

DOT DIVISION	STATE	J/P PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
8	OKLA	270921041		10	143

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 BRIDGES MAY BE OBTAINED FROM THE ODOT REPRODUCTION DEPARTMENT, 200 N.E. 21ST ST., OKLAHOMA CITY, OK. 73105.

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 EACH ABUTMENT FOR BOTH BRIDGE "A" AND BRIDGE "B" IS 57.62 TONS.

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

AXIAL LOAD RESISTANCE = $\phi [(0.875 \sqrt{E} \log_{10} (10N)) - 50]$

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:

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IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

ALL ABUTMENT PILING SHALL BE DRIVEN THROUGH THE COMPACTED FILL. PILING SHALL BE DRIVEN TO POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF THE AXIAL LOAD RESISTANCE IS NOT OBTAINED AT THIS ELEVATION, DRIVING SHALL CONTINUE UNTIL THE AXIAL LOAD RESISTANCE IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

TEMPORARY SHORING:

TEMPORARY SHORING MAY BE REQUIRED TO CONSTRUCT THE ABUTMENTS AND WINGWALLS OF BRIDGES "A" AND "B" ADJACENT TO THE EXISTING BRIDGES. THE DESIGN SHALL BE BASED ON AASHTO LRFD BRIDGE SPECIFICATION, 7TH EDITION. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY SHORING IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS. CONTRACTOR SHALL SUBMIT CALCULATIONS AND DRAWINGS THAT HAVE BEEN SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF OKLAHOMA TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK. ALL COSTS OF TEMPORARY SHORING SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD OF "SUBSTRUCTURE EXCAVATION COMMON".

STAY-IN-PLACE FORMS:

THE CONTRACTOR MAY NOT USE STAY-IN-PLACE STEEL DECK FORMS.

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 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 (INCLUDING FS2 BARS IN PARAPET), BACKER RODS, RAPID CURE JOINT SEALANT, POLYSTYRENE, POLYETHYLENE SHEETING, LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO COMPLETE THE WORK AS SPECIFIED IN THE PLANS.

BRIDGE GENERAL NOTES CONT'D.

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.

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.

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 THE 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".

PERFORATED PIPE UNDERDRAIN ROUND:

ITEM "6" 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:

ITEM "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.".

REMOVAL OF EXISTING BRIDGE STRUCTURES:

REMOVE PIERS IN THEIR ENTIRETY, INCLUDING SPREAD FOOTINGS. REMOVE ABUTMENTS PER STANDARD SPECIFICATIONS.

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.

ALL THE EXISTING STRUCTURE AND CONCRETE RUBBLE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ALL COSTS ASSOCIATED WITH THE REMOVAL, TRANSIT, AND DISPOSAL OF THE EXISTING BRIDGE STRUCTURE AS DESCRIBED ABOVE AND AS DIRECTED BY THE ENGINEER, INCLUDING LABOR, EQUIPMENT, AND INCIDENTALS, SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM OF "REMOVAL OF BRIDGE ITEMS".

CONTRACTOR SHALL NOT ALLOW CONCRETE OR STEEL RUBBLE TO FALL INTO, OR REMAIN IN, THE CREEK. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE RIGHT-OF-WAY.

THE BRIDGE BEAMS SHALL BECOME THE PROPERTY OF NOWATA 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 DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

BRIDGE "A" GENERAL NOTES

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 860 LBS. OF STRUCTURAL STEEL FOR 10 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 3,510 LBS. OF STRUCTURAL STEEL FOR 20 EXPANSION BEARINGS.

INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE 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".

REMOVAL OF EXISTING BRIDGE STRUCTURES:

REMOVAL CONSISTS OF A 30'-30'-30' I-BEAM SPAN BRIDGE WITH A 28' CLEAR ROADWAY, CURBS AND CONCRETE TRAFFIC RAILS, NO SKEW.

BRIDGE "B" GENERAL NOTES

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 860 LBS. OF STRUCTURAL STEEL FOR 10 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 3,570 LBS. OF STRUCTURAL STEEL FOR 20 EXPANSION BEARINGS. 55' SPAN BEARINGS SHALL BE USED FOR ALL SPANS.

INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE 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".

REMOVAL OF EXISTING BRIDGE STRUCTURES:

REMOVAL CONSISTS OF A 45'-40'-45' I-BEAM SPAN BRIDGE WITH A 28' CLEAR ROADWAY, CURBS AND CONCRETE TRAFFIC RAILS, NO SKEW.

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Drawn	JT	6/16
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Squad	BENHAM	

NOWATA COUNTY

BRIDGE PAY ITEMS AND GENERAL NOTES (SHEET 2 OF 2)

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