APPENDIX E2

RESULTS OF INFILTRATION STUDY

November 8, 2016

Hillwood Investment Properties
901 Via Piemonte, Suite 175
Ontario, California 91764

Attention: Mr. Ned Sciortino

Project No.: **16G167-2**

Subject: **Results of Infiltration Testing**
Proposed Commercial/Industrial Building
Waterman Avenue and Park Center Circle
San Bernardino, California

Reference: Geotechnical Feasibility Study, Proposed Commercial/Industrial Building, Waterman Avenue and Park Center Circle, San Bernardino, California, prepared for Hillwood Investment Properties by Southern California Geotechnical, Inc. (SCG), SCG Project No. 16G167-1, dated November 8, 2016.

Gentlemen:

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. 15P410 dated October 14, 2015. The scope of services included surface reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rate of the onsite soils. The infiltration testing was performed in general accordance with the Technical Guidance Document for Water Quality Management Plans prepared for the County of San Bernardino Areawide Stormwater Program dated June 7, 2013. The San Bernardino County standards defer to guidelines published by Riverside County Department of Environmental Health (RCDEH).

Site and Project Description

The subject site is located at 1494 Waterman Avenue, on the west side of Waterman Avenue at the intersection of Waterman Avenue and Park Center Circle in San Bernardino, California. The site is bounded to the north by a vacant lot and single family residences, to the west by the Twin Creek channel, to the south by the Santa Ana River, and to the east by Waterman Avenue. 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, approximately 60.89 acres in size. The site is currently utilized as a golf course and is identified as the San Bernardino Public Golf Course. A club house building and two other associated structures relating to the golf course are located in

the northwestern area of the site. An asphaltic concrete parking lot is located northeast of the club house. The asphalt pavements are in fair condition with light to moderate cracking throughout. The ground surface cover throughout the golf course consists of turf grass with multiple large trees lining the fairways. Several small lakes/ponds/water hazards and sand traps are located throughout the golf course.

Topographic information was obtained from the conceptual grading plan prepared by Thienes Engineering, Inc. This plan generally indicates the site topography to be relatively level, with the exception of some areas comprised of moderately sloping terrain. The overall site topography slopes downward to the west at gradients ranging from 1 to 2 percent. However, several terraced areas, located within the central and northeastern region of the site possess slope inclinations of up to 3h:1v (horizontal to vertical). The terraced areas are generally 4 to 10± feet higher in elevation than the surrounding adjacent grades. The existing site grades range from an elevation of 1010± feet mean sea level (msl) in the northeastern portion of the site to an elevation of 983± feet msl in the southwestern portion of the site.

Proposed Development

Based on a site plan prepared by HPA, the site will be developed with one (1) new commercial/industrial building. The building will be located in the central area of the site and will be 1,078,480± ft² in size. The building will be constructed in a cross dock configuration with loading docks along the north and south sides of the building. The building will be surrounded by asphaltic concrete pavements in the parking and drive lane areas, Portland cement concrete pavements in the loading dock areas, along with concrete flatwork and landscape planters throughout the site.

We understand that the site will utilize an on-site storm water infiltration system to dispose of storm water. Based on an infiltration test location plan prepared by Thienes Engineering, Inc., the storm water disposal system will consist of one (1) infiltration basin located in the southwest corner of the subject site. The bottom of the proposed basin will be 2 to 5½± feet below the existing site grades. In addition, three (3) below grade chamber systems may also be utilized at this site. One chamber system may be located in the northwestern area of the site. The bottom of this chamber system would be 10½ to 13½± below the existing site grades. Another below grade chamber would be located in the northeastern area of the site. The bottom of this chamber system would be 12± feet below existing grades. The third chamber would be located in the south-central area of the site at a depth of 4 to 6± feet below existing site grades.

Concurrent Study

Southern California Geotechnical, Inc. (SCG) recently conducted a geotechnical investigation at the subject site. As a part of this study, five (5) borings were advanced to depths of 20 to 50± feet below currently existing site grades.

Soils identified as possible fill were encountered at the ground surface at two of the boring locations, extending to depths of 4½ and 5½± feet below the existing site grades. The possible fill soils generally consist of loose to medium dense silty fine sands and fine to medium sands. Native alluvium was encountered beneath the possible fill soils or at the ground surface at all of the boring locations. The near-surface alluvial soils generally consist of loose to medium dense

fine sands and silty sands with varying fine to coarse sand content, with zones of stiff to very stiff silty clays, extending to depths of 12 to 24± feet. At greater depths, the alluvium generally consists of medium dense to very dense fine to medium sands, silty fine sands and stiff to hard silty clays, extending to the maximum depth explored of 50± feet.

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 50± feet below existing site grades at the time of the subsurface investigation.

Subsurface Exploration

Scope of Exploration

The subsurface exploration conducted for this project consisted of a total of eight (8) infiltration test borings. Three (3) of the infiltration borings were located within the proposed infiltration basin (identified as I-1 through I-3) and the remaining five (5) infiltration borings (identified as I-4 through I-8) were located within the proposed chamber systems. The borings were advanced to depths of 2 to 13½± feet below existing site grades and were all logged during drilling by a member of our staff. The borings were advanced using a truck-mounted drilling rig, equipped with 8-inch diameter hollow stem augers. The approximate locations of the infiltration test borings are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Upon the completion of the infiltration borings, the bottoms of the test holes were covered with 2± inches of clean ¾-inch gravel. A sufficient length of 3-inch-diameter perforated PVC casing was then placed into each test hole so that the PVC casing extended from the bottom of the test hole to the ground surface. Clean ¾-inch gravel was then installed in the annulus surrounding the PVC casing.

Geotechnical Conditions

Native alluvial soils were encountered at the ground surface at all eight (8) of the infiltration boring locations, extending to the maximum depth explored of 13½± feet. The alluvium generally consists of very loose to medium dense fine sands, silty fine to medium sands, and fine sandy silts with varying amounts of coarse sand and silt content. At greater depths, the alluvium consists of medium dense to dense fine to coarse sands and gravelly fine to coarse sands. Free water was not encountered within any of the infiltration test borings. The Boring Logs, which illustrate the conditions encountered at the infiltration boring locations, are included with this report.

Infiltration Testing

We understand that the results of the testing will be used to prepare a preliminary design for the proposed storm water infiltration system that will be used to dispose of storm water at the subject site. As previously stated, the infiltration testing was performed in general accordance with Technical Guidance Document for Water Quality Management Plans, prepared for the County of San Bernardino Areawide Stormwater Program, dated June 7, 2013.

Pre-soaking

In accordance with the infiltration county standards for sandy soils, the infiltration test borings were pre-soaked 2 hours prior to infiltration testing or until all of the water had percolated through the test hole. The pre-soaking process consisted of filling the test borings by inverting a full 5 gallon bottle of clear water supported over the hole so that the water flow into the hole holds constant at a level at least 5 times the hole's radius above the gravel at the bottom of the hole. Pre-soaking was completed after all of the water had percolated through each test hole.

Infiltration Testing

Following the pre-soaking process of the infiltration test borings, SCG performed the infiltration testing. Each test hole was filled with water to a depth of at least 5 times the hole radius above the gravel at the bottom of the test hole prior to each test interval. In accordance with the San Bernardino County guidelines, since "sandy soils" were encountered at the bottom of all the infiltration test borings (where 6 inches of water infiltrated into the surrounding soils for two consecutive 25-minute readings), readings were taken at an interval of 10 minutes for a total of 1 hour at each test location. After each reading, water was added to the boring so that the depth of the water was at least 5 times the radius of the hole. The water level readings are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

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

Infiltration Test No.	**Soil Description**	**Infiltration Rate (inches/hour)**
I-1	Fine to medium Sand, trace coarse Sand, trace Silt	16.3
I-2	Fine to medium Sand, trace Silt	20.6
I-3	Fine to medium Sand, trace coarse Sand, trace Silt	17.5
I-4	Silty fine Sand, little medium Sand	8.4
I-5	Gravelly fine to coarse Sand, trace Silt	20.6
I-6	Silty fine to medium Sand, trace coarse Sand, trace fine Gravel	6.7
I-7	Silty fine Sand to fine Sandy Silt, little medium Sand	1.5
I-8	Fine to coarse Sand, trace Silt, trace fine Gravel	20.0

Laboratory Testing

Grain Size Analysis

The grain size distribution of selected soils taken from the base of each infiltration test boring

has been determined using a range of wire mesh screens. The analysis was 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 the analysis are presented at the end of this report.

