

REVISIONS		
REV. NO.	DESCRIPTION	DATE

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.

VERIFICATION OF EXISTING CONDITIONS:

BIDDERS SHALL FULLY INFORM THEMSELVES OF THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH IT WILL BE PERFORMED. THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE NEW BRIDGE STRUCTURE OR ATTACHMENTS. ANY DAMAGE TO THE NEW BRIDGE STRUCTURES OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. TO THE SATISFACTION OF THE ENGINEER. ALL DIMENSIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO CONNECT THE NEW MATERIAL AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF. CONSTRUCTION PLANS FOR THE EXISTING BRIDGE STRUCTURE MAY BE OBTAINED FROM THE REPRODUCTION BRANCH OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION. ASK FOR THE FOLLOWING PROJECT NUMBER:

FEDERAL AID PROJECT NO. 5 SEC. "A" BR. RE-OP; BRYAN COUNTY, US-69 & 75 OVER CHUCKWA CREEK.

DESCRIPTION OF WORK:

THE WORK TO BE PERFORMED UNDER THIS CONTRACT CONSISTS OF REMOVING THE 24 FT CLEAR ROADWAY BRIDGE DECK AND REPLACING WITH A 40 FT CLEAR ROADWAY BRIDGE DECK AND APPROACH SLABS, TRAFFIC RAILS FOR THE NEW BRIDGE DECK ARE TR-4 WITH THREE BEAM CONNECTIONS AT EACH END OF THE BRIDGE APPROACH SLABS, THE THREE BEAM WILL THEN TRANSITION TO A GUARDRAIL AND GUARDRAIL EXTRUDER TERMINAL AT ALL FOUR LOCATIONS. THE EIGHTEEN W27X91 EXISTING ROLLED BEAMS AND EXISTING DIAPHRAGMS WILL BE REMOVED AND REPLACED WITH EIGHT NEW ROLLED BEAMS PER SPAN, AS SHOWN IN THE PLANS, TO ACCOMMODATE THE WIDENED BRIDGE DECK. ALL OF THE FIXED AND EXPANSION STEEL SHOES WILL BE REMOVED, AND STAINLESS STEEL BEARING ASSEMBLIES WILL BE PROVIDED AT ALL BEARING LOCATIONS. THE EXISTING ABUTMENT SEATS AND PIER CAPS WILL BE CUT AS INDICATED IN THE PLANS AND NEW ABUTMENT SEAT AND PIER CAPS WITH CONCRETE PEDESTALS OVER THE EXISTING FOOTING WILL BE PROVIDED TO ACCOMMODATE THE EXTERIOR BEAMS. DRILLED SHAFTS WILL BE INSTALLED TO SUPPORT THESE WIDENED PORTIONS AT THE ABUTMENTS AND PIERS. THE ROADWAY WILL BE WIDENED AS NECESSARY TO TRANSITION BETWEEN THE NEW BRIDGE WIDTH AND THE EXISTING ROADWAY AS SHOWN ON THE ROADWAY TRANSITION SHEET. THE BRIDGE WILL BE CLOSED TO TRAFFIC DURING THE COURSE OF THIS PROJECT AS DETAILED ON THE TRAFFIC CONTROL PLAN SHEETS.

CONCRETE:

ALL PEDESTAL CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER. ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE SHALL HAVE A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.

DECK SLAB HAUNCHES:

PLAN QUANTITY FOR CLASS AA CONCRETE INCLUDES AN AMOUNT FOR HAUNCHES OVER THE STEEL BEAMS. THE CONTRACTOR SHALL TAKE SURVEY SHOTS AND MEASUREMENTS AS NECESSARY TO CALCULATE THE ACTUAL HAUNCH THICKNESS AT TENTH POINTS ALONG THE LENGTH OF THE HAUNCH AND SUBMIT THOSE RESULTS TO THE ENGINEER FOR APPROVAL. NO PAYMENT WILL BE MADE FOR DIFFERENCE BETWEEN PLAN QUANTITY AND THE ACTUAL QUANTITY OF HAUNCH CONCRETE.

