

GeoMat Testing Laboratories, Inc.

Soil Engineering, Environmental Engineering, Materials Testing, Geology
March 25, 2016

Project No. 16027-03

TO: Mr. Shakil Patel, AIA
25982 Hinkley Street
Loma Linda, California 92354

SUBJECT: Report of Preliminary Shallow Percolation Testing, Northwest Corner of Beaumont Avenue and Nevada Street, APN 0293-111-15-0000, Redlands, California

Introduction

In accordance with your authorization, GeoMat Testing Laboratories, Inc. has performed preliminary percolation testing for the subject site. The purpose of our work is to establish an average flow rate for the proposed onsite septic system.

The accompanying report presents a summary of our findings, with conclusions and recommendations for the proposed septic system. Location of field testing and system location have been plotted on Plate 1.

The subject site is proposed for three structures, play fields, an outdoor fountain, and large parking area.

Based on our drilling at existing grades, groundwater was not encountered in our boring which was drilled to a maximum depth of 15 feet below ground surface.

It should be noted that this work was for shallow percolation testing purposes. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The percolation testing and related laboratory test data are believed representative of the project site in its current condition. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they may be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge.

If you have any questions regarding this report, please do not hesitate to call this office. We appreciate this opportunity to be of service.

Submitted for GeoMat Testing Laboratories, Inc.

A handwritten signature in blue ink, appearing to read "Haytham Nabilsi".

Haytham Nabilsi, GE 2375
Project Engineer



Distribution: (3) Addressee

ATTACHMENTS

Figure 1	Site Location Map
Plate 1	Exploratory Borehole/Percolation Tests/System Location Map
Appendix A	References
Appendix B	Exploratory Borehole Log
Appendix C	Laboratory Test Results
Appendix D	Percolation Test Data

PRELIMINARY FEASIBILITY REPORT

Assessors Parcel No.

0293-111-15-0000

Property Representative

Mr. Shakil Patel, AIA
25982 Hinkley Street
Loma Linda, California 92354
(909)796-4437

Land Location and Description

The subject site is located on the northwestern corner of Beaumont Avenue and Nevada Street, Redlands, California. Both Beaumont Avenue and Nevada Street are paved streets without curb or gutter. The geographical relationship of the site and surrounding vicinity is shown on our Site Location Map, Figure 1.

The site is approximately five and a half acres. Topography of the site is generally flat with a maximum relief of 9 feet. Surface drainage sheeting flows to the northwest at a rate of approximately 1.3%. Currently the site is vacant with light seasonal grasses sparsely spread about.

Proposed Development

We understand that a new community center is proposed for the site. The new structure will utilize onsite sewage disposal following the leach line septic system.

Groundwater

Groundwater study is not within the scope of this work. Groundwater was not encountered in our exploratory borings drilled at the site up to 15 feet below ground surface. Depth to groundwater is not expected to impact site grading.

Highest historical groundwater record documented by the State of California, Department of Water Resources in a well located approximately 1 mile northeast of the site (State Well No. 01S03W33C001S, elevation 1206) was 65 feet (water surface elevation of 1141) below ground surface on March 28, 1945. The lowest site elevation is approximately 1248 feet.

Please note that the potential for rain or irrigation water locally seeping through from elevated areas and showing up near grades cannot be precluded. Our experience indicates that surface or near-surface groundwater conditions can develop in areas where groundwater conditions did not exist prior to site development, especially in areas where a substantial increase in surface water infiltration results from landscape irrigation. Fluctuations in perched water elevations are likely to occur in the future due to variations in precipitation, temperature, consumptive uses, and other factors including mounding of perched water over bedrock. Mitigation for nuisance shallow seeps moving from elevated lower areas will be needed if encountered. These mitigations may include subdrains, horizontal drains, toe drains, french drains, heel drains or other devices.

Geology

Based on the USGS Preliminary Geologic Map of the Sunnymead/South 1/2 of Redlands Quadrangles, the site is mapped as young alluvium fan deposits consisting of unindurated and undissected alluvial sand gravel, and clay of valley areas, covered with thick soil.

Subsurface Soil Characteristics

Three exploratory boreholes were drilled on February 28, 2016, to a maximum depth of 15 feet below existing ground surface utilizing a CME 45 equipped with 8-inch hollows stem augers. Refer to Plate 1 for location of exploratory boreholes.

In general, boreholes revealed that the site is underlain by younger alluvial fan deposits to the maximum explored depth. The primary soils encountered are well-graded sand with gravel, well-graded sand with silt and gravel, silty sand and sandy silt (USCS "SW", "SW-SM", "SM", and "ML", respectively) in the upper approximately fifteen feet.

Descriptions of the materials are presented in the form of Geotechnical Boring Logs in Appendix B.

Laboratory Testing

Sieve analysis was performed on a selected soil sample obtained from the shallow boreholes for the purpose of classification. Graphical test results are shown in Appendix C.

Percolation Study

GeoMat Testing Laboratories performed percolation testing for the proposed structure in general accordance with the procedures of the County of San Bernardino, Department of Public Health, Division of Environmental Health Services' Onsite Waste Water Disposal System, Soil Percolation (PERC) Test Report Standards.

Test Procedures

- Four percolation tests were conducted for the proposed septic system. The boreholes were tested between 37 and 44 inches below ground surface. A PVC perforated pipe covered with filter fabric was placed in the holes. Two inches of gravel was placed at the bottom of the boreholes.
- The test holes were presoaked the day before testing by filling the test hole with water and inverting a 5 gallon bottle in the test hole.
- The next day, test holes were manually cleaned prior to testing.
- Testing was conducted by filling each test hole to six inches above the gravel. At least five inches of water seeped away in less than 30 minutes. Accordingly testing was conducted every ten minutes. Time intervals were adjusted accordingly, to provide a minimum of one inch drop and not more than three in drop for each reading

Test Results

The following table presents the actual and recommended percolation rates in minutes per inch and square feet per 100 gallons of septic tank capacity for the test holes.

Test No.	Test Depth (in)	Soil Classification (USCS)	Percolation Rate (min/in)	Square Feet per Gallon per Day
P-1	37"	SW-SM	1.6	0.83
P-2	44"	SM	2.3	0.83
P-3	43"	SM	1.6	0.83
P-4	42"	SM	2.0	0.83

Discussion and Design

Based on our visual observation and laboratory testing, the onsite soil consists of generally the same material, sand with silt and silty sand, to the maximum depth explored of 15 feet below ground surface. The variation in test results can be attributed to soil classification, soil texture, and density of soils.

Based on percolation test results the onsite soils have favorable percolation rates. Test results are appropriate to soil classification.

No restrictive layer was encountered during drilling to 15 feet below ground surface.

No caving of test holes took place during testing.

