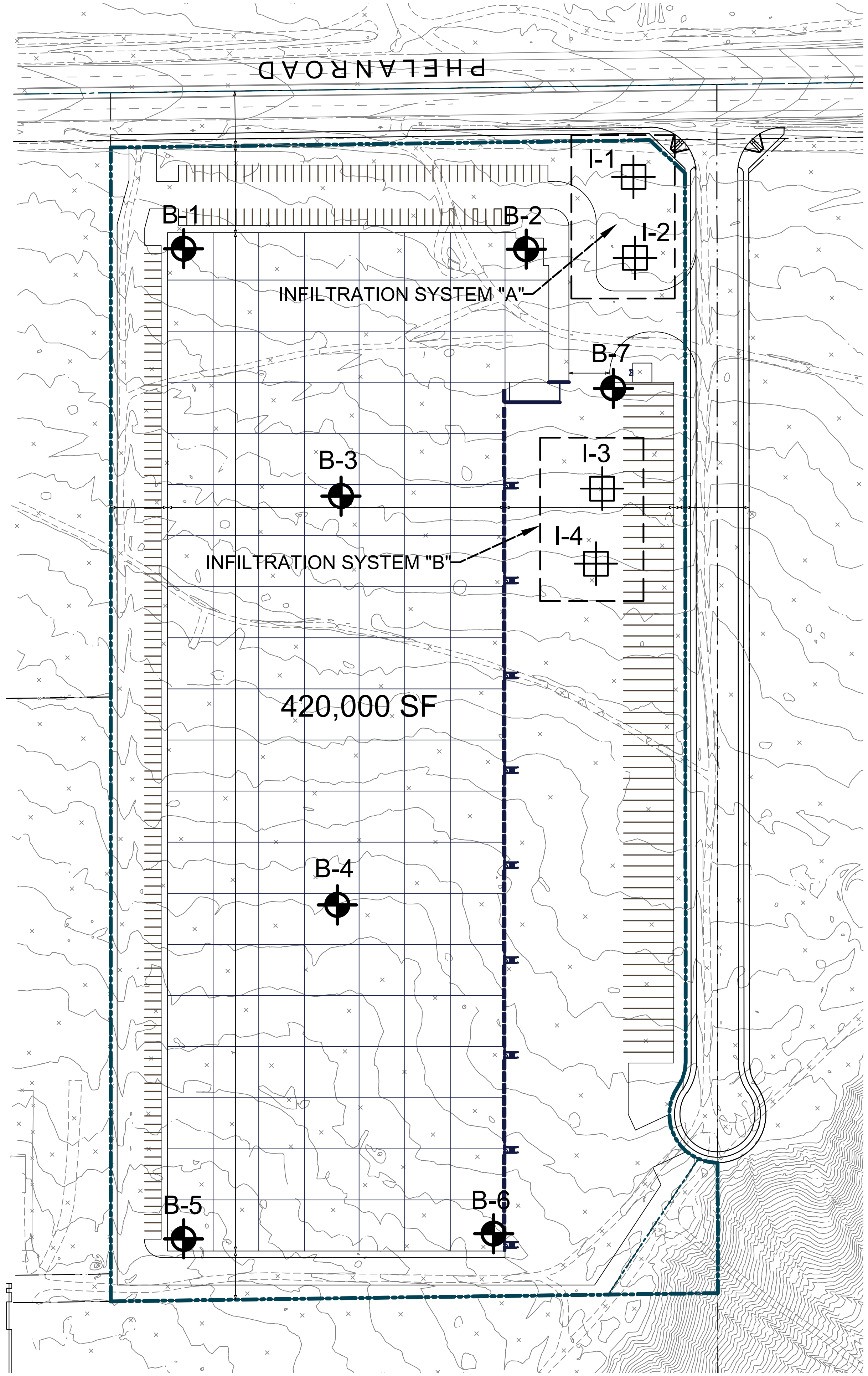
DRAWN: MK
CHKD: RGT

SCG PROJECT
23G131-2

PLATE 1

SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL



NORTH
SoCalGeo

GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION TRENCH LOCATION
- APPROXIMATE INFILTRATION SYSTEM LOCATION
- APPROXIMATE BORING LOCATION (SCG PROJECT NO. 23G131-1)

NOTE: CONCEPTUAL SITE PLAN PROVIDED BY RGA.

