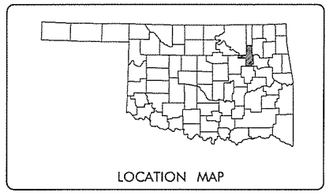
OKLAHOMA DEPARTMENT OF TRANSPORTATION		
DESCRIPTION	REVISIONS	DATE
⚠1 Revised Project Number		6/30/16



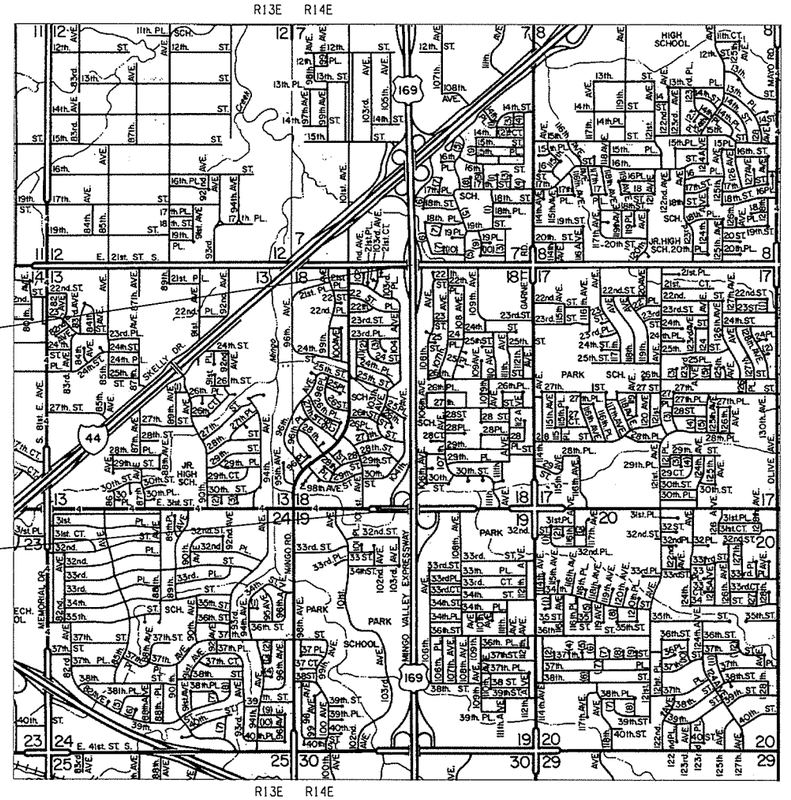
STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY
⚠FEDERAL AID PROJECT NO. STP-272A(174)03B
STATE JOB NO. 32565(05)
TULSA COUNTY
JOINT SEAL AND REPAIR
(PREVENTIVE MAINTENANCE)
DIVISION EIGHT

MANDATORY TIE:
THIS PROJECT SHALL BE MANDATORILY TIED WITH TULSA COUNTY JOB PIECE 31672(04) AND SHALL BE BID ACCORDINGLY

BRIDGE "B" - LOCATION NO. 7283-0867X
CONTROL SECTION NO. 169-72-83
NBI NO. 19245
FACILITY CARRIED: U.S. 169
FEATURE INTERSECTED: 21ST STREET
TOWNSHIP: T19N SECTION: 18 RANGE: R14E

BRIDGE "A" - LOCATION NO. 7283-0767X
CONTROL SECTION NO. 169-72-83
NBI NO. 19235
FACILITY CARRIED: U.S. 169
FEATURE INTERSECTED: 31ST STREET
TOWNSHIP: T19N SECTION: 19 RANGE: R14E



INDEX OF SHEETS

STANDARD DRAWINGS

TRAFFIC			ROADWAY
TCS1-1-01	TCS7-1-02	TCS15-1-00	PCPR-3-1
TCS2-1-00	TCS8-1-00	TCS18-1-01	LECS-4-1
TCS3-1-01	TCS9-1-01	TCS19-1-01	
TCS4-1-01	TCS10-1-00	TCS20-1-00	
TCS5-1-00	TCS11-1-01	TCS24-1-02	
TCS6-1-02	TCS14-1-00	TCS25-1-00	

SCALE

SCALES	1"
PLAN	1" = 100'
PROFILE HOR.	1" = 100'
VER.	1" = 10'
LAYOUT MAP	1" = 2,640'

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 (MES.R/W.)
- RIGHT-OF-WAY LINES - NEW (R/W)
- 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.

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN DIVISION
MOHAMED F. ELYAZGI, P.E.
OKLA. REG. NO. 17542
DATE 6/30/2016

REGISTERED PROFESSIONAL ENGINEER — MOHAMED F. ELYAZGI 17542 — OKLAHOMA

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

⚠PROJECT NO. STP-272A(174)03B SHEET NO. 1

TULSA COUNTY US-169

TRAFFIC DESIGN
PROJECT ENGINEER : JAMI SHORT
SQUAD SUPERVISOR : STEVE WILLIAMS

BRIDGE DESIGN
ENGINEERING MANAGER: MOHAMED ELYAZGI, PE SQUAD SUPERVISOR: KEVEN MAYFIELD
ENGINEER: MIKE CAO, PE ENGINEER: KATIE BROWN, PE ENGINEER INTERN: --
SQUAD MEMBERS: D.GOFORTH, J.LONSDALE, R.MEINERT, R. ADKINSON, A. GATLEY

P.E. NO : 36720(01)

REVISIONS		
REV. NO.	DESCRIPTION	DATE

GENERAL NOTES

SPECIFICATIONS:

Comply with the requirements of the 2009 Oklahoma Standard Specifications for Highway Construction, except as modified by the Plans and Special Provisions.

VERIFICATION OF EXISTING CONDITIONS:

All dimensions of the existing bridge components shown on the Plans are approximate. The Contractor shall verify all dimensions necessary to complete the work and shall be solely responsible for the accuracy thereof.

Bidders shall fully inform themselves of the nature of the work and condition 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 the existing bridge or 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.

Construction plans for the existing bridge structures may be obtained from the Reproduction Branch of the Oklahoma Department of Transportation. Ask for:

Bridge "A" F.A.P. No. U-521(44) Structure G, US-169 over 31st Street South in Tulsa County.

Bridge "B" F.A.P. No. U-521(44) Structure H, US-169 over 21st Street South in Tulsa County.

LANE CLOSURE:

The Engineer reserves the right to prohibit lane closures during holidays or special events. All work requiring the closing or narrowing of one lane of traffic on the bridges shall be performed during daylight hours only unless approved by the Engineer. The contractor shall make every effort to reopen these lane closures as soon as possible.

REMOVED MATERIAL:

All material and debris removed during this project shall become the property of the Contractor and shall be disposed of in a manner approved by the Engineer.

CLEANING BRIDGE SEATS AND PIER CAPS:

All bridge seats and pier caps shall be swept clean of all debris at the conclusion of work. All costs for cleaning the bridge seats and pier caps shall be included in other items of work.

CLEANING OF DECK DRAINS AND DRAINS AT END OF BRIDGE:

All parapet/rail openings, deck drains and drains at the ends of bridge shall be checked for functionality and cleared of all debris as needed to ensure that water drains from the bridge normally. The method for cleaning the drains shal be approved by the Engineer and shall be paid for in other items of work.

EXCESS ASPHALT REMOVAL:

Any excess Asphalt lapping onto the bridge deck or at the joint(s) to be rehabilitated will need to be removed to allow for the seal coat to be placed. The method and extent of the removal shall be approved by the Engineer and the removal of excess material shall be done in a way that maintains the existing grade.

Any asphalt removal shall be paid for in other items of work.

EXISTING LIGHTING AND ELECTRICAL:

Lights and electrical conduits on the bridge shall not be removed or disturbed. If any part is removed or damaged during construction, it shall be replaced in the original condition at the Contractor's expense, to the satisfaction of the Engineer.

SPECIAL BRIDGE NOTES

(1) REHABILITATED EXPANSION JOINT WITH PREFORMED SILICONE EXPANSION MATERIAL: (BRIDGES A & B)

Seal existing Expansion Joints as shown in the plans with Preformed Silicone Expansion Material in accordance with the Special Provisions 701-18(a-b)09 and 504-8(a-c)09.

All costs including labor, equipment, material, and incidentals necessary to complete the work as shown in the plans shall be included in the unit price bid per Linear Foot of "EXPANSION DEVICE".

(2) REHABILITATED CONSTRUCTION JOINT SAW AND SEAL: (BRIDGES A & B)

Seal existing Construction Joints as shown in the plans with Backer Rod and Rapid Cure Joint Sealant placed in accordance with Section 415 and Subsection 701.08G of the Standard Specifications for Highway Construction and as shown in the plans.

All costs including labor, equipment, material, and incidentals necessary to complete the work as shown in the plans shall be included in the unit price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

(3) FLOOD COATING TREATMENT: (BRIDGES A & B)

A flood coat deck seal shall be applied to the driving surface of the Bridge Deck, Approach Slabs, and the vertical face of the Parapet up to 1'-0" above the bridge deck at the bridge locations listed above. The Contractor must protect all traffic striping from the flood coat deck seal. Any traffic striping rendered ineffective or damaged during the flood coat seal application shall be replaced at the Contractors expense to the satisfaction of the Engineer.

The Contractor must prevent the flood coat deck seal from penetrating any joint that has been sealed with silicone. If flood coat desk seal penetrates any silicone joint the Contractor, at his own expense, will be required to:

1) After bulk cure, remove all flood coat deck seal from these joints.
2) Remove and replace the silicone joint sealant.

The application of the flood coat shall be in accordance with Section 523.04E of the Standard Specification and shall be performed only after all other work is complete.

All costs including labor, equipment, material, and incidentals necessary to complete the work described above and as shown in the plans shall be included in the unit price bid per square yard of "DECK AREA SEALED (FLOOD COATS)".

(4) SUBSTRUCTURE REPAIR WITH PNEUMATICALLY PLACED MORTAR: (BRIDGES A & B)

The pay item "Pneumatically Placed Mortar" consists of repairing the surface area of the Substructure.

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 2009 Oklahoma Standard Specifications for Highway Construction and in a manner approved by the engineer.

