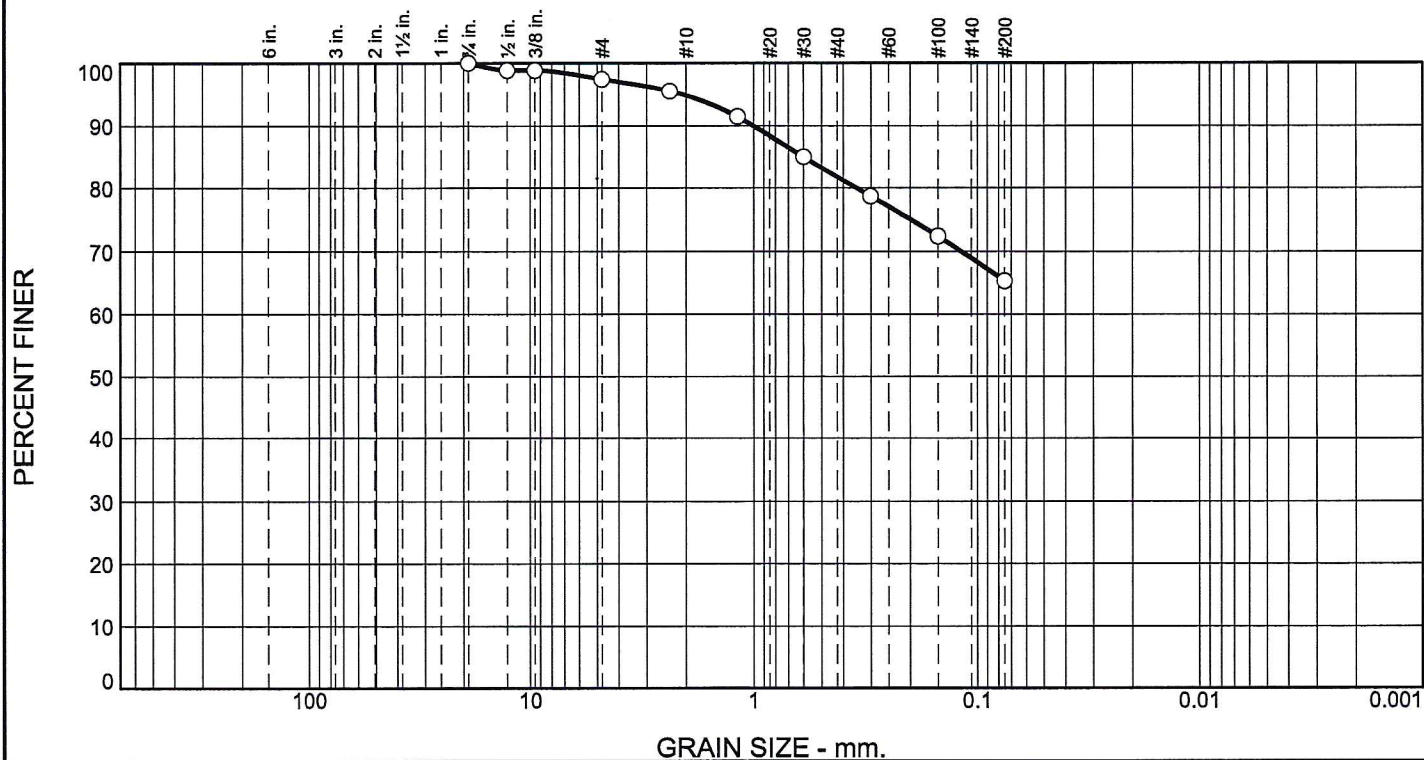


Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.6	2.6	13.0	16.4	65.4	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
.5	98.8		
.375	98.8		
#4	97.4		
#8	95.5		
#16	91.4		
#30	85.0		
#50	78.7		
#100	72.4		
#200	65.4		

* (no specification provided)

Material Description

Black Sandy Fat CLAY

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D₉₀= 1.0042 D₈₅= 0.6020 D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Remarks