INFILTRATION TEST LOCATION PLAN

PHELAN 20 INDUSTRIAL BUILDING

HESPERIA, CALIFORNIA

SCALE: 1" = 150'

DRAWN: MK
CHKD: RGT

SCG PROJECT
23G131-2

PLATE 2

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

TRENCH LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-1

JOB NO.: 23G131-2
PROJECT: Phelan 20 Industrial Building
LOCATION: Hesperia, California

EXCAVATION DATE: 4/21/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brakett

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					ALLUVIUM: Light Brown Silty fine Sand, trace medium Sand, trace fine Gravel, trace fine root fibers, medium dense-damp							
5					OLDER ALLUVIUM: Light Brown fine to medium Sand, trace coarse Sand, little Silt, trace fine Gravel, Cemented, dense-dry							
10					Light Brown Gravelly fine to coarse Sand, little Silt, medium dense-dry		1					

Trench Terminated at 11 feet

TBL 23G131-2 (TRENCHES).GPJ SOCALGEO.GDT 5/23/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-2

JOB NO.: 23G131-2
PROJECT: Phelan 20 Industrial Building
LOCATION: Hesperia, California

EXCAVATION DATE: 4/19/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brakett

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
0–4					ALLUVIUM: Light Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel, trace fine root fibers, medium dense-damp							
4–8 (5)					OLDER ALLUVIUM: Light Brown fine to medium Sand, little coarse Sand, trace fine to coarse Gravel, medium dense-damp							
8–10					Gray Brown Gravelly fine to coarse Sand, trace Silt, occasional Cobbles, medium dense-damp							
10							3					

Trench Terminated at 10 feet

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-3

JOB NO.: 23G131-2
PROJECT: Phelan 20 Industrial Building
LOCATION: Hesperia, California

EXCAVATION DATE: 4/19/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brakett

WATER DEPTH: Dry
CAVE DEPTH: ---
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
					ALLUVIUM: Light Brown Silty fine Sand, trace medium Sand, trace fine Gravel, medium dense-damp							
5					OLDER ALLUVIUM: Light Brown Gravelly fine to medium Sand, little to some coarse Sand, little fine Gravel, trace Silt, weakly cemented, dense-dry to damp							
	Bulk						5					
10					Trench Terminated at 10 feet							

TBL 23G131-2 (TRENCHES).GPJ SOCALGEO.GDT 5/23/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-4

JOB NO.: 23G131-2	EXCAVATION DATE: 4/19/23	WATER DEPTH: Dry
PROJECT: Phelan 20 Industrial Building	EXCAVATION METHOD: Backhoe	CAVE DEPTH: ---
LOCATION: Hesperia, California	LOGGED BY: Caleb Brakett	READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					ALLUVIUM: Light Brown Silty fine Sand, trace medium Sand, trace fine Gravel, trace fine root fibers, medium dense-damp							
5					OLDER ALLUVIUM: Light Brown fine to medium Sand, some coarse Sand, little to some fine Gravel, cemented, dense-dry							
10					Light Brown fine to medium Sand, some coarse Sand, little Silt, trace fine Gravel, medium dense-damp		4					
					Trench Terminated at 10 feet							

TBL 23G131-2 (TRENCHES).GPJ SOCALGEO.GDT 5/23/23

TEST TRENCH LOG

INFILTRATION CALCULATIONS

Project Name	Phelan 20 Industrial Building
Project Location	Phelan, California
Project Number	23G131-2
Engineer	Caleb Brackett

