

August 3, 2021

Black Creek Group
4675 MacArthur Court, Suite 625
Newport Beach, California 92660



**SOUTHERN
CALIFORNIA
GEOTECHNICAL**
A California Corporation

Attention: Mr. Peter F. Schafer
AVP, Development

Project No.: **21G191-2**

Subject: **Results of Infiltration Testing**
Proposed Warehouse
NEC Harvill Avenue and Cajalco Road
Riverside County (Perris Area), California

Reference: 1) Geotechnical Investigation, Proposed Warehouse, NEC Harvill Avenue and Cajalco Road, Riverside County (Perris Area), California, prepared by Southern California Geotechnical, Inc. (SCG) for Black Creek Group, SCG Project No. 19G191-1, dated July 27, 2021.

Mr. Schafer:

In accordance with your request, we have conducted infiltration testing at the subject site. 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. 21P238R2, dated June 21, 2021. 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 the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December 2013 and the 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 site is located at the northeast corner of Harvill Avenue and Cajalco Road in an unincorporated portion of Riverside County near Perris, California. The site is bounded to the north by a commercial building, to the west by Harvill Avenue, to the south by Cajalco Road, and to the east by a railroad easement. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of an irregular-shaped parcel, 9.13± acres in size. The site is presently vacant and undeveloped. The eastern property line descends approximately 3 to 6± feet towards the railroad easement. Ground surface cover consists of exposed soil with sparse to moderate native

grass and weed growth, and localized areas of debris and trash. An existing sewer easement is located along the eastern property line.

Detailed topographic information was obtained from a topographic survey prepared by Kier-Wright. The topographic plan indicates that the overall site slopes towards the east-central drainage easement. The northern half of the site slopes towards the southeast and the southern half of the site slopes to the northeast at gradients of 1± percent.

Proposed Development

Based on the conceptual site plan provided to our office by the client, the site will be developed with one (1) new commercial/industrial building. The building will be 98,000± ft² in size, located in the southern area of the site. Dock-high doors will be constructed along a portion of the northern building wall. The building is expected to be surrounded by asphaltic concrete in the parking and driving lanes, Portland cement concrete in the truck court area, and limited areas of concrete flatwork and landscape planters.

The proposed development will include on-site infiltration to dispose of storm water. The infiltration system will consist of below-grade chamber systems located in the western area of the site. The bottom of the chambers are expected to be 5 to 10± feet below existing site grades.

Concurrent Study

Southern California Geotechnical, Inc. (SCG) performed a concurrent geotechnical investigation for the subject site. As part of this investigation seven (7) borings (identified as Boring Nos. B-1 through B-7) were advanced to depths of 10 to 25± feet below the existing site grades. Native alluvium was encountered at the ground surface at all of the boring locations, except Boring No. B-2, extending to at least the maximum depth explored of 25± feet below existing site grades. The younger alluvium generally consists of medium dense silty sands, clayey sands, and sandy silts with varying medium to coarse sands, silt and clay content. Boring Nos. B-5 through B-7 also encountered stiff to hard fine sandy clays and silty clays with varying amounts of sand and silt. It should be noted that Boring No. B-3 encountered soils which possess fine root fibers and porosity within the upper 12± feet. Older native alluvial soils were encountered at the ground surface and beneath the younger alluvium at Boring Nos. B-1 and B-2, extending to the maximum depth explored of 25± feet below ground surface. The older alluvium generally consists of medium dense to dense silty sands, clayey sands, and sandy silts with varying medium to coarse sand, silt and clay content. Many of the samples encountered were found to be cemented. Boring No. B-2 encountered a layer of loose clayey fine to medium sands at a depth of 6 feet below the existing site grades. The approximate locations of the concurrent borings are indicated on the Boring Location Plan, included as Plate 2 in Appendix A of this report.

Subsurface Exploration

Scope of Exploration

The subsurface exploration for the infiltration testing consisted of four (4) backhoe-excavated trenches, extending to depths of 5 to 10± 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 I-1 through I-4) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Geotechnical Conditions

Native older alluvial soils were encountered at the ground surface at all four (4) Infiltration Test locations. The older alluvial strata consisted of dense silty fine to coarse sands with trace quantities of fine gravel. Additionally, variable quantities of coarse sands, clays, and calcareous veining were encountered within the older alluvial strata. The Trench Logs, which illustrate the conditions encountered at the infiltration test locations, are included with this report.

Groundwater

Free water was not encountered during the excavation of any of the trenches or borings from the concurrent study. Based on the moisture content of the recovered soil samples and the lack of free water in the borings, the static groundwater table is at a greater depth than 25± feet below existing site grades.

