STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

# INTERSTATE HIGHWAY I-444

PROJECT NO. NHPPI-4440-(004)SS
BRIDGE REHABILITATION PROJECT
N-1ST RAMP OVER U.S. 75

# TULSA COUNTY

CONTROL SECTION NO. 444-72-92
JOB NO. 28879(04)
LOCATION NO. 7292 0137 XR
NBI NO. 18033

| OKLAHOMA DEPARTMENT OF TRANSPORTATION | | | | | |
|---|---|---|---|---|---|
| FED. ROAD DIST. NO. | STATE | STATE JOB NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| | | | | | |

| REVISIONS | |
|---|---|
| DESCRIPTION | DATE |
| | |

## INDEX OF SHEETS



THIS PROJECT IS MANDATORILY TIED TO J/P 28865(04), J/P 28868(04), AND J/P 28880(04).

## DESIGN DATA

| | | |
|---|---|---|
| ADT (2016) | = | 1,300 VPD |
| ADT (2036) | = | 1,600 VPD |
| K | = | 26% |
| T (AADT | = | 5% |
| T (DHV) | = | 4% |
| $T_3$ | = | 2% |
| V (POSTED) | = | 25 MPH |

## STANDARDS

| BRIDGE | TRAFFIC | |
|---|---|---|
| LECS-4-1 | TCS1-1-01 | TCS8-1-00 |
| EJ-DTL-01E | TCS2-1-00 | TCS9-1-01 |
| EJ-SK-03E | TCS3-1-01 | TCS11-1-01 |
| SFP1-2-00E | TCS4-1-01 | TCS14-1-00 |
| DC-3-2 | TCS5-1-00 | TCS18-1-01 |
| | TCS6-1-02 | TCS19-1-01 |
| | TCS7-1-02 | TCS20-1-00 |





## CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OILWELL
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PREPARED BY:
BKL, INC.
BRIDGE SHEETS 7, 14-15, 17-18
5/4/16 — Stacy A. Loeffler
DATE — STACY A. LOEFFLER
OKLA. REG. NO. 16658
LICENSED PROFESSIONAL ENGINEER — Stacy A. Loeffler — 16658 — OKLAHOMA

PREPARED BY:
BKL, INC.
TRAFFIC SHEETS 3, 19-25
5-11-16 — Daniel E Polasek
DATE — DANIEL POLASEK
OKLA. REG. NO. 24920
LICENSED PROFESSIONAL ENGINEER — Daniel E Polasek — 24920 — OKLAHOMA

PREPARED BY:
WHITE ENGINEERING ASSOCIATES, INC.
BRIDGE SHEETS 1-2, 4-6, 8-13, 16
5/13/16 — Ronald R. White
DATE — RONALD R WHITE
OKLA. REG. NO. 8070
LICENSED PROFESSIONAL ENGINEER — RONALD R. WHITE — 8070 — OKLAHOMA — C.A. 1832 6-30-17

| OKLAHOMA DEPARTMENT OF TRANSPORTATION | DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION |
|---|---|
| DATE APPROVED | DATE APPROVED |
| BY | BY |
| CHIEF ENGINEER | DIVISION ADMINISTRATOR |

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| 1 | ADDED PLAN NOTES | 8/3/16 |

## 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.

VERIFICATION OF EXISTING CONDITIONS -
THE CONTRACTOR IS RESPONSIBLE FOR FULLY UNDERSTANDING THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED.
ALL DIMENSIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO CONNECT THE NEW MATERIAL AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.
USE METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING BRIDGE AND ATTACHMENTS. ANY DAMAGE TO THE EXISTING BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

EXISTING PLANS -
THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF PROJECT NO. 1-244-2(115)096. 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.

CONCRETE -
PROVIDE ALL PEDESTAL CONCRETE EDGES WITH A 3/4" CHAMFER. PROVIDE ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE WITH A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. PROVIDE ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE WITH A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. USE SIZED LUMBER FOR ALL CHAMFER STRIPS.
EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.

PNEUMATICALLY PLACED MORTAR -
THE CONTRACTOR MAY SUBSTITUTE CAST-IN-PLACE CONCRETE OR FORMED AND PUMPED CONCRETE AND MORTAR FOR THE PATCHING MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT. SUBMIT A PROPOSED WORK PLAN FOR THE CHOSEN REPAIR METHOD WHICH INCLUDES SURFACE PREPARATION METHODS, PATCHING MATERIAL, BONDING AGENTS, MATERIAL PLACING METHODS, AND FINISHING METHODS. REPAIR A TEST AREA TO VERIFY THE EFFECTIVENESS OF THE PROPOSED REPAIR METHOD PRIOR TO COMMENCING WORK.
DO NOT USE POWER TOOLS FOR REMOVING LOOSE CONCRETE UNLESS HAND TOOLS PROVE INCAPABLE OF EXCAVATING DETERIORATED CONCRETE TO SOUND CONCRETE AS DETERMINED BY THE ENGINEER. IF POWER TOOLS ARE DEEMED NECESSARY, USE TOOLS OF A SIZE THAT DOES NOT DAMAGE SOUND CONCRETE. REPORT ANY DETERIORATED REINFORCING EXPOSED DURING OPERATIONS WITH A SECTION LOSS GREATER THAN 50% AS DETERMINED BY THE ENGINEER TO THE BRIDGE ENGINEER FOR REMEDIAL ACTION. REPLACE FAULTY REPAIRS AT NO ADDITIONAL COST TO THE DEPARTMENT.

STRUCTURAL STEEL -
PROVIDE STRUCTURAL STEEL FOR ROLLED BEAMS AND ALL STIFFENER PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50WT2 (WEATHERING STEEL, NON FRACTURE CRITICAL CHARPY V-NOTCH TESTED FOR ZONE 2). USE SHEAR CONNECTORS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020. PROVIDE WELDING WITH WEATHERING CHARACTERISTICS. CAMBER BEAMS TO ACCOUNT FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE.
THE CONTRACTOR MAY SUBSTITUTE PLATE GIRDERS USING EQUIVALENT PLATE SIZES IN LIEU OF THE ROLLED BEAM SHAPES SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE 5/16" MINIMUM FILLET WELDS BETWEEN WEB AND FLANGES. NON-DESTRUCTIVE TESTING WILL BE REQUIRED AS APPROPRIATE.
PROVIDE STRUCTURAL STEEL FOR CHANNEL DIAPHRAGMS AND GUSSET PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). USE BOLTS CONFORMING TO AASHTO M164 (ASTM A325). PROVIDE ALL BOLTS, NUTS, WASHERS AND WELDING WITH WEATHERING CHARACTERISTICS.
THE CONTRACTOR MAY SUBSTITUTE A BENT PLATE DIAPHRAGM IN LIEU OF THE CHANNEL AND GUSSET PLATES SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE 1/2" MINIMUM PLATE THICKNESS FORMED IN THE SHAPE OF THE CHANNEL WITH 4" MINIMUM FLANGES. FABRICATE BENT PLATE DIAPHRAGM TO A DEPTH EQUAL TO OR GREATER THAN SHOWN FOR THE COMBINED CHANNEL AND GUSSET PLATE.
PROVIDE STRUCTURAL STEEL FOR ANCHOR PLATES, CONTACT PLATES, AND BUILT-UP CONTACT ANGLES IN ACCORDANCE WITH 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.

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.
PLACE DECK SLAB CONCRETE AS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 504.04.B OF THE SPECIFICATIONS. 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 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 THE 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.

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

STEEL BEAM BRACING FOR DECK SLAB PLACEMENT -
SUBMIT DRAWINGS OF THE BRACING SYSTEM TO THE BRIDGE ENGINEER FOR APPROVAL. BRACING SYSTEMS OTHER THAN THAT SHOWN IN THE PLANS MAY BE USED IF DESIGN CALCULATIONS AND DRAWINGS OF THE PROPOSED BRACING SYSTEM ARE SUBMITTED TO AND APPROVED BY THE BRIDGE ENGINEER. DRAWINGS AND CALCULATIONS OF THE PROPOSED SYSTEM SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA. DO NOT PLACE DECK SLAB CONCRETE UNTIL THE BRACING SYSTEM IS APPROVED. THE DEPARTMENT CONSIDERS ALL COST FOR BRACING TO BE INCLUDED IN OTHER ITEMS OF WORK.
USE ADJUSTABLE CANTILEVER FORMING BRACKETS AT EXTERIOR BEAMS CAPABLE OF BEING ADJUSTED DURING THE PLACEMENT OF DECK SLAB CONCRETE IN ORDER TO MAINTAIN PROPER GRADES AT THE DECK SLAB OVERHANG. IF SHIMS ARE TO BE USED TO ADJUST THE FORMING BRACKETS, PROVIDE THE BRIDGE ENGINEER A METHOD TO PREDICT CRUSH AND SETTLEMENT OF SHIMS. BEAR THE LEG BRACE OF THE BRACKETS ON THE BEAM WEB AND WITHIN 6 INCHES OF THE BOTTOM FLANGE.
USE #4 EPOXY COATED REINFORCING STEEL WITH THREADED ENDS OR GALVANIZED ALL THREAD FOR TENSION TIES. PLACE TENSION TIES PERPENDICULAR TO THE BEAMS. ATTACH TENSION TIES TO THE TOP FLANGE OF THE BEAMS WITH TY-BAR CLIPS AS SHOWN IN THE PLANS. DO NOT WELD TY-BAR CLIPS TO THE TOP FLANGE OF THE BEAMS.
WEDGE HARDWOOD STRUTS, OR ANOTHER MATERIAL OF AN EQUIVALENT STRENGTH, BETWEEN THE BEAM WEBS WITHIN 6" OF THE BOTTOM FLANGE AT EACH TENSION TIE LOCATION.

WATER REPELLENT TREATMENT -
APPLY WATER REPELLENT TREATMENT TO THE BRIDGE IN MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS.

1 DEQ PERMIT NOTE FOR BRIDGE PROJECTS OVER HIGHWAYS OR RAILROADS -
IF THE CONTRACTOR ELECTS TO BUILD A WORK ROAD(S) TO PERFORM WORK, THE CONTRACTOR WILL BE RESPONSIBLE FOR EFFECTIVE EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE DEQ OKR10 GENERAL CONSTRUCTION REGULATIONS. IF THE AREA OF DISTURBANCE IS ONE (1) OR MORE ACRES AND IS NOT ALREADY COVERED BY A DEQ PERMIT, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A DEQ STORM WATER CONSTRUCTION PERMIT WHICH WILL INCLUDE AN APPLICATION (NOTICE OF INTENT) TO DEQ PRIOR TO EARTH DISTURBING ACTIVITIES, A STORM WATER POLLUTION PREVENTION PLAN AND THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS. IN ADDITION, THE CONTRACTOR WILL BE RESPONSIBLE FOR PERMANENT STABILIZATION MEASURES AFTER REMOVAL OF THE WORK ROAD(S). ALL COSTS ASSOCIATED WITH THE CONTRACTORS' WORK ROAD INCLUDING A DEQ PERMIT, EROSION AND SEDIMENT CONTROLS AND PERMANENT STABILIZATION, ETC. WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SOFTWARE -
THE FOLLOWING COMPUTER SOFTWARE WAS USED IN THE ANALYSIS AND DESIGN OF THE STRUCTURE(S) DETAILED IN THE PLANS:
(1) MDX STEEL GIRDER SYSTEM DESIGN AND RATING (VERSION 6.5.2963, 2-11-16)
(2) WHITE ENGINEERING ASSOCIATES, INC. ELASTOMERIC BEARING PAD DESIGN (VERSION 3.01 5-26-10)

## DESCRIPTION OF WORK

THE WORK TO BE PERFORMED ON THE BRIDGE CONSISTS OF REMOVING EXISTING VARYING CLEAR ROADWAY BRIDGE DECK, APPROACH SLABS, (2) 6" CURBS AND PARAPET WITH RAIL AND REPLACING WITH A NEW VARYING CLEAR ROADWAY BRIDGE DECK WITH A SLOPED FACE PARAPET. ADDITIONAL SUPERSTRUCTURE MODIFICATIONS INCLUDE REPLACING THE EXISTING PLATE GIRDERS WITH W30X173 ROLLED BEAMS AND REPLACING THE BEARING ASSEMBLIES AT ALL BEARING LOCATIONS. COMMON SUBSTRUCTURE REPAIRS INCLUDE PNEUMATIC MORTAR AND CRACK REPAIR AT EACH ABUTMENT.
OTHER WORK TO BE PERFORMED INCLUDES SPECIAL CONCRETE FINISH ON THE EXPOSED SUBSTRUCTURE.

OTHER WORK TO BE PERFORMED INCLUDES PNEUMATIC MORTAR REPAIR AND SPECIAL CONCRETE FINISH ON THE WESTERN ABUTMENT OF THE ADJACENT EAST-1ST RAMP BRIDGE.

THE BRIDGE WILL BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION ACTIVITIES.

## ENVIRONMENTAL MITIGATION NOTE

1 MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE BIRDS 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. MIGRATORY BIRD USE OF BRIDGE NBI NO. 18033 WAS NOT OBSERVED DURING THE INITIAL SURVEY CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN 2016. MIGRATORY BIRDS MAY OCCUPY THESE STRUCTURES 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 ANY NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM ANY 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.

## PAY ITEM NOTES

(1) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.

(2) THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL OF 44.4 C.Y. OF CLASS AA CONCRETE AND 8,160 LB. OF EPOXY COATED REINFORCING STEEL. PROVIDE FILL AS REQUIRED ON EMBANKMENTS AND UNDER APPROACH SLABS TO ENSURE CONTINUOUS SUPPORT. COMPACT FILL IN ACCORDANCE WITH SECTION 202 OF THE SPECIFICATIONS. INCLUDE THE COST OF FILL MATERIAL AND COMPACTION IN THE CONTRACT UNIT PRICE OF "APPROACH SLABS".

(3) ITEM "STRUCTURAL STEEL" ALSO INCLUDES THE PAINTING OF THE BOTTOM AND EXTERIOR OF EACH EXTERIOR GIRDER. USE SHERWIN WILLIAMS HC 110 "TILE RED" OR APPROVED EQUAL.

(4) THE FIXED BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 190 LB. OF STAINLESS STEEL.

(5) THE EXPANSION BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 3,350 LB. OF STAINLESS STEEL.

(6) ITEM "(PL) SPECIAL CONCRETE FINISH" CONSISTS OF CLEANING AND FINISHING FRONT FACE OF SEAT OF ADJACENT ABUTMENT AND ALL EXPOSED SUBSTRUCTURE CONCRETE SURFACES TO GIVE A UNIFORM APPEARANCE AFTER ALL REPAIRS. CLEAN SURFACES BY SANDBLASTING FOLLOWED WITH A FILTERED AIR BLAST. FINISH TO COMPLY WITH SECTION 737 OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS ASSOCIATED WITH CLEANING AND FINISHING CONCRETE SURFACES IN THE CONTRACT UNIT PRICE OF "SPECIAL CONCRETE FINISH".

J.P. NO. 28879(04)
0200 BRIDGE

## PAY QUANTITIES

N-1ST RAMP OVER U.S. 75
68.4'-34.0' CONT. ROLLED BEAM SPANS, VARYING CL.
ROADWAY W/ F-SHAPED PARAPETS, VARYING SKEW
℄ STA. 522+42.33, NBI NO. 18033

| ITEM NO. | | ITEM | | UNIT | TOTAL |
|---|---|---|---|---|---|
| 501(G) | 6309 | CLSM BACKFILL | (1) | C.Y. | 82.0 |
| 504(A) | 1304 | APPROACH SLAB | (1, 2) | S.Y. | 123.0 |
| 504(B) | 1305 | SAW-CUT GROOVING | (1) | S.Y. | 194.3 |
| 504(C) | 6250 | SEALED EXPANSION JOINT | (1) | L.F. | 20.0 |
| 504(E) | 6190 | 42" F-SHAPED PARAPET | (1) | L.F. | 289.0 |
| 506(A) | 1322 | STRUCTURAL STEEL | (1, 3) | LB. | 63,810 |
| 507(A) | 6170 | STAINLESS STEEL FIXED BEARING ASSEMBLY | (1, 4) | EA. | 3 |
| 507(B) | 6174 | STAINLESS STEEL EXPANSION BEARING ASSEMBLY | (1, 5) | EA. | 6 |
| 509 | 6152 | SPECIAL CONCRETE FINISH | (6) | S.Y. | 230 |
| 509(A) | 1326 | CLASS AA CONCRETE | (7) | C.Y. | 52.0 |
| 509(D) | 1331 | CLASS C CONCRETE | | C.Y. | 1.1 |
| 511(B) | 6010 | EPOXY COATED REINFORCING STEEL | (1) | LB. | 19,890 |
| 515(A) | 6013 | WATER REPELLENT (VISUALLY INSPECTED) | (1) | S.Y. | 265 |
| 520(A) | 6058 | PREPARATION OF CRACKS, ABOVE WATER | (8) | L.F. | 17.8 |
| 520(C) | 6060 | EPOXY RESIN, ABOVE WATER | (8, 9) | GAL. | 2 |
| 521(A) | 6210 | PNEUMATICALLY PLACED MORTAR | (8, 10) | S.Y. | 66.7 |
| 523(A) | 6550 | SEALER CRACK PREPARATION | | L.F. | 20.4 |
| 523(B) | 6560 | SEALER RESIN | (11) | GAL. | 1 |
| 610(A) | 0604 | 5" CONCRETE SIDEWALK | (1) | S.Y. | 17 |
| 619(B) | 2500 | REMOVAL OF BRIDGE ITEMS | (12) | L.SUM | 1 |
| 802(A) | 8310 | 2" GALV. STEEL ELECTRICAL CONDUIT EXPOSED | | L.F. | 110 |
| 803(A) | 8060 | PULL BOX | | EA. | 1 |
| 805(D) | 8744 | (PL) REMOVE & RESET LIGHT POLE | (13) | EA. | 1 |

(7) THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES AN ESTIMATED 1.2 C.Y. FOR BEAM HAUNCHES.

(8) REPAIR AREAS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. QUANTITY SHOWN IS APPROXIMATE AND SUBJECT TO THE ACTUAL LOCATIONS AND EXTENTS OF REPAIRS DETERMINED IN THE FIELD BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SEE PLANS FOR ESTIMATED QUANTITIES AND LOCATIONS.

(9) QUANTITY SHOWN FOR EPOXY RESIN ESTIMATED AT 0.080 GALLONS PER FOOT OF CRACK REPAIR.

(10) REPAIR BRIDGE SUBSTRUCTURE COMPONENTS WITH PNEUMATICALLY PLACED MORTAR IN ACCORDANCE WITH SECTION 521 OF THE STANDARD SPECIFICATIONS.

(11) QUANTITY SHOWN FOR SEALER RESIN ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.

(12) ITEM "REMOVAL OF BRIDGE ITEMS" CONSISTS OF REMOVAL AND DISPOSAL OF EXISTING BRIDGE DECK WITH VARYING CLEAR ROADWAY, APPROACH SLABS, 6" CURB, AND PARAPET RAIL IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(13) ITEM "(PL) REMOVE & RESET LIGHT POLE" CONSISTS OF REMOVAL OF LIGHT POLE AND ASSOCIATED ELECTRICAL CONDUIT BEFORE THE EXISTING PARAPET IS REMOVED AND RE-INSTALLATION OF LIGHT POLE AFTER THE NEW PARAPET HAS BEEN CONSTRUCTED. STORE LIGHT POLE BETWEEN REMOVAL AND RE-INSTALLTION. INCLUDE ALL COSTS ASSOCIATED WITH REMOVAL OF LIGHT POLE AND INSTALLATION OF LIGHT POLE AND LIGHT POLE ANCHOR BOLTS IN THE CONTRACT PRICE OF "(PL) REMOVE & RESET LIGHT POLE".

N-1ST RAMP OVER U.S. 75 TULSA COUNTY

BRIDGE GENERAL NOTES AND SUMMARY OF BRIDGE PAY QUANTITIES

| | | |
|---|---|---|
| Design | JNS | |
| Detail | HEJ | |
| Check | JNS | |
| WHITE ENGINEERING ASSOCIATES | | |

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION | JOB PIECE NO. 28879(04) | SHEET NO. 2

I:\Active\1445\Drawings\Structural\2 Br Gen Notes and Sum Br Pay Qtys.dwg, 8/3/2016 9:02:42 AM, Howard

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| 1 | QUANTITY CHANGES 7/26/16 | |

TRAFFIC NOTES

(TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

(TC-28) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 0.00 S.F. AND 6.25 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-29) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 6.26 S.F. AND 15.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION)

THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.

