

PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

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RAPIDLY? No</p> <p>IS ORDINARY RISE RAPID? Yes</p> <p>IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No</p> <p>IF YES, DESCRIBE:</p> <p>WATERSHED STORAGE: 1% HEADWATERS: UNIFORM. X</p> <p>IMMEDIATELY ABOVE SITE.</p> <p>EXISTING STRUCTURE INFORMATION</p> <p>STRUCTURE TYPE: Single span steel beam bridge with concrete deck</p> <p>YEAR BUILT: 1939</p> <p>CLEAR SPAN(NORMAL TO STREAM): 56'</p> <p>VERTICAL CLEARANCE ABOVE STREAMBED: 9.5'</p> <p>WATERWAY OF FULL OPENING: 440 sq. ft.</p> <p>DISPOSITION OF STRUCTURE: Remove</p> <p>TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown</p> <p>WATER SURFACE ELEVATIONS AT:</p> <p>Q2.33 = 593.3' VELOCITY = 8.1 fps</p> <p>Q10 = 595.3' " 9.8 fps</p> <p>Q25 = 596.6' " 10.4 fps</p> <p>Q50 = 597.5' " 11.0 fps</p> <p>Q100 = 600.7' " 10.1 fps</p> <p>LONG TERM STREAMBED CHANGES: There is a gravel bar in the middle of the channel at the bridge, with flow along both abutments. No other streambed changes were noted.</p> <p>IS THE ROADWAY OVERTOPPED BELOW Q100: No</p> <p>FREQUENCY: Above Q100</p> <p>RELIEF ELEVATION: 601.0'</p> <p>DISCHARGE OVER ROAD @Q100: None</p> <p>UPSTREAM STRUCTURE</p> <p>TOWN: Bethel DISTANCE: 2490'</p> <p>HIGHWAY #: T.H. 79 STRUCTURE #: 48</p> <p>CLEAR SPAN: 37' CLEAR HEIGHT: 15'</p> <p>YEAR BUILT: 1927 FULL WATERWAY: 320 sq. ft.</p> <p>STRUCTURE TYPE: Single span concrete T-beam bridge</p> <p>DOWNSTREAM STRUCTURE</p> <p>TOWN: Bethel DISTANCE: 2000'</p> <p>HIGHWAY #: VT 107 STRUCTURE #: 12</p> <p>CLEAR SPAN: 180' CLEAR HEIGHT: 20'</p> <p>YEAR BUILT: 1959 FULL WATERWAY: 2700 sq. ft.</p> <p>STRUCTURE TYPE: Two span steel beam bridge with concrete deck</p> <p>LRFR LOAD RATING FACTORS</p> <table border="1"> <thead> <tr> <th rowspan="2">LOADING LEVELS</th> <th colspan="6">TRUCK</th> </tr> <tr> <th>H-20</th> <th>H-16.33</th> <th>SS2</th> <th>6 AXLE</th> <th>3A STR</th> <th>3A SEM</th> </tr> </thead> <tbody> <tr> <td>TORNIAGE</td> <td>20</td> <td>36</td> <td>36</td> <td>66</td> <td>30</td> <td>38</td> </tr> <tr> <td>INVENTORY</td> <td>3.24</td> <td>1.13</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>POSTING</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>OPERATING</td> <td>4.21</td> <td>1.46</td> <td>1.85</td> <td>1.13</td> <td>1.86</td> <td>1.65</td> </tr> </tbody> </table> <p>COMMENTS:</p>	LOADING LEVELS	TRUCK						H-20	H-16.33	SS2	6 AXLE	3A STR	3A SEM	TORNIAGE	20	36	36	66	30	38	INVENTORY	3.24	1.13					POSTING							OPERATING	4.21	1.46	1.85	1.13	1.86	1.65	<p>STRUCTURE TYPE: Single span steel beam bridge with concrete deck</p> <p>CLEAR SPAN(NORMAL TO STREAM): 73'</p> <p>VERTICAL CLEARANCE ABOVE STREAMBED: 11'</p> <p>WATERWAY OF FULL OPENING: 620 sq. ft.