Design Recommendations

A total of eight (8) infiltration tests were performed at the subject site. As noted above, the infiltration rates at these locations ranged from 1.5 to 20.6 inches per hour. The primary factors affecting the infiltration rates are the varying relative densities and silt content of the encountered soils, which vary at different depths and locations at the subject site. In general, higher silt content was observed within the soil exposed at the bottom of Infiltration Test No. I-7, which exhibited a slower infiltration rate.

Based on the infiltration test results, an infiltration rate of 16 inches per hour is recommended for the design of the proposed infiltration basin located in the southwest corner of the subject site. Should consideration be given to the additional below grade chamber systems, a design infiltration rate of 8 inches per hour is recommended for the northwest chamber system, 20 inches per hour for the northeast chamber system, and 1.5 inches per hour for the south-central chamber system.

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 system. It should be confirmed that the soils at the base of the proposed infiltration basin correspond 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 infiltration system should be performed by the project civil engineer, in accordance with the city of San Bernardino and/or San Bernardino County guidelines. **It is recommended that the project civil engineer apply an appropriate factor of safety.** 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. **The infiltration rates 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 eight (8) discrete locations and that the overall infiltration rate of the infiltration system could vary considerably.

Infiltration versus Permeability

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. The infiltration rate presented herein was determined in accordance with the San Bernardino County guidelines, and is considered valid for the time and place of the actual test. 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.

Location of Infiltration System

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 subgrade soils. If possible, the proposed infiltration system 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 buildings, 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.

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,

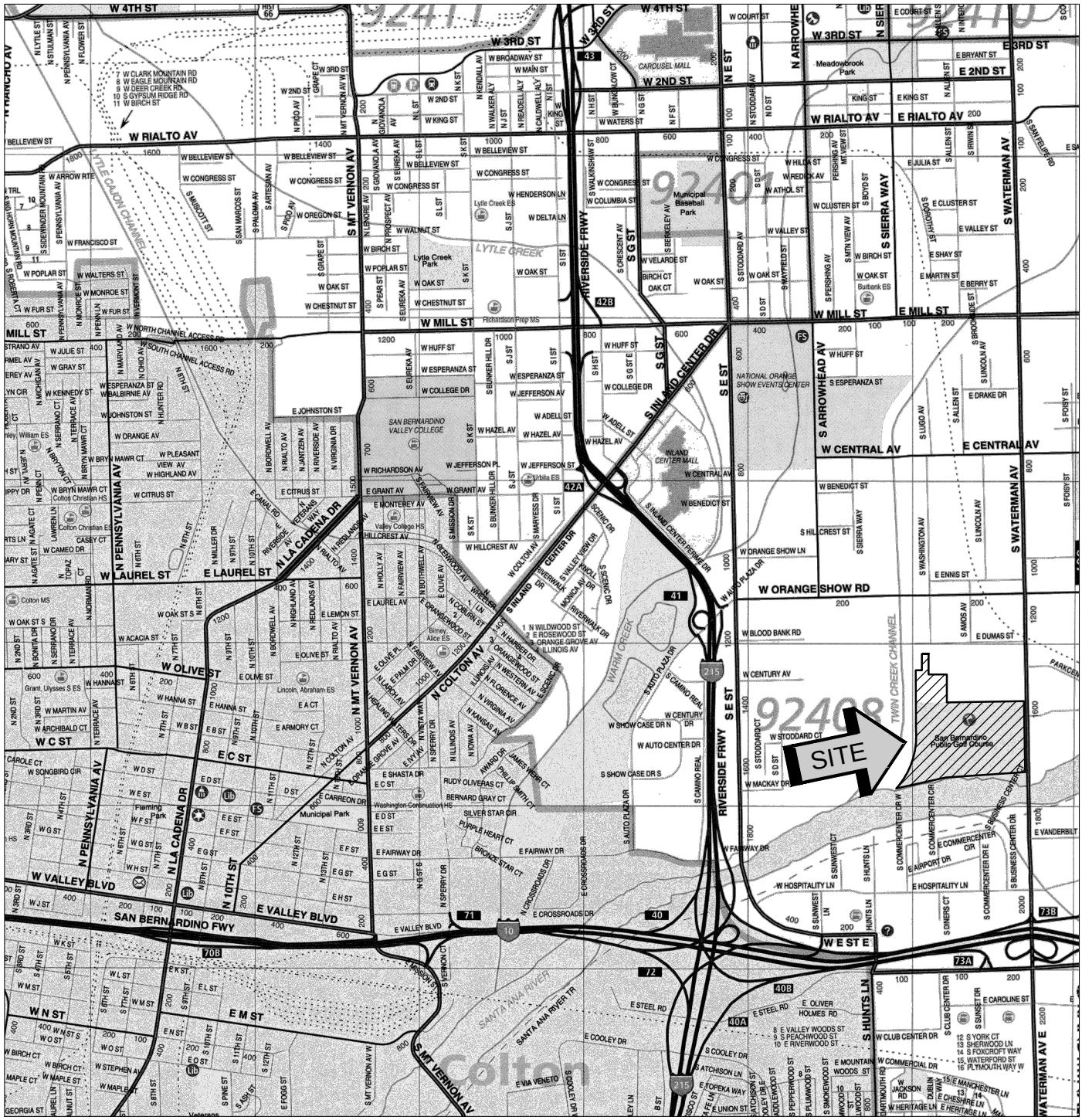
SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Scott McCann
Staff Scientist

Robert G. Trazo, M.Sc., GE 2655
Principal Engineer

Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Boring Log Legend and Boring Logs (10 pages)
Infiltration Test Results Spreadsheets (8 pages)
Grain Size Distribution Graphs (8 pages)



SOURCE: SAN BERNARDINO COUNTY
THOMAS GUIDE, 2013

SITE LOCATION MAP

PROPOSED COMMERCIAL/INDUSTRIAL BUILDING
SAN BERNARDINO, CALIFORNIA

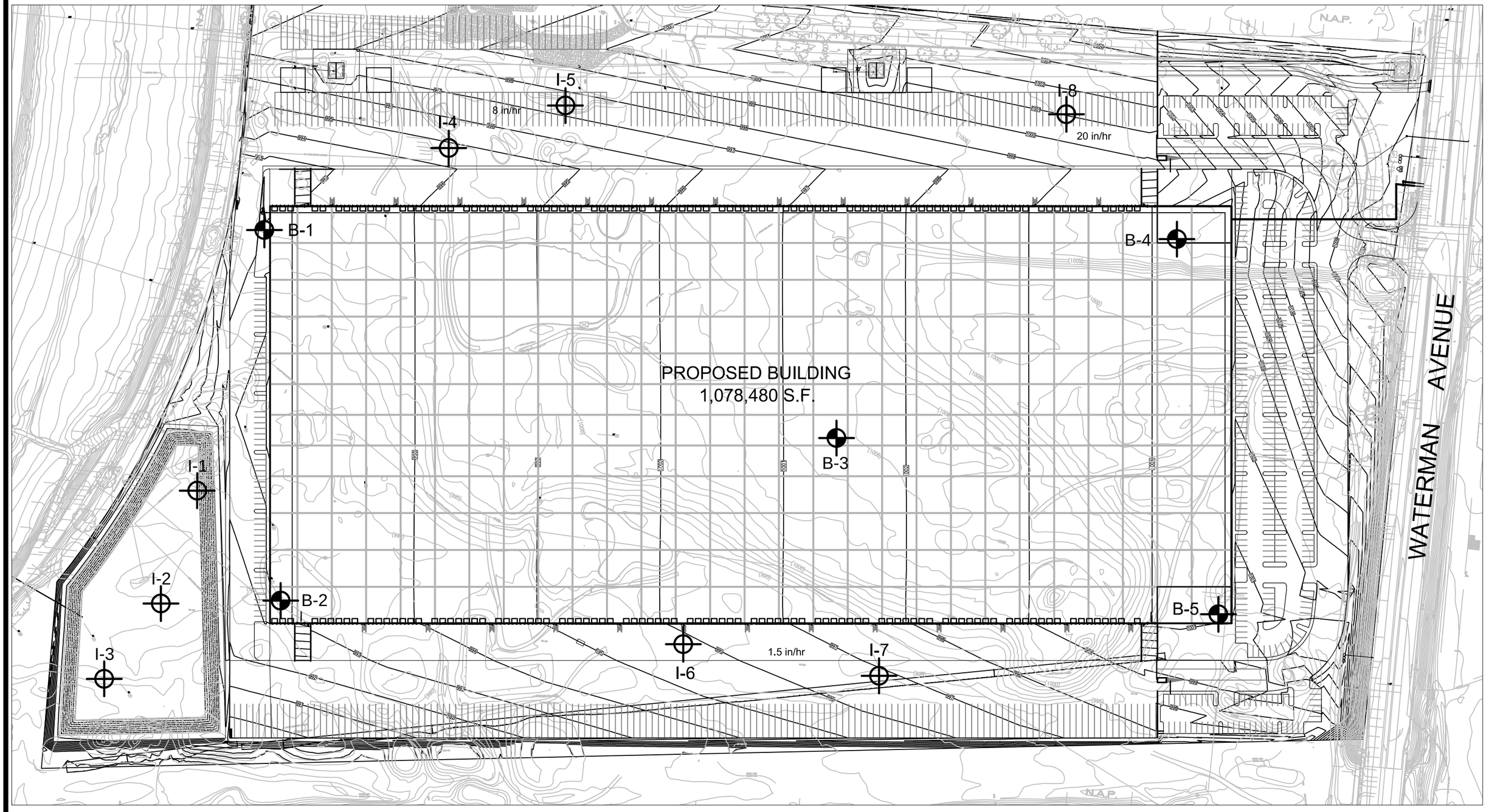
SCALE: 1" = 2400'

