

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 S1-S51

BEFORE YOU DIG 811 1-800-522-OKIE CALL OKIE

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

PROPOSED R/W
10/30/2017

OKLAHOMA TURNPIKE AUTHORITY

CONTRACT No. GCT-2500

GILCREASE EXPRESSWAY

(THIS IS A FULLY CONTROLLED ACCESS HIGHWAY)

VOLUME 2

FOR INDEX OF SHEETS SEE SHEET B002
FOR LIST OF STANDARDS SEE SHEET 0002

GRADE, DRAINING, BRIDGE & SURFACE
TULSA COUNTY
CONTROL SECTION NO. P&S 72-87P
STATE JOB NO. 31313(04)

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 1"
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:

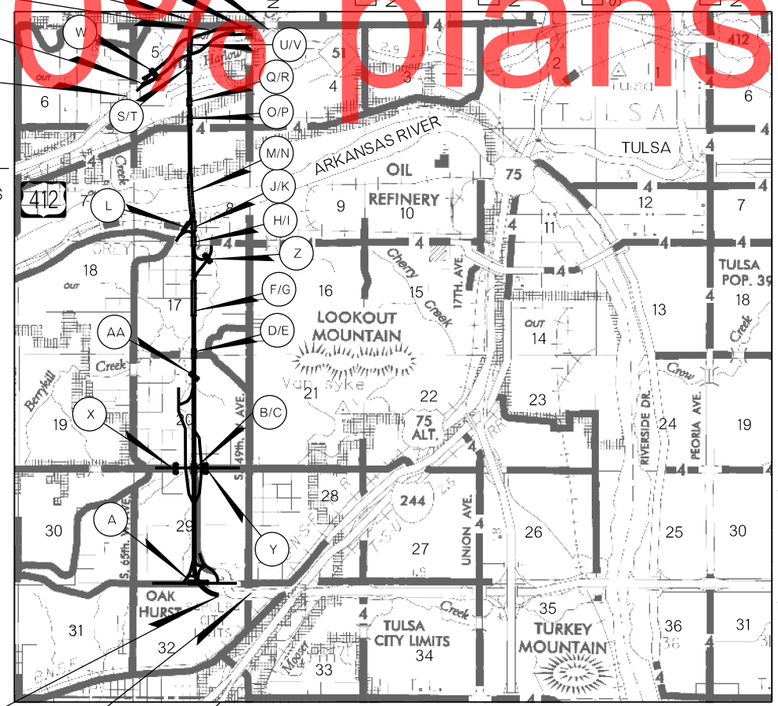
BRIDGE	BEGIN BRIDGE STA.	END BRIDGE STA.	LENGTH	NBI NO.	LOC. NO.
A	531+21.19	536+42.50	521.31 ft.		
B	169+08.27	171+04.93	196.66 ft.		
C	169+08.27	171+04.93	196.66 ft.		
D	222+05.42	223+62.09	156.67 ft.		
E	222+05.42	223+62.09	156.67 ft.		
F	233+30.74	250+85.02	1,754.28 ft.		
G	233+30.74	250+89.99	1,759.25 ft.		
H	275+06.84	277+06.36	199.52 ft.		
I	275+17.28	277+16.10	198.82 ft.		
J	281+39.33	284+52.93	313.60 ft.		
K	281+48.56	284+61.11	312.55 ft.		
L	4280+75.00	4284+38.58	363.58 ft.		
M	289+20.82	305+88.42	1,667.60 ft.		
N	289+18.97	305+80.99	1,662.02 ft.		
O	327+96.67	331+25.33	328.66 ft.		
P	327+96.67	331+25.33	328.66 ft.		
Q	336+46.00	338+48.94	202.94 ft.		
R	336+28.53	338+31.47	202.94 ft.		
S	350+29.65	354+70.51	440.86 ft.		
T	350+07.27	354+47.42	440.15 ft.		
U	360+11.90	363+97.72	385.82 ft.		
V	359+75.94	363+61.12	385.18 ft.		

TO SAND SPRINGS

BRIDGE CLASS RCB STRUCTURES:

BRIDGE	BRIDGE STA.	LENGTH	NBI NO.	LOC. NO.
W	333+06.20	32.98 ft.	18427	7286 1145 X
X	406+05.50	21.00 ft.	08057	72E0630N3900003
Y	173+18.56			
Z	2271+75.00	120.0 ft.		
AA	206+85.00	328.0 ft.		

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



E-W59 W. EDISON ST.
E-W60 11TH ST. S.
E-W61 W. 21ST ST. S.
E-W62 W. 31ST ST. S.
E-W63 W. 41ST ST. S.
E-W64 W. 51ST ST.

N

TO OKLAHOMA CITY

R 12 E

PROJECT LENGTH BASED ON C.R.L. STATIONING

ROADWAY LENGTH __ NB 20,638.40 FT.
__ SB 20,642.10 FT.__ 3.909 MI.
BRIDGE LENGTH __ NB 5,646.61 FT.
__ SB 5,642.90 FT.__ 1.069 MI.
PROJECT LENGTH _____ 4.978 MI.

EXCEPTIONS :

CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE AND TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE AND TELEGRAPH (TUG)
- POWER LINES
- BUILDINGS
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING (PINE ISLAND)
- RIGHT-OF-WAY LINES - NEW (R/W)
- 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.

50% plans

P.E. No. 31313(04)

CONTRACT NO. GCT-2500 SHEET NO. B001

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

PROPOSED
R/W
10/30/2017

INDEX OF SHEETS

VOLUME 1

TYPICAL SECTIONS & DETAILS
KEYMAP
TRAFFIC MAPS
GEOMETRIC LAYOUT
PLAN AND PROFILES
DRAINAGE DETAILS
REMOVAL PLANS
TRAFFIC CONTROL
LIGHTING PLANS
SURVEY DATA

VOLUME 2

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B002	INDEX OF SHEETS

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AB01-AB07	GENERAL NOTES (BRIDGE)
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BC001-BC019	BRIDGE C
BD001-BD004	BRIDGE D
BE001-BE004	BRIDGE E
BF001-BF009	BRIDGE F
BG001-BG026	BRIDGE G
BH001-BH016	BRIDGE H
BI001-BI021	BRIDGE I
BJ001-BJ023	BRIDGE J
BK001-BK022	BRIDGE K
BL001-BL033	BRIDGE L
BM001-BM014	BRIDGE M
BN001-BN042	BRIDGE N
BO001-BO004	BRIDGE O
BP001-BP004	BRIDGE P
BQ001-BQ021	BRIDGE Q
BR001-BR024	BRIDGE R
BS001-BS014	BRIDGE S
BT001-BT035	BRIDGE T
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BSTA01-BSTA09	BRIDGE STANDARDS

VOLUME 3

CROSS SECTIONS

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

INDEX OF SHEETS

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

DESIGNED	DPE	10/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	10/17		
CHECKED	DPE	10/17	DATE: 10/30/2017	SHEET NO. B002

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

PROPOSED
R/W
10/23/2017

COMMON GENERAL NOTES FOR BRIDGE STRUCTURES

SPECIFICATIONS:
Comply with the requirements of the Oklahoma Turnpike Authority 2010 Standard Specifications For Turnpike Construction and special provisions.

UTILITY RELOCATION:
All utilities shown on plan sheets are taken from the design survey. Utility locations show do not reflect any relocations that may have been performed after the design survey. It is the Contractor's responsibility to verify current utility locations prior to construction.

REMOVAL OF SPECIFIED ITEMS:
The pay item "REMOVAL OF SPECIFIED ITEMS" shall include the removal and disposal of portions of the existing Reinforced Concrete Box Culvert as specified or shown in the plans for Bridges W and X including the following:

1. Wings at the entrance and exit of the structure.
2. 3'-0" along centerline of the existing RCB Barrel Section and concrete at the exit of the structure. Longitudinal reinforcement shall be preserved and cleaned to be lap spliced with the new RCB reinforcement.
3. The existing RCB Barrels shall be cleaned of all debris including silt and soil buildup.

When removing the above mentioned items, the Contractor shall take every precaution necessary to prevent damaging the barrel section of the existing RCB. Any damages caused by the Contractor shall be repaired at the Contractor's expense to the satisfaction of the Engineer.

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

PROTECTION OF TRAFFIC AND RAILROADS UNDER BRIDGES:
The Contractor shall be responsible for the protection of traffic and railroads under bridges during construction. A proposed method of preventing debris from falling on the traffic below the bridge shall be submitted to the Engineer for approval in accordance with Section 105.02 of the Standard Specifications. All cost for traffic protection as stated shall be included in other items of work.

CONCRETE:
All concrete shall be placed in the dry. All exposed edges shall have a ¾" chamfer unless noted or shown on plans. All chamfer strips shall be sized lumber. All Class A, Class AA, & Class P Concrete shall be air-entrained.

All concrete in the Superstructures, Approach Slabs, 42" F-Shaped Parapets, Concrete Rails, Drilled Shafts, & RCB structures 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 carborundum 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.

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. Unless otherwise specified in the contract documents, all reinforcing steel shall conform to AASHTO M31 (ASTM A615), 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.

TEMPORARY EARTH RETAINAGE:
The Contractor may use a Temporary Earth Retention System as required for constructability. Locations and extents of retention shown in the plans are approximate only. The Contractor shall be responsible for determining the final location.

All Temporary Earth Retention Systems shall be designed by an Engineer licensed in the State of Oklahoma. The design and construction of the system shall comply with Section 502 of the Standard Specification. If Sheet Piling is used, the design and construction shall comply with Section 514 of the Standard Specification. All costs of Temporary Earth Retention System, including, materials, equipment, engineering, labor, and other incidentals shall be included in the cost per LUMP SUM of "TEMPORARY EARTH RETAINAGE".

DRILLED SHAFTS:
The Permanent Casing Method, outlined in Section 516.04.C.1.c.3 of the Standard Specifications is required on select piers as shown in the plans. The Permanent Casing shall conform to Section 516.02.C. In addition, the Permanent Casing shall be painted full length using two coats of Tneme 46H-413 Tneme-Tar at 10 mils/coat, one coat of Sherwin Williams HI-MIL SHER-TAR EPOXY at 20 mils/coat, or approved equal. Paint shall be black in color. Preparation shall be sandblasted to NACE No. 2.

On piers that do not require the Permanent Casing Method, the Temporary or Permanent Casing Methods, outlined in Section 516.04.C.1.c, may be required to advance the drilled shaft to the final bearing elevation. The Double Casing Method may not be used. It shall be the Contractor's responsibility to select the proper methods required to install the drilled shafts. If the Permanent Casing Method is used, the Contractor shall paint the casings as described above.

(SP) CROSSHOLE SONIC LOGGING TUBES AND TESTING:
Install CSL Access Tubes at all shaft locations. Perform nondestructive Crosshole Sonic Logging (CSL) testing at the following locations:

Bridge A - 2 drilled shafts per pier
All other bridges - 1 drilled shaft per pier

The Engineer shall determine the shaft to be tested and need for additional testing.

CSL Testing shall be performed in accordance with Special Provision 516.

PILE DRIVING EQUIPMENT:
Use a pile driving hammer of the size and type capable of consistently delivering the effective dynamic energy sufficient to drive the piles to the required tip elevation and to achieve the required ultimate pile capacity without exceeding the limitations set on the allowable driving stresses in accordance with Section 514.03 of the Standard Specifications.

STEEL PILING:
Provide Structural Steel conforming to AASHTO M270 (Grade 50) for steel piling.

STEEL PILING CAPACITY:
The following formula (Gates Equation) shall be used to determine the axial load resistance of the driven foundation piles:

$$\text{Axial Load Resistance} = \phi\,[(0.875\sqrt{E}\,\text{LOG}_{10}(10N))-50]\ \text{(Tons)}$$

Where:

ϕ = Resistance Factor of 0.4
E = Energy produced by the hammer per blow in foot-pounds. For Gravity and Single Acting Diesel Hammers, the value is based on the actual ram stroke observed in the field and measured in feet multiplied by the ram weight in pounds.
N = Average number of hammer blows per inch of pile penetration for the last 10 to 20 blows delivered to the pile head.

The above formula is only applicable when:

1. The pile driving hammer has a free fall (Gravity and Single Acting Hammers only).
2. The head of the pile is not broomed, crushed or otherwise damaged.
3. The penetration is quick and uniform.
4. There is no appreciable rebound of the hammer, and
5. A follower is not used.

The number of blows per inch of pile penetration may be measured either during initial driving or by re-driving with a warm hammer operated at full energy after a pile set period, as determined by the Engineer.

If water jets are used in connection with the driving, determine the axial load resistance by the formula shown above only after the jets have been withdrawn.

See GENERAL PLAN AND ELEVATION sheets for factored reaction for each pile at each bridge.

CONCRETE INTERMEDIATE DIAPHRAGMS:
Once the concrete has been placed for the concrete intermediate diaphragms, wait a minimum of 24 hours before removing the side forms. Do not remove the bottom form for a minimum of 3 days, or at the discretion of the Engineer. This time can be shortened if the concrete has attained 80% of the specified compressive strength. Do not place the concrete for the deck slab or apply other massive loads to the beams or diaphragms until the concrete in the diaphragms has been in place for a minimum of 10 days, or at the discretion of the Engineer. This time may be shortened if the concrete has attained 80% of the specified compressive strength.

STAY-IN-PLACE FORMS:
The Contractor may use Stay-In-Place Steel Deck Forms if the minimum Deck Slab thickness of 8" is obtained by measuring from the top of the Deck Slab to the top portion of the steel corrugation. Preformed Corrugation Filler, composed of Polystyrene or other material, may be used if bonded to the Deck Forms. No additional concrete weight of the Deck Slab is permitted. The total additional weight of the Deck Form and Filler shall not exceed 5 p.s.f. The Authority considers all costs of Stay-In-Place Steel Deck Forms to be included in the contract unit price of "CLASS AA CONCRETE".

