STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version 03.02.00

LRFD

INDEX OF SHEETS

PLAN SHEETS

1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET
3 - 4	GENERAL NOTES #1 & #2
5 - 6	QUANTITY SHEETS
7	TYPICAL SECTIONS
8	TIE
9	LAYOUT
10	PROFILE
11	BANKING DIAGRAM & MATERIAL TRANSITION
12	BORING LAYOUT
13 - 16	BORING LOGS #1 - #4
17	PLAN & ELEVATION
18	BRIDGE DECK
19	TRUSS REPAIRS
20	FLOOR FRAMING SYSTEM
21	BOTTOM CHORD L0-L2
22	BOTTOM CHORD L2-L2
23	BOTTOM CHORD GUSSET PLATES
24	VERTICAL TRUSS MEMBERS
25	DIAGONAL MEMBERS SHEET
26	PORTAL TOP CHORD "EPT"
27	TOP CHORD "U1-3"
28	TOP CHORD "U3-3"
29	ROOF FRAMING PLAN
30	ROOF DETAILS
31	PORTAL FRAME
32	PORTAL DETAILS
33	ASPHALTIC PLUG JOINT & MISC DETAILS
34	BEARING DETAILS
35	APPROACH SLABS
36	ABUTMENT #1
37	ABUTMENT #2
38	WINGWALLS
39	FOOTINGS
40 - 42	RAIL DETAIL #1- #3
43	EPSC NARRATIVE
44	EPSC EXISTING CONDITIONS
45	EPSC CONSTRUCTION CONDITIONS
46	EPSC FINAL CONDITIONS
47 - 48	EPSC DETAILS
49 - 54	MAINLINE SECTIONS
55 - 58	CHANNEL SECTIONS
	REFERENCE PLANS

STANDARDS LIST

E-100	CONSTRUCTION APPROACH SIGNS	2-Jan-04
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	2-Jan-04
E-101	CONSTRUCTION SIGN DETAILS	30-May-03
E-102	CONSTRUCTION SIGN DETAILS	30-Jun-03
E-102A	CONSTRUCTION SIGN DETAILS	1-May-04
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	1-Mar-04
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	30-Jun-03
E-107A	BREAKAWAY BARRICADE DETAILS	8-Jun-09
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	8-Jun-09
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	8-Aug-95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8-Aug-95
E-138	MILE MARKER DETAILS - STATE & TOWN HIGHWAYS	30-May-03
E-150	WARNING SIGN DETAILS	1-May-04
E-151	WARNING SIGN DETAILS	1-May-04
E-160	FLANGED CHANNEL STEEL SIGN POST	20-May-99
E-161	W-SHAPED STEEL SIGN POST	18-Aug-95
E-162	TUBULAR ALUMINUM SIGN POST	20-May-99
E-163	TUBULAR STEEL SIGN POST	20-May-99
E-164	SQUARE STEEL SIGN POST	8-Jun-09
E-197	DELINEATOR PLACEMENT TYPICAL	1-Apr-05
E-198	DELINEATORS AND MILE POSTS	1-Apr-05
E-199	DELINEATOR AND MILE POST MOUNTING ON BRIDGE RAIL	1-Apr-05
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS STEEL BEAM GUARDRAIL WITH WOOD POSTS	3-Jan-00
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	3-Jan-00

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2012	1300	190	58	10.3	190
2032	1700	240	58	15.2	370

20 year ESAL for flexible pavement from 2012 to 2032 : 1251000

40 year ESAL for flexible pavement from 2012 to 2052 : 3325000

Design Speed : 50 mph

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: June 2008

DRAINAGE AREA : 72.4 sq. mi.
CHARACTER OF TERRAIN : Rolling to mountainous
STREAM CHARACTERISTICS : Sinuous
NATURE OF STREAMBED : Cobbles, gravel, sand and silt

PEAK FLOW DATA

Q 2.33 =	3000 cfs	Q 50 =	10,800 cfs
Q 10 =	6100 cfs	Q 100 =	13,000 cfs
Q 25 =	8800 cfs	Q 500 =	20,000 cfs