The system configuration is as follows:

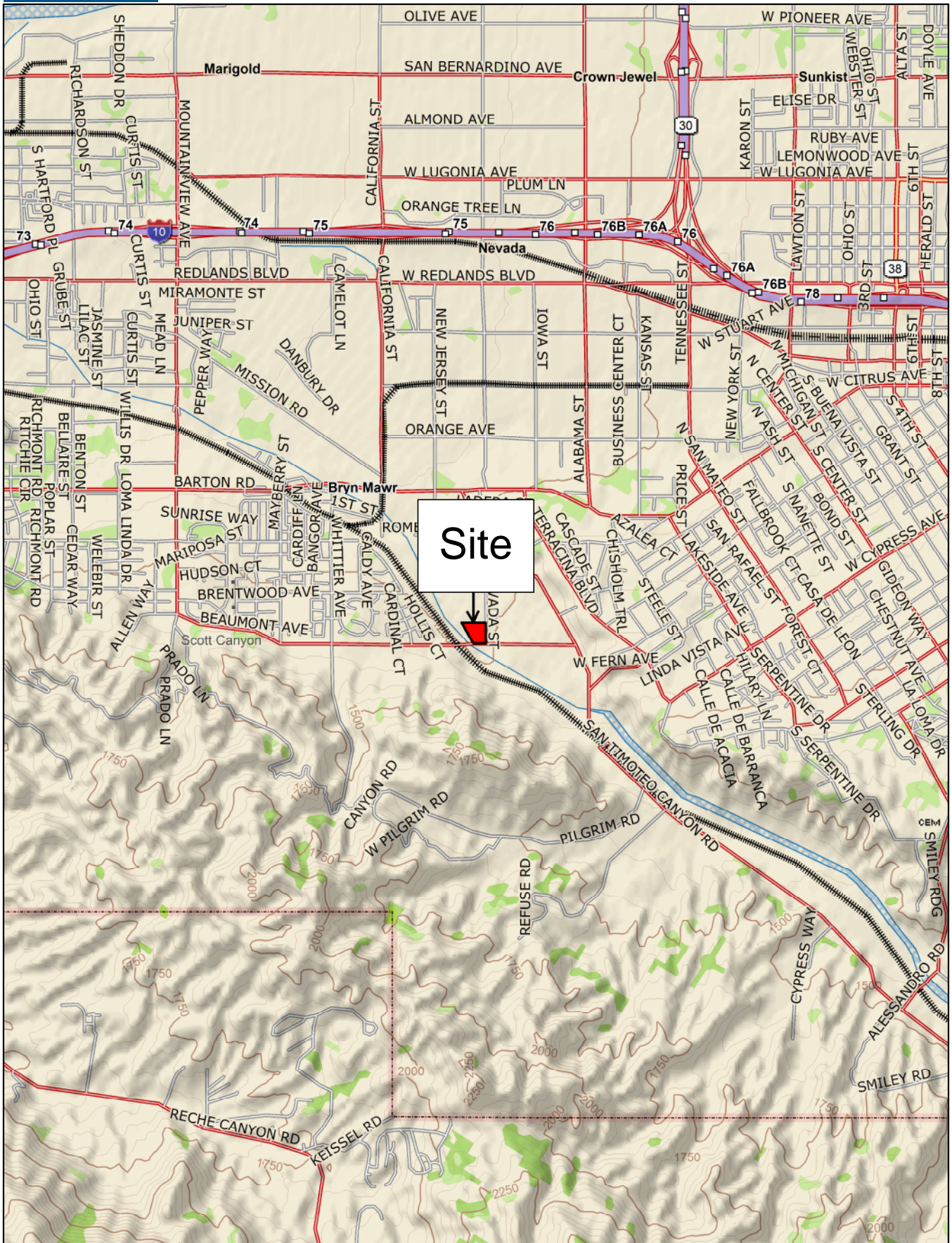
Septic Tank	Flow	Length of Leach Lines	Depth of Trench	Spacing
5000 gal	4200 gal/day	5 lines, 100 feet each	3X3 ft	8 ft
3000 gal	3000 gal/day	4 lines 90 feet each		
2000 gal	2000 gal/day	3 lines 80 feet long		

Conclusions and Recommendations

- Based on the data presented in this report and using the recommendations set forth, it is the judgment of GeoMat Testing Laboratories, Inc. that there is sufficient area on this site to support a primary and expansion of the onsite wastewater system that will meet the current standards of the Department of Environmental Health, County of San Bernardino and Regional Quality Control Board.
- Based on the data presented in this report and the testing information accumulated, it is the judgment of GeoMat Testing Laboratories, Inc. that the groundwater table will not encroach within the current allowable limit set forth by County and State requirements.
- Based on laboratory test results, the natural occurring body of minerals and organic matter at the proposed wastewater disposal area contains earthen materials having more than 50% of its volume composed of particles smaller than 2 mm in size.
- Trenches should be constructed near the percolation test location at the depth of the tests performed and in natural soil to details per County of San Bernardino Health Department, Division of Environmental Health. All systems must meet the CRWQCB requirements.
- All excavations should be observed by GeoMat Testing Laboratories, Inc. Copy of the DEHS septic system handout "Taking Care of Your Septic System" and "Got Septic FAQ" should be obtained by the developer to provide it to owner.

Limitation

This report is prepared with the understanding that it is the owner's responsibility to ensure that proper construction methods are employed for the disposal system. Improper placement/construction of the system can cause premature failure regardless of soil conditions. It is also the owner's responsibility to adequately maintain the disposal system to extend its longevity. Our work was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soil engineers practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and used for laboratory testing and the observations made are believed representative of the tested areas, however, soil conditions can vary significantly between test locations. As in most projects conditions revealed by excavation may be at variance with preliminary findings. If this occurs, the changed conditions must be evaluated by the Project Soil Engineer and design adjusted, as required, or alternate designs recommended. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and revision as changed conditions are identified.



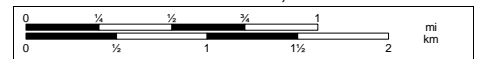
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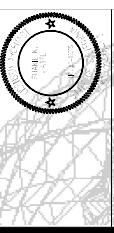


Scale 1 : 50,000



1" = 4,166.7 ft

Data Zoom 12-0



DATE: 03/11/16
 SHEET TITLE: SITE PLAN PHASE III
 PROJECT NO: 16027-01
 DRAWN BY: SP
 CHECKED BY: SP

APPROVED BY: [Signature]

ISLAMIC COMMUNITY CENTER OF REDLANDS

NORTH WEST CORNER OF
 BEAUMONT AVENUE AND NEVADA STREET

MASTER PLANNING PHASE III

OF A103

PROJECT DATA

OWNER:
 ISLAMIC COMMUNITY CENTER OF REDLANDS
 REDLANDS BLVD. LOYA LINDA CA

APPLICANT:
 SHAHLI PATEL & ASSOCIATES AIA
 REDLANDS BLVD. LOYA LINDA CA 92354
 TEL: 951-752-7272
 patshahli@gmail.com