DRAWN: JLH
CHKD: JAS

SCG PROJECT
16G167-2

PLATE 1

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL



GEOTECHNICAL LEGEND

- APPROXIMATE INFILTRATION TEST LOCATION
- APPROXIMATE BORING LOCATION FROM CONCURRENT STUDY (SCG PROJECT NO. 16G167-1)

NORTH

NOTE: BASE MAP PROVIDED BY THIENES ENGINEERING, INC.

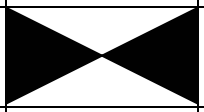
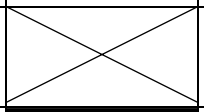
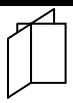
INFILTRATION TEST LOCATION PLAN

PROPOSED COMMERCIAL/INDUSTRIAL BUILDING

SAN BERNARDINO, CALIFORNIA

SCALE: 1" = 200'	SOUTHERN CALIFORNIA GEOTECHNICAL
DRAWN: PM CHKD: JAS	
SCG PROJECT 16G167-2	
PLATE 2	

BORING 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.

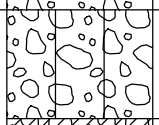
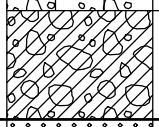
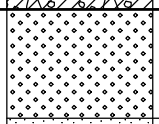
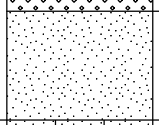
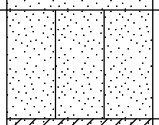
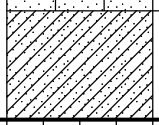
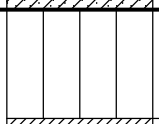
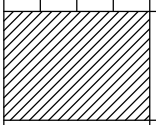
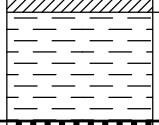
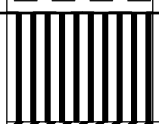
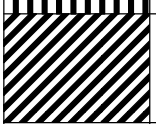
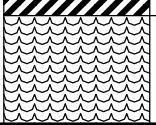
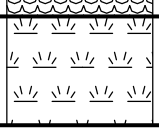
LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

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

BORING NO. I-1

JOB NO.: 16G167-2
PROJECT: Proposed C/I Bldg
LOCATION: San Bernardino, California

DRILLING DATE: 10/13/16
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jason Hiskey

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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
		5			ALLUVIUM: Light Gray fine Sand, loose-dry to damp		2					
5		4			Light Gray Brown fine to medium Sand, trace Silt, trace coarse Sand, loose to very loose-damp		3			2		
					Boring Terminated at 5½'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-2

JOB NO.: 16G167-2
PROJECT: Proposed C/I Bldg
LOCATION: San Bernardino, California

DRILLING DATE: 10/13/16
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jason Hiskey

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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
		5			ALLUVIUM: Light Gray Brown fine to medium Sand, trace Silt, loose-damp		7					
		6					3			4		
					Boring Terminated at 4½'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-2**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-3

JOB NO.: 16G167-2 | DRILLING DATE: 10/13/16 | WATER DEPTH: Dry
PROJECT: Proposed C/I Bldg | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: ---
LOCATION: San Bernardino, California | LOGGED BY: Jason Hiskey | 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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
	X	6			ALLUVIUM: Light Gray fine to medium Sand, trace coarse Sand, trace Silt, loose-dry to damp		2			5		
					Boring Terminated at 2'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-3**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-4

JOB NO.: 16G167-2 | DRILLING DATE: 10/13/16 | WATER DEPTH: Dry
PROJECT: Proposed C/I Bldg | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: ---
LOCATION: San Bernardino, California | LOGGED BY: Jason Hiskey | 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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
		7			ALLUVIUM: Light Gray Brown fine Sandy Silt, trace fine root fibers, loose-damp		4					
		7			Light Gray Brown Silty fine Sand, little medium Sand, trace coarse Sand, loose-dry to damp		2					
5		10			Light Gray Brown Silty fine Sand to fine Sandy Silt, trace medium Sand, loose to medium dense-damp		3					
		12			Light Gray Brown Silty fine Sand, little medium Sand, loose to medium dense-damp		4			32		
10					Boring Terminated at 10½'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-4**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-5

JOB NO.: 16G167-2 | DRILLING DATE: 10/13/16 | WATER DEPTH: Dry
PROJECT: Proposed C/I Bldg | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: ---
LOCATION: San Bernardino, California | LOGGED BY: Jason Hiskey | 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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
		6			ALLUVIUM: Light Gray Brown fine Sandy Silt, trace fine root fibers, loose-damp		3					
		5			Light Gray Brown Silty fine Sand, little medium Sand, loose-dry to damp		2					
5		6			Light Gray fine Sand, little Silt, trace medium Sand, loose-damp		4					
		16			Gray Brown fine to coarse Sand, little fine to coarse Gravel, trace Silt, medium dense-damp		3					
10												
		31			Light Gray Gravelly fine to coarse Sand, trace Silt, dense-dry		1			4		
					Boring Terminated at 13½'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-5**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-6

JOB NO.: 16G167-2 | DRILLING DATE: 10/13/16 | WATER DEPTH: Dry
PROJECT: Proposed C/I Bldg | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: ---
LOCATION: San Bernardino, California | LOGGED BY: Jason Hiskey | 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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
	X	6			ALLUVIUM: Gray Brown fine to medium Sand, little Silt, loose-damp		4					
	X	7			Gray Brown Silty fine to medium Sand, trace fine Gravel, trace coarse Sand, loose-damp		4			15		
					Boring Terminated at 5'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-6**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-7

JOB NO.: 16G167-2 | DRILLING DATE: 10/13/16 | WATER DEPTH: Dry
PROJECT: Proposed C/I Bldg | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: ---
LOCATION: San Bernardino, California | LOGGED BY: Jason Hiskey | 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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
		13			ALLUVIUM: Light Gray Brown fine to coarse Sand, little to some fine Gravel, medium dense-damp		3					
5		15			Light Gray Silty fine Sand to fine Sandy Silt, little medium Sand, trace fine root fibers, medium dense-damp		7			51		
					Boring Terminated at 6'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-7**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-8

JOB NO.: 16G167-2
PROJECT: Proposed C/I Bldg
LOCATION: San Bernardino, California

DRILLING DATE: 10/13/16
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jason Hiskey

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 (%)	UNCONFINED SHEAR (TSF)	COMMENTS
		15			ALLUVIUM: Light Gray Brown Silty fine to medium Sand, little coarse Sand, trace fine root fibers, medium dense-damp		3					
		18			Light Gray Brown fine to medium Sand, trace Silt, little coarse Sand, medium dense-damp		3					
5		11			Light Gray fine Sand, medium dense-damp		3					
		12			Light Gray Brown fine to coarse Sand, trace Silt, trace fine Gravel, medium dense-dry to damp		2					
10		14					3			6		
					Boring Terminated at 13'							

