

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

1.	TITLE SHEET
2.	PRELIMINARY INFORMATION SHEET
3-5.	QUANTITY SHEETS
6.	BRIDGE TYPICAL SECTIONS
7.	ROADWAY TYPICAL SECTIONS
8.	TRAVERSE & GEODETIC CONTROL INFORMATION
9.	ALIGNMENT TIE SHEET
10-13.	LAYOUT SHEET 1-4
14-15.	TH 4 PROFILE
16.	TH 5 PROFILE
17.	DRIVE PROFILE
18-21.	TRAFFIC CONTROL PLAN 1-4
22.	DRAINAGE SHEET
23.	DRAINAGE PIPE SECTIONS
24.	TRAFFIC SIGNS AND LINES
25.	TRAFFIC SIGNS SUMMARY SHEET
26.	BORING INFORMATION SHEET
27-31.	BORING PROFILE SHEET 1-5
32.	PLAN AND ELEVATION
33.	GENERAL NOTES
34.	SPAN #1 DETAILS
35.	SPAN #3 DETAILS
36.	SPAN #2 MAIN SPAN REINFORCNG DETAILS
37.	MAIN SPAN FRAMING PLAN
38.	CAMBER DIAGRAM
39.	MISCELLANEOUS STEEL DETAILS
40.	EXPANSION BEARING DETAILS
41.	FIXED BEARING DETAILS
42.	BEARING NOTES
43.	EXPANSION JOINT DETAILS
44.	EXPANSION JOINT PLAN
45.	CURB PLATE DETAILS
46.	DOWNSPOUT DETAILS
47.	APPROACH SLAB 1 & 2 DETAILS
48.	ABUTMENT #1 DETAILS
49.	ABUTMENT #2 DETAILS
50.	WINGWALL 1 & 2 DETAILS
51.	WINGWALL 3 & 4 DETAILS
52.	FOOTING REINFORCEMENT DETAILS
53.	PIER #1 DETAILS
54.	PIER #2 DETAILS
55.	CURB DETAILS
56.	RAILING LAYOUT PLAN
57-59.	ALUMINUM RAILING DETAILS 1-3
60-61.	REINFORCING STEEL SCHEDULE SHEET #1-#2
62-64.	RIGHT OF WAY SHEETS
65-70.	TH 4 CROSS SECTIONS
71-73.	TH 5 CROSS SECTIONS
74-76.	DRIVE CROSS SECTIONS
77-81.	VT RT 14 CROSS SECTIONS
82-87.	CHANNEL CROSS SECTIONS
88.	EROSION CONTROL NARRATIVE
89-90.	EROSION CONTROL PLAN #1-#2
91.	FINAL CONDITIONS
92.	SILT FENCE DETAILS
93.	CHECK DAM DETAILS
94.	DROP INLET PROTECTION DETAILS
95.	CONSTRUCTION ENTRANCE DETAILS
96.	DITCH AND SIDE SLOPE PROTECTION DETAILS
97.	TURBIDITY CURTAIN DETAILS

INDEX OF STANDARDS

B-5	6/1/1994
E-100	1/2/2004
E-100A	1/2/2004
E-101	3/10/1997
E-102	5/30/2003
E-102A	5/1/2004
E-107	6/30/2003
E-107A	8/8/1995
E-123	3/16/2004
E-124	8/8/1995
E-138	5/30/2003
E-142	9/20/1995
E-143	6/15/2004
E-191	2/1/1999
E-193	8/18/1995
G-1	1/3/2000
G-1D	1/3/2000
G-6A	6/1/1994

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA Date: 9-25-01
 DRAINAGE AREA: 692.0 sq. mi.
 CHARACTER OF TERRAIN: Hilly to mountainous
 STREAM CHARACTERISTICS: Straight to sinuous, semi-alluvial, probably incised and stable
 NATURE OF STREAMBED: Mostly ledge with some gravel, cobbles and boulders

PEAK FLOW DATA

Q 2.33 =	17,300 cfs	Q 50 =	53,800 cfs
Q 10 =	33,100 cfs	Q 100 =	65,100 cfs
Q 25 =	44,100 cfs	Q 500 =	98,700 cfs

DATE OF FLOOD OF RECORD: November 4, 1927
 ESTIMATED DISCHARGE: 120,000 cfs at USGS gage 700' upstream of bridge #8.
 WATER SURFACE ELEV.: 403.8' at USGS gage 700' upstream of bridge #8.
 NATURAL STREAM VELOCITY: @ Q25 = 11.3 fps
 ICE CONDITIONS: Moderate to heavy
 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 bridge
 YEAR BUILT: 1929
 CLEAR SPAN(NORMAL TO STREAM): 216'
 VERTICAL CLEARANCE ABOVE STREAMBED: 32' maximum
 WATERWAY OF FULL OPENING: 4,670 sq. ft.
 DISPOSITION OF STRUCTURE: Remove after new bridge is completed.
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Abutments founded on ledge.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	385.7'	VELOCITY =	7.5 fps
Q10 =	390.0'	"	10.8 fps
Q25 =	392.3'	"	12.9 fps
Q50 =	394.1'	"	14.6 fps
Q100 =	396.3'	"	16.8 fps

