

SOIL CLASSIFICATION

AASHTO

- A1 Gravel and Sand
- A3 Fine Sand
- A2 Silty or Clayey Gravel and Sand
- A4 Silty Soil - Low Compressibility
- A5 Silty Soil - Highly Compressible
- A6 Clayey Soil - Low Compressibility
- A7 Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

- Water Elevation
- Standard Penetration Boring
- Auger Boring
- Rod Sounding
- Sample
- Standard Penetration Test
- Blow Count Per Foot For:
- 2" O.D. Sampler
- 1 3/8" I.D. Sampler
- Hammer Weight Of 140 Lbs.
- Hammer Fall Of 30"
- Field Vane Shear Test
- Undisturbed Soil Sample
- Blast
- Diamond Core
- Mud Drill
- Wash Ahead
- Hollow Stem Auger
- Core Size 1 1/8"
- Core Size 1 3/8"
- Core Size 2 1/8"
- Double Tube Core Barrel Used
- Liquid Limit
- Plastic Limit
- Plasticity Index
- Non Plastic
- Moisture Content (Dry Wgt. Basis)
- Dry
- Moist
- Moist To Wet
- Wet
- Saturated
- Boulder
- Gravel
- Sand
- Silt
- Clay
- Hardpan
- Ledge
- No Ledge To Depth
- Can Not Penetrate Further
- To Ledge Or Boulder
- No Recovery
- Recovery
- Percent Recovery
- Rock Quality Designation
- California Bearing Ratio
- Less Than
- Greater Than
- Refusal (N > 100)

COLOR	
bik	Black
bl	Blue
brn	Brown
dk	Dark
gry	Gray
gn	Green
lt	Light
or	Orange
pnk	Pink
pu	Purple
rd	Red
tn	Tan
wh	White
yel	Yellow
mtc	Multicolored