As part of our research, we reviewed available groundwater data in order to determine the historic high groundwater level for the site. The primary reference used to determine the historic groundwater depths in this area is the Western Municipal Water District and the San Bernardino Valley Water Conservation District Cooperative Well Measuring Program. High water level from the nearest well is included below:

State Well ID	Approximate Distance from Subject Site	High Water Level MSL (feet)
04S/03W-07J001S	< 3,484 feet	73.1

Infiltration Testing – Double Ring Infiltrometer

The infiltration testing was performed in general accordance with the 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 each test location, a trench was excavated to the proposed depth of the infiltration system and 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 sixteen-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 both of the infiltration 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 20-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

Infiltration Results

The infiltration rates from the tests are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used as the design infiltration rate. The rates are summarized below:

<u>Infiltration Test No.</u>	<u>Test Depth (feet)</u>	<u>Soil Description</u>	<u>Infiltration Rate (inches/hour)</u>
I-1	10	Brown Silty fine to medium Sand, little Calcareous nodules and veining, trace Clay	0.1
I-2	10	Brown Silty fine to medium Sand, trace Clay, little Calcareous veining	0.2
I-3	6	Brown Silty fine to medium Sand, little Calcareous nodules and veining, trace Clay	0.1
I-4	5	Light Brown to Brown Silty fine to coarse Sand, trace Clay nodules, some Calcareous veining	0.1

Laboratory Testing

Moisture Content

The moisture contents for the recovered soil samples within the borings 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 base of each infiltration test boring 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 vary from 0.1 to 0.2 inches per hour. **Based on the results of the infiltration testing and encountered soils throughout the site, infiltration is not considered feasible at this site.**

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 proposed storm water 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 rate 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 proposed storm water 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 boring 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.



