

0200 – BRIDGE			
BRIDGE "A" PAY QUANTITIES			
105' X 26' CLEAR ROADWAY CONVENTIONAL PCB SPAN SKEWED 30 DEGRESS LEFT FORWARD			
ITEM	DESCRIPTION	UNITS	QUANTITY
501(B)	1307 SUBSTRUCTURE EXCAVATION COMMON	(R-1) CY	220.00
501(F)	6352 GRANULAR BACKFILL	(R-1) CY	102.00
503(A)	1313 PRESTRESSED CONCRETE BEAMS (TYPE IV)	(R-1) LF	314.00
504(B)	1305 SAW-CUT GROOVING	(R-1) SY	266.70
504(D)	6239 CONCRETE RAIL (TR3)	(R-1) LF	291.30
506(A)	1322 STRUCTURAL STEEL	(R-1) LB	690.00
507(A)	6172 WEATHERING STEEL FIXED BEARING ASSEMBLY	EA	3.00
507(B)	6176 WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA	3.00
509(A)	1326 CLASS AA CONCRETE	(R-1) CY	86.10
509(B)	1328 CLASS A CONCRETE	(R-1) CY	79.40
511(A)	1332 REINFORCING STEEL	(R-1) LB	33,490.00
514(A)	6010 PILES, FURNISHED (HP 10X42)	LF	142.00
514(A)	6011 PILES, FURNISHED (HP 12X53)	LF	442.00
514(B)	6292 PILES, DRIVEN (HP 10X42)	LF	142.00
514(B)	6294 PILES, DRIVEN (HP 12X53)	LF	442.00
514(L)	6220 PILE SPLICE, H-PILE(NON BIDDABLE)	EA	1.00
601(B)	1353 TYPE I-A PLAIN RIPRAP	(1) TON	1,214.00
601(C)	1355 TYPE I-A FILTER BLANKET	(2) TON	316.00
613(H)	6204 6" PERFORATED PIPE UNDERDRAIN ROUND	LF	60.00
613(I)	6207 6" NON-PERF. PIPE UNDERDRAIN RND.	LF	60.00
619(D)	1397 REMOVAL OF EXISTING BRIDGE STRUCTURE	(3) LSUM	1.00
623(A)	1418 BEAM GUARDRAIL W-BEAM SINGLE	(15) LF	35.00
623(F)	5686 GUARDRAIL ANCHOR UNIT (TYPE D-BF)	EA	4.00
623(F)	6029 GUARDRAIL ANCHOR UNIT (TYPE A)	(4) EA	3.00
880(J)	8905 CONSTRUCTION TRAFFIC CONTROL	(5) LSUM	1.00

0640 – CONSTRUCTION			
PAY QUANTITIES			
220	2800 SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1.00
641	1399 MOBILIZATION	LSUM	1.00

0600 – STAKING			
PAY QUANTITIES			
642(B)	0096 CONSTRUCTION STAKING LEVEL II	(6) LSUM	1.00

0100 – ROADWAY			
ROADWAY PAY QUANTITIES			
ITEM	DESCRIPTION	UNITS	QUANTITY
201(A)	0102 CLEARING AND GRUBBING	LSUM	1.00
202(H)	0185 EARTHWORK	(8)(9)(10) LSUM	1.00
221(C)	2801 TEMPORARY SILT FENCE	(11) LF	1,200.00
221(F)	0100 TEMPORARY SILT DIKE	(11) LF	300.00
230(A)	2806 SOLID SLAB SODDING	(R-7)(R-8) SY	18,599.00
233(A)	2817 VEGETATIVE MULCHING	(R-11) AC	7.70
402(E)	0225 TRAFFIC BOUND SURFACE COURSE TYPE E	(16) TON	100.00
411(B)	5945 SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-31)(R-32)(12) TON	1067.00
411(C)	5960 SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-30)(R-32)(13) TON	556.00
509(D)	0325 CLASS C CONCRETE	(R-41) CY	10.00
613(B)	0690 24" CORR. GALV. STEEL PIPE	LF	28.00
613(B)	0691 30" CORR. GALV. STEEL PIPE	LF	82.00
613(B)	4528 28" x 20" CORR. GALV. STEEL PIPE ARCH	LF	56.00
613(L)	4516 28" x 20" PREFAB. CULVERT END SECTION, ARCH	EA	4.00
613(L)	5730 24" PREFAB. CULVERT END SECTION, ROUND	EA	2.00
613(L)	5732 30" PREFAB. CULVERT END SECTION, ROUND	EA	4.00
619(A)	0920 REMOVAL OF STRUCTURES & OBSTRUCTIONS	(R-48)(R-49) LSUM	1.00
624(C)	4458 FENCE-STYLE SWF (4 BARBED WIRE)	(R-52)(R-53)(14) LF	732.00
624(C)	4459 FENCE-STYLE SWF (5 BARBED WIRE)	(R-52)(R-53)(14) LF	1,847.00
624(H)	5920 (PL) GATE	(14) EA	3.00
629(E)	5048 REMOVE AND RESET MAILBOX	EA	2.00

