

SOIL CLASSIFICATION

AASHTO

A1	GRAVEL AND SAND
A3	FINE SAND
A4	SILTY OR CLAYEY GRAVEL AND SAND
A5	SILTY SOIL - LOW COMPRESSIBILITY
A6	SILTY SOIL - HIGHLY COMPRESSIBLE
A7	CLAYEY SOIL - LOW COMPRESSIBILITY
A7	CLAYEY SOIL - HIGHLY COMPRESSIBLE

UNIFIED SOIL SYSTEM

GW/CP	CLEAN GRAVELS (FEW FINES)
GM/GC	GRAVELS (APPRECIABLE FINES)
SW/SP	CLEAN SANDS (FEW FINES)
SM/SC	SAND (APPRECIABLE FINES)
ML/CL	LOW PLASTIC SILTS & CLAYS
OL	LOW PLASTIC ORGANIC SILT
MH/CH	HIGH PLASTIC SILTS & CLAYS
OH	HIGH PLASTIC ORGANIC SILT
PT	HIGHLY ORGANIC SILTS

MOISTURE

DESCRIPTIVE TERM	OBSERVED	% +/- BY ANALYSIS
DRY	NO VISIBLE WATER	<1.0
MOIST	DAMP	1.0-2.0
MOIST TO WET	MOIST TO WET	2.1-5.0
WET	VISIBLE WATER	5.1-7.0
SATURATED		>7.0

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

UNDERDRAINED 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
<5	VERY LOOSE
5-10	LOOSE
11-24	MED. DENSE
25-50	DENSE
>50	VERY DENSE
2	VERY SOFT
4	SOFT
6	MED. STIFF
8	STIFF
10	VERY STIFF
15	HARD
20	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" L.D. SAMPLER
○	HAMMER WEIGHT OF 140 LBS.
○	HAMMER FALL OF 30"
○	FIELD VANE SHEAR TEST
○	UNDISTURBED SOIL SAMPLE
VS	BLAST
US	DIAMOND CORE
MD	MUD DRILL
WA	WASH AHEAD
HSA	HOLLOW STEM AUGER
AX	CORE SIZE 1 1/8"
BX	CORE SIZE 1 5/8"
NX	CORE SIZE 2 1/8"
M	DOUBLE TUBE CORE BARREL USED
LL	LIQUID LIMIT
PL	PLASTIC LIMIT
PI	PLASTICITY INDEX
NP	NON PLASTIC
w	MOISTURE CONTENT (DRY WGT. BASIS)
D	DRY
M	MOIST
MTW	MOIST TO WET
W	WET
SAT	SATURATED
BO	BOULDER
GR	GRAVEL
SA	SAND
SI	SILT
CL	CLAY
HP	HARDPAN
LE	LEDGE
NLTD	NO LEDGE TO DEPTH
CNPF	CAN NOT PENETRATE FURTHER
TLOB	TO LEDGE OR BOULDER
NR	NO RECOVERY
REC.	RECOVERY
PRC.	PERCENT RECOVERY
RQD	ROCK QUALITY DESIGNATION
CBR	CALIFORNIA BEARING RATIO
>	LESS THAN
>	GREATER THAN
R	REFUSAL (N>100)

COLOR

BLK	BLACK	PNK	PINK
BL	BLUE	PU	PURPLE
BRN	BROWN	RD	RED
DK	DARK	TN	TAN
GR	GRAY	WH	WHITE
GN	GREEN	YEL	YELLOW
LT	LIGHT	MITC	MULTICOLORED
OR	ORANGE		

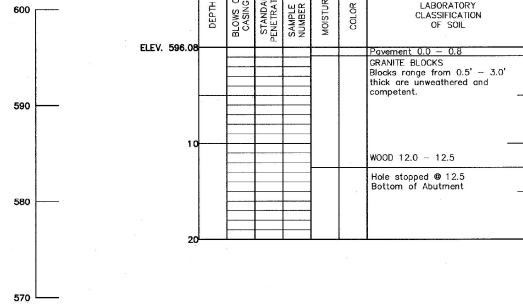
DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - ROCK IN ITS NATIVE LOCATION OF INDEFINITE THICKNESS.
BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF >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 > 0.0025" (#60 SIEVE).
SILT - SOIL < 0.0025" (#60 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.

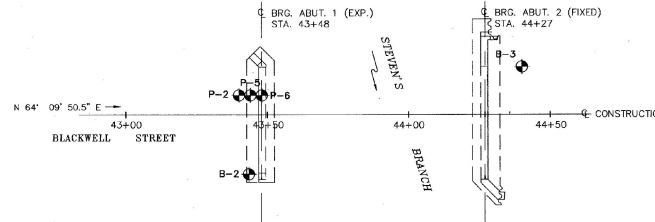
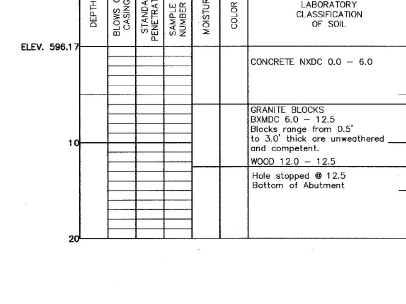
BORING NO.

Barre City BRM 6000(13)
P-5



BORING NO.

Barre City BRM 6000(13)
P-6



BORING PLAN
SCALE: 1" = 20'

HOLE NUMBER	STATION	OFFSET
B-2	43+3.5	21' RT
B-3	44+40	17' LT
P-2	43+42	7' LT
P-5	43+44	7' LT
P-6	43+46	7' LT

GENERAL NOTES

- THE SUBSURFACE EXPLORATIONS SHOWN HEREIN WERE MADE BETWEEN 8/12/93 AND 9/28/93 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 JUDGEMENT 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 JUDGEMENT BY THE CONTRACTOR.
- PICTORIAL STRUCTURE DETAILS SHOWN ON THE BORING PLAN LAYOUT OR SOILS PROFILE ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT ACCURATELY PORTRAY FINAL CONTRACT DETAILS.
- TERMINOLOGY USED ON BORING LOGS TO DESCRIBE THE HARDNESS, DEGREE OF WEATHERING AND SPACING OF FRACTURES, JOINTS AND OTHER DISCONTINUITIES IN THE BEDROCK IS DEFINED IN THE AASHTO MANUAL ON SUBSURFACE INVESTIGATION 1988.

BETTIGOLE ANDREWS & CLARK, INC.
Consulting Engineers

STATE OF VERMONT AGENCY OF TRANSPORTATION

CITY OF	BARRE	BRIDGE NO.	B-10
STREET NAME	BLACKWELL STREET	LOC STA.	
BLACKWELL STREET OVER STEVENS BRANCH			
BORING INFORMATION SHEET (1 OF 2)			
DESIGNED BY	L. Keefe	DRAWN BY	A. Clark
CHECKED BY	J. Patusky	DATE	11/98
BRIDGE DESIGN SUPERVISOR	J. Patusky	DATE	11/98
PROJECT	BARRE CITY	PROJECT NO.	BRM 6000 (13)
B&C DRAWING NO.	9203B03/1-20	DATE	1/2/98
BRIDGE SHEET NO.	BR103	SHEET	16 OF 46