(TC-52) ANY USED CONSTRUCTION ZONE IMPACT ATTENUATOR AND CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-65) THE PRICE BID FOR THIS ITEM SHALL INCLUDE THE FOLLOWING:

A. ONE OFFICIALLY MARKED OKLAHOMA HIGHWAY PATROL CAR (WHEN PROJECT INVOLVES A STATE OR FEDERAL HIGHWAY). IF AN OKLAHOMA HIGHWAY PATROL CAR IS NOT AVAILABLE, THEN A LOCAL CITY OR COUNTY LAW ENFORCEMENT VEHICLE IS TO BE USED. PRICE BID FOR THIS ITEM SHALL BE PAID ON A PER UNIT PER HOUR BASIS.

B. ONE OKLAHOMA HIGHWAY LAW ENFORCEMENT OFFICER WITH JURISDICTIONAL AUTHORITY TO WRITE AND ISSUE TRAFFIC CITATIONS. IF AN OKLAHOMA HIGHWAY PATROL LAW OFFICER IS NOT AVAILABLE, THEN A LOCAL CITY OR COUNTY LAW ENFORCEMENT OFFICER IS TO BE USED. THE LAW ENFORCEMENT OFFICER SHALL BE INSURED, LICENSED AND BONDED, IF REQUIRED, BY THE CONTRACTOR. THIS OFFICER SHALL BE SPECIFICALLY APPROVED AND ASSIGNED TO THIS WORK ACTIVITY.

C. THE CONTRACTOR SHALL MAKE ALL THE NECESSARY ARRANGEMENTS WITH THE OKLAHOMA HIGHWAY PATROL OR THE LAW ENFORCEMENT AGENCY TO PROVIDE THE REQUIRED LAW ENFORCEMENT ON THIS PROJECT.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HIS ANTICIPATED WEEKLY SCHEDULE TO THE OKLAHOMA HIGHWAY PATROL OR THE LOCAL LAW AGENCY TWO WEEKS IN ADVANCE OF THE WORK. THE WORK SCHEDULE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

E. THE OKLAHOMA HIGHWAY PATROL OR THE LOCAL LAW ENFORCEMENT AGENCY WILL BE PAID FOR A MAXIMUM OF ONE (1) HOUR, PER WORK PERIOD, TO ALLOW FOR TRAVEL TO AND FROM THE OFFICER'S PERMANENT DUTY STATION AND THE WORK SITE. THIS WILL BE PAID ONE (1) TIME PER WORK PERIOD AS DEFINED BY THE CONTRACTOR IN AGREEMENT WITH THE ENGINEER.

(TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

(TC-80) INCLUDED IN THIS ITEM SHALL BE ONE (1) ADDITIONAL UNIT TO BE USED AS A STAND-BY OR REPLACEMENT. THIS STAND-BY UNIT SHALL BE IMMEDIATELY ACCESSIBLE TO REPLACE A DAMAGED, STOLEN OR MALFUNCTIONING UNIT. THE AMOUNT OF TIME BETWEEN THE REMOVAL OF THE DAMAGED UNIT AND THE INSTALLATION OF THE STAND-BY UNIT SHALL BE NO MORE THAN TWENTY-FOUR (24) HOURS.

(TC-84) 90 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT:
http://www.okladot.state.ok.us/traffic/qpl/index.php

PAY ITEM NOTES:

(1) PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE IN PLACE FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION.

(2) WARNING LIGHTS (TYPE C) ARE NOT REQUIRED.

TRAFFIC OPERATIONS NOTES:

FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION ON THIS PROJECT, THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL, SIZE AND WEIGHTS SECTION (405) 425-2210 AND ADVISE THE OFFICE WHEN SAID DETOURING WILL BEGIN AND THAT WIDE LOADS OVER 10 FT SHOULD BE ADVISED AND RESTRICTED. UPON COMPLETION OF THE PROJECT, THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL AND ADVISE THE OFFICE THAT THE PROJECT IS COMPLETE.

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT ADDITION), AND AS SHOWN ON TCS STANDARD DRAWINGS.

THE CONTRACTOR MUST NOTIFY THE RESIDENT ENGINEER FOURTEEN (14) WORKING DAYS IN ADVANCE OF ANY LANE CLOSURES. TWELVE (12) WORKING DAYS PRIOR TO DETOURING WIDE LOAD VEHICLES FOR THE CONSTRUCTION OF THE PROJECT, THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL, SIZE AND WEIGHTS SECTION (405)-425-2210 AND ADVISE THE OFFICE WHEN SAID DETOURING WILL BEGIN. WIDE LOADS OVER 10 FT. SHOULD BE ADVISED AND RESTRICTED DURING PHASE I AND WIDE LOADS OVER 12 FT. SHOULD BE ADVISED AND RESTRICTED DURING PHASE II. UPON COMPLETION OF THE PROJECT THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL AND ADVISE THE OFFICE THAT THE WIDE LOAD DETOUR IS NO LONGER IN EFFECT.

EXISTING PAVEMENT MARKINGS SHALL BE REMOVED WHEN IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS AND ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING. ALL COSTS INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.

ALL CONSTRUCTION WORK ZONE CHANNELIZING DEVICES SHALL HAVE SUPER-HIGH INTENSITY REBOUNDABLE RETROFLECTIVE FLUORESCENT SHEETING MEETING ASTM D-4956.

THE STATIONS AND LOCATIONS OF THE SIGN PLACEMENT, AS SHOWN ON THE PLAN SHEETS, ARE APPROXIMATE. EXACT STATIONS AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH DEPARTMENT STANDARDS AND THE MUTCD IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

THE MANUFACTURER SHALL FURNISH A TYPE "A" CERTIFICATION IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, LATEST EDITION, SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON THE MATERIAL SUBMITTED FOR APPROVAL.

J.P. NO. 28879(04)
0300 TRAFFIC

1 SUMMARY QUANTITIES

| ITEM DESCRIPTION | | UNIT | |
|---|---|---|---|
| ARROW DISPLAY (TYPE C) | (TC-84) | SD | 180 |
| CONSTRUCTION SIGNS 0 TO 6.25 SF | (TC-26,28,33,84) | SD | 7740 |
| CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF | (TC-26,29,33,84) | SD | 9630 |
| CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF | (TC-26,30,33,84) | SD | 900 |
| CONSTRUCTION BARRICADES (TYPE III) | (TC-26,84) | SD | 3960 |
| WING BARRICADES | (TC-26,84) | SD | 180 |
| WARNING LIGHTS (TYPE A) | (TC-26,84) | SD | 5400 |
| DRUMS | (2)(TC-26,84) | SD | 9980 |
| TUBE CHANNELIZERS | (TC-26,84) | SD | 4950 |
| TRAFFIC SURVEILLANCE, POLICE | (TC-65,70) | HOUR | 87 |
| PORT. CHANGEABLE MESSAGE SIGN | (1)(TC-52,84,85) | SD | 270 |

1

ALL TRAFFIC CONTROL ITEMS, STAKING AND MOBILIZATION ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04). 1

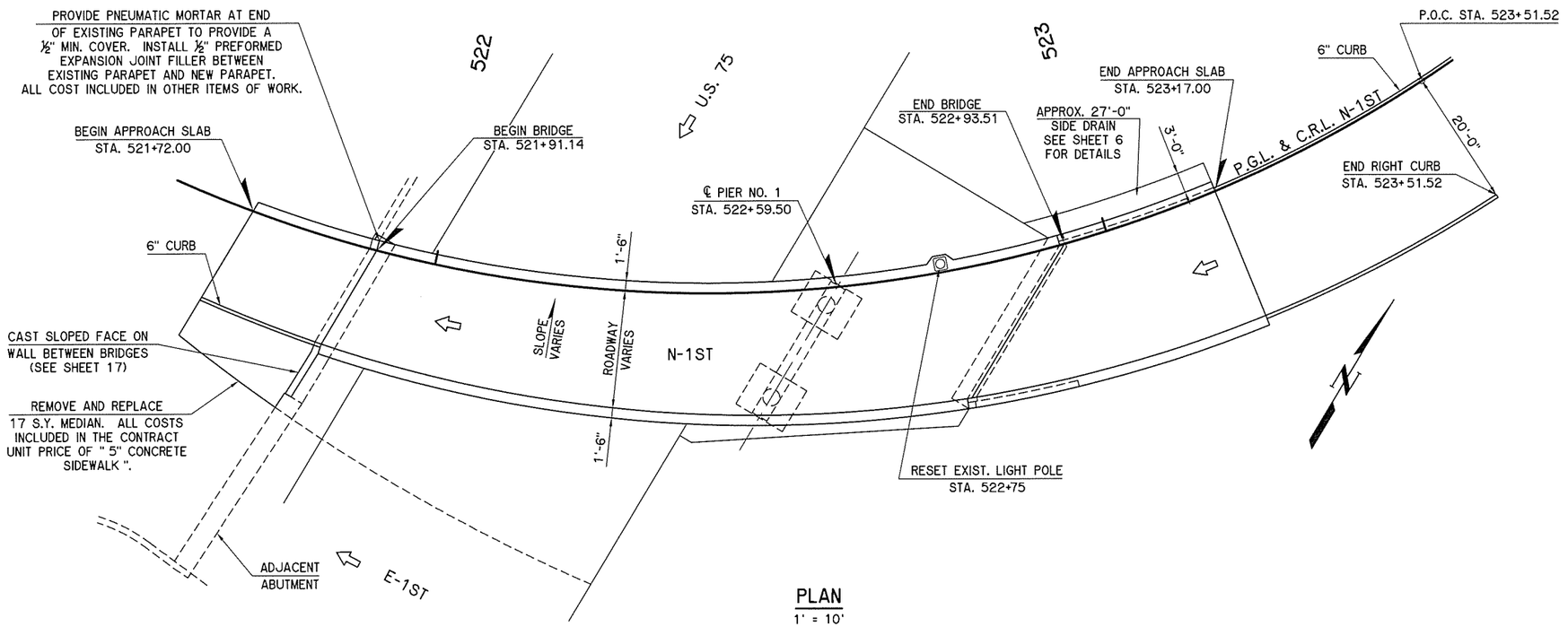
| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | DEP | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKD | |

N-1ST RAMP OVER US75 TULSA COUNTY

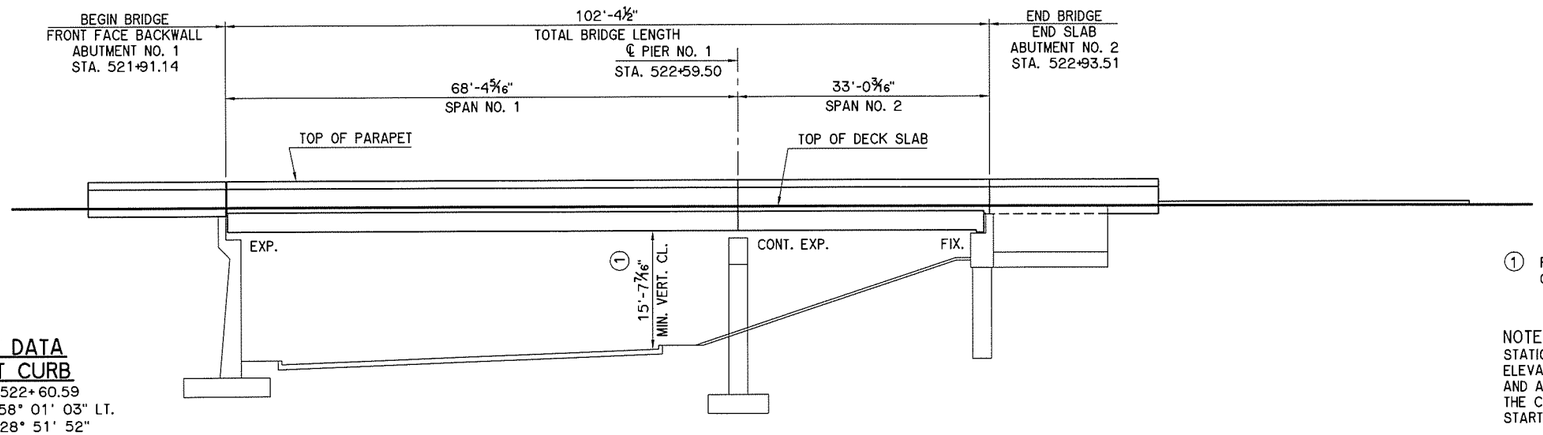
SUMMARY OF TRAFFIC QUANTITIES

STATE JOB PIECE NO. 28879(04) SHEET NO. 3

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |



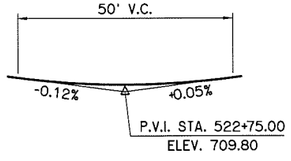

PLAN
1" = 10'



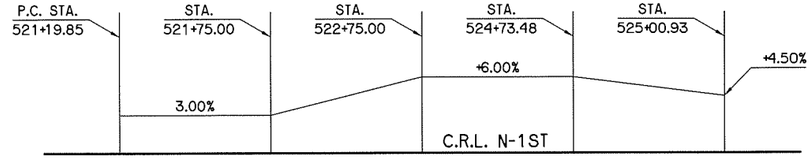

ELEVATION
1" = 10'

## EXISTING HORIZONTAL CURVE DATA

| C.R.L. | | RIGHT CURB | |
|---|---|---|---|
| P.I. | = 524+13.00 | P.I. | = 522+60.59 |
| Δ | = 113° 49' 50" LT. | Δ | = 58° 01' 03" LT. |
| D | = 30° 00' 00" | D | = 28° 51' 52" |
| T | = 293.18' | T | = 110.07' |
| L | = 379.44' | L | = 201.00' |
| R | = 190.99' | R | = 198.50' |
| V | = 25 M.P.H. | | |
| S | = 0.06 FT/FT | | |




EXISTING VERTICAL CURVE DATA




EXISTING SUPERELEVATION DATA

## DESIGN DATA

| | |
|---|---|
| CONCRETE CLASS AA | f'c = 4 K.S.I. |
| REINFORCING STEEL (GRADE 60) | fy = 60 K.S.I. |
| STRUCTURAL STEEL M270 (GRADE 50W) | Fy = 50 K.S.I. |
| STAINLESS STEEL A240 (TYPE 316) | Fy = 30 K.S.I. |

LOADING:
HL-93 OR OKLAHOMA OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
ANSI/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

HL93 INVENTORY RATING FACTOR: 1.11
HL93 OPERATING RATING FACTOR: 1.95

## INDEX OF SHEETS



## STANDARD

EJ-DTL-01E
EJ-SK-03E
SFP1-2-00E
LECS-4-1
DC-3-2

① PER EXISTING PLANS. NEW BEAMS WILL HAVE 3½" MORE VERTICAL CLEARANCE WHICH SHOULD RESULT IN 15'-10$^{15}/_{16}$" VERTICAL CLEARANCE.

NOTE:
STATIONS, VERTICAL & HORIZONTAL CURVE DATA, SUPERELEVATION DATA, ELEVATIONS AND DIMENSIONS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE TAKEN FROM EXISTING PLANS, PROJECT NO. 1-244-2(115)096. THE CONTRACTOR SHALL VERIFY THE GRADE LINE AND SUPERELEVATION BEFORE STARTING ANY REMOVAL OR CONSTRUCTION OPERATIONS.

FOR SUMMARY OF BRIDGE QUANTITIES AND PIER WATER REPELLENT DETAIL, SEE SHEET 8.

N-1ST RAMP OVER U.S. 75 TULSA COUNTY

# GENERAL PLAN & ELEVATION

68.4'-34.0' CONT. ROLLED BEAM SPANS, VARYING CL.
ROADWAY W/ F-SHAPED PARAPETS, VARYING SKEW
℄ STA. 522+42.33

| | | |
|---|---|---|
| Design | JNS | |
| Detail | HEJ | |
| Check | JNS | |

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 28879(04) SHEET NO. 4

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| REVISIONS | | |
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| REV. NO. | DESCRIPTION | DATE |
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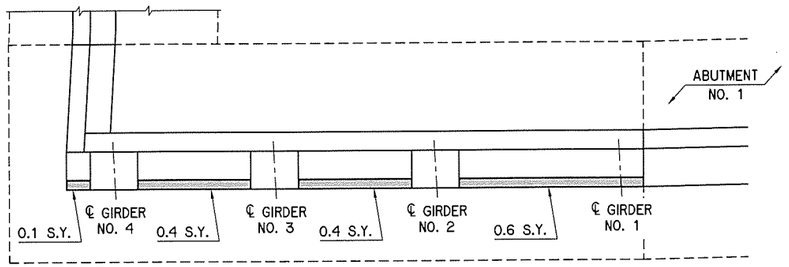
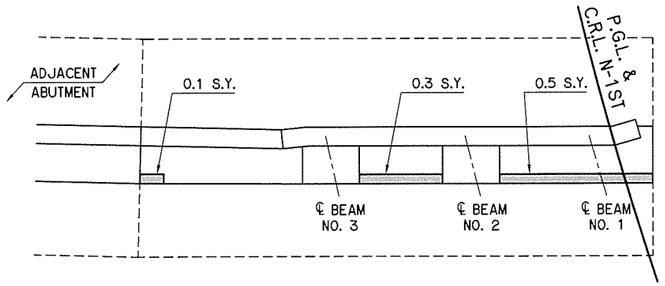



PLAN

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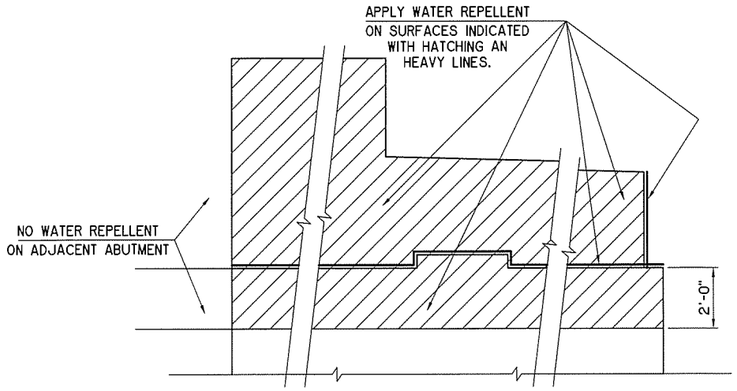
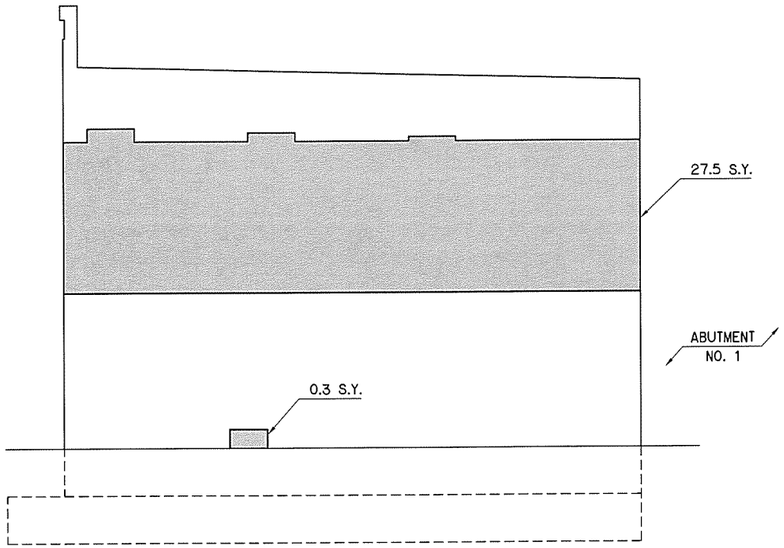
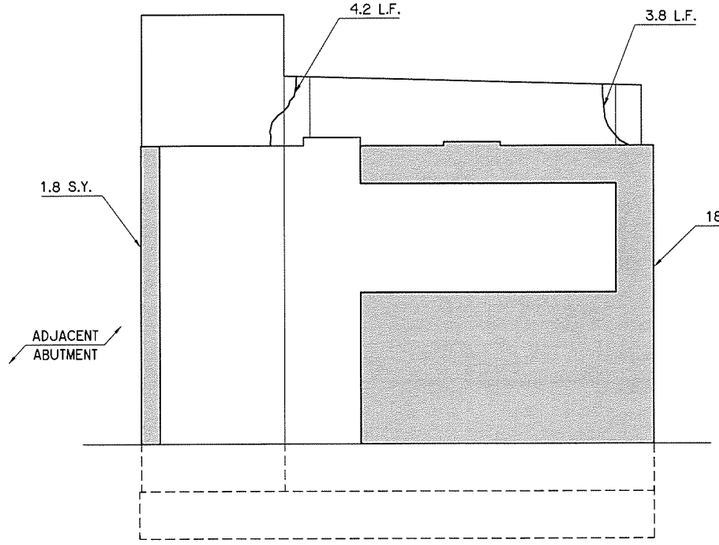


