STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

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STANDARDS LIST

A-76	STANDARD FOR DEVELOPMENT ROADS	3/3/2003
B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/1994
B-12	SIDE ROAD INTERSECTION, DEPRESSED RAMP	6/1/1994
B-71	RESIDENTIAL AND COMMERCIAL DRIVES	2/1/2004
E-100	CONSTRUCTION APPROACH SIGNS	6/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
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E-107	DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY	6/30/2003
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E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
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G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	6/3/2000
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11/15/2002
SB-R4B-82	GUARD RAIL APPROACH SECTION, TYPE I & II	3/30/1988
SB-R6-82	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	1/6/1995
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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: August 24, 2004

DRAINAGE AREA : 670 sq. mi
CHARACTER OF TERRAIN : Hilly to Mountainous
STREAM CHARACTERISTICS : Sinuous, Alluvial, probably incised
NATURE OF STREAMBED : Gravel, Silty Sand, Ledge

PEAK FLOW DATA

Q 2.33 =	12,000 cfs	Q 50 =	33,500 cfs
Q 10 =	22,250 cfs	Q 100 =	39,300 cfs
Q 25 =	28,400 cfs	Q 500 =	55,500 cfs

DATE OF FLOOD OF RECORD : November 1927, per FEMA, FIS, Town of Moretown, 1984
ESTIMATED DISCHARGE: unknown
WATER SURFACE ELEV.: unknown
NATURAL STREAM VELOCITY: @ Q50 = 9.0 f/s
ICE CONDITIONS : Moderate
DEBRIS: Modetate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 1% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Two span steel truss bridge with additional approach span
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): Span 1 = 47', Span 2 = 118', Span 3 = 118'
VERTICAL CLEARANCE ABOVE STREAMBED: 25.0' (low steel E.L. = 452.4')
WATERWAY OF FULL OPENING: 4,915 sf
DISPOSITION OF STRUCTURE: Removal of old structure
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Abut. 1 Ledge, Abut. 2 Silty Sand

WATER SURFACE ELEVATIONS AT:

Q2.33 =	438.4'	VELOCITY =	7.6 f/s
Q10 =	442.4'	"	8.8 f/s
Q25 =	444.1'	"	9.0 f/s
Q50 =	445.8'	"	8.8 f/s
Q100 =	447.3'	"	8.8 f/s

LONG TERM STREAMBED CHANGES: F.I.S. show 5ft scour through bridge. Comparison of record plans to current conditions also show 5' of scour at pier.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 453.7'
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Moretown-Middlesex — DISTANCE: 7,700'
HIGHWAY #: VT 100B — STRUCTURE #: 8
CLEAR SPAN: 140' & 120' — CLEAR HEIGHT: 48' max
YEAR BUILT: 2001 — FULL WATERWAY: 4,200 sf
STRUCTURE TYPE: Two span continous welded plate curved girder

DOWNSTREAM STRUCTURE

TOWN: Waterbury-Duxbury — DISTANCE: 18,000'
HIGHWAY #: U.S. 2 — STRUCTURE #: 48
CLEAR SPAN: 105' & 120' — CLEAR HEIGHT: 23.5'
YEAR BUILT: 1992 — FULL WATERWAY: 4690 sf
STRUCTURE TYPE: 2 span plate girder

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY							
POSTED							
OPERATING							

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2007	4200	580	62	2	190
2027	5500	730	62	2	200

20 year ESAL for flexible pavement from 2007 to 2027 : 1,874,000
40 year ESAL for flexible pavement from 2007 to 2047 : 4,530,000
Design Speed : 50 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Two span steel beam bridge, concrete deck

CLEAR SPAN(NORMAL TO STREAM): Span 1 = 117.5', Span 2 = 117.5'
VERTICAL CLEARANCE ABOVE STREAMBED: 25.4' Average
WATERWAY OF FULL OPENING: 5015 sf

WATER SURFACE ELEVATIONS AT:

Q2.33 =	438.9'	VELOCITY=	7.2 f/s
Q10 =	442.9'	"	8.2 f/s
Q25 =	444.5'	"	8.6 f/s
Q50 =	445.9'	"	8.6 f/s
Q100 =	447.1'	"	8.9 f/s

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 453.7'
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 450.9' Span 2
VERTICAL CLEARANCE: @ Q100 3.8' Average Span 2

SCOUR: Contraction scour 0' up to Q 500, Pier scour 5' @ Q500

REQUIRED CHANNEL PROTECTION: Type IV Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	1,410 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	600 cfs	Elev. 428.0'
ORDINARY HIGH WATER:	5,150 cfs	Elev. 431.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A
CLEAR SPAN (NORMAL TO STREAM): N/A
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO HS - 25
2. DESIGN SPAN 2 @ 140' EACH
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE 10 kips
4. ALLOWABLE LOAD FOR PILING 200 kips
   TYPE H piles
   ESTIMATED LENGTH 90 feet
5. STRUCTURAL STEEL AASHTO M270MM270 GRADE 50W
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 4000 psi
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3500 psi
8. DESIGN SOIL UNIT WEIGHT 140 pcf
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? YES
   OR ON TEMPORARY BRIDGE? NO
   ONE OR TWO-WAY TRAVEL? TWO-WAY
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE? N/A

PROJECT NAME: BRS 0284(14)
PROJECT NUMBER: MORETOWN-MIDDLESEX

FILE NAME: 78f219/str/sf219pi.dgn — PLOT DATE: 1/16/2007
PROJECT MANAGER: M.EVANS-MONGEON — DRAWN BY: L. Duquette
DESIGNED BY: M.EVANS-MONGEON — CHECKED BY: S. Scribner
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