

BRIDGE GENERAL NOTES

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

EXISTING PLANS:

PLANS OF THE EXISTING BRIDGE MAY BE OBTAINED FROM THE ODOT REPRODUCTION DEPARTMENT, 200 N.E. 21ST ST., OKLAHOMA CITY, OK. 73105. PROJECT NO. FAS-S-14 (2) S.

PILE DRIVING EQUIPMENT:

USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY SUFFICIENT TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE THE AXIAL LOAD RESISTANCES WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03(A)2.

ABUTMENT PILING CAPACITY:

THE FACTORED REACTION FOR EACH HP 10X42 PILE AT BOTH ABUTMENTS IS 67.17 TONS.

THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES.

$$\text{AXIAL LOAD RESISTANCE} = \emptyset [(0.875 \sqrt{E} \text{ LOG}_{10} (10N)) - 50]$$

WHERE:

- \emptyset = RESISTANCE FACTOR OF 0.4
- E = ENERGY PRODUCED BY THE HAMMER PER BLOW IN FOOT-POUNDS. FOR GRAVITY AND SINGLE ACTING DIESEL HAMMERS, THE VALUE IS BASED ON THE ACTUAL RAM STROKE OBSERVED IN THE FIELD AND MEASURED IN FEET MULTIPLIED BY THE RAM WEIGHT IN POUNDS.
- N = AVERAGE NUMBER OF HAMMER BLOWS PER INCH OF PILE PENETRATION FOR THE LAST 10 TO 20 BLOWS DELIVERED TO THE PILE HEAD.

THE ABOVE FORMULA IS ONLY APPLICABLE WHEN:

- 1) THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & SINGLE ACTING HAMMERS ONLY).
- 2) THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED.
- 3) THE PENETRATION IS QUICK AND UNIFORM.
- 4) THERE IS NO APPRECIABLE REBOUND OF THE HAMMER.
- 5) A FOLLOWER IS NOT USED.

THE NUMBER OF BLOWS PER INCH OF PILE PENETRATION MAY BE MEASURED EITHER DURING INITIAL DRIVING OR BY RE-DRIVING WITH A WARM HAMMER OPERATED AT FULL ENERGY AFTER A PILE SET PERIOD. AS DETERMINED BY THE ENGINEER.

IF WATER JETS ARE USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

STAY-IN-PLACE FORMS:

STAY-IN-PLACE STEEL DECK FORMS SHALL NOT BE USED.

SPECIAL CONCRETE FINISH:

THE SPECIAL CONCRETE FINISH SHALL BE A LIQUID APPLIED URETHANE COATING SUCH AS CIM 1000 AS MANUFACTURED BY CIM INDUSTRIES, INC., IM-129 AS MANUFACTURED BY CUSTOM LININGS, OR AN APPROVED EQUAL.

THE SPECIAL CONCRETE FINISH SHALL BE APPLIED TO THE AREAS SHOWN IN THE PLANS. THE FINISH SHALL BE NEAT STRAIGHT LINES FOR APPROVAL.

THE EQUIPMENT AND METHODS OF APPLYING THE URETHANE COATING SHALL BE IN ACCORDANCE WITH THE PRODUCT COATING PROFILE AND INSTRUCTION GUIDES FOR APPLICATION FOR APPLICATION TO CONCRETE. PRECAUTIONARY MEASURES SHALL BE IN ACCORDANCE WITH THE MATERIAL SAFETY DATA SHEETS AS PROVIDED BY THE MANUFACTURER.

THE COATING SHALL BE 60 MILS DRY THICKNESS AND 68 MILS WET THICKNESS. IN ADDITION TO APPLYING THE COATING TO THE CONCRETE SUBSTRUCTURE UNITS AS SHOWN IN THE PLANS, THE COATING SHALL RETURN UP THE VERTICAL SURFACES OF THE PIER AND ABUTMENT BEARING PADS TO PROVIDE A WATER TIGHT SEAL WITH THE CONCRETE PEDESTALS. SURFACE PREPARATION AND PRODUCT MIXING SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS AND ALL NEW CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3,000 PSI AT THE TIME OF APPLICATION. PRIMER SHALL BE APPLIED TO THE CONCRETE SURFACES PRIOR TO APPLYING THE COATING. ALL CONCRETE WORK SHALL BE COMPLETED PRIOR TO THE APPLICATION OF THE SPECIAL CONCRETE FINISH.

WATER REPELLENT WILL NOT BE REQUIRED ON SURFACES THAT ARE COATED WITH SPECIAL CONCRETE FINISH.

ALL COSTS ASSOCIATED WITH THE USE OF THE SPECIAL CONCRETE FINISH INCLUDING THE COST OF MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO COMPLETE THE WORK AS SPECIFIED IN THE PLANS AND SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "SPECIAL CONCRETE FINISH".

BRIDGE GENERAL NOTES CONT'D.