TBL 16G167-2.GPJ SOCALGEO.GDT 11/9/16

TEST BORING LOG **PLATE B-8**

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	6	(ft)

Infiltration Test Hole	I-1

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	12:15 PM	6.0	4.00	1.50	1.25	21.18	Pre-Sat
	Final	12:21 PM		5.50				
P2	Initial	12:22 PM	8.0	4.00	1.65	1.18	18.45	
	Final	12:30 PM		5.65				
1	Initial	12:31 PM	10.0	4.00	1.80	1.10	17.05	Infiltration Testing
	Final	12:41 PM		5.80				
2	Initial	12:42 PM	10.0	4.00	1.80	1.10	17.05	
	Final	12:52 PM		5.80				
3	Initial	12:53 PM	10.0	4.00	1.77	1.12	16.57	
	Final	1:03 PM		5.77				
4	Initial	1:04 PM	10.0	4.00	1.76	1.12	16.41	
	Final	1:14 PM		5.76				
5	Initial	1:15 PM	10.0	4.00	1.76	1.12	16.41	
	Final	1:25 PM		5.76				
6	Initial	1:26 PM	10.0	4.00	1.75	1.13	16.26	
	Final	1:36 PM		5.75				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 1
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	4.5	(ft)

Infiltration Test Hole	I-2

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	11:00 AM	9.0	2.50	2.00	1.00	22.86	Pre-Sat
	Final	11:09 AM		4.50				
P2	Initial	11:10 AM	9.0	2.50	2.00	1.00	22.86	
	Final	11:19 AM		4.50				
1	Initial	11:20 AM	10.0	2.50	2.00	1.00	20.57	Infiltration Testing
	Final	11:30 AM		4.50				
2	Initial	11:31 AM	10.0	2.50	2.00	1.00	20.57	
	Final	11:41 AM		4.50				
3	Initial	11:42 AM	10.0	2.50	2.00	1.00	20.57	
	Final	11:52 AM		4.50				
4	Initial	11:53 AM	10.0	2.50	2.00	1.00	20.57	
	Final	12:03 PM		4.50				
5	Initial	12:04 PM	10.0	2.50	2.00	1.00	20.57	
	Final	12:14 PM		4.50				
6	Initial	12:15 PM	10.0	2.50	2.00	1.00	20.57	
	Final	12:25 PM		4.50				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 0.35
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	2	(ft)

Infiltration Test Hole	I-3

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	2:00 PM	5.0	0.00	1.40	1.30	22.91	Pre-Sat
	Final	2:05 PM		1.40				
P2	Initial	2:06 PM	5.0	0.00	1.36	1.32	21.96	
	Final	2:11 PM		1.36				
1	Initial	2:12 PM	10.0	0.00	1.86	1.07	18.05	Infiltration Testing
	Final	2:22 PM		1.86				
2	Initial	2:23 PM	10.0	0.00	1.86	1.07	18.05	
	Final	2:33 PM		1.86				
3	Initial	2:34 PM	10.0	0.00	1.85	1.08	17.88	
	Final	2:44 PM		1.85				
4	Initial	2:45 PM	10.0	0.00	1.85	1.08	17.88	
	Final	2:55 PM		1.85				
5	Initial	2:56 PM	10.0	0.00	1.85	1.08	17.88	
	Final	3:06 PM		1.85				
6	Initial	3:07 PM	10.0	0.00	1.83	1.09	17.54	
	Final	3:17 PM		1.83				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 0.9
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	10.4	(ft)

Infiltration Test Hole	I-4

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	9:30 AM	6.0	8.40	1.16	1.42	14.62	Pre-Sat
	Final	9:36 AM		9.56				
P2	Initial	9:37 AM	5.0	8.40	1.00	1.50	14.40	
	Final	9:42 AM		9.40				
1	Initial	9:43 AM	10.0	8.40	1.20	1.40	9.19	Infiltration Testing
	Final	9:53 AM		9.60				
2	Initial	9:54 AM	10.0	8.40	1.19	1.41	9.09	
	Final	10:04 AM		9.59				
3	Initial	10:05 AM	10.0	8.40	1.17	1.42	8.88	
	Final	10:15 AM		9.57				
4	Initial	10:16 AM	10.0	8.40	1.17	1.42	8.88	
	Final	10:26 AM		9.57				
5	Initial	10:27 AM	10.0	8.40	1.15	1.43	8.67	
	Final	10:37 AM		9.55				
6	Initial	10:38 AM	10.0	8.40	1.12	1.44	8.37	
	Final	10:48 AM		9.52				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 0.8
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	13.4	(ft)

Infiltration Test Hole	I-5

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	7:50 AM	5.0	11.40	2.00	1.00	41.14	Pre-Sat
	Final	7:55 AM		13.40				
P2	Initial	7:56 AM	5.0	11.40	2.00	1.00	41.14	
	Final	8:01 AM		13.40				
1	Initial	8:02 AM	10.0	11.40	2.00	1.00	20.57	Infiltration Testing
	Final	8:12 AM		13.40				
2	Initial	8:13 AM	10.0	11.40	2.00	1.00	20.57	
	Final	8:23 AM		13.40				
3	Initial	8:24 AM	10.0	11.40	2.00	1.00	20.57	
	Final	8:34 AM		13.40				
4	Initial	8:35 AM	10.0	11.40	2.00	1.00	20.57	
	Final	8:45 AM		13.40				
5	Initial	8:46 AM	10.0	11.40	2.00	1.00	20.57	
	Final	8:56 AM		13.40				
6	Initial	8:57 AM	10.0	11.40	2.00	1.00	20.57	
	Final	9:07 AM		13.40				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 0.8
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	4	(ft)

Infiltration Test Hole	I-6

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	2:00 PM	3.0	2.00	0.54	1.73	11.39	Pre-Sat
	Final	2:03 PM		2.54				
P2	Initial	2:04 PM	4.0	2.00	0.58	1.71	9.27	
	Final	2:08 PM		2.58				
1	Initial	2:09 PM	10.0	2.00	0.98	1.51	7.01	Infiltration Testing
	Final	2:19 PM		2.98				
2	Initial	2:20 PM	10.0	2.00	0.97	1.52	6.92	
	Final	2:30 PM		2.97				
3	Initial	2:31 PM	10.0	2.00	0.97	1.52	6.92	
	Final	2:41 PM		2.97				
4	Initial	2:42 PM	10.0	2.00	0.96	1.52	6.83	
	Final	2:52 PM		2.96				
5	Initial	2:53 PM	10.0	2.00	0.95	1.53	6.74	
	Final	3:03 PM		2.95				
6	Initial	3:04 PM	10.0	2.00	0.95	1.53	6.74	
	Final	3:14 PM		2.95				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 1
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	6.2	(ft)

Infiltration Test Hole	I-7

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	12:00 PM	25.0	4.00	0.59	1.91	1.37	Pre-Sat
	Final	12:25 PM		4.59				
P2	Initial	12:26 PM	25.0	4.15	0.54	1.78	1.33	
	Final	12:51 PM		4.69				
1	Initial	12:52 PM	10.0	4.20	0.24	1.88	1.41	Infiltration Testing
	Final	1:02 PM		4.44				
2	Initial	1:03 PM	10.0	4.20	0.23	1.89	1.35	
	Final	1:13 PM		4.43				
3	Initial	1:14 PM	10.0	4.20	0.23	1.89	1.35	
	Final	1:24 PM		4.43				
4	Initial	1:25 PM	10.0	4.20	0.23	1.89	1.35	
	Final	1:35 PM		4.43				
5	Initial	1:36 PM	10.0	4.16	0.23	1.93	1.32	
	Final	1:46 PM		4.39				
6	Initial	1:47 PM	10.0	4.36	0.24	1.72	1.53	
	Final	1:57 PM		4.60				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 0.8
H_{avg} = Average Head Height over the time interval

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial/Industrial Building
Project Location	San Bernardino, CA
Project Number	16G167-2
Engineer	SM

Test Hole Radius	4	(in)
Test Depth	11.8	(ft)

