

FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION		REVISIONS	DATE		

TRAFFIC DESIGN

PROJECT ENGINEER: A. ENGINEER
SQUAD SUPERVISOR: A. TECHNICIAN

ROADWAY DESIGN

PROJECT ENGINEER: A. ENGINEER
SQUAD SUPERVISOR: A. TECHNICIAN

BRIDGE DESIGN

ENGINEERING MANAGER: MOLLA-ESMAIL, P.E.
SQUAD SUPERVISOR: HARJO
SQUAD MEMBERS: V. TRAN, G. BAPTISTE,
W. YANES, H. SKILLINGS

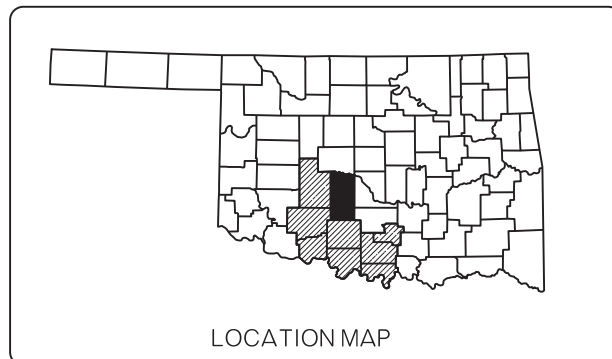
STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY

FEDERAL AID PROJECT NO. NHPP-226N(038)3B
BRIDGE PREVENTATIVE MAINTENANCE (JOINT SEAL / REPAIR) - DIVISION 7
STATE HIGHWAY U.S.-81

GRADY COUNTY

CONTROL SECTION NO.: 81-26-12
STATE JOB NO. 31701(04)
BRIDGE "A" LOCATION NO. 2612-1953X
EXISTING NBIS NO. 19267

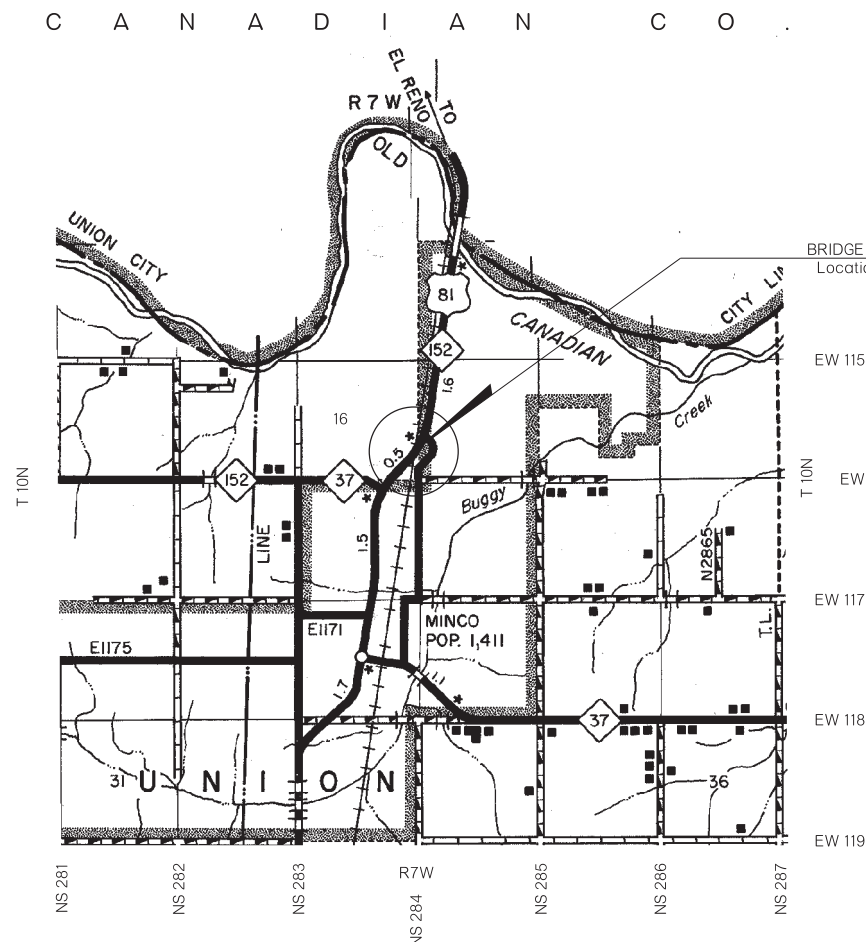


INDEX OF SHEETS

SHEET NUMBER	SHEET DESCRIPTION
0001	TITLE
AB01-AB02	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)
AT01	SUMMARY OF PAY QUANTITIES & NOTES
B001	GENERAL PLAN, ELEVATION AND TYPICAL SECTION (BRIDGE "A")
B002	REPAIR LOCATIONS AND PIER REPAIR DETAILS
B003-B004	REPAIR BRIDGE ITEM (TYPE A) EXPANSION JOINT REPLACEMENT AT ABUTMENTS
B005	DETAILS OF APPROACH SLABS
T001	TRAFFIC CONTROL DETAIL US-81 OVER RAILROAD BRIDGE "A"

STANDARDS TO BE INCLUDED

BRIDGE	TRAFFIC	ROADWAY
EJ-DTL-01E	PM3-1-02 TCS1-1-01 TCS2-1-00 TCS3-1-01 TCS4-1-01 TCS5-1-00 TCS6-1-02 TCS7-1-02 TCS8-1-00 TCS9-1-01 TCS11-1-01 TCS14-1-00 TCS20-1-00 TCS21-1-02 TCS22-1-00 TCS24-1-02	LECS-4-1



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 GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN DIVISION

ASGHAR MOLLA-ESMAIL, P.E.
OKLA. REG. NO. 17544
DATE 6/15/2016

OKLAHOMA DEPARTMENT OF TRANSPORTATION DATE APPROVED _____ BY _____ CHIEF ENGINEER	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION DATE APPROVED _____ BY _____ DIVISION ADMINISTRATOR
SWO _____ PROJECT NO. NHPP-226N(038)3B COUNTY GRADY HIGHWAY US 81 SHEET NO. 0001	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

GENERAL NOTES

SPECIFICATIONS:

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

VERIFICATION OF EXISTING CONDITIONS:

BIDDERS SHALL FULLY INFORM THEMSELVES OF THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH IT WILL BE PERFORMED. THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO ANY EXISTING BRIDGE STRUCTURE OR ROADWAY. ANY DAMAGE TO THE BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

PLANS:

CONSTRUCTION PLANS FOR THE EXISTING STRUCTURES, MAY BE OBTAINED FROM THE REPRODUCTIONS BRANCH OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION.

REPRODUCTION BRANCH
OKLAHOMA DEPARTMENT OF TRANSPORTATION
200 NE 21ST STREET
OKLAHOMA CITY, OKLAHOMA 73105

ASK FOR:
FEDERAL AID PROJ. NO. RF-162(54) FOR BRIDGE 'A'.

REMOVED MATERIALS:

ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF BY HIM IN A MANNER APPROVED BY THE ENGINEER.

DAMAGE TO EXISTING STRUCTURE DURING REPAIR:

ANY DAMAGE DONE TO EXISTING STRUCTURE AS A RESULT OF THE REPAIR OF BRIDGE ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

CLEANING OF DEBRIS:

THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE TOPS OF PIERS AND BRIDGE SEATS. ALL COSTS TO CLEAN THE DEBRIS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

EXPOSURE OF DETERIORATED STRUCTURAL STEEL:

IF ANY DETERIORATED STRUCTURAL STEEL IS EXPOSED DURING CLEANING THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE RESIDENT ENGINEER WHO IN TURN WILL NOTIFY THE BRIDGE ENGINEER AS TO THE EXTENT OF THE DAMAGE. THE BRIDGE ENGINEER SHALL DETERMINE IF ANY REPAIRS ARE NECESSARY AND IF SO, WHAT METHOD OF REPAIR SHALL BE USED.

WORK SITE OBSTRUCTIONS:

ALL OBSTRUCTIONS INCLUDING VEGETATION AND DEBRIS, INTERFERING WITH PAINT OPERATIONS BEING PERFORMED SHALL BE REMOVED BY THE CONTRACTOR PRIOR TO BEGINNING WORK. ALL COSTS ASSOCIATED WITH REMOVAL OF OBSTRUCTIONS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

ENVIRONMENTAL MITIGATION 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 SURVEY HAS NOT BEEN CONDUCTED FOR ANY OF THE STRUCTURES WITHIN THE PROJECT EXTENT. RESPONSE OF SWALLOWS TO THE PLANNED WORK HAS NOT BEEN ASSESSED. 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.

UNION PACIFIC RAILROAD COMPANY NOTES

NOTIFICATION OF WORK:

THE CONTRACTOR IS REQUIRED TO GIVE THE UNION PACIFIC RAILROAD COMPANY AT LEAST 10 WORKING DAYS ADVANCE NOTICE, IN WRITING, BEFORE ANY WORK IS STARTED ON THE SITE. TO AVOID HAZARDS, THE UNION PACIFIC RAILROAD COMPANY MAY HAVE A REPRESENTATIVE PRESENT, IF DEEMED NECESSARY, FOR THE PURPOSE OF INSPECTION AND THE ISSUANCE OF ANY APPROPRIATE INSTRUCTIONS FOR RAILROAD OPERATIONS DURING THE BRIDGE JOINT SEAL/REPAIR ON US-81 OVER UP RAILROAD IN MINCO, GRADY COUNTY AS IT RELATES TO THE UNION PACIFIC RAILROAD COMPANY'S PROPERTY. (AARDOT 595473W, MILEPOST 416.24)

THE CONTRACTOR SHALL NOTIFY:

MR. JEFFERY B. HOWELL
MANAGER OF TRACK MAINTENANCE
UNION PACIFIC RAILROAD COMPANY
220 S MILES
EL RENO, OKLAHOMA 73036
PHONE: 318-484-4080
EMAIL: jhowell@up.com

MR. CLAY A. McMANAMAN
MANAGER OF PUBLIC PROJECTS
UNION PACIFIC RAILROAD COMPANY
P.O. BOX 1337
EL RENO, OKLAHOMA 73036
PHONE: 501-373-2927
EMAIL: camcmana@up.com

FLAGGING AND INSURANCE:

FLAGGING AND INSURANCE SHALL BE PROVIDED AS SPECIFIED IN SECTION 107 OF THE STANDARD SPECIFICATIONS AND IN THE SPECIAL PROVISIONS FOR RAILROAD FLAGGING (SEE PROPOSAL FOR SPECIAL PROVISIONS) AND WHAT IS STATED IN THE UNION PACIFIC RAILROAD COMPANY'S RIGHT OF ENTRY AGREEMENT. UNION PACIFIC RAILROAD COMPANY, AT THEIR DISCRETION, SHALL PROVIDE FLAGGING FOR THE RAILROAD DURING CONSTRUCTION OPERATIONS.

THE CONTRACTOR IS REQUIRED TO REIMBURSE UNION PACIFIC RAILROAD COMPANY FOR FLAGGING SERVICES PROVIDED.

THE CONTRACTOR SHALL ALSO FURNISH SATISFACTORY EVIDENCE TO THE STATE OF OKLAHOMA THAT THEY HAVE PROVIDED INSURANCE OF THE KINDS AND AMOUNTS AS SPECIFIED IN THE SPECIAL PROVISIONS FOR RAILROAD INSURANCE AND IN THE UNION PACIFIC COMPANY'S RIGHT OF ENTRY AGREEMENT.

THE CONTRACTOR WILL BE REQUIRED TO ENTER INTO A RIGHT OF ENTRY AGREEMENT WITH THE UNION PACIFIC RAILROAD COMPANY BEFORE THEY WILL BE ALLOWED ON THE RAILROAD'S RIGHT-OF-WAY.

PRE-WORK MEETING:

PRIOR TO WORKING ON THE UNION PACIFIC RAILROAD COMPANY'S RIGHT-OF-WAY OR IN THE VICINITY OF THEIR TRACKS, YOU **MUST** CONTACT THE LOCAL MANAGER OF TRACK MAINTENANCE FOR THE UNION PACIFIC RAILROAD COMPANY TO COORDINATE YOUR WORK. IT IS **VITAL** THAT YOU HAVE CONTACT WITH THE UNION PACIFIC RAILROAD COMPANY MANAGER OF TRACK MAINTENANCE PRIOR TO GETTING ON THE RAILROAD'S PROPERTY.