DECK HAUNCHES:
The haunch heights will be calculated by the Contractor for approval by the Engineer to provide for dead load deflection and beam camber.

See TYPICAL SECTION sheets for plan quantity for Class AA Concrete included for the haunches over the beams and diaphragms for each bridge.

STRUCTURAL STEEL:
Provide structural steel for plate girders, W beams, splice plates, stiffener plates, and connection plates in accordance with AASHTO M270 (ASTM A709), Grade 50WT2 (Weathering Steel, Non-Fracture Critical Charpy V-Notch tested for Zone 2), unless otherwise noted. High strength bolts shall be used at connection locations. Provide all bolts, nuts, washers, and welding with weathering characteristics.

Fabrication and erection shall be in accordance with Section 506 of the Standard Specifications.

All shop and field welding shall be arc welding and shall be done in accordance with the current ANSI/AWS D1.5, Bridge Welding Code. Field welders shall be pre-qualified by the Oklahoma Turnpike Authority.

High Strength Bolted Connections shall conform to the provisions of Section 506.04(f)6 of the Standard Specifications.

(SP) STAINLESS STEEL FIXED BEARING ASSEMBLIES:
Provide and install Fixed Bearing Assemblies of the size, shape and location as specified or as shown in the plans.

All cost of providing and installing the Fixed Bearing Assemblies as specified or as shown in the plans including the cost of anchor plates, anchor bars, materials, labor, equipment and incidentals shall be included in the price bid per Each of "(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY".

(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLIES:
Provide and install Expansion Bearing Assemblies of the size, shape and location as specified or as shown in the plans.

All cost of providing and installing the Expansion Bearing Assemblies as specified or as shown in the plans including the cost of steel reinforced elastomeric bearing pads, anchor plates, contact plates, anchor bolts, nuts, washers, materials, labor, equipment and incidentals shall be included in the price bid per Each of "(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY".

(SP) EXPANSION JOINTS:
The Expansion Joints shall be constructed as shown in the plans and in Special Provision 504(C).

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

CONCRETE DECK FINISHING:
The bridge deck for this project is to be finished with a mechanical type finishing machine. Overhanging slab forms will be required to be of sufficient strength to support the weight of the concrete, forms, finishing machine and other construction loads. Prior to finishing operations, a proposal stipulating the type of finishing machine and the finishing procedure will be submitted to the Engineer. This proposal shall set forth any areas in which a mechanical finisher cannot be used and the methods for finishing these areas. Concrete shall not be placed until this proposal is approved by the Engineer.

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 Longitudinal Construction Joints and the Sawed & Sealed Construction Joints at the Abutments and Piers 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.

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".

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. 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".

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE GENERAL NOTES (BRIDGE)

BRIDGE GENERAL NOTES
(SHEET 1 OF 3)

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: 10/23/2017	SHEET NO. AB01

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

PROPOSED
R/W
10/23/2017

COMMON GENERAL NOTES FOR BRIDGE STRUCTURES (CONTINUED)

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 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".

CONCRETE SLOPEWALL:

Item "SLOPEWALL (6")" shall be completed in place as shown in the plans.

All costs of the "SLOPEWALL (6")" installation including class A concrete, reinforcing steel, lap splices, trench excavation, 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 (6")".

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. Edges and underside cantilever portion of the bridge
3. Outside face & bottom of exterior PC Beams
4. The top, roadway, & outside face of the Parapets and Barriers
5. Sides and ends of Pier Caps not treated with Special Concrete Finish
6. Front, sides, & exposed areas of Abutment Backwall and Abutment Seat not treated with Special Concrete Finish
7. Front, back, top, bottom, & all sides of the Shield.

The water repellent shall be compatible with the staining product.

Water repellent shall be applied as specified in the notes and plans. Water repellent shall be applied after color staining operations unless otherwise recommended by the manufacturers and approved by the Engineer.

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.

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".

STORAGE OF MATERIALS:

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

BNSF RAILWAY COMPANY NOTES:

APPLICATION OF NOTES

The BNSF RAILWAY COMPANY NOTES shall apply to the following bridges:
- BR. J GILCREASE NB OVER BNSF RR
- BR. K GILCREASE SB OVER BNSF RR
- BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

NOTIFICATION OF WORK:

The contractor is required to give the BNSF Railway Company at least 10 working days advance notice, in writing, before any work is started on the site. To avoid hazards, the BNSF 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 construction of the Gilcrease Expressway Edison to Interstate 44 in Tulsa County as it relates to the BNSF Railway Company's property. (AARDOT number will be applied for by BNSF at approximately rail Milepost 428.08)

The Contractor shall notify:

Roger Huneycutt Jr.
BNSF Roadmaster
BNSF Railway Company
711 Kenwood Blvd.
Enid, OK 73701
Phone: 918-445-2508
Email: roger.honeycutt2@bnsf.com

Ms. Kamie Young
Manager Public Projects
BNSF Railway Company
4515 Kansas Avenue
Kansas City, KS 66106
Phone: 913-551-4484
Email: kamiah.young@bnsf.com

FLAGGING AND INSURANCE:

Flagging and insurance shall be provided as specified in Section 107 of the Standard Specifications and in the Special Provisions for RAILROAD FLAGGING (See Proposal for Special Provisions) and what is stated in the BNSF Railway Company Contractor's General Construction Agreement, Exhibits C and C-1 . BNSF Railway Company, at their discretion, shall provide flagging for the railway during construction operations.

The contractor is required to reimburse BNSF Railway Company for flagging services provided.

The contractor shall also furnish satisfactory evidence to the State of Oklahoma that they have provided insurance of the kinds and amounts as specified in the Special Provisions for RAILROAD INSURANCE and in the BNSF Railway Contractor's General Construction Agreement, Exhibits C and C-1.

The contractor will be required to enter into a Contractor's General Construction Agreement, Exhibits C and C-1, with the BNSF Railway Company before they will be allowed on the railroad's right-of-way.

PRE-WORK MEETING:

Prior to working on the BNSF Railway Company's right-of-way or in the vicinity of their tracks, you MUST contact the local Roadmaster for the BNSF Railway Company to coordinate your work. It is VITAL that you have contact with the BNSF Railway Company Roadmaster prior to getting on the railroad's property.

COORDINATION WITH RAILROAD:

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

The Contractor shall give written notice to the BNSF Railway Company Roadmaster, a minimum of 30 (thirty) calendar days in advance of when flagging is required.

Special permission must be obtained from the BNSF Railway Company before moving any equipment or other objects which could make the track impassible if it fell within the area shown on the construction clearance diagram.

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

- The Contractor work activities are within 25 (twenty-five) feet of the track, measured from the track centerline.
- Activities are over or under the track.
- Cranes or similar equipment will not be positioned where they could foul the track if they tipped over or experienced some other catastrophic event.
- In the opinion of the BNSF Railway Company Representative:
  1) It is necessary to safeguard the BNSF Railway Company property, employees trains, engines, and facilities.
  2) When any excavation is performed below the bottom of the elevations and track or other BNSF 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.

PROTECTION OF RAILROAD UNDER BRIDGE:

The Contractor shall be responsible for protecting the railroad track bed during all construction operations. Prior to any work being started, a proposed method of preventing debris from falling on the railroad track bed shall be submitted to the railroad representative for his approval. Allow six weeks for BNSF Railway Company to review.

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 "BNSF FALSEWORK CLEARANCE DIAGRAM" on this sheet.

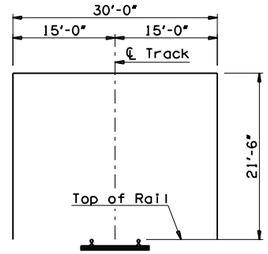
EROSION CONTROL AND DRAINAGE:

The Contractor will install, maintain and remove all erosion control measured deemed necessary within the railroad right of way.

The Contractor will maintain the railroad drainage at all times when working within the railroad right of way.

RAIL TRAFFIC:

The BNSF Railway Company has twenty-one (21) trains per day at 30 MPH, on the Avard Subdivision. Rail traffic is for information purposes only. Actual rail traffic may vary.



BNSF MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
GILCREASE GENERAL NOTES (BRIDGE)
BRIDGE GENERAL NOTES
(SHEET 2 OF 3)

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: 10/23/2017	SHEET NO. AB02

50% plans
NOT APPROVED
PRELIMINARY
TO BE REVIEWED BY RR

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

PROPOSED R/W
10/23/2017

SAND SPRINGS RAILROAD COMPANY NOTES:

APPLICATION OF NOTES

The SAND SPRINGS RAILROAD COMPANY NOTES shall apply to the following bridges:
- BR. O GIL. NB OVER C.P. BLVD, SS RR, & 7TH ST.
- BR. P GIL. SB OVER C.P. BLVD, SS RR, & 7TH ST.

NOTIFICATION OF WORK:

The contractor is required to give the Sand Springs Railroad Company at least 10 working days advance notice, in writing, before any work is started on the site. To avoid hazards, the Sand Springs Railroad Company may have a representative present, if deemed necessary, for the purpose of inspection and the issuance of any appropriate instructions for railroad operations during the construction of the Gilcrease Expressway Edison to Interstate 44 - in Tulsa County as it relates to the Sand Springs Railroad Company's property. (AARDOT number will be applied for by Sand Springs Railroad Company near Milepost 3.2)

The Contractor shall notify:

Mr. Lane Lehman
Roadmaster
Sand Springs Railroad Company
1650 S. 81st. West Ave.
Tulsa, OK 74127
Phone: 918-606-6061
Email: llehman@omnitrax.com

Ms. Tina Nelson
General Manager
Sand Springs Railroad Company
1650 S. 81st. West Ave.
Tulsa, OK, 74127
Phone: 918-245-6470
Email: kamaiah.young@bnsf.com

FLAGGING AND INSURANCE:

Flagging and insurance shall be provided as specified in Section 107 of the Standard Specifications and in the Special Provisions for RAILROAD FLAGGING (See Proposal for Special Provisions) and what is stated in the Sand Springs Railroad Company's Right of Entry Agreement. Sand SPrings Railroad Company, at their discretion, shall provide flagging for the railroad during construction operations.

The contractor is required to reimburse Sand Springs Railroad Company for flagging services provided.

The contractor shall also furnish satisfactory evidence to the State of Oklahoma that they have provided insurance of the kinds and amounts as specified in the Special Provisions for RAILROAD INSURANCE and in the Sand Springs Railroad Coompany's Right of Entry Agreement.

The contractor will be required to enter into a Right of Entry Agreement with the Sand Spring's Railroad Company before they will be allowed on the railroad's right-of-way.

PRE-WORK MEETING:

Prior to working on the Sand Springs Railroad Company's right-of-way or in the vicinity of their tracks, you MUST contact the local Roadmaster for the Sand Springs Railroad Company to coordinate your work. It is VITAL that you have contact with the Sand Springs Railroad Company's Roadmaster prior to getting on the railroad's property.

COORDINATION WITH RAILROAD:

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

The Contractor shall give written notice to the Sand Springs Railroad Company Roadmaster, a minimum of 30 (thirty) calendar days in advance of when flagging is required.

Special permission must be obtained from the Sand Springs Railroad Company before moving any equipment or other objects which could make the track impassible if it fell within the area shown on the construction clearance diagram.

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

- The Contractor work activities are within 25 (twenty-five) feet of the track, measured from the track centerline.
- Activities are over or under the track.
- Cranes or similar equipment will not be positioned where they could foul the track if they tipped over or experienced some other catastrophic event.
- In the opinion of the Sand Springs Railroad Company Representative:
  1) It is necessary to safeguard the Sand Springs Railroad Company property, employees, trains, engines, and facilities.
  2) When any excavation is performed below the bottom of the elevations and track or other Sand Springs Railroad 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.

PROTECTION OF RAILROAD UNDER BRIDGE:

The Contractor shall be responsible for protecting the railroad track bed during all construction operations. Prior to any work being started, a proposed method of preventing debris from falling on the railroad track bed shall be submitted to the railroad representative for his approval.

The Contractor shall not be permitted to leave any 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 Railroad line. Scaffolding shall at all times maintain the minimum clearance as shown on the "FALSEWORK DIAGRAM" on this sheet.

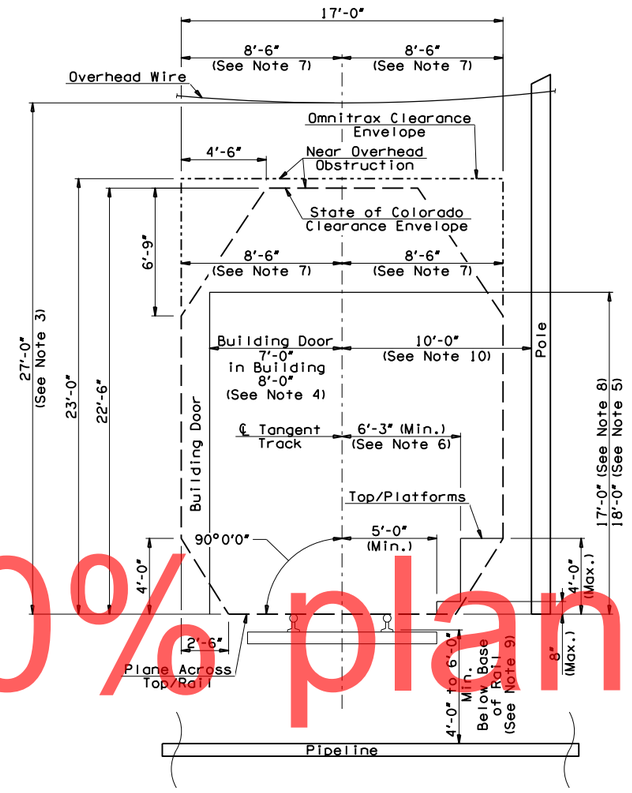
EROSION CONTROL AND DRAINAGE:

The Contractor will install, maintain and remove all erosion control measured deemed necessary within the railroad right of way.

