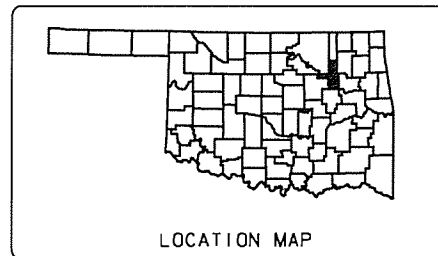


STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION		REVISIONS	DATE		

SURVEY CONTROL DATA

SEE SURVEY DATA SHEETS



PLAN OF PROPOSED
INTERSTATE HIGHWAY
FEDERAL AID PROJECT NO. ACNHPP1-4400-(016)SS
BRIDGE REHABILITATION
INTERSTATE HIGHWAY 44
TULSA COUNTY

CONTROL SECTION NO. 44-72-08

STATE JOB NO. 28872(04)

BRIDGE "A" LOCATION NO. 7278 0025NX

EXISTING NBI NO. 19471 (TO REMAIN)

BRIDGE "B" LOCATION NO. 7278 0025SX

EXISTING NBI NO. 19479 (TO REMAIN)

INDEX OF SHEETS

1	TITLE SHEET
2-6	SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE)
7	SUMMARY OF PAY QUANTITIES AND NOTES (ROADWAY)
8	SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC)
9	GENERAL PLAN AND ELEVATION (BRIDGE "A")
10	SEQUENCE OF CONSTRUCTION
11-14	ABUTMENT DETAILS
15	SUBSTRUCTURE REPAIR DETAILS
16	SUPERSTRUCTURE REPAIR DETAILS
17-21	SUPERSTRUCTURE DETAILS
22	SLOPE WALL DETAILS
23-25	APPROACH SLAB DETAILS
26	DRAIN DETAILS AT END OF BRIDGE
27	GENERAL PLAN AND ELEVATION (BRIDGE "B")
28	SEQUENCE OF CONSTRUCTION
29	TEMPORARY SHORING (CONCEPTUAL)
30-34	ABUTMENT DETAILS
35-36	PIER DETAILS
37	SUPERSTRUCTURE REPAIR DETAILS
38-42	SUPERSTRUCTURE DETAILS
43	SLOPE WALL DETAILS
44-46	APPROACH SLAB DETAILS
47	APPROACH ROADWAY DETAILS
48	DETOUR (PHASE I)
49-51	TRAFFIC CONTROL (PHASE I)
52-54	TRAFFIC CONTROL (PHASE II)
55-56	STRIPING PLAN

DESIGN DATA

AAADT 2016	=	53,250
AAADT 2036	=	74,550
DHV (2-WAY)	=	8,200
K (DHV/ADT)	=	11%
D	=	50%
T ³ (% AADT)	=	12%
V	=	65 MPH
20yr RIGID ESALS	=	91.04M

SCALES

PLAN 1" = 50'

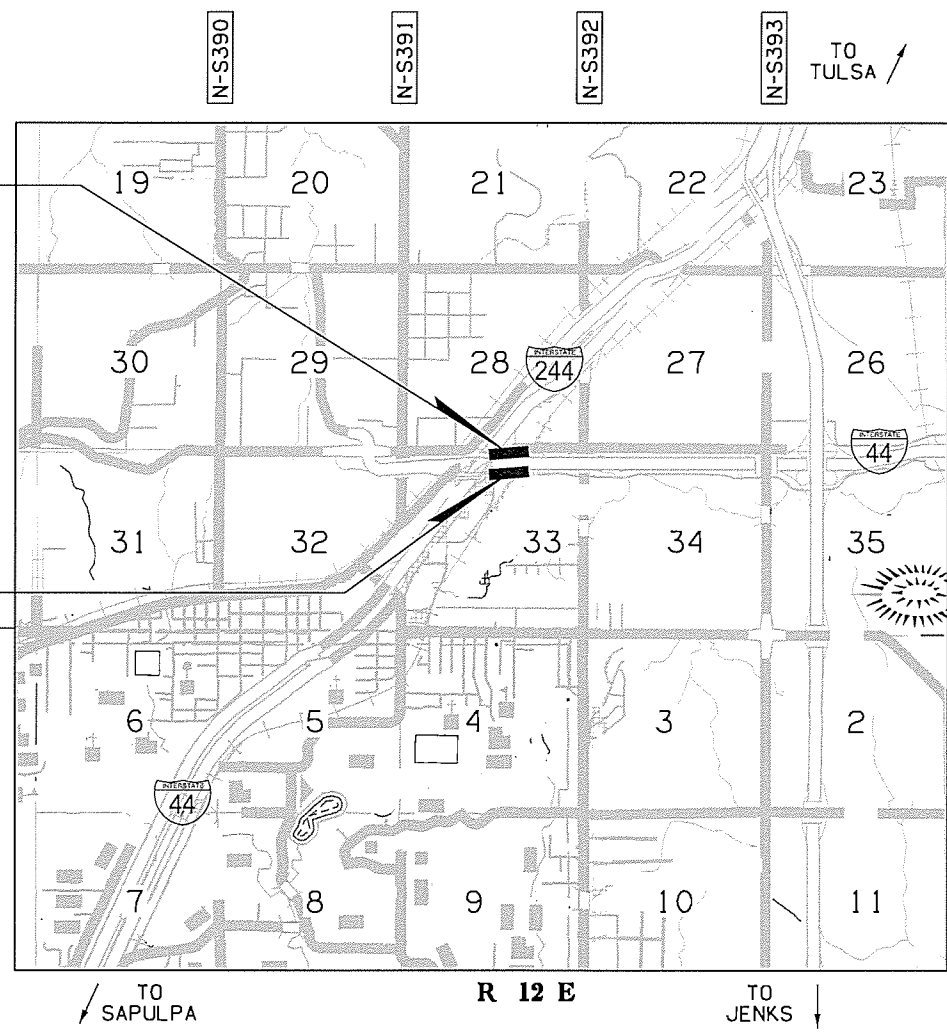
PROFILE HOR. 1" = 50'

VER. 1" = 5'

LAYOUT MAP 1" = 2640'

BRIDGE "A" BEGIN C.R.L. STA. 33+26.49
LENGTH 261.02'
END C.R.L. STA. 35+87.51

BRIDGE "B" BEGIN C.R.L. STA. 344+75.73
LENGTH 273.31
END C.R.L. STA. 347+66.31



THE FOLLOWING STANDARDS WILL BE REQUIRED:
ODOT STANDARDS

ROADWAY			
THRI-1-02			
SKT-1-00			
GHW1-1-00			
GHW2-1-00			
TRAFFIC			
TCS1-1-01	TCS6-1-02	TCS11-1-01	TCS19-1-01
TCS2-1-00	TCS7-1-02	TCS13-1-00	TCS20-1-00
TCS3-1-01	TCS8-1-00	TCS14-1-00	TCS21-1-02
TCS4-1-01	TCS9-1-01	TCS17-1-00	TCS22-1-00
TCS5-1-00	TCS10-1-00	TCS18-1-01	TCS24-1-02
BRIDGE			
EJ-SK-03E			
EJ-DTL-01E			

CONVENTIONAL SYMBOLS

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

PREPARED BY:

6450 SOUTH LEWIS AVE.
SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (VOICE)
(918) 858-0107 (FAX)

Digitally Signed
2016.06.10 12:50:04-05'00"
BRADLEY R. THOMPSON, P.E.
OKLA. REG. NO. 22868
RESPONSIBLE FOR SHEETS:
2-6 & 9-46

Digitally Signed
2016.06.10 12:51:11-05'00"
KEVIN M. MOORE, P.E.
OKLA. REG. NO. 22545
RESPONSIBLE FOR SHEETS:
1, 7, 8, & 47-56

CERTIFICATE OF AUTHORIZATION NO. 4193 P.E., L.S. RENEWAL DATE: 6-30-2016

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

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

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						DATE
REVISIONS						

COMMON 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.

SUGGESTED SEQUENCE OF CONSTRUCTION:

A suggested sequence of construction has been included in the plans for Traffic Phasing. Any changes to the suggested sequence of construction must be submitted to the Engineer for approval. No work shall begin until the Engineer has approved the changes to the suggested sequence of construction.

VERIFICATION OF EXISTING CONDITIONS:

All dimensions of the existing components shown on the plans are approximate. The Contractor shall verify all data necessary to connect the new material and shall be solely responsible for the accuracy thereof.

Bidders shall fully inform themselves of the nature of the work and conditions under which it will be performed. The Contractor shall adopt methods consistent with good construction practice and shall take all necessary precautions to prevent damage to the existing bridges or attachments. Any damage to the existing bridge structures or roadway due to the Contractor's negligence shall be repaired at the Contractor's expense, to the satisfaction of the Engineer.

Contractor shall be aware of existing conditions and potential hazards during construction. Contractor shall take precautions to maintain the integrity of any existing utilities and structures. Any damage to these items during construction shall be repaired and/or replaced at the Contractor's expense to the Engineer's satisfaction.

PLANS:

The original project plans are available from:
 Reproduction Branch
 Oklahoma Department of Transportation
 200 N.E. 21st Street
 Oklahoma City, Oklahoma 73105

The bridge was constructed under the following Project No.
 Bridge "A" (Str. 7) & Bridge "B" (Str. 8) F.A.P. No. 1-44-2(168)087

SURVEYING AND CONSTRUCTION STAKING:

The Contractor will be required to conduct all surveying and construction staking necessary for the completion of the project as directed by the Engineer. The surveying and construction staking required for completion of the project may include, but is not limited to, the following:

1. Establishing horizontal control including the staking of centerline bridge and approach roadway and assigning stationing as directed by the Engineer.
2. Establishing vertical control including the setting of benchmarks.
3. Measuring the elevations along the existing bridge deck slab at centerline, edges of driving lanes and edges of shoulders.
4. Measuring the elevations along the existing approach roadway at centerline, edges of driving lanes and edges of shoulders.
5. Measuring and setting construction stakes as necessary for conducting the grading and surfacing work on the approach roadway.
6. Measuring the existing top of abutment and pier elevations, and adjusting beam seat elevations as required.

All survey data, proposed adjustments in the new finish grades from original, and forming data shall be provided to the Engineer for approval before constructing the new approach slabs and new approach roadway pavement.

All cost of the surveying and construction staking necessary for completion of the project as directed by the Engineer including the cost of materials, labor, equipment, and incidentals shall be included in the price bid per Lump Sum of "CONSTRUCTION STAKING LEVEL II".

ESTABLISHMENT OF VERTICAL GEOMETRY:

The new bridge deck surfaces at the joint replacements and the approach roadway match the existing. The finished surface elevations will not change and will match the existing profile geometry. If the actual finish surface elevations differ from what is shown in the plans, the Contractor shall notify the Engineer prior to placement of concrete at the new joints and approach roadway for adjustment to maintain acceptable approach transitions.

In order to record the vertical geometry of the existing deck and approach roadway, the Contractor shall perform a field survey.

The Contractor shall record all survey data and adjust as required to match the existing finish surface elevations. The adjusted elevations shall be submitted for review prior to performing the work.

HORIZONTAL GEOMETRY & VERTICAL CURVE DATA:

The information shown on the "GENERAL PLAN AND ELEVATION" drawings regarding horizontal geometry and vertical profile was taken from the original construction plans. This information is included for informational purposes only. The Contractor shall field verify the existing horizontal and vertical geometry. The reconstruction of the bridge decks are intended to match the profile of the existing bridge decks.

REMOVAL OF BRIDGE ITEMS:

The pay item "REMOVAL OF BRIDGE ITEMS" shall include the removal and disposal of all items to be removed from the existing bridge as specified or shown in the plans including the following:

1. Portions of Parapets at the joints located at Pier Nos. 1-3.
2. Portions of Abutment Nos. 1 & 2 caps, backwalls, wingwalls as shown in the plans.
3. All removals at Abutment Nos. 1 & 2 as shown in the plans.
4. All existing Fixed and Expansion Bearings located at the Abutments and Piers (Bridge "B" only), including cutting the existing Anchore Bolts flush with the top surface of the Abutments.
5. Portions of the existing Approach Slabs necessary for the installation of the new Approach Slabs.
6. Inlets as shown in the plans.
7. Portions of the concrete median barrier necessary for the installation of the new Approach Slabs and Parapets

When performing "CLASS C BRIDGE DECK REPAIR", the Contractor shall take every precaution necessary to prevent damaging the existing steel I-beams, existing diaphragms or other superstructure members, unless otherwise specified on the plans. Any damages caused by the Contractor to existing steel I-beams, reinforcement, diaphragms or other superstructure members shall be repaired or completely replaced at the Contractor's expense to the satisfaction of the Engineer. The Engineer will determine if the damaged component can be satisfactorily repaired or if the component shall be completely replaced.

The existing structural steel may contain lead-based paint. The Contractor must take all necessary precautions and follow all applicable specifications and regulations in handling and transporting lead-based paint. The removal shall be in accordance with Section 619.04.B.2 of the Standard Specifications and in a manner approved by the Engineer.

When removing the portions of the existing abutments (Bridge "A" & "B") as shown in the plans, the Contractor shall take every precaution necessary to prevent damaging the remaining components of the existing bridge or any new construction attached to the bridge. Only hand tools or hand operated power tools will be allowed to make the removals. No vehicle mounted tools or equipment will be allowed to make removals. Before making any removals with impact tools, all concrete components shall be uniformly saw cut along the removal lines or cut lines shown on the plans. Any damages caused by the Contractor to the existing abutments (Bridge "A" & "B") shall be repaired or completely replaced at the Contractor's expense to the satisfaction of the Engineer. The Engineer will determine if the damaged components can be satisfactorily repaired or if the components shall be completely replaced.

Before making any removals, the Contractor shall submit to the Engineer a plan for removing each item or portions of items to be removed from the existing bridge. The Contractor shall not make any removals until the plan has been approved by the Engineer. The plan shall include a list of all the equipment that will be used to make the removals, a description of how the equipment will be used to make the removals and a sequential list of steps that will be followed by the Contractor to make removals.

Items damaged by the Contractor shall be replaced by the Contractor at no additional cost to ODOT. All materials removed shall become the property of the Contractor and be disposed of in a manner approved by the Engineer.

All costs necessary to complete the work as specified or as shown in the plans including the cost of safety platforms, sawing, cutting, demolition, cleaning and 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".

SUBSTRUCTURE REPAIR:

The existing Abutments and Piers, and any other concrete structure associated with the bridge, shall be repaired with Pneumatically Placed Mortar in a manner approved by the Engineer and in accordance with Section 521 of the Standard Specifications for Highway Construction. The removal of loose concrete shall be done using hand tools only, no power tools will be allowed. Power tools will be allowed only if hand tools prove to be incapable of removing all unsound concrete and if their use is approved by the Engineer. 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 25%, as determined by the Engineer, shall be repaired 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 patch the original lines and grades of the member being repaired. All mortar repairs shall be sealed with a water repellent substance.

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 actual location and extent of the repairs shall be determined in the field by the Engineer. The repairs shall only be made in the areas selected by the Engineer. Payment will be made only for the actual repairs performed.

If the Contractor elects to use a method other than Pneumatically Placed Mortar, they shall submit to the Engineer, for their approval, a proposed work plan. The work plan should include surface preparation methods, patching material, bonding agents, material placing methods, compatibility with Corrosion Inhibitors and finishing methods. The Contractor shall repair a test area to verify the effectiveness of their proposed repair methods prior to commencement of the work on the entire structure. Faulty repairs shall be replaced by the Contractor at no expense to the State. The cost for all patching methods will be included in the price bid per Square Yard of "PNEUMATICALLY PLACED MORTAR".

REPAIR OF CRACKS IN SUBSTRUCTURE:

The existing Abutments and Piers contain cracks that shall be repaired. The cracks shall be repaired by cleaning and injecting with epoxy. The crack repairs shall be performed in accordance with Section 520 of the Standard Specifications. The actual location and extents of the crack repairs shall be determined in the field by the Engineer. Payment will only be made for the actual crack repairs performed.

All cost to complete the crack repairs as specified or as shown in the plans including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "PREPARATION OF CRACKS, ABOVE WATER" and the price bid per Gallon of "EPOXY RESIN, ABOVE WATER".

PAINT REMOVAL AND PAINTING EXISTING STRUCTURAL STEEL:

The Contractor shall only paint the top and sides of the top flanges of the steel I-beams & diaphragms within the limits of bridge deck removal. All cleaning and painting shall be in accordance with Section 512 of the Standard Specifications using Category "E" Application. The Contractor may use SSPC-SP 11, power tool cleaning to bare metal.

The existing structural steel may contain lead-based paint. The Contractor must take all necessary precautions and follow all specifications and regulations in handling and transporting lead-based paint. SSPC QP-2 certification may be required.

The Contractor need only apply the first coat or prime coat to the existing steel I-beams. In addition, the Contractor, at his option, may use a Category "0" primer, but all loose material and rust must first be removed from the bearings and the primer coat must meet OSHA slip requirements.

The color of paint shall match the color of the paint on the existing bridge.

All costs necessary to complete the work as specified or as shown in the plans including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Lump Sum of "PAINTING EXISTING STRUCTURES" and the price bid per Lump Sum of "COLLECTION AND HANDLING OF WASTE".

EXPOSURE OF DETERIORATED STRUCTURAL STEEL:

If any deteriorated structural steel (including but not limited to flanges, webs, connection plates, stiffeners, bearings and diaphragms) is exposed during any construction activity, the Contractor shall be responsible for notifying the Engineer who in turn shall notify the Bridge Engineer as to the extent of the damage. The Bridge Engineer shall determine if any repairs are necessary; and if so, what method of repair shall be used.

CLASS B & C BRIDGE DECK REPAIR:

The quantities of "CLASS B BRIDGE DECK REPAIR", & "CLASS C BRIDGE DECK REPAIR" are for estimating purposes only. Actual areas to be repaired using Class B or C Bridge Deck Repair shall be determined by the Engineer during the construction process.

Payment only for actual repairs performed will be allowed. Payment will not be made for repairs not made. The repair shall be in accordance with Section 505 of the Standard Specifications.

All costs of the repair including labor, equipment, materials and incidentals necessary to complete the work as shown shall be included in the price bid per Square Yard of "CLASS B BRIDGE DECK REPAIR" or "CLASS C BRIDGE DECK REPAIR".

TEMPORARY DECK REPAIR PROTECTION:

All bridge deck repair is to be protected from construction loads by a method, such as steel plates, approved by the Engineer. Bridge Deck protection shall remain in place until the concrete has a compressive strength of 2500 psi.

The use of High Early Strength Concrete may be used in lieu of protecting the repair provided a compressive strength of 2500 psi is reached prior to loading.

All costs of bridge deck repair protection shall be included in other items of work.

1-44 WB & EB OVER S 38TH W AVE & TSU RR		TULSA COUNTY		DESIGN	JMO	9/15
BRIDGES "A" & "B"				DETAIL	S.J.L.	9/15
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 1 OF 5)				CHECK	BRT	11/15
				GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION					
	JOB PIECE NO. 28872(04)	SHEET NO. 2				

COMMON GENERAL NOTES (CONTINUED)

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
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CONCRETE:

All concrete shall be placed in the dry. All exposed edges shall have a 1/4" chamfer unless noted or shown on plans. All chamfer strips shall be sized lumber. All Class "A" and Class "AA" Concrete shall be air-entrained.

All concrete in the Superstructure, Approach Slabs & Parapets shall be Class "AA" Concrete, f'c = 4,000 p.s.i. minimum strength at 28 days. All concrete in the Substructure shall be Class "A" Concrete, f'c = 3,000 p.s.i. minimum strength at 28 days.

Concrete surfaces under all beam supports (bearing assemblies) shall be ground with a corborundum brick before placement of bearing assembly to secure full bearing of assembly on concrete. Before bearing assemblies are set, the Contractor will check bearing surfaces with regard to levelness. The maximum permissible slope shall be 0.5 %, which should be checked along an axis perpendicular and parallel to the beam line. Slopes exceeding 0.5 % shall be corrected in a manner approved by the Engineer.

When vibrating concrete containing epoxy coated reinforcing steel, the vibrator shall be equipped with a plastic tip designed to prevent damage to the epoxy coating.

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

REINFORCING:

All reinforcing steel shall have 2" clearance unless shown or noted otherwise. All reinforcing steel shall be deformed bars, cold bent with no welds. Bar bend dimensions are out to out, unless noted otherwise. All reinforcing steel to be Grade 60.

Field welding of crossing reinforcing bars shall not be permitted. Tack welding of reinforcing bars shall be prohibited in all cases.

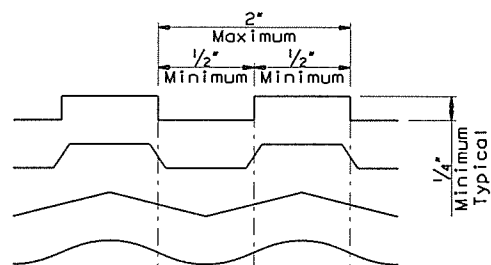
All longitudinal top reinforcing in the bridge slab shall be supported on approved continuous metal high chairs spaced at 4'-0" maximum on centers and the bottom layer of reinforcing steel shall be supported on approved metal slab bolsters spaced at 4'-0" maximum on centers.

INTENTIONALLY ROUGHENED SURFACE EXAMPLES:

The indicated surfaces shall be intentionally roughened to a minimum height of 1/4" over a maximum pitch of 2" measured longitudinally along the length of the surface. The crest and trough associated with the height shall not be less than 1/2" and shall extend the:

1. All faces of Pier Nos. 1 - 4 that are to be encased.

Roughened surface may be obtained by a special trowel as shown in the examples, by cleaning the concrete surface with a stiff wire brush (or blasting) to the extent that aggregate is exposed to a height of 1/4", or by another approved method. The method used shall be submitted for approval by the Engineer. Repair any damage to reinforcement epoxy coating before placement of deck concrete.



MECHANICAL SPLICES:

Mechanical Splices shall be used to connect the transverse reinforcing steel in the superstructure (Bridges "A" & "B") and approach slabs (Bridges "A" & "B") as specified or as shown in the plans. 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 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 I Construction bar lists do not include any additional 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 accommodate the Mechanical Splices will not be measured for payment and shall be included in the price bid per Each of "MECHANICAL SPLICES".

APPROACH SLAB:

Class AA concrete shall be used in the Approach Slabs with epoxy coated reinforcing. The quantity given is based on the actual Square Yards of the Approach Slabs. All costs of concrete, reinforcing steel, longitudinal construction joint sealant, sawed and sealed construction joint between new deck and approach slab, sawing of joints, excavation, labor, equipment, and incidentals necessary to complete the work as specified shall be included in the price bid per Square Yard of "APPROACH SLAB".

SAWED AND SEALED JOINTS:

The existing 1" Longitudinal Joint (Bridge "A") and the new Sawed & Sealed Construction Joint at Pier No. 2 (Bridges "A" & "B") in the Bridge Deck shall be sealed with Rapid Cure Joint Sealant in accordance with Subsection 701.08.G and as shown on the plans.

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

SEALED EXPANSION JOINT:

The Sealed Expansion Joints located on Sheet Nos. & shall be constructed in phases as shown on the plans and in accordance with Standards EJ-SK-03E & EJ-DTL-01E & in a manner approved by the Engineer except that Bars W1 & W2 on Standard EJ-DTL-01E shall be modified to fit within the limits of the slab with appropriate clearances.

All cost necessary to complete the work as specified or as shown in the plans including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

SPECIAL CONCRETE FINISH:

The Special Concrete Finish shall be a liquid applied urethane coating such as CIM 1000 as manufactured by CIM Industries, Inc., IM-129 as manufactured by Custom Linings, or an approved equal. Product information for CIM 1000 can be obtained from Loster Castor Corp. of Tulsa, Oklahoma, phone number 918-234-7777. Product information for IM129 can be obtained from Custom Linings, phone number 719-395-4414.

The equipment and methods of applying the urethane coating shall be in accordance with the product coating profile and instruction guides for application to concrete. Precautionary measures shall be in accordance with the Material Safety Data Sheets as provided by the manufacturer.

The coating shall be 60 mils dry thickness and 68 mils wet thickness. In addition to applying the coating to the concrete substructure units as listed below, the coating shall return up the vertical surfaces of the pier and abutment bearing pads to provide a water tight seal with the concrete pedestals. Surface preparations and product mixing shall be per the manufacturer's recommendations and all new concrete shall have a minimum strength of 3000 psi at the time of application. Primer shall be applied to the concrete surfaces prior to applying the coating. All concrete work shall be completed prior to the application of the Special Concrete Finish.

Water repellent will not be required on surfaces that are coated with Special Concrete Finish.

Special Concrete Finish shall be applied to all areas listed below & as shown in plans:

- (a) Abutment Caps and Backwalls.
- (b) Pier Caps.

All costs of the Special Concrete Finish including the cost of materials, labor, equipment, and incidentals shall be included in the price bid per Square Yard of "SPECIAL CONCRETE FINISH".

PENETRATING WATER REPELLENT SURFACE TREATMENT:

A penetrating water repellent surface treatment shall be applied to the following concrete surfaces of the bridge:

- (a) Edges and underside cantilever portion of the existing & new bridge deck.
- (b) Front, sides and exposed areas of the Abutment Seat, Backwall and Wingwalls not covered with Special Concrete Finish.
- (c) Top, bottom, sides and ends of the Pier Cap not covered with Special Concrete Finish.
- (d) The roadway faces and tops of the existing/proposed Sloped Face Parapets.

All costs associated with the use of Penetrating Water Repellent Surface Treatment including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Square Yard of "WATER REPELLENT (VISUALLY INSPECTED)".

(SP) CARBON FIBER-REINFORCED POLYMER:

Payment for Carbon Fiber-Reinforced Polymer will be based on the surface area coated, as indicated on the plans. Additional Layers of Carbon Fiber-Reinforced Polymer as specified in the plans shall be considered subsidiary to this pay item.

All costs of Carbon Fiber-Reinforced Polymer including all three (3) layers of material, epoxy, Inorganic Zinc Primer, labor, equipment and any other incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Foot of "(SP) CARBON FIBER-REINFORCED POLYMER".

CONCRETE SLOPE WALL:

Item "Slope Wall (5)" shall be used to repair specific areas as shown in the plans (listed below):

1. Entire Slope Wall sections of Abutment No. 2 at Bridges "A" & "B". See Sheet Nos. 22 & 43 for details.

All costs of the "SLOPE WALL (5)" installation including Class A Concrete, reinforcing steel, lap splices, backer rod, rapid cure joint sealant, preformed joint filler, polystyrene, excavation, Aggregate Base (Type A), Unclassified Backfill, labor, equipment and other incidentals shall be included in the price bid per Square Yard of "SLOPE WALL (5)".

FLOOD COATING TREATMENT:

A Flood Coat Deck Seal shall be applied to the following concrete surfaces of the bridge:

- (a) The driving surfaces of the bridge decks.

The Contractor must prevent the Flood Coat Deck Seal from penetrating any joint that has been sealed with Silicone. If the Flood Coat Deck 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.

This work will be performed after all other work on the bridge has been completed.

All cost to seal the bridge decks with Flood Coat including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Square Yard of "DECK AREA SEALED (FLOODCOATS)".

RAILROAD PROTECTION:

Contractor shall use extreme care and take any measure necessary to insure that no debris is dropped onto railroad R.O.W. at the bridges. This shall be accomplished by the use of baskets, netting, wrapping, work platform, or other similarly effective means. Any debris which is allowed to drop shall be removed and disposed of by the Contractor. Cost of protection system and removing and disposing of debris shall be included in other items of work.

CLEANING BRIDGE SEATS:

All Bridge Seats shall be power washed & cleaned of all debris and allowed to dry before application of water repellent.

All cost of Cleaning the Bridge Seats including the cost of materials, labor, equipment and incidentals shall be included in other items of work.

PERFORATED PIPE UNDERDRAIN:

Item "6" Perforated Pipe Underdrain - Round" includes 109.00 feet of Perforated Pipe and 15.30 cubic yards of Pipe Underdrain Cover Material for Abutment No. 2 (Bridge "A"). The installation of the Perforated Pipe and Pipe Underdrain Cover Material shall be as shown in the plans on Sheet No. 22.

Item "6" Perforated Pipe Underdrain - Round" includes 115.00 feet of Perforated Pipe and 16.20 cubic yards of Pipe Underdrain Cover Material for Abutment No. 2 (Bridge "B"). The installation of the Perforated Pipe and Pipe Underdrain Cover Material shall be as shown in the plans on Sheet No. 43.

All costs of the Perforated Pipe Underdrain installation including material, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

NON-PERFORATED PIPE UNDERDRAIN:

Item "6" Non-Perf. Pipe Underdrain - Rnd" includes 20.00 feet of Non-Perf. Pipe, 3.00 cubic yards of Trench Excavation and Standard Bedding Material at Abutment No. 2 (Bridge "A"). The installation of the Non-Perforated Pipe shall be as shown in the plans on Sheet No. 22.

Item "6" Non-Perf. Pipe Underdrain - Rnd" includes 20.00 feet of Non-Perf. Pipe, 3.00 cubic yards of Trench Excavation and Standard Bedding Material at Abutment No. 2 (Bridge "B"). The installation of the Non-Perforated Pipe shall be as shown in the plans on Sheet No. 43.

All costs of the Non-Perforated Pipe Underdrain installation including backfilling, material, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A):

Item "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)" consists of removal & replacement of all electrical conduit, mounting hardware and fixtures for the lighting attached to the existing pier caps. The Contractor shall be responsible for attaching the new conduit & lighting fixtures to the bridges once all repairs are completed.

All costs of electrical conduit, attachment, light fixtures, mounting hardware, labor, equipment, and incidentals necessary to complete the work as shown on in the plans shall be included in the price bid per Lump Sum of "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)".

1-44 WB & EB OVER S 38TH W AVE & TSU RR BRIDGES "A" & "B"	TULSA COUNTY	DESIGN	JMO	9/15
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 2 OF 5)		DETAIL	SJL	9/15
		CHECK	BRT	11/15
		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 3		

GENERAL NOTES FOR BRIDGE "A"

GENERAL NOTES FOR BRIDGE "B"

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872104			
DESCRIPTION					DATE
REVISIONS					

FALSEWORK AND JACKING:

The Contractor will be required to install falsework at locations specified in the plans to support the existing superstructure while the existing bearings are reset and the beams are repaired. Care shall be taken when the beams are jacked up so the bridge deck and diaphragms are not damaged.

The Contractor shall submit to the Bridge Engineer of the Oklahoma Department of Transportation a falsework and jacking plan. The plan shall include a layout of falsework and any required jacking, structural calculations for the design of the falsework, jacking scheme, jacking sequence and jack capacities. The falsework and jacking shall have the capacity to support the dead loads of the bridge and all traffic and other live loads carried by the bridge. The Contractor shall install the falsework in a manner so as not to damage the existing bridge or any new construction attached to the bridge. The submitted plan shall be signed and sealed by a Professional Engineer registered in the State of Oklahoma. The plan and structural calculations shall be prepared in accordance with the AASHTO Standard Specifications for Highway Bridges, latest edition and Section 502 of the Standard Specifications. Installation of the falsework and jacking shall not begin until the Contractor has received approval of the submitted plan from the Bridge Engineer.

All cost necessary to complete the work as specified or as shown in the plans including the cost of falsework, jacking, engineering services, materials, labor, equipment, and incidentals shall be included in the price bid per Lump Sum of "(PL) FALSEWORK JACKING".

(PL) REPAIR BRIDGE ITEM (TYPE A):

Item "(PL) REPAIR BRIDGE ITEM (TYPE A)" consists of trimming 1" from the end of the following steel beams, see Sheet No. 16 for details:

1. Beam Nos. 1 - 3, Pier No. 1 (Back & Forward Station)
2. Beam Nos. 7 - 11, Pier No. 1 (Back & Forward Station)

All costs of trimming the beam ends including material, labor, equipment and incidentals necessary to complete the work as specified shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE A)".

(PL) REPAIR BRIDGE ITEM (TYPE B):

Item "(PL) REPAIR BRIDGE ITEM (TYPE B)" consists of clipping top and bottom flanges and web to provide 2" clearance (minimum) from Abutment Backwall on the following beams, see Sheet No. 16 for details:

1. Beam No. 4, Abutment No. 1

All costs of clipping the beam ends including material, labor, equipment and incidentals necessary to complete the work as specified shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE B)".

(PL) REPAIR BRIDGE ITEM (TYPE C):

Item "(PL) REPAIR BRIDGE ITEM (TYPE C)" shall consist of resetting existing Expansion Bearings at the following locations, See Sheet No. 16 for details:

1. Beam Nos. 1 - 11, Pier No. 1 (Back & Forward Station)
2. Beam Nos. 1 - 11, Pier No. 3 (Back & Forward Station)

The number and location of bearings to be reset shall be determined by the Engineer. The bearings shall be reset such that the roller bearing stiffener is vertical. Care shall be taken when the beam is jacked up so the bridge deck and diaphragms are not damaged. All falsework shall be in accordance with Section 502 of the Standard Specifications.

All costs including falsework, jacking, engineering services, resetting, labor, equipment, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE C)".

(SP) CARBON FIBER-REINFORCED POLYMER:

Payment for Carbon Fiber-Reinforced Polymer will be based on the surface area confined, as indicated on the plans. Additional Layers of Carbon Fiber-Reinforced Polymer as specified in the plans shall be considered subsidiary to this pay item.

All costs of Carbon Fiber-Reinforced Polymer including all three (3) layers of material, epoxy, Inorganic Zinc Primer, labor, equipment and any other incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Foot of "(SP) CARBON FIBER-REINFORCED POLYMER".

DRAINS AT END OF BRIDGE:

The Asphalt Widening for the bridge guarddrilling shall be in accordance with Standards THRI-1-02, SKT-1-00, GHW1-1-00, and GHW2-1-00 except as shown on Sheet No. 26. All costs of Asphalt Widening shall be included in Roadway Pay Items.

There is 3.00 cubic yards of Class C Concrete required to construct the Slope Drains, Splash Basins and Concrete Curbs at the end of the Bridge. All costs of the Slope Drains, Splash Basins and Concrete Curbs 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".

FALSEWORK AND JACKING:

For the design and construction of temporary falsework, comply with Section 502 of the 2009 Standard Specifications for Highway Construction and the requirements noted below. See Sheet No. 29 for Conceptual Temporary Falsework details. This falsework must be supported off the existing columns due to the presence of underground utilities adjacent to the piers.

The Contractor will be required to install falsework at locations specified in the plans to support the existing superstructure while the existing bearings are replaced and the beams are repaired. Care shall be taken when the beams are jacked up so the bridge deck and diaphragms are not damaged.

The Contractor shall submit to the Bridge Engineer of the Oklahoma Department of Transportation a falsework and jacking plan. The plan shall include a layout of falsework and any required jacking, structural calculations for the design of the falsework, jacking scheme, jacking sequence and jack capacities. The falsework and jacking shall have the capacity to support the dead loads of the bridge and all traffic and other live loads carried by the bridge. The Contractor shall install the falsework in a manner so as not to damage the existing bridge or any new construction attached to the bridge. The submitted plan shall be signed and sealed by a Professional Engineer registered in the State of Oklahoma. The plan and structural calculations shall be prepared in accordance with the AASHTO Standard Specifications for Highway Bridges, latest edition and Section 502 of the Standard Specifications. Installation of the falsework and jacking shall not begin until the Contractor has received approval of the submitted plan from the Bridge Engineer.

All cost necessary to complete the work as specified or as shown in the plans including the cost of falsework, jacking, engineering services, materials, labor, equipment, and incidentals shall be included in the price bid per Lump Sum of "(PL) FALSEWORK JACKING".

(PL) REPAIR BRIDGE ITEM (TYPE A):

Item "(PL) REPAIR BRIDGE ITEM (TYPE A)" consists of trimming 1" from the end of the following beams, see Sheet No. 37 for details:

1. Beam Nos. 1 - 4, Pier No. 1 (Back & Forward Station)
2. Beam Nos. 4 - 7, Pier No. 3 (Back & Forward Station)

All costs of trimming the beam ends including material, labor, equipment and incidentals necessary to complete the work as specified shall be included in the price bid per Each of "(PL) REPAIR BRIDGE ITEM (TYPE A)".

ANCHORAGE INTO EXISTING CONCRETE:

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. Anchorage into the concrete of the existing bridge shall be accomplished by one of the following methods:

1. Self-Mixing Injection type anchorage systems such as "Hilti Fastening Systems", "Unitex Pro-Proxy 300 Fast" or an approved equal. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.
2. Encapsulated non-expanding chemical type anchorage systems such as "Rawplug Company Chem-Stud", "Hilti Encapsulated" or an approved equal. Anchorages shall be installed in accordance with the manufacturer's specifications for the system used.

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 plan locations shown 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 as 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.

FIXED BEARING ASSEMBLIES:

Provide and install Fixed Bearing Assemblies of the size, shape and location as specified or as shown on the As-Built plans & Sheet No. 37. It is the Contractor's responsibility to provide "like kind" Bearing Replacement Plans similar to what is shown in the As-Built Plans.

All cost of providing and installing the Fixed Bearing Assemblies as specified or as shown in the plans including the cost of fixed bearing assemblies, anchor bolts, nuts, washers, materials, labor, equipment and incidentals shall be included in the price bid per Each of "WEATHERING STEEL FIXED BEARING ASSEMBLY".

EXPANSION BEARING ASSEMBLIES:

Provide and install Expansion Roller Bearing Assemblies of the size, shape and location as specified or as shown in the As-Built plans & Sheet No. 37. It is the Contractor's responsibility to provide "like kind" Bearing Replacement Plans similar to what is shown in the As-Built Plans.

All cost of providing and installing the Expansion Roller Bearing Assemblies as specified or as shown in the plans including the cost of expansion bearing assemblies, anchor bolts, nuts, washers, materials, labor, equipment and incidentals shall be included in the price bid per Each of "WEATHERING STEEL EXPANSION BEARING ASSEMBLY".

I-44 WB & EB OVER S 38TH W AVE & TSU RR BRIDGES "A" & "B"		TULSA COUNTY		DESIGN	JMO	9/15
				DETAIL	SJL	9/15
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 3 OF 5)		CHECK	BRT	11/15		
				GARVER		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872104	SHEET NO. 4

TULSA-SAPULPA UNION RAILWAY CO. NOTES:

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						DATE
Revised Railway Notes						08-02-2015

NOTIFICATION OF WORK:

The Contractor is required to give the Tulsa-Sapulpa Union Railway Company at least 10 working days advance notice, in writing, before any work is started on the site. To avoid hazards, the Tulsa-Sapulpa Union Railway Company may have a representative present, if deemed necessary, for the purpose of inspection and the issuance of any appropriate instructions for railway operations during the I-44 bridge rehabilitation where it crosses over the Tulsa-Sapulpa Union Railway Company railroad tracks.

The Contractor shall notify:

Mr. Kevin Tucker
Operations Manager
Tulsa Sapulpa Union Railway Company
701 East Dewey
Sapulpa, Oklahoma 74066
Phone: 918-224-1515
Mobile: 918-638-4009
Email: ktucker@tsurailway.com

PROTECTION OF RAILROAD TRACK:

The Contractor shall be responsible for protecting the railroad track bed during bridge rehabilitation while on railway property.

The contractor shall not be permitted to leave any worker scaffolding in place in working position. At the end of each workday, the scaffolding shall be removed and set a safe distance from any operating railway line. Scaffolding shall at all times maintain the minimum clearance as shown on the "Falsework Diagram".

FLAGGING AND INSURANCE:

Insurance shall be provided as specified in Section 107 of the Standard Specifications and in the Special Provisions for RAILROAD FLAGGING (See Proposal for Special Provisions). Tulsa-Sapulpa Union Railway Company will provide Flagging for the railway during construction operations.

The TSU Railway Company (TSU) has two (2) trains per day through AARDOT crossing number 869 573L, one in the morning and one in the evening.

The Contractor shall contact Mr. Kevin Tucker to schedule all necessary Flagging operations.

The Contractor shall also furnish satisfactory evidence to the State of Oklahoma that he has provided insurance of the kinds and amounts as specified in the Special Provisions for RAILROAD INSURANCE and in the Tulsa-Sapulpa Union Railway Co. Contractor's Right of Entry Agreement.

The Contractor will be required to enter into a Contractor's Right-of-Entry Agreement with the Tulsa-Sapulpa Union Railway Company before they will be allowed on the railroads right-of-way.

PRE-WORK MEETING:

Prior to working on the Tulsa-Sapulpa Union Railway Company Right-Of-Way or in the vicinity of their tracks, you MUST contact the local roadmaster for the Tulsa-Sapulpa Union Railway Company to coordinate your work.

COORDINATION WITH RAILROADS:

The contractor shall conduct construction operations in a manner which will not delay or interfere with train operations. Construction activity within 25 (twenty-five) feet of active tracks will require a flagman to be provided by the Tulsa-Sapulpa Union Railway Company at the contractor's expense.

The contractor shall give written notice to the Tulsa-Sapulpa Union Railway Company a minimum of 30 (thirty) calendar days in advance of when flagging is required.

Special permission must be obtained from the Tulsa-Sapulpa Union Railway Company before moving any equipment or other object which could make the track impassable if it fell within the area shown on the construction clearance diagram.

Railroad flaggers, protective services, and protective devices will be required, but not limited to, events when:

- The Contractor work activities are within 25 (twenty-five) feet of the track centerline.
- Activities are over or under the track.
- Cranes or similar equipment will not be positioned where they could foul the track if they tipped over or experienced some other catastrophic event.
- In the opinion of the Tulsa-Sapulpa Union Railway Company Representative:
 - 1) It is necessary to safeguard the Tulsa-Sapulpa Union Railway Company's property, employees, trains, engines, and facilities.
 - 2) When any excavation is performed below the bottom of elevations and track or other Tulsa-Sapulpa Union Railway Company facilities may be subject to movement or settlement.
 - 3) When work in any way interferes with the safe operation of trains and timetable speeds.
 - 4) When any hazard is presented to railroad track, signals, communications, electrical, or other facilities either due to person, material, equipment, or blasting in the area.

RAIL TRAFFIC:

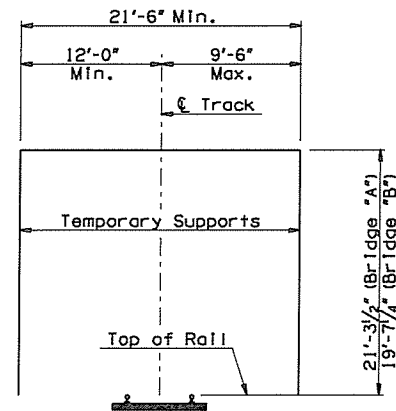
The Tulsa-Sapulpa Union Railway Company has 2 trains per day at 10 MPH.

FALSEWORK CLEARANCE DIAGRAM:

Clearance required by the Tulsa-Sapulpa Union Railway Company for safe operation during construction.

Horizontal dimensions shown are measured at right angles to the ϵ of R.R. track.

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



I-44 WB & EB OVER S 38TH W AVE & TSU RR BRIDGES 'A' & 'B'		TULSA COUNTY		DESIGN	JMD	9/15
				DETAIL	SJL	9/15
				CHECK	BRT	10/15
				GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION					
	JOB PIECE NO. 28872(04)	SHEET NO. 5				

FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
REVISIONS					DATE
DESCRIPTION					
Revised & Added Environmental Notes					08-02-2015

△ SPECIAL ENVIRONMENTAL NOTE FOR BRIDGES "A" & "B"

DEQ PERMIT FOR SBR PROJECTS OVER HIGHWAYS OR RAILROADS:

If the Contractor elects to build a road(s) to perform work, the Contractor will be responsible for effective erosion and sediment control in accordance with the DEQ OKR10 General Construction regulations. If the area of disturbance is one (1) or more acres and is not already covered by a DEQ permit, the Contractor will be required to obtain a DEQ Storm Water Construction Permit which will include an application (Notice of Intent) to DEQ prior to earth disturbing activities, a Storm Water Pollution Prevention Plan and the installation and maintenance of erosion and sediment controls. In addition, the Contractor will be responsible for permanent stabilization measures after removal of the work road(s). All costs associated with the Contractor's work road including a DEQ permit, erosion and sediment controls and permanent stabilization, etc. will be the responsibility of the Contractor.

△ ENVIRONMENTAL MITIGATION NOTES - BRIDGES "A" & "B"

AMERICAN BURYING BEETLE (ABB):

No artificial lighting shall be used during construction. Carcasses and all food trash shall be removed from the permanent ROW and temporary ROW throughout the duration of the project activities.

MIGRATORY BIRDS:

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 NB1 No. 19471 & 19479 was 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.

28872(04) 0200 BRIDGE "A"		PAY QUANTITIES		I-40 WB OVER S 38TH W AVE & TSU RR	
ITEM	DESCRIPTION	UNIT	QUANTITY		
201(A) 0102	CLEARING AND GRUBBING	LSUM	1.000		
501(G) 6309	CLSM BACKFILL	(BR-2) C.Y.	81.200		
502(C) 6116	(PL) FALSEWORK JACKING	LSUM	1.000		
504(A) 1304	APPROACH SLAB	(BR-1) S.Y.	513.500		
504(B) 1305	SAW-CUT GROOVING	(BR-1) S.Y.	442.500		
504(C) 6250	SEALED EXPANSION JOINT	(BR-1) L.F.	188.600		
504(E) 1381	CONCRETE PARAPET	(BR-1) L.F.	155.100		
504(G) 6390	RAPID CURE JOINT SEALANT	(BR-1) L.F.	115.300		
506(A) 1322	STRUCTURAL STEEL	(BR-1) LB.	5,000.000		
509 6152	SPECIAL CONCRETE FINISH	(BR-1)(BR-3) S.Y.	259.000		
509(B) 1328	CLASS A CONCRETE	(BR-1) C.Y.	6.500		
509(D) 1331	CLASS C CONCRETE	C.Y.	3.000		
510(C) 6138	SLOPE WALL (5")	(BR-1) S.Y.	495.900		
511 6306	MECHANICAL SPLICES	(BR-1) EA.	194.000		
511(B) 6010	EPOXY COATED REINFORCING STEEL	(BR-1) LB.	18,716.000		
512(A) 1323	PAINTING EXISTING STRUCTURES	LSUM	1.000		
512(B) 6303	COLLECTION AND HANDLING OF WASTE	LSUM	1.000		
513(B) 6019	CLASS B BRIDGE DECK REPAIR	S.Y.	18.000		
513(C) 6020	CLASS C BRIDGE DECK REPAIR	S.Y.	200.000		
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1) S.Y.	552.000		
520(A) 6058	PREPARATION OF CRACKS, ABOVE WATER	L.F.	696.000		
520(C) 6060	EPOXY RESIN, ABOVE WATER	GAL.	23.200		
521(A) 6210	PNEUMATICALLY PLACED MORTAR	S.Y.	140.200		
523(C) 6570	DECK AREA SEALED (FLOODCOATS)	(BR-1) S.Y.	1,602.000		
524(A) 6610	(SP) CARBON FIBER-REINFORCED POLYMER	S.F.	150.800		
535 6130	(SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	16.800		
540 4515	(PL) REPAIR BRIDGE ITEM (TYPE A)	EA.	16.000		
540 4525	(PL) REPAIR BRIDGE ITEM (TYPE B)	EA.	1.000		
540 4535	(PL) REPAIR BRIDGE ITEM (TYPE C)	EA.	43.000		
542 4610	(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)	LSUM	1.000		
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1) L.F.	109.000		
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	20.000		
619(B) 2500	REMOVAL OF BRIDGE ITEMS	LSUM	1.000		

28872(04) 0600 STAKING		PAY QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY		
642(B) 0096	CONSTRUCTION STAKING LEVEL 11	LSUM	1.000		

28872(04) 0640 CONSTRUCTION		PAY QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY		
641 1399	MOBILIZATION	LSUM	1.000		

BR-1:
Payment for this item will be based on the plan quantities only. See Section 109.01.B of the Standard Specifications.

BR-2:
To be used at the discretion of the Engineer for filling voids at the Approach Slabs.

BR-3:
To be used at the Abutments and Piers, as shown in the plans. See "GENERAL NOTE" for more information.

BR-4:
To be used at the discretion of the Engineer for the purpose explained in the "EXPOSURE OF DETERIORATED STRUCTURAL STEEL" General Note on Sheet No. 2.

BR-5:
To be used at the discretion of the Engineer to replace the fixed and expansion bearing assemblies of the abutments and piers as shown on Sheet No. 37.

28872(04) 0201 BRIDGE "B"		PAY QUANTITIES		I-40 EB OVER S 38TH W AVE & TSU RR	
ITEM	DESCRIPTION	UNIT	QUANTITY		
201(A) 0102	CLEARING AND GRUBBING	LSUM	1.000		
501(G) 6309	CLSM BACKFILL	(BR-2) C.Y.	62.300		
502(C) 6116	(PL) FALSEWORK JACKING	LSUM	1.000		
504(A) 1304	APPROACH SLAB	(BR-1) S.Y.	400.400		
504(B) 1305	SAW-CUT GROOVING	(BR-1) S.Y.	331.100		
504(C) 6250	SEALED EXPANSION JOINT	(BR-1) L.F.	147.300		
504(E) 1381	CONCRETE PARAPET	(BR-1) L.F.	172.800		
504(G) 6390	RAPID CURE JOINT SEALANT	(BR-1) L.F.	95.900		
506(A) 1322	STRUCTURAL STEEL	(BR-4) LB.	5,000.000		
507(A) 6172	WEATHERING STEEL FIXED BEARING ASSEMBLY	(BR-5) EA.	1.000		
507(B) 6176	WEATHERING STEEL EXPANSION BEARING ASSEMBLY	(BR-5) EA.	28.000		
509 6152	SPECIAL CONCRETE FINISH	(BR-1)(BR-3) S.Y.	252.000		
509(B) 1328	CLASS A CONCRETE	(BR-1) C.Y.	62.800		
510(C) 6138	SLOPE WALL (5")	(BR-1) S.Y.	445.600		
511 6306	MECHANICAL SPLICES	(BR-1) EA.	158.000		
511(B) 6010	EPOXY COATED REINFORCING STEEL	(BR-1) LB.	35,091.000		
512(A) 1323	PAINTING EXISTING STRUCTURES	LSUM	1.000		
512(B) 6303	COLLECTION AND HANDLING OF WASTE	LSUM	1.000		
513(B) 6019	CLASS B BRIDGE DECK REPAIR	S.Y.	16.000		
513(C) 6020	CLASS C BRIDGE DECK REPAIR	S.Y.	157.000		
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1) S.Y.	572.000		
520(A) 6058	PREPARATION OF CRACKS, ABOVE WATER	L.F.	96.000		
520(C) 6060	EPOXY RESIN, ABOVE WATER	GAL.	3.200		
521(A) 6210	PNEUMATICALLY PLACED MORTAR	S.Y.	44.800		
523(C) 6570	DECK AREA SEALED (FLOODCOATS)	(BR-1) S.Y.	1,269.000		
524(A) 6610	(SP) CARBON FIBER-REINFORCED POLYMER	S.F.	287.600		
535 6130	(SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	32.100		
540 4515	(PL) REPAIR BRIDGE ITEM (TYPE A)	EA.	16.000		
542 4610	(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)	LSUM	1.000		
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1) L.F.	115.000		
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	20.000		
619(B) 2500	REMOVAL OF BRIDGE ITEMS	LSUM	1.000		

I-44 WB & EB OVER S 38TH W AVE & TSU RR		TULSA COUNTY		DESIGN	JMD	9/15
BRIDGES "A" & "B"				DETAIL	SJL	9/15
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 5 OF 5)				CHECK	BRT	11/15
				GARVER		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 28872(04)		SHEET NO. 6		

FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION					DATE
ADDED PAY ITEM NOTES					8/18/16

28874(04) BRIDGES "A" & "B" 0100 ROADWAY		PAY QUANTITIES		I-40 WB & EB OVER S 38TH W AVE & TSU RR	
ITEM	DESCRIPTION	UNIT	QUANTITY		
221(C) 2801	TEMPORARY SILT FENCE	L.F.	3000		
230(A) 2806	SOLID SLAB SODDING	S.Y.	2000		
411(C) 5960	SUPERPAVE, TYPE S4 (PG 64-22 OK)	(2)(R-30) (R-32) TON	286		
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	(R-49) (R-50) S.Y.	1268		
619(B) 4780	REMOVAL OF GUARDRAIL	(R-49) (R-50) L.F.	2725		
623(A) 0932	BEAM GUARDRAIL W-BEAM SINGLE	L.F.	2462.5		
623(G) 8590	GUARDRAIL END TREATMENT (31")	(1) EA.	4		
623(I) 8700	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")	EA.	4		

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.

Maintenance of through traffic includes the maintenance of the existing road in close proximity to the new construction as shown on the plans.

In accordance with the Oklahoma Underground Facilities Damage Prevention Act, the Contractor shall notify the Oklahoma One-Call System, Inc. 48 hours prior to beginning excavation. Oklahoma One-Call System, Inc. "CALL OKIE" 1-800-522-6543 or 811.

Contractor to make every effort to locate and protect all utilities and structures whether shown or not, prior to construction operations. Contractor shall carry on construction such that no damage will occur to any utilities or structures remaining in place.

Existing guardrail shall be connected to new parapets within two weeks during E-N Ramp closure.

ROADWAY PAY ITEM NOTES:

(R-30) Price bid to include cost of 96 Gal. of tack coat, meeting the requirements of Section 407 of the Standard Specifications.

(R-32) Estimated at 112 Lbs. per Sq. Yd. per 1" thick.

(R-49) To become the property of and disposed of by the Contractor in a manner approved by the Engineer.

(R-50) Materials removed shall not be measured for payment under Section 202.06 Unclassified Excavation.

(1) Pay item shall be the SKT-SP-MGS or approved substitute. The ET-Plus will not be allowed.

(2) Cost of excavation to be included in the cost of this item. Subgrade is to be compacted in accordance with Subsection 202.04.A(5)(b)2). "Earth Fill"

I-44 WB & EB OVER S 38TH W AVE & TSU RR		TULSA COUNTY		DESIGN	JMO	11/15
BRIDGES "A" & "B"				DETAIL	S.J.	11/15
SUMMARY OF PAY QUANTITIES AND NOTES (ROADWAY)				CHECK	BRT	11/15
				GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION					
JOB PIECE NO. 28872(04)		SHEET NO. 7				

PAY QUANTITIES					JP 28872(04)
TRAFFIC 300 PERMANENT					
ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY	
853	9068	GUARDRAIL DELINEATORS (TYPE 1, CODE 1)	EA	59.0	
856(A)	8535	TRAFFIC STRIPE(MULTI-POLY.)(8" WIDE)	(TS-25) LF	9906.0	
856(A)	8540	TRAFFIC STRIPE(MULTI-POLY.)(8" WIDE)	(TS-26) LF	1555.0	
856(A)	8548	TRAFFIC STRIPE(MULTI-POLY.)(12" WIDE)	(TS-27) LF	1940.0	

PAY QUANTITIES					JP 28872(04)
TRAFFIC 301 TEMPORARY					
ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY	
857(C)	8851	REMOVABLE PAVEMENT MARKING TAPE(4" WIDE)	(TC-19,21,61,70,75) LF	13975	
857(F)	8006	PAVEMENT MARKING REMOVAL(TRAFFIC STRIPE)	(TC-22,70) LF	3420	
876(A)	8482	(PL)TRUCK MOUNTED ATTENUATOR	(TC-52,70,76,77,84) SD	90	
877(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER	(TC-1,2) LF	2000	
877(C)	8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER	(TC-1,2) LF	1563	
880(A)	8800	ARROW DISPLAY (TYPE A)	(TC-26,84) SD	180	
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF	(TC-26,33,84) SD	3465	
880(B)	8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF	(TC-26,33,84) SD	2610	
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF	(TC-26,33,84) SD	2385	
880(C)	8842	CONSTRUCTION BARRICADES(TYPE III)	(TC-26,84) SD	360	
880(C)	8848	WING BARRICADES	(TC-26,84) SD	450	
880(E)	8860	WARNING LIGHTS(TYPE A)	(TC-26,84) SD	2340	
880(F)	8878	DRUMS	(TC-26,33,84) SD	7290	
882(A)	8306	PORT.CHANGEABLE MESSAGE SIGN	(SP-1)(TC-26,52,70,84,85) SD	90	

TRAFFIC GENERAL CONSTRUCTION NOTES

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

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

CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN SUCH A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION", AND APPLICABLE ODOT STANDARD DRAWING. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK IF A CHANGE TO THE TRAFFIC CONTROL PLAN IS PROPOSED.

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

TRAFFIC SIGNING & STRIPING PAY QUANTITY NOTES

(TS-25) QUANTITY SHOWN INCLUDES 5,063 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 1,008 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(BLACK) AND 3,835 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.

(TS-26) QUANTITY SHOWN INCLUDES 1,555 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 0 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.

(TS-27) QUANTITY SHOWN INCLUDES 1,940 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 0 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWELVE INCH (12") WIDE TRAFFIC STRIPE.