The removal of deteriorated 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 and as approved by the engineer. Should power tools be necessary, power tools shall be of a size approved by the engineer such 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 contractor's 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 orignal lines and grades of the substructure.

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 contractor's expense to the satisfaction of the engineer.

All costs including labor, equipment, material, and incidentals necessary to complete the work described above shall be included in the price bid per square yard of "PNEUMATICALLY PLACED MORTAR".

(5) CLSM BACKFILL: (BRIDGES A & B)

The pay item "CLSM backfill" consists of placing CLSM into the voids under the abutment bridge seats and slopewalls as directed by the engineer for bridge "A" and bridge "B". All costs including labor, materials, equipment and incidentals involved in the placement of the CLSM shall be included in the price bid per cubic yard of "CLSM BACKFILL".

(6) CLASS B BRIDGE DECK REPAIR: (BRIDGES A & B)

The pay item "Class B bridge deck repair" has been estimated to be used as directed by the engineer to repair any area of the deck requiring such repair. The location and extent of the deck repair shall be as shown in the plans or as determined in the field by the engineer. Payment for actual repairs shall be done in accordance with section 513.04D(2) and subsection 701.20 of the 2009 Oklahoma Standard Specifications for Highway Construction.

Early strength concrete shall be used at no additional cost to ODOT.

Remove all raised pavement markers and repair deck as required.

All cost of repair including labor, equipment, material, and incidentals necessary to complete the work as described above shall be included in the price bid per square yard of "CLASS B BRIDGE DECK REPAIR".

(7) REPAIR BRIDGE ITEM (TYPE A): (BRIDGE A & B)

The Bearing Assemblies and Diaphragm Bolt Ends, located at the abutments and piers on bridges "A" and "B" have rusted. The Contractor is to clean and paint the rusted parts. The actual extent of the repair shall be determined in the field by the Engneer. The repairs shall be in accordance with Section 512.04(B) category E of the 2009 Oklahoma Standard Specifications for Highway Construction and in a manner approved by the Engneer.

All costs for completing the work as specified including labor, materials and incidentals necessary to complete the cleaning, painting and collection and handling of waste shall be included in the unit bid price per Lump Sum of "REPAIR BRIDGE ITEM (TYPE 'A')".

(8) REPLACE BRIDGE ITEM (TYPE A): (BRIDGES A & B)

The missing anchor bolts shall be replaced with new nuts, bolts and washers as directed by the Engneer. The bearing plates are to remain in place. If the existing anchor bolts have been sheared below the nuts, existing Anchor Bolts shall be cut flush with the top of the abutment, and new holes shall be drilled for replacement Anchor Bolts.

All cost and doing the work as described above and in the plans including anchor bolts, nuts, washers, labor, materials, equipment, and incidentals shall be included in the price bid per Each of "REPLACE BRIDGE ITEM (TYPE A)".

(9) REMOVAL OF VEGETATION: (BRIDGE A)

All trees, brush, shrubs, vines and other vegetation growing under the bridge or within ten feet of the overhang of the bridge deck shall be removed.
Any vegetation or trees growing around or under the bridge that is deemed by the Engineer to be a cause for concern to the structure shall also be removed at the discretion of the Engneer. All vegetation and debris shall be disposed of outside the Right-of-Way and in accordance with Section 201 of the Standard Specifications.

All costs of clearing the bridge of vegetation and trees shall be included in the unit price bid per Lump Sum of "SELECTIVE CLEARING".

(10) APPROACH SLAB: (BRIDGES A & B)

Class AA Concrete shall be used in the Approach Slabs. The quantity given is based on the actual square yards of the Approach Slabs.

Early strength concrete shall be used at no additional cost to ODOT.

All cost of labor, equipment, material, and incidentals necessary to complete the work as described above shall be included in the price bid per square yard of "APPROACH SLAB".

BRIDGES "A" AND "B" — DIVISION 8

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE, SHEET 1 OF 2)

Design	N/A	N/A
Detail	RLA	5/16
Check	KMS	6/16

Squad: MAYFIELD
Engr. ELYAZGI

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32565(05) | SHEET NO. ABO1

REVISIONS		
REV. NO.	DESCRIPTION	DATE
⚠	Added Notes & Pay Items	8/17/16

GENERAL NOTES

(11) MECHANICAL SPLICES: (BRIDGES A & B)

Mechanical Splices shall be used to connect the transverse reinforcing steel in the Approach Slabs as specified or as shown in the plans. The Mechanical Splices shall be Erico Lenton or an approved equal. The Mechanical Splices shall satisfy the requirements of Section 511.04 C of the Standard Specifications and shall be installed in accordance with the manufacturer's specifications. All cost of installing the Mechanical Splices including the cost of materials, labor, equipment and incidentals shall be included in the unit price bid per Each of "MECHANICAL SPLICES".

The lengths of reinforcing steel bars with Mechanical Splices shown in the Phase I construction bar lists include the length of the Mechanical Splice. The lengths of reinforcing steel bars to be engaged into Mechanical Splices shown in the Phase II construction bar lists do not include any additinoal length for engagement into the Mechanical Splices.

The actual Mechanical Splice engagement lengths shall be determined by the Mechanical Splice manufacturer, and the lengths of the reinforcing steel bars to be engaged into Mechanical Splices shall be adjusted accordingly. The cost to adjust the length of any reinforcing steel shown in the plans to accomodate the Mechanical Splices will not be measured for payment and shall be included in the unit price bid per Each of "MECHANICAL SPLICES".

(12) REMOVAL OF BRIDGE ITEMS: (BRIDGES A & B)

The pay item "REMOVAL OF BRIDGE ITEMS" shall include the removal and disposal of all items to be removed from the existing bridges as specified or shown in the plans including any approach roadway pavement necessary for the installation of the new approach slabs and material excavated for the installation of the new approach slabs.

All costs necessary to complete the work as specified or as shown in the plans including the cost of sawing, cutting, demolition, cleaning & straightening reinforcing steel, containment and removal of debris, materials, labor, equipment and incidentals shall be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

(13) DRAINS AT END OF BRIDGE: (BRIDGE A)

The Slope Drain and Splash Basin shall be constructed as shown on sheet "DETAILS OF DRAINS AT END OF BRIDGE". Class "C" Concrete shall be used in the construction of the drains at the ends of the bridge.

All costs of the Slope Drains and Splash Basins including material, labor, equipment, and incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Cubic Yard of "CLASS "C" CONCRETE".

(14) ANCHORAGE INTO EXISTING CONCRETE: (BRIDGES A & B)

The Contractor shall have the option of the methods by which the new anchor bolts shown in the plans are to be anchored into the concrete of the existing bridge. The method must be approved by the Engineer.

Drilling into the existing concrete to install the anchorage shall be accomplished without cutting existing concrete reinforcing steel bars. Prior to drilling, the Contractor shall locate and mark the existing concrete reinforcing steel bars with nondestructive tools, equipment and methods approved by the Engineer. If existing reinforcing steel bars are encountered during drilling, the drilling shall cease and the hole shall be grouted. The hole shall then be relocated to clear the existing reinforcing steel bars. Any adjustment in the locations of the new anchor bolts from the orignal locations shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All cost to anchor the new anchor bolts into the existing bridge as specified or shown in the plans including the cost of locating existing concrete reinforcing steel bars, drilling, repairing flawed drill holes, anchoring into the existing concrete, materials, labor, equipment and incidentals shall be included in other items of work.

⚠ (18) ROADWAY PAVEMENT AND PATCHING: (BRIDGE A & B)

This item to be used as directed by the Engineer to maintain traffic during construction, and to provide a smooth transition from the existing roadway to the approach slab. Cost of these items include sawing and removal of the existing pavement. The Existing Concrete Pavement is estimated at 10 inches.

GENERAL NOTES

(15) REPAIR BRIDGE ITEM (TYPE B): (BRIDGE A)

The median barriers between Northbound and Southbound lanes contain approximately 6 Linear Feet of damaged and missing concrete that shall be replaced with Class AA Concrete. The actual extent of the repairs shall be determined in the field by the Engineer. The repairs shall be in accordance with Section 502 of the Standard Specification for Highway Construction and in a manner approved by the Engineer.

The removal of deteriorated concrete shall be done using power tools of such size approved by the Engineer such 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 Contractor's 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 new barrier construction, cut away the damaged section of the parapet six feet from the beginning of the damaged section. Clean and straighten existing longitudinal reinforcing steel and existing reinforcing steel from bridge deck until free of debris and corrosion. Replace FS bars as needed for reconstruction. Form concrete to match the original lines and faces of the surrounding parapets.

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 cutback methods, concrete forms, material placing methods, and finishing methods. Faulty repairs shall be replaced at the Contractor's expense and to the satisfaction of the Engineer.

All costs including labor, equipment, concrete, reinforcing steel, and incidentals necessary to complete the work described above shall be included in the price bid per Square Yard of "BRIDGE REPAIR (TYPE B)".

ENVIRONMENTAL MITIGATION NOTES

⚠ MIGRATORY BIRD:

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 birds use of bridge NBI No. 19235 & 19245 has been observed during the initial survey conducted as part of the biological studies in 2016. 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.

AIRPORT:

The following Airport/Airfield is located within 4 miles of this project: Harvey Young Airport. This action may require notifying the Federal Aviation Administration (FAA) of proposed construction via FAA Form 7460-1 prior to construction.

