BRIDGE DESIGN (URS)
PROJECT ENGR. : D. MONTGOMERY DESIGN ENGR. : C. KLUSMAN
PROJECT TEAM : I. McELHONE, S. PATEL

TRAFFIC DIVISION (ODOT)
ENGINEER MANAGER: J. SHORT P.E.
SQUAD SUPERVISOR:

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY

BRIDGE REP AIR (REMEDIAL GROUTING)
FEDERAL AID PROJECT NO. STP -221B(011)SS

STATE JOB NO. 30223(04)

DELAWARE COUNTY

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
REVISIONS					
DESCRIPTION				DATE	

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1	Title
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4	Summary of Pay Quantities-Bridge
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6	Traffic Control Detail Closure South Side
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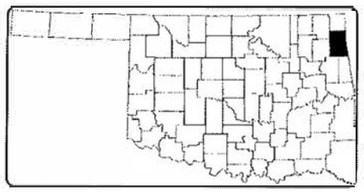
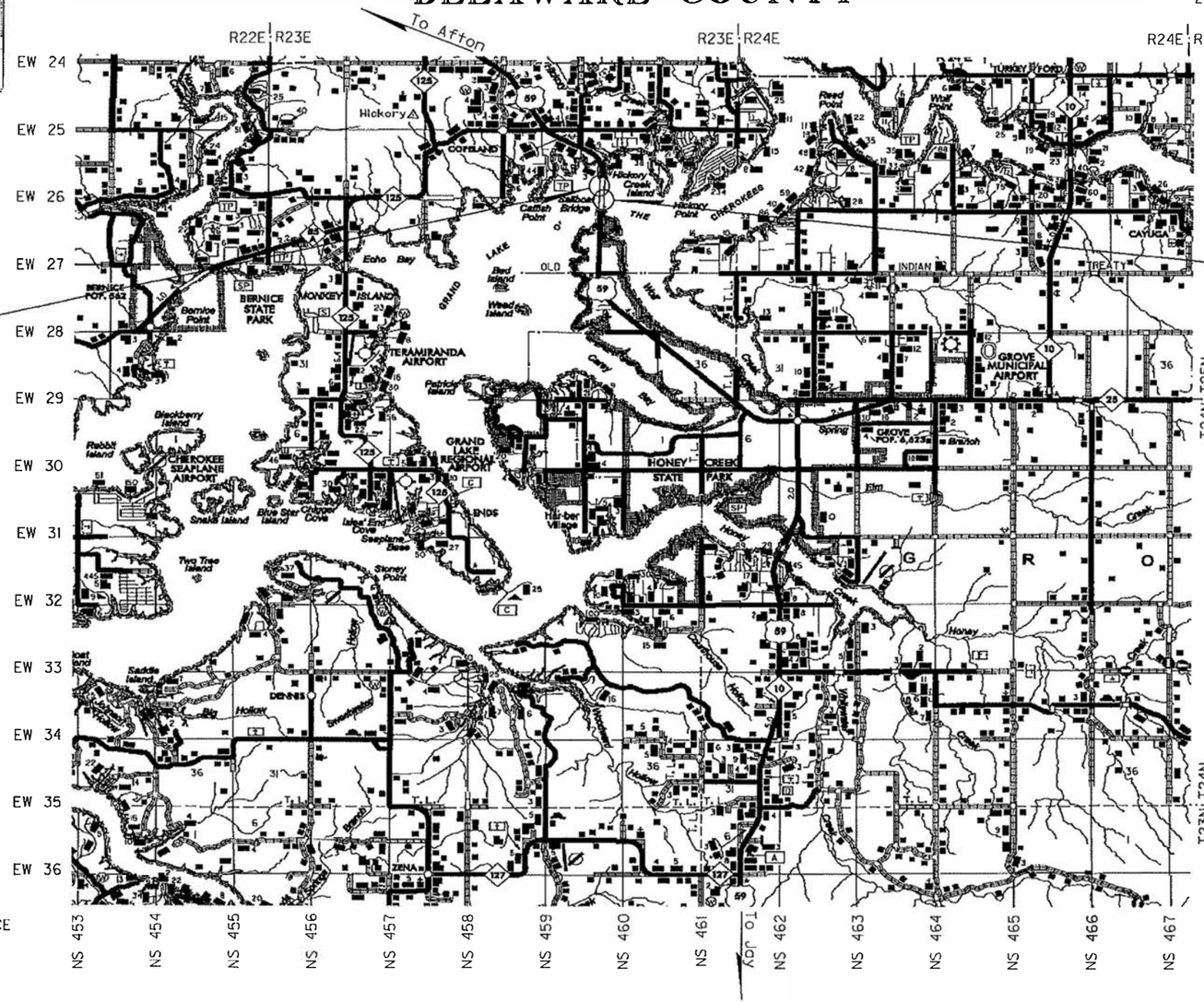
8	Bridges 'A' & 'B' Reference
9-13	Bridge 'A' Tendon Inspection and Repair Details
14	Bridge 'A' Anchorage Inspection and Repair Details
15-19	Bridge 'B' Tendon Inspection and Repair Details
20	Bridge 'B' Anchorage Inspection and Repair Details



Location Map
Division VIII



Bridge 'A' US 59 SB over Grand Lake
Location No. 2106-1883WX
NBI No. 06592
Bridge Length = 3,043.8 FT.
Project Length = 3,043.8 FT.

Bridge 'B' US 59 NB over Grand Lake
Location No. 2106-1883EX
NBI No. 24791
Bridge Length = 3,043.8 FT.
Project Length = 3,043.8 FT.

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
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- RIGHT-OF-WAY MARKERS - IN PLACE
- RIGHT-OF-WAY MARKERS - REMOVE & REPLACE
- RIGHT-OF-WAY MARKERS - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

2009 Oklahoma Standard Specification for Highway Construction govern, approved by the U.S. Department of Transportation, Federal Highway Administration, January 4, 2010.

The following ODOT Standards will be required:

Roadway:	Traffic:		
	TCS1-1-01	TCS8-1-00	TCS15-1-00
	TCS2-1-00	TCS9-1-01	TCS16-1-00
Bridge:	TCS3-1-01	TCS10-1-00	TCS17-1-00
	TCS4-1-01	TCS11-1-01	TCS18-1-01
	TCS5-1-00	TCS12-1-00	TCS19-1-01
	TCS6-1-02	TCS13-1-00	TCS20-1-00
	TCS7-1-02	TCS14-1-00	

PREPARED BY
URS
URS Corporation
1437 South Boulder Avenue, Suite 730
Tulsa, OK 74119
www.urscorp.com
C.A. No. 1872, Expires 6/30/15

Dallas E. Montgomery
DATE May 01, 2015
OKLA. REG. NO. 25032

PROFESSIONAL ENGINEER — DALLAS E. MONTGOMERY — 25032 — OKLAHOMA

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

PROJECT NO. STP-221B(11)SS — SHEET NO. 1

REVISIONS	
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 shown on the Plans are approximate. The Contractor shall verify all dimensions and shall be solely responsible for the accuracy thereof.

Bidders will 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 structure and roadway facilities. Any damage to the existing structure or roadway due to the Contractor's negligence shall be repaired at the Contractor's expense to the satisfaction of the Engineer.

MATERIALS:
Post-Tensioning Grout: Use grout which meets or exceeds the requirements of the 2009 Oklahoma Standard Specifications Section 701.18 and in accordance with the Manufacturer's recommendations.

Epoxy: Seal all grout ports and access holes with epoxy which meets or exceeds the requirements of the 2009 Oklahoma Standard Specifications Section 701.13, Type J and in accordance with Manufacturer's recommendations.

Elastomeric Coating System: Coat all anchorage protection replacement pour-backs with an elastomeric polyurethane waterproof coating system in accordance with the 2009 Oklahoma Standard Specification Section 737.03.

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

CONTRACTOR QUALIFICATIONS:
The Contractor must submit, with their bid, their qualifications to perform the work, or those of their grouting subcontractor. ODOT has the right to reject bids at their discretion from nonqualified Contractors. The documentation of the Contractor's qualifications shall include, but is not limited to, the following:

a. Records of the Contractor's past successful experience in performing remedial post-tensioning grouting. A minimum of three projects within the last four years is required. The documentation shall include project locations, names and contact information of clients, costs, method of grouting utilized, and volume of grout used. The method of grouting used in these projects must be similar to the methods proposed in the "Grouting Operations Plan."
b. Documentation of the experience of the superintendent and grouting foreman including length of employment with the Contractor (or subcontractor), work experience, work resume, and specialized education and training history. The superintendent and grouting foreman must have five years of experience in post-tensioned grouting and must be an ASBI Certified Grouting Technician.

EXISTING BRIDGE PLANS:
Plans are available from:

Technology Services Plans Section
Oklahoma Department of Transportation
200 N.E. 21st St.
Oklahoma City, OK 73105

The existing bridges were originally constructed under the following Federal Aid Project Numbers:

BRIDGE	PROJECT NO.
A	DPB-BRF-0001(001)
B	DPB-BRF-0001(001)

VOID DEFINITION:
Throughout this contract set, the term "void" describes voids, bleed trails, and/or a combination thereof. For payment purposes, one tendon void is defined as a continuous cavity, with air transfer, within a single tendon and/or anchorage.

REMEDIAL GROUTING SPECIFICATIONS:
Grouting Operations Plan: At least 6 weeks before the scheduled grouting operations, a Grouting Operations Plan shall be submitted to the Resident Engineer for review by the Department's Materials Engineer and approval by the Resident Engineer. The general grouting procedure and its requirements shall conform to 2009 Oklahoma Standard Specifications Section 517.04H. In the Plan, the Contractor shall describe the proposed remedial grouting method for each type of void, and locations and sizes of proposed grout ports and valves. The Contractor shall propose a remedial grouting method for each void location that reduces or eliminates the potential for water and air pockets in the grouted areas (pressure grouting, vacuum grouting, vacuum assisted grouting, or an approved alternate). The plan should also outline the Contractor's schedule, method of ingress and egress, and security of the work area, including preventing unauthorized access into the bridge. Work shall not start until the Grouting Operations Plan has been approved.

Personnel: Perform all post-tensioning field operations under the direct supervision of the qualified grouting foreman who must be on site at all times and directly involved with the grouting operations.

Contractor Locations: The external tendon ducts which contain voids are indicated on the plans Before beginning grouting operations, the Contractor shall determine the extents of the tendon voids in accordance with the Tendon and Anchorage Inspection Specifications (See Sheet 3).

Grout Ports: At voided areas, install grout ports (inlet or outlet) at anchorages and drilled holes along the tendon, as needed to perform remedial grouting. One grout port may be sufficient for the smaller voids; however, two grout ports per void usually are required. Install additional grout ports as directed by the Engineer. The Engineer must approve the installation of all grout ports beyond the first grout port at each void.

Debris Removal: The contractor shall remove all debris and water from the voided areas. If possible, drain the water from low points along the tendon. Use oil free high volume compressed air or vacuuming techniques to remove debris and eliminate any remaining free water from the voids prior to the grouting operation.

Remedial Grouting: The Contractor shall perform Remedial Grouting in accordance with the approved grouting operations plans and section 517.04H of the 2009 Oklahoma Standard Specifications as applicable to cover and protect the post-tensioning tendons from water infiltration. The Contractor shall record and submit key data for each void filled, including the void volume and grout volume used to the engineer.

Sealing: After the grout cures, the contractor shall remove all grout inlet and outlets (including those previously installed within the limits of the void). Use a slightly larger drill to remove the grout tubes. Clean the hole with compressed air and plug the hole by fusing a compatible material into the opening (in accordance with the Manufacturer's recommendations) to make a complete waterproof seal. Grind the plug smooth with the pipe. The cost of all work associated with this specification shall be included in the contract unit price for "Repair Bridge Item, Type D".

Equipment: The Contractor shall provide all necessary equipment to grout the voids. Equipment shall be in accordance with Section 517.03B of the 2009 Oklahoma Standard Specifications; or the Contractor may propose different means or methods in their Grouting Operations Plan for approval. Any drilling equipment used shall have an automatic shut-off when steel is encountered to protect the tendons from damage. The Contractor is responsible for providing electrical power and lighting for their operations. Furnish vacuum grouting equipment with volumeters to determine void and grout volumes.

Protection of Structure: The Contractor shall take measures to protect the concrete, all post-tensioning steel, and all mild reinforcement from damage and/or future corrosion. The Contractor shall be responsible for any damage or additional corrosion to the structure that is caused by the Contractor's actions. The Contractor shall remove any construction debris from their activities in the structure.

The cost of all work associated with the Remedial Grouting Specification shall be included in the contract unit price for "Repair Bridge Item, Type C" and "Repair Bridge Item, Type D".

The contractor shall provide documentation that the proposed remedial grout properties are compatible with the existing grout properties of the bridge. The existing grout properties may be located in the submitted inspection and testing reports as prepared by URS Corporation for the Oklahoma Department of Transportation. The contractor shall submit both remedial and existing grout properties to the engineer for approval of the proposed remedial grout.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
DELAWARE COUNTY

GENERAL NOTES (SHEET 1 OF 2)

STATE JOB NO. 30223(04)

SHEET NO. 2

REVISIONS	
DESCRIPTION	DATE

GENERAL NOTES (CONT.)

TENDON INSPECTION SPECIFICATIONS:

Locations: The external tendon ducts which contain voids are indicated on the detail drawings. The Contractor shall verify the location and extent of the voids by sounding. After locating the tendon voids and inspecting the post-tensioning anchorages (in accordance with the Post-Tension Anchorage Specifications, this sheet), the Contractor shall drill into the tendons at each voided area for testing. The holes shall be drilled at locations for verifying air transfer and for remedial grouting. Pressurize the hole to 75 psi in order to determine if the void connects to other drilled holes along the tendon. This testing shall be performed in the presence of the Engineer. The Engineer may require the drilling of additional holes. Air transfer between two or more voids constitutes a continuous voided area and such a condition, as determined by the Engineer, shall be paid as one void location for remedial grouting.

The Contractor shall record and document their findings and provide this information to the Engineer. Upon completion of post-tension inspection, the Contractor shall prepare a complete report including correlated photographs. The report shall be submitted for review no more than 7 days after completing the inspection of all the tendons in a span. The report shall indicate the condition of any exposed tendons and the required repairs for the restoration of the grout. Unless approved by the Engineer, grouting repairs shall not begin until at least 24 hours after the submission of the report in each span.

The cost of all work associated with this specification shall be included in the contract unit price for "Repair Bridge Item, Type A".

Sealing: If remedial grouting is not necessary, the Contractor shall seal drilled inspection holes in accordance with the sealing note included with the Remedial Grouting Specifications. The cost of sealing shall be incidental to "Repair Bridge Item, Type A".

POST-TENSION ANCHORAGE INSPECTION SPECIFICATIONS:

Anchorage Inspection: At every tendon anchorage location, remove the waterproofing membrane and the pour-back from the anchor to expose the grout inlet or outlet. Remove the grout tube extension. Drill into the anchorage grout inlet or outlet at the anchorage, if possible, just sufficient to penetrate the inner surface of the trumpet or duct. Use extreme caution to avoid cutting any post-tensioning wire or strand. Take color photographs of the anchor plate and strands.

