

GENERAL NOTES

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2009 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 EXISTING BRIDGE STRUCTURE OR ROADWAY. ANY DAMAGE TO THE BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

PLANS:

CONSTRUCTION PLANS FOR THE EXISTING STRUCTURES, MAY BE OBTAINED FROM THE REPRODUCTIONS BRANCH OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION.

REPRODUCTION BRANCH
OKLAHOMA DEPARTMENT OF TRANSPORTATION
200 NE 21ST STREET
OKLAHOMA CITY, OKLAHOMA 73105

ASK FOR:
F. A. PROJ. NO. E 240-A.

ABUTMENT PILING CAPACITY:

THE FACTORED REACTION FOR EACH HP 12 X 53 PILE AT EACH ABUTMENT IS 53.3 TONS.

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

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

WHERE:

- ϕ = 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:
THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & SINGLE ACTING HAMMERS ONLY).
THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED.
THE PENETRATION IS QUICK AND UNIFORM.
THERE IS NO APPRECIABLE REBOUND OF THE HAMMER, AND 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IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

PRESTRESSED CONCRETE BRIDGE MEMBERS (35' Spans):

(A) COMPRESSIVE STRENGTH: THE COMPRESSIVE STRENGTH REQUIREMENTS FOR THE P.C. BEAMS - TYPE II ARE 4,500 PSI @ TRANSFER OF PRESTRESS, AND 6,000 PSI @ 28 DAYS.

(B) STRAND TYPE: THE REQUIRED STRAND TYPE IS LOW-RELAXATION. USE STRAND HAVING A NOMINAL DIAMETER OF 0.600 INCH WITH ULTIMATE TENSILE STRENGTH OF 270 KSI.

PRESTRESSED CONCRETE BRIDGE MEMBERS (60' Spans):

(A) COMPRESSIVE STRENGTH: THE COMPRESSIVE STRENGTH REQUIREMENTS FOR THE P.C. BEAMS - TYPE II ARE 7,000 PSI @ TRANSFER OF PRESTRESS, AND 10,000 PSI @ 28 DAYS.

(B) STRAND TYPE: THE REQUIRED STRAND TYPE IS LOW-RELAXATION. USE STRAND HAVING A NOMINAL DIAMETER OF 0.600 INCH WITH ULTIMATE TENSILE STRENGTH OF 270 KSI.

DECK HAUNCHES:

PLAN QUANTITY FOR CLASS AA CONCRETE INCLUDES 0.9 CUBIC YARDS FOR HAUNCHES.

STAY-IN-PLACE FORMS:

STAY-IN-PLACE STEEL DECK FORMS MAY BE USED IF THE MINIMUM DECK SLAB THICKNESS OF 8" IS OBTAINED BY MEASURING FROM THE TOP OF THE DECK SLAB TO THE TOP PORTION OF THE STEEL CORRUGATION. NO ADDITIONAL CONCRETE WEIGHT OF THE DECK SLAB IS PERMITTED. ADDITIONAL WEIGHT OF THE STEEL DECK FORMS SHALL NOT EXCEED 5 P.S.F. PREFORMED STYROFOAM OR ANY OTHER FILLER MATERIAL MUST BE BONDED TO THE STEEL STAY-IN-PLACE FORMS.

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 IS 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 REGISTERED IN THE STATE OF OKLAHOMA.

ALL COSTS ASSOCIATED WITH THE USE OF STAY-IN-PLACE FORMS INCLUDING ALL MATERIALS, 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.

BRIDGE DECK CONSTRUCTION METHODS:

ANY STEEL USED BY CONTRACTOR TO FACILITATE DECK CONSTRUCTION, SUCH AS INSERT WELD ANCHORS, TY-BAR CLIPS, FORM HANGERS OR OTHER APPURTENANCES, THAT REMAIN IN PLACE IN THE BRIDGE DECK, MUST BE EPOXY COATED OR GALVANIZED. EPOXY COAT IN ACCORDANCE WITH AASHTO M 284 AND OR GALVANIZE IN ACCORDANCE WITH AASHTO M 111.

PENETRATING WATER REPELLENT SURFACE TREATMENT:

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

- ABUTMENTS: SEE SHEET NO. B015 FOR DETAILS.
- PIERS: THE TOP OF PIER CAPS INCLUDING ALL SURFACES OF PEDESTALS, AND ALL VERTICAL FACES OF PIER CAPS.