PENETRATING WATER REPELLENT SURFACE TREATMENT:

A PENETRATING WATER REPELLENT SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES OF THE BRIDGE:

- (A) EDGES AND UNDERSIDE CANTILEVER PORTION OF THE BRIDGE DECK.
- (B) THE ROADWAY FACE, TOP, AND OPENINGS OF THE CONCRETE TR-4 TRAFFIC RAILS.
- (C) THE TOP, FRONT FACE AND EXPOSED OUTSIDE FACES OF NEW ABUTMENT SEAT, ALL SURFACES OF PEDESTALS, AND FRONT FACE AND EXPOSED OUTSIDE FACE OF NEW BACKWALL.
- (D) THE TOP OF THE NEW PIER CAP, INCLUDING ALL SURFACES OF PEDESTALS, AND ALL VERTICAL FACES OF THE PIER CAP.

STEEL BEAM BRACING FOR PLACEMENT OF DECK SLAB CONCRETE:

THE CANTILEVER FORMING BRACKETS MUST BE IN LINE WITH THE COMPRESSION BRACING AND TENSION TIE. THE TENSION TIE ROD, COMPRESSION STRUT AND THE CANTILEVER FORMING BRACKET MUST ALL BE AT THE SAME SPACING, IN NO CASE IS THE CONTRACTOR'S CANTILEVER FORMING BRACKET ALLOWED TO EXTEND BELOW THE BOTTOM FLANGE. DO NOT SUPPORT ANY BEAMS ON JACKS WHILE THE CANTILEVER FORMING IS IN PLACE. CANTILEVER FORMING BRACKETS SHALL BE USED AT EXTERIOR BEAMS TO PREVENT BEAM TWIST. ALL CANTILEVER FORMING BRACKETS SHALL BE ADJUSTABLE AND CAPABLE OF BEING ADJUSTED DURING THE PLACEMENT OF FLOOR CONCRETE IN ORDER TO MAINTAIN PROPER GRADES OF OVERHANG. IF THE CONTRACTOR USES SHIMS TO ADJUST THE FORMING BRACKETS, A METHOD TO PREDICT THE CRUSH AND SETTLEMENT OF SHIMS MUST BE PROVIDED TO THE ENGINEER. THE RESULTING FORCE OF THE LEG BRACE OF THE CANTILEVER BRACKETS SHALL BEAR ON THE WEB AND WITHIN 6" OF THE BOTTOM FLANGE OF THE BEAMS. THE BEAMS SHALL BE TIED TOGETHER AT 4'-0" INTERVALS AS SHOWN IN THE DETAILS.

HARDWOOD 4"x4" STRUTS OR MATERIAL OF AN EQUIVALENT STRENGTH SHALL BE WEDGED BETWEEN WEBS OF BEAMS WITHIN 6" OF THE BOTTOM FLANGE OF EACH BEAM AT EACH LOCATION WHERE THE TOP OF THE BEAMS ARE TIED TOGETHER WITH TENSION TIES.

TENSION TIES SHALL BE A MINIMUM #4 EPOXY-COATED REINFORCING STEEL BARS WITH THREADED ENDS OR 1/2" GALVANIZED ALL-THREAD, FURNISHED BY THE CONTRACTOR. THE TENSION TIES SHALL BE PLACED PERPENDICULAR TO THE BEAMS AND SHALL HAVE A MINIMUM CLEARANCE FROM THE DECK FORMWORK AS THE BOTTOM MAT OF TRANSVERSE REINFORCING BARS.

TENSION TIES SHALL BE ATTACHED TO THE TOP FLANGE OF BEAMS BY MEANS OF TY-BAR CLIPS AS SHOWN ON THE DETAILS. WELDING CLIPS TO THE TOP FLANGE OF BEAMS SHALL NOT BE PERMITTED.