If a void is found in the tendon or anchorage, insert a borescope and determine the size of the voids. Take color photographs inside the trumpet area. Determine if the void connects to drilled holes along the tendon within 5 feet of the anchorage by using compressed air (40psi) to pressurize the void in the anchorage. The Contractor shall drill holes in the tendon within 5 feet of the diaphragm if none are present from the tendon inspection. This testing should be performed in the presence of the Engineer. One tendon void is defined as a continuous cavity, with air transfer, within a single tendon and/or anchorage. A single void will be considered one pay item for "Repair Bridge Item, Type C".

The Contractor shall record and document their findings and provide this information to the Engineer. Upon completion of post-tension anchorage inspection in each span, the Contractor shall prepare a complete report including correlated photographs. The report shall be submitted for review no more than 7 days after completing the inspection of all the anchorages in a span. The report shall indicate the condition of the anchorage and the required repairs for the restoration of the grout and the pour-backs. Unless approved by the Engineer, grouting repairs shall not begin until at least 24 hours after the submission of the report in each span.

The cost of all work associated with this specification shall be included in the contract unit price for "Repair Bridge Item, Type B".

Sealing: If remedial grouting is not necessary, the Contractor shall seal the grout inlet/outlet in accordance with the sealing note included with the Remedial Grouting Specifications (See Sheet 2). The cost of sealing shall be incidental to "Repair Bridge Item, Type B".

ANCHORAGE PROTECTION REPLACEMENT SPECIFICATIONS:

After removing all pour-back material and associated coal tar epoxy coating, clean and reconstruct the anchorage protection system in accordance with the 2009 Oklahoma Standard Specifications Section 517.04J. Contrary to the 2009 Oklahoma Standard Specifications, mechanically fasten a plastic grout cap over the anchor head. The Contractor may cut the exposed post-tensioning steel in accordance with the 2009 Oklahoma Standard Specifications Section 517.04G if necessary to fasten the plastic grout cap over the anchor head. The cost of all work associated with this specification shall be included in the contract unit price for "Repair Bridge Item, Type E".

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

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OKLAHOMA DEPARTMENT OF TRANSPORTATION

DELAWARE COUNTY

GENERAL NOTES (SHEET 2 OF 2)

STATE JOB NO. 30223(04)

SHEET NO. 3

REVISIONS	
DESCRIPTION	DATE

PAY QUANTITIES

0200 BRIDGE "A"

ITEM	DESCRIPTION		UNIT	QUANTITY
512 6279	Cleaning Bridge Surfaces	(B-1)	SY	15,870
523 (C) 6570	Deck Area Sealed (Floodcoats)	(B-2)	SY	14,100
540 4515	(PL) Repair Bridge Item, Type A	(B-3)	EA	150
540 4525	(PL) Repair Bridge Item, Type B	(B-4)	EA	300
540 4535	(PL) Repair Bridge Item, Type C	(B-5)	EA	364
540 4545	(PL) Repair Bridge Item, Type D	(B-6)	EA	1,049
540 4555	(PL) Repair Bridge Item, Type E	(B-7)	EA	300

PAY QUANTITIES

0201 BRIDGE "B"

ITEM	DESCRIPTION		UNIT	QUANTITY
512 6279	Cleaning Bridge Surfaces	(B-1)	SY	15,870
523 (C) 6570	Deck Area Sealed (Floodcoats)	(B-2)	SY	14,100
540 4515	(PL) Repair Bridge Item, Type A	(B-3)	EA	150
540 4525	(PL) Repair Bridge Item, Type B	(B-4)	EA	300
540 4535	(PL) Repair Bridge Item, Type C	(B-5)	EA	291
540 4545	(PL) Repair Bridge Item, Type D	(B-6)	EA	680
540 4555	(PL) Repair Bridge Item, Type E	(B-7)	EA	300

PAY QUANTITIES

0640 CONSTRUCTION

ITEM	DESCRIPTION	UNIT	QUANTITY
641 1399	Mobilization	LS	1

BRIDGE PAY QUANTITY NOTES

(B-1) This item is for cleaning the interior of the box girders of all construction debris, guano, and miscellaneous debris, including construction debris left from previous work on the bridge. The interior of the box girders shall be power washed of sufficient quality such that any cracking in the concrete, including the top of the bottom slab, is visible. All materials removed will become property of the Contractor and shall be disposed of in accordance with Section 104.09 of the 2009 Oklahoma Standard Specifications. All cost of cleaning including labor, equipment, materials, and incidentals necessary to complete the work as described above shall be included in the price bid for "Cleaning Bridge Surfaces."

(B-2) The item is a floodcoat sealer applied to the bridge deck roadway surface as shown in the attached detail drawings and in accordance with the Standard Specification section 523. The application shall begin at the beginning of the bridge deck and end at the end of the bridge deck. The approach slabs shall not be included in the sealer applications. The contractor shall prevent the sealer from penetrating the expansion joints. If sealer penetrates expansion joints, the contractor, at their own expense, will be required to remove all sealer from these joints after bulk cure. All cost of treatment including material, labor, equipment and incidentals necessary to complete the work as described above shall be included in the price bids for "Deck Area Sealed (Floodcoats)".

(B-3) This pay item for "Repair Bridge Item, Type A" is for the equipment, sounding, inspection, testing, measurement, and reporting for each tendon in accordance with the Tendon Inspection Specifications (see General Notes). The Department will consider all components of the work; including payment for all labor, materials, and equipment, and access, directly, and indirectly, required to complete the work as described above; to be included in the contract unit price for this item.

(B-4) This pay item for "Repair Bridge Item, Type B" is for the equipment, removal, inspection, testing, measurement, and reporting of each anchorage location indicated in the plans in accordance with the Anchorage Inspection Specifications (see General Notes). The Department will consider all components of the work; including payment for all labor, materials, and equipment, and access, directly, and indirectly, required to complete the work as described above; to be included in the contract unit price for this item.

(B-5) This pay item for "Repair Bridge Item, Type C" is for the equipment, cleaning, grouting setup, and filling voids entirely with grout for each void location (as determined during the tendon and post-tensioned anchorage inspection) in accordance with the Remedial Grouting Specification (see General Notes). The void lengths in these plans are estimates. No additional payment shall be made for lengths longer than that shown in the plans. One tendon void is defined as a continuous cavity, with air transfer, within a tendon and/or anchorage(s). No additional payment will be made if grouting must be done at multiple setups to fill the same defined void. The Department will consider all components of the work; including payment for all labor, materials, and equipment, and access, directly, and indirectly, required to complete the work as described above; to be included in the contract unit price for this item.

(B-6) This pay item for "Repair Bridge, Item, Type D" is for the installation, removal, and sealing of each grout port for remedial grouting in accordance with the Remedial Grouting Specifications (see General Notes). A minimum of one grout port will be paid per each void location; the installation of additional grout ports must be approved by the Engineer. No payment will be made for installing grout ports as part of the tendon and anchorage inspection. The Department will consider all components of the work; including payment for all labor, materials, drilling, and equipment, and access, directly, and indirectly, required to complete the work as described above; to be included in the contract unit price for this item.

(B-7) This pay item for "Repair Bridge Item, Type E" is for the equipment and installation of anchorage protection at each anchorage location indicated in the plans in accordance with the Anchorage Protection Replacement Specifications (see General Notes). The Department will consider all components of the work; including payment for all labor materials, and equipment, and access, directly, and indirectly, required to complete the work as described above; to be included in the contract unit price for this item.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

DELAWARE COUNTY

SUMMARY OF PAY QUANTITIES-BRIDGE

STATE JOB NO. 30223(04)

SHEET NO. 4

REVISIONS		
REV. NO.	DESCRIPTION	DATE

GENERAL CONSTRUCTION NOTES

ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, SIGNING, AND DEVICES WITHIN THE LIMITS OF CONSTRUCTION AND DETOUR ROUTE(S). ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO STANDARDS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION", AND AS SHOWN ON TCS STANDARD DRAWINGS.

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

ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, ATTENUATORS, SLOPES, OR SIGNS SHALL BE REPLACED OR REPAIRED AT CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

THE ITEMS TO BE REMOVED AND/OR RESET SHALL BE HANDLED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DURING THESE OPERATIONS.

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE AREAS UNDER THE BRIDGES FROM FALLING DEBRIS AND BE SOLELY RESPONSIBLE FOR SAFEGUARDING THESE AREAS.

THE CONTRACTOR MUST NOTIFY THE RESIDENT ENGINEER 7 DAYS PRIOR TO ANY LANE CLOSURE.

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 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 (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

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

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. SEE O.D.O.T. STANDARDS AND DETAIL DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

ALL REGULATORY SIGNS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956-(LATEST REVISION) FOR TYPE III SHEETING.

ALL WARNING SIGNS SHALL HAVE FLUORESCENT YELLOW SHEETING. THE FLUORESCENT YELLOW SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956-(LATEST REVISION) REQUIREMENTS FOR TYPE VIII SHEETING.

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

PAY QUANTITY NOTES

(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-25) 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 AND PAVEMENT MARKINGS 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-52) ANY USED TRUCK MOUNTED ATTENUATOR OR 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-76) ANY TRUCK MOUNTED ATTENUATOR USED ON THIS PROJECT SHALL HAVE PASSED ALL MANDATORY AND OPTIONAL TESTS LISTED IN NCHRP 350, TL-3 CRITERIA. THIS ITEM IS TO BE USED WHERE SHOWN IN THE STANDARD DRAWINGS OR AT THE DISCRETION OF THE ENGINEER ON SHADOW VEHICLES PROTECTING THE WORK AREAS AND TEMPORARY ROADSIDE HAZARDS.

(TC-77) TRUCK MOUNTED ATTENUATORS ARE TO BE INSTALLED ON NON-STATE OWNED TRUCKS HAVING A MINIMUM GROSS WEIGHT RATING OF 15,000 POUNDS. EACH OF THESE TRUCKS SHALL ALSO BE EQUIPPED WITH AN ARROW DISPLAY (TYPE B).

(TC-84) 10 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT ODOT 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 AN APPROVED LIST,GO TO THE QUALIFIED PRODUCT LIST WEBSITE AT http://www.okladot.state.ok.us/traffic/qpl/index.php .

(TS-24) QUANTITY SHOWN INCLUDES 7,860 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(WHITE) AND 6,200 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) CHANGEABLE MESSAGE SIGNS TO BE PLACED ON THE PROJECT 7 DAYS IN ADVANCE OF THE START DATE.

(SP-3) PORTABLE CHANGEABLE MESSAGE SIGN TO BE PLACED WHERE DEEMED NECESSARY BY THE ENGINEER.

(SP-4) REMOVE THE EXISTING TRAFFIC STRIPES AND SYMBOLS ON THE BRIDGES AND APPROACHES PRIOR TO FLOODCOATING. THE NEW TRAFFIC STRIPES AND SYMBOLS FOR BRIDGES AND APPROACHES SHALL BE APPLIED AFTER FLOODCOATING. ALL COSTS OF REMOVING TRAFFIC STRIPES AND SYMBOLS, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER L.F. "TRAFFIC STRIPE(MULTI-POLY.)(4"WIDE) AND PER EA. "TRAFFIC STRIPE (MULTI-POLY.)(SYMBOLS).

PAY QUANTITY SCHEDULE

0300 TRAFFIC CONTROL

PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
876(A)	8482	(PL)TRUCK MOUNTED ATTENUATOR (TC-52,70,76,77)	SD	20.00
880(J)	8905	CONSTRUCTION TRAFFIC CONTROL (SP-1)(TC-25)	LSUM	1.00
882(A)	8306	PORTABLE CHANGEABLE MESSAGE SIGN (SP-2,3)(TC-52,84,85)	SD	38.00

PAY QUANTITY SCHEDULE

0301 TRAFFIC SIGNING & STRIPING

PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
856(A)	8530	TRAFFIC STRIPE (MULTI-POLY.) (4" WIDE) (SP-4)(TC-14)(TS-24)	LF	14,060.00
856(B)	8870	TRAFFIC STRIPE (MULTI-POLY.) (SYMBOLS)	EA	18.00

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION
DATE 09/01/2016

OKLA. REG. NO. 22542

LICENSED PROFESSIONAL ENGINEER — JAMI L. SHORT 22542 — OKLAHOMA

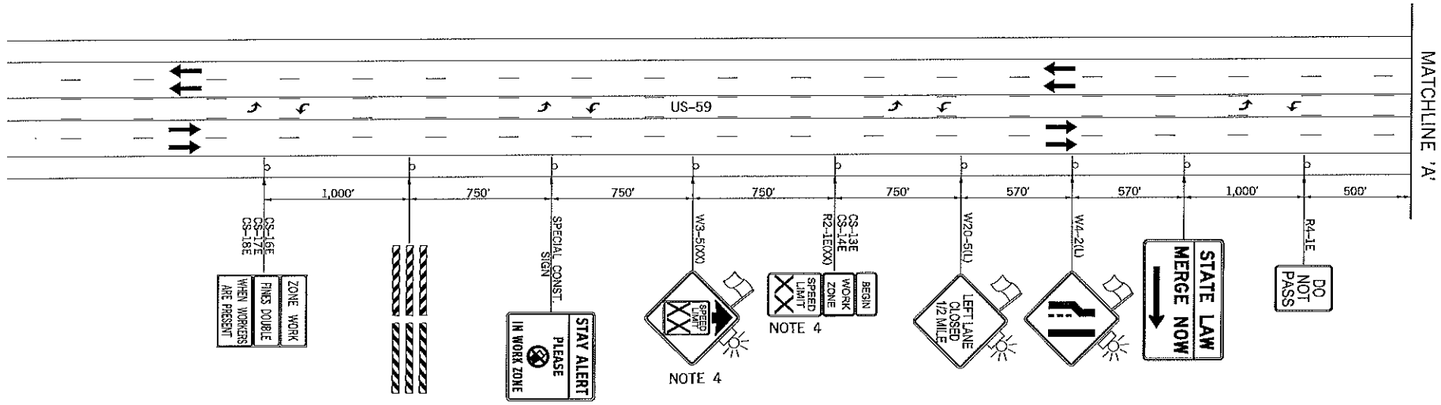
SUMMARY OF PAY QUANTITIES & NOTES(TRAFFIC)

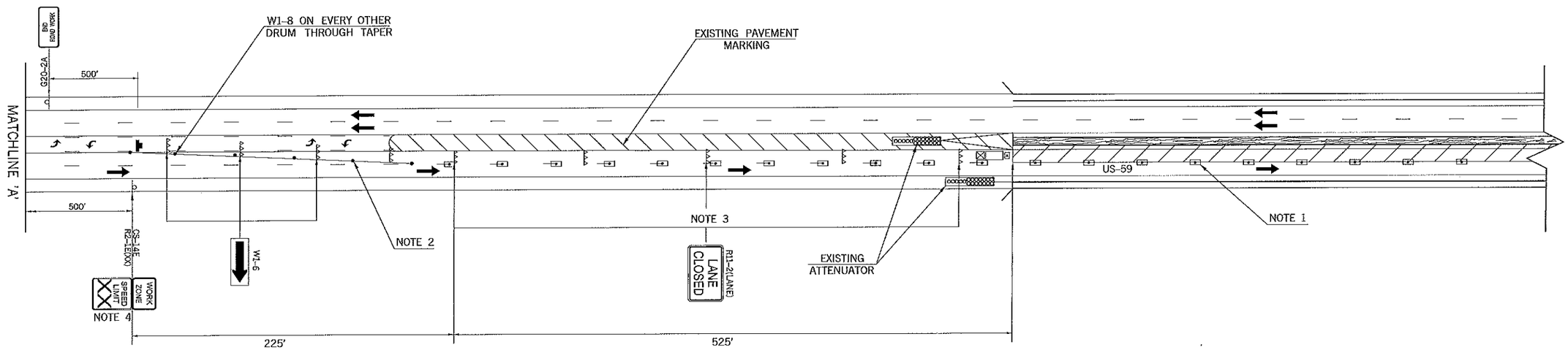
Drawn	RGN	4/16
Design	RGN	4/16
Checked	SB	4/16

TRAFFIC ENGINEERING
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
DIVISION 8 | JOB PIECE NO. 30223(04) | SHEET NO. 5

REVISIONS		
REV. NO.	DESCRIPTION	DATE





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 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.