Infiltration Test Hole	I-8

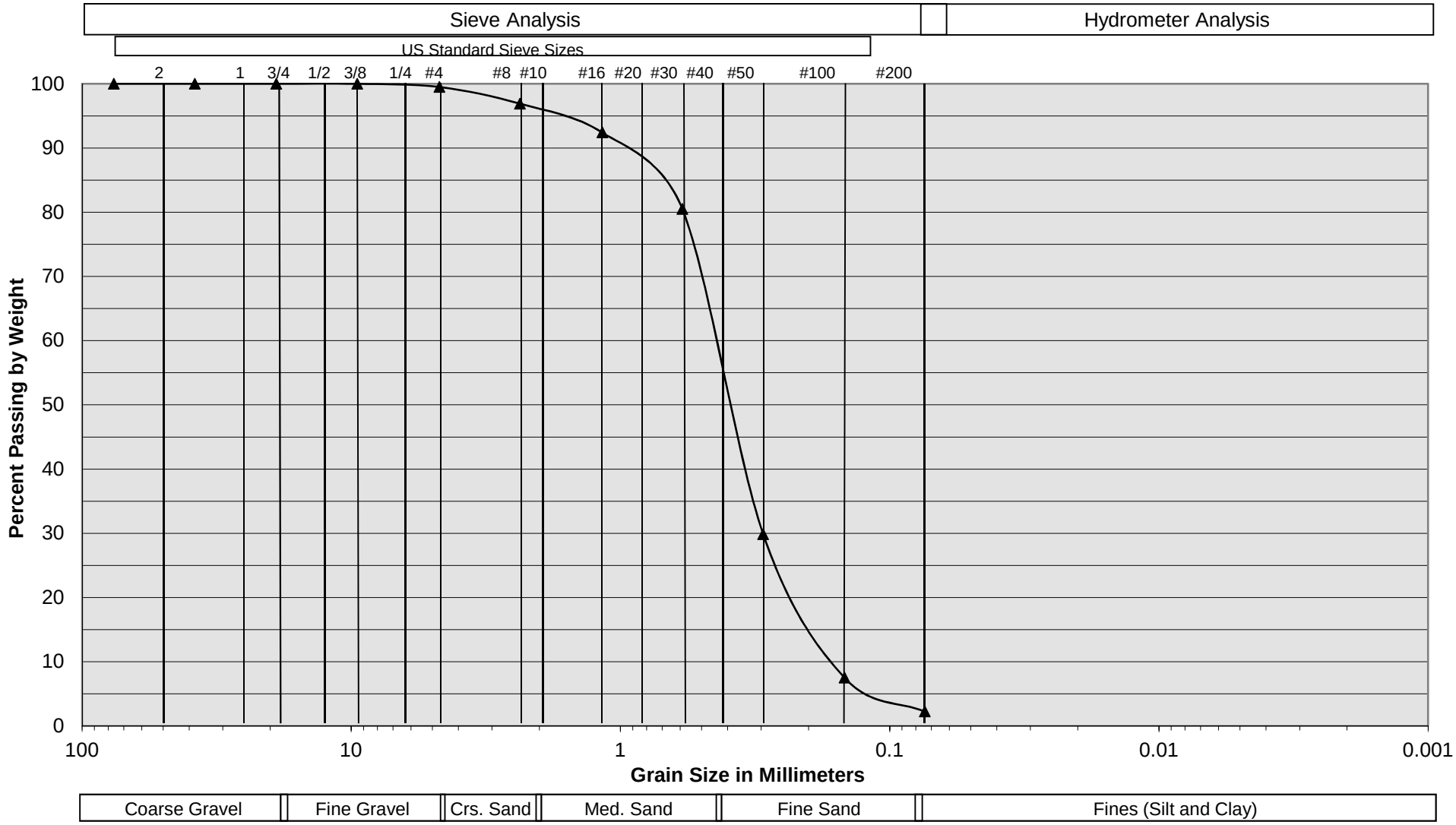
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)	
P1	Initial	11:00 AM	10.0	9.80	2.00	1.00	20.57	Pre-Sat
	Final	11:10 AM		11.80				
P2	Initial	11:11 AM	10.0	9.80	2.00	1.00	20.57	
	Final	11:21 AM		11.80				
1	Initial	11:22 AM	10.0	9.80	2.00	1.00	20.57	Infiltration Testing
	Final	11:32 AM		11.80				
2	Initial	11:33 AM	10.0	9.70	2.07	1.07	20.17	
	Final	11:43 AM		11.77				
3	Initial	11:44 AM	10.0	9.80	1.99	1.01	20.38	
	Final	11:54 AM		11.79				
4	Initial	11:55 AM	10.0	9.80	1.99	1.01	20.38	
	Final	12:05 PM		11.79				
5	Initial	12:06 PM	10.0	9.80	1.97	1.02	20.01	
	Final	12:16 PM		11.77				
6	Initial	12:17 PM	10.0	9.80	1.97	1.02	20.01	
	Final	12:27 PM		11.77				

Per County Standards, Infiltration Rate calculated as follows:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Where: Q = Infiltration Rate (in inches per hour)
ΔH = Change in Height (Water Level) over the time interval
r = Test Hole (Borehole) Radius
Δt = Time Interval H above GS= 0.9
H_{avg} = Average Head Height over the time interval

Grain Size Distribution



Sample Description	I-1 @ 4 feet
Soil Classification	Light Gray Brown fine to medium Sand, trace coarse Sand, trace Silt

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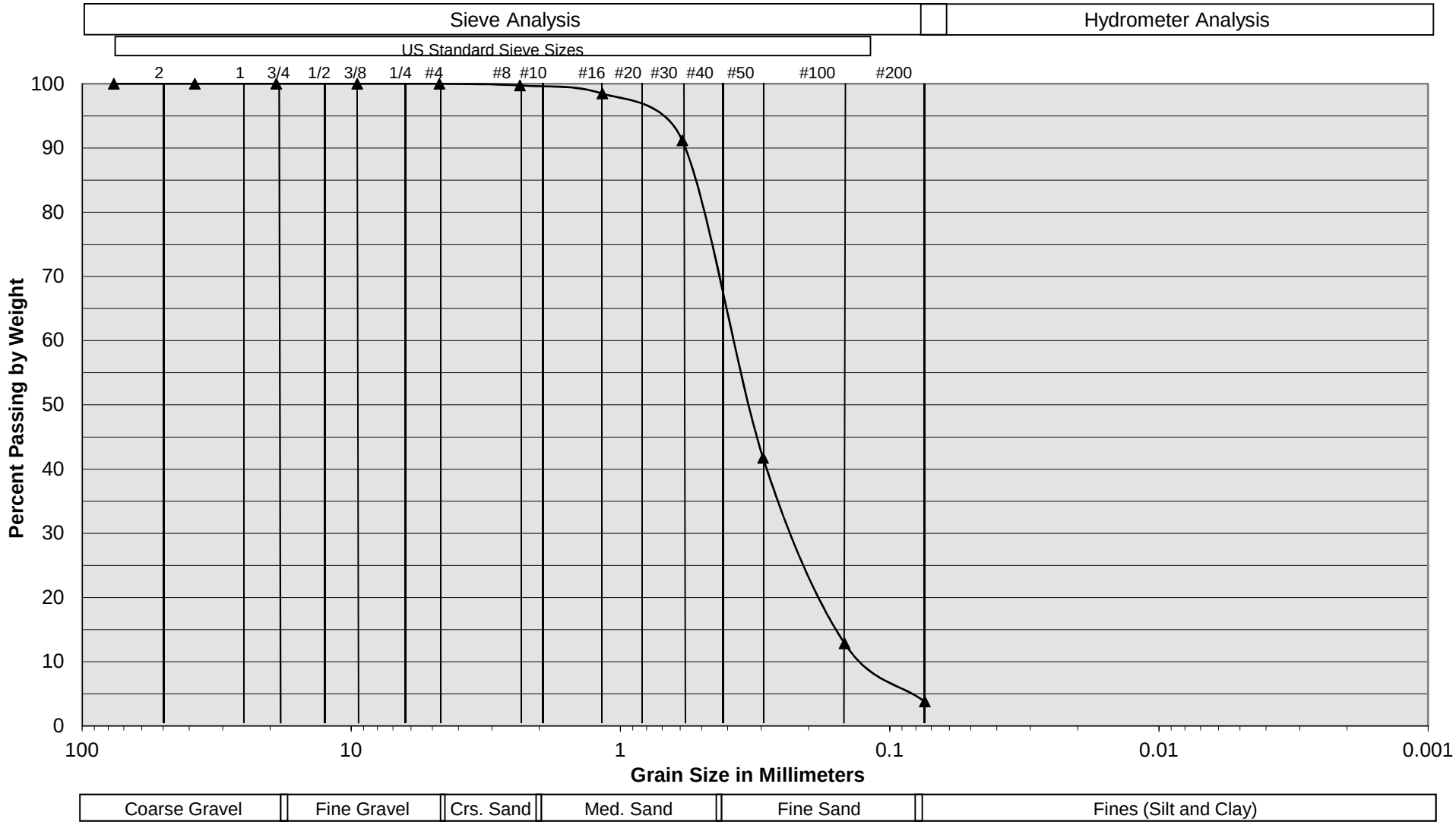