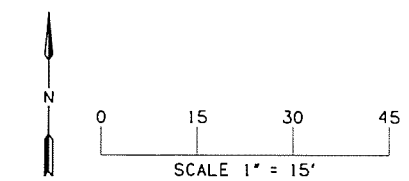
TRAFFIC CONTROL PAY QUANTITY NOTES

- (TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PORTABLE LONGITUDINAL BARRIER.
- (TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THE SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.
- (TC-19) THIS ITEM INCLUDES AN ESTIMATED 8,400 L.F. (4" WIDE) WHITE AND 5,575 L.F. (4" WIDE) YELLOW STRIPE. THE CONTRACTOR SHALL PROVIDE AND INSTALL AN O.D.O.T. APPROVED REMOVABLE PAVEMENT MARKING TAPE. COST FOR REMOVAL OF THIS TAPE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NON-REMOVABLE MARKING TAPE (FOIL BACK) SHALL NOT BE CONSIDERED AN APPROVED EQUAL FOR THIS ITEM.
- (TC-21) INCLUDED IN THE COST OF THIS ITEM SHALL BE INSTALLATION, MAINTENANCE, AND REMOVAL. THIS ITEM SHALL BE BID ACCORDINGLY.
- (TC-22) AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL SHALL INCLUDE THE COST OF REMOVING STRIPE, ARROWS, WORDS AND SYMBOLS, AS SHOWN IN THE PLANS. THESE ITEMS MAY CONSIST OF PLASTIC, PAINT OR NON-REMOVABLE MARKING TAPE.
- (TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.
- ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION).
- THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.
- (TC-52) ANY USED CHANGEABLE MESSAGE SIGN AND CONSTRUCTION ZONE IMPACT ATTENUATOR 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-61) ANY DAMAGE TO A FINISHED OR EXISTING SURFACE RESULTING FROM THE CONTRACTORS NEGLIGENCE IN THE REMOVAL OF CONSTRUCTION ZONE PAVEMENT MARKERS OR CHANNELIZING DEVICES AND THE BITUMINOUS ADHESIVE USED IN THEIR INSTALLATION, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.
- (TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.
- (TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.
- (TC-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) 90 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.
- (TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: <http://okladot.state.ok.us/traffic/qpl/index.php>
- (SP-1) SIGNS TO BE IN PLACE 14 DAYS IN ADVANCE OF CONSTRUCTION ACTIVITIES.

DESIGN	MDF	10/15	TULSA COUNTY
DRAWN	MDF	10/15	
CHECKED	KMN	11/15	
APPROVED			
SQUAD	GARVER		

SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC)

STATE JOB NO. 28872(04) SHEET NO. 8



SHEET NO.	TITLE
2	Summary of Pay Quantities and Notes (Bridge) (Sheet 1 of 5)
3	Summary of Pay Quantities and Notes (Bridge) (Sheet 2 of 5)
4	Summary of Pay Quantities and Notes (Bridge) (Sheet 3 of 5)
5	Summary of Pay Quantities and Notes (Bridge) (Sheet 4 of 5)
6	Summary of Pay Quantities and Notes (Bridge) (Sheet 5 of 5)
7	General Plan and Elevation
10	Sequence of Construction Details
11	Abutment Details (Sheet 1 of 4)
12	Abutment Details (Sheet 2 of 4)
13	Abutment Details (Sheet 3 of 4)
14	Abutment Details (Sheet 4 of 4)
15	Substructure Repair Details
16	Superstructure Repair Details
17	Superstructure Details (Sheet 1 of 5)
18	Superstructure Details (Sheet 2 of 5)
19	Superstructure Details (Sheet 3 of 5)
20	Superstructure Details (Sheet 4 of 5)
21	Superstructure Details (Sheet 5 of 5)
22	Slope Wall Details
23	Approach Slab Details (Sheet 1 of 3)
24	Approach Slab Details (Sheet 2 of 3)
25	Approach Slab Details (Sheet 3 of 3)
26	Drain Details at Ends of Bridge

LOAD AND RESISTANCE FACTOR DESIGN DATA

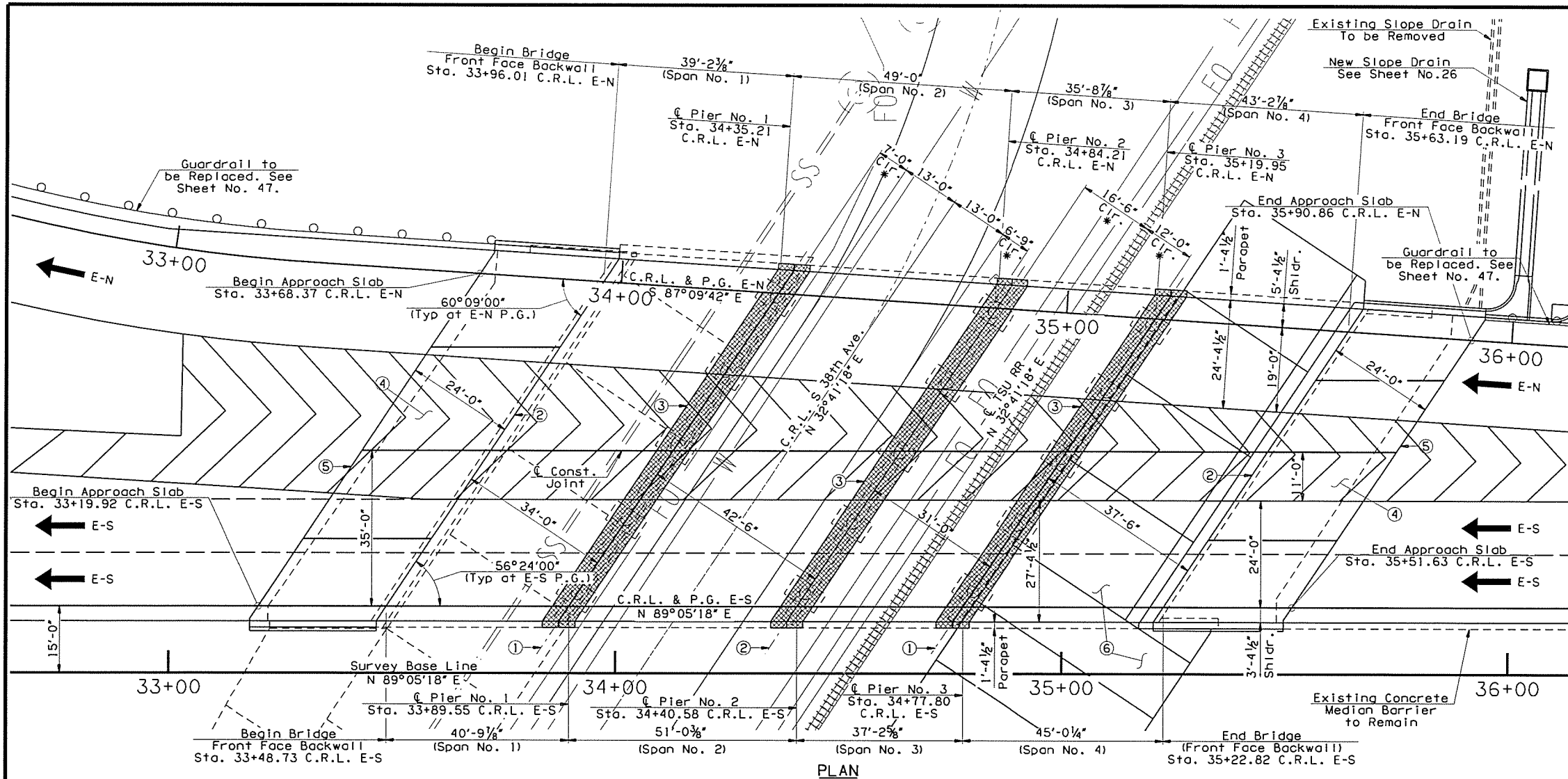
Class AA Concrete $f'_c = 4,000$ p.s.i.
 Class A Concrete $f'_c = 3,000$ p.s.i.
 Reinforcing Steel (Grade 60) $f_y = 60,000$ p.s.i.
 Structural Steel (M270, Gr. 50W) $f_y = 50,000$ p.s.i.

Loading: HL93 and 20 p.s.f. Future Wearing Surface, or OK Overload Truck and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 6th Edition with current Interims.

ANSI/AASHTO/AWS: D1.5 Bridge Welding Code
 ANSI/AASHTO/AWS: D1.6 Structural Welding Code - Stainless Steel

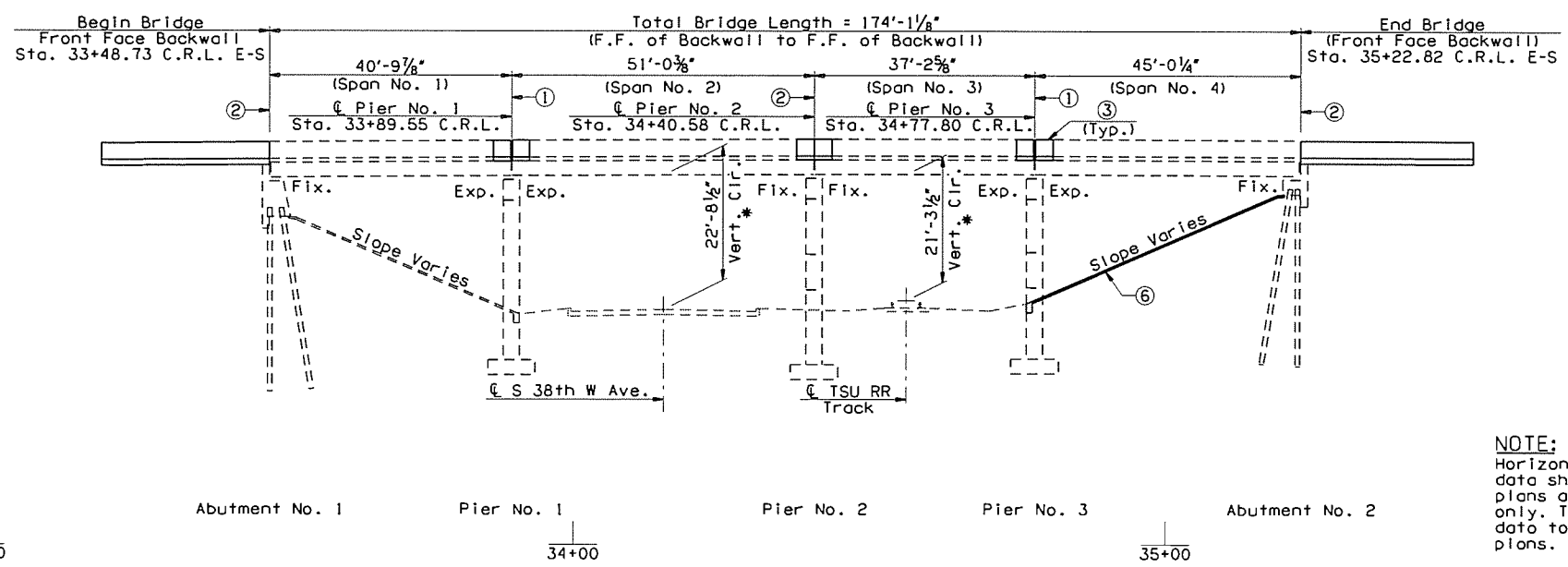
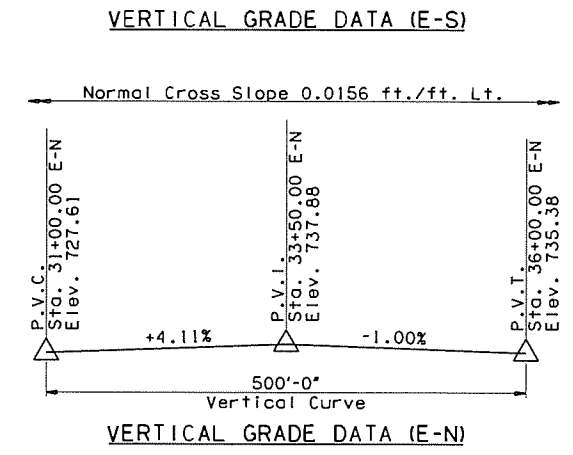
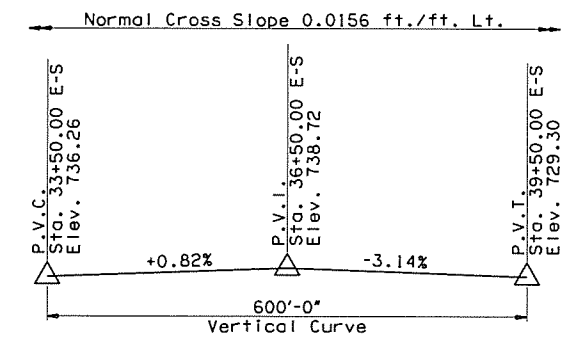
LFD Operating Rating: HS 64.5



PLAN

- ① Remove existing Expansion Joint and replace with new Sealed Expansion Joint. Reset existing Roller Bearings, see Sheet Nos. 17 - 21.
- ② Remove existing Sawed & Sealed Construction Joint and replace with new Sawed and Sealed Construction Joint, see Sheet Nos. 17 - 21.
- ③ Remove and replace 3 feet of deck to both sides of Joints located above Piers, see Sheet Nos. 17 - 21.
- ④ Install new Approach Slab. See Sheet Nos. 23 - 25.
- ⑤ Install new Terminal Joint, see DETAIL "B" Sheet No 25.
- ⑥ Remove and Replace all Slope Wall panels at Abutment No. 2, see Sheet No 22.

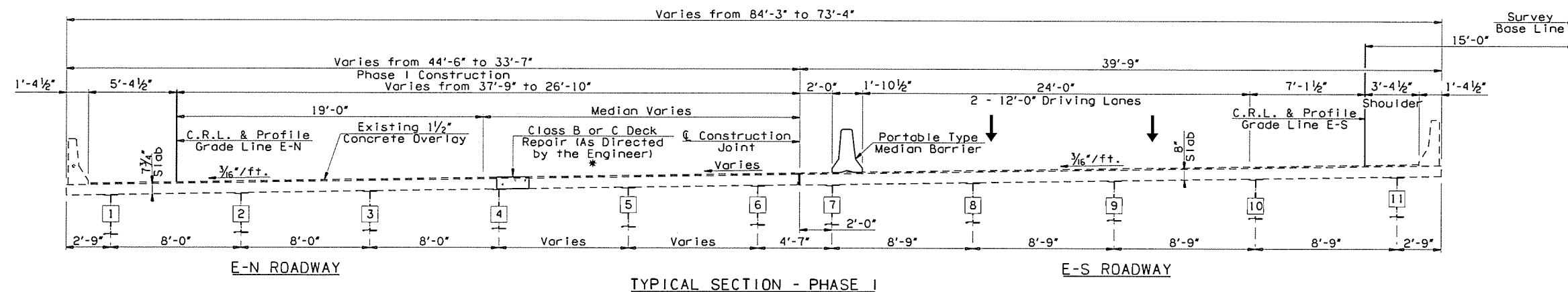
*Vertical and horizontal clearances shown are taken from As-Built plans.



ELEVATION

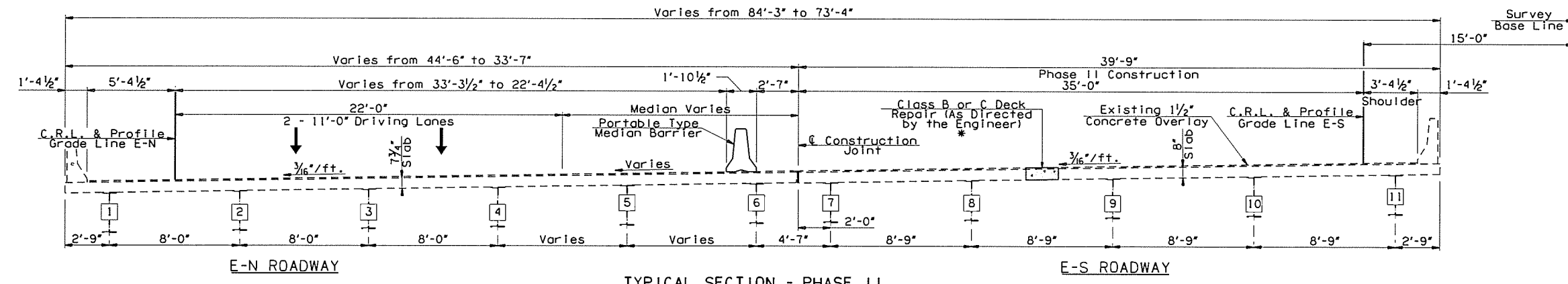
NOTE:
 Horizontal geometry and vertical profile data shown is taken from the original design plans and is for informational purposes only. The Contractor shall field verify all data to perform the work specified in these plans. See "GENERAL NOTES".

I-44 WB OVER S 38TH W AVE TULSA COUNTY & TSU RR BRIDGE "A"		DESIGN	JMO	9/15
GENERAL PLAN AND ELEVATION		DETAIL	SJL	9/15
		CHECK	BRT	9/15
		GARVER		

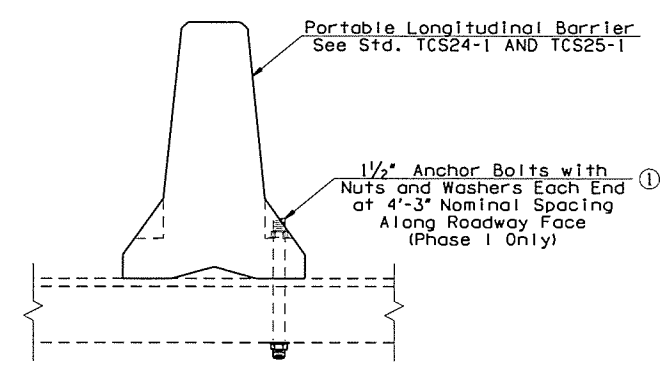


TYPICAL SECTION - PHASE I

*In addition to repair areas, as directed by the Engineer, Class C Bridge Deck Repair shall be used to replace the existing Expansion and Construction Joints at the piers.



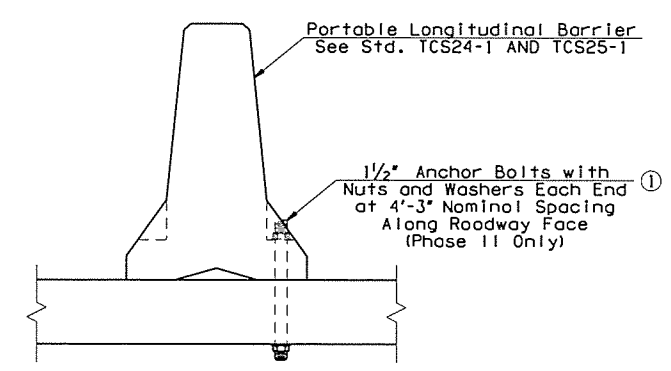
TYPICAL SECTION - PHASE II



① Provide Anchor Bolts having a minimum yield strength of 55 K.S.I. and a minimum tensile strength of 75 K.S.I. Submit the type of Anchor Bolt to the Engineer for approval prior to installation. Fill the remaining holes in the existing or new Deck Slab after removing Anchors in a manner approved by the Engineer. Include all costs for the Anchor Bolts, hole repair, labor, and incidentals necessary in the contract unit price of "PORTABLE LONGITUDINAL BARRIER" per roadway plans.

NOTE 1:
The Contractor shall submit the type of Concrete Anchor to the Bridge Engineer for approval prior to installation of Anchors. Anchors shall have a Minimum Ultimate Pullout Capacity of 10,000 lbs. and a Minimum Ultimate Shear Capacity of 13,000 lbs.

PORTABLE LONGITUDINAL BARRIER DETAIL ON EXISTING BRIDGE DECK



NOTE 2:
The Contractor shall submit the type of Concrete Anchor to the Bridge Engineer for approval prior to installation of Anchors. Anchors shall have a Minimum Ultimate Pullout Capacity of 10,000 lbs. and a Minimum Ultimate Shear Capacity of 13,000 lbs.

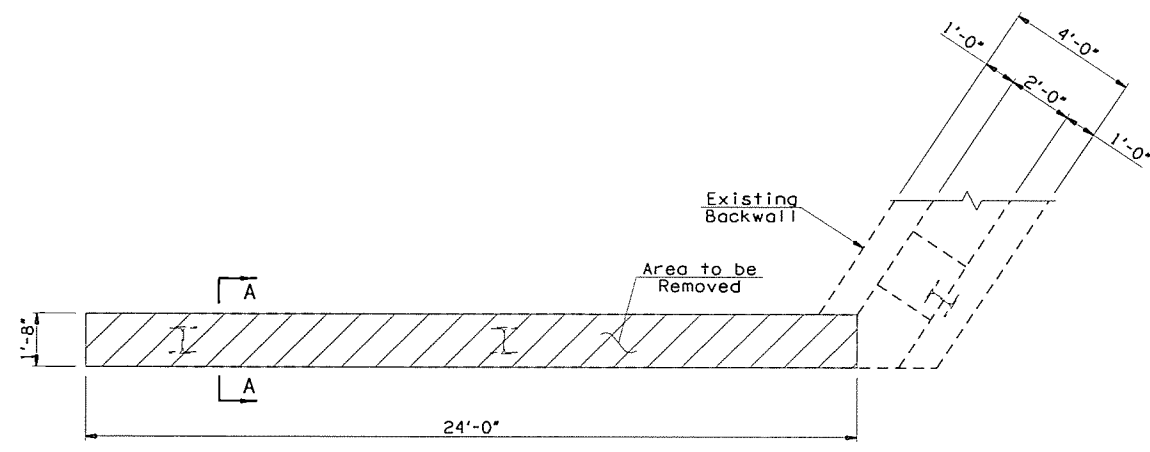
PORTABLE LONGITUDINAL BARRIER DETAIL ON PROPOSED BRIDGE DECK

LEGEND

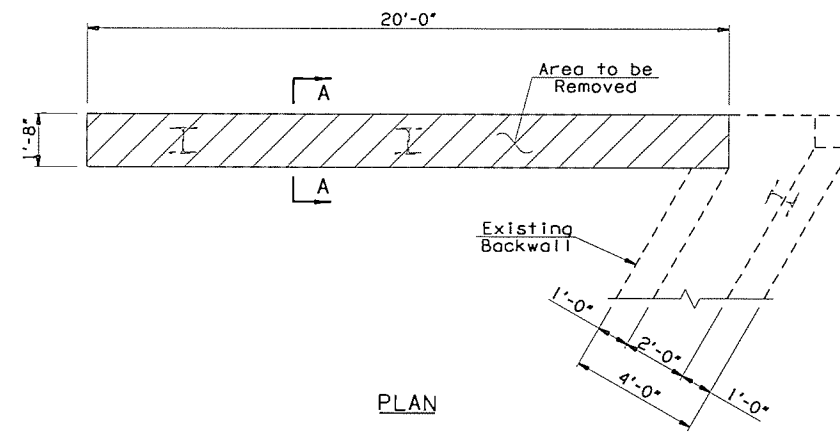
---	Existing Structure
—	Proposed Structure
⏏	Temporary Median Barrier

I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	8/15
& TSU RR BRIDGE 'A'		DETAIL	SJL	9/15
		CHECK	BRT	11/15
SEQUENCE OF CONSTRUCTION		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO.	10	

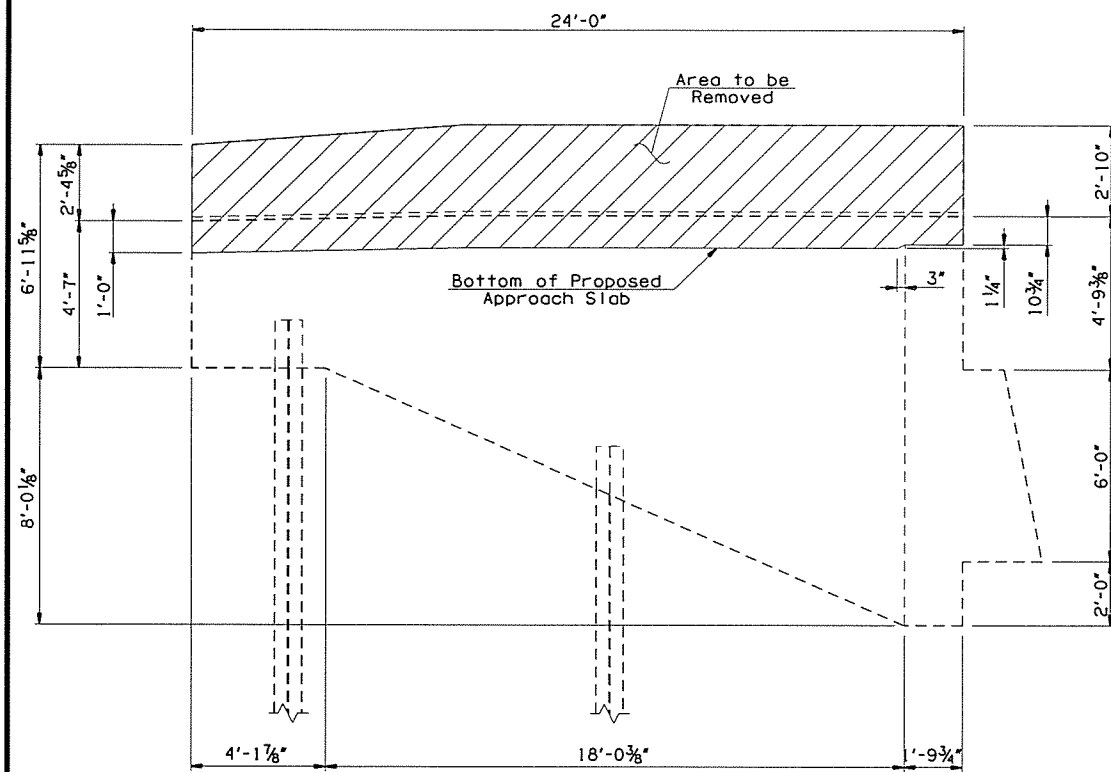
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						DATE
REVISIONS						



PLAN

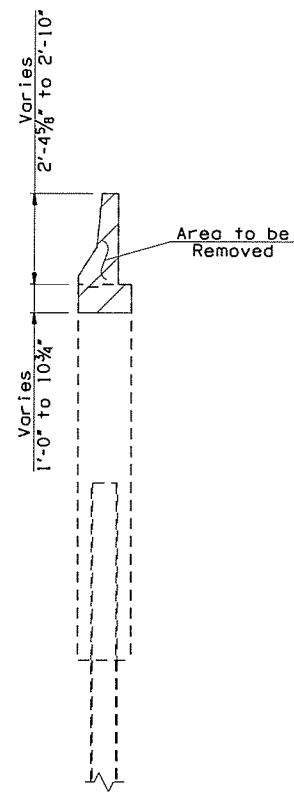


PLAN

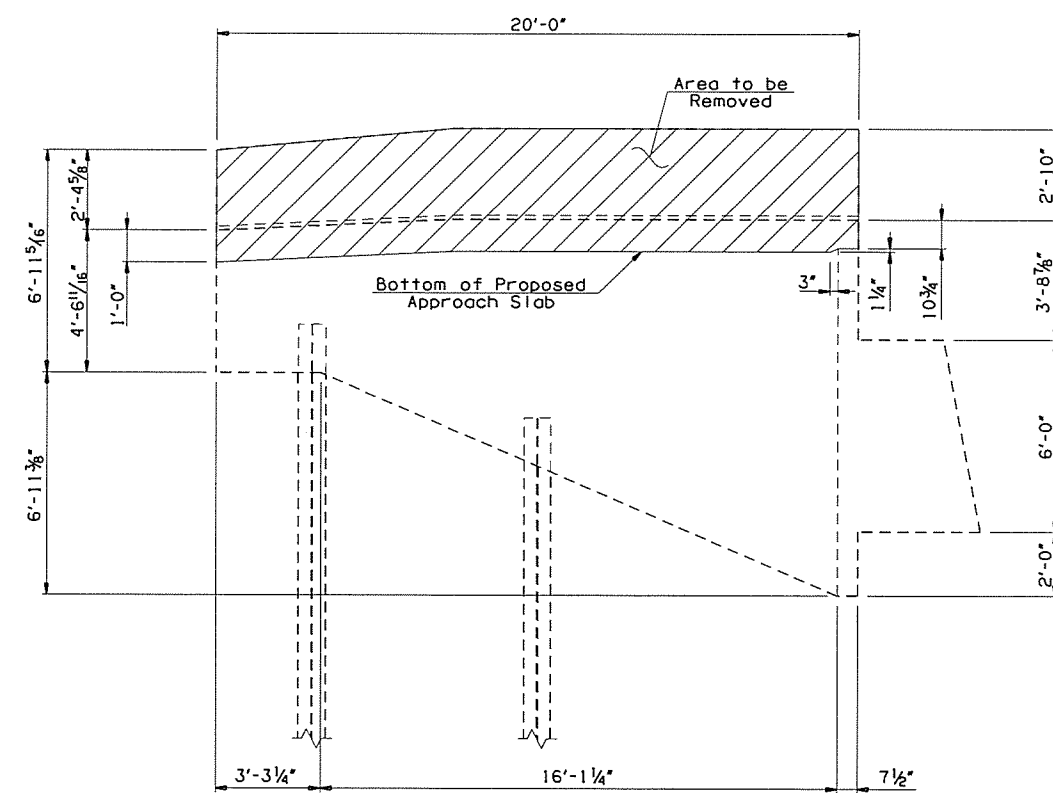


ELEVATION

SOUTHWEST WING

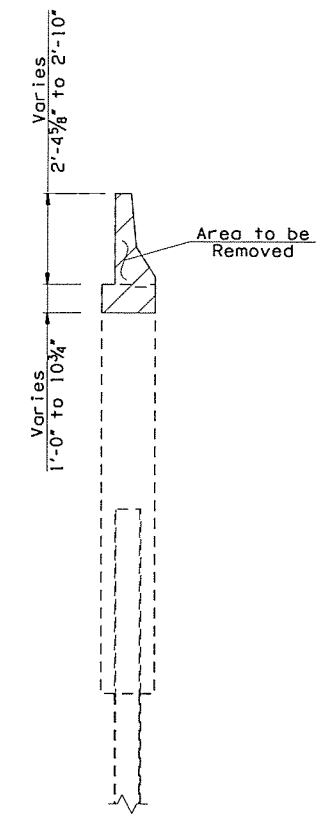


SECTION A-A
(Looking Forward Station)



ELEVATION

NORTHWEST WING



SECTION A-A
(Looking Forward Station)

ABUTMENT NO. 1 WING DEMOLITION DETAILS

NOTES:

All incidental construction required for the removal of portions of existing wingwalls, including wingwalls, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing abutments & shall be solely responsible for the accuracy thereof.

For construction details at Abutment No. 1, see Sheet No. 14.

Removal of portions of backwall shall be performed after removal of parapet & wing portions.

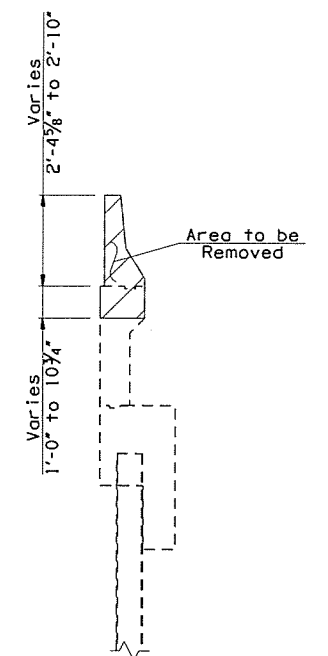
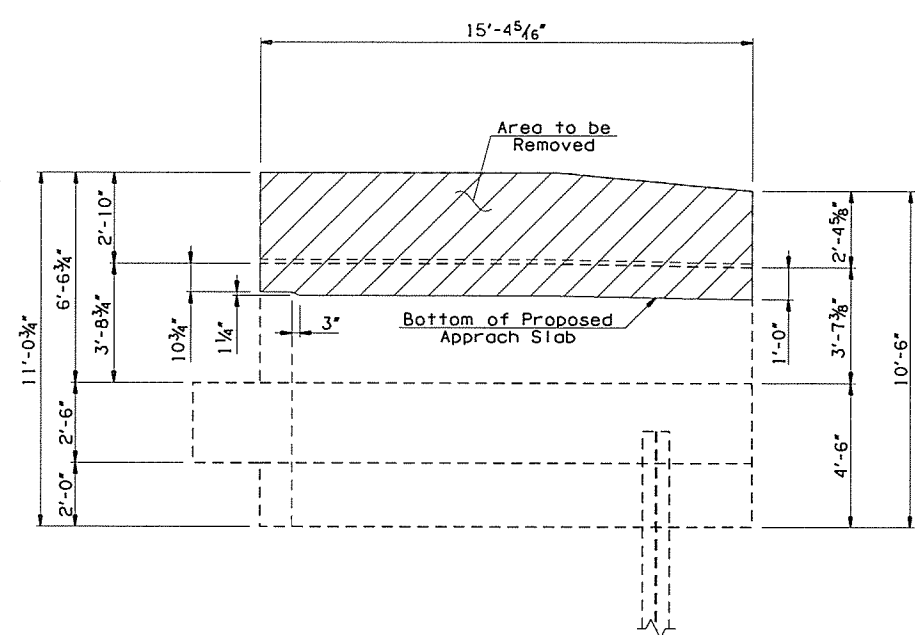
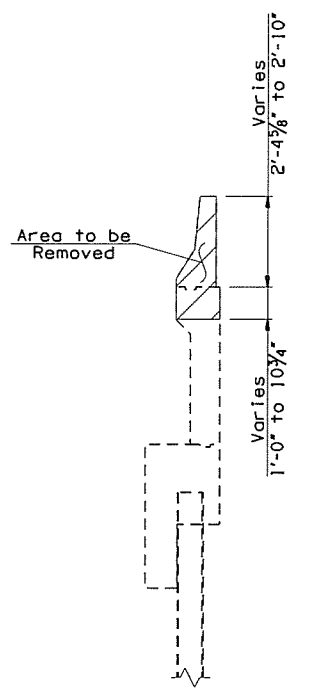
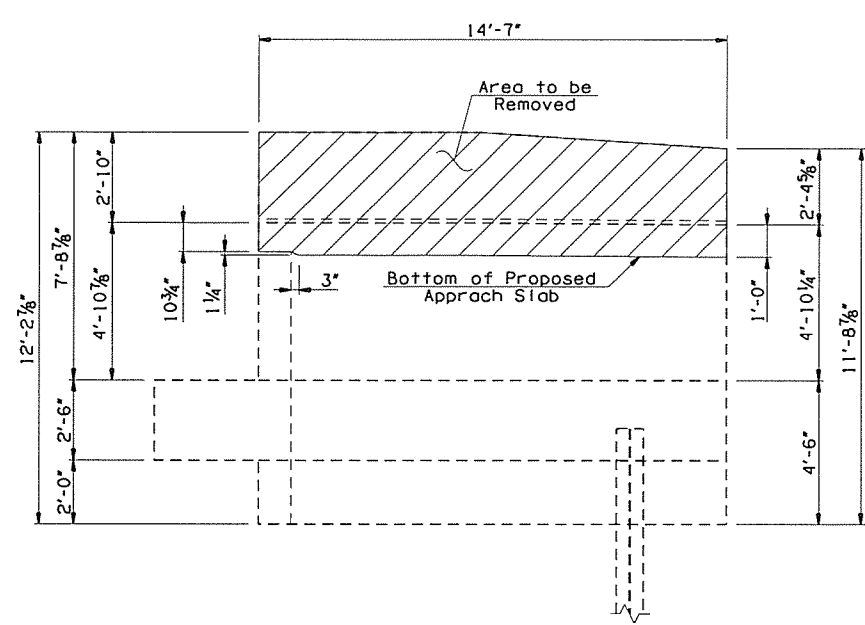
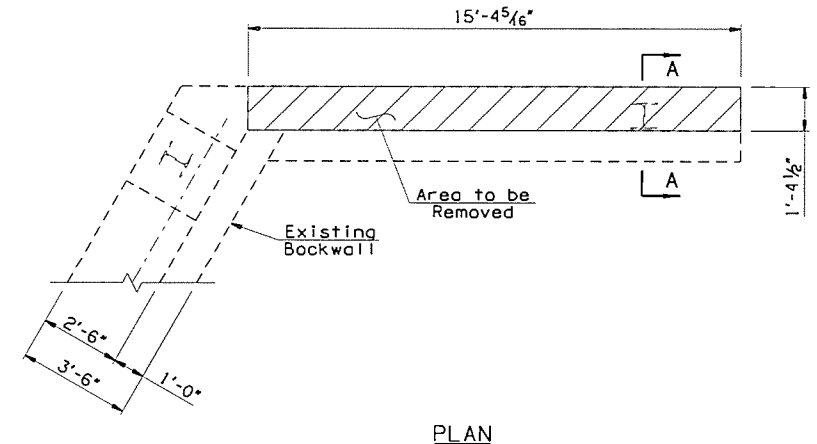
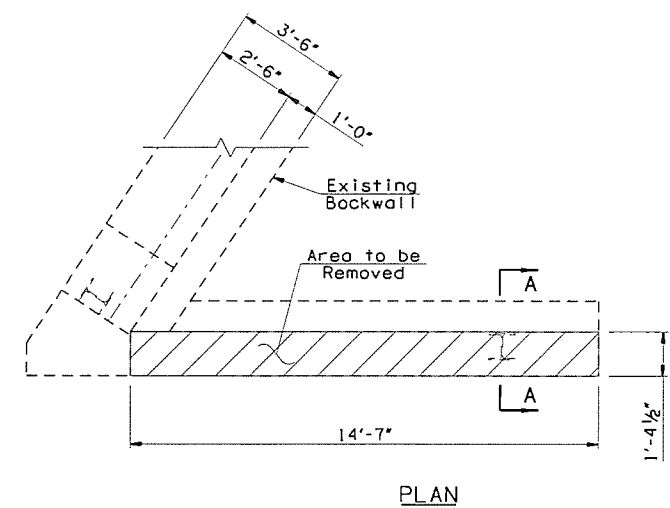
LEGEND

- Demolition cost to be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
- Existing Structure

I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	8/15
& TSU RR		DETAIL	SJL	9/15
BRIDGE "A"		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 1 OF 4)				
GARVER				

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 11

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	288721041				
DESCRIPTION						DATE
REVISIONS						



ELEVATION

SECTION A-A
(Looking Forward Station)

ELEVATION

SECTION A-A
(Looking Forward Station)

SOUTHEAST WING

NORTHEAST WING

ABUTMENT NO. 2 WING DEMOLITION DETAILS

NOTES:

All incidental construction required for the removal of portions of existing Wingwalls, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing Abutments & shall be solely responsible for the accuracy thereof.

For construction details at Abutment No. 2, see Sheet No. 14.

Removal of portions of backwall shall be performed after removal of parapet & wing portions.

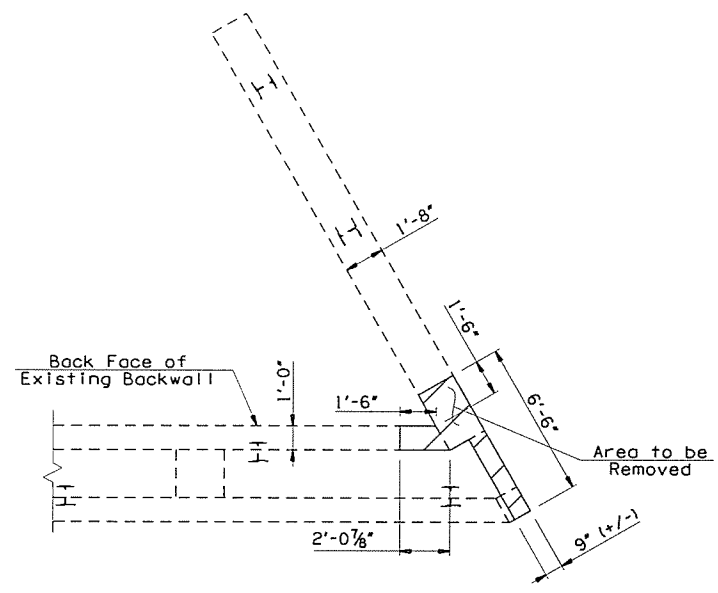
LEGEND

- Demolition cost to be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
- Existing Structure

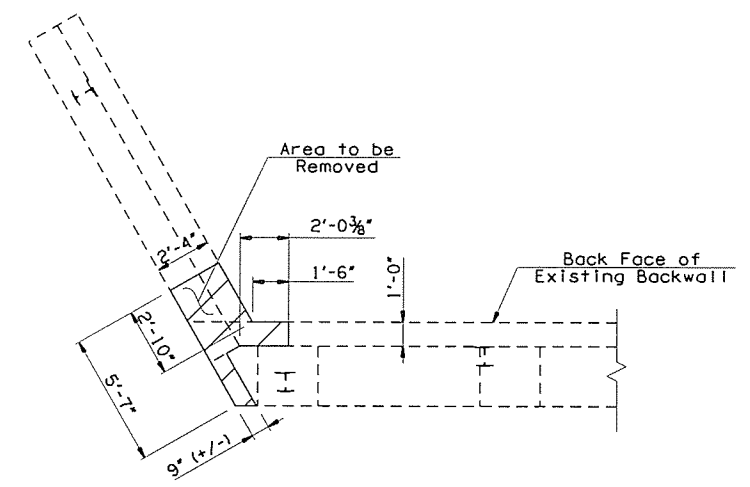
I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	8/15
& TSU RR BRIDGE "A"		DETAIL	SJL	10/15
		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 2 OF 4)		GARVER		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 288721041	SHEET NO. 12

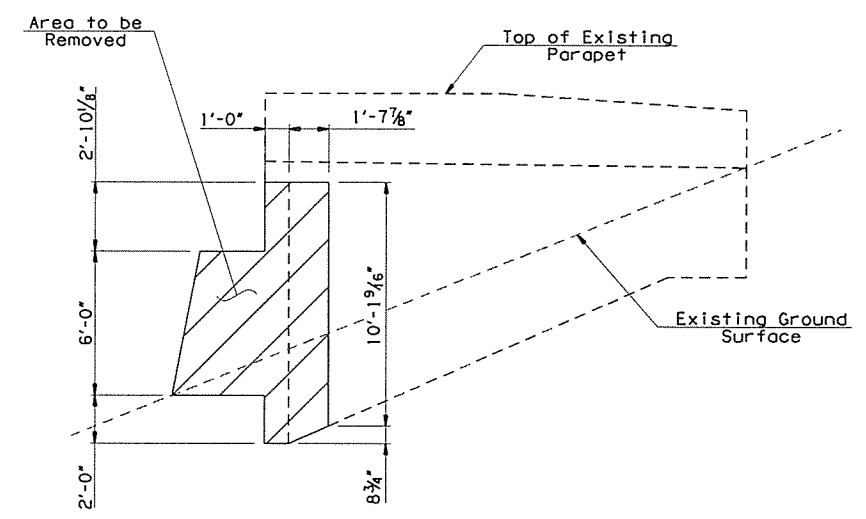
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION				REVISIONS	DATE	



PLAN



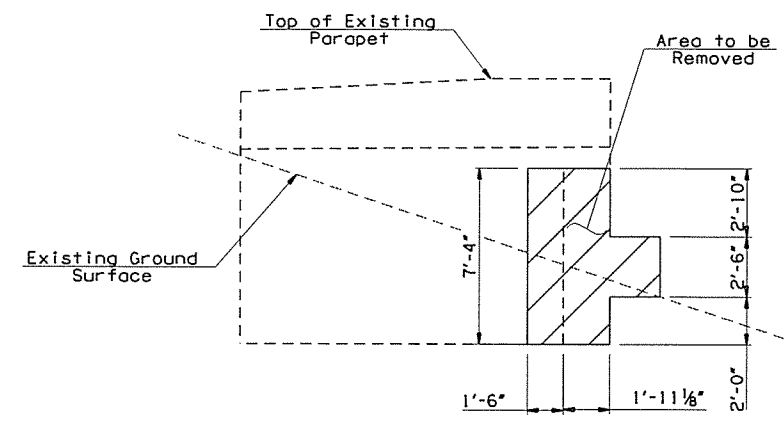
PLAN



ELEVATION

NORTHWEST WING

ABUTMENT NO. 1 DEMOLITION DETAILS



ELEVATION

NORTHEAST WING

ABUTMENT NO. 2 DEMOLITION DETAILS

NOTES:
 All incidental construction required for the removal of portions of existing Abutments, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
 All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing Abutments & shall be solely responsible for the accuracy thereof.
 For Abutment construction details, see Sheet No. 14.
 Removal of portions of backwall shall be performed after removal of parapet & wing portions.
 All horizontal & vertical reinforcing steel shall be cleaned & preserved, except of section loss is greater than 25%.

LEGEND

Demolition cost to be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

Existing Structure

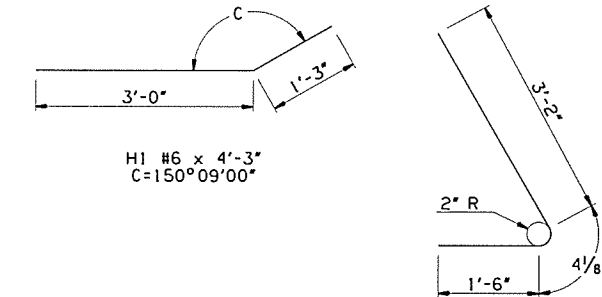
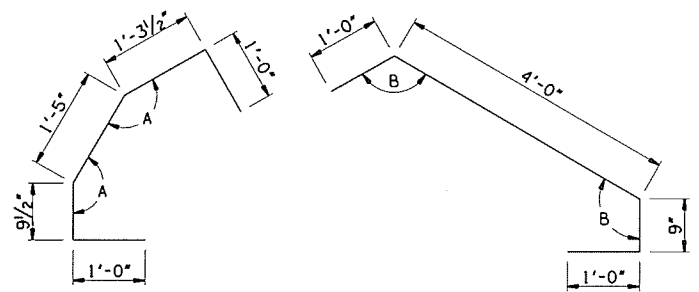
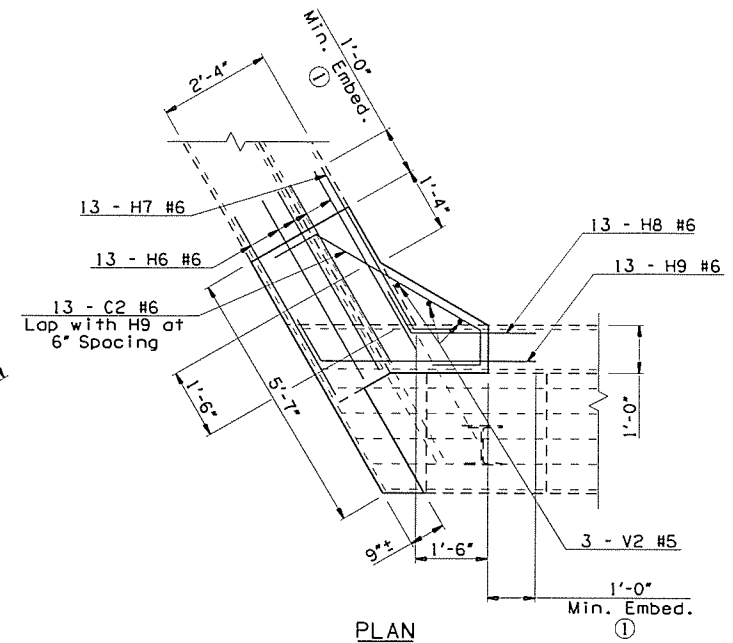
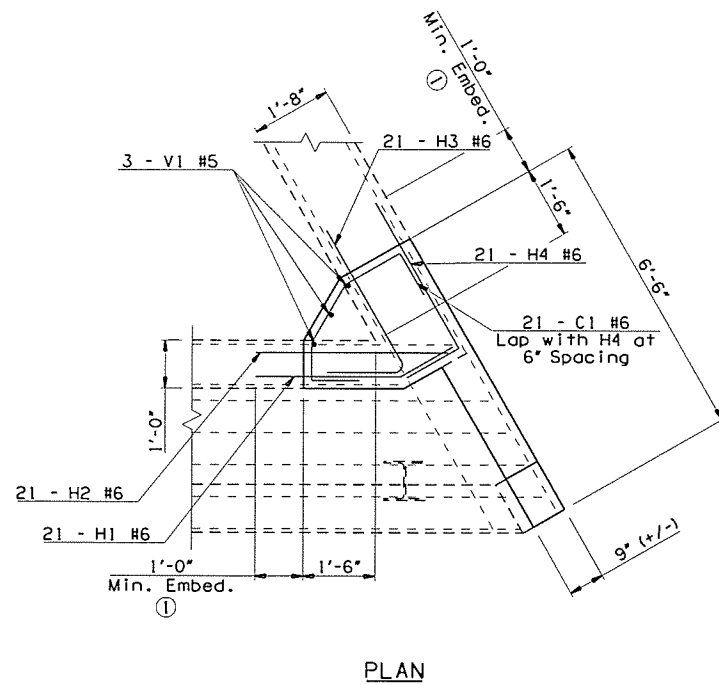
I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	8/15
& TSU RR		DETAIL	SJL	10/15
BRIDGE "A"		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 3 OF 4)		GARVER		

SUMMARY OF QUANTITIES - ABUTMENT NO. 1		
ITEM	UNIT	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	49.00
CLASS A CONCRETE	C.Y.	3.40
EPOXY COATED REINFORCING STEEL	LB.	922.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	88.00
PREPARATION OF CRACKS, ABOVE WATER	L.F.	144.00
EPOXY RESIN, ABOVE WATER	GAL.	4.80
PNEUMATICALLY PLACED MORTAR	S.Y.	37.40

BAR LIST - ABUTMENT NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
C1	#6	21	BENT	5'-6"	-
H1	#6	21	BENT	4'-3"	-
H2	#6	21	STR.	4'-0"	-
H3	#6	21	BENT	5'-0"	-
H4	#6	21	BENT	4'-9"	-
H5	#6	21	BENT	4'-9"	-
V1	#5	3	STR.	9'-10"	-

SUMMARY OF QUANTITIES - ABUTMENT NO. 2		
ITEM	UNIT	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	48.00
CLASS A CONCRETE	C.Y.	3.10
EPOXY COATED REINFORCING STEEL	LB.	511.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	40.00
PREPARATION OF CRACKS, ABOVE WATER	L.F.	96.00
EPOXY RESIN, ABOVE WATER	GAL.	3.20
PNEUMATICALLY PLACED MORTAR	S.Y.	16.00

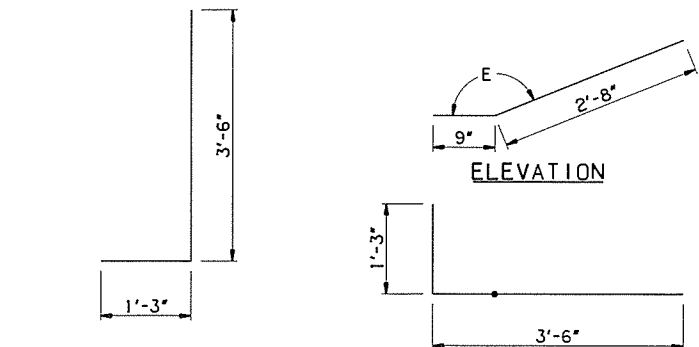
BAR LIST - ABUTMENT NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
C2	#6	13	BENT	6'-9"	-
H6	#6	13	STR.	4'-3"	-
H7	#6	13	BENT	4'-11"	-
H8	#6	13	BENT	3'-7"	-
H9	#6	13	BENT	5'-6"	-
V2	#5	3	STR.	7'-0"	-



C1 #6 x 5'-6"
A=149°55'30"

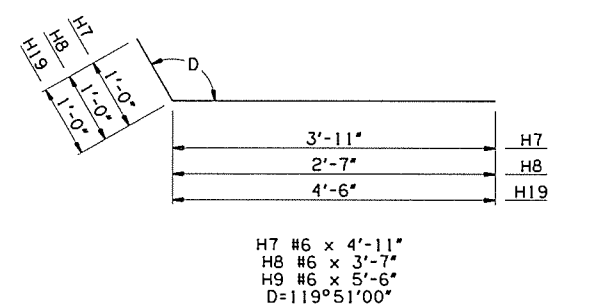
C2 #6 x 6'-9"
B=120°04'30"

H3 #6 x 5'-0"

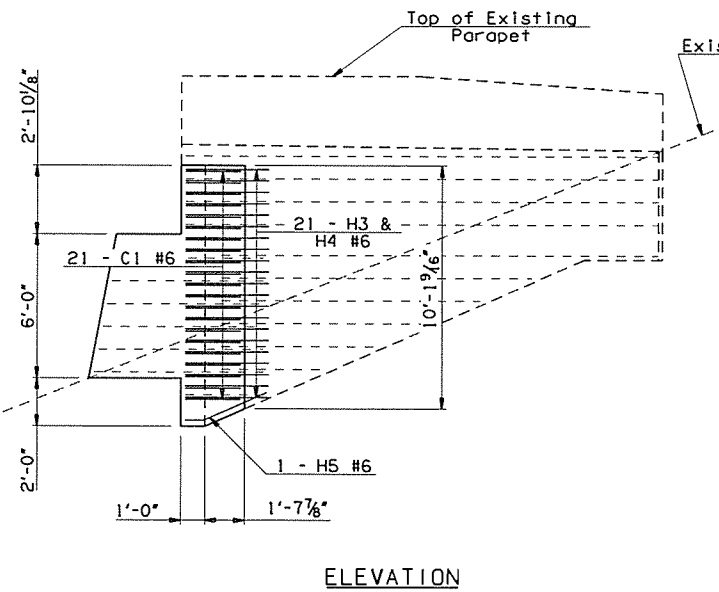


H4 #6 x 4'-9"

H5 #6 x 4'-9"
E=156°10'00"

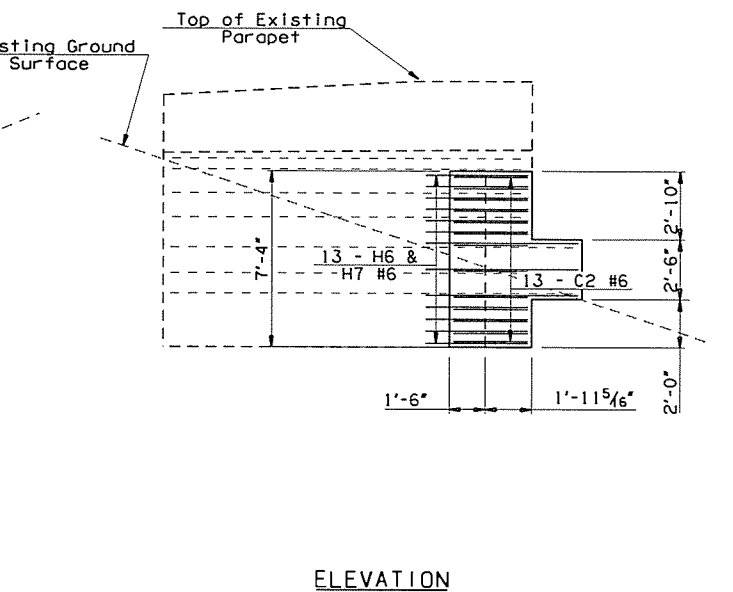


H7 #6 x 4'-11"
H8 #6 x 3'-7"
H9 #6 x 5'-6"
D=119°51'00"



ELEVATION

NORTHWEST WING



ELEVATION

NORTHEAST WING

ABUTMENT NO. 1 CONSTRUCTION DETAILS

ABUTMENT NO. 2 CONSTRUCTION DETAILS

① ANCHORAGE SYSTEM:

The Contractor shall use an Anchorage System that has been approved by ODOT's materials division. The Anchorage System shall be capable of developing the full strength of the reinforcing steel that is to be anchored. The embedment depth shown is to be adjusted to meet the Manufacturer's requirements. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.

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 non-destructive 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 reinforcing bars from the plan locations shown shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All costs of the Anchorage Assemblies including labor, materials, tools, drilling, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Pound of "EPOXY COATED REINFORCING STEEL".