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 SUFFICIENT NUMBER OF TYPE III BARRICADES, WITH SIGNS AS SHOWN, SHALL BE USED TO COMPLETELY CLOSE THE ROADWAY TO TRAFFIC FROM THE EDGE OF PAVEMENT TO THE EDGE OF PAVEMENT.

NOTE 4
CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR INFORMATION REGARDING THE LENGTHS OF TAPERS, TANGENTS, AND CROSSOVERS, AS WELL AS THE SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

OUTSIDE LANE CLOSURE SHALL MIRROR THE INSIDE LANE CLOSURE SHOWN.

KEY:
- SIGN
- DRUM
- WORK AREA
- ARROW DISPLAY
- TYPE III BARRICADE
- TRUCK MOUNTED ATTENUATOR

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL
SOUTH SIDE

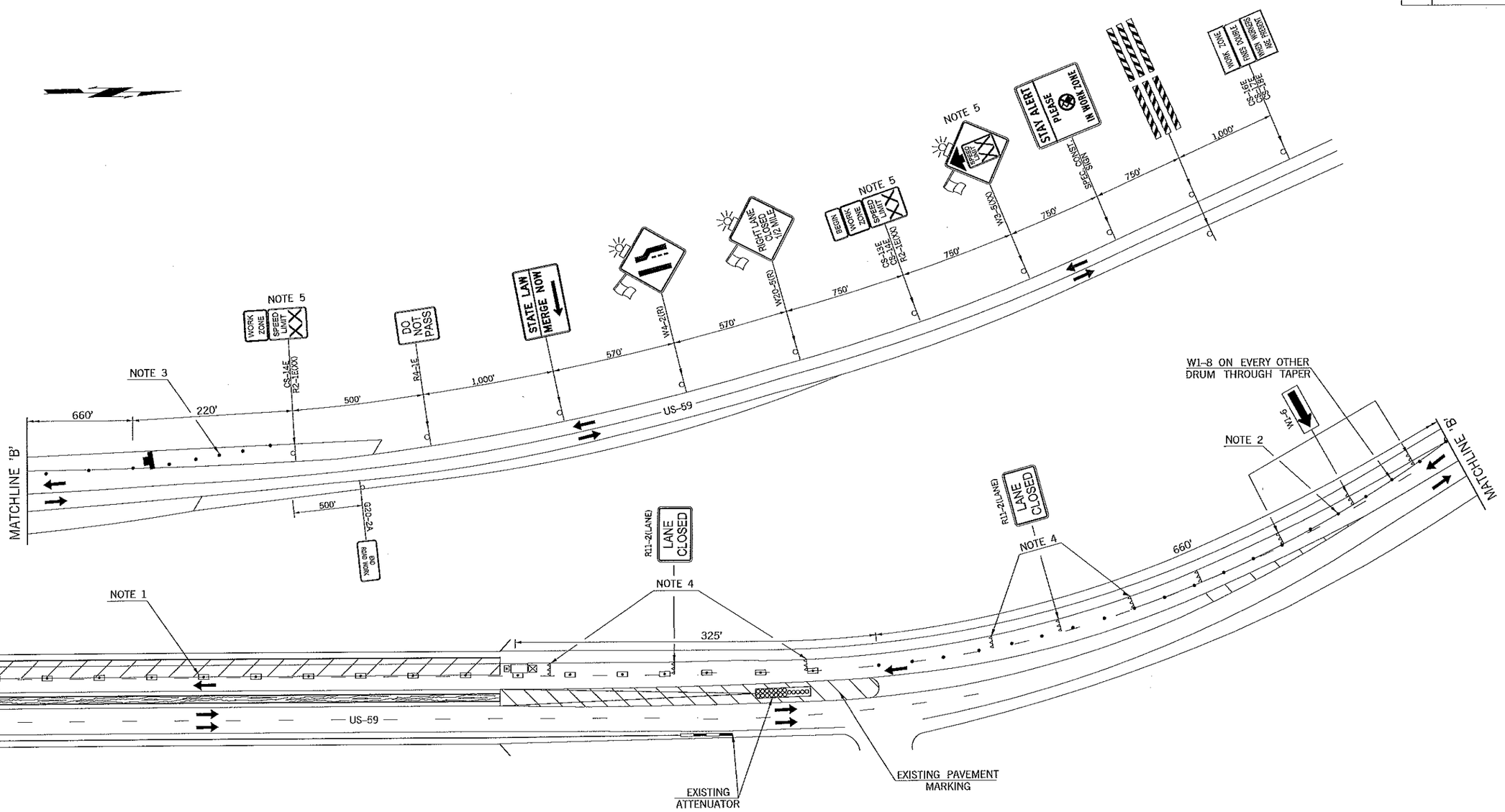
Drawn	RGN	4/16
Design	RGN	4/16
Checked	SB	4/16

TRAFFIC ENGINEERING
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
DIVISION 8 | STATE JOB NO. 30223(04) | SHEET NO. 6

US-59 DELAWARE COUNTY

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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 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.

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 THRU THIS AREA.

NOTE 4
A SUFFICIENT NUMBER OF TYPE III BARRICADES, WITH SIGNS AS SHOWN, SHALL BE USED TO COMPLETELY CLOSE THE ROADWAY TO TRAFFIC FROM THE EDGE OF PAVEMENT TO THE EDGE OF PAVEMENT.

NOTE 5
CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR INFORMATION REGARDING THE LENGTHS OF TAPERS, TANGENTS, AND CROSSOVERS, AS WELL AS THE SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

KEY:
- SIGN
- DRUM
- WORK AREA
- ARROW DISPLAY
- TYPE III BARRICADE
- TRUCK MOUNTED ATTENUATOR

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL OUTSIDE LANE CLOSURE NORTH SIDE

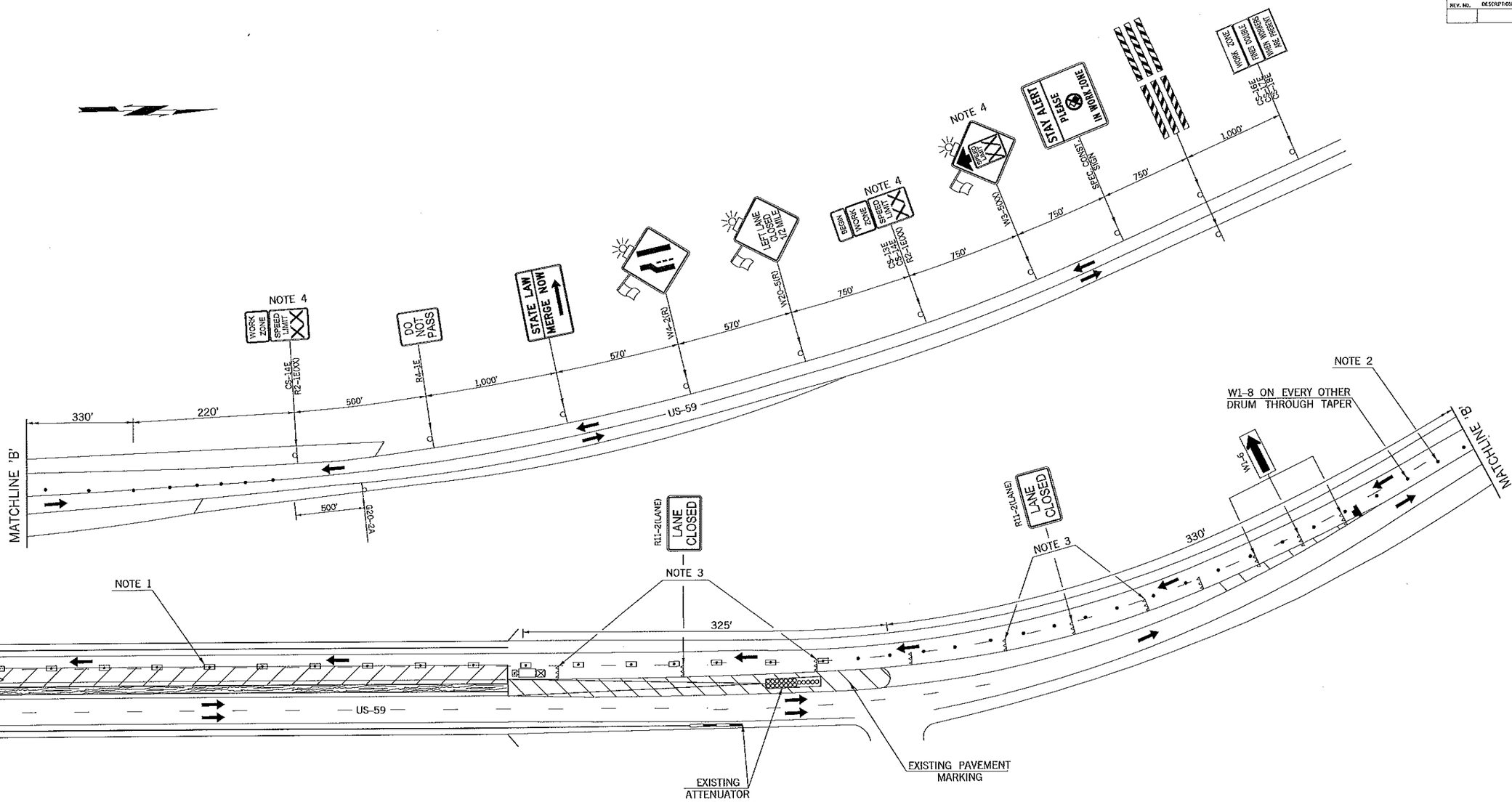
Drawn	RGN	4/16
Design	RGN	4/16
Checked	SB	4/16

TRAFFIC ENGINEERING
JAMI L. SHORT

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
DIVISION 8 | STATE JOB NO. 30223(04) | SHEET NO. 7A

US-59 DELAWARE COUNTY

REVISIONS			
REV. NO.	DESCRIPTION		DATE



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 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.

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 SUFFICIENT NUMBER OF TYPE III BARRICADES, WITH SIGNS AS SHOWN, SHALL BE USED TO COMPLETELY CLOSE THE ROADWAY TO TRAFFIC FROM THE EDGE OF PAVEMENT TO THE EDGE OF PAVEMENT.

NOTE 4
CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR INFORMATION REGARDING THE LENGTHS OF TAPERS, TANGENTS, AND CROSSOVERS, AS WELL AS THE SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

KEY:

- SIGN
- DRUM
- WORK AREA
- ARROW DISPLAY
- TYPE III BARRICADE
- TRUCK MOUNTED ATTENUATOR

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL INSIDE LANE CLOSURE NORTH SIDE

Drawn	RGN	4/16
Design	RGN	4/16
Checked	SB	4/16

TRAFFIC ENGINEERING
JAMI L. SHORT

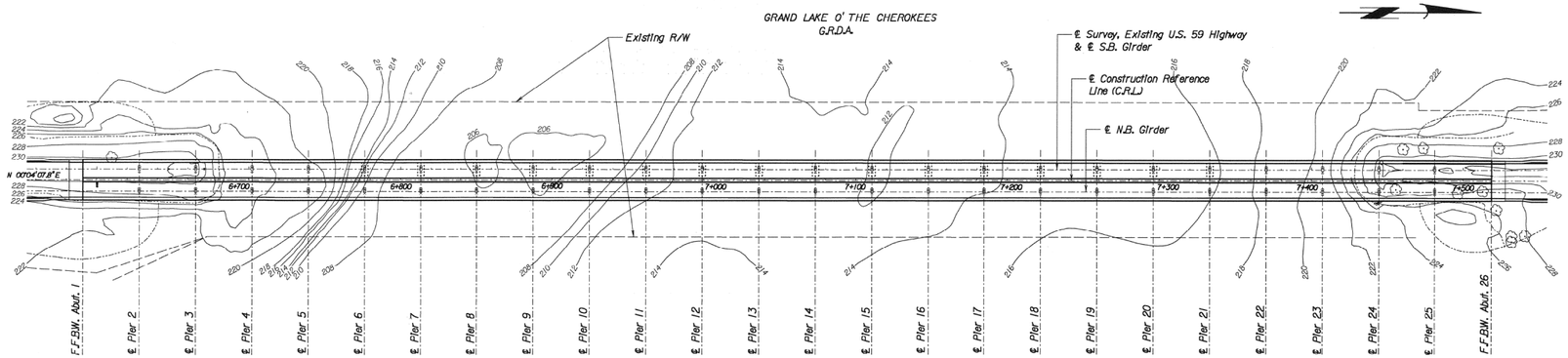
STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

DIVISION 8 | STATE JOB NO. 30223(04) | SHEET NO. 7B

US-59 DELAWARE COUNTY

REVISIONS		
DESCRIPTION		DATE

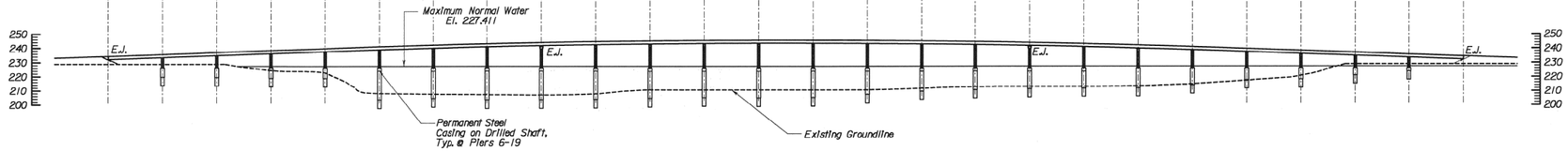
REVISIONS		
REV. NO.	DESCRIPTION	DATE



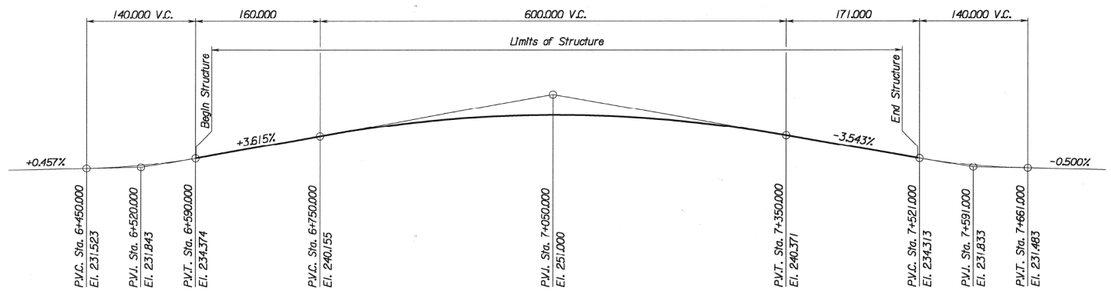
PLAN
(Scale: 1:1500)

927.750 (Total Bridge Length)

Northbound Girder	296.860 (Unit 1)								333.900 (Unit 2)										296.990 (Unit 3)							
Southbound Girder	296.690 (Unit 1)								334.210 (Unit 2)										296.850 (Unit 3)							
Northbound Girder	37.160	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.100	37.290
Southbound Girder	37.194	37.084	37.084	37.084	37.084	36.910	37.150	37.100	37.090	37.130	37.240	37.250	37.120	37.070	37.120	37.070	37.120	37.100	37.120	37.100	37.084	37.084	37.084	37.084	37.084	37.194



ELEVATION
(Northbound Girder & Foundation Option 1 Shown, Southbound Girder Similar)
(Scale: 1:1500)



VERTICAL CURVE DATA
(N.T.S.)