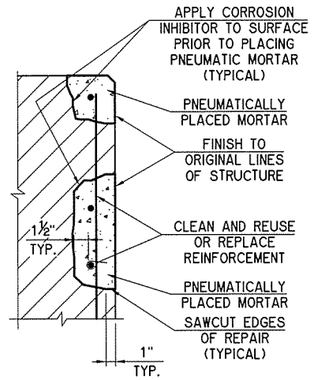

ABUTMENT NO. 1
WATER REPELLENT TREATMENT DETAIL




ELEVATION
ADJACENT ABUTMENT




ELEVATION
ABUTMENT NO. 1




PNEUMATICALLY PLACED MORTAR
REPAIR DETAIL

## ABUTMENT REPAIR QUANTITIES

| ITEM | UNIT | ABUT. NO. 1 | ABUT. 1 ADJ. | ABUT. NO. 2 | TOTAL |
|---|---|---|---|---|---|
| SPECIAL CONCRETE FINISH | S.Y. | 68 | 57 | 56 | 181 |
| CLASS C CONCRETE | C.Y. | | | 1.1 | 1.1 |
| WATER REPELLENT (VISUALLY INSPECTED) | S.Y. | 25 | | 27 | 52 |
| PREPARATION OF CRACKS, ABOVE WATER | L.F. | 8.0 | | 9.8 | 17.8 |
| EPOXY RESIN, ABOVE WATER | GAL. | 1 | | 1 | 2 |
| PNEUMATICALLY PLACED MORTAR | S.Y. | 21.3 | 29.3 | 16.1 | 66.7 |

LEGEND

PNEUMATICALLY PLACED MORTAR WITH CORROSION INHIBITOR (SURFACE APPLIED)

PREPARATION OF CRACKS, ABOVE WATER

N-1ST RAMP OVER U.S. 75 TULSA COUNTY

ABUTMENT REPAIR DETAILS
SHEET 1 OF 2
ABUTMENT NO. 1 AND ADJACENT ABUTMENT

| | | |
|---|---|---|
| Design | JNS | |
| Detail | HEJ | |
| Check | JNS | |

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION | JOB PIECE NO. 28879(04) | SHEET NO. 5

I:\Active\1445\Drawings\Structural\5 Abutment Repair Dtls Sheet 1 of 2.dwg, 5/12/2016 10:08:41 AM, Howard

| REVISIONS | | |
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| REV. NO. | DESCRIPTION | DATE |
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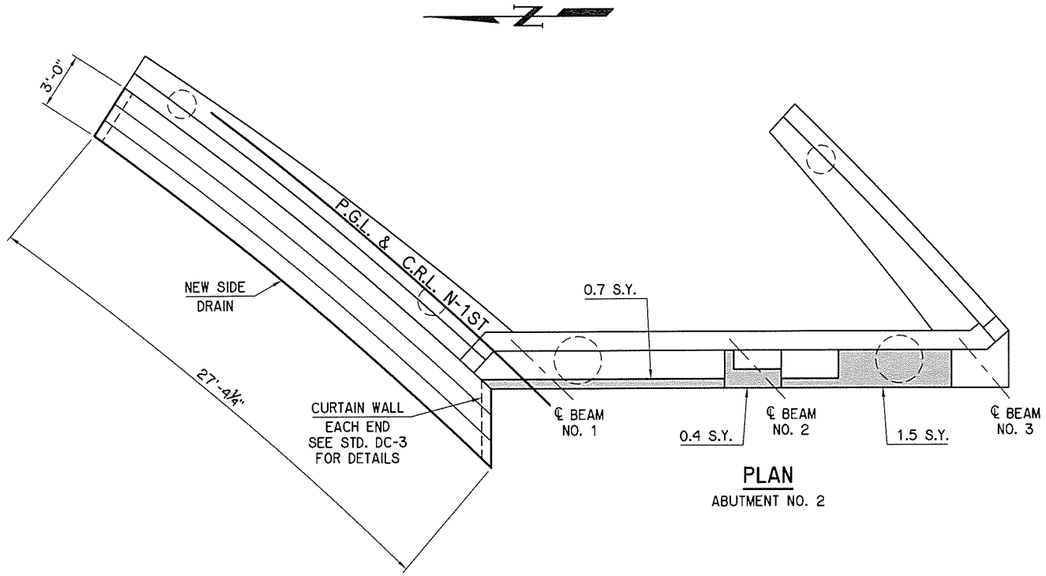
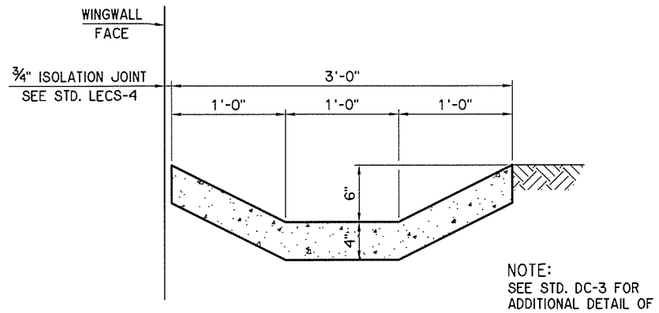



**PLAN**
ABUTMENT NO. 2

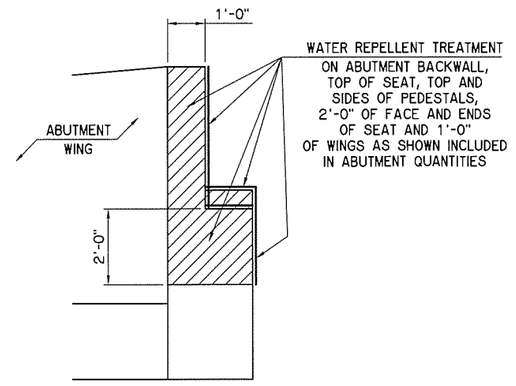



NOTE:
SEE STD. DC-3 FOR ADDITIONAL DETAIL OF PAVED DITCH.

**SIDE DRAIN DETAIL**
ALL COSTS ASSOCIATED WITH INSTALLING SIDE DRAIN TO BE INCLUDED IN "CLASS C CONCRETE"




**ELEVATION**
ABUTMENT NO. 2




**ABUTMENT NO. 2**
**WATER REPELLENT TREATMENT DETAIL**

NOTE:
FOR PNEUMATIC MORTAR REPAIR SEE SHEET 5.

**LEGEND**

- PNEUMATICALLY PLACED MORTAR WITH CORROSION INHIBITOR (SURFACE APPLIED)
- PREPARATION OF CRACKS, ABOVE WATER

| | | | |
|---|---|---|---|
| N-1ST RAMP OVER U.S. 75 | TULSA COUNTY | Design | JNS |
| ABUTMENT REPAIR DETAILS | | Detail | HEJ |
| SHEET 2 OF 2 | | Check | JNS |
| ABUTMENT NO. 2 | | WHITE ENGINEERING ASSOCIATES | |
| STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION | | |
| JOB PIECE NO. 28879(04) | | SHEET NO. 6 | |

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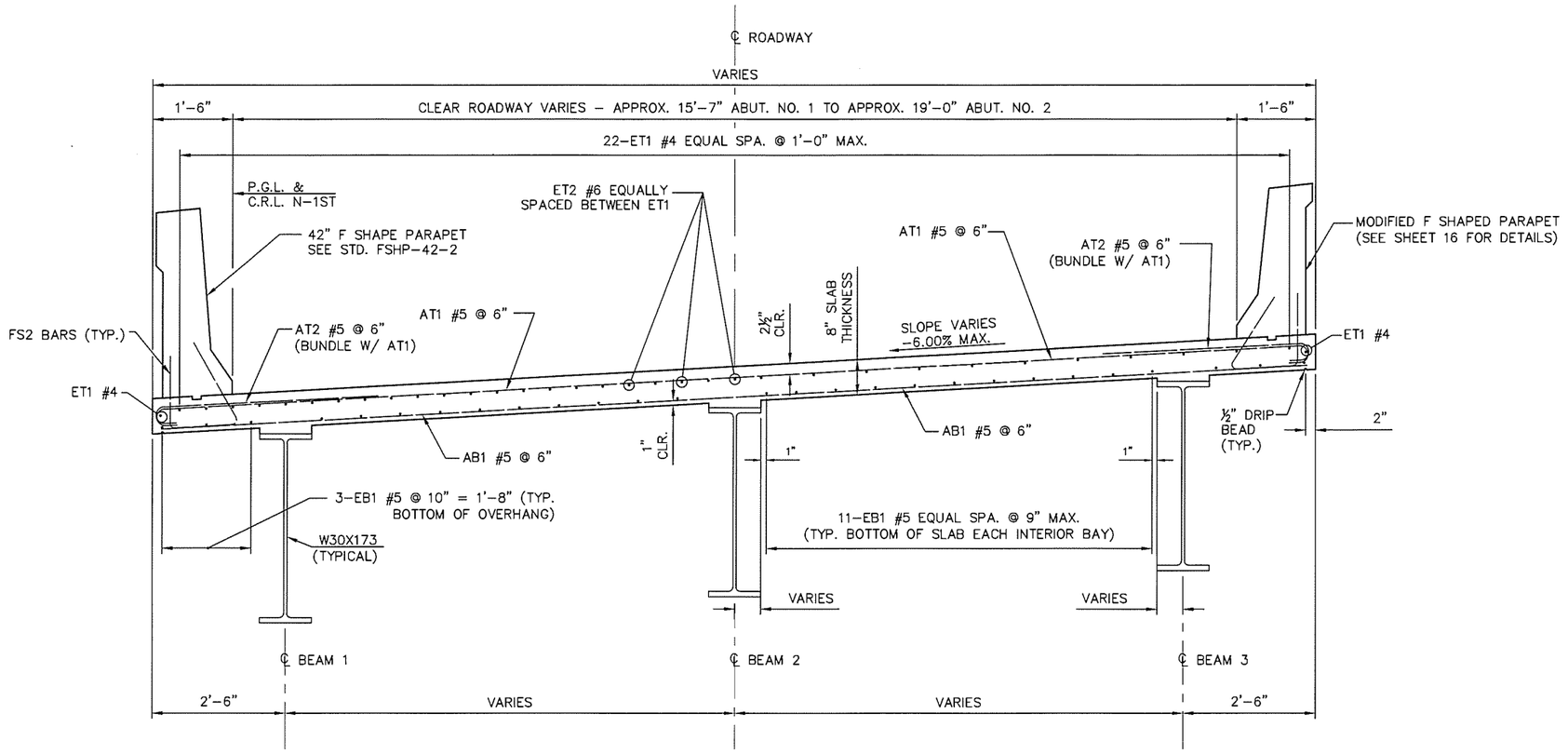
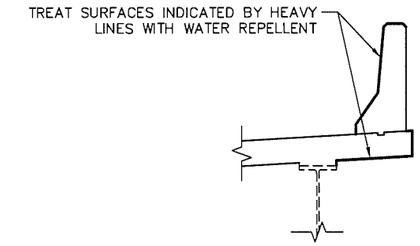



HALF SECTION NEAR PIER NO. 1

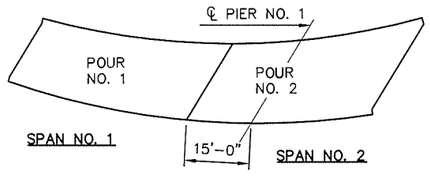
HALF SECTION NEAR MIDSPAN

ROTATE HOOKS ON BARS TO MAINTAIN MINIMUM CLEARANCE

## TYPICAL SECTION




## WATER REPELLENT TREATMENT DETAILS




## LONGITUDINAL DECK SLAB POURING SEQUENCE

THE POURING OF THE DECK SLAB CONCRETE SHALL BE IN THE SEQUENCE INDICATED. ALL POURS WITH THE SAME NUMBER MAY BE POURED IN ANY SEQUENCE, BUT ALL POURS WITH THE SAME NUMBER SHALL BE COMPLETED BEFORE BEGINNING THE NEXT NUMBERED POUR. THERE SHALL BE A LAPSE OF AT LEAST 48 HOURS BETWEEN NUMBERED POURS. IN THE EVENT OF AN EMERGENCY SITUATION, A KEYED CONSTRUCTION JOINT SHALL BE MADE PERPENDICULAR TO THE DIRECTION OF TRAFFIC AS DIRECTED BY THE ENGINEER. UNTIL THE SLAB IS IN PLACE ON BOTH SIDES OF THE CONSTRUCTION JOINTS, THE SLAB IS UNSUPPORTED, AND NO HEAVY EQUIPMENT WILL BE PERMITTED ON THE FINISHED SLAB WITHIN 6 FEET OF THE CONSTRUCTION JOINTS.

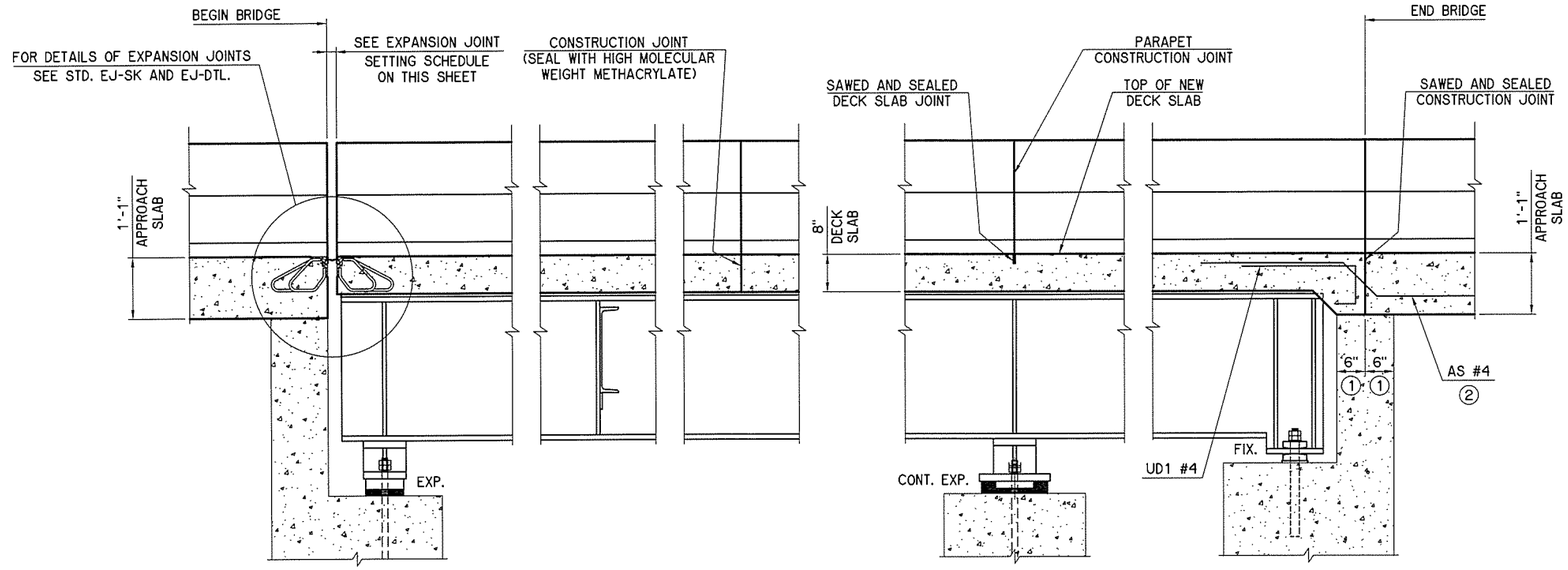
| | | |
|---|---|---|
| DESIGN | SJN | 01/09 |
| DRAWN | LCH | 01/09 |
| CHECKED | SAL | 01/09 |
| APPROVED | | |
| SQUAD | BKD | |

N–1ST RAMP OVER US75 TULSA COUNTY

**SUPERSTRUCTURE DETAILS**
(SHEET NO. 1 OF 10)

STATE JOB PIECE NO. 28879(04) SHEET NO. 7

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |



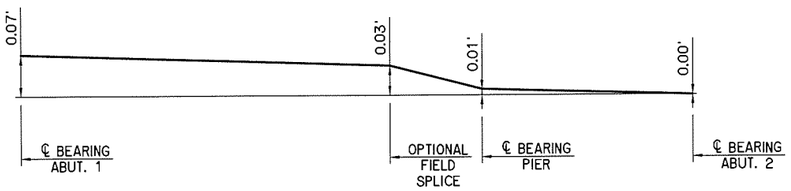

## LONGITUDINAL SECTION

DO NOT TINE WITHIN 6" OF ALL CONSTRUCTION JOINTS

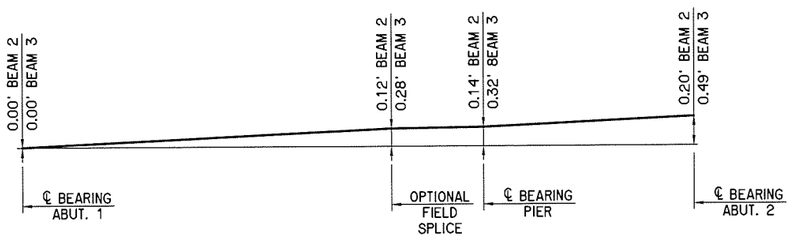
| EXPANSION JOINT SETTING SCHEDULE ABUTMENT NO. 1 | |
|---|---|
| JOINT OPENING | AMBIENT AIR TEMP (°F) |
| 1½" | 120 |
| 1⅝" | 107 |
| 1¾" | 92 |
| 1⅞" | 76 |
| 2" | 60 |
| 2⅛" | 44 |
| 2¼" | 28 |
| 2⅜" | 13 |
| 2½" | 0 |

① DIMENSION NORMAL TO BACKWALL.

② AS BARS SHALL BE TIED TO THE TOP LAYER OF REINFORCING IN THE DECK SLAB AND TO THE BOTTOM LAYER OF REINFORCING IN THE APPROACH SLAB. AS BARS MUST BE IN PLACE PRIOR TO POURING THE DECK SLAB CONCRETE.




BEAM 1



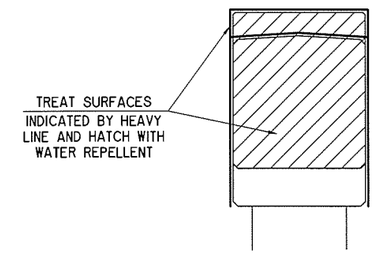

BEAMS 2 & 3

## BLOCKING DIAGRAM

NOTE:
BLOCKING DIAGRAM INCLUDES ALLOWANCE FOR GRADE AND DEAD LOAD DEFLECTION (BEAM & DECK).