NOTES:

All incidental construction required for the removal of portions of existing Abutments, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

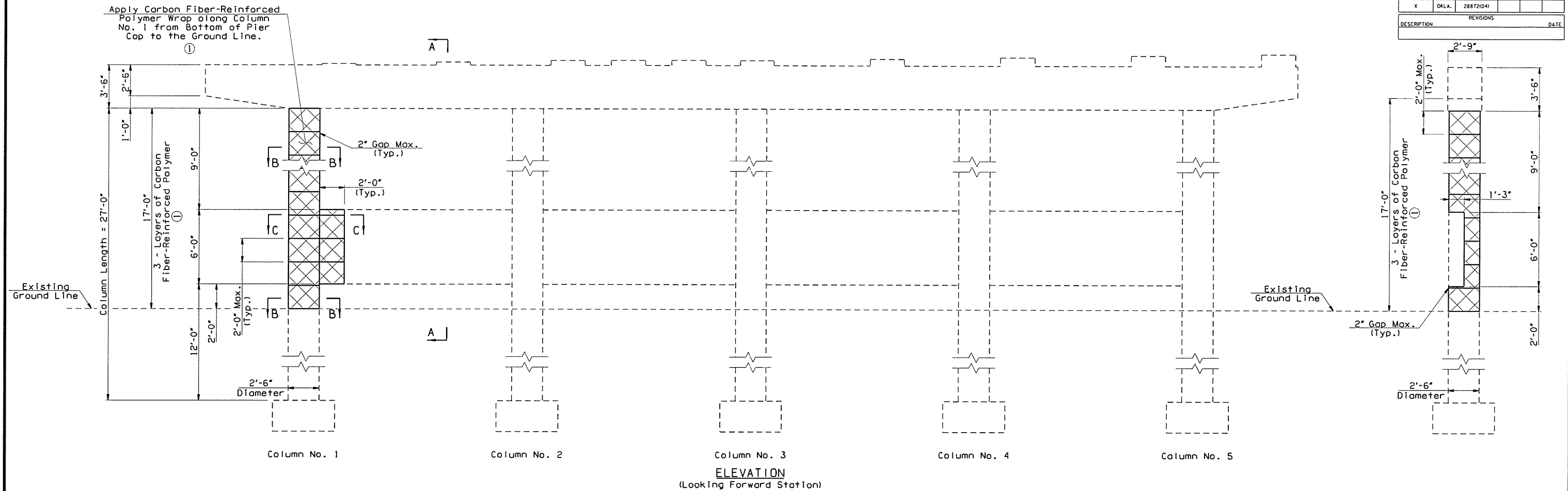
All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing Abutments & shall be solely responsible for the accuracy thereof.

For Abutment demolition details, see Sheet Nos. 11 - 13.

Removal of portions of backwall shall be performed after removal of parapet & wing portions.

All horizontal & vertical reinforcing steel shall be cleaned & preserved, except of section loss is greater than 25%.

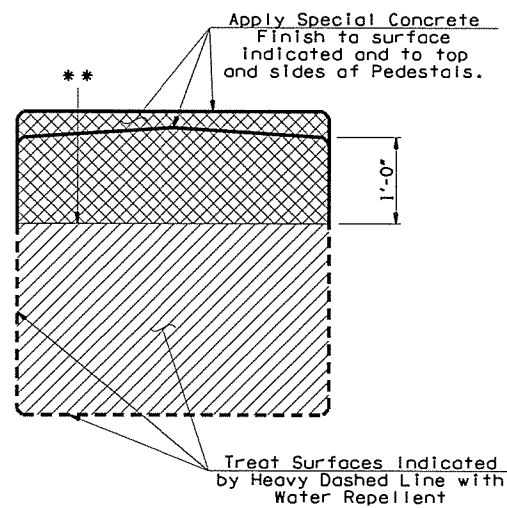
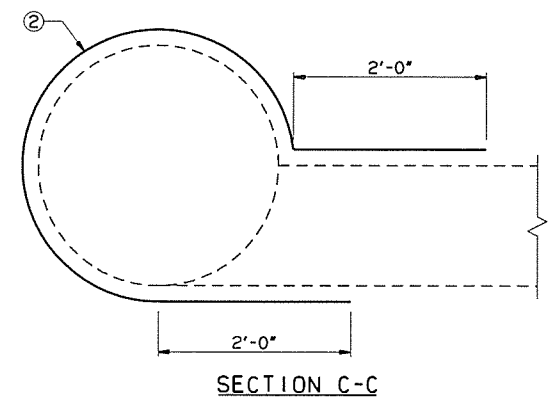
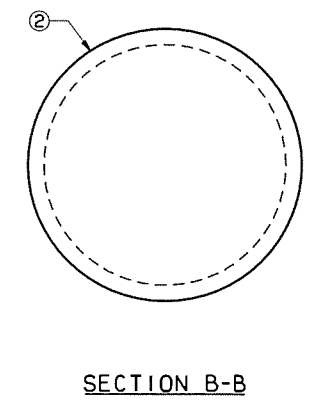
1-44 WB OVER S 38TH W AVE & TSU RR BRIDGE "A"	TULSA COUNTY	DESIGN JMO 6/15
		DETAIL SJL 10/15
		CHECK BRT 11/15
ABUTMENT DETAILS (SHEET 4 OF 4)		
GARVER		



ELEVATION
(Looking Forward Station)

DETAILS OF PIER NO. 3 REPAIR
(Carbon Fiber-reinforced Polymer Wrap & Corrosion Inhibitor Surface Treatment)

SECTION A-A



CONCRETE TREATMENT DETAILS

SUMMARY OF QUANTITIES - PIER REPAIR					
ITEM	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	56.00	54.00	52.00	162.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	79.00	75.00	72.00	226.00
PREPARATION OF CRACKS, ABOVE WATER	L.F.	180.00	180.00	96.00	456.00
EPOXY RESIN, ABOVE WATER	GAL.	6.00	6.00	3.20	15.20
PNEUMATICALLY PLACED MORTAR	S.Y.	37.40	36.00	13.40	86.80
(SP) CARBON FIBER-REINFORCED POLYMER	S.F.			150.80	150.80
(SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.			16.80	16.80

NOTES:
Installation of the Carbon Fiber-Reinforced Polymer shall be applied per the Manufacturer's Specifications and shall be approved by the Engineer.

All costs of Carbon Fiber-Reinforced Polymer including all three (3) layers of material, epoxy, labor, equipment and any other incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Foot of (SP) CARBON FIBER-REINFORCED POLYMER*.

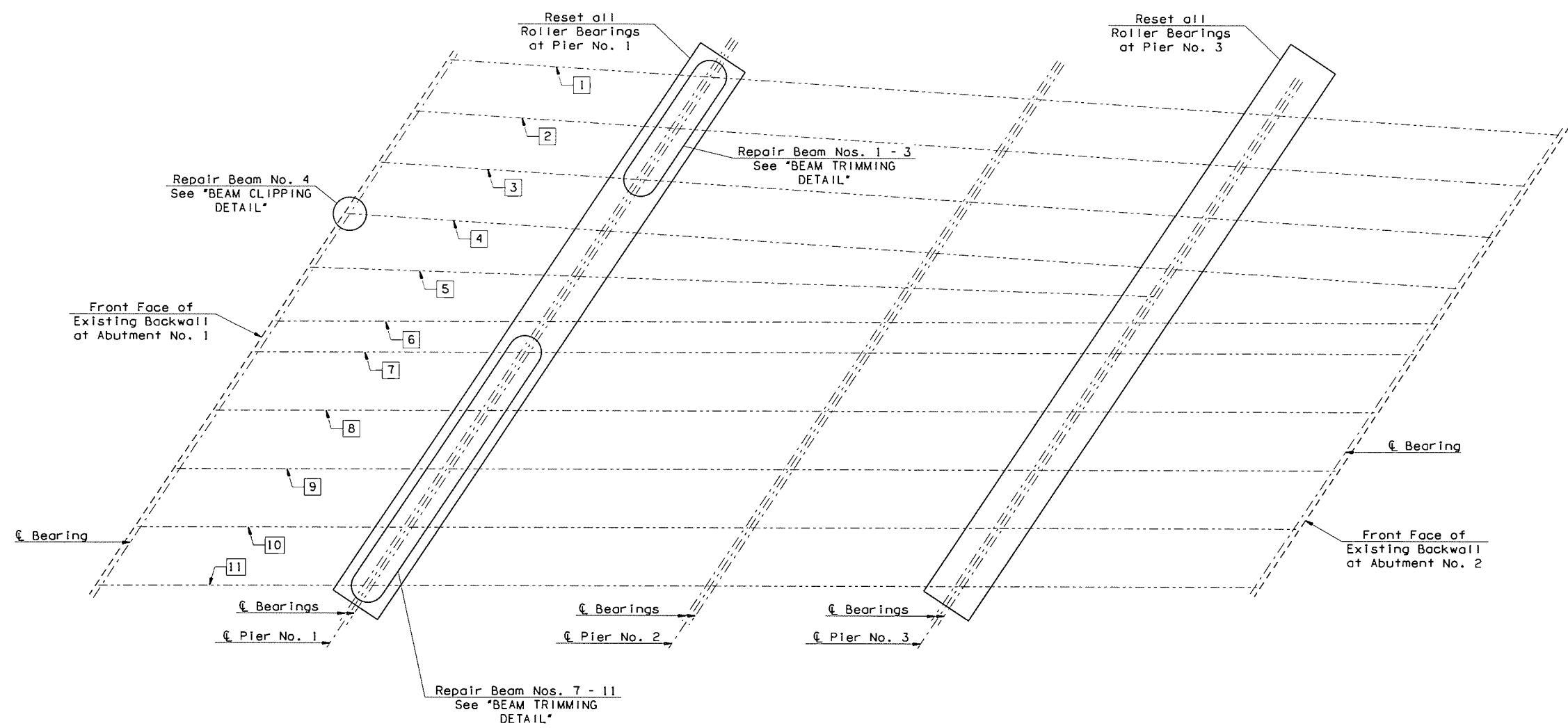
Before applying the Carbon Fiber-Reinforced Polymer and Corrosion Inhibitor, the Contractor shall remove all unsound concrete from areas to be repaired. After removal of unsound concrete, exposed reinforcing steel shall be cleaned, corrosion shall be removed.

** Mask sides and ends of Pier Cap along this line to provide a clean straight finish at top and bottom of Special Concrete Finish application. See "GENERAL NOTE" on Sheet No. 3 for Special Concrete Finish Specifications.

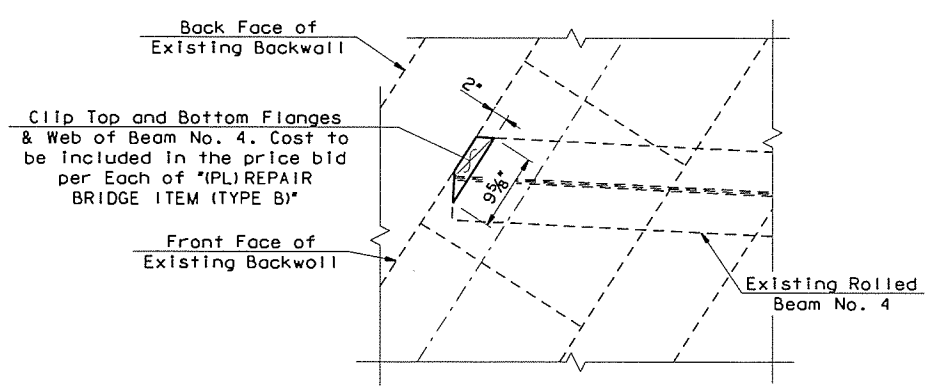
- ① Carbon Fiber-Reinforced Polymer shall be applied to the Column and Strut in three (3) layers. The first and third layers shall be applied in a horizontal pattern. The second layer shall be applied in a vertical pattern.
- ② Corrosion Inhibitor and Carbon Fiber-Reinforced Polymer Surface Treatment (indicated by heavy line).

I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	11/15
& TSU RR		DETAIL	SJL	11/15
BRIDGE "A"		CHECK	BRT	11/15
GARVER				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 15		

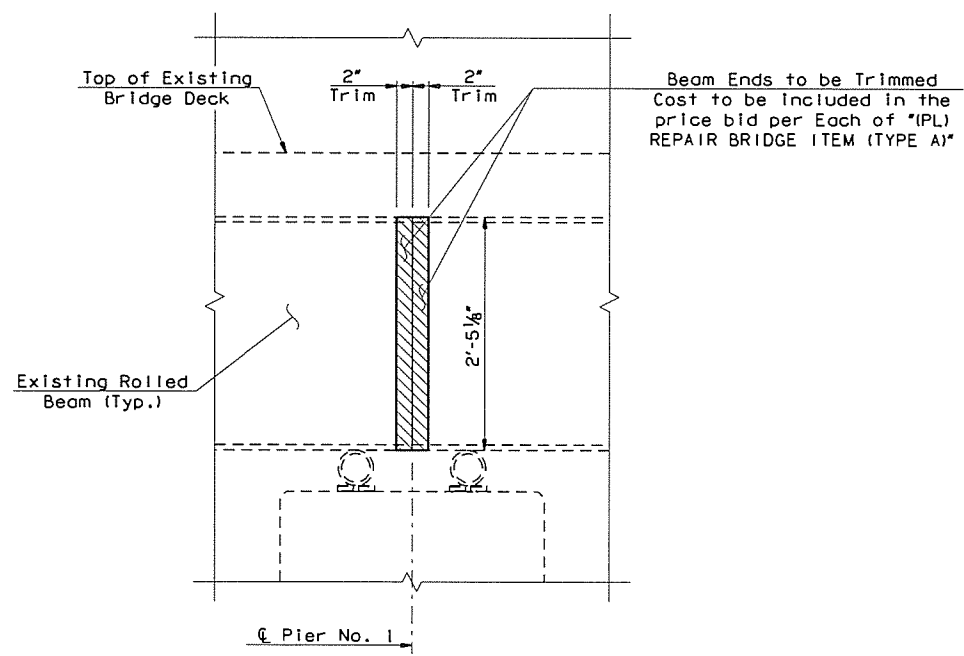
OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION					DATE



FRAMING PLAN



BEAM CLIPPING AT ABUTMENT NO. 1
(Beam No. 4 only)

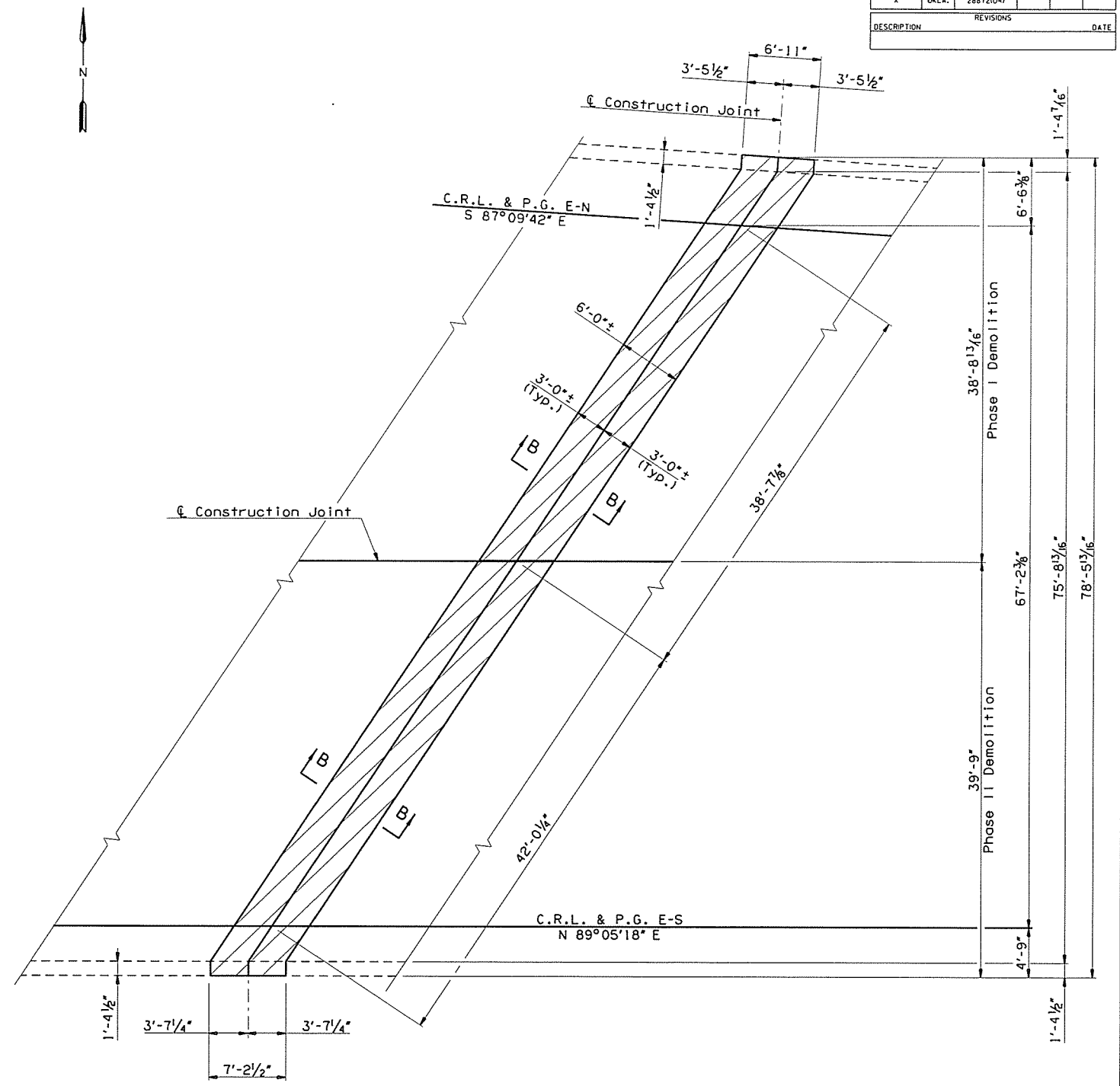
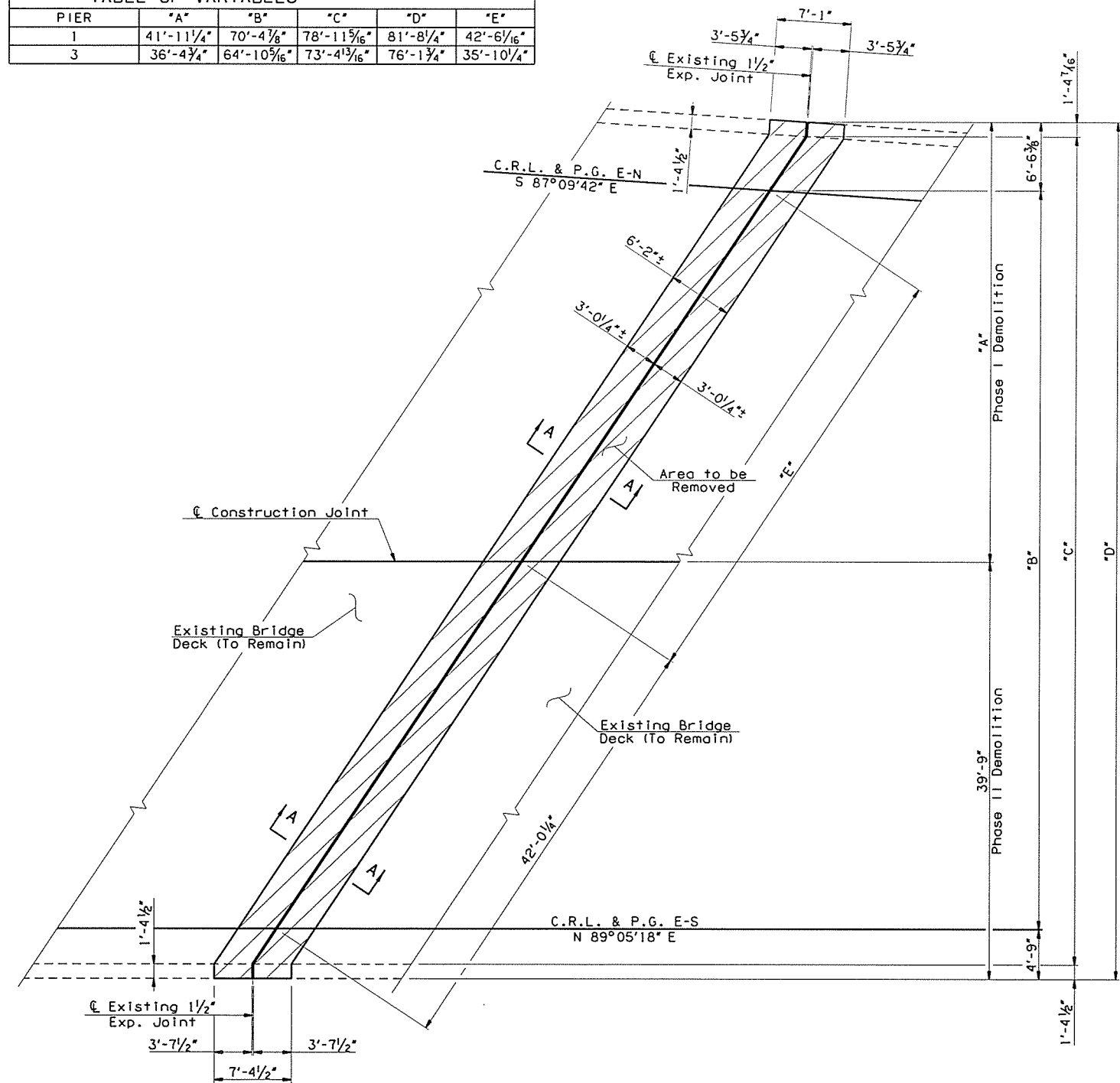


BEAM END TRIM DETAIL AT PIER NO. 1
(Typical of all ends of Beam Nos. 1 - 3 & 7 - 11 at Pier No. 1)

1-44 WB OVER S 38TH W AVE & TSU RR BRIDGE "A"	TULSA COUNTY	DESIGN JMO 10/15
		DETAIL SJL 10/15
		CHECK BRT 11/15
SUPERSTRUCTURE REPAIR DETAILS		GARVER

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 16

TABLE OF VARIABLES					
PIER	"A"	"B"	"C"	"D"	"E"
1	41'-11 1/4"	70'-4 7/8"	78'-11 5/16"	81'-8 1/4"	42'-6 1/16"
3	36'-4 3/4"	64'-10 5/16"	73'-4 13/16"	76'-1 3/4"	35'-10 1/4"



NOTES:
 See Sheet No. 18 for SECTIONS A-A & B-B. **DEMOLITION PLAN AT PIER NOS. 1 & 3**

See Sheet Nos. 19 & 20 for details on construction of the existing Expansion and Construction Joints at the Piers.

All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sowed and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sowed and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

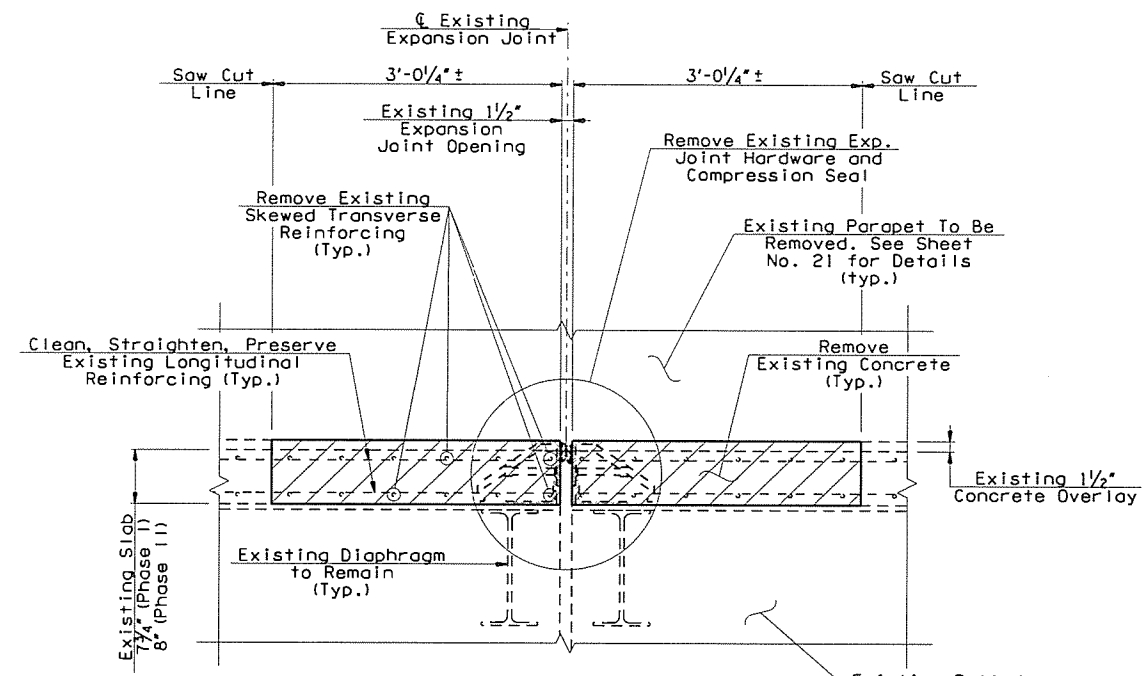
DEMOLITION PLAN AT PIER NO. 2

LEGEND

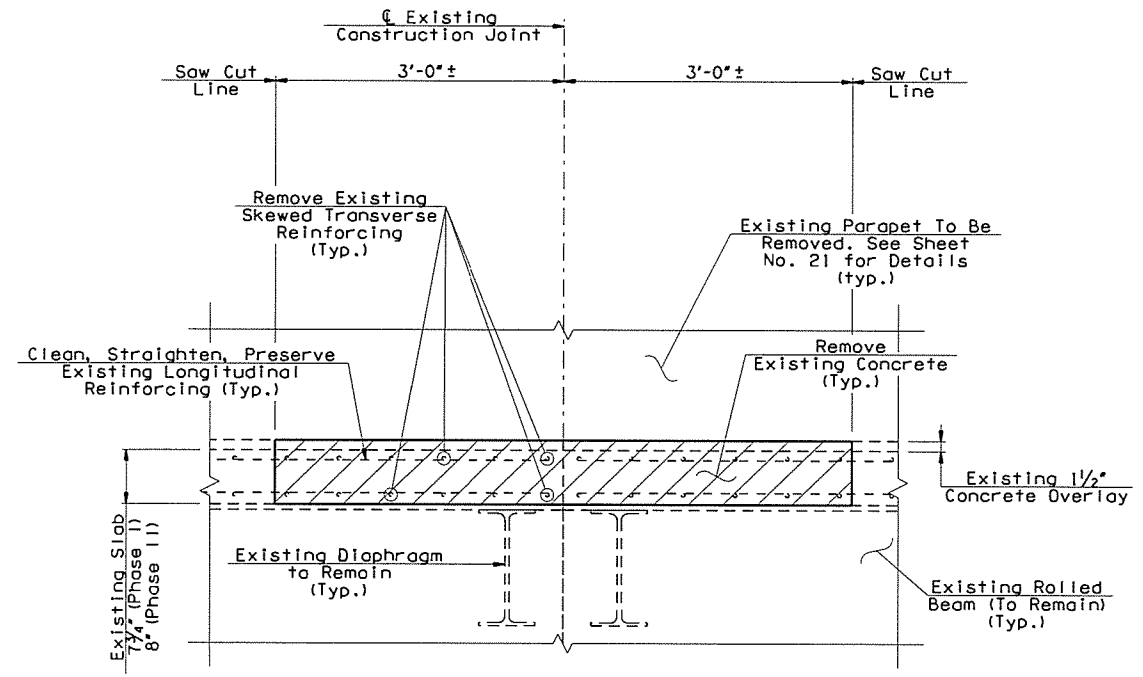
- Demolition cost to be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".
- Existing Structure

1-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMD	10/15
& TSU RR		DETAIL	SJL	10/15
BRIDGE "A"		CHECK	BRT	11/15
SUPERSTRUCTURE DETAILS (SHEET 1 OF 5)		GARVER		

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	DATE
X	OKLA.	28872(04)				
DESCRIPTION						REVISIONS



SECTION A-A AT PIER NOS. 1 & 3
(Shown Perpendicular to $\text{\textcircled{C}}$ Expansion Joint)



SECTION B-B AT PIER NO. 2
(Shown Perpendicular to $\text{\textcircled{C}}$ Construction Joint)

NOTES:

See Sheet Nos. 19 & 20 for details on construction of the existing Expansion and Construction Joints at the Piers.

All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sawn and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

LEGEND

- Demolition cast to be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".
- Existing Structure

I-44 WB OVER S 38TH W AVE & TSU RR BRIDGE "A"	TULSA COUNTY	DESIGN JMO 10/15
SUPERSTRUCTURE DETAILS (SHEET 2 OF 5)		DETAIL SJL 10/15
		CHECK BRT 11/15
GARVER		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 18

NOTES:

See Sheet No. 20 for SECTIONS A-A, B-B, and bar lists.

See Sheet Nos. 17 & 18 for details on demolition of the existing Expansion and Construction Joints at the Piers.

All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sawn and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

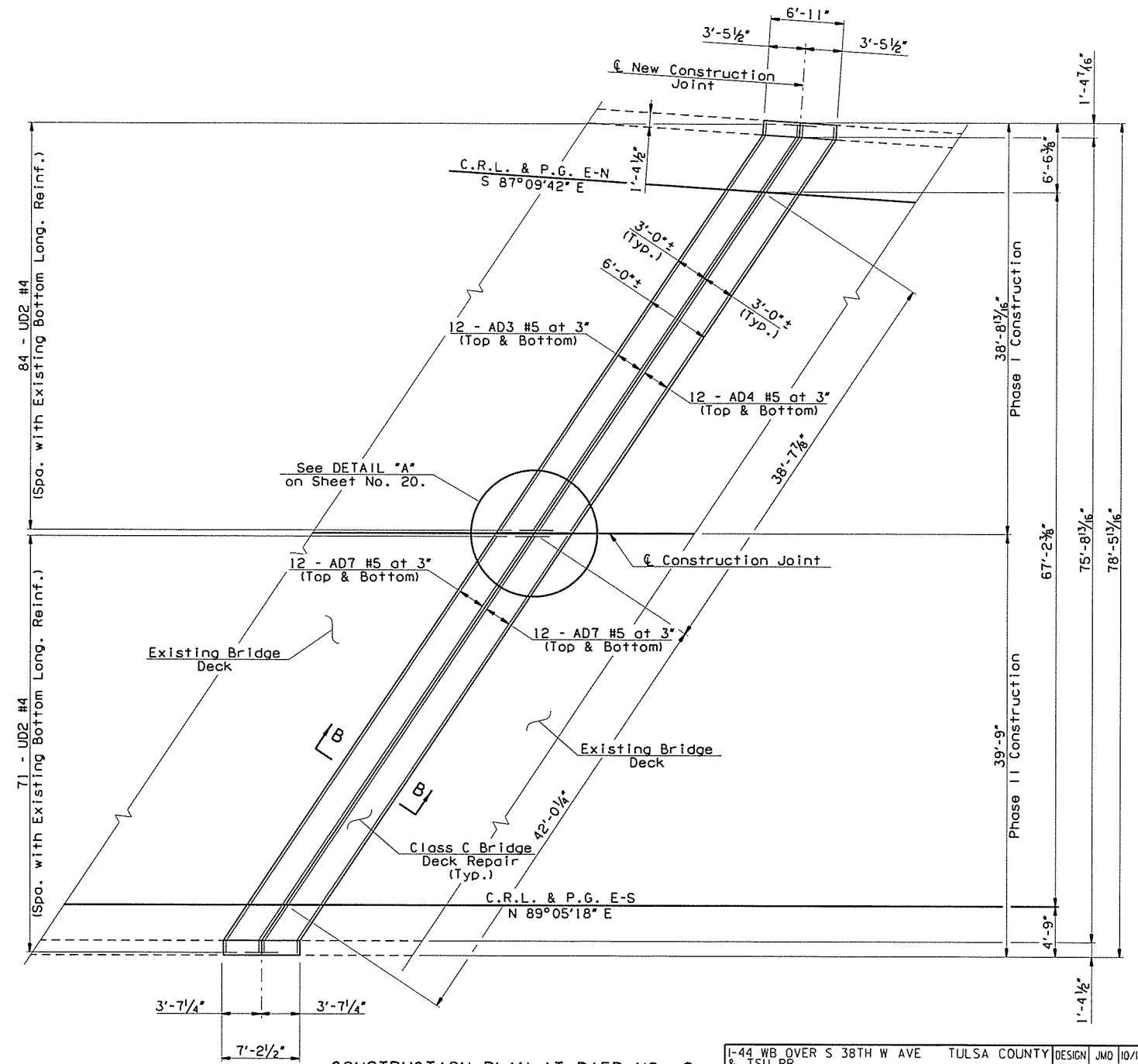
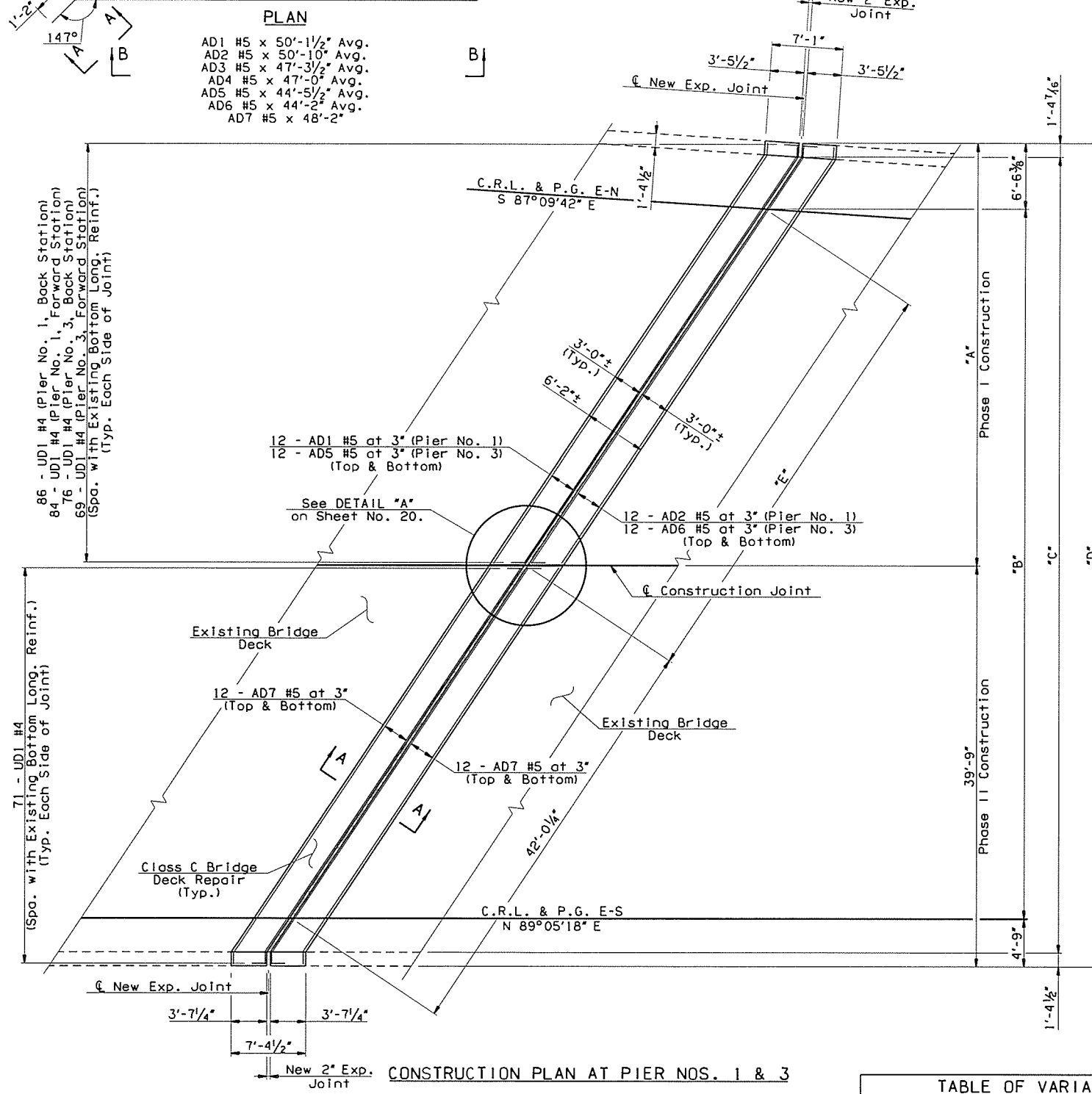
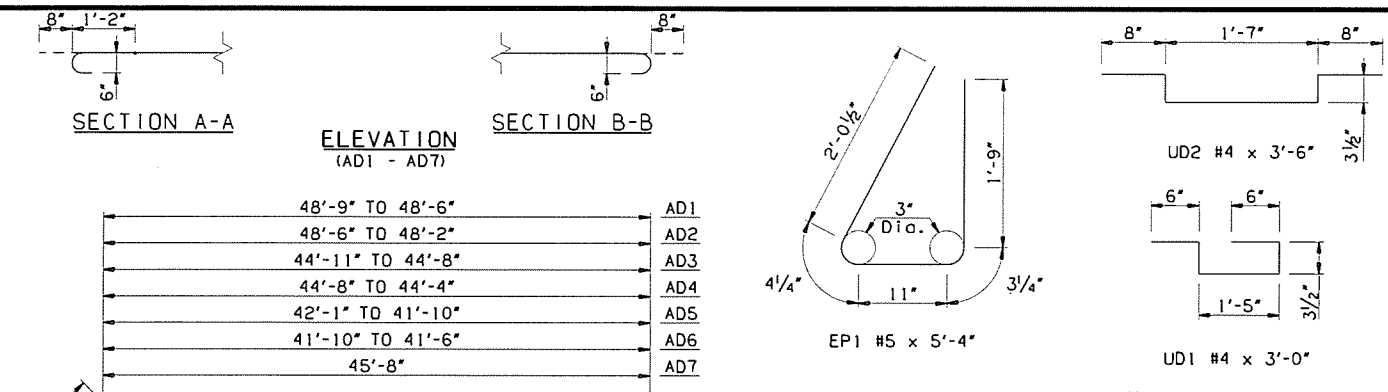
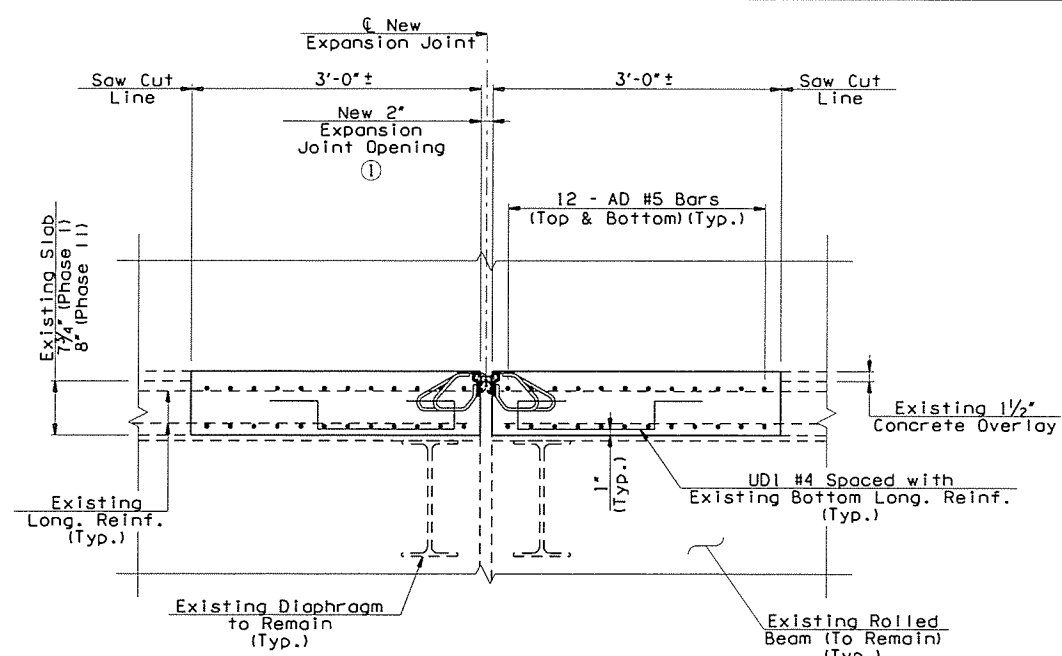


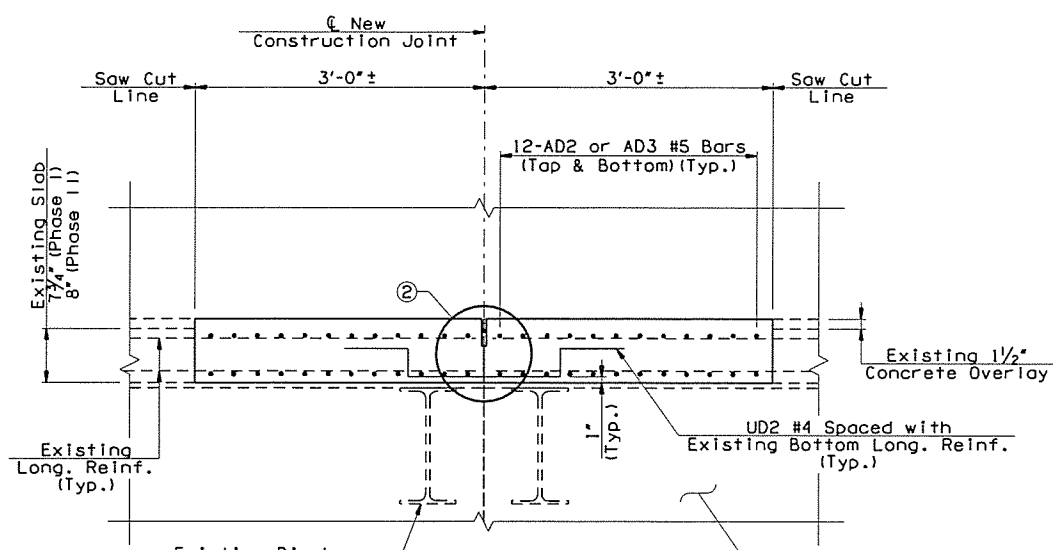
TABLE OF VARIABLES

PIER	*A*	*B*	*C*	*D*	*E*
1	41'-11 1/4"	70'-4 7/8"	78'-11 5/16"	81'-8 1/4"	42'-6 1/16"
3	36'-4 3/4"	64'-10 5/16"	73'-4 1/16"	76'-1 3/4"	35'-10 1/4"

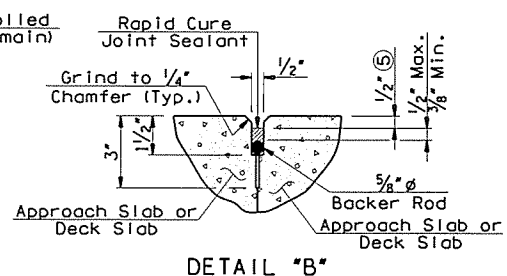
I-44 WB OVER S 38TH W AVE TULSA COUNTY DESIGN JMO 10/15
 & TSU RR DETAIL SJL 10/15
 BRIDGE *A* CHECK BRT 11/15
SUPERSTRUCTURE DETAILS
 (SHEET 3 OF 5)
GARVER



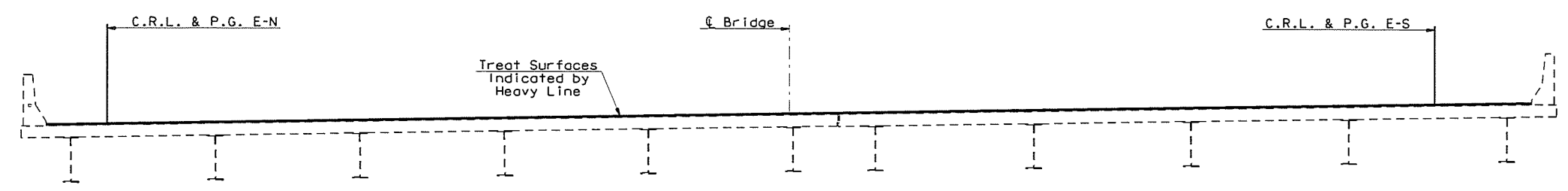
SECTION A-A AT PIER NOS. 1 & 3
 (Shown Perpendicular to \bar{C} Expansion Joint)



SECTION B-B AT PIER NO. 2
 (Shown Perpendicular to \bar{C} Construction Joint)



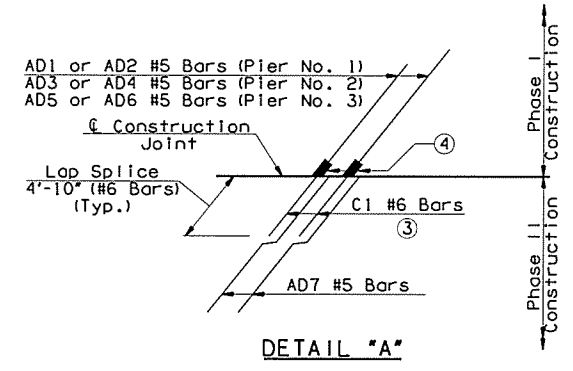
DETAIL "B"
 5 This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only.



FLOOD COAT TREATMENT DETAIL

NOTES:
 See Sheet Nos. 17 & 18 for details on demolition of the existing Expansion and Construction Joints of the Piers.
 See Sheet No. 19 for additional details on construction of the new Expansion and Construction Joints at the Piers.
 All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".
 High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".
 All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".
 All costs associated with the installation of Sawn and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

- ① The Expansion joint Openings shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:
 At Pier No. 1: Opening = 2.2070 - (0.00345 x T)
 At Pier No. 3: Opening = 2.1846 - (0.00308 x T)
 Where "T" equals the ambient air temperature in Degrees Fahrenheit at the time the Deck Slab Concrete is poured. (10°F < T < 120°F)
 Note that the Expansion Joint Opening shall be measured perpendicular to the centerline of the joint.
- ② New Sawn and Sealed Construction Joint. See DETAIL "B".



DETAIL "A"

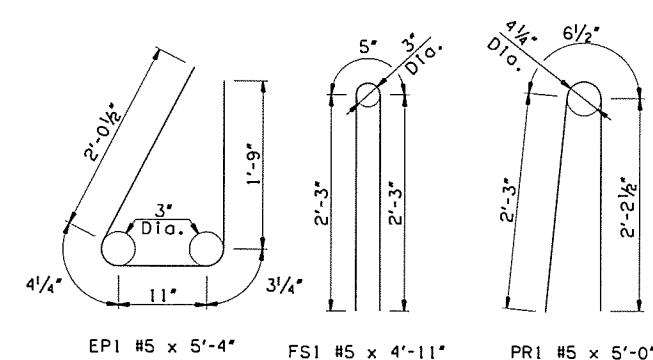
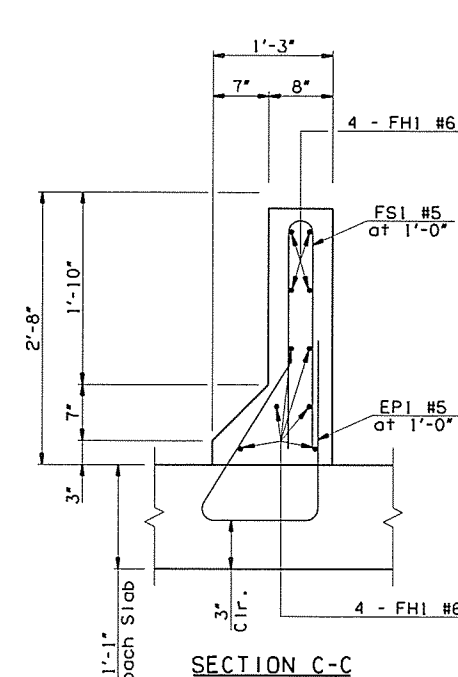
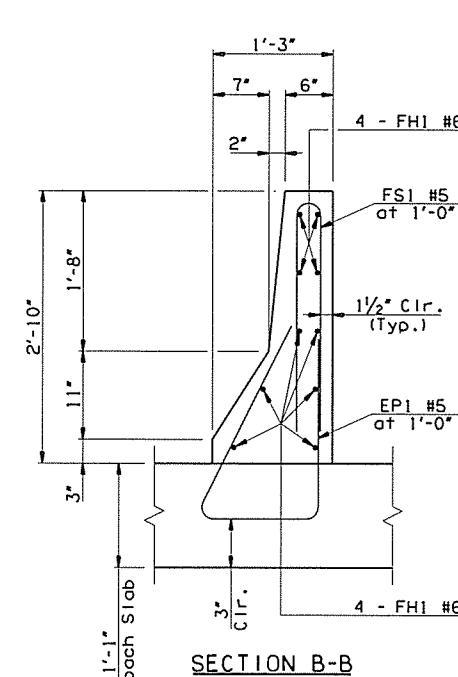
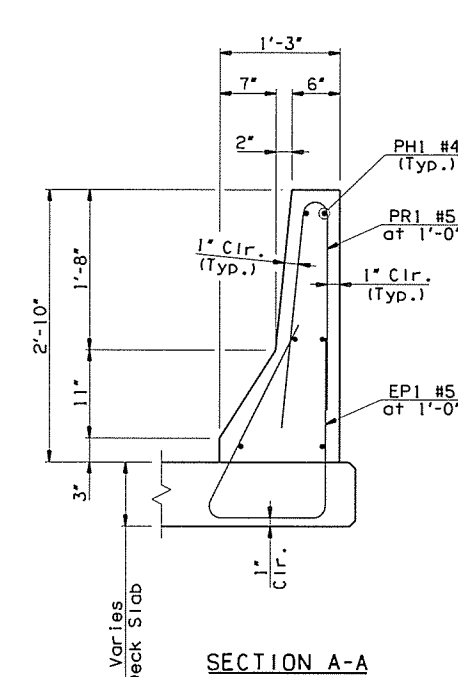
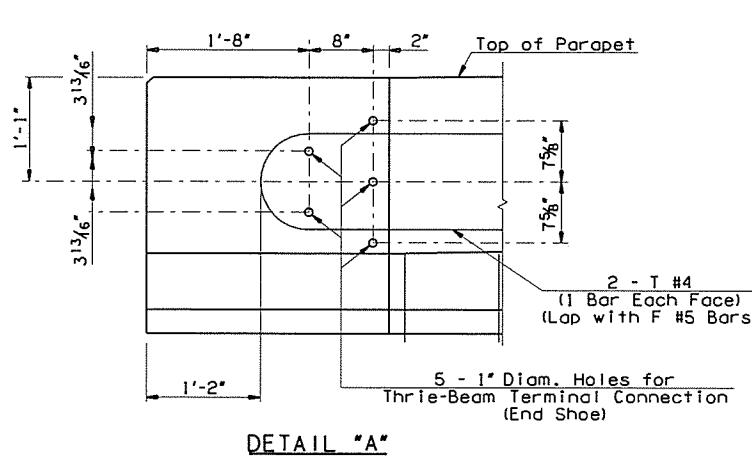
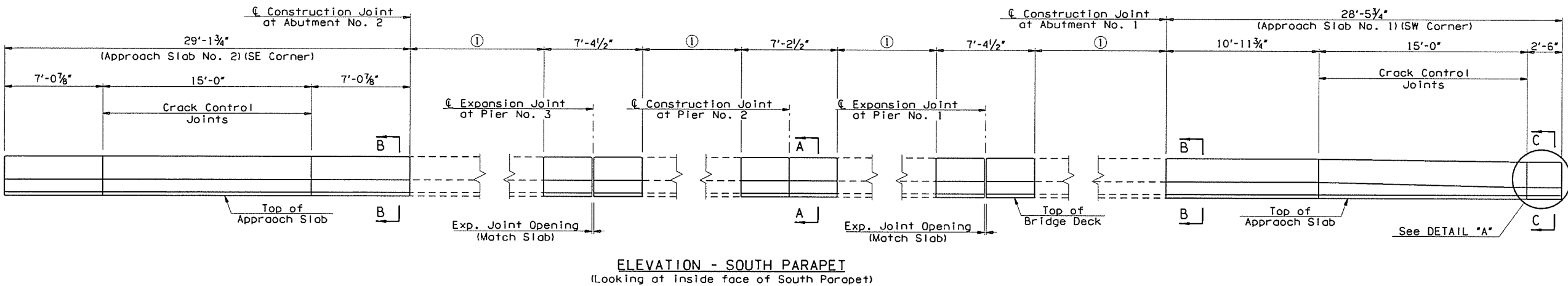
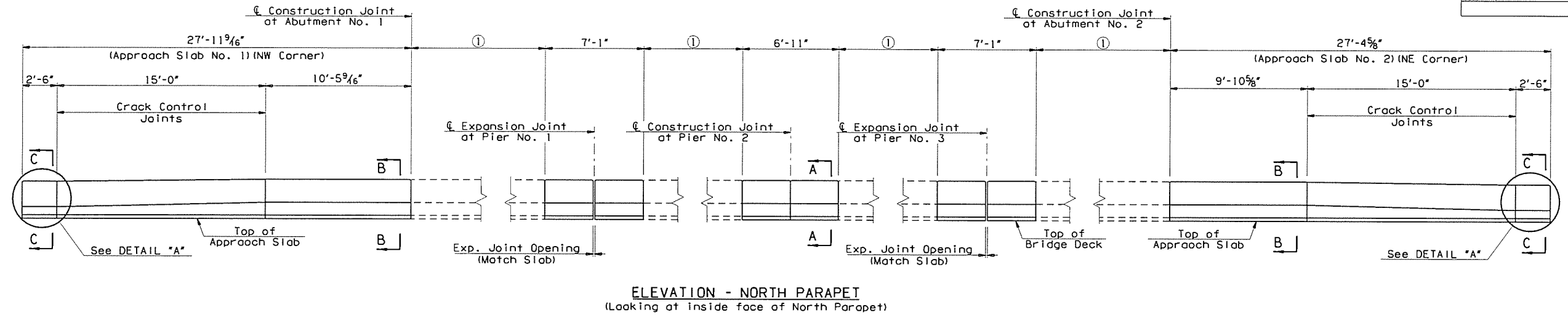
- ③ Install Mechanical Reinforcing Bar Coupler (Epoxy Coated) in accordance with Section 511.04.C.3. Installation shall follow the Manufacturer's recommendations. Couplers shall be attached to:
 AD1 & AD2 Bars (Pier No. 1)
 AD3 & AD4 Bars (Pier No. 2)
 AD5 & AD6 Bars (Pier No. 3)
- ④ Pier No. 1:
 Splice AD1 & AD2 #5 Bars with C1 #6 Bars.
 Lap C1 #6 Bars with AD7 #5 Bars.
 Pier No. 2:
 Splice AD3 & AD4 #5 Bars with C1 #6 Bars.
 Lap C1 #6 Bars with AD7 #5 Bars.
 Pier No. 3:
 Splice AD5 & AD6 #5 Bars with C1 #6 Bars.
 Lap C1 #6 Bars with AD7 #5 Bars.

NOTES:
 Mechanical couplers shall only be used in Phase I Construction on all Piers.
 Cost of installing mechanical splices shall not be paid for directly but shall be included in the price bid per Each of "MECHANICAL SPLICES".