#### ENVIRONMENTAL MITIGATION

CLIFF AND BARN SWALLOW NOTES:  
CLIFF SWALLOWS AND BARN SWALLOWS ARE SMALL COLONIAL NESTING BIRDS PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE SPECIES COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE SWALLOWS RUNS FROM APRIL 1 TO AUGUST 31. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. SWALLOW USE OF BRIDGE NBI NO. 14582 WAS NOT OBSERVED DURING INITIAL SURVEYS CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN NOVEMBER 2014. SWALLOWS MAY OCCUPY THE BRIDGE IN THE FUTURE NESTING SEASONS. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD POSE DISRUPTION TO THE NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM THE NESTING BIRDS, THE BRIDGE MAY BE NETTED PRIOR TO APRIL 1 OR THE WORK DELAYED UNTIL THE NESTING SEASON IS COMPLETE. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

A POTENTIAL WATER WELL HOUSE WAS IDENTIFIED AT STATION 37+10 RT. IN THE EVENT THAT THE COUNTY ACQUIRES THIS WELL, THE COUNTY WILL BE RESPONSIBLE FOR ENSURING THAT IT IS PROPERLY PLUGGED BY AN OWRB LICENSED WATER WELL DRILLER IN ACCORDANCE WITH OAC 785:35-11-1 (RULES OF THE OKLAHOMA WATER RESOURCES BOARD).

#### PAY QUANTITY NOTES

- (R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.
- (R-7) FOR 230(A) PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 LBS. PER 1,000 SQUARE YARDS.
- (R-8) FOR 230(A) PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 80 GALLONS PER SQUARE YARD.
- (R-11) THE QUANTITY ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 3.85 ACRES.
- (R-30) PRICE BID TO INCLUDE COST OF 1,661 GALLONS OF TACK COAT MEETING THE REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.
- (R-31) PRICE BID TO INCLUDE COST OF 712 GALLONS OF PRIME COAT MEETING THE REQUIREMENTS OF SECTION 408 OF THE STANDARD SPECIFICATIONS AND ESTIMATED AS 0.35 GAL. PER SQ. YD. ON TOP OF COMPLETED SUBGRADE AND 0.25 GAL PER SQ. YD. ON TOP OF AGGREGATE BASE. THE ACTUAL CUTBACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.
- (R-32) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.
- (R-41) QUANTITY INCLUDES AN ESTIMATED 10 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.
- (R-48) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES AND OTHER STRUCTURES WITHIN THE RIGHT-OF-WAY.
- (R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- (R-52) INCLUDES 2% FOR GROUND MEASUREMENT.
- (R-53) ALL GATES AND GATE END POSTS FOR STRANDED WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

- ESTIMATED AT 110 LBS./CU. FT.
- ESTIMATED AT 105 LBS./CU. FT.
- ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF A 34 FOOT I-BEAM SPAN AND SUBSTRUCTURE ELEMENTS. CONTRACTOR SHALL CAREFULLY REMOVE ROADWAY BEAMS AND PLACE THEM UPON PROJECT RIGHTS-OF-WAY FOR REMOVAL BY COMANCHE COUNTY. COST OF REMOVAL SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "REMOVAL OF EXISTING BRIDGE STRUCTURES." REMOVAL AND DISPOSAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN ACCORDANCE WITH SECTION 619.04 (b)2 OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER.
- PRICE BID TO INCLUDE THE COST OF 4 TYPE 1 CODE 3 DELINEATORS. (AMBER COLOR).
- CONSTRUCTION TRAFFIC CONTROL SHALL INCLUDE ALL BARRICADES AND SIGNS REQUIRED ON EACH END OF THE CONSTRUCTION AREA AND OTHER AREAS DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNS, BARRICADES, LIGHTS, ETC., ACCORDING TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND AS SHOWN ON THE STANDARD DRAWINGS. COST OF ALL NECESSARY CONSTRUCTION SIGNING WILL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "CONSTRUCTION TRAFFIC CONTROL."
- IN ADDITION TO THE RESPONSIBILITIES SHOWN IN THE SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND/OR REESTABLISHING THE SURVEY CONTROL POINTS SHOWN ON THE PLANS, STAKING THE CENTERLINE OF CONSTRUCTION AND REESTABLISHING RIGHT-OF-WAY STAKES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING BENCH MARKS SHOWN ON THE PLANS AND FOR ESTABLISHING NEW BENCH MARKS AS NEEDED TO CONSTRUCT THE PROJECT.
- SEE SUMMARY OF GRADING QUANTITIES, SHEET NO. R003.
- INCLUDES COST TO BREAK UP EXISTING ASPHALT PAVEMENT TO A SIZE OF NOT MORE THAN THREE INCHES TO BE INCORPORATED INTO ROADWAY EMBANKMENT.
- INCLUDES COST OF SALVAGING AND PLACING TOPSOIL APPROXIMATELY 25 FEET WIDE BY 5 INCHES DEEP FROM STA. 22+25 TO 39+25 AND 18-46-0 FERTILIZER (ESTIMATED AT 150 LBS PER ACRE). SEE TOPSOIL NOTE, SHEET NO. R002.
- PRICE BID TO INCLUDE COST OF TEMPORARY SEDIMENT REMOVAL.
- INCLUDES 116 TONS FOR RURAL DRIVES AND 12 TONS FOR MAILBOX TURNOUTS.
- INCLUDES 57 TONS FOR RURAL DRIVES AND 42 TONS FOR GUARD RAIL WIDENING AND 6 TONS FOR MAILBOX WIDENING.
- ALL GATES, GATE POSTS, CORNER AND STRETCH POSTS SHALL BE STEEL PIPE.
- PRICE BID TO INCLUDE ONE W-BEAM END SECTION FLARED.
- TO BE USED IN A MANNER APPROVED BY THE ENGINEER.