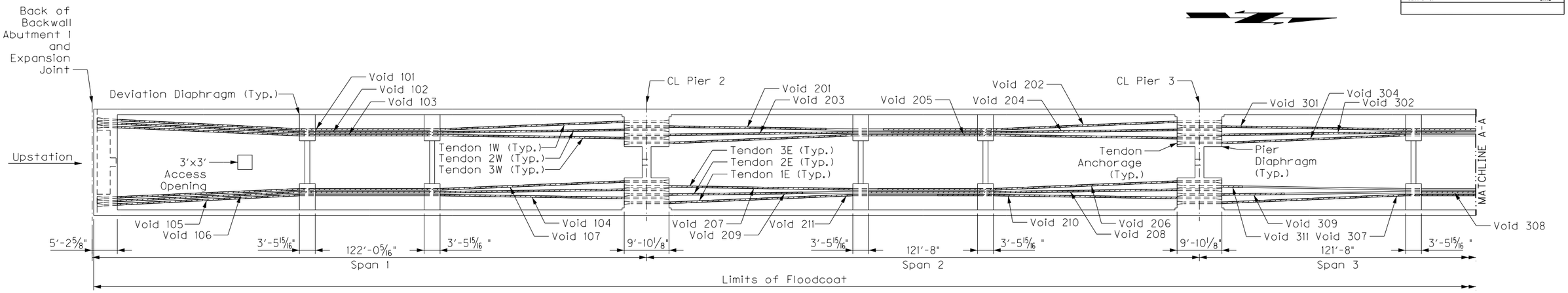
NOTES:
1. Stationing is along Construction Reference Line (C.R.L.) Unless Noted Otherwise.

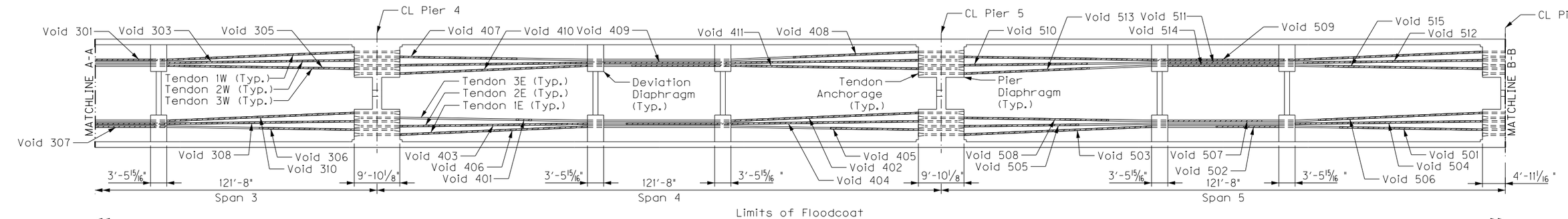
REFERENCE ONLY

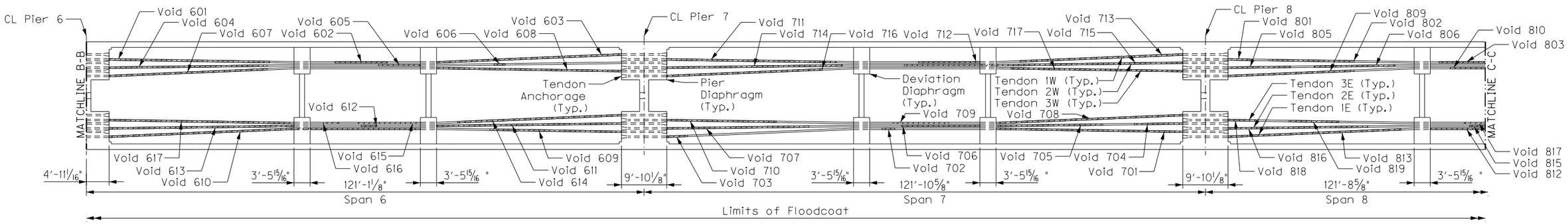
Notes:
1. Plan and elevation are taken from original construction plans are provided for reference only.
2. Units are metric (this sheet only).

DRAWN	IRM	2-13	OKLAHOMA DEPARTMENT OF TRANSPORTATION
CHECKED	CRK	2-13	US 59 OVER GRAND LAKE — DELAWARE COUNTY
APPROVED	DEM	2-13	BRIDGES "A" & "B" REFERENCE
PREPARED BY URS			STATE JOB NO. 30223(04) — SHEET NO. 8

REVISIONS		
DESCRIPTION		DATE







PLAN SHOWING APPROXIMATE VOID LOCATIONS

(Deck Not Shown)

Notes:

1. Drawings are not to scale.
2. See Sheet 14 for more details.
3. See Sheet 4 for sealing specifications.

▨ Approximate extents of voids. See Sheet 13 for length estimation.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

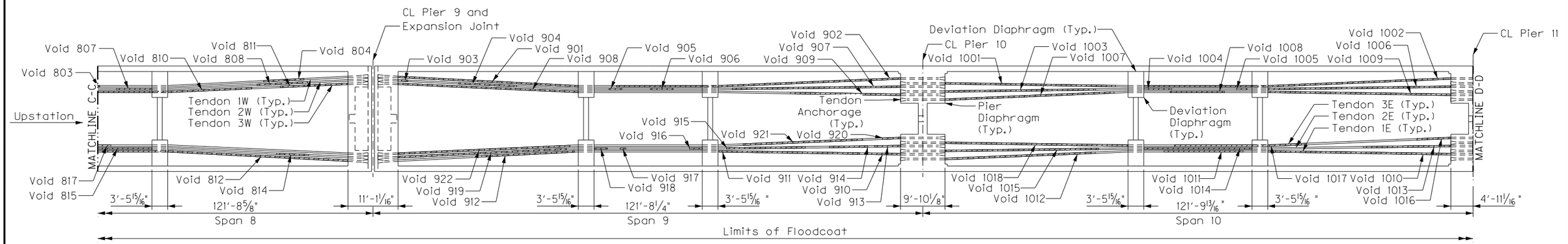
US 59 SB OVER GRAND LAKE — DELAWARE COUNTY

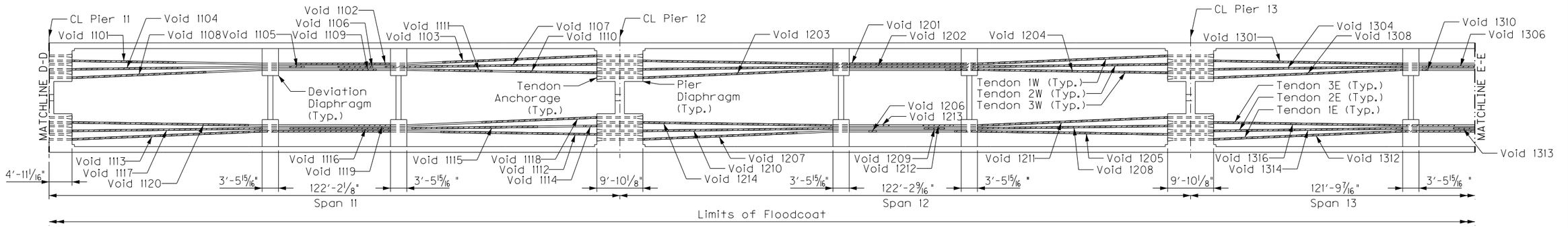
BRIDGE "A" TENDON INSPECTION AND REPAIR DETAILS (SHEET 1 OF 5)

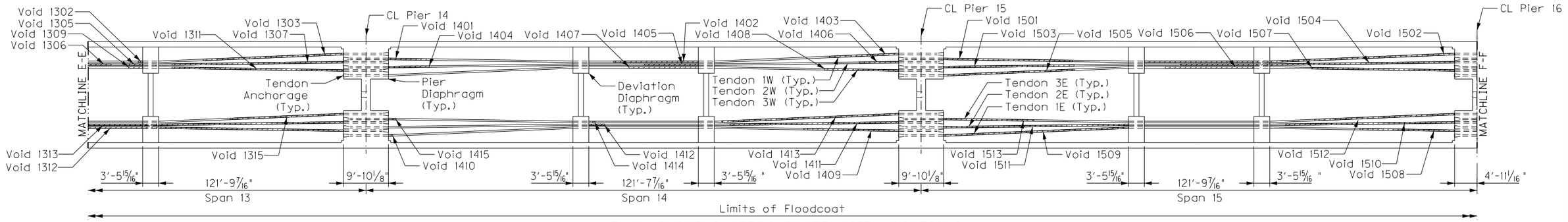
STATE JOB NO. 30223(04)

SHEET NO. 9

REVISIONS		
DESCRIPTION		DATE







PLAN SHOWING APPROXIMATE VOID LOCATIONS
(Deck Not Shown)

Notes:

1. Drawings are not to scale.
2. See Sheet 14 for more details.
3. See Sheet 4 for sealing specifications.

▨ Approximate extents of voids. See Sheet 13 for length estimation.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

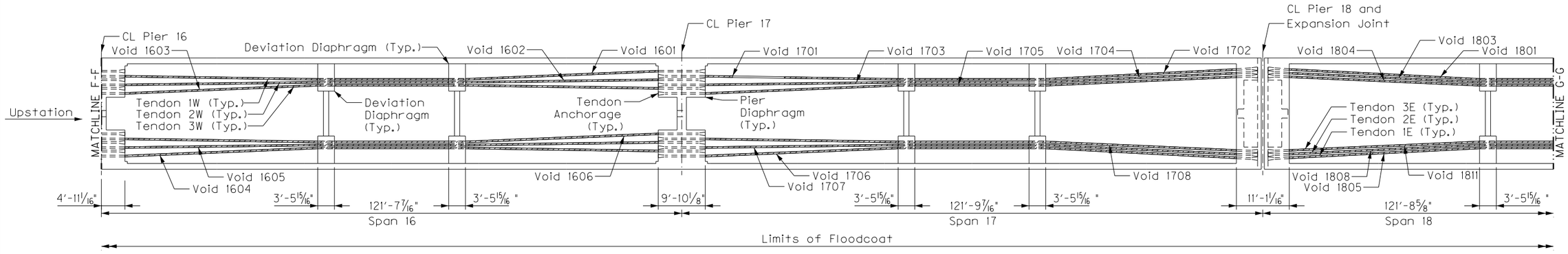
PREPARED BY URS

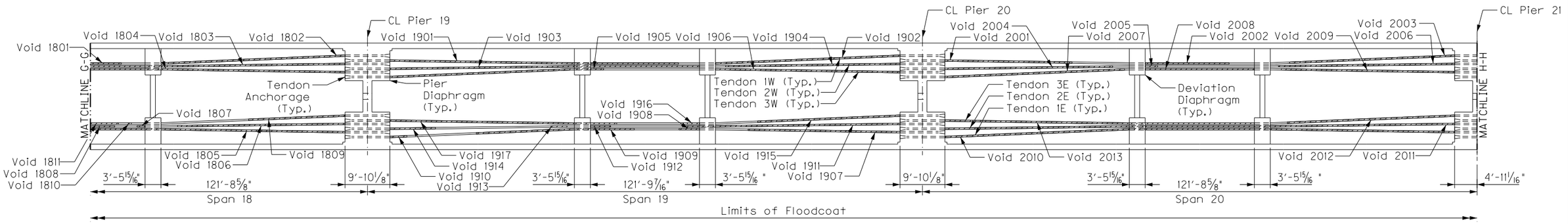
OKLAHOMA DEPARTMENT OF TRANSPORTATION
US 59 SB OVER GRAND LAKE — DELAWARE COUNTY

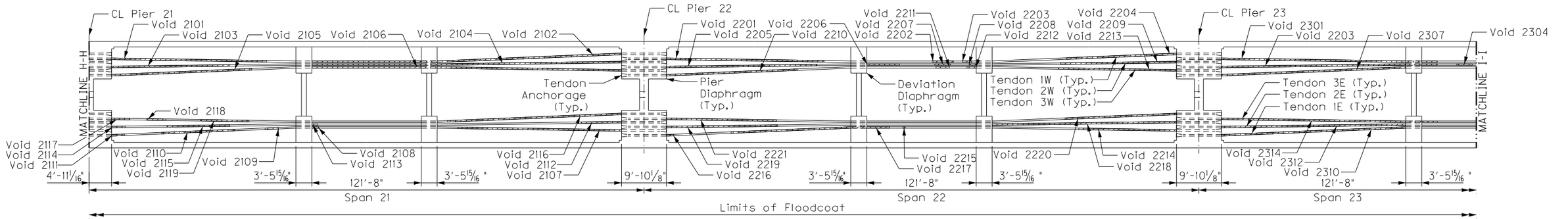
BRIDGE "A" TENDON INSPECTION AND REPAIR DETAILS (SHEET 2 OF 5)

STATE JOB NO. 30223(04) — SHEET NO. 10

REVISIONS		
DESCRIPTION		DATE







Notes:

1. Drawings are not to scale.
2. See Sheet 14 for more details.
3. See Sheet 4 for sealing specifications.

Approximate extents of voids.
See Sheet 13 for length estimation.