SUMMARY OF QUANTITIES - SUPERSTRUCTURE				
ITEM	UNIT	PHASE I CONST.	PHASE II CONST.	TOTAL
SEALED EXPANSION JOINT	L.F.	93.60	95.00	188.60
CONCRETE PARAPET	L.F.	21.00	21.00	42.00
RAPID CURE JOINT SEALANT	L.F.	46.30	69.00	115.30
MECHANICAL SPLICES	EA.	144.00		144.00
EPOXY COATED REINFORCING STEEL	LB.	8,101.00	9,182.00	17,283.00
CLASS B BRIDGE DECK REPAIR	S.Y.	9.00	9.00	18.00
CLASS C BRIDGE DECK REPAIR	S.Y.	99.00	101.00	200.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	110.00	114.00	224.00
DECK AREA SEALED (FLOODCOATS)	S.Y.	793.00	809.00	1,602.00
REPAIR BRIDGE ITEM (TYPE A)	EA.			16.00
REPAIR BRIDGE ITEM (TYPE B)	EA.			1.00
REPAIR BRIDGE ITEM (TYPE C)	EA.			43.00

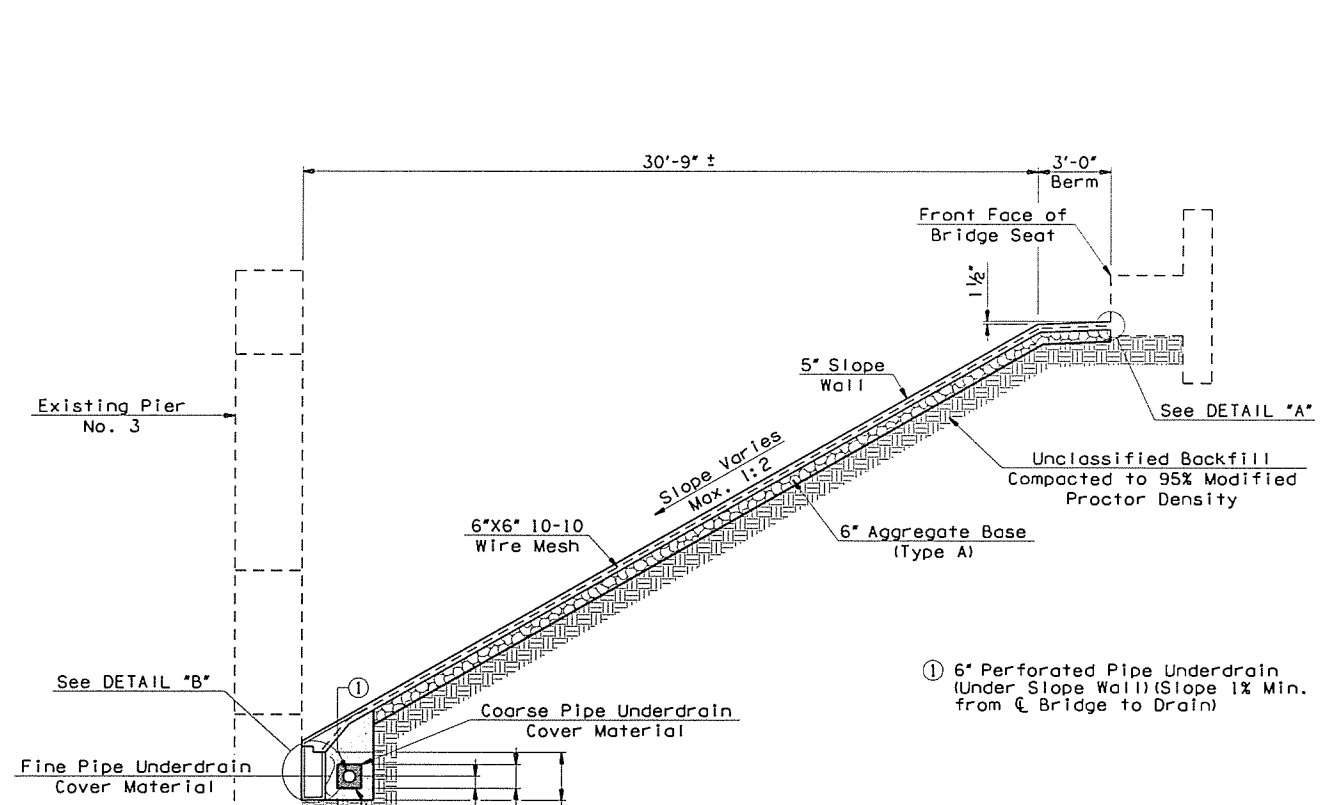
SUPERSTRUCTURE BAR LIST						
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION	
EPOXY COATED REINFORCING STEEL						
AD1	#5	24	BENT	50'-1 1/2" AVG.	49'-0" TO 51'-3"	PH. I. CONST.
AD2	#5	24	BENT	50'-10" AVG.	50'-8" TO 51'-0"	
AD3	#5	24	BENT	47'-3 1/2" AVG.	47'-2" TO 47'-5"	
AD4	#5	24	BENT	47'-0" AVG.	46'-10" TO 47'-2"	
AD5	#5	24	BENT	44'-5 1/2" AVG.	44'-4" TO 44'-7"	
AD6	#5	24	BENT	44'-2" AVG.	44'-0" TO 44'-4"	
EP1	#5	30	BENT	5'-4"	-	PH. II. CONST.
UD1	#4	315	BENT	3'-0"	-	
UD2	#4	84	BENT	3'-6"	-	
AD7	#5	144	BENT	48'-2"	-	
C1	#6	144	STR.	4'-10"	-	
EP1	#5	30	BENT	5'-4"	-	
UD1	#4	284	BENT	3'-0"	-	
UD2	#4	71	BENT	3'-6"	-	

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	REVISIONS
X	OKLA.	28872(04)				
DESCRIPTION						DATE

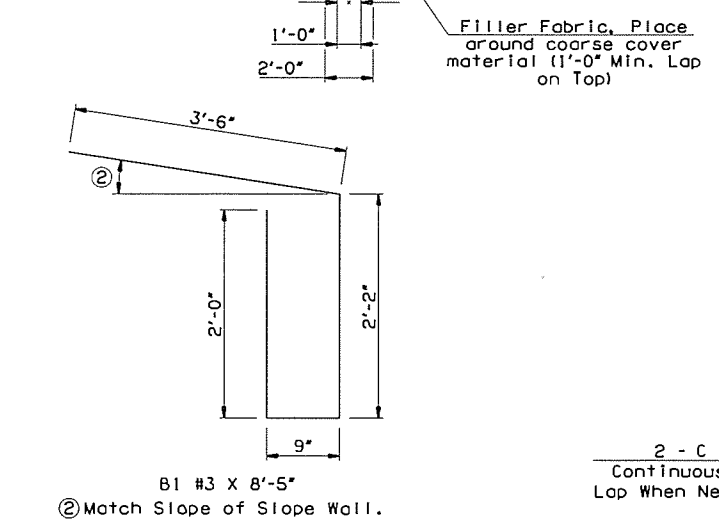


① Existing Parapet to Remain.
NOTES:
 Dimensions measured along roadway face of Parapet.
 For further information about the Joint replacement of Piers, see Sheet Nos. 17 - 20.
 Field Bend EPI Bars to maintain clear distances.

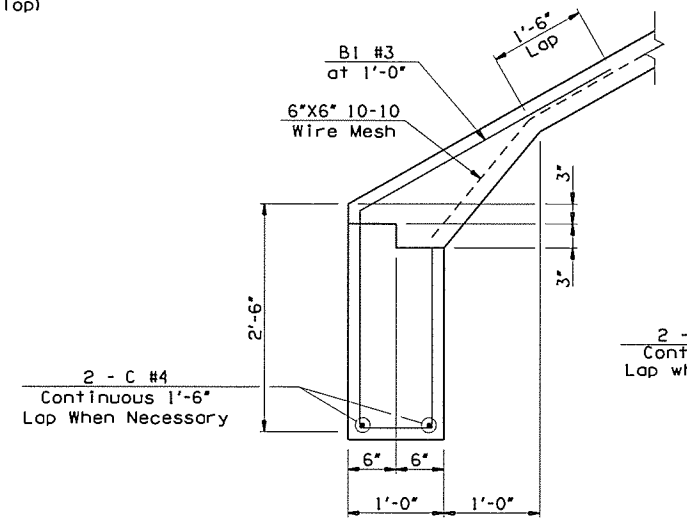
I-44 WB OVER S 38TH W AVE & TSU RR BRIDGE "A"	TULSA COUNTY	DESIGN	JMO	10/15
		DETAIL	SJL	10/15
		CHECK	BRT	11/15
GARVER				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 21		



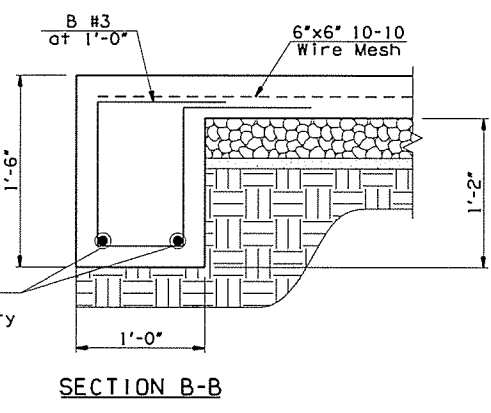
SECTION A-A



DETAIL "A"



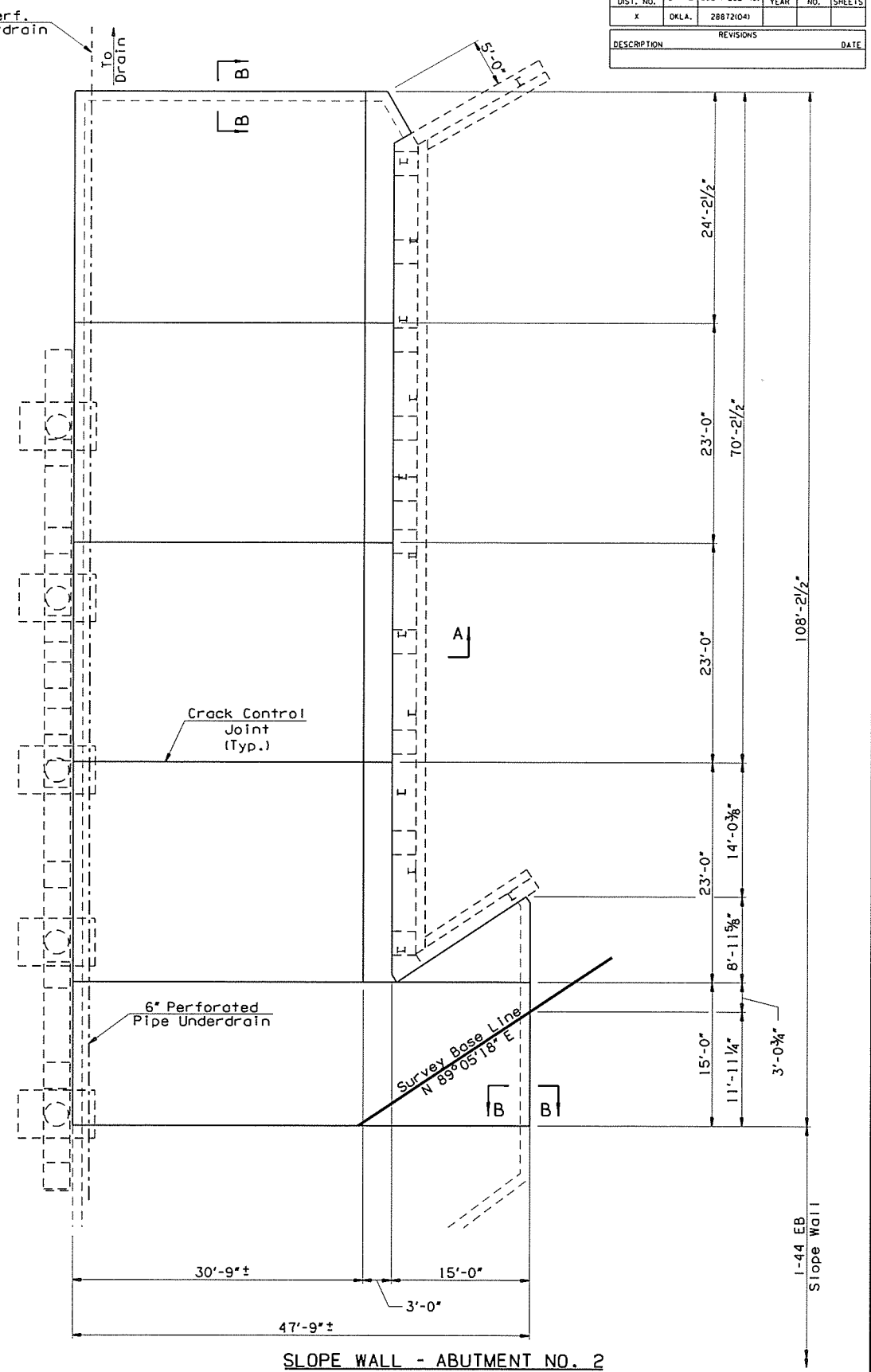
DETAIL "B"



SECTION B-B

ITEM	UNIT	TOTAL
③ SLOPE WALL (5°)	S.Y.	495.90
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	109.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	20.00

③ All costs of the "SLOPE WALL (5°)" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, filter fabric, excavation, aggregate base (Type A), unclassified backfill, labor, equipment and other incidentals necessary to complete the work as specified on the plans shall be included in the price bid per Square Yard of "SLOPE WALL (5°)".



SLOPE WALL - ABUTMENT NO. 2

LEGEND

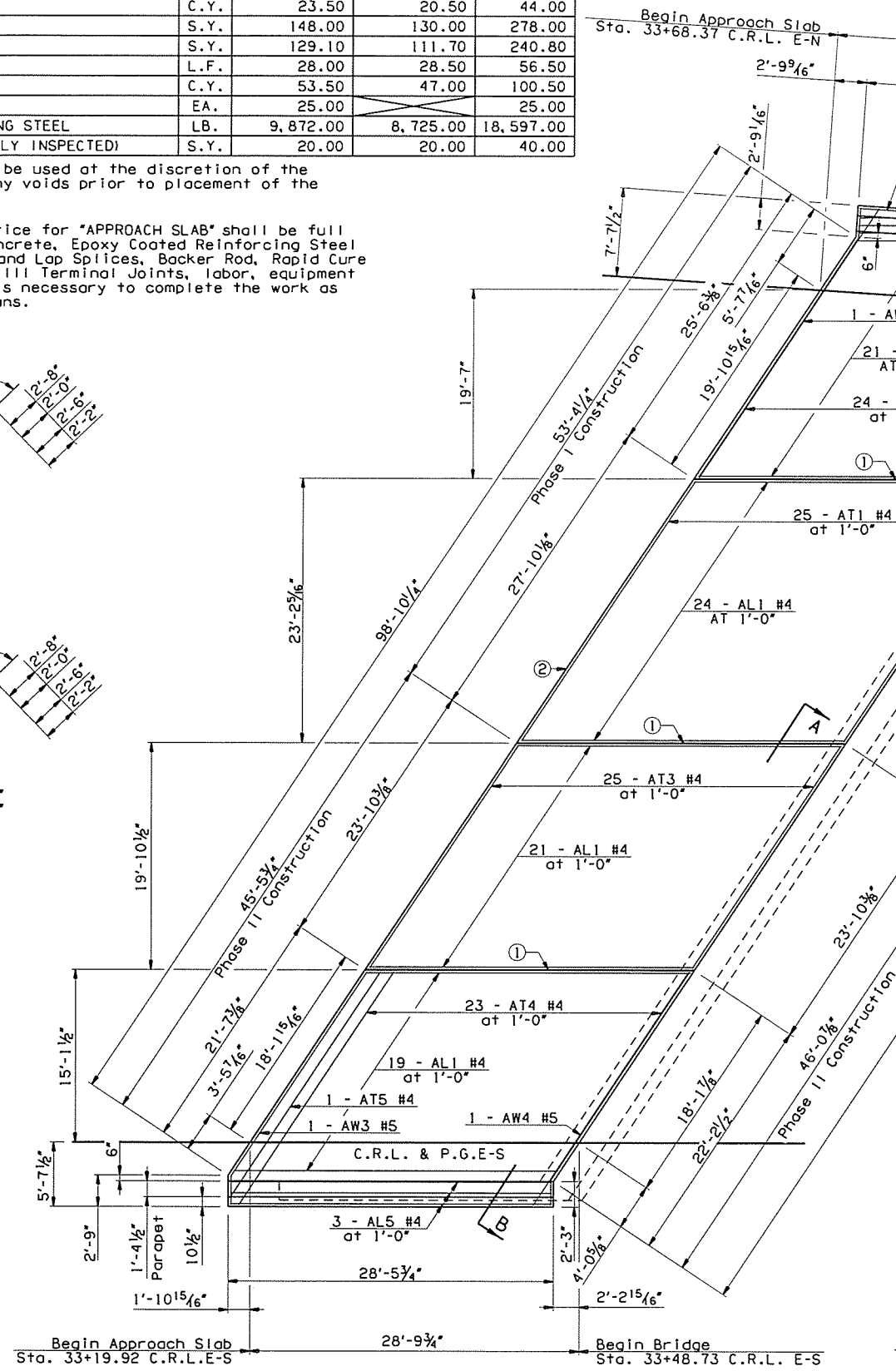
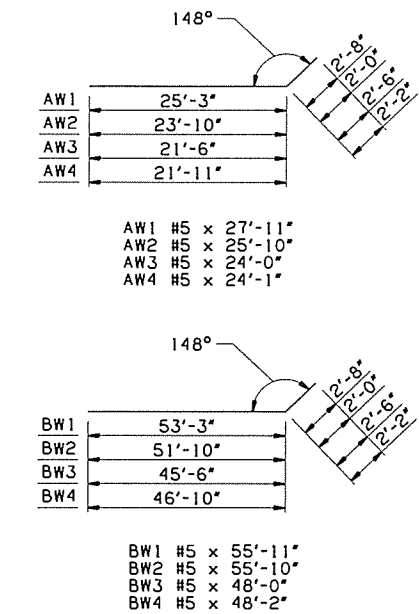
6" Perf. Underdrain	----
6" Non-Perf. Underdrain	----

I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	10/15
& TSU RR BRIDGE "A"		DETAIL	SJL	10/15
		CHECK	BRT	11/15
GARVER				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 22		

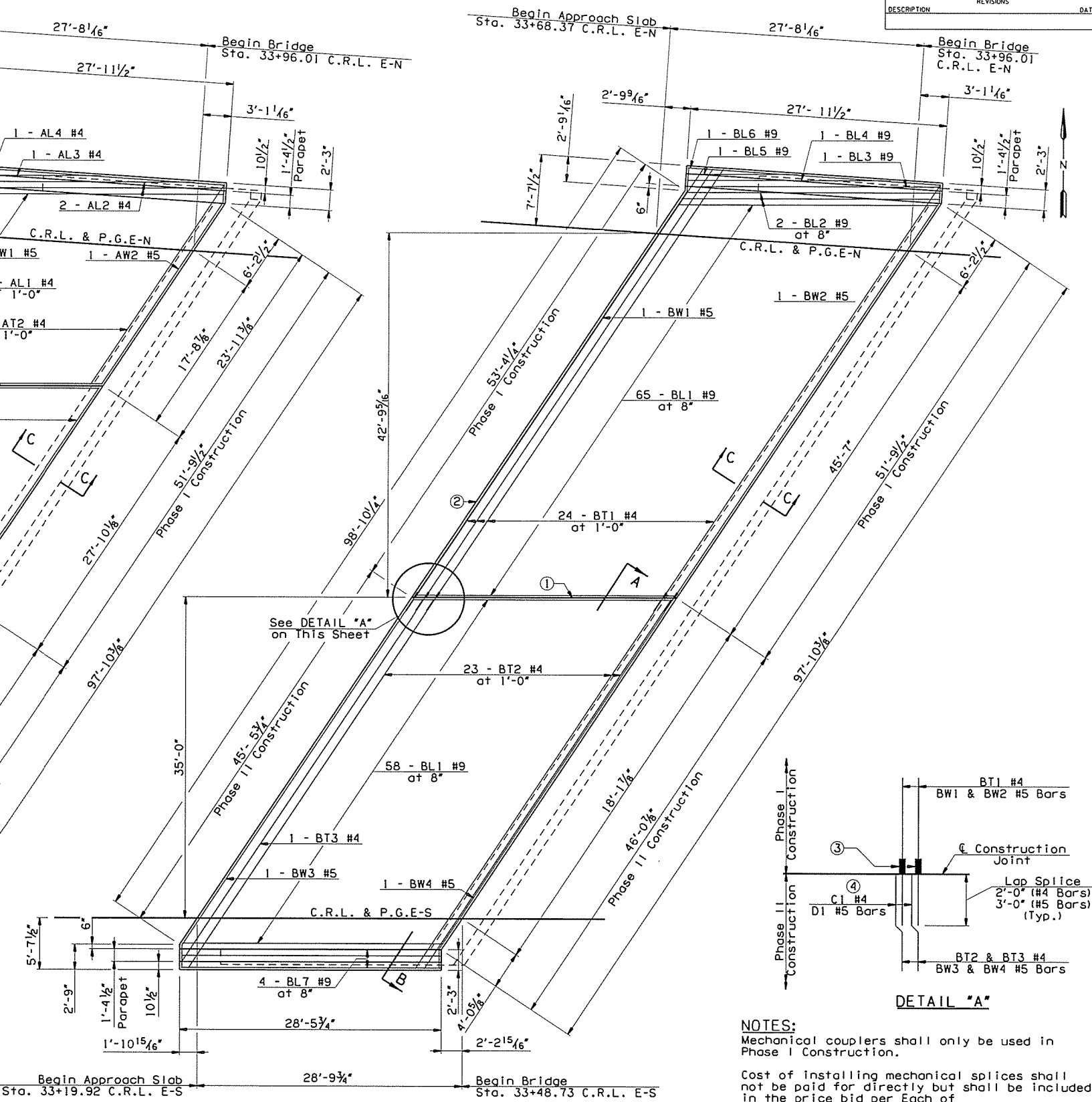
SUMMARY OF QUANTITIES - APPROACH SLAB NO. 1

ITEM	UNIT	PHASE I CONSTRUCTION	PHASE II CONSTRUCTION	TOTAL
CLSM BACKFILL	C.Y.	23.50	20.50	44.00
APPROACH SLAB	S.Y.	148.00	130.00	278.00
SAW-CUT GROOVING	S.Y.	129.10	111.70	240.80
CONCRETE PARAPET	L.F.	28.00	28.50	56.50
CLASS AA CONCRETE	C.Y.	53.50	47.00	100.50
MECHANICAL SPLICES	EA.	25.00		25.00
EPOXY COATED REINFORCING STEEL	LB.	9,872.00	8,725.00	18,597.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	20.00	20.00	40.00

- ⑤ CLSM Backfill shall be used at the discretion of the Engineer, to fill any voids prior to placement of the new Approach Slabs.
- ⑥ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including EP1 bars) and Lap Splices, Backer Rod, Rapid Cure Joint Sealant, Type III Terminal Joints, labor, equipment and other incidentals necessary to complete the work as specified on the plans.



APPROACH SLAB AT ABUTMENT NO. 1
(Showing Top Mat of Reinforcing steel)



APPROACH SLAB AT ABUTMENT NO. 1
(Showing Bottom Mat of Reinforcing steel)

- NOTES:**
- Do not groove within 6" of any joint.
- Concrete Parapet reinforcement omitted for clarity, see Sheet No. 21 for details.
- For Bar Lists, Bar Bends, and Sections A, B, and C-C, see Sheet No. 25.

- ① 1/2" Longitudinal Sawed and Sealed Construction Joint in the top of Approach Slab No. 1. See DETAIL "A" on Sheet No. 25.
- ② Type III Terminal Joint. See DETAIL "B" on Sheet No. 25.

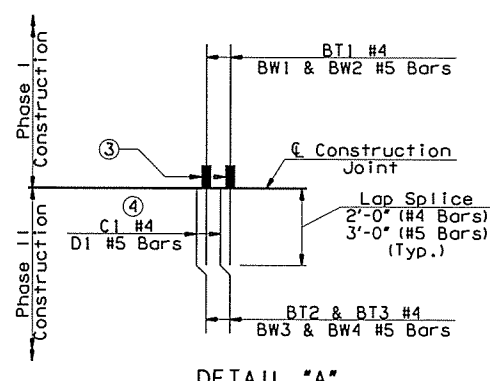
- ③ Install Mechanical Reinforcing Bar Coupler (Epoxy Coated) in accordance with Section 511.04.C.3. Installation shall follow the Manufacturer's recommendations. Couplers shall be attached to BT1 #4 Bars and BW1 & BW2 #5 Bars in the Bottom of Approach Slab No. 1.

- ④ Splice the following Bars: BT1 with C1 Bars, BW1 & BW2 Bors with D1 Bars.
- Lap the following Bars: C1 Bars with BT2 & BT3 Bars, D1 Bars with BW3 & BW4 Bars.

NOTES:

Mechanical couplers shall only be used in Phase I Construction.

Cost of installing mechanical splices shall not be paid for directly but shall be included in the price bid per Each of "MECHANICAL SPLICES".



SUMMARY OF QUANTITIES - APPROACH SLAB NO. 2

ITEM	UNIT	PHASE I CONSTRUCTION	PHASE II CONSTRUCTION	TOTAL
CLSM BACKFILL	C.Y.	16.70	20.50	37.20
APPROACH SLAB	S.Y.	106.20	129.30	235.50
SAW-CUT GROOVING	S.Y.	90.00	111.70	201.70
CONCRETE PARAPET	L.F.	27.40	29.20	56.60
CLASS AA CONCRETE	C.Y.	38.40	46.70	85.10
MECHANICAL SPLICES	EA.	25.00		25.00
EPOXY COATED REINFORCING STEEL	LB.	7,215.00	8,583.00	15,798.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	19.00	21.00	40.00

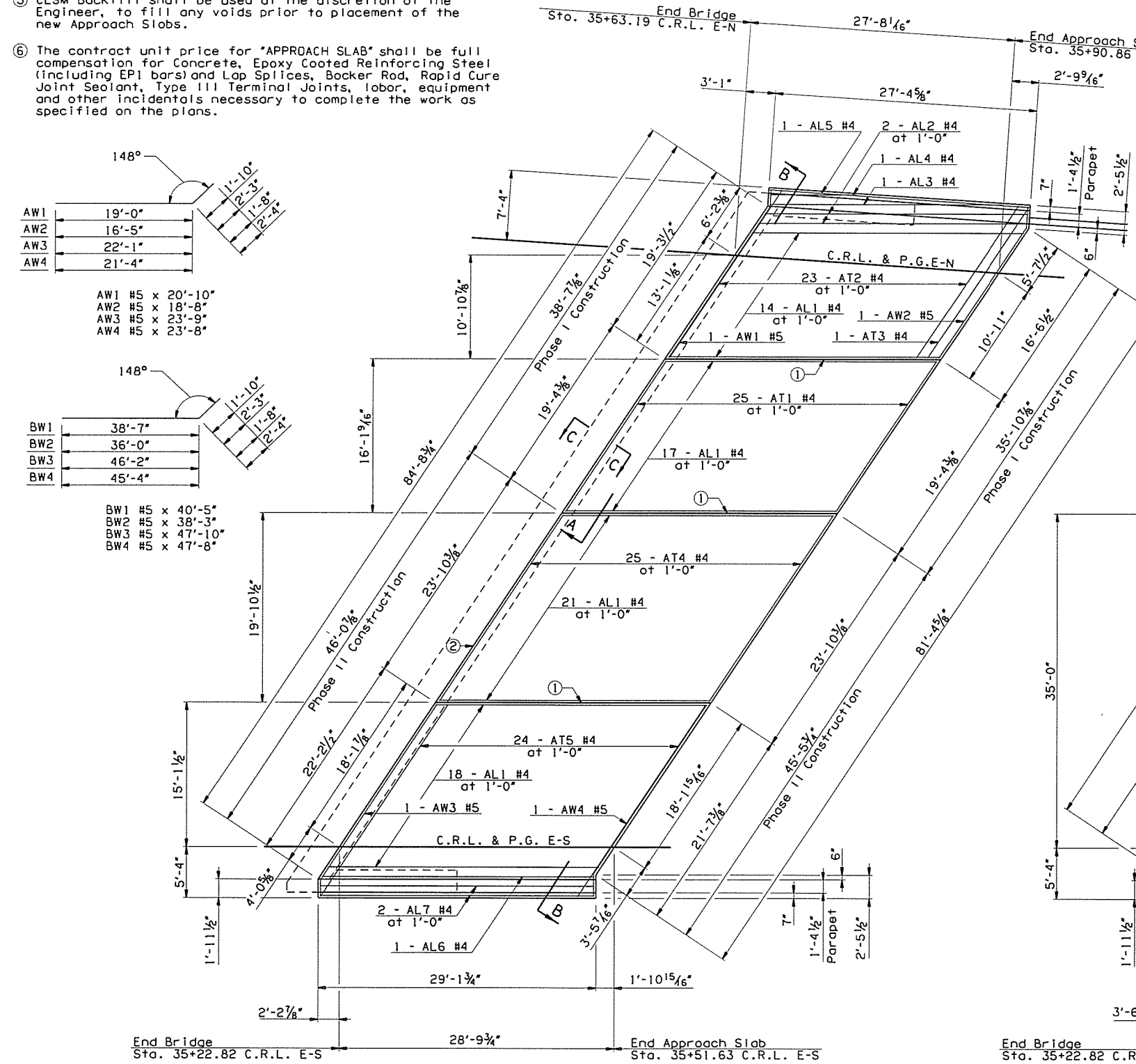
- CLSM Backfill shall be used at the discretion of the Engineer, to fill any voids prior to placement of the new Approach Slabs.
- The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including EPI bars) and Lap Splices, Bocker Rod, Rapid Cure Joint Sealant, Type III Terminal Joints, labor, equipment and other incidentals necessary to complete the work as specified on the plans.

- 1/2" Longitudinal Sawed and Sealed Construction Joint in the top of Approach Slab No. 1. See DETAIL "A" on Sheet No. 25.
- Type III Terminal Joint. See DETAIL "B" on Sheet No. 25.
- Install Mechanical Reinforcing Bar Coupler (Epoxy Coated) in accordance with Section 511.04.C.3. Installation shall follow the Manufacturer's recommendations. Couplers shall be attached to BT1 #4 Bars and BW1 & BW2 #5 Bars in the Bottom of Approach Slab No. 2.

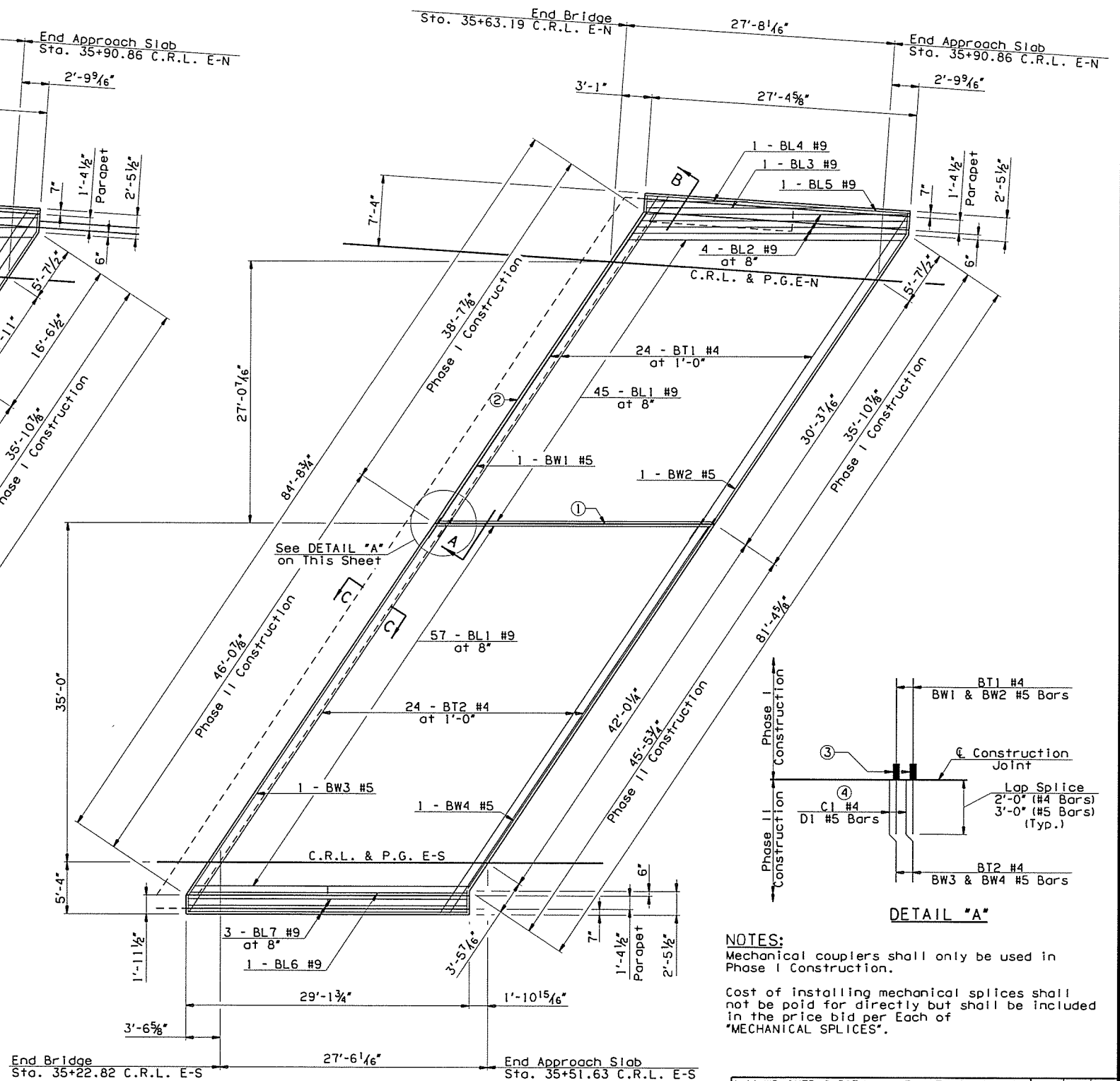
- Splice the following Bars:
BT1 with C1 Bars.
BW1 & BW2 Bars with D1 Bars.
- Lap the following Bars:
C1 Bars with BT2 Bars.
D1 Bars with BW3 & BW4 Bars.

NOTES:
Do not groove within 6" of any joint.
Concrete Parapet reinforcement omitted for clarity, see Sheet No. 21 for details.
For Bar Lists, Bar Bends, and Sections A, B, and C-C, see Sheet No. 25.

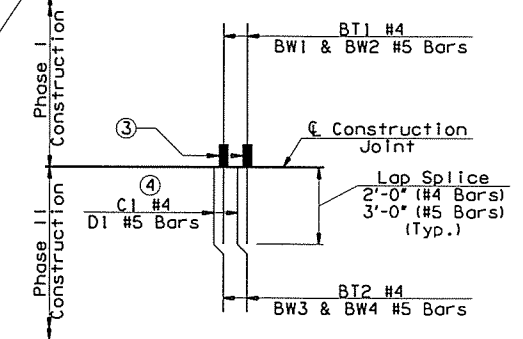
OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
REVISIONS					DATE
DESCRIPTION					



APPROACH SLAB AT ABUTMENT NO. 2
(Showing Top Mat of Reinforcing Steel)



APPROACH SLAB AT ABUTMENT NO. 2
(Showing Bottom Mat of Reinforcing Steel)



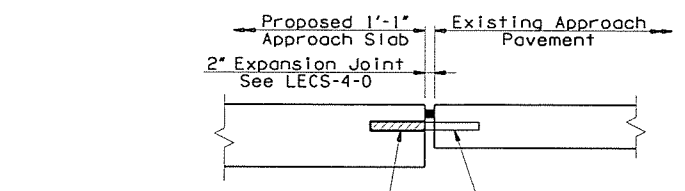
NOTES:
Mechanical couplers shall only be used in Phase I Construction.
Cost of installing mechanical splices shall not be paid for directly but shall be included in the price bid per Each of "MECHANICAL SPLICES".

1-44 WB OVER S 38TH W AVE & TSU RR BRIDGE "A"	TULSA COUNTY	DESIGN	JMO	9/15
		DETAIL	NBK	11/15
		CHECK	BRT	11/15
APPROACH SLAB DETAILS (SHEET 2 OF 3)				
GARVER				

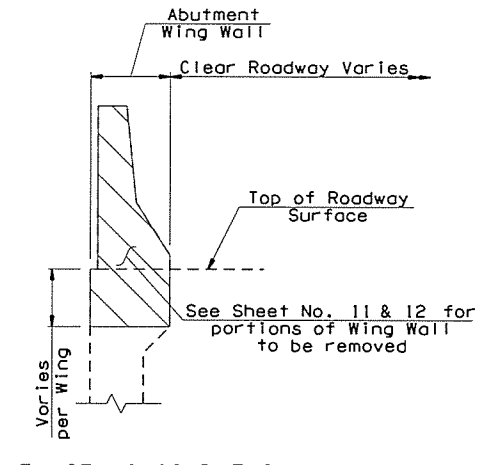
NOTES:
 All costs of installation of Terminal Joint, including dowel bars, epoxy, expansion joint, materials, labor, equipment, and any incidentals necessary to complete the work as shown shall be included in "APPROACH SLAB".
 For details of dowel bars, see Std. CRCP2-3-0.

BAR LIST - APPROACH SLAB NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPDXY COATED REINFORCING STEEL					
AL1	#4	45	STR.	28'-5"	-
AL2	#4	2	STR.	27'-9" AVG.	27'-8" TO 27'-10"
AL3	#4	1	STR.	14'-2"	-
AL4	#4	1	STR.	27'-8"	-
AT1	#4	25	STR.	27'-5"	-
AT2	#4	24	STR.	27'-3 1/2" AVG.	26'-3" TO 28'-4"
AW1	#5	1	BENT	27'-11"	-
AW2	#5	1	BENT	25'-10"	-
BL1	#9	65	STR.	28'-5"	-
BL2	#9	2	STR.	27'-11 1/2" AVG.	27'-9" TO 28'-2"
BL3	#9	1	STR.	27'-8"	-
BL4	#9	1	STR.	22'-2"	-
BL5	#9	1	STR.	12'-0"	-
BL6	#9	1	STR.	27'-8"	-
BT1	#4	24	STR.	57'-1 1/2" AVG.	56'-1" TO 58'-2"
BW1	#5	1	BENT	55'-11"	-
BW2	#5	1	BENT	55'-10"	-
C1	#4	24	STR.	2'-0"	-
D1	#5	2	STR.	3'-0"	-
EP1	#5	28	BENT	5'-4"	-
PHASE I CONSTRUCTION					
AL1	#4	40	STR.	28'-5"	-
AL5	#4	3	STR.	28'-2"	-
AT3	#4	25	STR.	23'-6"	-
AT4	#4	23	STR.	24'-6 1/2" AVG.	24'-6" TO 24'-7"
AT5	#4	1	STR.	23'-9"	-
AW3	#5	1	BENT	24'-0"	-
AW4	#5	1	BENT	24'-1"	-
BL1	#9	58	STR.	28'-5"	-
BL7	#9	4	STR.	28'-2"	-
BT2	#4	23	STR.	50'-5"	-
BT3	#4	1	STR.	49'-6"	-
BW3	#5	1	BENT	48'-0"	-
BW4	#5	1	BENT	48'-2"	-
EP1	#5	32	BENT	5'-4"	-

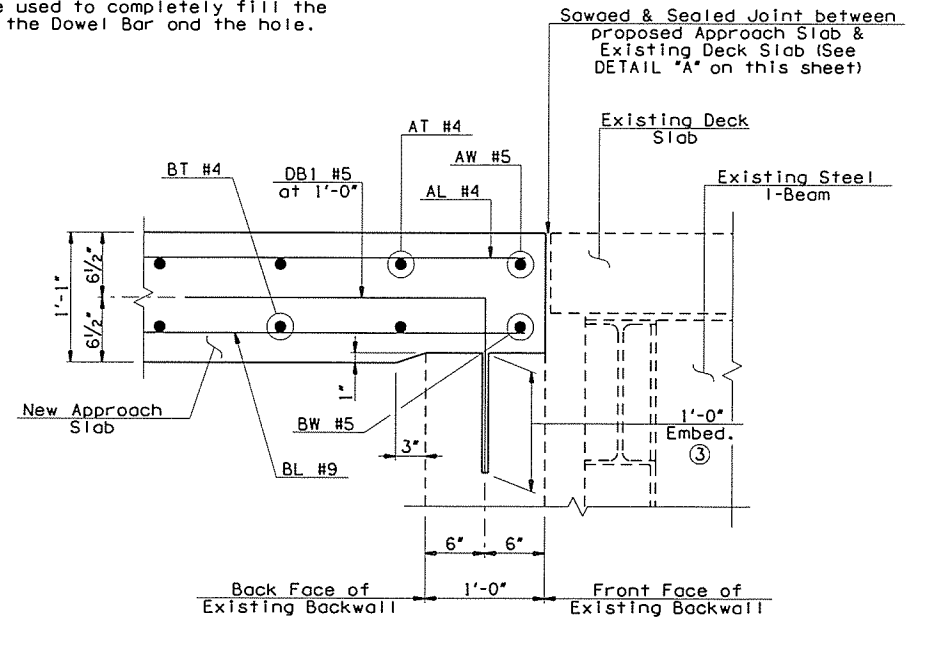
BAR LIST - APPROACH SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPDXY COATED REINFORCING STEEL					
AL1	#4	31	STR.	28'-5"	-
AL2	#4	2	STR.	27'-10 1/2" AVG.	27'-7" TO 28'-2"
AL3	#4	1	STR.	24'-5"	-
AL4	#4	1	STR.	9'-1"	-
AL5	#4	1	STR.	27'-5"	-
AT1	#4	25	STR.	19'-0"	-
AT2	#4	23	STR.	20'-2" AVG.	19'-2" TO 21'-2"
AT3	#4	1	STR.	19'-0"	-
AW1	#5	1	BENT	20'-10"	-
AW2	#5	1	BENT	18'-8"	-
BL1	#9	45	STR.	28'-5"	-
BL2	#9	4	STR.	27'-10" AVG.	28'-5" TO 27'-3"
BL3	#9	1	STR.	20'-7"	-
BL4	#9	1	STR.	10'-6"	-
BL5	#10	1	STR.	27'-1"	-
BT1	#4	24	STR.	40'-5" AVG.	38'-4" TO 42'-6"
BW1	#5	1	BENT	40'-5"	-
BW2	#5	1	BENT	38'-3"	-
C1	#4	24	STR.	2'-0"	-
D1	#5	2	STR.	3'-0"	-
EP1	#5	27	BENT	5'-4"	-
PHASE I CONSTRUCTION					
AL1	#4	39	STR.	28'-5"	-
AL6	#4	1	STR.	28'-7"	-
AL7	#4	2	STR.	28'-10"	-
AT4	#4	25	STR.	23'-6"	-
AT5	#4	24	STR.	24'-2"	-
AW3	#5	1	BENT	23'-9"	-
AW4	#5	1	BENT	23'-8"	-
BL1	#9	57	STR.	28'-5"	-
BL6	#9	1	STR.	28'-7"	-
BL7	#9	3	STR.	28'-10"	-
BT2	#4	24	STR.	50'-0"	-
BW3	#5	1	BENT	47'-10"	-
BW4	#5	1	BENT	47'-8"	-
EP1	#5	28	BENT	5'-4"	-



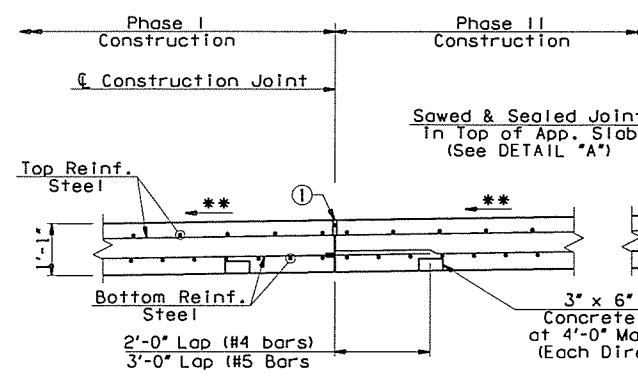
Exposed 9' of Dowel Bar shall be coated with form release agent or grease before Expansion Cap is installed to insure that the bond between Dowel Bar and Approach Slab is broken.
 Dowel Bars shall be epoxied (non-capped end) into 1 1/8" (max.) by 9" deep drilled holes, spaced at 1'-0" centers, placed at mid-slab. Drilled holes and Dowel Bars shall be placed parallel to the driving surface. Sufficient epoxy shall be used to completely fill the void between the Dowel Bar and the hole.



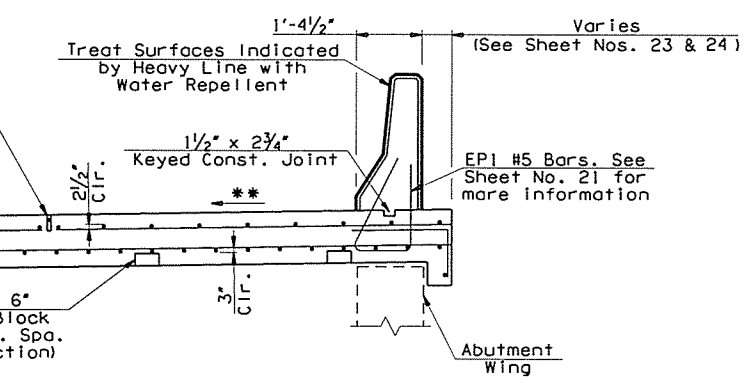
EXISTING CONDITIONS AT WING WALL



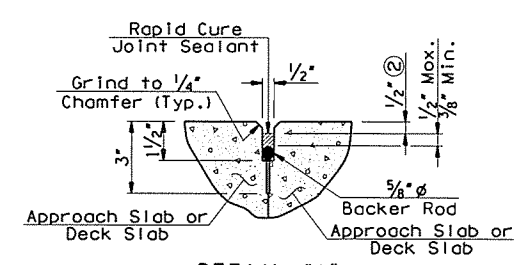
SECTION C-C



SECTION A THRU APPROACH SLAB



SECTION B



DETAIL 'A'

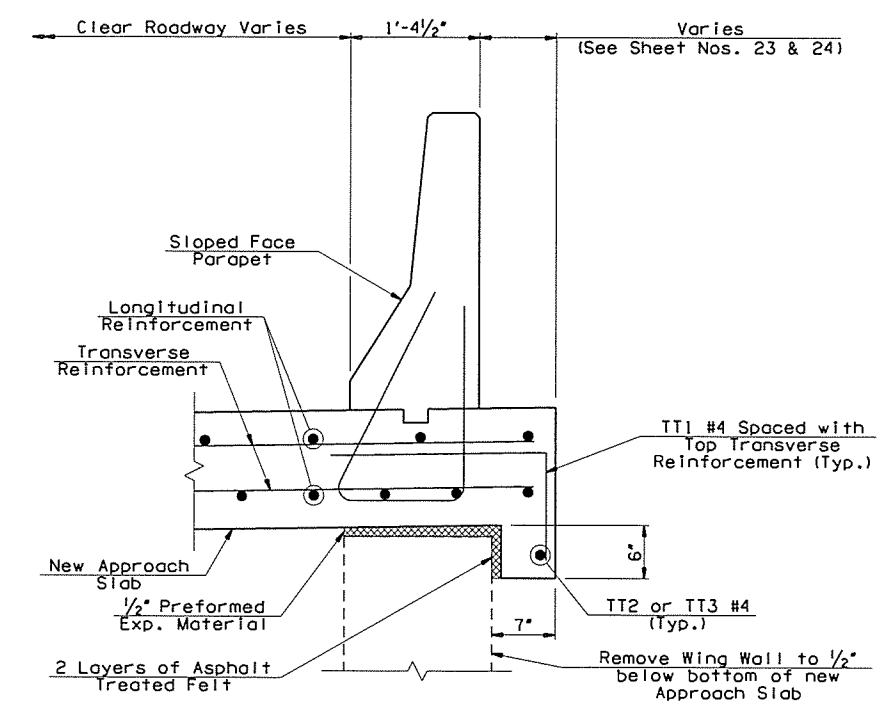
② This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only.

③ ANCHORAGE SYSTEM:

The Contractor shall use an Anchorage System that has been approved by ODOT's materials division. The Anchorage System shall be capable of developing the full strength of the reinforcing steel that is to be anchored. The embedment depth shown is to be adjusted to meet the Manufacturer's requirements. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.

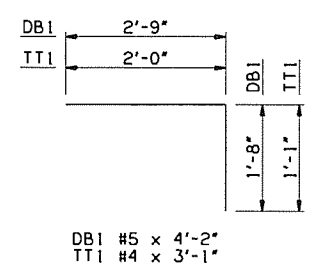
Drilling into the existing concrete to install the anchorage shall be accomplished without cutting existing concrete reinforcing steel bars. Prior to drilling, the Contractor shall locate and mark the existing concrete reinforcing steel bars with non-destructive tools, equipment and methods approved 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 DB1 Bars from the plan locations shown shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All costs of the Anchorage Assemblies including labor, materials, tools, drilling, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Yard of "APPROACH SLAB".



NEW APPROACH SLAB AT WING WALL

① 1/2" Longitudinal Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL 'A'.
 ** Match cross slope currently on existing Approach Slabs.

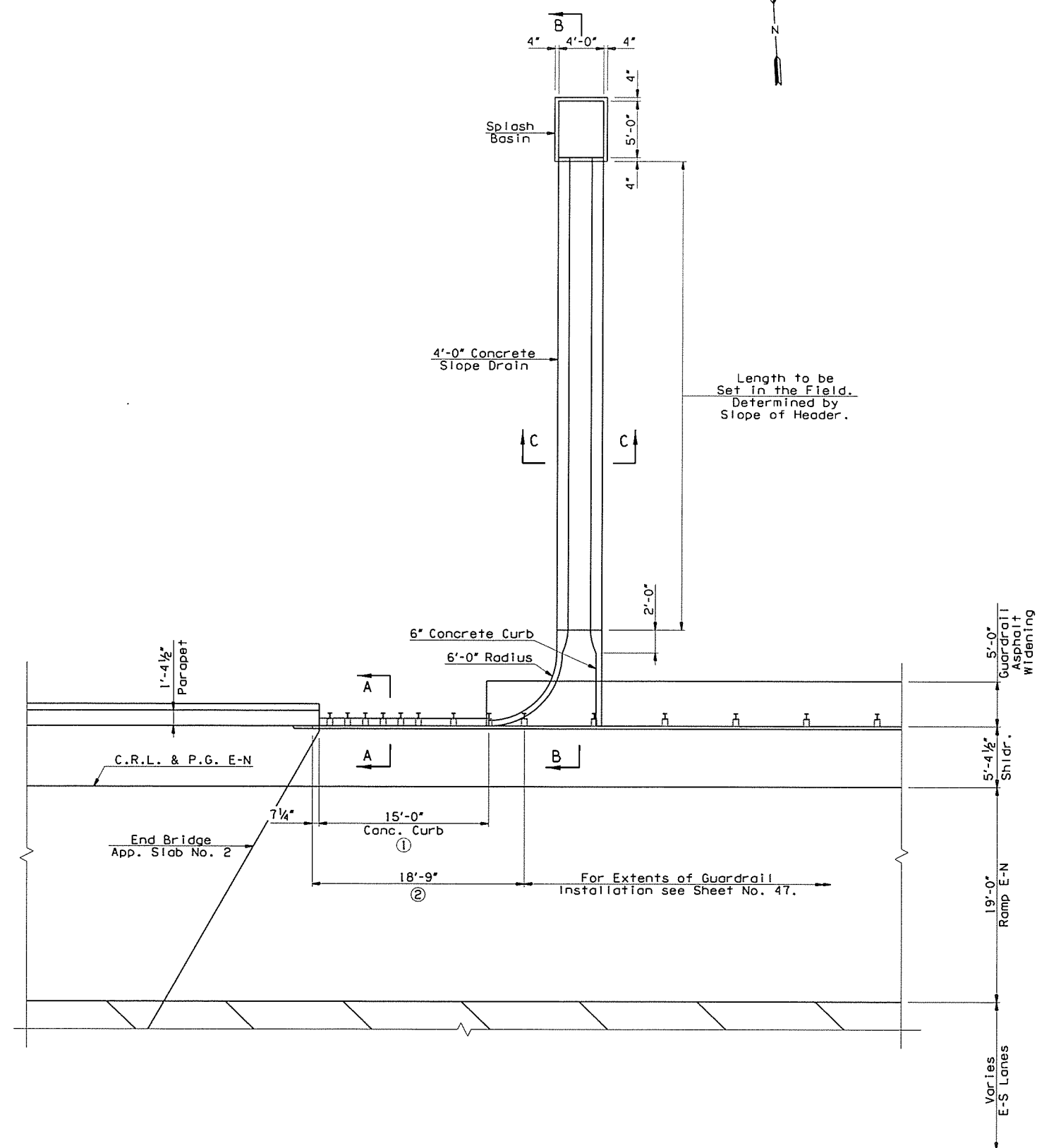


NOTES:
 Do not groove within 6" of any joint.
 Place reinforcing steel in the top of the Approach Slab 2" from either side of the Sawed & Sealed Longitudinal Joints.
 See Sheet No. 21 for parapet reinforcing.

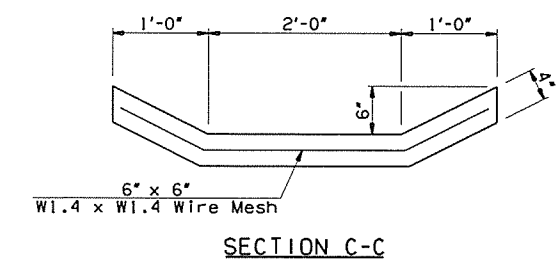
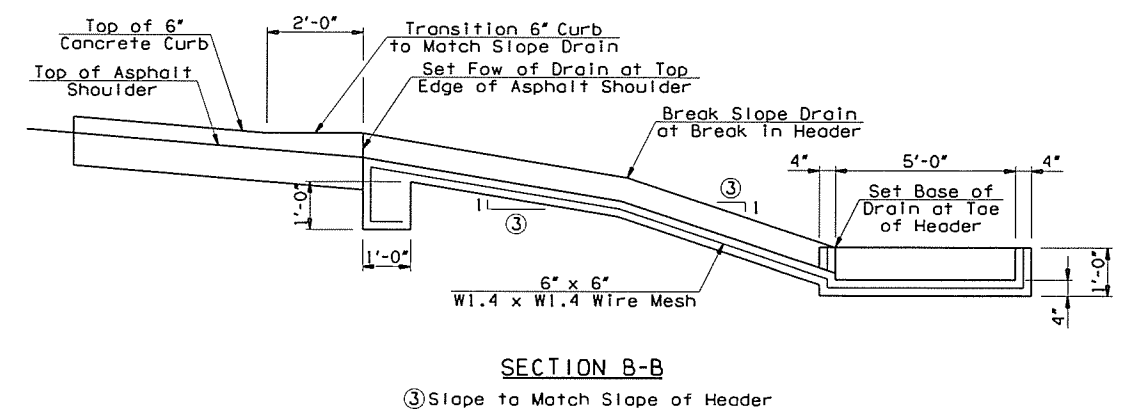
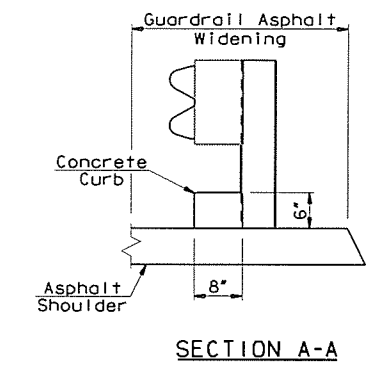
I-44 WB OVER S 38TH W AVE TULSA COUNTY DESIGN JMO 9/15
 & TSU RR BRIDGE 'A' DETAIL NBR 11/15
 APPROACH SLAB DETAILS (SHEET 3 OF 3) CHECK BRT 11/15
 GARVER
 STATE OF OKLAHOMA DEPARTMENT OF TRANSPORTATION
 JOB PIECE NO. 28872(04) SHEET NO. 25

- ① 8" Concrete Curb to be included in Roadway Quantities. See Standard THRI-1-02.
- ② Guardrail Bridge Connection - Thrie Beam (31')

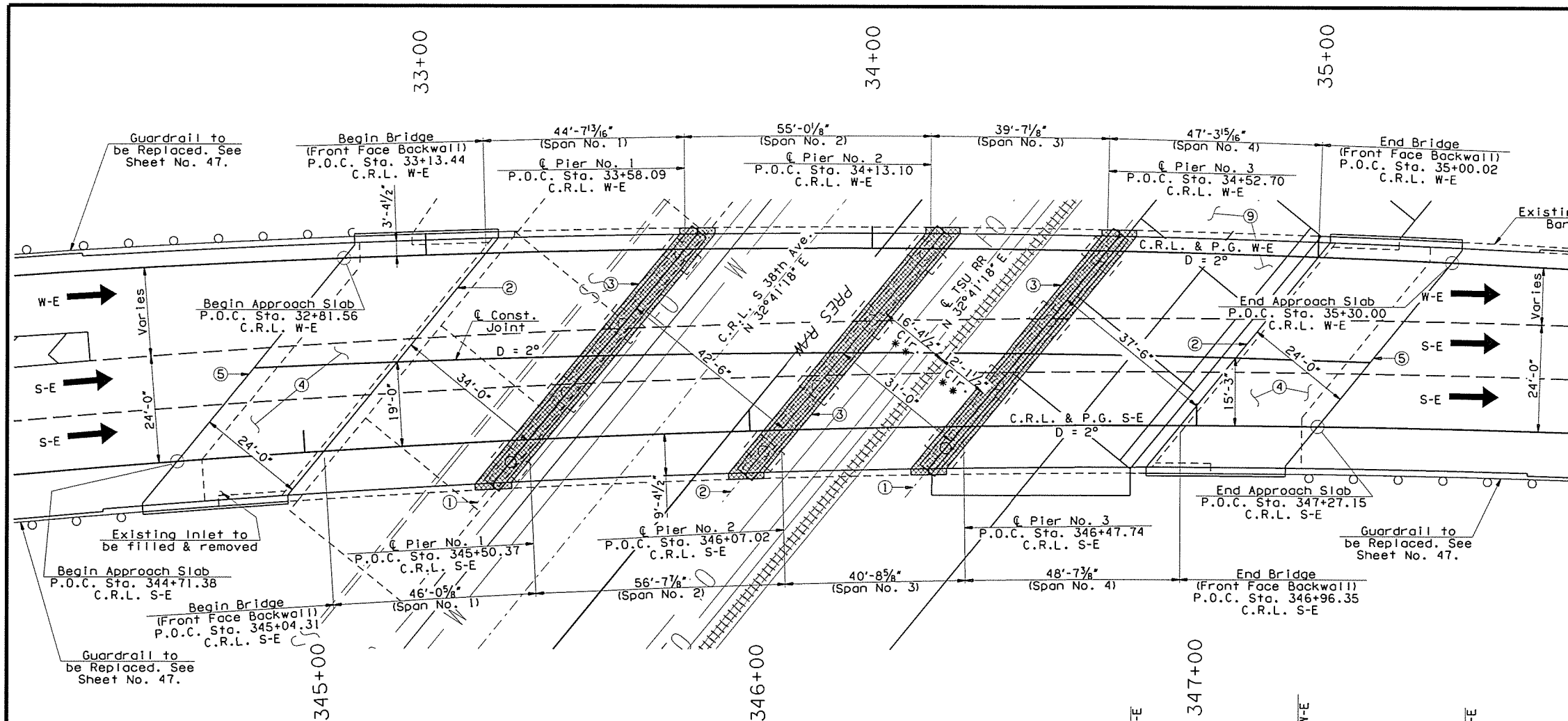
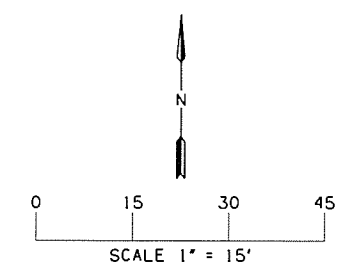
OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION			REVISIONS		DATE



Length to be Set in the Field. Determined by Slope of Header.