Ryan Bremer
Staff Geologist

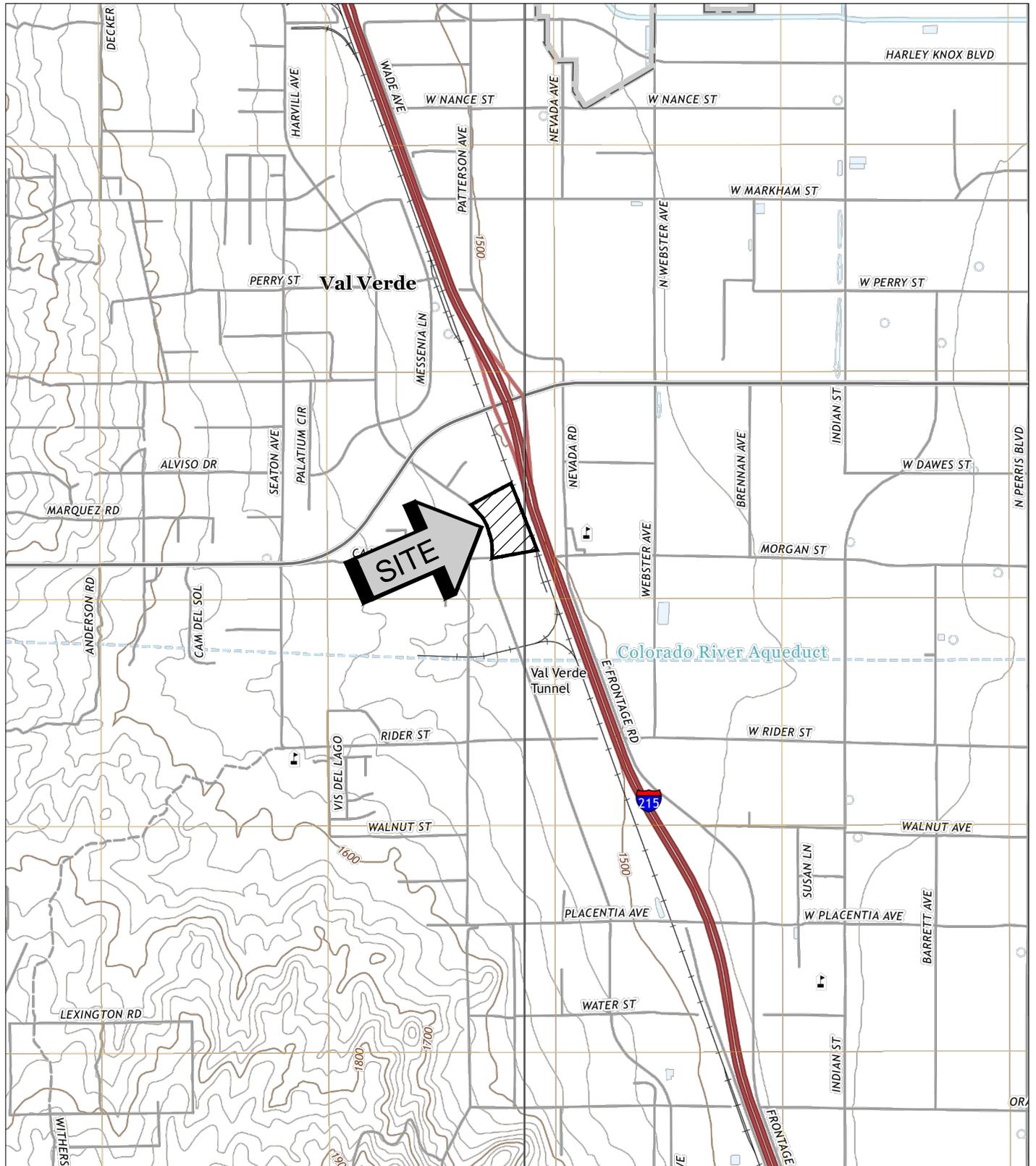


Robert G. Trazo, GE 2655
Principal Engineer



Distribution: (1) Addressee

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



SOURCE: USGS TOPOGRAPHIC MAP OF STEELE PEAK AND PERRIS QUADRANGLES, RIVERSIDE COUNTY, CALIFORNIA, 2018.

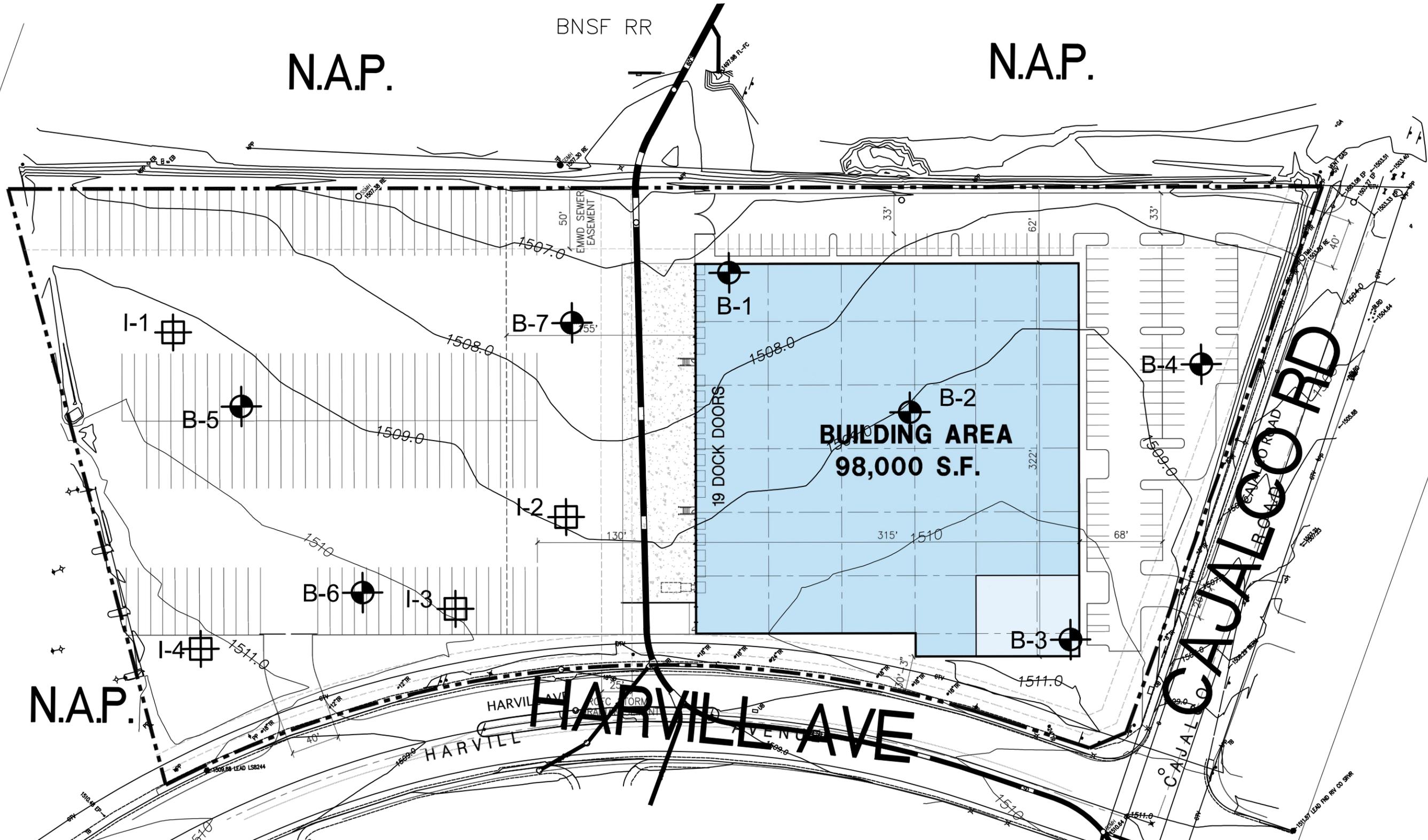


SITE LOCATION MAP	
PROPOSED WAREHOUSE	
RIVERSIDE COUNTY (PERRIS), CALIFORNIA	
SCALE: 1" = 2000'	 SOUTHERN CALIFORNIA GEOTECHNICAL
DRAWN: MD	
CHKD: GKM	
SCG PROJECT 21G191-2	
PLATE 1	

BNSF RR

N.A.P.

