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DETAIL SHEET #1</p> <p>83 - 85 ROW LAYOUT SHEETS</p>						<p>B-71 STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES 07-08-2005</p> <p>C-10 CURBING 02-11-2008</p> <p>E-100 CONSTRUCTION APPROACH SIGNS 01-02-2004</p> <p>E-100A SIDE ROAD CONSTRUCTION - APPROACH SIGNS 01-02-2004</p> <p>E-101 CONSTRUCTION SIGN DETAILS 05-30-2003</p> <p>E-102 CONSTRUCTION SIGN DETAILS 06-30-2003</p> <p>E-102A CONSTRUCTION SIGN DETAILS 05-01-2004</p> <p>E-107 DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS 06-30-2003</p> <p>E-107A BREAKAWAY BARRICADE DETAILS 06-08-2009</p> <p>E-121 STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD 08-08-1995</p> <p>E-134 BRIDGE NUMBER PLAQUE 08-08-1995</p> <p>E-154 WARNING SIGN DETAILS 05-01-2004</p> <p>E-164 SQUARE STEEL SIGN POST 06-08-2009</p> <p>G-1 STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS) 01-03-2000</p> <p>G-1D STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN) 01-03-2000</p>						<p>Date: Feb. 2012</p> <p>DRAINAGE AREA : 34.2 sq. mi.</p> <p>CHARACTER OF TERRAIN : Hilly to mountainous</p> <p>STREAM CHARACTERISTICS : Sinuos, semi-alluvial and probably incised, flood damaged</p> <p>NATURE OF STREAMBED : Cobbles, boulders and gravel</p> <p>PEAK FLOW DATA</p> <p>Q 2.33 = 1,800 cfs Q 50 = 7,275 cfs</p> <p>Q 10 = 4,200 cfs Q 100 = 8,975 cfs</p> <p>Q 25 = 5,750 cfs Q 500 = 13,150 cfs</p> <p>DATE OF FLOOD OF RECORD : Unknown</p> <p>ESTIMATED DISCHARGE : Unknown</p> <p>WATER SURFACE ELEV. : Unknown</p> <p>NATURAL STREAM VELOCITY : @ Q50 = 14.0 fps</p> <p>ICE CONDITIONS : Slight to moderate</p> <p>DEBRIS : Moderate</p> <p>DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. 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 : _____</p> <p>UNIFORM : X</p> <p>IMMEDIATELY ABOVE SITE : _____</p> <p>EXISTING STRUCTURE INFORMATION</p> <p>STRUCTURE TYPE : Two span steel beam bridge. (Damaged in flood and removed in 2011)</p> <p>YEAR BUILT : Built in 1937 and reconstructed in 1975</p> <p>CLEAR SPAN(NORMAL TO STREAM): Two spans at 56.5' = 113' total clear span</p> <p>VERTICAL CLEARANCE ABOVE STREAMBED : 18'</p> <p>WATERWAY OF FULL OPENING : 1535 sq. ft.</p> <p>DISPOSITION OF STRUCTURE : It has been removed</p> <p>TYPE OF MATERIAL UNDER SUBSTRUCTURE : See boring logs.</p> <p>WATER SURFACE ELEVATIONS AT:</p> <p>Q2.33 = 672.7' VELOCITY = 9.4 fps</p> <p>Q10 = 674.8' " 12.0 fps</p> <p>Q25 = 675.9' " 13.1 fps</p> <p>Q50 = 677.0' " 13.8 fps</p> <p>Q100 = 678.4' " 14.3 fps</p> <p>LONG TERM STREAMBED CHANGES : The stream bed appears to have lowered about 3' from 1937 to 2006. It may have lowered several more feet during 2011 flooding.</p> <p>IS THE ROADWAY OVERTOPPED BELOW Q100: No</p> <p>FREQUENCY : Above Q100</p> <p>RELIEF ELEVATION : 682.4'</p> <p>DISCHARGE OVER ROAD @Q100: None</p>					<p>STRUCTURE TYPE: 2 span steel beam bridge</p> <p>CLEAR SPAN(NORMAL TO STREAM): Two spans at 87.5' = 175' total</p> <p>VERTICAL CLEARANCE ABOVE STREAMBED: 16'</p> <p>WATERWAY OF FULL OPENING: 1790 sq. ft.</p> <p>WATER SURFACE ELEVATIONS AT:</p> <p>Q2.33 = 672.7' VELOCITY = 9.4 fps</p> <p>Q10 = 674.8' " 12.1 fps</p> <p>Q25 = 675.8' " 13.2 fps</p> <p>Q50 = 676.9' " 14.0 fps</p> <p>Q100 = 678.2' " 14.6 fps</p> <p>IS THE ROADWAY OVERTOPPED BELOW Q100: No</p> <p>FREQUENCY: Above Q100</p> <p>RELIEF ELEVATION: 682.4'</p> <p>DISCHARGE OVER ROAD @Q100: None</p> <p>AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 681.6'</p> <p>VERTICAL CLEARANCE: @ Q50 = 4.7'</p> <p>SCOUR: Long term channel degradation is estimated to be 3'.</p> <p>Total scour at the pier = 8' at Q100 and 9' at Q500.