ASSessor PARCEL NUMBER:
 APN 0293-111-15-0000

ZONING:
 RL MULTI FAMILY RESIDENCE

GENERAL PLAN LAND USE:
 29-0' MULTI-FAMILY RESIDENCE
 29-0' MULTI-FAMILY RESIDENCE
 15-0' MULTI-FAMILY RESIDENCE

PERMITS:
 530 AC
 AS FULLY UNDEVELOPED
 9300 SF

SITE DATA

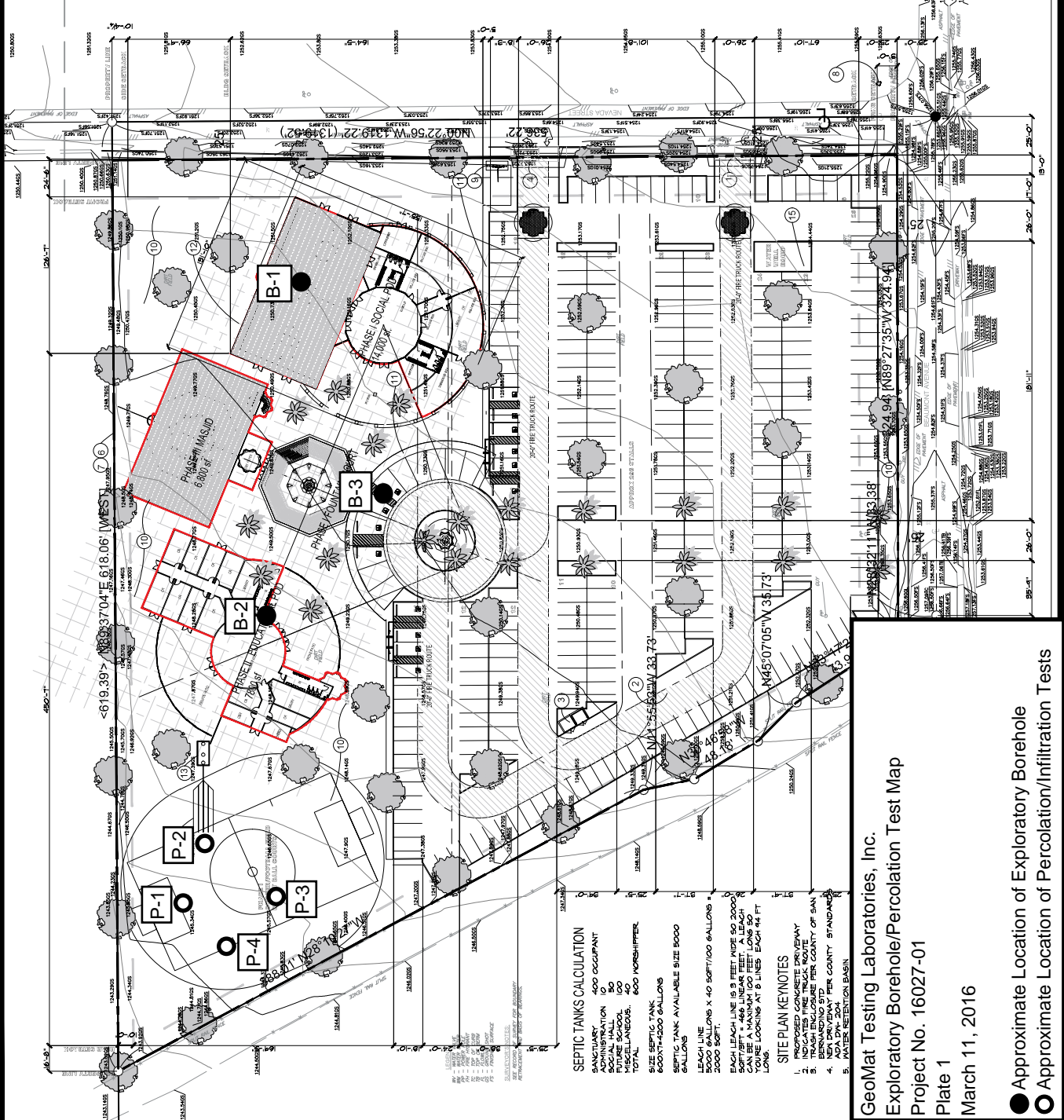
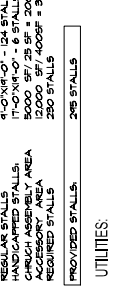
BUILDING DATA:
 LANDSCAPE AREA: 19,000 SF
 PAVING AREA: 10,150 SF
 LOT COVERAGE: 14,000 SF
 PHASE II (NEXT 5 YEARS): 7,970 SF
 PHASE II (NEXT 10 YEARS): 6,800 SF
 TOTAL LOT COVERAGE REQUIRED: 29,600 SF @ 12%
 MAXIMUM HEIGHT: 30 FT.

PARKING CALCULATION:
 REGULAR STALLS: 91-0'x18'-0" = 124 STALLS
 HANDICAPPED STALLS: 11-0'x14'-0" = 6 STALLS
 ACCESSORY AREA: 12,000 SF / 100 SF = 120 STALLS
 REQUIRED STALLS: 250 STALLS

UTILITIES

PRIVATE
 WATER
 ELECTRICAL
 GAS
 SLOTTED DRAINAGE
 REDLANDS UNITED SCHOOL DISTRICT
 According to the Hazardous Overlay Map, the Project site is within a FEMA Flood Zone X.

VICINITY MAP



SEPTIC TANKS CALCULATION
 SANITARY: 400 OCCUPANT
 ADMINISTRATION: 50
 SOCIAL HALL: 150
 MISCELLANEOUS: 500
 TOTAL: 600 WORTHIPPER

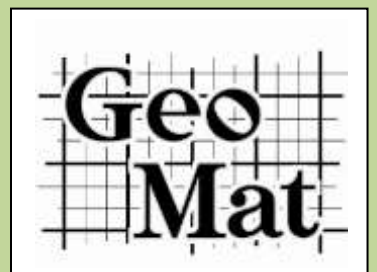
SIZE SEPTIC TANK: 600x1400 GALLONS
 SEPTIC TANK AVAILABLE SIZE: 5000 GALLONS
 LEACH LINES: 4x 40 FT @ 50 FT/100 GALLONS = 1600 FT
 EACH LEACH LINE IS 8 FEET WIDE @ 50 SOFT/FT = 400 LINEAR FEET. A LEACH CAN BE A MAXIMUM 100 FEET LONG @ 50 FT/100 GALLONS. LEACH LINES ARE SPACED AT 8 FEET, EACH 44 FT LONG.

SITE PLAN KEY/NOTES
 1. INDICATED FIRE TRUCK ROUTE
 2. TRASH ENCLOSURE PER COUNTY OF SAN DIEGO
 3. NEW DRIVEWAY PER COUNTY STANDARDS
 4. NEW DRIVEWAY PER COUNTY STANDARDS
 5. WATER DISTRIBUTION BASIN

GeoMat Testing Laboratories, Inc.
 Exploratory Borehole/Percolation Test Map
 Project No. 16027-01
 Plate 1
 March 11, 2016

- Approximate Location of Exploratory Borehole
- Approximate Location of Percolation/Infiltration Tests

Appendix A



REFERENCES

Shakil Patel & Associates' Islamic Community Center of Redlands, Northwest Corner of Beaumont Avenue and Nevada Street, Redlands, California, Site Plan Phase III, Sheet A103, Plan Dated February 2, 2016.

USGS, Geologic Map of the Sunnymead and South 1/2 Redlands Quadrangles, Thomas W. Dibblee, Jr., 2003.

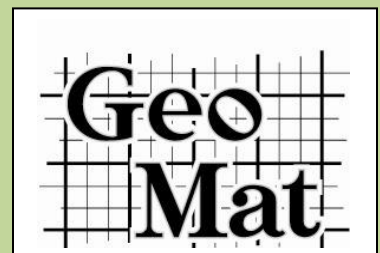
San Bernardino County Land Use Plan, General Plan, Geologic Hazard Overlays, FH31C, Redlands
County of San Bernardino Property Viewer.