The Contractor will maintain the railroad drainage at all times when working within the railroad right of way.

RAIL TRAFFIC:

The Sand Springs Railroad Company has two (2) trains per day at 10 MPH, on the Sand Springs Subdivision. Rail traffic is for information purposes only, Actual rail traffic may vary.



NOTE:
1. Regulation reference based on Colorado Dec. 5562I and 4 Code of Colorado Regulations (CCR) 723-7.
2. See AREMA Manual for Railway Engineering Chapter 28 (Latest Edition) for complete clearance requirements by state and recommended AREMA clearance.
3. All wires in general shall have a minimum vertical clearance of not less than that specified by the National Electric Safety Code, as incorporated by reference in Rule 7008, and overhead wire vertical clearance increased as required.
4. At elevations of 4'-0" or less above top of rail inside of buildings, the minimum side clearance may be reduced on one side of the track to 6'-3", provided that 8'-0" is maintained on the opposite side.
5. Overhead clearance inside of enclosed buildings may be reduced to 18'-0", provided that this clearance shall apply only to tracks terminating within the building or in the immediate plant area if said tracks should extend through the building.
6. If side clearance is reduced to 6'-3" on one side, a full clearance of 8'-0" shall be maintained on the opposite side.
7. Horizontal clearances are to be increased 1-1/2" per degree of curve where the obstruction is located adjacent to or within 80 feet of a turnout or curve limits.
8. Engine houses, shop buildings, tipples, and loading facilities permitted lesser dimensions with approval of the VP engineering.
9. Underground pipeline crossings to meet AREMA Part 5 Recommendations (Latest Edition).
10. No part of any sign or appurtenance attached to such poles or posts shall be less than 8'-6" from the centerline of an adjacent track, between the top of rail and a point 15 feet above.
11. In some instances, certain states may accept vertical or horizontal clearances slightly less than Omnitrax Standards. In these instances, Omnitrax normally will accept the state's lesser clearance requirements, although the industry will be required to sign an impaired clearance agreement with the railroad. In any instance, when either horizontal or vertical clearance is less than those of the state railway or public service commission, as the case may be, the industry shall secure necessary approval from the appropiate state authority for each impaired clearance. The agreement covering service to the industry's track will include specific reference to the substandard clearance involved. When state law requires clearances that are more restrictive, such laws will govern.
12. Required warning signs shall be placed in advance of the impaired clearance to advise railroad operating personnel of the impairment.

TYPICAL MINIMUM CLEARANCE SECTION (COLORADO)

Omnitrax Technical Specifications for Industrial Track - Section 7
(Not to Scale)

PRELIMINARY NOT TO BE RECORDED
50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE GENERAL NOTES (BRIDGE)

BRIDGE GENERAL NOTES
(SHEET 3 OF 3)

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: 10/23/2017	SHEET NO. AB03

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

PROPOSED
R/W
10/23/2017

COMMON GENERAL NOTES FOR BRIDGE AESTHETIC TREATMENT
GENERAL SPECIFICATIONS:

PROJECT DESCRIPTION

This work shall consist of the coloration of select bridge elements and the construction of aesthetical elements integrally cast into select bridges using fiberglass or urethane rubber form liners. This work shall be in accordance with these specifications and in reasonably close conformance with the lines, grades, and dimensions specified in the Plans. The Contractor shall take field measurements from the form liners provided by the Manufacturer. As required by the Engineer, the work shall be in accordance with the American Concrete Institute ACI 303R-91, "GUIDE TO CAST-IN-PLACE ARCHITECTURAL CONCRETE" and other appropriate ACI guidelines.

This work shall include furnishing all materials, hardware, personnel, test samples, patterns, and equipment to develop, furnish and place form liners in close conformity with the lines, textures, grades, and dimensions shown in the plans. This includes the development and furnishing of shop drawings, the development of full size patterns, the development and submittal of samples, the final construction and manufacturing of custom form liners, and the installation and use of said custom form liners to result in the custom design elements in accordance with the details shown in the plans and the requirements of these Specifications.

The Manufacturer shall supply the Contractor with a concrete color stain system to affect visible surfaces of the Abutment Caps, Wingwalls, Pier Columns, Pier Caps, Prestressed Concrete Beams, Parapets, Deck, and Shield.

The Manufacturer shall supply the Contractor with form liners to affect the Pier Columns, and Shield.

See Sheet No. AB07 for specific areas and dimensions.

All bridges shall receive stain on the top, roadway, and outside faces of the Parapet. Bridges with barrier separated trail shall also receive stain on the top, trail, and outside faces of the Concrete Rail. The following bridges shall receive additional Aesthetic Treatment including Staining, Form Liners, and Precast Shields:

- BRIDGE A 51ST ST. OVER GILCREASE NB & SB
- BRIDGE B GILCREASE NB OVER W. 41ST ST.
- BRIDGE C GILCREASE SB OVER W. 41ST ST.
- BRIDGE D GILCREASE NB OVER W. 31ST. ST.
- BRIDGE E GILCREASE SB OVER W. 31ST. ST.
- BRIDGE H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)
- BRIDGE I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)
- BRIDGE O GIL. NB OVER CHARLES PAGE BLVD, SS RR, & 7TH ST.
- BRIDGE P GIL. SB OVER CHARLES PAGE BLVD, SS RR, & 7TH ST.
- BRIDGE Q GILCREASE NB OVER KATY TRAIL & W. 4TH PL.
- BRIDGE R GILCREASE SB OVER KATY TRAIL & W. 4TH PL.
- BRIDGE U GILCREASE NB OVER KEYSTONE EXPY.
- BRIDGE V GILCREASE SB OVER KEYSTONE EXPY.

To achieve these effects, the aesthetic designs shall be created by casting against urethane rubber or fiberglass form liners which shall be purchased by the Contractor from one of the following acceptable Form Liner Manufactures:

1. Creative Form Liners, Inc., Brentwood, MD
2. Fitzgerald Formliners, Santa Ana, CA
3. Scott Systems, Inc., Denver, CO
4. Other Manufacturer with approval of the Engineer

The purchased form liners should closely conform in size and shape to the design shown in plans. If the Use & Handling instructions supplied by the form liner manufacturer are followed correctly, the form liners specified should be warranted for up to fifty pulls.

All form liners created for the Project shall become the property of the Oklahoma Turnpike Authority and are intended for reuse for future highway and bridge projects. The Contractor shall be responsible for care and treatment of all form liners. In the event of damage, misuse or mishandling of the form liners, while in the Contractor's possession, the Contractor will replace the form liner(s) at its expense. Therefore, the following care instructions must be carefully followed as to prevent damage to the liner. No additional compensation or contract time will be awarded to the Contractor for failure to properly handle, use, and protect form liners. After the completion of the Project, form liners must be carefully cleaned, as directed, and all holes existing in the liners repaired. Final surface shall be free of any concrete residue, release agents, blemishes, discolorations, surface voids, and other irregularities. After repairs are made the form liners must be stored flat and inventoried (which would include the number of usages per form liner) before delivering to the Authority on the original skid provided by OTA for those form liners.

CAST-IN-PLACE CONCRETE:

The construction of the full-size patterns, the application of the form liners, the release agents, the water base cure, and all other elements of construction and installation shall be coordinated between the Form Liner Fabricator and the Contractor.

During placement of the concrete for structures, forms shall be kept in place for curing requirements to ensure proper molding and structural integrity. Refer to details for specific dimensions and surface texture of form liners to be used for the concrete structures.

WINGWALLS:

WingWalls shall have a 1½" "V" notch centered 1'-0" from the edge of the wingwall as shown on Sheet No. AB07. Notches shall be made of dimensioned lumber. All joints and corners shall be filled with caulking to produce a smooth joint with no gaps.

PIER COLUMNS:

Each face of each column shall have reliefs as shown on Sheet No. AB07.

The "V" notches shall be made of dimensioned lumber. All joints and corners shall be filled with caulking to produce a smooth joint with no gaps.

Vertical bars may be made from dimensioned lumber in good quality with no visible blemishes or from a form liner. If a form liner is used, the liner shall be produced to the standards shown on these plans and submitted to the Engineer for approval.

CAST-IN-PLACE CONCRETE (CONTINUED):

RELEASE AGENT:

The release agent shall be formulated as specified by the manufacturer or as determined by the Form Liner Fabricator and shall prevent bonding of the form liners to the concrete surface. Prior to initial use, each form liner shall be primed with two (2) coats of the form-release agent.

PLACING CONCRETE:

The Contractor shall give special attention to providing continuous and uninterrupted vibrating of the concrete in order to thoroughly consolidate concrete in the pattern details of the form liners.

EVIDENCE OF EXPERTISE:

The bidding form liner companies must demonstrate their expertise by submitting 3-5 images of similar completed projects completed within the last three years that were mad of a similar scale of +/- 20 feet in height or width. The submitted printed 8" x 10" images should be at high-resolution (e.g. 300pdi) and must be submitted with their bid submission.

PRECAST CONCRETE:

SHIELDS:

The Contractor shall produce a form for precast fabrication of the shield as shown in the plans. The Contractor shall fabricate as many copies of the form as needed, but will deliver one unused form to the Authority for future use. The unused form shall be delivered to:

XXXXX
XXXXX
XXXX, OK XXXXX

Once the Contractor has cast, stripped the forms and uprighted the pre-cast Shields, the Contractor will prepare the surface and stain it a uniform color as specified in the Plans. After this stain has been applied by the Contractor, Pigmentation Detail can be applied to the Shield based on the recommendations supplied in the Plans. After this Pigmentation Detailing has been completed, the Contractor will apply the Penetrating Water Repellent on all faces of the shield. After the Penetrating Water Repellent has been applied and cured per the manufacturers specifications, the Contractor will install the Shield atop the Pier Cap.

The Contractor shall produce a mockup of the Shield for inspection and approval prior to fabrication of additional Shields. The mockup shall include all stains and mounting hardware as shown in the plans.

50% plans

CONSTRUCTION REQUIREMENTS:

FORM LINER PREPARATION:

At least one week prior to use of Fiberglass form liners, the form liners should be laid flat to minimize any warpage resulting from vertical storage. Rubber form liners may be spliced, cut and joined, or glued, as necessary. Fiberglass form liners should not be spliced, cut and joined, or glued. Care should be taken to minimize any joints. Wash and clean multi-use form liners after each use. Replace damaged or worn form liners at Contractor's own expense. Damaged form liners whose continued use or repair would negatively impact the aesthetics of the concrete finish shall be replaced. An approved compatible form liner release agent shall be applied at the rate recommended by the manufacturer. The concrete shall be cast soon after application of the release agent to avoid accumulation of precipitation, dust, and debris. Reinforcing steel shall be protected from exposure to the release agent.

FORM LINER INSTALLATION:

Installers shall have a minimum of five years experience with textured and raised relief images. The installer shall be trained in the Manufacturer's special techniques in order to achieve realistic results. The Contractor shall submit the resume of the qualified installer to the Engineer for written approval.

The form liner joints shall be sealed to prevent cement paste from bleeding. Form liner shall be installed in accordance with the Plans. Liner butt joints shall be carefully blended into the approved pattern and finished off the final concrete surface. No visible vertical or horizontal seams or conspicuous form marks created by butt joining form liners will be allowed. All patching material shall exactly match the color and appearance of the poured concrete wall surface.

QUALITY ASSURANCE:

Concrete shall be placed in a manner that prevents the formation of cold joints. Cracked form liners or form liners determined by the Engineer not to be repairable or not in conformance with the following tolerances shall be rejected and replaced with acceptable form liners at the Contractor's expense with no additional payment.

The dimensions of form liners shall conform to plan dimensions within ¼ inch per 10 feet of length in either direction.

The squareness of any rectangular form liner panel shall be within ¼ inch as determined by the difference between the two diagonals.

Panel surface differences from plan dimensions shall not exceed ¼ inch.

FORM LINER SITE USE AND STORAGE REQUIREMENTS:

1. Form liners must be stored flat, front to back, and level in an indoor environment when not in use.
2. If liners/stamps are stacked for ease of handling or storage, compressible dunnage, such as Styrofoam, must be used to separate them and the spacers must be uniformly located. If stacked, smaller pieces should be stacked on top of larger pieces.
3. Form liners should be fully covered with a tarp when not in use.
4. Prolonged exposure to UV and other weather conditions or exposure to extreme cold or heat can harm the integrity of the liners.
5. Keep the surface of the liners clean and free of precipitation, oil, dust, and debris.
6. Avoid letting hard or sharp surfaces make contact with the liner surface. Instead, use compressible dunnage, such as Styrofoam, to protect the surface.

