Project No. G1815-11-01
June 6, 2016
Revised September 2, 2016

Danube Properties Incorporated
2055 Third Avenue, Suite 200
San Diego, California 92101

Attention: Mr. Don Clauson

Subject: STORM WATER MANAGEMENT RECOMMENDATIONS
STRAUSS FIFTH AVENUE APARTMENTS
SAN DIEGO, CALIFORNIA

Reference: *Geotechnical Investigation, Strauss Fifth Avenue Apartments, San Diego, California,* prepared by Geocon Incorporated, dated May 8, 2015 (Project No. G1815-11-01).

Dear Mr. Clauson:

In accordance with the request of Mr. Patric De Boer with Omega Engineering, we prepared this letter to provide recommendations regarding storm water management for the subject project.

STORM WATER MANAGEMENT BACKGROUND

We understand storm water management devices are being proposed in accordance with the *2016 City of San Diego Storm Water Standards* (SWS). If not properly constructed, there is a potential for distress to improvements and properties located hydrologically down gradient or adjacent to these devices. Factors such as the amount of water to be detained, its residence time, and soil permeability have an important effect on seepage transmission and the potential adverse impacts that may occur if the storm water management features are not properly designed and constructed. We have not performed a hydrogeological study at the site. If infiltration of storm water runoff occurs, downstream properties may be subjected to seeps, springs, slope instability, raised groundwater, movement of foundations and slabs, or other undesirable impacts as a result of water infiltration.

Hydrologic Soil Group

The United States Department of Agriculture (USDA), Natural Resources Conservation Services, possesses general information regarding the existing soil conditions for areas within the United States. The USDA website also provides the Hydrologic Soil Group. Table 1 presents the descriptions of the hydrologic soil groups. If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. In addition, the USDA website also provides an estimated saturated hydraulic conductivity for the existing soil.

TABLE 1
HYDROLOGIC SOIL GROUP DEFINITIONS

Soil Group	Soil Group Definition
A	Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.
B	Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
C	Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
D	Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Based on the information from the USDA, the property is designated as Urban Land (Ur) and is classified as Soil Group D with a saturated hydraulic conductivity rate of 0.00 to 0.06 inches per hour.

In-Situ Testing

The infiltration rate, percolation rates and saturated hydraulic conductivity are different and have different meanings. Percolation rates tend to overestimate infiltration rates and saturated hydraulic conductivities by a factor of 10 or more. Table 2 describes the differences in the definitions.

TABLE 2
SOIL PERMEABILITY DEFINITIONS

Term	Definition
Infiltration Rate	The observation of the flow of water through a material into the ground downward into a given soil structure under long term conditions. This is a function of layering of soil, density, pore space, discontinuities and initial moisture content.
Percolation Rate	The observation of the flow of water through a material into the ground downward and laterally into a given soil structure under long term conditions. This is a function of layering of soil, density, pore space, discontinuities and initial moisture content.
Saturated Hydraulic Conductivity (k_{SAT}, Permeability)	The volume of water that will move in a porous medium under a hydraulic gradient through a unit area. This is a function of density, structure, stratification, fines content and discontinuities. It is also a function of the properties of the liquid as well as of the porous medium.

The degree of soil compaction or in-situ density has a significant impact on soil permeability and infiltration. Based on our experience and other studies we performed, an increase in compaction results in a decrease in soil permeability.

We performed 2 Aardvark Permeameter tests (P-1 and P-2) at the locations shown on the attached Geologic Map, Figure 1. The test borings were 8 inches in diameter. The results of the tests provide parameters regarding the saturated hydraulic conductivity and infiltration characteristics of on-site soil and geologic units. Table 3 presents the results of the estimated field saturated hydraulic conductivity and estimated infiltration rates obtained from the Aardvark Permeameter tests. The field sheets are also attached herein. Soil infiltration rates from in-situ tests can vary significantly from one location to another due to the heterogeneous characteristics inherent to most soil. Based on a discussion in the County of Riverside *Design Handbook for Low Impact Development Best Management Practices*, the infiltration rate should be considered equal to the saturated hydraulic conductivity rate.

TABLE 3
FIELD PERMEAMETER INFILTRATION TEST RESULTS

Test No.	Geologic Unit	Test Depth (feet, below grade)	Field-Saturated Hydraulic Conductivity, k_{sat} (inch/hour)	Worksheet Infiltration Rate[3] (inch/hour)
P-1	Qvop	7	0.01	>0.01
P-2	Qvop	5	0.08	0.04

[1] Percent finer than the #200 Sieve. [2] Percent finer than the 0.002 mm. [3]Using a factor of safety of 2.

We performed 2 percolation tests within Borings P-3 and P-4 at the locations shown on the attached Geologic Map, Figure 1, to evaluate the potential for a dry well system. We used the *Deep Percolation Test* method presented in Appendix A of the County of Riverside *Design Handbook for Low Impact Development Best Management Practices*. The logs of Borings P-3 and P-4 are attached herein. The test borings were 9 inches in diameter. The results of the tests provide parameters regarding the saturated hydraulic conductivity and infiltration characteristics of on-site soil and geologic units. Table 3 presents the results of the estimated field saturated hydraulic conductivity and estimated infiltration rates obtained from the percolation tests. The field sheets are also attached herein. We performed grain size distribution tests on samples collected within the test borings at the depth of the percolation tests and the results are presented in Table 4 and Figure B-1. We did not apply a factor of safety to the test results. The designer of storm water devices should apply an appropriate factor of safety. Soil infiltration rates from in-situ tests can vary significantly from one location to another due to the heterogeneous characteristics inherent to most soil.

TABLE 4
FIELD PERMEAMETER INFILTRATION TEST RESULTS

Test No.	Geologic Unit	Test Depth (feet, below grade)	Fines-Content[1] [Clay Content[2]] (%)	Field-Saturated Hydraulic Conductivity, k_{sat} (inch/hour)	Field-Saturated Infiltration Rate (inch/hour)	Worksheet Infiltration Rate[3] (inch/hour)
P-3	Tsd	50-65	83 [4]	4.42	2.51	1.26
P-4	Tsd	50-65	83 [11]	1.17	0.66	0.33

[1] Percent finer than the #200 Sieve.
[2] Percent finer than the 0.002 mm.
[3] Using a Factor of Safety of 2.0.

STORM WATER MANAGEMENT CONCLUSIONS

The Geologic Map, Figure 1, depicts the existing property, the approximate lateral limits of the geologic units and the locations of the previous field excavations and the in-situ infiltration test locations. We performed in-situ infiltration tests within the Borings P-1 and P-2 at depths from 50 to 65 feet below the existing ground surface. We understand deep wells were considered within the northern portion of the site below the proposed structure as part of the storm water management plan. The geologic unit at 10 feet below the subterranean level is the San Diego Formation.

Soil Types

Undocumented Fill – Undocumented fill exists on the property to depths of up to about 4 feet. The undocumented fill varies in soil type and density. The undocumented fill was not tested or observed during placement and should be considered to be highly variable on the property and within adjacent properties and right-of-ways. Undocumented fill should also be considered to possess relatively high hydroconsolidation characteristics. Water that is allowed to migrate within the undocumented fill soil cannot be controlled due to lateral migration potential, would destabilize support for the existing improvements, and would shrink and swell. Therefore, full and partial infiltration should be considered infeasible within the undocumented fill. We expect storm water devices will not be installed within the undocumented fill due to the planned parking garage.

Very Old Paralic Deposits – The surficial soils on the property are underlain by Very Old Paralic Deposits to depths of 26 to 32 feet. Based on the boring logs, laboratory tests and our observations, the Very Old Paralic Deposits consist of very dense, silty sandstone with gravel and cobbles and can be well cemented. The Very Old Paralic Deposits have a greater propensity for lateral water migration over vertical water migration due to the presence of the cemented zones. The infiltration rates within the Very Old Paralic Deposits are considered to be very low due to the cemented nature of the materials. Therefore, full infiltration is considered infeasible within the Very Old Paralic

Deposits. We expect storm water devices will not be installed within the Very Old Paralic Deposits due to the planned parking garage.

