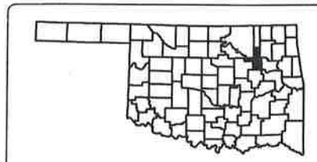


LOCATION MAP

HORIZONTAL SURVEY CONTROL IS THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM, NAD83(1993) LAMBERT PROJECTION, NORTH ZONE, MODIFIED TO SURFACE BY APPLYING AN COMBINED ADJUSTMENT FACTOR OF 0.999913052. FOR ADDITIONAL DETAILS, SEE SURVEY DATA SHEETS VOLUME 2 S1-S55

BEFORE YOU DIG 811 OKIE ONE CALL CALL OKIE

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	G	GCT-2500		

REVISIONS

DESCRIPTION	DATE

#637

AJW

OKLAHOMA TURNPIKE AUTHORITY

CONTRACT No. GCT-2500

GILCREASE EXPRESSWAY

(THIS IS A FULLY CONTROLLED ACCESS HIGHWAY)

VOLUME 4

FOR INDEX OF SHEETS SEE NEXT SHEET
FOR LIST OF STANDARDS SEE NEXT SHEET

BRIDGES M+N

BECCO CONTRACTORS, INC.

GRADE, DRAINING, BRIDGE, SURFACE & TOLLING
TULSA COUNTY
CONTROL SECTION NO. P&S 72-87P
STATE JOB NO. 31313(08)

GILCREASE DESIGN DATA		
AADT 2020	=	26,000
AADT 2045	=	34,400 ★
DHV (2-WAY)	=	3440 ★
K (DHV/ADT)	=	10% ★
D	=	52% ★
T (% DHV)	=	5% ★
T (% AADT)	=	7% ★
T^3 (% AADT)	=	3% ★
V	=	70 MPH
30yr ESALS	=	10.0 M

★ GILCREASE ULTIMATE

C-D / RAMP DESIGN DATA		
AADT 2020	=	19,720
AADT 2045	=	29,200 ★
DHV (2-WAY)	=	2,920★
K (DHV/ADT)	=	10% ★
D	=	60% ★
T (% DHV)	=	5% ★
T (% AADT)	=	7% ★
T^3 (% AADT)	=	3% ★
V	=	50 MPH
30yr ESALS	=	11.9 M

★ GILCREASE ULTIMATE

SCALES
PLAN 1" = 50'
PROFILE HOR. 1" = 50'
VER. 1" = 5'
LAYOUT MAP 1" = 3520'

SURVEY ℄ STA. 385+00.00
KEYSTONE EXPRESSWAY
END INCIDENTAL
SURVEY ℄ STA. 378+00.00
END KEYSTONE EXPRESSWAY CONSTRUCTION
BEGIN INCIDENTAL
C.R.L. GILCREASE STA. 375+00.00
END INCIDENTAL
C.R.L. GILCREASE STA. 368+00.00
END PROJECT
BEGIN INCIDENTAL
SURVEY ℄ STA. 319+20.00
END KEYSTONE INCIDENTAL
BEGIN KEYSTONE CONSTRUCTION
SURVEY ℄ STA. 314+00.00
BEGIN KEYSTONE INCIDENTAL

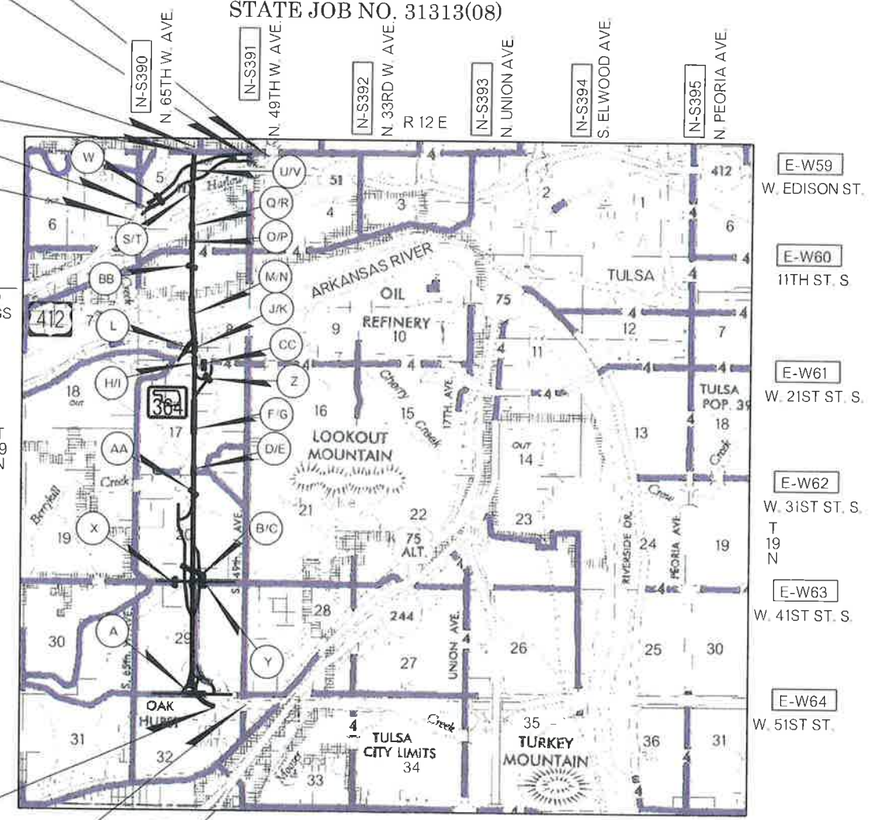
BRIDGE SPAN STRUCTURES:

BRIDGE	BEGIN BRIDGE STA.	END BRIDGE STA.	LENGTH	NBI NO.	LOC. NO.
A	531+21.19	536+42.50	521.31 ft.	32173	7287 0096 X
B	169+08.27	171+04.93	196.66 ft.	32174	7287 0277 X
C	169+08.27	171+04.93	196.66 ft.	32175	7287 0204 SX
D	222+05.42	223+62.09	156.67 ft.	32176	7287 0204 NX
E	222+05.42	223+62.09	156.67 ft.	32177	7287 0304 NX
F	233+30.74	250+85.02	1,756.76 ft.	32178	7287 0304 SX
G	233+30.74	250+89.99	1,756.76 ft.	32179	7287 0340 NX
H	275+06.84	277+06.36	199.19 ft.	32180	7287 0340 SX
I	275+17.28	277+16.10	199.16 ft.	32181	7287 0404 NX
J	281+39.33	284+52.93	313.07 ft.	32182	7287 0405 SX
K	281+48.56	284+61.11	313.07 ft.	32183	7287 0418 NX
L	4280+75.00	4284+38.58	363.58 ft.	32184	7287 0418 SX
M	289+20.82	306+43.46	1,719.81 ft.	32185	7287 0419 SXR
N	289+18.97	306+35.94	1,719.81 ft.	32186	7287 0445 SX
O	327+96.67	331+25.33	328.66 ft.	32187	7287 0445 NX
P	327+96.67	331+25.33	328.66 ft.	32188	7287 0506 NX
Q	336+16.00	338+18.94	202.94 ft.	32189	7287 0506 SX
R	336+28.53	338+31.47	202.94 ft.	32190	7287 0521 NX
S	350+29.65	354+70.51	440.50 ft.	32191	7287 0520 SX
T	350+07.27	354+47.42	440.49 ft.	32192	7287 0549 NX
U	360+11.90	363+97.72	385.42 ft.	32193	7287 0549 SX
V	359+75.94	363+61.12	385.59 ft.	32194	7287 0567 NX