IF THE CONTRACTOR ELECTS TO USE A FORMWORK BRACING SYSTEM OTHER THAN WHAT IS SHOWN IN THE PLANS, THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND CALCULATIONS OF THE BRACING SYSTEM TO THE ENGINEER FOR APPROVAL. DRAWINGS AND CALCULATIONS OF THE PROPOSED BRACINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA. ALL COST FOR BRACING AND FORMWORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

NEW ANCHOR BOLT ASSEMBLIES AND/OR REINFORCING STEEL BARS SHALL BE ANCHORED INTO THE CONCRETE OF THE EXISTING BRIDGES AS SHOWN IN THE PLANS. ANCHORAGE OF NEW ANCHOR BOLT ASSEMBLIES AND/OR REINFORCING STEEL BARS INTO THE CONCRETE OF THE EXISTING BRIDGE SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 509.04D(3) OF THE STANDARD SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER.

ANCHORAGE INTO EXISTING CONCRETE:

NEW ANCHOR BOLT ASSEMBLIES AND/OR REINFORCING STEEL BARS SHALL BE ANCHORED INTO THE CONCRETE OF THE EXISTING BRIDGES AS SHOWN IN THE PLANS. ANCHORAGE OF NEW ANCHOR BOLT ASSEMBLIES AND/OR REINFORCING STEEL BARS INTO THE CONCRETE OF THE EXISTING BRIDGE SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 509.04D(3) OF THE STANDARD SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER.

DRILLING INTO THE EXISTING CONCRETE TO INSTALL THE ANCHORAGES SHALL BE ACCOMPLISHED WITHOUT CUTTING THE EXISTING CONCRETE REINFORCING STEEL BARS. PRIOR TO DRILLING, THE CONTRACTOR SHALL LOCATE AND MARK THE EXISTING CONCRETE REINFORCING STEEL BARS WITH NONDESTRUCTIVE TOOLS, EQUIPMENT AND METHODS APPROVED BY THE ENGINEER. IF EXISTING REINFORCING STEEL BARS ARE ENCOUNTERED DURING DRILLING, THE DRILLING SHALL CEASE AND THE HOLE SHALL BE GROUTED. THE HOLE SHALL THEN BE RELOCATED TO CLEAR THE EXISTING REINFORCING STEEL BARS. ANY ADJUSTMENT IN THE LOCATIONS OF THE NEW ANCHOR BOLT ASSEMBLIES AND/OR REINFORCING STEEL BARS FROM THE PLAN LOCATIONS SHOWN SHALL BE THE MINIMUM AMOUNT NECESSARY TO AVOID CUTTING THE EXISTING CONCRETE REINFORCING STEEL BARS AND SHALL BE APPROVED BY THE ENGINEER.

STAY-IN-PLACE DECK FORMS:

STAY-IN-PLACE STEEL DECK FORMS MAY BE USED IF THE MINIMUM DECK SLAB THICKNESS SHOWN IN THE PLANS IS OBTAINED BY MEASURING FROM THE TOP OF THE DECK SLAB TO THE TOP PORTION OF THE STEEL CORRUGATION. PREFORMED FILLER SUCH AS POLYSTYRENE OR ANY OTHER FILLER MATERIAL USED IN THE STEEL CORRUGATIONS MUST BE BONDED TO THE STAY-IN-PLACE FORMS, AND NO ADDITIONAL CONCRETE WEIGHT OF THE DECK SLAB IS PERMITTED. PREFORMED STYROFOAM OR ANY OTHER FILLER MATERIAL MUST BE BONDED TO THE STEEL STAY-IN-PLACE FORMS. ADDITIONAL WEIGHT OF THE STEEL DECK FORMS AND FILLER MATERIAL SHALL NOT EXCEED 5 PSF.