</p> <p>WATER SURFACE ELEVATIONS AT:</p> <p>Q2.33 = 592.7' VELOCITY = 7.7 fps</p> <p>Q10 = 594.8' " 8.3 fps</p> <p>Q25 = 596.0' " 8.5 fps</p> <p>Q50 = 596.9' " 8.5 fps</p> <p>Q100 = 597.9' " 8.7 fps</p> <p>IS THE ROADWAY OVERTOPPED BELOW Q100: No</p> <p>FREQUENCY: Above Q100</p> <p>RELIEF ELEVATION: 602.7'</p> <p>DISCHARGE OVER ROAD @Q100: None</p> <p>AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 598.6'</p> <p>VERTICAL CLEARANCE: @ Q50 = 1.7'</p> <p>SCOUR: 3.3' of scour up to a Q500.</p> <p>REQUIRED CHANNEL PROTECTION: Stone Fill, Type III</p> <p>PERMIT INFORMATION</p> <p>AVERAGE DAILY FLOW: 35 cfs DEPTH OR ELEVATION: Depth = 0.6'</p> <p>ORDINARY LOW WATER: 20 cfs " Depth = 2.6'</p> <p>ORDINARY HIGH WATER: 320 cfs</p> <p>TEMPORARY BRIDGE REQUIREMENTS</p> <p>STRUCTURE TYPE: Single span bridge</p> <p>CLEAR SPAN (NORMAL TO STREAM): 56' minimum</p> <p>VERTICAL CLEARANCE ABOVE STREAMBED: Minimum beam elev. 597.1'</p> <p>WATERWAY AREA OF FULL OPENING: 400 sq. ft. minimum</p> <p>ADDITIONAL INFORMATION</p> <p>TRAFFIC MAINTENANCE NOTES</p> <ol style="list-style-type: none"> 1. MAINTAIN TWO-WAY TRAFFIC ON A TEMPORARY BRIDGE. 2. TRAFFIC SIGNALS ARE NOT NECESSARY. 3. SIDEWALKS ARE NOT NECESSARY. 4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED. <p>DESIGN VALUES</p> <ol style="list-style-type: none"> 1. DESIGN LIVE LOAD: HL-93 2. FUTURE PAVEMENT: d_p: 3.0 INCH 3. DESIGN SPAN: L: 117.00 FT 4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ: --- 5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX) f_y: 270 KSI 6. PRESTRESSED CONCRETE STRENGTH f'_c: 6.0 KSI 7. PRESTRESSED CONCRETE RELEASE STRENGTH f'_{cr}: 5.0 KSI 8. CONCRETE, HIGH PERFORMANCE CLASS AA f'_c: 4.0 KSI 9. CONCRETE, HIGH PERFORMANCE CLASS A f'_c: 4.0 KSI 10. CONCRETE, HIGH PERFORMANCE CLASS B f'_c: 3.5 KSI 11. CONCRETE, CLASS C f'_c: 3.0 KSI 12. REINFORCING STEEL f_y: 60 KSI 13. STRUCTURAL STEEL AASHTO M270 (WEATHERING) f_y: 50 KSI 14. SOIL UNIT WEIGHT γ: 0.140 KCF 15. NOMINAL BEARING RESISTANCE OF SOIL q_p: 4.0 KSF 16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ: --- 17. NOMINAL BEARING RESISTANCE OF ROCK q_p: 10.0 KSF 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: --- <p>PROJECT NAME: BETHEL</p> <p>PROJECT NUMBER: BHF 0241(30)S</p> <p>FILE NAME: r95c002PLxIs PLOT DATE: 10/22/2009</p> <p>PROJECT LEADER: MEVANS-MONGEON DRAWN BY: G.ROKES</p> <p>DESIGNED BY: U.STANLEY CHECKED BY: U.STANLEY</p> <p>PRELIMINARY INFORMATION SHEET 1 ROW SHEET 12 OF 18</p>
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<p>TRAFFIC DATA</p> <table border="1"> <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>2007</td> <td>1300</td> <td>190</td> <td>60</td> <td>6</td> <td>120</td> </tr> <tr> <td>2027</td> <td>1600</td> <td>230</td> <td>60</td> <td>9</td> <td>230</td> </tr> </tbody> </table> <p>20 year ESAL for flexible pavement from 2007 to 2027 : 727000</p> <p>40 year ESAL for flexible pavement from 2007 to 2047 : 1748000</p> <p>Design Speed: 50 mph</p>			YEAR	ADT	DHV	% D	% T	ADTT	2007	1300	190	60	6	120	2027	1600	230	60	9	230	<p>TEMPORARY BRIDGE PROFILE ALONG TEMP CL</p> <p>BOTTOM OF BEAMS ELEV. = 597.10 FT</p>																								
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