COORDINATION WITH RAILROAD:

THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER WHICH WILL NOT DELAY OR INTERFERE WITH TRAIN OPERATIONS. CONSTRUCTION ACTIVITY WITHIN 25 (TWENTY-FIVE) FEET OF ACTIVE TRACKS WILL REQUIRE A FLAGMAN TO BE PROVIDED BY THE UNION PACIFIC RAILROAD COMPANY AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE UNION PACIFIC RAILROAD COMPANY MANAGER OF TRACK MAINTENANCE, A MINIMUM OF 30 (THIRTY) CALENDAR DAYS IN ADVANCE OF WHEN FLAGGING IS REQUIRED.

SPECIAL PERMISSION MUST BE OBTAINED FROM THE UNION PACIFIC RAILROAD COMPANY BEFORE MOVING ANY EQUIPMENT OR OTHER OBJECT WHICH COULD MAKE THE TRACK IMPASSABLE IF IT FELL WITHIN THE AREA SHOWN ON THE CONSTRUCTION CLEARANCE DIAGRAM.

RAILROAD FLAGGERS, PROTECTIVE SERVICES, AND PROTECTIVE DEVICES WILL BE REQUIRED, BUT NOT LIMITED TO, EVENTS WHEN:

- THE CONTRACTOR WORK ACTIVITIES ARE WITHIN 25 (TWENTY-FIVE) FEET OF THE TRACK, MEASURED FROM THE TRACK CENTERLINE.
- ACTIVITIES ARE OVER OR UNDER THE TRACK.
- CRANES OR SIMILAR EQUIPMENT WILL NOT BE POSITIONED WHERE THEY COULD FOUL THE TRACK IF THEY TIPPED OVER OR EXPERIENCED SOME OTHER CATASTROPHIC EVENT.
- IN THE OPINION OF THE UNION PACIFIC RAILROAD COMPANY REPRESENTATIVE:
 - IT IS NECESSARY TO SAFEGUARD THE UNION PACIFIC RAILROAD COMPANY PROPERTY, EMPLOYEES, TRAINS, ENGINES, AND FACILITIES.
 - WHEN ANY EXCAVATION IS PERFORMED BELOW THE BOTTOM OF THE ELEVATIONS, AND TRACK OR OTHER UNION PACIFIC RAILROAD COMPANY FACILITIES MAY BE SUBJECT TO MOVEMENT OR SETTLEMENT.
 - WHEN WORK IN ANY WAY INTERFERES WITH SAFE OPERATION OF TRAINS AND TIMETABLE SPEEDS.
 - WHEN ANY HAZARD IS PRESENTED TO RAILROAD TRACK, SIGNALS, COMMUNICATIONS, ELECTRICAL, OR OTHER FACILITIES EITHER DUE TO PERSON, MATERIAL, EQUIPMENT OR BLASTING IN THE AREA.

PROTECTION OF RAILROAD UNDER BRIDGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE RAILROAD TRACK BED DURING ALL CONSTRUCTION OPERATIONS. PRIOR TO ANY WORK BEING STARTED, A PROPOSED METHOD OF PREVENTING DEBRIS FROM FALLING ON THE RAILROAD TRACK BED SHALL BE SUBMITTED TO THE RAILROAD REPRESENTATIVE FOR HIS APPROVAL.

THE CONTRACTOR SHALL NOT BE PERMITTED TO LEAVE ANY WORK SCAFFOLDING IN PLACE IN WORKING POSITION. AT THE END OF EACH WORKDAY, THE SCAFFOLDING SHALL BE REMOVED AND SET A SAFE DISTANCE FROM ANY OPERATING RAILROAD LINE. SCAFFOLDING SHALL AT ALL TIMES MAINTAIN THE MINIMUM CLEARANCE AS SHOWN ON THE "FALSEWORK DIAGRAM" ON THE PLANS (SHEET NO. B001).

EROSION CONTROL AND DRAINAGE:

THE CONTRACTOR WILL INSTALL, MAINTAIN, AND REMOVE ALL EROSION CONTROL MEASURES DEEMED NECESSARY WITHIN THE RAILROAD RIGHT-OF-WAY.

THE CONTRACTOR WILL MAINTAIN THE RAILROAD DRAINAGE AT ALL TIMES WHEN WORKING WITHIN THE RAILROAD RIGHT-OF-WAY.

RAIL TRAFFIC:

THE UNION PACIFIC RAILROAD COMPANY HAS TEN (10) TRAINS PER DAY AT 60 MPH, ON THE ENID SUBDIVISION. RAIL TRAFFIC IS FOR INFORMATION PURPOSES ONLY. ACTUAL RAIL TRAFFIC MAY VARY.

GRADY COUNTY			Design	N/A	N/A
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET 1 OF 2)			Detail	DAH	04/16
			Check		
			Squad: HARJO Eng: MOLLA-ESMAIL		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		JOB/PIECE NO. 31701(04)	SHEET NO. AB01	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

PAY ITEM NOTES

1) CLSM BACKFILL:

CLSM BACKFILL WILL BE USED UNDER NEW APPROACH SLABS AS SHOWN IN THE PLANS. CLSM BACKFILL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS (SECTION 501).

ALL COSTS INCLUDING LABOR, EQUIPMENT, MATERIAL, EXCAVATION AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD OF "CLSM BACKFILL".

2) APPROACH SLAB:

PAY ITEM "APPROACH SLAB" CONSISTS OF REMOVING THE ROADWAY TO THE LIMITS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. CONSTRUCT THE APPROACH SLAB AS SHOWN IN THE PLANS. ALL COSTS OF THE REPAIR INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "APPROACH SLAB".

3) RAPID CURE JOINT SEALANT:

RAPID CURE JOINT SEALANT SHALL CONSIST OF PLACING BACKER ROD AND SEALANT AT EXISTING CONSTRUCTION JOINTS AS SHOWN AND NOTED IN THE PLANS.

THE JOINT SHALL BE SEALED WITH RAPID CURE JOINT SEALANT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (SECTION 504 AND SECTION 701).

ALL COSTS INCLUDING LABOR, MATERIALS, EQUIPMENT, CLEANING, SAWING AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN AND NOTED WILL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "RAPID CURE JOINT SEALANT".

4) ELASTOMERIC MORTAR:

THIS ITEM WILL BE USED AT THE ENDS OF NEW APPROACH SLABS TO FILL ANY VOID BETWEEN THE NEW APPROACH SLAB AND EXISTING ASPHALT PAVEMENT AS DIRECTED BY THE ENGINEER. THE QUANTITY IS AN ESTIMATE.

5) MULTIPLE LAYER POLYMER CONCRETE OVERLAY:

THIS ITEM IS FOR OVERLAYING THE BRIDGE DECK SLAB AND APPROACH SLABS ACCORDING TO SECTION 505 OF THE SPECIFICATIONS, AFTER ALL CONCRETE PATCHING IS COMPLETED.

THE QUANTITY SHOWN INCLUDES 170 SQUARE YARDS IN EXCESS OF WHAT IS REQUIRED TO COVER THE DECK AND APPROACH SLABS. THE EXTRA AMOUNT IS FOR SURFACE ROUGHNESS REPAIRS.

6) SPECIAL CONCRETE FINISH:

AFTER ALL REPAIR TO THE CONCRETE PARAPETS HAVE BEEN COMPLETED, THE EXPOSED SURFACES (ROADWAY SIDE) OF THE PARAPETS SHALL HAVE A NEW CONCRETE SURFACE FINISH APPLIED (THE ENTIRE LENGTH OF THE PARAPETS).

THE NEW CONCRETE SURFACE FINISH SHALL BE A CLASS 6 MORTAR FINISH SATISFYING THE REQUIREMENTS OF SECTION 509.04G(6) OF THE STANDARD SPECIFICATIONS.

ALL COST ASSOCIATED WITH THE APPLICATION OF NEW CONCRETE FINISH INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM OF "SPECIAL CONCRETE FINISH".

7) COLLECTION AND HANDLING OF WASTE & PAINTING EXISTING STRUCTURE:

THESE ITEMS ARE FOR CLEANING AND PAINTING THE FOLLOWING SURFACES:

- 5 FEET OF ALL BEAM ENDS AT ABUTMENTS.
- ALL END DIAPHRAGMS AT ABUTMENTS.
- ALL EXPANSION BEARINGS AT ABUTMENTS.
- ALL FIELD SPLICES (THIS INCLUDES THE SPLICE PLATES AND 2 1/2 FEET OF BEAM SECTION ON EITHER SIDE OF ϕ SPLICE).

ALL SURFACES TO BE PAINTED WILL BE PREPARED ACCORDING TO SSPC-SP10 SPECIFICATIONS. ONCE CLEANED, PROVIDE AN ORGANIC ZINC/EPOXY/URETHANE (OZ-E-U) SYSTEM (FOR PRIMING AND PAINTING) THAT MEETS REQUIREMENT OF SECTION 730 OF THE STANDARD SPECIFICATIONS (ONLY ONE COAT OF PRIMER IS REQUIRED FOR TOP OF BEAM ENDS AND DIAPHRAGMS IN CONTACT WITH CONCRETE) (THE EXISTING STEEL IS WEATHERING STEEL AND HAS NOT BEEN PREVIOUSLY PAINTED).

USE A PAINT COLOR *FEDERAL STANDARD 595 COLOR FS 20075* TO MATCH THE EXISTING WEATHERING STEEL.

ALL COSTS ASSOCIATED WITH CLEANING AND PAINTING WILL BE INCLUDED IN LUMP SUM OF *COLLECTION AND HANDLING OF WASTE* AND *PAINTING EXISTING STRUCTURE*.

SSPC QP-1 CERTIFICATION WILL BE REQUIRED.

8) CLASS B BRIDGE DECK REPAIR:

THIS ITEM CONSISTS OF BRIDGE DECK AREAS THAT ARE UNSOUND AND TO BE REMOVED TO A DEPTH DESIGNATED BY THE ENGINEER. ALL COSTS OF THE REPAIR INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "CLASS B BRIDGE DECK REPAIR".

9) CLASS C BRIDGE DECK REPAIR:

THIS ITEM CONSISTS OF BRIDGE DECK AREAS THAT ARE UNSOUND AND TO BE REMOVED TO FULL DEPTH AS DESIGNATED BY THE ENGINEER. ALL COSTS OF THE REPAIR INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "CLASS C BRIDGE DECK REPAIR".

10) PNEUMATICALLY PLACED MORTAR:

ITEM "PNEUMATICALLY PLACED MORTAR" SHALL CONSIST OF CONCRETE SURFACE REPAIRS OF THE SUBSTRUCTURE AND CONCRETE PARAPET AS DIRECTED BY THE ENGINEER. THE ACTUAL EXTENT OF THE REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE REPAIRS SHALL BE IN ACCORDANCE WITH SECTION 521 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND IN A MANNER APPROVED BY THE ENGINEER. THE REMOVAL OF LOOSE CONCRETE SHALL BE DONE USING HAND TOOLS. POWER TOOLS WILL NOT BE ALLOWED UNLESS HAND TOOLS PROVE INCAPABLE OF EXCAVATING ALL DETERIORATED CONCRETE TO SOUND CONCRETE AS APPROVED BY THE ENGINEER. SHOULD POWER TOOLS BE NECESSARY, POWER TOOLS SHALL BE OF SUCH SIZE THAT THEIR USE DOES NOT CAUSE DAMAGE TO THE SOUND CONCRETE. ANY DAMAGE DONE TO THE EXISTING REINFORCING STEEL DURING THE REMOVAL PROCESS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE ENGINEER. ANY DETERIORATED REINFORCING STEEL WITH A SECTION LOSS GREATER THAN 50%, AS DETERMINED BY THE ENGINEER, SHALL BE REPORTED TO THE BRIDGE ENGINEER FOR REMEDIAL ACTION PRIOR TO MORTAR APPLICATION, BLAST CLEAN THE CONCRETE SURFACE AND REINFORCING STEEL FREE OF DEBRIS AND CORROSION. APPLY PNEUMATICALLY PLACED MORTAR TO REPLACE DETERIORATED CONCRETE. BUILD UP MORTAR TO MATCH THE ORIGINAL LINES OF THE CURBS AND PIERS. THE CONTRACTOR MAY PROPOSE AND USE AS AN ALTERNATE ONE OF THE FOLLOWING REPAIR METHODS:

- (1) CAST-IN-PLACE CONCRETE
- (2) PRE-PLACED AGGREGATE CONCRETE
- (3) FORMED AND PUMPED CONCRETE AND MORTAR
- (4) TROWELING AND DRY-PACKING OF REPAIR MORTAR

THE CONTRACTOR SHALL SUBMIT A PROPOSED WORK PLAN OF THE REPAIR METHOD TO BE USED TO THE ENGINEER FOR HIS APPROVAL. THE WORK PLAN SHOULD INCLUDE SURFACE PREPARATION METHODS, PATCHING MATERIAL, BONDING AGENTS, MATERIAL PLACING METHODS, AND FINISHING METHODS. THE CONTRACTOR SHALL TEST REPAIR AN AREA TO VERIFY THE EFFECTIVENESS OF THE PROPOSED REPAIR METHOD PRIOR TO COMMENCEMENT OF THE WORK. FAULTY REPAIRS SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. ALL COSTS INCLUDING LABOR, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "PNEUMATICALLY PLACED MORTAR" (APPROXIMATELY 25 SQUARE YARDS FOR SUBSTRUCTURE, 100 SQUARE YARDS FOR PARAPETS).