San Diego Formation – The San Diego Formation exists below the Very Old Paralic Deposits. This unit consists of hard, weakly to well cemented, sandy siltstone and very dense, silty sandstone. Based on our experience, the San Diego Formation possesses a greater propensity for lateral water migration over vertical water migration due to the presence of the cemented zones. Infiltration may occur within sandier portions of the formational materials but would likely encounter a very dense to cemented zone then migrate laterally and extend offsite. Based on the results of the infiltration tests, partial infiltration is considered feasible within the San Diego Formation. However, we performed consolidation tests on samples of the San Diego Formation and the results indicate the potential for hydroconsolidation exists. Our results indicate a potential of 1.2 and 0.4 percent hydroconsolidation with an average of 0.8 percent. If we assume a 20-foot thickness of material was to be saturated due to storm water infiltration, then we expect a total and differential settlement due to hydroconsolidation at the location of a deep well of approximately 2 inches. Therefore, full and partial infiltration should be considered infeasible.

Proposed Compacted Fill – Compacted fill may be placed on the property during site development. The compacted fill will be comprised of on-site materials that will consist of sandy silt and silty sand. The fill will be compacted to a dry density of at least 90 percent of the laboratory maximum dry density. In our experience, compacted fill using the on-site materials does not possess infiltration rates appropriate with infiltration. Compacted fill will possess swelling (expansion) potential. Therefore, full and partial infiltration should be considered infeasible.

Infiltration Rates

The results of the infiltration rates are 2.51 and 0.66 inches per hour, or 1.26 and 0.33 inches per hour with a factor of safety of 2.0. Therefore, based on the results of the field infiltration tests, the laboratory tests and our experience, partial infiltration can be considered feasible within the San Diego Formation based on the infiltration rates. However, if infiltration is allowed within the San Diego Formation, there is a potential for differential settlement below the proposed structure due to hydroconsolidation. Therefore, partial and full infiltration should not be allowed.

Groundwater Elevations

We did not encounter groundwater during the drilling operations on the property. The site is at an elevation of about 290 feet Mean Sea Level (MSL) and groundwater in the area is at about an elevation of 5 feet above MSL. Therefore, infiltration due to groundwater elevations would be considered feasible. Water that is allowed to infiltrate may cause a perched water condition (due to the cemented nature of the underlying materials) that could negatively affect the existing materials.

Soil or Groundwater Contamination

We are unaware of contaminated soil or groundwater contamination on the property. Therefore, infiltration associated with this risk is considered feasible.

Slopes and Other Geologic Hazards

Existing slopes exist about 400 feet to the northeast with a maximum height of about 40 feet. Water migration and the resulting seepage forces could negatively affect the stability of slopes and cause erosion. The existing formational materials possess very limited vertical infiltration characteristics and water would migrate laterally. However, we expect full or partial infiltration is considered feasible due to the relatively large distance to the slopes.

As previously discussed, the existing undocumented fill is highly variable in soil type and density. Compacted fill placed on site during grading operations will not possess adequate infiltration characteristics as well. These materials possess inherent characteristics of volume change (shrinking and swelling). Therefore, full and partial infiltration should be considered infeasible within fill materials. Mitigation measures for the lateral migration characteristics can consist of side liners in the storm water management devices.

We performed consolidation tests on samples of the San Diego Formation and the results indicate the potential for hydroconsolidation is an average of approximately 0.8 percent. Therefore, we expect the amount of settlement due to hydroconsolidation at the location of a deep well is approximately 2 inches assuming infiltration is allowed within a 20-foot depth zone of the San Diego Formation. The settlement due to hydroconsolidation within a localized area below the structure would cause differential settlement below the structure. The consolidation curves are presented on Figures B-2 and B-3 attached herein. Based on discussions with the project structural engineer, the planned structure can not accept this additional settlement into design. Therefore, full and partial infiltration should be considered infeasible.

New or Existing Utilities

Utilities are located adjacent to the property on the eastern and western property boundaries within the existing street and alleyway, respectively. Therefore, full and partial infiltration near these utilities should be considered infeasible within these areas. These areas can be mitigated with side liners to prevent water from migrating into the undocumented fill and the utility corridors. Also, utilities should not be installed below infiltration devices.

Existing and Planned Structures

Structures exist on the northern and southern property lines of the subject project. Water should not be allowed to infiltrate in areas where it could affect the neighboring properties and adjacent structures. Infiltration should be considered infeasible due to the lateral migration characteristics of the soil. Mitigation for existing structures consists of not allowing water infiltration within a 1:1 plane from existing foundations and extending the infiltration areas at least 10 feet below the existing foundations.

Storm Water Management Devices

Liners and subdrains will be incorporated into the design and construction of the planned storm water devices. The liners should be impermeable (e.g. High-density polyethylene, HDPE, with a thickness of about 30 mil or equivalent Polyvinyl Chloride**,** PVC) to prevent water migration. The subdrains should be perforated within the liner area, installed at the base and above the liner, be at least 3 inches in diameter and consist of Schedule 40 PVC pipe. The subdrains outside of the liner should consist of solid pipe. The penetration of the liners at the subdrains should be properly waterproofed. The subdrains should be connected to a proper outlet. The devices should also be installed in accordance with the manufacturer's recommendations.

We understand planters will be used to manage the storm water for the project. The planters should be properly lined to prevent water migration into the adjacent improvements. Water storage devices can be installed to reduce the velocity and amount of water entering the storm drain system. The project civil engineer should provide the final design of the storm water management devices.

Storm Water Standard Worksheets

The SWS requests the geotechnical engineer complete the *Categorization of Infiltration Feasibility Condition* (Worksheet C.4-1 or I-8) worksheet information to help evaluate the potential for infiltration on the property. The attached Worksheet C.4-1 presents the completed information for the submittal process.

The regional storm water standards also have a worksheet (Worksheet D.5-1 or Form I-9) that helps the project civil engineer estimate the factor of safety based on several factors. Table 5 describes the suitability assessment input parameters related to the geotechnical engineering aspects for the factor of safety determination.

TABLE 5
SUITABILITY ASSESSMENT RELATED CONSIDERATIONS FOR INFILTRATION FACILITY SAFETY FACTORS

Consideration	High Concern – 3 Points	Medium Concern – 2 Points	Low Concern – 1 Point
Assessment Methods	Use of soil survey maps or simple texture analysis to estimate short-term infiltration rates. Use of well permeameter or borehole methods without accompanying continuous boring log. Relatively sparse testing with direct infiltration methods	Use of well permeameter or borehole methods with accompanying continuous boring log. Direct measurement of infiltration area with localized infiltration measurement methods (e.g., Infiltrometer). Moderate spatial resolution	Direct measurement with localized (i.e. small-scale) infiltration testing methods at relatively high resolution or use of extensive test pit infiltration measurement methods.
Predominant Soil Texture	Silty and clayey soils with significant fines	Loamy soils	Granular to slightly loamy soils
Site Soil Variability	Highly variable soils indicated from site assessment or unknown variability	Soil boring/test pits indicate moderately homogenous soils	Soil boring/test pits indicate relatively homogenous soils
Depth to Groundwater/ Impervious Layer	<5 feet below facility bottom	5-15 feet below facility bottom	>15 feet below facility bottom

Based on our geotechnical investigation and the previous table, Table 6 presents the estimated factor values for the evaluation of the factor of safety. This table only presents the suitability assessment safety factor (Part A) of the worksheet. The project civil engineer should evaluate the safety factor for design (Part B) and use the combined safety factor for the design infiltration rate.