PLAN SHOWING APPROXIMATE VOID LOCATIONS

(Deck Not Shown)

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

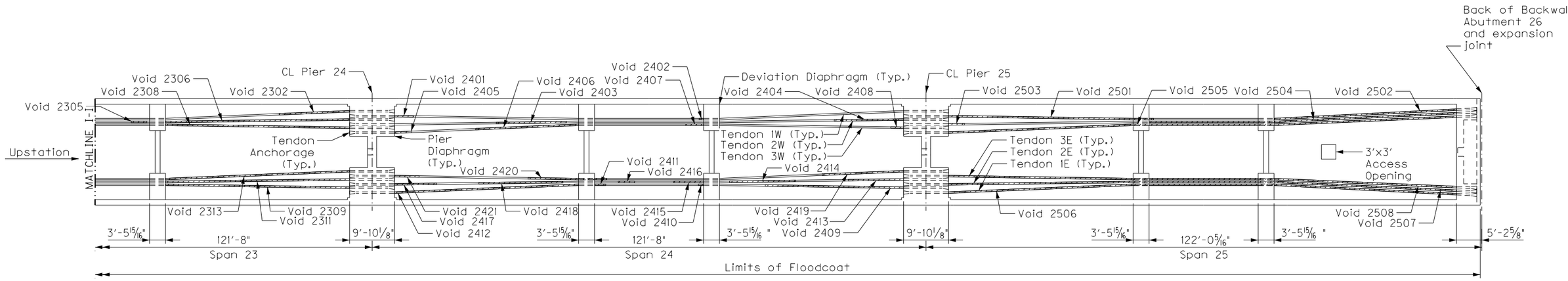
OKLAHOMA DEPARTMENT OF TRANSPORTATION

US 59 SB OVER GRAND LAKE — DELAWARE COUNTY

BRIDGE "A" TENDON INSPECTION AND REPAIR DETAILS (SHEET 3 OF 5)

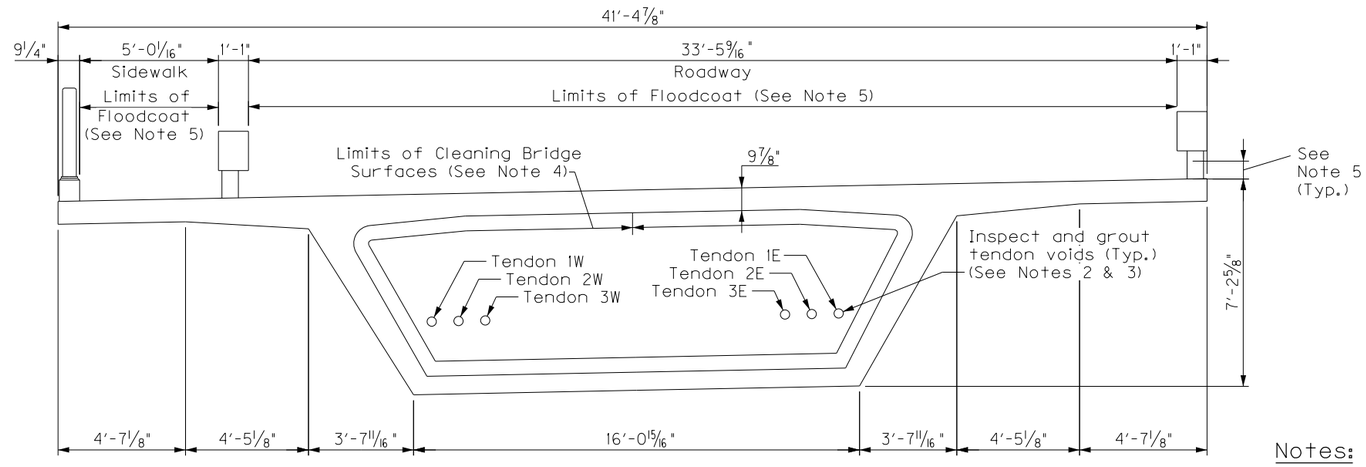
STATE JOB NO. 30223(04) — SHEET NO. 11

REVISIONS	
DESCRIPTION	DATE

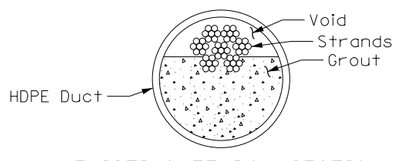


PLAN SHOWING APPROXIMATE VOID LOCATIONS
(Deck Not Shown)

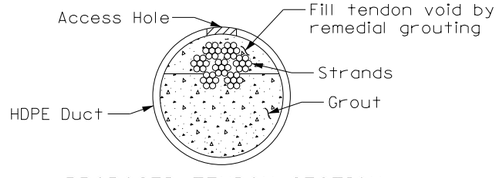
▨ Approximate extents of voids.
See Sheet 5 of 5 for length estimation.



TYPICAL SECTION
(Looking Upstation)



EXISTING TENDON SECTION
(For illustration purposes only, not to scale)



PROPOSED TENDON SECTION
(For illustration purposes only, not to scale)

REMEDIAL GROUTING DETAILS

Notes:

1. Drawings are not to scale.
2. Inspect tendons for voided areas in accordance with the Tendon Inspection Specifications on Sheet 3.
3. Perform Remedial Grouting to fill tendon voids in accordance with the Remedial Grouting Specifications on Sheet 2.
4. In addition to cleaning the webs, top slab, and bottom slab, clean diaphragms, tendons and utilities. The cost of these additional areas shall be incidental to "Cleaning Bridge Surfaces."
5. Also apply floodcoat 6 inches up the side of all vertical surfaces (curbs and parapets).
6. See Sheet 4 for sealing specifications.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
US 59 SB OVER GRAND LAKE — DELAWARE COUNTY
BRIDGE "A" TENDON INSPECTION AND REPAIR DETAILS (SHEET 4 OF 5)
STATE JOB NO. 30223(04) — SHEET NO. 12

REVISIONS	
DESCRIPTION	DATE

VOID SUMMARY

VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH
101	S1-T1W	126'-3"	611	S6-T2E	52'-3"	1001	S10-T1W	37'-9"	1314	S13-T2E	52'-4"	1910	S19-T1E	3'-9"	2305	S23-T2W	3'-5"
102	S1-T2W	126'-2"	612	S6-T2E	3'-4"	1002	S10-T1W	79'-10"	1315	S13-T3E	24'-10"	1911	S19-T2E	56'-1"	2306	S23-T2W	52'-4"
103	S1-T3W	126'-1"	613	S6-T2E	52'-4"	1003	S10-T2W	33'-4"	1316	S13-T3E	59'-11"	1912	S19-T2E	6'-1"	2307	S23-T3W	52'-4"
104	S1-T1E	49'-5"	614	S6-T3E	35'-7"	1004	S10-T2W	6'-2"	1401	S14-T1W	9'-9"	1913	S19-T2E	10'-0"	2308	S23-T3W	52'-4"
105	S1-T1E	49'-5"	615	S6-T3E	13'-6"	1005	S10-T2W	2'-3"	1402	S14-T1W	18'-7"	1914	S19-T2E	3'-7"	2309	S23-T1E	52'-4"
106	S1-T2E	126'-2"	616	S6-T3E	3'-5"	1006	S10-T2W	52'-4"	1403	S14-T1W	15'-2"	1915	S19-T3E	31'-3"	2310	S23-T1E	52'-4"
107	S1-T3E	126'-1"	617	S6-T3E	52'-4"	1007	S10-T3W	37'-5"	1404	S14-T2W	9'-0"	1916	S19-T3E	2'-8"	2311	S23-T2E	52'-4"
201	S2-T1W	34'-7"	701	S7-T1E	52'-4"	1008	S10-T3W	12'-0"	1405	S14-T2W	11'-9"	1917	S19-T3E	59'-5"	2312	S23-T2E	52'-4"
202	S2-T1W	73'-1"	702	S7-T1E	2'-9"	1009	S10-T3W	52'-4"	1406	S14-T2W	8'-8"	2001	S20-T1W	27'-11"	2313	S23-T3E	52'-4"
203	S2-T2W	52'-4"	703	S7-T1E	4'-6"	1010	S10-T1E	52'-4"	1407	S14-T3W	15'-3"	2002	S20-T1W	18'-5"	2314	S23-T3E	55'-9"
204	S2-T2W	71'-3"	704	S7-T2E	10'-6"	1011	S10-T1E	17'-6"	1408	S14-T3W	16'-4"	2003	S20-T1W	36'-3"	2401	S24-T1W	4'-2"
205	S2-T3W	132'-1"	705	S7-T2E	22'-9"	1012	S10-T1E	33'-3"	1409	S14-T1E	20'-9"	2004	S20-T2W	36'-10"	2402	S24-T1W	1'-0"
206	S2-T3E	61'-1"	706	S7-T2E	17'-0"	1013	S10-T2E	19'-4"	1410	S14-T1E	1'-0"	2005	S20-T2W	2'-9"	2403	S24-T2W	15'-5"
207	S2-T3E	52'-4"	707	S7-T2E	30'-10"	1014	S10-T2E	27'-6"	1411	S14-T2E	36'-11"	2006	S20-T2W	38'-8"	2404	S24-T2W	15'-3"
208	S2-T2E	79'-9"	708	S7-T3E	52'-4"	1015	S10-T2E	34'-0"	1412	S14-T2E	3'-6"	2007	S20-T3W	39'-5"	2405	S24-T3W	3'-8"
209	S2-T2E	29'-5"	709	S7-T3E	12'-1"	1016	S10-T3E	7'-6"	1413	S14-T3E	38'-9"	2008	S20-T3W	37'-4"	2406	S24-T3W	22'-11"
210	S2-T1E	74'-3"	710	S7-T3E	23'-9"	1017	S10-T3E	29'-3"	1414	S14-T3E	1'-4"	2009	S20-T3W	38'-1"	2407	S24-T3W	3'-11"
211	S2-T1E	52'-4"	711	S7-T1W	36'-9"	1018	S10-T3E	52'-4"	1415	S14-T3E	1'-8"	2010	S20-T1E	132'-1"	2408	S24-T3W	2'-10"
301	S3-T1W	132'-1"	712	S7-T1W	13'-4"	1101	S11-T1W	22'-2"	1501	S15-T1W	26'-5"	2011	S20-T2E	132'-1"	2409	S24-T1E	30'-5"
302	S3-T2W	59'-8"	713	S7-T1W	35'-4"	1102	S11-T1W	20'-2"	1502	S15-T1W	79'-10"	2012	S20-T3E	36'-9"	2410	S24-T1E	1'-2"
303	S3-T2W	52'-4"	714	S7-T2W	38'-2"	1103	S11-T1W	33'-0"	1503	S15-T2W	28'-7"	2013	S20-T3E	79'-9"	2411	S24-T1E	2'-4"
304	S3-T3W	52'-4"	715	S7-T2W	79'-9"	1104	S11-T2W	23'-6"	1504	S15-T2W	68'-6"	2101	S21-T1W	34'-0"	2412	S24-T1E	52'-4"
305	S3-T3W	52'-4"	716	S7-T3W	33'-10"	1105	S11-T2W	3'-2"	1505	S15-T3W	28'-8"	2102	S21-T1W	79'-10"	2413	S24-T2E	12'-2"
306	S3-T1E	20'-6"	717	S7-T3W	37'-4"	1106	S11-T2W	7'-5"	1506	S15-T3W	19'-5"	2103	S21-T2W	25'-11"	2414	S24-T2E	14'-6"
307	S3-T1E	79'-10"	801	S8-T1W	4'-9"	1107	S11-T2W	53'-5"	1507	S15-T3W	31'-4"	2104	S21-T2W	79'-9"	2415	S24-T2E	6'-7"
308	S3-T2E	79'-9"	802	S8-T1W	18'-6"	1108	S11-T3W	28'-8"	1508	S15-T1E	20'-9"	2105	S21-T3W	30'-9"	2416	S24-T2E	3'-7"
309	S3-T2E	13'-9"	803	S8-T1W	10'-6"	1109	S11-T3W	7'-9"	1509	S15-T1E	52'-4"	2106	S21-T3W	79'-10"	2417	S24-T2E	9'-3"
310	S3-T3E	52'-4"	804	S8-T1W	8'-11"	1110	S11-T3W	17'-3"	1510	S15-T2E	37'-0"	2107	S21-T1E	35'-10"	2418	S24-T2E	18'-6"
311	S3-T3E	4'-7"	805	S8-T2W	13'-6"	1111	S11-T3W	12'-4"	1511	S15-T2E	52'-4"	2108	S21-T1E	1'-6"	2419	S24-T3E	17'-11"
401	S4-T3E	3'-4"	806	S8-T2W	17'-6"	1112	S11-T1E	33'-5"	1512	S15-T3E	30'-8"	2109	S21-T1E	2'-11"	2420	S24-T3E	25'-8"
402	S4-T3E	52'-4"	807	S8-T2W	7'-10"	1113	S11-T1E	79'-10"	1513	S15-T3E	19'-9"	2110	S21-T1E	16'-1"	2421	S24-T3E	5'-5"
403	S4-T2E	52'-4"	808	S8-T2W	11'-3"	1114	S11-T2E	2'-10"	1601	S16-T1W	132'-1"	2111	S21-T1E	2'-10"	2501	S25-T1W	50'-5"
404	S4-T2E	71'-5"	809	S8-T3W	27'-5"	1115	S11-T2E	26'-11"	1602	S16-T2W	132'-1"	2112	S21-T2E	8'-10"	2502	S25-T1W	49'-5"
405	S4-T1E	19'-0"	810	S8-T3W	38'-8"	1116	S11-T2E	21'-6"	1603	S16-T3W	132'-1"	2113	S21-T2E	1'-4"	2503	S25-T2W	3'-6"
406	S4-T1E	52'-4"	811	S8-T3W	15'-0"	1117	S11-T2E	52'-4"	1604	S16-T1E	132'-1"	2114	S21-T2E	3'-0"	2504	S25-T2W	76'-10"
407	S4-T1W	25'-3"	812	S8-T1E	79'-10"	1118	S11-T3E	24'-7"	1605	S16-T2E	132'-1"	2115	S21-T2E	13'-9"	2505	S25-T3W	126'-1"
408	S4-T1W	27'-0"	813	S8-T1E	37'-7"	1119	S11-T3E	7'-9"	1606	S16-T3E	132'-1"	2116	S21-T3E	38'-2"	2506	S25-T1E	126'-3"
409	S4-T2W	132'-1"	814	S8-T2E	7'-0"	1120	S11-T3E	37'-9"	1701	S17-T1W	5'-9"	2117	S21-T3E	4'-0"	2507	S25-T2E	126'-2"
410	S4-T3W	52'-4"	815	S8-T2E	15'-3"	1201	S12-T1W	132'-1"	1702	S17-T1W	115'-6"	2118	S21-T3E	4'-2"	2508	S25-T3E	126'-1"
411	S4-T3W	73'-8"	816	S8-T2E	30'-4"	1202	S12-T2W	132'-1"	1703	S17-T2W	71'-11"	2119	S21-T3E	10'-8"			
501	S5-T1E	30'-10"	817	S8-T3E	7'-6"	1203	S12-T3W	52'-4"	1704	S17-T2W	52'-4"	2201	S22-T1W	34'-7"			
502	S5-T1E	13'-7"	818	S8-T3E	6'-7"	1204	S12-T3W	55'-9"	1705	S17-T3W	132'-1"	2202	S22-T1W	4'-6"			
503	S5-T1E	52'-4"	819	S8-T3E	10'-10"	1205	S12-T1E	53'-9"	1706	S17-T1E	132'-1"	2203	S22-T1W	2'-0"			
504	S5-T2E	52'-4"	901	S9-T1W	52'-4"	1206	S12-T1E	1'-7"	1707	S17-T2E	132'-1"	2204	S22-T1W	24'-1"			
505	S5-T2E	24'-9"	902	S9-T1W	62'-11"	1207	S12-T1E	33'-0"	1708	S17-T3E	132'-1"	2205	S22-T2W	33'-0"			
506	S5-T3E	35'-5"	903	S9-T2W	2'-2"	1208	S12-T2E	52'-4"	1801	S18-T1W	71'-1"	2206	S22-T2W	7'-2"			
507	S5-T3E	20'-4"	904	S9-T2W	12'-10"	1209	S12-T2E	4'-4"	1802	S18-T1W	52'-4"	2207	S22-T2W	3'-5"			
508	S5-T3E	31'-3"	905	S9-T2W	2'-10"	1210	S12-T2E	52'-4"	1803	S18-T2W	132'-1"	2208	S22-T2W	2'-0"			
509	S5-T1W	132'-1"	906	S9-T2W	5'-0"	1211	S12-T3E	52'-4"	1804	S18-T3W	132'-1"	2209	S22-T2W	25'-5"			
510	S5-T2W	26'-7"	907	S9-T2W	37'-3"	1212	S12-T3E	6'-6"	1805	S18-T1E	132'-1"	2210	S22-T3W	28'-8"			
511	S5-T2W	27'-6"	908	S9-T3W	52'-4"	1213	S12-T3E	3'-4"	1806	S18-T2E	36'-9"	2211	S22-T3W	2'-11"			
512	S5-T2W	38'-7"	909	S9-T3W	24'-4"	1214	S12-T3E	52'-4"	1807	S18-T2E	1'-9"	2212	S22-T3W	2'-0"			
513	S5-T3W	27'-0"	910	S9-T1E	8'-0"	1301	S13-T1W	52'-4"	1808	S18-T2E	70'-5"	2213	S22-T3W	25'-11"			
514	S5-T3W	27'-6"	911	S9-T1E	31'-1"	1302	S13-T1W	1'-0"	1809	S18-T3E	21'-2"	2214	S22-T1E	21'-5"			
515	S5-T3W	33'-11"	912	S9-T1E	20'-7"	1303	S13-T1W	30'-9"	1810	S18-T3E	1'-0"	2215	S22-T1E	1'-0"			
601	S6-T1W	34'-10"	913	S9-T2E	5'-9"	1304	S13-T2W	52'-4"	1811	S18-T3E	71'-6"	2216	S22-T1E	1'-7"			
602	S6-T1W	11'-4"	914	S9-T2E	8'-6"	1305	S13-T2W	4'-0"	1901	S19-T1W	71'-8"	2217	S22-T1E	43'-2"			
603	S6-T1W	52'-4"	915	S9-T2E	17'-5"	1306	S13-T2W	16'-4"	1902	S19-T1W	52'-4"	2218	S22-T2E	52'-4"			
604	S6-T2W	34'-4"	916	S9-T2E	2'-10"	1307	S13-T2W	38'-6"	1903	S19-T2W	79'-9"	2219	S22-T2E	24'-4"			
605	S6-T2W	9'-0"	917	S9-T2E	1'-3"	1308	S13-T3W	52'-4"	1904	S19-T2W	38'-3"	2220	S22-T3E	24'-5"			
606	S6-T2W	2'-5"	918	S9-T2E	3'-0"	1309	S13-T3W	3'-1"	1905	S19-T3W	55'-3"	2221	S22-T3E	24'-2"			
607	S6-T3W	34'-4"	919	S9-T2E	37'-3"	1310	S13-T3W	1'-3"	1906	S19-T3W	52'-4"	2301	S23-T1W	55'-9"			
608	S6-T3W	52'-4"	920	S9-T3E	4'-0"	1311	S13-T3W	37'-7"	1907	S19-T1E	33'-4"	2302	S23-T1W	15'-6"			
609	S6-T1E	28'-6"	921	S9-T3E	26'-5"	1312	S13-T1E	132'-1"	1908	S19-T1E	4'-6"	2303	S23-T2W	55'-9"			
610	S6-T1E	79'-10"	922	S9-T3E	38'-1"	1313	S13-T2E	68'-11"	1909	S19-T1E	37'-0"	2304	S23-T2W	3'-5"			