11) CARBON FIBER-REINFORCED POLYMER

THIS ITEM IS FOR APPLYING TWO LAYERS OF CARBON FIBER-REINFORCED POLYMER TO WEST COLUMN TOP OF PIER 2 OF THE BRIDGE AT LOCATIONS AND EXTENT SHOWN IN THE PLANS AND AS APPROVED BY THE ENGINEER, IN ACCORDANCE WITH SPECIAL PROVISIONS 524-3. THE QUANTITY SHOWN IS APPROXIMATE. THE EXTENT WILL BE FIELD DETERMINED WITH THE APPROVAL OF THE ENGINEER.

12) CORROSION INHIBITOR (SURFACE APPLIED)

THIS ITEM IS FOR APPLYING CORROSION INHIBITOR (SURFACE APPLIED) TO A) WEST COLUMN TOP OF PIER 2, B) BRIDGE SEATS, PEDESTALS AND BACKWALLS AT BOTH ABUTMENTS (APPROXIMATELY 10 SQUARE YARDS FOR COLUMN TOP, 120 SQUARE YARDS FOR ABUTMENTS) (AS DIRECTED BY THE ENGINEER) IN ACCORDANCE WITH SPECIAL PROVISIONS 535-1. THE QUANTITY SHOWN IS APPROXIMATE. APPLY CORROSION INHIBITOR PRIOR TO PLACEMENT OF PNEUMATICALLY PLACED MORTAR.

13) REPAIR BRIDGE ITEM (TYPE A)

PAY ITEM "REPAIR BRIDGE ITEM (TYPE A)" IS FOR REPLACEMENT OF THE EXISTING EXPANSION JOINTS AT THE ABUTMENTS AS SHOWN IN THE PLANS.

- THIS ITEM CONSISTS OF:
- REMOVING THE EXISTING EXPANSION JOINT ALONG WITH A PORTION OF DECK SLAB ADJACENT TO THE JOINT.
 - APPLYING A COAT OF INORGANIC ZINC PRIMER TO THE TOP OF THE EXPOSED PORTION OF THE BEAMS AND DIAPHRAGMS.
 - INSTALLING NEW EXPANSION DEVICE (SEJ) ALONG WITH PLACEMENT OF REINFORCEMENT AND CONCRETE.

CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. ALL COSTS OF THE REPAIR INCLUDING REMOVAL, DISPOSAL, MATERIAL, LABOR, WELDING, PAINT, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN AND NOTED SHALL BE INCLUDED IN THE PRICE BID PER EACH OF "REPAIR BRIDGE ITEM (TYPE A)".

31701(04) PAY QUANTITIES				
0200 BRIDGE 'A' - NBI 19267				
ITEM		DESCRIPTION	UNIT	QUANTITY
501(G)	6309	CLSM BACKFILL	(1) CY	64.00
504(A)	1304	APPROACH SLAB	(2) SY	190.00
504(G)	6390	RAPID CURE JOINT SEALANT	(3) LF	753.00
504(H)	6389	ELASTOMERIC MORTAR	(4) CF	10.00
505(C)	6075	MULTIPLE LAYER POLYMER CONCRETE OVERLAY	(5) SY	2,100.00
509	6153	SPECIAL CONCRETE FINISH	(6) LSUM	1.0
512(A)	1323	PAINTING EXISTING STRUCTURE	(7) LSUM	1.0
512(B)	6303	COLLECTION AND HANDLING OF WASTE	(7) LSUM	1.0
513(B)	6019	CLASS B BRIDGE DECK REPAIR	(8) SY	80.00
513(C)	6020	CLASS C BRIDGE DECK REPAIR	(9) SY	40.00
521(A)	6210	PNEUMATICALLY PLACED MORTAR	(10) SY	125.00
524(A)	6610	(SP) CARBON FIBER-REINFORCED POLYMER	(11) SF	160.00
535	6130	(SP) CORROSION INHIBITOR (SURFACE APPLIED)	(12) SY	130.00
540	4515	(PL) REPAIR BRIDGE ITEM (TYPE A)	(13) EACH	2.0

31701(04) PAY QUANTITIES				
0640 CONSTRUCTION				
ITEM		DESCRIPTION	UNIT	QUANTITY
641	1399	MOBILIZATION	LSUM	1.00

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET 2 OF 2)			GRADY COUNTY		
			Design	N/A	N/A
			Detail	DAH	05/16
			Check		
			Squad:	HARJO	
			Engr.:	MOLLA-ESMAIL	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB/PIECE NO.	31701(04)		SHEET NO. AB02

TRAFFIC GENERAL CONSTRUCTION NOTES

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 IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS. CONSTRUCTION TRAFFIC CONTROL WILL BE 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.

REMOVED MATERIAL TO BECOME PROPERTY OF CONTRACTOR AND IT SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE RESIDENT ENGINEER.

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AS DETERMINED BY THE ENGINEER. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OETA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES." CHANNELIZING DEVICES SHALL HAVE A MINIMUM HEIGHT OF 36 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE TEMPORARY TRAFFIC CONTROL DEVICES, AND SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DEVICE DURING CONSTRUCTION.

TRAFFIC PAY QUANTITY NOTES

- (TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PORTABLE LONGITUDINAL BARRIER.
- (TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.
- (TC-13) A PART, OR ALL, OF THIS ITEM IS INTENDED FOR REPLACEMENT OF REMOVED EXISTING CONFLICTING STRIPING.
- (TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.
- (TC-17) INCLUDES AN ESTIMATED 730 L.F. (PAINT) (4" WIDE) WHITE 730 L.F. (PAINT) (4" WIDE) YELLOW STRIPE.
- (TC-20) ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS. TEMPORARY PAVEMENT MARKINGS PLACED ON FINISHED PAVEMENT OR EXISTING PAVEMENT TO REMAIN IN PLACE SHALL USE ONE OF THE FOLLOWING METHODS:
 - REMOVABLE PAVEMENT MARKING TAPE
 - CLASS A PAVEMENT MARKERS
- (TC-22) AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL SHALL INCLUDE THE COST OF REMOVING STRIPE, ARROWS, WORDS AND SYMBOLS, AS SHOWN IN THE PLANS. THESE ITEMS MAY CONSIST OF PLASTIC, PAINT OR NON-REMOVABLE MARKING TAPE.
- (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-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.

PAY QUANTITY SCHEDULE

0300 TRAFFIC CONTROL				
PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
104	0955	(SP) RAILROAD FLAGGING (NON-BIDDABLE)	DAY	21.00
823	8478	(SP) PORTABLE TRAFFIC SIGNAL SYSTEM (TC-80,84)	SD	70.00
857(A)	8839	CONSTRUCTION TRAFFIC STRIPE (PAINT) (4" WIDE) (TC-17,20,70,75)	LF	1,460.00
857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE) (TC-22,70,75)	LF	1,460.00
871(B)	8705	(SP) CONST. ZONE IMPACT ATTEN. (TC-52,70,80)	SD	140.00
877(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER (TC-1,2)	LF	365.00
877(C)	8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER (TC-1)	LF	365.00
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF (TC-26,33,84)	SD	560.00
880(B)	8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF (TC-26,33,84)	SD	140.00
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF (TC-26,30,33,84)	SD	700.00
880(C)	8848	WING BARRICADES (TC-26,84)	SD	560.00
880(E)	8860	WARNING LIGHTS (TYPE A) (TC-26,84)	SD	560.00
880(F)	8878	DRUMS (SP-1)(TC-26,84)	SD	1,260.00
880(G)	8890	CHANNELIZER CONES (TC-26)	SD	1820.00
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN (SP-2,3)(TC-52,85)	SD	168.00

0302 TRAFFIC STRIPING				
PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
856(A)	8530	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE) (TC-13,14)(TS-24)	LF	1,460.00

- (TC-52) ANY USED CONST. 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-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.
- (TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.
- (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) 70 CONSTRUCTION CALENDER 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>

TRAFFIC SIGNING QUANTITY NOTES

- (TS-24) QUANTITY SHOWN INCLUDES 730 L.F. TRAFFIC STRIPE (MULTI-POLYMER) (WHITE) AND 730 L.F. TRAFFIC STRIPE (MULTI-POLYMER) (YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

SPECIAL PAY QUANTITY NOTES

- (SP-1) TYPE 'C' WARNING LIGHTS ARE NOT REQUIRED
- (SP-2) PORTABLE CHANGEABLE MESSAGE SIGNS TO BE PLACED WHERE DEEMED NECESSARY BY THE ENGINEER.
- (SP-3) PORTABLE CHANGEABLE MESSAGE SIGN(S) SHALL BE PLACED 14 DAYS PRIOR TO CONSTRUCTION.