TABLE 6
FACTOR OF SAFETY WORKSHEET D.5-1 DESIGN VALUES[1]

Suitability Assessment Factor Category	Assigned Weight (w)	Factor Value (v)	Product (p = w x v)
Assessment Methods	0.25	2	0.50
Predominant Soil Texture	0.25	3	0.75
Site Soil Variability	0.25	2	0.50
Depth to Groundwater/Impervious Layer	0.25	1	0.25
Suitability Assessment Safety Factor, $S_A = \Sigma p$			2.00

[1] The project civil engineer should complete Worksheet D.5-1 using the data on this table. Additional information is required to evaluate the design factor of safety.

If you have any questions regarding this response, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

John Hoobs
CEG 1524

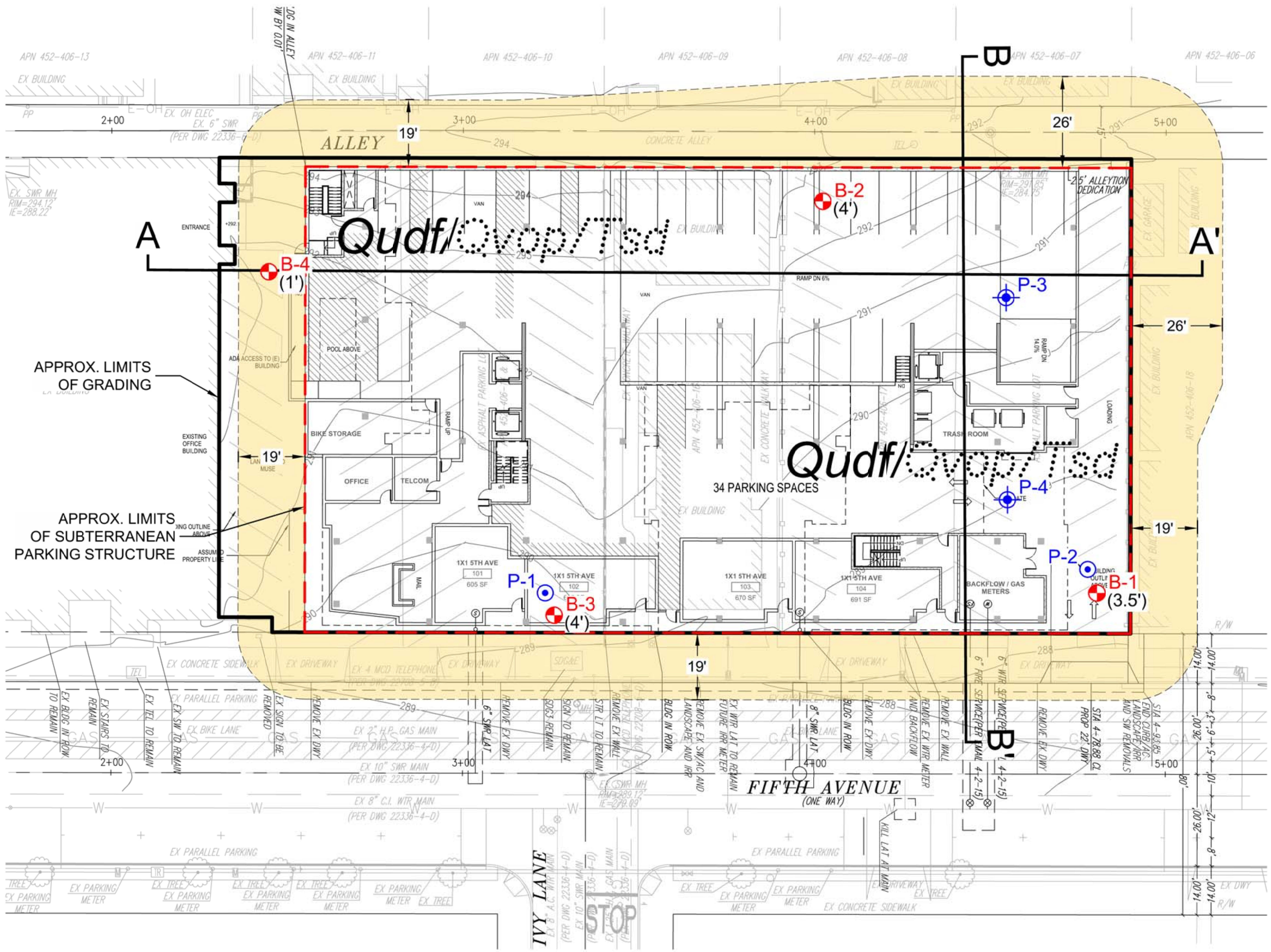
Shawn Foy Weedon
GE 2714

JH:SFW:dmc

Attachment: Form C.4-1

(e-mail) Addressee
(e-mail) Omega Engineering
Attention: Mr. Patric De Boer

STRAUSS FIFTH AVENUE APARTMENTS
SAN DIEGO, CALIFORNIA



0' 15' 30' 45' 60'

SCALE 1"= 30'

GEOCON LEGEND

Qudf........UNDOCUMENTED FILL

Qvop........VERY OLD PARALIC DEPOSITS (Dotted Where Buried)

Tsd........SAN DIEGO FORMATION (Dotted Where Buried)

P-2........APPROX. LOCATION OF AARDVARKS PERMEATER TEST

P-4........APPROX. LOCATION OF DEEP PERCOLATION TEST

B-4........APPROX. LOCATION OF GEOTECHNICAL BORING

(4')........APPROX. DEPTH TO BOTTOM OF UNDOCUMENTED FILL (Qudf) FROM EXISTING GRADE (In Feet)

B—B'........APPROX. LOCATION OF GEOLOGIC CROSS SECTION

........APPROX. AREA OF ACTIVE ZONE AT EXISTING GRADE ELEVATION

GEOCON INCORPORATED

GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974

PHONE 858 558-6900 - FAX 858 558-6159

PROJECT NO. G1815 - 11 - 01

GEOLOGIC MAP

FIGURE 1

DATE 09 - 02 - 2016

Ladrillono

Plotted:09/02/2016 11:33AM | By:ALVIN LADRILLONO | File Location:Y:\PROJECTS\G1815-11-01\SHEETS\G1815-11-01 Geo Map (2016-08-31).dwg

BORING P 3

ELEV. (MSL.) **290.5'** DATE COMPLETED **08-23-2016**

EQUIPMENT **CME 95** BY: **L. RODRIGUEZ**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					4" **ASPHALT CONCRETE**			
				SM	**UNDOCUMENTED (Qudf)** Medium dense, moist, dark brown, Silty, fine to medium SAND; trace gravel			
2				SM	**VERY OLD PARALIC DEPOSITS (Qvop)** Very dense, damp, reddish brown, Silty, fine- to medium-grained SANDSTONE; weakly cemented -Difficult drilling through intermitten gravel/cobble layers in Qvop			
4								
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								
26								
28								

Figure A-1,
Log of Boring P 3, Page 1 of 3

G1815-11-01 (PERCOLATION TEST).GPJ

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◣ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

BORING P 3

ELEV. (MSL.) **290.5'** DATE COMPLETED **08-23-2016**

EQUIPMENT **CME 95** BY: **L. RODRIGUEZ**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30				ML	**SAN DIEGO FORMATION (Tsd)** Hard, damp, light yellowish to grayish brown, Sandy SILTSTONE; weakly cemented			
32								
34								
36								
38								
40								
42								
44								
46								
48								
50	P3-1					50/3"		
52								
54								
	P3-2					50/4"	86.3	12.6
56								
58								

Figure A-1,
Log of Boring P 3, Page 2 of 3

G1815-11-01 (PERCOLATION TEST).GPJ

SAMPLE SYMBOLS
- ... SAMPLING UNSUCCESSFUL
- ... STANDARD PENETRATION TEST
- ... DRIVE SAMPLE (UNDISTURBED)
- ... DISTURBED OR BAG SAMPLE
- ... CHUNK SAMPLE
- ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. G1815-11-01