N.A.P.



GEOTECHNICAL LEGEND

-  APPROXIMATE INFILTRATION TEST LOCATION
-  APPROXIMATE BORING LOCATION (SCG PROJECT NO. 21G191-1)



NOTE: SITE PLAN PROVIDED BY HPA.

INFILTRATION TEST LOCATION PLAN

PROPOSED WAREHOUSE
RIVERSIDE COUNTY (PERRIS), CALIFORNIA

SCALE: 1" = 80'

DRAWN: MD

CHKD: RF

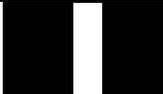
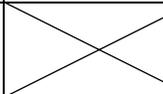
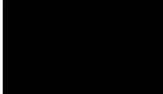
SCG PROJECT
21G191-2

PLATE 2



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/ft³.

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.

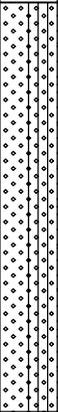
SOIL CLASSIFICATION CHART

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

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS



JOB NO.: 21G191-2	DRILLING DATE: 7/1/21	WATER DEPTH: ---
PROJECT: Proposed Warehouse	DRILLING METHOD: Backhoe	CAVE DEPTH: ---
LOCATION: Riverside County (Perris), California	LOGGED BY: Ryan Bremer	READING TAKEN: At Completion

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS	
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)		ORGANIC CONTENT (%)
5					SURFACE ELEVATION: --- MSL OLDER ALLUVIUM: Brown Silty fine to medium Sand, little Calcareous nodules and veining, trace Clay, little porosity, little fine root fibers, dense-damp @ 2½ to 10', no fine root fibers		6					
10					Trench Terminated at 10'							

TBL 21G191-2.GPJ_SOCALGEO.GDT 8/2/21



JOB NO.: 21G191-2	DRILLING DATE: 7/1/21	WATER DEPTH: ---
PROJECT: Proposed Warehouse	DRILLING METHOD: Backhoe	CAVE DEPTH: ---
LOCATION: Riverside County (Perris), California	LOGGED BY: Ryan Bremer	READING TAKEN: At Completion

FIELD RESULTS				GRAPHIC LOG	DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)			DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
SURFACE ELEVATION: --- MSL												
5					<p><u>OLDER ALLUVIUM</u>: Brown Silty fine to medium Sand, trace Clay, little Calcareous veining, trace fine root fibers, dense-dry</p> <p>@ 2 to 10', no fine root fibers</p> <p>@ 8 to 10', trace Clay nodules</p>							
10					Trench Terminated at 10'		8					

TBL 21G191-2.GPJ_SOCALGEO.GDT 8/2/21



JOB NO.: 21G191-2	DRILLING DATE: 7/2/21	WATER DEPTH: ---
PROJECT: Proposed Warehouse	DRILLING METHOD: Backhoe	CAVE DEPTH: ---
LOCATION: Riverside County (Perris), California	LOGGED BY: Ryan Bremer	READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG		DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
5					<p style="text-align: center;">SURFACE ELEVATION: --- MSL</p> <p>OLDER ALLUVIUM: Brown Silty fine to medium Sand, little Calcareous nodules and veining, trace Clay nodules, dense-damp</p>		7					
Trench Terminated at 6'												

TBL 21G191-2.GPJ_SOCALGEO.GDT 8/2/21



JOB NO.: 21G191-2	DRILLING DATE: 7/2/21	WATER DEPTH: ---
PROJECT: Proposed Warehouse	DRILLING METHOD: Backhoe	CAVE DEPTH: ---
LOCATION: Riverside County (Perris), California	LOGGED BY: Ryan Bremer	READING TAKEN: At Completion

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
				SURFACE ELEVATION: --- MSL							
	5	4			<u>OLDER ALLUVIUM:</u> Light Brown to Brown Silty fine to coarse Sand, trace Clay nodules, some Calcareous veining, dense-dry						
					Trench Terminated at 5'						

TBL 21G191-2.GPJ_SOCALGEO.GDT 8/2/21

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	Riverside County (Perris), California
Project Number	21G191-2
Engineer	Ryan Bremer

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

Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				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	11:21 AM	20	250	50	1000	400	0.21	0.55	0.08	0.22
	Final	11:41 AM	20	300		1400					
2	Initial	11:42 AM	20	300	50	1400	300	0.21	0.41	0.08	0.16
	Final	12:02 PM	40	350		1700					
3	Initial	12:04 PM	20	350	50	1700	300	0.21	0.41	0.08	0.16
	Final	12:24 PM	60	400		2000					
4	Initial	12:26 PM	20	400	50	2000	200	0.21	0.27	0.08	0.11
	Final	12:46 PM	80	450		2200					
5	Initial	12:48 PM	20	450	50	2200	200	0.21	0.27	0.08	0.11
	Final	1:08 PM	100	500		2400					