## SUMMARY OF BRIDGE QUANTITIES

| ITEM | UNIT | ABUTMENTS | PIER | SUPERSTR. | APPR. SLABS | TOTAL |
|---|---|---|---|---|---|---|
| CLSM BACKFILL | C.Y. | | | | 82.0 | 82.0 |
| APPROACH SLAB | S.Y. | | | | 123.0 | 123.0 |
| SAW-CUT GROOVING | S.Y. | | | 194.3 | | 194.3 |
| SEALED EXPANSION JOINT | L.F. | | | 20.0 | | 20.0 |
| 42" F-SHAPED PARAPET | L.F. | | | 200.0 | 89.0 | 289.0 |
| STRUCTURAL STEEL | LB. | | | 63,810 | | 63,810 |
| STAINLESS STEEL FIXED BEARING ASSEMBLY | EA. | | | 3 | | 3 |
| STAINLESS STEEL EXPANSION BEARING ASSEMBLY | EA. | | | 6 | | 6 |
| SPECIAL CONCRETE FINISH | S.Y. | 181 | 49 | | | 230 |
| CLASS AA CONCRETE | C.Y. | | | 52.0 | | 52.0 |
| CLASS C CONCRETE | C.Y. | 1.1 | | | | 1.1 |
| EPOXY COATED REINFORCING STEEL | LB. | | | 19,890 | | 19,890 |
| WATER REPELLENT (VISUALLY INSPECTED) | S.Y. | 52 | 26 | 150 | 37 | 265 |
| PREPARATION OF CRACKS, ABOVE WATER | L.F. | 17.8 | | | | 17.8 |
| EPOXY RESIN, ABOVE WATER | GAL. | 2 | | | | 2 |
| PNEUMATICALLY PLACED MORTAR | S.Y. | 66.7 | | | | 66.7 |
| SEALER CRACK PREPARATION | L.F. | | | 20.4 | | 20.4 |
| SEALER RESIN | GAL. | | | 1 | | 1 |
| 5" CONCRETE SIDEWALK | S.Y. | | | 17 | | 17 |
| REMOVAL OF BRIDGE ITEMS | L.SUM | | | | | 1 |
| 2" GALV. STEEL ELECTRICAL CONDUIT EXPOSED | L.F. | | | | | 110 |
| PULL BOX | EA. | | | | | 1 |
| (PL) REMOVE AND RESET LIGHT POLE | EA. | | | | | 1 |




## PIER WATER REPELLENT TREATMENT DETAIL

N-1ST RAMP OVER U.S. 75 — TULSA COUNTY

SUPERSTRUCTURE DETAILS
SHEET 2 OF 10
LONGITUDINAL SECTION

| | | |
|---|---|---|
| Design | JNS | |
| Detail | FEZ | DRB |
| Check | JNS | |

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 28879(04) — SHEET NO. 8

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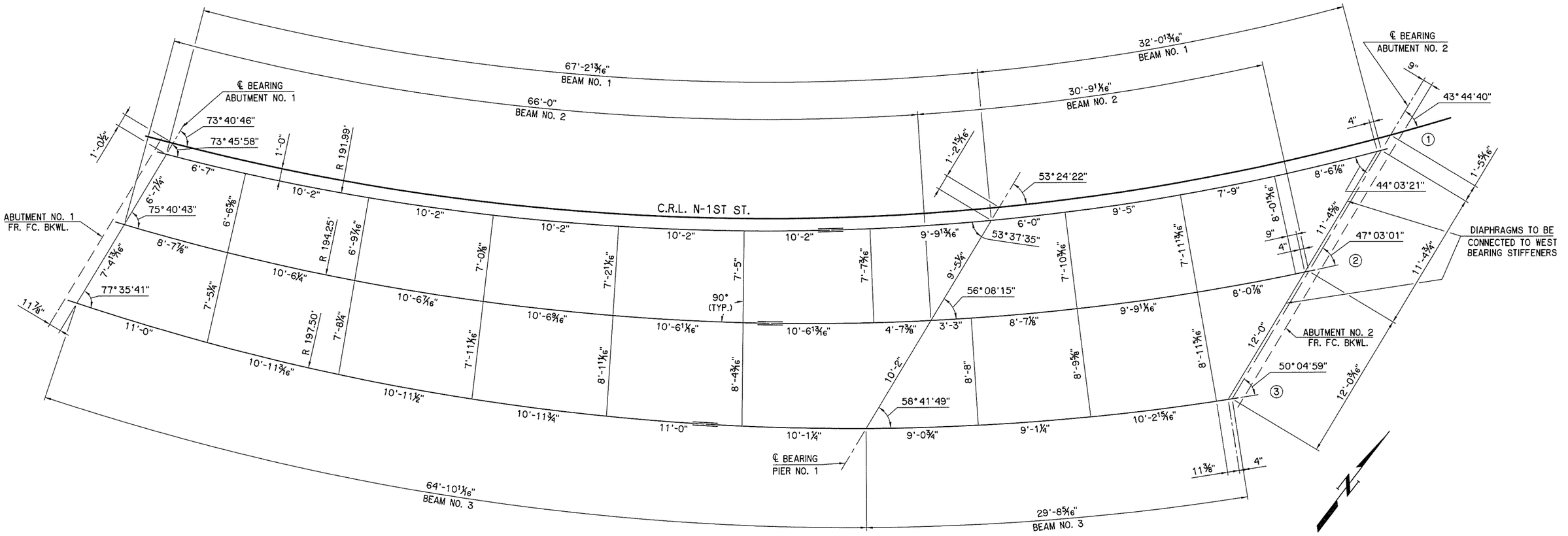
| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |




SPAN NO. 1

SPAN NO. 2

## FRAMING PLAN

| SUPERSTRUCTURE QUANTITIES | | |
|---|---|---|
| ITEM | UNIT | TOTAL |
| SAW-CUT GROOVING | S.Y. | 194.3 |
| SEALED EXPANSION JOINT | L.F. | 20.0 |
| 42" F-SHAPED PARAPET | L.F. | 200.0 |
| STRUCTURAL STEEL | LB. | 63,810 |
| STAINLESS STEEL FIXED BEARING ASSEMBLY | EA. | 3 |
| STAINLESS STEEL EXPANSION BEARING ASSEMBLY | EA. | 6 |
| CLASS AA CONCRETE | C.Y. | 52.0 |
| EPOXY COATED REINFORCING STEEL | LB. | 19,890 |
| WATER REPELLENT (VISUALLY INSPECTED) | S.Y. | 150 |
| SEALER CRACK PREPARATION | L.F. | 20.4 |
| SEALER RESIN | GAL. | 1 |
| 5" CONCRETE SIDEWALK | S.Y. | 17 |

N-1ST RAMP OVER U.S. 75 TULSA COUNTY

SUPERSTRUCTURE DETAILS
SHEET 3 OF 10
BEAM FRAMING PLAN

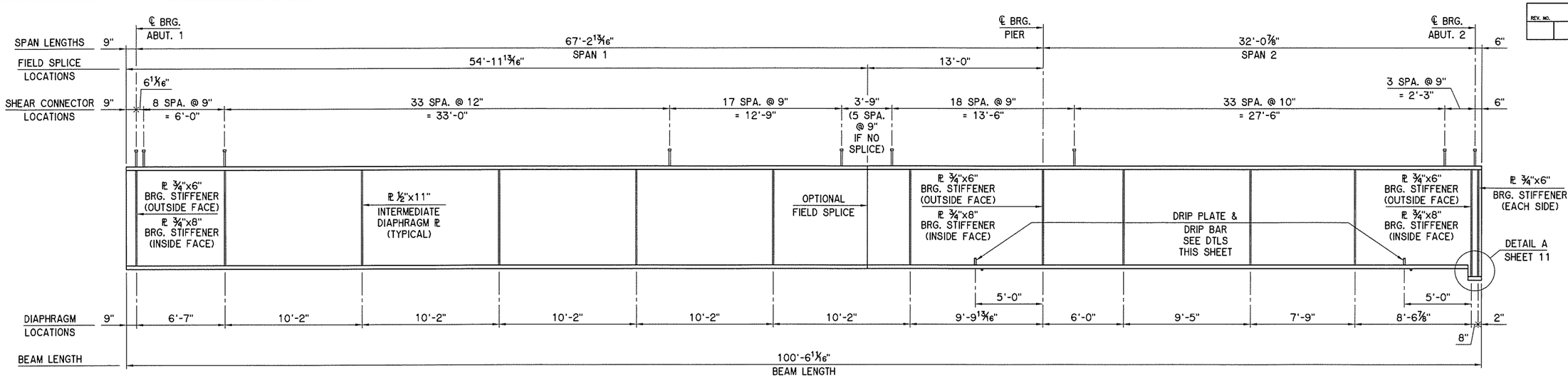
| | | |
|---|---|---|
| Design | JNS | |
| Detail | HEJ | |
| Check | JNS | |

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

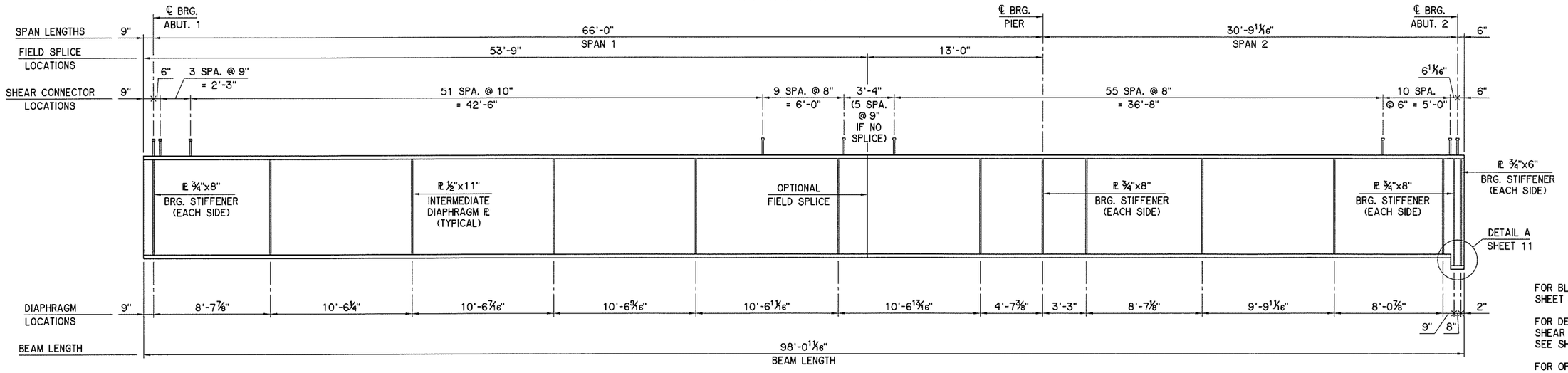
JOB PIECE NO. 28879(04) SHEET NO. 9

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |




## BEAM 1 ELEVATION

W30x173 ON 191.99' RADIUS



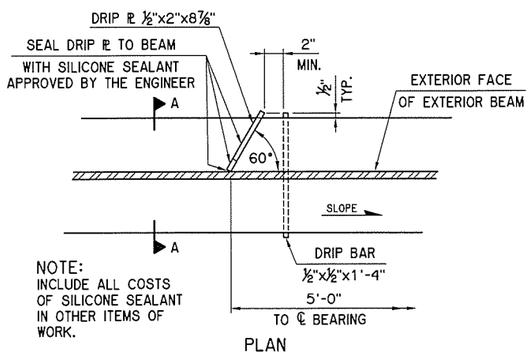

FOR BLOCKING DIAGRAM SEE SHEET 8.

FOR DEFLECTION DIAGRAM AND SHEAR CONNECTOR DETAILS, SEE SHEET 11.

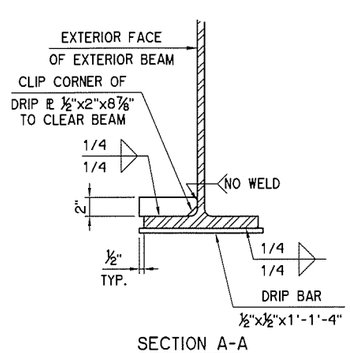
FOR OPTIONAL FIELD SPLICE DETAILS, SEE SHEET 12.

## BEAM 2 ELEVATION

W30x173 ON 194.25' RADIUS

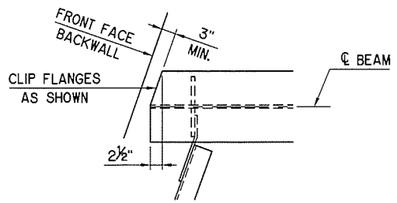



PLAN



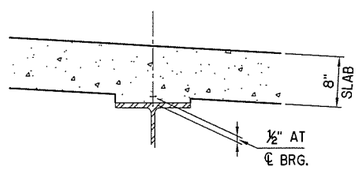

SECTION A-A

## DRIP PLATE AND DRIP BAR DETAILS




**BEAM END DETAIL**

ABUTMENT NO. 1 SHOWN
ABUTMENT NO. 2 SIMILAR
TYPICAL ALL BEAMS




BEAM HAUNCH DETAIL

NOTE:
PLAN QUANTITIES FOR CLASS AA CONCRETE INCLUDE BEAM HAUNCHES. THE HAUNCH HEIGHT SHOWN IS THE THEORETICAL HAUNCH HEIGHT AT THE CENTERLINE BEARING ONLY, MEASURED FROM THE BOTTOM OF THE DECK SLAB TO THE TOP OF THE BEAM, AND VARIES ACROSS THE SPAN. DETERMINE THE ACTUAL HAUNCH HEIGHT (ACCOUNTING FOR BEAM CAMBER, DEAD LOAD DEFLECTION AND ROADWAY GRADE) BEFORE NEW DECK CONSTRUCTION AND SUBMIT TO THE ENGINEER FOR APPROVAL. THE ENGINEER WILL NOT MEASURE DIFFERENCES BETWEEN THE THEORETICAL AND THE ACTUAL HAUNCH HEIGHTS FOR PAYMENT.

N-1ST RAMP OVER U.S. 75 — TULSA COUNTY

# SUPERSTRUCTURE DETAILS

SHEET 4 OF 10
BEAM 1 AND BEAM 2

| | |
|---|---|
| Design | JNS |
| Detail | HEJ |
| Check | JNS |

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 28879(04) — SHEET NO. 10

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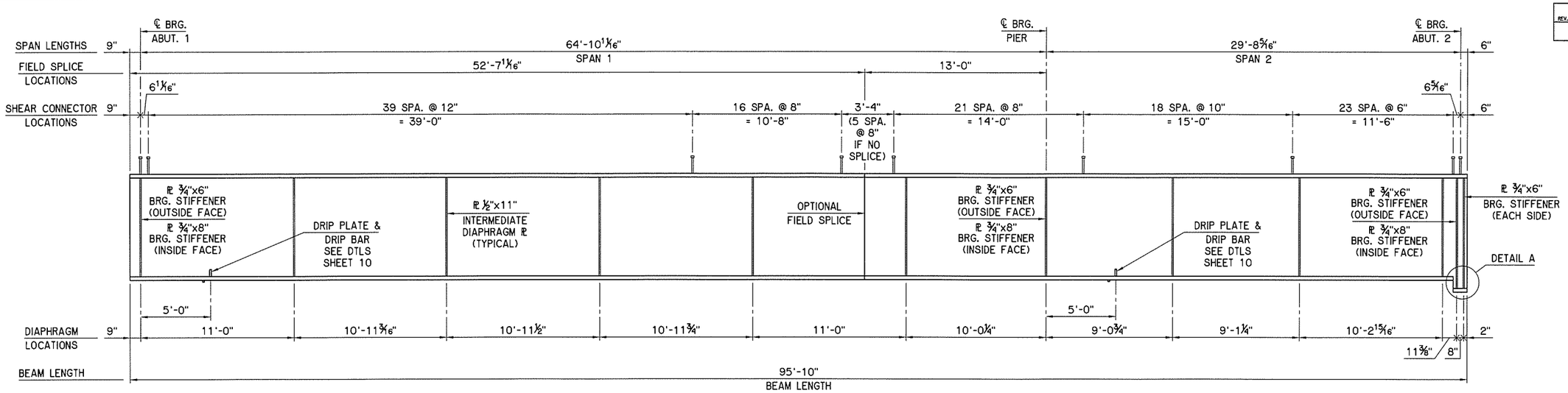
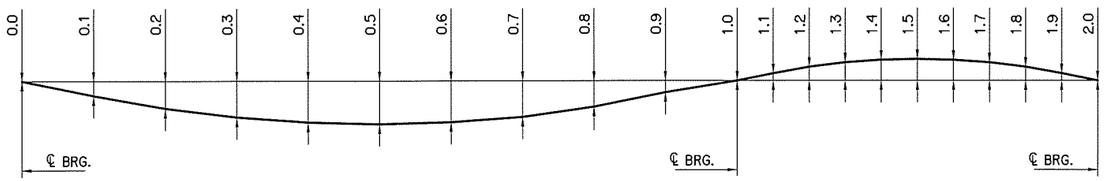
| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |

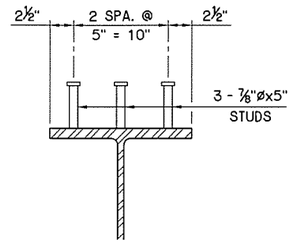



## BEAM 3 ELEVATION

W30x173 ON 197.50' RADIUS




## DEAD LOAD DEFLECTION DIAGRAM



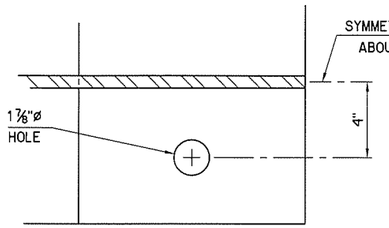

## SHEAR CONNECTOR DETAIL

TYPICAL ALL BEAMS

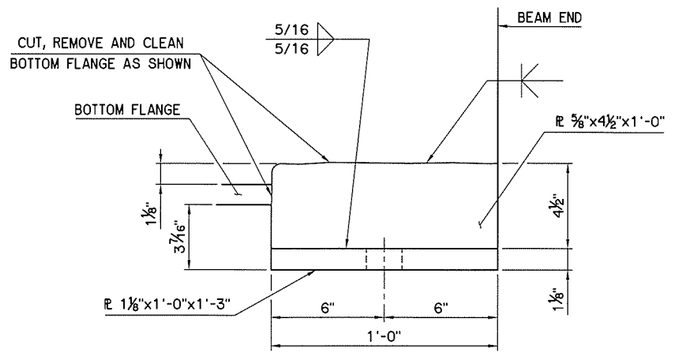
FOR BLOCKING DIAGRAM SEE SHEET 8.

FOR BEAM END DETAIL, SEE SHEET 10.

FOR OPTIONAL FIELD SPLICE DETAILS, SEE SHEET 12.




PLAN




ELEVATION

## DETAIL A

STIFFENERS NOT SHOWN FOR CLARITY

### DEAD LOAD DEFLECTION SCHEDULE

| SPAN LOCATION | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STEEL BEAM AND DIAPHRAGM ① | | | | | | | | | | | | | | | | | | | | | |
| BEAM 1 | 0.00" | 0.06" | 0.11" | 0.15" | 0.17" | 0.17" | 0.15" | 0.12" | 0.08" | 0.04" | 0.00" | -0.01" | -0.01" | -0.01" | -0.01" | -0.01" | -0.01" | 0.00" | 0.00" | 0.00" | 0.00" |
| BEAM 2 | 0.00" | 0.08" | 0.14" | 0.18" | 0.20" | 0.20" | 0.18" | 0.14" | 0.09" | 0.04" | 0.00" | -0.01" | -0.02" | -0.02" | -0.01" | -0.01" | -0.01" | -0.01" | 0.00" | 0.00" | 0.00" |
| BEAM 3 | 0.00" | 0.09" | 0.17" | 0.22" | 0.25" | 0.25" | 0.22" | 0.17" | 0.11" | 0.05" | 0.00" | -0.01" | -0.02" | -0.02" | -0.02" | -0.02" | -0.01" | -0.01" | -0.01" | 0.00" | 0.00" |
| DECK SLAB, HAUNCH, SIP FORMS, AND TRAFFIC RAIL ② | | | | | | | | | | | | | | | | | | | | | |
| BEAM 1 | 0.00" | 0.09" | 0.16" | 0.21" | 0.24" | 0.24" | 0.21" | 0.17" | 0.11" | 0.05" | 0.00" | -0.01" | -0.02" | -0.02" | -0.02" | -0.01" | -0.01" | -0.01" | 0.00" | 0.00" | 0.00" |
| BEAM 2 | 0.00" | 0.10" | 0.17" | 0.23" | 0.26" | 0.26" | 0.23" | 0.18" | 0.11" | 0.05" | 0.00" | -0.01" | -0.02" | -0.02" | -0.02" | -0.02" | -0.02" | -0.01" | -0.01" | 0.00" | 0.00" |
| BEAM 3 | 0.00" | 0.13" | 0.23" | 0.31" | 0.35" | 0.35" | 0.31" | 0.24" | 0.16" | 0.07" | 0.00" | -0.02" | -0.03" | -0.03" | -0.03" | -0.02" | -0.02" | -0.01" | -0.01" | 0.00" | 0.00" |

① THE STEEL DEFLECTIONS SHOWN AT THE TENTH POINTS ARE THE DEFLECTIONS DUE TO THE WEIGHT OF THE BEAM + DIAPHRAGMS.