BORING P 3

ELEV. (MSL.) 290.5' DATE COMPLETED 08-23-2016

EQUIPMENT CME 95 BY: L. RODRIGUEZ

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
60	P3-3			ML		50/3"		
62								
64	P3-4					50/4"		
					BORING TERMINATED AT 65 FEET Groundwater not encountered Backfilled with 28.7 ft³ bentonite grout slurry			

Figure A-1,
Log of Boring P 3, Page 3 of 3

G1815-11-01 (PERCOLATION TEST).GPJ

SAMPLE SYMBOLS			
	... SAMPLING UNSUCCESSFUL	... STANDARD PENETRATION TEST	... DRIVE SAMPLE (UNDISTURBED)
	... DISTURBED OR BAG SAMPLE	... CHUNK SAMPLE	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

BORING P 4

ELEV. (MSL.) 289' DATE COMPLETED 08-23-2016

EQUIPMENT CME 95 BY: L. RODRIGUEZ

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					4" **ASPHALT CONCRETE**			
				SM	**UNDOCUMENTED (Qudf)** Medium dense, moist, dark brown, Silty, fine to medium SAND; trace gravel			
2				SM	**VERY OLD PARALIC DEPOSITS (Qvop)** Very dense, damp, reddish brown, Silty, fine- to medium-grained SANDSTONE; weakly cemented -Difficult drilling through intermitten gravel/cobble layers in Qvop			
4								
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								
26								
28								

Figure A-2,
Log of Boring P 4, Page 1 of 3

SAMPLE SYMBOLS			
	... SAMPLING UNSUCCESSFUL	... STANDARD PENETRATION TEST	... DRIVE SAMPLE (UNDISTURBED)
	... DISTURBED OR BAG SAMPLE	... CHUNK SAMPLE	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

BORING P 4

ELEV. (MSL.) **289'** DATE COMPLETED **08-23-2016**

EQUIPMENT **CME 95** BY: **L. RODRIGUEZ**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30				ML	**SAN DIEGO FORMATION (Tsd)** Hard, damp, light gray to yellowish brown, Sandy SILTSTONE; weakly cemented			
32								
34								
36								
38								
40								
42								
44								
46								
48								
50	P4-1					50/3"		
52								
54								
	P4-2					50/3"	102.9	15.6
56								
58								

Figure A-2,
Log of Boring P 4, Page 2 of 3

G1815-11-01 (PERCOLATION TEST).GPJ

SAMPLE SYMBOLS			
	... SAMPLING UNSUCCESSFUL	... STANDARD PENETRATION TEST	... DRIVE SAMPLE (UNDISTURBED)
	... DISTURBED OR BAG SAMPLE	... CHUNK SAMPLE	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

BORING P 4

ELEV. (MSL.) 289' DATE COMPLETED 08-23-2016

EQUIPMENT CME 95 BY: L. RODRIGUEZ

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
60	P4-3			ML		50/4"		
62								
64	P4-4				-Micaceous	50/4"		
					BORING TERMINATED AT 65 FEET Groundwater not encountered Backfilled with 28.7 ft³ bentonite grout slurry			

Figure A-2,
Log of Boring P 4, Page 3 of 3

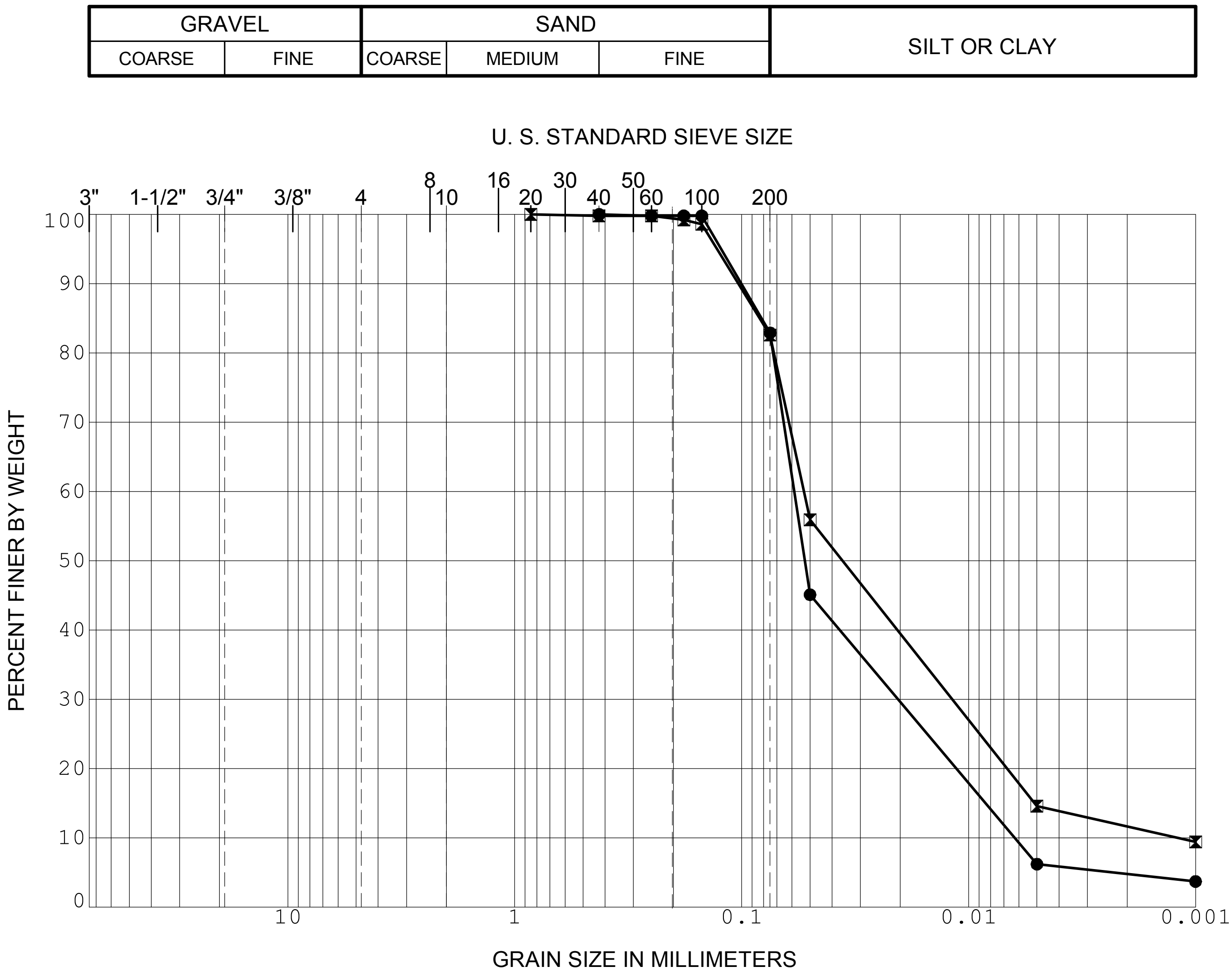
G1815-11-01 (PERCOLATION TEST).GPJ

SAMPLE SYMBOLS			
	... SAMPLING UNSUCCESSFUL	... STANDARD PENETRATION TEST	... DRIVE SAMPLE (UNDISTURBED)
	... DISTURBED OR BAG SAMPLE	... CHUNK SAMPLE	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. G1815-11-01



	SAMPLE	DEPTH (ft)	CLASSIFICATION	NAT WC	LL	PL	PI
●	P3-2	55.0	(ML) Sandy SILT	12.6			
⧗	P4-2	55.0	(ML) Sandy SILT	15.6			
▲							