Date Received: 9/20/2020 Date Tested: 10/2/2020

Tested By: AD

Checked By: MR

Title: Lab Manager

Sample Number: 9/19/2020 #1

Date Sampled: 9/19/2020

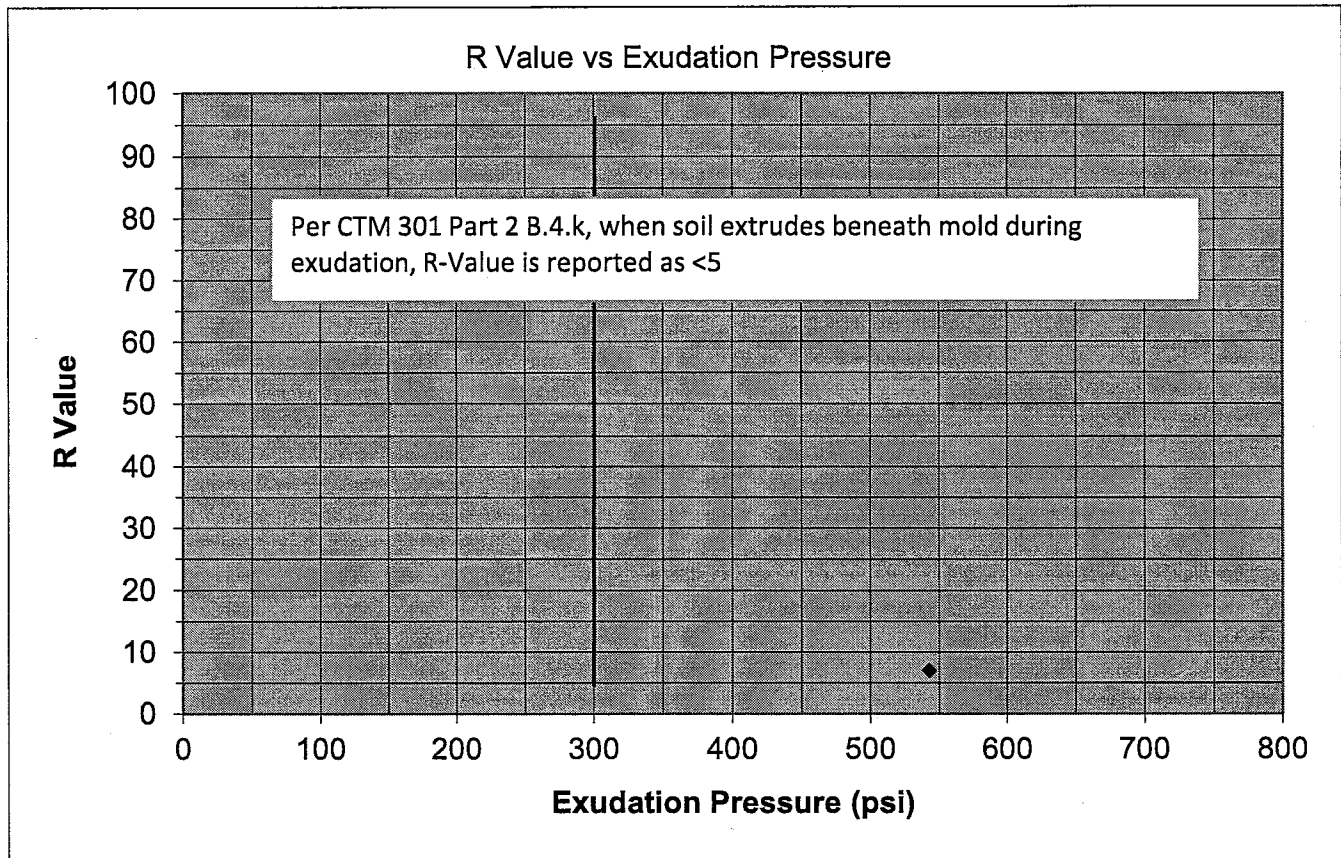
GEOCON CONSULTANTS, INC.

