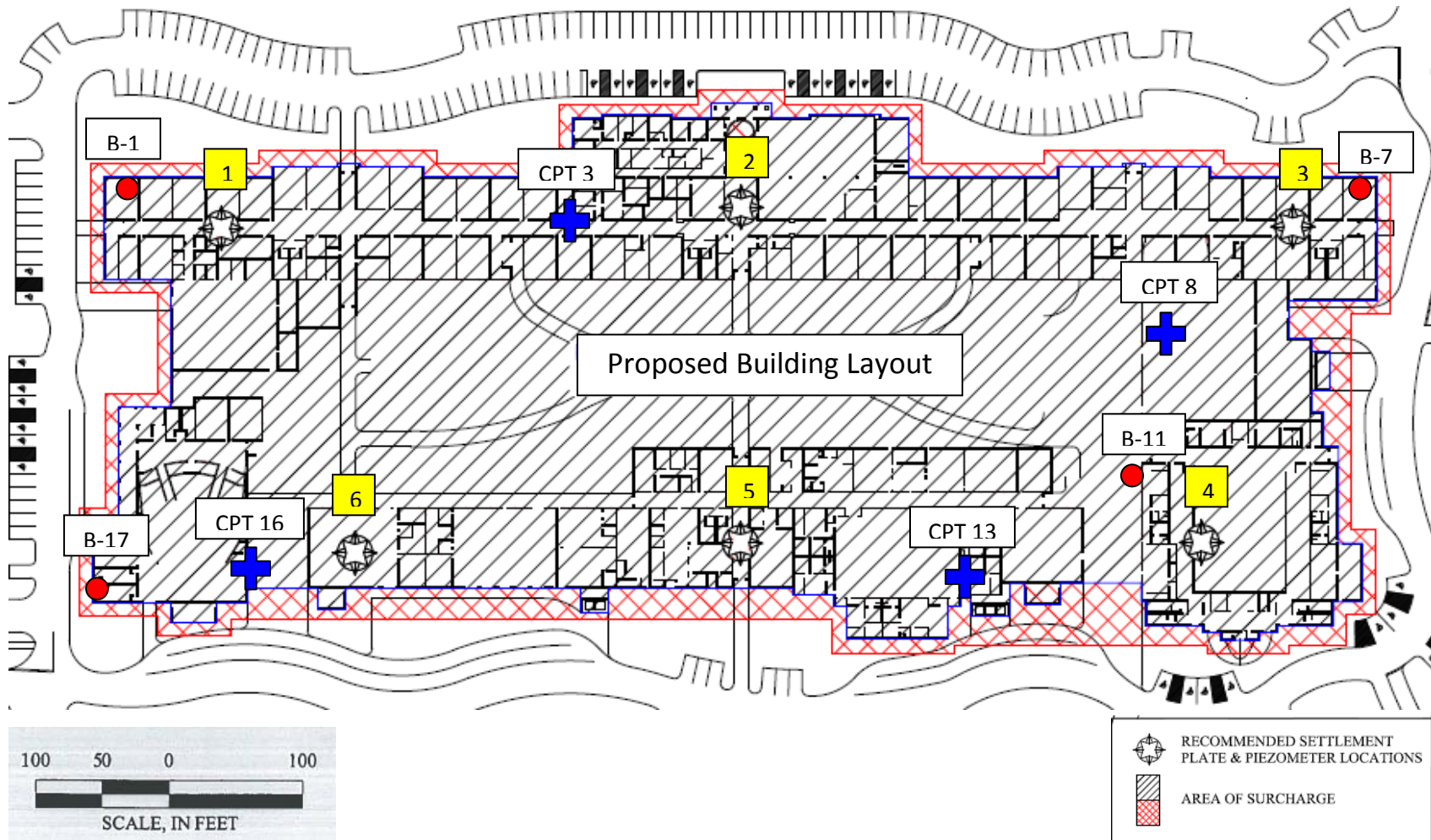