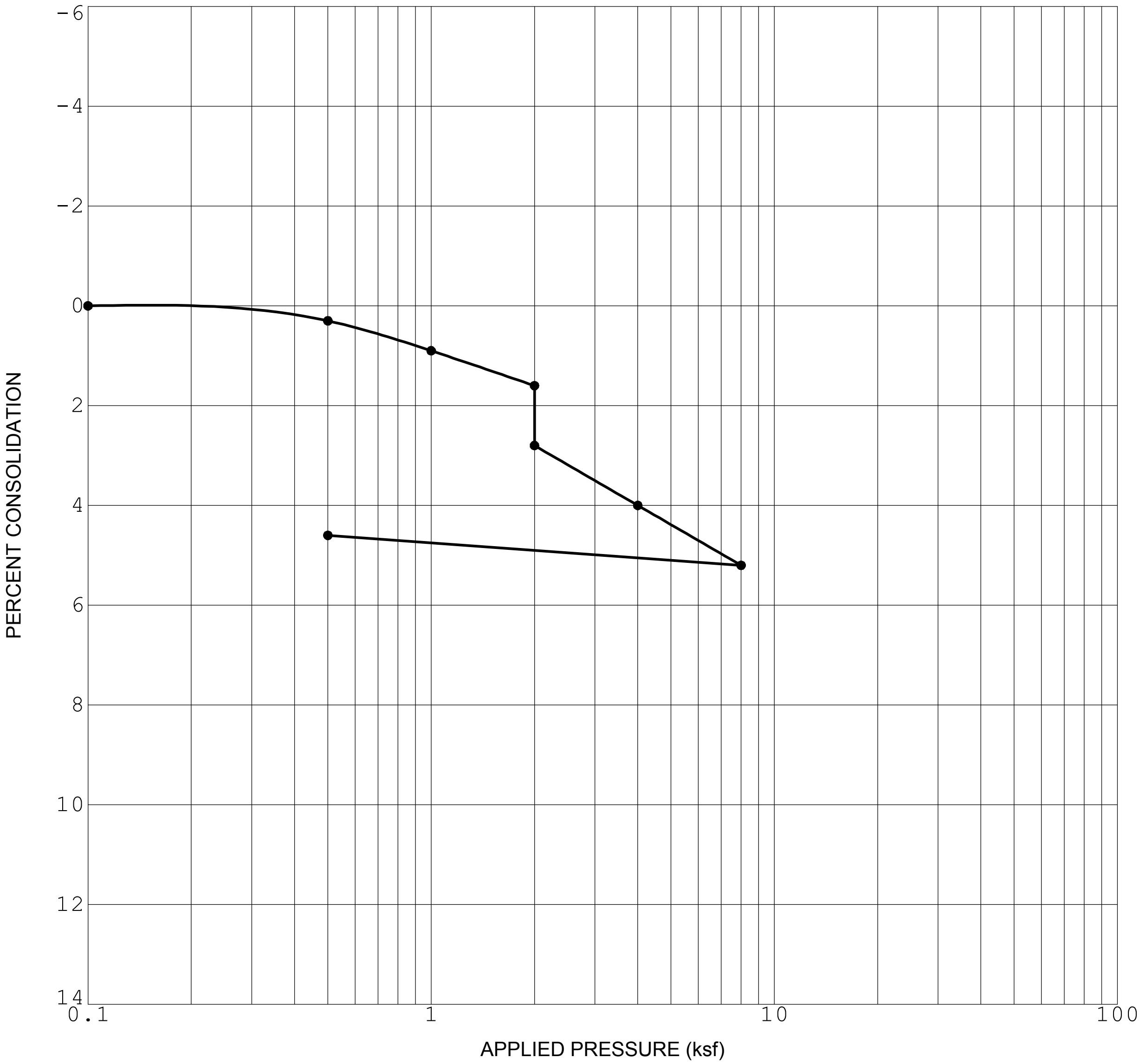
GRADATION CURVE

STRAUSS FIFTH AVENUE APARTMENTS

SAN DIEGO, CALIFORNIA

PROJECT NO. G1815-11-01

SAMPLE NO. P3-2



Initial Dry Density (pcf)	86.3		**Initial Saturation (%)**	39.2
Initial Water Content (%)	12.6		**Sample Saturated at (ksf)**	2.0