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	Riverside County (Perris), California
Project Number	21G191-2
Engineer	Ryan Bremer

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

Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				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	10:07 AM	20	250	250	500	1300	1.03	1.78	0.40	0.70
	Final	10:27 AM	20	500		1800					
2	Initial	10:33 AM	20	500	200	1800	800	0.82	1.10	0.32	0.43
	Final	10:53 AM	40	700		2600					
3	Initial	10:54 AM	20	700	100	2600	600	0.41	0.82	0.16	0.32
	Final	11:14 AM	60	800		3200					
4	Initial	11:15 AM	20	800	50	3200	500	0.21	0.69	0.08	0.27
	Final	11:35 AM	80	850		3700					
5	Initial	11:35 AM	20	850	50	3700	400	0.21	0.55	0.08	0.22
	Final	11:55 AM	100	900		4100					

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	Riverside County (Perris), California
Project Number	21G191-2
Engineer	Ryan Bremer

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				Infiltration Rates			
				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	8:20 AM	20	250	0	1000	700	0.00	0.96	0.00	0.38
	Final	8:40 AM	20	250		1700					
2	Initial	8:42 AM	20	250	0	1700	600	0.00	0.82	0.00	0.32
	Final	9:02 AM	40	250		2300					
3	Initial	9:03 AM	20	250	0	2300	300	0.00	0.41	0.00	0.16
	Final	9:23 AM	60	250		2600					
4	Initial	9:24 AM	20	250	0	2600	200	0.00	0.27	0.00	0.11
	Final	9:44 AM	80	250		2800					

INFILTRATION CALCULATIONS

Project Name	Proposed Warehouse
Project Location	Riverside County (Perris), California
Project Number	21G191-2
Engineer	Ryan Bremer

