

## PROJECT NOTES CONT'D...

### STONE FILL

52. STONE FILL, TYPE I AND II SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE STRUCTURAL STEEL HAS BEEN SET.
53. STONE FILL, TYPE III SHALL BE PLACED AROUND PIER NO. 1 BEFORE THE STRUCTURAL STEEL HAS BEEN SET.

### STRUCTURAL STEEL

54. ALL STRUCTURAL STEEL PAID UNDER ITEM 506.56, "STRUCTURAL STEEL, CURVED PLATE GIRDER (FPQ)" SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 50W.
55. AFTER THE STRUCTURAL STEEL HAS BEEN SET ON THE BEARINGS, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF EACH GIRDER UNDER THE DIRECTION OF THE RESIDENT ENGINEER. THESE ELEVATIONS SHALL BE USED IN DETERMINING THE FINAL GRADE.
56. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SECTION 506.
57. ANY HOLES IN FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BOLTS CONFORMING TO ASTM A325 TYPE III. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
58. THE FAYING SURFACES ON THE CONNECTION PLATES SHALL BE PREPARED AS CLASS "C". THESE SURFACES SHALL BE PROTECTED FROM DAMAGE AND CORROSION PRIOR TO THE CONNECTION.
59. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
60. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.
61. ALL MEMBERS MARKED (CVN) MUST MEET THE CHARPY V-NOTCH TESTING REQUIREMENTS AS INDICATED IN SUBSECTION 714.01.
62. BEARING STIFFENERS AND GIRDER ENDS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
63. GIRDERS AND DIAPHRAGMS SHALL BE FABRICATED SO THAT GIRDER WEBS ARE PLUMB UNDER FULL DEAD LOAD.
64. MEMBERS SHALL BE CURVED PRIOR TO WELDING THE CONNECTION PLATES AND BEARING STIFFENERS TO THE FLANGES.
65. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

### BACKFILL

66. THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK AND CURTAIN WALL HAVE BEEN POURED AND THE CURING PERIOD IS UP.

### REMOVAL AND REPAIR NOTES

67. REMOVAL OF EXISTING BRIDGE PAVEMENT SHALL BE PAID AS ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
68. THE CONTRACTOR'S METHODS FOR PARTIAL REMOVAL OF THE EXISTING STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY REMOVAL WORK.
69. THE ENGINEER SHALL ESTABLISH ACTUAL REMOVAL AND REPAIR LIMITS ON THE PIERS AFTER A JOINT INSPECTION BY THE CONTRACTOR AND THE ENGINEER. AREAS OF THE CONCRETE FOUND TO BE SPALLED, DELAMINATED, OR OTHERWISE UNSOUND WILL BE REMOVED. THE CONTRACTOR SHALL SUPPLY ANY STAGING AND LADDERS REQUIRED FOR THIS INSPECTION. EXISTING ELEVATIONS SHALL BE FIELD VERIFIED TO ENSURE THE REMOVAL LIMITS ARE ADEQUATE TO OBTAIN THE REQUIRED DIMENSIONS AND ELEVATIONS OF THE NEW CONSTRUCTION. ALL COSTS ASSOCIATED WITH THE INSPECTION AND FIELD VERIFICATION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
70. SAWCUTS SHALL BE 1 INCH DEEP AT THE LOCATIONS SHOWN AND ALONG ALL EXPOSED REMOVAL LINES WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE.
71. THE PIERS HAVE SIGNIFICANT AREAS OF CONCRETE REMOVAL AND REPAIR ESTIMATED ON SHEETS 54 AND 55. THIS ANTICIPATED WORK IS BASED UPON A SEPTEMBER 2009 INSPECTION AND IS FOR INFORMATION ONLY. ACTUAL REMOVAL LIMITS WILL BE ESTABLISHED DURING THE JOINT INSPECTION BY THE CONTRACTOR AND THE ENGINEER.
72. EXISTING REINFORCING STEEL EXPOSED DURING REMOVAL OPERATIONS, WITHIN THE LIMITS OF THE NEW SUBSTRUCTURE, SHALL BE RETAINED AND INCORPORATED INTO THE NEW SUBSTRUCTURE UNLESS OTHERWISE NOTED. EXISTING REINFORCING STEEL TO BE RETAINED SHALL BE CLEANED OF ALL CONCRETE, DIRT, RUST, PAINT, OIL AND OTHER FOREIGN SUBSTANCES. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".
73. THE ENGINEER SHALL ORDER REPLACEMENT OF ANY EXISTING SUBSTRUCTURE REINFORCING STEEL THAT IS DETERIORATED (WITH MORE THAN 25% SECTION LOSS) WITH NEW REINFORCING STEEL OF THE SAME SIZE. ALL REINFORCING STEEL SHALL HAVE A MINIMUM 2'-2" LAP SPLICE. ALL NEW SUBSTRUCTURE REINFORCING SHALL BE PAID UNDER ITEM 507.15, "REINFORCING STEEL".