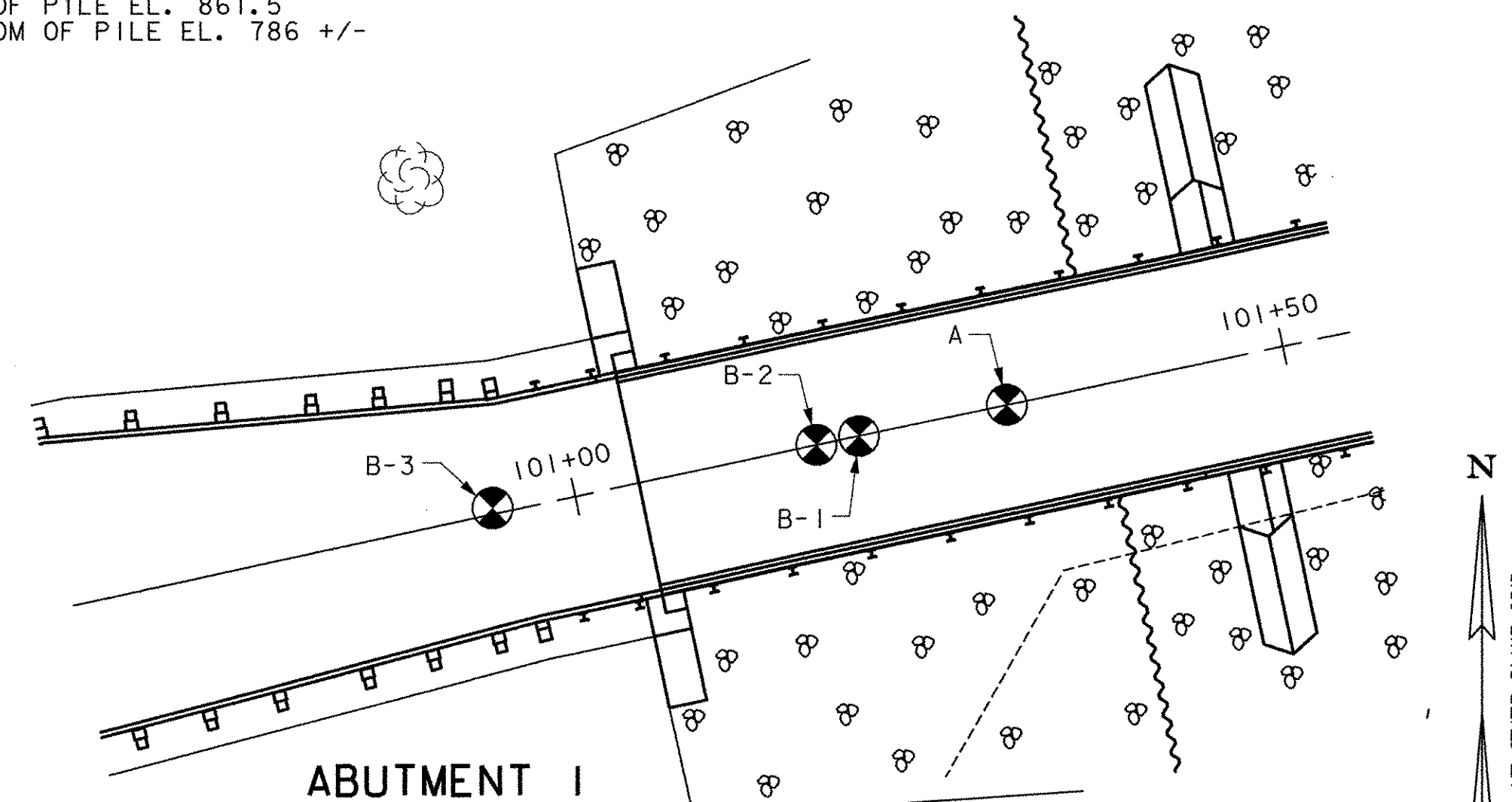
DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).
- SILT** - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO. 1 B-1	SHEET 1 OF 2	DATE STARTED 3/21/00	DATE COMPLETED 3/30/00				
PROJECT NAME: MAIDSTONE STRATFORD, NH BRIDGE									
SITE NAME: MAIDSTONE STRATFORD, NH BRIDGE									
STATION: 4.2' Behind West Abut. Face									
GROUND EL.: 867.65									
OFFSET: 0.00									
G.W. DEPTH: 9.8'									
BORING CREW: YOUNG									
DRILLER: YOUNG									
LOGGERS: RUSSELL									
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS	BLOW COUNT PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
0									
3		BXDC 3.0' - 5.0' Cleaned-out casing. No Sample-Granite b'cks.							
5		BXDC 5.0' - 7.0' Cored ahead.							
9		BXDC 9.0' - 11.0' Granite b'cks.							
12		BXDC 12.0' - 14.0' Granite b'cks.							
15		BXDC 15.0' - 17.0' Granite b'cks.							
19		BXDC 19.0' - 21.0' Granite b'cks.							
23		Broke through granite blocks at 23.0'							
25		No Recovery - Wood.	18						
27		A-2.4, Si, M, W, gry, r.ec. = 1.15'	17	27	14.6	65.2	20.2		
29									
31									
35		A-4, Si, M, W, gry, r.ec. = 1.05'	24	29.9		2.1	97.9		
37									
39		A-4, Si, M, W, gry, r.ec. = 0.90'	15	29.8		1.9	98.1		
41									
43									
45		A-4, Si, M, W, gry, r.ec. = 1.0'	9	34.2		2.8	97.2		