#### GENERAL NOTES

**SPECIFICATIONS:** COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION JANUARY 4, 2010, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

**ANCHOR PLATES- SLOTTED FOR EXPANSION:** ALLOWANCE SHALL BE MADE FOR TEMPERATURE AT TIME OF SETTING OF EXPANSION ANCHOR PLATES. ANCHOR PLATES SHALL BE SET WITH ANCHOR BOLTS IN CENTER OF SLOT FOR 60°F. FOR EACH 100' OF EXPANSION TO THE BEARING ASSEMBLY, THE CENTERLINE OF THE SLOT SHALL BE 1/8" FROM THE CENTERLINE OF THE ANCHOR BOLT IN THE DIRECTION OF EXPANSION FOR EACH 15' THE TEMPERATURE IS ABOVE 60°F, OR SHALL BE SET 1/8" FROM THE CENTERLINE OF THE ANCHOR BOLT IN THE DIRECTION OF THE CONTRACTION FOR EACH 15' THE TEMPERATURE IS BELOW 60°F.

**AIR VENTS:** 2" PVC PIPE SHALL BE PLACED VERTICALLY THROUGH THE DECK BETWEEN THE BEAMS AS SHOWN IN THE DETAIL SHOWN ON SHEET NO. B001, GENERAL PLAN AND ELEVATION.

ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

CREEK AND RIVER BANKS SHALL BE KEPT IN THEIR NATURAL STATE AS MUCH AS POSSIBLE. THE CONTRACTOR SHALL NOT UNDULY STRIP EXISTING PROTECTIVE VEGETATION IN THE VICINITY OF THE STREAM BANKS AND SHALL SO CONDUCT HIS OPERATIONS AS NOT TO DAMAGE THE BANKS WITH HIS EQUIPMENT. NO BANK UPSTREAM OR DOWNSTREAM SHALL BE EXCAVATED EXCEPT AS APPROVED FOR AND AS SHOWN ON THE PLANS. NO WORK ROADS SHALL BE CONSTRUCTED UPSTREAM WHERE IT IS NECESSARY TO CUT THE STREAM OR RIVER BANKS EXCEPT BY THE APPROVAL OF THE ENGINEER. BANK CUTS FOR WORK ROADS SHALL BE LOCATED DOWNSTREAM AND REPLACED BY THE CONTRACTOR TO THEIR ORIGINAL SHAPE AND DENSITY. UNNECESSARY STRIPPING OF VEGETATION GROWTH ALONG BANKS IN THE CONSTRUCTION AREA IS NOT PERMITTED

THE FOLLOWING ITEMS WILL BE THE RESPONSIBILITY OF THE COUNTY AND NOT A PART OF THIS CONTRACT: (1) ACQUISITION AND STAKING OF RIGHT-OF-WAY; (2) UTILITY RELOCATION; (3) DETOUR SIGNING, IF REQUIRED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNING.

ROADWAY SHALL BE CLOSED TO THROUGH TRAFFIC DURING THE CONSTRUCTION PERIOD. CONTRACTOR SHALL PROVIDE ACCESS TO ADJACENT LAND OWNERS AND TENANTS.

(CAUTION) THE LOCATION AND DEPTH OF ALL UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR UTILITIES. IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE1" 1-800-522-6543 OR 811.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED AND PERMANENT RIGHT-OF-WAY FENCE SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST OF TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL NOTIFY THE COMANCHE COUNTY BOARD OF COMMISSIONERS, CED 6 AND ODOT DIVISION VII OFFICE IN DUNCAN, IN WRITING, FOURTEEN CALENDAR DAYS PRIOR TO BEGINNING CONSTRUCTION.

INDIAN PROPERTY LOCATED WITHIN PROJECT LIMITS, FROM BEGINNING OF PROJECT TO APPROXIMATELY STA. 36+37 LT.

PILE DRIVING AND CAPACITY –  
THE FACTORED REACTION FOR EACH HP 12X53 PILE AT THE ABUTMENT IS 75.2 TONS ON BRIDGE "A".  
THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES.

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

WHERE:

$\phi$  = 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 AND 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 ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

TRIBUTARY TO BLUE BEAVER CREEK COMANCHE COUNTY

## SUMMARY OF PAY QUANTITIES AND GENERAL NOTES

JOB PIECE NO. 30440(04) SHEET NO. ARO1