I-44 WB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMO	10/15
& TSU RR BRIDGE "A"		DETAIL	SJL	10/15
		CHECK	BRT	11/15
		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 26		

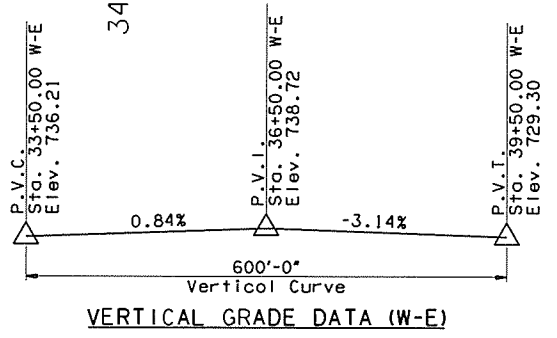


SHEET NO.	TITLE
2	Summary of Pay Quantities and Notes (Bridge) (Sheet 1 of 5)
3	Summary of Pay Quantities and Notes (Bridge) (Sheet 2 of 5)
4	Summary of Pay Quantities and Notes (Bridge) (Sheet 3 of 5)
5	Summary of Pay Quantities and Notes (Bridge) (Sheet 4 of 5)
6	Summary of Pay Quantities and Notes (Bridge) (Sheet 5 of 5)
27	General Plan and Elevation
28	Sequence of Construction
29	Temporary Shoring (Conceptual)
30	Abutment Details (Sheet 1 of 5)
31	Abutment Details (Sheet 2 of 5)
32	Abutment Details (Sheet 3 of 5)
33	Abutment Details (Sheet 4 of 5)
34	Abutment Details (Sheet 5 of 5)
35	Pier Details (Sheet 1 of 2)
36	Pier Details (Sheet 2 of 2)
37	Superstructure Repair Details
38	Superstructure Details (Sheet 1 of 5)
39	Superstructure Details (Sheet 2 of 5)
40	Superstructure Details (Sheet 3 of 5)
41	Superstructure Details (Sheet 4 of 5)
42	Superstructure Details (Sheet 5 of 5)
43	Slope Wall Details
44	Approach Slab Details (Sheet 1 of 3)
45	Approach Slab Details (Sheet 2 of 3)
46	Approach Slab Details (Sheet 3 of 3)

- ① Remove existing Expansion Joint and replace with new Sealed Expansion Joints. See Sheet Nos. 38 - 41.
- ② Remove existing Sawed & Sealed Construction Joint and replace with new sawed and sealed Construction Joint. See Sheet Nos. 38 - 41.
- ③ Remove and replace 3 feet of deck to both sides of Joints located above Piers, see Sheet Nos. 38 - 41.
- ④ Install new approach slab. See Sheet Nos. 44 - 46.
- ⑤ Install new Terminal Joint, see Sheet Nos. 44 - 46.
- ⑥ Encasement of Pier Caps, see Sheet Nos. 35 - 36 for exact locations and details.

- ⑦ Carbon Fiber Wrapping of Column No. 4 at Pier No. 1, see Sheet Nos. 35 & 36 for details.
- ⑧ Carbon Fiber Wrapping of Column No. 4 at Pier No. 3, see Sheet Nos. 35 & 36 for details.
- ⑨ Remove and Replace Slope Wall panels at Abutment No. 2, see Sheet No. 43.

*Vertical clearances shown are taken from As-Built plans.
 **Proposed horizontal clearances measured perpendicular from \bar{C} TSU RR Tracks to Edge of Column.



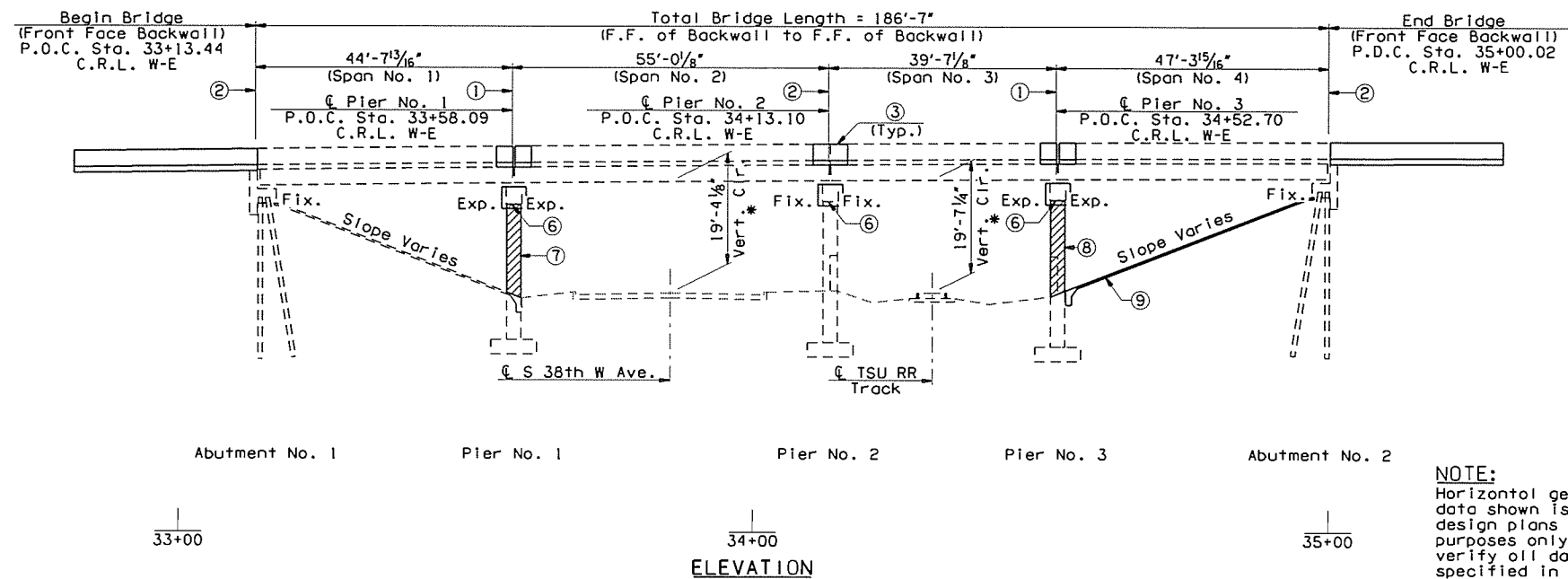
LOAD AND RESISTANCE FACTOR DESIGN DATA

Class AA Concrete $f'_c = 4,000$ p.s.i.
 Class A Concrete $f'_c = 3,000$ p.s.i.
 Reinforcing Steel (Grade 60) $f_y = 60,000$ p.s.i.
 Structural Steel (M270, Gr. 50W) $f_y = 50,000$ p.s.i.

Loading: HL93 and 20 p.s.f. Future Wearing Surface, or OK Overload Truck and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 6th Edition with current Interims.

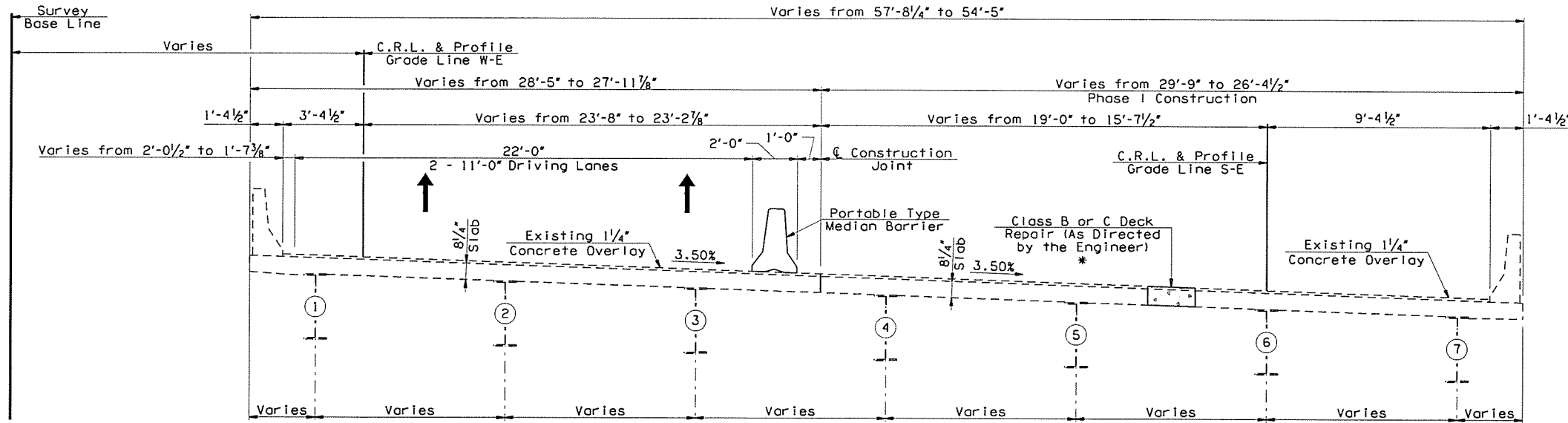
ANSI/AASHTO/AWS: D1.5 Bridge Welding Code
 ANSI/AASHTO/AWS: D1.6 Structural Welding Code - Stainless Steel
 LFD Operating Rating: HS 64.5



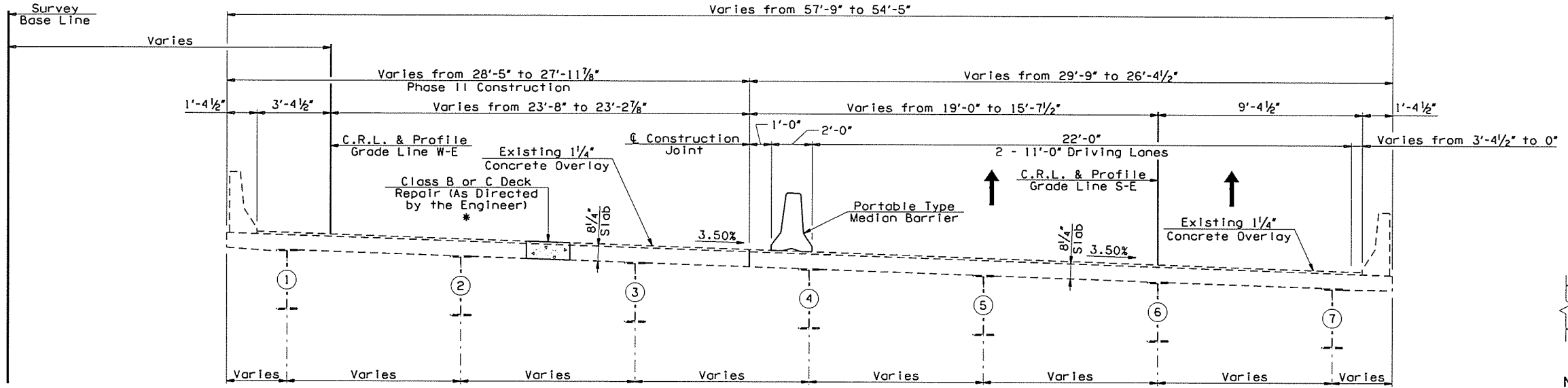
NOTE:
 Horizontal geometry and vertical profile data shown is taken from the original design plans and is for informational purposes only. The Contractor shall field verify all data to perform the work specified in these plans. See "GENERAL NOTES".

I-44 EB OVER S 38TH W AVE & TSU RR BRIDGE "B"		TULSA COUNTY	DESIGN JMO 9/15
GENERAL PLAN AND ELEVATION		CHECK BRT 11/15	DETAIL SJL 9/15
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	SHEET NO. 27

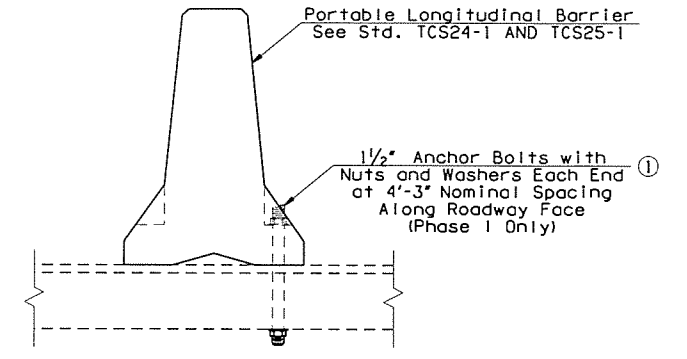
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	DATE
X	OKLA.	28872(04)				
DESCRIPTION						REVISIONS



TYPICAL SECTION - PHASE I



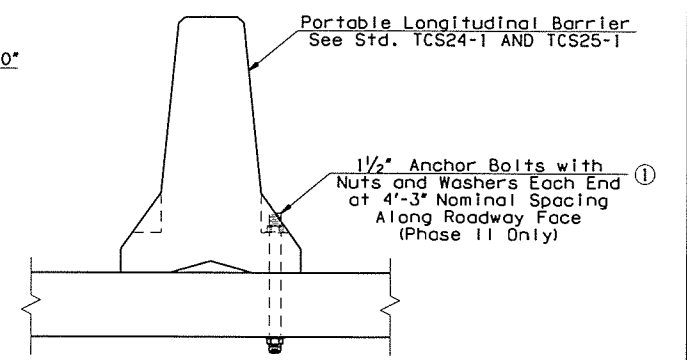
TYPICAL SECTION - PHASE II



① Provide Anchor Bolts having a minimum yield strength of 55 K.S.I. and a minimum tensile strength of 75 K.S.I. Submit the type of Anchor Bolt to the Engineer for approval prior to installation. Fill the remaining holes in the existing or new Deck Slab after removing Anchors in a manner approved by the Engineer. Include all costs for the Anchor Bolts, hole repair, labor, and incidentals necessary in the contract unit price of "PORTABLE LONGITUDINAL BARRIER" per roadway plans.

NOTE 1:
The Contractor shall submit the type of Concrete Anchor to the Bridge Engineer for approval prior to installation of Anchors. Anchors shall have a Minimum Ultimate Pullout Capacity of 10,000 lbs. and a Minimum Ultimate Shear Capacity of 13,000 lbs.

PORTABLE LONGITUDINAL BARRIER DETAIL ON EXISTING BRIDGE DECK



NOTE 2:
The Contractor shall submit the type of Concrete Anchor to the Bridge Engineer for approval prior to installation of Anchors. Anchors shall have a Minimum Ultimate Pullout Capacity of 10,000 lbs. and a Minimum Ultimate Shear Capacity of 13,000 lbs.

PORTABLE LONGITUDINAL BARRIER DETAIL ON PROPOSED BRIDGE DECK

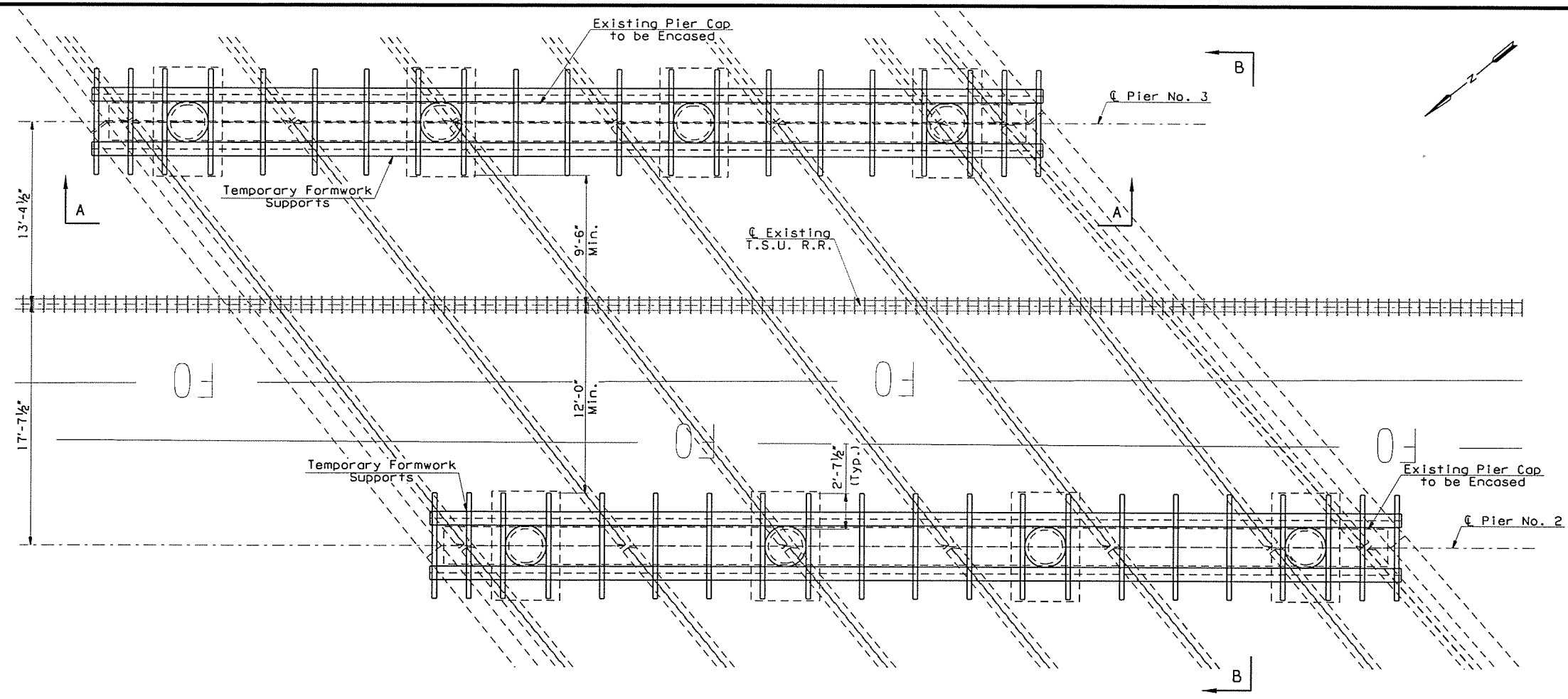
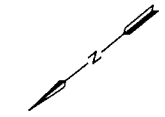
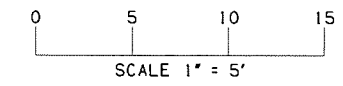
* In addition to repair areas, as directed by the Engineer, Class C Bridge Deck Repair shall be used to replace the existing Expansion and Construction Joints at the Piers.

LEGEND

---	Existing Structure
—	Proposed Structure
⏏	Temporary Median Barrier

I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMD	8/15
BRIDGE "B"		DETAIL	S.J.L	11/15
		CHECK	BRT	11/15
SEQUENCE OF CONSTRUCTION		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO.	28	

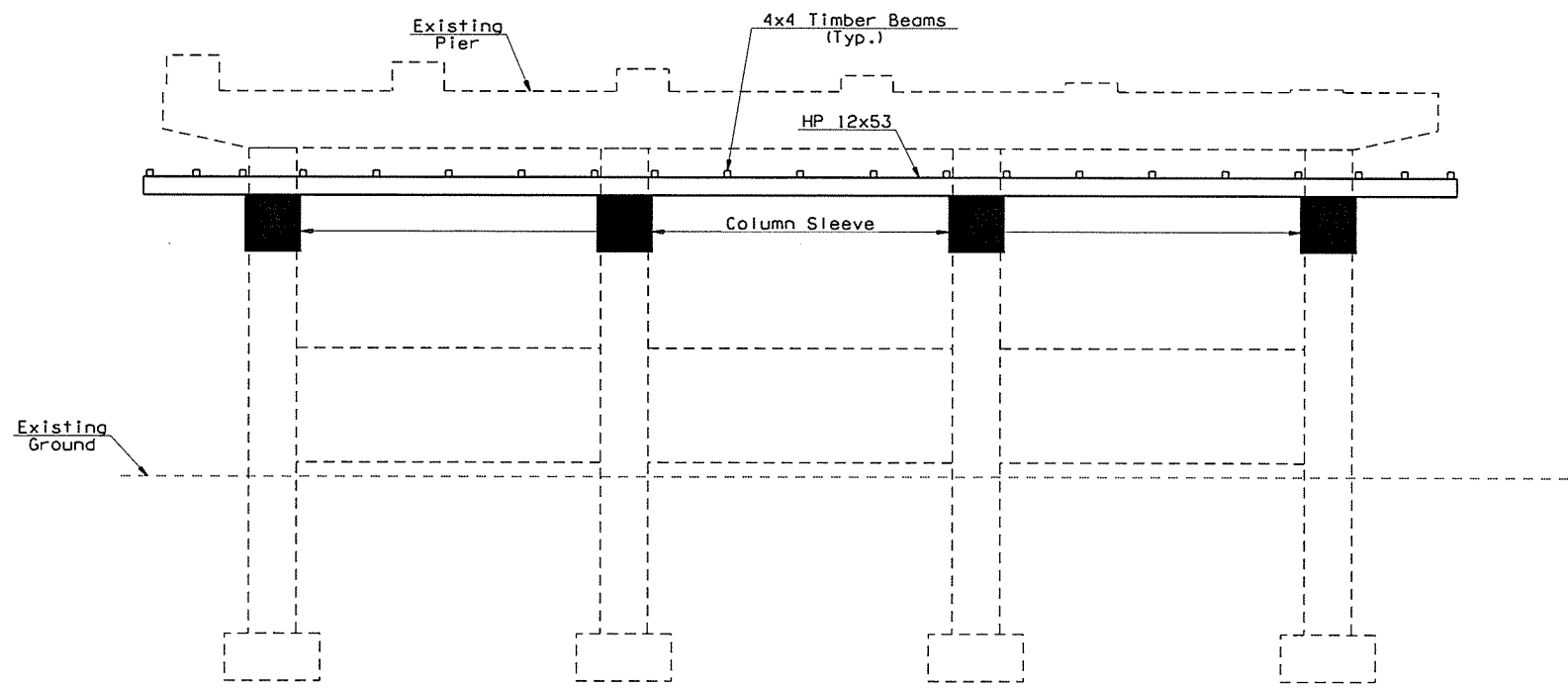
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						DATE



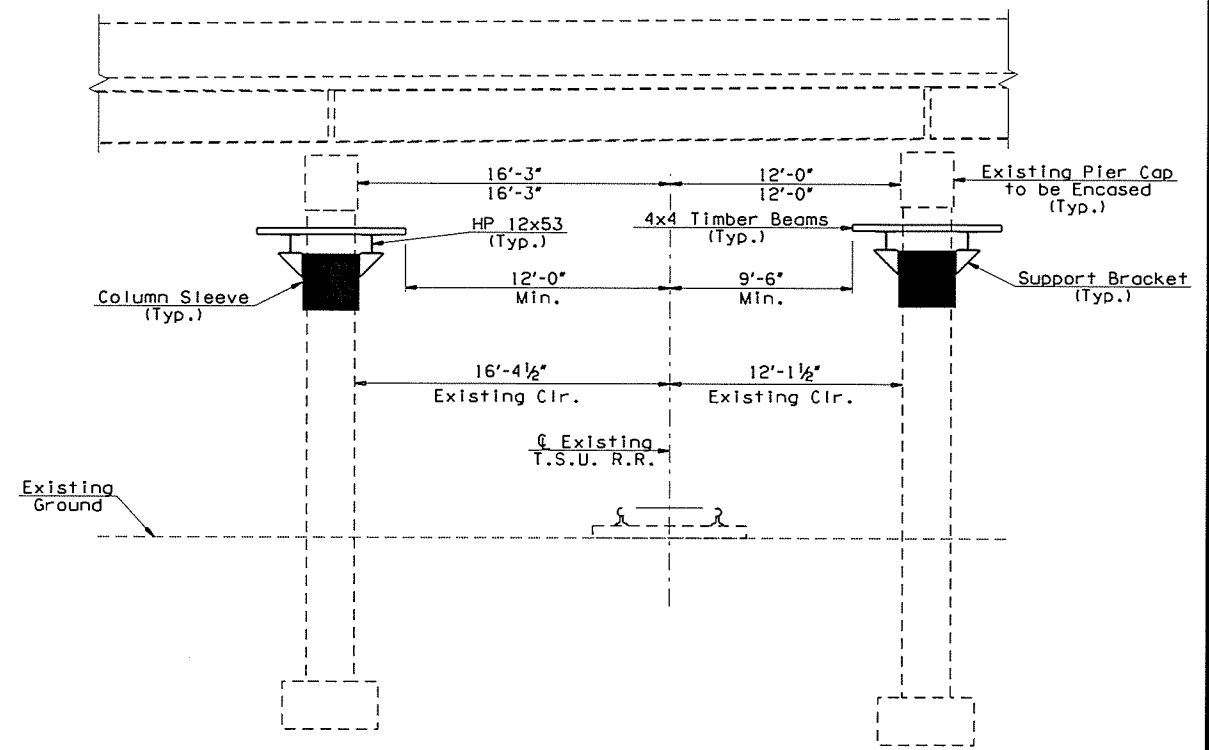
The temporary support structures shown are for illustrative purposes only. The contractor is responsible for all layout and design of the falsework.

This falsework must be supported off the existing columns due to the presence of underground utilities adjacent to the piers.

PLAN



SECTION A-A
(Pier No. 3 Upstation)

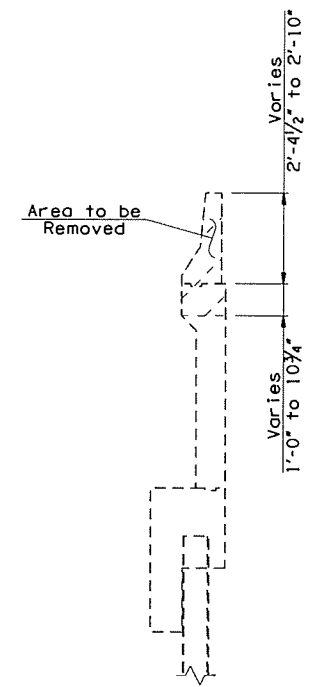
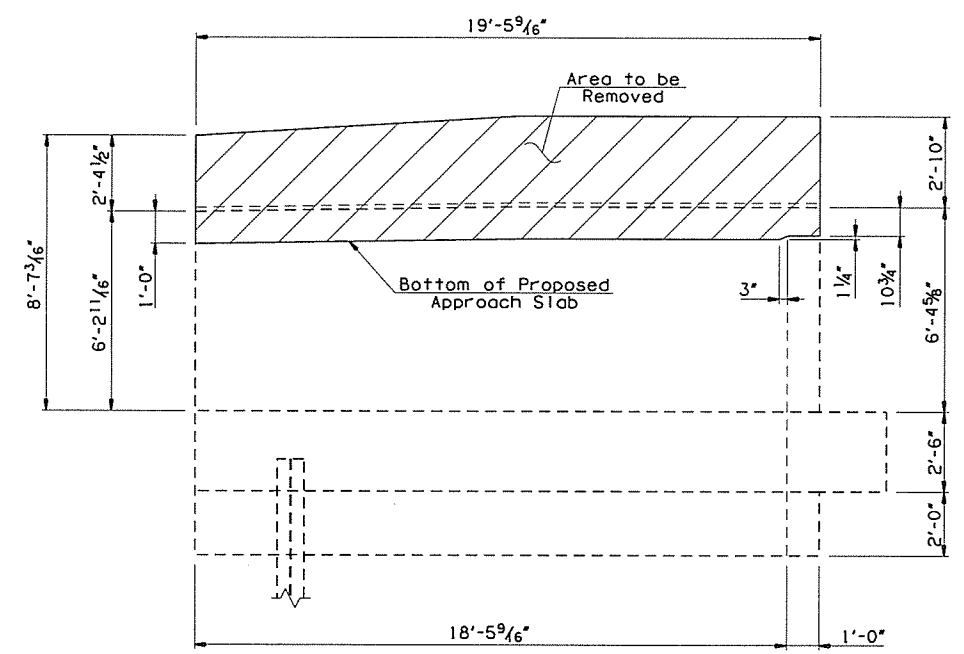
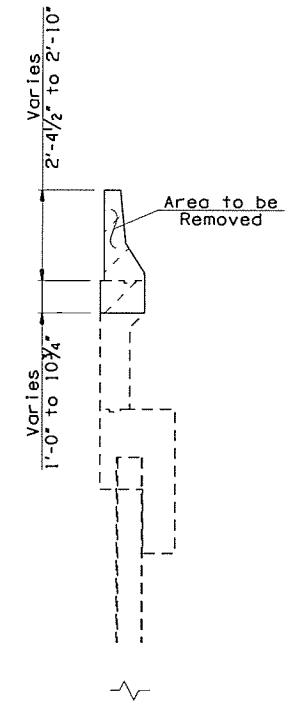
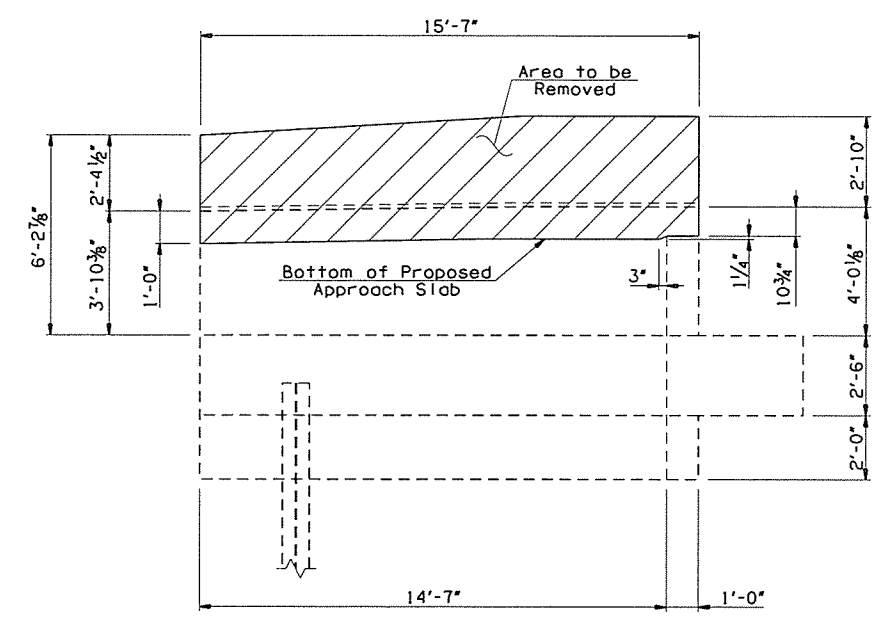
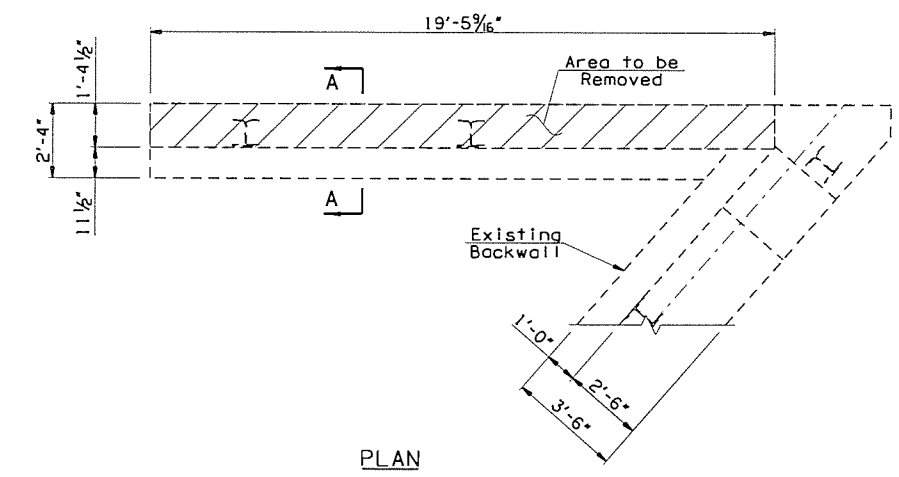
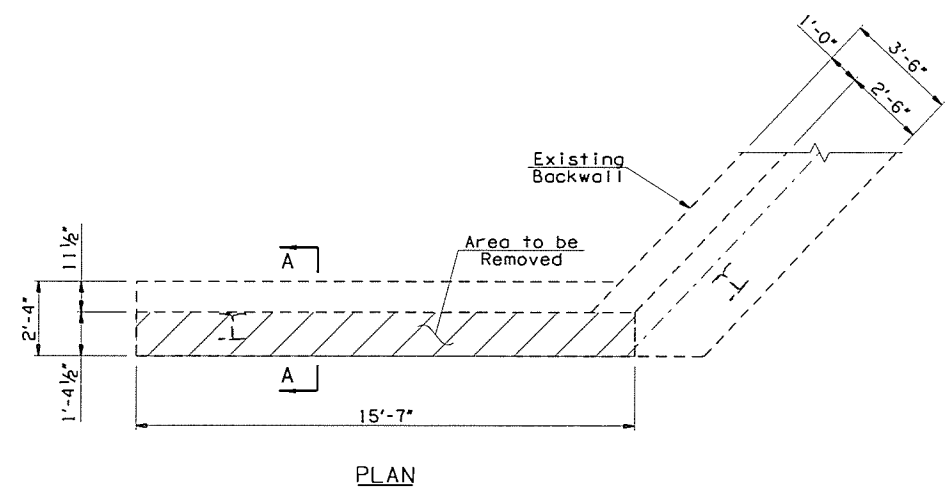


SECTION B-B

I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	BRT	11/15
& TSU RR BRIDGE 'B'		DETAIL	JMO	11/15
TEMPORARY FALSEWORK (CONCEPTUAL)		CHECK	BRT	2/16
		GARVER		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 29

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	DATE
X	OKLA.	28872(04)				
DESCRIPTION						REVISIONS



NOTES:

All incidental construction required for the removal of portions of existing Wingwalls, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing Abutments & shall be solely responsible for the accuracy thereof.

For additional demolition & construction details at Abutment No. 1, see Sheet Nos. 32 & 33.

For Abutment No. 2 demolition details, see Sheet No. 31.

For Bar Lists, Bar Bends, & Summary of Quantities, see Sheet No. 34.

SOUTHWEST WING

ABUTMENT NO. 1 WING DEMOLITION DETAILS

NORTHWEST WING

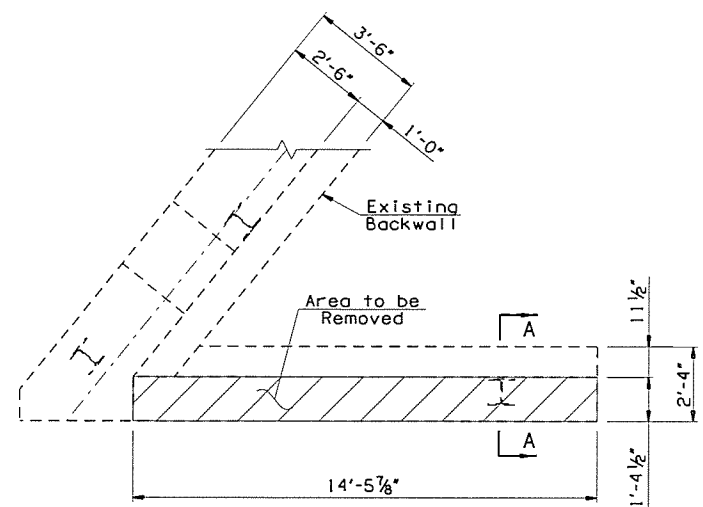
LEGEND

- Demolition cost to be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
- Existing Structure

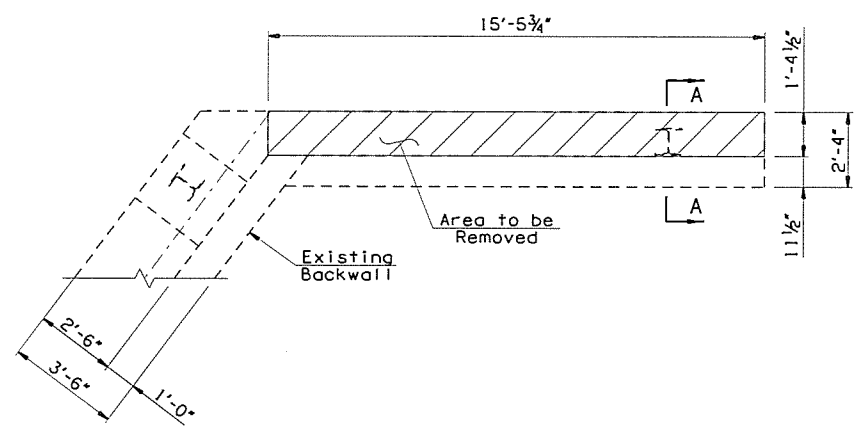
I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMG	8/15
& TSU RR BRIDGE "B"		DETAIL	SJL	9/15
		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 1 OF 5)		GARVER		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 30

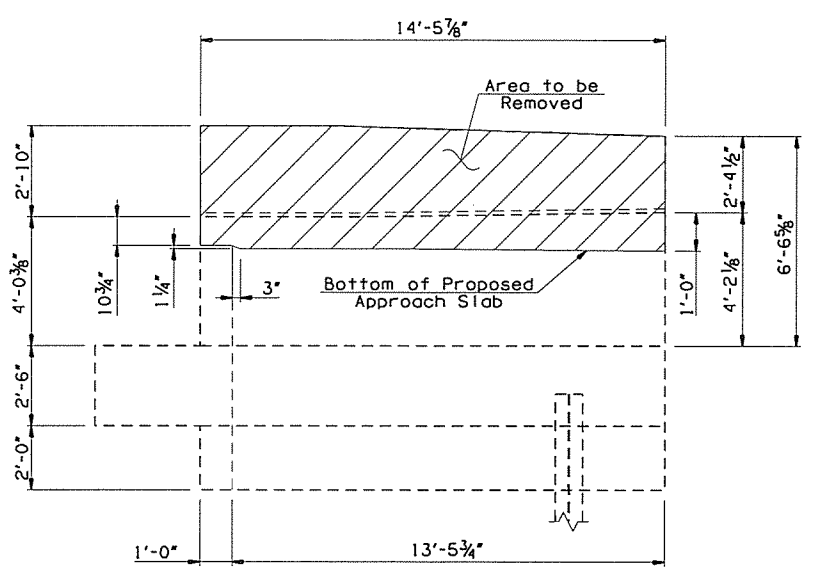
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	288721041				
DESCRIPTION				REVISIONS	DATE	



PLAN

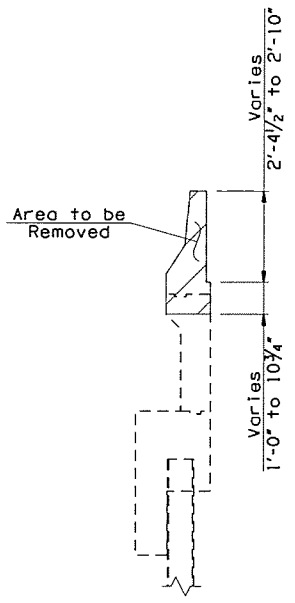


PLAN

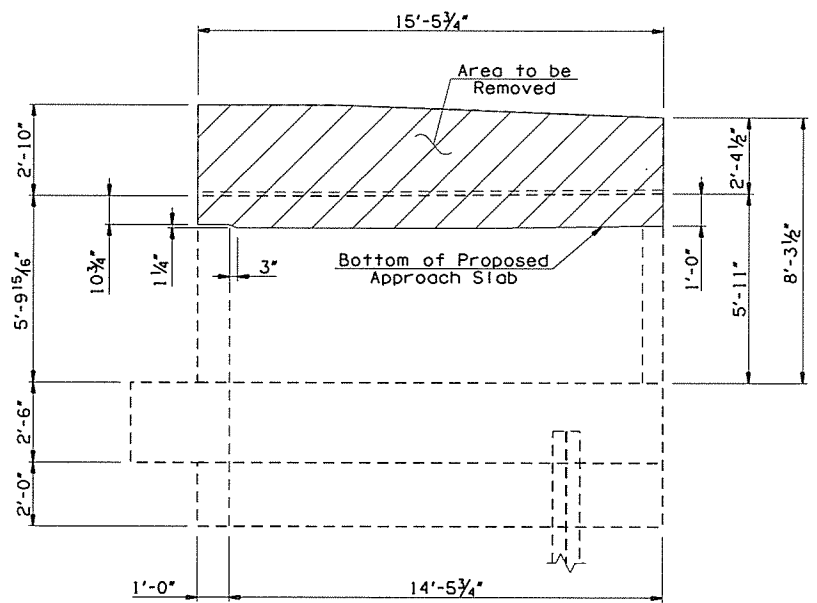


ELEVATION

SOUTHEAST WING

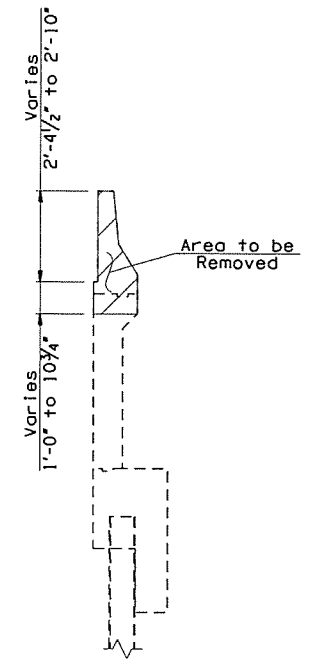


SECTION A-A



ELEVATION

NORTHEAST WING



SECTION A-A

ABUTMENT NO. 2 WING DEMOLITION DETAILS

NOTES:

All incidental construction required for the removal of portions of existing Wingwalls, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing Abutments & shall be solely responsible for the accuracy thereof.

For Abutment No. 1 demolition & construction details, see Sheet Nos. 30, 32, & 33.

For Bar Lists, Bar Bends, & Summary of Quantities, see Sheet No. 34.

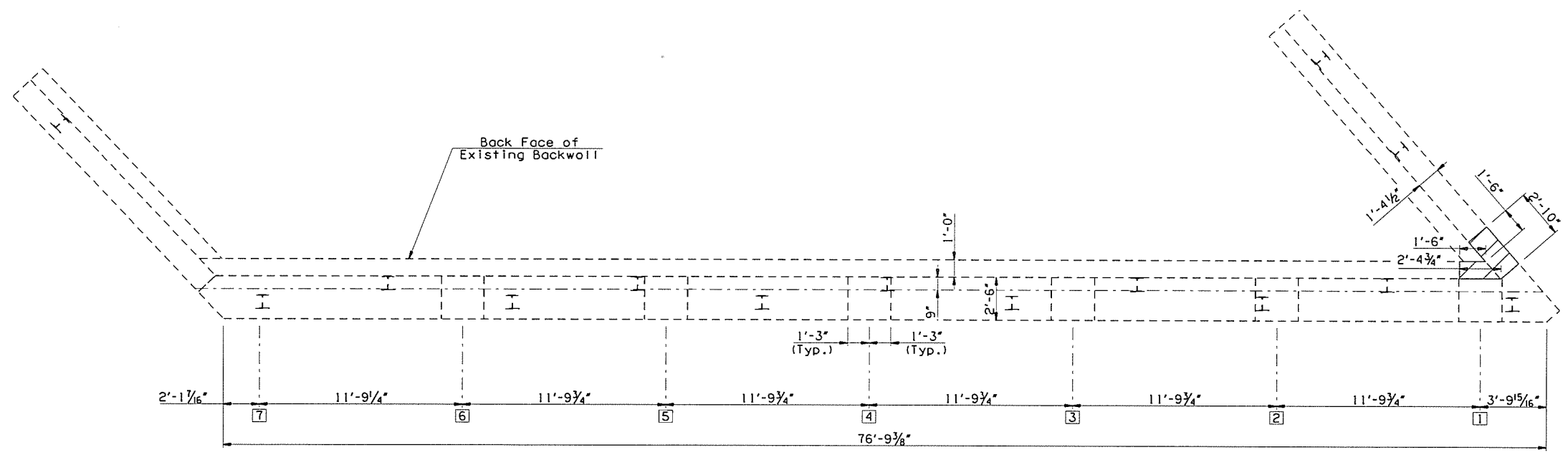
LEGEND

- Demolition cost to be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
- Existing Structure

1-44 EB OVER S 38TH W AVE	TULSA COUNTY	DESIGN	JMO	8/15
& TSU RR		DETAIL	SJL	10/15
BRIDGE "B"		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 2 OF 5)				GARVER

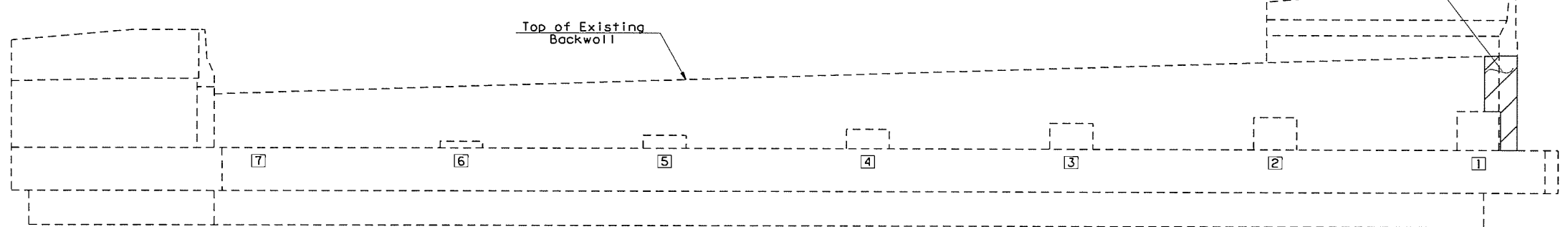
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 288721041	SHEET NO. 31

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION				REVISIONS	DATE	

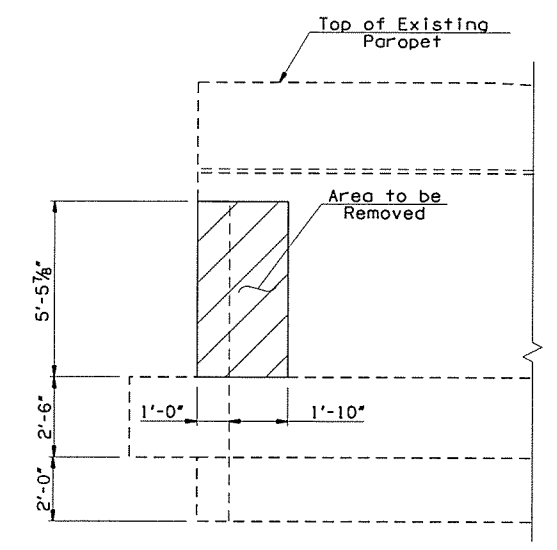


PLAN

** Existing Reinforcing Steel shall remain.



ELEVATION
(Looking Back Station)



NORTHWEST WING

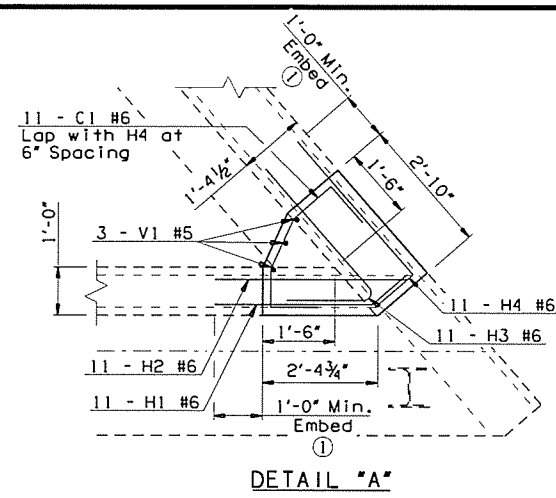
ABUTMENT NO. 1 DEMOLITION DETAILS

NOTES:
 All incidental construction required for the removal of portions of existing Wingwalls, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
 All dimensions of the existing components shown on the plans are approximate. The contractor shall verify all data necessary to remove portions of the existing Abutments & shall be solely responsible for the accuracy thereof.
 For additional demolition & construction details at Abutment No. 1, see Sheet Nos. 30 & 33.
 For Abutment No. 2 demolition & construction details, see Sheet No. 31.
 For Bar Lists, Bar Bends, & Summary of Quantities, see Sheet No. 34.

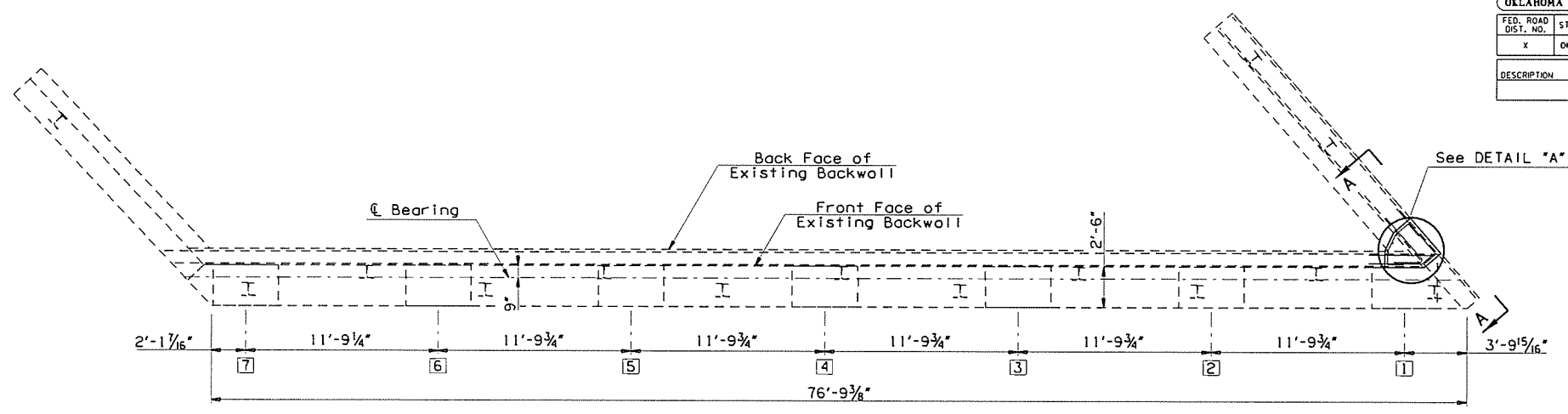
LEGEND

- Demolition cost to be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
- Existing Structure

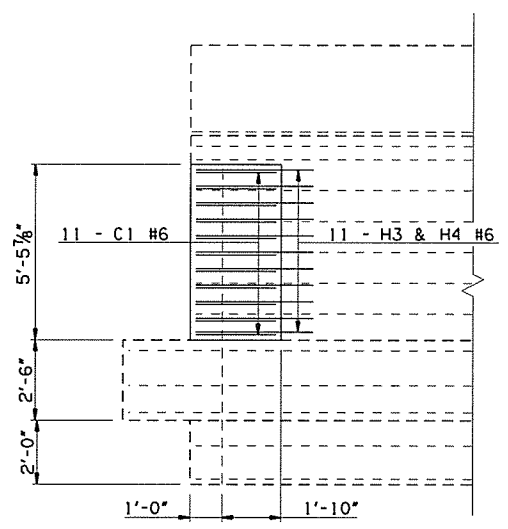
I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMD	8/15
& TSU RR BRIDGE "B"		DETAIL	NBK	10/15
ABUTMENT DETAILS (SHEET 3 OF 5)		CHECK	BRT	11/15
		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 32		



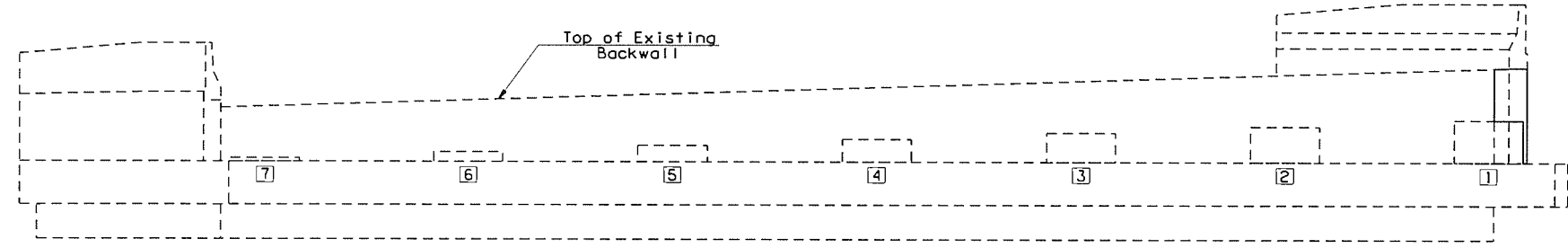
DETAIL "A"



PLAN



SECTION A-A



ELEVATION
(Looking Back Station)

ABUTMENT NO. 1 CONSTRUCTIONS DETAILS

NOTES:

- All incidental construction required for the removal of portions of existing Wingwalls, including concrete removal, excavation, saw cutting, labor & equipment shall be included in the price per Lump Sum of "REMOVAL OF BRIDGE ITEMS".
- For additional demolition & construction details of Abutment No. 1, see Sheet Nos. 30 & 32.
- For Abutment No. 2 demolition & construction details, see Sheet No. 31.
- For Bar Lists, Bar Bends, & Summary of Quantities, see Sheet No. 34.

ANCHORAGE SYSTEM:

The Contractor shall use an Anchorage System that has been approved by ODOT's materials division. The Anchorage System shall be capable of developing the full strength of the reinforcing steel that is to be anchored. The embedment depth shown is to be adjusted to meet the Manufacturer's requirements. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.

Drilling into the existing concrete to install the onchorage 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 non-destructive 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 reinforcing bars from the plan locations shown shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All costs of the Anchorage Assemblies including labor, materials, tools, drilling, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Pound of "EPOXY COATED REINFORCING STEEL".

① See "ANCHORAGE SYSTEM" note on this sheet for details regarding the drilling and epoxying of the proposed H #6 Bars.