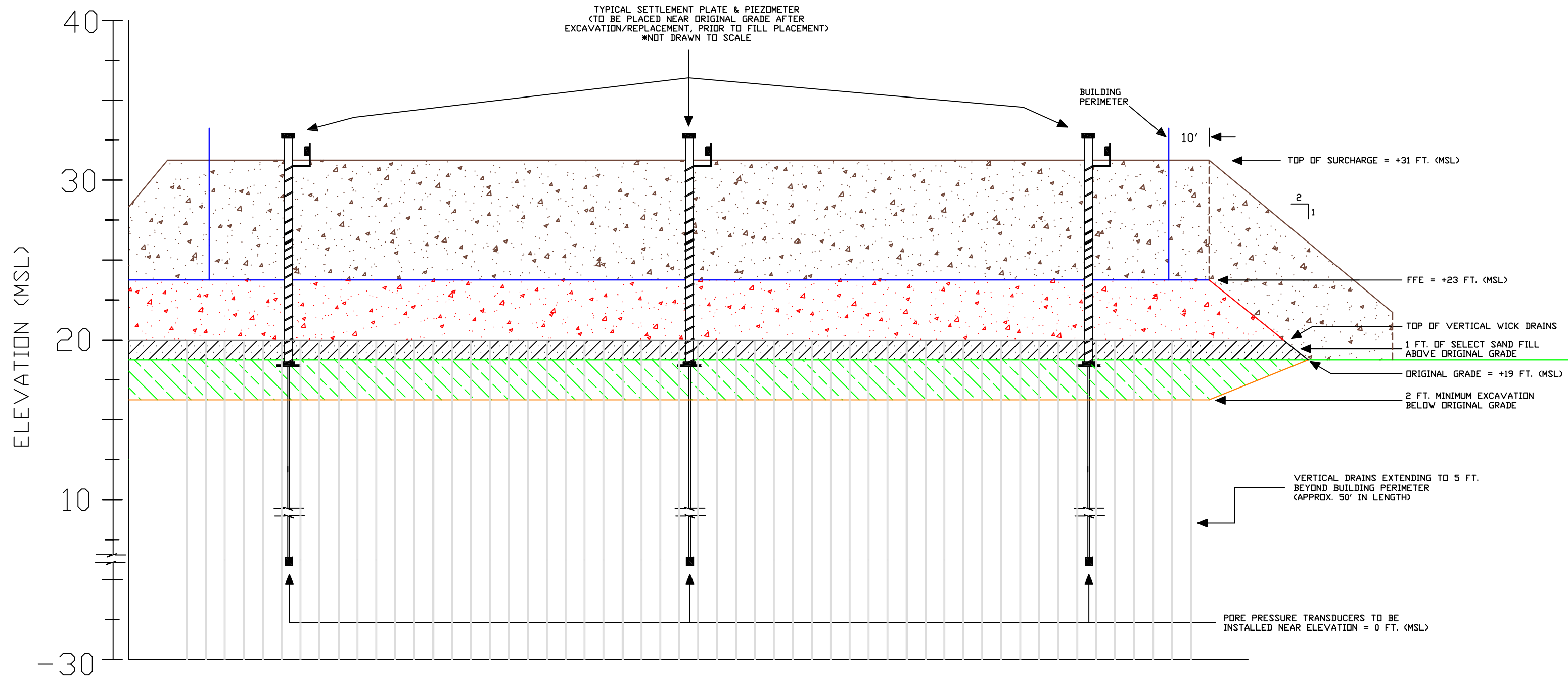