② THE DEAD LOAD DEFLECTION SHOWN AT THE TENTH POINTS ARE THE DEFLECTIONS DUE TO DECK SLAB + HAUNCH + SIP FORMS + TRAFFIC RAIL. IT DOES NOT INCLUDE THE BEAM WEIGHT, DIAPHRAGMS OR FUTURE WEARING SURFACE.

N-1ST RAMP OVER U.S. 75 — TULSA COUNTY

# SUPERSTRUCTURE DETAILS

SHEET 5 OF 10

BEAM 3, DEFLECTION DIAGRAM, AND DETAILS

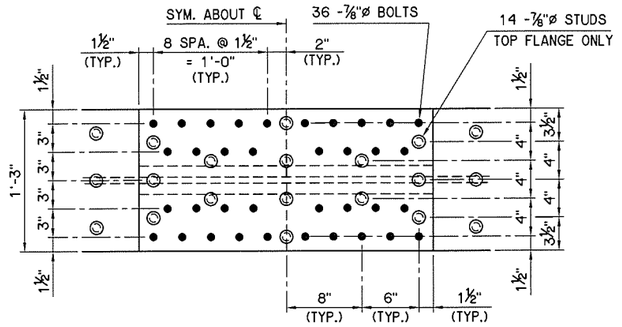
| | |
|---|---|
| Design | JNS |
| Detail | HEJ |
| Check | JNS |

WHITE ENGINEERING ASSOCIATES

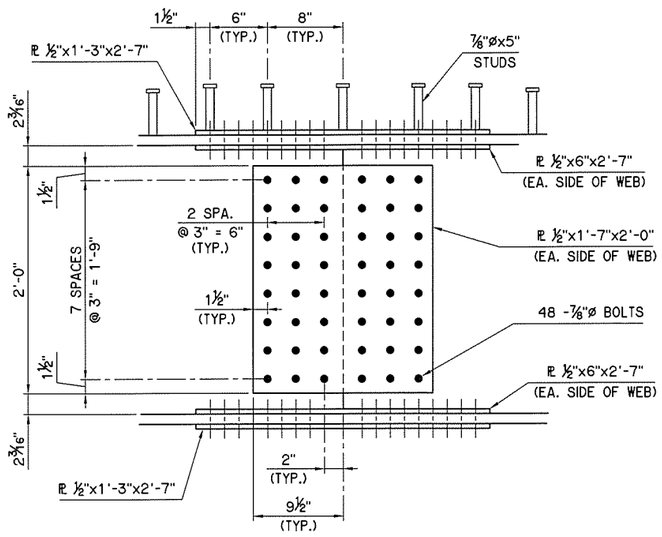
**STATE OF OKLAHOMA** — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 28879(04) — SHEET NO. 11

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |



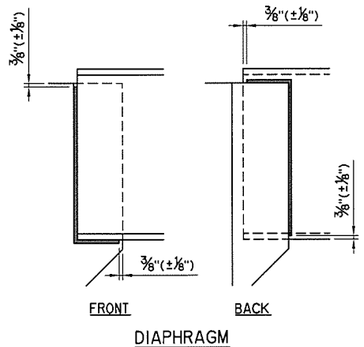

TOP & BOTTOM FLANGE PLAN



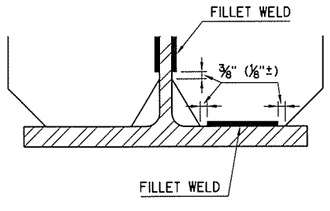

WEB ELEVATION

## FIELD SPLICE DETAILS

120 -⅞"ø BOLTS AND 14 -⅞"øx5" STUDS
REQUIRED AT EACH FIELD SPLICE

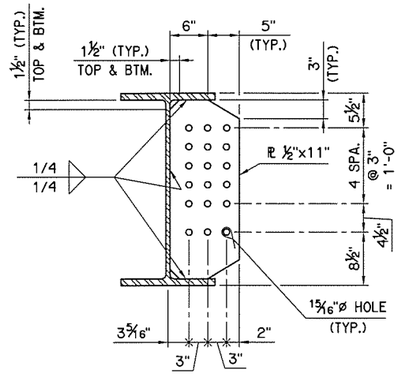



DIAPHRAGM



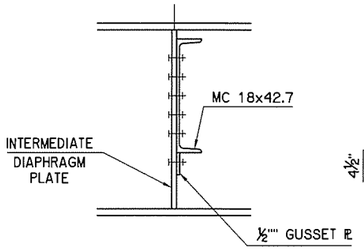

BEARING STIFFENER AND
INTERMEDIATE DIAPHRAGM ℞

WELD TERMINATION DETAILS

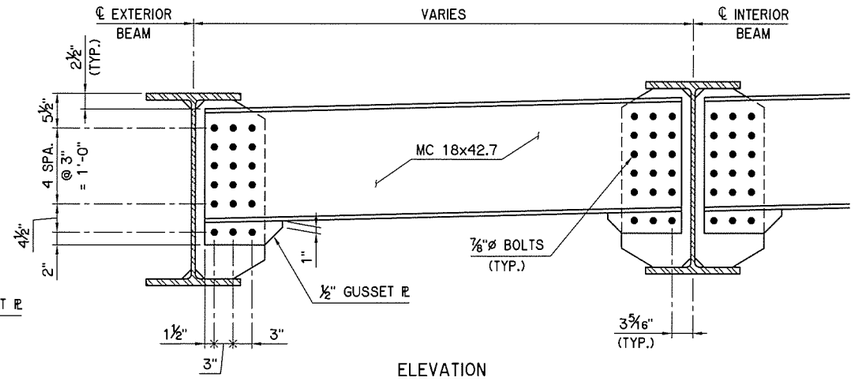



## INTERMEDIATE DIAPHRAGM PLATE

OMIT ℞ ON OUTSIDE FACE
OF EXTERIOR BEAMS

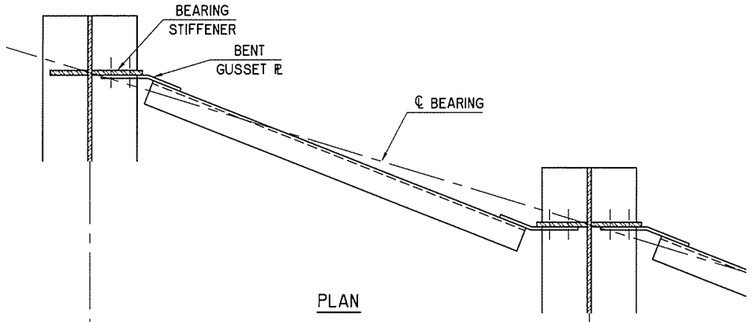



SECTION

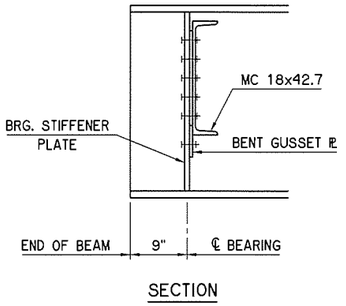



ELEVATION

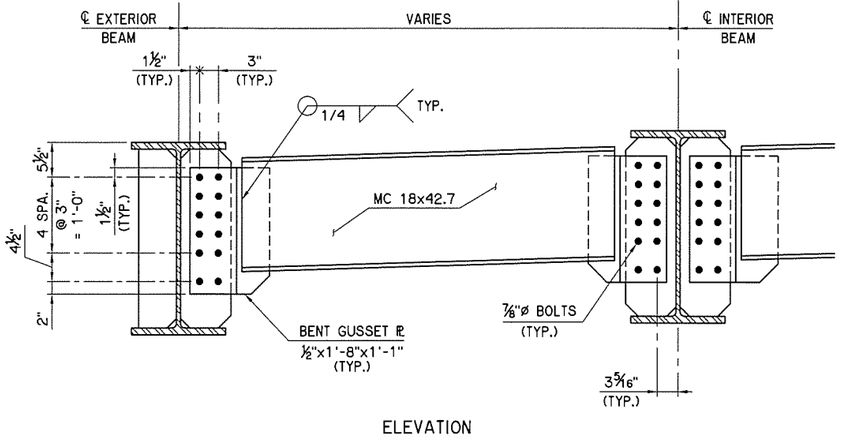
## INTERMEDIATE DIAPHRAGM




PLAN

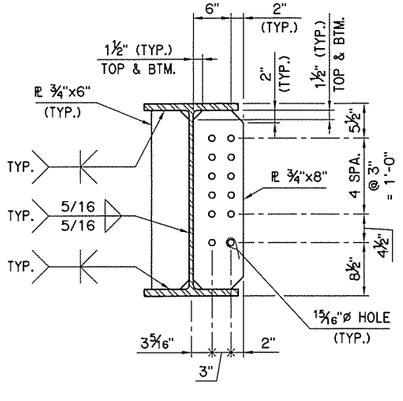



SECTION




ELEVATION

## ABUTMENT AND PIER DIAPHRAGM



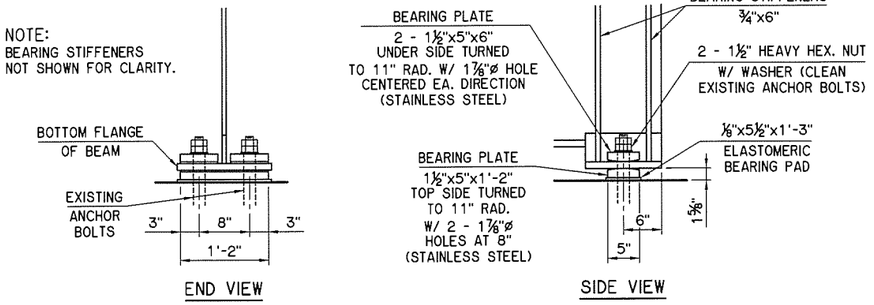

## BEARING STIFFENER PLATE

OMIT HOLES IN STIFFENER ℞
WHERE NO DIAPHRAGM
CONNECTION IS REQUIRED

| | | | |
|---|---|---|---|
| N-1ST RAMP OVER U.S. 75 | TULSA COUNTY | Design | JNS |
| SUPERSTRUCTURE DETAILS | | Detail | HEJ |
| SHEET 6 OF 10 | | Check | JNS |
| FIELD SPLICE AND DIAPHRAGM DETAILS | | WHITE ENGINEERING ASSOCIATES | |
| STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION | | |
| JOB PIECE NO. 28879(04) | | SHEET NO. 12 | |

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |

NOTE:
BEARING STIFFENERS
NOT SHOWN FOR CLARITY.

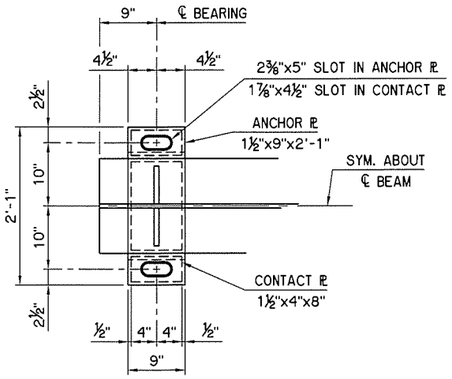



END VIEW

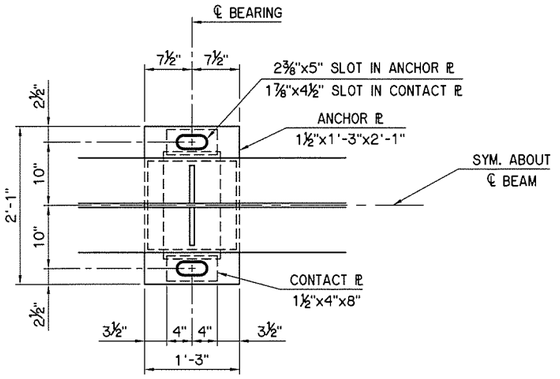
SIDE VIEW

## FIXED BEARING DETAILS

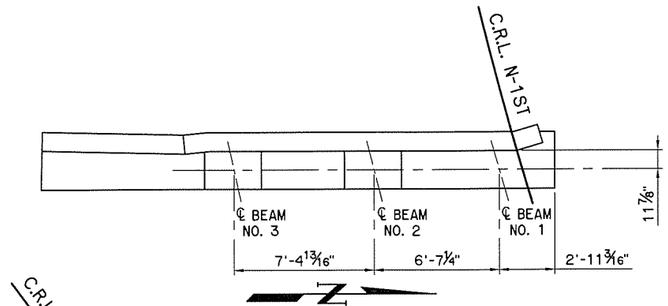
ABUTMENT NO. 2



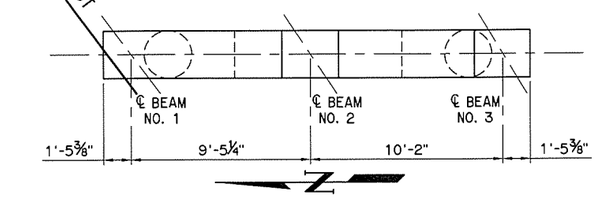

PLAN VIEW
ABUTMENT NO. 1



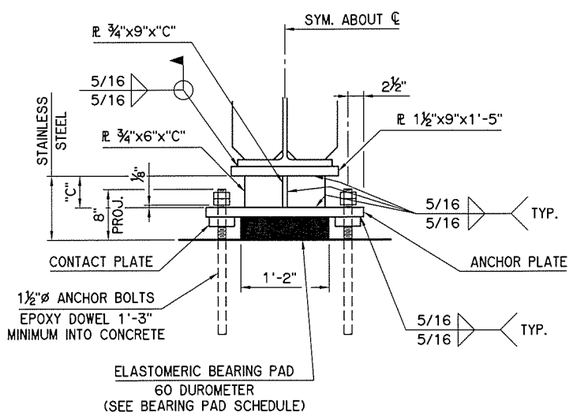

PLAN VIEW
PIER



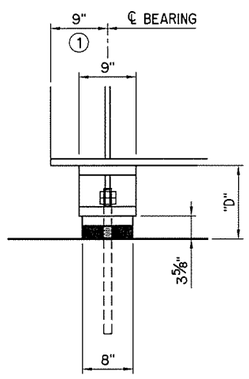

## ABUTMENT NO. 1 BEARING LOCATIONS




## PIER NO. 1 BEARING LOCATIONS

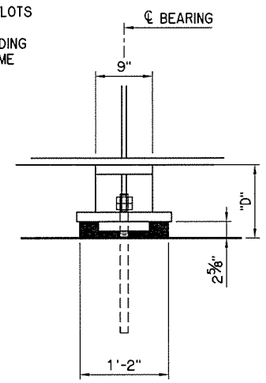



END VIEW
ABUTMENT NO. 1 AND PIER



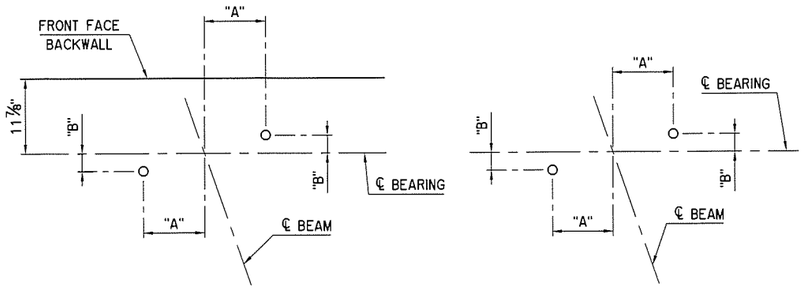

SIDE VIEW
ABUTMENT NO. 1

① CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF BEAMS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF BEAM SETTING.




SIDE VIEW
PIER

## EXPANSION BEARING DETAILS




ABUTMENT NO. 1

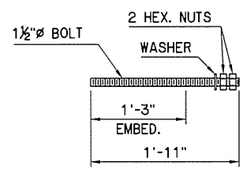
PIER

## ANCHOR BOLT LAYOUT

| ANCHOR BOLT LOCATION SCHEDULE | | | | |
|---|---|---|---|---|
| LOCATION | ABUTMENT NO. 1 | | PIER | |
| | "A" | "B" | "A" | "B" |
| BEAM 1 | 9⅝" | 2¹³⁄₁₆" | 8⅛" | 5¹⁵⁄₁₆" |
| BEAM 2 | 9¹¹⁄₁₆" | 2½" | 8⅝" | 5⅜" |
| BEAM 3 | 9¾" | 2⅛" | 8⅜" | 5⅜" |

| BEARING PAD SCHEDULE | | | | |
|---|---|---|---|---|
| LOCATION | SIZE (TxLxW) | COVER LAYER | INNER LAYER | LAMINATE PLATES |
| ABUTMENT NO. 1 | 3⅝"x8"x1'-2" | 2 - ¼" | 6 - ⅜" | 7 - ⅛" |
| PIER | 2⅝"x1'-2"x1'-2" | 2 - ¼" | 4 - ⅜" | 5 - ⅛" |

| DIMENSION SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| DIMENSION | ABUTMENT NO. 1 | | | PIER | | |
| | BEAM 1 | BEAM 2 | BEAM 3 | BEAM 1 | BEAM 2 | BEAM 3 |
| "C" | 4¾" | 5" | 5" | 5⅞" | 6⅝" | 6¾" |
| "D" | 11⅜" | 11⅝" | 11⅝" | 11½" | 12¼" | 12⅜" |




ANCHOR BOLT DETAIL

N-1ST RAMP OVER U.S. 75 — TULSA COUNTY

# SUPERSTRUCTURE DETAILS

SHEET 7 OF 10
BEARING DETAILS AND ANCHOR BOLT LAYOUT

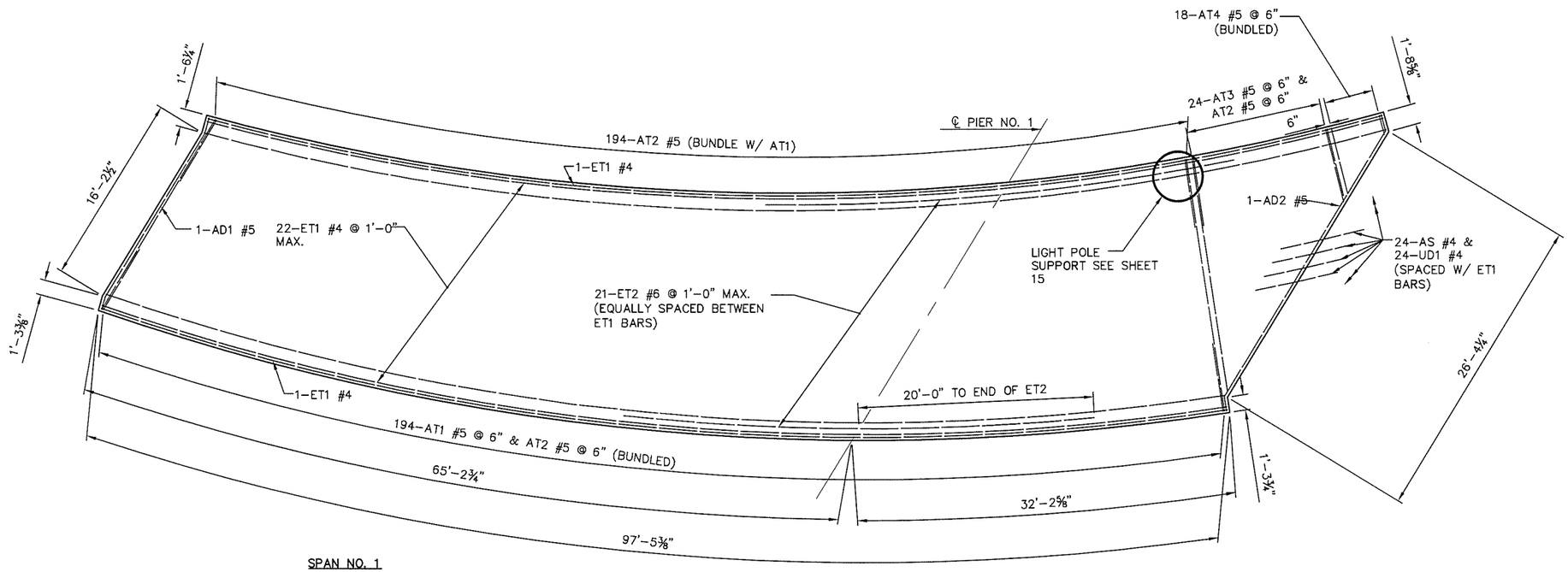
| | |
|---|---|
| Design | JNS |
| Detail | HEJ |
| Check | JNS |