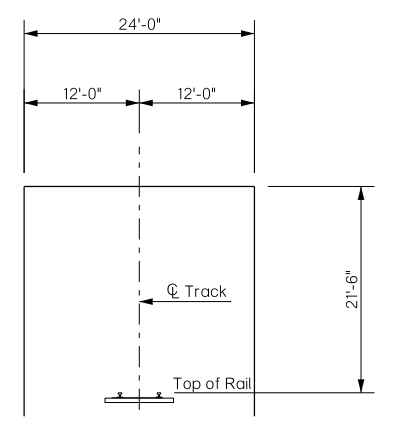
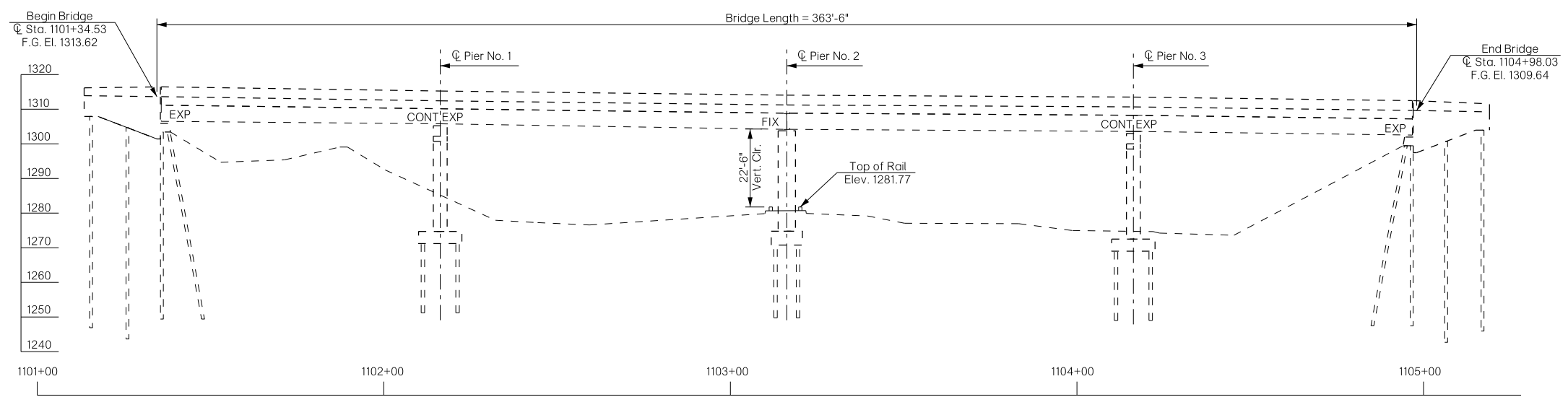
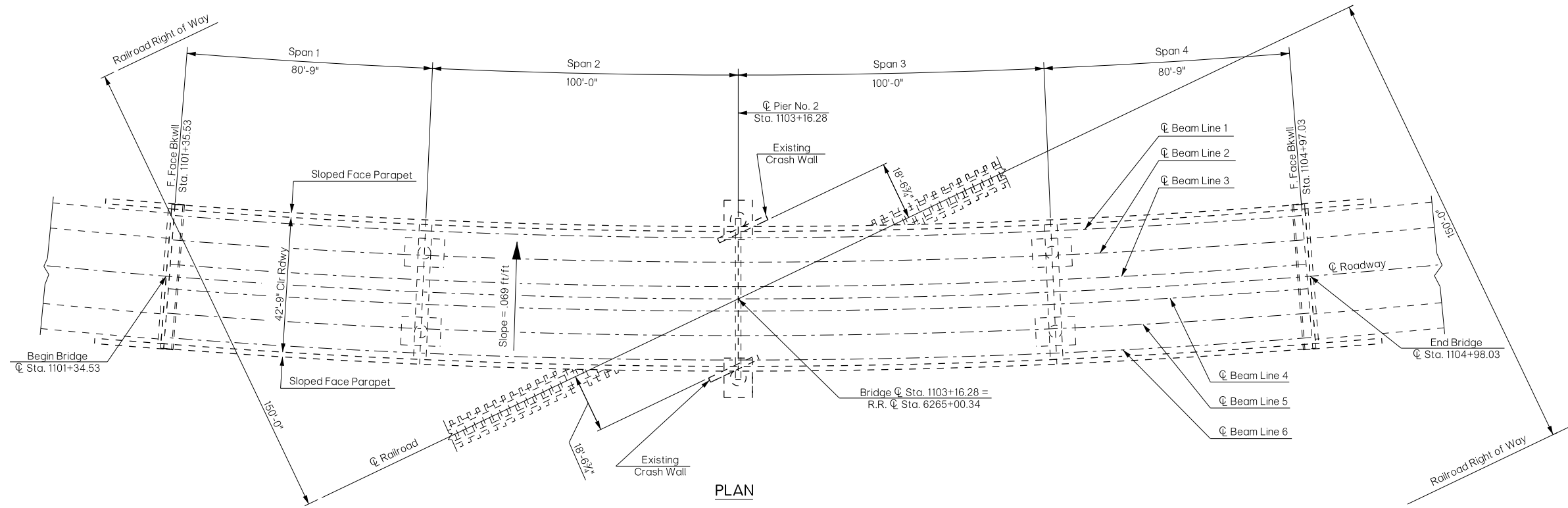
PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

DATE: 08-17-16

DOT
OKLA. REG. NO. 25181

SUMMARY OF PAY QUANTITIES & NOTES			
Drawn	TMS	5/16	
Design	TMS	5/16	
Checked	KCD	5/16	
TRAFFIC ENGINEERING TAREK MAAROUF			

REVISIONS		
REV. NO.	DESCRIPTION	DATE

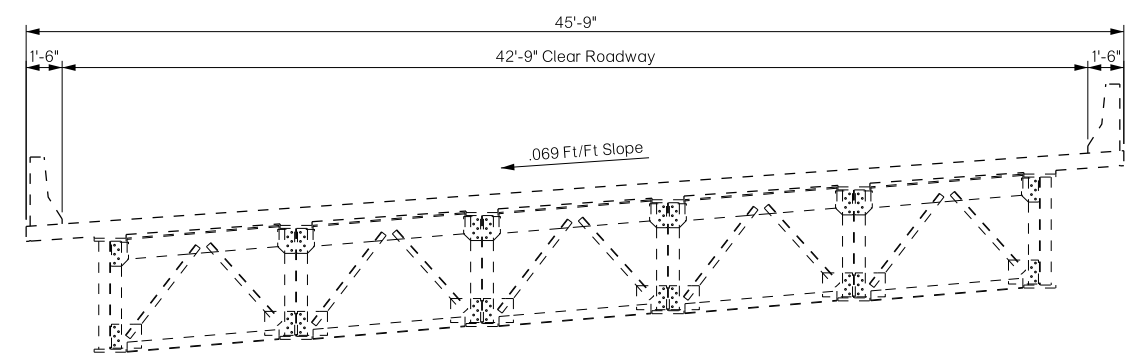


UPRR FALSEWORK CLEARANCE DIAGRAM

Clearance of Falsework required by R.R. for operation during construction.

Horizontal dimensions shown are measured at Right Angles to ϕ of R.R. Track.

Vertical dimension shown is perpendicular to plane of top of rails.

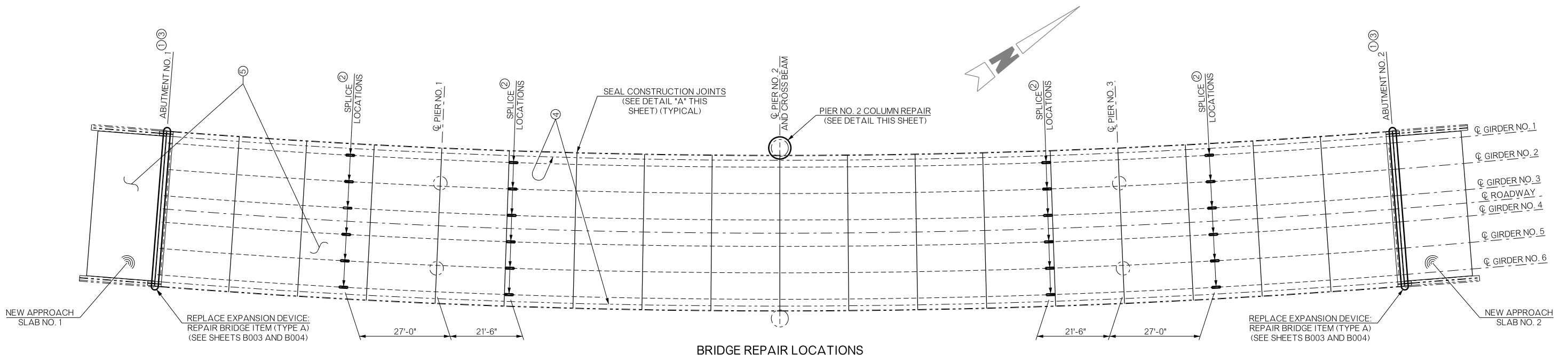


HALF END VIEW **HALF SECTION VIEW**

TYPICAL SECTION

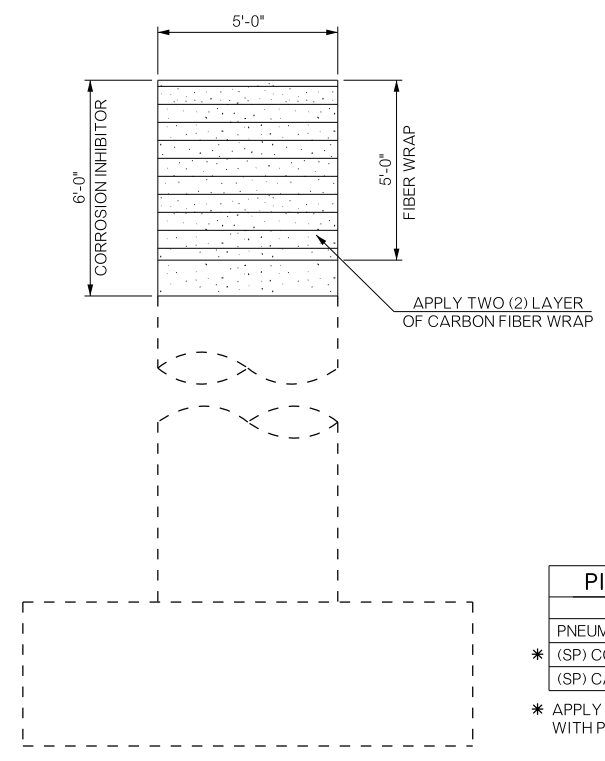
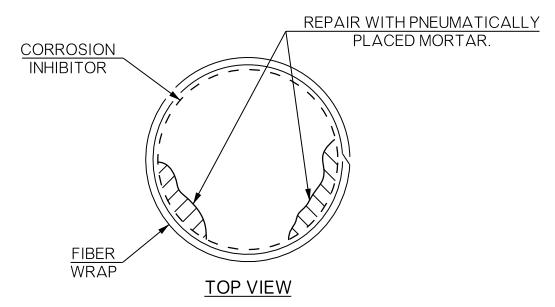
BRIDGE "A"		GRADY COUNTY	
U.S.-81 over UP RAILROAD		Design	
GENERAL PLAN, ELEVATION AND TYPICAL SECTION		Detail	WDY 03/16
		Check	
		Squad	HARJO
		Engr.	MOLLA-ESMAIL
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB/PIECE NO. 31701(04)		SHEET NO. B001	

REVISIONS		
REV. NO.	DESCRIPTION	DATE



BRIDGE REPAIR LOCATIONS

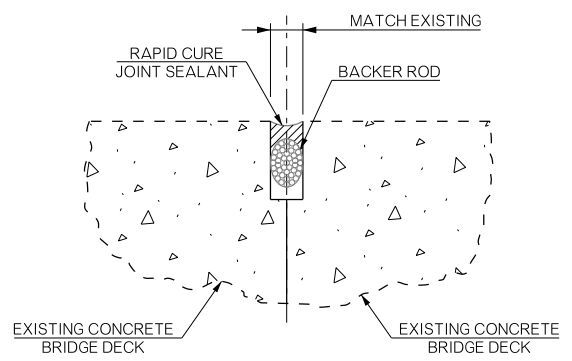
- ① CLEAN AND PAINT BEAM ENDS, BEARINGS AND DIAPHRAGMS AT ABUTMENTS.
- ② CLEAN AND PAINT ALL GIRDER SPLICES.
- ③ APPLY CORROSION INHIBITOR TO BRIDGE SEAT, PEDESTALS AND BACKWALL AFTER REPAIR WITH PNEUMATICALLY PLACED MORTAR.
- ④ REPAIR INSIDE FACE OF THE PARAPETS USING PNEUMATICALLY MORTAR. FINISH THE ENTIRE ROADWAY SURFACE OF THE PARAPETS ACCORDING TO SEC. 509.04G(6) OF STANDARD SPECIFICATIONS.
- ⑤ APPLY MULTIPLE LAYER POLYMER CONCRETE OVERLAY TO THE DECK AND APPROACH SLABS.



**ELEVATION
PIER NO. 2 WEST COLUMN REPAIR**

PIER NO. 2 WEST COLUMN QUANTITIES			
ITEM	UNIT	QTY.	
PNEUMATICALLY PLACED MORTAR	S.Y.	3.00	
* (SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	10.00	
(SP) CARBON FIBER- REINFORCING POLYMER	S.F.	160.00	

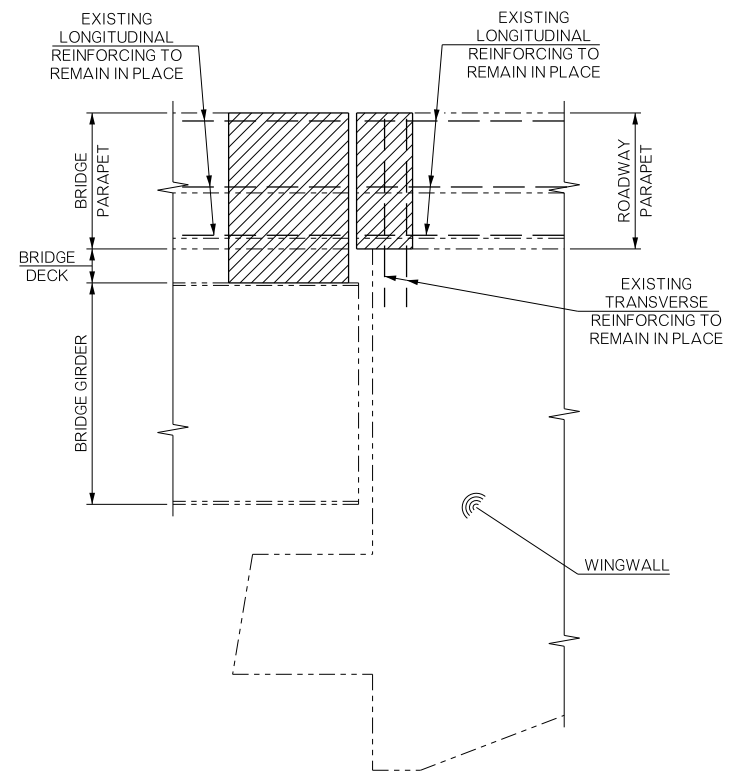
* APPLY CORROSION INHIBITOR AFTER PATCHING WITH PNEUMATICALLY PLACED MORTAR.