FORM LINER CASTING AND FORM STRIPPING REQUIREMENTS:

1. Once placed in form, the form liners should be visually checked to confirm registration between liner sections. All seams between liners shall register and all top surfaces to be flush with one another. If the surface of a liner is not flush with the adjacent one, due to variation of the form surface, the form liners will immediately be removed and the form's surface will be adjusted to be flat and true. If for any other reason there is a slight variation or differences in height between the liner sections , a small 1/32" shim(s) can be placed under the edge and along the seam of one liner, to bring one liner surface flush with the adjacent one, prior to caulking. After the registration is complete, the registration shall be approved by the Engineer.
2. Prior to casting, all joints between liners shall be filled with silicone caulking and scraped back to keep surfaces flush and level with one another to prevent cement paste from bleeding. As well, liner butt joints should be carefully blended into the approved pattern prior to casting to minimize visible seams in the concrete cast. For fiberglass liners, the form liner joints should be sealed with Bondo, silicone caulk, or comparable. Once cast, any visible seams should be pointed up with concrete that exactly matches the color and consistency of the original pour. When filling seams that travel through a textured area, the Contractor will try and match the texture on either side of the joint with the chalking or Bondo to minimize the visibility of the joint in the cast.
3. Concrete should be vibrated to ensure a good mix. When vibrating the concrete, do not allow the vibrator to lie on or against the liner surface.
4. Liners should be stripped from concrete within 24 hours of pour or as directed by the Engineer.
5. The Contractor shall remove the form as directed by the form liner manufacturers instructions as to prevent chipping of the concrete during the removal.
6. Once cast, there may be some minor honeycombing and bug holes in the surface of the concrete. If this occurs, the surface should be pointed up with concrete that exactly matches the consistency of the original pour.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE GENERAL NOTES (BRIDGE)

BRIDGE AESTHETIC NOTES
(SHEET 1 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	9/17	DATE: 10/23/2017	SHEET NO. AB04

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

PROPOSED
R/W
10/23/2017

COMMON GENERAL NOTES FOR BRIDGE AESTHETIC TREATMENT (CONTINUED)

MATERIALS:

REINFORCED FIBERGLASS OR URETHANE RUBBER LINER:

Reinforced fiberglass or urethane rubber form liners shall be fabricated upon approval of the full-sized patterns. The number of sets of form liners fabricated from the full-sized patterns shall be sufficient to construct the Columns and Shields. No additional payment under this item, above the contract price bid, will be made by the Authority for additional sets of form liners.

The patterns and subsequent form liners shall be patterned so that minimal unnecessary horizontal or vertical lines occur on the finished exposed surface. If requested, the Engineer may inspect the full-sized patterns prior to fabrication of the form liners. The full-sized patterns must be approved by the Engineer prior to commencing form liner fabrication.

The fiberglass or urethane rubber form liners shall be fabricated with shapes that allow removal of the forms without damage or visual impairment of the concrete, shall use $\frac{1}{8}$ inch minimum radii and no sharp edges. The form liners shall fit snugly and square within the Contractor's forms, resulting in minimal voids or misalignments. The form liners shall be capable of withstanding applied concrete pour pressures without leakage, physical, or visual defect.

SPECIFICATION AND RELATED INFORMATION FOR FIBERGLASS OR URETHANE RUBBER FORM LINERS:

Form liners shall be a high quality re-usable product manufactured of high impact reinforced fiberglass or high strength urethane, which attaches easily to the forming system.

The form liners shall not compress more than 0.05' when poured at a rate of 10 vertical feet per hour.

The date of the manufacture and the piece mark shall be clearly and permanently recorded on the back and sides of the form liners.

Each form liner perimeter size and shape shall match the dimensions of the full-sized pattern, within a reasonable tolerance.

The form liners shall fit snugly and square within the forms, resulting in minimal voids or misalignments.

The form liners for the cast-in-place Columns shall be capable of withstanding applied concrete pour pressures of at least 1100 PSF without leakage, physical, or visual defect.

SPECIFICATION AND RELATED INFORMATION FOR FIBERGLASS FORM LINER:

Form liners will be manufactured out of fiberglass, with an gray alkaline-resistant gel coat surface and reinforcing ribs.

The release agent that should be used is Unitex Steel Guard SP, Nox-Crete, or equivalent, as approved by Engineer.

The fiberglass form liners shall be reinforced with wood or other suitable material on approximately 12" centers, or as otherwise specified to allow adequate attachment of the form liners to the forms.

Joints between any installed liners should be filled in and blended smooth to minimize visible seams if necessary.

SPECIFICATION AND RELATED INFORMATION FOR URETHANE RUBBER FORM LINER:

Form liners can be factory mounted to HDO plywood or field laminated by Contractor.

The release agent that should be used is Polytek Pol-Ease 2650, Armcon CRA 3, Cresset Crete-Lease 20, or equivalent as approved by Engineer.

The release agent should be worked into all areas especially pattern recesses to adequately coat the liner, but less release is better.

Absolutely no release agents containing mineral spirits or kerosene should be used.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE GENERAL NOTES (BRIDGE)

BRIDGE AESTHETIC 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	9/17	DATE: 10/23/2017	SHEET NO. AB05

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

PROPOSED
R/W
10/23/2017

COMMON GENERAL NOTES FOR BRIDGE AESTHETIC TREATMENT (CONTINUED)

USAGE RECORD:

The validity of a form liner company's warranty is based on their Use & Handling Instructions being followed verbatim. The Contractor must review said warranty as to not invalidate the warranty. The Project Agency and the form liner company require that a Usage Record be maintained for each form liner to document every time the liners are used. The Usage Record must be made available for review upon request of the Project Agency's Engineer and must be submitted at the time when the Contractor is issuing a damage report to the form liner company. At the completion of the project, the Contractor must include this Usage Record when returning the cleaned and repaired form liners to the Project Agency for the Project Agency's form liner usage records.

USAGE RECORD

ITEM NO.	DATE	NO. OF USAGES	CONDITION	NOTES

USAGE RECORD

ITEM NO.	DATE	NO. OF USAGES	CONDITION	NOTES

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE GENERAL NOTES (BRIDGE)

BRIDGE AESTHETIC NOTES
(SHEET 3 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	DATE: 10/23/2017	SHEET NO. AB06
CHECKED	MJY	9/17		

COMMON GENERAL NOTES FOR BRIDGE AESTHETIC TREATMENT (CONTINUED)

SURFACE PREPARATION AND FINISHING

COLOR STAIN SYSTEM APPLICATION INSTALLERS:

The Manufacturer or Manufacturer's authorized representative shall have a minimum of five years experience of application of concrete stain. The Contractor shall submit the resume of the qualified installer to the Engineer for written approval.

SPECIAL SURFACE PREPARATION:

Work under this Section shall include surface cleaning preparation to assure the surface is free of all latency, dirt, dust, grease, efflorescence, paint, and any foreign material prior to the stain application, in accordance with the manufacturer's recommendations. The Contractor shall correct, at his own cost, any surface problems created as a direct result of the surface preparation methods used.

The Contractor is advised that sandblasting will not be allowed for cleaning concrete surfaces, as it will reduce the special surface texture specified elsewhere herein. Pressure washing with water (minimum 3000 psi) is the preferred method of removing latent materials. If cleaned by pressure washing, a pressure of 3000 psi is a rate of three to four gallons per minute using a fan nozzle held perpendicular to the surface at a distance of one to two feet. The completed surface shall be free of blemishes, discolorations, surface voids, and conspicuous form marks to the satisfaction of the Engineer.

PENETRATING STAIN STANDARDS:

Penetrating Stain shall be Anchor Paint Waterborne Acrylic Concrete Stain, Sherwin-Williams Loxon Vertical Concrete Stain, or approved equal.

COLOR SELECTION:

The bridge stain will be applied by the Contractor to the areas of the bridge as shown below. The treatment shall be applied in accordance with the manufacture's instructions and specifications. Any additional manufacturer requirements necessary to obtain full warranty shall also apply.

Edges of stain shall be sharp and clear. Previously applied stain shall be carefully protected from successive stain applications. No blurring or overspray will be permitted.

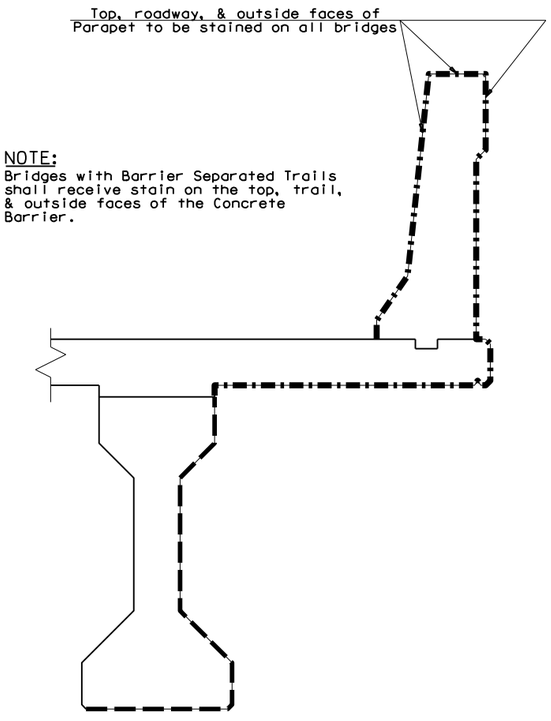
The contractor shall submit manufacture's installation instructions and product data for the surface treatment.

TEST PANELS:

The contractor shall supply 1'-6" x 1'-6" test panels for approval prior to applying stain on any portion of the bridges or shields. A test panel shall be provided for each combination of stain color and concrete mix. The concrete in the panel shall be the same mix as used on the bridge finished in the same manner as the bridge. The stain shall be applied in the same manner as it will be applied on the bridge.

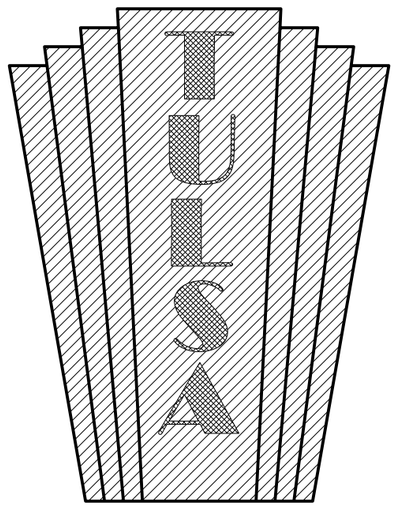
METHOD OF MEASUREMENT AND BASIS OF PAYMENT

All costs of the aesthetic treatments applied to Wingwalls, Pier Columns, and Shields including the development of shop drawings, working drawings, creating and furnishing of prototypes, master molds, test panes, furnishing of release agents, sealers, materials, labor, equipment, and any other incidentals necessary to compete work as shown in the plans shall be considered subsidiary to the items bid on.



NOTE:
Bridges with Barrier Separated Trails shall receive stain on the top, trail, & outside faces of the Concrete Barrier.

EXTERIOR BEAM AESTHETIC DETAIL



SHIELD AESTHETIC DETAILS

NOTE:
Front, Back, Top, Bottom, and all sides shall be stained. Lettering shall receive a base coat of stain color 23717 before application of color 30076.