Client: Cameron Park ECSD


Project: McNeil Road

Project No: S2041-05-01

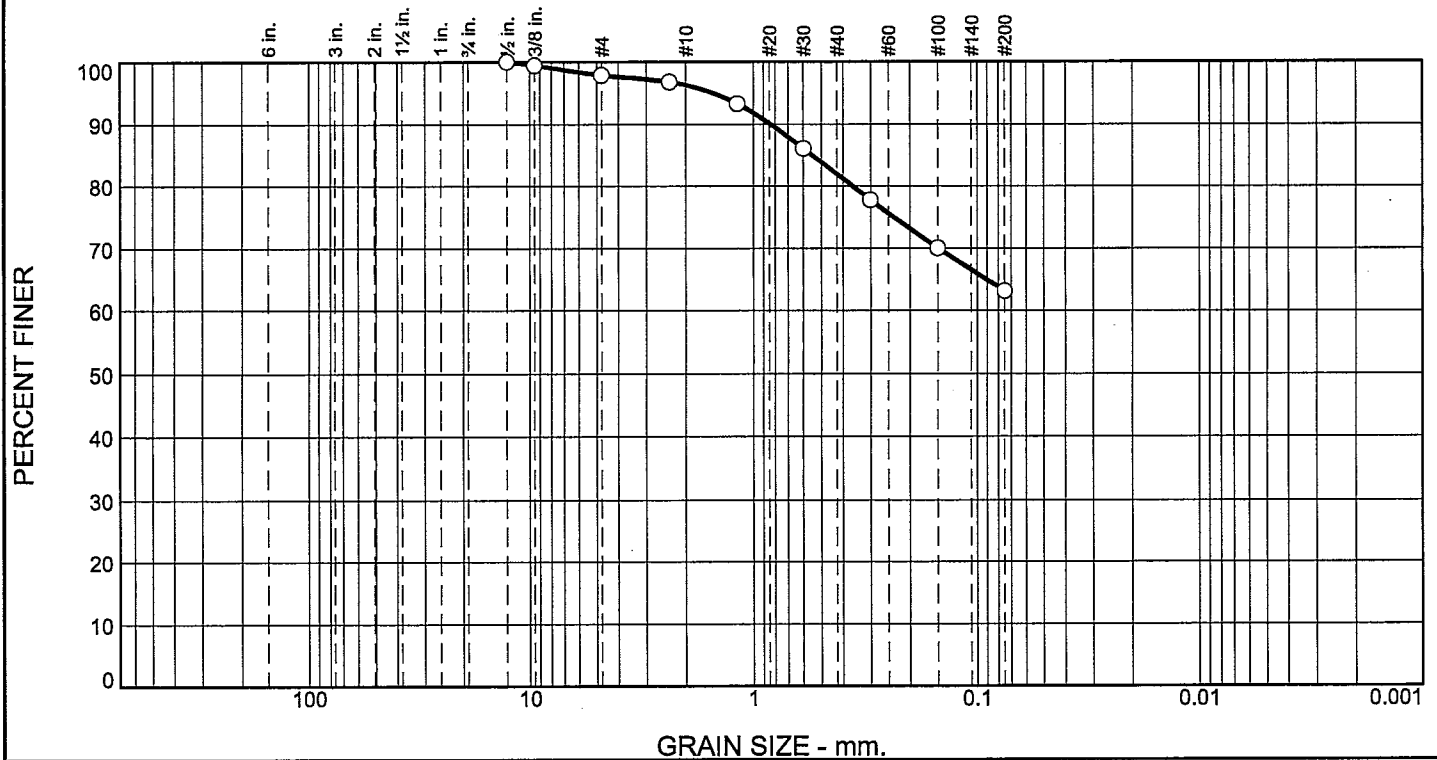
Figure



Sample ID & Description	
Boring Number	#1
Sample Depth (feet)	--
Material Description	Black Sandy Fat CLAY
Test Data	
Specimen	2071
Exudation Pressure (psi)	543
Expansion Dial (.0001")	0
Expansion Pressure (psf)	0.0
Resistance 'R' Value	7
Moisture at test (%)	24.3
Dry density at test (pcf)	102.1
R Value at 300 psi exudation pressure	<5
R Value by expansion pressure (TI=5.0)	<5
R Value by Equilibrium	<5