CONSOLIDATION CURVE

STRAUSS FIFTH AVENUE APARTMENTS

SAN DIEGO, CALIFORNIA

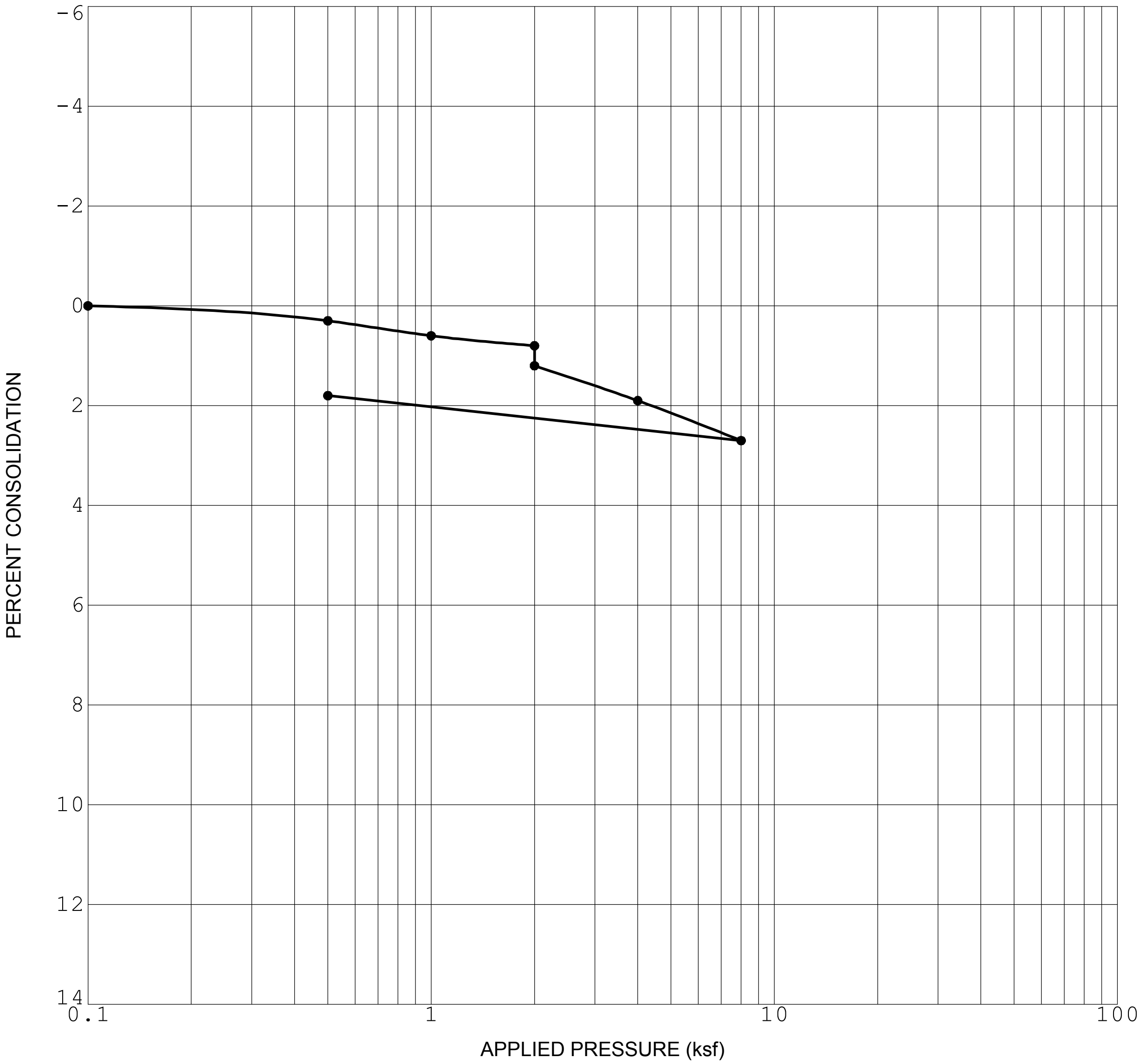
G1815-11-01 (PERCOLATION TEST).GPJ

Figure B-2

GEOCON

PROJECT NO. G1815-11-01

SAMPLE NO. P4-2



Initial Dry Density (pcf)	102.9
Initial Water Content (%)	15.6

Initial Saturation (%)	67.6
Sample Saturated at (ksf)	2.0

CONSOLIDATION CURVE

STRAUSS FIFTH AVENUE APARTMENTS

SAN DIEGO, CALIFORNIA

GEOCON

Aardvark Permeameter Data Analysis

Project Name:	Strauss 5th Avenue	Date:	7/29/2016
Project Number:	G1815-11-01	By:	JML
Borehole Location:	P-1	Ref. EL (feet, MSL):	
		Bottom EL (feet, MSL):	

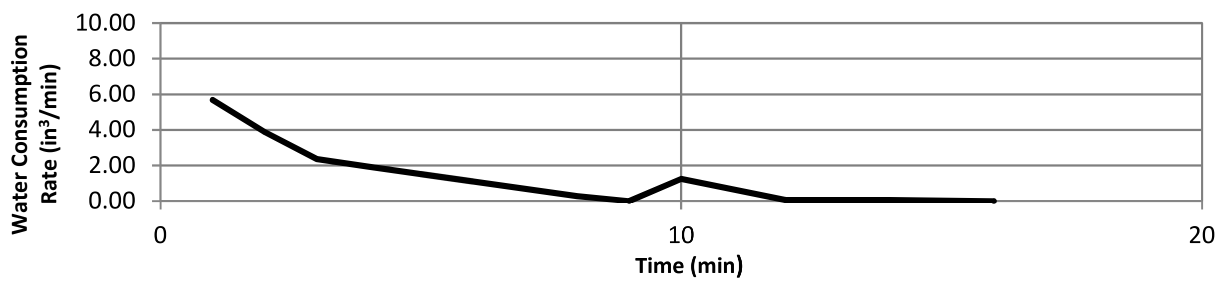
Borehole Diameter (inches):	8.00
Borehole Depth, **H** (feet):	6.92
Distance Between Reservoir & Top of Borehole (feet)	2.50
Depth to Water Table, **s** (feet):	200
Height APM Raised from Bottom (inches):	2.00

Wetted Area, **A** (in^2): 201.06

Distance Between Resevoir and APM, **D** (feet):	8.65
Head Height, **h** (inches):	6.00
Distance Between Constant Head and Water Table, **L** (inches):	2323

Reading	Time (min)	Time Elapsed (min)	Reservoir Water Weight (g)	Resevoir Water Weight (lbs)	Interval Water Consumption (lbs)	Total Water Consumption (lbs)	*Water Consumption Rate (in^3/min)
1	0.00			13.350			
2	1.00	1.00		13.145	0.21	0.21	5.68
3	2.00	1.00		13.005	0.14	0.34	3.88
4	3.00	1.00		12.920	0.09	0.43	2.36
5	4.00	1.00		12.850	0.07	0.50	1.94
6	5.00	1.00		12.795	0.05	0.56	1.52
7	6.00	1.00		12.755	0.04	0.59	1.11
8	8.00	2.00		12.735	0.02	0.62	0.28
9	9.00	1.00		12.735	0.00	0.62	0.00
10	10.00	1.00		12.690	0.04	0.66	1.25
11	12.00	2.00		12.685	0.00	0.66	0.07
12	14.00	2.00		12.680	0.01	0.67	0.07
13	16.00	2.00		12.680	0.00	0.67	0.00

Steady Flow Rate, Q (in^3/min): 0.07



Field-Saturated Hydraulic Conductivity

Case 1: L/h > 3 K_{sat} = 0.0002 in/min 0.01 in/hr

GEOCON

Aardvark Permeameter Data Analysis

Project Name: Strauss 5th Avenue
Project Number: G1815-11-1
Borehole Location: P-2
Date: 7/29/2016
By: JML
Ref. EL (feet, MSL):
Bottom EL (feet, MSL):

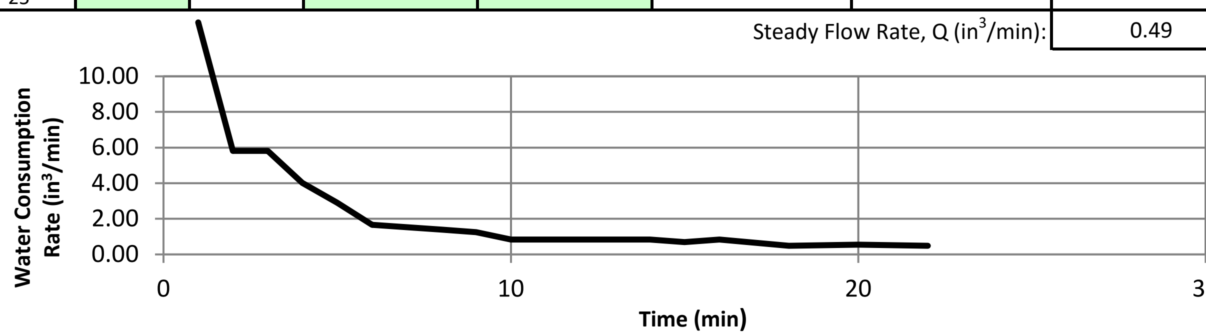
Borehole Diameter (inches): 8.00
Borehole Depth, **H** (feet): 5.00
Distance Between Reservoir & Top of Borehole (feet): 2.50
Depth to Water Table, **s** (feet): 200
Height APM Raised from Bottom (inches): 2.00

Wetted Area, **A** (in^2): 201.06

Distance Between Resevoir and APM, **D** (feet): 6.73
Head Height, **h** (inches): 6.00
Distance Between Constant Head and Water Table, **L** (inches): 2346

Reading	Time (min)	Time Elapsed (min)	Reservoir Water Weight (g)	Resevoir Water Weight (lbs)	Interval Water Consumption (lbs)	Total Water Consumption (lbs)	*Water Consumption Rate (in^3/min)
1	0.00			21.760			
2	1.00	1.00		21.290	0.47	0.47	13.03
3	2.00	1.00		21.080	0.21	0.68	5.82
4	3.00	1.00		20.870	0.21	0.89	5.82
5	4.00	1.00		20.725	0.15	1.04	4.02
6	5.00	1.00		20.620	0.11	1.14	2.91
7	6.00	1.00		20.560	0.06	1.20	1.66
8	8.00	2.00		20.460	0.10	1.30	1.39
9	9.00	1.00		20.415	0.05	1.35	1.25
10	10.00	1.00		20.385	0.03	1.38	0.83
11	11.00	1.00		20.355	0.03	1.41	0.83
12	12.00	1.00		20.325	0.03	1.44	0.83
13	14.00	2.00		20.265	0.06	1.50	0.83
14	15.00	1.00		20.240	0.03	1.52	0.69
15	16.00	1.00		20.210	0.03	1.55	0.83
16	18.00	2.00		20.175	0.04	1.59	0.49
17	20.00	2.00		20.135	0.04	1.63	0.55
18	22.00	2.00		20.100	0.04	1.66	0.49
19							
20							
21							
22							
23							
24							
25							

Steady Flow Rate, Q (in^3/min): 0.49



Field-Saturated Hydraulic Conductivity

Case 1: L/h > 3 K_{sat} = 0.001 in/min 0.08 in/hr

GEOCON

Percolation Test - Inverse Auger Hole Method (Porchet)