SUPERSTRUCTURE: SEE SHEET NO. B018 FOR DETAIL.

TEMPORARY RETAINING STRUCTURE:

THE TEMPORARY RETAINING STRUCTURE, (SEE THE GENERAL PLAN AND ELEVATION SHEET), SHALL BE IN ACCORDANCE WITH SECTION 502 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND SHALL SUBMIT CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS FOR THE TEMPORARY RETAINING STRUCTURE SYSTEM, PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA. BRIDGE DIVISION APPROVAL IS REQUIRED. ALL COSTS, INCLUDING THE DESIGN, DRAWINGS, CALCULATIONS, CONSTRUCTION, AND REMOVAL SHALL BE INCLUDED IN PAY ITEM "STRUCTURAL EXCAVATION UNCLASSIFIED".

ENVIRONMENTAL MITIGATION NOTES

MIGRATORY BIRD:

MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. MANY BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR MOST MIGRATORY BIRD SPECIES EXTENDS FROM APRIL 1 TO AUGUST 31. MIGRATORY BIRD NESTING USE OF THE STRUCTURES INVOLVED WITH THIS PROJECT WAS OBSERVED. PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION OF THE EXISTING BRIDGE/STRUCTURES SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND MARCH 31, WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED. IF PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND MARCH 31, THE BRIDGE SHALL BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO APRIL 1, BY MEANS THAT DO NOT RESULT IN BIRD DEATH OR INJURY. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF WEATHER-RESISTANT POLYPROPYLENE NETTING WITH 0.25-INCH OR SMALLER OPENINGS, PRIOR TO APRIL 1. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

BRIDGE PAY ITEM NOTES

FIXED BEARING ASSEMBLIES:

PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE AND LOCATION AS DETAILED IN THE PLANS. THERE IS AN ESTIMATED TOTAL OF 1,700 LBS. OF STAINLESS STEEL FOR THE FIXED BEARING ASSEMBLIES. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE FIXED ELASTOMERIC PADS, ANCHOR PLATES, BUILT-UP CONTACT ANGLES AND ANCHOR BOLTS, NUTS AND WASHERS INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS, IN THE PRICE BID PER EACH OF "STAINLESS STEEL FIXED BEARING ASSEMBLIES".

EXPANSION BEARING ASSEMBLIES:

PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE AND LOCATION AS DETAILED IN THE PLANS. THERE IS AN ESTIMATED TOTAL OF 3,450 LBS. OF STAINLESS STEEL FOR THE EXPANSION BEARING ASSEMBLIES. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE EXPANSION ELASTOMERIC PADS, ANCHOR PLATES, BUILT-UP CONTACT ANGLES AND ANCHOR BOLTS, NUTS AND WASHERS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS, IN THE PRICE BID PER EACH OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLIES".

MECHANICAL SPLICES

USE EPOXY COATED OR GALVANIZED MECHANICAL SPLICES.

ABUTMENT PILING (HP 10 X 42 & HP 12 X 53):

PILES SHALL CONFORM TO AASHTO M270 GRADE 50.

6" PERFORATED PIPE UNDERDRAIN ROUND:

ALL COST OF PIPE UNDERDRAIN COVER MATERIAL, BOTH FINE AND COARSE, EQUIPMENT AND LABOR NEEDED FOR ITS INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FEET OF "PERFORATED PIPE UNDERDRAIN ROUND". INSTALLATION SHALL BE AS SHOWN IN PLAN DETAILS AND ON STANDARD PUD-3.

6" NON-PERFORATED PIPE UNDERDRAIN ROUND:

ALL COST OF TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, BACKFILL, EQUIPMENT AND LABOR NEEDED FOR ITS INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FEET OF "NON-PERFORATED PIPE UNDERDRAIN ROUND". INSTALLATION SHALL BE AS SHOWN IN PLAN DETAILS AND ON STANDARD PUD-3.

REMOVAL OF EXISTING BRIDGE STRUCTURE:

ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF 30'-40'-30' I-BEAM SPANS X 24' CLEAR ROADWAY AT CENTERLINE SURVEY STATION 118+59.55 IN ACCORDANCE WITH SECTION 619.04(B)2 AND SECTION 512.01(B) - CODE OF FEDERAL REGULATIONS 29 CFR 1926.62 OF THE SPECIFICATIONS, AND IN A MANNER APPROVED BY THE ENGINEER.