### FIELD BENDING EXISTING REINFORCING BARS

74. THE CONTRACTOR SHALL SUBMIT A FIELD BENDING PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO FIELD BENDING THE REINFORCING BARS. THE CONTRACTOR SHALL USE A METHOD THAT AVOIDS DAMAGE TO THE EXISTING CONCRETE.
75. THE EXISTING FIELD BENDING SHALL NOT BE PERFORMED ON BAR SIZES NO. 14 TO 18, WHEN THE AIR TEMPERATURE IS LOWER THAN 45°F OR BY MEANS OF HAMMER BLOWS OR PIPE SLEEVES OR WHILE THE BAR TEMPERATURE IS IN THE RANGE OF 400 TO 700°F.
76. THE CONTRACTOR SHALL BEND THE BAR GRADUALLY USING A BENDING TOOL EQUIPPED WITH A BENDING DIAMETER AS FOLLOWS:  
  
HEAT NOT APPLIED (COLD BENDING)  
NO. 3 & NO. 4 - SIX (6) TIMES THE BAR DIAMETER  
NO. 5 & NO. 6 - EIGHT (8) TIMES THE BAR DIAMETER  
  
HEAT APPLIED  
NO. 7 TO NO. 9 - EIGHT (8) TIMES THE BAR DIAMETER  
NO. 10 & NO. 11 - TEN (10) TIMES THE BAR DIAMETER  
  
THE BAR SHALL BE STRAIGHTENED BY MOVING A HICKEY BAR (IF USED) PROGRESSIVELY AROUND THE BEND.
77. PER THE EXISTING PLANS (SEE SHEETS 75 AND 78) THE EXISTING DIAGONAL REINFORCING BARS ARE THE EQUIVALENT OF A NO. 6 BAR (3/4" IN DIAMETER). THEREFORE THE CONTRACTOR SHALL BEND THE EXISTING DIAGONAL REINFORCING BARS WITHOUT HEAT AS DESCRIBED ABOVE. IF IT IS DETERMINED IN THE FIELD THAT THE BAR SIZE IS GREATER THAN A NO. 6 BAR THEN THE CONTRACTOR SHALL HEAT BEND THE BAR IN ACCORDANCE WITH THE NOTES BELOW.
78. THE CONCRETE SHALL BE INSULATED WITHIN SIX (6) INCHES OF THE HEATED AREA. APPLY TWO (2) HEAT TIPS SIMULTANEOUSLY AT OPPOSITE SIDES OF THE BAR TO HEAT THE ENTIRE THICKNESS OF THE BAR INCLUDING ITS CENTER WITHIN THE BEND AREA.
79. ENSURE BY MEANS OF TEMPERATURE INDICATING CRAYONS, OR OTHER SUITABLE MEANS, THAT THE STEEL TEMPERATURE NEVER EXCEEDS THE MAXIMUM TEMPERATURE SHOWN BELOW:  
  
NO. 7 TO NO. 9 - 1,150 TO 1,250°F  
NO. 10 & NO. 11 - 1,200 TO 1,300°F  
  
MAINTAIN THE TEMPERATURE WITHIN THE REQUIRED RANGE SHOWN ABOVE DURING THE ENTIRE BENDING PROCESS.
80. BEND THE BAR IMMEDIATELY AFTER THE REQUIRED TEMPERATURE HAS BEEN REACHED. HEAT AT LEAST AS MUCH OF THE BAR AS INDICATED BELOW:  
  
NO. 7 TO NO. 9 - EIGHT (8) TIMES THE BAR DIAMETER  
NO. 10 & NO. 11 - NINE (9) TIMES THE BAR DIAMETER  
  
LOCATE THE HEATED SECTION OF THE BAR TO INCLUDE THE ENTIRE BENDING LENGTH AND NEVER COOL THE BARS ARTIFICIALLY WITH WATER, FORCED AIR, OR OTHER MEANS.

### ELASTOMERIC BEARING NOTES

81. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.
82. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.11 "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".
83. FABRICATION DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.
84. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
85. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS) SHALL BE AASHTO M 270M/M 270 GRADE 50.
86. ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 1'-3" INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08.
87. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTION 531.04(b). ANY FIELD WELDING OR DAMAGE DUE TO HANDLING SHALL BE PAINTED WITH A ZINC RICH PAINT IN ACCORDANCE WITH SECTION 513.
88. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 3/8" PLATE (MINIMUM). PAYMENT FOR DRILLING AND GROUTING OF ANCHOR BOLTS SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEM 531.11, "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".
89. ALTERNATE BEARING DESIGNS MAY BE SUBMITTED FOR APPROVAL.
90. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.



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PROJECT NOTES (2 OF 2) SHEET 32 OF 78