*Span No.-Tendon No.

Notes:

1. Void length estimations were determined by acoustically sounding the tendons and represent the extents of the void accessible for sounding. Actual length of void may vary from that shown and extend into the anchorage regions.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY: URS

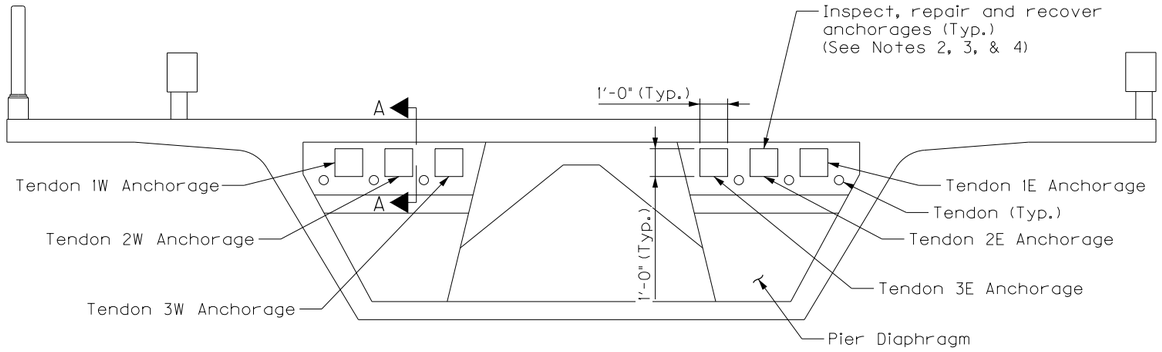
OKLAHOMA DEPARTMENT OF TRANSPORTATION

US 59 SB OVER GRAND LAKE — DELAWARE COUNTY

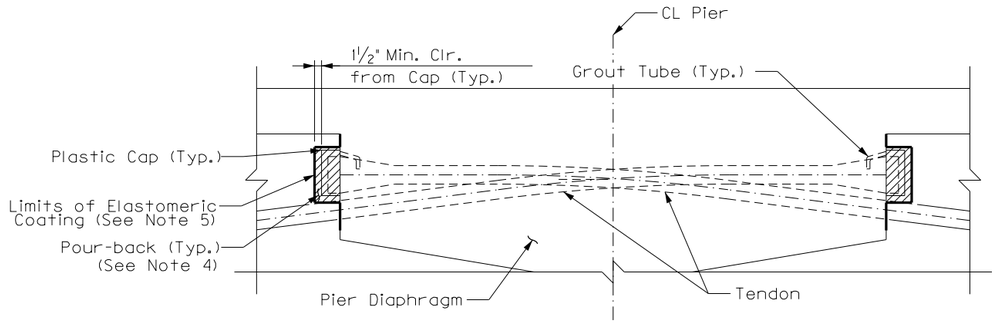
BRIDGE "A" TENDON INSPECTION AND REPAIR DETAILS (SHEET 5 OF 5)

STATE JOB NO. 30223(04) — SHEET NO. 13

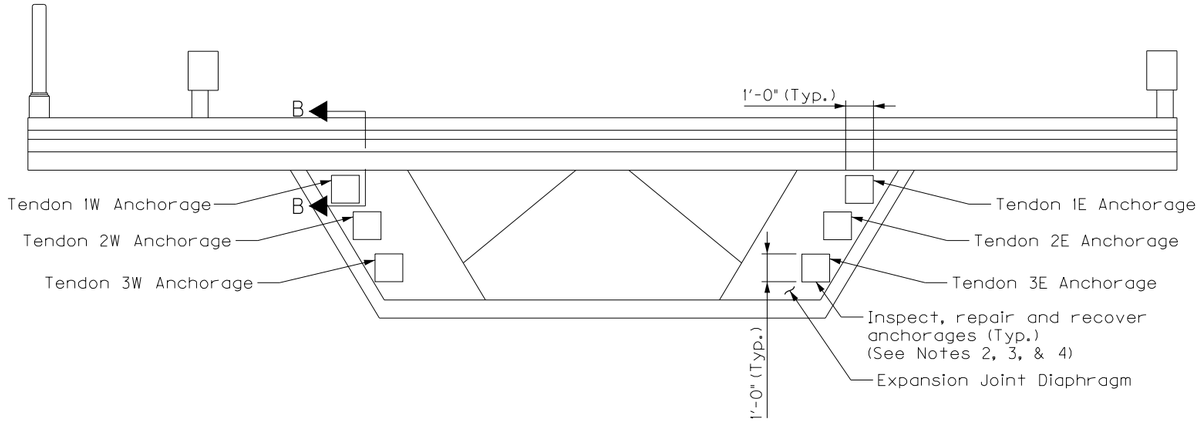
REVISIONS		
DESCRIPTION		DATE



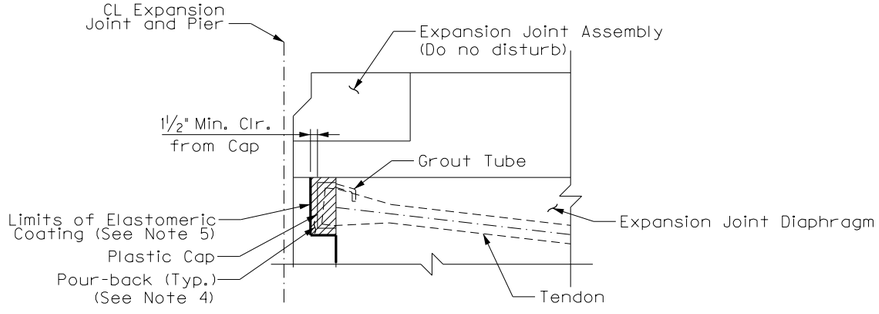
PIER SEGMENT SECTION
(Looking Upstation)



SECTION A-A
(Typical all pier tendon anchorages)



EXPANSION JOINT SEGMENT SECTION
(Looking Upstation)



SECTION B-B
(Typical all expansion joint tendon anchorages)

Notes:

1. Drawings are not to scale.
2. Inspect anchorages for voided areas in accordance with the Post-Tension Anchorage Inspection Specifications on Sheet 3.
3. Perform Remedial Grouting to fill voids in accordance with the Remedial Grouting Specifications on Sheet 2.
4. Replace all tendon anchorage pour-backs in accordance with the Anchorage Protection Replacement Specifications on Sheet 3. Any damage to the surrounding concrete, trumpet, or tendons shall be repaired at the Contractor's expense.
5. Extend Elastomeric Coating six inches in all directions onto surrounding surfaces beyond the tendon pour-back.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

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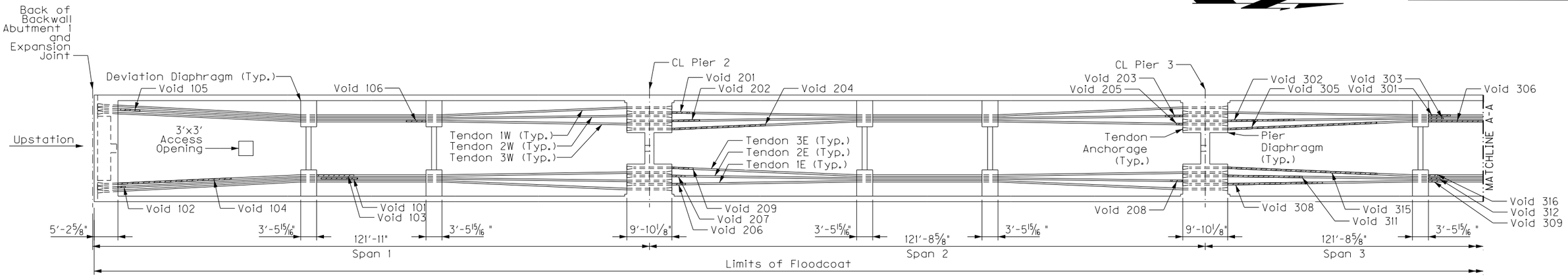
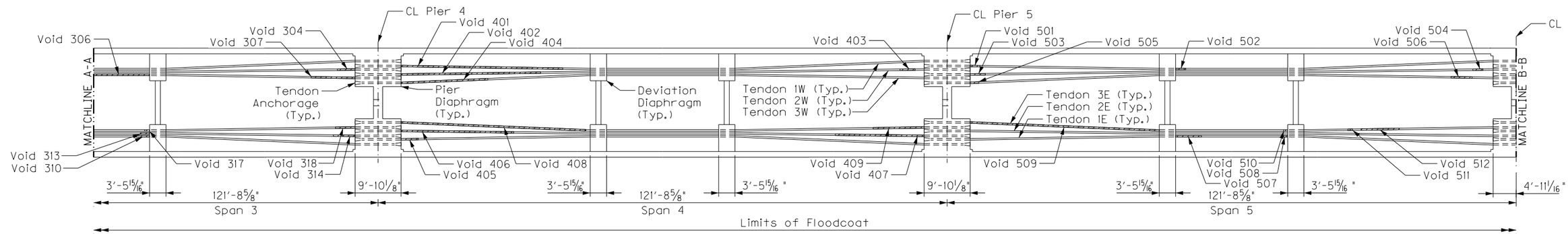
OKLAHOMA DEPARTMENT OF TRANSPORTATION
US 59 SB OVER GRAND LAKE — DELAWARE COUNTY

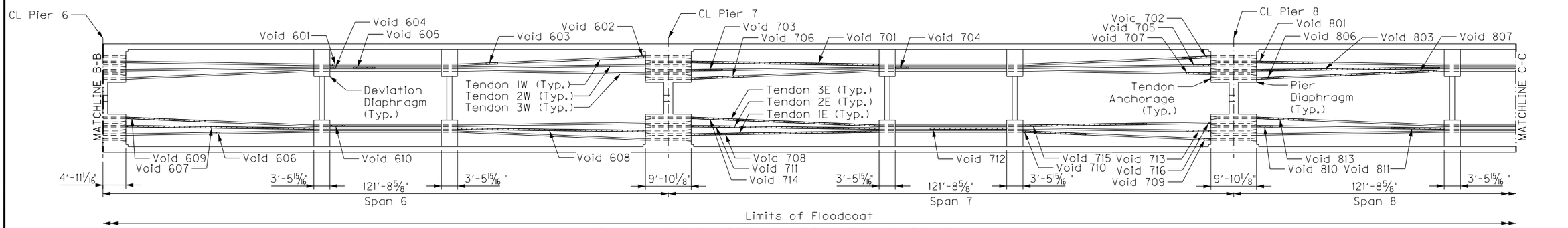
BRIDGE "A" ANCHORAGE INSPECTION AND REPAIR DETAILS

STATE JOB NO. 30223(04) — SHEET NO. 14

REVISIONS	
DESCRIPTION	DATE







PLAN SHOWING APPROXIMATE VOID LOCATIONS

(Deck Not Shown)

Notes:

1. Drawings are not to scale.
2. See Sheet 20 for more details.
3. See Sheet 4 for sealing specifications.

▨ Approximate extents of voids. See Sheet 19 for length estimation.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

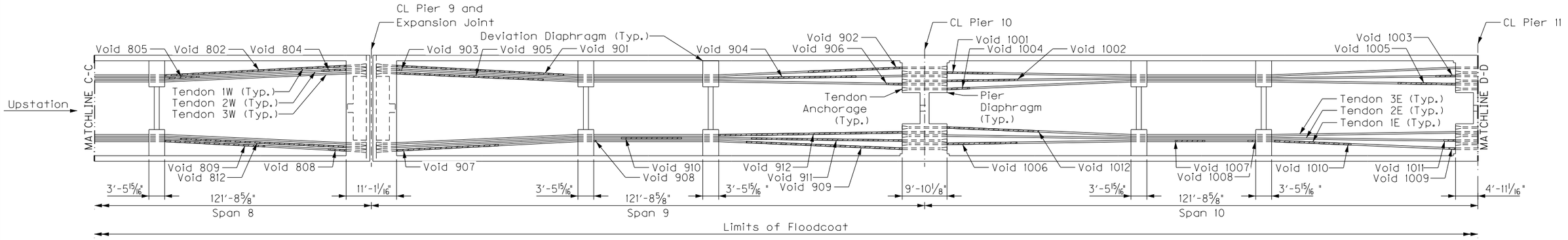
OKLAHOMA DEPARTMENT OF TRANSPORTATION

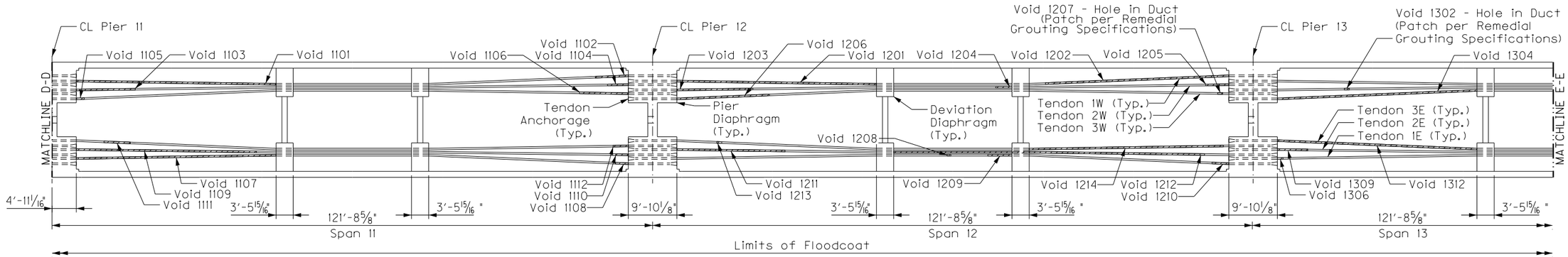
US 59 NB OVER GRAND LAKE — DELAWARE COUNTY