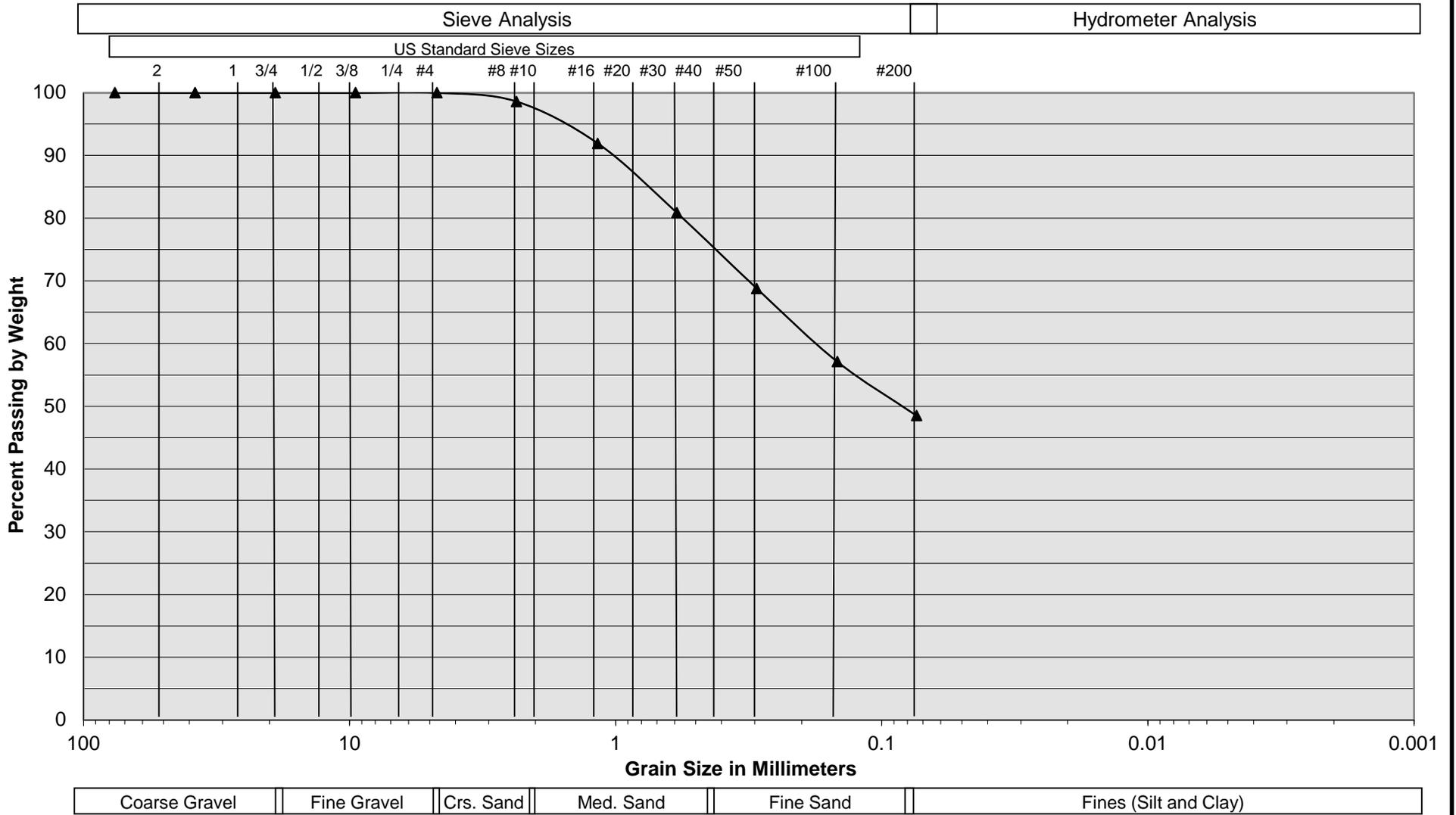
Infiltration Test No I-4

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

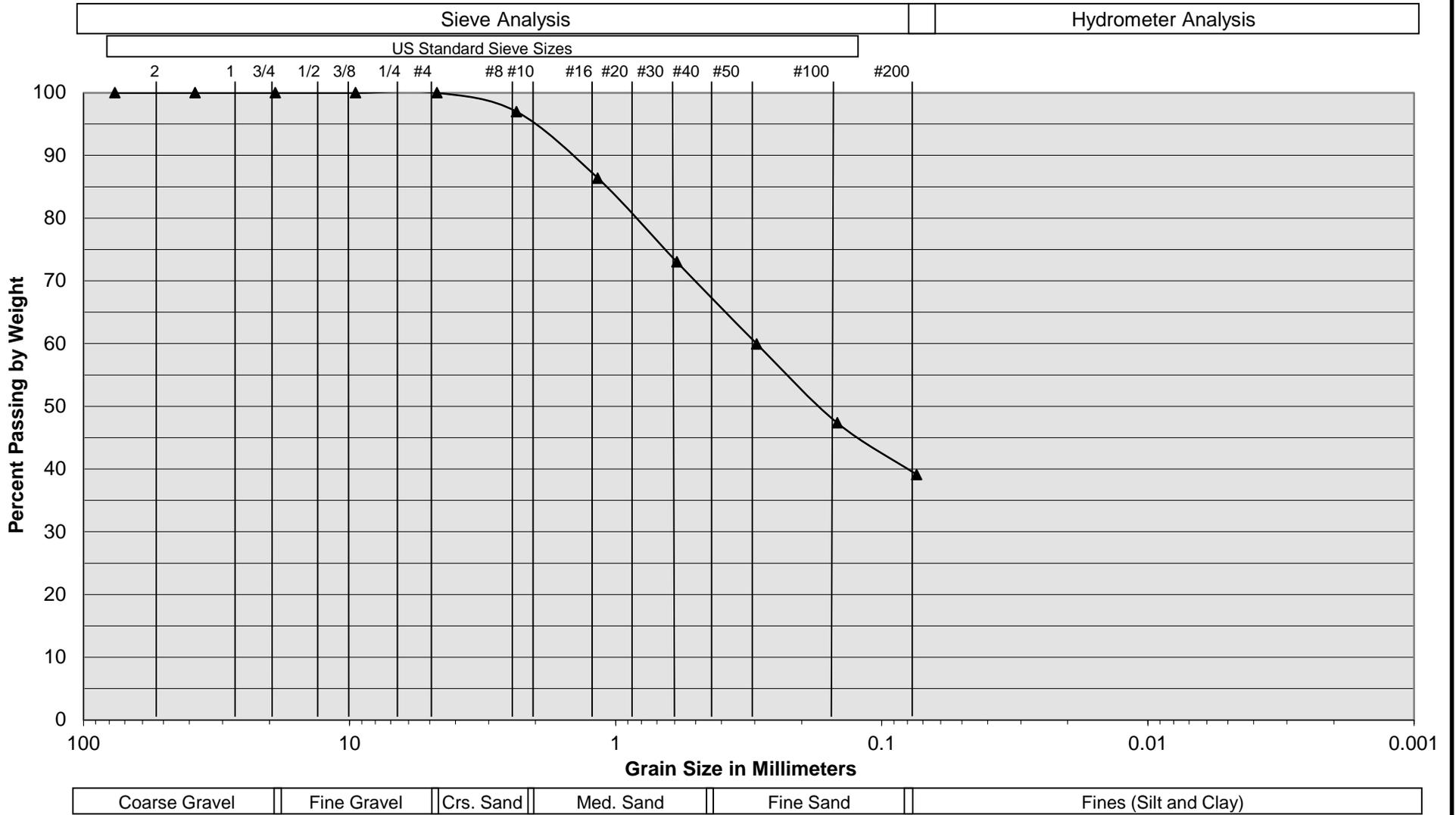
*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval Elapsed (min)	Flow Readings				Infiltration Rates			
				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	8:41 AM	20	250	0	900	1300	0.00	1.78	0.00	0.70
	Final	9:01 AM	20	250		2200					
2	Initial	9:01 AM	20	250	0	2200	700	0.00	0.96	0.00	0.38
	Final	9:21 AM	40	250		2900					
3	Initial	9:21 AM	20	250	0	2900	300	0.00	0.41	0.00	0.16
	Final	9:41 AM	60	250		3200					
4	Initial	9:41 AM	20	250	0	3200	200	0.00	0.27	0.00	0.11
	Final	10:01 AM	80	250		3400					