Infiltration Test No	I-1

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	8:58 AM	5	0	2650	0	10000	43.58	54.82	17.16	21.58
	Final	9:03 AM	**5**	2650		10000					
2	Initial	9:04 AM	5	0	2650	0	10000	43.58	54.82	17.16	21.58
	Final	9:09 AM	**10**	2650		10000					
3	Initial	9:10 AM	5	0	2600	0	10100	42.76	55.37	16.84	21.80
	Final	9:15 AM	**15**	2600		10100					
4	Initial	9:16 AM	5	0	2650	0	10000	43.58	54.82	17.16	21.58
	Final	9:21 AM	**20**	2650		10000					
5	Initial	9:22 AM	5	0	2600	0	10100	42.76	55.37	16.84	21.80
	Final	9:27 AM	**25**	2600		10100					
6	Initial	9:28 AM	4	0	2600	0	10000	53.45	68.53	21.04	26.98
	Final	9:32 AM	**29**	2600		10000					
7	Initial	9:33 AM	5	0	2550	0	10100	41.94	55.37	16.51	21.80
	Final	9:38 AM	**34**	2550		10100					
8	Initial	9:39 AM	5	0	2500	0	10100	41.12	55.37	16.19	21.80
	Final	9:44 AM	**39**	2500		10100					
9	Initial	9:45 AM	5	0	2550	0	10300	41.94	56.47	16.51	22.23
	Final	9:50 AM	**44**	2550		10300					
10	Initial	9:51 AM	5	0	2500	0	10200	41.12	55.92	16.19	22.02
	Final	9:56 AM	**49**	2500		10200					
11	Initial	9:57 AM	5	0	2550	0	10300	41.94	56.47	16.51	22.23
	Final	10:02 AM	**54**	2550		10300					
12	Initial	10:03 AM	5	0	2550	0	10300	41.94	56.47	16.51	22.23
	Final	10:08 AM	**59**	2550		10300					

INFILTRATION CALCULATIONS

Project Name	Phelan 20 Industrial Building
Project Location	Phelan, California
Project Number	23G131-2
Engineer	Caleb Brackett

Infiltration Test No	I-2

Constants			
	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

				Flow Readings				Infiltration Rates			
Test Interval		Time (hr)	Interval **Elapsed** (min)	Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	12:00 PM	5	0	3900	0	11500	64.14	63.05	25.25	24.82
	Final	12:05 PM	**5**	3900		11500					
2	Initial	12:06 PM	5	0	3800	0	11500	62.50	63.05	24.61	24.82
	Final	12:11 PM	**10**	3800		11500					
3	Initial	12:12 PM	5	0	3750	0	11500	61.67	63.05	24.28	24.82
	Final	12:17 PM	**15**	3750		11500					
4	Initial	12:18 PM	5	0	3800	0	11300	62.50	61.95	24.61	24.39
	Final	12:23 PM	**20**	3800		11300					
5	Initial	12:24 PM	5	0	3700	0	11200	60.85	61.40	23.96	24.17
	Final	12:29 PM	**25**	3700		11200					
6	Initial	12:30 PM	5	0	3650	0	11200	60.03	61.40	23.63	24.17
	Final	12:35 PM	**30**	3650		11200					
7	Initial	12:36 PM	5	0	3600	0	11100	59.21	60.85	23.31	23.96
	Final	12:41 PM	**35**	3600		11100					
8	Initial	12:42 PM	5	0	3500	0	11000	57.56	60.30	22.66	23.74
	Final	12:47 PM	**40**	3500		11000					
9	Initial	12:48 PM	5	0	3500	0	11100	57.56	60.85	22.66	23.96
	Final	12:53 PM	**45**	3500		11100					
10	Initial	12:54 PM	5	0	3450	0	11100	56.74	60.85	22.34	23.96
	Final	12:59 PM	**50**	3450		11100					
11	Initial	1:00 PM	5	0	3500	0	11000	57.56	60.30	22.66	23.74
	Final	1:05 PM	**55**	3500		11000					
12	Initial	1:06 PM	5	0	3450	0	10900	56.74	59.76	22.34	23.53
	Final	1:11 PM	**60**	3450		10900					

INFILTRATION CALCULATIONS

Project Name	Phelan 20 Industrial Building
Project Location	Phelan, California
Project Number	23G131-2
Engineer	Caleb Brackett

