

## GENERAL

- 1) ABUTMENT 1 FIXED BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.11 "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD" AND ABUTMENT 2 INTEGRAL BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.14 "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT" BOTH SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.
- 2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS SPECIFIED IN THIS SECTION.
- 3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPRENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.
- 4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.
- 5) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.
- 6) STEEL REINFORCED ELASTOMERIC PADS SHALL BE WITHIN THE TOLERANCES LISTED IN TABLE 2 IN AASHTO M 251. EXTERNAL LOAD PLATES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION.
- 7) STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8 INCH EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.
- 8) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.
- 9) BRIDGE SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHTS SHOWN. PRIOR TO CASTING THE ABUTMENTS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING THE ABUTMENTS.
- 16) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.
- 17) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF 1/2 TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.
- 18) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 7.14.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 7.14.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.
- 19) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL GIRDER AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.
- 20) PRIOR TO WELDING BEAMS TO SOLE PLATES, THE CONCRETE DECK SHALL BE PLACED AND CURED, AND THE BEAMS SHALL BE RAISED TO ALLOW RELEASE OF INITIAL BEARING DEFORMATION DUE TO BEAM CAMBER RELAXATION.
- 21) GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A 780, STANDARD PRACTICE FOR REPAIR OF DAMAGED HOT DIPPED GALVANIZED COATINGS, ANNEX A2. THE PAINT USED IN THE REPAIR SHALL BE ORGANIC-RICH, CONTAINING 92 PERCENT (MIN.) ZINC BY WEIGHT IN THE DRY FILM. THE PAINT SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS TO A THICKNESS EQUIVALENT TO THE SURROUNDING GALVANIZING.
- 22) METALIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN NOTE 21.
- 23) DESIGN CRITERIA:
  - A) DESIGN ROTATION = 0.017 RAD
  - B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 15% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION
  - C) DESIGN LOAD PER BEARING  
DC1 = 77.1 KIPS  
DC2 = 8.1 KIPS  
DW = 15.9 KIPS  
LL = 103.7 KIPS  
HORIZONTAL LOAD = 436 KIPS
  - D) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

## ABUTMENT 2 INTEGRAL BEARINGS

- 10) THE PREFORMED BEARING PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.
- 11) BEARING SHALL BE SET LEVEL AND AS SHOWN ON THE PLANS WITHIN 0.03125 IN./FT. FOR PARALLEL ELEMENTS, WITH FULL AND UNIFORM BEARING. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.
- 12) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SURFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.
- 13) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.
- 14) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.
- 15) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.
- 24) DESIGN CRITERIA:
  - A) DESIGN ROTATION = 0.035 RAD
  - B) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 15% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION
  - C) DESIGN LOAD PER BEARING  
DC1 = 77.1 KIPS  
DC2 = 0.0 KIPS  
DW = 0.0 KIPS  
LL = 0.0 KIPS  
HORIZONTAL LOAD = 0.0 KIPS
  - D) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

PROJECT NAME: BETHEL  
PROJECT NUMBER: BHF 024I(30)

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BEARING NOTES

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SHEET 45 OF 64