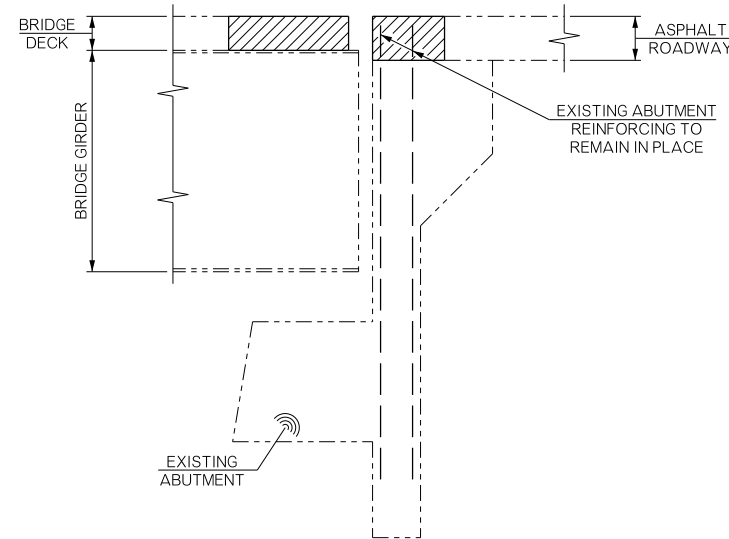
DETAIL 'A'
CONSTRUCTION JOINT DETAILS
(ALSO SEE STANDARD LECS-4)

BRIDGE "A" US-81 OVER UP RAILROAD		GRADY COUNTY		Design	MLC	04/16
REPAIR LOCATIONS AND PIER REPAIR DETAILS				Detail	GLB	04/16
				Check	DAH	04/16
				Squad:	HARJO	
				Engr.:	MOLLA-ESMAIL	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB/PIECE NO. 31701(04)		SHEET NO. B002				

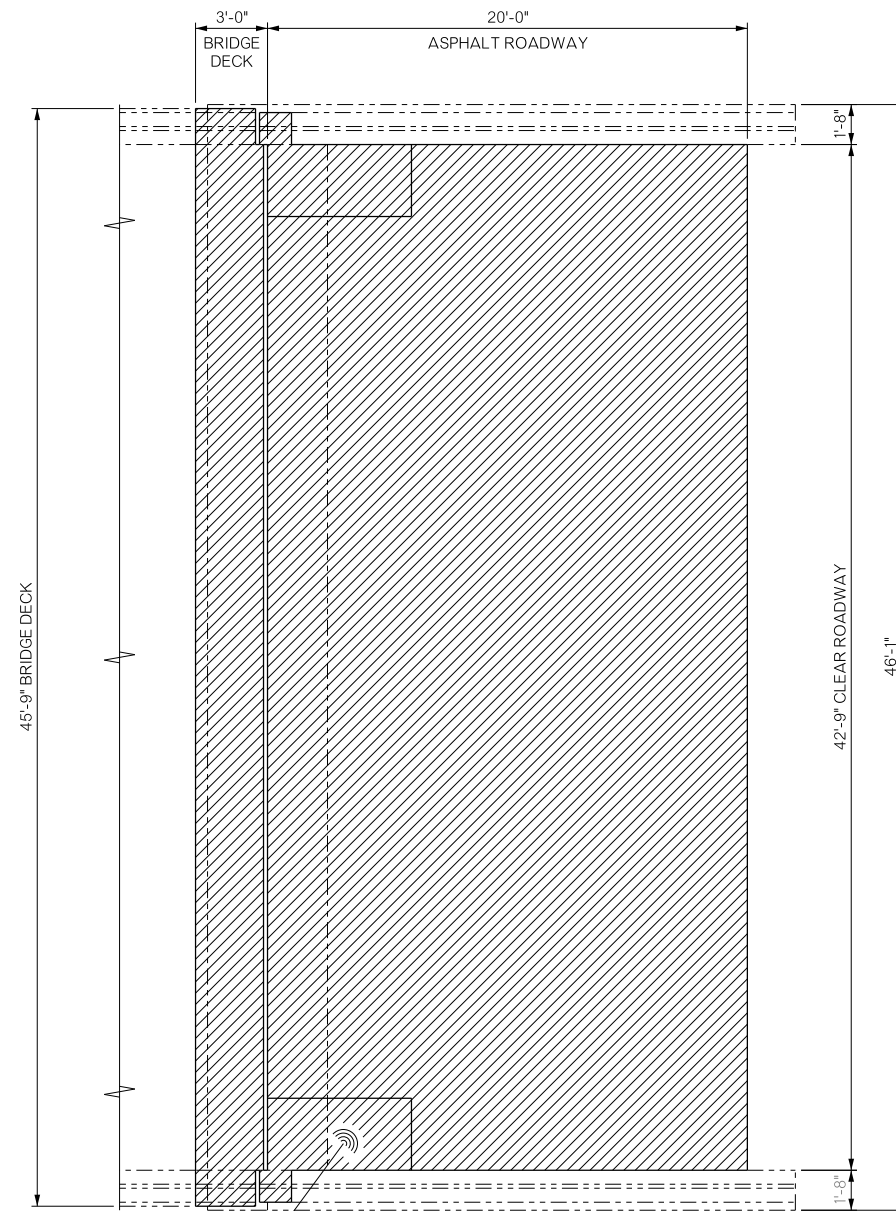
REVISIONS		
REV. NO.	DESCRIPTION	DATE



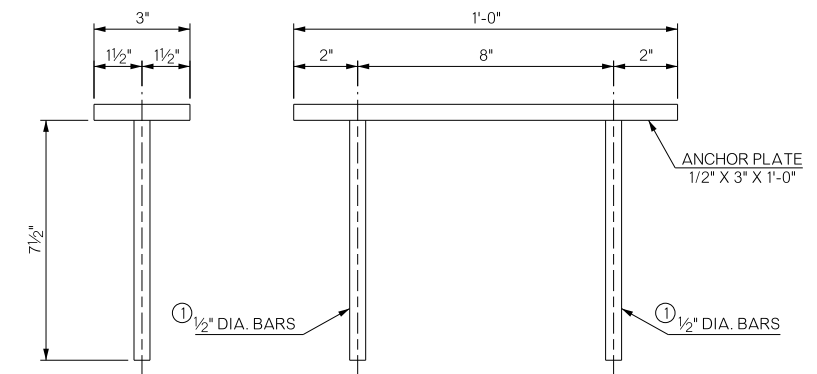
**EXISTING ELEVATION
AT WINGWALLS**
HATCH AREA TO
BE REMOVED



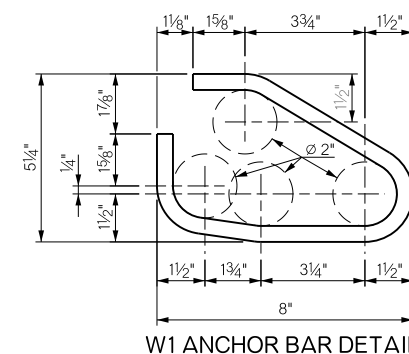
**EXISTING ELEVATION
BETWEEN WINGWALLS**
(HATCH AREA TO
BE REMOVED)



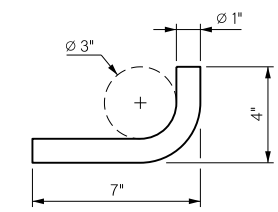
PLAN OF REMOVAL
HATCH AREA TO
BE REMOVED



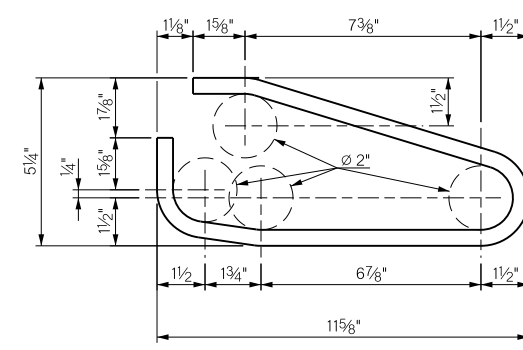
ANCHOR ASSEMBLY
(6 REQUIRED, AT
EACH ABUTMENT)