I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMD	8/15
& TSU RR		DETAIL	NBK	10/15
BRIDGE "B"		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 4 OF 5)		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872104	SHEET NO. 33		

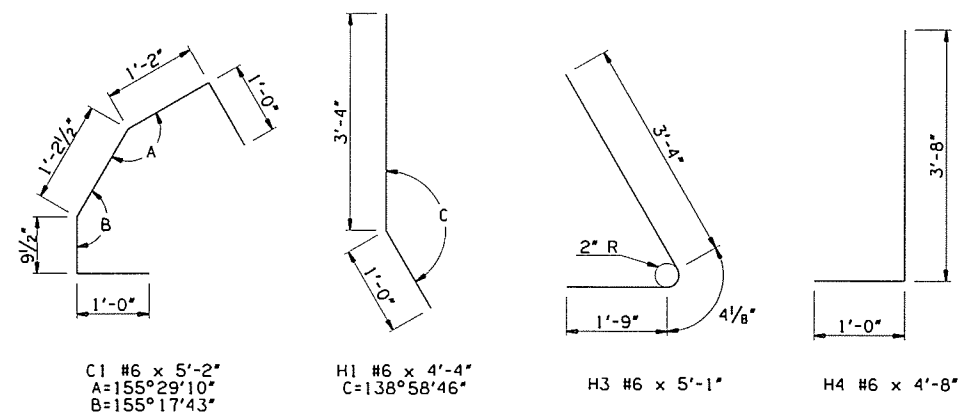
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			

DESCRIPTION	REVISIONS	DATE

ITEM	UNIT	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	47.00
CLASS A CONCRETE	C.Y.	1.40
EPOXY COATED REINFORCING STEEL	L.B.	401.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	33.00
PREPARATION OF CRACKS, ABOVE WATER	L.F.	30.00
EPOXY RESIN, ABOVE WATER	GAL.	1.00
PNEUMATICALLY PLACED MORTAR	S.Y.	13.40

ITEM	UNIT	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	40.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	34.00
PREPARATION OF CRACKS, ABOVE WATER	L.F.	30.00
EPOXY RESIN, ABOVE WATER	GAL.	1.00
PNEUMATICALLY PLACED MORTAR	S.Y.	13.40

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
C1	#6	11	BENT	5'-2"	-
H1	#6	11	BENT	4'-4"	-
H2	#6	11	STR.	4'-0"	-
H3	#6	11	BENT	5'-1"	-
H4	#6	11	BENT	4'-8"	-
V1	#5	3	STR.	5'-2"	-

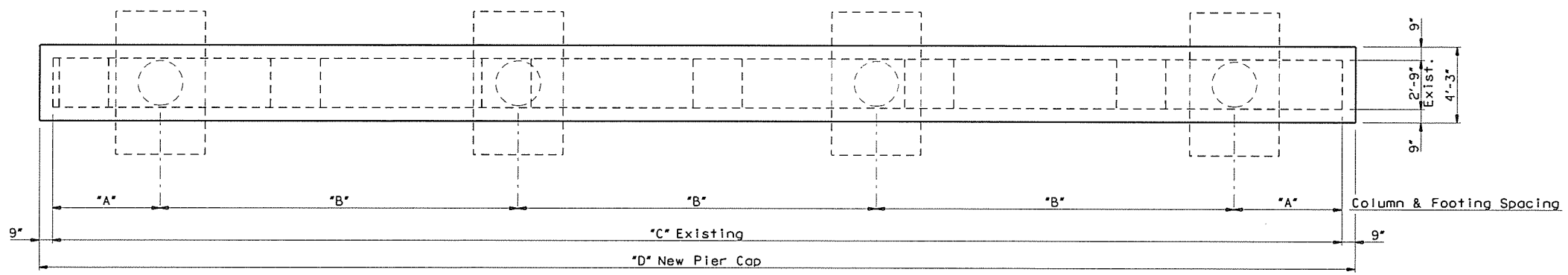


BAR BENDS - ABUTMENT NO. 1

I-44 EB OVER S 38TH W AVE & TSU RR BRIDGE 'B'	TULSA COUNTY	DESIGN	NBK	11/15
		DETAIL	NBK	11/15
		CHECK	BRT	11/15
ABUTMENT DETAILS (SHEET 5 OF 5)				GARVER

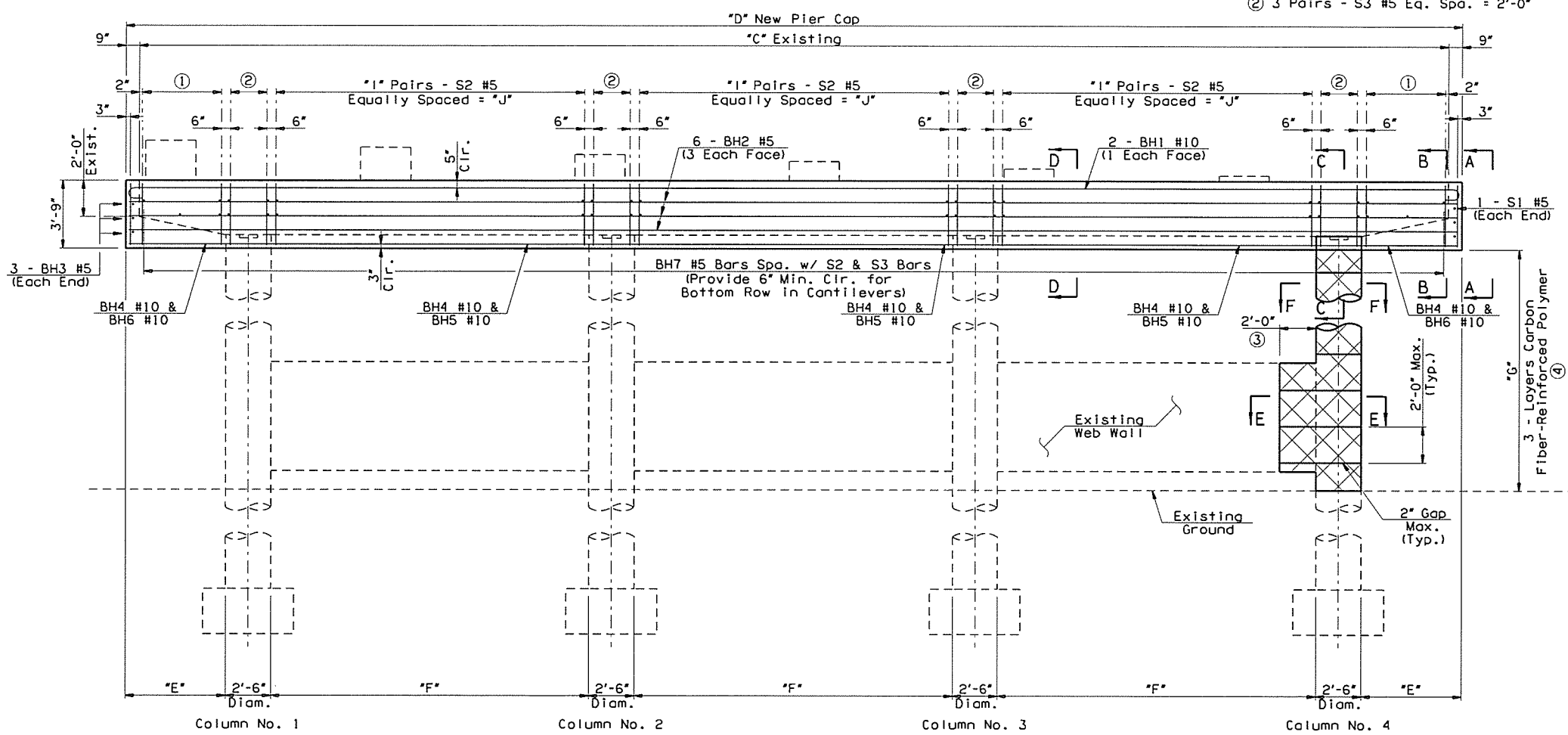


	PIER NO. 1	PIER NO. 2	PIER NO. 3
LENGTH "A"	6'-0"	6'-0"	5'-9"
LENGTH "B"	20'-0"	19'-0"	18'-6"
LENGTH "C"	72'-0"	69'-0"	67'-0"
LENGTH "D"	73'-6"	70'-6"	68'-6"
LENGTH "E"	5'-6"	5'-6"	5'-3"
LENGTH "F"	17'-6"	16'-6"	16'-0"
LENGTH "G"	16'-2"		16'-9"
LENGTH "H"	4'-4"	4'-4"	4'-1"
"I" PAIRS	35	33	32
LENGTH "J"	17'-0"	16'-0"	15'-6"



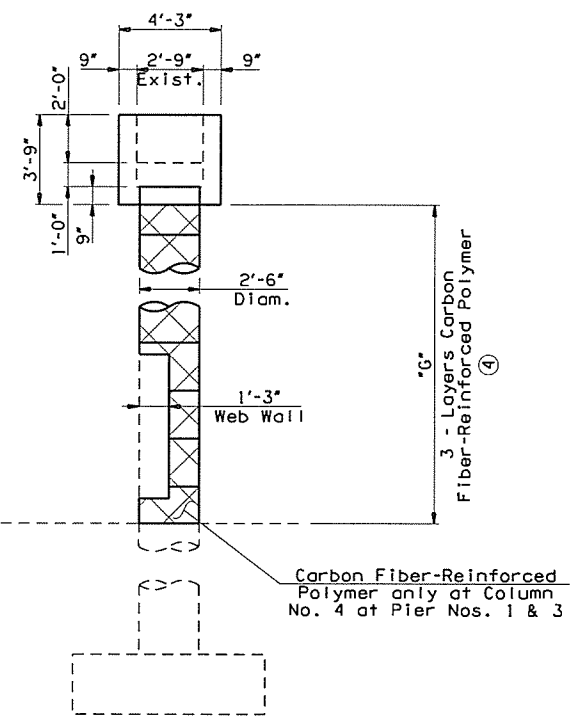
PLAN

- ① 7 Pairs - S2 #5 Eq. Spa. = "H"
- ② 3 Pairs - S3 #5 Eq. Spa. = 2'-0"



ELEVATION

(Looking Forward Station; similar for all Piers)
Cap Encasement



SIDE ELEVATION

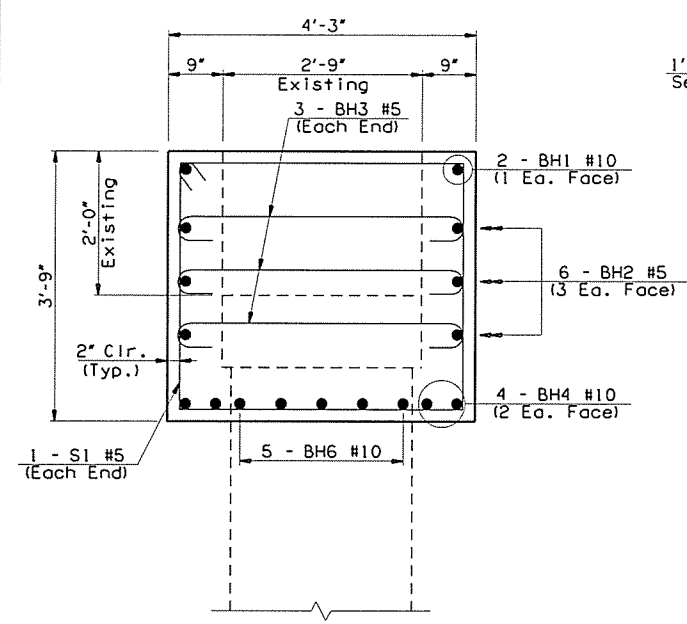
All dimensions shown are based on information from original As-Built Plans and is only for informational purposes. It is the Contractor's responsibility to verify all information prior to any demolition or construction.

- ③ Installation of Carbon Fiber-Reinforced Polymer to the Web Wall shall only be applied to Pier No. 3 at Column No. 4.
- ④ Carbon Fiber-reinforced Polymer shall be applied to the column in three (3) layers. The first and third layers shall be applied in a horizontal pattern. The second layer shall be applied in a vertical pattern.

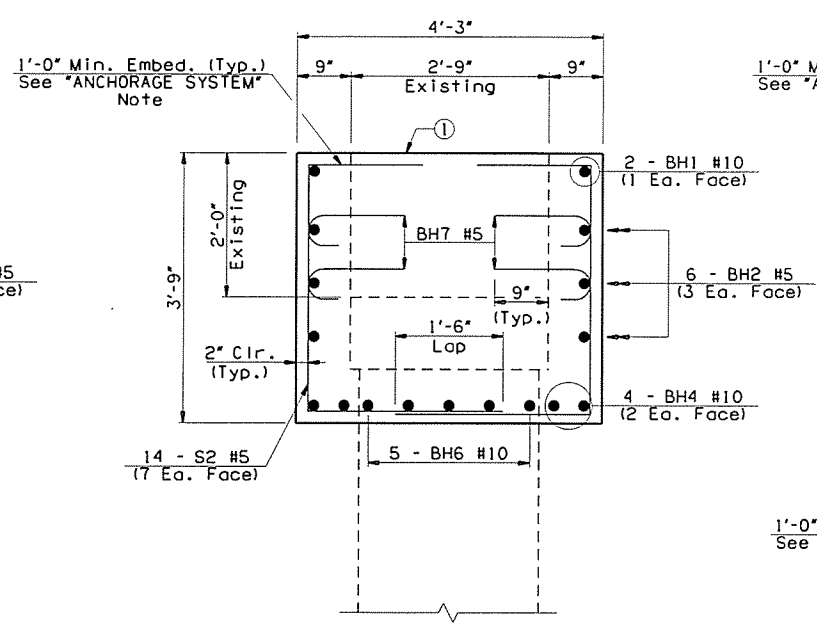
NOTES:
Pier No. 1 does not have a Web Wall. A generic Web Wall is shown on this sheet for informational purposes only.
For Sections A-A thru F-F, Concrete Treatment Details, Bar Bends and Bar Lists, see Sheet No. 36.

I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JTR	4/16
& TSU RR BRIDGE "B"		DETAIL	JTR	4/16
		CHECK	BRT	4/16
PIER DETAILS (SHEET 1 OF 2)		GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 28872(04)	SHEET NO. 35		

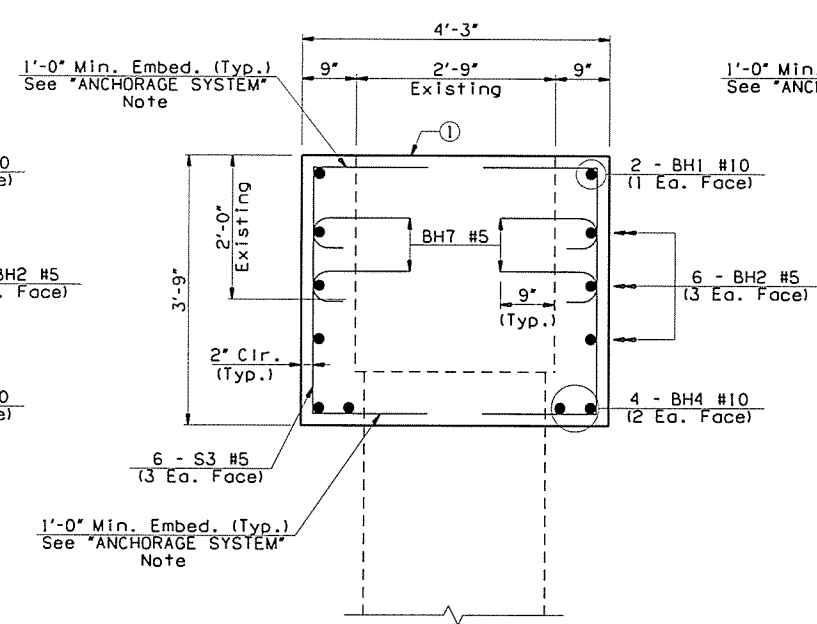
① The Contractor shall remove unsound concrete from the top of existing Pier Cap and clean any exposed Reinforcing Steel, then apply a new concrete finish. All costs for removal of unsound concrete, cleaning exposed Reinforcing Steel and refinishing tops of existing Pier Caps shall be included in other items of work.



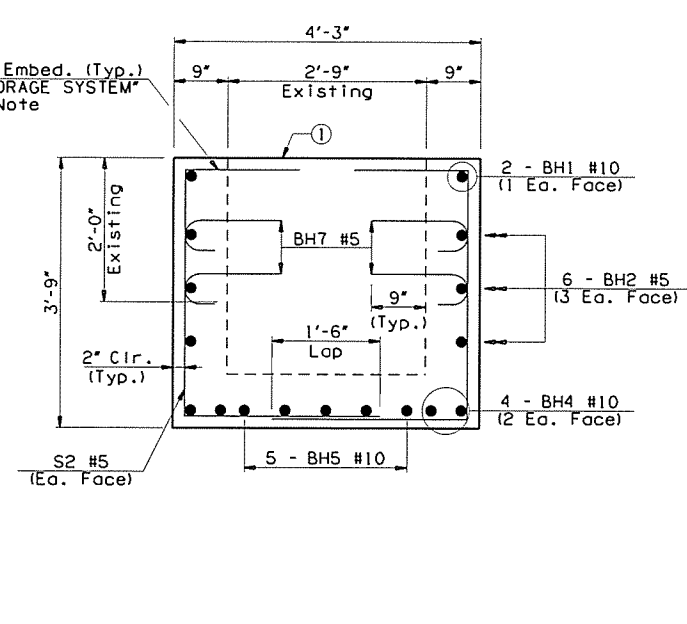
SECTION A-A



SECTION B-B



SECTION C-C



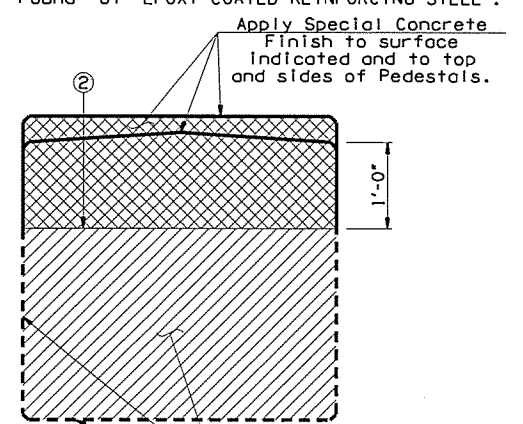
SECTION D-D

ANCHORAGE SYSTEM:

The Contractor shall use an Anchorage System that has been approved by ODOT's materials division. The Anchorage System shall be capable of developing the full strength of the reinforcing steel that is to be anchored. The embedment depth shown is to be adjusted to meet the Manufacturer's requirements. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.

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 non-destructive 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 reinforcing bars from the plan locations shown shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All costs of the Anchorage Assemblies including labor, materials, tools, drilling, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Pound of "EPOXY COATED REINFORCING STEEL".



CONCRETE TREATMENT DETAILS

② Mask sides and ends of Pier Cap along this line to provide a clean straight finish at top and bottom of Special Concrete Finish application. See "GENERAL NOTE" on Sheet No. 2 for Special Concrete Finish Specifications.

BAR LIST - PIER NO. 1 CAP ENCASEMENT

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
③ BH1	#10	2	BENT	89'-9"
④ BH2	#5	6	STR.	77'-5"
BH3	#5	6	BENT	5'-1"
③ BH4	#10	4	STR.	86'-11"
BH5	#10	15	STR.	17'-2"
BH6	#10	10	STR.	5'-2"
BH7	#5	512	BENT	1'-11"
S1	#5	2	BENT	14'-11"
S2	#5	238	BENT	7'-5"
S3	#5	24	BENT	6'-5"

BAR LIST - PIER NO. 2 CAP ENCASEMENT

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
③ BH1	#10	2	BENT	86'-9"
④ BH2	#5	6	STR.	74'-5"
BH3	#5	6	BENT	5'-1"
③ BH4	#10	4	STR.	83'-11"
BH5	#10	15	STR.	16'-2"
BH6	#10	10	STR.	5'-2"
BH7	#5	488	BENT	1'-11"
S1	#5	2	BENT	14'-11"
S2	#5	226	BENT	7'-5"
S3	#5	24	BENT	6'-5"

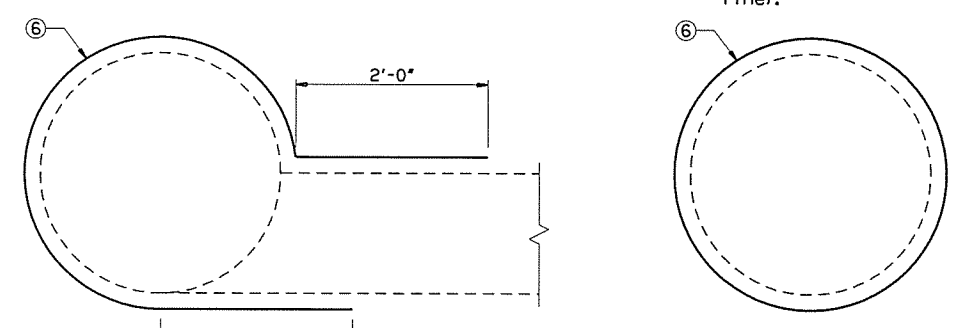
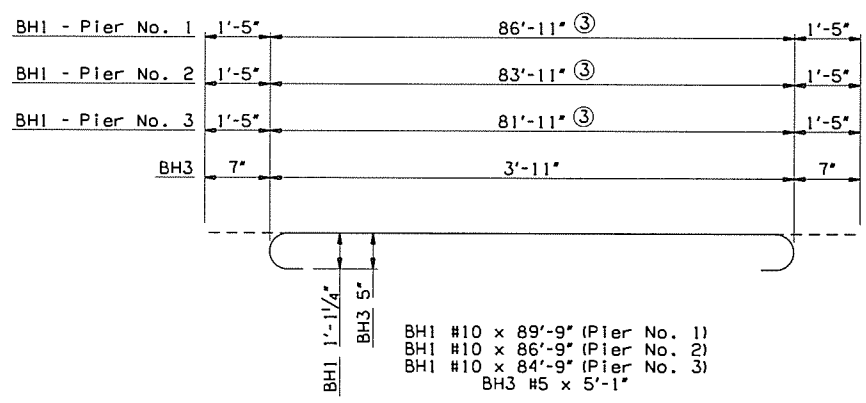
BAR LIST - PIER NO. 3 CAP ENCASEMENT

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
③ BH1	#10	2	BENT	84'-9"
④ BH2	#5	6	STR.	72'-5"
BH3	#5	6	BENT	5'-1"
③ BH4	#10	4	STR.	81'-11"
BH5	#10	15	STR.	15'-8"
BH6	#10	10	STR.	4'-11"
BH7	#5	476	BENT	1'-11"
S1	#5	2	BENT	14'-11"
S2	#5	220	BENT	7'-5"
S3	#5	24	BENT	6'-5"

③ Includes One 13'-9" Lap Length
 ④ Includes One 4'-3" Lap Length

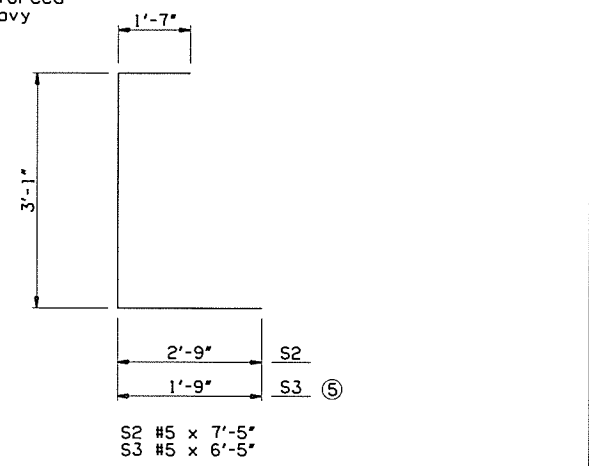
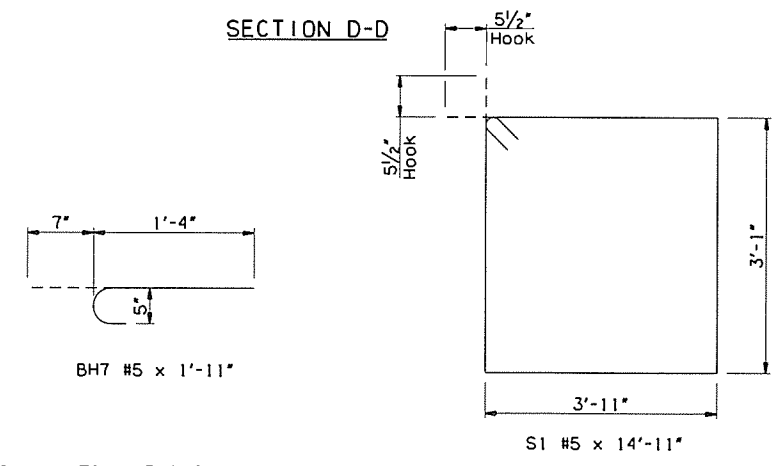
NOTE:

All Laps shall be staggered.



⑥ Corrosion Inhibitor and Carbon Fiber-Reinforced Polymer Surface Treatment (indicated by heavy line).

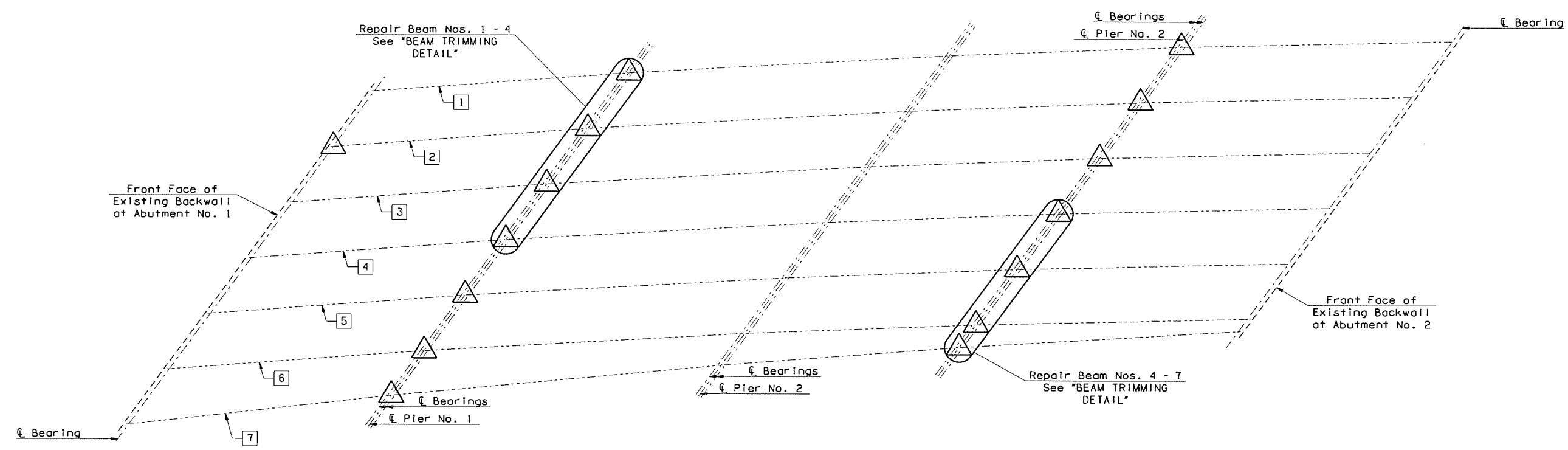
SUMMARY OF QUANTITIES - PIERS					
ITEM	UNIT	PIER 1	PIER 2	PIER 3	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	57.00	55.00	53.00	165.00
CLASS A CONCRETE	C.Y.	21.20	20.40	19.80	61.40
EPOXY COATED REINFORCING STEEL	LB.	7,172.00	6,824.00	6,693.00	20,689.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	78.00	75.00	73.00	226.00
PREPARATION OF CRACKS, ABOVE WATER	L.F.	12.00	12.00	12.00	36.00
EPOXY RESIN, ABOVE WATER	GAL.	0.40	0.40	0.40	1.20
PNEUMATICALLY PLACED MDRTAR	S.Y.	6.00	6.00	6.00	18.00
(SP) CARBON FIBER-REINFORCED POLYMER	S.F.	127.00		160.60	287.60
(SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	14.20		17.90	32.10



⑤ Field cut as necessary. Maintain embedment and clear distance requirements.

1-44 EB OVER S 38TH W AVE TULSA COUNTY DESIGN JTR 4/16
 & TSU RR DETAIL JTR 4/16
 BRIDGE "B" CHECK BRT 4/16
PIER DETAILS (SHEET 2 OF 2)
GARVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						DATE



FRAMING PLAN

- △ Replace the following bearings with "like kind":
1. Abutment No. 1, Bearing No. 2
 2. Pier No. 1, Bearing Nos. 1 - 7 (Back & Forward Station)
 3. Pier No. 3, Bearing Nos. 1 - 7 (Back & Forward Station)

It is the Contractor's responsibility to provide "like kind" Bearing Replacement Plans similar to what is shown in the As-Built Plans.

NOTES:

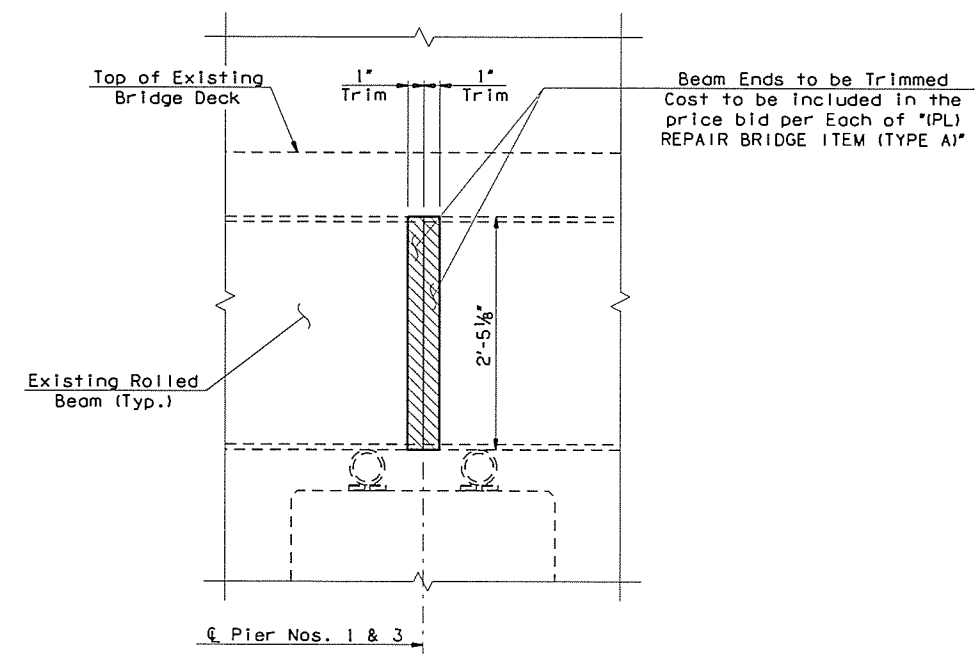
The Engineer and Contractor shall field verify the need of bearing replacement. Bearings shall be replaced if section loss of 25% or greater on any member is observed.

Structural Steel For Masonry Plates, Extra Strang Steel Pipe Roller, Stiffener Plates, Keeper Bars And Anchor Bolts Shall Conform To AASHTO M270 (ASTM A709), Grade 50W (Weathering Steel, Charpy V-Notch Testing Not Required). Nuts, Washers And Welding Shall Have Weathering Characteristics.

Cut Existing Anchor Bolts Flush with Bearing Surface and fill with grout before installing new Bearing Assemblies.

No Existing Reinforcing Bars In The Existing Abutment or Pier Caps Supporting The Bearing Shall Be Cut During Installation of The Anchor Bolts. The Location of The Anchor Bolts May Be Adjusted To Accommodate This Requirement. However, The Anchor Bolts Shall Be Set As Close To Existing ϕ Bearing As Possible.

Actual Embedment Length For Drilled And Epoxy Anchors Shall Be Determined By The Anchorage Assembly Manufacturer and Approved By The Engineer. See Sheet No. 4 For Additional Requirements.



BEAM END TRIM DETAIL
(Typical at all ends of Beam Nos. 1 - 4 at Pier No. 1 & Beam Nos. 4 - 7 at Pier No. 3)

I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMD	10/15
& TSU RR		DETAIL	SJL	10/15
BRIDGE "B"		CHECK	BRT	11/15
SUPERSTRUCTURE REPAIR DETAILS				
GARVER				

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 37

NOTES:
See Sheet No. 39 for SECTIONS A-A & B-B.

See Sheet Nos. 40 & 41 for details on construction of the existing Expansion and Construction Joints at the Piers.

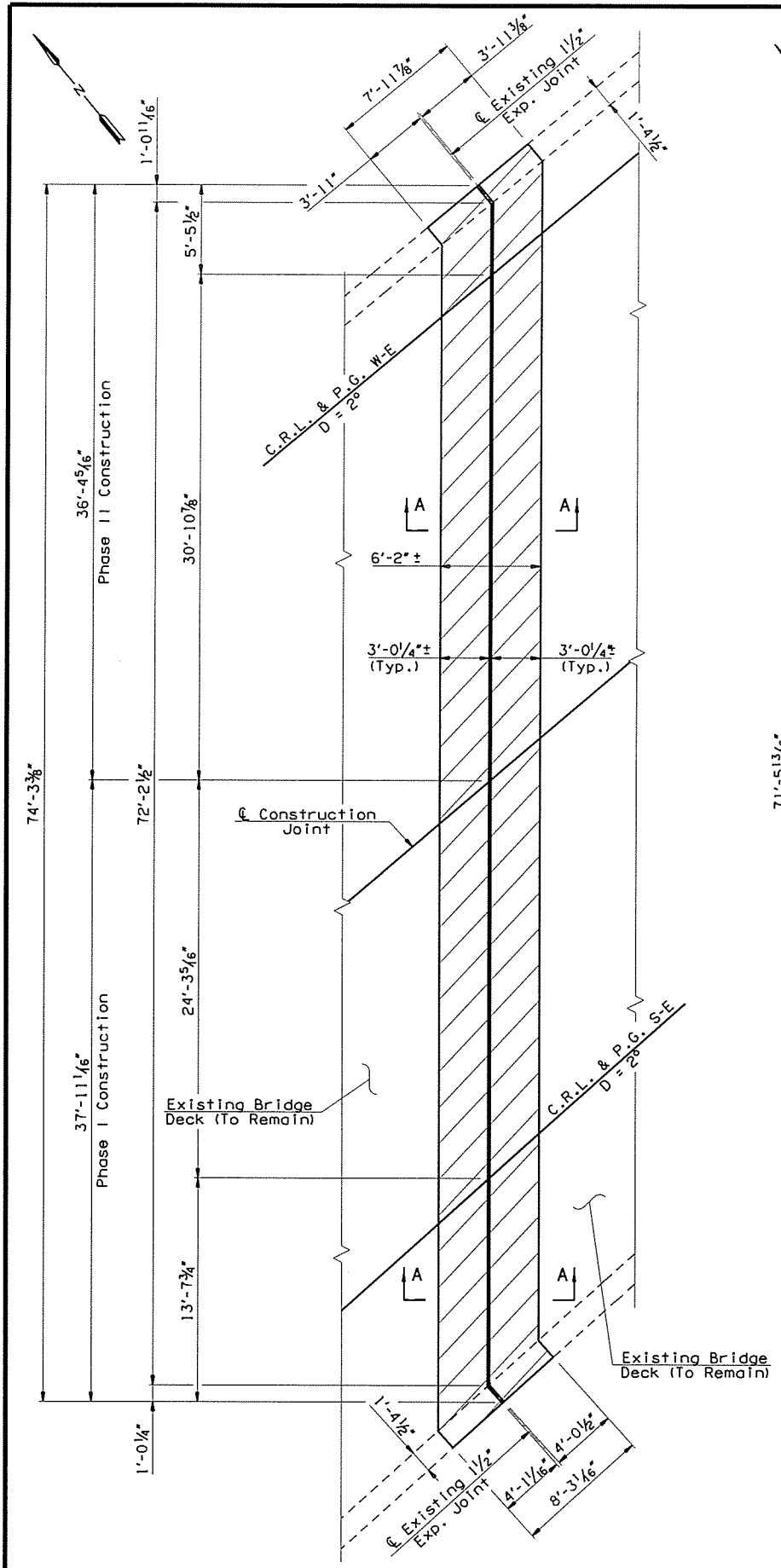
All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

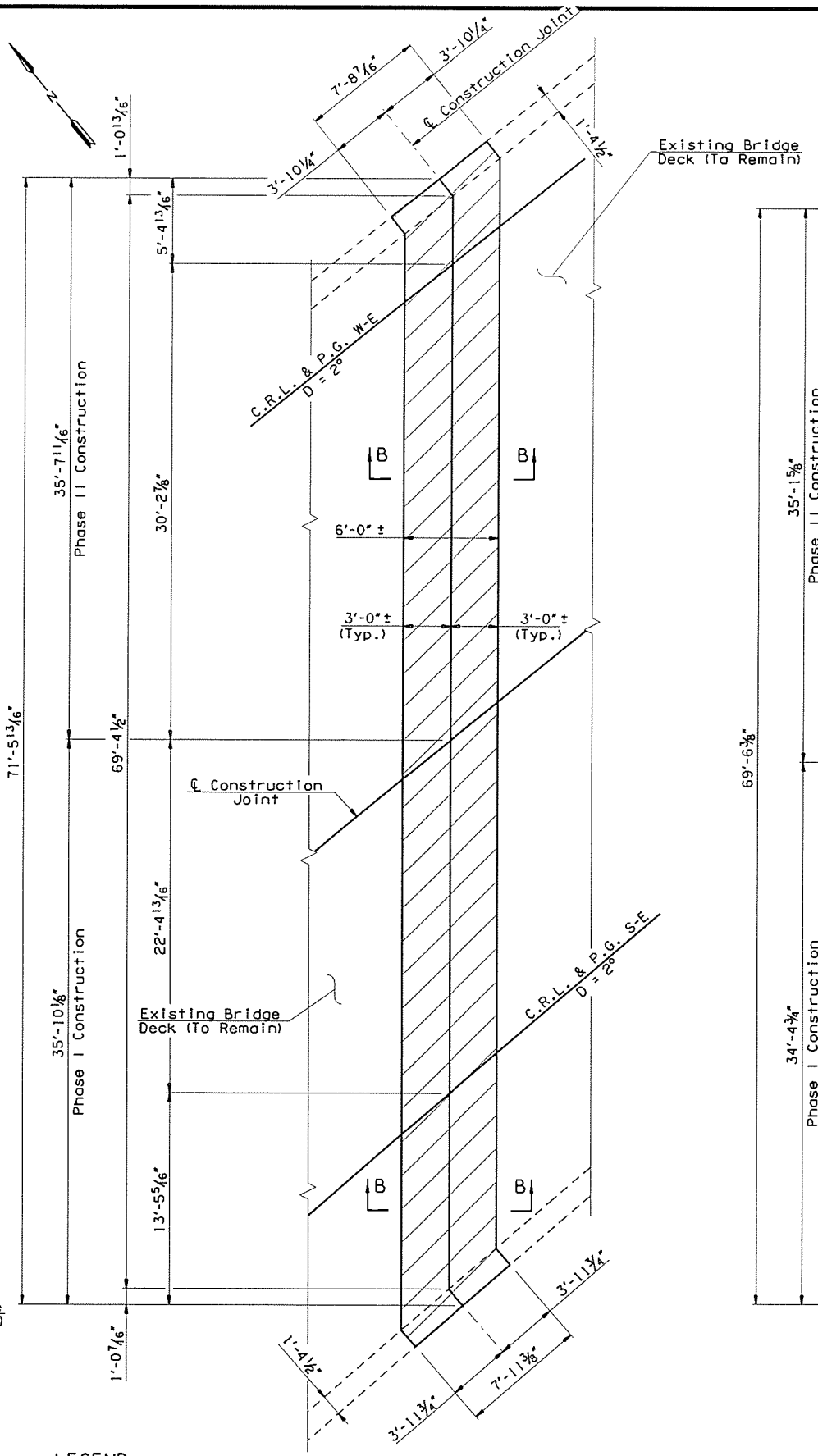
All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sawn and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

Dimensions measured along ϵ joints.

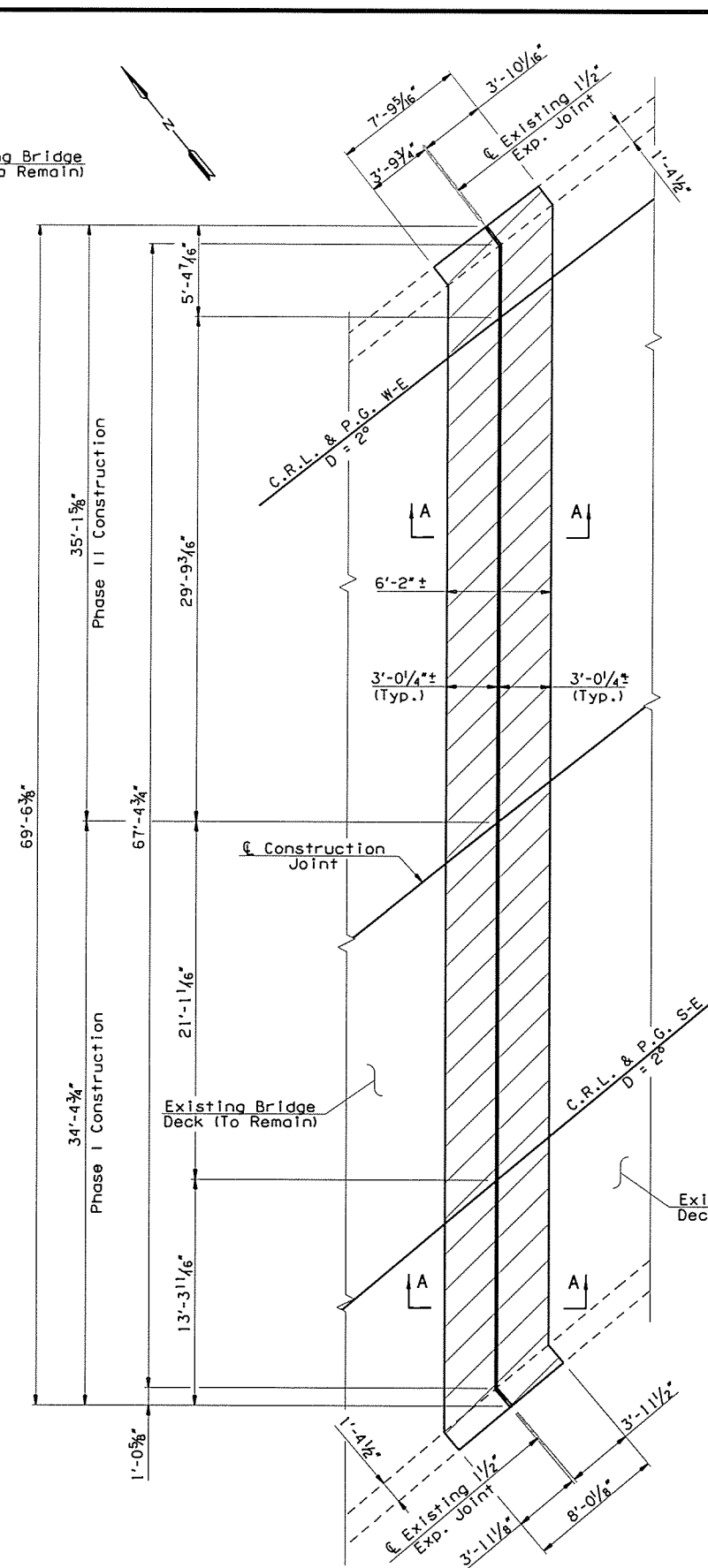


DEMOLITION PLAN AT PIER NO. 1



LEGEND

DEMOLITION PLAN AT PIER NO. 2



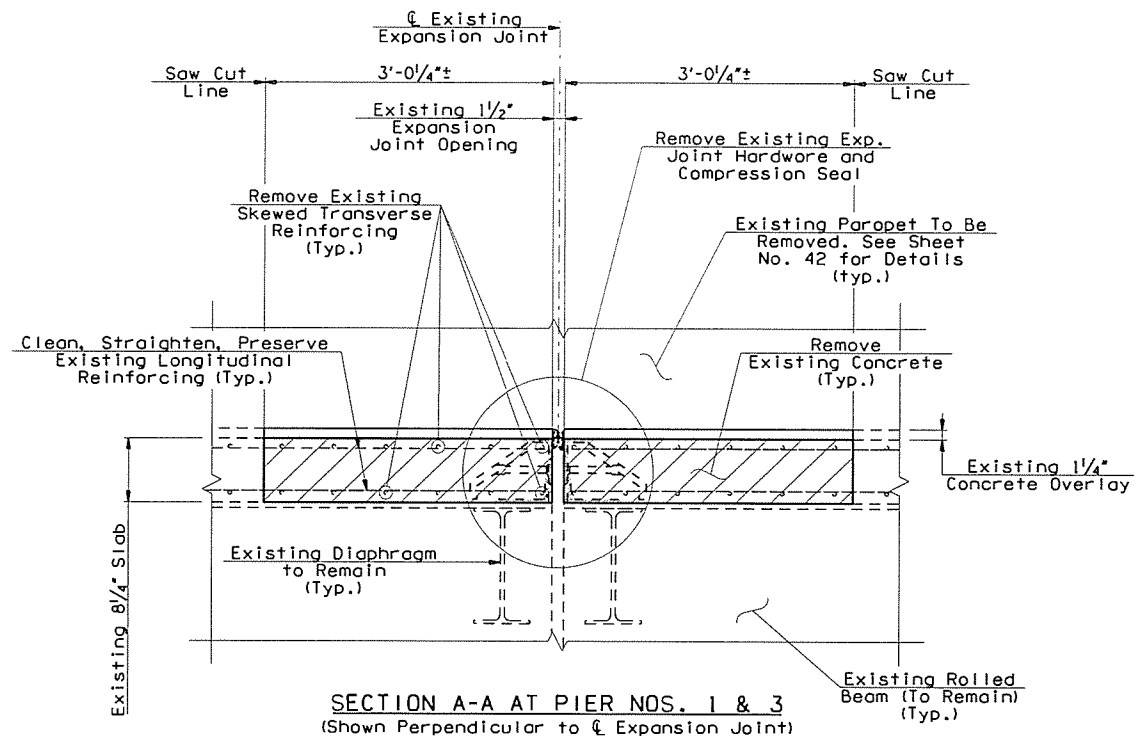
LEGEND

DEMOLITION PLAN AT PIER NO. 3

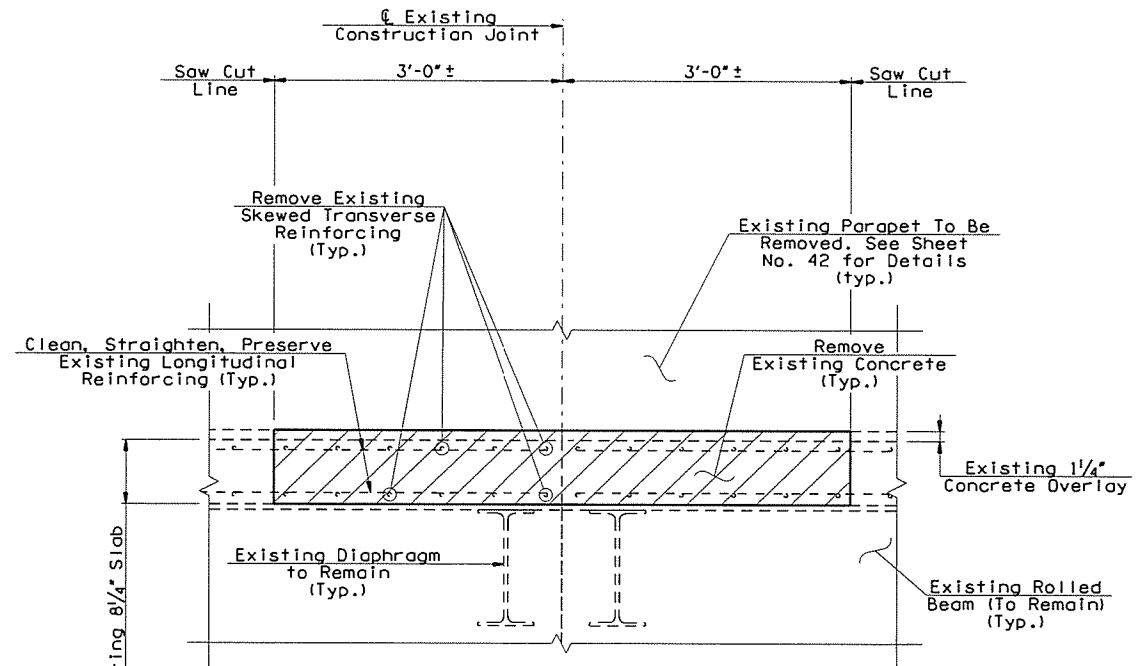
- Demolition cost to be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".
- Existing Structure

I-44 EB OVER S 38TH W AVE & TSU RR BRIDGE "B"		TULSA COUNTY	DESIGN	JMO	10/15
SUPERSTRUCTURE DETAILS (SHEET 1 OF 5)			DETAIL	SJL	10/15
			CHECK	BRT	11/15
			GARVER		

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION				REVISIONS	DATE	



SECTION A-A AT PIER NOS. 1 & 3
(Shown Perpendicular to ϕ Expansion Joint)



SECTION B-B AT PIER NO. 2
(Shown Perpendicular to ϕ Construction Joint)

NOTES:

See Sheet Nos. 40 & 41 for details on construction of the existing Expansion and Construction Joints at the Piers.

All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sawn and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

LEGEND

- Demolition cost to be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".
- Existing Structure

I-44 EB OVER S 38TH W AVE TULSA COUNTY & TSU RR BRIDGE "B"		DESIGN	JMO	10/15
SUPERSTRUCTURE DETAILS (SHEET 2 OF 5)		DETAIL	S.J.L.	10/15
		CHECK	BRT	11/15
		GARVER		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872(04)	SHEET NO. 39

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION				REVISIONS	DATE

NOTES:
See Sheet No. 41 for SECTIONS A-A & B-B.

See Sheet Nos. 38 & 39 for details on demolition of the existing Expansion and Construction Joints at the Piers.

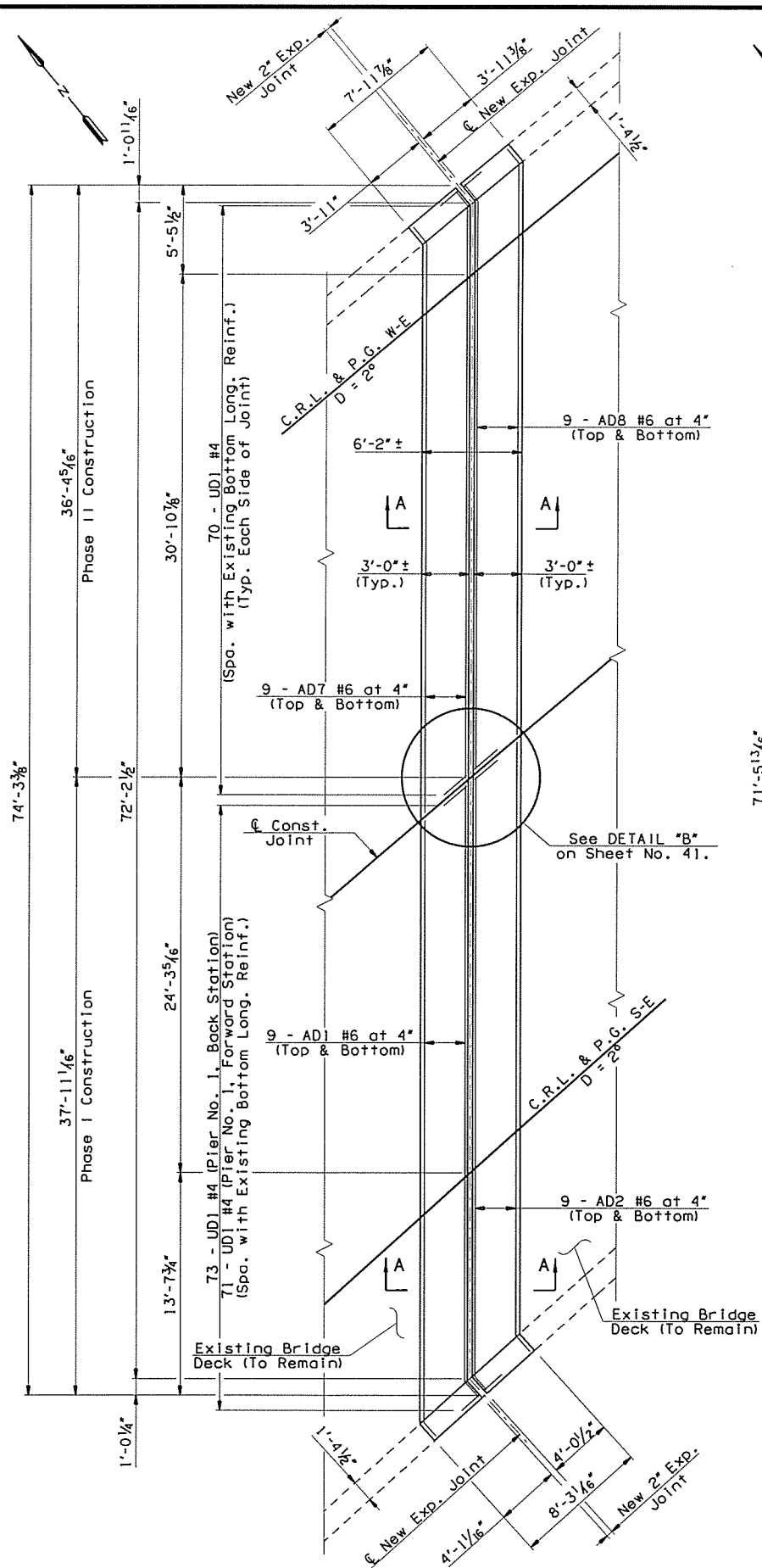
All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

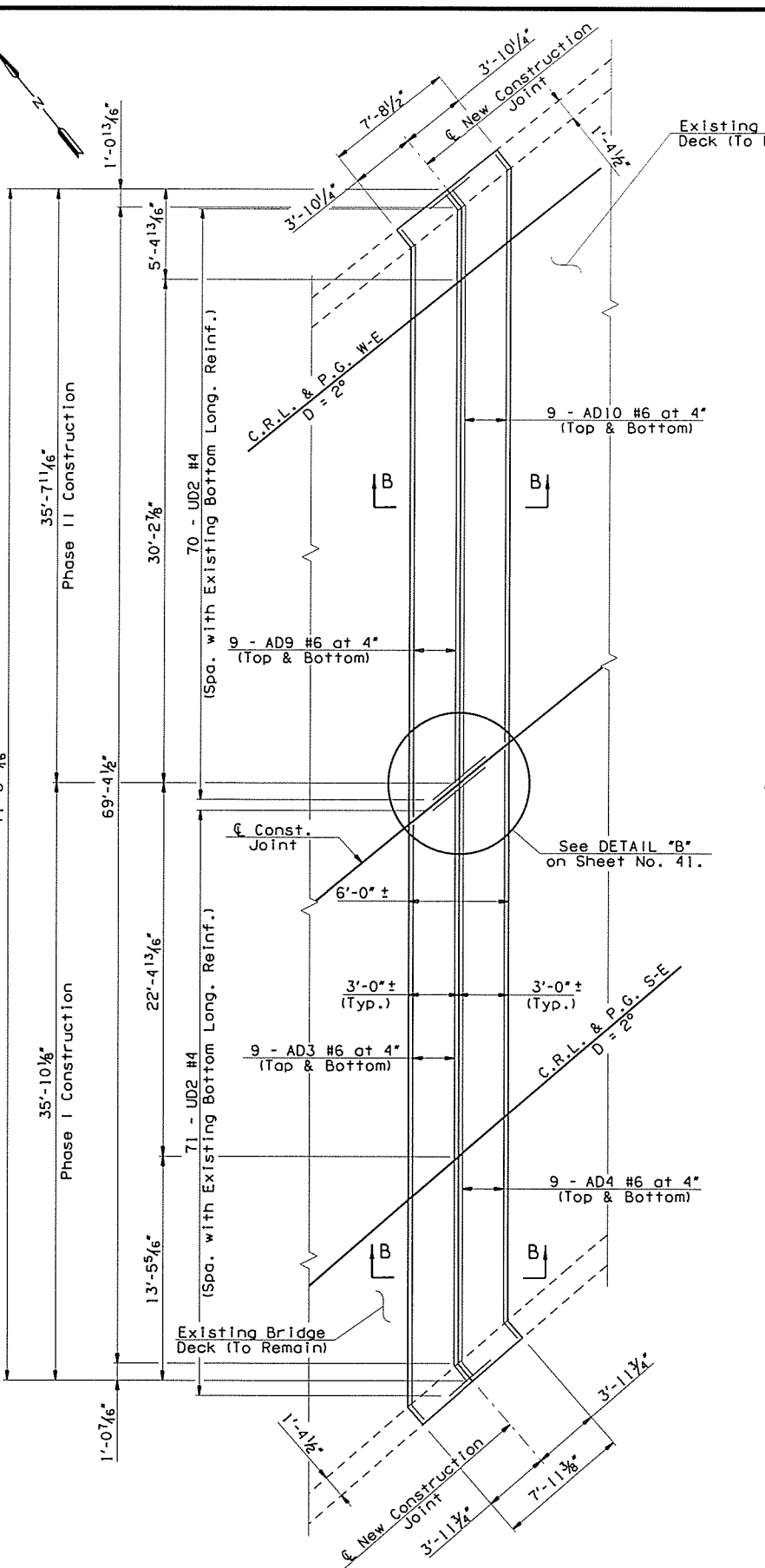
All costs associated with the installation of Sealed Expansion Joints at Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sawn and Sealed Construction Joint at Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

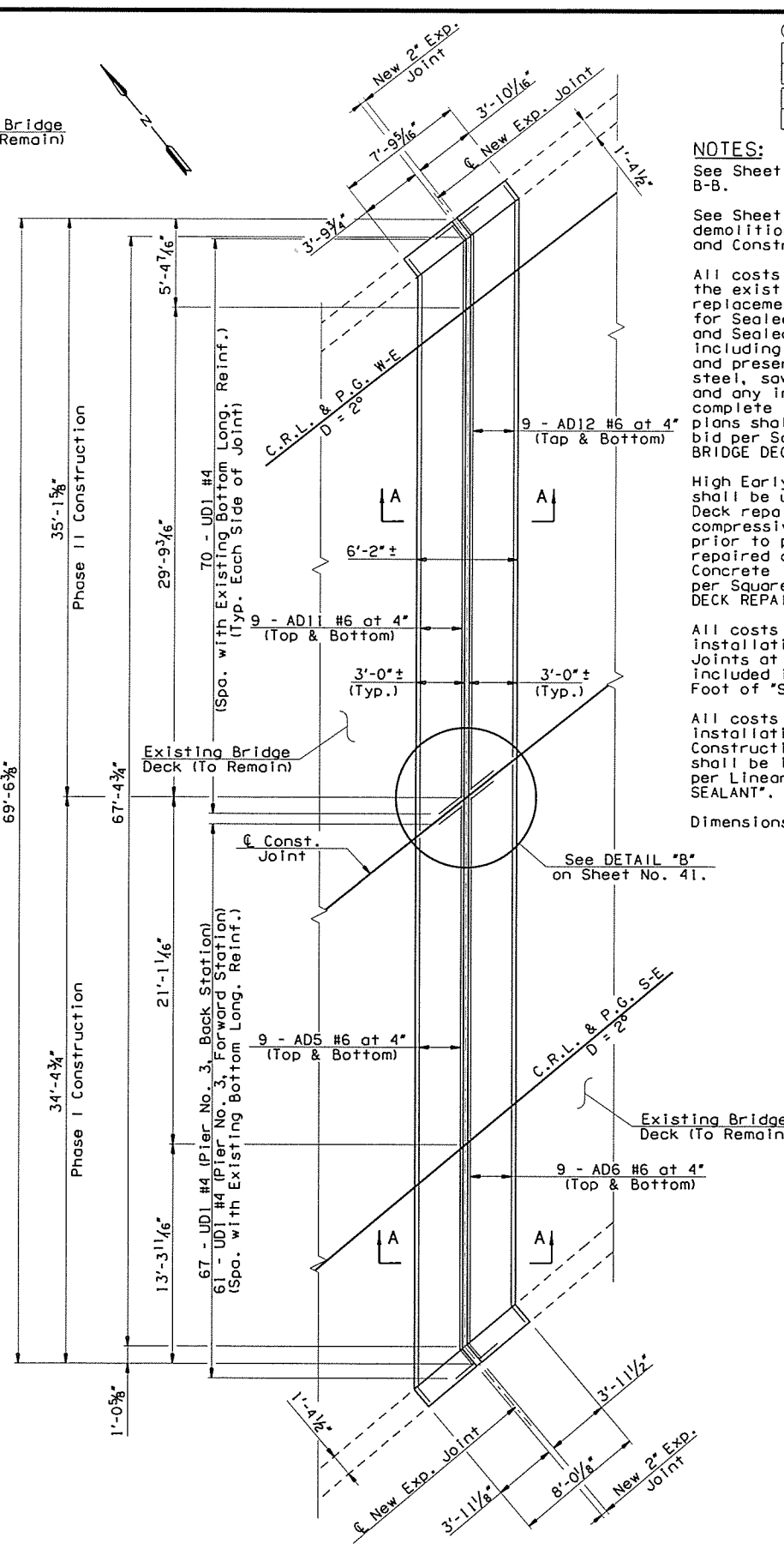
Dimensions measured along ϵ joints.



