GENERAL BRIDGE NOTES

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

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 RESISTANCE WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03(a)2.

VENT HOLES:
THE CONTRACTOR SHALL PROVIDE 2 INCH DIAMETER VENT HOLES IN THE DECK, ONE HOLE BETWEEN EACH BEAM LINE NEAR THE HIGH END OF EACH SPAN.

ABUTMENT PILING CAPACITY:
THE FACTORED REACTION FOR EACH HP 10X42 PILE AT EACH ABUTMENT IS 75.2 TONS PER PILE. DRIVE ALL PILING UNTIL THE AXIAL LOAD RESISTANCE IS GREATER THAN THE FACTORED REACTION OF EACH PILE. THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN PILES:

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

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IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

CONCRETE INTERMEDIATE DIAPHRAGMS:
ONCE THE CONCRETE HAS BEEN PLACED FOR THE CONCRETE INTERMEDIATE DIAPHRAGMS, WAIT A MINIMUM OF 24 HOURS BEFORE REMOVING THE SIDE FORMS. DO NOT REMOVE THE BOTTOM FORM FOR A MINIMUM OF 3 DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME CAN BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH. DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS OR DIAPHRAGMS UNTIL THE CONCRETE IN THE DIAPHRAGMS HAS BEEN IN PLACE FOR A MINIMUM OF 10 DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME MAY BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

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".

RIPRAP:
A 18" THICK LAYER OF TYPE 1-A PLAIN RIPRAP WITH 6" THICK LAYER OF TYPE 1-A FILTER BLANKET SHALL BE PLACED AT THE ABUTMENTS AS SHOWN IN THE PLANS. THE FILTER BLANKET SHALL BE PLACED IN ONE LAYER.

PERFORATED PIPE UNDERDRAIN:
ITEM "6" PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES 26 FEET OF PERFORATED PIPE AND 4 CUBIC YARDS OF PIPE UNDERDRAIN COVER MATERIAL FOR EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND PIPE UNDERDRAIN MATERIAL SHALL BE AS SHOWN IN THE PLANS AND ON STANDARD PUD-3 (LATEST REVISION).
ALL COSTS OF THE PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING BACKFILLING, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "6" PERFORATED PIPE UNDERDRAIN - ROUND".

NON-PERFORATED PIPE UNDERDRAIN:
ITEM "6" NON-PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES 30 FEET OF NON-PERFORATED PIPE AND 10 CUBIC YARDS OF TRENCH EXCAVATION AND 10 CUBIC YARDS OF STANDARD BEDDING MATERIAL 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 (LATEST REVISION).
ALL COSTS OF THE NON-PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING BACKFILLING, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "6" NON-PERFORATED PIPE UNDERDRAIN - ROUND".

BRIDGE PAY QUANTITY NOTES

(R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.

1) ALL PILES SHALL BE EQUIPPED WITH CAST STEEL-DRIVING TIPS. ALL COSTS FOR FURNISHING AND INSTALLING CAST STEEL-DRIVING TIPS TO BE INCLUDED IN OTHER ITEMS OF WORK.

2) 501(G) CLSM BACKFILL SHALL REPLACE GRANULAR BACKFILL ON STANDARD CB26-I-SK0-ABUT-RB-55100 (LATEST REVISION) AND CB26..32-I-SK0-ABUT-MISC (LATEST REVISION).

3) INCLUDES 4830 LBS REINFORCING STEEL FOR SR-BARS (SEE STD TR3-2 (LATEST REVISION)).

4) ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF A 2-(5'x3') CONCRETE ARCH BOX AND CONCRETE LOW WATER CROSSING OVER THE TOP OF BOX AT APPROXIMATE CENTERLINE STATION 247+34.1, 110.48' LT. THE REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 619.04(b)2 OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND IN A MANNER APPROVED BY THE ENGINEER.

REVISIONS	
DESCRIPTION	DATE

29394(04)

PAY QUANTITIES

0201 BRIDGE ITEMS - BRIDGE B: 3-105FT P.C. BEAM SPAN x 26'-0"CLR. RDY., SK00, TR-3 RAILS

ITEM		DESCRIPTION	PAY NOTES	UNIT	QUANTITY
501(B)	1307	SUBSTRUCTURE EXCAVATION COMMON	R-1	C.Y.	100
501(G)	6309	CLSM BACKFILL	R-1,2	C.Y.	70
503(A)	1313	PRESTRESSED CONCRETE BEAMS (TYPE IV)	R-1	L.F.	942
504(A)	1304	APPROACH SLAB	R-1	S.Y.	115
504(B)	1305	SAW-CUT GROOVING	R-1	S.Y.	89
504(D)	6239	CONCRETE RAIL (TR3)	R-1	L.F.	695
506(A)	1322	STRUCTURAL STEEL	R-1	LB.	960
507(A)	6172	WEATHERING STEEL FIXED BEARING ASSEMBLY	R-1	EA.	9
507(B)	6176	WEATHERING STEEL EXPANSION BEARING ASSEMBLY	R-1	EA.	9
509(A)	1326	CLASS AA CONCRETE	R-1	C.Y.	266
509(B)	1328	CLASS A CONCRETE	R-1	C.Y.	82.20
511(A)	1332	REINFORCING STEEL	R-1,3	LB.	80,770
514(A)	6010	PILES, FURNISHED (HP 10x42)	1	L.F.	266
514(B)	6292	PILES, DRIVEN (HP 10x42)	1	L.F.	266
514(L)	6220	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA.	1
516(A)	6093	DRILLED SHAFTS 42" DIAMETER		L.F.	128
516(C)	6200	CROSSHOLE SONIC LOGGING		EA.	1
601(B)	1353	TYPE 1-A PLAIN RIPRAP		TON	2,217
601(C)	1355	TYPE 1-A FILTER BLANKET		TON	314
613(H)	6204	6" PERFORATED PIPE UNDERDRAIN ROUND	R-1	L.F.	52
613(I)	6207	6" NON-PERF. PIPE UNDERDRAIN RND.		L.F.	60
619(D)	1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	4	L. SUM	1
623(A)	1418	BEAM GUARDRAIL W-BEAM SINGLE		L.F.	375
623(F)	5686	GUARDRAIL ANCHOR UNIT (TYPE D-BF)		EA.	4

BARRINGTON HOLLOW BR 22 & LWC CHEROKEE COUNTY
BRIDGE "B"

SUMMARY OF PAY QUANTITIES & NOTES (BRIDGE B)

3-105' TYPE IV PC BEAM BRIDGE, 26'-0" CLR RDWY, W/TR-3 CONCRETE RAILS AND APPROACH SLABS

Design	RAA	12/15
Detail	ALM	12/15
Check	RAP	12/15

Squad:
Engr. GUY

STATE OF OKLAHOMA

GUY ENGINEERING SERVICES, INC.

JOB PIECE NO. 29394(04) SHEET NO. 6