Western Municipal Water District, Cooperative Well Measuring Program, Spring 2013.

California Department of Water Resources, Water Data Library.

County of San Bernardino, Department of Public Health, Division of Environmental Health Services' Onsite Waste Water Disposal System, Soil Percolation (PERC) Test Report Standards, August 1992.

Appendix B



WATER LEVEL MEASUREMENTS

Water levels indicated on the boring logs are levels measured in the borings at the times indicated. In permeable materials, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with only short-term observations.

WATER LEVEL OBSERVATION DESIGNATION

W.D.	While Drilling
A.B.	After Boring
B.C.R.	Before Casing Removal
A.C.R.	After Casing Removal
24 hr.	Water level taken approximately 24 hrs. after boring completion

DRILLING AND SAMPLING SYMBOLS

AS	Auger Sample
CS	Continuous Sampler
DB	Diamond Bit -NX unless otherwise noted
HA	Hand Auger
HS	Hollow Stem Auger
PA	Power Auger
RB	Rock Bit
SS*	Split-Barrel
ST	Shelby Tube - 2" (51mm) unless otherwise noted
WB	Wash Bore
CR	California Ring Sampler 3" O.D., Lined with 2.5"X1" Rings

*The Standard Penetration Test is conducted in conjunction with the split-barrel sampling procedure. The "N" value corresponds to the number of blows required to drive the last 1 foot (0.3m) of an 18 in. (0.46m) long, 2 in. (51mm) O.D. split-barrel sampler with a 140 lb. (63.5 kg) hammer falling a distance of 30 in. (0.76m). The Standard Penetration Test is carried out according to ASTM D-1586. (See "N" Value below.)

SOIL PROPERTIES & DESCRIPTIONS

TEXTURE

PARTICLE	SIZE
Clay	< 0.002 mm (< 0.002 mm)
Silt	< #200 Sieve (0.075 mm)
Sand	#4 to #200 Sieve (4.75 to 0.075 mm)
Gravel	3 in. to #4 Sieve (75 mm to 4.75 mm)
Cobbles	12 in. to 3 in. (300 mm to 75 mm)
Boulders	> 12 in. (300 mm)

COMPOSITION

SAND & GRAVEL	
Description	% by Dry Weight
trace	< 15
with modifier	15 - 29
	> 30
FINES	
Description	% by Dry Weight
trace	< 5
with modifier	5 - 12
	> 12

Soil descriptions are based on the Unified Soil Classification System (USCS) as outlined in ASTM Designations D-2487 and D-2488. The USCS group symbol shown on the boring logs correspond to the group names listed below. The description includes soil constituents, consistency, relative density, color and other appropriate descriptive terms. Geologic description of bedrock, when encountered, also is shown in the description column.

GROUP SYMBOL	GROUP NAME	GROUP SYMBOL	GROUP NAME
GW	Well Graded Gravel	CL	Lean Clay
GP	Poorly Graded Gravel	ML	Silt
GM	Silty Gravel	OL	Organic Clay or Silt
GC	Clayey Gravel	CH	Fat Clay
SW	Well Graded Sand	MH	Elastic Silt
SP	Poorly Graded Sand	OH	Organic Clay or Silt
SM	Silty Sand	PT	Peat
SC	Clayey Sand	CL-CH	Lean to Fat Clay

COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH (Qu) (psf)	COMPRESSIVE STRENGTH (Qu) (kPa)	PLASTICITY
Very Soft	< 500	(< 24)	Description
Soft	500 - 1000	(24 - 48)	Lean
Medium	1001 - 2000	(48 - 96)	Lean to Fat
Stiff	2001 - 4000	(96 - 192)	Fat
Very Stiff	4001 - 8000	(192 - 383)	
Hard	> 8001	(> 383)	

Cohesive Soils	
Consistency	"N" value
Very Soft	<2
Soft	2-4
Medium	4-8
Stiff (Firm)	8-15
Very Stiff (Very Firm)	15-30
Hard	>30

COHESIONLESS SOILS

RELATIVE DENSITY	"N" VALUE*
Very Loose	0 - 3
Loose	4 - 9
Medium Dense	10 - 29
Dense	30 - 49
Very Dense	≥ 50

BEDROCK PROPERTIES & DESCRIPTIONS

ROCK QUALITY DESIGNATION (RQD**)

DESCRIPTION OF ROCK QUALITY	RQD (%)
Very Poor	0 - 25
Poor	25 - 50
Fair	50 - 75
Good	75 - 90
Excellent	90 - 100

**RQD is defined as the total length of sound core pieces, 4 inches (102mm) or greater in length, expressed as a percentage of the total length cored. RQD provides an indication of the integrity of the rock mass and relative extent of seams and bedding planes.

DEGREE OF WEATHERING

Slightly Weathered	Slight decomposition of parent material in joints and seams.
Weathered	Well-developed and decomposed joints and seams.
Highly Weathered	Rock highly decomposed, may be extremely broken.

SOLUTION AND VOID CONDITIONS

Solid	Contains no voids.
Vuggy	Containing small pits or cavities < 1/2" (13mm).
Porous	Containing numerous voids which may be interconnected.
Cavernous	Containing cavities, sometimes quite large.

When classification of rock materials has been estimated from disturbed samples, core samples and petrographic analysis may reveal other rock types.

HARDNESS & DEGREE OF CEMENTATION

LIMESTONE	
Hard	Difficult to scratch with knife.
Moderately Hard	Can scratch with knife but not with fingernail.
Soft	Can be scratched with fingernail.
SHALE	
Hard	Can scratch with knife but not with fingernail.
Moderately Hard	Can be scratched with fingernail.
Soft	Can be molded easily with fingers.
SANDSTONE	
Well Cemented	Capable of scratching a knife blade.
Cemented	Can be scratched with knife.
Poorly Cemented	Can be broken apart easily with fingers.

BEDDING CHARACTERISTICS

TERM	THICKNESS (inches)	THICKNESS (mm)
Very Thick Bedded	> 36	> 915
Thick Bedded	12 - 36	305 - 915
Medium Bedded	4 - 12	102 - 305
Thin Bedded	1 - 4	25 - 102
Very Thin Bedded	0.4 - 1	10 - 25
Laminated	0.1 - 0.4	2.5 - 10
Thinly Laminated	< 0.1	< 2.5
Bedding Planes	Planes dividing the individual layers, beds or strata of rocks.	
Joint	Fracture in rock, generally more or less vertical or transverse to the bedding.	
Seam	Applies to bedding plane with an unspecified degree of weathering.	