THE STRUCTURE CONTAINS APPROXIMATELY 52,200 LBS. OF STRUCTURAL STEEL. OTHER THAN THE BEAMS, AS NOTED BELOW, THE STRUCTURE AND MATERIALS WILL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

STOCKPILE EXISTING BEAMS ON THE RIGHT-OF-WAY TO BECOME PROPERTY OF COMANCHE COUNTY. EXISTING BEAMS INCLUDE 10-W24X74#X30' AND 5-W28X104#X40' LONG BEAMS.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

27968(04) PAY QUANTITIES				
0201 BRIDGE 'B' NBI NO. 31434 (35'-60'-35' P.C. BM. SPANS x 40.0' CL. RDY.)				
ITEM		DESCRIPTION	UNIT	QUANTITY
501(B)	1307	SUBSTRUCTURE EXCAVATION COMMON	(BR-1) CY	160.00
501(G)	6309	CLSM BACKFILL	(BR-1) CY	160.00
503(A)	1311	PRESTRESSED CONCRETE BEAMS (TYPE II)	(BR-1) LF	645.00
504(A)	1304	APPROACH SLAB	(BR-1) SY	281.20
504(B)	1305	SAW-CUT GROOVING	(BR-1) SY	852.00
504(C)	6250	SEALED EXPANSION JOINT	(BR-1) LF	43.20
504(D)	6245	CONCRETE RAIL (TR4)	(BR-1) LF	383.40
506(A)	1322	STRUCTURAL STEEL	(BR-1) LB	1,420.00
507(A)	6170	STAINLESS STL. FIXED BEARING ASSY.	(BR-1) EA	10.00
507(B)	6174	STAINLESS STL. EXP. BEARING ASSY.	(BR-1) EA	20.00
509(A)	1326	CLASS AA CONCRETE	(BR-1) CY	153.40
509(B)	1328	CLASS A CONCRETE	(BR-1) CY	138.20
509(D)	1331	CLASS C CONCRETE	CY	25.00
511	6306	MECHANICAL SPLICES	EA	578.00
511(B)	6010	EPOXY COATED REINF. STEEL	(BR-1) LB	57,300.00
514(A)	6010	PILES, FURNISHED (HP 10X42)	LF	160.00
514(A)	6011	PILES, FURNISHED (HP 12X53)	LF	648.00
514(B)	6292	PILES, DRIVEN (HP 10X42)	LF	160.00
514(B)	6294	PILES, DRIVEN (HP 12X53)	LF	648.00
514(L)	6220	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA	1.00
515(A)	6013	WATER REPELLENT(VISUALLY INSPECTED)	(BR-1) SY	634.00
516(A)	6094	DRILLED SHAFTS 48" DIAMETER	LF	258.00
516(C)	6200	CROSSHOLE SONIC LOGGING	EA	2.00
523(A)	6550	SEALER CRACK PREPARATION	(BR-1) LF	172.50
523(B)	6560	SEALER RESIN	(BR-1) GAL	2.20
601(B)	1353	TYPE I-A PLAIN RIPRAP	TON	830.00
601(C)	1355	TYPE I-A FILTER BLANKET	TON	160.00
613(H)	6204	6" PERF.PIPE UNDERDRAIN RND.	(BR-1) LF	84.00
613(I)	6207	6" NON-PERF.PIPE UNDERDRAIN RND.	LF	100.00
619(D)	1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	1.00

(BR-1) PAYMENT FOR THIS ITEM SHALL BE BASED ON PLAN QUANTITIES ONLY. SEE SECTION 109.01(B) OF THE STANDARD SPECIFICATIONS.

CROSSHOLE SONIC LOGGING:

THIS TEST SHALL BE PERFORMED ON THE FIRST DRILLED SHAFT OF PHASE I AND THE FIRST DRILLED SHAFT OF PHASE II CONSTRUCTION. ADDITIONAL TESTS MAY BE PERFORMED AT THE DISCRETION OF THE ENGINEER.

SEALER CRACK PREPARATION AND SEALER RESIN:

THESE ITEMS ARE FOR SEALING DECK TRANSVERSE CONSTRUCTION JOINT AT PIER 1 AND THE LONGITUDINAL DECK JOINT BETWEEN PHASE I AND PHASE II.

BRIDGE "B" US-277 OVER SNAKE CREEK		COMANCHE COUNTY		Design		
				Detail	DAH	4/17
				Check		
				Squad	HARJO	
				Engr.	MOLLA-ESMAIL	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB/PIECE NO. 27968(04)		SHEET NO. AB02				