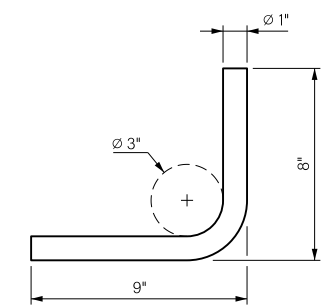
W1 ANCHOR BAR DETAIL



L1 BAR



W2 ANCHOR BAR DETAIL

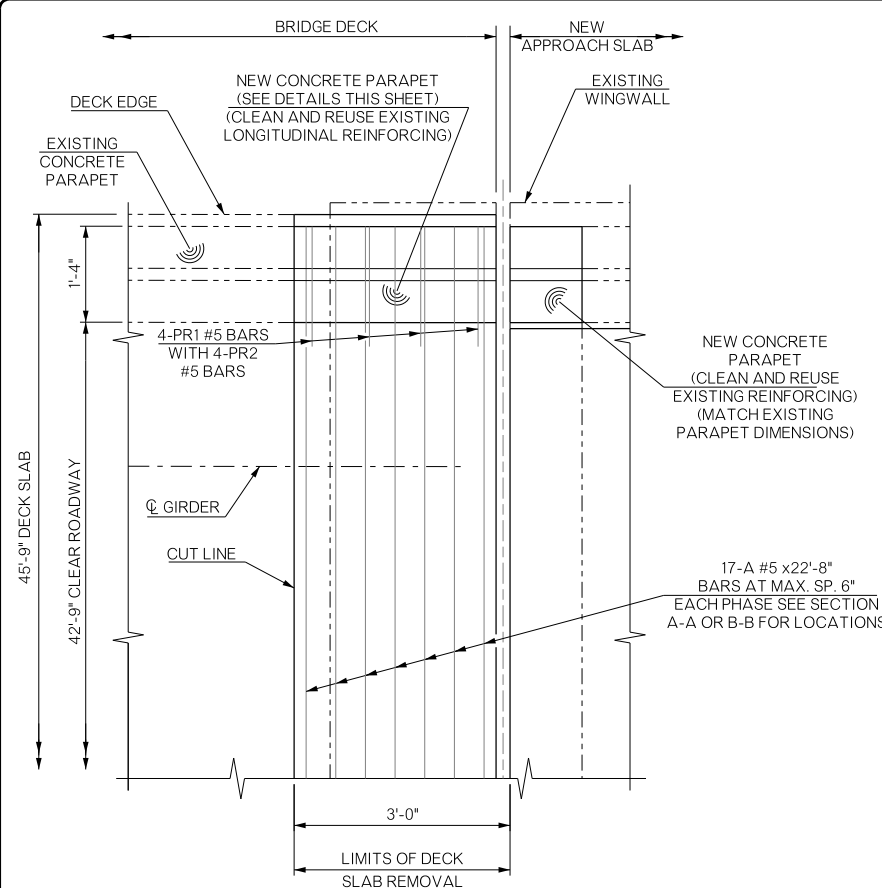


L2 BAR

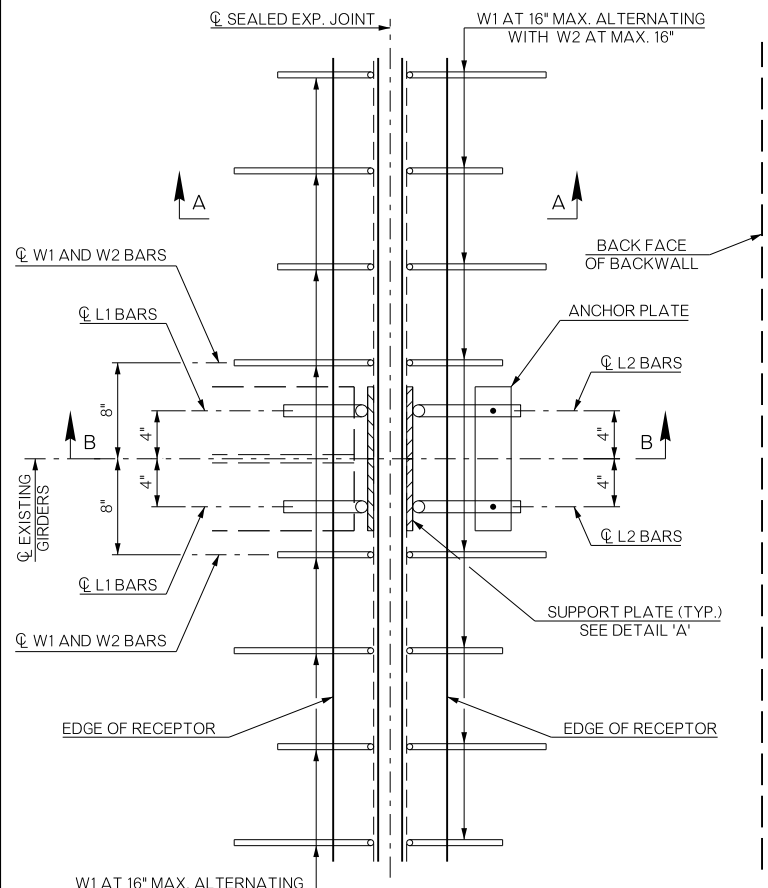
NOTE:
W1 AND W2 BARS SHALL BE FABRICATED
FROM W-20 DEFORMED STEEL WIRE.

BRIDGE "A" US-81 OVER UP RAILROAD REPAIR BRIDGE ITEM (TYPE A) EXPANSION JOINT REPLACEMENT AT ABUTMENTS (SHEET 1 OF 2)	GRADY COUNTY	Design: MLC 04/16
		Detail: GLB 04/16
		Check: DAH 04/16
		Squad: HARJO
		Eng: MOLLA-ESMAIL
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
JOB/PIECE NO. 31701(04)		SHEET NO. B003

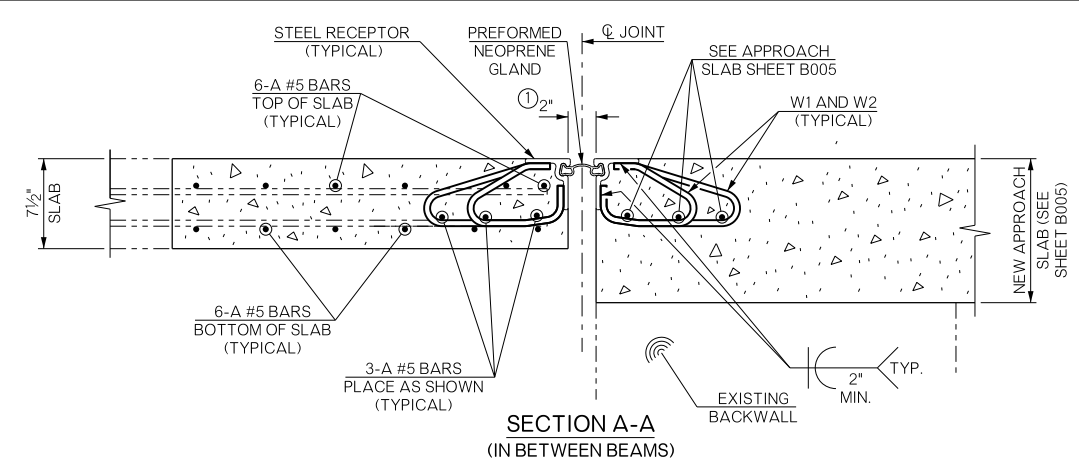
REVISIONS		
REV. NO.	DESCRIPTION	DATE



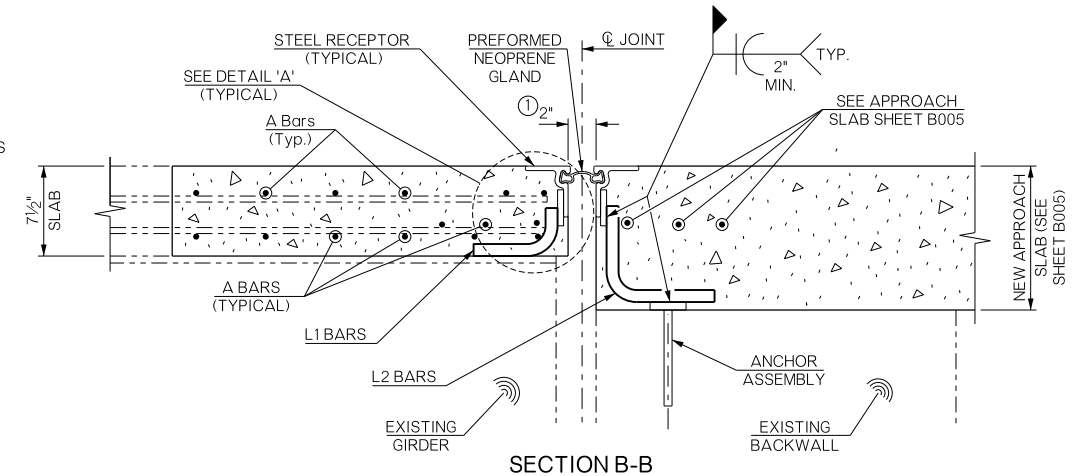
NEW JOINT REINFORCING PLAN



PLAN VIEW OF EXPANSION JOINT

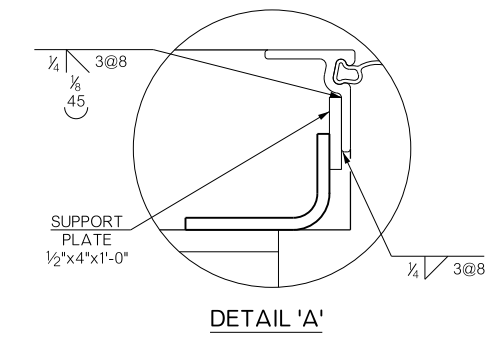


SECTION A-A (IN BETWEEN BEAMS)

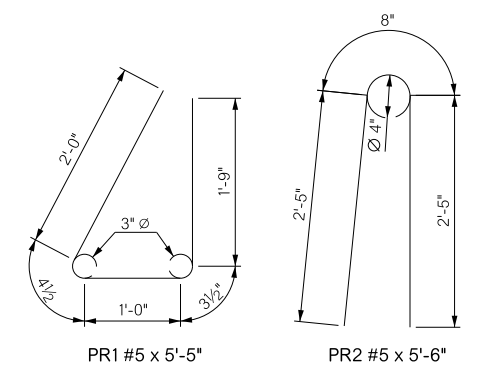


SECTION B-B

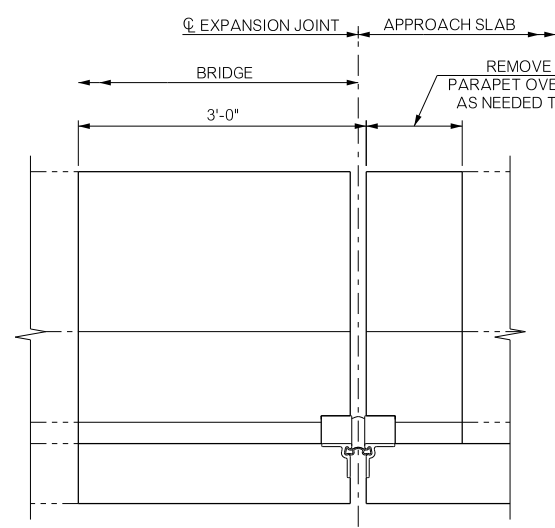
① 2" OPENING IS BASED ON A TEMPERATURE OF 60°F. INCREASE THE SETTING 1/8" FOR EACH 10° THE TEMPERATURE IS BELOW 60° AND DECREASE 1/8" FOR EACH 10° THE TEMPERATURE IS ABOVE 60°.



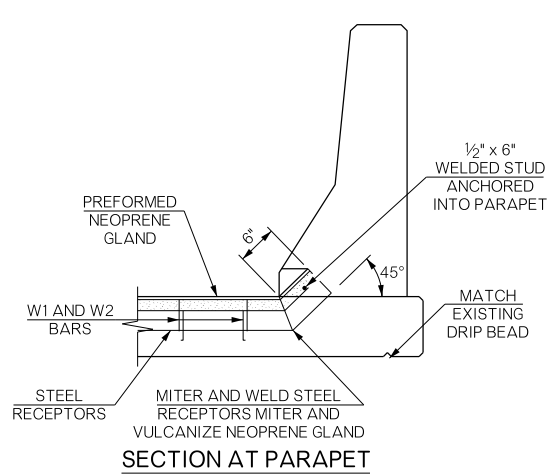
DETAIL 'A'



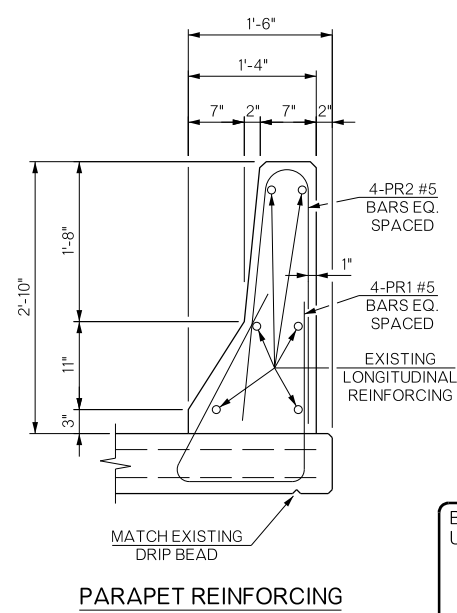
BAR BENDS



ELEVATION OF EXPANSION JOINT



SECTION AT PARAPET



PARAPET REINFORCING

REPAIR BRIDGE ITEM (TYPE A) AT ABUTMENTS

THIS WORK CONSISTS OF REMOVING THE EXISTING EXPANSION DEVICE ALONG WITH A PORTION OF THE DECK SLAB AND PARAPET ON ONE SIDE AND A PORTION OF BACKWALL AND WING PARAPET ON THE OTHER SIDE. (THE REMOVAL WILL ALSO INCLUDE THE STEEL DRAIN PIPES ATTACHED TO THE BACKWALL, BRIDGE SEAT AND SLOPEWALLS). THE NEW SEALED EXPANSION DEVICE (SEJ) WILL BE INSTALLED AS DETAILED. NEW CONCRETE DECK PORTION AND PARAPETS WILL BE PLACED ALONG WITH NEW APPROACH SLABS. ALL COST OF REMOVAL AND PLACEMENT OF NEW SEJ INCLUDING LABOR, MATERIAL, WELDING, PAINT, SAW CUT, ATTACHMENT OF ANCHOR PLATES TO BACKWALL, NEW DECK, NEW DECK PARAPET AND WING PARAPET AND OTHER INCIDENTALS WILL BE INCLUDED IN PRICE BID PER EACH OF 'REPAIR BRIDGE ITEM (TYPE A)'. THE NEW APPROACH SLAB WILL BE PAID FOR IN SQUARE YARDS OF APPROACH SLAB PAY ITEM.

USE CLASS AA CONCRETE. USE GRADE 60 EPOXY COATED REINFORCING STEEL.

THE SEALED EXPANSION DEVICE SHALL HAVE THE FOLLOWING SPECIFICATIONS:

THE SEALED EXPANSION JOINT SHALL HAVE A TOTAL MOVEMENT RANGE OF 4". THE STEEL RECEPTOR PROVIDED SHALL EITHER BE THE WATSON, BOWMAN AND ACME TYPE Q STEEL EXTRUSION OR THE D.S. BROWN TYPE SSK STEEL EXTRUSION. SEE STANDARD EJ-DTL FOR DETAILS OF STEEL RECEPTORS.