BRIDGE CLASS RCB STRUCTURES:

BRIDGE	BRIDGE STA.	LENGTH	NBI NO.	LOC. NO.
W	333+06.20	32.98 ft.	32195	7287 0567 SX
X	406+05.50	21.00 ft.	32196	7286 1145 X
Y	173+18.67	46.22 ft.	32197	72E0630N3900003
Z	2271+84.86	78.16 ft.	32198	7287 0210 X
AA	206+85.00	35.36 ft.	32199	7287 0392 XR
BB	321+32.20	50.30 ft.	32200	7287 04790 X
CC	223+19.30	67.75 ft.	12215	72E0610N3900005

C.R.L. GILCREASE STA. 103+30.00
END INCIDENTAL
BEGIN PROJECT
C.R.L. GILCREASE STA. 90+00.00
BEGIN INCIDENTAL



R 12 E

PROJECT LENGTH BASED ON C.R.L. STATIONING

ROADWAY LENGTH — NB 20,768.36 FT.
— SB 20,587.15 FT. — 3.933 MI.
BRIDGE LENGTH — NB 5,699.68 FT.
— SB 5,699.81 FT. — 1.080 MI.
PROJECT LENGTH — 5.013 MI.

EXCEPTIONS :

CONVENTIONAL SYMBOLS

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

THIS PROJECT SHALL BE CONSTRUCTED UNDER THE OKLAHOMA TURNPIKE AUTHORITY, 2010 STANDARD SPECIFICATIONS FOR TURNPIKE CONSTRUCTION, AND SPECIAL PROVISIONS WHICH GOVERN OVER STANDARD SPECIFICATIONS.

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

CERTIFICATE OF AUTHORIZATION NO. 4193 P.E., L.S. RENEWAL DATE: 6-30-2018

CONTRACT NO. GCT-2500 SHEET NO. 401

P.E. No. 31313(04)

13 46 23 L:\2017\17037380 - OTA - Gilcrease Expressway Turnpike\Drawings\BRIDGE\Misc. Bridge\OTA_GCT_CO_V4_Bridge.dgn

TULSA COUNTY

NOTE TO PLAN HOLDERS:
Plan documents include the most up-to-date project design information available. Any preliminary work shall be based on information contained within this Volume and future revisions will be distributed to all plan holders.

COMMON GENERAL NOTES FOR BRIDGE STRUCTURES (CONTINUED)

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".

PENETRATING WATER REPELLENT SURFACE TREATMENT:

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

1. Top of the Deck & Approach Slabs
2. All exposed areas of 42" F-Shaped Parapets and Concrete Parapets
2. Edges and underside cantilever portion of the bridge
3. Outside face & bottom of exterior PC Beams
4. Sides and ends of Pier Caps not treated with Special Concrete Finish
5. Front, sides, & exposed areas of Abutment Backwall and Abutment Seat not treated with Special Concrete Finish
6. Top and face of curb and sidewalks

Locations treated with stain shall not be treated with water repellent.

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

(SP) SPECIAL CONCRETE FINISH:

The Special Concrete Finish shall be a liquid applied urethane coating such as CIM 1000 as manufactured by CIM Industries, Inc., Polycoat PC-IM 129 as manufactured by Polycoat Products, or an approved equal.

The Special Concrete Finish shall be applied to the areas shown in the plans. Edges of the Special Concrete Finish shall be masked with tape prior to application to ensure clean straight lines are obtained. Any areas containing Special Concrete Finish outside of the areas as indicated in the plans shall be cleaned to the satisfaction of the Engineer at the expense of the Contractor.

The equipment, methods, and thickness 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.

In addition to applying the coating to the concrete substructure units as shown in the plans, 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 3,000 p.s.i. 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.

Payment will be made at the Contract unit price bid per Square Yard of "(SP) SPECIAL CONCRETE FINISH", which price shall be full compensation for all materials, labor, tools, equipment and incidentals necessary to complete the work as specified.

ANTI-GRAFFITI COATING SYSTEM:

Provide a non-sacrificial anti-graffiti coating system that forms a barrier over new concrete surfaces that allows for the removal of graffiti without leaving graffiti shadows or ghosts and allows for the removal of graffiti in accordance with ASTM D7089 with a Cleanability Level 2. Provide anti-graffiti coating system components from a single manufacturer. Apply the surface preparation and coating system in accordance with the Manufacturer's recommendations.

Apply anti-graffiti coating system to all bridge elements receiving stain and to all Slope Walls.

All costs associated with the application of the anti-graffiti system including labor, materials, equipment and other incidentals shall be included in other items of work.

DRAINS AT END OF 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". See Sheet No. BSTA10 for details and locations.

PERFORATED PIPE UNDERDRAIN:

The installation of the Perforated Pipe and Pipe Underdrain Cover Material and quantities of items included in "6" PERFORATED PIPE UNDERDRAIN ROUND" shall be as shown in the SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY DETAILS sheets for each bridge.

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

NON-PERFORATED PIPE UNDERDRAIN:

The installation of the Non-Perforated Pipe and quantities of items included in "6" NON-PERFORATED PIPE UNDERDRAIN ROUND" shall be as shown in the SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY DETAILS sheets for each bridge.

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

TYPE I PLAIN RIPRAP:

Type I Plain Riprap shall be placed as shown in the plans at Bridges W & X. All costs of the placement of riprap including material, labor, equipment and incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Ton of "TYPE I PLAIN RIPRAP".

TYPE I-A PLAIN RIPRAP:

A 2'-0" thick layer of Type I-A Plain Riprap with a 6" thick layer of Type I-A Filter Blanket shall be placed as shown in the plans. The filter blanket shall be placed in one layer.

All costs of the placement of riprap including material, labor, equipment and incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Ton of "TYPE I-A PLAIN RIPRAP".

All costs of the placement of filter blanket including material, labor, equipment and incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Ton of "TYPE I-A FILTER BLANKET".

BRIDGE DECK FORMWORK BRACING:

On steel girder spans, the Contractor is to use formwork bracing similar to that shown on Sheet No. BSTA05. Bracing and tension ties shall be spaced at intervals less than 4 feet. All cantilever forming brackets shall be adjusted during placement of the floor concrete in order to maintain proper grades of overhang. If the Contractor uses shims to adjust the forming brackets, he must provide the Engineer a method to predict crush and settlement of the shims.

Use #4 epoxy coated reinforcing steel with threaded ends or galvanized all thread for Tension Ties. Place Tension Ties perpendicular to the Beams. Attach Tension Ties to the top flange of the Beams with Ty-Bar Clips as shown.

No welding to the top flange of the beams or the shear connectors will be permitted.

The steel ty-bar clip connection devices shall be epoxy coated. After assembly, all exposed threads shall be coated with epoxy paint.

Wedge Hardwood Struts, or another material of an equivalent strength, between Beam webs within 6" of the bottom flange at each Tension Tie location.

Submit drawings of the bracing system to the Bridge Engineer for approval. Bracing systems other than that shown may be used if design calculations and drawings of the proposed bracing system are submitted to and approved by the Bridge Engineer. Drawings and calculations of the proposed system shall be signed and sealed by a Professional Engineer licensed in the State of Oklahoma. Do not place Deck Slab concrete until bracing system is approved.