32565(05)

PAY QUANTITIES

0200 BRIDGE "A"

	ITEM		DESCRIPTION		UNIT	QUANTITY
	201	0181	SELECTIVE CLEARING	(9)	LSUM	1.00
⚠	411(I)	6310	SUPERPAVE, TYPE S4(PATCH)(PG64-22OK)	(18)	TON	100.00
⚠	414(E)	0225	FULL DEPTH P.C. CONCRETE PATCHING (PLACEMENT ONLY)	(18)	S.Y.	600.00
⚠	414(G)	5275	P.C. CONCRETE FOR PAVEMENT	(18)	C.Y.	100.00
	501(G)	6309	CLSM BACKFILL	(BR-2) (5)	C.Y.	6.00
	504(A)	1304	APPROACH SLAB	(BR-1) (10)	S.Y.	817.90
	504(B)	1305	SAW-CUT GROOVING	(BR-1)	S.Y.	734.00
	504(C)	6250	SEALED EXPANSION JOINT	(BR-1) (1)	L.F.	128.20
	504(G)	6390	RAPID CURE JOINT SEALANT	(BR-1) (2)	L.F.	658.20
	509(D)	1331	CLASS C CONCRETE	(13)	C.Y.	32.00
	511	6306	MECHANICAL SPLICES	(BR-1) (11)	EA.	620.00
	513(B)	6019	CLASS B BRIDGE DECK REPAIR	(6)	S.Y.	11.50
	521(A)	6210	PNEUMATICALLY PLACED MORTAR	(4)	S.Y.	32.00
	523(C)	6570	DECK AREA SEALED (FLOODCOATS)	(BR-1) (3)	S.Y.	3364.00
	525(A)	0100	(SP)NEST PREVENTION - NETTING		LSUM	1.00
	540	4510	(PL) REPAIR BRIDGE ITEM (TYPE A)	(7)	LSUM	1.00
	540	4520	(PL) REPAIR BRIDGE ITEM (TYPE B)	(15)	LSUM	1.00
	545	4815	(PL) REPLACE BRIDGE ITEM (TYPE A)	(BR-1)(8)(14)	EA.	7.00
	619(B)	2500	REMOVAL OF BRIDGE ITEMS	(12)	LSUM	1.00

32565(05)

PAY QUANTITIES

0201 BRIDGE "B"

	ITEM		DESCRIPTION		UNIT	QUANTITY
⚠	414(E)	0225	FULL DEPTH P.C. CONCRETE PATCHING (PLACEMENT ONLY)	(18)	S.Y.	600.00
⚠	414(G)	5275	P.C. CONCRETE FOR PAVEMENT	(18)	C.Y.	100.00
	501(G)	6309	CLSM BACKFILL	(BR-2) (5)	C.Y.	2.00
	504(A)	1304	APPROACH SLAB	(BR-1) (10)	S.Y.	776.80
	504(B)	1305	SAW-CUT GROOVING	(BR-1)	S.Y.	692.80
	504(C)	6250	SEALED EXPANSION JOINT	(BR-1) (1)	L.F.	121.80
	504(G)	6390	RAPID CURE JOINT SEALANT	(BR-1) (2)	L.F.	371.80
	511	6306	MECHANICAL SPLICES	(BR-1) (11)	EA.	620.00
	513(B)	6019	CLASS B BRIDGE DECK REPAIR	(6)	S.Y.	10.00
	521(A)	6210	PNEUMATICALLY PLACED MORTAR	(4)	S.Y.	51.00
	523(C)	6570	DECK AREA SEALED (FLOODCOATS)	(BR-1) (3)	S.Y.	3673.00
	525(A)	0100	(SP)NEST PREVENTION - NETTING		LSUM	1.00
	540	4510	(PL) REPAIR BRIDGE ITEM (TYPE A)	(7)	LSUM	1.00
	545	4815	(PL) REPLACE BRIDGE ITEM (TYPE A)	(BR-1)(8)(14)	EA.	15.00
	619(B)	2500	REMOVAL OF BRIDGE ITEMS	(12)	LSUM	1.00

MOBILIZATION:
THIS PROJECT IS MANDATORILY TIED WITH TULSA COUNTY JOB PIECE 31672(04). THE COSTS FOR MOBILIZATION FOR THIS PROJECT SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM OF "MOBILIZATION" ON THE PROJECT WITH THE JOB PIECE 31672(04).

BRIDGES "A" AND "B" — DIVISION 8

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE, SHEET 2 OF 2)

Design	N/A	N/A
Detail	RLA	5/16
Check	KMS	6/16

Signed: MAYFIELD
Engr. ELYAZGI

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32565(05) — SHEET NO.ABO2

REVISIONS		
REV. NO.	DESCRIPTION	DATE

TRAFFIC GENERAL CONSTRUCTION NOTES

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC DN CROSS STREETS. A MINIMUM OF ONE LANE SHALL BE MAINTAINED AT ALL TIMES. SEE STANDARD SPECIFICATIONS AND DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

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

ANY DAMAGE CAUSED BY THE CDNTRACTDR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, SLOPES, AND SIGNS SHALL BE REPAIRED AT CONTRACTORS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES"

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AS DETRMINED BY THE ENGINEER. THIS ERSON SHALL HDLD A CURRENT CERTIFACATION FROM THE AMERICAN TREAFFIC SAFETY SERVICE ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

SPECIAL PAY QUANTITY NOTES

(SP-1) PORTABLE CHANGEABLE MESSAGE SIGN TO BE PLACED WHERE DEEMED NECESSARY BY THE ENGINEER.

(SP-2) TYPE 'C' WARNING LIGHTS ARE NOT REQUIRED.

(SP-3) NO PAYMENT WILL BE MADE FOR MOVING THE PORTABLE LONGITUDINAL BARRIER TO AND FRDM THE SHOULDER IN ORDER TO MEET THE REQUIREMENTS DF SECTION 108.12 LANE RENTAL

(SP-4) CHANGABLE MESSAGE SIGNS SHALL BE PLACED ON THE PROJECT 14 DAYS IN ADVANCE OF THE START DATE.

(SP-5) REMOVE THE EXISTING TRAFFIC STRIPES ON THE BRIDGES AND APPROACHES PRIOR TO FLOODCOATING. THE NEW TRAFFIC STRIPES FOR BRIDGES AND APPROACHES SHALL BE APPLIED AFTER FLOODCOATING. ALL COSTS OF REMOVING TRAFFIC STRIPES, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER L.F. TRAFFIC STRIPE(MULTI-POLY.)(6"WIDE).

(SP-6) QUANTITY SHOWN INCLUDED 1,550 LF TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 950 LF TRAFFIC STRIPE (MULTI-POLYMER)(YELLDW) AND 620 LF TRAFFIC STRIPE (MULTI-POLYMER)(BLACK) AND WILL ALL BE MEASURED BY THE LINEAR FDOT OF SIX (6") WIDE TRAFFIC STRIPE.

TRAFFIC CONSTRUCTION PAY QUANTITY NOTES

(TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTRDL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PRECAST CONCRETE MEDIAN BARRIER.

(TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF MEDIAN BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.

(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.D.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 CONSTRUCTIDN 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 AND CHANNELIZING DEVICES SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET ALL REQUIREMENTS OF ASTM D4956 (LASTEST REVISION.)
THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH ODDT STANDARD SPECIFICATIONS, (CURRENT EDITION), SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.

(TC-52) ANY USED CHANGEABLE MESSAGE SIGN OR CONSTRUCTION ZONE IMPACT ATTENUATOR TO BE PLACED ON THIS PRDJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GODD 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-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 AMDUNT OF TIME BETWEEN THE REMOVAL OF THE DAMAGED UNIT AND THE INSTALLATION OF THE STAND BY UNIT SHALL BE ND MORE THAN TWENTY FOUR (24) HOURS.

(TC-84) 75 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMDUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED DN THE CURRENT ODOT STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTRDL IS MODIFIED DURING CONSTRUCTION.

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

PAY QUANTITIES

0300 TRAFFIC CONTROL

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
871(B)	8705	(SP) CONST. ZONE IMPACT ATTENUATOR (TC-52, 70, 80)	SD	150.00
877(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER (SP-3)(TC-1, 2)	LF	2,080.00
877(C)	8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER (SP-3)(TC-1)	LF	2,080.00
880(A)	8812	ARROW DISPLAY (TYPE C) (TC-70)	SD	250.00
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF (TC-26, 33, 84)	SD	1,200.00
880(B)	8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF (TC-26, 33, 84)	SD	2,475.00
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF (TC-26, 30, 33, 84)	SD	3,000.00
880(C)	8842	CONSTRUCTION BARRICADES (TYPE III) (TC-26, 84)	SD	3,375.00
880(C)	8848	WING BARRICADES (TC-26, 84)	SD	300.00
880(E)	8860	WARNING LIGHTS (TYPE A) (TC-26, 84)	SD	2,100.00
880(F)	8878	DRUMS (SP-2)(TC-26, 84)	SD	10,500.00
880(G)	8890	CHANNELIZER CONES (TC-26, 84)	SD	7,500.00
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN (SP-1, 4)(TC-52, 84, 85)	SD	178.00

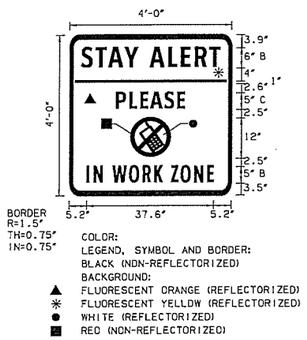
PAY QUANTITIES

0301 TRAFFIC SIGNING & STRIPING

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
856(A)	8535	TRAFFIC STRIPE(MULTI-POLYMER)(6" WIDE) (SP-5, 6)	LF	3,120.00

THE PAY QUANTITIES ARE BASED ON THE LARGEST TRAFFIC CONTROL SET UP. NOT ALL TRAFFIC CONTROL WILL BE SET UP AT THE SAME TIME.