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q50 = 10.5 fps
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
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: Single Span Steel Truss
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): 108'
VERTICAL CLEARANCE ABOVE STREAMBED: 15'
WATERWAY OF FULL OPENING: 1550 sq. ft.
DISPOSITION OF STRUCTURE: Rehabilitate
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	844.1'	VELOCITY =	7.2 fps
Q10 =	846.4'	"	9.4 fps
Q25 =	848.3'	"	10.9 fps
Q50 =	849.8'	"	12.4 fps
Q100 =	851.3'	"	14.2 fps

LONG TERM STREAMBED CHANGES: None

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 851.2'
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Bridgewater
HIGHWAY# : VT4
CLEAR SPAN: 172'
YEAR BUILT: 1962
STRUCTURE TYPE: Three Span Steel Beam
DISTANCE:
STRUCTURE #: B-45
CLEAR HEIGHT: 15'
FULL WATERWAY: 1554 s.f.

DOWNSTREAM STRUCTURE

TOWN: Bridgewater
HIGHWAY# : TH 46
CLEAR SPAN: 134'
YEAR BUILT: 1978
STRUCTURE TYPE: Two Span Steel Beam
DISTANCE:
STRUCTURE #: B-51
CLEAR HEIGHT: 16'
FULL WATERWAY: 1965 s.f.

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR	4A STR	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	1.5	1.05					
POSTING							
OPERATING	1.95	1.37	2.11	1.22	1.72	1.64	1.87
COMMENTS:							

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Steel Truss

CLEAR SPAN(NORMAL TO STREAM): 108'
VERTICAL CLEARANCE ABOVE STREAMBED: 15'
WATERWAY OF FULL OPENING: 1550 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	844.1'	VELOCITY=	7.5 fps
Q10 =	846.4'	"	9.7 fps
Q25 =	848.3'	"	10.9 fps
Q50 =	849.8'	"	12.4 fps
Q100 =	851.3'	"	14.3 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 851.2'
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 852.9'
VERTICAL CLEARANCE: @ Q50 = 3.1'

SCOUR: 4' at Q500

REQUIRED CHANNEL PROTECTION: Stone fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	150 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	70 cfs	Depth = 1'
ORDINARY HIGH WATER:	1300 cfs	Depth = 3'

TEMPORARY BRIDGE REQUIREMENTS

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

ADDITIONAL INFORMATION

Temporary bridge installed in 2005 and will be removed after rehabilitation of existing bridge.

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	1.5 INCH
3. DESIGN SPAN	L:	110.54 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ	---
5. PRESTRESSING STRAND	f_{pu}:	---
6. PRESTRESSED CONCRETE STRENGTH	f'_{ci}:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{cb}:	---
8. CONCRETE, CLASS LW	f'_{ci}:	4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_{ci}:	4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_{ci}:	3.5 KSI
11. CONCRETE, CLASS C	f'_{ci}:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	50 KSI
14. SOIL UNIT WEIGHT	γ:	0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	15.3 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	0.45
17. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
19. NOMINAL AXIAL PILE RESISTANCE	q_p:	---
20. PILE YIELD STRENGTH ASTM A572	f_y:	---
21. PILE SIZE		---
22. EST. PILE LENGTH	L_p:	
23. PILE RESISTANCE FACTOR	ϕ	---
24. LATERAL PILE DEFLECTION	Δ	---
25. BASIC WIND SPEED	V_{3s}:	---
26. MINIMUM GROUND SNOW LOAD	P_g:	---
27. SEISMIC DATA PGA ---	S_s:	---
	S_1:	---

PROJECT NAME: **BRIDGEWATER**
PROJECT NUMBER: **BRS 0149(4)**

FILE NAME: s86e062pi.xls
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
PRELIMINARY INFORMATION SHEET 1

PLOT DATE: 12/2/2009
DRAWN BY: R. PELLETT
CHECKED BY: T. FILLBACH
SHEET 2 OF 58