WATER REPELLENT:

A PENETRATING WATER REPELLENT SURFACE TREATMENT SHALL BE APPLIED TO THE CONCRETE SURFACES OF THE BRIDGE AS SHOWN ON THE PLANS. PIER CAP SHALL BE TREATED ON ALL VERTICAL FACES AND THE BOTTOM FACE FOR THE CAP CANTILEVER EXCEPT WHERE SPECIAL CONCRETE FINISH IS APPLIED.

APPROACH SLAB:

CLASS AA CONCRETE SHALL BE USED IN THE APPROACH SLABS. THE QUANTITY GIVEN IS BASED ON THE ACTUAL SQUARE YARDS OF THE APPROACH SLABS. THE CONTRACT UNIT PRICE FOR APPROACH SLAB SHALL BE FULL COMPENSATION FOR CONCRETE, REINFORCING STEEL, BACKER RODS, RAPID CURE JOINT SEALANT, POLYSTYRENE, LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO COMPLETE THE WORK AS SPECIFIED IN THE PLANS.

STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 (ASTM A709) GRADE 50W, UNLESS SHOWN OR NOTED OTHERWISE. HIGH STRENGTH FASTENERS SHALL CONFORM TO ASTM M164 (ASTM A325), TYPE 3. NUTS, WASHERS, AND WELDING SHALL HAVE WEATHERING CHARACTERISTICS.

ERECTED GIRDERS SHALL HAVE ALL DIAPHRAGM CONNECTIONS COMPLETED PRIOR TO LEAVING JOBSITE AT THE END OF EACH DAY.

CLSM BACKFILL:

THE CLSM BACKFILL MUST BE PLACED IN TWO LIFTS OF EQUAL HEIGHTS AT BOTH ABUTMENT 1 AND ABUTMENT 2. SEE STANDARD SPECIFICATIONS REGARDING CURING CLSM.

PERFORATED PIPE UNDERDRAIN ROUND:

"PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES ALL COSTS OF PERFORATED PIPE AND OF UNDERDRAIN COVER MATERIAL, BOTH COARSE AND FINE, FOR EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND PIPE UNDERDRAIN COVER MATERIAL SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3.

ALL COSTS OF THE PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "6" PERFORATED PIPE UNDERDRAIN ROUND".

NON-PERFORATED PIPE UNDERDRAIN ROUND:

"6" NON-PERF. PIPE UNDERDRAIN - RND." INCLUDES ALL COSTS OF NON-PERFORATED PIPE, TRENCH EXCAVATION AND STANDARD BEDDING MATERIAL FOR EACH ABUTMENT. THE INSTALLATION OF THE NON-PERFORATED PIPE SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3.

ALL COSTS OF THE NON-PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING BACKFILLING, LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "6" NON-PERF. PIPE UNDERDRAIN RND.".

WEATHERING STEEL FIXED BEARING ASSEMBLY:

PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE AND SHAPE DETAILED IN THE PLANS AT THE ABUTMENTS. THERE IS AN ESTIMATED TOTAL WEIGHT OF 1,040 LBS. OF STRUCTURAL STEEL FOR 12 FIXED BEARINGS.

INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ANCHOR PLATES AND ANCHOR BOLTS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS IN THE PRICE BID PER EACH OF "WEATHERING STEEL FIXED BEARING ASSEMBLY".

STAINLESS STEEL EXPANSION BEARING ASSEMBLY:

PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE AND SHAPE DETAILED IN THE PLANS. THERE IS AN ESTIMATED TOTAL WEIGHT OF 4,280 LBS. OF STRUCTURAL STEEL FOR 24 EXPANSION BEARINGS.

INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS, ANCHOR PLATES, CONTACT ANGLES, ANCHOR BOLTS, NUTS AND WASHERS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS IN THE PRICE BID PER EACH OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLY".

ELASTOMERIC BEARING PADS:

PROVIDE AND INSTALL ELASTOMERIC BEARING PADS BETWEEN THE TOP SURFACE OF STEEL BEAMS AND THE BOTTOM SURFACE OF THE BRIDGE SLAB. THE ELASTOMERIC PADS ARE TO BE THE SIZE AND SHAPE AS DETAILED IN THE PLANS AND LOCATED AT EACH BEAM END ABOVE THE PIERS.

INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS ABOVE THE BEAMS, INCLUDING ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS IN THE PRICE BID PER "ELASTOMERIC BEARING PADS".

BRIDGE GENERAL NOTES CONT'D.

TEMPORARY EARTH RETAINAGE:

THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EARTH RETAINAGE AS REQUIRED FOR CONSTRUCTABILITY. LOCATIONS AND EXTENTS OF TEMPORARY EARTH RETAINAGE SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE FINAL LOCATIONS AND EXTENTS.