Infiltration Test No	I-3

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	10:07 AM	5	0	3400	0	10700	55.92	58.66	22.02	23.09
	Final	10:12 AM	**5**	3400		10700					
2	Initial	10:13 AM	5	0	3350	0	10500	55.10	57.56	21.69	22.66
	Final	10:18 AM	**10**	3350		10500					
3	Initial	10:29 AM	5	0	3300	0	10400	54.27	57.01	21.37	22.45
	Final	10:34 AM	**15**	3300		10400					
4	Initial	10:35 AM	5	0	3200	0	10100	52.63	55.37	20.72	21.80
	Final	10:40 AM	**20**	3200		10100					
5	Initial	10:41 AM	5	0	3100	0	10000	50.98	54.82	20.07	21.58
	Final	10:46 AM	**25**	3100		10000					
6	Initial	10:47 AM	5	0	3150	0	10000	51.81	54.82	20.40	21.58
	Final	10:52 AM	**30**	3150		10000					
7	Initial	10:53 AM	5	0	3100	0	9900	50.98	54.27	20.07	21.37
	Final	10:58 AM	**35**	3100		9900					
8	Initial	10:59 AM	5	0	3050	0	9800	50.16	53.73	19.75	21.15
	Final	11:04 AM	**40**	3050		9800					
9	Initial	11:05 AM	5	0	3050	0	9400	50.16	51.53	19.75	20.29
	Final	11:10 AM	**45**	3050		9400					
10	Initial	11:11 AM	5	0	3100	0	9300	50.98	50.98	20.07	20.07
	Final	11:16 AM	**50**	3100		9300					
11	Initial	11:17 AM	5	0	3050	0	9200	50.16	50.44	19.75	19.86
	Final	11:22 AM	**55**	3050		9200					
12	Initial	11:23 AM	5	0	3050	0	9200	50.16	50.44	19.75	19.86
	Final	11:28 AM	**60**	3050		9200					

INFILTRATION CALCULATIONS

Project Name	Phelan 20 Industrial Building
Project Location	Phelan, California
Project Number	23G131-2
Engineer	Caleb Brackett