	Geocon Consultants, Inc.	Resistance "R" Value, ASTM D2844, CTM 301
	3160 Gold Valley Drive, Suite 800	Project: Cameron Park ECSD
	Rancho Cordova, California 95742	Location: Cameron Park, CA
	Telephone: (916) 852-9118	Number: S2041-05-01
	Fax: (916) 852-9132	Figure:

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.1	1.6	14.4	18.7	63.2	

TEST RESULTS			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.5	100.0		
.375	99.4		
#4	97.9		
#8	96.8		
#16	93.3		
#30	86.1		
#50	77.8		
#100	70.1		
#200	63.2		

* (no specification provided)

Material Description	
Black Sandy Fat CLAY	
Atterberg Limits (ASTM D 4318)	
PL=	LL= PI=
Classification	
USCS (D 2487)=	AASHTO (M 145)=
Coefficients	
D ₉₀ = 0.8384	D ₈₅ = 0.5470 D ₆₀ =
D ₅₀ =	D ₃₀ = D ₁₅ =
D ₁₀ =	C _u = C _c =
Remarks	
Date Received: 9/20/2020 Date Tested: 10/2/2020	
Tested By: KW	
Checked By: MR	
Title: Lab Manager	

Sample Number: 9/19/2020 #2

Date Sampled: 9/19/2020

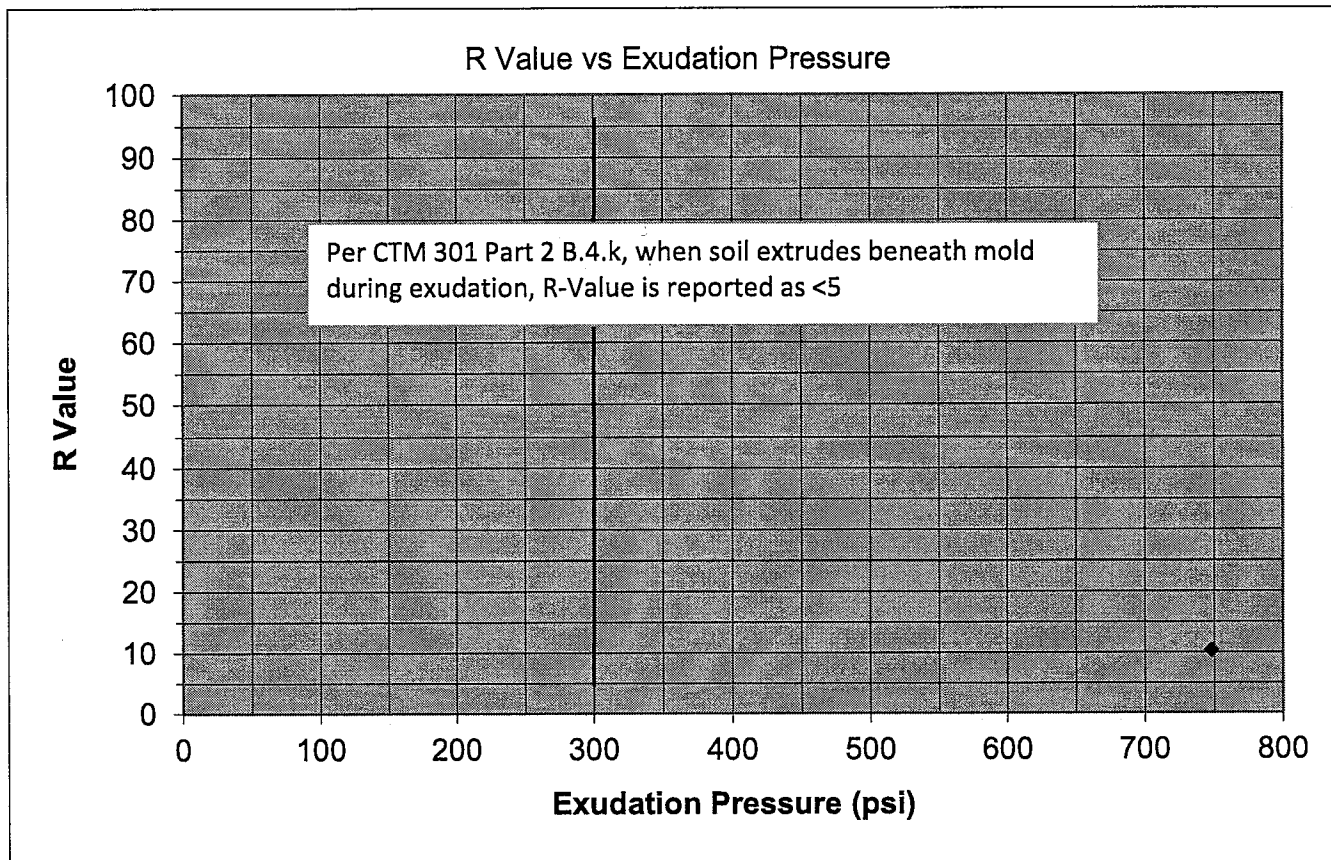
GEOCON CONSULTANTS, INC.

