

# PRELIMINARY INFORMATION SHEET (BRIDGE)

**INDEX OF SHEETS**

**PLAN SHEETS**

1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET
3	GENERAL NOTES
4	TYPICAL SECTIONS
5-6	QUANTITY SHEETS 1-2
7	TE SHEET
8	MARKLINE LAYOUT
9	MARKLINE PROFILES & MATERIAL TRANSITION
10-13	BRIDGE RAILING DETAIL SHEETS 1-4
14	BORING LAYOUT
15	BORING LOGS
16	PLAN AND ELEVATION
17	DECK PLAN & TYPICAL
18	MISCELLANEOUS DETAILS
19	FRAMING PLAN & CAMBER DIAGRAM
20	CROSSFRAME DETAIL SHEET
21	BRIDGE END DETAILS
22	ABUTMENT #1
23	ABUTMENT #2
24	WINGWALLS #1&4
25	REINFORCING STEEL SCHEDULE
26	EPSC NARRATIVE
27	EPSC EXISTING SITE PLAN
28	EPSC CONSTRUCTION SITE PLAN
29	EPSC FINAL SITE PLAN
30-31	EPSC DETAILS
32-33	R.O.W. SHEETS
34-39	ROADWAY CROSS SECTIONS
40-44	CHANNEL CROSS SECTIONS

**STANDARDS LIST**

E-5	EMBANKMENT ON EARTH SLOPE; EMBANKMENT ON ROCK SLOPE; MUCK EDC	1-Jan-04
E-100	CONSTRUCTION APPROACH SIGNS	2-Jan-04
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	2-Jan-04
E-101	CONSTRUCTION SIGNS	30-May-03
E-102	CONSTRUCTION SIGN DETAILS	30-Jan-03
E-102A	CONSTRUCTION SIGN DETAILS	18-May-04
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	30-Jan-03
E-107A	BREAKAWAY BARRICADE DETAILS	8-Jan-09
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	8-Jan-09
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	8-Aug-05
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8-Aug-05
E-134	BRIDGE NUMBER PLaque	8-Aug-05
E-160	FLANGED CHANNEL STEEL SIGN POST	20-May-09
G-1B	BOX-BEAM GUARD RAIL	1-Jan-04

**FINAL HYDRAULIC REPORT**

TOWN: Jamaica	COUNTY: Windham	HIGHWAY #: VT 100	STRUCTURE #: BR 78
PROJECT #: BRO 1442(27)	STREAM: Wardboro Brook	YEAR BUILT: 1937	REVISION: 1975
HIGHWAY #: TH 43	STRUCTURE #: BR 33	DESIGNED BY: J LACROIX	CHECKED BY: J LACROIX

**HYDROLOGIC DATA**

DRAINAGE AREA: 35.1 sq. mi.  
 CHARACTER OF TERRAIN: Hill to mountainous, mostly forested  
 STREAM CHARACTERISTICS: Sinuous, narrow to wide floodplain  
 NATURE OF STREAMBED: Cobbles and gravel

**PEAK FLOW DATA**

Q 2.33 = 1900 cfs	Q 50 = 8600 cfs
Q 10 = 4800 cfs	Q 100 = 10,600 cfs
Q 25 = 6800 cfs	Q 500 = 16,200 cfs

DATE OF FLOOD OF RECORD: 1859, 1927, 1938, 1976  
 ESTIMATED DISCHARGE: unknown  
 WATER SURFACE ELEV.: unknown  
 NATURAL STREAM VELOCITY: @ Q25 = 12.0 fps  
 FICE CONDITIONS: moderate  
 DEBRIS: little  
 DOES THE STREAM REACH MAXIMUM HIGH WATER ELEV. RAPIDLY? no  
 IS ORDINARY RISE RAPID? no  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? yes  
 IF YES, DESCRIBE: backwater from West River

**WATERSHED STORAGE:** HEADWATERS: UNIFORM: X  
 IMMEDIATELY ABOVE SITE:

**EXISTING STRUCTURE INFORMATION**

STRUCTURE TYPE: Truss bridge and Temporary Mabey Bridge  
 YEAR BUILT: 1936 for truss, unknown for temporary  
 CLEAR SPAN(NORMAL TO STREAM): 117' for truss, 66' for temporary  
 VERTICAL CLEARANCE ABOVE STREAMBED: 12' - Avg. bottom of beam @ 554.7'  
 WATERWAY OF FULL OPENING: 730 sq. ft. with temporary bridge

**DISPOSITION OF STRUCTURE:** Removal  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Refer to boring logs.

**WATER SURFACE ELEVATIONS AT:**

Q2.33 = 549.0'	VELOCITY = 7.5 fps
Q10 = 552.0'	" 12.6 fps
Q25 = 553.7'	" 14.0 fps
Q50 = 554.7'	" 14.0 fps
Q100 = 555.0'	" 11.3 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes  
 FREQUENCY: Q25  
 RELIEF ELEVATION: 553.7'  
 DISCHARGE OVER ROAD @Q100: 3500 cfs

**UPSTREAM STRUCTURE**

TOWN: Jamaica DISTANCE: 1.2 miles  
 HIGHWAY #: VT 100 STRUCTURE #: BR 78  
 CLEAR SPAN: 2 @ 55' = 110' CLEAR HEIGHT: 12'  
 YEAR BUILT: 1937 - rehab 1975 FULL WATERWAY: 840 sq. ft.  
 STRUCTURE TYPE: 2-span steel beam

**DOWNSTREAM STRUCTURE**

**LOADING LEVELS**

TRUCK	
H20	16-38 35.2 3A STR. 3A STR. 5A STR.
INVENTORY	36 36 66 30 34.5 38
POSTING	2.01 1.09
OPERATING	2.82 1.41 2.26 1.39 2.23 1.98 2.01

**COMMENTS:**

**TRAFFIC DATA**

YEAR	ADT	DHV	% D	% T	ADTT
2002	100	<10	0	50	50
2002	100	<10	0	50	50

20 year ESAL for flexible pavement from 2002 to 2022 : N/A  
 40 year ESAL for flexible pavement from 2002 to 2042 : N/A  
 Design Speed: 20 mph

**PROPOSED STRUCTURE**

STRUCTURE TYPE: Steel girder bridge

CLEAR SPAN(NORMAL TO STREAM): 114'  
 VERTICAL CLEARANCE ABOVE STREAMBED: 11'  
 WATERWAY OF FULL OPENING: 920 sq. ft.

**WATER SURFACE ELEVATIONS AT:**

Q2.33 = 549.0'	VELOCITY = 6.6 fps
Q10 = 551.9'	" 9.5 fps
Q25 = 553.1'	" 12.2 fps
Q50 = 555.0'	" 8.2 fps
Q100 = 555.0'	" 9.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes  
 FREQUENCY: below Q50  
 RELIEF ELEVATION: 553.5'  
 DISCHARGE OVER ROAD @Q100: 2000 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 554.2'  
 VERTICAL CLEARANCE: @ Q25 = 1.1'

SCOUR: Contraction scour at Q500 = 3.0'

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II

**PERMIT INFORMATION**

AVERAGE DAILY FLOW: 70 cfs DEPTH OR ELEVATION:  
 ORDINARY LOW WATER: 35 cfs 1.5'  
 ORDINARY HIGH WATER: 820 cfs 3.7'

**TEMPORARY BRIDGE REQUIREMENTS**

STRUCTURE TYPE: Mabey Bridge already in place  
 CLEAR SPAN(NORMAL TO STREAM): 66'  
 VERTICAL CLEARANCE ABOVE STREAMBED: 12'  
 WATERWAY AREA OF FULL OPENING: 730 sq. ft.

**ADDITIONAL INFORMATION**

**TRAFFIC MAINTENANCE NOTES**

- MAINTAIN ONE-WAY TRAFFIC ON THE EXISTING TEMPORARY MABEY BRIDGE
- TRAFFIC SIGNALS ARE NOT NECESSARY
- SIDEWALKS ARE NOT NECESSARY

**DESIGN VALUES**

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp 3.0 INCH
3. DESIGN SPAN	L' 105.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	fc: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	fcR: ---
8. CONCRETE HIGH PERFORMANCE CLASS AA	fc: 4.0 KSI
9. CONCRETE HIGH PERFORMANCE CLASS A LOW CEMENT	fc: 4.0 KSI
10. CONCRETE HIGH PERFORMANCE CLASS B	fc: 3.5 KSI
11. CONCRETE CLASS C	fc: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270/M270	fy: 50 KSI
14. SOIL UNIT WEIGHT	γ: 0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	qn: ---
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	f: ---
17. NOMINAL BEARING RESISTANCE OF ROCK	qn: ---
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	f: ---
19. NOMINAL AXIAL PILE RESISTANCE	qp: ---
20. PILE YIELD STRENGTH ASTM A572	fy: ---
21. PILE SIZE	HP 12X 84
22. EST. PILE LENGTHS (TWO SUBSTRUCTURES)	Lp: ---
(ABUTMENT 1 = 42 AND ABUTMENT 2 = 47) FT	
23. PILE RESISTANCE FACTOR	f: ---
24. LATERAL PILE DEFLECTION	Δ: ---
25. BASIC WIND SPEED	V3s: ---
26. MINIMUM GROUND SNOW LOAD	pg: ---
27. SEISMIC DATA	PGA: --- S1: ---

**PILE DRIVING AND TESTING REQUIREMENTS**

1. NOMINAL PILE DRIVING CAPACITY	550,000 KIP
2. PILE TEST RESISTANCE FACTOR	φ = 0.65
3. MAXIMUM PILE TIP ELEVATION	517 FT
4. 0	

PROJECT NAME: JAMAICA  
 PROJECT NUMBER: BRO 1442(27)  
 FILE NAME: s99688qs.xls PLOT DATE: 10/16/2009  
 PROJECT LEADER: K. HIGGINS DRAWN BY: P. PELLET  
 DESIGNED BY: J. LACROIX CHECKED BY: J. LACROIX  
 PRELIMINARY INFORMATION SHEET 1 SHEET 2 OF 44