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

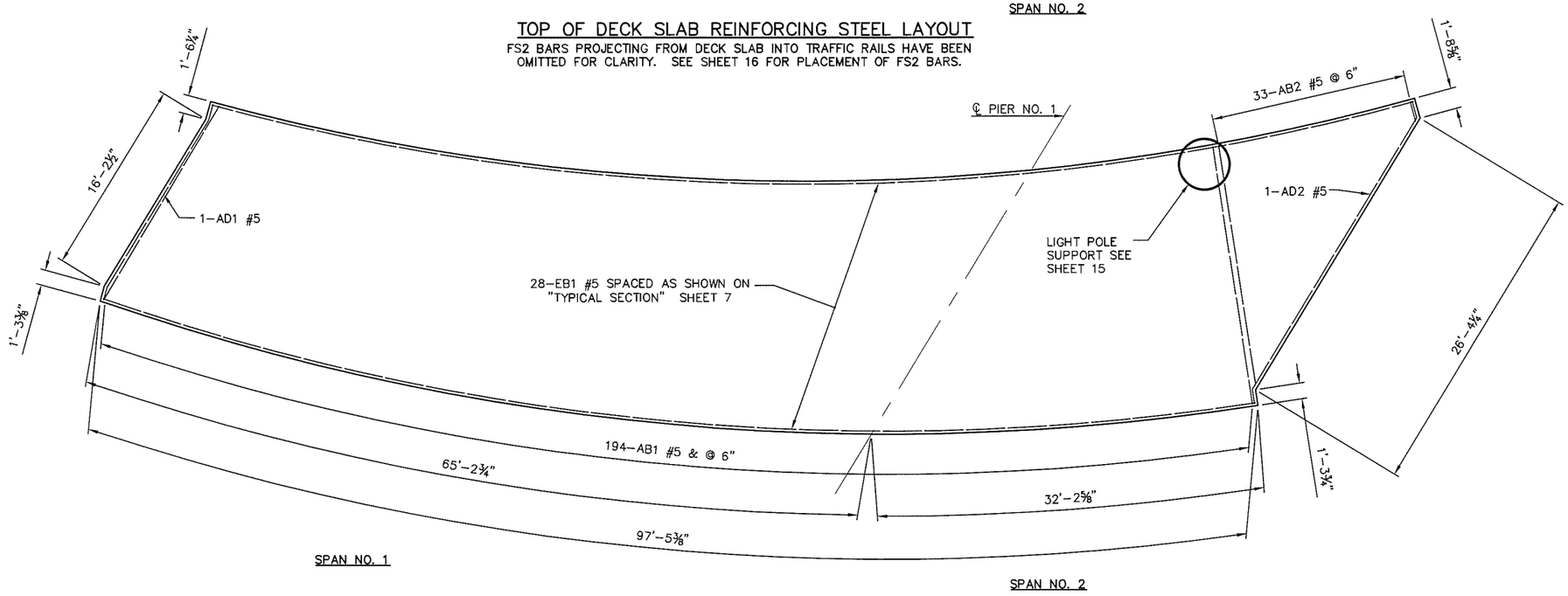
JOB PIECE NO. 28879(04) — SHEET NO. 13

I:\Active\1445\Drawings\Structural\13 Super Dtls 7of10.dwg, 5/12/2016 10:11:02 AM, Howard




## TOP OF DECK SLAB REINFORCING STEEL LAYOUT

FS2 BARS PROJECTING FROM DECK SLAB INTO TRAFFIC RAILS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 16 FOR PLACEMENT OF FS2 BARS.




## BOTTOM OF DECK SLAB REINFORCING STEEL LAYOUT

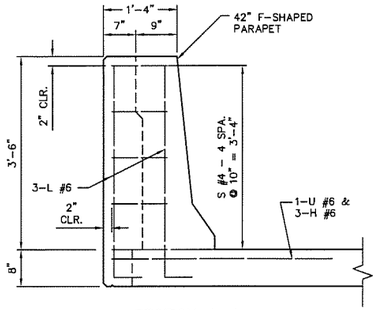
FS2 BARS PROJECTING FROM DECK SLAB INTO TRAFFIC RAILS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 16 FOR PLACEMENT OF FS2 BARS.

| | | |
|---|---|---|
| DESIGN | SJN | 01/09 |
| DRAWN | SJN | 01/09 |
| CHECKED | SAL | 01/09 |
| APPROVED | | |
| SQUAD | BKJ | |

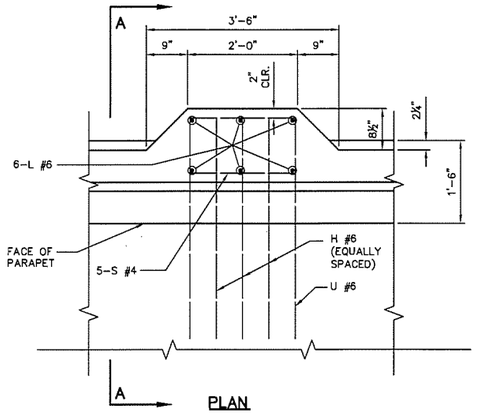
N–1ST RAMP OVER US75 TULSA COUNTY

**SUPERSTRUCTURE DETAILS**
(SHEET NO. 8 OF 10)

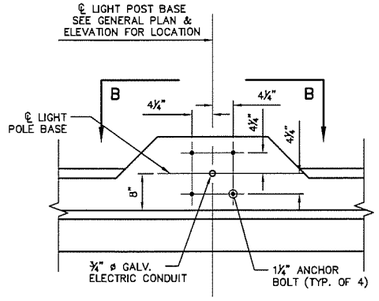
STATE JOB PIECE NO. 28879(04) SHEET NO. 14



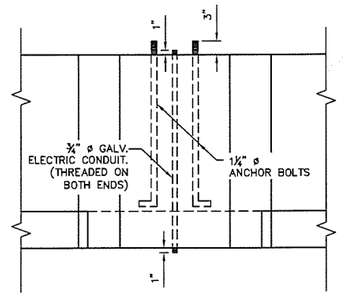

SECTION A–A



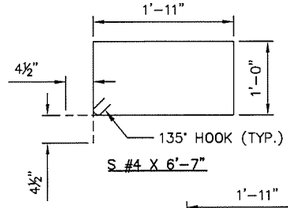

PLAN



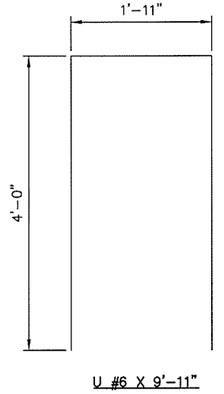

DETAIL OF ANCHOR BOLT & CONDUIT PLACEMENT



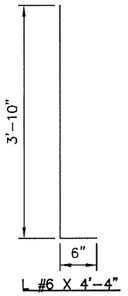

SECTION B–B



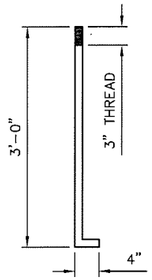

S #4 X 6'-7"




U #6 X 9'-11"




L #6 X 4'-4"




ANCHOR BOLT 1¼" ø DEFORMED BAR X 3'-4" W/ HEX NUT AND WASHERS

## NOTES:

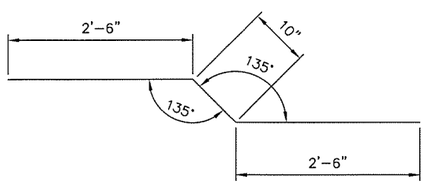
CONTRACTOR SHALL VERIFY ANCHOR BOLT & CONDUIT CONFIGURATION FOR COMPATIBILITY WITH EXISTING LIGHT POLES AND MAKE ADJUSTMENTS IF REQUIRED.

ALL COSTS OF LIGHT POLE SUPPORTS, INCLUDING CLASS AA CONCRETE, EPOXY COATED REINFORCING STEEL, ANCHOR BOLTS, CONDUIT, WIRING, LIGHTING AND ATTACHMENT HARDWARE SHALL BE INCLUDED IN THE BID PRICE PER EACH OF "RESET LIGHT POLES."

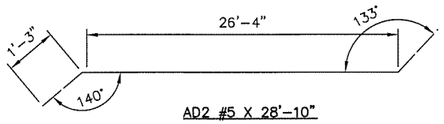
BAR LIST – ONE LIGHT POLE BASE

| MARK | NO. | SIZE | FORM | LENGTH |
|---|---|---|---|---|
| EPOXY COATED | | | | |
| H | 3 | #6 | STR. | 4'–0" |
| L | 6 | #6 | BNT | 4'–4" |
| S | 4 | #4 | BNT. | 6'–7" |
| U | 1 | #6 | BNT. | 9'–11" |

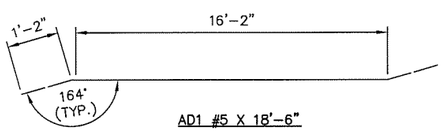
DETAILS OF BENT REINFORCEMENT



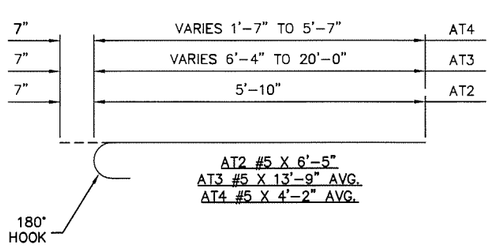

AS #4 X 5'–10"



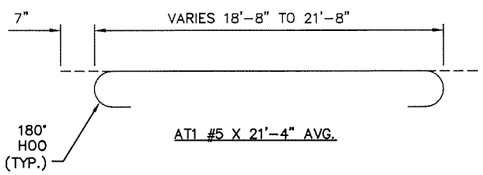

AD2 #5 X 28'–10"



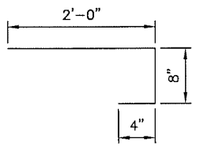

AD1 #5 X 18'–6"




AT2 #5 X 6'–5"
AT3 #5 X 13'–9" AVG.
AT4 #5 X 4'–2" AVG.




AT1 #5 X 21'–4" AVG.




UD1 #4 X 3'–0"

BAR LIST–SUPERSTRUCTURE

| | MARK | NO. | SIZE | FORM | LENGTH | LENGTH VARIATION |
|---|---|---|---|---|---|---|
| | EPOXY COATED | | | | | |
| | AB1 | 194 | #5 | STR. | 20'–2" AVG. | 18'–8" TO 21'–8" |
| | AB2 | 33 | #5 | STR. | 10'–10" AVG. | 1'–8" TO 20'–0" |
| | AD1 | 2 | #5 | BNT. | 18'–6" | |
| | AD2 | 2 | #5 | BNT. | 28'–10" | |
| | AT1 | 194 | #5 | BNT. | 21'–4" AVG. | 19'–10" TO 22'–10" |
| | AT2 | 412 | #5 | BNT. | 6'–5" | |
| | AT3 | 24 | #5 | BNT. | 13'–9" AVG. | 6'–11" TO 20'–7" |
| ③ | AT4 | 18 | #5 | BNT. | 4'–2" AVG. | 2'–2" TO 6'–2" |
| | AS | 24 | #4 | BNT. | 5'–10" | |
| ④ | EB1 | 28 | #5 | STR. | 104'–0" AVG. | 102'–0" TO 106'–0" |
| | FS2 | 188 | #5 | BNT. | 7'–4" | |
| ⑤ | ET1 | 24 | #4 | STR. | 103'–0" AVG. | 101'–0" TO 105'–0" |
| | ET2 | 21 | #6 | STR. | 40'–0" | |
| | UD1 | 24 | #4 | BNT. | 3'–0" | |

③ INCLUDES 2 SETS OF 9 BARS

④ LENGTH INCLUDES TWO 2'–6" LAP SPLICES (LAP SPLICES SHALL BE STAGGERED)

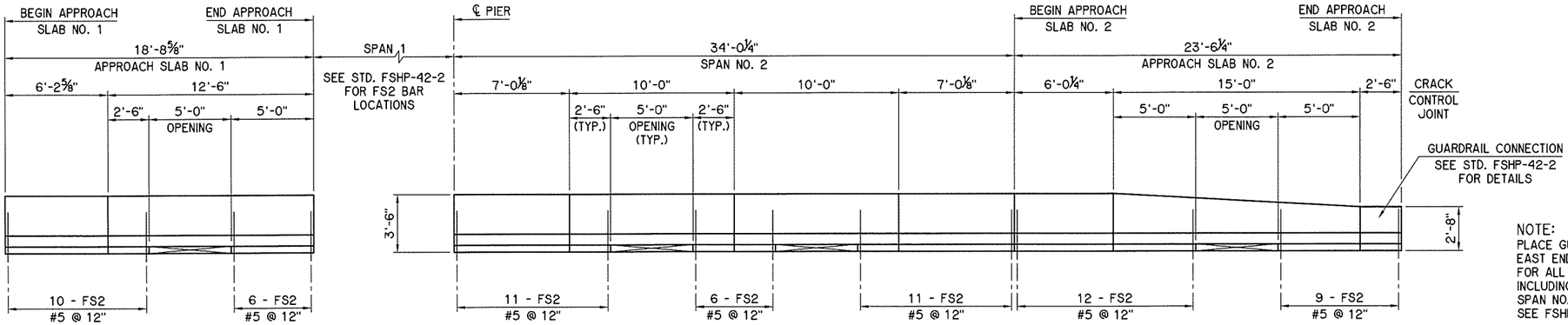
⑤ LENGTH INCLUDES TWO 2'–0" LAP SPLICES (LAP SPLICES SHALL BE STAGGERED)

DETAILS OF BENT REINFORCEMENT

| | | | |
|---|---|---|---|
| DESIGN | SJN | 01/09 | N–1ST RAMP OVER US75 TULSA COUNTY |
| DRAWN | LCH | 01/09 | **SUPERSTRUCTURE DETAILS** |
| CHECKED | SAL | 01/09 | (SHEET NO. 9 OF 10) |
| APPROVED | | | |
| SQUAD | BKL | | STATE JOB PIECE NO. 28879(04) SHEET NO. 15 |

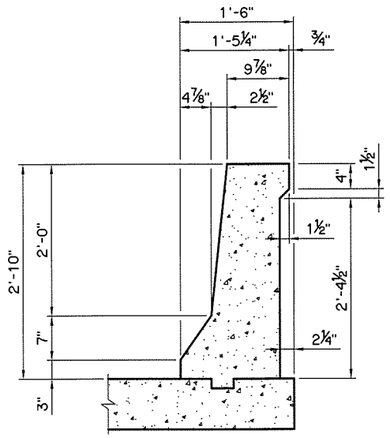
X:\Projects\611-ODOT-IDL North & South Bound Lanes\DWG\Sheets\611-BRIDGE 15\SHEETS\517-SB-BR15-SS02.dwg, 5/13/2016 8:36:52 AM, cdm

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |

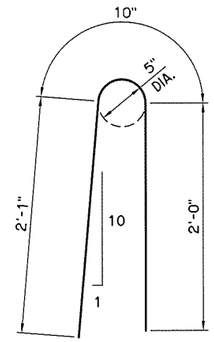



NOTE:
PLACE GUARDRAIL CONNECTION ON EAST END OF SOUTH PARAPET. FOR ALL OTHER PARAPET DETAILS, INCLUDING FS2 BAR LOCATIONS AT SPAN NO. 1 AND SOUTH PARAPET, SEE FSHP-42-2 STANDARD.

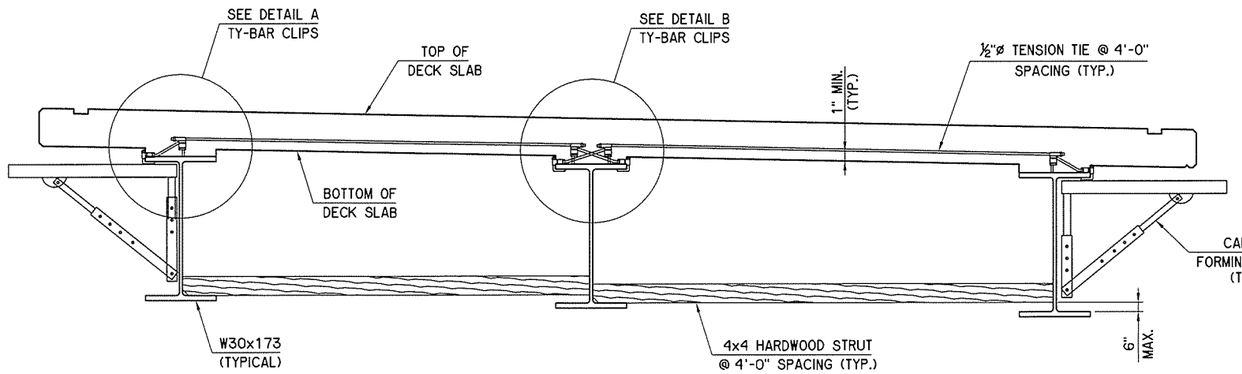
## NORTH PARAPET DRAINAGE OPENING LOCATIONS



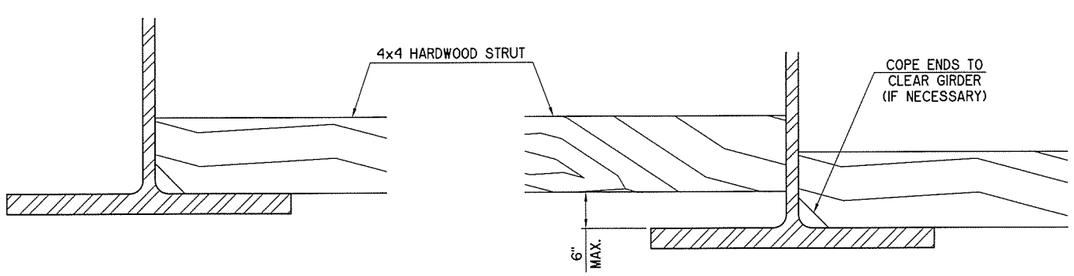

MODIFIED F-SHAPE SECTION
SOUTH PARAPET ONLY




FS7 #5 x 4'-11"
(USE IN LIEU OF STD. FS1 & FS4 BARS FOR SOUTH PARAPET)



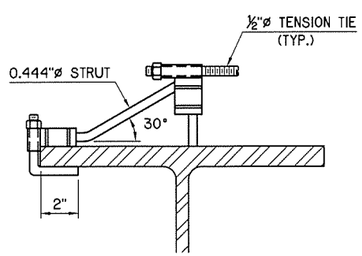

BEAM BRACING FOR DECK SLAB PLACEMENT



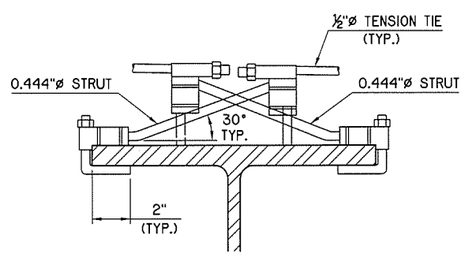

EXTERIOR

INTERIOR

HARDWOOD STRUT DETAIL



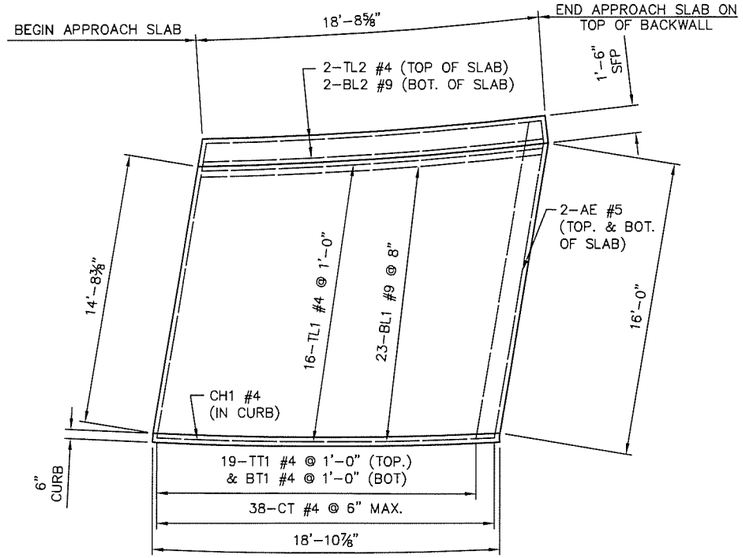

DETAIL A




DETAIL B

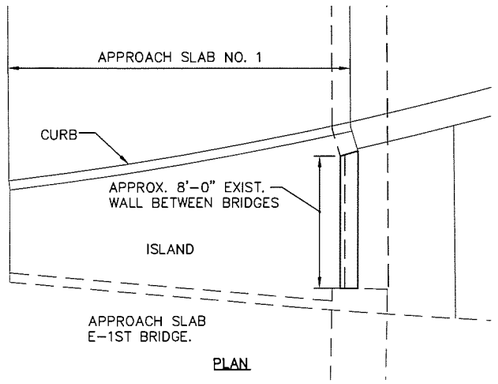
TY-BAR CLIP DETAILS
(EPOXY COATED)

| | | | |
|---|---|---|---|
| N-1ST RAMP OVER U.S. 75 | TULSA COUNTY | Design | JNS |
| SUPERSTRUCTURE DETAILS<br>SHEET 10 OF 10<br>PARAPET DETAILS AND BEAM BRACING DETAILS | | Detail | HEJ |
| | | Check | JNS |
| | | WHITE ENGINEERING ASSOCIATES | |
| STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION | | |
| JOB PIECE NO. 28879(04) | | SHEET NO. 16 | |



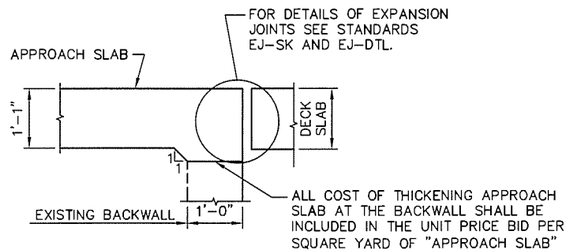

## APPROACH SLAB NO. 1 REINFORCING PLAN

FS2 BARS PROJECTING FROM APPROACH SLAB INTO TRAFFIC RAILS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 16 FOR PLACEMENT OF FS2 BARS.