Sample Description	I-2 @ 3 feet
Soil Classification	Light Gray Brown fine to medium Sand, trace Silt

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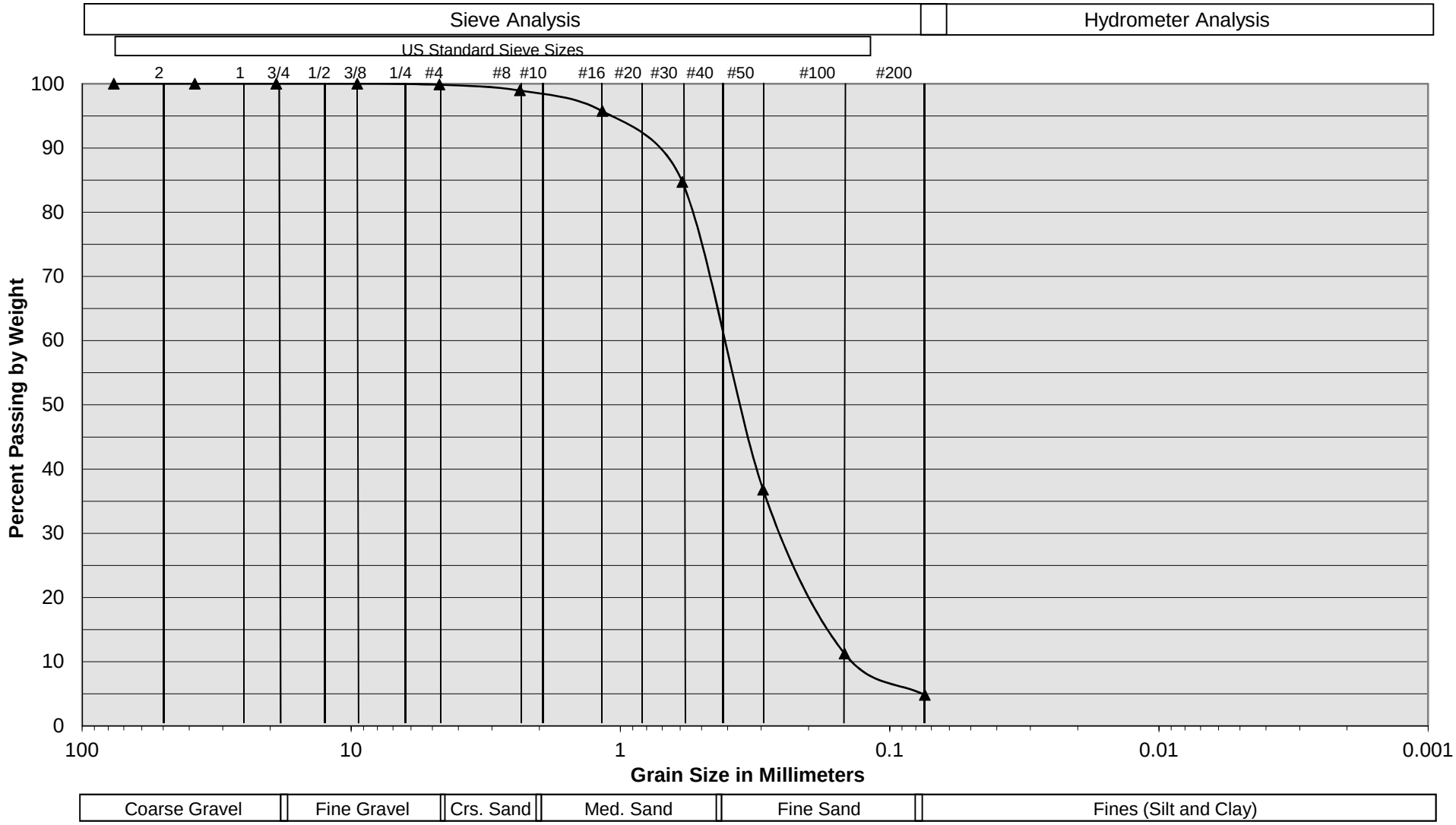

Sample Description	I-3 @ 0.5 feet
Soil Classification	Light Gray fine to medium Sand, trace coarse Sand, trace Silt

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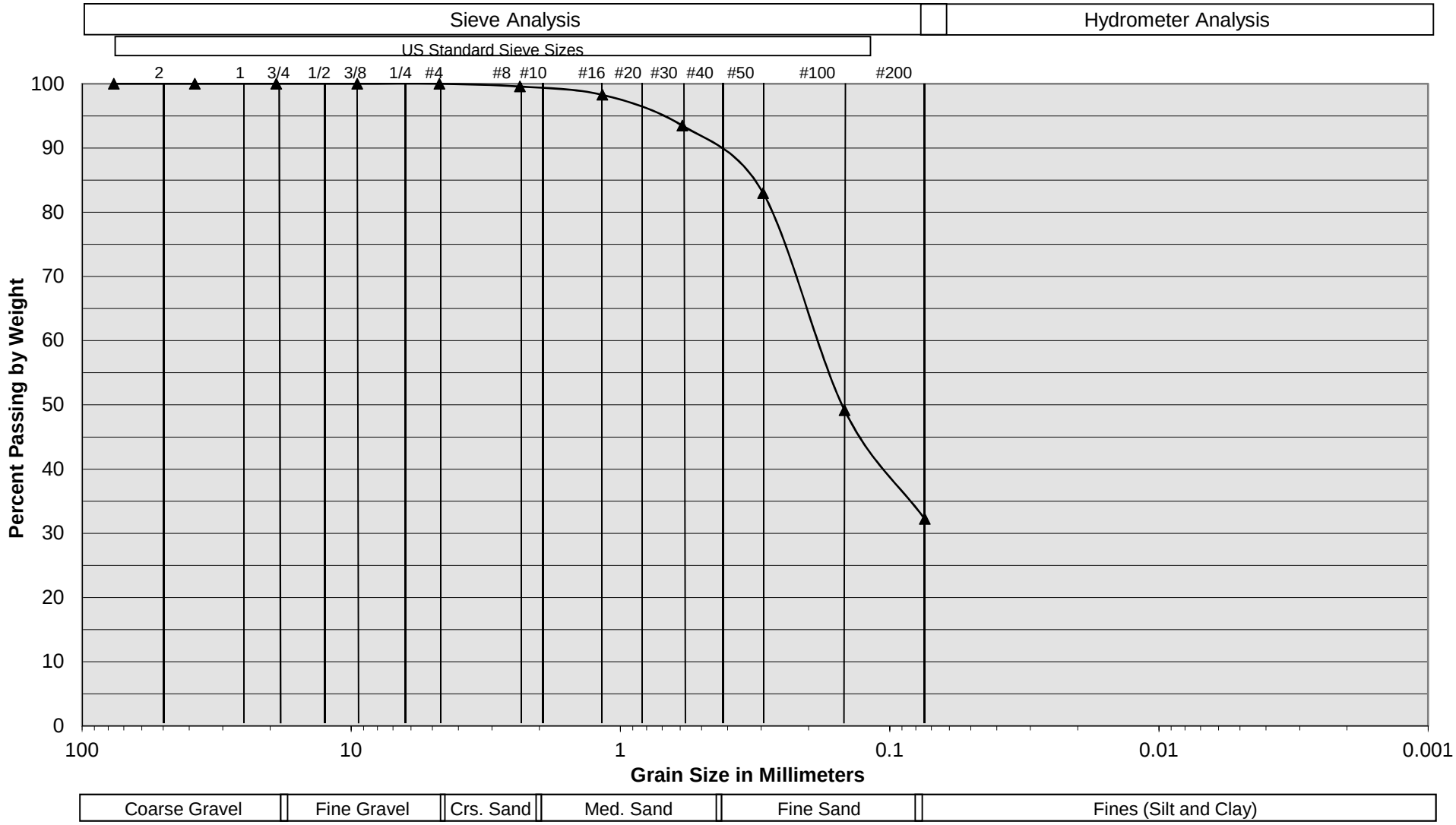
Grain Size Distribution