LONG TERM STREAMBED CHANGES: Little or no changes anticipated due to ledge.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Q80
 RELIEF ELEVATION: 393.8'
 DISCHARGE OVER ROAD @Q100: 140 cfs

UPSTREAM STRUCTURE

TOWN: Sharon DISTANCE: 22,000'
 HIGHWAY#: Central VT Railway STRUCTURE #: NA
 CLEAR SPAN: Not Available CLEAR HEIGHT: NA
 YEAR BUILT: NA FULL WATERWAY: NA
 STRUCTURE TYPE: NA

DOWNSTREAM STRUCTURE

TOWN: Hartford DISTANCE: 4,000'
 HIGHWAY#: 189 STRUCTURE #: 11
 CLEAR SPAN: 1014' CLEAR HEIGHT: 60'+
 YEAR BUILT: 1967 FULL WATERWAY: NA
 STRUCTURE TYPE: six span steel beam bridge

LFD - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY (A=2, 17)	37	50					
POSTED (A=1, 55)	52	70	99		58	60	85
OPERATING (A=1, 3)		83	119	114	69	72	

COMMENTS: STRENGTH RF = $\frac{2M_u - 1.3 M_a}{A \times M_u}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1996	1670	230	69	<1	3.5
2016	2280	320	69	<1	1.5

20 year ESAL for flexible pavement from 1996 to 2016 : 258000
 40 year ESAL for flexible pavement from 1996 to 2036 : 685000
 Design Speed : 35 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: 3 span bridge. Plate girder main span w/ conc. slab approach spans.
 CLEAR SPAN(NORMAL TO STREAM): 232' total
 VERTICAL CLEARANCE ABOVE STREAMBED: 32' maximum
 WATERWAY OF FULL OPENING: 5,200 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	385.7'	VELOCITY =	7.4 fps
Q10 =	389.9'	"	10.4 fps
Q25 =	392.2'	"	12.3 fps
Q50 =	394.0'	"	13.8 fps
Q100 =	395.9'	"	15.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Q80
 RELIEF ELEVATION: 393.8'
 DISCHARGE OVER ROAD @Q100: 45 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 396.7' (395.6 minimum)
 VERTICAL CLEARANCE: @ Q25 = 4.5' average (3.2' minimum)

SCOUR: Ledge is exposed in the channel with shallow overburden on the banks.
 Calculated scour depths are to ledge. All substructures should be founded on ledge.
 REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV where required.

PERMIT INFORMATION

AVERAGE DAILY FLOW: 1,300 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 500 cfs Elevation 375.0' at bridge
 ORDINARY HIGH WATER: 7,000 cfs Elevation 378.0' at bridge

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Traffic will be maintained on existing bridge.
 CLEAR SPAN(NORMAL TO STREAM): 216'
 VERTICAL CLEARANCE ABOVE STREAMBED: 32'
 WATERWAY AREA OF FULL OPENING: 4,670 sq. ft.

ADDITIONAL INFORMATION

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO HS-25
- DESIGN SPAN 46'-150'-46"
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ---
ON LEDGE 10 ksi
- ALLOWABLE LOAD FOR PILING ---
TYPE ---
ESTIMATED LENGTH ---
- STRUCTURAL STEEL AASHTO GRADE 50W + 70W
- REINFORCNG STEEL GRADE 60
- CONCRETE CLASS A (HPC-A) f'c : 5000 psi
CONCRETE CLASS B (HPC-B) f'c : 3500 psi
- SOIL UNIT WEIGHT 140 pcf
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL ---

TRAFFIC MAINTENANCE

- IS TRAFFIC TO BE MAINTAINED? YES
 IF YES, ON EXISTNG STRUCTURE? YES
 OR ON TEMPORARY BRIDGE? NO
 ONE OR TWO-WAY TRAVEL? ---
- TRAFFIC CONTROL SIGNALS REQUIRED? ---
- ARE SIDEWALKS REQUIRED? ---
 IF SO, ON WHAT SIDE? ---

PROJECT NAME: Hartford
 PROJECT NUMBER: BRO-BTN 2004(1)

FILE NAME: sj045pi.xls PLOT DATE: 2/16/2005
 PROJECT MANAGER: C.P. Williams DRAWN BY: R.S. Young
 DESIGNED BY: K.M. Higgins CHECKED BY: K.M. Higgins
 PRELIMINARY INFORMATION SHEET SHEET 2 OF 97