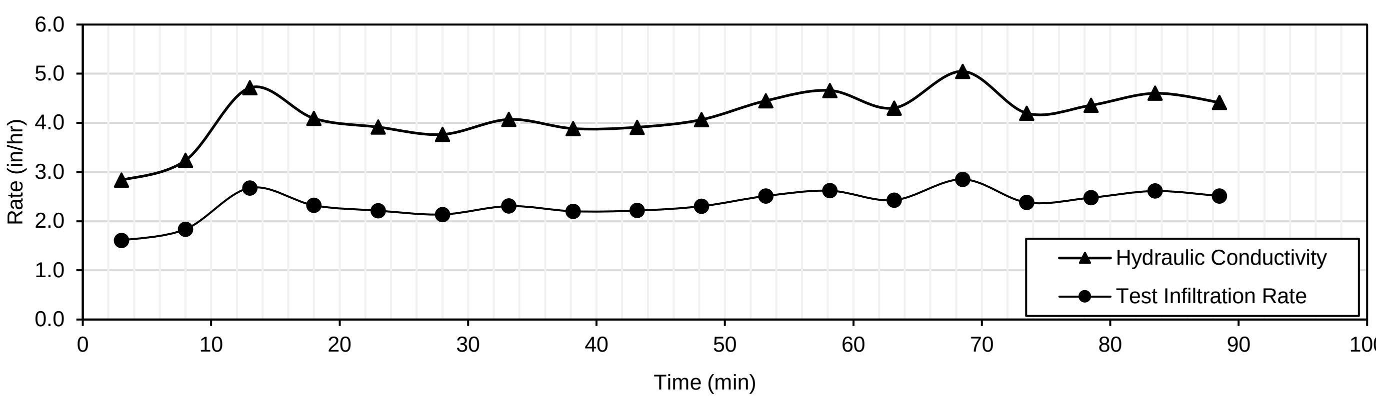
Project Name: Strauss 5th Ave. **Test No.** P-3
Project No.: G1815-11-01 **By:** JML/LER
Date: 8/24/2016

Boring Diameter, D_{boring} (ft): 0.75
Casing Diameter, D_{casing} (ft): 0.17
Effective Radius, r_{eq} (ft): 0.20
Boring Length, L (ft): 65
Void Ratio of Filter Sand Pack Material, e: 0.39
Unit Volume of Water, V_{water} (ft^3/ft): 0.12

Set	Depth, D (ft)	Head, H (ft)	Dt (min)	Cumulative Time, t_{total} (min)	DH (ft)	Dvolume (ft^3)	Wetted Area, A_{wet} (ft^2)	Flow Rate, Q (ft^3/hr)	Hydraulic Conductivity, K (in/hr)	Infiltration Rate, I_t (in/hr)
1	52.20 53.78	12.80 11.22	3.00	3.00	1.58	0.19	28.73	3.86	2.83	1.61
2	51.78 54.72	13.22 10.28	5.00	8.00	2.94	0.36	28.12	4.31	3.24	1.84
3	52.04 56.04	12.96 8.96	5.00	13.00	4.00	0.49	26.26	5.86	4.71	2.68
4	51.82 55.42	13.18 9.58	5.00	18.00	3.60	0.44	27.25	5.27	4.09	2.32
5	51.26 54.86	13.74 10.14	5.00	23.00	3.60	0.44	28.57	5.27	3.91	2.21
6	51.86 55.20	13.14 9.80	5.00	28.00	3.34	0.41	27.46	4.89	3.76	2.14
7	51.62 55.36	13.38 9.64	5.17	33.17	3.74	0.46	27.55	5.30	4.07	2.31
8	51.66 55.14	13.34 9.86	5.00	38.17	3.48	0.42	27.77	5.10	3.88	2.20
9	51.50 55.04	13.50 9.96	5.00	43.17	3.54	0.43	28.07	5.18	3.91	2.22
10	51.66 55.28	13.34 9.72	5.00	48.17	3.62	0.44	27.60	5.30	4.06	2.30
11	50.96 55.06	14.04 9.94	5.00	53.17	4.10	0.50	28.68	6.00	4.45	2.51
12	50.26 54.72	14.74 10.28	5.00	58.17	4.46	0.54	29.91	6.53	4.66	2.62
13	50.90 54.90	14.10 10.10	5.00	63.17	4.00	0.49	28.94	5.86	4.30	2.43
14	51.30 56.00	13.70 9.00	5.33	68.50	4.70	0.57	27.18	6.46	5.05	2.85
15	51.82 55.50	13.18 9.50	5.00	73.50	3.68	0.45	27.15	5.39	4.20	2.38
16	52.20 55.90	12.80 9.10	5.00	78.50	3.70	0.45	26.23	5.42	4.36	2.48
17	52.04 55.96	12.96 9.04	5.00	83.50	3.92	0.48	26.35	5.74	4.60	2.61
18	52.28 56.00	12.72 9.00	5.00	88.50	3.72	0.45	26.02	5.45	4.42	2.51

Hydraulic Conductivity, K (in/hr) $= 1.15 r_{eq} \dfrac{\log(h_0 + ½ r_{eq}) - \log(h_t + ½ r_{eq})}{t - t_0} =$ **4.42**

Test Infiltration Rate, I_t (in/hr) $= \dfrac{Q}{A_{wet}} = \dfrac{D H \, P \, r_{eq}^2 \, 60}{D t (P r_{eq}^2 + 2 P r_{eq} H_{avg})} =$ **2.51**



GEOCON

Percolation Test - Inverse Auger Hole Method (Porchet)

Project Name:	Strauss 5th Ave.	**Test No.**	P-4
Project No.:	G1815-11-01	**By:**	JML/LER
Date:	8/24/2016		

Boring Diameter, D_{boring} (ft):	0.75
Casing Diameter, D_{casing} (ft):	0.17
Effective Radius, r_{eq} (ft):	0.20
Boring Length, L (ft):	65
Void Ratio of Filter Sand Pack Material, e :	0.39
Unit Volume of Water, V_{water} (ft^3/ft):	0.12