Sample Description	I-4 @ 9 feet
Soil Classification	Light Gray Brown Silty fine Sand, little medium Sand

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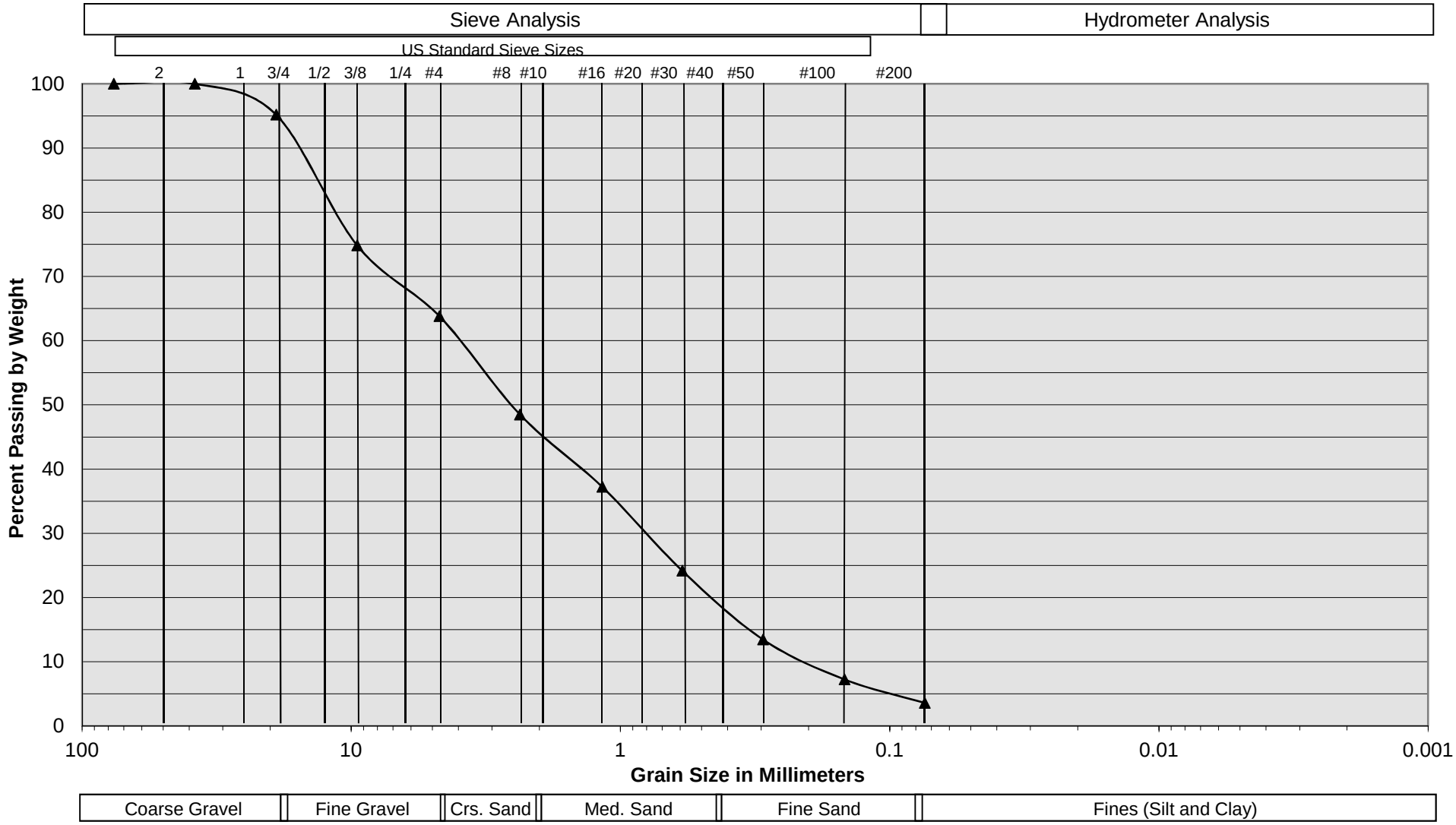

Sample Description	I-5 @ 12 feet
Soil Classification	Light Gray Gravelly fine to coarse Sand, trace Silt

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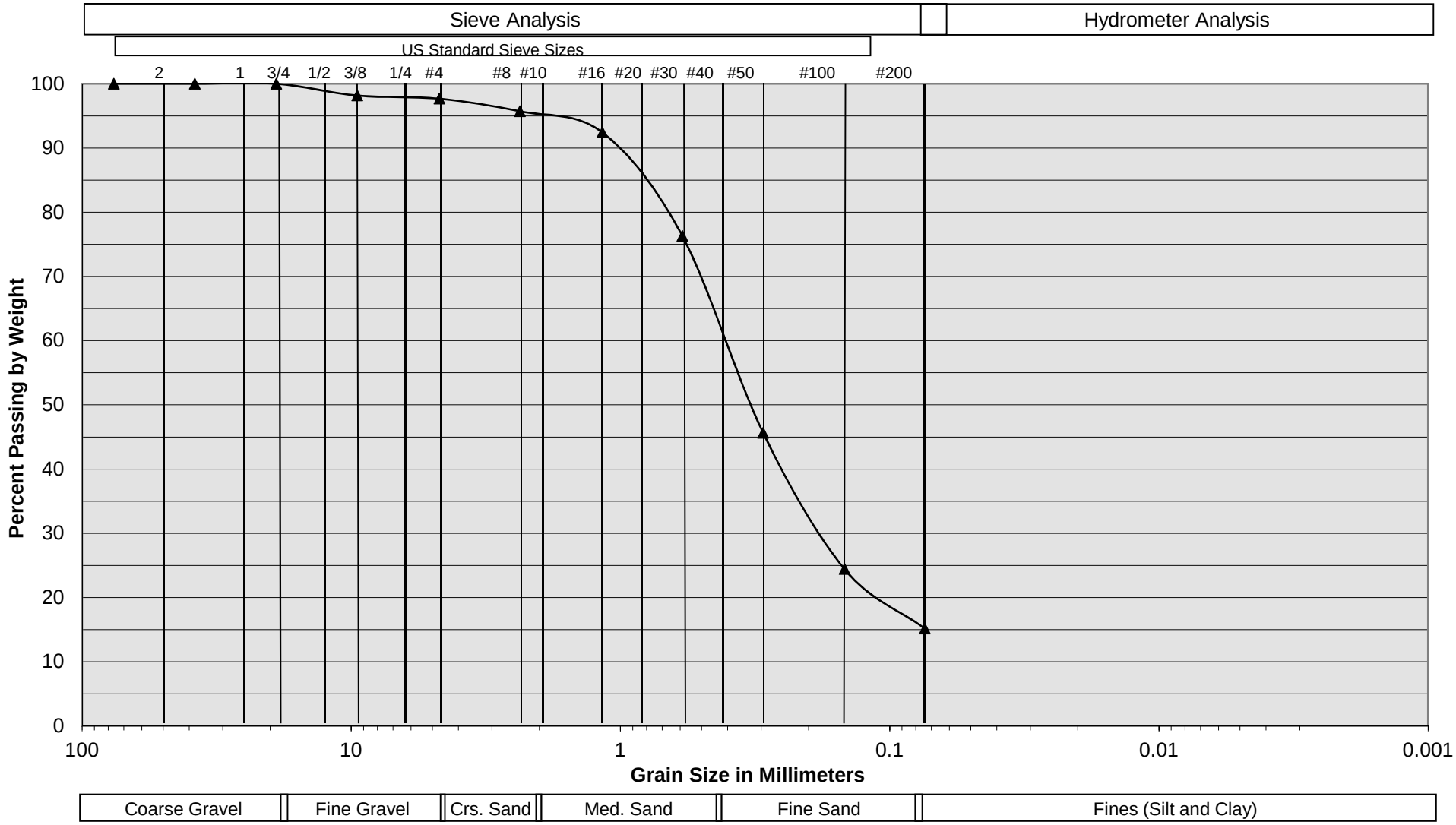
Grain Size Distribution