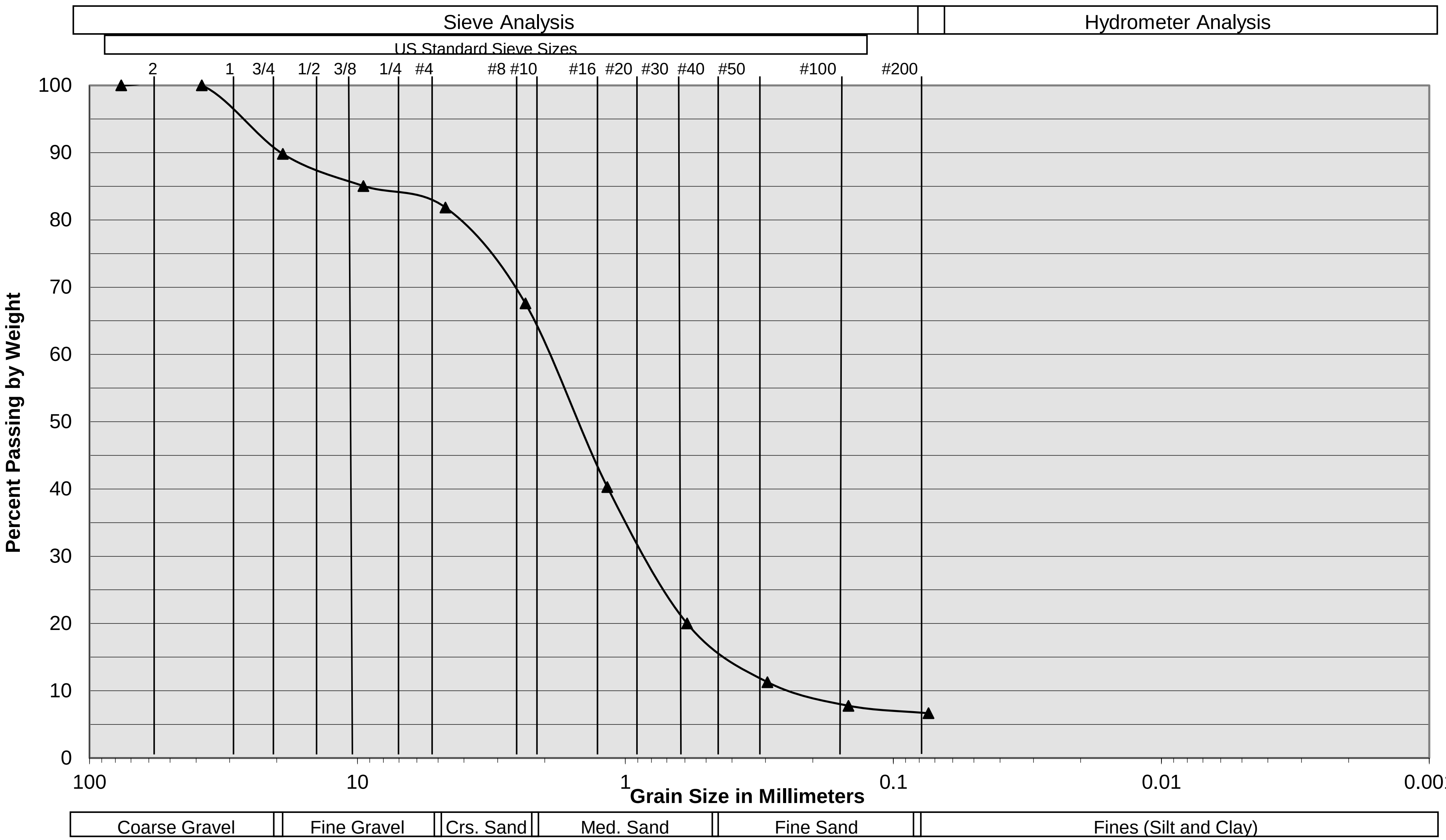
Infiltration Test No: I-4

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	1:25 PM	15	0	1400	0	4500	7.68	8.22	3.02	3.24
	Final	1:40 PM	**15**	1400		4500					
2	Initial	1:41 PM	15	0	1400	0	4500	7.68	8.22	3.02	3.24
	Final	1:56 PM	**30**	1400		4500					
3	Initial	1:57 PM	15	0	1400	0	4500	7.68	8.22	3.02	3.24
	Final	2:12 PM	**45**	1400		4500					
4	Initial	2:13 PM	15	0	1350	0	4400	7.40	8.04	2.91	3.17
	Final	2:28 PM	**60**	1350		4400					
5	Initial	2:29 PM	15	0	1350	0	4400	7.40	8.04	2.91	3.17
	Final	2:44 PM	**75**	1350		4400					
6	Initial	2:45 PM	15	0	1300	0	4300	7.13	7.86	2.81	3.09
	Final	3:00 PM	**90**	1300		4300					
7	Initial	3:01 PM	15	0	1300	0	4300	7.13	7.86	2.81	3.09
	Final	3:16 PM	**105**	1300		4300					
8	Initial	3:17 PM	15	0	1250	0	4200	6.85	7.68	2.70	3.02
	Final	3:32 PM	**120**	1250		4200					
9	Initial	3:33 PM	15	0	1200	0	4000	6.58	7.31	2.59	2.88
	Final	3:48 PM	**135**	1200		4000					
10	Initial	3:50 PM	15	0	1200	0	4000	6.58	7.31	2.59	2.88
	Final	4:05 PM	**150**	1200		4000					