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO. 1 B-1	SHEET 2 OF 2	DATE STARTED 3/21/00	DATE COMPLETED 3/30/00				
PROJECT NAME: MAIDSTONE STRATFORD, NH BRIDGE									
SITE NAME: MAIDSTONE STRATFORD, NH BRIDGE									
STATION: 4.2' Behind West Abut. Face									
GROUND EL.: 867.65									
OFFSET: 0.00									
G.W. DEPTH: 9.8'									
BORING CREW: YOUNG									
DRILLER: YOUNG									
LOGGERS: RUSSELL									
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS	BLOW COUNT PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
55		A-4, Si, M, W, gry, r.ec. = 0.85'	13	33.3		1.3	98.7		
57									
59		A-4, Si, M, W, gry, r.ec. = 1.30'	18	29.6		2	98		
61		No Sample							
63									
65		No Recovery	14						
67									
69									
71		Field Classifications: Gravel w/5 tones, r.ec. = 0.25'	23						
73									
75		BXDC 74.0' - 75.5' appear to be in Gr./Rock Ref. Advanced casing to 78.0'							
77		BXDC 78.0' - 79.0' Same to be in Gr./Rock Ref.							
79		No recovery	32						
81									
83									
85		APPROX. BOTTOM OF PILE EL. 786 ABUT 1							
87		Hole stopped at 82.0'							