NO WELDING TO THE TOP FLANGE OR STUDS WILL BE ALLOWED. FOR AN ACCEPTABLE CONNECTION SEE SLAB REINFORCING DETAILS SHEET. REPORT ANY ARC STRIKE, WELD SPLATTER OR WELDING ON TOP FLANGE TO BRIDGE ENGINEER IMMEDIATELY.

STAY-IN-PLACE PRESTRESSED CONCRETE DECK FORMS MAY BE USED IF THE FOLLOWING CONDITIONS ARE MET:

- (1) SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR THE FORMS ARE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.
 - (2) A NEW STRUCTURAL DESIGN, STRUCTURAL CALCULATIONS, AND A NEW REINFORCING SCHEDULE FOR THE DECK SLAB ARE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.
 - (3) SHOP DRAWINGS, NEW DECK SLAB REINFORCING SCHEDULE, STRUCTURAL DESIGNS, AND CALCULATIONS SHALL BE PREPARED BY AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA.
- ALL COST ASSOCIATED WITH THE USE OF STAY-IN-PLACE FORMS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, INCIDENTALS AND PROFESSIONAL SERVICES SHALL BE AT THE CONTRACTOR'S EXPENSE. FOR ADDITIONAL INFORMATION CONCERNING THE USE OF STAY-IN-PLACE FORMS, SEE SECTION 502 OF THE SPECIFICATIONS.

RIPRAP:

A 24" THICK LAYER OF TYPE I-A PLAIN RIPRAP WITH A 6" THICK LAYER OF TYPE I-A FILTER BLANKET SHALL BE PLACED AT THE ABUTMENTS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 601 AND OTHER APPLICABLE SECTIONS OF THE 2009 STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION. THE FILTER BLANKET SHALL BE PLACED IN ONE LAYER. THE RIPRAP AND FILTER BLANKET SHALL BE PLACED IN SUCH A WAY AS TO NOT IMPEDE THE FLOW OF THE CHANNEL AND IN A MANNER APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT THE RIPRAP AND FILTER BLANKET ARE NOT PLACED OVER THE LOCATION OF ANY EXISTING UTILITY LINES OR BEYOND THE LIMITS OF THE RIGHT-OF-WAY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PRESERVING THE INTEGRITY OF EXISTING AND NEW UTILITIES AND RIGHTS-OF-WAY.

UTILITIES:

THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS DURING CONSTRUCTION AND TAKE CARE NOT TO DAMAGE ANY UTILITY LINES THAT MAY BE PRESENT. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTORS EXPENSE.

DRILLED SHAFT CONSTRUCTABILITY:

DUE TO THE HARD ROCK ENCOUNTERED AT THIS SITE, DRILLED SHAFT EXCAVATIONS MAY REQUIRE HEAVY-DUTY DRILLING EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE FOR BECOMING FAMILIAR WITH THE EXISTING SUBSURFACE CONDITIONS AND THEIR IMPLICATIONS ON THE DIFFICULTY OF THE DRILLING PROCESSES, PRIOR TO BEGINNING WORK.

PAY ITEM NOTES

(1) 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.

ALL COSTS OF CONCRETE REINFORCING STEEL, RAPID CURE JOINT SEALANT, EXCAVATION, LABOR, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "APPROACH SLAB".

(2) SEALED EXPANSION JOINTS:

SEALED EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS AS INDICATED IN THE PLANS. ALL COSTS OF THE SEALED EXPANSION JOINTS INCLUDING LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "SEALED EXPANSION JOINT".

(3) STRUCTURAL STEEL:

ITEM "STRUCTURAL STEEL" SHALL CONSIST OF THE NEW ROLLED BEAMS, STIFFENERS, DIAPHRAGMS AND PLATES AS SHOWN IN THE PLANS.