CONSTRUCTION PLAN AT PIER NO. 1



CONSTRUCTION PLAN AT PIER NO. 2



CONSTRUCTION PLAN AT PIER NO. 3

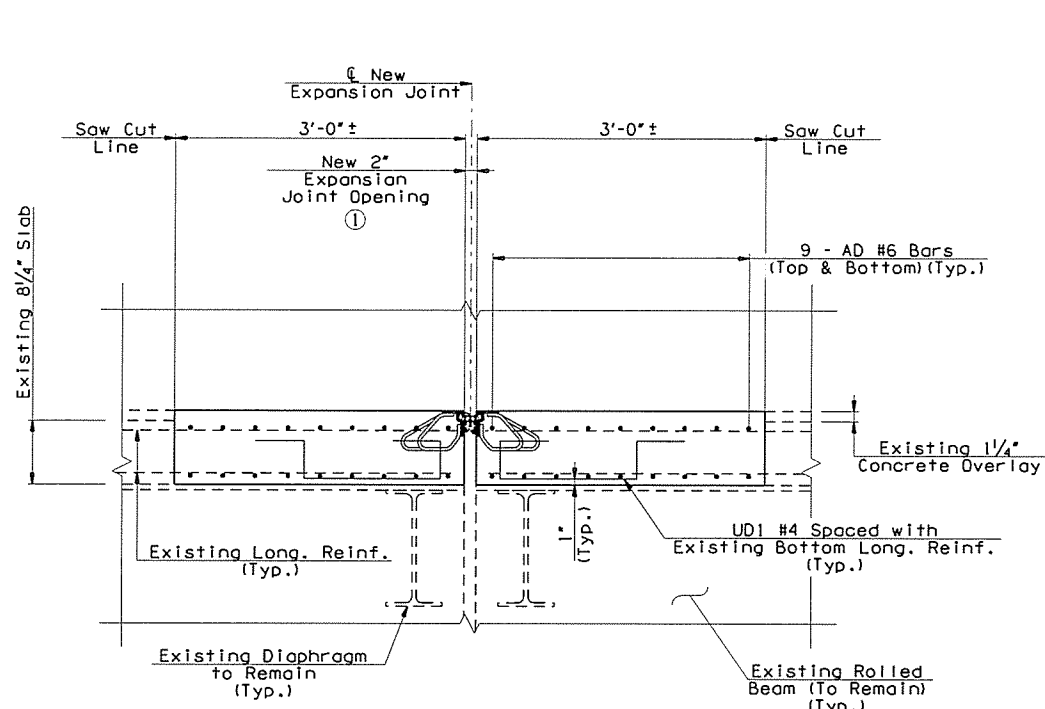
1-44 EB OVER S 38TH W AVE & TSU RR BRIDGE "B"	TULSA COUNTY	DESIGN	JMD	10/15
		DETAIL	SJL	10/15
		CHECK	BRT	11/15
SUPERSTRUCTURE DETAILS (SHEET 3 OF 5)				
GARVER				

① The Expansion joint Openings shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:
 At Pier No. 1: Opening = 2.3517 - (0.00586 x T)
 At Pier No. 3: Opening = 2.3057 - (0.00509 x T)

Where "T" equals the ambient air temperature in Degrees Fahrenheit at the time the Deck Slab Concrete is poured. (10°F < T < 120°F)

Note that the Expansion Joint Opening shall be measured perpendicular to the centerline of the joint.

② New Sawn and Sealed Construction Joint. See DETAIL "A".



SECTION A-A AT PIER NOS. 1 & 3
 (Shown Perpendicular to Expansion Joint)

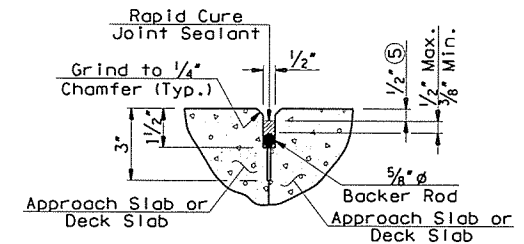


ELEVATION (AD1 - AD12)

37'-2" to 36'-9"	AD1
37'-0" to 36'-9"	AD2
35'-1" to 34'-8"	AD3
34'-11" to 34'-6"	AD4
33'-7" to 33'-3"	AD5
33'-5" to 33'-1"	AD6
35'-3" to 35'-5"	AD7
35'-2" to 35'-4"	AD8
34'-6" to 34'-8"	AD9
34'-5" to 34'-7"	AD10
34'-0" to 34'-2"	AD11
33'-11" to 34'-1"	AD12

PLAN

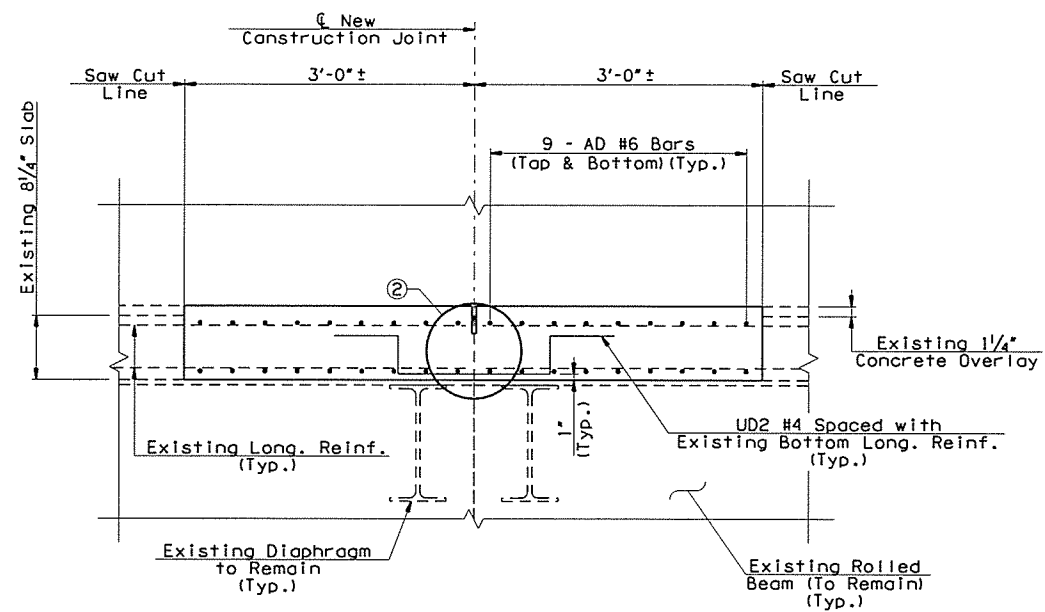
AD1 #6 x 37'-7 1/2" Avg.
AD2 #6 x 37'-6 1/2" Avg.
AD3 #6 x 35'-6 1/2" Avg.
AD4 #6 x 35'-4 1/2" Avg.
AD5 #6 x 34'-1 1/2" Avg.
AD6 #6 x 33'-11" Avg.
AD7 #6 x 36'-6" Avg.
AD8 #6 x 35'-11" Avg.
AD9 #6 x 35'-3" Avg.
AD10 #6 x 35'-2" Avg.
AD11 #6 x 34'-9" Avg.
AD12 #6 x 34'-8" Avg.



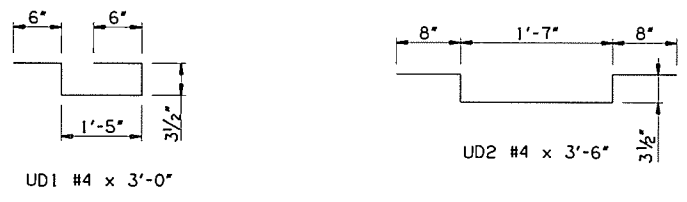
⑤ This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only.

SUPERSTRUCTURE BAR LIST

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AD1	#6	18	BENT	37'-7 1/2" AVG.	37'-5" TO 37'-10"
AD2	#6	18	BENT	37'-6 1/2" AVG.	37'-5" TO 37'-8"
AD3	#6	18	BENT	35'-6 1/2" AVG.	35'-4" TO 35'-9"
AD4	#6	18	BENT	35'-4 1/2" AVG.	35'-2" TO 35'-7"
AD5	#6	18	BENT	34'-1" AVG.	33'-11" TO 34'-3"
AD6	#6	18	BENT	33'-11" AVG.	33'-9" TO 34'-1"
EP1	#5	24	BENT	5'-4"	-
UD1	#4	272	BENT	3'-0"	-
UD2	#4	71	BENT	3'-6"	-
AD7	#6	18	BENT	36'-0" AVG.	35'-11" TO 36'-1"
AD8	#6	18	BENT	35'-11" AVG.	35'-10" TO 36'-0"
AD9	#6	18	BENT	35'-3" AVG.	35'-2" TO 35'-4"
AD10	#6	18	BENT	35'-2" AVG.	35'-1" TO 35'-3"
AD11	#6	18	BENT	34'-9" AVG.	34'-8" TO 34'-10"
AD12	#6	18	BENT	34'-8" AVG.	34'-7" TO 34'-9"
C1	#6	108	STR.	4'-10"	-
EP1	#5	24	BENT	5'-4"	-
UD1	#4	280	BENT	3'-0"	-
UD2	#4	70	BENT	3'-6"	-



SECTION B-B AT PIER NO. 2
 (Shown Perpendicular to Construction Joint)



NOTES:
 See Sheet Nos. 38 & 39 for details on demolition of the existing Expansion and Construction Joints at the Piers.
 See Sheet No. 40 for additional details on construction of the new Expansion and Construction Joints at the Piers.

All costs associated with removing the existing concrete deck and replacement with Class AA concrete for Sealed Expansion Joint and Sawn and Sealed Construction Joint repairs including cleaning, straightening, and preserving existing reinforcing steel, saw cutting, materials, labor, and any incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

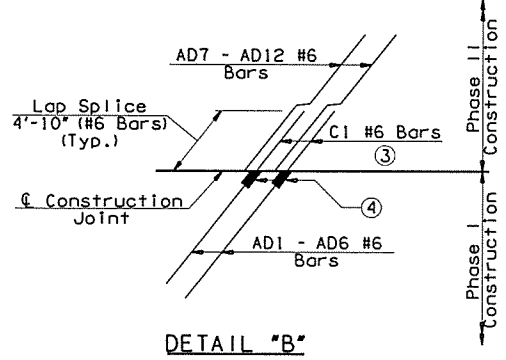
High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

All costs associated with the installation of Sealed Expansion Joints of Pier Nos. 1 & 3 shall be included in the price bid per Linear Foot of "SEALED EXPANSION JOINT".

All costs associated with the installation of Sawn and Sealed Construction Joint of Pier No. 2 shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

SUMMARY OF QUANTITIES - SUPERSTRUCTURE

ITEM	UNIT	PHASE I CONST.	PHASE II CONST.	TOTAL
SEALED EXPANSION JOINT	L.F.	74.10	73.20	147.30
CONCRETE PARAPET	L.F.	23.80	23.20	47.00
RAPID CURE JOINT SEALANT	L.F.	36.20	59.90	95.90
WEATHERING STEEL FIXED BEARING ASSEMBLY	EA.			1.00
WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA.			28.00
MECHANICAL SPLICES	EA.	108.00		108.00
EPOXY COATED REINFORCING STEEL	LB.	6,633.00	7,368.00	14,001.00
PAINTING EXISTING STRUCTURES	LSUM			1.00
COLLECTION AND HANDLING OF WASTE	LSUM			1.00
CLASS B BRIDGE DECK REPAIR	S.Y.	8.00	8.00	16.00
CLASS C BRIDGE DECK REPAIR	S.Y.	79.00	78.00	157.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	85.00	105.00	190.00
DECK AREA SEALED (FLDODOATS)	S.Y.	639.00	630.00	1,269.00
(IPL) REPAIR BRIDGE ITEM (TYPE A)	EA.			16.00



NOTES:
 Mechanical couplers shall only be used in Phase I Construction on all Piers.
 Cost of installing mechanical splices shall not be paid for directly but shall be included in the price bid per Each of "MECHANICAL SPLICES".

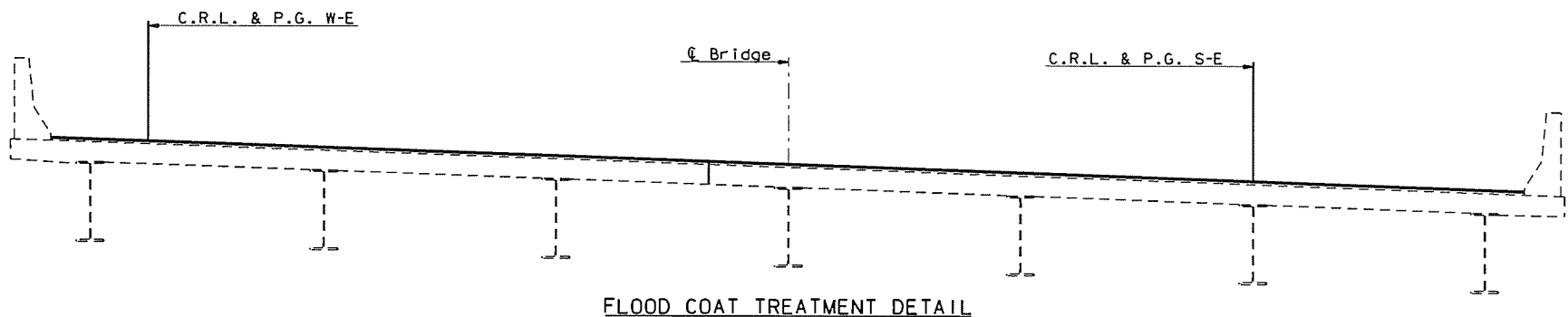
③ Install Mechanical Reinforcing Bar Coupler (Epoxy Coated) in accordance with Section 511.04.C.3. Installation shall follow the Manufacturer's recommendations. Couplers shall be attached to:

- AD1 & AD2 Bors (Pier No. 1)
- AD3 & AD4 Bors (Pier No. 2)
- AD4 & AD6 Bors (Pier No. 3)

④ Pier No. 1: Splice AD1 & AD2 #6 Bors with C1 #6 Bors. Lap C1 #6 Bors with AD7 & AD8 #6 Bors.

Pier No. 2: Splice AD3 & AD4 #6 Bors with C1 #6 Bors. Lap C1 #6 Bors with AD9 & AD10 #6 Bors.

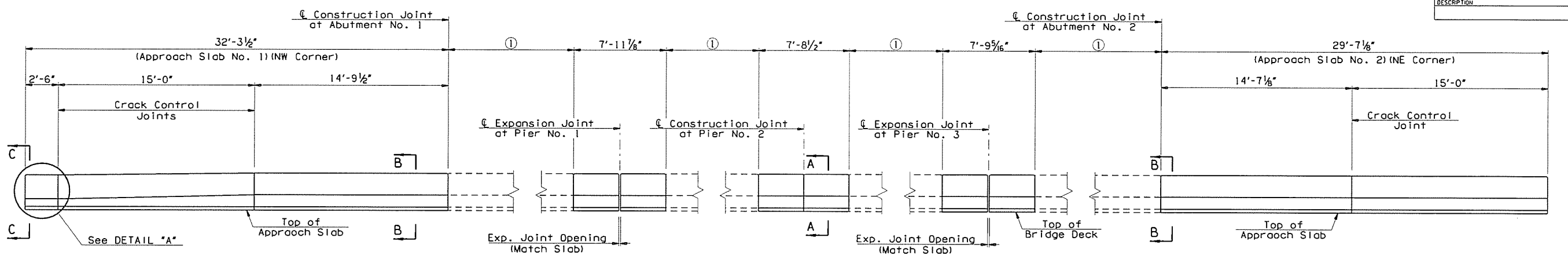
Pier No. 3: Splice AD5 & AD6 #6 Bors with C1 #6 Bors. Lap C1 #6 Bors with AD11 & AD12 #6 Bors.



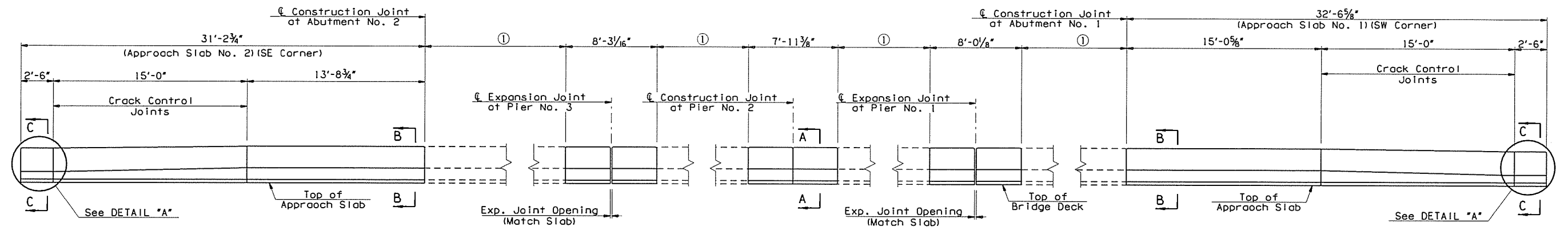
FLOOD COAT TREATMENT DETAIL

DESIGN	JMD	10/15
DETAIL	SJL	10/15
CHECK	BRT	11/15
GARVER		

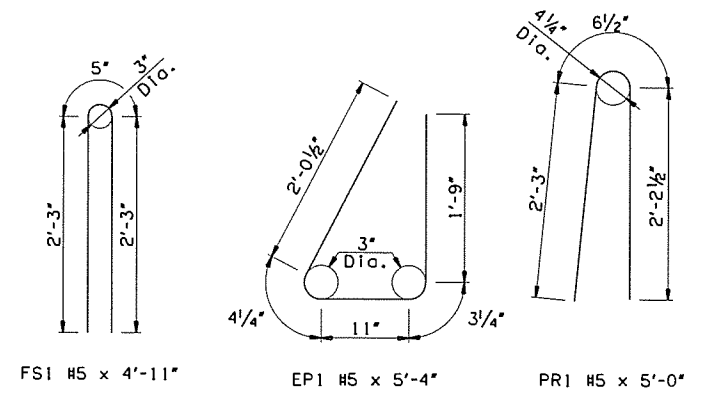
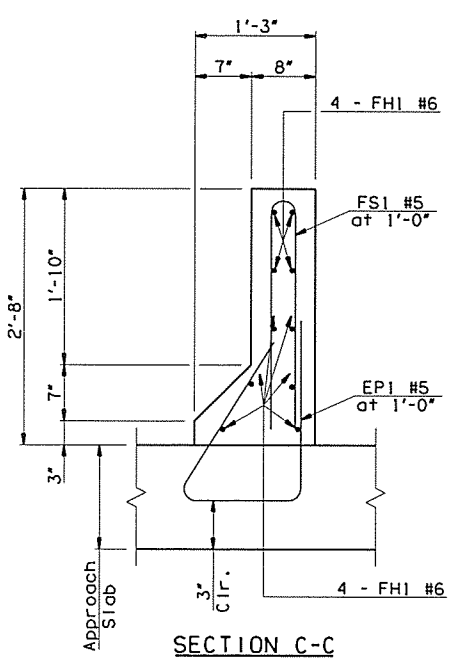
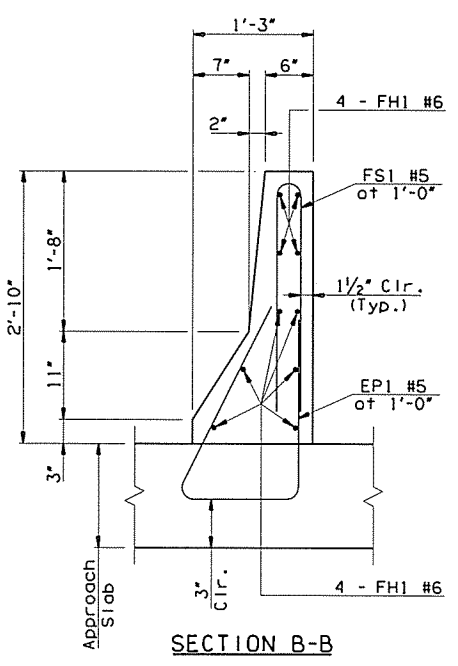
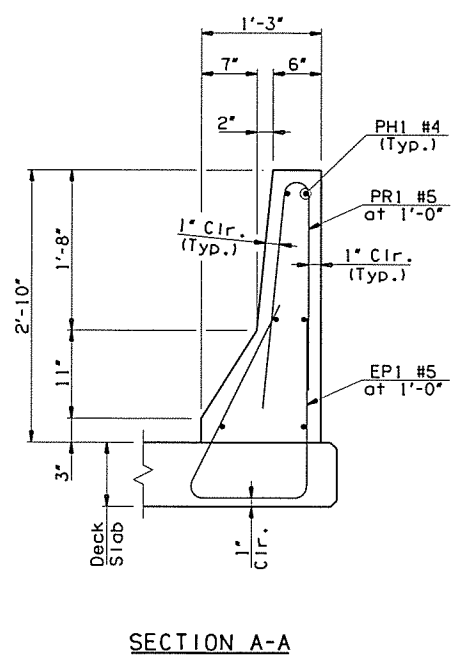
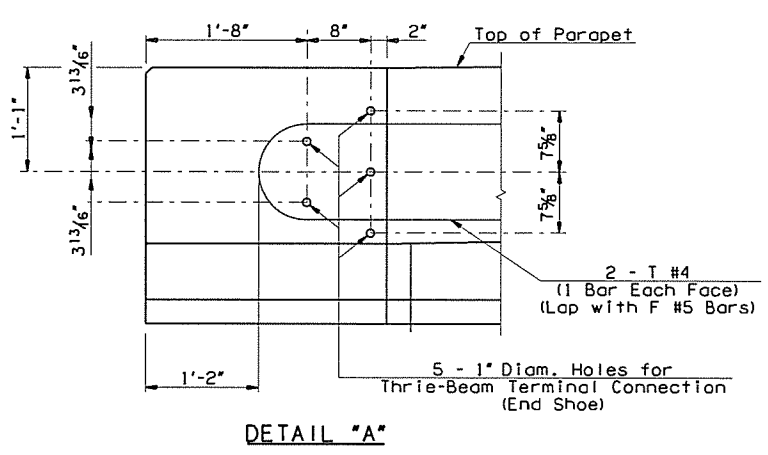
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	DATE
X	OKLA.	28872104				
DESCRIPTION						REVISIONS



ELEVATION - NORTH PARAPET
(Looking at inside face of North Parapet)



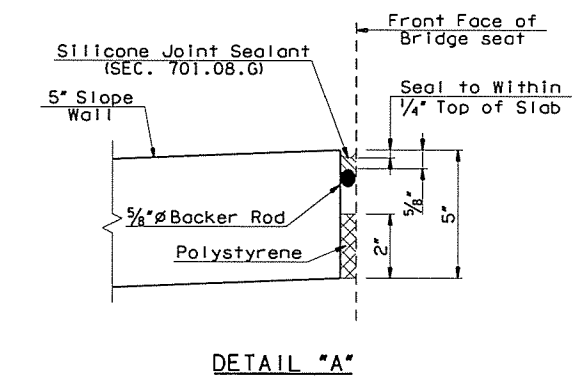
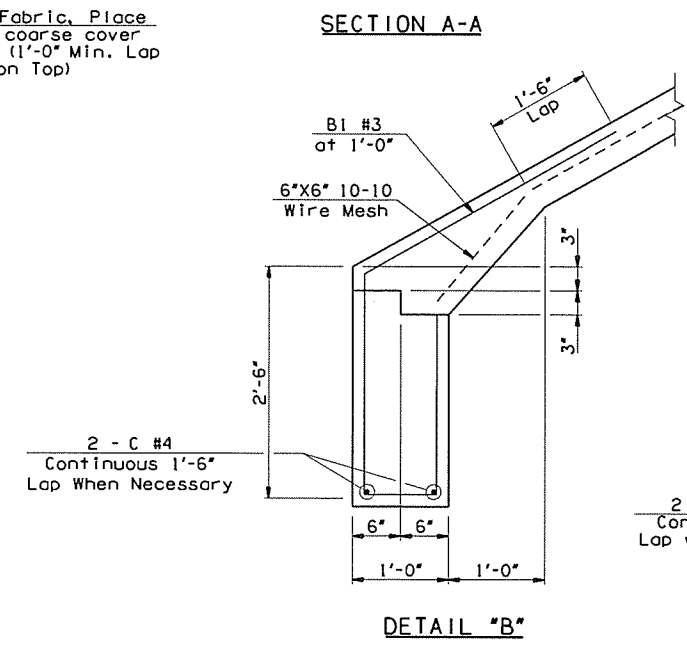
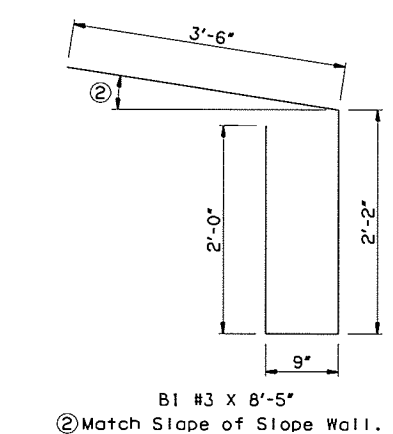
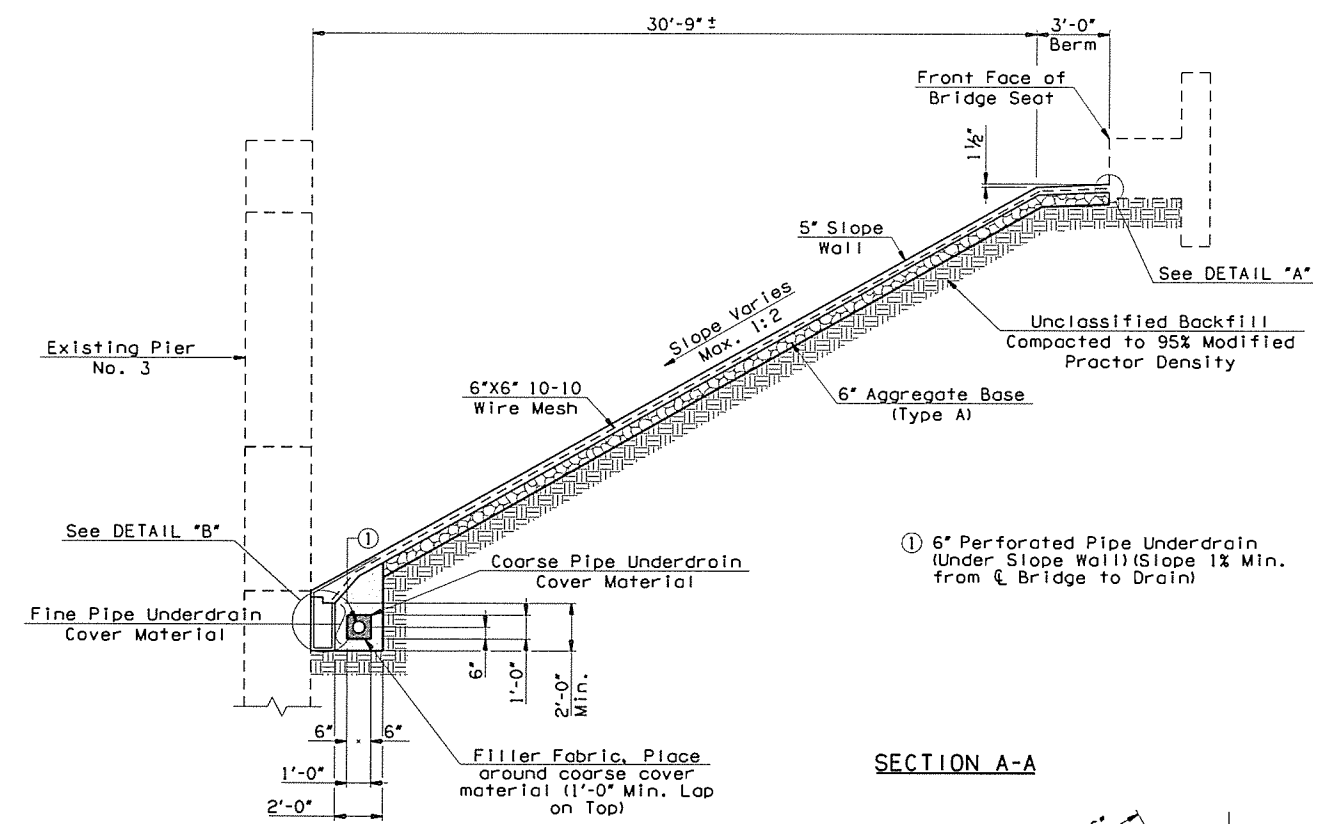
ELEVATION - SOUTH PARAPET
(Looking at inside face of South Parapet)



① Existing Parapet to Remain.
NOTES:
 Dimensions measured along roadway face of Parapet.
 For further information about the Joint replacement at Piers, see Sheet Nos. 38 - 41.
 Field Bend EPI Bors to maintain clear distances.

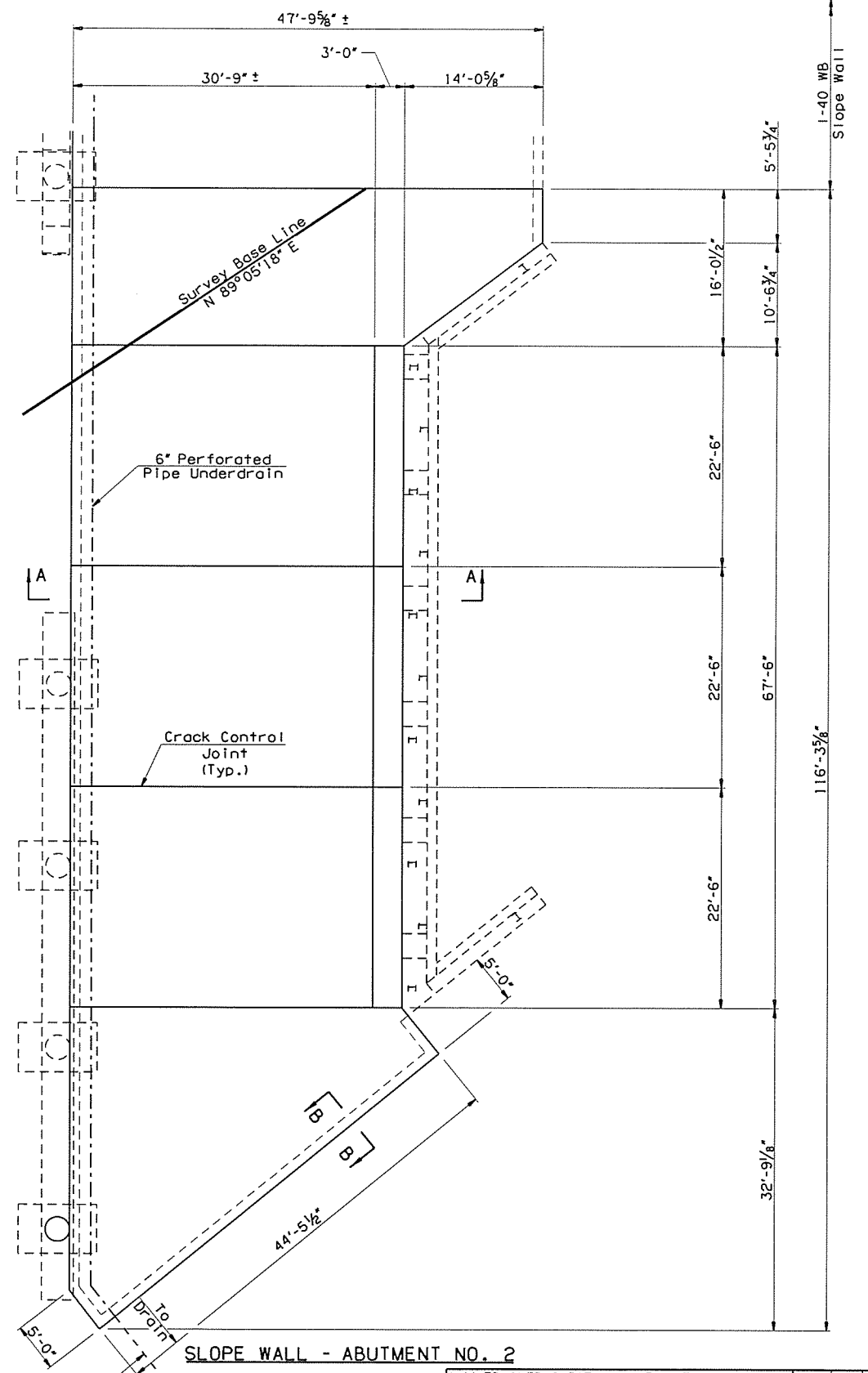
I-44 EB OVER S 38TH W AVE & TSU RR BRIDGE 'B'	TULSA COUNTY	DESIGN	JMO	10/15
		DETAIL	SJL	10/15
		CHECK	BRT	11/15
SUPERSTRUCTURE DETAILS (SHEET 5 OF 5)				GARVER

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 28872104	SHEET NO. 42



SUMMARY OF QUANTITIES - SLOPE WALL NO. 2		
ITEM	UNIT	TOTAL
② SLOPE WALL (5")	S.Y.	445.60
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	115.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	20.00

② All costs of the "SLOPE WALL (5")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, filter fabric, excavation, aggregate base (Type A), unclassified backfill, labor, equipment and other incidentals necessary to complete the work as specified on the plans shall be included in the price bid per Square Yard of "SLOPE WALL (5)".



LEGEND
 6" Perf. Underdrain - - - - -
 6" Non-Perf. Underdrain - - - - -

I-44 EB OVER S 38TH W AVE TULSA COUNTY		DESIGN	JMD	10/15
BRIDGE "B"		DETAIL	SJL	10/15
		CHECK	BRT	11/15
SLOPE WALL DETAILS		GARVER		

SUMMARY OF QUANTITIES - APPROACH SLAB NO. 1

ITEM	UNIT	PHASE I CONSTRUCTION	PHASE II CONSTRUCTION	TOTAL
CLSM BACKFILL	C.Y.	17.50	16.10	33.60
APPROACH SLAB	S.Y.	112.00	103.40	215.40
SAW-CUT GROOVING	S.Y.	93.60	85.70	179.30
CONCRETE PARAPET	L.F.	32.60	32.30	64.90
CLASS AA CONCRETE	C.Y.	40.50	37.40	77.90
MECHANICAL SPLICES	EA.	25.00		25.00
EPOXY COATED REINFORCING STEEL	LB.	5,992.00	7,356.00	13,348.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	23.00	23.00	46.00

- ⑤ CLSM Backfill shall be used at the discretion of the Engineer, to fill any voids prior to placement of the new Approach Slabs.
- ⑥ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including EP bars) and Lap Splices, Backer Rod, Rapid Cure Joint Sealant, Type III Terminal Joints, labor, equipment and other incidentals necessary to complete the work as specified on the plans.

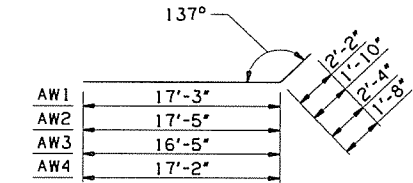
- ① 1/2" Longitudinal Sawed and Sealed Construction Joint in the top of Approach Slab (See DETAIL "A" on Sheet No. 46).
- ② Type III Terminal Joint. See DETAIL "B" on Sheet No. 46.
- ③ Install Mechanical Reinforcing Bar Coupler (Epoxy Coated) in accordance with Section 511.04.C.3. Installation shall follow the Manufacturer's recommendations. Couplers shall be attached BT1 & BT2 #4 Bars and BW1 & BW2 #5 Bars in the Bottom of Approach Slab No. 1.

- ④ Splice the following Bars:
BT1 & BT2 with C1 Bars.
BW1 & BW2 Bars with D1 Bars.
- Lap the following Bars:
C1 Bars with BT3 Bars.
D1 Bars with BW3 & BW4 Bars.

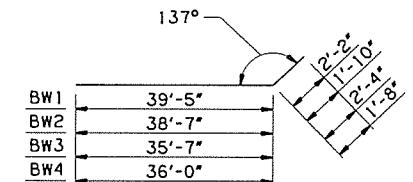
NOTES:

Do not groove within 6" of the Construction Joint between the Approach Slab and the Deck Slab.
Parapet reinforcement not shown for Clarity. See Sheet No. 46 for details.
See Sheet No. 46 for SECTIONS A-A, B-B, & C-C.

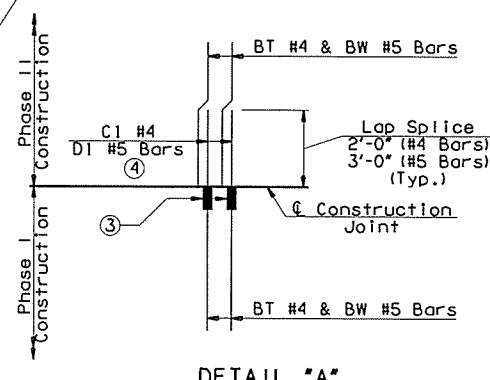
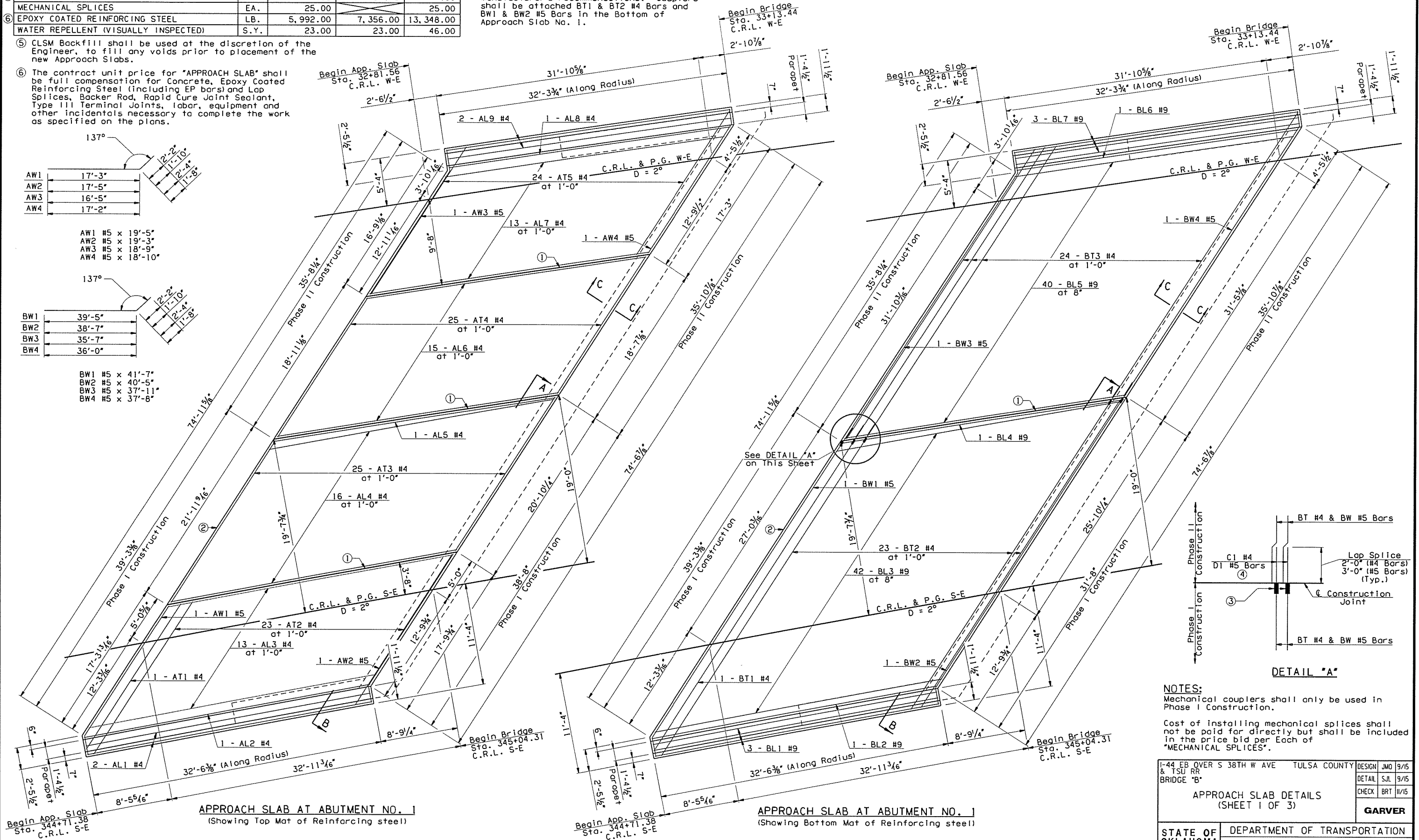
OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872104			
DESCRIPTION					DATE



AW1 #5 x 19'-5"
AW2 #5 x 19'-3"
AW3 #5 x 18'-9"
AW4 #5 x 18'-10"



BW1 #5 x 41'-7"
BW2 #5 x 40'-5"
BW3 #5 x 37'-11"
BW4 #5 x 37'-8"



NOTES:
Mechanical couplers shall only be used in Phase I Construction.
Cost of installing mechanical splices shall not be paid for directly but shall be included in the price bid per Each of "MECHANICAL SPLICES".

1-44 EB OVER S 38TH W AVE & TSU RR BRIDGE "B"	TULSA COUNTY	DESIGN	JMO	9/15
		DETAIL	SJL	9/15
		CHECK	BRT	11/15
APPROACH SLAB DETAILS (SHEET 1 OF 3)				
GARVER				

SUMMARY OF QUANTITIES - APPROACH SLAB NO. 2

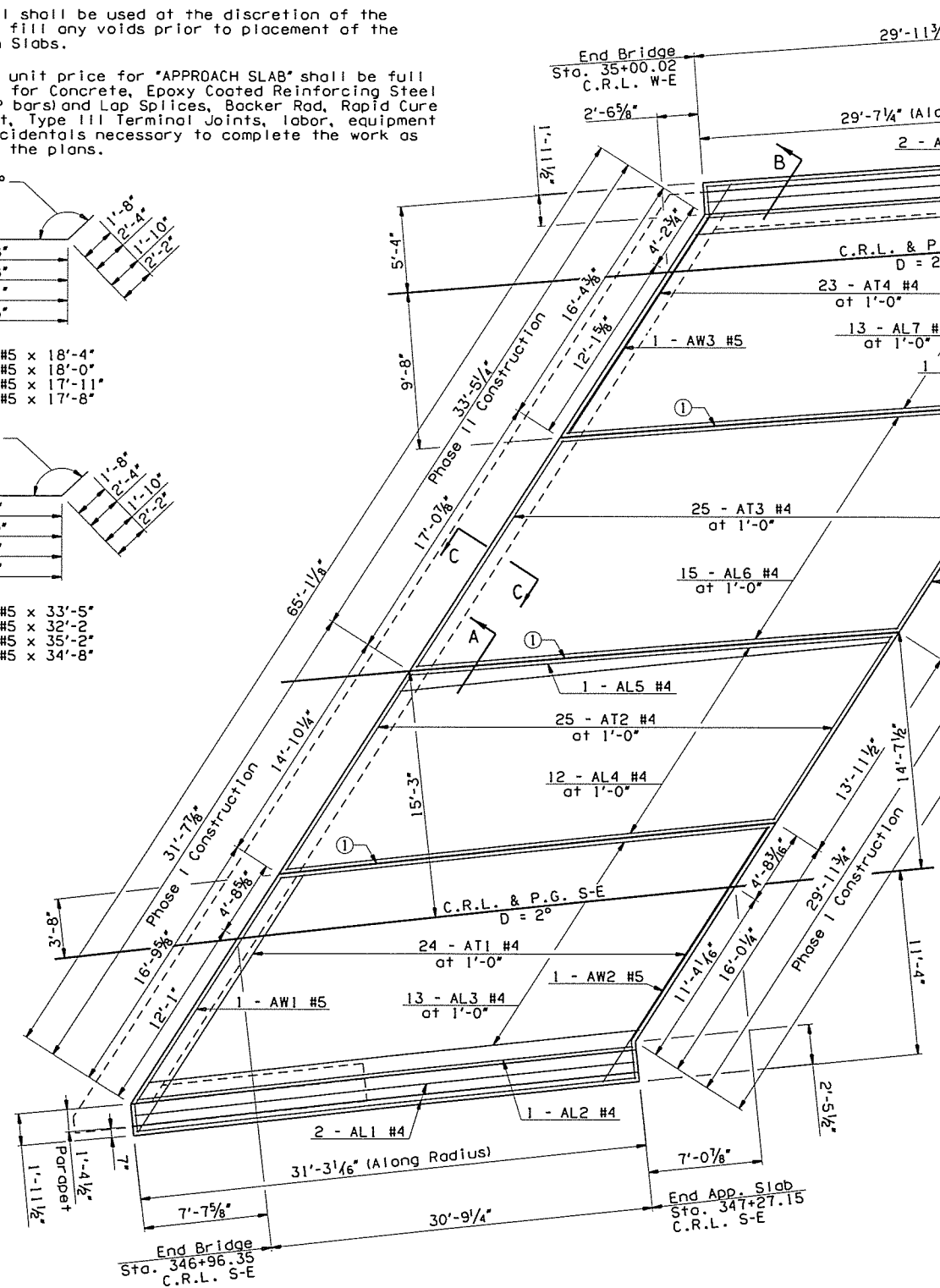
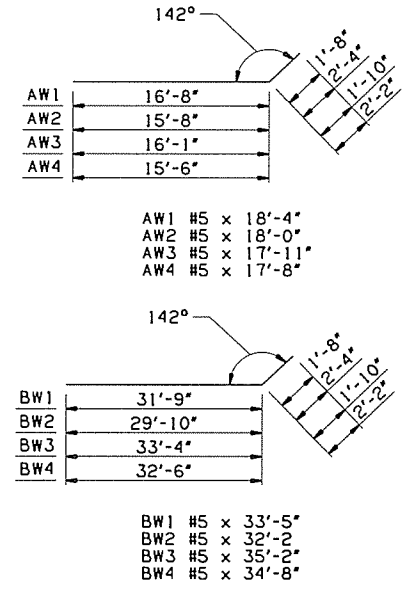
ITEM	UNIT	PHASE I CONSTRUCTION	PHASE II CONSTRUCTION	TOTAL
⑤ CLSM BACKFILL	C.Y.	13.90	14.80	28.70
⑥ APPROACH SLAB	S.Y.	89.90	95.10	185.00
SAW-CUT GROOVING	S.Y.	73.10	78.70	151.80
CONCRETE PARAPET	L.F.	31.30	29.60	60.90
⑥ CLASS AA CONCRETE	C.Y.	32.50	34.40	66.90
MECHANICAL SPLICES	EA.	25.00		25.00
⑥ EPOXY COATED REINFORCING STEEL	LB.	6,591.00	6,804.00	13,395.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	22.00	21.00	43.00

- 1/2" Longitudinal Sawed and Sealed Construction Joint in the top of Approach Slab (See DETAIL "A" on Sheet No. 46).
- Type III Terminal Joint. See DETAIL "B" on Sheet No. 46.
- Install Mechanical Reinforcing Bar Coupler (Epoxy Coated) in accordance with Section 511.04.C.3. Installation shall follow the Manufacturer's recommendations. Couplers shall be attached BT1 #4 Bars and BW1 & BW2 #5 Bars in the Bottom of Approach Slab No. 2.
- Splice the following Bars:
BT1 with C1 Bars.
BW1 & BW2 Bars with D1 Bars.
Lap the following Bars:
C1 Bars with BT2 & BT3 Bars.
D1 Bars with BW3 & BW4 Bars.

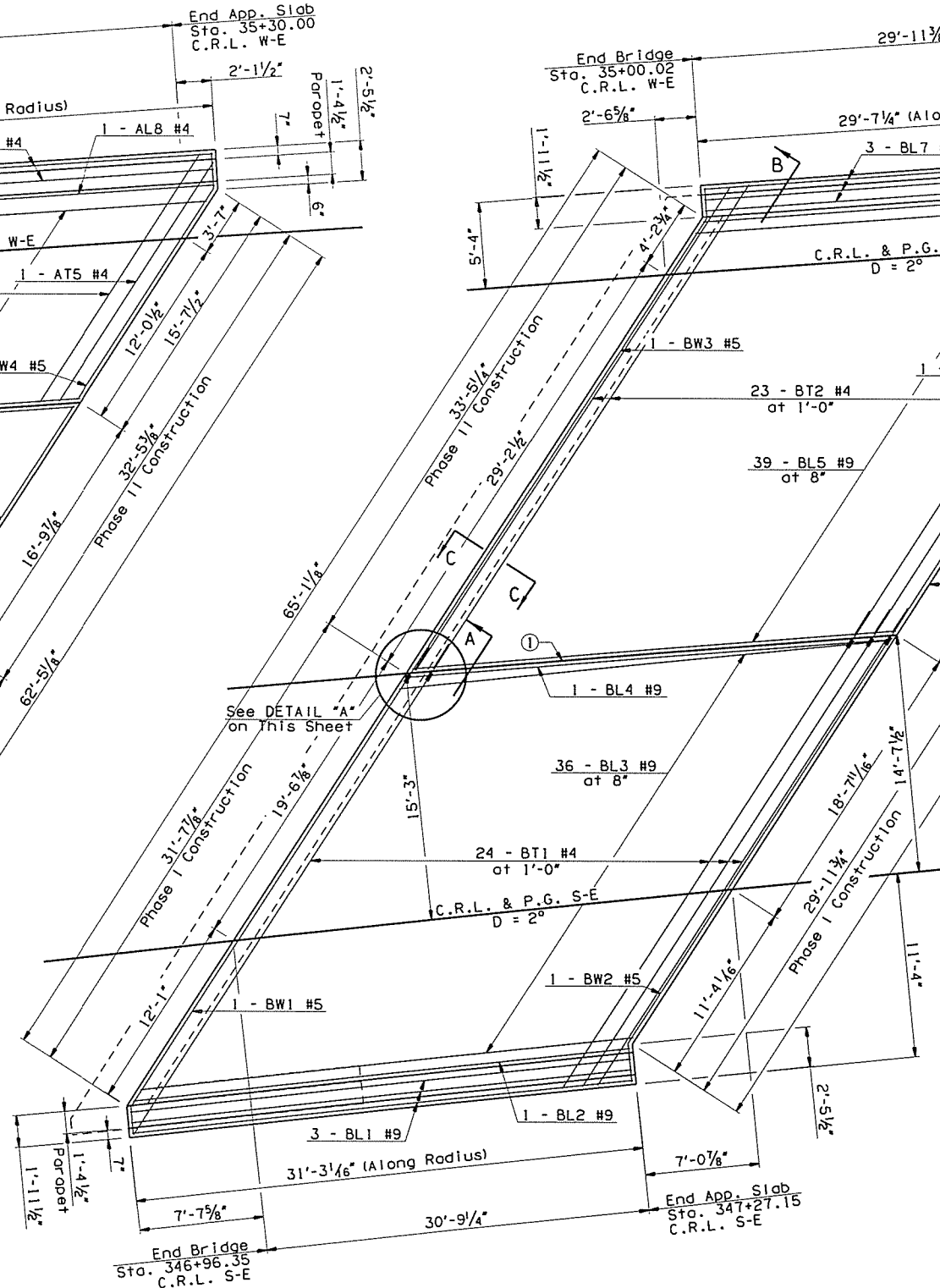
NOTES:
Do not groove within 6" of the Construction Joint between the Approach Slab and the Deck Slab.
Parapet reinforcement not shown for Clarity. See Sheet No. 46 for details.
See Sheet No. 46 for SECTIONS A-A, B-B, & C-C.

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872104			
DESCRIPTION			REVISIONS	DATE	

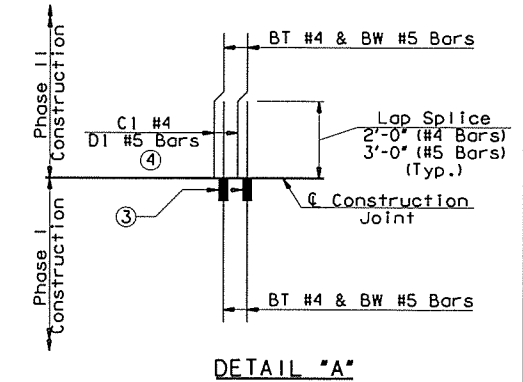
- CLSM Backfill shall be used at the discretion of the Engineer, to fill any voids prior to placement of the new Approach Slabs.
- The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including EP bars and Lap Splices, Backer Rod, Rapid Cure Joint Sealant, Type III Terminal Joints, labor, equipment and other incidentals necessary to complete the work as specified on the plans.



APPROACH SLAB AT ABUTMENT NO. 2
(Showing Top Mat of Reinforcing steel)



APPROACH SLAB AT ABUTMENT NO. 2
(Showing Bottom Mat of Reinforcing steel)



NOTES:
Mechanical couplers shall only be used in Phase I Construction.
Cost of installing mechanical splices shall not be paid for directly but shall be included in the price bid per Each of "MECHANICAL SPLICES".