The bridge deck formwork bracing will not be measured for payment. All cost of the Bridge deck formwork bracing including the cost of ty-bar clip connection devices, epoxy coated all-threaded tension ties, wood struts, epoxy coatings or paint, professional services, materials, labor, equipment and incidentals shall be included in the unit price bid per Cubic Yard of "CLASS AA CONCRETE".

CONCRETE SLOPEWALL:

All materials and work shall be in accordance with Section 510.04.F of the Standard Specifications.

Slopewalls shall be constructed with Class A Concrete, in accordance with Section 509 of the Standard Specifications. Course Aggregate for Thin Sections of Concrete (Section 701.06) may be used.

All costs of the slopewall installation including Class A Concrete, reinforcing steel, lap splices, trench excavation, Aggregate base, filter sand, backer rod, rapid cure joint sealant, polystyrene, labor, equipment and other incidentals shall be included in the price bid per Square Yard of "SLOPEWALL (5")".

STORAGE OF MATERIALS:

The Contractor shall not store materials within the 100 year water surface elevation floodplain.

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

Provide and install the shields as specified in the plans.

All cost of the fabrication and installation of the shields including concrete, reinforcing steel, aesthetic treatments, structural steel, development of shop drawings, working drawings, creating and furnishing of prototypes, master molds, test panels, furnishing of release agents, sealers, materials, labor, equipment, and any other incidentals necessary to complete work as shown in the plans shall be included in the price bid per Each "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)".

There is an estimated 60.00 LB. of Structural Steel, 3.10 C.Y. of Class P Concrete, 361.00 LB. of Epoxy Coated Reinforcing Steel, and 27.00 S.Y. of Stain Treatment.

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

Provide and install the chain link fence mounted on the 42" F-Shaped Parapet as specified in the plans.

All cost of materials, labor, equipment, and any other incidentals necessary to complete work as shown in the plans shall be included in the price bid per Each "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE B)".

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

Provide and install the chain link fence mounted on the Concrete Parapet as specified in the plans.

All cost of materials, labor, equipment, and any other incidentals necessary to complete work as shown in the plans shall be included in the price bid per Each "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE C)".

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	0	GCT-2500		

REVISIONS	
DESCRIPTION	DATE

POWDER COATING OF BRIDGE ITEMS:

The Powder Coating process shall be a two coat system applied using electrostatic spray. The base coat shall be a Thermosetting Epoxy Powder with a minimum thickness of 2 - 4 mils. The top coat shall be a tough Polyester Powder Coat with a minimum thickness of 2 - 4 mils. Color shall be black, equal or close to Federal Std. 595B, color chip 27038. Coated Galvanized Framework shall have a salt spray resistance of 3,000 hours using ASTM B117 without loss of adhesion. The Powder Coating process shall be in accordance with Manufacturer's recommendations.

Galvanizing of surfaces shall use a method that does not interfere with the powder coating process. Galvanized surfaces shall be prepared in accordance with Subsection 721 and the Powder Coating Manufacturer's recommendations before application of the Powder Coating process.

Prior to fabrication, the Contractor shall submit the following for the Owner's approval:

1. A list of qualified powder coating Manufacturers that have a minimum five years of experience.
2. All surface preparation and powder coating processes along with the materials and their properties that will be used in order to achieve the desired aesthetic appearance.
3. A factory finished color sample, 12"x12" minimum size on the material specified for the work. The Contractor may need to submit up to three variations for each color specified until the correct color balance is achieved. All color samples must be submitted during the same review period, as all colors will be reviewed and approved collectively. ADDITIONAL PAYMENT WILL NOT BE MADE DUE TO CHANGES IN COLOR SELECTION BEFORE FINAL COLOR IS APPROVED.

There shall be no separate payment for powder coating. All costs associated with preparing and powder coating the individual items of work contained in these specifications shall be included in the costs of the respective items of work.

CONSTRUCTION WORK ROAD:

The construction work road required for portions of the bridge within the Arkansas River shall be constructed to the requirements outlined in the 404 Permit. The materials used for the construction work road shall be approved by the Army Corps of Engineers and any other regulatory institution with jurisdiction over the portion of the Arkansas River which this project is being constructed.

Cost of construction, maintenance and removal of the work road, including materials, labor equipment and any incidentals shall be included in the price bid per Lump Sum of "EARTHWORK".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

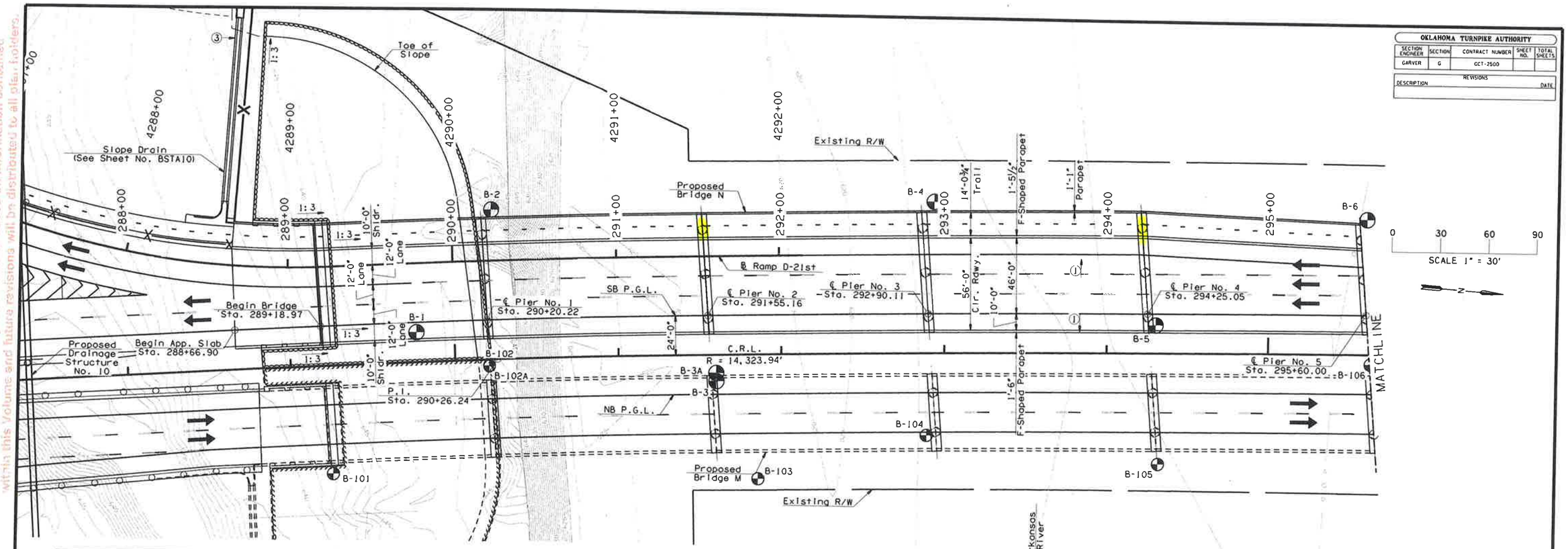
BRIDGE GENERAL NOTES
(SHEET 2 OF 4)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500
DETAILED	DPE	8/17	
CHECKED	MJY	8/17	DATE: 1/12/2019 SHEET NO. AB02