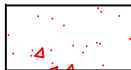

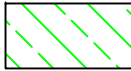


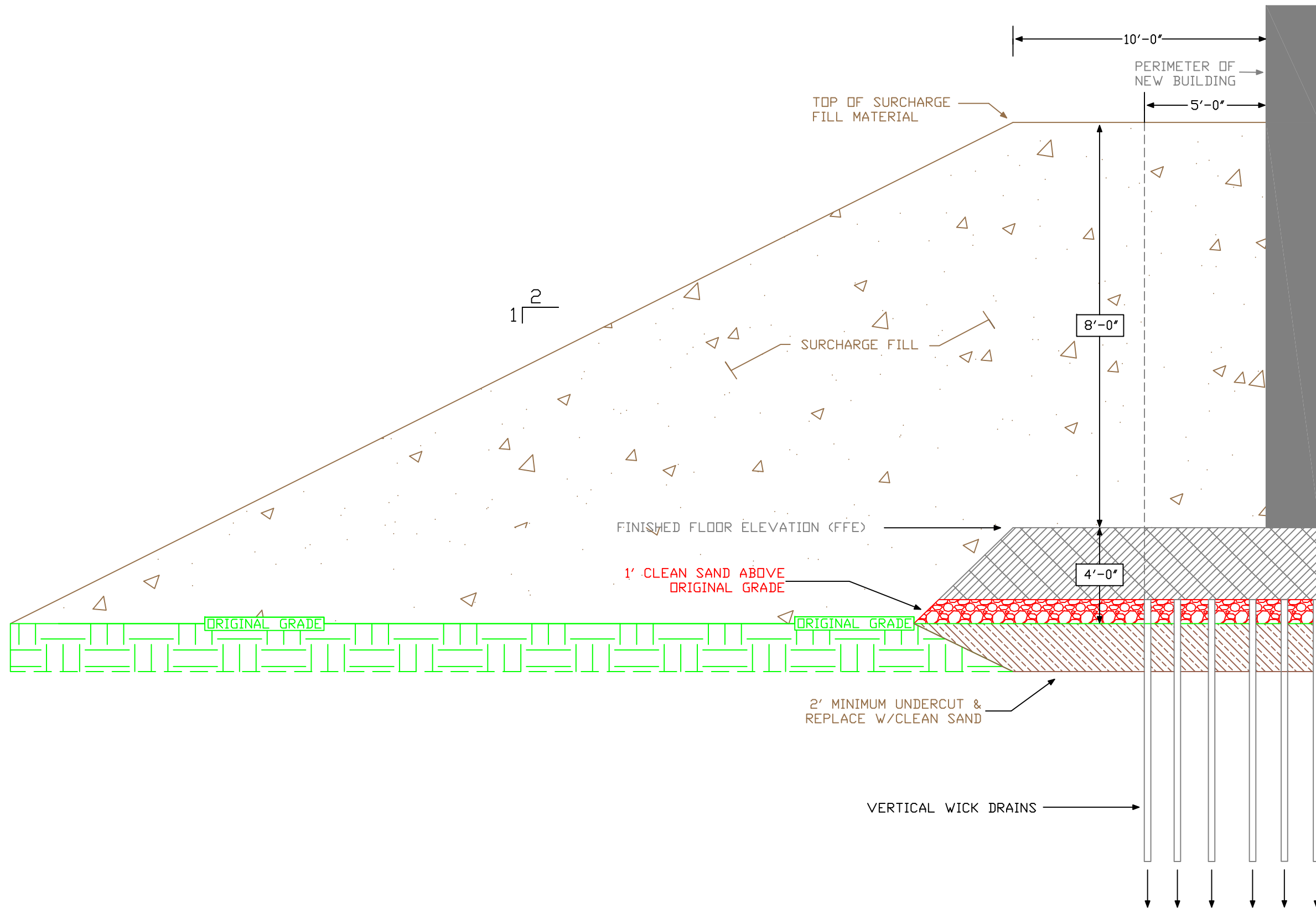


A high school is planned to be built on this site. Due to the nature of the subsurface strata, the geotechnical engineer has proposed a surcharge load be placed along the building footprint to allow for settlement prior to building construction. This will include vertical wicking drains to be installed (4' spacing on center) within the existing soil to aid the consolidation process. Determine the settlement after 60 days and 120 days at the six numbered locations and provide an estimated settlement surface plot for the original ground surface. Settlement plates have been installed at these locations, as seen in the image below.





-  SURCHARGE FILL
-  IMPORTED SAND/CLAY STRUCTURAL FILL
<<30% PASSING #200 SIEVE>>
-  SELECT SAND FILL
<<10% PASSING #200 SIEVE>>
-  EXCAVATE AND REPLACE WITH SELECT SAND FILL
<<10% PASSING #200 SIEVE>>



*DRAWING NOT TO SCALE

SOIL BORING LOG

BORING NO.: B-1

PROJECT: HIGH SCHOOL

PROJECT NO.:

PROJECT LOCATION:

METHOD: MUD ROTARY

BORING LOCATION: SEE TEST LOCATION PLAN

BORING ELEVATION: EXISTING SURFACE

DATE DRILLED: 05/26/09










DATE COMPLETED: 05/26/09

WATER LEVEL: NOT MEASURED

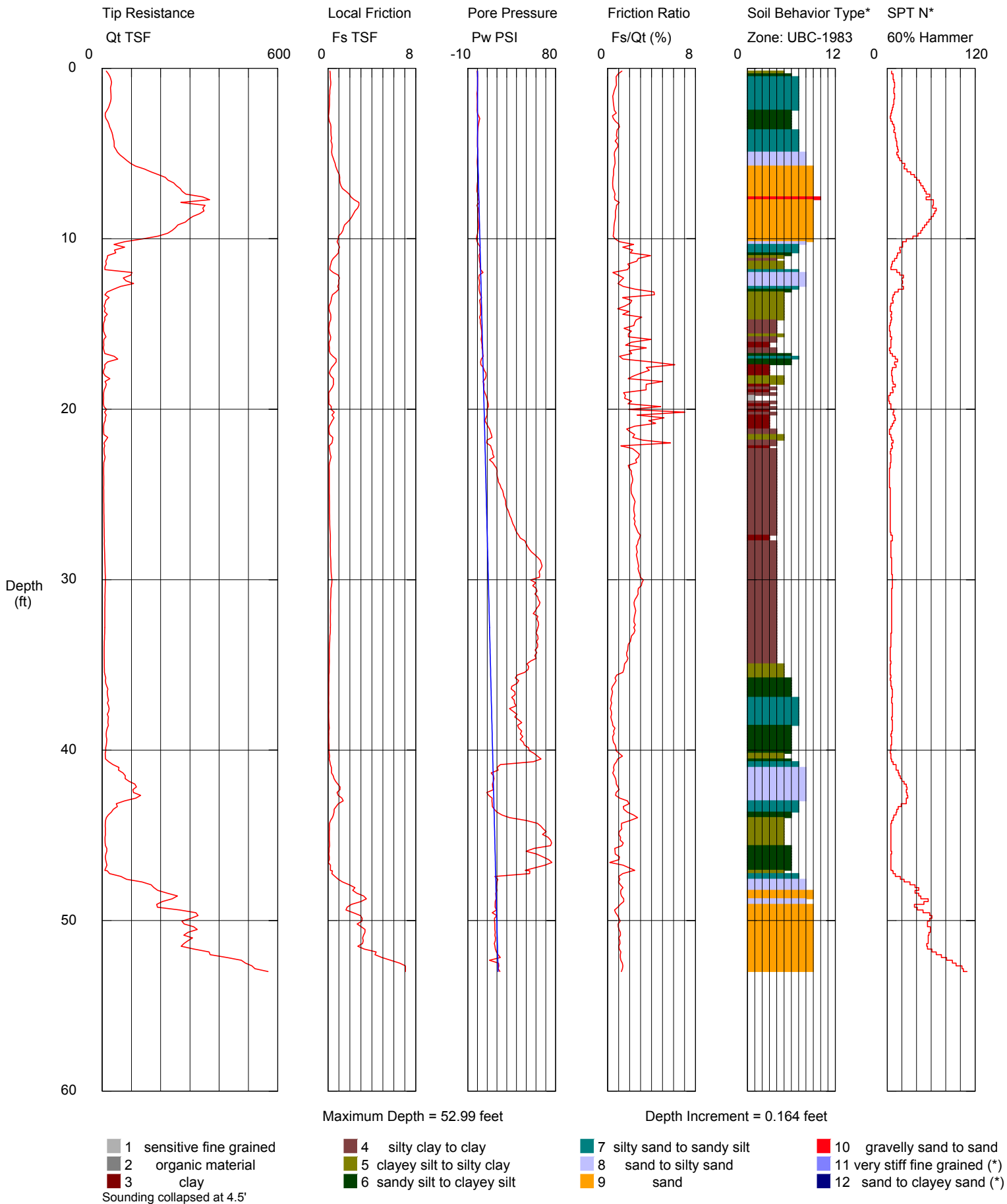
WATER LEVEL DATE: 05/26/09

GEOL / ENGR: M

DRILLER: D

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	Description	SPT N	NM %	LL %	200 %
0		ML	TOPSOIL Stiff Gray and Tan SILT	11			
5		SC SM	Very Firm Orange, Gray and Tan Clayey SAND Very Firm to Dense Orange, Gray, Tan and White Silty SAND	10 25	17.4		53
10		SC	Loose White, Gray and Tan Clayey SAND	41			
15		ML	Medium White, Gray and Tan SILT	44	28.6	19	35
20		CH	Soft Gray CLAY	5	31.7		89
25				4			
30				3			
35				3		58	
35				4	66.8		99

Remarks:



*Soil behavior type and SPT based on data from UBC-1983

SOIL BORING LOG

BORING NO.: B-7

PROJECT: HIGH SCHOOL

PROJECT LOCATION: O

BORING LOCATION: SEE TEST LOCATION PLAN

DATE DRILLED: 05/27/09

WATER LEVEL: NOT MEASURED

GEOL / ENGR: M

PROJECT NO.: M

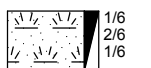


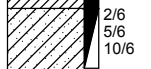

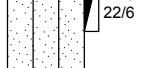


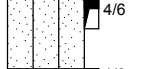
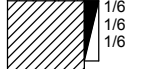