ABUTMENT 1
 BOTTOM OF FOOTING EL. 858.5
 TOP OF PILE EL. 861.5
 BOTTOM OF PILE EL. 786 +/-

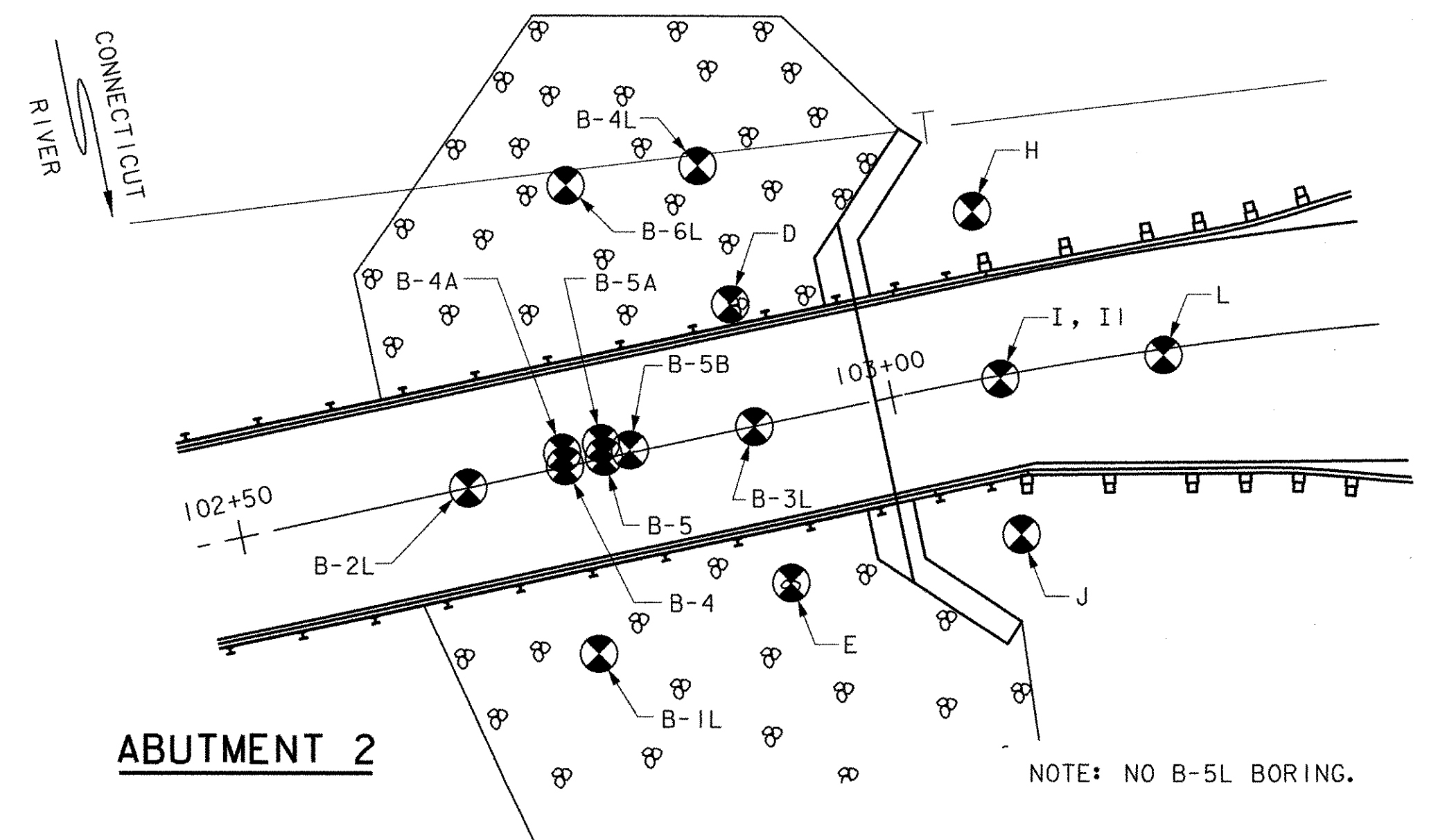


BORINGS B-1, B-2, B-3, B-4, B-4A, B-5, B-5A, & B-5B DONE ON 03/27/01 - 04/12/01.
 BORINGS B-1L, B-2L, B-3L, B-4L, & B-6L DONE ON 03/12/01 - 04/05/01.
 BORINGS D, H, I, E, J, L, & A DONE ON 12/4/01 - 02/20/02.

GENERAL NOTES

- The subsurface explorations shown herein were made between SEE ABOVE and SEE ABOVE by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO. 1 B-2	SHEET 1 OF 2	DATE STARTED 3/30/00	DATE COMPLETED 3/30/00				
PROJECT NAME: MAIDSTONE STRATFORD, NH BRIDGE									
SITE NAME: MAIDSTONE STRATFORD, NH BRIDGE									
STATION: 7.2' Behind West Abut. Face									
GROUND EL.: 867.29									
OFFSET: 0.00									
G.W. DEPTH: 13.20'									
BORING CREW: YOUNG									
DRILLER: YOUNG									
LOGGERS: RUSSELL									
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS	BLOW COUNT PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		No recovery, stone in sampler.	55						
10		A-4, Si, M, W, gry, r.ec. = 1.25'	24	23.3	0.8	58	41.2		
12		BXDC 11.5' - 13.0' Granite b'cks.							
14		BXDC 14.0' - 16.0' Granite b'cks.							
16		BXDC 17.0' - 19.0' Granite b'cks.							
18		BXDC 19.5' - 21.5' Granite end Wood.							
20									
22		A3, Se, M, gry, r.ec. = 1.25'	22	20.4	10.1	83.3	6.6		
24									
26									
28									
30		A3, Se, M, gry, r.ec. = 1.90'	30	16.7	12.7	78.7	8.6		
32									
34									
36		A4, Si, M, W, gry, r.ec. = 1.50'	14	32.7		1	99		
38									
40		A4, Si, M, W, gry, r.ec. = 1.25'	13	33.5		0.7	99.3		
42									
44									
46		A4, Si, M, W, gry, r.ec. = 1.50'	9	33.7		0.8	99.2		



ABUTMENT 2

NOTE: NO B-5L BORING.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of MAIDSTONE, VT	BRIDGE No. 1
STRAFORD, NH	Log Sta.
Highway No. MAIDSTONE STATE HWY	Surv. Sta.

BORING SHEET 1

Designed By J. MESSIER	Drawn By C. DONOHUE
Checked By Date	Bridge Design Supervisor
D. B. SULLIVAN 08/01/03	Date
PROJECT MAIDSTONE-STRATFORD	PROJECT NO. BHO 1447 (24)
I.G.C. Info.	
Bridge Sheet No.	Sheet 28 of 65



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