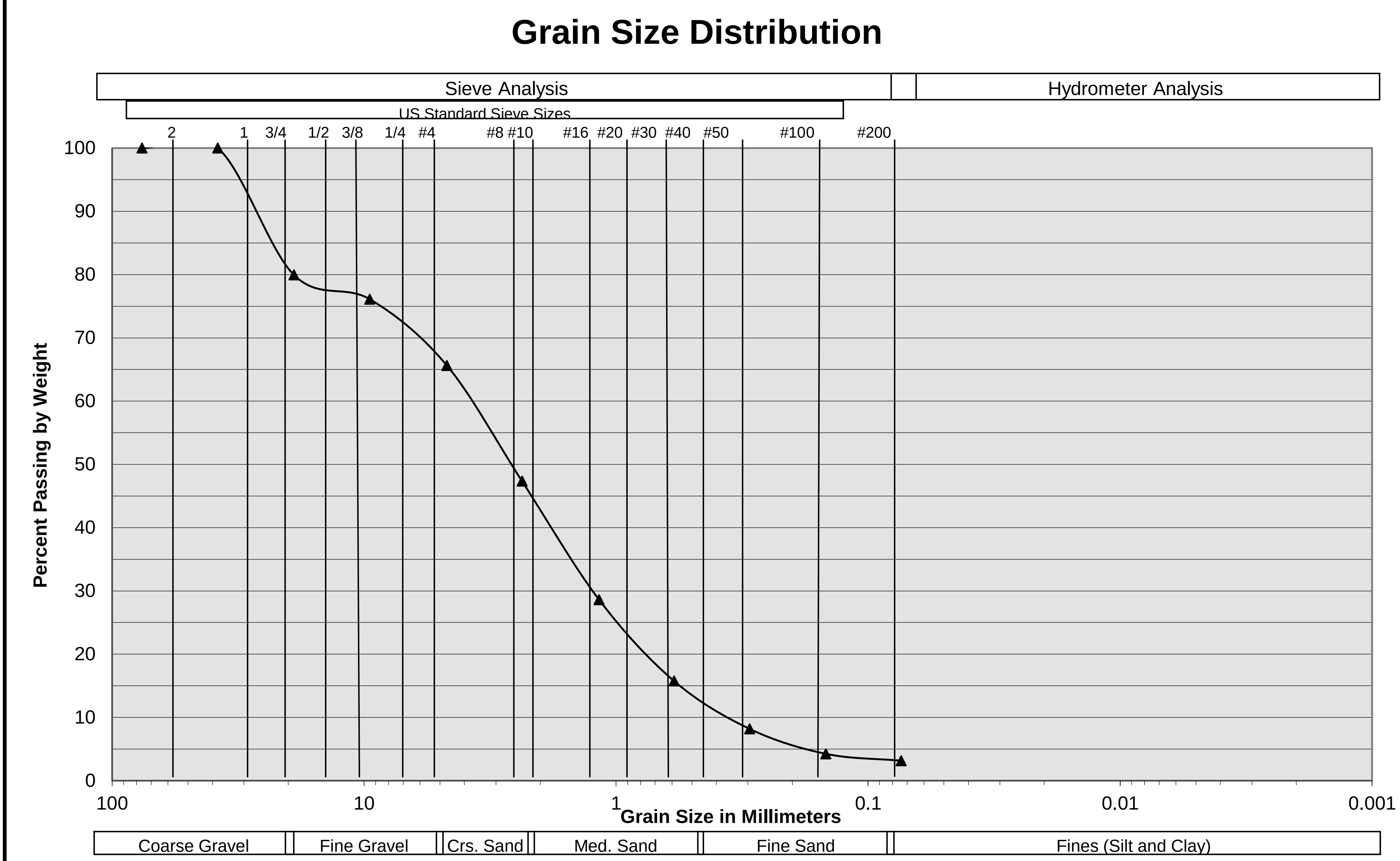
Grain Size Distribution



Sample Description	I-1 @ 10 to 11 feet
Soil Classification	Light Brown Gravelly fine to coarse Sand, little Silt

Phelan 20 Industrial Building
Hesperia, California
Project No. 23G131-2
PLATE C- 1