METHOD: MUD ROTARY

BORING ELEVATION: EXISTING SURFACE

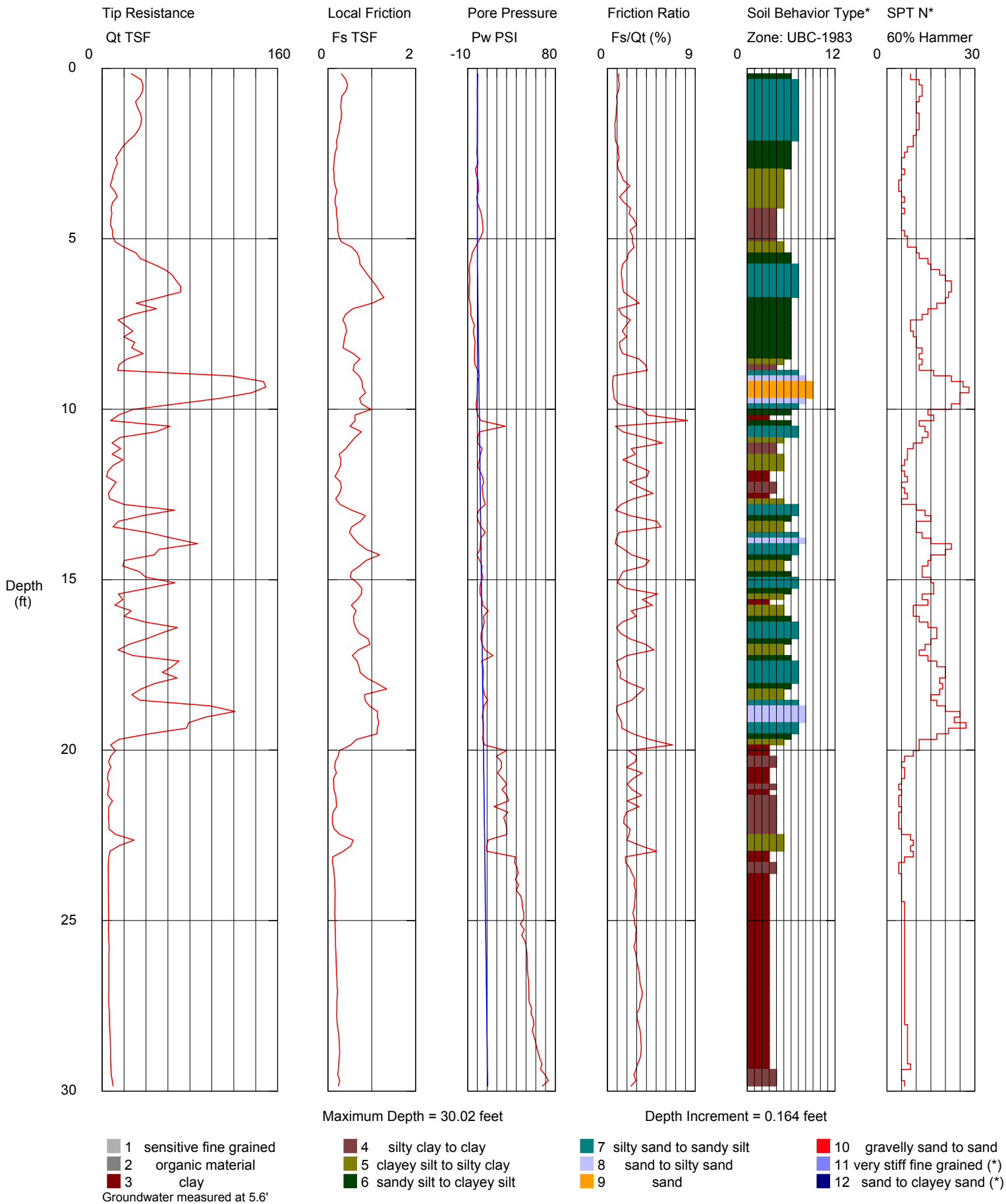
DATE COMPLETED: 05/27/09

WATER LEVEL DATE: 05/27/09

DRILLER: D

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	Description	SPT N
0			TOPSOIL	
		CL	Soft Gray, Tan and Orange CLAY	3
5		SC	Firm Gray and Tan Clayey SAND	4
		SM	Dense to Loose Gray, Tan and White Silty SAND	15
10				39
				42
15		CL	Soft to Medium Gray CLAY	5
		SP	Gray SAND Lense	2
20		CL	Medium Gray CLAY	5
		CL	Very Soft Gray CLAY	WOH
25		CL	Very Soft Gray CLAY	WOH
30				WOH
35				WOH

Remarks:



*Soil behavior type and SPT based on data from UBC-1983

SOIL BORING LOG

BORING NO.: B-11

PROJECT: HIGH SCHOOL

PROJECT NO.:

PROJECT LOCATION:

METHOD: MUD ROTARY

BORING LOCATION: SEE TEST LOCATION PLAN

BORING ELEVATION: EXISTING SURFACE

DATE DRILLED: 05/27/09

DATE COMPLETED: 05/27/09

WATER LEVEL: NOT MEASURED

WATER LEVEL DATE: 05/27/09

GEOL / ENGR:

DRILLER: D

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	Description	SPT N	
0		ML	Soft Black SILT	3	
5		CL	Soft to Medium Gray and Tan CLAY	2	
10		SM	Very Firm to Very Loose Gray and Tan Silty SAND	23	
15		SM	Firm to Very Loose Gray Silty SAND	19	
20		ML	Soft Gray SILT	4	
25		ML	Soft Gray SILT	3	
30					
35					

Remarks:

SOIL BORING LOG

BORING NO.: B-11A

PROJECT: HIGH SCHOOL

PROJECT LOCATION: O

BORING LOCATION: SEE TEST LOCATION PLAN

DATE DRILLED: 05/27/09

WATER LEVEL: NOT MEASURED

GEOL / ENGR: M

PROJECT NO.: M

METHOD: MUD ROTARY

BORING ELEVATION: EXISTING SURFACE

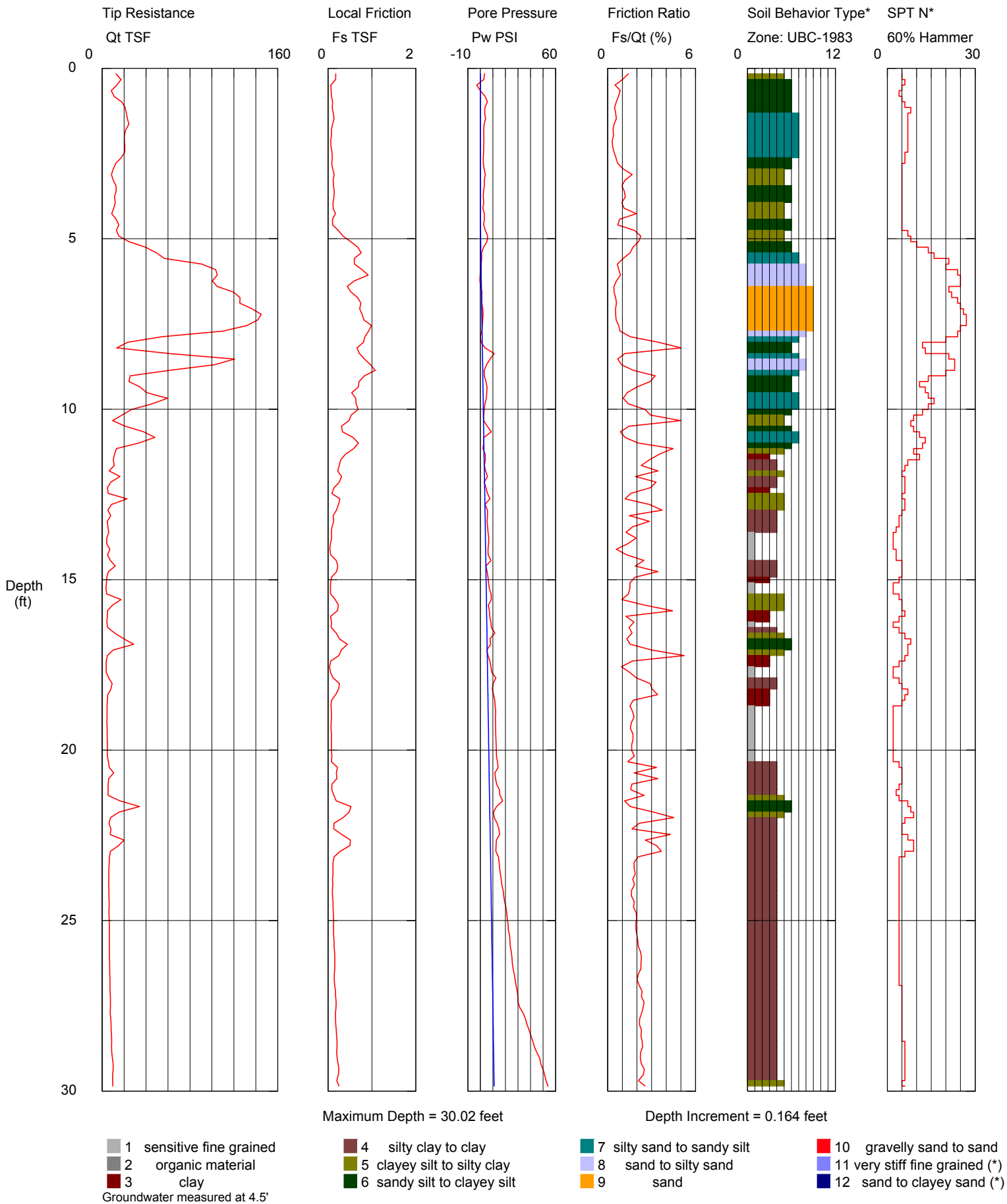
DATE COMPLETED: 05/27/09

WATER LEVEL DATE: 05/27/09

DRILLER: D

Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	Description
0			Drilled to 2 ft.
		CL	Gray and Tan CLAY
5			Drilled to 11.5 ft.
		ML	Tan and Gray SILT with Sand Lenses
10			Drilled to 21.5 ft.
		SM	Gray Silty SAND
15			Drilled to 26.5 ft.
		ML	Gray SILT
20			
25			
30			
35			

Remarks:



*Soil behavior type and SPT based on data from UBC-1983

SOIL BORING LOG

BORING NO.: B-17

PROJECT: HIGH SCHOOL

PROJECT LOCATION: S

BORING LOCATION: SEE TEST LOCATION PLAN **BORING ELEVATION:** EXISTING SURFACE

DATE DRILLED: 05/28/09

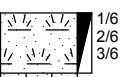
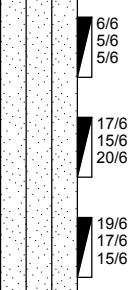
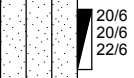