Sample Description	I-6 @ 2.5 feet
Soil Classification	Gray Brown Silty fine to medium Sand, trace coarse Sand, trace fine Gravel

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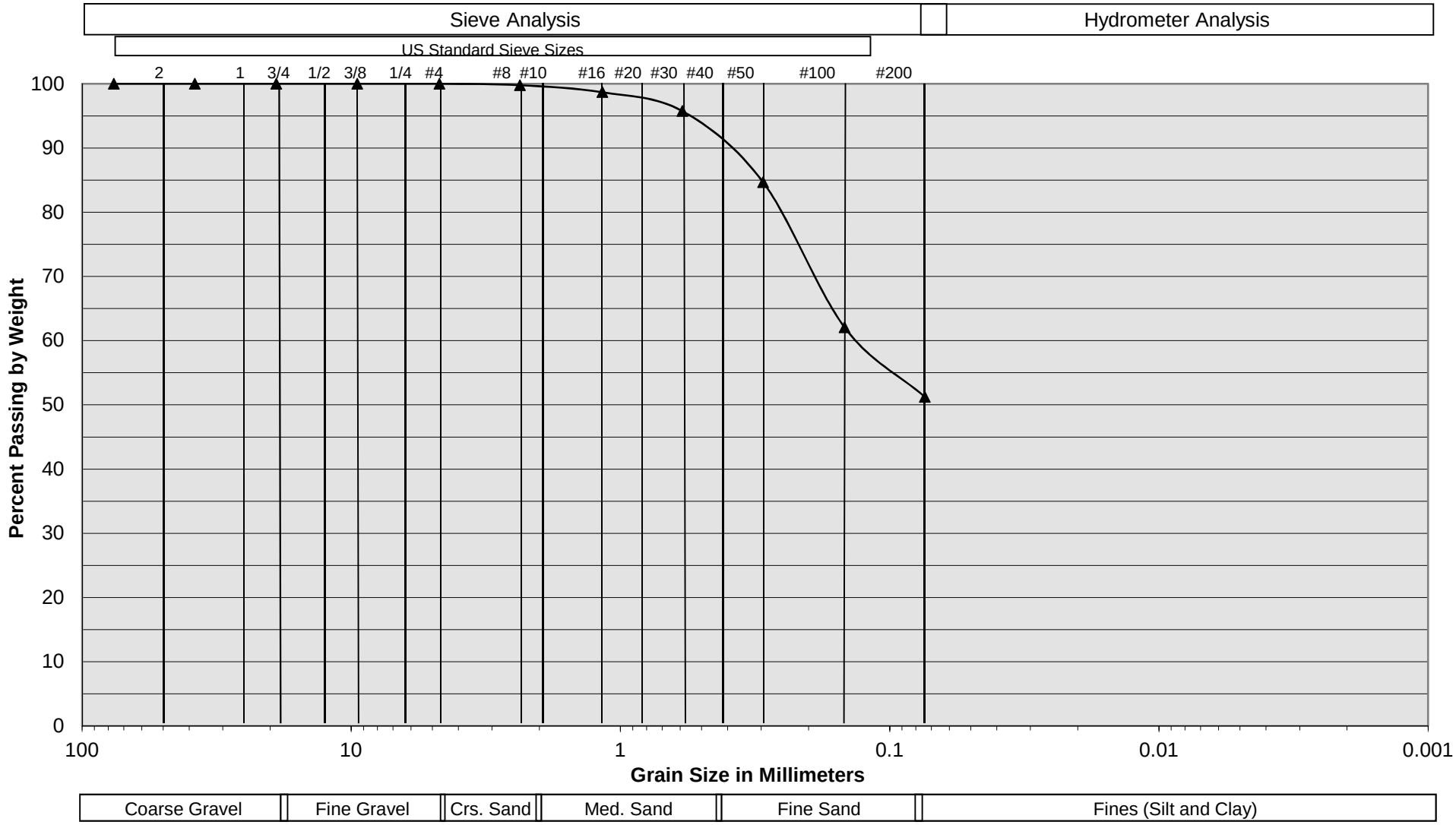
Grain Size Distribution



Sample Description	I-7 @ 4.5 feet
Soil Classification	Light Gray Silty fine Sand to fine Sandy Silt, little medium Sand

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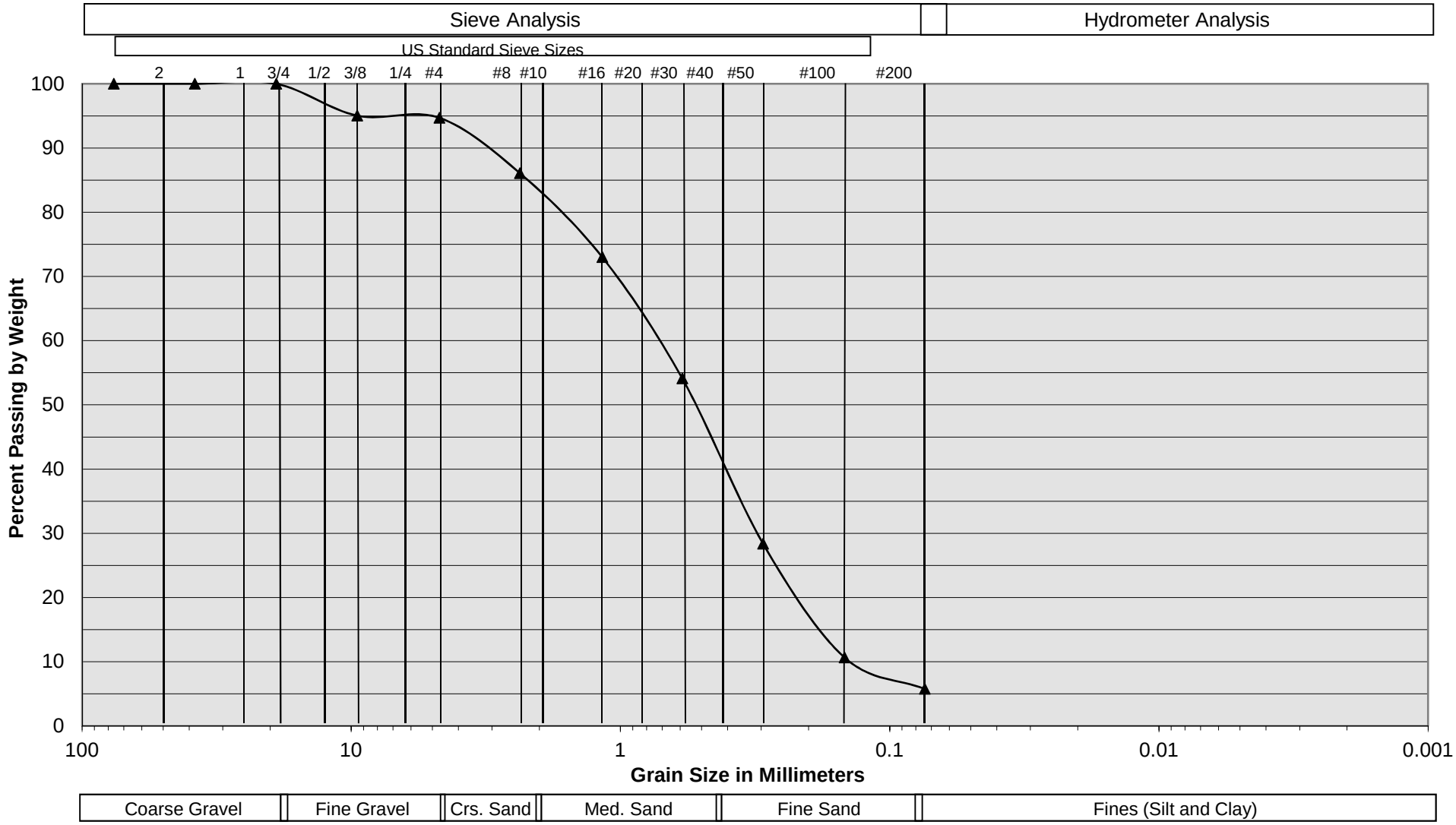
Grain Size Distribution



Sample Description	I-8 @ 10.5 feet
Soil Classification	Light Gray Brown fine to coarse Sand, trace Silt, trace fine Gravel

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