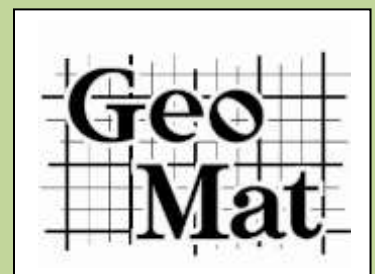
BORHOLE LOG				BH-1				Sheet		1	OF	1					
Project No.				16027-01				Date		2/28/2016							
Project				Redlands Masjid				Drilling Rig		CME 45							
Client				Mr. Shakil Patel				Sampler		Cal Mod. And SPT							
Location				APN 0293-111-15-0000, Redlands, CA				Method		Hollow Stem							
Coordinate								Hammer Type		140 lb							
Notes								Surface Elev.									
								Total Depth		15'							
Type/Symbol		Casing	Split Spoon	Ring Sampler	Cutting		Date	Time	Water Depth (ft)	Casing Size (in)	Casing Depth (ft)	Moisture (%)	Dry Density (pcf)	Test			
I.D.			S	R	C		2/28/2016		None								
O.D.																	
Length																	
Hammer Wt.																	
Hammer Fall																	
Depth Below Surface (ft)	Elevation (ft)	Graphic	Soil Sample			Blows			VISUAL MATERIAL CLASSIFICATION AND REMARKS					Moisture (%)	Dry Density (pcf)	Test	
			Type	Number	Symbol	Depth	0-152.4 mm	152.4-304.8 mm									304.8-457.2 mm
0																	
1																	
2																	
3			R				10	13	15	18			2	121			
4																	
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7																	
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10			S				2	2	3	5			13				
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The stratification lines represent the approximate boundary lines between soil and rock types. In-situ, the transition may be gradual.

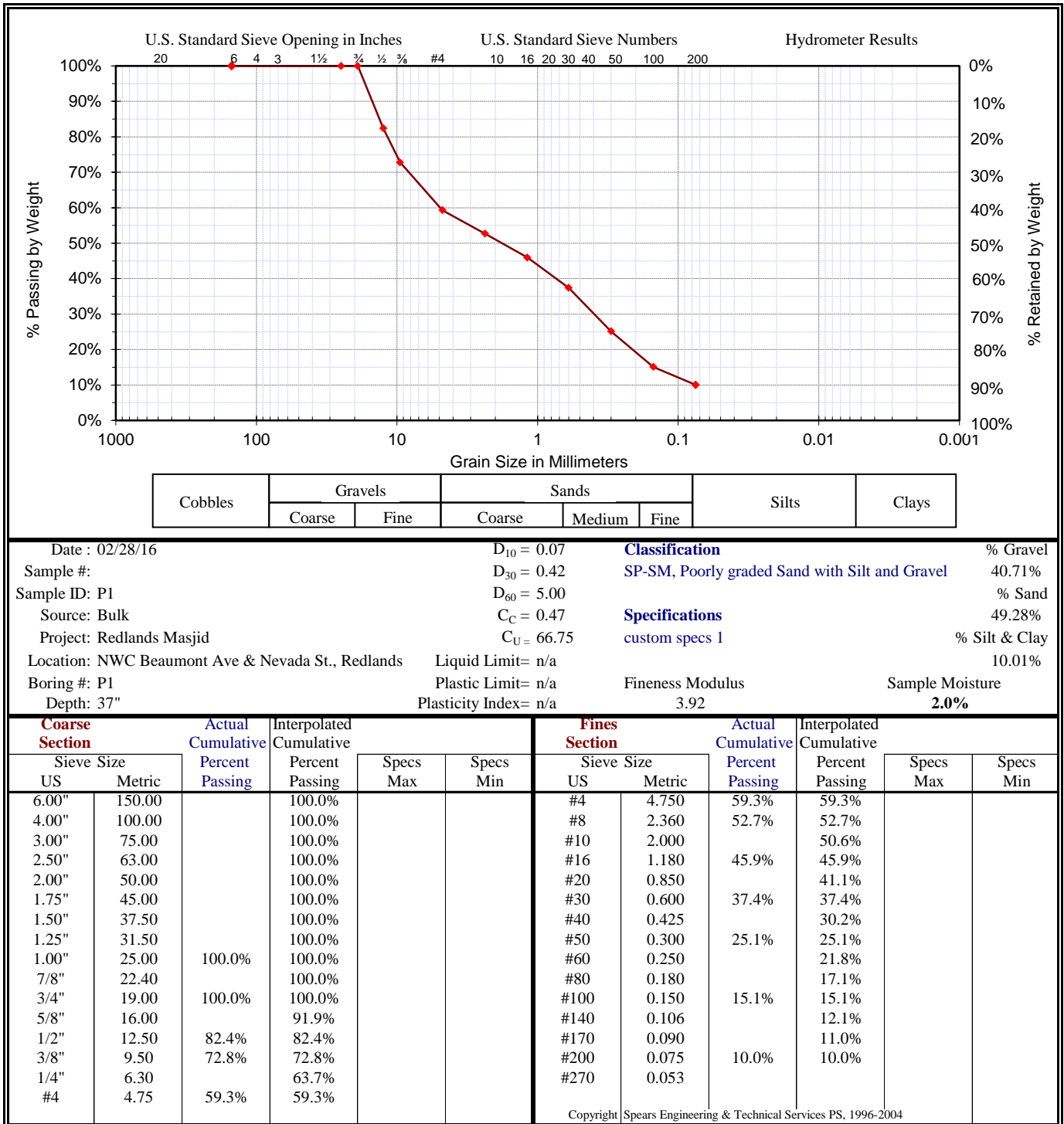
BORHOLE LOG				BH-3		Sheet		1	OF	1								
Project No.				16027-01		Date		2/28/2016										
Project				Redlands Masjid		Drilling Rig		CME 45										
Client				Mr. Shakil Patel		Sampler		Cal Mod. And SPT										
Location				APN 0293-111-15-0000, Redlands, CA		Method		Hollow Stem										
Coordinate						Hammer Type		140 lb										
Notes						Surface Elev.												
						Total Depth		15'										
Type/Symbol	Casing	Split Spoon	Ring Sampler	Cutting	Date	Time	Water Depth (ft)	Casing Size (in)	Casing Depth (ft)	Hole Depth (ft)	Symbol							
I.D.		S	R	C	2/28/2016		None											
O.D.																		
Length																		
Hammer Wt.																		
Hammer Fall																		
Depth Below Surface (ft)	Elevation (ft)	Soil Sample			Blows			VISUAL MATERIAL CLASSIFICATION AND REMARKS				Moisture (%)	Dry Density (pcf)	Test				
		Type	Number	Symbol	Depth	0-152.4 mm	152.4-304.8 mm								304.8-457.2 mm	N-Value	N60	(N1)60
0																		
1																		
2																		
3																		
4																		
5		R		▲	10	19	33	34								6	121	
6																		
7																		
8																		
9																		
10		S		■	13	17	18	35										
11																		
12																		
13																		
14																		
15		S		■	9	12	12	24								2		
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The stratification lines represent the approximate boundary lines between soil and rock types. In-situ, the transition may be gradual.