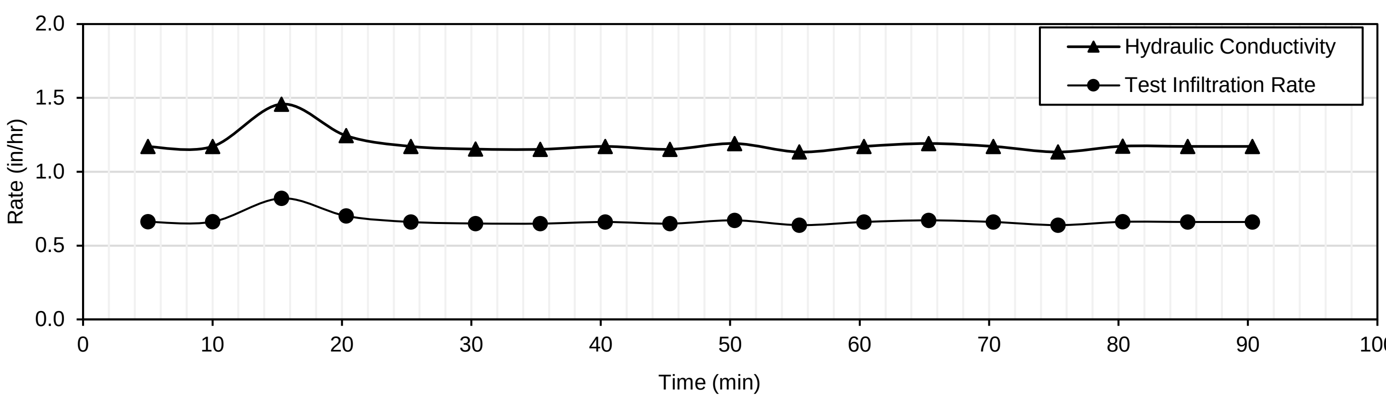
Set	Depth, *D* (ft)	Head, H (ft)	Dt (min)	Cumulative Time, t_{total} (min)	DH (ft)	Dvolume (ft^3)	Wetted Area, A_{wet} (ft^2)	Flow Rate, *Q* (ft^3/hr)	Hydraulic Conductivity, *K* (in/hr)	Infiltration Rate, I_t (in/hr)
1	51.29 52.47	13.71 12.53	5.00	5.00	1.18	0.14	31.36	1.73	1.17	0.66
2	51.05 52.25	13.95 12.75	5.00	10.00	1.20	0.15	31.90	1.76	1.17	0.66
3	50.10 51.77	14.90 13.23	5.33	15.33	1.67	0.20	33.58	2.29	1.46	0.82
4	50.47 51.79	14.53 13.21	5.00	20.33	1.32	0.16	33.12	1.93	1.24	0.70
5	50.55 51.79	14.45 13.21	5.00	25.33	1.24	0.15	33.03	1.82	1.17	0.66
6	50.57 51.79	14.43 13.21	5.00	30.33	1.22	0.15	33.00	1.79	1.15	0.65
7	50.55 51.77	14.45 13.23	5.00	35.33	1.22	0.15	33.05	1.79	1.15	0.65
8	50.55 51.79	14.45 13.21	5.00	40.33	1.24	0.15	33.03	1.82	1.17	0.66
9	50.55 51.77	14.45 13.23	5.00	45.33	1.22	0.15	33.05	1.79	1.15	0.65
10	50.55 51.81	14.45 13.19	5.00	50.33	1.26	0.15	33.00	1.85	1.19	0.67
11	50.57 51.77	14.43 13.23	5.00	55.33	1.20	0.15	33.03	1.76	1.13	0.64
12	50.55 51.79	14.45 13.21	5.00	60.33	1.24	0.15	33.03	1.82	1.17	0.66
13	50.55 51.81	14.45 13.19	5.00	65.33	1.26	0.15	33.00	1.85	1.19	0.67
14	50.55 51.79	14.45 13.21	5.00	70.33	1.24	0.15	33.03	1.82	1.17	0.66
15	50.57 51.77	14.43 13.23	5.00	75.33	1.20	0.15	33.03	1.76	1.13	0.64
16	50.57 51.81	14.43 13.19	5.00	80.33	1.24	0.15	32.98	1.82	1.17	0.66
17	50.55 51.79	14.45 13.21	5.00	85.33	1.24	0.15	33.03	1.82	1.17	0.66
18	50.55 51.79	14.45 13.21	5.00	90.33	1.24	0.15	33.03	1.82	1.17	0.66

Hydraulic Conductivity, K (in/hr)

$$= 1.15 \cdot r_{eq} \frac{\log(h_0 + ½ r_{eq}) - \log(h_t + ½ r_{eq})}{t - t_0} = \mathbf{1.17}$$

Test Infiltration Rate, I_t (in/hr)

$$= \frac{Q}{A_{wet}} = \frac{D H P r_{eq}^2 60}{D t (P r_{eq}^2 + 2 P r_{eq} H_{avg})} = \mathbf{0.66}$$



Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
Part 1 - Full Infiltration Feasibility Screening Criteria **Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?**			
Criteria	Screening Question	Yes	No
1	**Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis: The following presents the results of our field infiltration tests: P-1 at 50-65 feet: 2.51 inches/hour (1.26 inches per hour with a FOS=2) P-2 at 50-65 feet: 0.66 inches/hour (0.33 inches per hour with a FOS=2) We recommend an infiltration rate of 0.33 inches per hour at Boring P-2 be used for initial design due to the variability of the soil and differences in the test results. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	**Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level?** The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: The site is underlain by undocumented fill, Very Old Paralic Deposits and the San Diego Formation. Compacted fill may also be placed at the property. Water that would be allowed to infiltrate would migrate laterally outside of the property limits to the existing right-of-ways and adjacent properties. Based on the comprehensive geotechnical evaluation and documents, full infiltration is not feasible due to the dense to very dense and cemented nature of the underlying materials and the variable infiltration rates. We performed consolidation tests on samples of the San Diego Formation and the results indicate the potential for hydroconsolidation is an average of approximately 0.8 percent. Therefore, we expect the amount of settlement due to hydroconsolidation at the location of a deep well is approximately 2 inches assuming a 20-foot zone of the San Diego Formation becomes saturated. The settlement due to hydroconsolidation within a localized area below the structure can cause differential settlement below the structure. Therefore, full infiltration should be considered infeasible. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

<table>
<tr><th colspan="4">Worksheet C.4-1 Page 2 of 4</th></tr>
<tr><th>Criteria</th><th>Screening Question</th><th>Yes</th><th>No</th></tr>
<tr><td>3</td><td>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</td><td>X</td><td></td></tr>
<tr><td colspan="4">Provide basis:

Based on the geotechnical report, groundwater exists greater than 250 feet below existing grade.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</td></tr>
<tr><td>4</td><td>Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</td><td>X</td><td></td></tr>
<tr><td colspan="4">Provide basis:

We do not expect infiltration will cause water balance issues such as seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</td></tr>
<tr><td>Part 1 Result*</td><td colspan="2">If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration

If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</td><td>Not Full Infiltration</td></tr>
</table>

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by the City to substantiate findings.

Worksheet C.4-1 Page 3 of 4

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

<table>
<tr><th>Criteria</th><th>Screening Question</th><th>Yes</th><th>No</th></tr>
<tr><td>5</td><td>Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.</td><td>X</td><td></td></tr>
<tr><td colspan="4">Provide basis:
The following presents the results of our field infiltration tests:
P-1 at 50-65 feet: 2.51 inches/hour (1.26 inches per hour with a FOS=2)
P-2 at 50-65 feet: 0.66 inches/hour (0.33 inches per hour with a FOS=2)

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</td></tr>
<tr><td>6</td><td>Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.</td><td></td><td>X</td></tr>
<tr><td colspan="4">Provide basis:
The site is underlain by undocumented fill, Very Old Paralic Deposits and the San Diego Formation. Compacted fill may also be placed at the property. Water that would be allowed to infiltrate would migrate laterally outside of the property limits to the existing right-of-ways and adjacent properties. Based on the comprehensive geotechnical evaluation and documents, full infiltration is not feasible due to the dense to very dense and cemented nature of the underlying materials and the variable infiltration rates. We performed consolidation tests on samples of the San Diego Formation and the results indicate the potential for hydroconsolidation is an average of approximately 0.8 percent. Therefore, we expect the amount of settlement due to hydroconsolidation at the location of a deep well is approximately 2 inches assuming a 20-foot zone of the San Diego Formation becomes saturated. The settlement due to hydroconsolidation within a localized area below the structure can cause differential settlement below the structure. Therefore, full infiltration should be considered infeasible.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</td></tr>
</table>

<table>
<tr><th colspan="4">Worksheet C.4-1 Page 4 of 4</th></tr>
<tr><th>Criteria</th><th>Screening Question</th><th>Yes</th><th>No</th></tr>
<tr><td>7</td><td>Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</td><td>X</td><td></td></tr>
<tr><td colspan="4">Provide basis:
Based on the geotechnical report, groundwater exists greater than 250 feet below existing grade.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</td></tr>
<tr><td>8</td><td>Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</td><td>X</td><td></td></tr>
<tr><td colspan="4">Provide basis:

We did not provide a study regarding water rights. However, these rights are not typical in the San Diego area.

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</td></tr>
<tr><td>Part 2 Result*</td><td colspan="2">If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration.

If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.</td><td>No Infiltration</td></tr>
</table>

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by the City to substantiate findings.