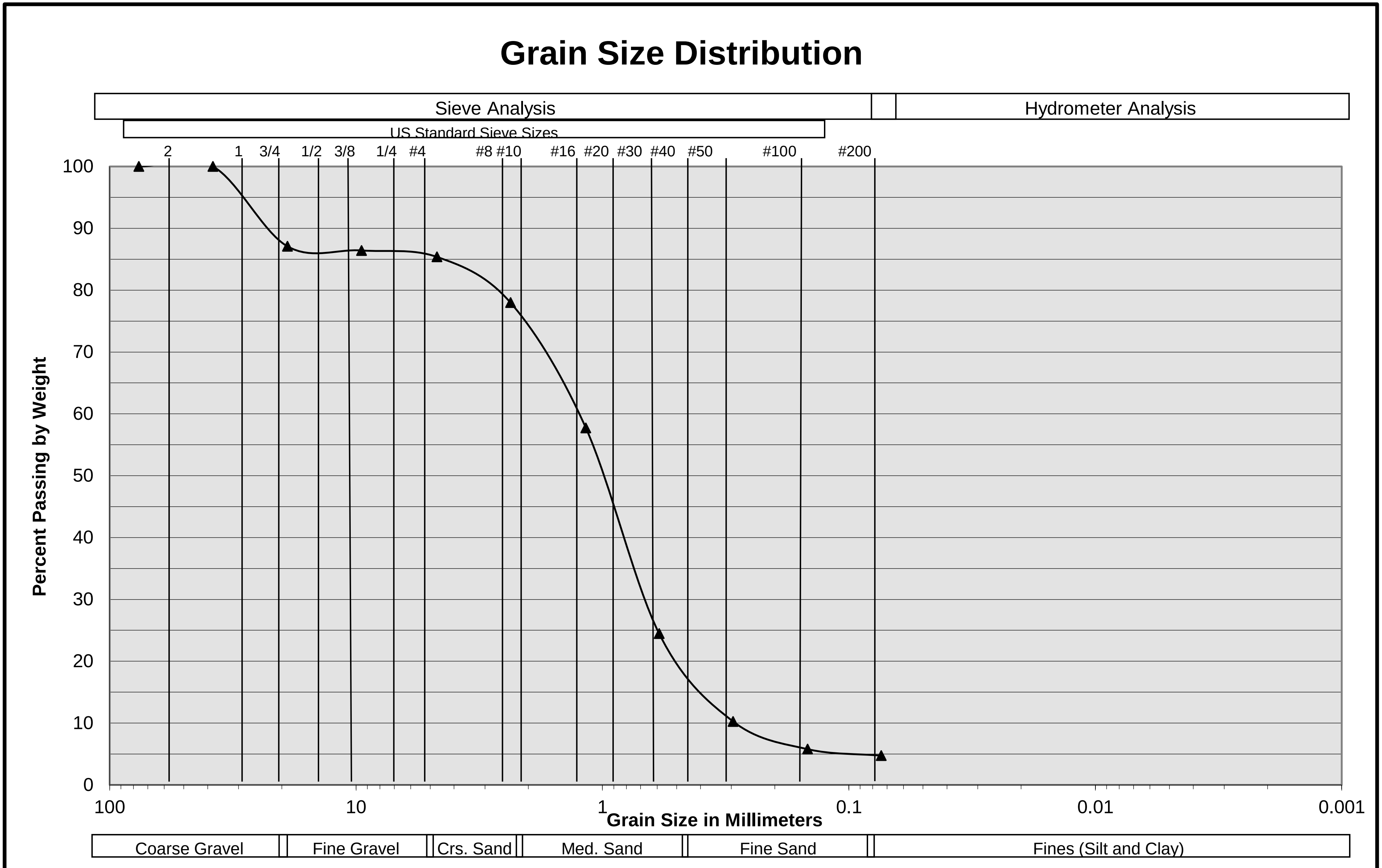
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation



Sample Description	I-2 @ 9 to 10 feet
Soil Classification	Gray Brown Gravelly fine to coarse Sand, trace Silt, occasional Cobbles

Phelan 20 Industrial Building
Hesperia, California
Project No. 23G131-2
PLATE C- 2