Client: Cameron Park ECSD


Project: McNeil Road

Project No: S2041-05-01

Figure



Sample ID & Description		
Boring Number	#2	
Sample Depth (feet)	--	
Material Description	Black Sandy Fat CLAY	
Test Data		
Specimen	2105	
Exudation Pressure (psi)	748	
Expansion Dial (.0001")	19	
Expansion Pressure (psf)	82.3	
Resistance 'R' Value	10	
Moisture at test (%)	23	
Dry density at test (pcf)	104.2	
R Value at 300 psi exudation pressure		<5
R Value by expansion pressure (TI=5.0)		<5
R Value by Equilibrium		<5

	Resistance "R" Value, ASTM D2844, CTM 301	
	Project:	Cameron Park ECSD
	Location:	Cameron Park, CA
	Number:	S2041-05-01
	Figure:	

Geocon Consultants, Inc.
 3160 Gold Valley Drive, Suite 800
 Rancho Cordova, California 95742
 Telephone: (916) 852-9118
 Fax: (916) 852-9132

Problem Description (User Input)

Project Location
District 3, El Dorado, Route 50, East, Start PM: 6.000, End PM: 7.000
Project Length: 1.000 mi Lane Miles: 2.000 Avg #lanes: 2.00 Area (12 ft Lane Width): 126,720.00 ft**2

Pavement Structure

Layer	Material	Thick Modulus (ft) (ksi)	Poisson	R	GF	Cost (\$/ft3)	Cost (\$)
1	2020 Standard Rich Bottom Mix for non-PRS Projects	0.60	933.5	0.35	N/A	2.64	0.00
2	2020 Standard CH	0.00	3.8	0.35	5	0.00	0.00
Project Cost:							0.00
Project Cost/Lane Mile:							0.00

Traffic Segment Counts
PM Location: 4.998-6.570
AADT: 31000
Total Trucks (AADTT): 1905
% Trucks: 6.1

Design Lane Traffic Loads
Load Distribution (WIM Station): ESAL
Growth Rate (From First Year): 0.0%
Design Life: 20 yrs
First Year Loads / Lane:
Axles: 358
Trucks: 358
ESALs: 7,159
TI: 5.0

Climate
Zone: Low Mountain

Results of the Caltrans Empirical Design Check Applied to the Current Structure

Minimum and Maximum Thickness Checks
No problems with minimum/maximum thickness checks;

Structural Adequacy Checks
Warning: Gravel Equivalent Provided above Layer 2 (SG): 1.58 is more than required: 1.52;

CalFP Design Alternatives

Design	HMA	SG	AC	GF	Res	GE	TtlThick	Cost/mi	MsgsText
1	0.60	0.00	2.64	-0.04	0	0.60	0.60	0	Information: When the native soil is a cohesionless sand, you might want to use a Working Table below either the TPB or the HMA layer.

2	0.65	0.00	2.71	0.14	0.65	0	Information: When the native soil is a cohesionless sand, you might want to use a Working Table below either the TPA or the HMA layer.
3	0.70	0.00	2.78	0.33	0.70	0	Information: When the native soil is a cohesionless sand, you might want to use a Working Table below either the TPA or the HMA layer. Warning: Layer 1 (HMA, 0.70 ft) may be thicker than allowed (0.65 ft), try strengthen the subgrade or include base and subbase.