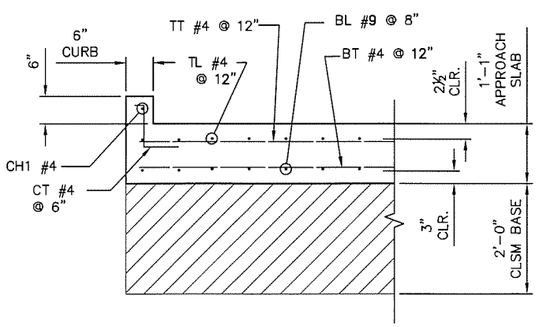

## DETAILS OF WALL FACE TREATMENT BETWEEN BRIDGES

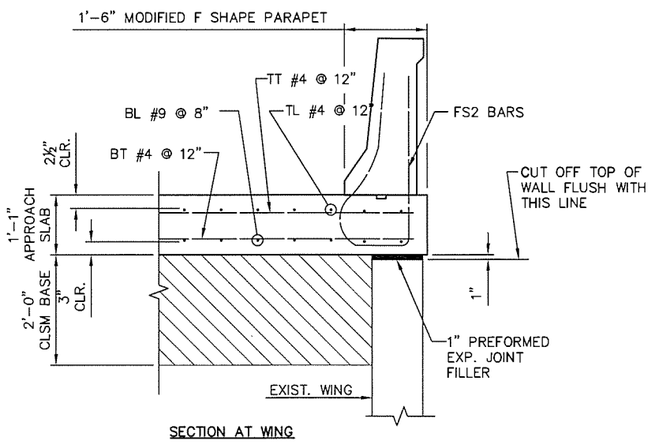
ALL COSTS ASSOCIATED WITH THE WALL FACE TREATMENT SHALL BE INCLUDED IN OTHER BID ITEMS



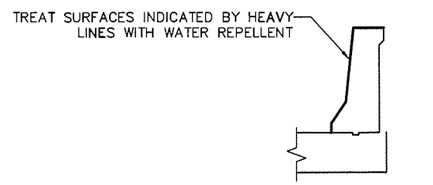

## SECTION THROUGH EXPANSION JOINT BETWEEN APPROACH SLAB AND DECK SLAB

| BAR LIST–APPROACH SLAB NO. 1 | | | | | |
|---|---|---|---|---|---|
| MARK | NO. | SIZE | FORM | LENGTH | LENGTH VARIATION |
| EPOXY COATED | | | | | |
| AE | 2 | #5 | BNT. | 17'–5" | |
| BL1 | 23 | #9 | STR. | 18'–4" | |
| BL2 | 2 | #9 | STR. | 18'–6" | |
| BT1 | 19 | #4 | STR. | 16'–10" AVG. | 16'–3" TO 17'–5" |
| CH1 | 1 | #4 | STR. | 18'–4" | |
| CT | 38 | #4 | BNT. | 2'–0" | |
| FS2 | 16 | #5 | BNT. | 7'–4" | |
| TL1 | 16 | #4 | STR. | 18'–4" | |
| TL2 | 2 | #4 | STR. | 18'–6" | |
| TT1 | 19 | #4 | STR. | 16'–10" AVG. | 16'–3" TO 17'–5" |

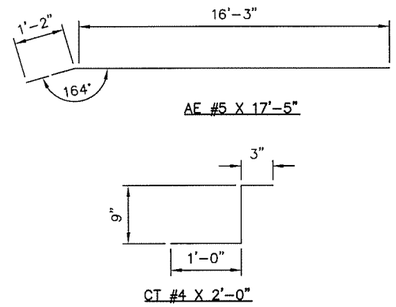



## TYPICAL APPROACH SLAB SECTION

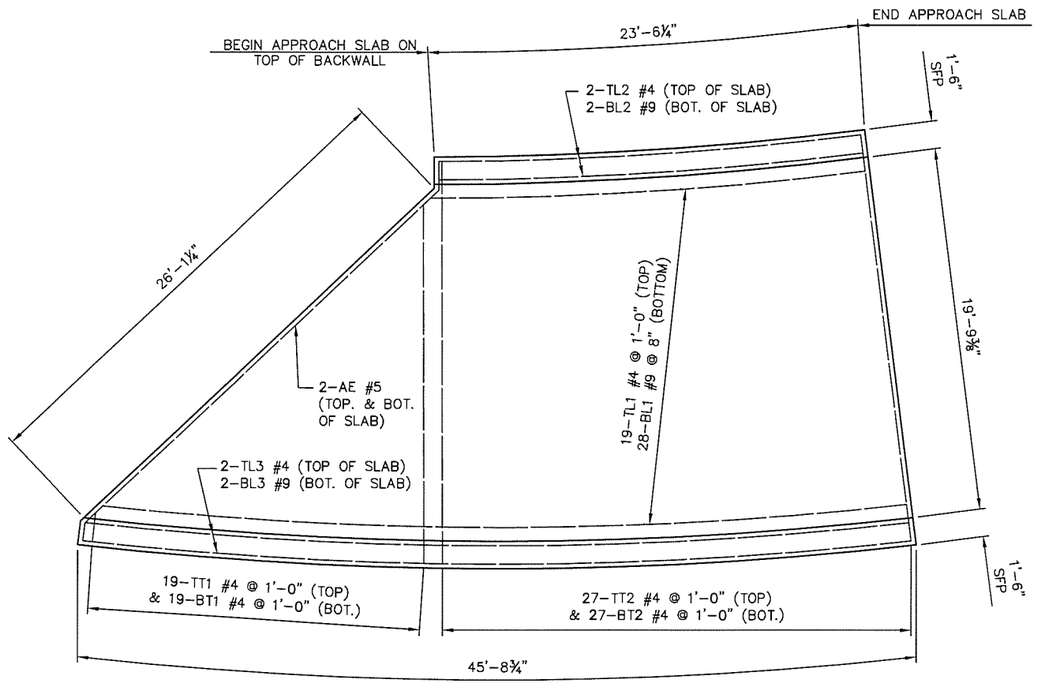



## WATER REPELLENT TREATMENT DETAIL



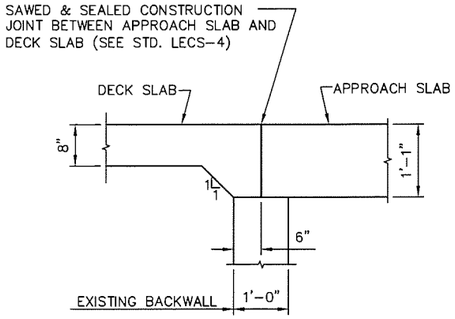

## DETAILS OF BENT REINFORCEMENT

| | | | |
|---|---|---|---|
| DESIGN | SJN | 01/09 | N-1ST RAMP OVER US75 TULSA COUNTY |
| DRAWN | SJN | 01/09 | **APPROACH SLABS DETAILS** (SHEET NO. 1 OF 2) |
| CHECKED | SAL | 01/09 | |
| APPROVED | | | |
| SQUAD | BKD | | STATE JOB PIECE NO. 28879(04) SHEET NO. 17 |

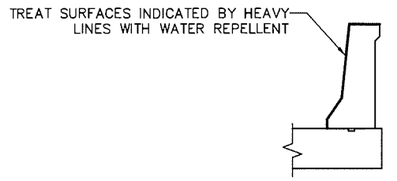



APPROACH SLAB NO. 2 REINFORCING PLAN

FS2 BARS PROJECTING FROM APPROACH SLAB INTO TRAFFIC RAILS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 16 FOR PLACEMENT OF FS2 BARS.

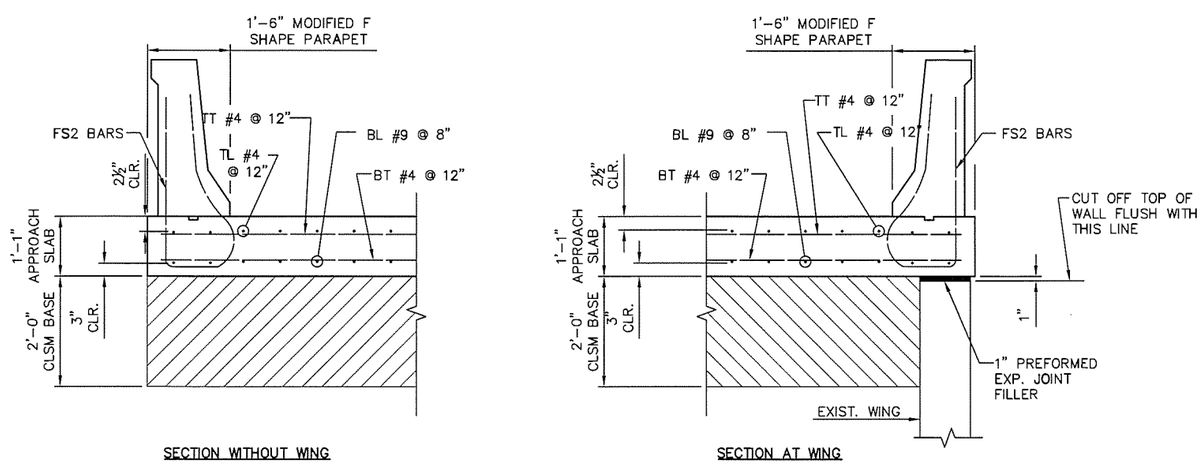



SECTION THROUGH CONSTRUCTION JOINT BETWEEN APPROACH SLAB AND DECK SLAB

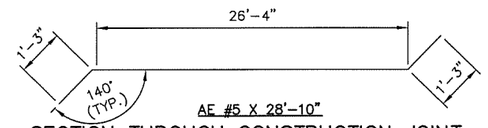



WATER REPELLENT TREATMENT DETAIL

| BAR LIST-APPROACH SLAB NO. 2 | | | | | |
|---|---|---|---|---|---|
| MARK | NO. | SIZE | FORM | LENGTH | LENGTH VARIATION |
| EPOXY COATED | | | | | |
| AE | 2 | #5 | BNT. | 28'-10" | |
| BL1 | 28 | #9 | STR. | 33'-9" AVG. | 23'-9" TO 43'-9" |
| BL2 | 2 | #9 | STR. | 23'-2" | |
| BL3 | 2 | #9 | STR. | 45'-2" | |
| BT1 | 19 | #4 | STR. | 10'-6" AVG. | 1'-6" TO 19'-6" |
| BT2 | 27 | #4 | STR. | 22'-3" | |
| FS2 | 68 | #5 | BNT. | 7'-4" | |
| TL1 | 19 | #4 | STR. | 33'-9" AVG. | 23'-9" TO 43'-9" |
| TL2 | 2 | #4 | STR. | 23'-2" | |
| TL3 | 2 | #4 | STR. | 45'-2" | |
| TT1 | 19 | #4 | STR. | 10'-6" AVG. | 1'-6" TO 19'-6" |
| TT2 | 27 | #4 | STR. | 22'-3" | |




TYPICAL APPROACH SLAB SECTION



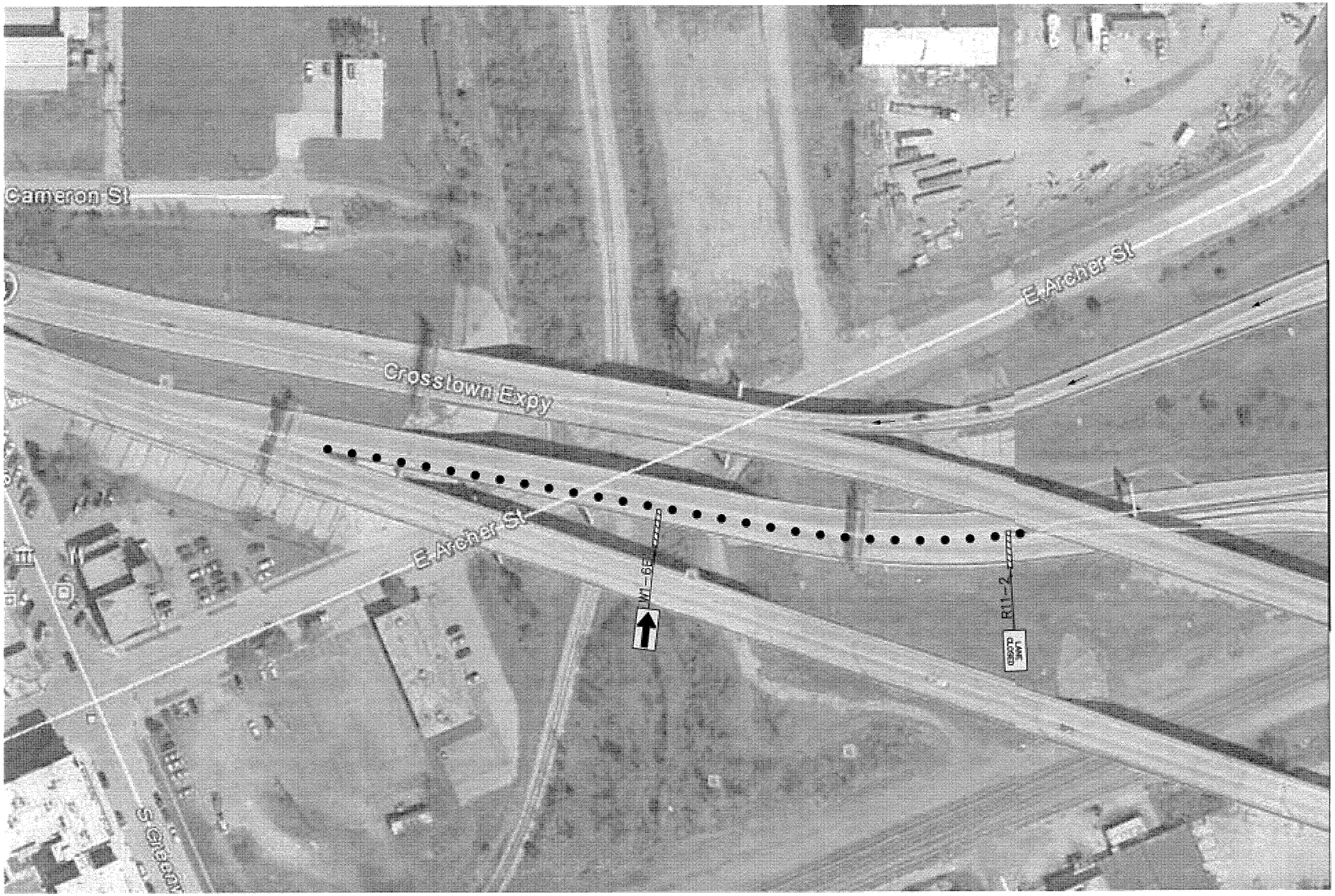

SECTION THROUGH CONSTRUCTION JOINT BETWEEN APPROACH SLAB AND DECK SLAB

| SUMMARY OF QUANTITIES – APPROACH SLAB | | | | |
|---|---|---|---|---|
| ITEM | UNIT | APPROACH SLAB NO. 1 | APPROACH SLAB NO. 2 | TOTAL |
| ① APPROACH SLAB | SY | 36.00 | 87.00 | 123.00 |
| CONCRETE PARAPET | LF | 19.00 | 70.00 | 89.00 |
| WATER REPELLENT (VISUALLY INSPECTED) | SY | 8.00 | 29.00 | 37.00 |
| CLSM BACKFILL | CY | 24.00 | 58.00 | 82.00 |

① THIS QUANTITY INCLUDES ALL COSTS TO CONSTRUCT THE APPROACH SLAB INCLUDING THE COST OF CONCRETE, REINFORCING STEEL, PREFORMED EXPANSION JOINT MATERIAL, LABOR, EQUIPMENT AND OTHER INCIDENTALS TO COMPLETE THE WORK AS SHOWN.

| | | | |
|---|---|---|---|
| DESIGN | SJN | 01/09 | N-1ST RAMP OVER US75 TULSA COUNTY |
| DRAWN | SJN | 01/09 | **APPROACH SLABS DETAILS** (SHEET NO. 2 OF 2) |
| CHECKED | SAL | 01/09 | |
| APPROVED | | | |
| SQUAD | BKJ | | STATE JOB PIECE NO. 28879(04) SHEET NO. 18 |

OKLAHOMA DEPARTMENT OF TRANSPORTATION




1 inch = 100 ft. ( HORIZ. )

100 0 100 200

LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION
- BRIDGE CONSTRUCTION

MATCH LINE
SEE SHEET 20

ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKD | |

N-1ST RAMP OVER US75 TULSA COUNTY

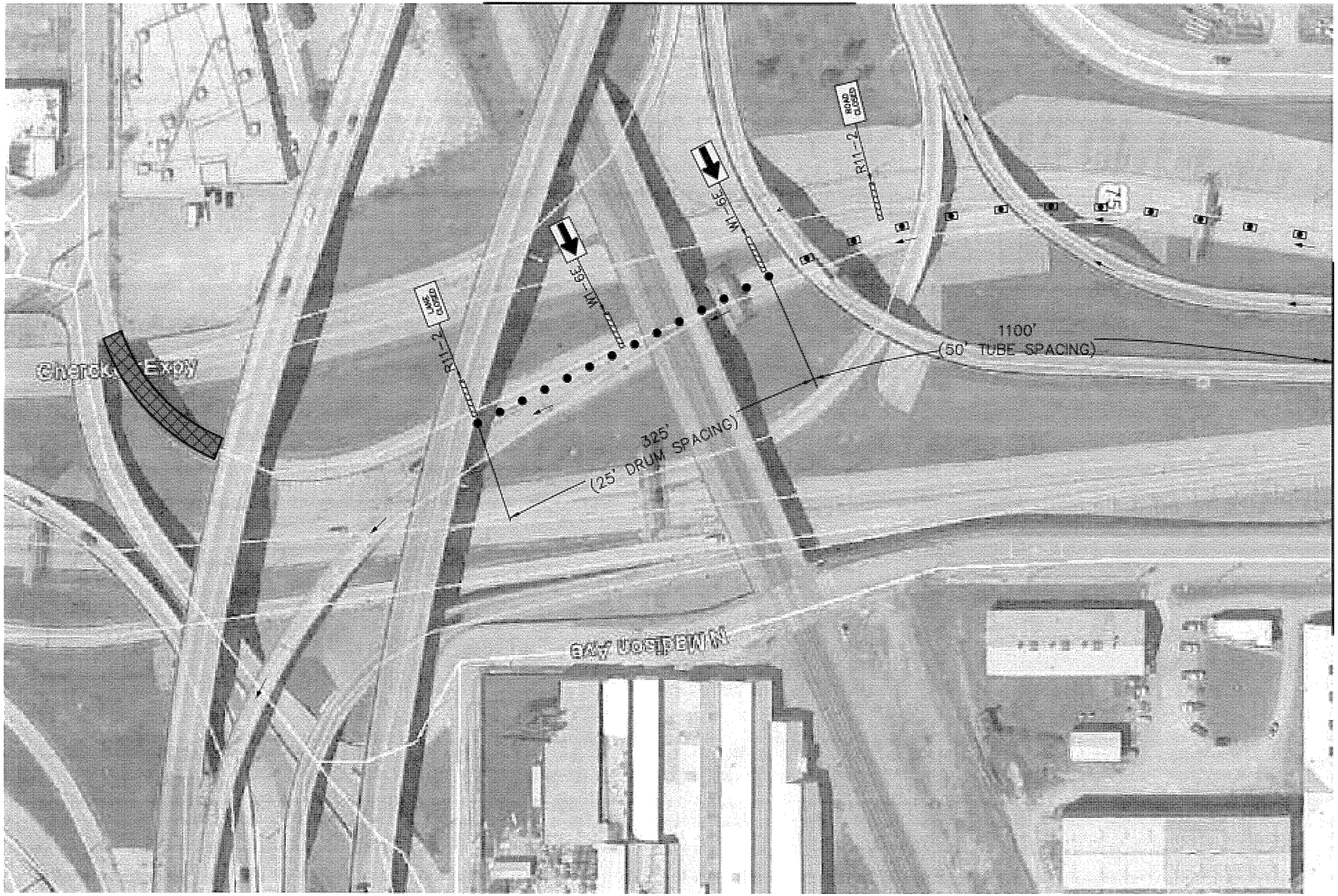
# US-75 TRAFFIC CONTROL SHEETS 1 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 19