SPECIAL SIGN



BORDER R=1.5" TH=0.75" IN=0.75"

COLOR:
LEGEND, SYMBOL AND BORDER: BLACK (NDN-REFLECTORIZED)
BACKGROUND:
▲ FLUORESCENT ORANGE (REFLECTORIZED)
✳ FLUORESCENT YELLDW (REFLECTORIZED)
● WHITE (REFLECTORIZED)
■ RED (NON-REFLECTORIZED)

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION
Jami L. Short
DATE Oct 4 2016

JAMI L. SHORT 22542 LICENSED PROFESSIONAL ENGINEER OKLAHOMA

OKLA. REG. NO. 22542

SUMMARY OF PAY QUANTITIES AND NOTES
(TRAFFIC CONTROL)

Drawn	RGN	6/16
Design	RGN	6/16
Checked	SB	6/16

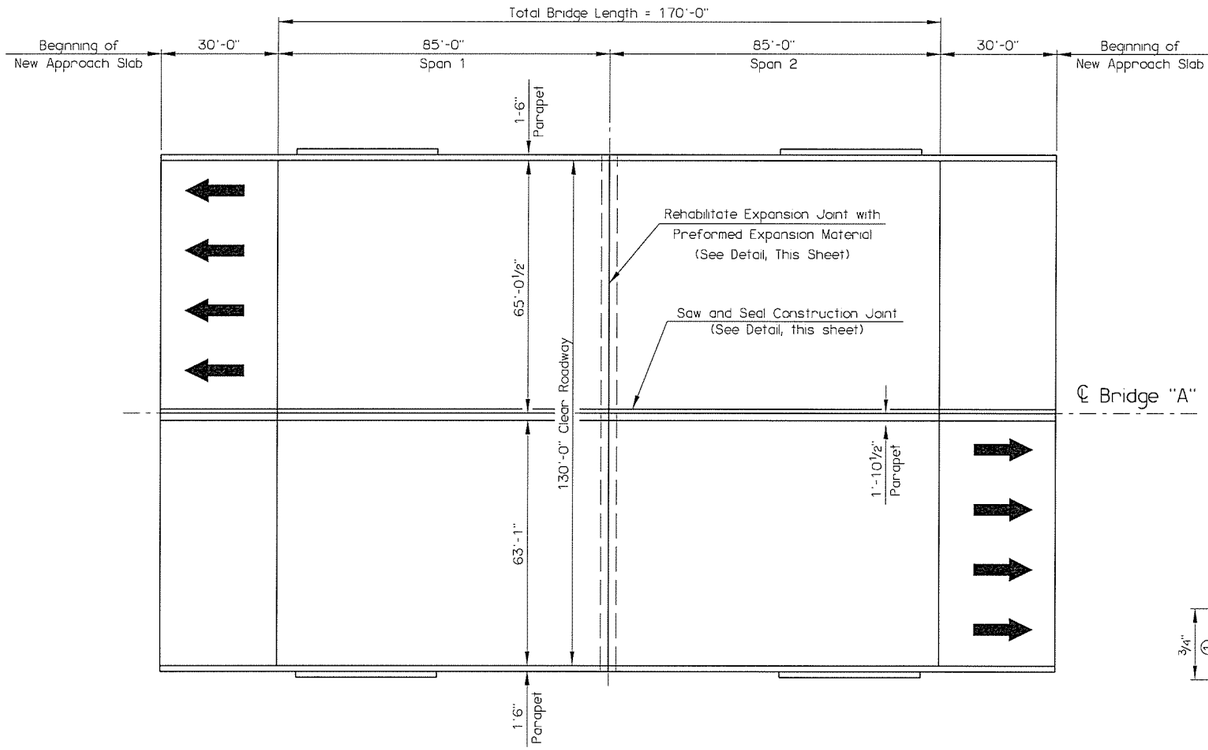
Traffic Engineering
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

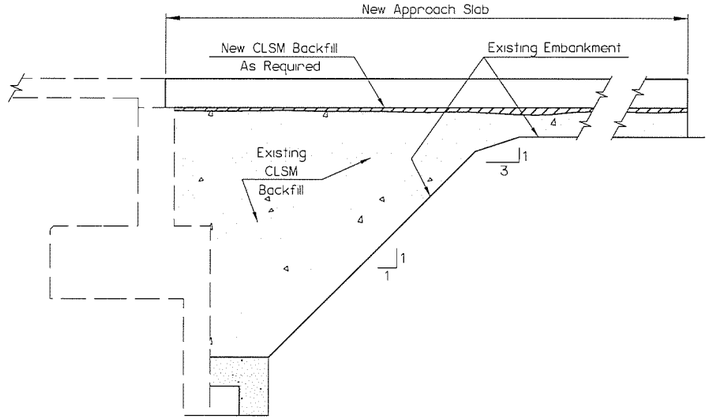
DIVISION 8	STATE JOB NO. 32565(05)	SHEET NO. AT01

TULSA CO. US-169

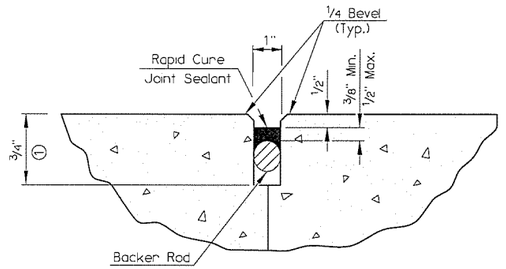
REVISIONS		
REV. NO.	DESCRIPTION	DATE



PLAN

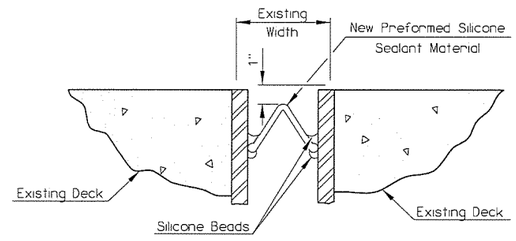


CLSM BACKFILL UNDER ABUTMENT

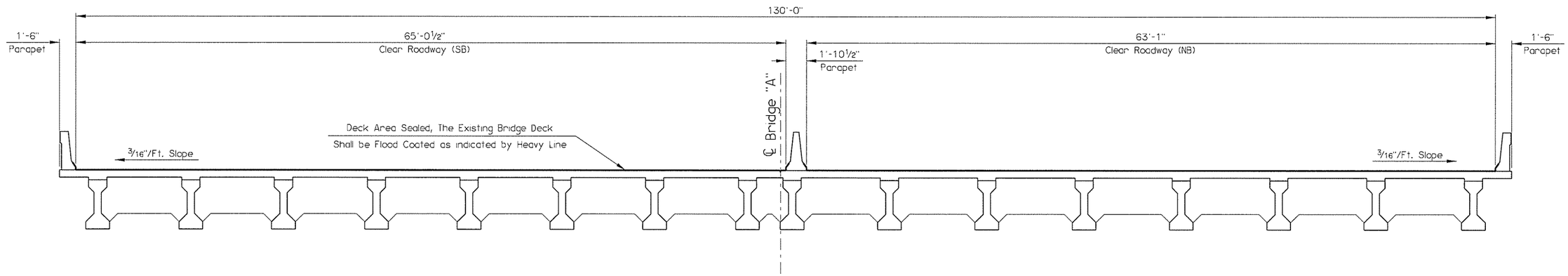


REHABILITATED CONSTRUCTION JOINTS SAW AND SEAL

① Saw to the depth shown to provide clean straight surfaces.



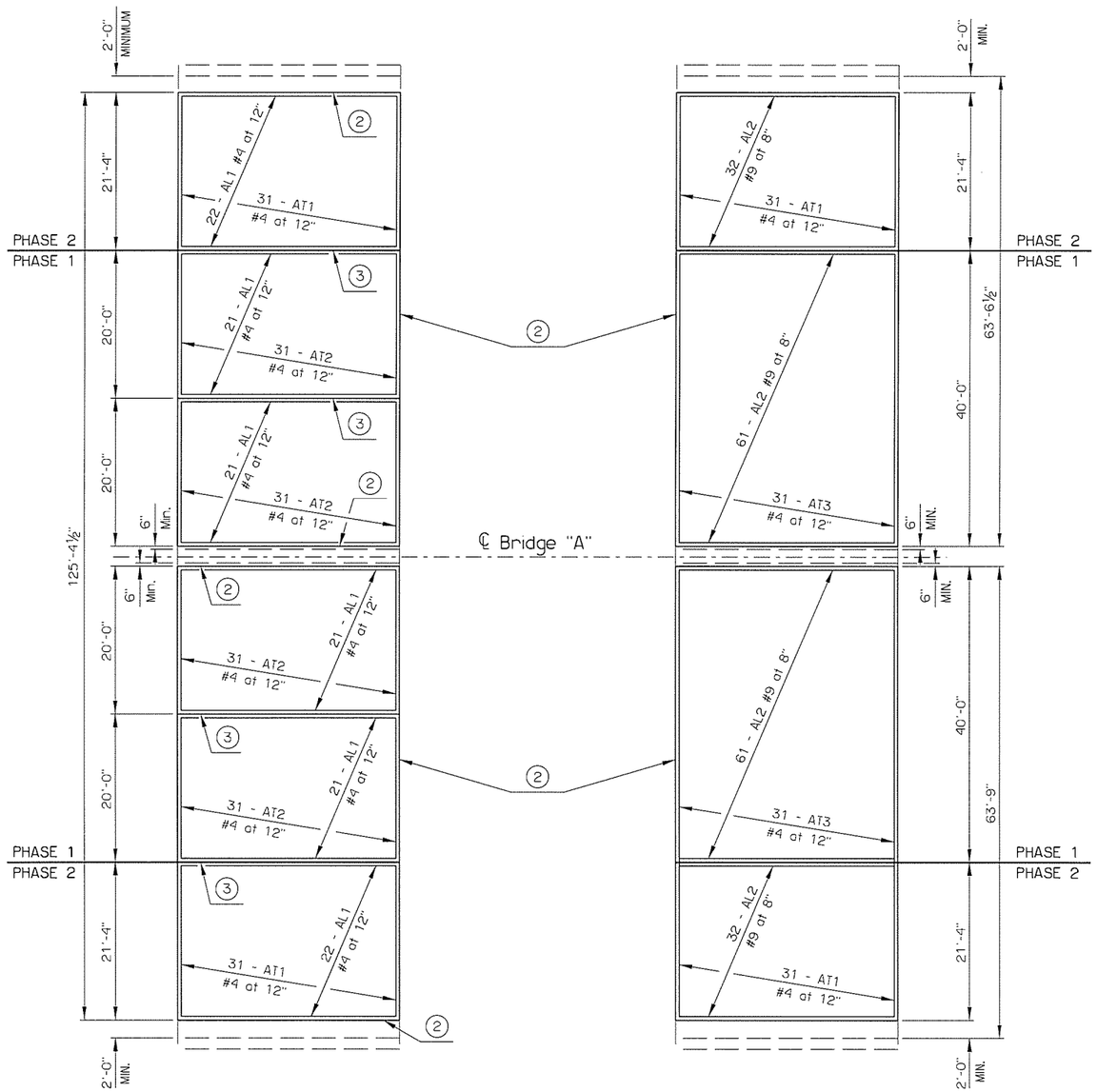
REHABILITATED EXPANSION JOINT AT PIER



TYPICAL CROSS SECTION

US-169 OVER 31ST ST BRIDGE "A"	TULSA COUNTY	Design	N/A	N/A
GENERAL PLAN AND TYPICAL CROSS SECTION		Detail	ADG	3/15
		Check	RLA	5/16
		Squad: MAYFIELD Engr. ELYAZGI		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 32565(05)	SHEET NO.B001			