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	G	GCT-2500		

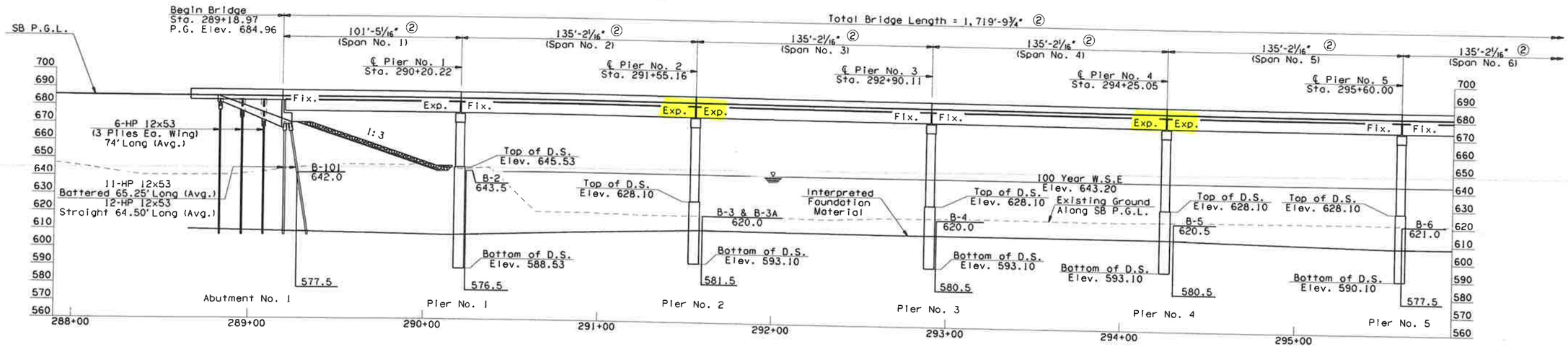
REVISIONS	
DESCRIPTION	DATE



PLAN

BENCHMARK NO. BM1
DESCRIPTION #6 REBAR
OFFSET 297' LT. STA. 289+88.00 EL. 646.72

BENCHMARK NO. ADS85
DESCRIPTION ⅝" REBAR W/1½" ALUMINUM CAP
OFFSET 2558.80' LT. STA. 328+74.84 EL. 642.96



ELEVATION

NOTES:

For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BN004.

For Top of Cap Elevations, see Sheet No. BN004.

For skew angle at piers, see Sheet Nos. BN005 - BN009.

For horizontal curve information, see GEOMETRIC LAYOUT sheets.

For Foundation Report, See Sheet Nos. BM005 - BM015.

Drilled Shaft pay length based on boring shown in elevation view.

① 2.00%
② Stations measured along C.R.L. Dimensions measured along P.G.L.
③ For Drain Details at ends of the bridge, see Sheet No. BSTA10.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 4)

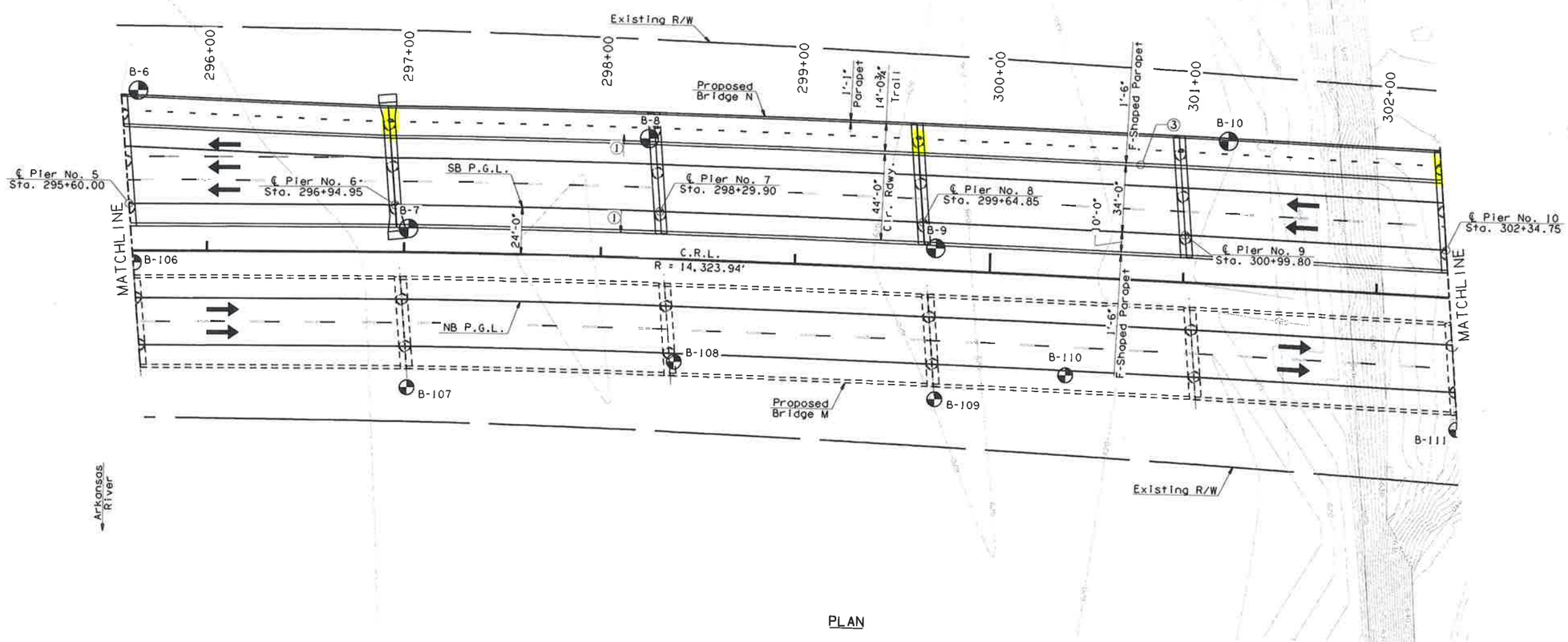
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500
DETAILED	SJL	6/17	
CHECKED	BRT	3/18	DATE: 1/9/2019 SHEET NO. BN001

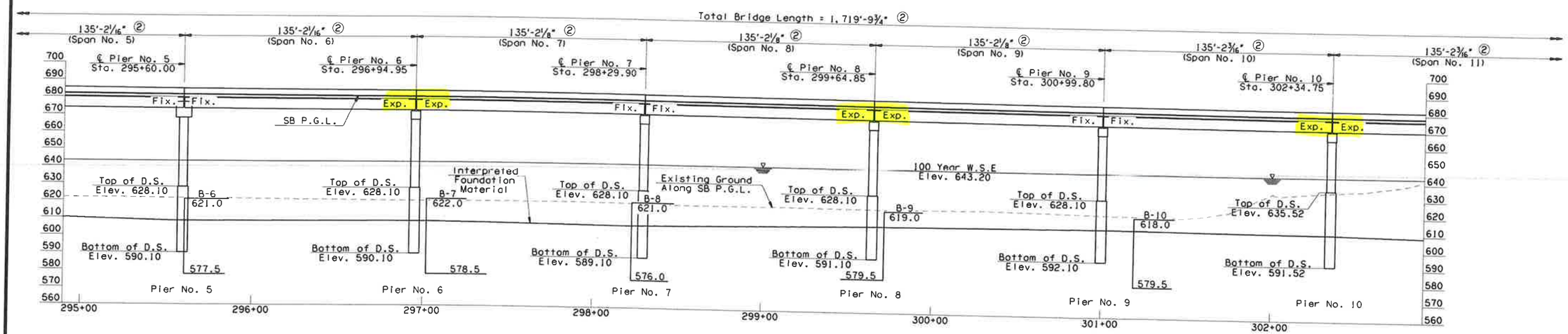
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	G	GCT-2500		

REVISIONS	
DESCRIPTION	DATE

0 30 60 90
SCALE 1" = 30'



PLAN



ELEVATION

NOTES:

For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BN004.