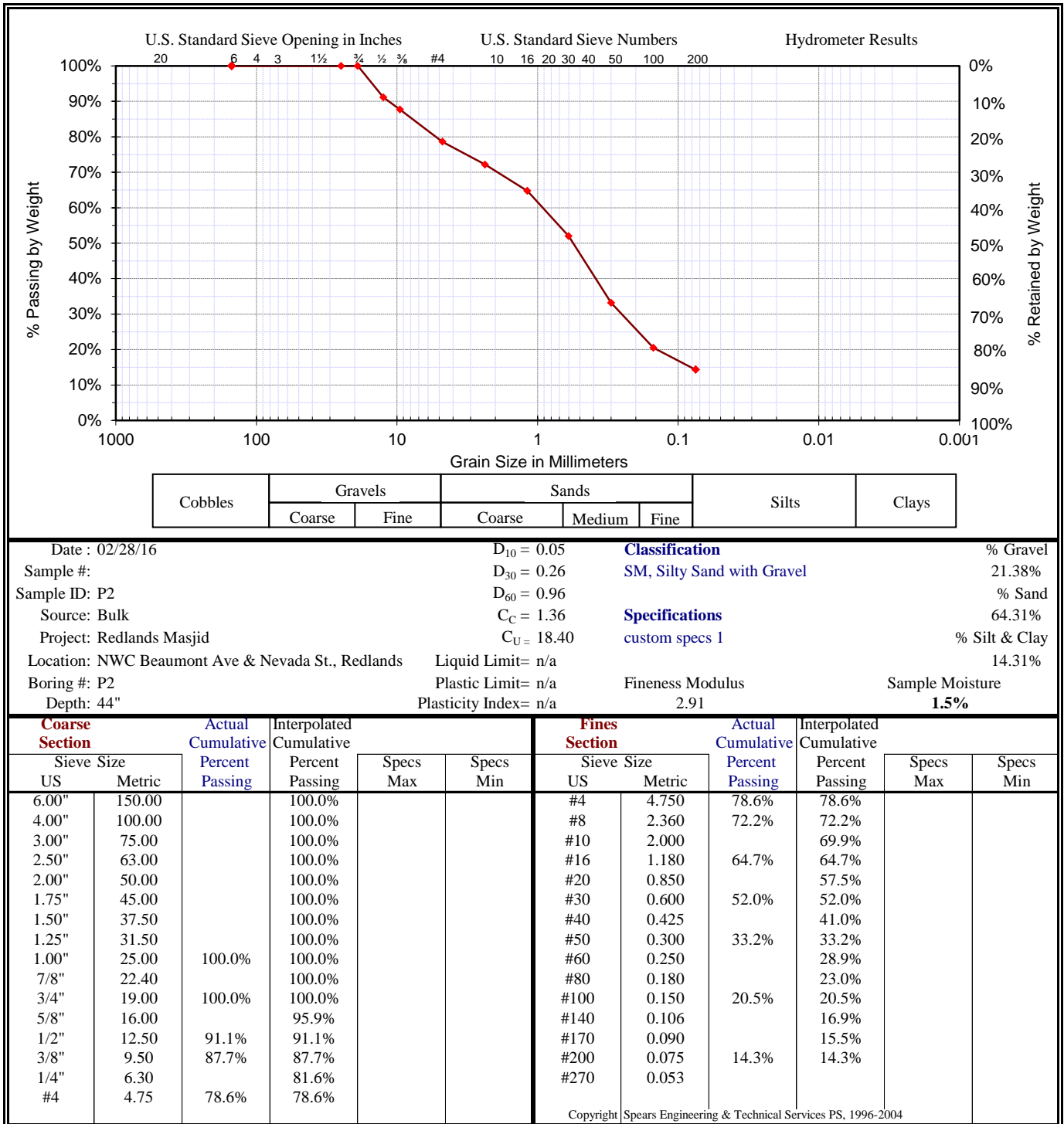
Appendix C



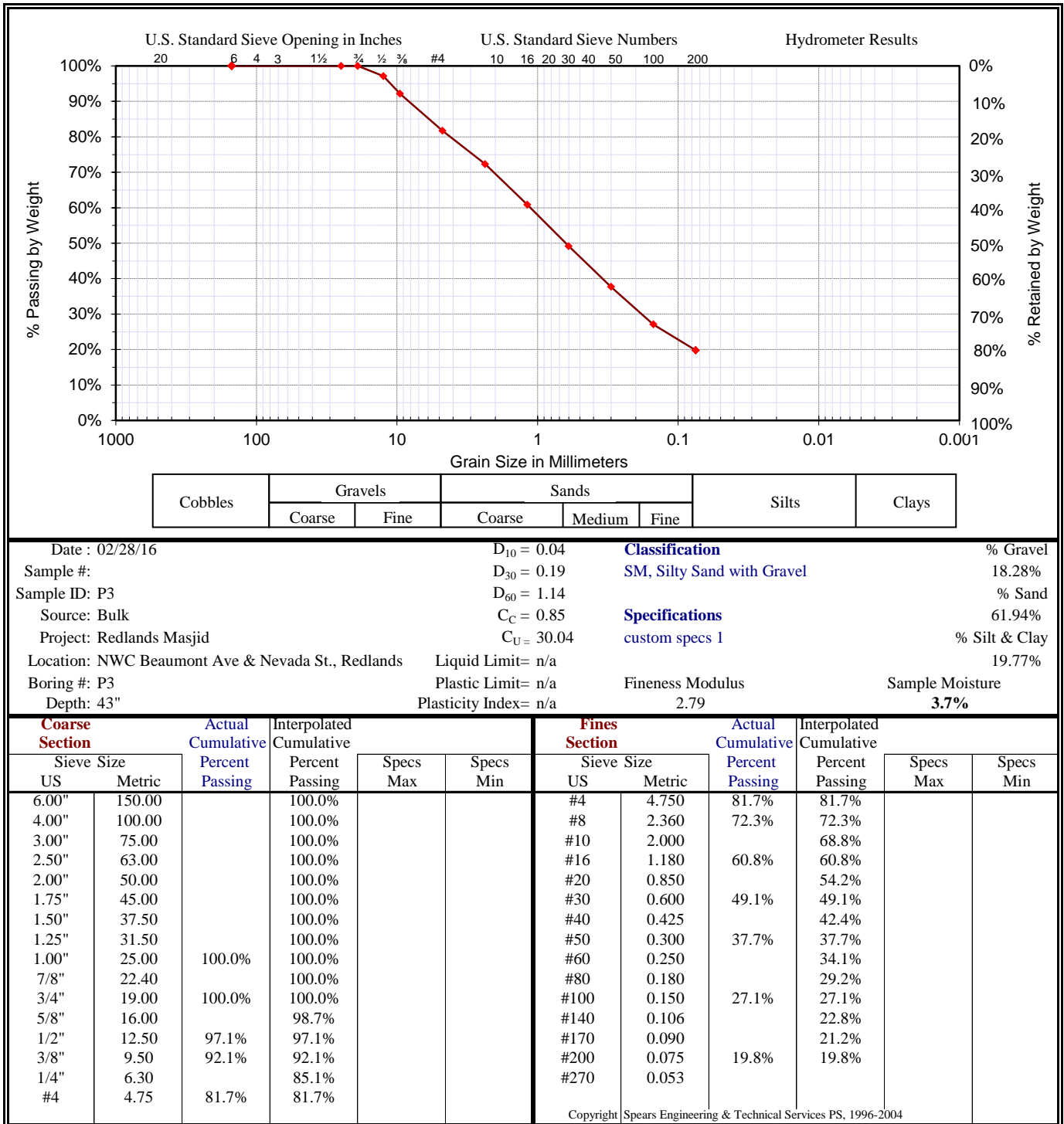
LABORATORY TEST RESULTS



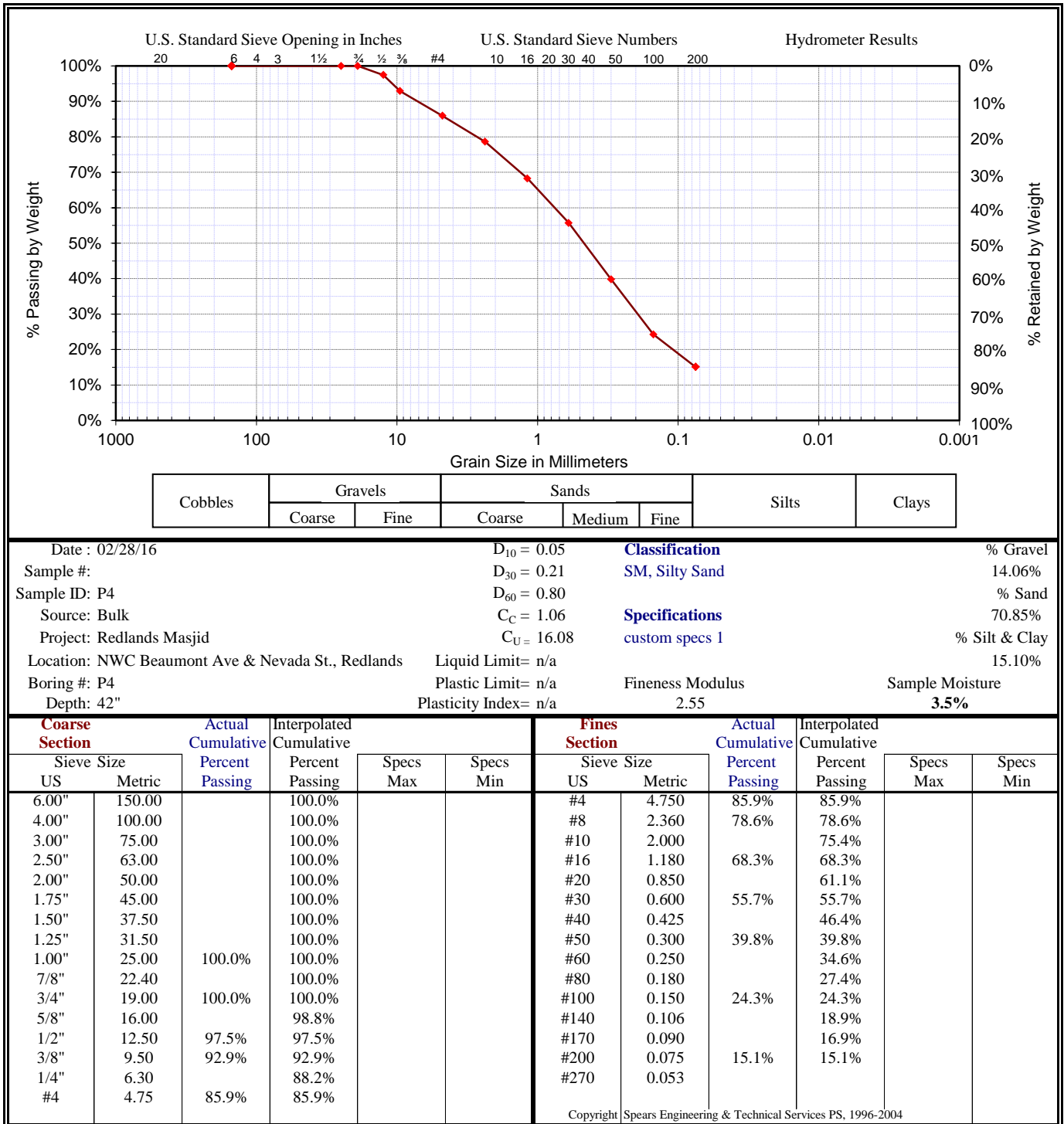
LABORATORY TEST RESULTS



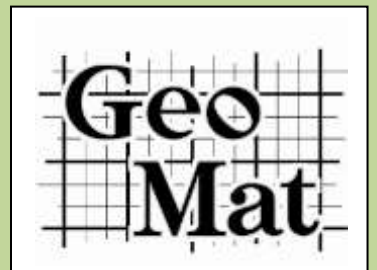
LABORATORY TEST RESULTS



LABORATORY TEST RESULTS



Appendix D



Leach Line Percolation Data Sheet

P-1

Project:	Redlands Islamic Community Center	Job No.:	16027-01
Test Hole No.:	P-1	Date Excavated:	2/27/2016
Depth of Test Hole:	37"	Soil Classification:	SM
Check for Sandy Soil Criteria Tested by:	MS	Presoak Date:	3/18/2016
Actual Percolation Tested by:	MS	Test Date:	3/18/2016

Sandy Soil Criteria Test

Presoak: Fill test hole with 12 inches of water (10 inches above gravel). If the water completely seeps away in less than 10 minutes, in two consecutive readings, begin testing immediately. If not, maintain water level at 10 in above gravel for 4 hrs.

Sandy Trial No.	Time	Time Interval	Initial Water	Final Water	Water Drop
		(Min)	Level (Inches)	Level (Inches)	(Inches)
1	0:00	0:10	10	4	6
	0:10				
2					

Testing Trial: Fill test hole to 8 in. from bottom of hole (6 in. above gravel). If more than 5 in. of water is gone in 30 Min, take readings every 10 minutes for one hour minimum. If less than 1 in. drops in 30 min, take 30 min readings for at least 3 hrs.

Test Trial	0:00	0:10	6	0	6
	0:10				