REVISIONS		
REV. NO.	DESCRIPTION	DATE



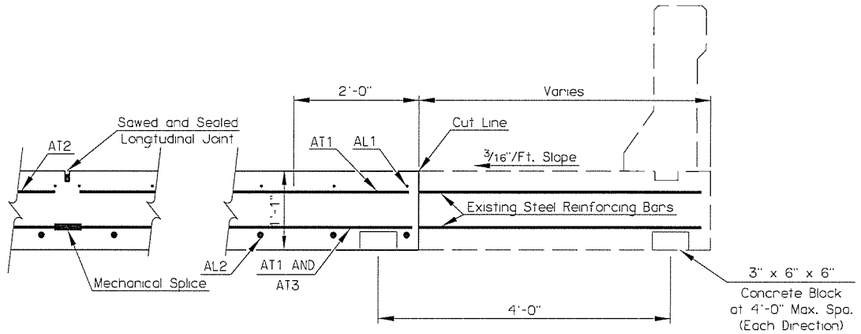
TOP REINFORCING MAT DETAILS

BOTTOM REINFORCING MAT DETAILS

(2) SAWED AND SEALED CONSTRUCTION JOINT (SEE "GENERAL PLAN AND TYPICAL CROSS SECTION" BRIDGE A FOR DETAIL)

(3) SAWED AND SEALED LONGITUDINAL JOINT (SEE STD. LECS-4)

BOTH APPROACH SLABS



SECTION OF APPROACH SLAB

BAR LIST - APPROACH SLABS (PHASE 1)

MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT2	136	#4	STR.	19'-8"	———
AT3	62	#4	STR.	39'-10"	———
AL1	84	#4	STR.	29'-10"	———
AL2	122	#9	STR.	29'-10"	———

BAR LIST - APPROACH SLABS (PHASE 2)

MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	62	#4	STR.	21'-0"	———
AL1	44	#4	STR.	29'-10"	———
AL2	64	#9	STR.	29'-10"	———

QUANTITIES - APPROACH SLABS (ONE SHOWN, TWO REQUIRED)

	ITEM	UNIT	TOTAL
(1)	Approach Slab	S.Y.	408.90
	Saw-Cut Grooving	S.Y.	367.00
	Mechanical Splices	S.Y.	310.00
	Deck Area Sealed (Floodcoat)	S.Y.	434.00

(1) The Department considers the cost of Concrete, Reinforcing Steel, Backer Rod, Rapid Cure Joint Sealant, Polystyrene, and Polyethylene Sheeting to be included in the contract unit price of APPROACH SLAB.
There is an estimated 442.95 C.Y. of Class AA Concrete and an estimated 11,124 LB. of Epoxy Coated Reinforcing Steel in each Approach Slab.

US-169 OVER 31ST — TULSA COUNTY
BRIDGE "A"

APPROACH SLAB DETAILS

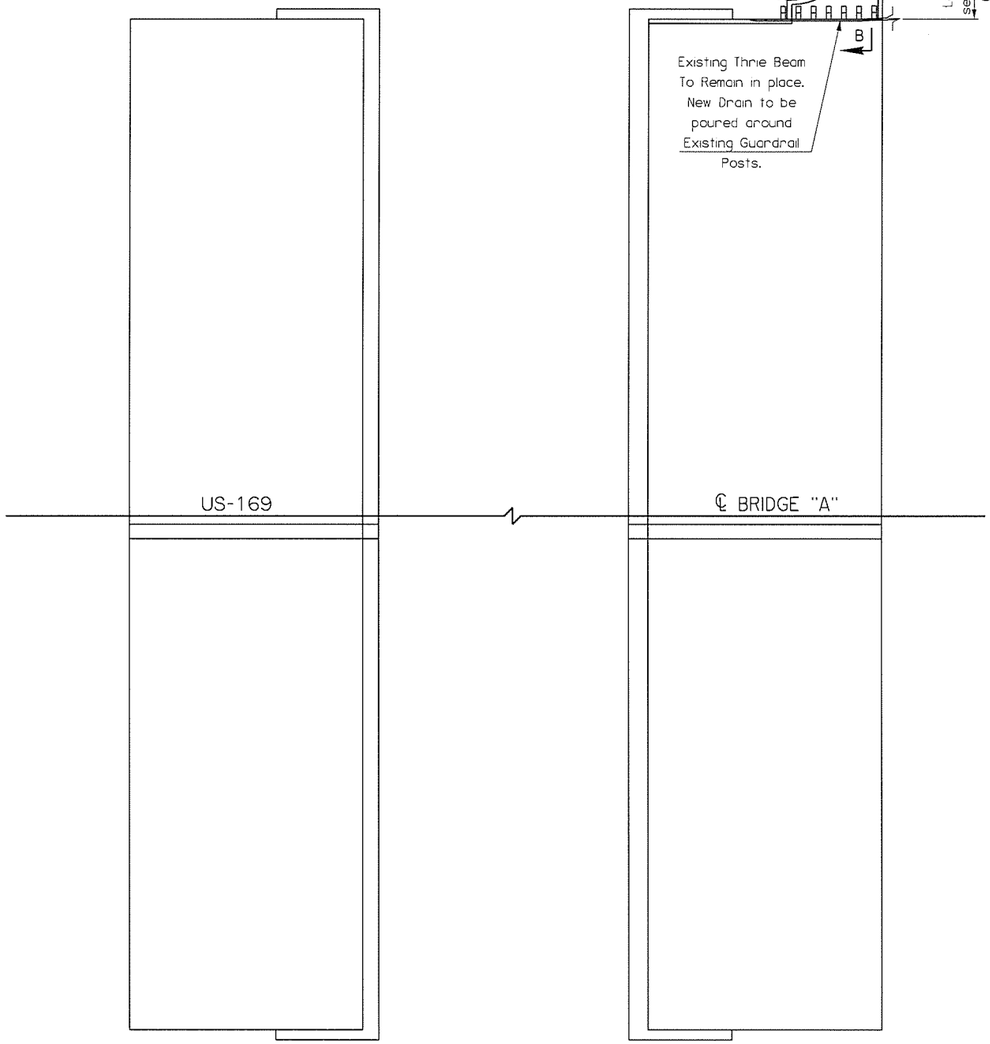
Design	N/A	N/A
Detail	RLA	6/16
Check	KMS	6/16

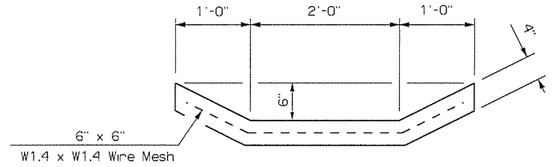
Squad: MAYFIELD
Engr. ELYAZGI

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

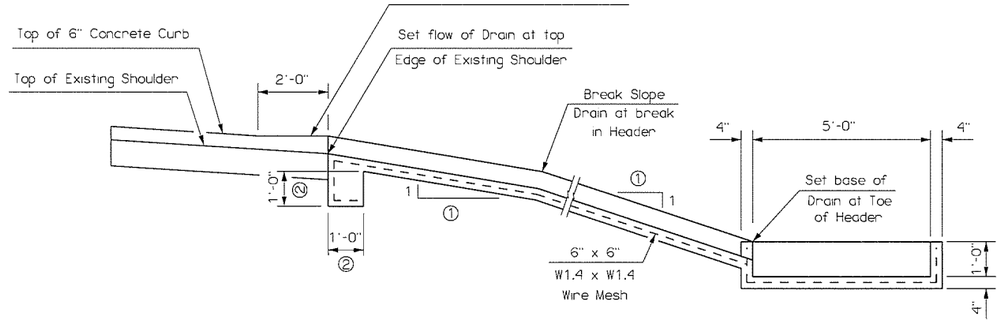
JOB PIECE NO. 32565(05) — SHEET NO. B002

REVISIONS		
REV. NO.	DESCRIPTION	DATE





SECTION A-A



SECTION B-B

① Slope to match slope of Header

② Footing to be poured around Existing Guardrail Post.

US-169 OVER 31ST TULSA COUNTY
BRIDGE "A"

DETAILS OF DRAIN
AT END OF BRIDGE

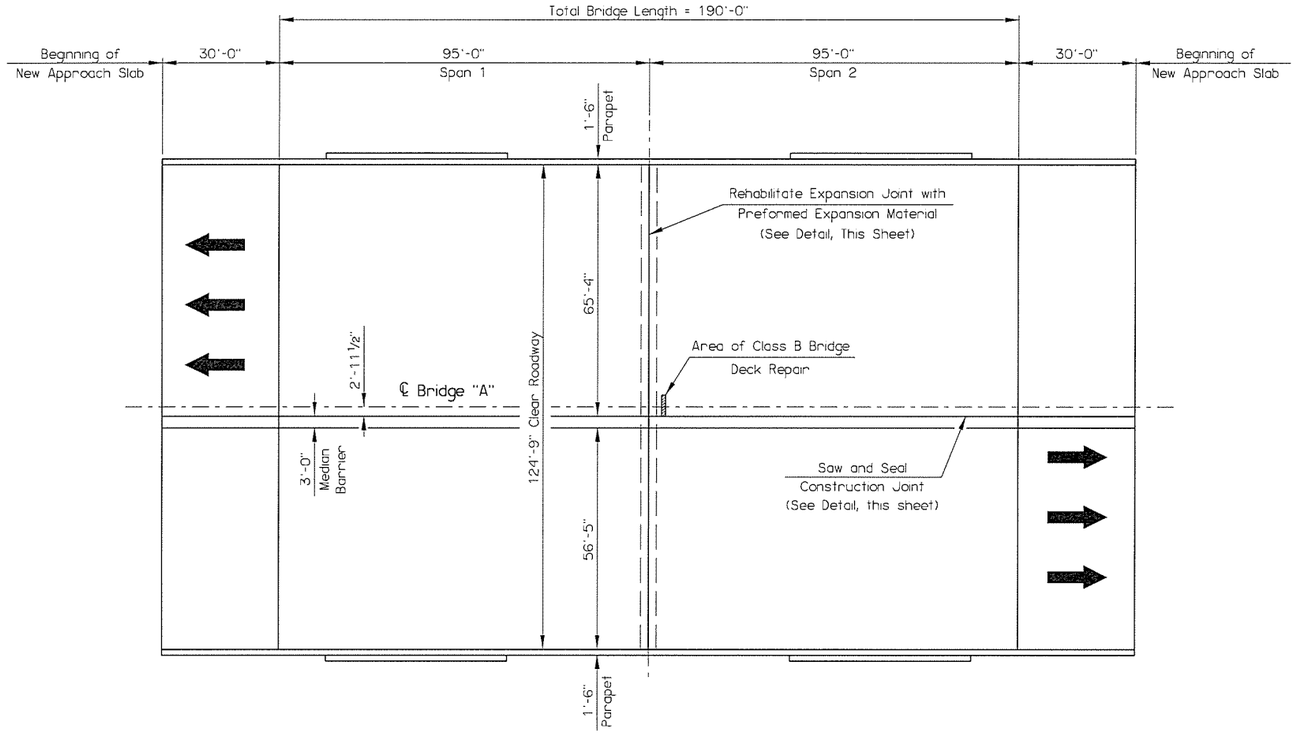
Design	N/A	N/A
Detail	RLA	7/15
Check	KMS	6/16