For Top of Cap Elevations, see Sheet No. BN004.

For skew angle at piers, see Sheet Nos. BN005 - BN009.

For horizontal curve information, see GEOMETRIC LAYOUT sheets.

For Foundation Report, See Sheet Nos. BM005 -BM015.

Drilled Shaft pay length based on boring shown in elevation view.

① 2.00%
② Stations measured along C.R.L. Dimensions measured along P.G.L.
③ Mileage sign location. See Sheet No. BN039 for details.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 4)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500
DETAILED	SJL	6/17	DATE: 1/10/2019
CHECKED	BRT	3/18	SHEET NO. BN002

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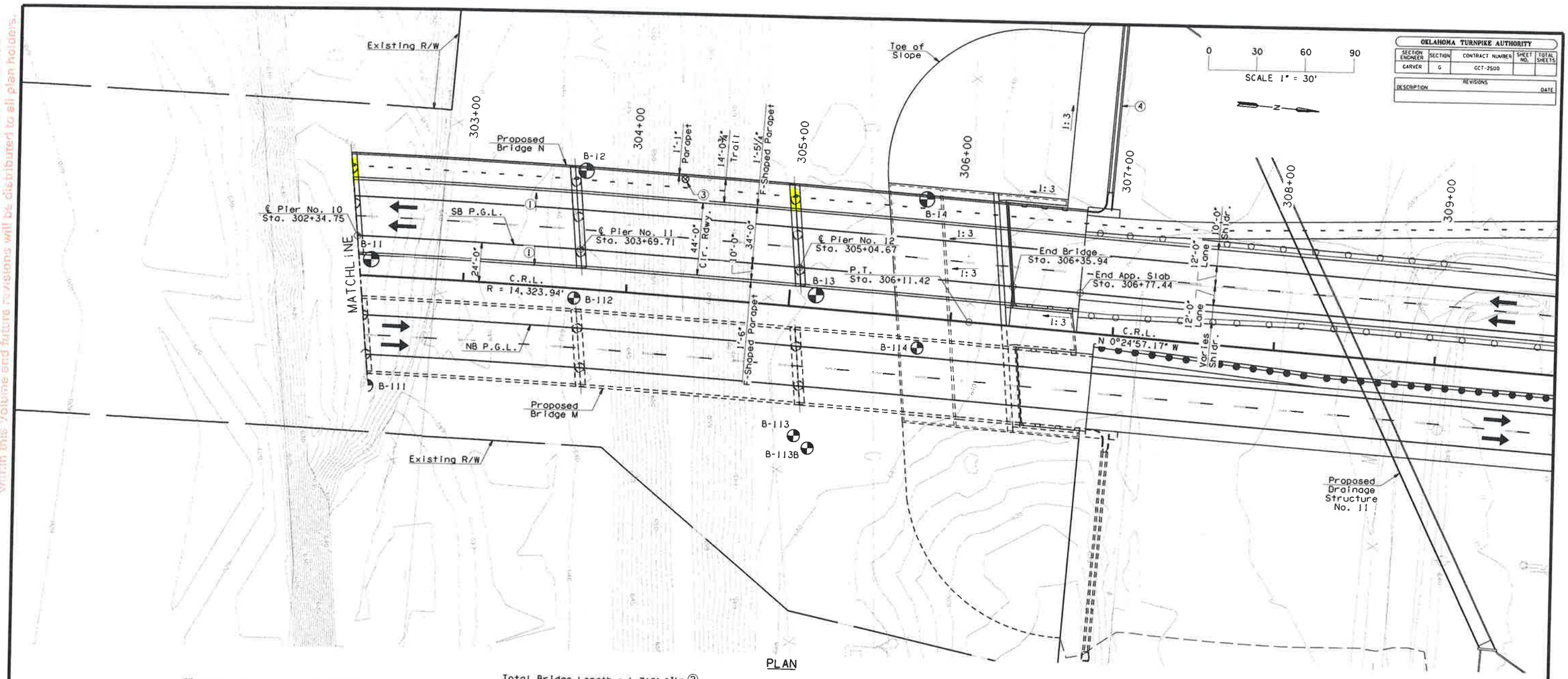
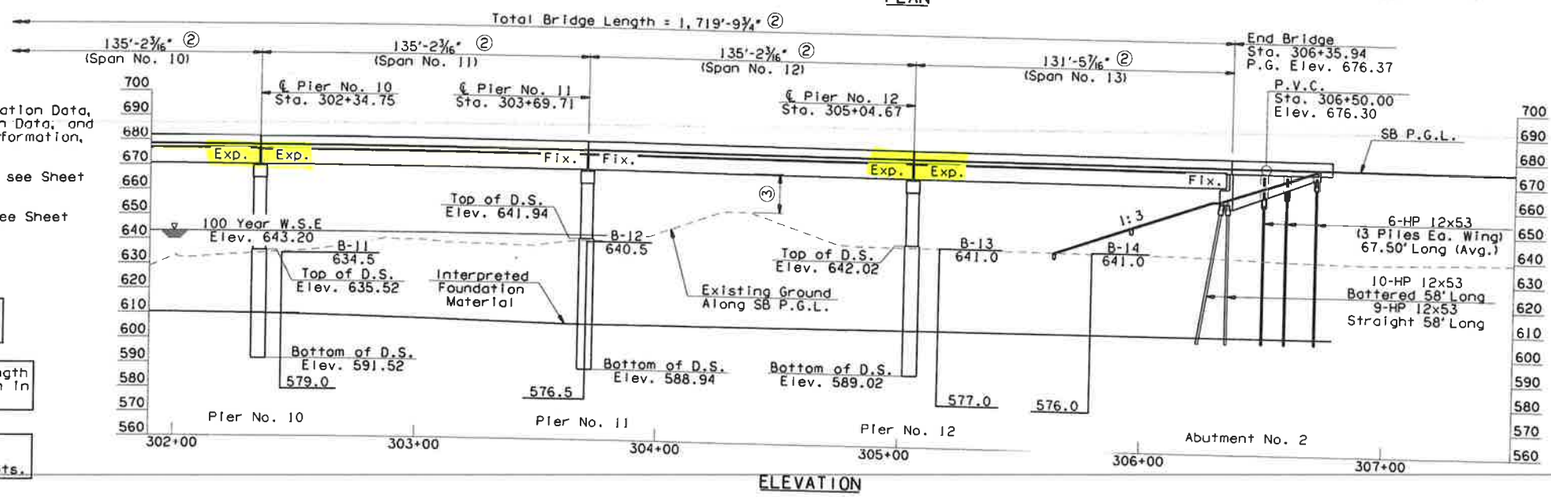
TULSA COUNTY



PLAN



ELEVATION

NOTES:

For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BN004.

For Top of Cap Elevations, see Sheet No. BN004.

For skew angle at piers, see Sheet Nos. BN005 - BN009.

For Foundation Report, See Sheet Nos. BM005 -BM015.