</p> <p>REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV</p> <p>PERMIT INFORMATION</p> <p>AVERAGE DAILY FLOW: 70 cfs DEPTH OR ELEVATION:</p> <p>ORDINARY LOW WATER: 30 cfs Depth = 1'</p> <p>ORDINARY HIGH WATER: 770 cfs Depth = 4'</p> <p>TEMPORARY BRIDGE REQUIREMENTS</p> <p>STRUCTURE TYPE: The temporary bridge is already in place.</p> <p>CLEAR SPAN (NORMAL TO STREAM): _____</p> <p>VERTICAL CLEARANCE ABOVE STREAMBED: _____</p> <p>WATERWAY AREA OF FULL OPENING: _____</p> <p>ADDITIONAL INFORMATION</p> <p>The existing bridge was removed due to 2011 flood damage. The channel is now different than before the flood, due to flood damage and channel work. Existing bridge hydraulics is based on information from record plans combined with the new post-flood project survey. So it may not truly reflect the pre-flood conditions. The channel may change in the future as it tries to restabilize.</p>																																											
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<p>SD-501.00 CONCRETE DETAILS AND NOTES 04-07-2010</p> <p>SD-602.00 CONCRETE DETAILS AND NOTES 05-04-2010</p> <p>SD-616.10 BRIDGE JOINT ASPHALTIC PLUG 04-07-2010</p> <p>SD-801.00 STRUCTURAL STEEL DETAILS & NOTES 05-04-2010</p> <p>SD-602.00 STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES 04-02-2011</p>																																																												
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YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2013 to 2033 : 1331000																																																						
2013	1200	170	54	17.9	160	40 year ESAL for flexible pavement from 2013 to 2053 : 2965000																																																						
2033	1300	180	54	25.1	250	Design Speed : 50 mph																																																						
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						<p>DESIGN VALUES</p> <p>1. DESIGN LIVE LOAD HL 93</p> <p>2. FUTURE PAVEMENT d_p: 2.5 INCH</p> <p>3. DESIGN SPAN L: 240.00 FT</p> <p>4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ: ---</p> <p>5. PRESTRESSING STRAND f_y: ---</p> <p>6. PRESTRESSED CONCRETE STRENGTH f'_c: ---</p> <p>7. PRESTRESSED CONCRETE RELEASE STRENGTH f'_{cr}: ---</p> <p>8. CONCRETE, HIGH PERFORMANCE CLASS A HIGH STRENGTH f'_c: 6.0 KSI</p> <p>9. CONCRETE, HIGH PERFORMANCE CLASS A f'_c: 4.0 KSI</p> <p>10. CONCRETE, HIGH PERFORMANCE CLASS B f'_c: 3.5 KSI</p> <p>11. CONCRETE, CLASS C f'_c: --- KSI</p> <p>12. REINFORCING STEEL f_y: 60 KSI</p> <p>13. STRUCTURAL STEEL AASHTO M270 (WEATHERING) f_y: 60 KSI</p> <p>14. SOIL UNIT WEIGHT γ: 0.140 KCF</p> <p>15. NOMINAL BEARING RESISTANCE OF SOIL q_n: ---</p> <p>16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ: ---</p> <p>17. NOMINAL BEARING RESISTANCE OF ROCK q_n: ---</p> <p>18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ: ---</p> <p>19. NOMINAL AXIAL PILE RESISTANCE q_p: SEE PLANS</p> <p>20. PILE YIELD STRENGTH ASTM A572 f_y: 50 KSI</p> <p>21. PILE SIZE HP 14X102</p> <p>22. EST. PILE LENGTH L: SEE PLANS</p> <p>23. PILE RESISTANCE FACTOR ϕ: 0.65</p> <p>24. LATERAL PILE DEFLECTION Δ: 1" INCH</p> <p>25. BASIC WIND SPEED V_{3s}: ---</p> <p>26. MINIMUM GROUND SNOW LOAD P_g: ---</p> <p>27. SEISMIC DATA PGA: --- S_s: --- S_t: ---</p> <p>PROJECT NAME: JAMAICA</p> <p>PROJECT NUMBER: ER-BRF 013-1(16)</p> <p>FILE NAME: s11b212pi.xls PLOT DATE: 10/23/2012</p> <p>PROJECT LEADER: K. HIGGINS DRAWN BY: K. FRIEDLAND</p> <p>DESIGNED BY: G. LAROHE CHECKED BY: J. SALVATORI</p> <p>PRELIMINARY INFORMATION SHEET SHEET 2 OF 85</p>																																																						