DATE COMPLETED: 05/28/09

WATER LEVEL: NOT MEASURED

WATER LEVEL DATE: 05/28/09

GEOL / ENGR: R

DRILLER: R

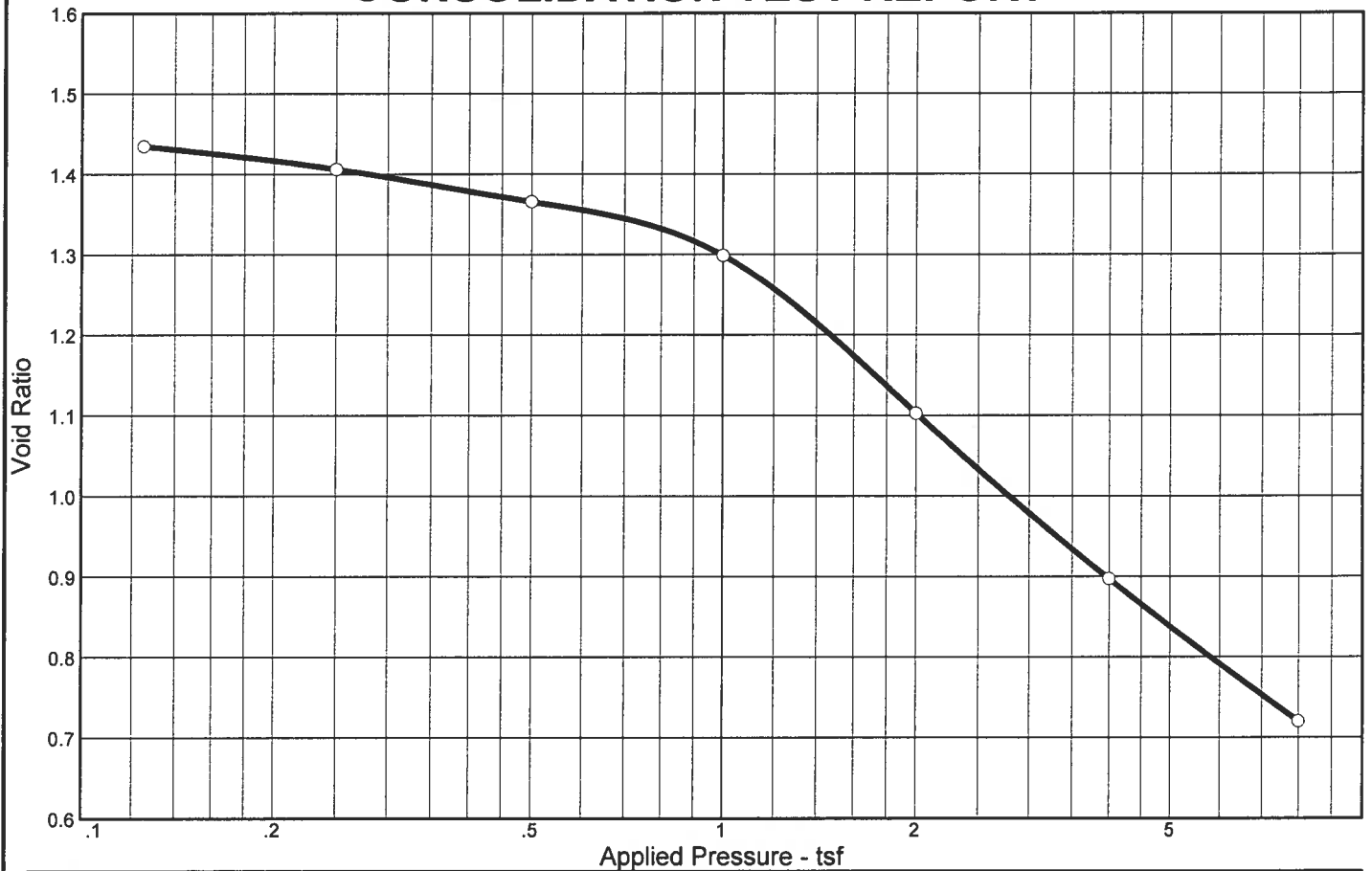
Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	Description	SPT N
0			TOPSOIL	
5		SM	Loose to Dense Gray, Tan and White Silty SAND	5 10 35 32
10				42
15		SM	Loose Orange and Tan Silty SAND	9
20		ML	Medium to Soft Gray SILT	5
25				3
30				
35				

Remarks:

Boring No.	Sample No.	Sample Depth (ft)	USCS Symbol	Moisture Content (%)	Atterberg Limits		Passing No. 200 (%)
					LL	PI	
B-1	S-2	2.5-4.0	ML	17.4			53.1
B-1	S-6	12.5-14.0	SC	28.6	19	8	35.4
B-1	T1	14.0-16.0	CL	31.7			89.0
B-1	T2	28.0-30.0	CH	66.8	58	34	98.6
B-4	S-2	2.5-4.0	SM	20.1			35.1
B-4	S-3	5.0-6.5	SM	19.9			23.0
B-4	S-6	12.5-14.0	CL-ML	35.0	25	7	67.2
B-4	T2	28.0-30.0	CH	72.6	57	30	96.7
B-4A	T1	15.0-17.0	SC	34.6			47.9
B-7	S-3	5.0-6.5	CL-ML	20.7	21	7	54.3
B-7	S-7	15.0-16.5	CL	40.7			71.9
B-7	T3	21.5-23.5	CL	53.4	41	21	94.4
B-7A	T1	3.0-5.0	CL	16.4			63.0
B-11	S-2	2.5-4.0	CL	20.6			50.9
B-11	S-9	25.0-26.5	CL	60.8			86.6
B-11A	T1	2.0-4.0	CL-ML	18.1	20	6	55.0
B-11A	T2	11.5-13.5	SM	24.2			21.5
B-11A	T3	21.5-23.5	CL	55.6	44	20	95.5
B-11A	T4	26.5-28.5	CL	67.6	43	17	98.8
B-12	S-1	0.0-1.5	CL-ML	22.6			49.9

B-12A	T1	3.0-5.0	CL-ML	17.4	17	5	49.9
B-12A	T2	13.0-15.0	CL	51.6	28	10	93.0
B-15	S-1	0.0-1.5	SC	17.2			38.0
B-15	S-2	2.5-4.0	SC	17.5			38.8
B-17	S-2	2.5-4.0	SC	17.8			39.6
B-17	S-6	12.5-14.0	CL	28.4			60.3
B-17	S-7	15.0-16.5	CL	40.0			67.2
B-17	T1	16.5-18.5	CL	49.3			96.7
B-17	S-8	20.0-21.5	CL	63.2	38	19	94.5