PAINT TWO SHOP COATS, ONE AN INORGANIC ZINC RICH (IZ) PRIMER, THE OTHER AN INORGANIC ZINC RICH (IZ) INTERMEDIATE COAT, WILL BE APPLIED TO THE ENTIRE SURFACE OF THE STEEL RECEPTOR, SUPPORT PLATES, L SUPPORT BARS, AND W1 AND W2 ANCHOR BARS, ALL PAINTING SHALL BE DONE IN ACCORDANCE WITH SECTION 730 OF THE STANDARD SPECIFICATIONS.

MATERIALS STEEL RECEPTORS, SUPPORT PLATES, L SUPPORT BARS SHALL BE IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 36, 50 OR 50W (CHARPY V-NOTCH TESTING NOT REQUIRED). W1 AND W2 ANCHOR BARS SHALL CONFORM TO AASHTO M225 (ASTM A496). ALL BAR DIMENSIONS SHALL BE INCLUDED IN THE SHOP DRAWINGS. WELDING OF STEEL RECEPTORS, SUPPORT PLATES, L SUPPORT BARS, AND W1 AND W2 ANCHOR BARS SHALL BE IN ACCORDANCE WITH SUBSECTION 724.03 OF THE STANDARD SPECIFICATIONS. PREFORMED NEOPRENE GLAND LUBRICANT ADHESIVE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED LITERATURE.

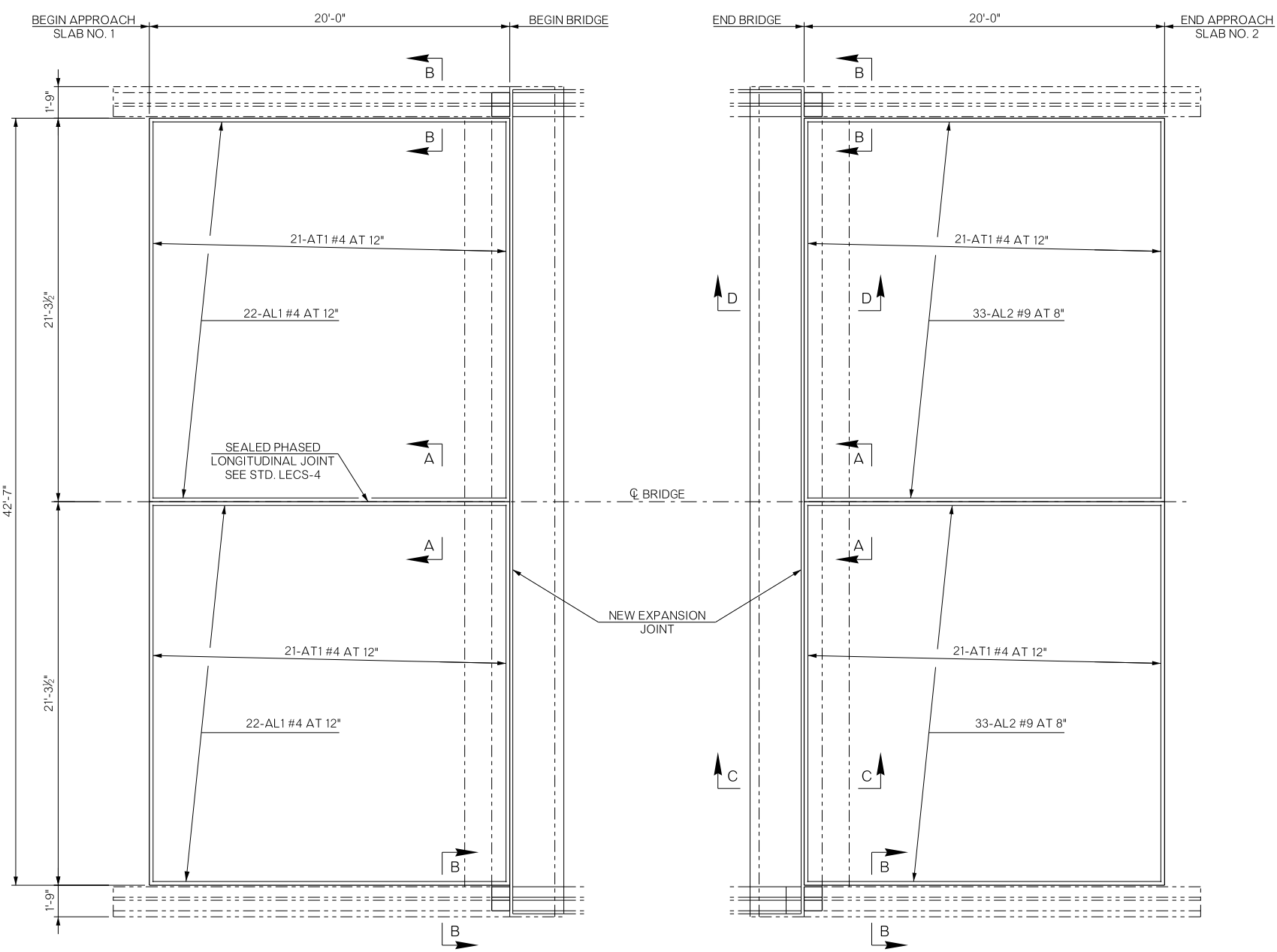
FABRICATION OF JOINT AT LOCATIONS WHERE JOINT IS SHOWN TO BE MITERED AT ANY ANGLE FOR TURN-UP AT TRAFFIC RAIL OR FOR SKEW, THE MATERIAL SHALL BE SHOP SPLICED WITH HEAT VULCANIZING OR OTHER METHOD OF EQUAL EFFECTIVENESS AS RECOMMENDED BY THE LIST JOINT MANUFACTURER OR APPROVED EQUAL AND APPROVED BY THE ENGINEER.

BAR LIST (EACH JOINT)				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
* A	#5	34	STR.	22'-8"
PR1	#5	8	BNT.	5'-5"
PR2	#5	8	BNT.	5'-6"

* THIS REPAIR WILL BE PERFORMED IN TWO PHASES. THE NEW TRANSVERSE A BARS WILL BE TIED USING MECHANICAL SPLICES. THE COST OF MECHANICAL SPLICE, WILL BE INCLUDED IN OTHER ITEMS OF WORK.

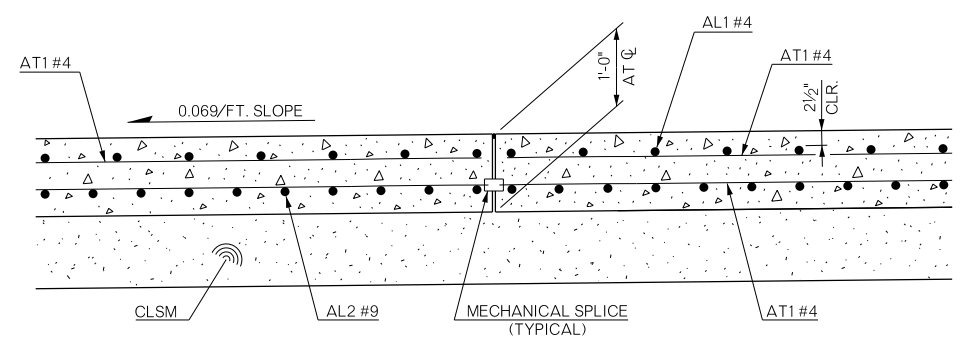
BRIDGE "A" US-81 OVER UP RAILROAD		GRADY COUNTY	
REPAIR BRIDGE ITEM (TYPE A)		Design	MLC 04/16
EXPANSION JOINT REPLACEMENT		Detail	GLB 04/16
AT ABUTMENTS (SHEET 2 OF 2)		Check	DAH 04/16
STATE OF OKLAHOMA		Squad	HARJO
DEPARTMENT OF TRANSPORTATION		Engr.	MOLLA-ESMAIL
JOB/PIECE NO.	31701(04)	SHEET NO.	B004

REVISIONS		
REV. NO.	DESCRIPTION	DATE

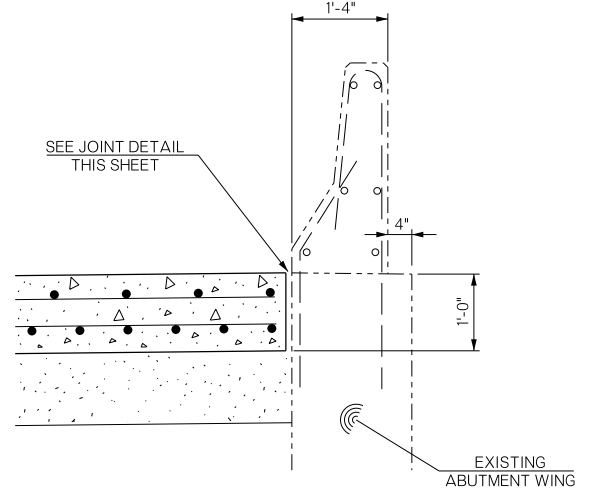


APPROACH SLAB NO. 1
TOP REINFORCING MAT DETAIL

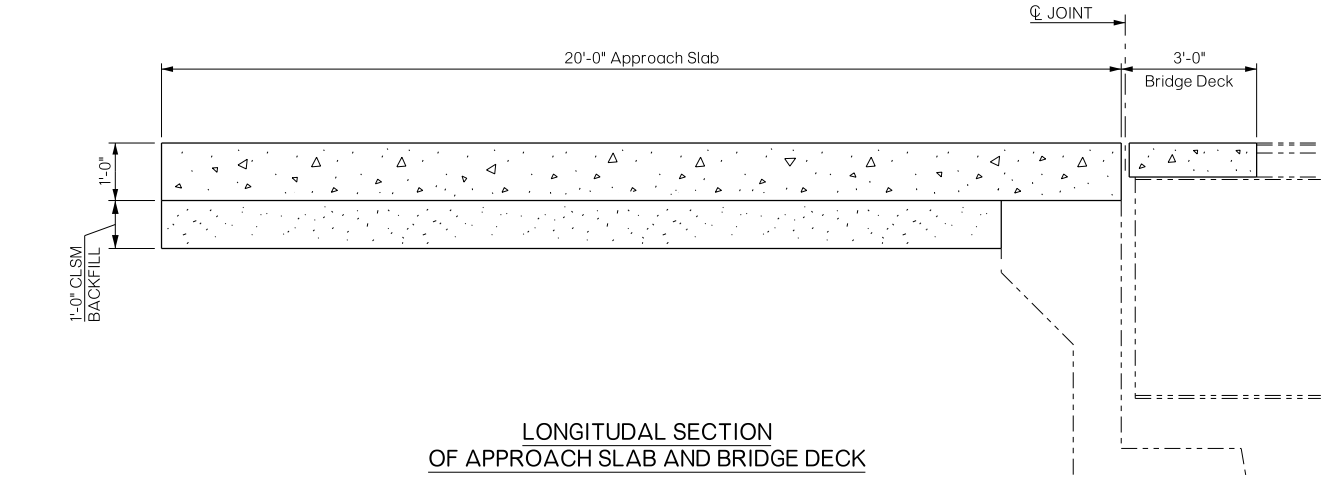
APPROACH SLAB NO. 2
BOTTOM REINFORCING MAT DETAIL