Drilled Shaft pay length based on boring shown in elevation view.

For horizontal curve information, see GEOMETRIC LAYOUT sheets.

① 2.00%

② Stations measured along C.R.L. Dimensions measured along P.G.L.

③ Min. Vert. Clearance 15'-6" At Levee Gilcrease Sta. 304+28.87 Offset 47.31' Lt. Low Chord Elev. 669.46

④ For Drain Details at ends of the bridge, see Sheet No. BSTA10.

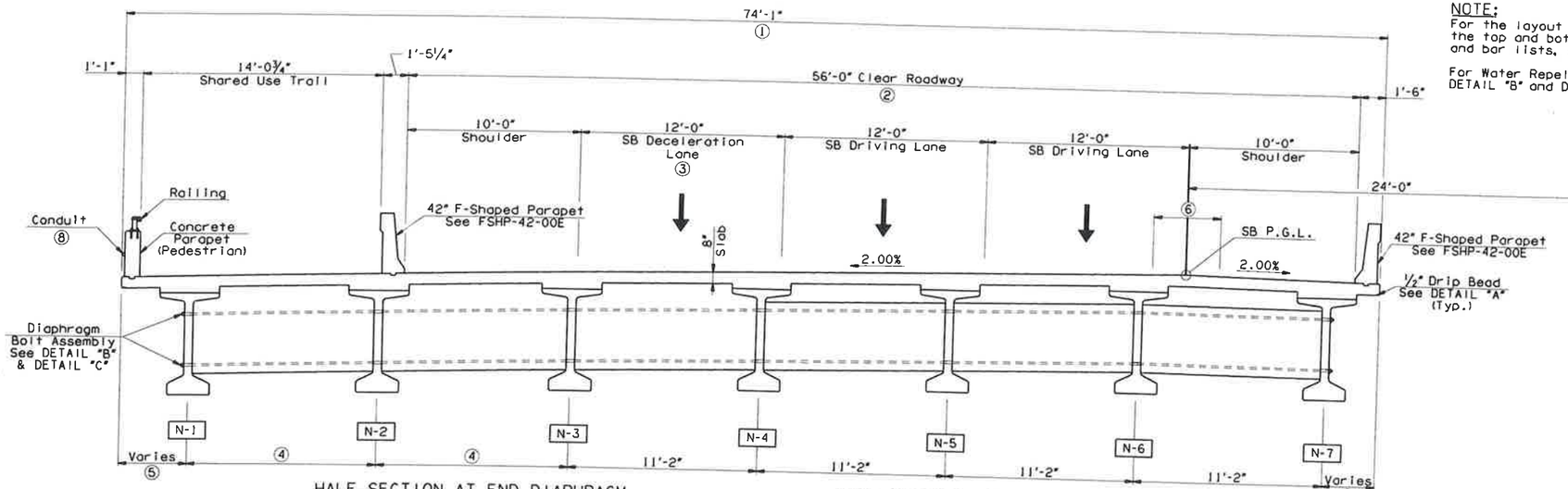
BENCHMARK NO. BM1
DESCRIPTION #6 REBAR
OFFSET 297' LT. STA. 289+88.00 EL. 646.72

BENCHMARK NO. ADS85
DESCRIPTION ⅝" REBAR W/1½" ALUMINUM CAP
OFFSET 2558.80' LT. STA. 328+74.84 EL. 642.96

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
GENERAL PLAN AND ELEVATION
(SHEET 3 OF 4)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500
DETAILED	SJL	6/17	
CHECKED	BRT	3/18	DATE: 1/9/2019 SHEET NO. BN003



HALF SECTION AT END DIAPHRAGM

HALF SECTION AT INTERMEDIATE DIAPHRAGM

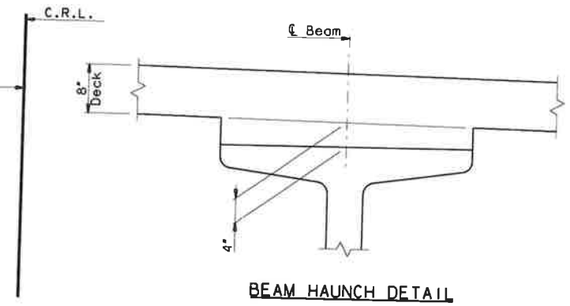
TYPICAL SECTION 1
(Sta. 289+18.97 - 296+94.95)

① Varies 74'-1" to 62'-1" (Sta. 294+25.05 to Sta. 296+94.95)
② Varies 56'-0" to 44'-0" (Sta. 294+25.05 to Sta. 296+94.95)
③ Varies 12'-0" to 0'-0" (Sta. 294+25.05 to Sta. 296+94.95)
④ 11'-2" (Sta. 289+18.97 to Sta. 294+25.05)
Varies 11'-2" to 5'-7" (Sta. 294+25.05 to Sta. 296+94.95)
⑤ See Sheet Nos. BN041 & BN042 for details.

⑥ 4'-0" (Round 2'-0" each side of ℄ to avoid sharp edges).

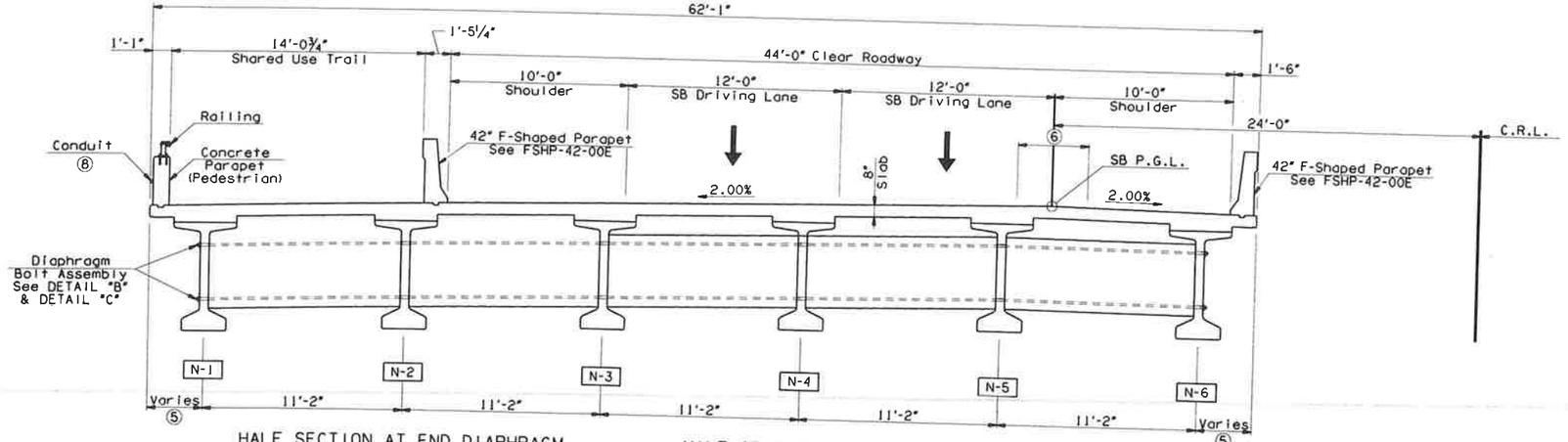
NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar lists, see Sheet Nos. BN030 - BN034.

For Water Repellant Details, DETAIL "A", DETAIL "B" and DETAIL "C", see Sheet No. BSTA01.