CONSOLIDATION TEST REPORT



Coefficients of Consolidation

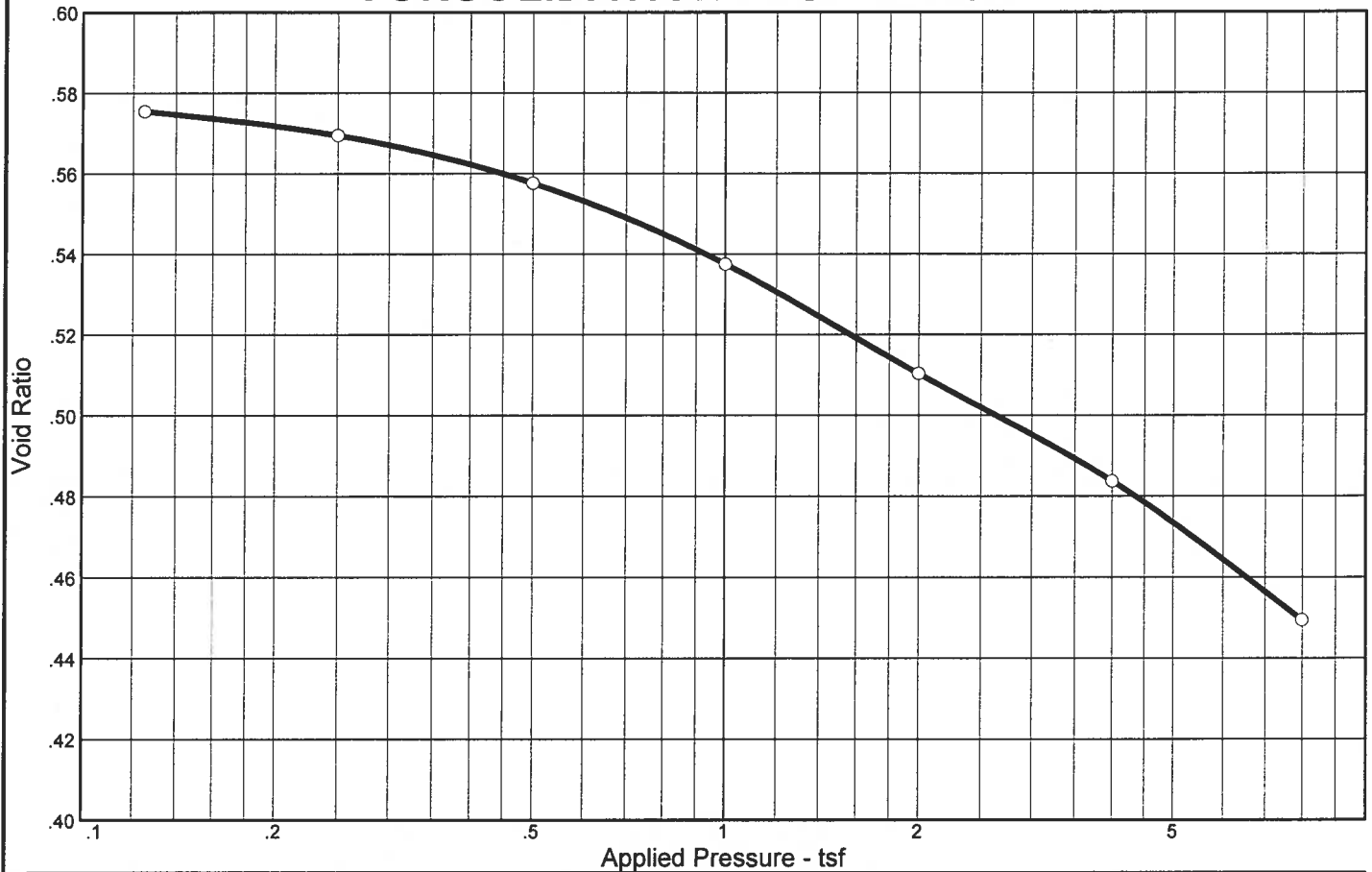
No.	Load (tsf)	C_v (in.2/min.)	No.	Load (tsf)	C_v (in.2/min.)	No.	Load (tsf)	C_v (in.2/min.)
1	0.13	0.005						
2	0.25	0.005						
3	0.50	0.006						
4	1.00	0.004						
5	2.00	0.001						
6	4.00	0.001						
7	8.00	0.001						

Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
90.9 %	49.8 %	67.5	41	21	2.65	0.71	0.58	1.451

MATERIAL DESCRIPTION	USCS	AASHTO
GRAY CLAY	CL	

Project No. Project: PROPOSED HIGH SCHOOL Source: Sample No.: B-7 T-3 Elev./Depth: 21.5-23.5 CONSOLIDATION TEST REPORT	Remarks: <div style="text-align: right;">Figure</div>
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CONSOLIDATION TEST REPORT



Coefficients of Consolidation

No.	Load (tsf)	C_v (in.2/min.)	No.	Load (tsf)	C_v (in.2/min.)	No.	Load (tsf)	C_v (in.2/min.)
1	0.13	0.142						
2	0.25	0.026						
3	0.50	0.053						
4	1.00	0.082						
5	2.00	0.059						
6	4.00	0.126						
7	8.00	0.087						

Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
84.8 %	18.5 %	104.9	20	6	2.65	4.16	0.12	0.577

MATERIAL DESCRIPTION	USCS	AASHTO
GRAY AND TAN SILTY CLAY	CL-ML	

Project No. Project: Source:	Remarks:
Sample No.: B-11 T-1 Elev./Depth: 2.0-4.0 CONSOLIDATION TEST REPORT	

Figure