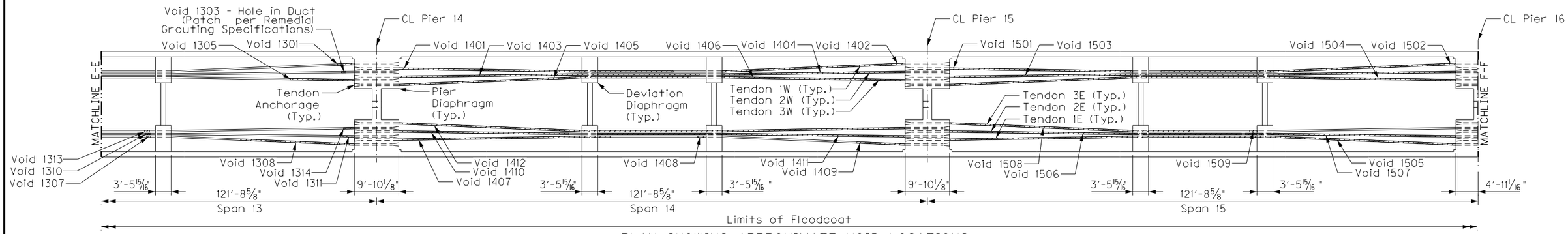
BRIDGE "B" TENDON INSPECTION AND REPAIR DETAILS (SHEET 1 OF 5)

STATE JOB NO. 30223(04) — SHEET NO. 15

REVISIONS		
DESCRIPTION		DATE







PLAN SHOWING APPROXIMATE VOID LOCATIONS

(Deck Not Shown)

Notes:

1. Drawings are not to scale.
2. See Sheet 20 for more details.
3. See Sheet 4 for sealing specifications.

▨ Approximate extents of voids.
See Sheet 19 for length estimation.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

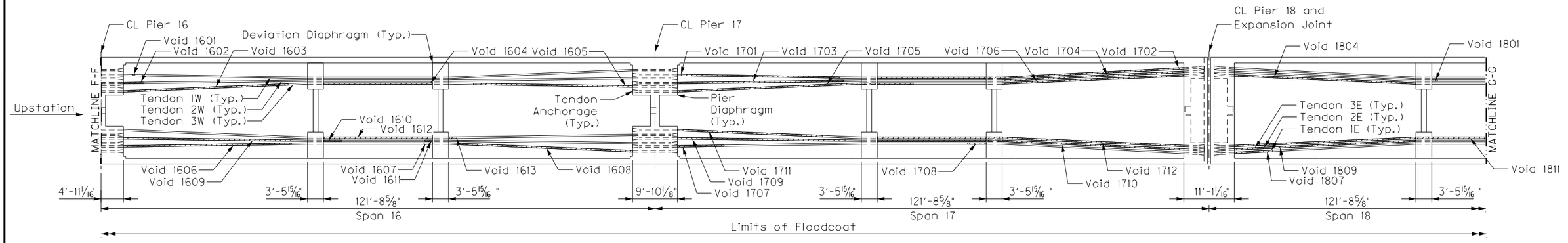
OKLAHOMA DEPARTMENT OF TRANSPORTATION

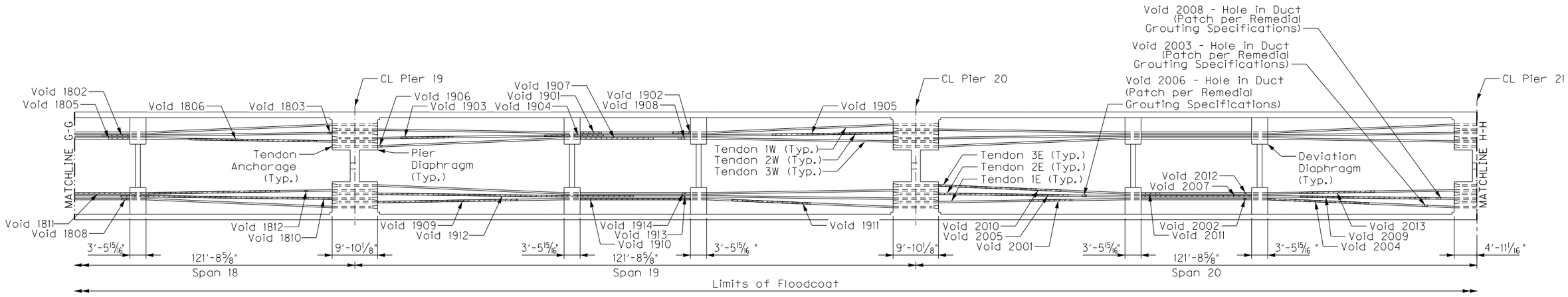
US 59 NB OVER GRAND LAKE — DELAWARE COUNTY

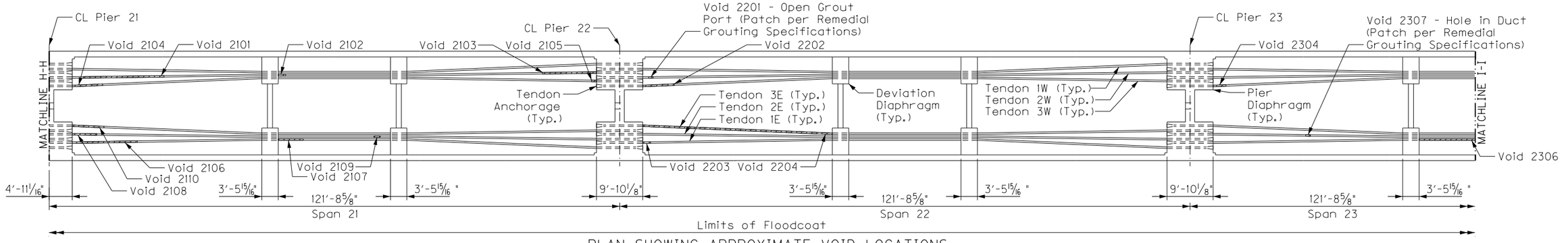
BRIDGE "B" TENDON INSPECTION AND REPAIR DETAILS (SHEET 2 OF 5)

STATE JOB NO. 30223(04) — SHEET NO. 16

REVISIONS		
DESCRIPTION		DATE







PLAN SHOWING APPROXIMATE VOID LOCATIONS

(Deck Not Shown)

Notes:

1. Drawings are not to scale.
2. See Sheet 20 for more details.
3. See Sheet 4 for sealing specifications.

▨ Approximate extents of voids.
See Sheet 19 for length estimation.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

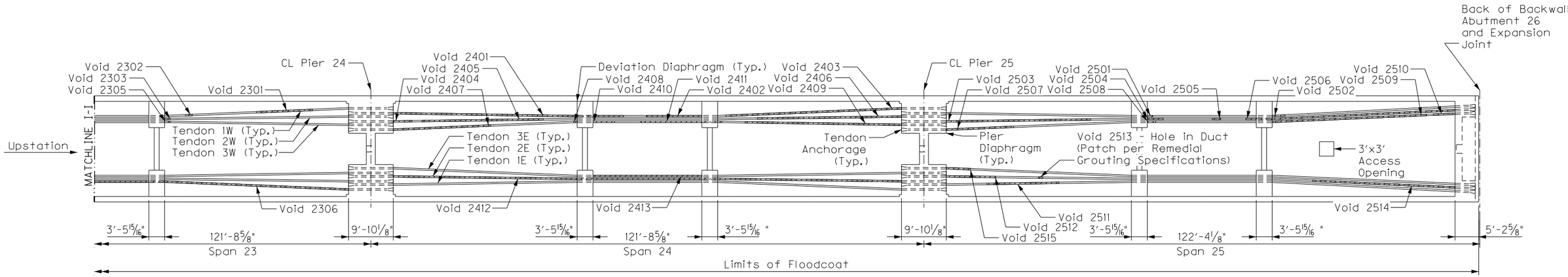
OKLAHOMA DEPARTMENT OF TRANSPORTATION

US 59 NB OVER GRAND LAKE — DELAWARE COUNTY

BRIDGE "B" TENDON INSPECTION AND REPAIR DETAILS (SHEET 3 OF 5)

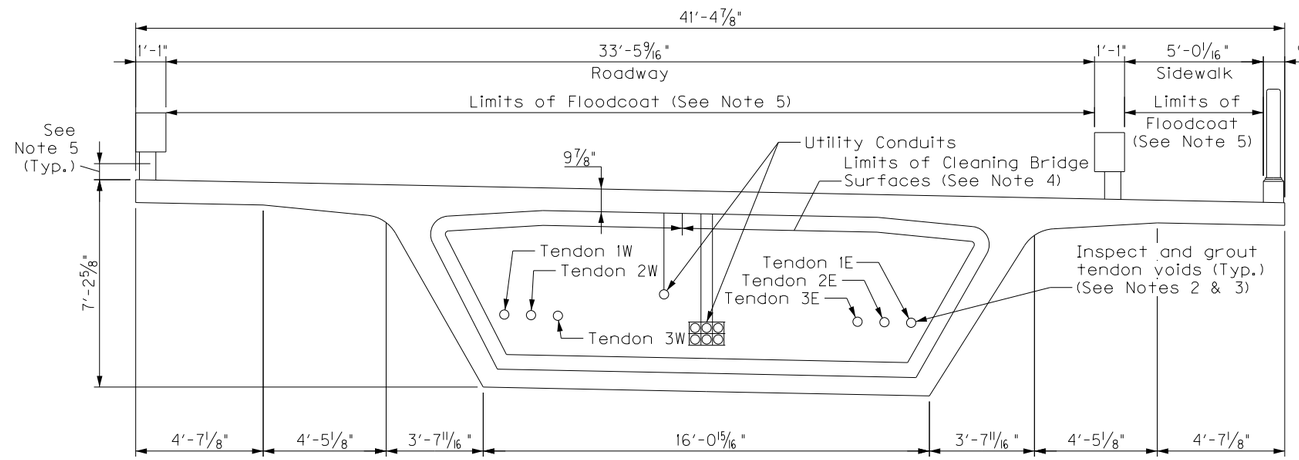
STATE JOB NO. 30223(04) — SHEET NO. 17

REVISIONS	
DESCRIPTION	DATE

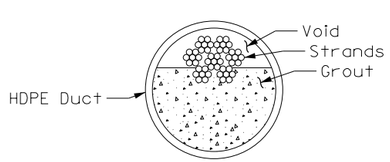


PLAN SHOWING APPROXIMATE VOID LOCATIONS
(Deck Not Shown)

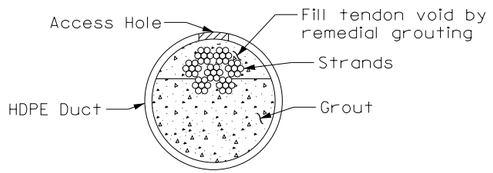
▨ Approximate extents of voids.
See Sheet 5 of 5 for length estimation.



TYPICAL SECTION
(Looking Upstation)



EXISTING TENDON SECTION
(For illustration purposes only, not to scale)



PROPOSED TENDON SECTION
(For illustration purposes only, not to scale)

REMEDIAL GROUTING DETAILS

Notes:

1. Drawings are not to scale.
2. Inspect tendons for voided areas in accordance with the Tendon Inspection Specifications on Sheet 3.
3. Perform Remedial Grouting to fill tendon voids in accordance with the Remedial Grouting Specifications on Sheet 2.
4. In addition to cleaning the webs, top slab, and bottom slab, clean diaphragms, tendons and utilities. The cost of these additional areas shall be incidental to "Cleaning Bridge Surfaces."
5. Also apply floodcoat 6 inches up the side of all vertical surfaces (curbs and parapets).
6. See Sheet 4 for sealing specifications.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
US 59 NB OVER GRAND LAKE — DELAWARE COUNTY
BRIDGE "B" TENDON INSPECTION
AND REPAIR DETAILS
(SHEET 4 OF 5)
STATE JOB NO. 30223(04) — SHEET NO. 18