BEAM HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Beam Haunches. The haunch height shown is the theoretical haunch height at the centerline bearing only, measured from the bottom of the Deck Slab to the top of the Beam, and varies across the span. Determine the actual haunch height (accounting for beam camber, dead load deflection, and roadway grade) after erection of the beams and submit to the Engineer for approval. The Engineer will not measure differences between the theoretical and the actual haunch heights for payment.



HALF SECTION AT END DIAPHRAGM

HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION 2
(Sta. 296+94.95 - 306+35.94)

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	11,041.50
SAW-CUT GROOVING	S.Y.	9,243.80
EXPANSION JOINT	L.F.	462.00
CONCRETE PARAPET	L.F.	1,721.10
42" F-SHAPED PARAPET	L.F.	3,441.00
STRUCTURAL STEEL	LB.	27,040.00
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	84.00
(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	84.00
⑦ CLASS AA CONCRETE	C.Y.	3,744.90
EPOXY COATED REINFORCING STEEL	LB.	1,286,110.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	22,695.00
SEALER CRACK PREPARATION	L.F.	329.80
SEALER RESIN	GAL.	2.70

⑦ Includes a calculated 477.90 C.Y. of Class AA Concrete in the Haunches.

⑧ NOTES:
Contractor shall install an electrical conduit as needed on the back side of the parapet.

All conduit and conduit fittings shall be rigid galvanized steel in accordance with Section 709 of the Standard Specifications. Conduit clamps and connections shall be galvanized malleable iron. Galvanizing shall be in accordance with Section 724.06 of the Standard Specifications.

At each expansion joint, provide a conduit expansion device to accommodate bridge movement.

Contractor to submit layout, drawings and calculations to the engineer prior to installation. Drawings and calculations of the proposed conduit system shall be signed and sealed by a Professional Engineer licensed in the State of Oklahoma.

All costs of the electrical conduit installation including material, labor, equipment, and incidentals shall be included in other items of work.

DIAPHRAGM BOLT NOTES:
Provide structural steel for Diaphragm Bolts and Plate Washers in accordance with AASHTO M270 (ASTM A709), Grade 50W (Weathering Steel, Charpy V-Notch testing not required). The Contractor may substitute a #10 reinforcing bar in accordance with AASHTO M31, Grade 60, and threaded at the ends as shown for the Diaphragm Bolt at no additional cost to the Department. Provide Hex Nuts in accordance with AASHTO M291 (ASTM A563).

Paint exposed Diaphragm Bolt, Beveled Spacer, Plate Washer and Hex Nut with two (2) coats of zinc-rich paint (6 mil, minimum thickness) after assembly. Include all cost of Diaphragm Bolt, Beveled Spacer, Plate Washer and Hex Nut in the contract unit price for "STRUCTURAL STEEL".

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	G	GCT-2500		

REVISIONS	
DESCRIPTION	DATE

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
TYPICAL SECTION

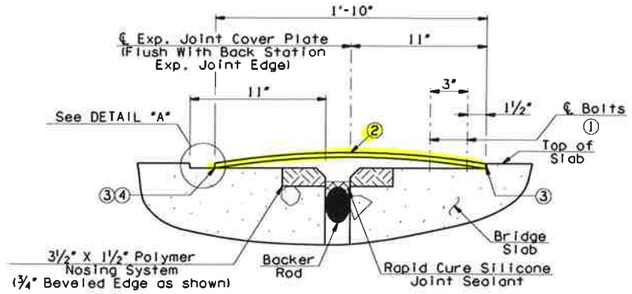
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500
DETAILED	SJL	8/17	
CHECKED	BRT	4/18	DATE: 1/10/2019 SHEET NO. BN028

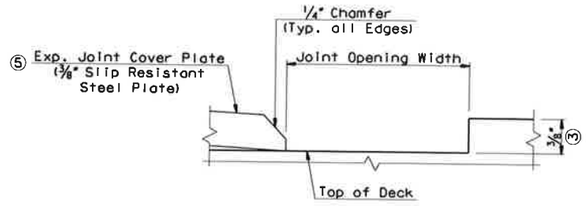
TULSA COUNTY

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	G	GCT-2500		

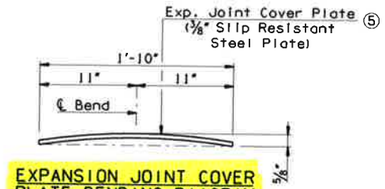
REVISIONS	
DESCRIPTION	DATE



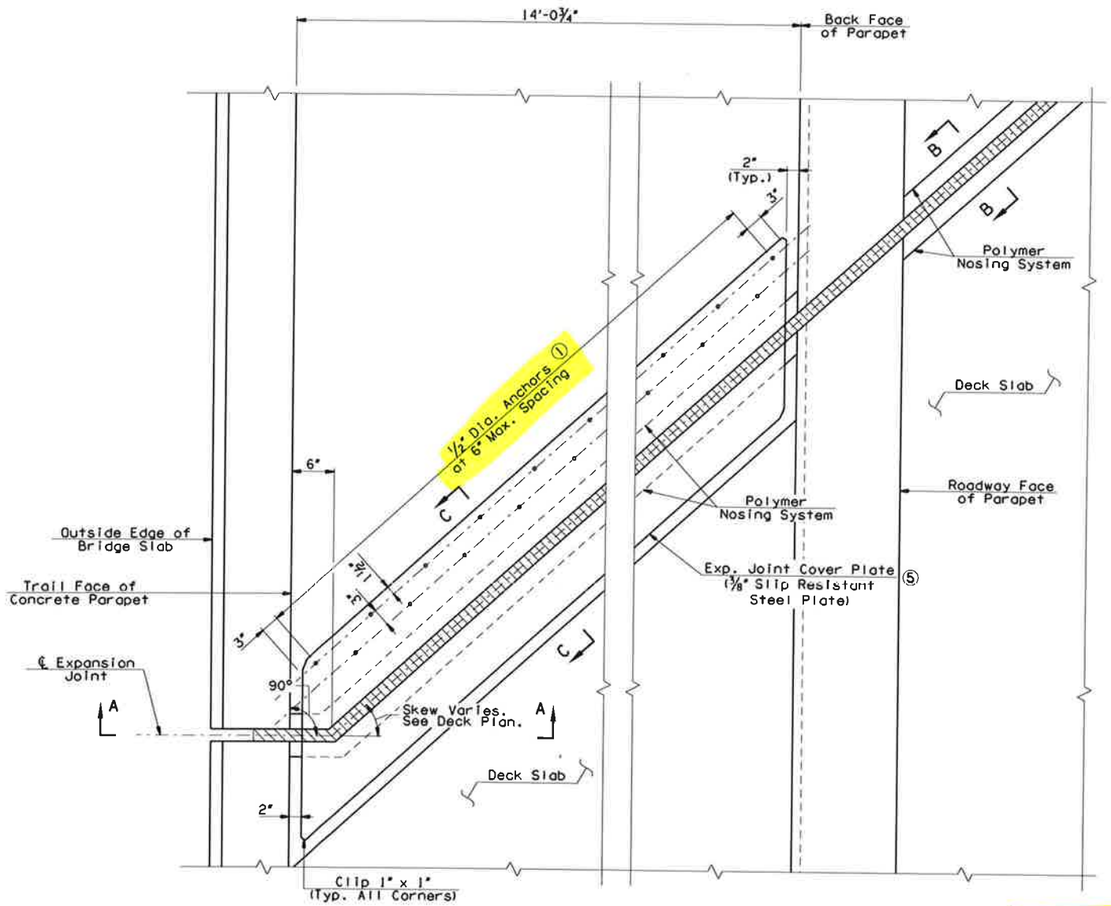
SECTION C-C
(Backer Rod shall be 25% larger than the opening width)



DETAIL "A"



EXPANSION JOINT COVER PLATE BENDING DIAGRAM



PLAN AT EXPANSION JOINT WITH TRAIL
(Bridges N and L)

NOTES:
For SECTION A-A, SECTION B-B, and Expansion Joint Notes, see Sheet No. BSTA03.