1-44 EB OVER S 38TH W AVE & TSU RR BRIDGE "B"	TULSA COUNTY	DESIGN	JMO 9/15
		DETAIL	S.JL 9/15
		CHECK	BRT 11/15
APPROACH SLAB DETAILS (SHEET 2 OF 3)			
GARVER			

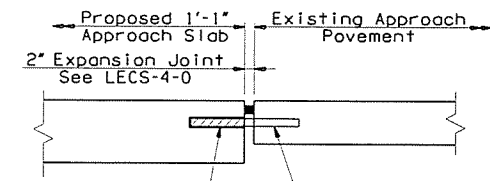
BAR LIST - APPROACH SLAB NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
AL1	#4	2	STR.	32'-2 1/2" AVG.	32'-2" TO 32'-3"
AL2	#4	1	STR.	32'-4"	-
AL3	#4	13	STR.	32'-6" AVG.	32'-5" TO 32'-7"
AL4	#4	16	STR.	32'-4" AVG.	32'-3" TO 32'-5"
AL5	#4	1	STR.	31'-8"	-
AT1	#4	1	STR.	19'-4"	-
AT2	#4	23	STR.	20'-1 1/2" AVG.	20'-0" TO 20'-3"
AT3	#4	25	STR.	20'-1 1/2" AVG.	20'-5" TO 21'-6"
AW1	#5	1	BENT	19'-5"	-
AW2	#5	1	BENT	19'-3"	-
BL1	#9	3	STR.	32'-2 1/2" AVG.	32'-2" TO 32'-3"
BL2	#9	2	STR.	32'-5"	-
BL3	#9	23	STR.	32'-5" AVG.	32'-3" TO 32'-7"
BL4	#9	1	STR.	31'-8"	-
BT1	#4	1	STR.	43'-2"	-
BT2	#4	23	STR.	42'-6" AVG.	42'-11" TO 42'-1"
BW1	#5	1	BENT	43'-7"	-
BW2	#5	1	BENT	42'-5"	-
DB1	#5	56	BENT	4'-2"	-
EP1	#5	56	BENT	5'-4"	-
TT1	#4	23	BENT	3'-1"	-
AL6	#4	15	STR.	31'-7" AVG.	31'-6" TO 31'-8"
AL7	#4	13	STR.	31'-5 1/2" AVG.	31'-5" TO 31'-6"
AL8	#4	1	STR.	31'-9"	-
AL9	#4	2	STR.	32'-0"	-
AT4	#4	25	STR.	18'-4 1/2" AVG.	18'-3" TO 18'-6"
AT5	#4	24	STR.	19'-5" AVG.	19'-3" TO 19'-7"
AW3	#5	1	BENT	18'-9"	-
AW4	#5	1	BENT	18'-10"	-
BL5	#9	40	STR.	31'-6 1/2" AVG.	31'-5" TO 31'-8"
BL6	#9	1	STR.	31'-8"	-
BL7	#9	3	STR.	32'-0"	-
BT3	#4	24	STR.	37'-4 1/2" AVG.	36'-3" TO 38'-6"
BW3	#5	1	BENT	37'-11"	-
BW4	#5	1	BENT	37'-8"	-
C1	#4	24	STR.	2'-0"	-
D1	#5	2	STR.	3'-0"	-
DB1	#5	56	BENT	4'-2"	-
EP1	#5	56	BENT	5'-4"	-
TT1	#4	24	BENT	3'-1"	-

BAR LIST - APPROACH SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
AL1	#4	2	STR.	30'-11"	-
AL2	#4	1	STR.	30'-8"	-
AL3	#4	13	STR.	30'-4 1/2" AVG.	30'-4" TO 30'-5"
AL4	#4	12	STR.	30'-3 1/2" AVG.	30'-3" TO 30'-4"
AL5	#4	1	STR.	29'-9"	-
AT1	#4	24	STR.	18'-10" AVG.	18'-9" TO 18'-11"
AT2	#4	25	STR.	14'-0" AVG.	13'-7" TO 14'-5"
AW1	#5	1	BENT	18'-4"	-
AW2	#5	1	BENT	18'-0"	-
BL1	#9	3	STR.	30'-11"	-
BL2	#9	1	STR.	30'-8"	-
BL3	#9	36	STR.	30'-4" AVG.	30'-3" TO 30'-5"
BL4	#9	1	STR.	29'-9"	-
BT1	#4	24	STR.	33'-2 1/2" AVG.	32'-9" TO 33'-8"
BW1	#5	1	BENT	33'-5"	-
BW2	#5	1	BENT	32'-2"	-
EP1	#5	55	BENT	5'-4"	-
TT1	#4	24	BENT	3'-1"	-
AL6	#4	15	STR.	29'-8" AVG.	29'-7" TO 29'-9"
AL7	#4	13	STR.	29'-7"	-
AL8	#4	1	STR.	29'-5"	-
AL9	#4	2	STR.	29'-3"	-
AT3	#4	25	STR.	16'-6 1/2" AVG.	16'-5" TO 16'-8"
AT4	#4	23	STR.	18'-4" AVG.	18'-3" TO 18'-5"
AT5	#4	1	STR.	17'-6"	-
AW3	#5	1	BENT	17'-11"	-
AW4	#5	1	BENT	17'-8"	-
BL5	#9	39	STR.	29'-8" AVG.	29'-7" TO 29'-9"
BL6	#9	1	STR.	29'-5"	-
BL7	#9	3	STR.	29'-3"	-
BT2	#4	23	STR.	35'-5 1/2" AVG.	35'-4" TO 35'-7"
BT3	#4	1	STR.	34'-7"	-
BW3	#5	1	BENT	35'-2"	-
BW4	#5	1	BENT	34'-8"	-
C1	#4	24	STR.	2'-0"	-
D1	#5	2	STR.	3'-0"	-
DB1	#5	53	BENT	4'-2"	-
EP1	#5	53	BENT	5'-4"	-
TT1	#4	23	BENT	3'-1"	-

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						REVISIONS
						DATE

NOTES:
 All costs of installation of Terminal Joint, including dowel bars, epoxy, expansion joint, materials, labor, equipment, and any incidentals necessary to complete the work as shown shall be included in "APPROACH SLAB".

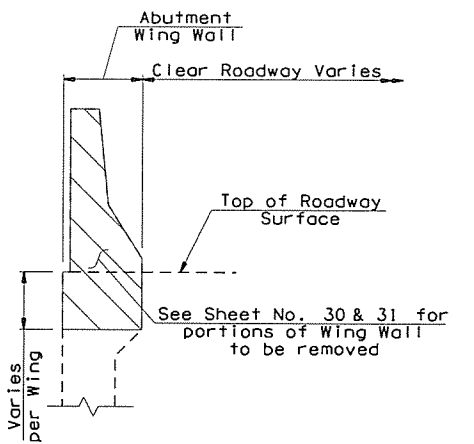
For details of dowel bars, see Std. CRCP2-3-0.



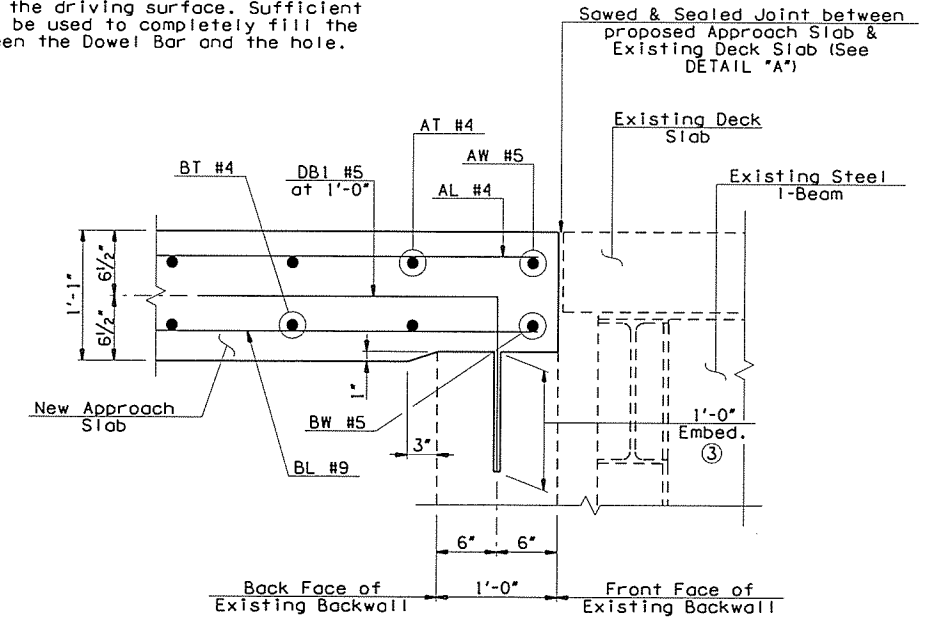
Exposed 9" of Dowel Bar shall be coated with form release agent or grease before Expansion Cap is installed to insure that the bond between Dowel Bar and Approach Slab is broken.

Dowel Bars shall be epoxied (non-capped end) into 1 3/8" (max.) by 9" deep drilled holes, spaced at 1'-0" centers, placed at mid-slab. Drilled holes and Dowel Bars shall be placed parallel to the driving surface. Sufficient epoxy shall be used to completely fill the void between the Dowel Bar and the hole.

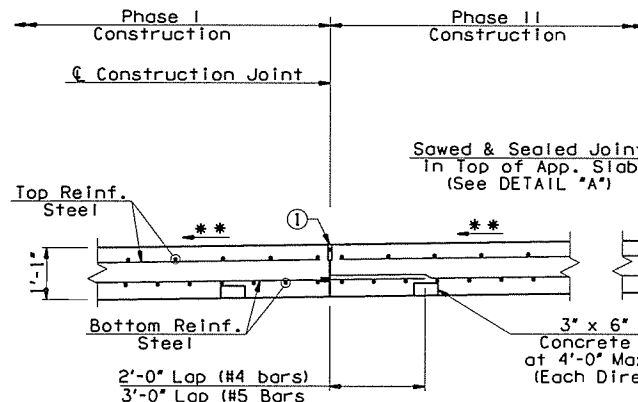
DETAIL "B"



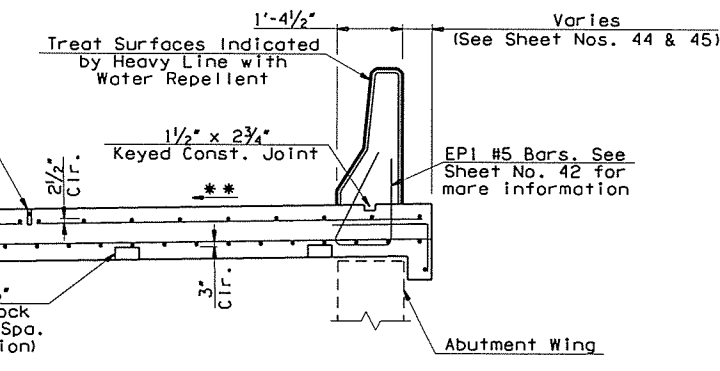
EXISTING CONDITIONS AT WING WALL



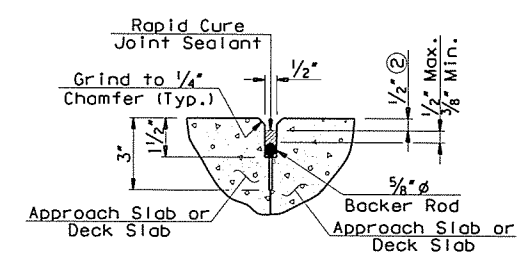
SECTION C-C



SECTION A THRU APPROACH SLAB



SECTION B



DETAIL "A"

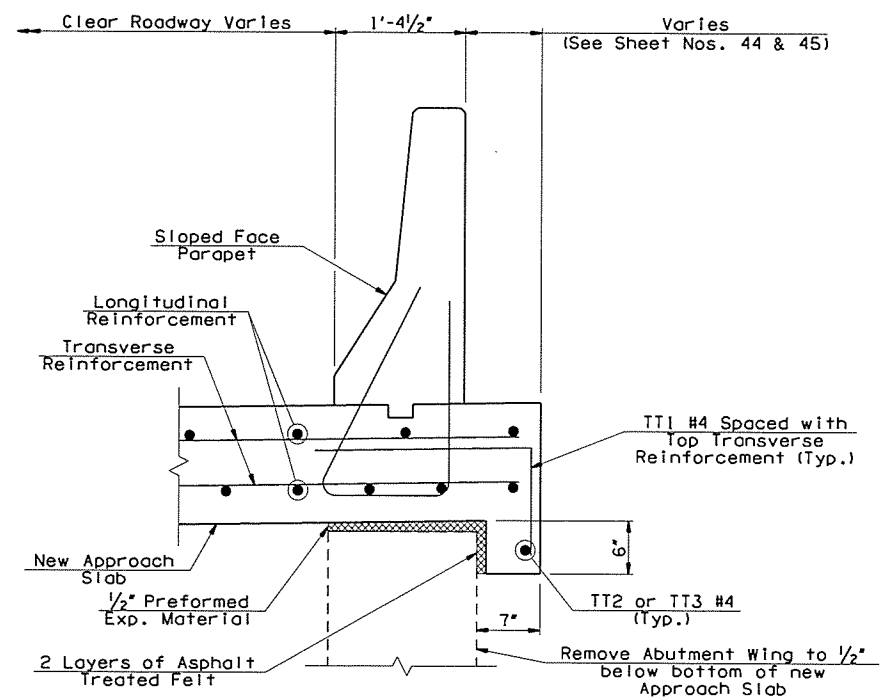
② This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only.

③ ANCHORAGE SYSTEM:

The Contractor shall use an Anchorage System that has been approved by ODOT's materials division. The Anchorage System shall be capable of developing the full strength of the reinforcing steel that is to be anchored. The embedment depth shown is to be adjusted to meet the Manufacturer's requirements. Anchorages shall be installed in accordance with the Manufacturer's specifications for the system used.

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 non-destructive 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 DBI Bars from the plan locations shown shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All costs of the Anchorage Assemblies including labor, materials, tools, drilling, and incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Yard of "APPROACH SLAB".



NEW APPROACH SLAB AT ABUTMENT WING

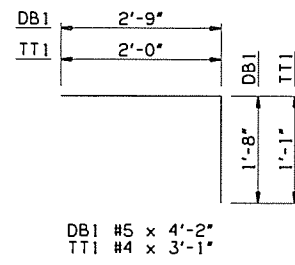
- ① 1/2" Longitudinal Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A".
- ** Match cross slope currently on existing Approach Slabs.

NOTES:

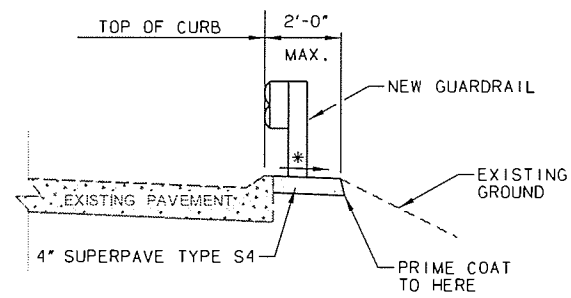
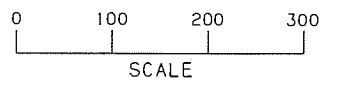
Do not groove within 6" of any joint.

Place reinforcing steel in the top of the Approach Slab 2" from either side of the Sawed & Sealed Longitudinal Joints.

See Sheet No. 42 for parapet reinforcing.

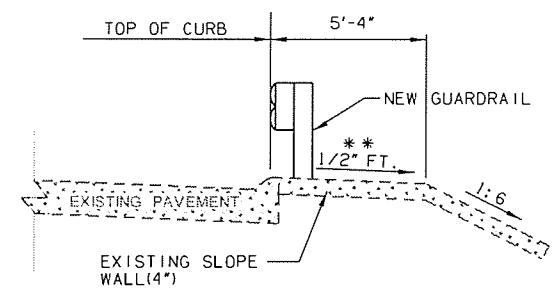


1-44 EB OVER S 38TH W AVE & TSU RR BRIDGE "B"	TULSA COUNTY	DESIGN JMD 9/15
		DETAIL SJL 9/15
		CHECK BRT 11/15
APPROACH SLAB DETAILS (SHEET 3 OF 3)		
GARVER		



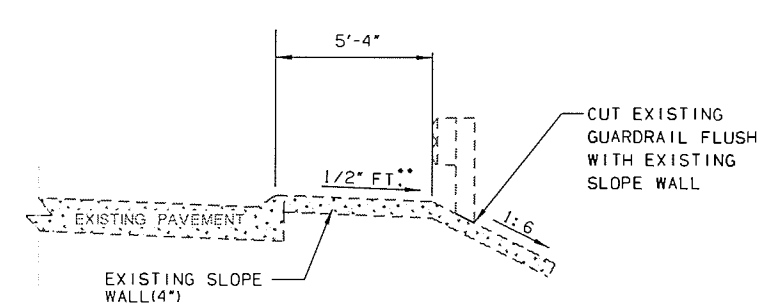
GUARDRAIL TYPICAL 1
NOT TO SCALE

*MATCH EXISTING SLOPE

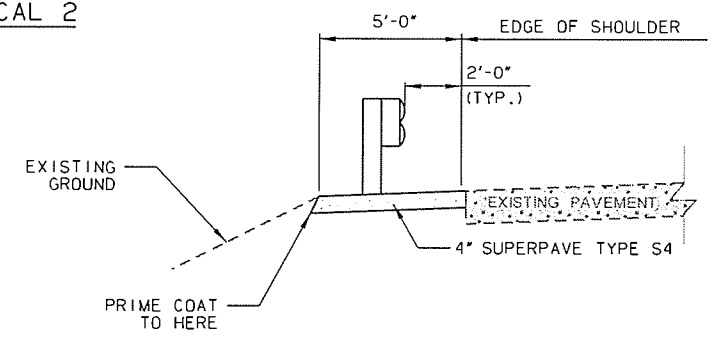


GUARDRAIL TYPICAL 2
NOT TO SCALE

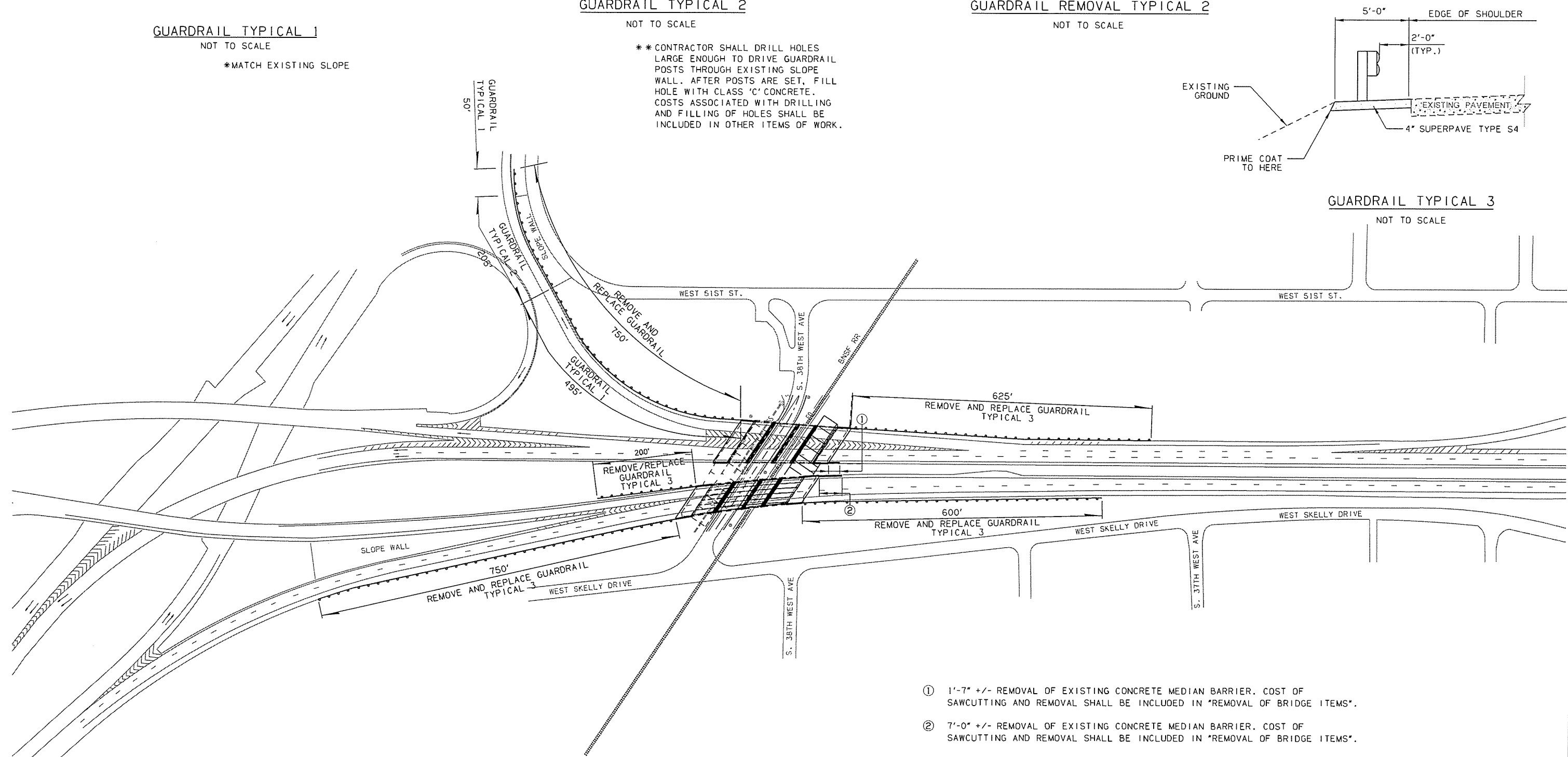
** CONTRACTOR SHALL DRILL HOLES LARGE ENOUGH TO DRIVE GUARDRAIL POSTS THROUGH EXISTING SLOPE WALL. AFTER POSTS ARE SET, FILL HOLE WITH CLASS 'C' CONCRETE. COSTS ASSOCIATED WITH DRILLING AND FILLING OF HOLES SHALL BE INCLUDED IN OTHER ITEMS OF WORK.



GUARDRAIL REMOVAL TYPICAL 2
NOT TO SCALE



GUARDRAIL TYPICAL 3
NOT TO SCALE

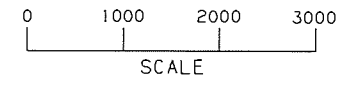


- ① 1'-7" +/- REMOVAL OF EXISTING CONCRETE MEDIAN BARRIER. COST OF SAWCUTTING AND REMOVAL SHALL BE INCLUDED IN "REMOVAL OF BRIDGE ITEMS".
- ② 7'-0" +/- REMOVAL OF EXISTING CONCRETE MEDIAN BARRIER. COST OF SAWCUTTING AND REMOVAL SHALL BE INCLUDED IN "REMOVAL OF BRIDGE ITEMS".

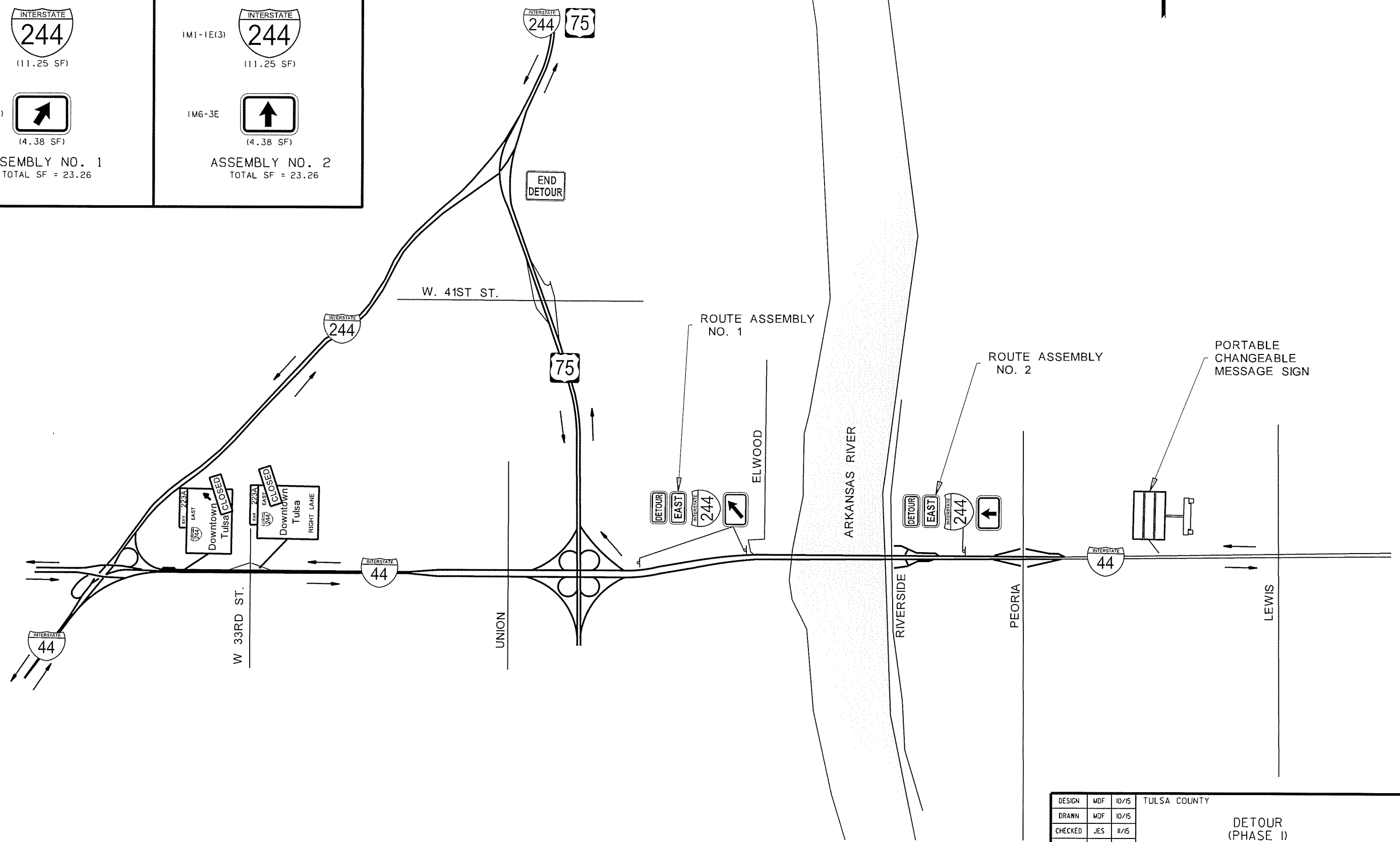
DESIGN	WDF	4/16	TULSA COUNTY
DRAWN			
CHECKED	KMM	4/16	
APPROVED			
SQUAD	GARVER		

STATE JOB NO. 28872(04) SHEET NO. 47

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION					DATE

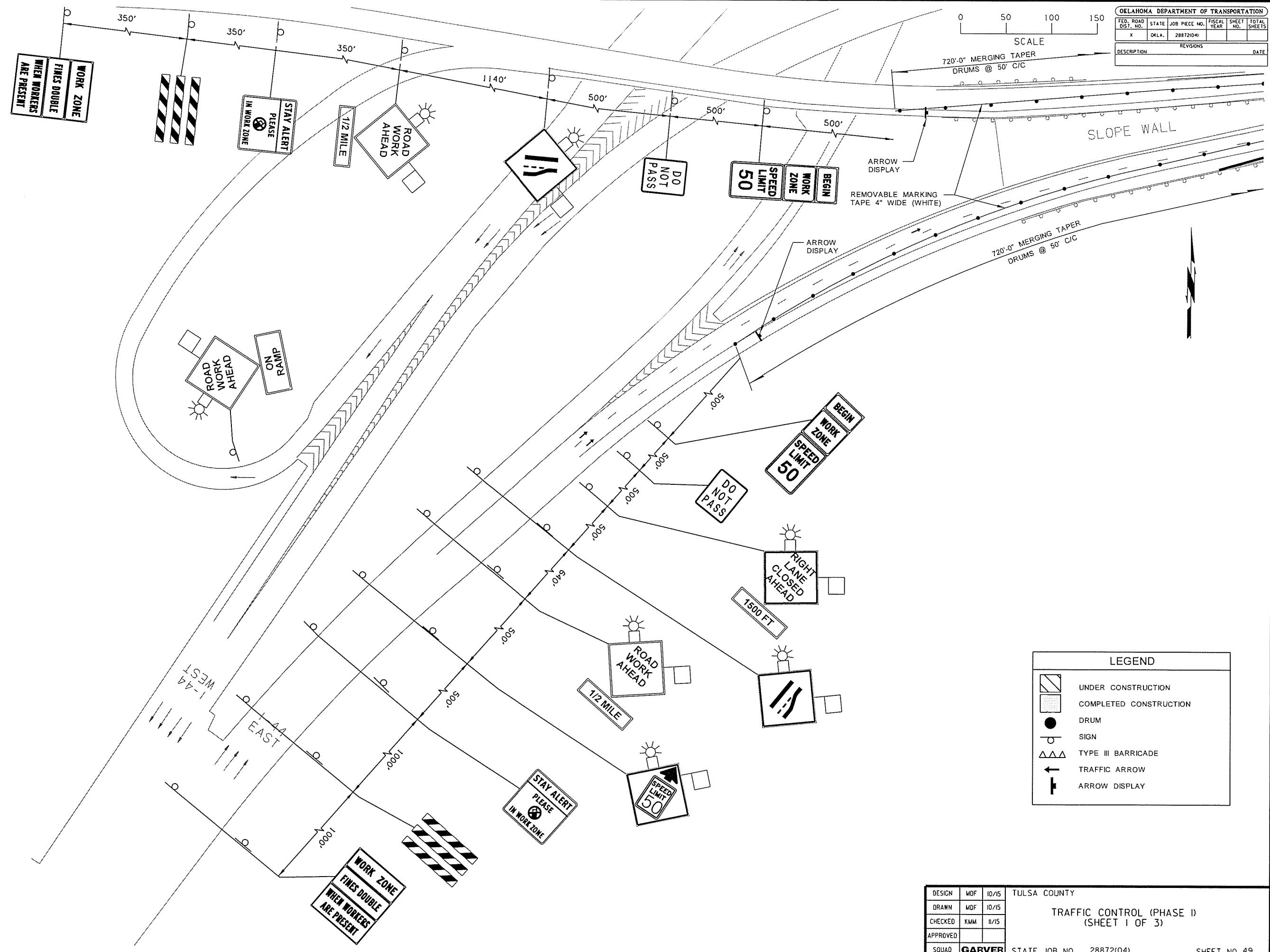
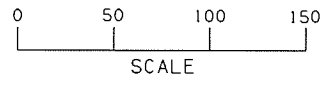


M4-8E (3.13 SF)		M4-8E (3.13 SF)	
IM3-2E (4.5 SF)		IM3-2E (4.5 SF)	
IM1-1E(3) (11.25 SF)		IM1-1E(3) (11.25 SF)	
IM6-2E(R) (4.38 SF)		IM6-3E (4.38 SF)	
ASSEMBLY NO. 1 TOTAL SF = 23.26		ASSEMBLY NO. 2 TOTAL SF = 23.26	



DESIGN	MOF	10/15	TULSA COUNTY
DRAWN	MOF	10/15	
CHECKED	JES	11/15	
APPROVED			
SQUAD	GARVER	STATE JOB NO. 28872(04)	SHEET NO. 48

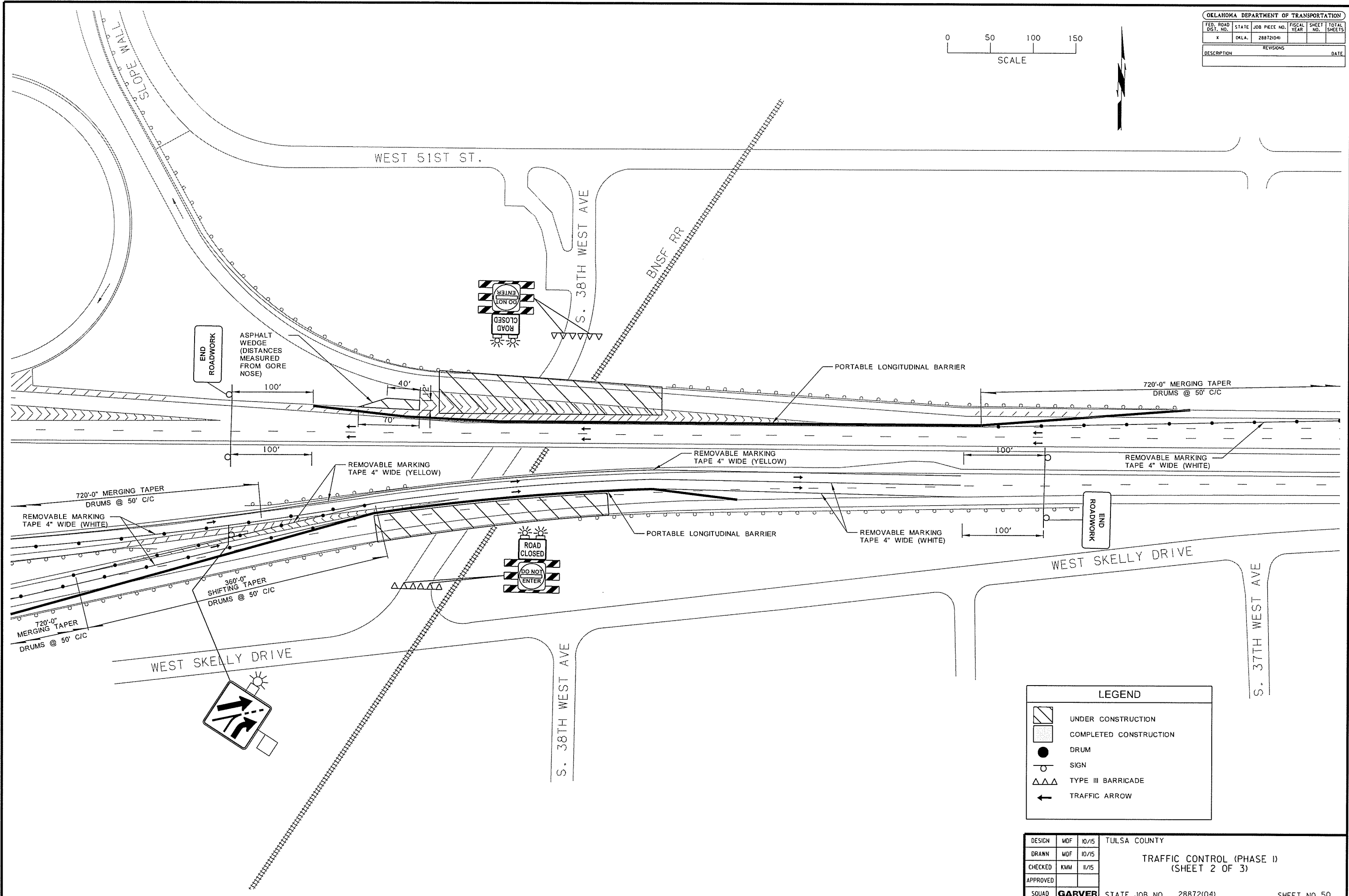
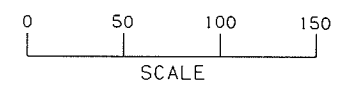
DETOUR (PHASE I)



LEGEND	
	UNDER CONSTRUCTION
	COMPLETED CONSTRUCTION
	DRUM
	SIGN
	TYPE III BARRICADE
	TRAFFIC ARROW
	ARROW DISPLAY

DESIGN	MOF	10/15	TULSA COUNTY
DRAWN	MOF	10/15	
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER		STATE JOB NO. 28872(04) SHEET NO. 49

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION					DATE

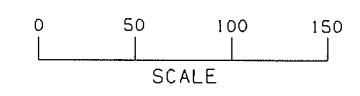


LEGEND	
	UNDER CONSTRUCTION
	COMPLETED CONSTRUCTION
	DRUM
	SIGN
	TYPE III BARRICADE
	TRAFFIC ARROW

DESIGN	MDF	10/15	TULSA COUNTY
DRAWN	MDF	10/15	
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER		STATE JOB NO. 28872(04) SHEET NO. 50

TRAFFIC CONTROL (PHASE I)
(SHEET 2 OF 3)

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION					DATE



WEST 51ST ST.

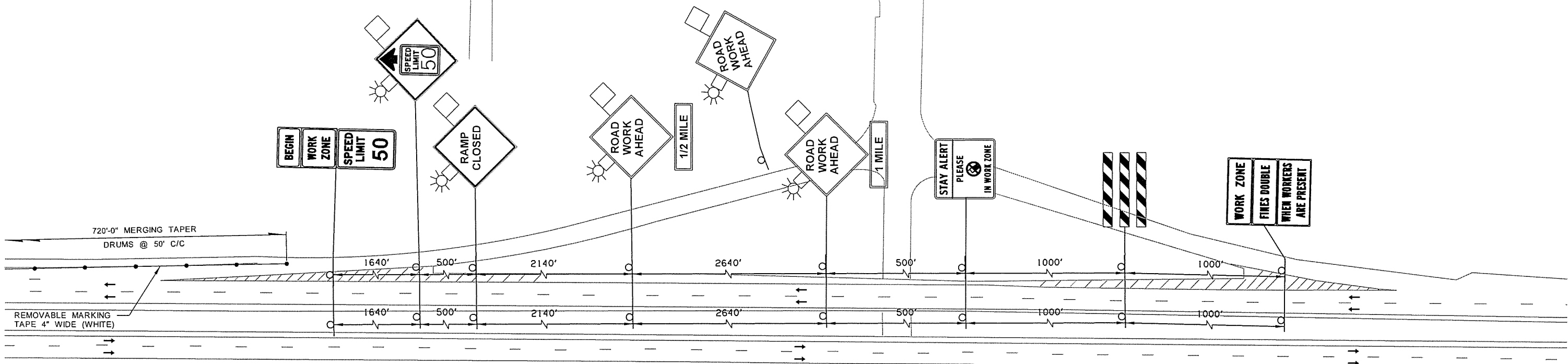
S. 33RD WEST AVE

WEST 51ST ST.

WEST SKELLY DRIVE

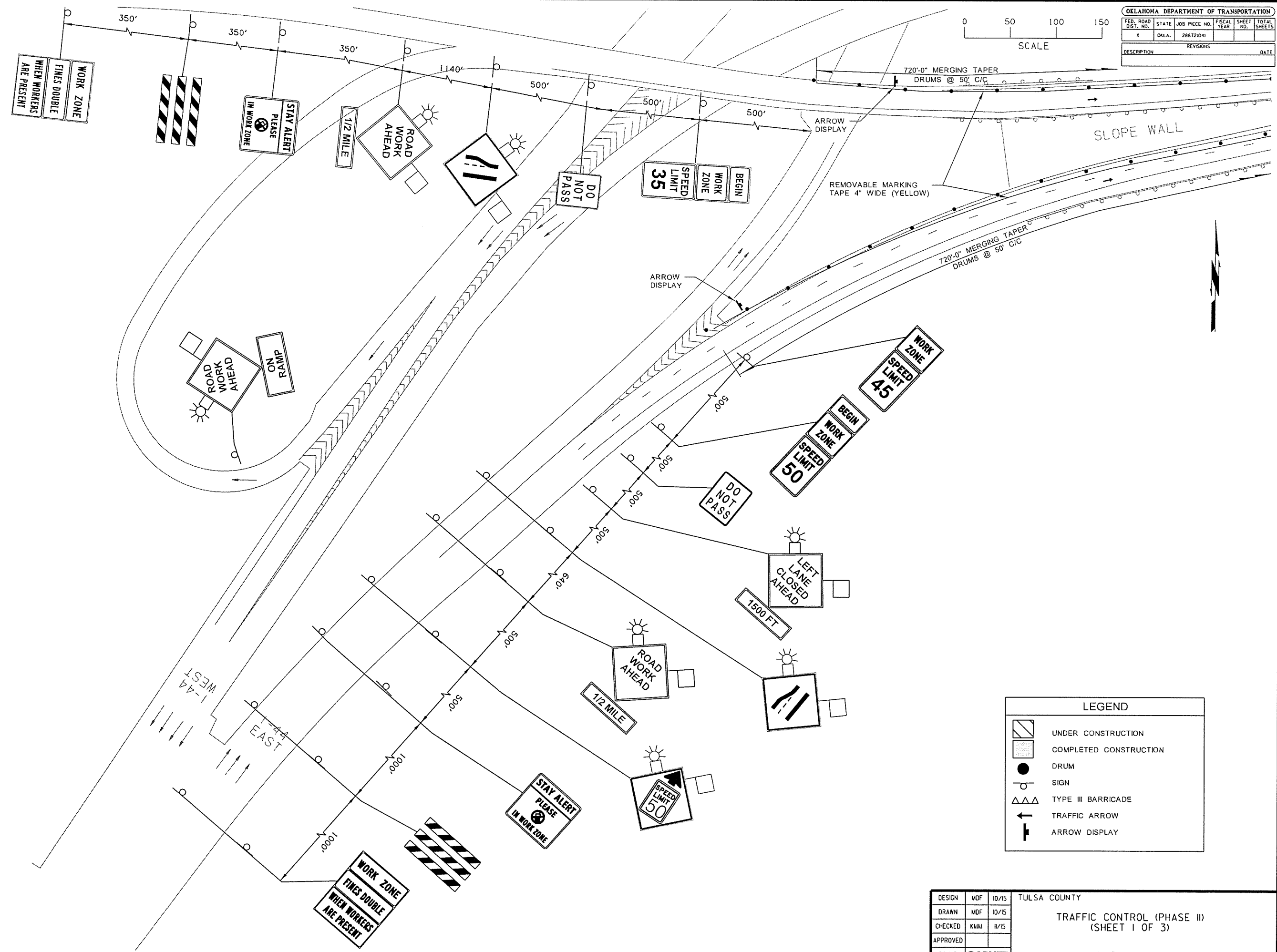
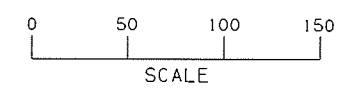
S. 33RD WEST AVE

WEST SKELLY DRIVE



LEGEND	
	UNDER CONSTRUCTION
	COMPLETED CONSTRUCTION
	DRUM
	SIGN
	TYPE III BARRICADE
	TRAFFIC ARROW

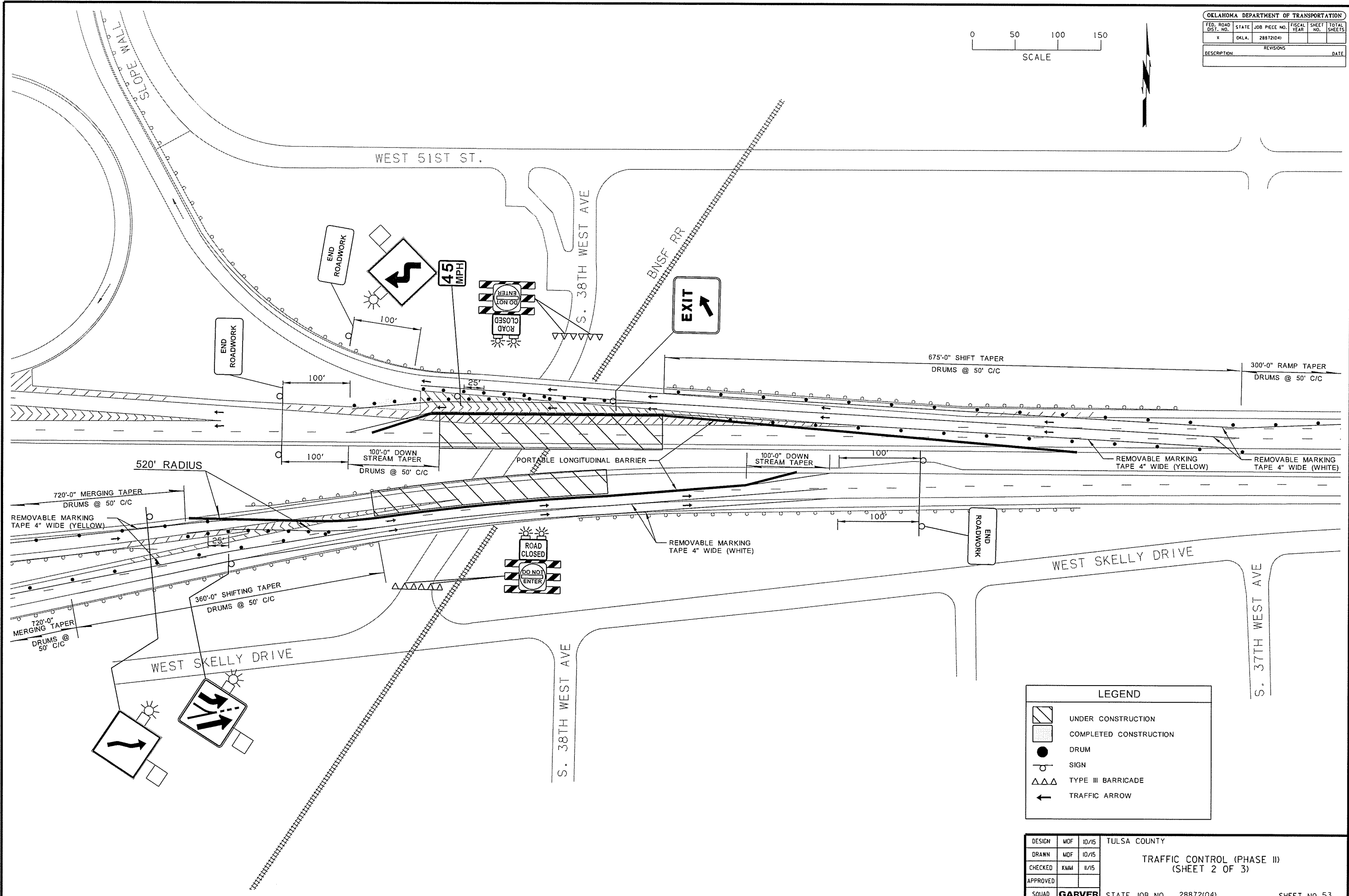
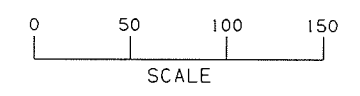
DESIGN	MDF	10/15	TULSA COUNTY
DRAWN	MDF	10/15	TRAFFIC CONTROL (PHASE I) (SHEET 3 OF 3)
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER	STATE JOB NO. 28872(04)	SHEET NO. 51



LEGEND	
	UNDER CONSTRUCTION
	COMPLETED CONSTRUCTION
	DRUM
	SIGN
	TYPE III BARRICADE
	TRAFFIC ARROW
	ARROW DISPLAY

DESIGN	MOF	10/15	TULSA COUNTY
DRAWN	MOF	10/15	
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER		STATE JOB NO. 28872(04) SHEET NO. 52

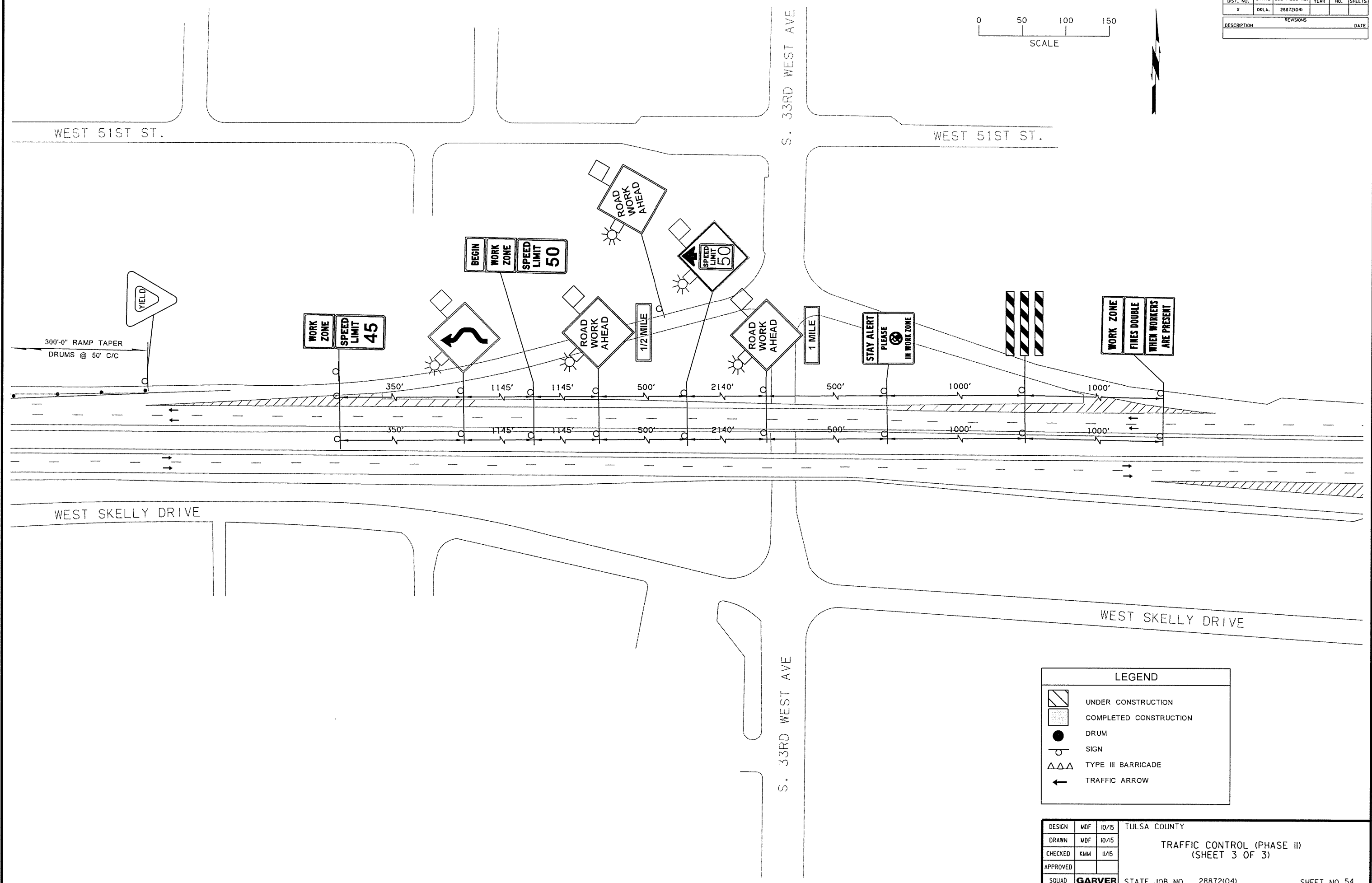
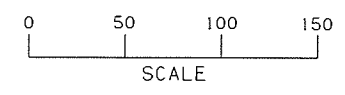
OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION						DATE



LEGEND	
	UNDER CONSTRUCTION
	COMPLETED CONSTRUCTION
	DRUM
	SIGN
	TYPE III BARRICADE
	TRAFFIC ARROW

DESIGN	MOF	10/15	TULSA COUNTY
DRAWN	MOF	10/15	TRAFFIC CONTROL (PHASE II) (SHEET 2 OF 3)
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER	STATE JOB NO. 28872(04)	SHEET NO. 53

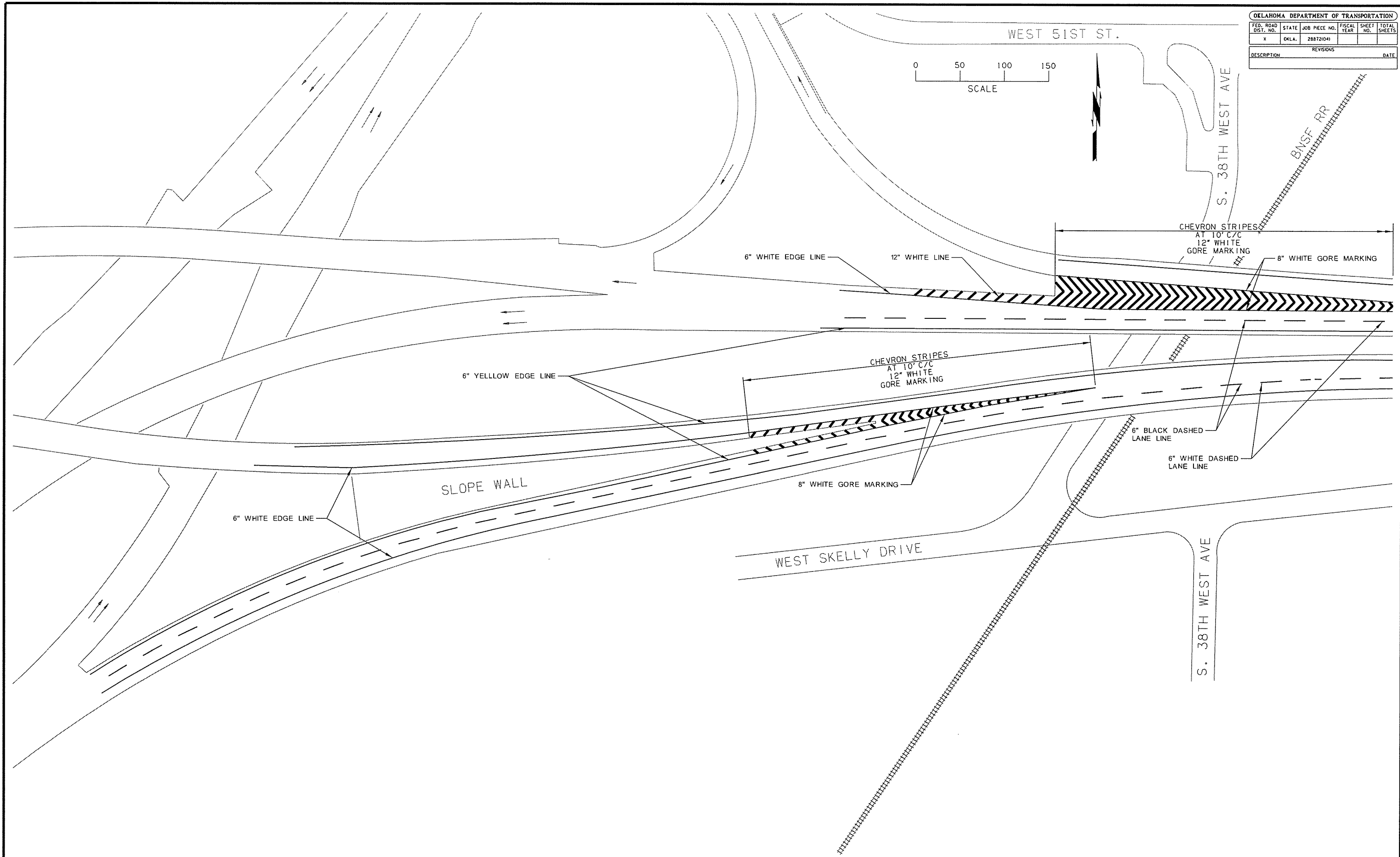
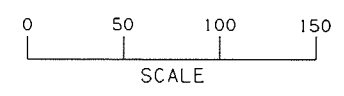
OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
DESCRIPTION					DATE



LEGEND	
	UNDER CONSTRUCTION
	COMPLETED CONSTRUCTION
	DRUM
	SIGN
	TYPE III BARRICADE
	TRAFFIC ARROW

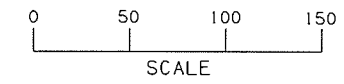
DESIGN	MDF	10/15	TULSA COUNTY
DRAWN	MDF	10/15	TRAFFIC CONTROL (PHASE II) (SHEET 3 OF 3)
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER	STATE JOB NO. 28872(04)	SHEET NO. 54

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION				REVISIONS	DATE	

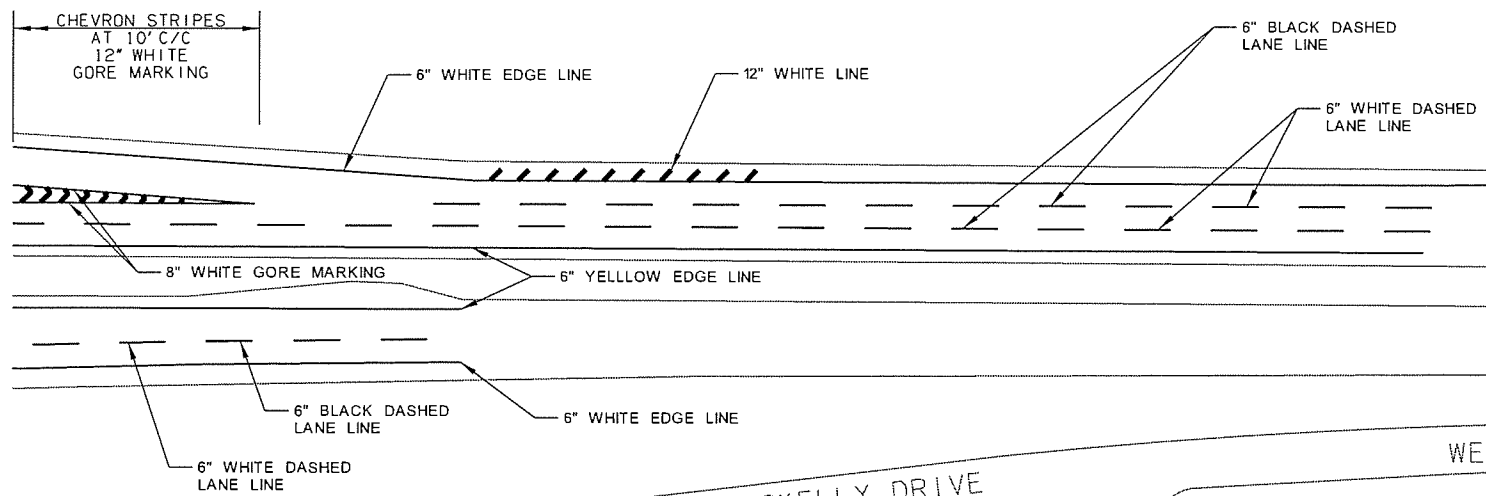


DESIGN	MOF	10/15	TULSA COUNTY
DRAWN	MOF	10/15	
CHECKED	KMM	11/15	
APPROVED			
SQUAD	GARVER	STATE JOB NO. 28872(04)	SHEET NO. 55

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
X	OKLA.	28872(04)				
DESCRIPTION			REVISIONS		DATE	



WEST 51ST ST.



WEST SKELLY DRIVE

WEST SKELLY DRIVE

S. 37TH WEST AVE

DESIGN	WDF	10/15
DRAWN	WDF	10/15
CHECKED	KMM	11/15
APPROVED		
SQUAD	GARVER	

TULSA COUNTY

STRIPING PLAN
(SHEET 2 OF 2)

STATE JOB NO. 28872(04)

SHEET NO. 56