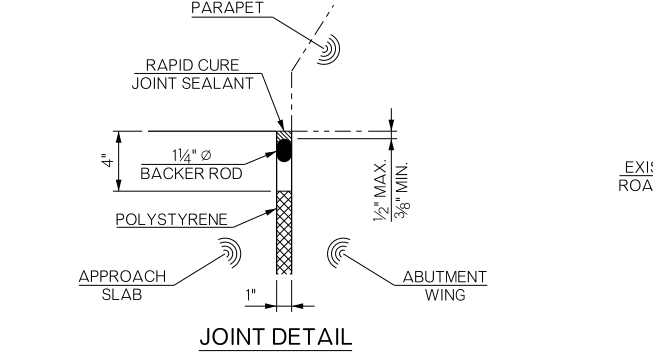
SECTION A-A



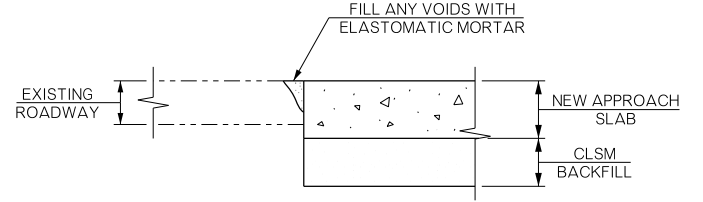
SECTION B-B



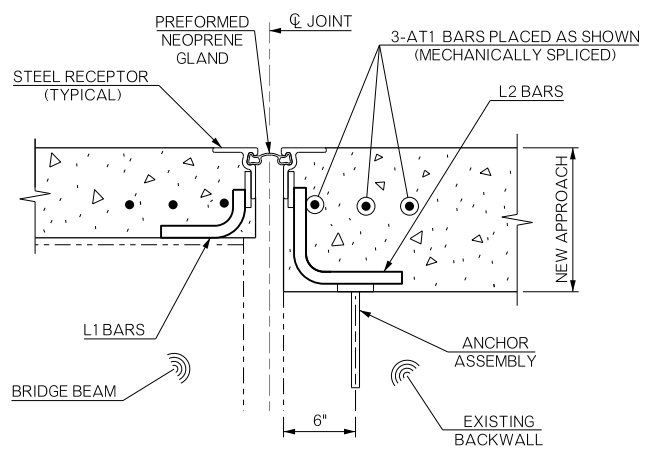
LONGITUDINAL SECTION
OF APPROACH SLAB AND BRIDGE DECK



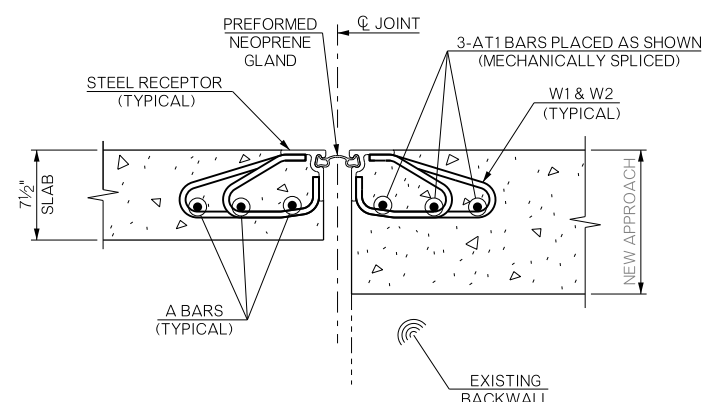
JOINT DETAIL



SECTION AT NEW APPROACH SLAB
AND EXISTING ROADWAY



SECTION C-C
(ABOVE BEAMS)



SECTION D-D
(IN BETWEEN BEAMS)

APPROACH SLAB BAR LIST, EPOXY COATED (ONE SHOWN, TWO REQUIRED)				
MARK	SIZE	NO.	FORM	LENGTH
AT1	#4	90	STR.	21'-0"
AL1	#4	44	STR.	19'-8"
AL2	#9	66	STR.	19'-8"

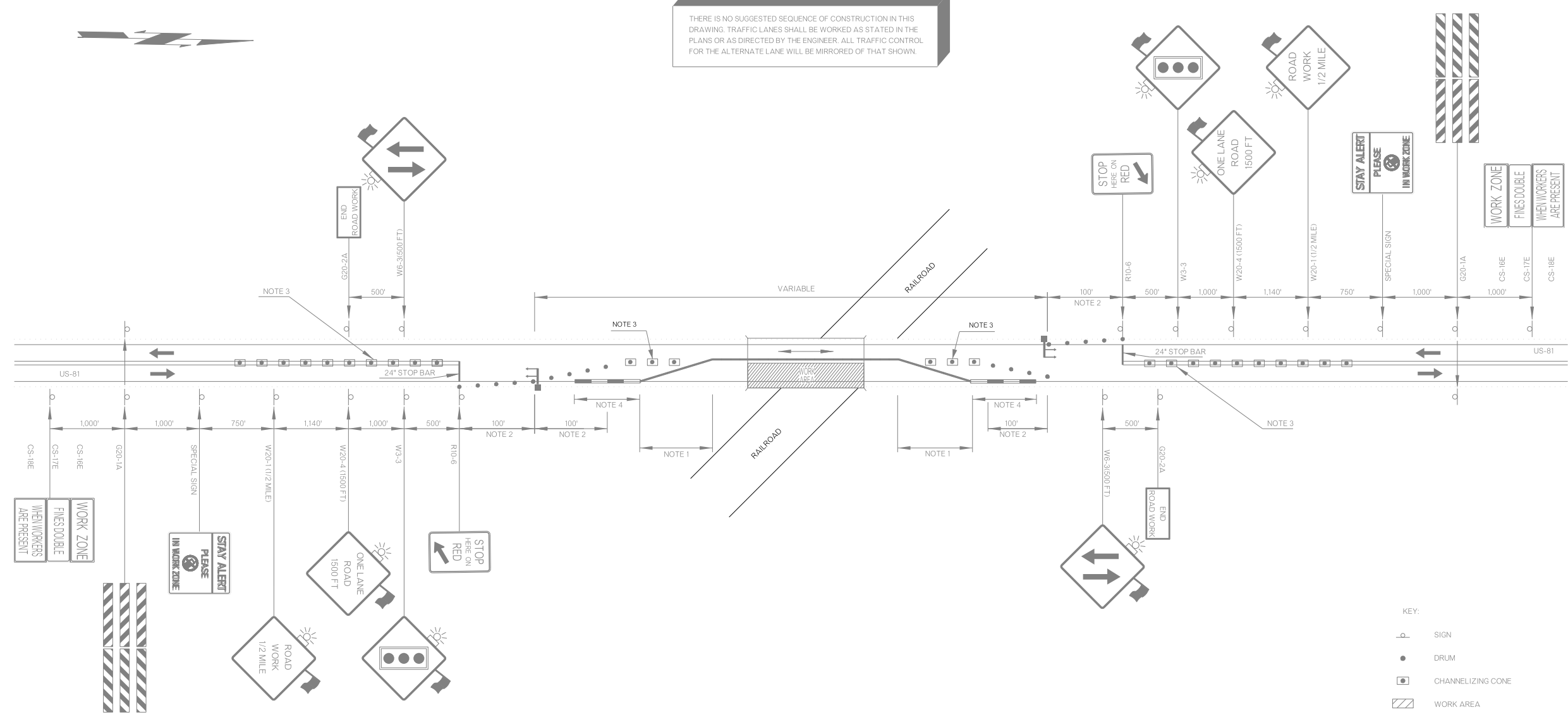
APPROACH SLAB QUANTITIES			
ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2
APPROACH SLAB	S.Y.	94.70	94.70
CLSM BACKFILL	C.Y.	27.70	27.70

- NOTES:
- USE GRADE 60 EPOXY COATED REINFORCING (APPROXIMATELY 6,260 LBS. OF EPOXY COATED REINFORCING IN EACH APPROACH SLAB).
 - USE CLASS AA CONCRETE (APPROXIMATELY 31.60 CU. YDS. OF CLASS AA CONCRETE IN EACH APPROACH SLAB).
 - ALL CLEARANCES ARE 2" UNLESS SPECIFIED OTHERWISE.
 - THE NEW APPROACH SLAB WILL BE CONSTRUCTED IN TWO PHASES. "AT1" BARS IN BOTTOM MAT AND THRU EXPANSION DEVICE'S W1 AND W2 ANCHOR BARS WILL BE CONNECTED USING MECHANICAL SPLICES. COST OF MECHANICAL SPLICES WILL BE INCLUDED IN OTHER ITEMS OF WORK.
 - THE NEW APPROACH SLAB WILL BE CONSTRUCTED IN CONJUNCTION WITH "REPAIR BRIDGE ITEM (TYPE A) EXPANSION JOINT REPLACEMENT AT ABUTMENTS" ON SHEETS B003 AND B004.
 - ALL COSTS ASSOCIATED WITH SAW CUTTING AND EXCAVATION OF EXISTING ROADWAY SURFACE, REMOVAL OF EXISTING CONCRETE, NEW EPOXY COATED REINFORCING, NEW CLASS AA CONCRETE, SEALING OF LONGITUDINAL JOINT, FORMING, AND OTHER INCIDENTALS WILL BE INCLUDED IN SQUARE YARDS OF "APPROACH SLAB" PAY ITEM.
 - EXCAVATION INCLUDES REMOVAL OF ANY CONCRETE PATCHING IN PLACE.
 - CLSM WILL BE PAID FOR SEPARATELY UNDER CLSM PAY ITEM.

BRIDGE "A" US-81 OVER UP RAILROAD	GRADY COUNTY	Design	MLC	04/16
DETAILS OF APPROACH SLABS		Detail	GLB	04/16
		Check	DAH	04/16
STATE OF OKLAHOMA		Squad	HARJO	
DEPARTMENT OF TRANSPORTATION		Engr.	MOLLA-ESMAIL	
JOB/PIECE NO.	31701(04)	SHEET NO.	B005	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

THERE IS NO SUGGESTED SEQUENCE OF CONSTRUCTION IN THIS DRAWING. TRAFFIC LANES SHALL BE WORKED AS STATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL TRAFFIC CONTROL FOR THE ALTERNATE LANE WILL BE MIRRORRED OF THAT SHOWN.



NOTE 1

FLARE RATES FOR CONCRETE MEDIAN BARRIER IN TEMPORARY TRAFFIC CONTROL ZONES	
SPEED	FLARE RATE (MINIMUM)
40 MPH.	9 TO 1
45 MPH.	10 TO 1
50 MPH.	11 TO 1
55 MPH.	12 TO 1
60 MPH.	13 TO 1
65 MPH.	14 TO 1
70 MPH.	15 TO 1
75 MPH.	16 TO 1

POSTED SPEED LIMIT PRIOR TO CONSTRUCTION

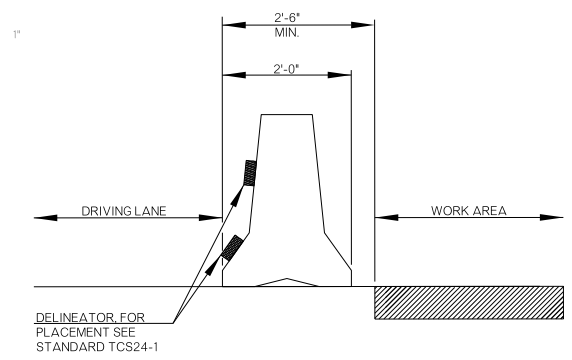
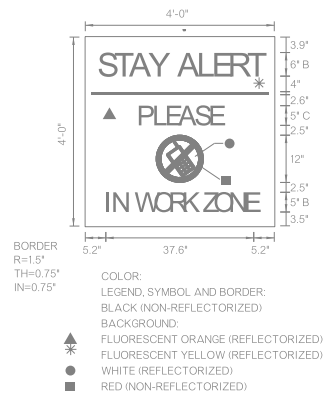
NOTE 2
A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THROUGH THIS AREA.

NOTE 3
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE TWICE THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 50 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 75 FEET FOR CHANNELIZER CONES. SPACING SHALL NOT EXCEED 100 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH PART IV OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. TEMPORARY TRAFFIC CONTROL SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC SIGNALS.

THE INSTALLATION AND TIMING OF SIGNALS SHALL BE APPROVED BY THE DIVISION TRAFFIC ENGINEER PRIOR TO SIGNALS BEING PLACED IN OPERATION.

ALL CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED. AFTER COMPLETION OF THE WORK, THE STOP LINES AND OTHER TEMPORARY INAPPLICABLE PAVEMENT MARKINGS SHALL BE REMOVED.



- KEY:
- SIGN
 - DRUM
 - ◻ CHANNELIZING CONE
 - ▨ WORK AREA
 - ▲▲▲ TYPE III BARRICADE
 - ⊥ PORTABLE TRAFFIC SIGNAL
 - ▬ CONST. ZONE IMPACT ATTENUATOR
 - ▬ PORTABLE LONGITUDINAL MEDIAN BARRIER

NOT TO SCALE

TRAFFIC CONTROL DETAIL US-81 OVER RAILROAD BRIDGE "A"			Drawn	TMS	5/16	
			Design	TMS	5/16	
STATE OF OKLAHOMA			Checked	KCD	5/16	
			TRAFFIC ENGINEERING			
DEPARTMENT OF TRANSPORTATION		DIVISION 7	JOB/PIECE NO.	31701(04)	SHEET NO.	T001