Grain Size Distribution



Grain Size Distribution



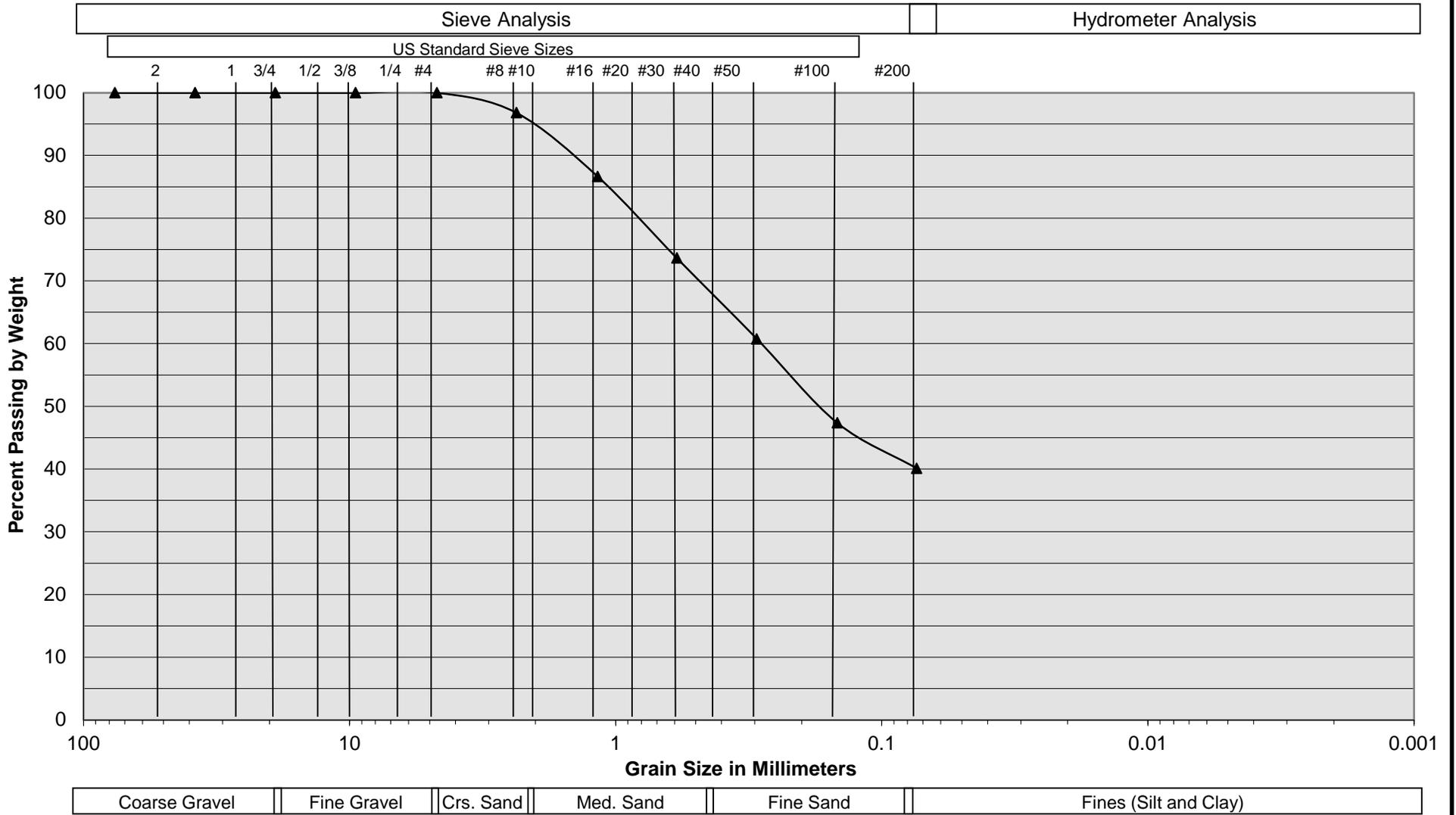
Sample Description	I-2 @ 10'
Soil Classification	Brown Silty fine to medium Sand, trace Clay, trace Calcareous veining

Proposed Warehouse
 Riverside County (Perris), California
 Project No. 21G191-2
PLATE C- 2



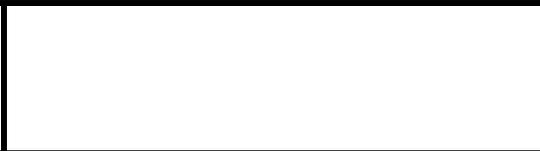
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Grain Size Distribution