All final time intervals shall provide a minimum of 1 inch drop and not more than a 3 inch drop.

Time	Time	Total	Initial Water	Final Water	Water	Percolation
	Interval	Elapsed	Level	Level	Drop	Rate
	(Min)	Time (Min)	(Inches)	(Inches)	(Inches)	(Min/Inch)
0:00	3	3	6	4	2	1.500
0:03	3	6	6	4.125	1.875	1.600
0:00	3	9	6	4	2	1.500
0:03	3	12	6	4.125	1.875	1.600
0:00	3	15	6	4.125	1.875	1.600
0:03	3	18	6	4	2	1.500
0:00	3	21	6	4.125	1.875	1.600
0:03	3	24	6	4	2	1.500
0:00	3	27	6	4	2	1.500
0:03	3	30	6	4.125	1.875	1.600
0:00	3	33	6	4.125	1.875	1.600
0:03	3	36	6	4.125	1.875	1.600
0:00	3	39	6	4.125	1.875	1.600
0:03	3	42	6	4	2	1.500
0:00	3	45	6	4.125	1.875	1.600
0:03	3	48	6	4.125	1.875	1.600
0:00	3	51	6	4.125	1.875	1.600
0:03	3	54	6	4.125	1.875	1.600
0:00	3	57	6	4.125	1.875	1.600
0:03	3	60	6	4.125	1.875	1.600

Leach Line Percolation Data Sheet

P-2

Project: Redlands Islamic Community Center	Job No.: 16027-01
Test Hole No.: P-2	Date Excavated: 2/27/2016
Depth of Test Hole: 44"	Soil Classification: SM
Check for Sandy Soil Criteria Tested by: MS	Presoak Date: 3/18/2016
Actual Percolation Tested by: MS	Test Date: 3/18/2016

Sandy Soil Criteria Test

Presoak: Fill test hole with 12 inches of water (10 inches above gravel). If the water completely seeps away in less than 10 minutes, in two consecutive readings, begin testing immediately. If not, maintain water level at 10 in above gravel for 4 hrs.