REVISIONS	
DESCRIPTION	DATE

VOID SUMMARY

VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH	VOID NO.	TENDON*	LENGTH
101	S1-T2E	8'-0"	702	S7-T1W	6'-3"	1202	S12-T1W	37'-2"	1705	S17-T3W	60'-3"	2305	S23-T3W	1'-6"
102	S1-T2E	1'-7"	703	S7-T2W	6'-9"	1203	S12-T2W	15'-5"	1706	S17-T3W	52'-4"	2306	S23-T1E	79'-10"
103	S1-T3E	8'-2"	704	S7-T2W	2'-11"	1204	S12-T2W	3'-4"	1707	S17-T1E	10'-3"	2307	S23-T2E	N/A
104	S1-T3E	24'-10"	705	S7-T2W	3'-8"	1205	S12-T2W	4'-8"	1708	S17-T1E	7'-8"	2401	S24-T1W	50'-9"
105	S1-T2W	4'-10"	706	S7-T3W	11'-3"	1206	S12-T3W	18'-9"	1709	S17-T2E	36'-11"	2402	S24-T1W	12'-3"
106	S1-T3W	4'-4"	707	S7-T3W	5'-2"	1207	S12-T3W	N/A	1710	S17-T2E	79'-9"	2403	S24-T1W	38'-8"
201	S2-T1W	3'-10"	708	S7-T1E	52'-4"	1208	S12-T1E	1'-0"	1711	S17-T3E	31'-11"	2404	S24-T2W	4'-2"
202	S2-T2W	6'-1"	709	S7-T1E	2'-8"	1209	S12-T1E	4'-11"	1712	S17-T3E	79'-10"	2405	S24-T2W	26'-8"
203	S2-T2W	3'-10"	710	S7-T1E	14'-0"	1210	S12-T1E	3'-5"	1801	S18-T2W	1'-3"	2406	S24-T2W	31'-9"
204	S2-T3W	20'-6"	711	S7-T2E	52'-4"	1211	S12-T2E	21'-11"	1802	S18-T2W	9'-7"	2407	S24-T3W	21'-6"
205	S2-T3W	1'-5"	712	S7-T2E	16'-6"	1212	S12-T2E	74'-10"	1803	S18-T2W	1'-0"	2408	S24-T3W	1'-0"
206	S2-T1E	3'-0"	713	S7-T2E	5'-4"	1213	S12-T3E	1'-0"	1804	S18-T3W	52'-4"	2409	S24-T3W	34'-5"
207	S2-T2E	2'-11"	714	S7-T3E	52'-4"	1214	S12-T3E	51'-3"	1805	S18-T3W	8'-2"	2410	S24-T3W	4'-10"
208	S2-T2E	2'-8"	715	S7-T3E	26'-0"	1301	S13-T1W	3'-9"	1806	S18-T3W	27'-9"	2411	S24-T3W	17'-10"
209	S2-T3E	4'-8"	716	S7-T3E	1'-0"	1302	S13-T2W	N/A	1807	S18-T1E	8'-5"	2412	S24-T2E	122'-1"
301	S3-T1W	4'-10"	801	S8-T1W	12'-0"	1303	S13-T2W	N/A	1808	S18-T1E	5'-4"	2413	S24-T3E	24'-6"
302	S3-T2W	14'-7"	802	S8-T1W	52'-4"	1304	S13-T3W	52'-4"	1809	S18-T2E	52'-4"	2501	S25-T1W	1'-2"
303	S3-T2W	3'-3"	803	S8-T2W	39'-5"	1305	S13-T3W	14'-2"	1810	S18-T2E	57'-9"	2502	S25-T1W	3'-0"
304	S3-T2W	3'-10"	804	S8-T2W	5'-4"	1306	S13-T1E	1'-2"	1811	S18-T3E	108'-9"	2503	S25-T2W	31'-9"
305	S3-T3W	32'-8"	805	S8-T2W	20'-0"	1307	S13-T1E	1'-0"	1812	S18-T3E	1'-0"	2504	S25-T2W	3'-6"
306	S3-T3W	23'-11"	806	S8-T3W	5'-10"	1308	S13-T1E	25'-2"	1901	S19-T1W	4'-8"	2505	S25-T2W	1'-11"
307	S3-T3W	9'-5"	807	S8-T3W	23'-0"	1309	S13-T2E	6'-2"	1902	S19-T1W	4'-0"	2506	S25-T2W	54'-6"
308	S3-T1E	20'-9"	808	S8-T1E	3'-11"	1310	S13-T2E	1'-1"	1903	S19-T2W	11'-4"	2507	S25-T3W	14'-10"
309	S3-T1E	4'-1"	809	S8-T1E	34'-4"	1311	S13-T2E	2'-6"	1904	S19-T2W	9'-6"	2508	S25-T3W	1'-10"
310	S3-T1E	3'-4"	810	S8-T2E	3'-6"	1312	S13-T3E	52'-4"	1905	S19-T2W	26'-3"	2509	S25-T3W	4'-10"
311	S3-T2E	16'-4"	811	S8-T2E	23'-4"	1313	S13-T3E	1'-1"	1906	S19-T3W	1'-0"	2510	S25-T3W	33'-9"
312	S3-T2E	2'-7"	812	S8-T2E	36'-5"	1314	S13-T3E	2'-5"	1907	S19-T3W	15'-11"	2511	S25-T1E	15'-10"
313	S3-T2E	2'-0"	813	S8-T3E	10'-1"	1401	S14-T1W	69'-0"	1908	S19-T3W	1'-5"	2512	S25-T2E	10'-10"
314	S3-T2E	4'-8"	901	S9-T1W	36'-10"	1402	S14-T1W	52'-4"	1909	S19-T1E	30'-4"	2513	S25-T2E	N/A
315	S3-T3E	32'-9"	902	S9-T1W	20'-8"	1403	S14-T2W	74'-9"	1910	S19-T1E	27'-6"	2514	S25-T2E	31'-4"
316	S3-T3E	2'-0"	903	S9-T2W	1'-2"	1404	S14-T2W	52'-4"	1911	S19-T1E	17'-1"	2515	S25-T3E	5'-4"
317	S3-T3E	1'-1"	904	S9-T2W	19'-6"	1405	S14-T3W	72'-11"	1912	S19-T2E	63'-11"			
318	S3-T3E	4'-3"	905	S9-T3W	32'-4"	1406	S14-T3W	52'-4"	1913	S19-T2E	1'-0"			
401	S4-T1W	34'-7"	906	S9-T3W	3'-6"	1407	S14-T1E	55'-1"	1914	S19-T3E	1'-0"			
402	S4-T2W	29'-10"	907	S9-T1E	22'-5"	1408	S14-T1E	5'-6"	2001	S20-T1E	9'-3"			
403	S4-T2W	1'-4"	908	S9-T1E	1'-0"	1409	S14-T1E	10'-8"	2002	S20-T1E	1'-0"			
404	S4-T3W	18'-7"	909	S9-T1E	34'-4"	1410	S14-T2E	37'-7"	2003	S20-T1E	N/A			
405	S4-T1E	3'-8"	910	S9-T2E	13'-3"	1411	S14-T2E	79'-9"	2004	S20-T1E	33'-9"			
406	S4-T2E	24'-1"	911	S9-T2E	33'-2"	1412	S14-T3E	132'-1"	2005	S20-T2E	28'-1"			
407	S4-T2E	19'-0"	912	S9-T3E	52'-4"	1501	S15-T1W	52'-4"	2006	S20-T2E	N/A			
408	S4-T3E	39'-6"	1001	S10-T1W	10'-0"	1502	S15-T1W	77'-1"	2007	S20-T2E	27'-6"			
409	S4-T3E	10'-11"	1002	S10-T2W	15'-7"	1503	S15-T2W	132'-1"	2008	S20-T2E	N/A			
501	S5-T1W	2'-1"	1003	S10-T2W	4'-4"	1504	S15-T3W	132'-1"	2009	S20-T2E	28'-0"			
502	S5-T1W	2'-2"	1004	S10-T3W	5'-0"	1505	S15-T1E	132'-1"	2010	S20-T3E	26'-7"			
503	S5-T2W	3'-3"	1005	S10-T3W	12'-8"	1506	S15-T2E	72'-10"	2011	S20-T3E	4'-1"			
504	S5-T2W	2'-2"	1006	S10-T1E	15'-5"	1507	S15-T2E	58'-4"	2012	S20-T3E	1'-0"			
505	S5-T3W	1'-11"	1007	S10-T1E	6'-6"	1508	S15-T3E	62'-4"	2013	S20-T3E	16'-3"			
506	S5-T3W	4'-6"	1008	S10-T1E	5'-3"	1509	S15-T3E	5'-2"	2101	S21-T2W	17'-3"			
507	S5-T1E	5'-6"	1009	S10-T1E	1'-6"	1601	S16-T1W	1'-0"	2102	S21-T2W	1'-7"			
508	S5-T1E	1'-0"	1010	S10-T1E	16'-10"	1602	S16-T2W	4'-7"	2103	S21-T2W	11'-6"			
509	S5-T3E	52'-4"	1011	S10-T2E	2'-7"	1603	S16-T3W	36'-3"	2104	S21-T3W	6'-6"			
510	S5-T3E	1'-0"	1012	S10-T3E	20'-3"	1604	S16-T3W	27'-6"	2105	S21-T3W	1'-1"			
511	S5-T3E	1'-0"	1101	S11-T1W	52'-4"	1605	S16-T3W	35'-0"	2106	S21-T1E	13'-11"			
512	S5-T3E	8'-2"	1102	S11-T1W	6'-8"	1606	S16-T1E	36'-11"	2107	S21-T1E	5'-4"			
601	S6-T1W	1'-6"	1103	S11-T2W	11'-11"	1607	S16-T1E	1'-11"	2108	S21-T2E	5'-3"			
602	S6-T1W	2'-2"	1104	S11-T2W	4'-3"	1608	S16-T1E	37'-10"	2109	S21-T2E	1'-4"			
603	S6-T1W	2'-6"	1105	S11-T3W	1'-7"	1609	S16-T2E	37'-3"	2110	S21-T3E	6'-10"			
604	S6-T2W	1'-3"	1106	S11-T3W	9'-11"	1610	S16-T2E	4'-1"	2201	S22-T2W	N/A			
605	S6-T2W	4'-8"	1107	S11-T1E	52'-4"	1611	S16-T2E	1'-9"	2202	S22-T3W	6'-9"			
606	S6-T1E	1'-9"	1108	S11-T1E	2'-8"	1612	S16-T3E	27'-6"	2203	S22-T1E	1'-8"			
607	S6-T2E	52'-4"	1109	S11-T2E	36'-6"	1613	S16-T3E	1'-7"	2204	S22-T3E	40'-9"			
608	S6-T2E	52'-4"	1110	S11-T2E	2'-7"	1701	S17-T1W	35'-8"	2301	S23-T1W	12'-4"			
609	S6-T3E	17'-2"	1111	S11-T3E	5'-4"	1702	S17-T1W	78'-10"	2302	S23-T1W	1'-6"			
610	S6-T3E	3'-2"	1112	S11-T3E	3'-1"	1703	S17-T2W	36'-6"	2303	S23-T2W	1'-6"			
701	S7-T1W	52'-4"	1201	S12-T1W	52'-4"	1704	S17-T2W	52'-4"	2304	S23-T3W	2'-9"			

*Span No.-Tendon No.

Notes:

1. Void length estimations were determined by acoustically sounding the tendons and represent the extents of the void accessible for sounding. Actual length of void may vary from that shown and extend into the anchorage regions.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY: URS

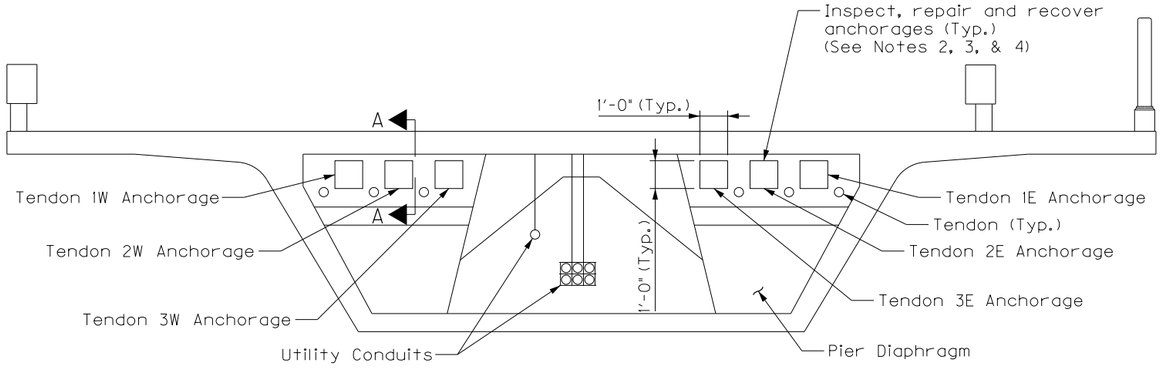
OKLAHOMA DEPARTMENT OF TRANSPORTATION

US 59 NB OVER GRAND LAKE — DELAWARE COUNTY

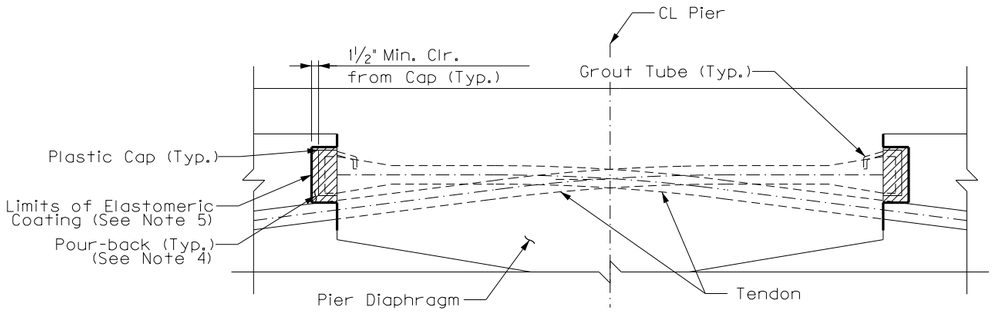
BRIDGE "B" TENDON INSPECTION AND REPAIR DETAILS (SHEET 5 OF 5)

STATE JOB NO. 30223(04) — SHEET NO. 19

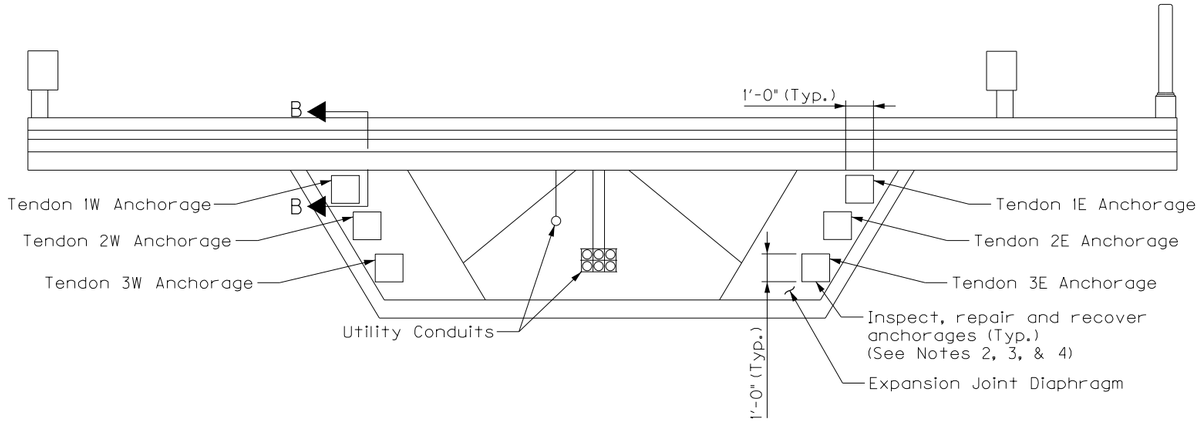
REVISIONS		
DESCRIPTION		DATE



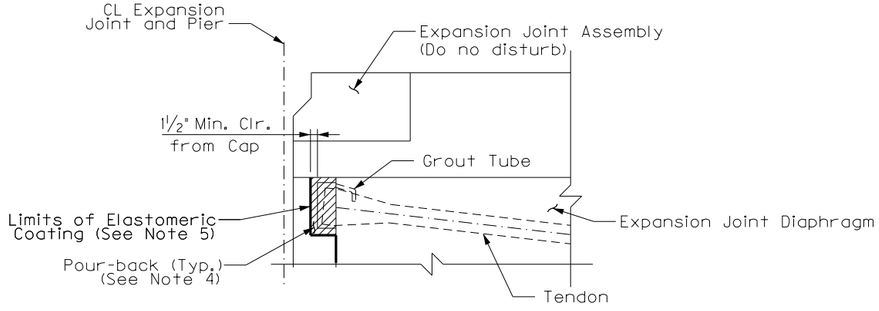
PIER SEGMENT SECTION
(Looking Upstation)



SECTION A-A
(Typical all pier tendon anchorages)



EXPANSION JOINT SEGMENT SECTION
(Looking Upstation)



SECTION B-B
(Typical all expansion joint tendon anchorages)

Notes:

1. Drawings are not to scale.
2. Inspect anchorages for voided areas in accordance with the Post-Tension Anchorage Inspection Specifications on Sheet 3.
3. Perform Remedial Grouting to fill voids in accordance with the Remedial Grouting Specifications on Sheet 2.
4. Replace all tendon anchorage pour-backs in accordance with the Anchorage Protection Replacement Specifications on Sheet 3. Any damage to the surrounding concrete, trumpet, or tendons shall be repaired at the Contractor's expense.
5. Extend Elastomeric Coating six inches in all directions onto surrounding surfaces beyond the tendon pour-back.

DRAWN	IRM	2-13
CHECKED	CRK	2-13
APPROVED	DEM	2-13

PREPARED BY URS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
US 59 NB OVER GRAND LAKE — DELAWARE COUNTY

BRIDGE "B" ANCHORAGE INSPECTION AND REPAIR DETAILS

STATE JOB NO. 30223(04) — SHEET NO. 20