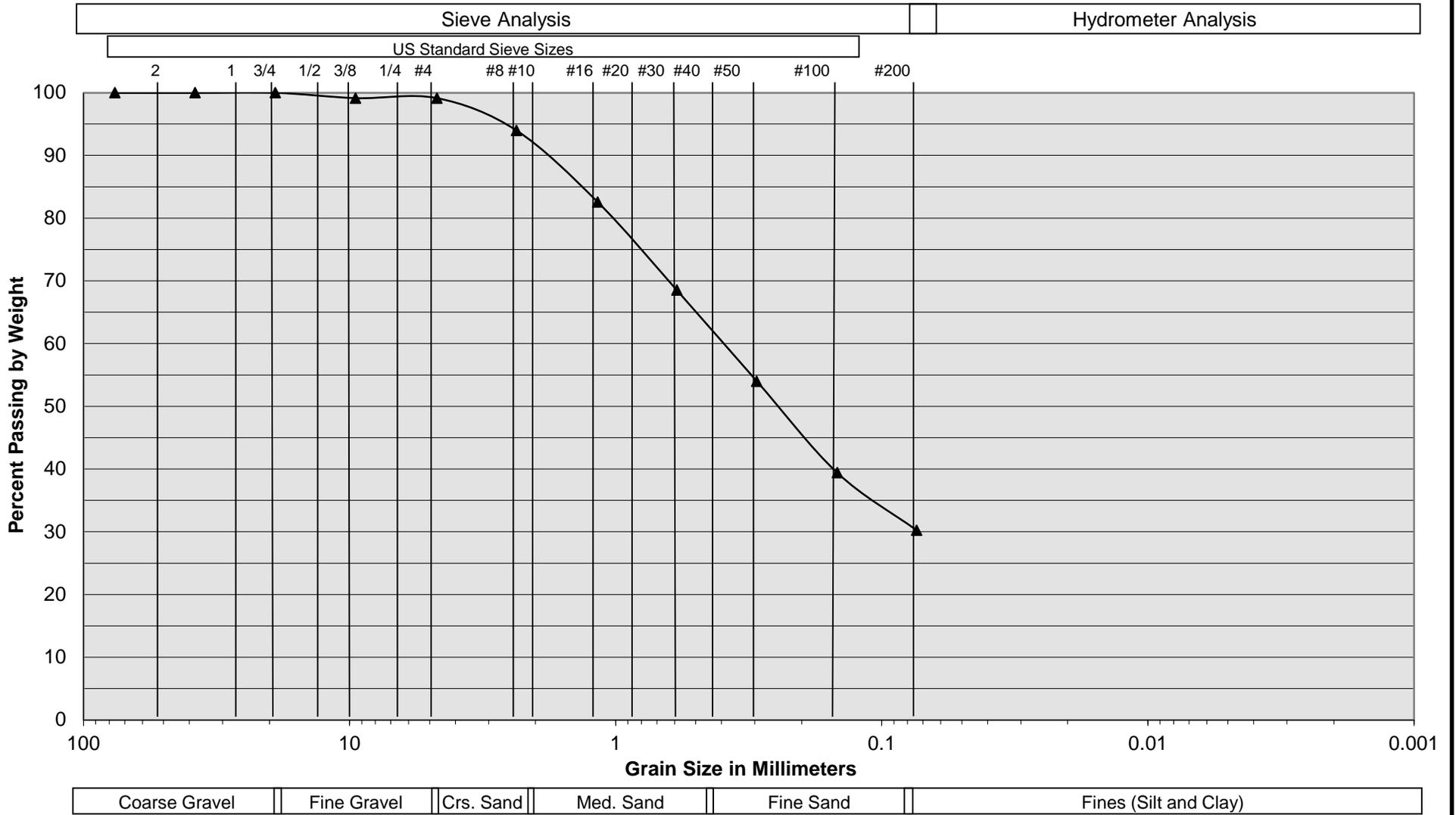
Sample Description	I-3 @ 6'
Soil Classification	Brown Silty fine to medium Sand, little Calcareous nodules and veining, trace Clay

Proposed Warehouse
 Riverside County (Perris), California
 Project No. 21G191-2
PLATE C- 3



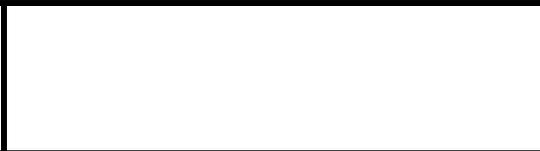
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A California Corporation

Grain Size Distribution



Sample Description	I-4 @ 5'
Soil Classification	Light Brown to Brown Silty fine to coarse Sand, trace Clay nodules, some Calcareous veining

Proposed Warehouse
 Riverside County (Perris), California
 Project No. 21G191-2
PLATE C- 4



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