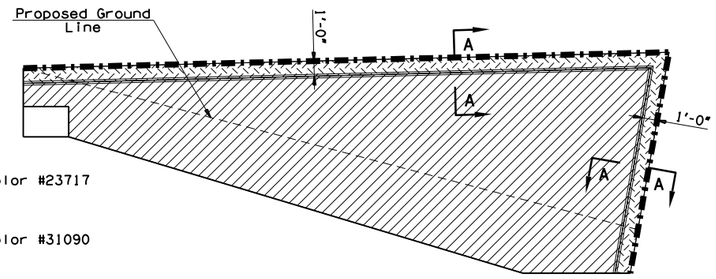
LEGEND

Light Tan
Federal Standard Color #23717

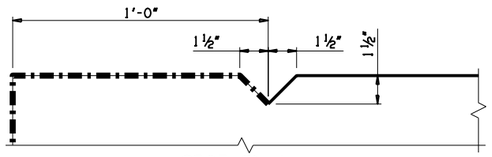
Brown
Federal Standard Color #31090

Red
Federal Standard Color #30076

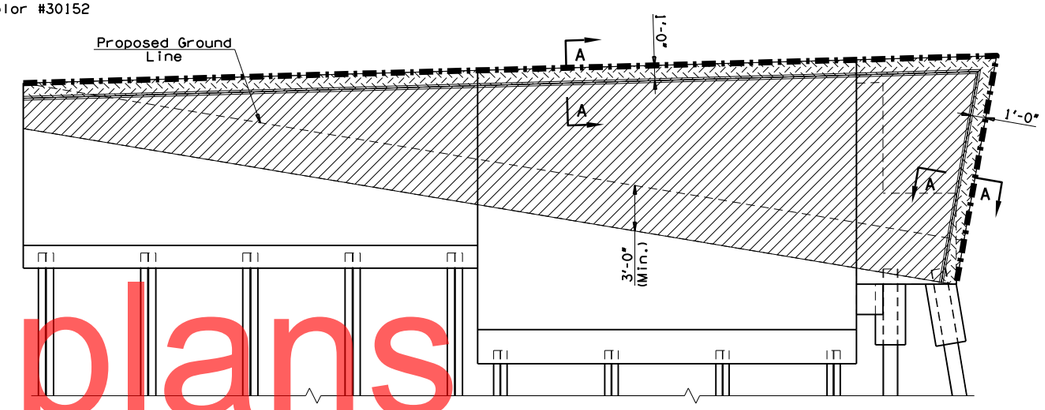
Dark Red
Federal Standard Color #30152



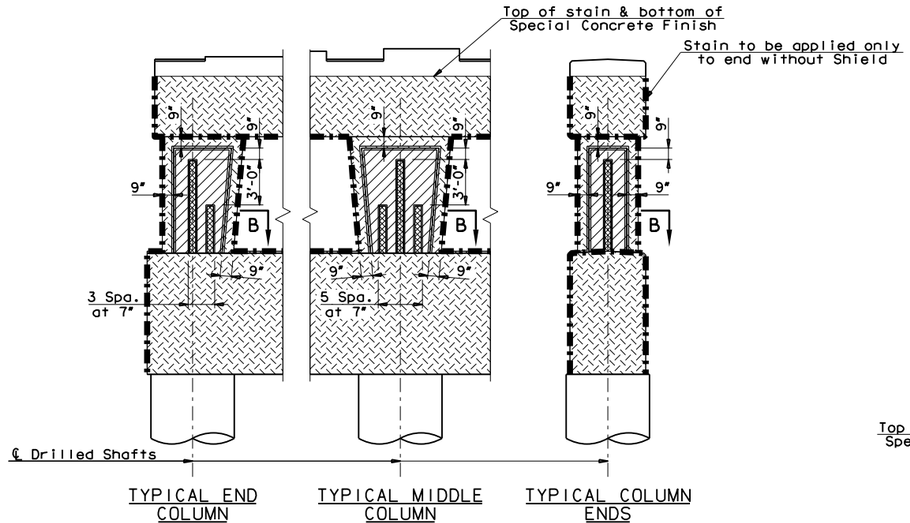
WINGWALL AESTHETIC DETAIL



SECTION A-A

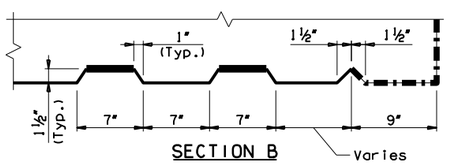


RETAINING WALL AESTHETIC DETAIL

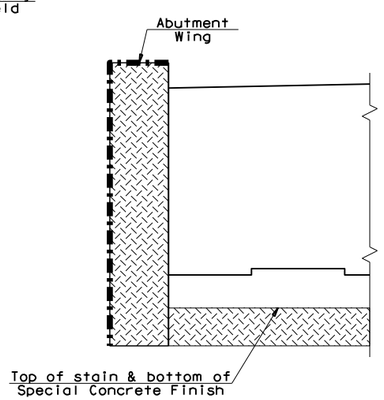


TYPICAL END COLUMN | TYPICAL MIDDLE COLUMN | TYPICAL COLUMN ENDS

PIER COLUMN AESTHETIC DETAILS



SECTION B



ABUTMENT AESTHETIC DETAIL

50% plans

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

PROPOSED R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
GILCREASE GENERAL NOTES (BRIDGE)
BRIDGE AESTHETIC NOTES
(SHEET 4 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	9/17	DATE: 10/23/2017	SHEET NO. AB07

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

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'

N

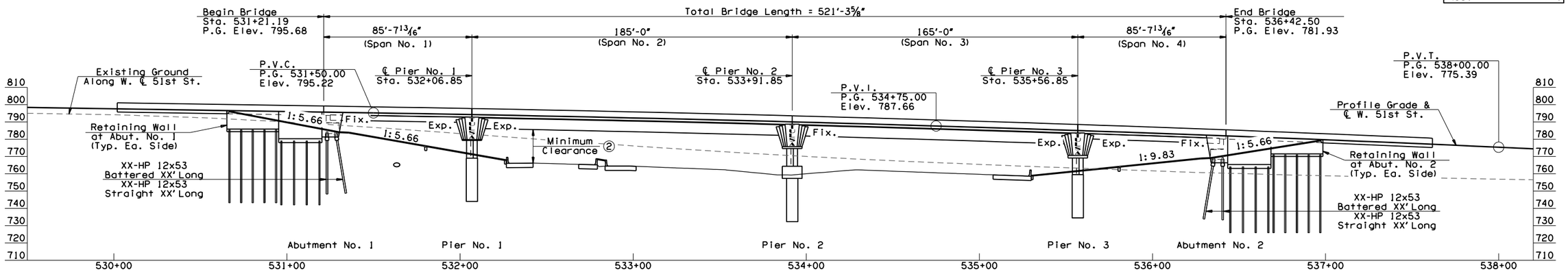
Underground Telephone
Begin App. Slab Sta. 530+01.91
℄ W. 51st St.
N 89°15'06.99" E
Begin App. Slab Sta. 530+62.91
Proposed Bridge A
Begin Bridge Sta. 531+21.19
℄ W. 51st St. Sta. 532+42.20
℄ Ramp A - W. 51st St. Sta. 1114+89.94
℄ Pier No. 1 Sta. 532+06.85
C.R.L. R = 2,287.83'
℄ Ramp B - W. 51st St.
Toe of Slope
1:5.66
1:3
1:5
58° Typ.
1'-6" F-Shaped Parapet
66'-0" Clear Roadway
7'-8" Sidewalk
33'-0"
℄ W. 51st St. Sta. 533+90.21
C.R.L. Gilcrease Sta. 113+39.17
℄ W. 51st St. Sta. 535+07.95
℄ Ramp B - W. 51st St. Sta. 2112+25.71
℄ Pier No. 2 Sta. 533+91.85
℄ Pier No. 3 Sta. 535+56.85
End Bridge Sta. 536+42.50
End App. Slab Sta. 537+00.78
End App. Slab Sta. 537+61.78
Proposed Drainage Structure
Overhead Electric
14'-0" Lane
12'-8" Shldr.
12'-0" Lane
14'-0" Lane
12'-0" Buffer
A-1 A-2 A-3 A-4 A-5 A-6 A-7 A-8
530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00
1118+00 1117+00 1116+00 1115+00 1114+00 1113+00 1112+00 2115+00 2114+00 2113+00 2112+00 2111+00 2110+00 2109+00 1111+00

50% plans

BENCHMARK NO. BM25
DESCRIPTION #6 Rebar
OFFSET 107' RT. STA. 112+25 EL. 764.75

PLAN

For Foundation Report, See Sheet Nos. XXXXX - XXXXX.



ELEVATION

① 0.02 ft./ft.
② Minimum Vertical Clearance 16'-9"
Gilcrease Sta. 275+61.60
Offset 67.98' Rt.
Low Chord Elev. 663.41

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. A 51ST ST. OVER GILCREASE NB & SB

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JCL	8/17	DATE: 10/23/2017	SHEET NO. BA001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BA001-BA002	General Plan and Elevation
BA003	Typical Pier Details
BA004	Typical Section
BSTA01-BSTA09	Bridge Standard Details

50% plans

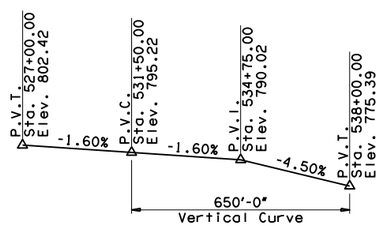
FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (78" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X



VERTICAL GRADE DATA

STANDARDS

FSHP-42-2-00E
HP1-2-01E

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. A 51ST ST. OVER GILCREASE NB & SB

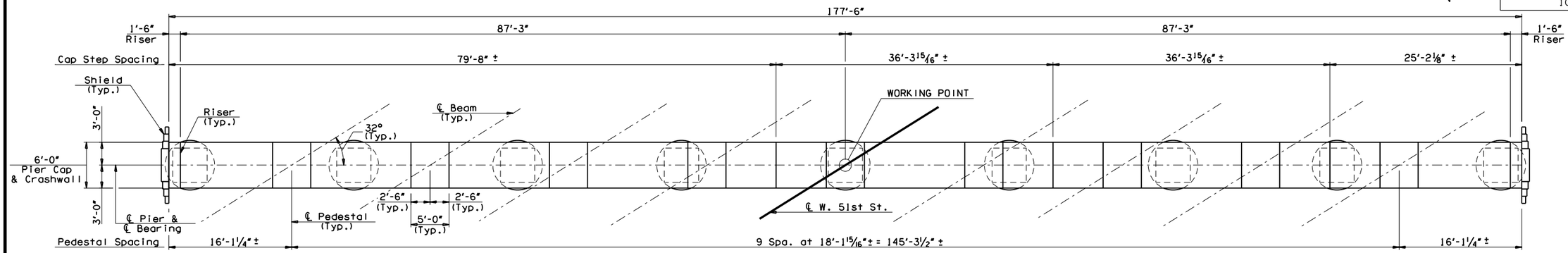
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

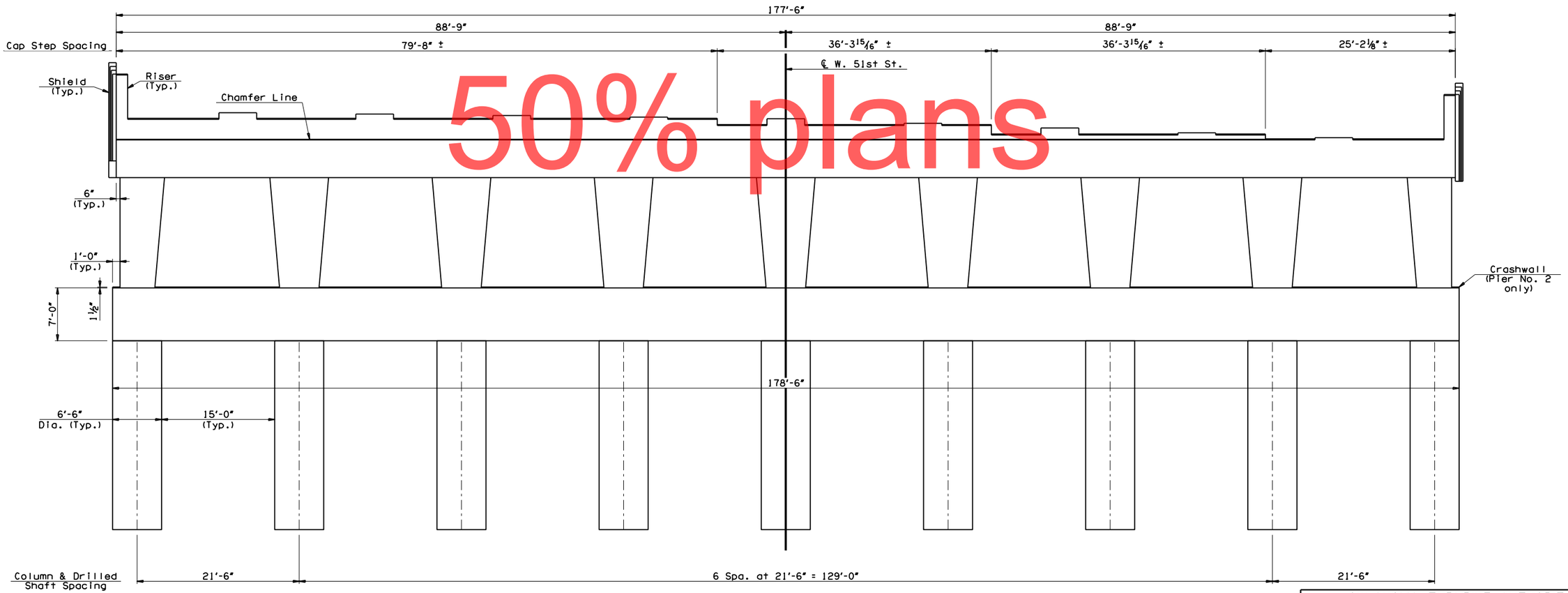
DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JCL	8/17	DATE: 10/23/2017	SHEET NO. BA002

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

PROPOSED R/W
10/23/2017



PLAN



ELEVATION
(Pier No. 2 shown)

50% plans

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.
For Shield Details, see Sheet Nos. BSTA07- BSTA09.
For Riser Details, see Sheet No. BSTA06.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. A 51ST ST. OVER GILCREASE NB & SB

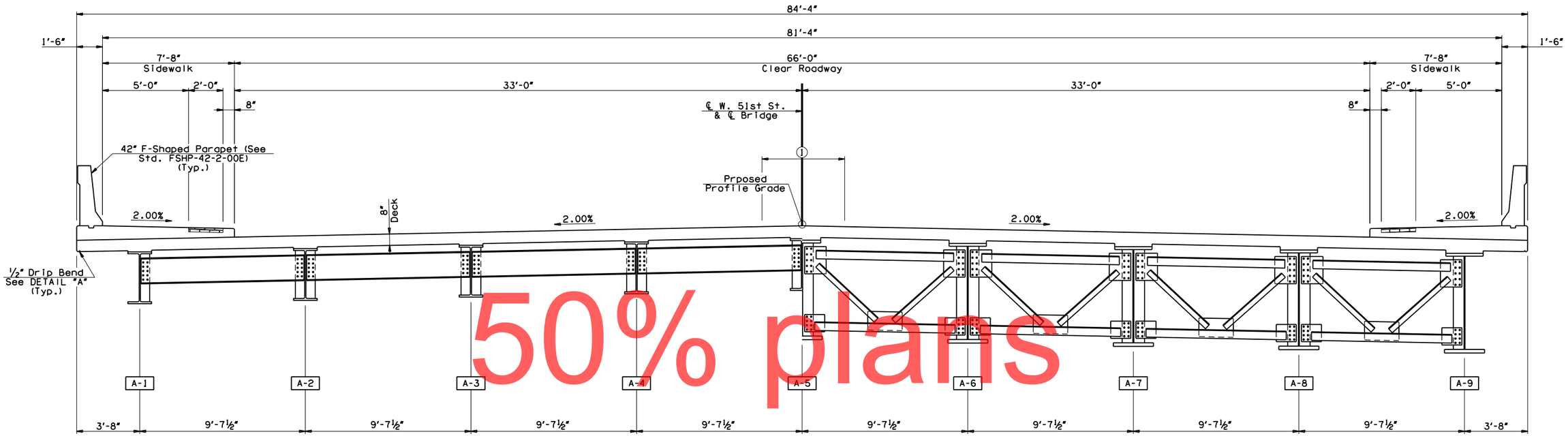
TYPICAL PIER DETAILS

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

DESIGNED	BRT	9/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	BRT	10/17	DATE: 10/23/2017	SHEET NO. BA003

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

PROPOSED R/W
10/23/2017



50% plans

HALF SECTION AT END DIAPHRAGM - SPAN NOS. 1 & 4

HALF SECTION AT INTERMEDIATE DIAPHRAGM - SPAN NOS. 2 & 3

TYPICAL SECTION
(Looking Forward Station)

① 4'-0" (Round 2'-0" each side of ℄ to avoid sharp edges).