Squad: MAYFIELD
Engr. ELYAZGI

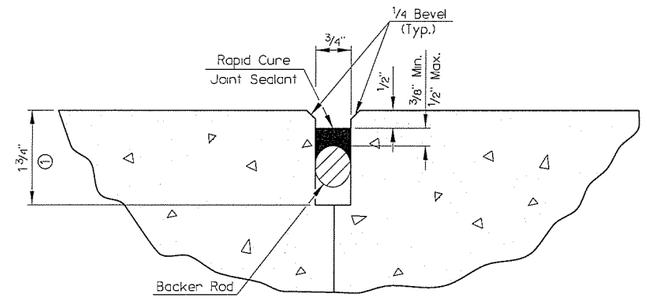
STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32565(05) SHEET NO.B003

REVISIONS		
REV. NO.	DESCRIPTION	DATE

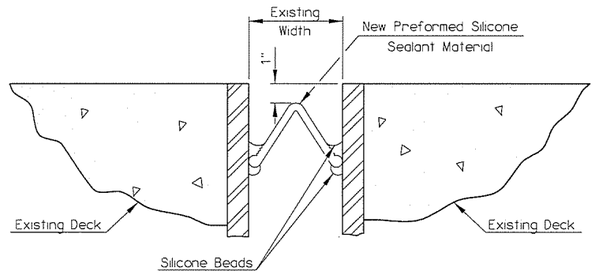


PLAN

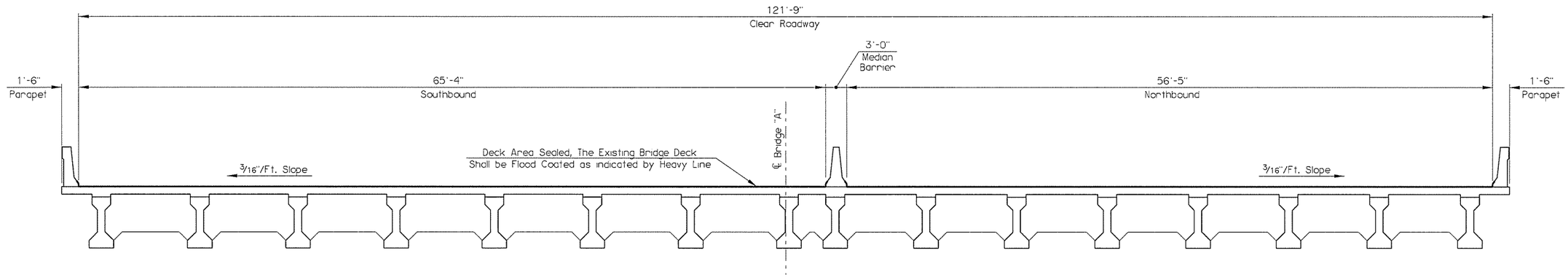


REHABILITATED CONSTRUCTION JOINTS
SAW AND SEAL

① Saw to the depth shown to provide clean straight surfaces.



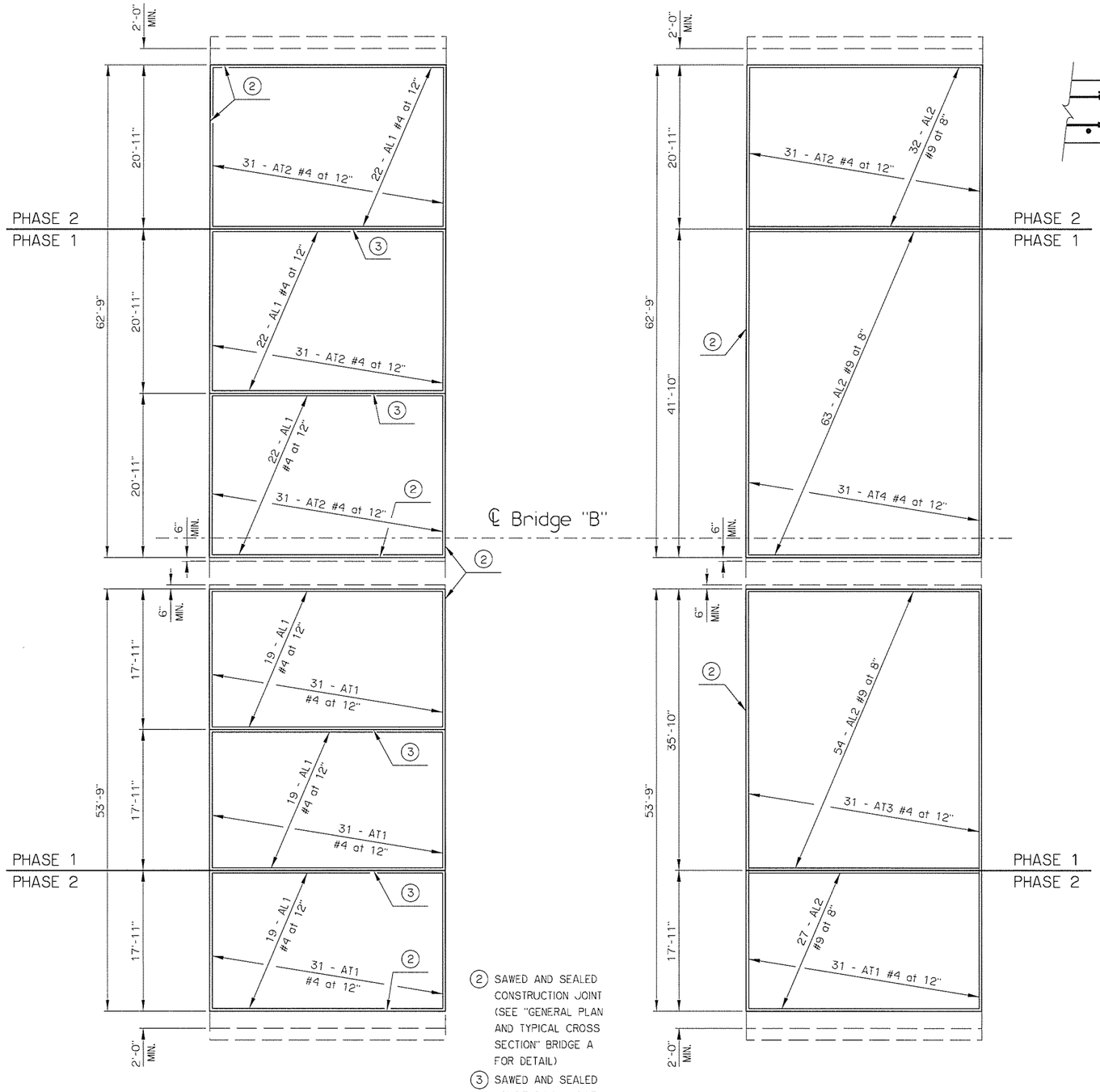
REHABILITATED EXPANSION JOINT



TYPICAL CROSS SECTION

US-169 OVER 21ST BRIDGE "B"	TULSA COUNTY	Design	N/A	N/A
PLAN AND TYPICAL CROSS SECTIONS		Detail	ADG	3/15
		Check	RLA	6/16
		Squad: MAYFIELD Engr. ELYAZGI		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 32565(05)		SHEET NO. B004	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

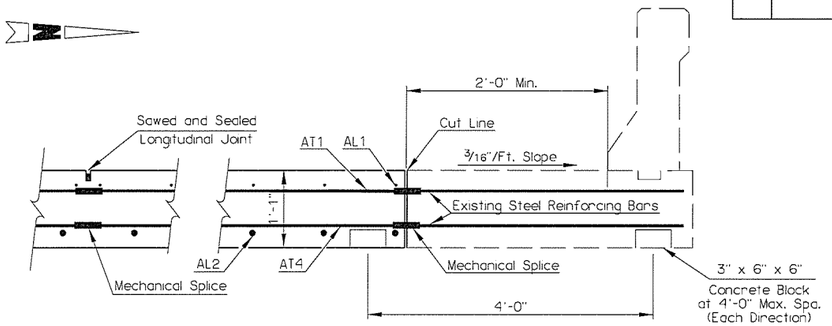


TOP REINFORCING MAT DETAIL

(2) SAWED AND SEALED CONSTRUCTION JOINT (SEE "GENERAL PLAN AND TYPICAL CROSS SECTION" BRIDGE A FOR DETAIL)

(3) SAWED AND SEALED LONGITUDINAL JOINT (SEE STD. LECS-4)

BOTTOM REINFORCING MAT DETAIL



SECTION OF APPROACH SLAB

BAR LIST - APPROACH SLABS
(PHASE 1)

MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	62	#4	STR.	17'-7"	———
AT2	62	#4	STR.	20'-7"	———
AT3	31	#4	STR.	35'-6"	———
AT4	31	#4	STR.	41'-6"	———
AL1	82	#4	STR.	29'-10"	———
AL2	117	#9	STR.	29'-10"	———

BAR LIST - APPROACH SLABS
(PHASE 1)

MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	62	#4	STR.	17'-7"	———
AT2	62	#4	STR.	20'-7"	———
AL1	41	#4	STR.	29'-10"	———
AL2	59	#9	STR.	29'-10"	———

QUANTITIES - APPROACH SLABS
(ONE SHOWN, TWO REQUIRED)

	ITEM	UNIT	TOTAL
(1)	Approach Slab	S.Y.	388.40
	Saw-Cut Grooving	S.Y.	346.40
	Mechanical Splices	EA.	310.00
	Deck Area Sealed (Floodcoat)	S.Y.	509.00

(1) The Department considers the cost of Concrete, Reinforcing Steel, Backer Rod, Rapid Cure Joint Sealant, Polystyrene, and Polyethylene Sheeting to be included in the contract unit price of APPROACH SLAB.
There is an estimated 420.70 C.Y. of Class AA Concrete and an estimated 25,060 LB. of Epoxy Coated Reinforcing Steel in each Approach Slab.

