

# PRELIMINARY INFORMATION SHEET

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LIST OF STANDARDS

C-10	CURBING	2/11/2008
C-2A	CEMENT CONCRETE SIDEWALK, CONCRETE CURB	10/14/2005
C-2B	CEMENT CONCRETE SIDEWALK, GRANITE CURB	10/14/2005
C-3A	SIDEWALK RAMPS	3/10/2008
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	3/10/2008
D-15	PRECAST RENF. CONC. MANHOLE GRATES (BICYCLE SAFE)	6/1/1994
	CAST IRON GRATE WITH FRAME, TYPE D	
	CAST IRON GRATE WITH FRAME, TYPE E	
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION SIGNS - APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	3/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	8/8/1995
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	12/8/2008
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-142	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	6/15/2004
E-173	PULL BOXES AND JUNCTION BOXES	8/9/1995
E-164	SQUARE STEEL SIGN POST	5/20/1999
E-191	PAVEMENT MARKING DETAILS	2/1/1999
E-192	PAVEMENT MARKING DETAILS	10/12/2000
E-193	PAVEMENT MARKING DETAILS	8/18/1995
G-1B	BOX BEAM GUARDRAIL	6/1/1994
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	6/1/1994

FINAL HYDRAULIC REPORT

**HYDROLOGIC DATA** Date: April 2008

DRAINAGE AREA : 191.5 sq. mi.  
 CHARACTER OF TERRAIN : Large mostly forested watershed  
 STREAM CHARACTERISTICS : incised, confined, sinuous  
 NATURE OF STREAMBED : Gravel with some exposed ledge

**PEAK FLOW DATA**

Q 2.33 =	2,000 cfs	Q 50 =	5,000
Q 10 =	3,500	Q 100 =	7,000
Q 25 =	4,300	Q 500 =	10,000

DATE OF FLOOD OF RECORD: November 1927  
 ESTIMATED DISCHARGE: 24,000 cfs at confluence with Connecticut River  
 WATER SURFACE ELEV.: Unknown  
 NATURAL STREAM VELOCITY: @ Q50 = 7.9 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? Yes  
 IF YES, DESCRIBE: Multiple dams upstream

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

**EXISTING STRUCTURE INFORMATION**

STRUCTURE TYPE: Two span rolled beam bridge  
 YEAR BUILT: 1949  
 CLEAR SPAN(NORMAL TO STREAM): 152 ft  
 VERTICAL CLEARANCE ABOVE STREAMBED: 24.7 ft  
 WATERWAY OF FULL OPENING: 2,330 sq. ft  
 DISPOSITION OF STRUCTURE: Rehabilitation  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

**WATER SURFACE ELEVATIONS AT:**

Q2.33 =	332.9 ft	VELOCITY =	8.3 fps
Q10 =	334.9	"	8.9 fps
Q25 =	335.7	"	9.1 fps
Q50 =	336.4	"	9.3 fps
Q100 =	338.3	"	9.6 fps

LONG TERM STREAMBED CHANGES: None

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: n/a  
 RELIEF ELEVATION: 353.5 ft  
 DISCHARGE OVER ROAD @Q100: n/a

**UPSTREAM STRUCTURE**

TOWN: Springfield DISTANCE: 2,000 ft  
 HIGHWAY #: Park St STRUCTURE #: Br 79  
 CLEAR SPAN: 70 ft CLEAR HEIGHT: 37 ft  
 YEAR BUILT: \_\_\_\_\_ FULL WATERWAY: \_\_\_\_\_  
 STRUCTURE TYPE: Concrete Arch

**DOWNSTREAM STRUCTURE**

TOWN: Springfield DISTANCE: 2,600 ft  
 HIGHWAY #: Bridge St STRUCTURE #: Br 43  
 CLEAR SPAN: 119 ft CLEAR HEIGHT: 13 ft  
 YEAR BUILT: 1989 FULL WATERWAY: 1,213 sq ft  
 STRUCTURE TYPE: Welded plate girder

**LOAD FACTOR LOAD RATING (TONS)**

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	45	60					
POSTED	63	85	102		77	79	93
OPERATING		101	22	146	92	94	

**TRAFFIC DATA**

YEAR	ADT	DHV	% D	% T	ADTT
2010	11800	1200	52	6.8	950
2030	14600	1500	52	10.3	1800

20 year ESAL for flexible pavement from 2010 to 2030 : 8,007,000  
 40 year ESAL for flexible pavement from 2010 to 2050 : 19,301,000  
 Design Speed : 25 mph

**PROPOSED STRUCTURE**

STRUCTURE TYPE: Two span rolled beam bridge

CLEAR SPAN(NORMAL TO STREAM): 152 ft  
 VERTICAL CLEARANCE ABOVE STREAMBED: 24.7 ft  
 WATERWAY OF FULL OPENING: 2,330 sq. ft

**WATER SURFACE ELEVATIONS AT:**

Q2.33 =	332.9 ft	VELOCITY =	8.3 fps
Q10 =	334.9	"	9
Q25 =	335.7	"	9
Q50 =	336.4	"	9
Q100 =	338.3	"	10

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: n/a  
 RELIEF ELEVATION: 353.5 ft  
 DISCHARGE OVER ROAD @Q100: n/a

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 349.7 ft  
 VERTICAL CLEARANCE: @ Q50 = 13.3 ft

SCOUR: Not calculated, no substructure work

REQUIRED CHANNEL PROTECTION: No work in the channel

**PERMIT INFORMATION**

AVERAGE DAILY FLOW: 400 cfs DEPTH OR ELEVATION:  
 ORDINARY LOW WATER: 175 Depth = 2.5'  
 ORDINARY HIGH WATER: 850 Depth = 4.5'

**TEMPORARY BRIDGE REQUIREMENTS**

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

**ADDITIONAL INFORMATION**

**DESIGN CRITERIA**

- DESIGN LIVE LOAD AASHTO HS-25
- DESIGN SPAN TWO SPANS OF 77' C/L BRG. TO C/L BRG.
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A  
ON LEDGE N/A
- ALLOWABLE LOAD FOR PILING N/A  
TYPE N/A  
ESTIMATED LENGTH N/A
- STRUCTURAL STEEL AASHTO M270/M270 GRADE 36 OR 50 (PAINTED)
- REINFORCING STEEL GRADE 60
- CONCRETE, HIGH PERFORMANCE CLASS A fc: 4000 psi  
CONCRETE, HIGH PERFORMANCE CLASS B fc: N/A
- DESIGN SOIL UNIT WEIGHT 140 pcf
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

**TRAFFIC MAINTENANCE**

- IS TRAFFIC TO BE MAINTAINED? YES  
IF YES, ON EXISTING STRUCTURE? YES (COMBINATION OF BRIDGE & DETOUR)  
OR ON TEMPORARY BRIDGE? NO  
ONE OR TWO-WAY TRAVEL? ONE-WAY ON BRIDGE (WESTBOUND)
- TRAFFIC CONTROL SIGNALS REQUIRED? NO
- ARE SIDEWALKS REQUIRED? YES, USE EXISTING SIDEWALK  
IF SO, ON WHAT SIDE? DOWN STREAM FOR PHASE ONE.

AND THE NEW SIDEWALK UPSTREAM DURING PHASE TWO.

PROJECT NAME: **SPRINGFIELD**  
 PROJECT NUMBER: **BHF 016-2(14)**

FILE NAME: 06j004str/s06j004pi.xls PLOT DATE: 2/27/2009  
 PROJECT LEADER: R. WHITCOMB DRAWN BY: D. PETERSON  
 DESIGNED BY: D. PETERSON CHECKED BY: C. CARLSON  
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