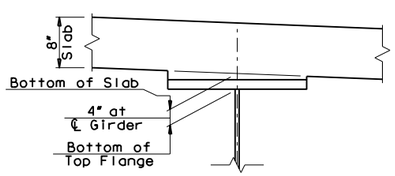
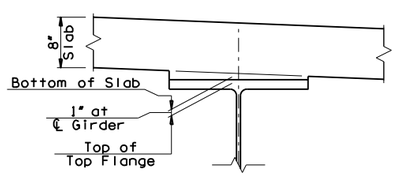


PLATE GIRDER HAUNCH DETAIL
(Span NoS. 2 & 3 Only)



ROLLED BEAM HAUNCH DETAIL
(Span Nos. 1 & 4 Only)

NOTE:
Plan quantities for CLASS AA CONCRETE include Girder Haunches. Haunch height shown is at centerline bearing only, measured as shown above. Haunch height to be determined after erection of girder to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.

NOTE:
For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. A 51ST ST. OVER GILCREASE NB & SB

TYPICAL SECTION

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

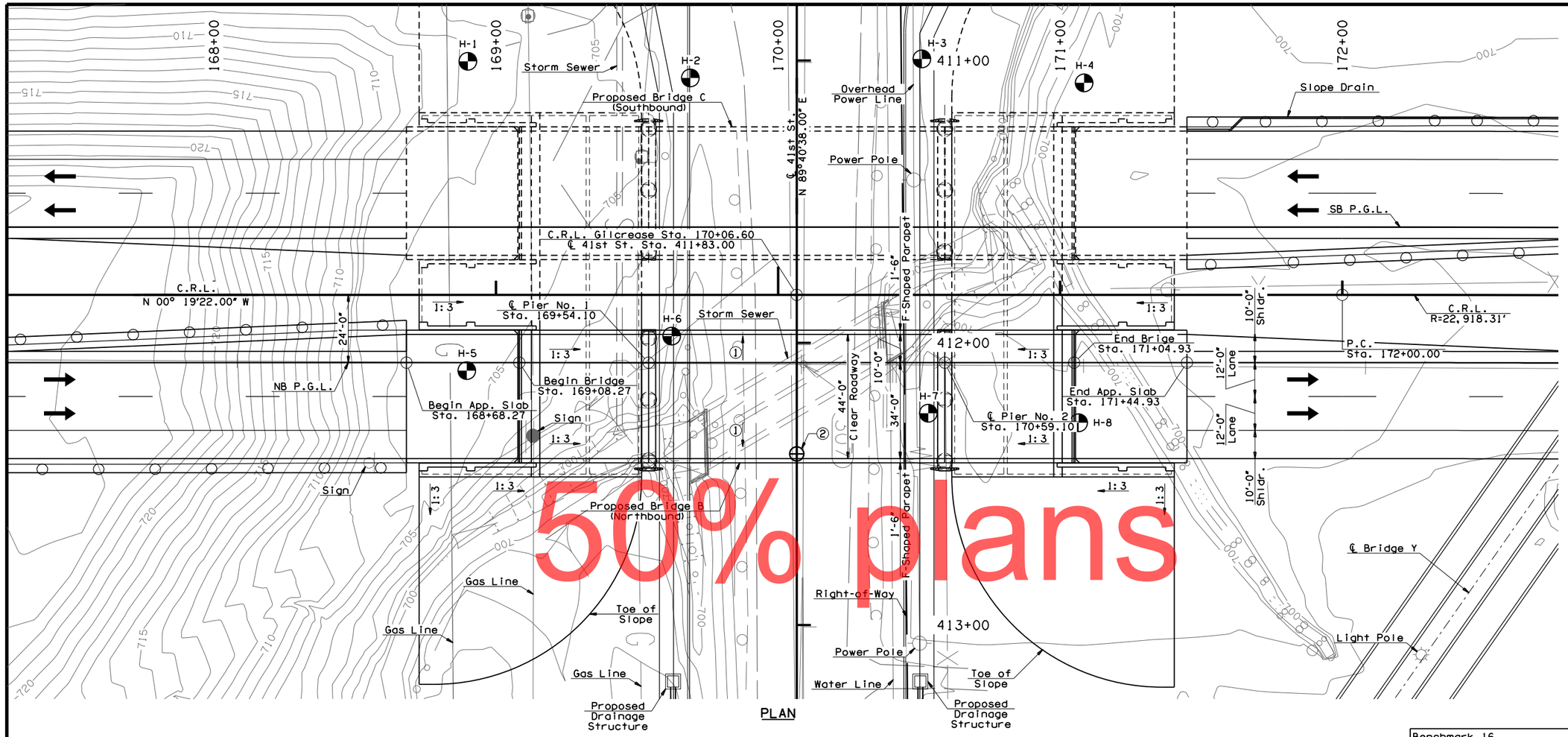
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DETAILED	SJL	9/17		
CHECKED	BRT	10/17	DATE: 10/23/2017	SHEET NO. BA004

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

PROPOSED R/W
10/23/2017

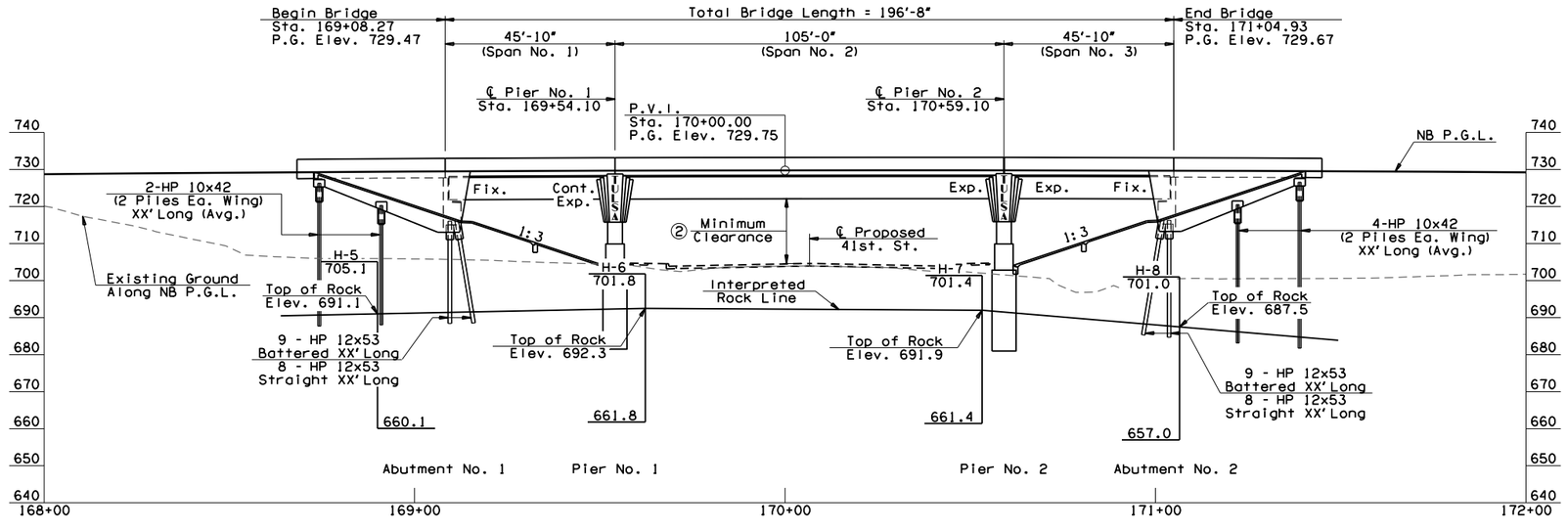
N

0 20 40 60
SCALE 1" = 20'



50% plans

PLAN



ELEVATION

Benchmark 16		
Description #6 Rebar		
Offset 413' Lt.	Sta. 175+67	El. 698.50

Benchmark 17		
Description #6 Rebar		
Offset 275' Lt.	Sta. 168+56	El. 705.66

For Foundation Report, See Sheet Nos. BB003 - BB007.

① 0.02 ft./ft.
② Minimum Vertical Clearance 18'-1 3/16"
Gilcrease Sta. 170+06.60
Offset 56.33' Rt.
Low Chord Elev. 722.11

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BB002.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BB001

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BB001-BB002	General Plan and Elevation
BB003-BB007	Foundation Report
BB008	Staking Diagram
BB009	Abutment Details
BB010	Substructure Excavation and Pipe Underdrain Assembly
BB011	Pier Details
BB012	Typical Section
BB013	Longitudinal Section
BB014-BB017	Superstructure Details
BB018	Framing Plan
BB019-BB021	Beam Details
BB022	Bearing Details
BB023	Slope Wall Details
BB024	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: Oklahoma Overload Truck, 5.0 p.s.f. Stay-In-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operating Rating: X.XX (HL-93)

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (66" DIAMETER DRILLED SHAFTS)

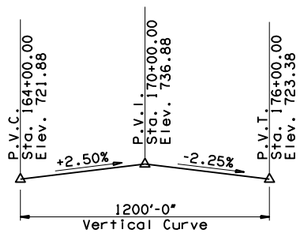
	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X

50% plans

STANDARDS
FSHP-42-2-00E
HP1-2-01E

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BB002

BORING NO. H-1

Sta. 168+90.00, 82.70' Lt.
Total Depth = 40.00 ft.

710.0
705.0
700.0
695.0
690.0
685.0
680.0
675.0
670.0
665.0
660.0
655.0
650.0

SPT-1; N=18; R=14"; MC=9.0%; LL=31; PL=17; PI=14; #200=70.0% --- 705.5
SPT-2; N=10; R=14"; MC=18.0% --- 704.0
SPT-3; N=3; R=17"; MC=21.0%; LL=27; PL=17; PI=10; #200=56.0% --- 701.0
Water Level While Boring --- 699.4
SPT-4; N=50/5"; R=13"; MC=14.0% --- 697.5
TCP-5; N=50/3.50", 50/1.50" --- 696.0
TCP-6; N=50/1.00", 50/0.25" --- 691.0
TCP-7; N=50/0.31", 50/0.19" --- 686.0
TCP-7; N=50/0.50", 50/0.31" --- 681.0
TCP-8; N=50/0.38", 50/0.13" --- 676.0
TCP-9; N=50/0.38", 50/0.13" --- 671.0
TCP-10; N=50/0.25", 50/0.25" --- 666.5

706.0 FILL - LEAN CLAY WITH SAND
very dark yellowish-brown (YR, 10, 4/4)

701.0 SANDY LEAN CLAY (CL)
dark yellowish-brown (10YR, 4/4), soft

696.5 WEATHERED SHALE+
light yellowish-brown (10YR, 6/3), soft

691.0 SHALE+
light yellowish-brown (10YR, 6/3), soft to moderately hard

666.0

BORING NO. H-2

Sta. 169+68.90, 76.90' Lt.
Total Depth = 39.00 ft.

710.0
705.0
700.0
695.0
690.0
685.0
680.0
675.0
670.0
665.0
660.0
655.0
650.0

703.5 SHALEY SANDY CLAY (CL)
dark yellowish-brown (10YR, 3/4), stiff

SPT-1; N=14; R=18"; MC=10.0%; LL=31; PL=17; PI=14; #200=52.0% --- 698.5
SPT-2; N=50/4"; R=16"; MC=11.0% --- 695.0
TCP-3; N=50/1.13", 50/0.88" --- 694.5

694.5 SHALE+
yellowish-brown (10YR, 5/6), moderately hard

TCP-4; N=50/0.50", 50/0.13" --- 689.5
TCP-5; N=50/0.38", 50/0.13" --- 684.5
TCP-6; N=50/0.25", 50/0.31" --- 679.5
TCP-7; N=50/0.38", 50/0.13" --- 674.5
TCP-8; N=50/0.25", 50/0.13" --- 669.5
TCP-9; N=50/0.25", 50/0.13" --- 665.0

664.5

50% plans

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer
SPT = Standard Penetration Test, ASTN D1586

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

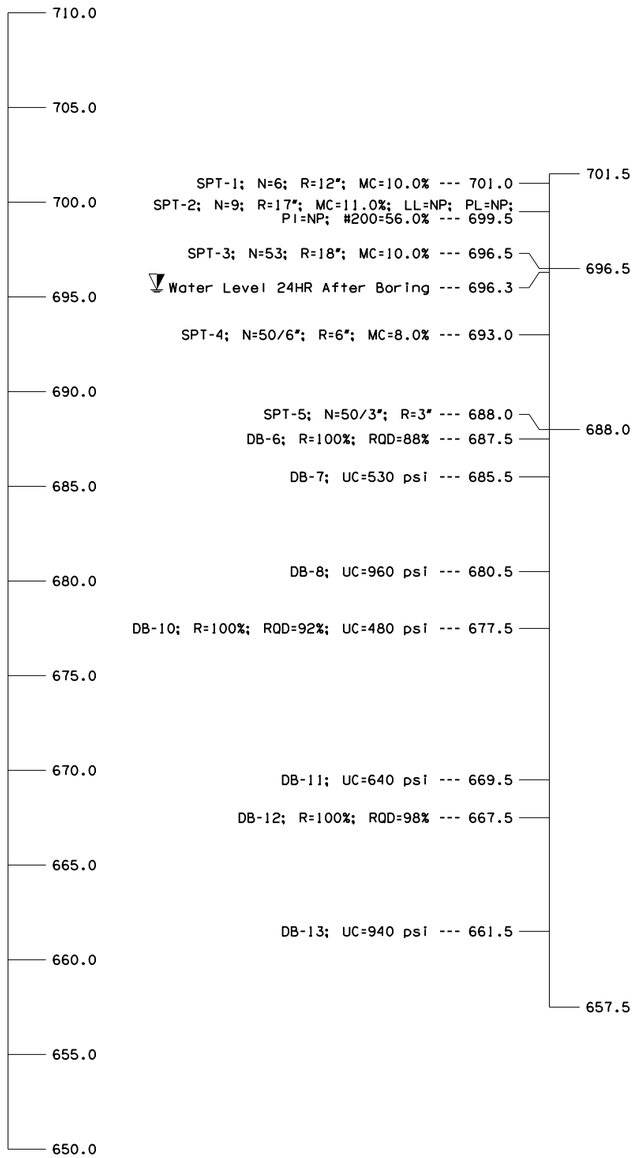
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
FOUNDATION REPORT
(SHEET 1 OF 5)

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

DESIGNED	JMQ	8/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB003

BORING NO. H-3

Sta. 170+51.00, 83.60' Lt.
Total Depth = 43.80 ft.