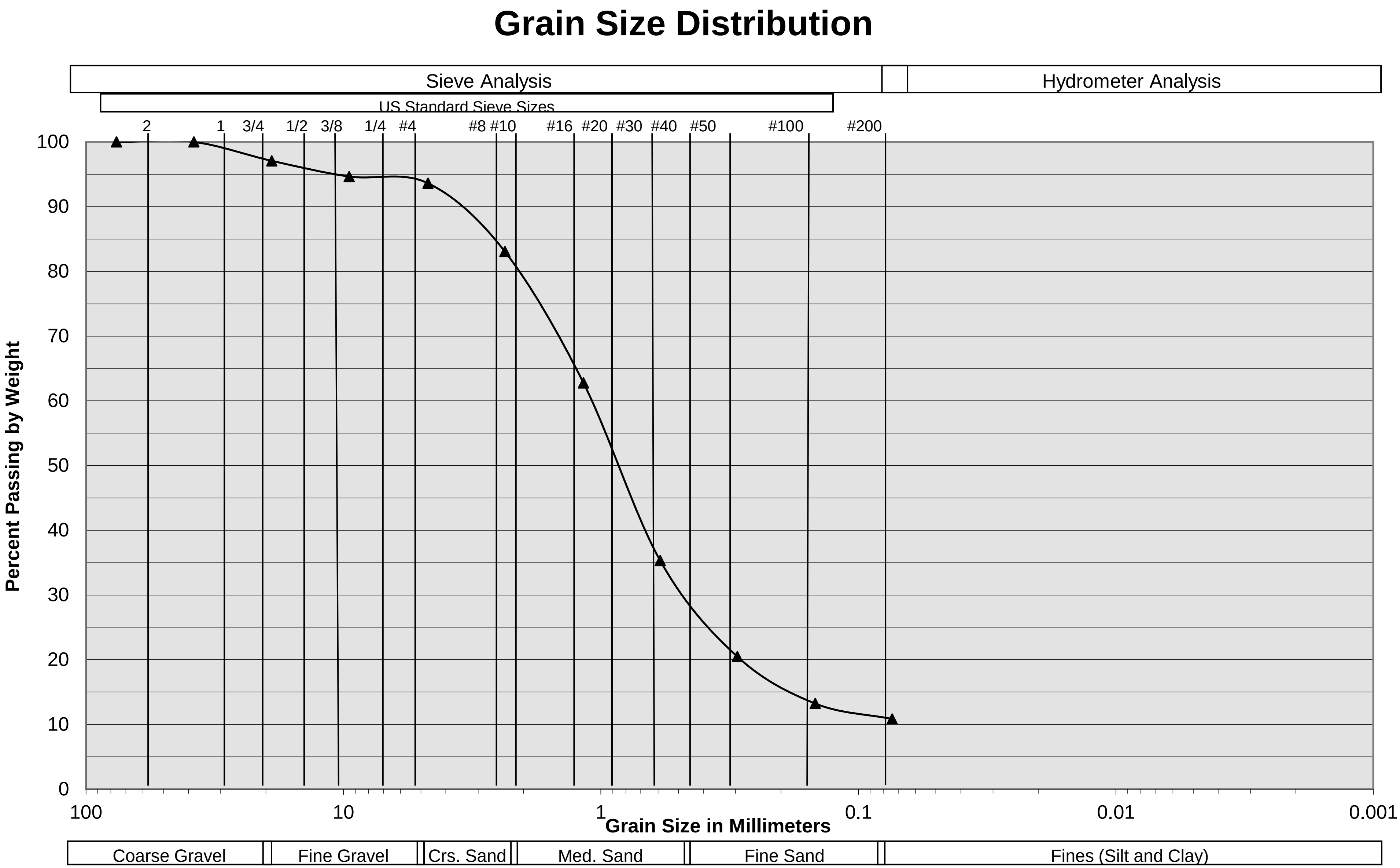
SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation



Sample Description	I-3 @ 9 to 10 feet
Soil Classification	Light Brown Gravelly fine to medium Sand, little to some coarse Sand, little fine Gravel, trace Silt

Phelan 20 Industrial Building
Hesperia, California
Project No. 23G131-2
PLATE C- 3

SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation



Sample Description	I-4 @ 9 to 10 feet
Soil Classification	Light Brown fine to medium Sand, some coarse Sand, little Silt, trace fine Gravel

Phelan 20 Industrial Building
Hesperia, California
Project No. 23G131-2
PLATE C- 4

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation