

PRELIMINARY INFORMATION SHEET

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WINGWALL NO. 4 REINFORCING 62. CORNER DETAILS 63-65. BRIDGE RAIL DETAILS 66. PEDESTRIAN RAIL DETAILS 67-68. REINFORCING SCHEDULE 69. BLANK 70-84. ROADWAY SECTIONS 85-96. CHANNEL LINE SECTIONS 97-106. DETOUR SECTIONS</p>	<div style="text-align: right;">Date: March 2000</div> <p>HYDROLOGIC DATA</p> <p>DRAINAGE AREA: 3.8 sq. mi. CHARACTER OF TERRAIN: Hilly with a mixture of open and forested cover. STREAM CHARACTERISTICS: Small, perennial but flashy, probably incised and not braided NATURE OF STREAMBED: Ledge and cobbles upstream, cobbles and gravel downstream</p> <p>PEAK FLOW DATA</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Q 2.33 = 230 cfs</td> <td>Q 50 = 915 cfs</td> </tr> <tr> <td>Q 10 = 520 cfs</td> <td>Q 100 = 1100 cfs</td> </tr> <tr> <td>Q 25 = 730 cfs</td> <td>Q 500 = 1700 cfs</td> </tr> </table> <p>DATE OF FLOOD RECORD: November 1927 (Based on 1978 Flood Insurance Study) ESTIMATED DISCHARGE: Unknown WATER SURFACE ELEV.: Unknown NATURAL STREAM VELOCITY: @ Q50 = 8.9 fps downstream ICE CONDITIONS: Moderate DEBRIS: Moderate 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:</p> <p>WATERSHED STORAGE: 1% HEADWATERS: UNIFORM: X IMMEDIATELY ABOVE SITE:</p> <p>EXISTING STRUCTURE INFORMATION</p> <p>STRUCTURE TYPE: Concrete slab bridge YEAR BUILT: 1900 CLEAR SPAN(NORMAL TO STREAM): 12.0 ft. VERTICAL CLEARANCE ABOVE STREAMBED: 7.0 ft. average at inlet WATERWAY OF FULL OPENING: 85 sq. ft. at inlet, 105 sq. ft. at outlet DISPOSITION OF STRUCTURE: Remove and replace with a new structure TYPE OF MATERIAL UNDER SUBSTRUCTURE: At least partly on ledge</p> <p>WATER SURFACE ELEVATIONS AT:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Q2.33 = 869.9</td> <td>VELOCITY = 9.0 fps</td> </tr> <tr> <td>Q10 = 874.7</td> <td>11.2 fps</td> </tr> <tr> <td>Q25 = 876.3</td> <td>12.5 fps</td> </tr> <tr> <td>Q50 = 877.3</td> <td>12.8 fps**</td> </tr> <tr> <td>Q100 = 878.0</td> <td>12.0 fps**</td> </tr> </table> <p>LONG TERM STREAMBED CHANGES: None noted at this time. However, a reference was found indicating there has been 3 ft. of channel degradation in the last 100 years.</p> <p>IS THE ROADWAY OVERTOPPED BELOW Q100: Yes FREQUENCY: Q25 + RELIEF ELEVATION: 876.3 DISCHARGE OVER ROAD @Q100: 220 cfs</p> <p>UPSTREAM STRUCTURE</p> <p>TOWN: Williamstown DISTANCE: 600 ft. HIGHWAY #: T.H. 6 STRUCTURE #: 21 CLEAR SPAN: 15 ft. CLEAR HEIGHT: 7 ft. YEAR BUILT: Unknown FULL WATERWAY: 105 sq. ft. STRUCTURE TYPE: Single span steel beam bridge</p> <p>DOWNSTREAM STRUCTURE</p> <p>TOWN: Williamstown DISTANCE: 400 ft. HIGHWAY #: VT 14 STRUCTURE #: 59 CLEAR SPAN: 16 ft. CLEAR HEIGHT: 7 ft. YEAR BUILT: 1958 FULL WATERWAY: 110 sq. ft. STRUCTURE TYPE: Concrete slab bridge</p> <p>LOAD FACTOR- LOAD RATING (TONS)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">LOADING LEVELS</th> <th colspan="6">TRUCK</th> </tr> <tr> <th>H</th> <th>HS</th> <th>SS2</th> <th>6 AXLE</th> <th>3A. STR.</th> <th>4A. STR.</th> </tr> </thead> <tbody> <tr> <td>INVENTORY</td> <td>33.5</td> <td>50.3</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>POSTED</td> <td>46.8</td> <td>70.5</td> <td>91.5</td> <td></td> <td>54</td> <td>56.6</td> </tr> <tr> <td>OPERATING</td> <td>84</td> <td>109.</td> <td>102.</td> <td></td> <td>64.4</td> <td>67.5</td> </tr> </tbody> </table> <p>COMMENTS:</p> <p>TRAFFIC DATA</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>YEAR</th> <th>ADT</th> <th>DHV</th> <th>% D</th> <th>% T</th> <th>ADTT</th> </tr> </thead> <tbody> <tr> <td>2004</td> <td>3000</td> <td></td> <td>0</td> <td>7</td> <td>210</td> </tr> <tr> <td>2024</td> <td>4000</td> <td>550</td> <td>51</td> <td>0</td> <td>0</td> </tr> </tbody> </table> <p>20 year ESAL for flexible pavement from 2004 to 2024 : 1,285,000 40 year ESAL for flexible pavement from 2004 to 2044 : 3,044,000 Design Speed: 25 mph</p> <p>PROPOSED STRUCTURE</p> <p>STRUCTURE TYPE: Concrete slab bridge CLEAR SPAN(NORMAL TO STREAM): 16.0 ft. VERTICAL CLEARANCE ABOVE STREAMBED: 8.0 ft. average WATERWAY OF FULL OPENING: 137 sq. ft.</p> <p>WATER SURFACE ELEVATIONS AT:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Q2.33 = 871.8</td> <td>VELOCITY = 8.3 fps</td> </tr> <tr> <td>Q10 = 873.6</td> <td>10.7 fps</td> </tr> <tr> <td>Q25 = 875.1</td> <td>11.9 fps</td> </tr> <tr> <td>Q50 = 876.2</td> <td>12.8 fps</td> </tr> <tr> <td>Q100 = 877.3</td> <td>13.5 fps**</td> </tr> </table> <p>IS THE ROADWAY OVERTOPPED BELOW Q100: Yes FREQUENCY: Q65 RELIEF ELEVATION: 876.3 DISCHARGE OVER ROAD @Q100: 25 cfs</p> <p>AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 877.6 (876.5 minimum) at inlet VERTICAL CLEARANCE: @ Q50 = 1.4 ft., average 0.3 ft. minimum at inlet</p> <p>SCOUR: Estimated to be 6.0 ft. at Q100, or to ledge. Scour will be less with the proposed bridge than with the existing bridge. REQUIRED CHANNEL PROTECTION: Stone Fill, Type II, as needed</p> <p>PERMIT INFORMATION</p> <p>AVERAGE DAILY FLOW: 8 cfs DEPTH OR ELEVATION: ORDINARY LOW WATER: 4 cfs 0.5 ft. ORDINARY HIGH WATER: 100 cfs 1.5 ft.</p> <p>TEMPORARY BRIDGE REQUIREMENTS</p> <p>STRUCTURE TYPE: N/A CLEAR SPAN (NORMAL TO STREAM): N/A VERTICAL CLEARANCE ABOVE STREAMBED: N/A WATERWAY AREA OF FULL OPENING: N/A</p> <p>ADDITIONAL INFORMATION</p> <p>* This stream does not have an official name. It was referred to as Brook 2 in the 1978 F.I.S. ** Velocities listed are an average for the total flow (flow through the bridge and over the road) at the outlet. The Q100 velocity is higher for the proposed bridge than the existing bridge, because there is less roadway overflow with the proposed bridge.</p> <p>DESIGN CRITERIA</p> <ol style="list-style-type: none"> DESIGN LIVE LOAD AASHTO: HS 25 DESIGN SPAN: 38 Feet centerline to centerline of bearing ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ON LEDGE ALLOWABLE LOAD FOR PILING TYPE ESTIMATED LENGTH STRUCTURAL STEEL AASHTO GRADE: N/A REINFORCING STEEL GRADE: 60 CONCRETE CLASS A (HPC-A) f'c: 4000 psi CONCRETE CLASS B (HPC-B) f'c: 3500 psi CONCRETE CLASS AA: 4000 psi SOIL UNIT WEIGHT: 140 pcf DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL <p>TRAFFIC MAINTENANCE</p> <ol style="list-style-type: none"> IS TRAFFIC TO BE MAINTAINED? no - detour to be used IF YES, ON EXISTING STRUCTURE? N/A OR ON TEMPORARY BRIDGE? N/A ONE OR TWO-WAY TRAVEL? N/A TRAFFIC CONTROL SIGNALS REQUIRED? N/A ARE SIDEWALKS REQUIRED? no IF SO, ON WHAT SIDE? N/A <p>PROJECT NAME: Williamstown PROJECT NUMBER: BRS 0204 (4)</p> <p>FILE NAME: W3e111se111excel.dgn PLOT DATE: 4/10/2007 PROJECT MANAGER: Evans-Mongeon DRAWN BY: MEM DESIGNED BY: Evans-Mongeon CHECKED BY: MEM PRELIMINARY INFORMATION SHEET SHEET 6 OF 20</p>	Q 2.33 = 230 cfs	Q 50 = 915 cfs	Q 10 = 520 cfs	Q 100 = 1100 cfs	Q 25 = 730 cfs	Q 500 = 1700 cfs	Q2.33 = 869.9	VELOCITY = 9.0 fps	Q10 = 874.7	11.2 fps	Q25 = 876.3	12.5 fps	Q50 = 877.3	12.8 fps**	Q100 = 878.0	12.0 fps**	LOADING LEVELS	TRUCK						H	HS	SS2	6 AXLE	3A. STR.	4A. STR.	INVENTORY	33.5	50.3					POSTED	46.8	70.5	91.5		54	56.6	OPERATING	84	109.	102.		64.4	67.5	YEAR	ADT	DHV	% D	% T	ADTT	2004	3000		0	7	210	2024	4000	550	51	0	0	Q2.33 = 871.8	VELOCITY = 8.3 fps	Q10 = 873.6	10.7 fps	Q25 = 875.1	11.9 fps	Q50 = 876.2	12.8 fps	Q100 = 877.3	13.5 fps**
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