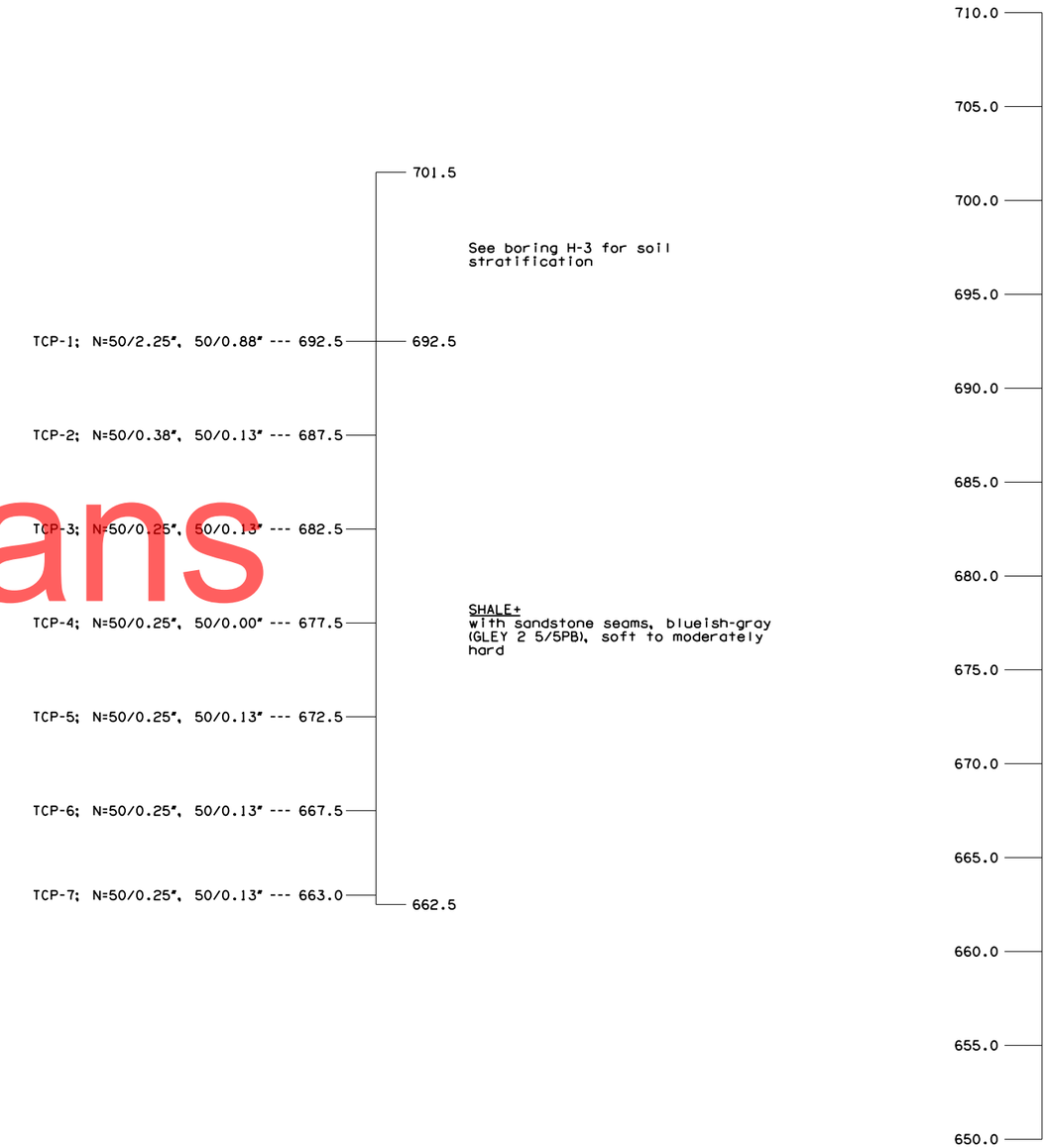
SANDY SILT (ML)
dark reddish-brown (2.5YR, 2.5/3), loose

WEATHERED SHALE+
light yellowish-brown (2.5Y, 6/3), soft

SHALE+
with sandstone seams, blueish-gray (GLEY 2 5/5PB), soft to moderately hard

BORING NO. H-3A

Sta. 170+51.00, 79.60' Lt.
Total Depth = 39.00 ft.



See boring H-3 for soil stratification

SHALE+
with sandstone seams, blueish-gray (GLEY 2 5/5PB), soft to moderately hard

50% plans

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

SAMPLING LEGEND:

R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:

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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:

DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

FOUNDATION REPORT
(SHEET 2 OF 5)

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

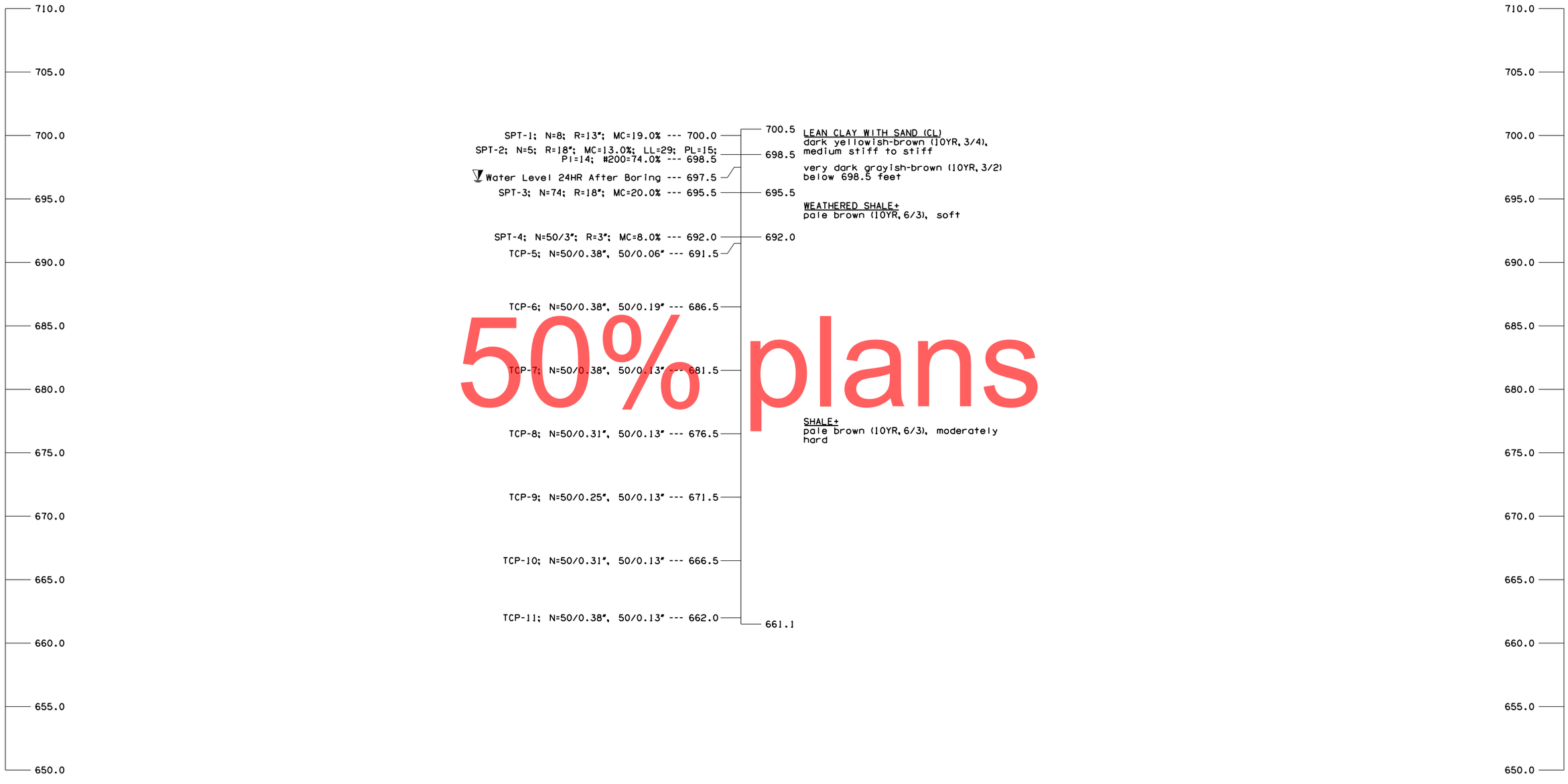
DESIGNED	JMQ	8/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB004

BORING NO. H-4

Sta. 171+08.50, 75.10' Lt.
Total Depth = 39.00 ft.

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

PROPOSED R/W
10/23/2017



50% plans

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
FOUNDATION REPORT
(SHEET 3 OF 5)

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

DESIGNED	JMQ	8/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB005

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

PROPOSED R/W
10/23/2017

BORING NO. H-5
Sta. 168+90.00, 26.80' Rt.
Total Depth = 45.00 ft.

710.0
705.0
700.0
695.0
690.0
685.0
680.0
675.0
670.0
665.0
660.0
655.0
650.0

SPT-1; N=19; R=13"; MC=18.0% --- 704.5
SPT-2; N=11; R=4"; MC=19.0% --- 703.0
SPT-3; N=11; R=14"; MC=21.0%; LL=39; PL=15; PI=24; #200=87.0% --- 700.0
SPT-4; N=6; R=18"; MC=22.0% --- 696.5
SPT-5; N=50/4"; R=10"; MC=13.0% --- 691.5
TCP-6; N=50/0.88", 50/0.50" --- 690.0
TCP-7; N=50/1.25", 50/0.50" --- 685.0
TCP-8; N=50/0.25", 50/0.06" --- 680.0
TCP-9; N=50/0.50", 50/0.19" --- 675.0
TCP-10; N=50/0.50", 50/0.13" --- 670.0
TCP-11; N=50/0.25", 50/0.13" --- 665.0
TCP-12; N=50/0.19", 50/0.13" --- 660.5

705.0 — FILL - LEAN CLAY WITH SAND
dark yellowish-brown (10YR, 4/4)

700.0 — LEAN CLAY (CL)
very dark dray (10YR, 3/1) and dark yellowish-brown (10YR, 4/4), medium stiff to stiff

691.0 — SHALE+
dark bluish-gray (GLEY2, 4/58), moderately hard

660.0

BORING NO. H-6
Sta. 169+62.30, 14.60' Rt.
Total Depth = 40.00 ft.