The Contractor shall not place the deck reinforcing steel bars within 2" of the anchor bolts. 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 location of the new anchor bolts from the plan locations shown shall be the minimum amount necessary to avoid cutting the reinforcing steel bars and shall be approved by the Engineer.

All costs for Expansion Joint Cover including materials, labor, and incidentals shall be included in the price bid per Linear Foot of "EXPANSION JOINT".

① ½"ø x 5" stainless steel, flat hex heavy duty sleeve anchor or ⅝"ø x 5" Stainless steel, countersunk phillips flat head sleeve anchors in ⅞" slip resistant steel plate at 6" Max.

② It is not necessary to remove crown provided the plate is firmly secured to the sidewalk.

③ Transverse edges must be in contact with sidewalk surface after installation.

④ Provide a ⅜" depression in concrete pavement to allow expansion joint cover plate to be flush with surface of sidewalk.

⑤ The Expansion Joint Cover Plate shall be galvanized in accordance with AASHTO M153 and Powder Coated according to the specifications on Sheet No. BA02.

PIERS 2,4,6,8,10, & 12
6 PLATES 14'-0" LONG
22" WIDE W/CROWN

APPROVED SLIP RESISTANT PLATES	
PRODUCT	MANUFACTURER WEBSITE
MEBAK IKG, STEEL	WWW.HARSCOIKG.COM
ALGRIP STEEL	WWW.ALGRIP.COM
SLIPNOT GRADE 2 STEEL	WWW.SLIPNOT.COM

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

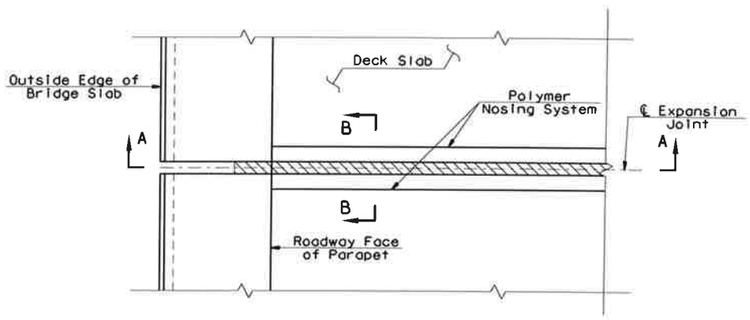
STANDARD EXPANSION JOINT DETAILS
(SHEET 2 OF 2)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

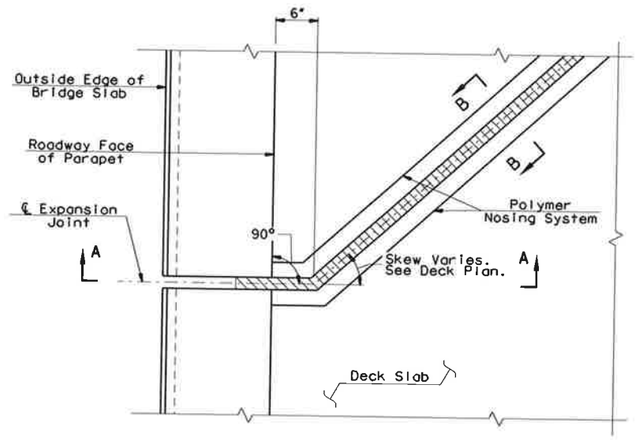
DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500
DETAILED	DPE	8/17	
CHECKED	MJY	8/17	DATE: 6/18/2018 SHEET NO. BSTA04

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	G	GCT-2500		

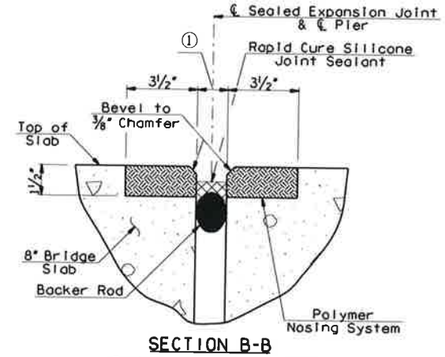
REVISIONS	
DESCRIPTION	DATE



PLAN AT SQUARE EXPANSION JOINT

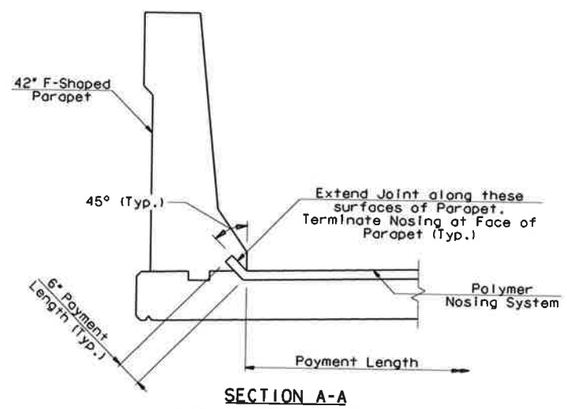


PLAN AT SKEWED EXPANSION JOINT



SECTION B-B
(Backer Rod shall be 25% larger than the opening width)

① See SUPERSTRUCTURE DETAILS sheets for Expansion Joint Opening Equations for each bridge.



SECTION A-A
(42" F-Shaped Parapet Shown, Concrete Parapet Similar)

NOTES:

Expansion joint shall be installed at expansion piers as shown on the LONGITUDINAL SECTION sheet for each bridge.

Expansion joint system shall meet the requirements as shown in Special Provision 504(C).

Form a 1½" x 3½" block-out in the slab concrete on both sides of the joint opening as shown on this sheet. Material used for the block-out shall remain in place until the nosing system is installed. Any damage caused to the concrete edge or the polymer nosing system (pns) as a result of the Contractor's negligence shall be repaired as directed by the Engineer at the Contractor's expense.

The backer rod diameter and recess depth of the silicone sealant below the top of the slab is dependent upon the joint width and temperature at the time of installation. Follow the Manufacturer's recommendations provided for these dimensions. Recess depth to be approved by the Engineer.

The Contractor shall seal the Expansion Joint at a temperature that is acceptable to the capacity of the sealant material and within the allowable temperature range as shown in the SUPERSTRUCTURE DETAILS of each bridge.

All cleaning and installation procedures shall conform to the Manufacturer's recommendations. A representative of the Manufacturer shall be present at the start of work to demonstrate proper installation and cleaning procedures.

All materials, tools, equipment, labor, and incidentals necessary to install the Expansion Joint system, complete-in-place, shall be included in the contract unit price per linear foot of "EXPANSION JOINTS".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

STANDARD EXPANSION JOINT DETAILS
(SHEET 1 OF 2)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17	DATE: 6/18/2018	SHEET NO. BSTA03
CHECKED	DPE	8/17		