ALL NEW STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 724 OF THE "OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS". ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M-270 (ASTM A709) GRADE 50WT2 (WEATHERING STEEL, NON-FRACTURE CRITICAL CHARPY V-NOTCH TESTED FOR ZONE 2). USE SHEAR CONNECTORS CONFORMING TO AASHTO M169 (ASTM A108) GRADE 1015, 1018 OR 1020. PROVIDE WELDING WITH WEATHERING CHARACTERISTICS. BEAMS SHALL BE CAMBERED TO ACCOUNT FOR DEAD LOAD DEFLECTION. NON-DESTRUCTIVE TESTING WILL BE REQUIRED AS APPROPRIATE. ALL BOLTS, NUTS, WASHERS AND WELDING SHALL HAVE WEATHERING CHARACTERISTICS.

ALL WELDING FOR STRUCTURAL STEEL SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.5 FOR WEATHERING STEEL AND D1.6 FOR STAINLESS STEEL (INCLUDING CURRENT REVISIONS) AND ODOT 2009 STANDARD SPECIFICATIONS SECTION 506. EXTENSION BARS SHALL BE USED IN MATCHING THE BUTT WELDS IN THE FLANGES ACCORDING TO AWS SPECIFICATION SECTION 4.6.

NO FIELD WELDING TO THE BEAMS WILL BE ALLOWED EXCEPT AS SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER. ALL WELDING CONNECTING THE NEW STEEL SHALL HAVE AN ULTRASONIC INSPECTION. AFTER THE NEW STEEL IS WELDED IN PLACE, THE ENGINEER SHALL NOTIFY THE MATERIALS DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION SO THIS INSPECTION CAN BE MADE.

A CHARPY V-NOTCH TEST WILL BE REQUIRED AS PER THE STANDARD SPECIFICATIONS. USE AISC CERTIFICATION IN ACCORDANCE WITH SECTION 506.04 OF THE STANDARD SPECIFICATIONS FOR ALL MAIN MEMBERS. THE COST OF STRUCTURAL STEEL FOR THIS WORK SHALL BE PAID FOR IN THE UNIT PRICE BID PER POUND OF "STRUCTURAL STEEL".

(4) STAINLESS STEEL FIXED BEARING ASSEMBLY:

PROVIDE AND INSTALL STAINLESS STEEL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION DETAILED IN THE PLANS.

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE FIXED BEARING ASSEMBLIES AS SHOWN IN THE PLANS INCLUDING ELASTOMERIC PADS, ANCHOR PLATES, ANCHOR BOLTS, NUTS, WASHERS, LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER UNIT EACH OF "STAINLESS STEEL FIXED BEARING ASSEMBLY".

(5) STAINLESS STEEL EXPANSION BEARING ASSEMBLY:

PROVIDE AND INSTALL STAINLESS STEEL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION DETAILED IN THE PLANS.

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE EXPANSION BEARING ASSEMBLIES AS SHOWN IN THE PLANS INCLUDING ELASTOMERIC PADS, ANCHOR PLATES, ANCHOR BOLTS, NUTS, WASHERS, LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER UNIT EACH OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLY".

(6) DRAINS AT END OF BRIDGE:

THE ASPHALT WIDENING FOR THE BRIDGE GUARDRAILING SHALL BE IN ACCORDANCE WITH STANDARDS GHW1-1-00, GHW2-1-00, SKT-1-00 AND THRI-1-02 EXCEPT AS SHOWN ON SHEET "DRAINS AT END OF BRIDGE DETAILS" FOR BRIDGE "A". CLASS "C" CONCRETE SHALL BE USED IN THE CONSTRUCTION OF THE DRAINS AT THE ENDS OF THE BRIDGE.

ALL COSTS OF THE SLOPE DRAINS AND SPLASH BASINS INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD OF "CLASS "C" CONCRETE".

BRIDGE "A"		BRYAN COUNTY		Design	N/A	N/A
SH-78 OVER CHUCKWA CREEK				Detail	BRJ	09/15
GENERAL NOTES & SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET 1 OF 2)				Check	RAH	12/15
				Squad Engr.	HANSLEY DEFRANCO	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		JOB/PIECE NO. 27912(04)		SHEET NO. AB01