US-169 OVER 21ST
BRIDGE "B"

TULSA COUNTY

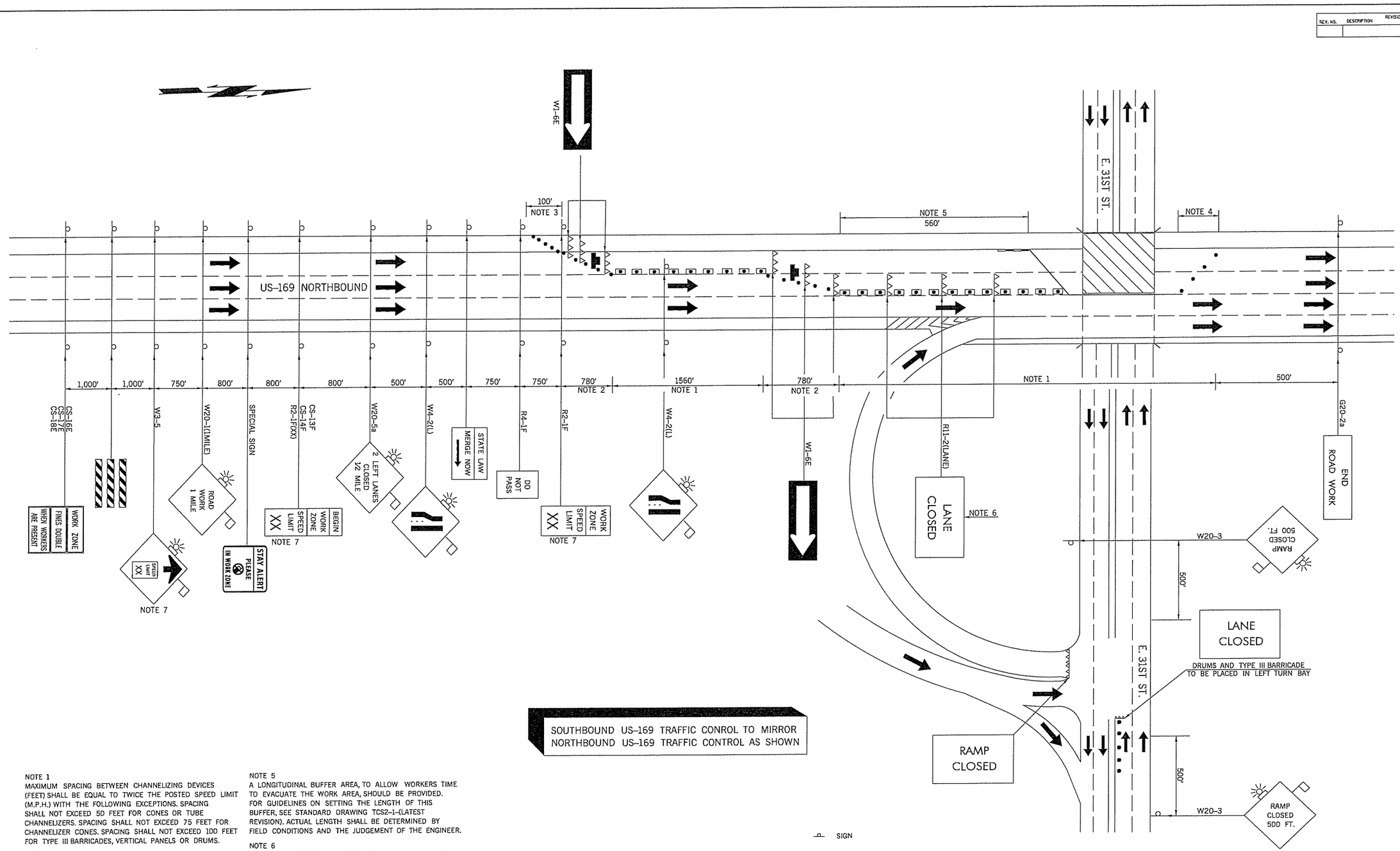
DETAILS OF APPROACHES

Design	N/A	N/A
Detail	RLA	6/16
Check	KMS	6/16
Squad: MAYFIELD		
Engr. ELYAZGI		

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32565(05) | SHEET NO. 8005

REVISIONS		
REV. NO.	DESCRIPTION	DATE



SOUTHBOUND US-169 TRAFFIC CONROL TO MIRROR
NORTHBOUND US-169 TRAFFIC CONTROL AS SHOWN

SIGN
DRUM
WORK AREA
ARROW DISPLAY
TYPE III BARRICADES
CHANNELIZER CONE
C. Z. IMPACT ATTENUATOR
PORT. LONG. BARRIER

DRAWING NOT TO SCALE

NOTE 1
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO TWICE THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 5D FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 75 FEET FOR CHANNELIZER CONES. SPACING SHALL NOT EXCEED 1DD FEET FOR TYPE III BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 2
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIDNS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 5D FEET FOR TYPE III BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 3
A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THROUGH THIS TAPER.

NOTE 4
DOWNSTREAM TAPERS SHALL CONTAIN A MINIMUM OF FOUR (4) CHANNELIZING DEVICES.

NOTE 5
A LONGITUDINAL BUFFER AREA, TO ALLOW WORKERS TIME TO EVACUATE THE WORK AREA, SHOULD BE PROVIDED. FOR GUIDELINES ON SETTING THE LENGTH OF THIS BUFFER, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION). ACTUAL LENGTH SHALL BE DETERMINED BY FIELD CONDITIONS AND THE JUDGEMENT OF THE ENGINEER.

NOTE 6
TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,DDD FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES ANO SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

NOTE 7
CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

TRAFFIC CONTROL
BRIDGE "A"
US-169 OVER E. 31st ST. NORTHBOUND
INSIDE LANES & SHOULDER

Drawn	RGN	6/16
Design	RGN	6/16
Checked	SB	6/16

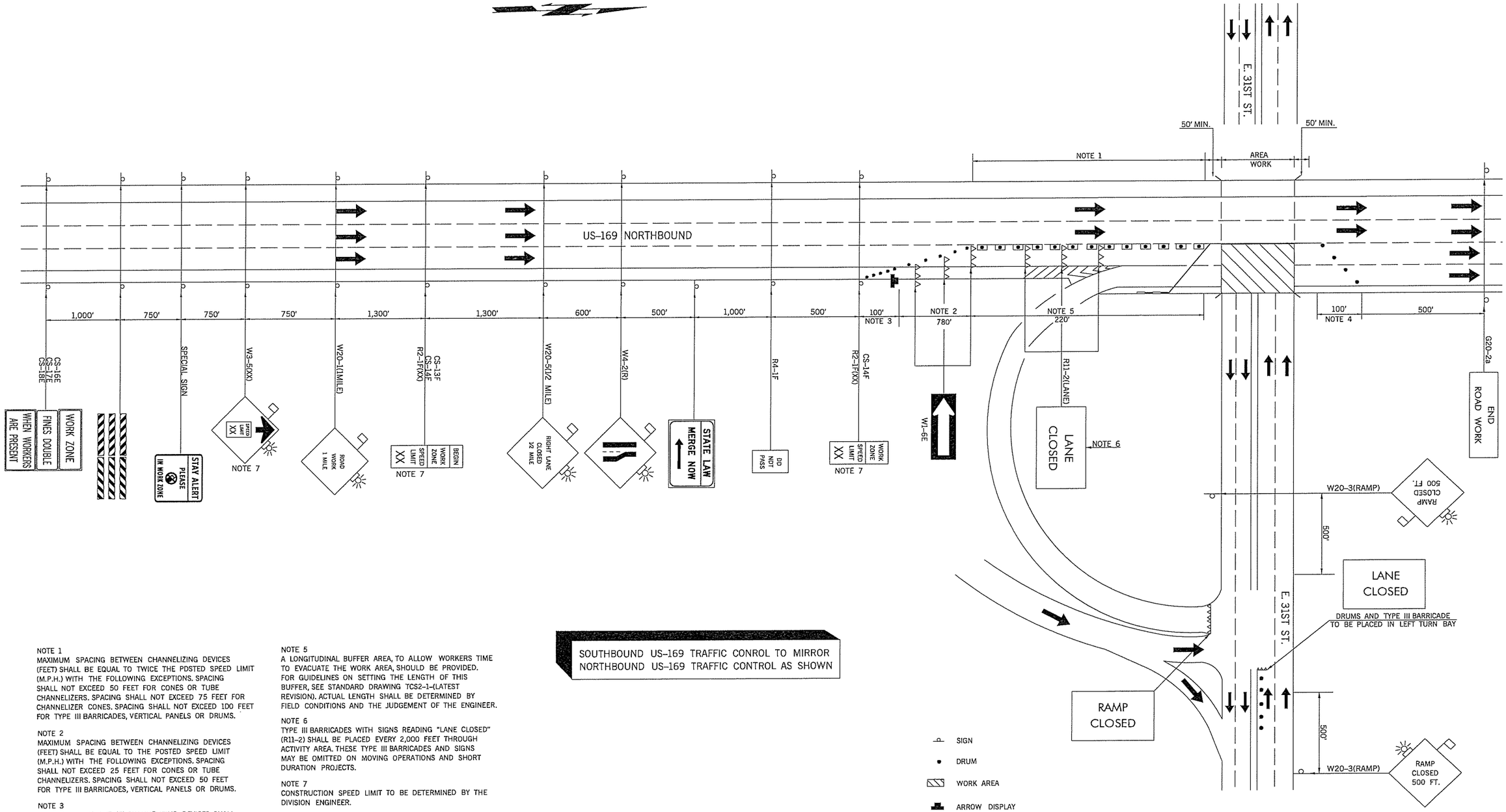
Traffic Engineering
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

DIVISION 8 | STATE JOB NO. 32555(05) | SHEET NO. T001

TULSA CO. US-169

REVISIONS		
REV. NO.	DESCRIPTION	DATE



NOTE 1
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO TWICE THE PDSTED 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 1DO FEET FOR TYPE III BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 2
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 50 FEET FOR TYPE III BARRICAOES, VERTICAL PANELS OR DRUMS.