TEMPORARY EARTH RETAINAGE SHALL BE INSTALLED TO RETAIN THE EXISTING BRIDGE HEADERS AND THE BACKFILL BEHIND THE NEW ABUTMENTS DURING CONSTRUCTION PHASE 1 IN A MANNER APPROVED BY THE ENGINEER.

ALL REMOVED TEMPORARY EARTH RETAINAGE SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER AND IN ACCORDANCE WITH SECTION 619.04(B)2 OF THE STANDARD SPECIFICATIONS.

TEMPORARY EARTH RETAINAGE SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA FOR THE IN-SITU CONDITIONS ON THIS PROJECT. IF TIE-BACKS OR STEEL PILES ARE REQUIRED AT SPECIFIC OR CRITICAL LOCATIONS, THOSE ELEMENTS SHALL ALSO BE DESIGNED AND SHOWN ON THE CALCULATIONS. FINAL SIGNED AND SEALED DESIGN CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

ALL COST FOR TEMPORARY EARTH RETAINAGE INCLUDING MATERIAL, ENGINEERING, LABOR, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM FOR "TEMPORARY EARTH RETAINAGE".

REMOVAL OF EXISTING BRIDGE:

REMOVAL CONSISTS OF 64'-80'-64' CONTINUOUS I-BEAM SPAN BRIDGE WITH A 28' CLEAR ROADWAY, CURBS AND CONCRETE TRAFFIC RAILS, NO SKEW.

SAWCUT THE EXISTING EAST BOUND BRIDGE DECK, REMOVE I-BEAMS, SAWCUT ABUTMENT AND REMOVE CONCRETE PILES TO 2 FT. BELOW THE PROPOSED FINISHED GRADE ACCORDING TO THE CONSTRUCTION PHASING IN THE PLANS.

REMOVE THE EXISTING WEST BOUND BRIDGE DECK, I-BEAMS, ABUTMENT AND CONCRETE PILES TO 2 FT. BELOW PROPOSED FINISHED GRADE ACCORDING TO THE CONSTRUCTION PHASING IN THE PLANS.

CONTRACTOR SHALL REMOVE PIERS TO 2 FT BELOW THE EXISTING GRADE AFTER COMPLETION OF PHASE 2 CONSTRUCTION.

THE EXISTING STRUCTURAL STEEL IS PAINTED WITH LEAD-BASED PAINT. THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS AND FOLLOW ALL NECESSARY REGULATIONS IN HANDLING AND TRANSPORTING ANY STRUCTURAL STEEL CONTAINING LEAD-BASED PAINT.

CONTRACTOR SHALL NOT ALLOW CONCRETE OR STEEL RUBBLE TO FALL INTO, OR REMAIN, IN THE CREEK.

THE BRIDGE BEAMS SHALL BECOME THE PROPERTY OF CRAIG COUNTY. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE THE BEAMS AND WILL STORE THE BEAMS ON THE PROJECT FOR THE COUNTY TO PICK UP. ONCE THE BEAMS ARE STORED THE CONTRACTOR SHALL GIVE WRITTEN NOTIFICATION TO THE COUNTY TO REMOVE THE BEAMS FROM THE PROJECT. THE COUNTY WILL BE RESPONSIBLE FOR LOADING AND TRANSPORTING THE BEAMS. THE COUNTY WILL HAVE THIRTY (30) DAYS FROM THE TIME WRITTEN NOTIFICATION IS GIVEN TO REMOVE THE BEAMS. AFTER 30 DAYS, ANY BEAMS NOT REMOVED FROM THE PROJECT WILL BECOME THE PROPERTY OF THE CONTRACTOR.

THE BEARINGS SHALL REMAIN THE PROPERTY OF ODOT AND WILL BE STOCKPILED WITHIN THE R/W AS DIRECTED BY THE ENGINEER. AFTER 30 DAYS ANY BEARINGS NOT REMOVED FROM THE PROJECT WILL BECOME THE PROPERTY OF THE CONTRACTOR.

ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO ODOT OR THE COUNTY.

ALL OTHER MATERIALS OTHER THAN BEAMS AND BEARINGS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE RIGHT-OF-WAY IN A MANNER APPROVED BY THE ENGINEER.

ALL COSTS ASSOCIATED WITH THE REMOVAL, BACKFILLING, TRANSIT, AND DISPOSAL OF THE EXISTING BRIDGE STRUCTURE AS DESCRIBED ABOVE AND AS DIRECTED BY THE ENGINEER, INCLUDING LABOR, EQUIPMENT, AND INCIDENTALS, IN ACCORDANCE WITH SECTION 619.06 OF THE STANDARD SPECIFICATION SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".

Design	MKR	8/16	SH 10 OVER BIG CABIN CREEK	CRAIG COUNTY
Drawn	JT	8/16		
Checked	KSJ	8/16		
Approved	SAK	9/16		
Squad	BENHAM			

**BRIDGE PAY ITEMS
AND GENERAL NOTES (2)**

Job Piece No. 29068(04) Sheet No. 9