

DESCRIPTION	REVISIONS	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.

EXISTING PLANS –
 THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF FEDERAL AID PROJECT NO. F-418(8). PLANS OF THIS PROJECT ARE AVAILABLE FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TECHNOLOGY SERVICES PLANS SECTION, 200 N.E. 21ST STREET, OKLAHOMA CITY, OKLAHOMA 73105.

PILE DRIVING AND CAPACITY –
 THE FACTORED PILE REACTION FOR EACH HP12X53 PILE AT EACH ABUTMENT IS 95.0 TONS.

THE FACTORED PILE REACTION FOR EACH HP14X89 PILE AT EACH PIER IS 225.0 TONS.

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

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

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USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

STRUCTURAL STEEL –
 STRUCTURAL STEEL FOR PILING SHALL CONFORM TO AASHTO M270 (ASTM A572), GRADE 50.

STRUCTURAL STEEL FOR ANCHOR PLATES AND BUILT-UP CONTACT ANGLES SHALL CONFORM TO ASTM A240 (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). FOR ANCHOR BOLTS, PROVIDE CONTINUOUSLY THREADED BARS IN ACCORDANCE WITH ASTM A320, CLASS 2, GRADE B8M (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). USE AUSTENITIC STAINLESS STEEL NUTS AND WASHERS CONFORMING TO ASTM A194, GRADE 8M AND ASTM A320, RESPECTIVELY. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL.

PROVIDE STRUCTURAL STEEL FOR DIAPHRAGM BOLTS AND PLATE WASHERS IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). THE CONTRACTOR MAY SUBSTITUTE A #10 REINFORCING BAR IN ACCORDANCE WITH AASHTO M31, GRADE 60, AND THREADED AT THE ENDS AS SHOWN FOR THE DIAPHRAGM BOLT AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE HEX NUTS IN ACCORDANCE WITH AASHTO M291 (ASTM A563).

PAINT EXPOSED DIAPHRAGM BOLT, PLATE WASHER, AND HEX NUT WITH TWO (2) COATS OF ZINC-RICH PAINT (6 MIL MINIMUM THICKNESS) AFTER ASSEMBLY. INCLUDE ALL COST OF DIAPHRAGM BOLT, PLATE WASHER, AND HEX NUT IN THE CONTRACT UNIT PRICE FOR STRUCTURAL STEEL.

DECK SLAB –
 EPOXY COAT OR GALVANIZE STEEL ITEMS USED TO FACILITATE CONSTRUCTION, SUCH AS DECK FORM HANGERS, TY-BAR CLIPS, INSERT WELD ANCHORS, OR OTHER APPURTENANCES, THAT WILL REMAIN IN PLACE IN THE DECK SLAB. EPOXY-COAT IN ACCORDANCE WITH AASHTO M284 OR GALVANIZE IN ACCORDANCE WITH AASHTO M111.

THE DECK SLAB SHALL BE POURED ONE SPAN AT A TIME. NO SPAN SHALL BE POURED UNTIL AT LEAST 48 HOURS AFTER ANY ADJACENT POUR HAS BEEN COMPLETED. IN THE EVENT OF AN EMERGENCY, HALT THE PLACEMENT OF CONCRETE BY FORMING A CONSTRUCTION JOINT MADE PERPENDICULAR TO THE DIRECTION OF TRAFFIC OR AS DIRECTED BY THE ENGINEER. DO NOT PLACE ANY HEAVY EQUIPMENT ON THE FINISHED DECK SLAB WITHIN 5 FEET OF ANY CONSTRUCTION JOINT UNTIL CONCRETE IS IN PLACE ON BOTH SIDES OF THE RESPECTIVE JOINT, AND AT LEAST 48 HOURS HAS ELAPSED SINCE CONCRETE PLACEMENT.

SEAL ALL DECK SLAB CONSTRUCTION JOINTS WITH HIGH MOLECULAR WEIGHT METHACRYLATE IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COST OF THE EQUIPMENT AND LABOR FOR THE INSTALLATION OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION". INCLUDE ALL COST OF HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". THE DEPARTMENT WILL NOT MEASURE THE PREPARATION AND SEALER OF EMERGENCY CONSTRUCTION JOINTS FOR PAYMENT.

GENERAL NOTES CONTINUED

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.

EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.

CEMENT USED FOR PIER COLUMNS AND FOOTINGS SHALL BE TYPE V PORTLAND CEMENT IN ACCORDANCE WITH SECTION 701 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. AS AN OPTION, TYPE II PORTLAND CEMENT MAY BE USED WITH THE ADDITION OF CLASS F FLY ASH TO THE MIX DESIGN. IF TYPE II PORTLAND CEMENT IS USED WITH THE ADDITION OF CLASS F FLY ASH, THE CONCRETE MIX DESIGN SHALL BE APPROVED BY THE ENGINEER.

STAY-IN-PLACE DECK FORMS –
 STAY-IN-PLACE DECK FORMS ARE NOT ALLOWED.

WATER REPELLENT TREATMENT –
 WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE BRIDGE IN A MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS.

ENVIRONMENTAL MITIGATION NOTES

MIGRATORY BIRD NOTE –
 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. SWALLOW USE OF BRIDGE NBI NO. 03444 HAS BEEN OBSERVED DURING THE INITIAL SURVEYS CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN JUNE, 2013. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD HARM 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.

THIS DRAWING IS PRELIMINARY IN NATURE. IT IS NOT A FINAL SIGNED AND SEALED DRAWING

DESIGN	J.W.H.	SH34 OVER N. PERSIMMON CREEK BRIDGE A	WOODWARD COUNTY
DRAWN	Z.M.B.		
CHECKED	J.W.H.		
APPROV.	T.A.C.		
SQUAD	CEC		

BRIDGE GENERAL NOTES

JOB PIECE NO. 28827(04) SHEET NO. 4