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NOTE 6
TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,000 FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES AND SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

NOTE 7
CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

SOUTHBOUND US-169 TRAFFIC CONROL TO MIRROR NORTHBOUND US-169 TRAFFIC CONTROL AS SHOWN

SIGN
DRUM
WORK AREA
ARROW DISPLAY
TYPE III BARRICADES
CHANNELIZER CONE
C. Z. IMPACT ATTENUATOR
PORT. LONG. BARRIER

DRAWING NOT TO SCALE

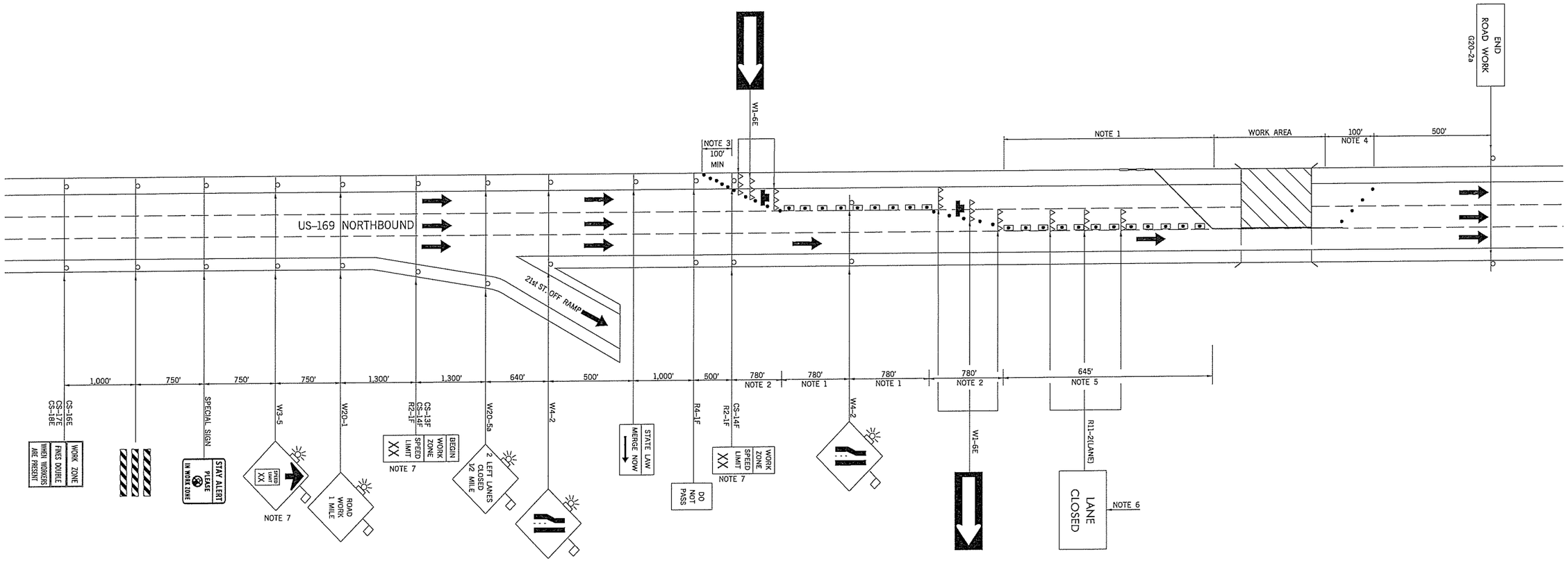
TRAFFIC CONTROL
BRIDGE "A"
US-169 OVER E. 31st ST. NORTHBOUND
OUTSIDE LANES & SHOULDER

Drawn	RGN	6/16
Design	RGN	6/16
Checked	SB	6/16

Traffic Engineering
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
DIVISION 8 | STATE JOB NO. 32565(05) | SHEET NO. T002
TULSA CO. US-169

REVISIONS	
REV. NO.	DESCRIPTION



NOTE 1
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 50 FEET FOR CONES OR TUBE CHANNELIZERS; IT SHALL NOT EXCEED 75 FEET FOR CHANNELIZER CONES; IT SHALL NOT EXCEED 100 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 2
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS; IT SHALL NOT EXCEED 50 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 3
A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THROUGH THIS TAPER.

NOTE 4
DOWNSTREAM TAPERS SHALL CONTAIN A MINIMUM OF FOUR (4) CHANNELIZING DEVICES.

NOTE 5
A LONGITUDINAL BUFFER AREA, TO ALLOW WORKERS TIME TO EVACUATE THE WORK AREA, SHOULD BE PROVIDED. FOR GUIDELINES ON SETTING THE LENGTH OF THIS BUFFER, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION). ACTUAL LENGTH SHALL BE DETERMINED BY FIELD CONDITIONS AND THE JUDGEMENT OF THE ENGINEER.

NOTE 6
TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,000 FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES AND SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

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SOUTHBOUND US-169 TRAFFIC CONROL TO MIRROR NORTHBOUND US-169 TRAFFIC CONTROL AS SHOWN

- SIGN
- DRUM
- WORK AREA
- ARROW DISPLAY
- TYPE III BARRICADES
- CHANNELIZER CONE
- C. Z. IMPACT ATTENUATOR
- PORT. LONG. BARRIER

DRAWING NOT TO SCALE

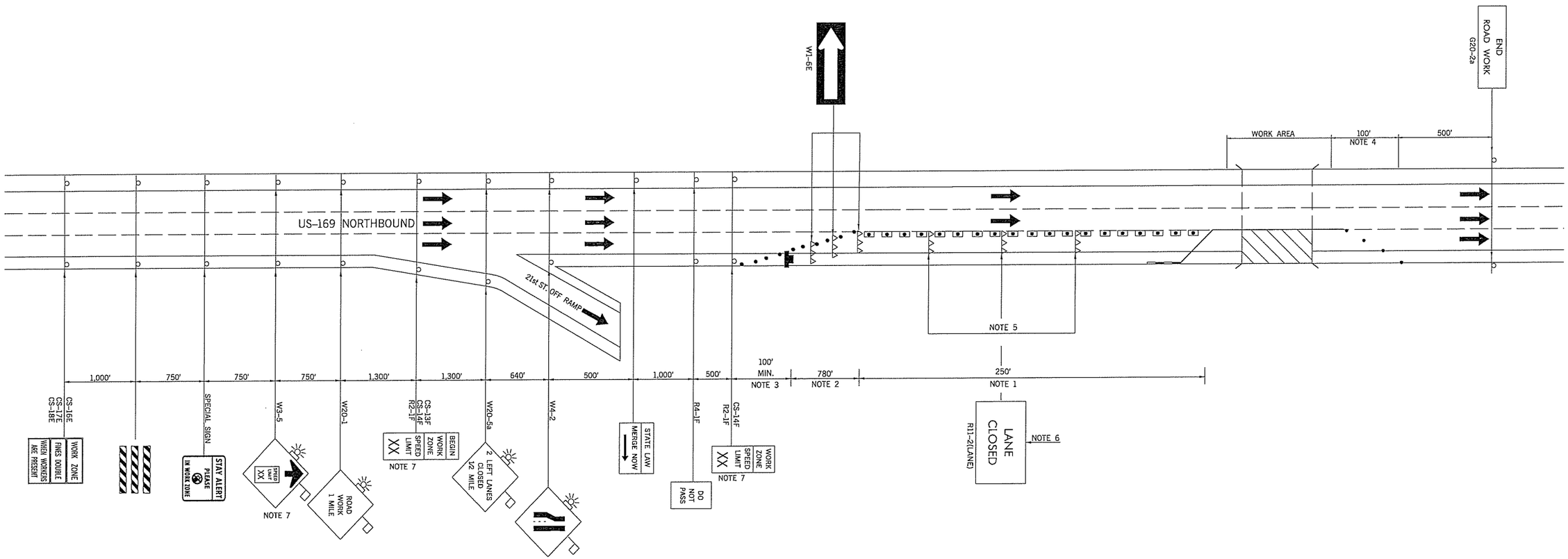
TRAFFIC CONTROL
BRIDGE "B"
US-169 OVER E. 21st ST. NORTHBOUND
INSIDE LANES & SHOULDER

Drawn	RGN	6/16
Design	RGN	6/16
Checked	SB	6/16

Traffic Engineering
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
DIVISION 8 | STATE JOB NO. 32565(05) | SHEET NO. T003
TULSA CO. US-169

REVISIONS	
REV. NO.	DESCRIPTION



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CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

SOUTHBOUND US-169 TRAFFIC CONROL TO MIRROR
NORTHBOUND US-169 TRAFFIC CONTROL AS SHOWN

- SIGN
- DRUM
- WORK AREA
- ARRDW DISPLAY
- TYPE III BARRICADES
- CHANNELIZER CONE
- C. Z. IMPACT ATTENUATOR
- PORT. LONG. BARRIER

DRAWING NOT TO SCALE

TRAFFIC CONTROL
BRIDGE "B"
US-169 OVER E. 21st ST. NORTHBOUND
OUTSIDE LANE & SHOULDER

Drawn	RGN	6/16
Design	RGN	6/16
Checked	SB	6/16

Traffic Engineering
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

DIVISION 8 | STATE JOB NO. 32565(05) | SHEET NO. T004

TULSA CO. US-169