X:\Projects\651-EC 1414 I-44 Projects for WEA\DWG\Sheets\ACAD-Google Earth Images-Model.dwg, 5/13/2016 8:29:58 AM, cdm

OKLAHOMA DEPARTMENT OF TRANSPORTATION

MATCH LINE
SEE SHEET 19




N

1 inch = 100 ft. ( HORIZ. )

100 0 100 200

LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION
- BRIDGE CONSTRUCTION

MATCH LINE
SEE SHEET 21

ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

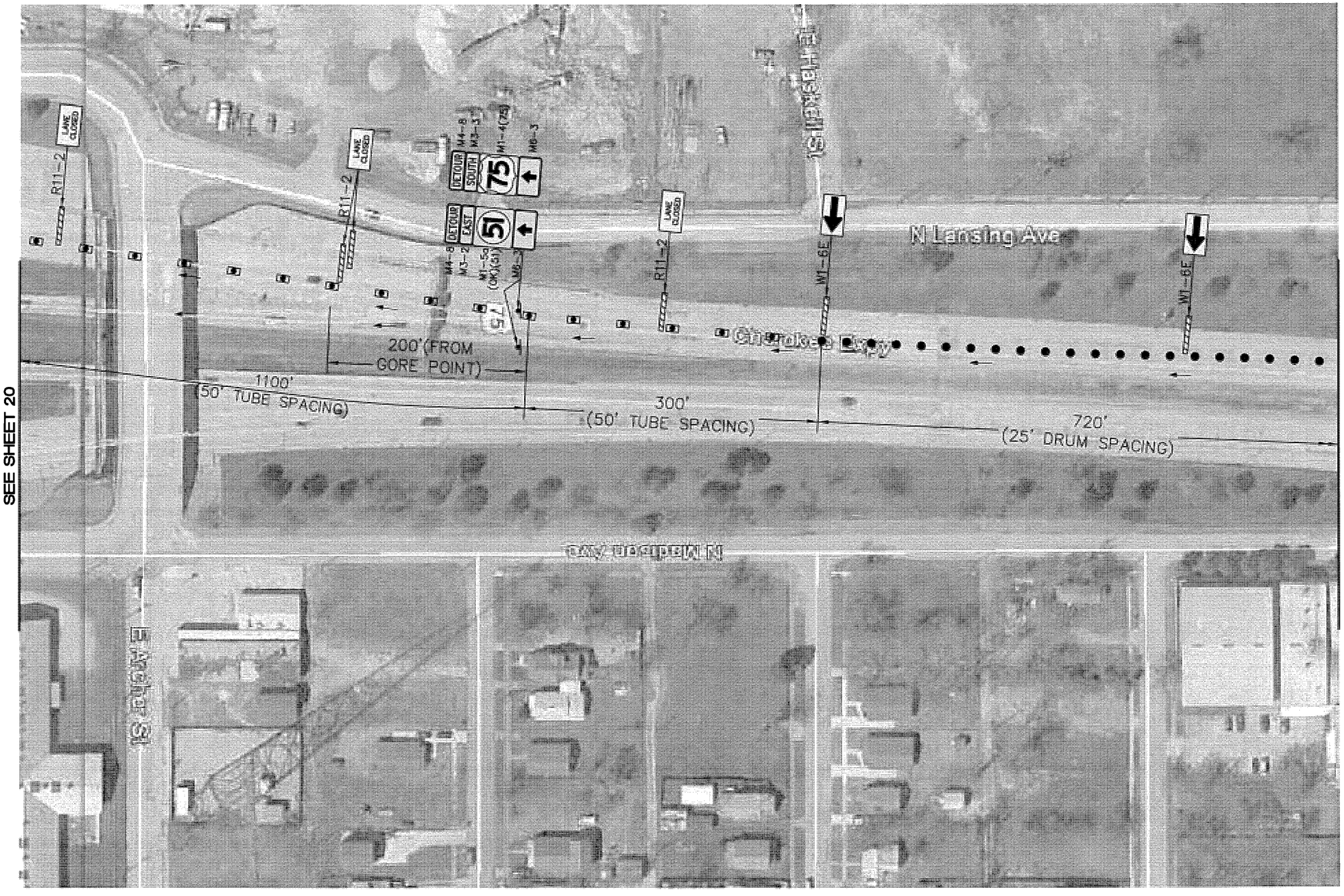
| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKJ | |

N-1ST RAMP OVER US75 TULSA COUNTY

US-75 TRAFFIC CONTROL
SHEETS 2 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 20

X:\Projects\651-EC 1414 I-44 Projects for WEA\DWG\Sheets\ACAD-Google Earth Images-Model.dwg, 5/13/2016 8:30:24 AM, cdm




MATCH LINE
SEE SHEET 20

MATCH LINE
SEE SHEET 22

1 inch = 100 ft. ( HORIZ. )

100 0 100 200

LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION
- BRIDGE CONSTRUCTION

ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKJ | |

N-1ST RAMP OVER US75 TULSA COUNTY

# US-75 TRAFFIC CONTROL SHEETS 3 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 21


MATCH LINE
SEE SHEET 21

MATCH LINE
SEE SHEET 23

1 inch = 100 ft. ( HORIZ. )
100 0 100 200

LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION
- BRIDGE CONSTRUCTION

ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKL | |

N-1ST RAMP OVER US75 TULSA COUNTY

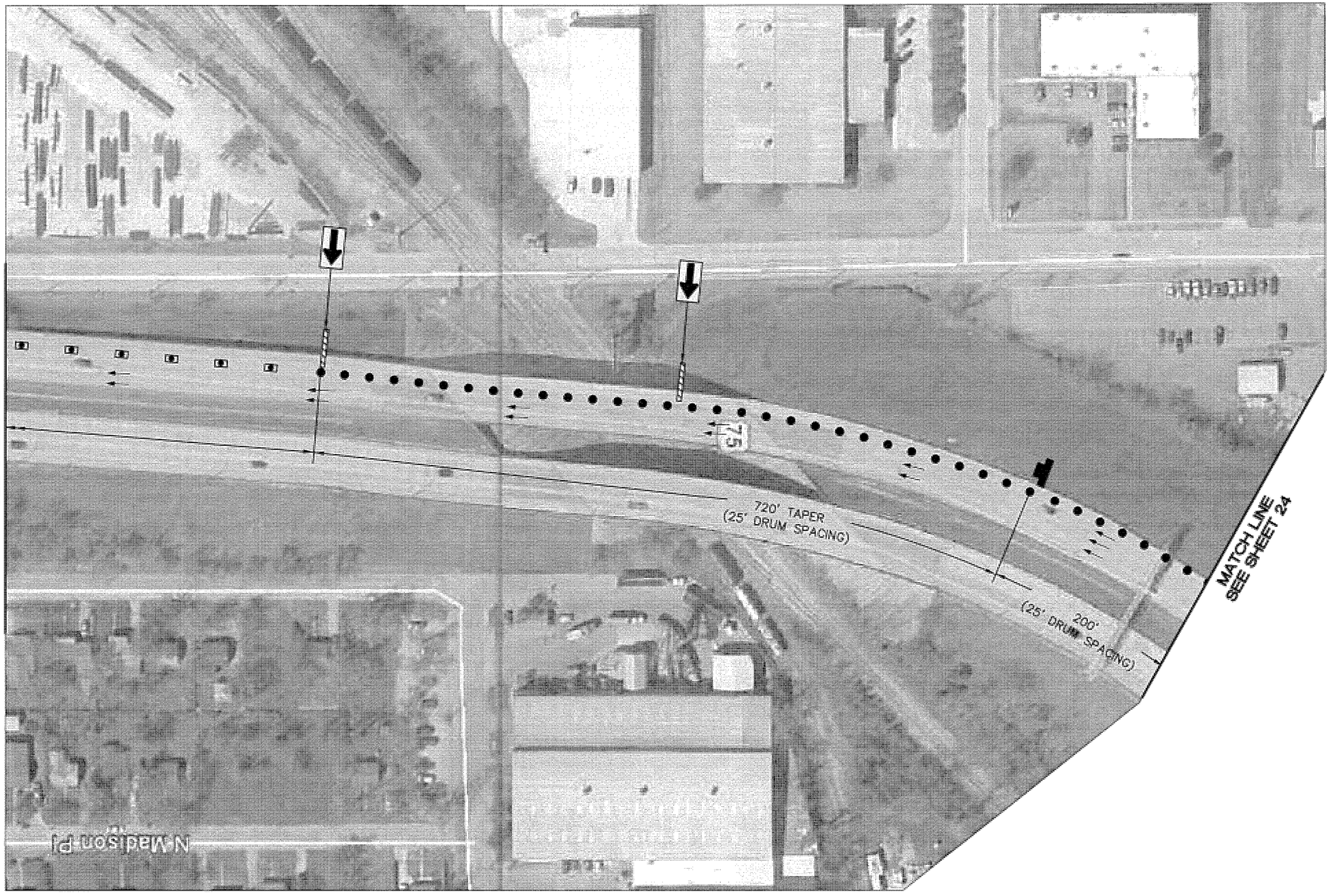
# US-75 TRAFFIC CONTROL SHEETS 4 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 22

X:\Projects\651-EC 1414 I-44 Projects for WEA\DWG\Sheets\ACAD-Google Earth Images-Model.dwg, 5/13/2016 8:31:10 AM, cdm

OKLAHOMA DEPARTMENT OF TRANSPORTATION

MATCH LINE
SEE SHEET 22




1 inch = 100 ft. ( HORIZ. )
100 0 100 200

LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION
- BRIDGE CONSTRUCTION

ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

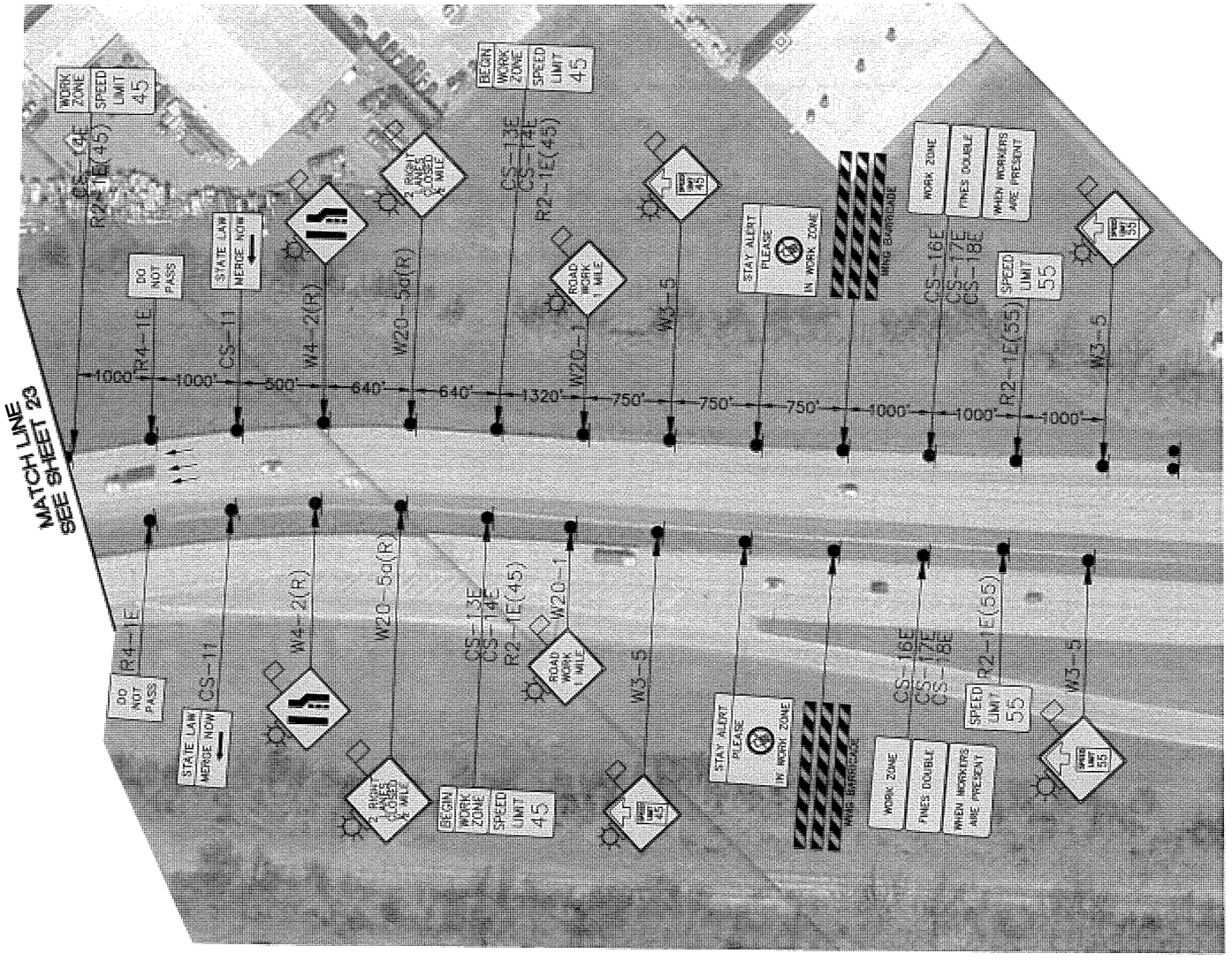
| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKJ | |

N-1ST RAMP OVER US75 TULSA COUNTY

# US-75 TRAFFIC CONTROL SHEETS 5 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 23

X:\Projects\651-EC 1414 I-44 Projects for WEA\DWG\Sheets\ACAD-Google Earth Images-Model.dwg, 5/13/2016 8:31:32 AM, cdm




1 inch = 100 ft. ( HORIZ. )

100 0 100 200

## LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION
- BRIDGE CONSTRUCTION

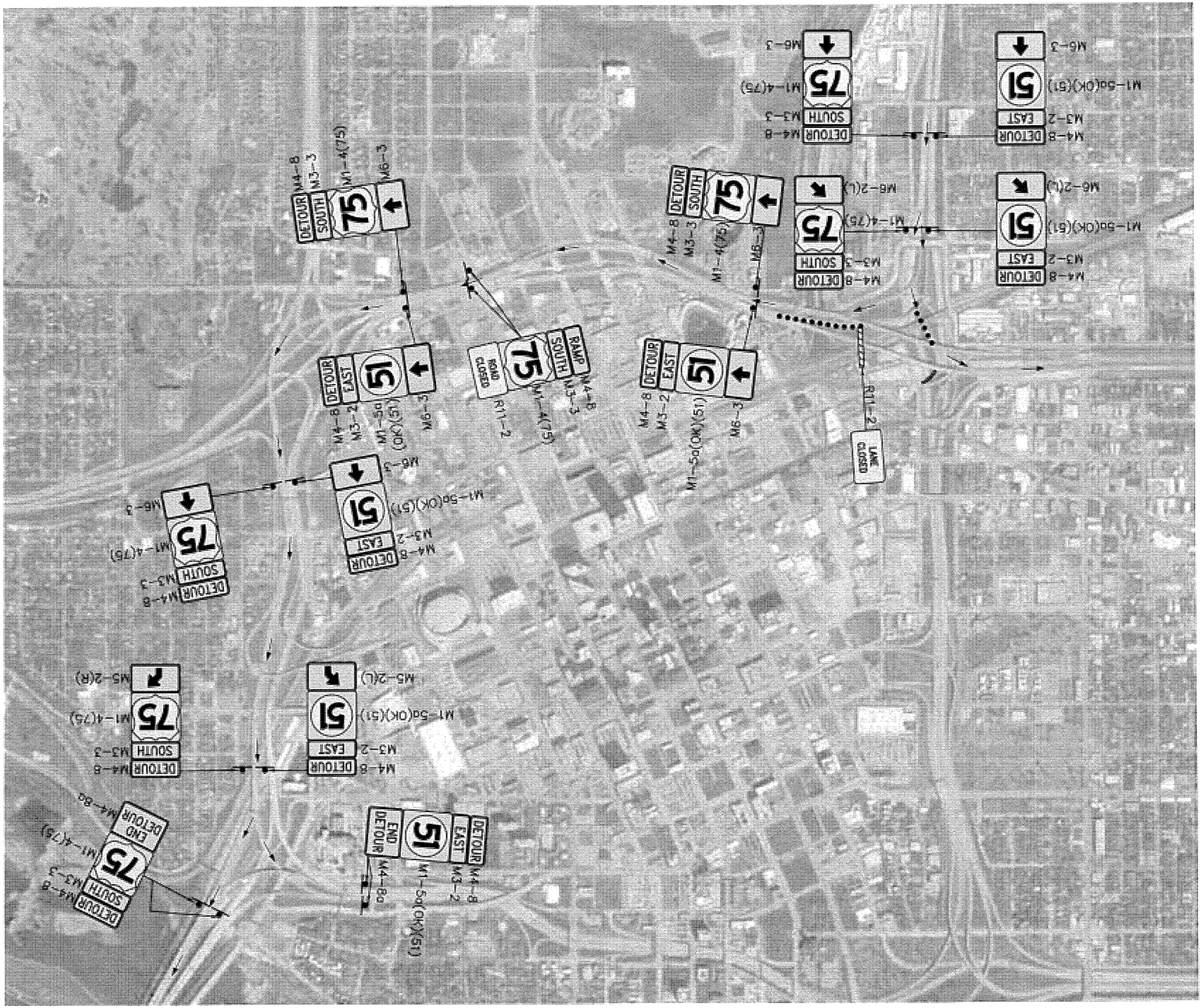
ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKJ | |

N-1ST RAMP OVER US75 TULSA COUNTY

# US-75 TRAFFIC CONTROL SHEETS 6 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 24




1 inch = 500 ft. ( HORIZ. )

500 0 500 1000

## LEGEND

- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DRUMS
- TUBE CHANNELIZER
- ARROW DISPLAY
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC DIRECTION

ALL TRAFFIC CONTROL ITEMS ARE PAID FOR UNDER THE LEAD PROJECT J/P 28865(04).

| | | |
|---|---|---|
| DESIGN | DEP | 2/16 |
| DRAWN | VLM | 2/16 |
| CHECKED | DEP | 2/16 |
| APPROVED | | |
| SQUAD | BKU | |

N-1ST RAMP OVER US75 TULSA COUNTY

# US-75 TRAFFIC CONTROL SHEETS 7 OF 7

STATE JOB PIECE NO. 28879(04) SHEET NO. 25