Sandy Trial No.	Time	Time Interval	Initial Water	Final Water	Water Drop
		(Min)	Level (Inches)	Level (Inches)	(Inches)
1	0:00	0:10	10	3.25	6.75
	0:10				
2					

Testing Trial: Fill test hole to 8 in. from bottom of hole (6 in. above gravel). If more than 5 in. of water is gone in 30 Min, take readings every 10 minutes for one hour minimum. If less than 1 in. drops in 30 min, take 30 min readings for at least 3 hrs.

Test Trial	0:00	0:09	6	0	6
	0:09				

All final time intervals shall provide a minimum of 1 inch drop and not more than a 3 inch drop.

Time	Time	Total	Initial Water	Final Water	Water	Percolation
	Interval	Elapsed	Level	Level	Drop	Rate
	(Min)	Time (Min)	(Inches)	(Inches)	(Inches)	(Min/Inch)
0:00	3	3	6	3.75	2.25	1.333
0:03	3	6	6	3.75	2.25	1.333
0:00	3	9	6	3.75	2.25	1.333
0:03	3	12	6	4	2	1.500
0:00	3	15	6	4	2	1.500
0:03	3	18	6	3.75	2.25	1.333
0:00	3	21	6	4	2	1.500
0:03	3	24	6	3.75	2.25	1.333
0:00	3	27	6	4	2	1.500
0:03	3	30	6	4	2	1.500
0:00	3	33	6	4	2	1.500
0:03	3	36	6	4	2	1.500
0:00	3	39	6	3.75	2.25	1.333
0:03	3	42	6	4	2	1.500
0:00	3	45	6	4	2	1.500
0:03	3	48	6	4	2	1.500
0:00	3	51	6	4	2	1.500
0:03	3	54	6	4	2	1.500
0:00	3	57	6	4	2	1.500
0:03	3	60	6	4	2	1.500

Leach Line Percolation Data Sheet

P-3

Project: Redlands Islamic Community Center	Job No.: 16027-01
Test Hole No.: P-3	Date Excavated: 2/27/2016
Depth of Test Hole: 43"	Soil Classification: SM
Check for Sandy Soil Criteria Tested by: MS	Presoak Date: 3/18/2016
Actual Percolation Tested by: MS	Test Date: 3/18/2016

Sandy Soil Criteria Test

Presoak: Fill test hole with 12 inches of water (10 inches above gravel). If the water completely seeps away in less than 10 minutes, in two consecutive readings, begin testing immediately. If not, maintain water level at 10 in above gravel for 4 hrs.

Sandy Trial No.	Time	Time Interval	Initial Water	Final Water	Water Drop
		(Min)	Level (Inches)	Level (Inches)	(Inches)
1	0:00	0:10	10	4.5	5.5
	0:10				
2					

Testing Trial: Fill test hole to 8 in. from bottom of hole (6 in. above gravel). If more than 5 in. of water is gone in 30 Min, take readings every 10 minutes for one hour minimum. If less than 1 in. drops in 30 min, take 30 min readings for at least 3 hrs.

Test Trial	0:00	0:11	6	0	6
	0:11				

All final time intervals shall provide a minimum of 1 inch drop and not more than a 3 inch drop.

Time	Time	Total	Initial Water	Final Water	Water	Percolation
	Interval	Elapsed	Level	Level	Drop	Rate
	(Min)	Time (Min)	(Inches)	(Inches)	(Inches)	(Min/Inch)
0:00	3	3	6	4.375	1.625	1.846
0:03	3	6	6	4.375	1.625	1.846
0:00	3	9	6	4.25	1.75	1.714
0:03	3	12	6	4.375	1.625	1.846
0:00	3	15	6	4.375	1.625	1.846
0:03	3	18	6	4.25	1.75	1.714
0:00	3	21	6	4.375	1.625	1.846
0:03	3	24	6	4.375	1.625	1.846
0:00	3	27	6	4.25	1.75	1.714
0:03	3	30	6	4.25	1.75	1.714
0:00	3	33	6	4.375	1.625	1.846
0:03	3	36	6	4.375	1.625	1.846
0:00	3	39	6	4.375	1.625	1.846
0:03	3	42	6	4.375	1.625	1.846
0:00	3	45	6	4.25	1.75	1.714
0:03	3	48	6	4.375	1.625	1.846
0:00	3	51	6	4.375	1.625	1.846
0:03	3	54	6	4.375	1.625	1.846
0:00	3	57	6	4.375	1.625	1.846
0:03	3	60	6	4.375	1.625	1.846

Leach Line Percolation Data Sheet

P-4

Project: Redlands Islamic Community Center	Job No.: 16027-01
Test Hole No.: P-4	Date Excavated: 2/27/2016
Depth of Test Hole: 42"	Soil Classification: SM
Check for Sandy Soil Criteria Tested by: MS	Presoak Date: 3/18/2016
Actual Percolation Tested by: MS	Test Date: 3/18/2016

Sandy Soil Criteria Test

Presoak: Fill test hole with 12 inches of water (10 inches above gravel). If the water completely seeps away in less than 10 minutes, in two consecutive readings, begin testing immediately. If not, maintain water level at 10 in above gravel for 4 hrs.

Sandy Trial No.	Time	Time Interval	Initial Water	Final Water	Water Drop
		(Min)	Level (Inches)	Level (Inches)	(Inches)
1	0:00	0:10	10	3.75	6.25
	0:10				
2					

Testing Trial: Fill test hole to 8 in. from bottom of hole (6 in. above gravel). If more than 5 in. of water is gone in 30 Min, take readings every 10 minutes for one hour minimum. If less than 1 in. drops in 30 min, take 30 min readings for at least 3 hrs.

Test Trial	0:00	0:10	6	0	6
	0:10				

All final time intervals shall provide a minimum of 1 inch drop and not more than a 3 inch drop.

Time	Time	Total	Initial Water	Final Water	Water	Percolation
	Interval	Elapsed	Level	Level	Drop	Rate
	(Min)	Time (Min)	(Inches)	(Inches)	(Inches)	(Min/Inch)
0:00						
0:03	3	3	6	4	2	1.500
0:00						
0:03	3	6	6	4.125	1.875	1.600
0:00						
0:03	3	9	6	4	2	1.500
0:00						
0:03	3	12	6	4.125	1.875	1.600
0:00						
0:03	3	15	6	4	2	1.500
0:00						
0:03	3	18	6	4.125	1.875	1.600
0:00						
0:03	3	21	6	4.125	1.875	1.600
0:00						
0:03	3	24	6	4	2	1.500
0:00						
0:03	3	27	6	4.125	1.875	1.600
0:00						
0:03	3	30	6	4.125	1.875	1.600
0:00						
0:03	3	33	6	4	2	1.500
0:00						
0:03	3	36	6	4	2	1.500
0:00						
0:03	3	39	6	4.125	1.875	1.600
0:00						
0:03	3	42	6	4.125	1.875	1.600
0:00						
0:03	3	45	6	4	2	1.500
0:00						
0:03	3	48	6	4.125	1.875	1.600
0:00						
0:03	3	51	6	4.125	1.875	1.600
0:00						
0:03	3	54	6	4.125	1.875	1.600
0:00						
0:03	3	57	6	4.125	1.875	1.600
0:00						
0:03	3	60	6	4.125	1.875	1.600