710.0
705.0
700.0
695.0
690.0
685.0
680.0
675.0
670.0
665.0
660.0
655.0
650.0

SPT-1; N=40; R=13"; MC=8.0% --- 701.5
SPT-2; N=12; R=15"; MC=11.0%; LL=24; PL=19; PI=5; #200=17.0% --- 700.0
SPT-3; N=5; R=10"; MC=18.0% --- 697.0
SPT-4; N=50/5"; R=18"; MC=11.0% --- 693.5
TCP-5; N=50/0.50", 50/0.25" --- 692.0
TCP-6; N=50/0.50", 50/0.25" --- 687.0
TCP-7; N=50/0.25", 50/0.13" --- 682.0
TCP-8; N=50/0.50", 50/0.13" --- 677.0
TCP-9; N=50/0.25", 50/0.06" --- 672.0
TCP-10; N=50/0.13", 50/0.13" --- 667.0
TCP-11; N=50/0.38", 50/0.13" --- 662.5

702.0 — FILL - LEAN CLAY
with sand and asphalt fragments, dark yellowish-brown (10YR, 4/4)

700.0 — SILTY CLAYEY GRAVEL WITH SAND (GC-GM)
very dark gray (10YR, 3/1), loose to medium dense

692.5 — SHALE+
yellowish-brown (10YR, 5/4), moderately hard

662.0

50% plans

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

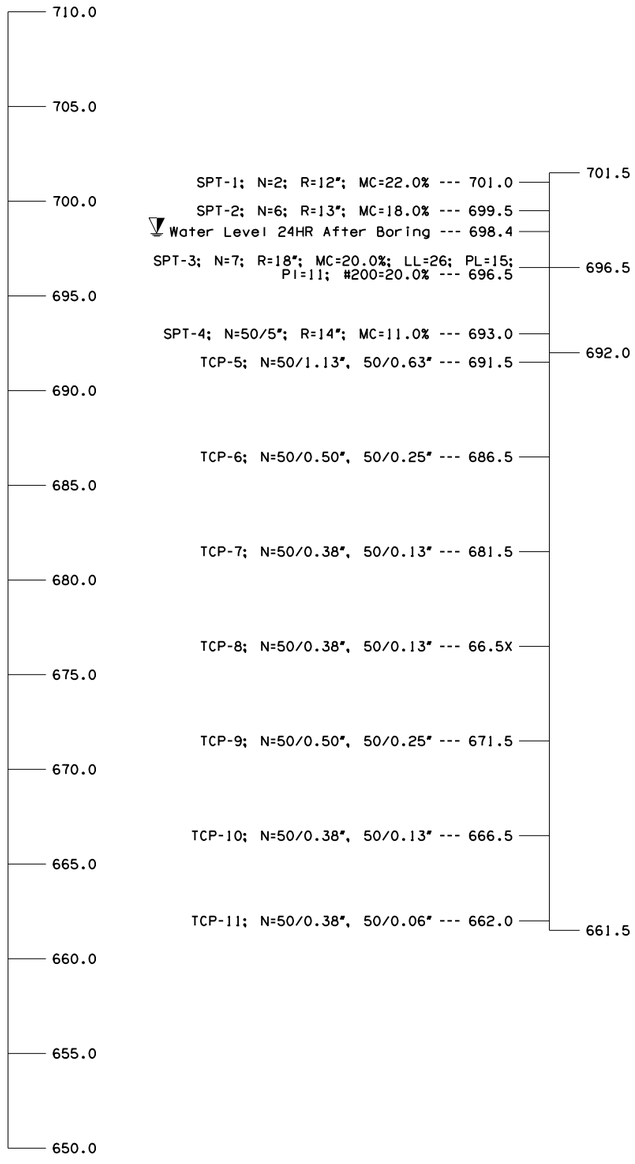
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
FOUNDATION REPORT
(SHEET 4 OF 5)

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

DESIGNED	JMQ	8/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB006

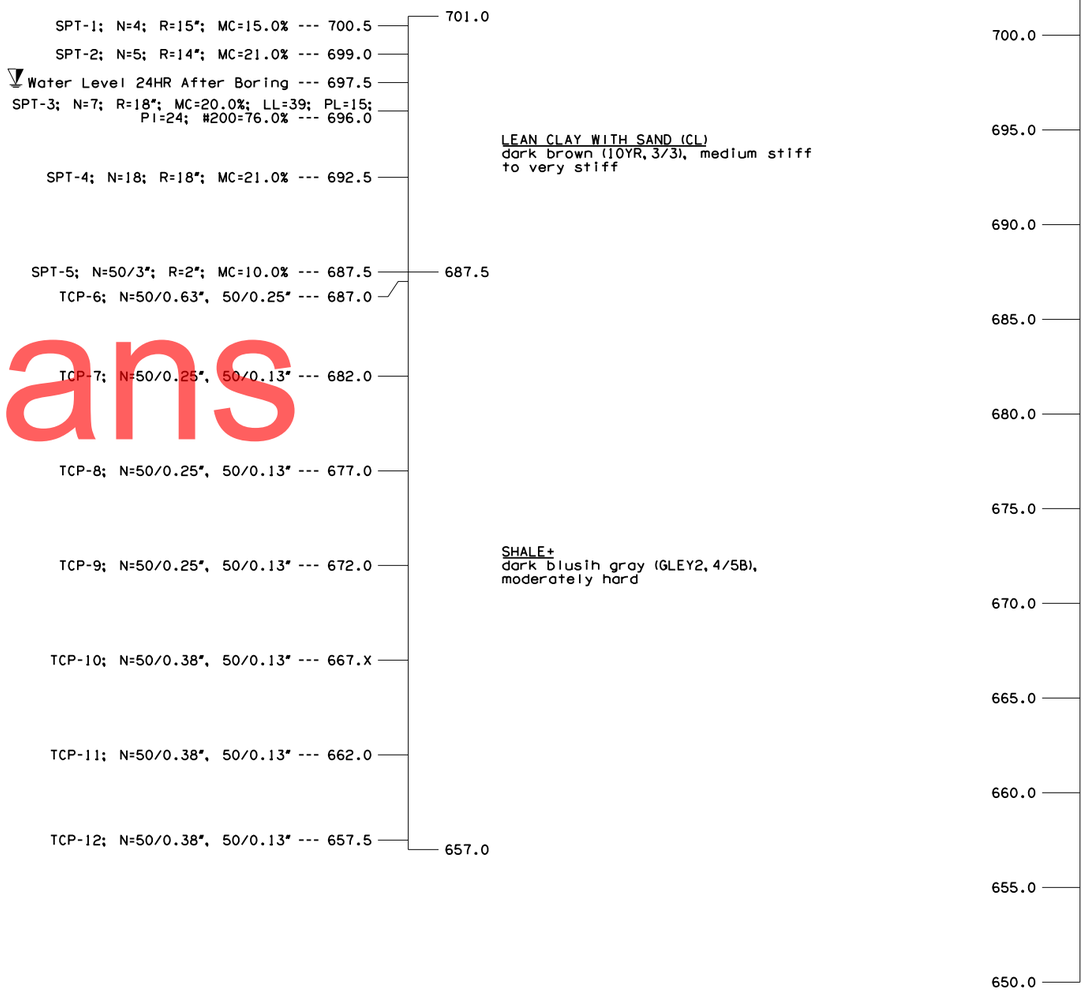
BORING NO. H-7

Sta. 170+53.20, 41.90' Rt.
Total Depth = 40.00 ft.



BORING NO. H-8

Sta. 171+06.50, 45.30' Rt.
Total Depth = 44.00 ft.



50% plans

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

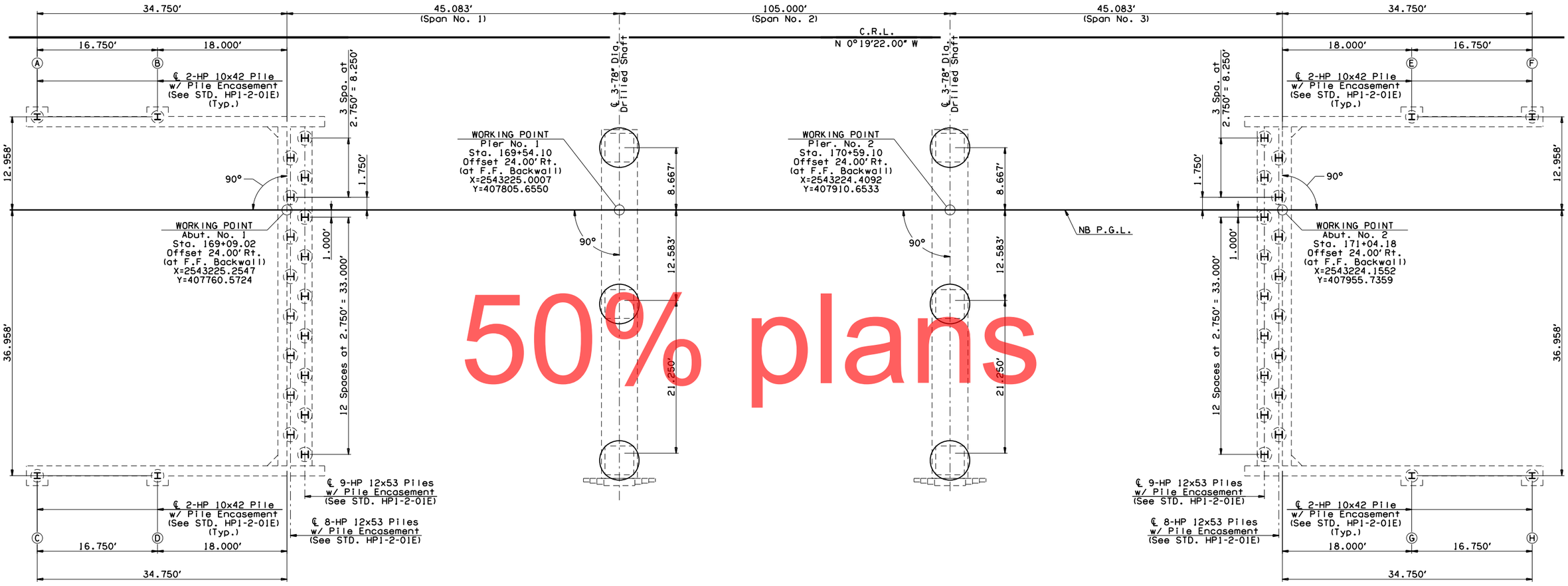
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
FOUNDATION REPORT
(SHEET 5 OF 5)

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

DESIGNED	JMQ	8/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB007

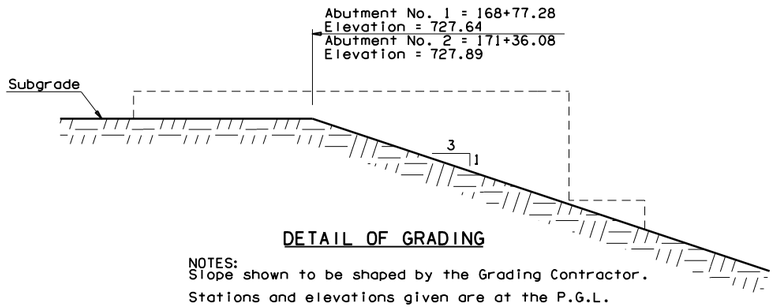
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2

50% plans



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1

PILE	ELEVATION
A	XXX.XX
B	XXX.XX
CAP	XXX.XX

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

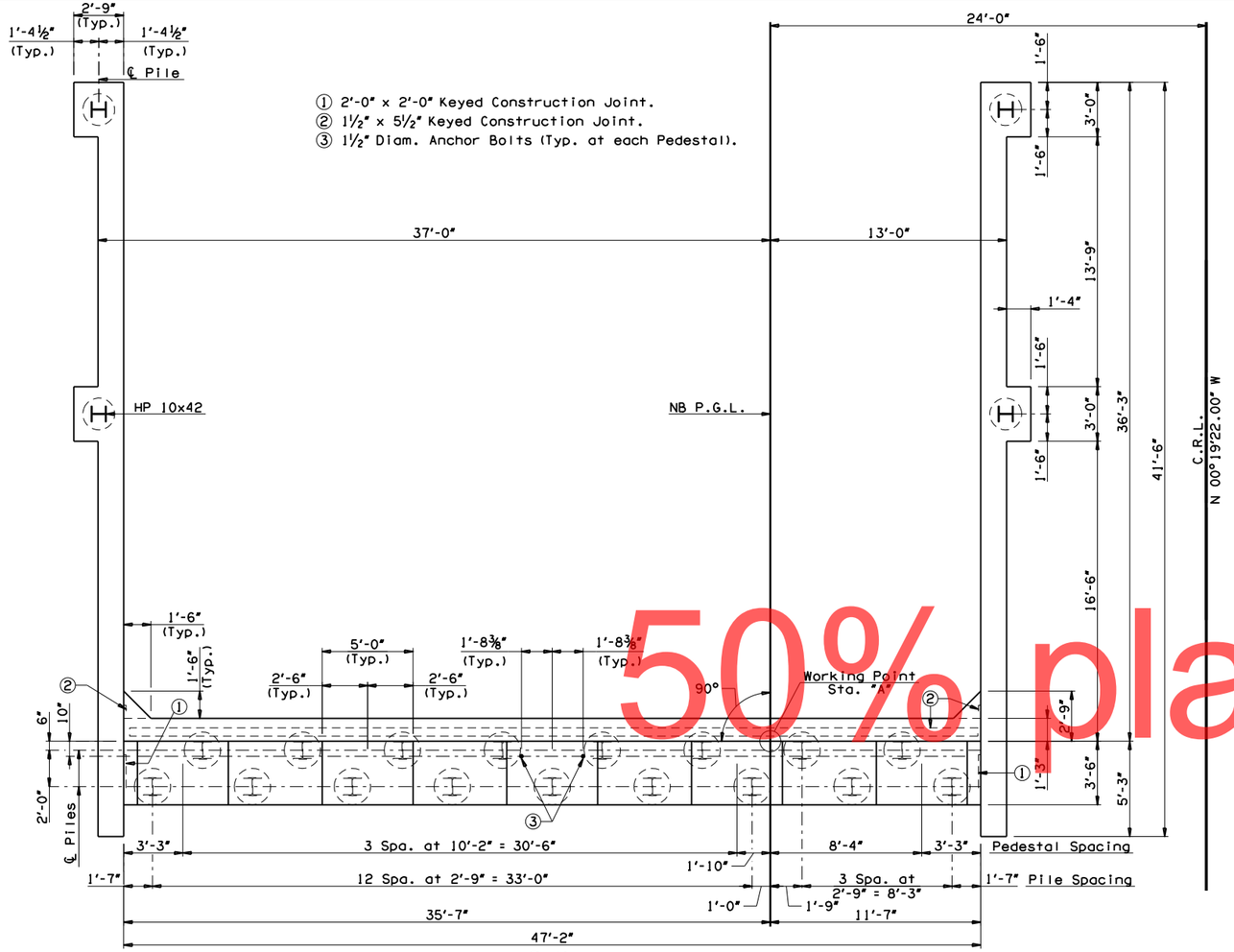
STAKING DIAGRAM

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

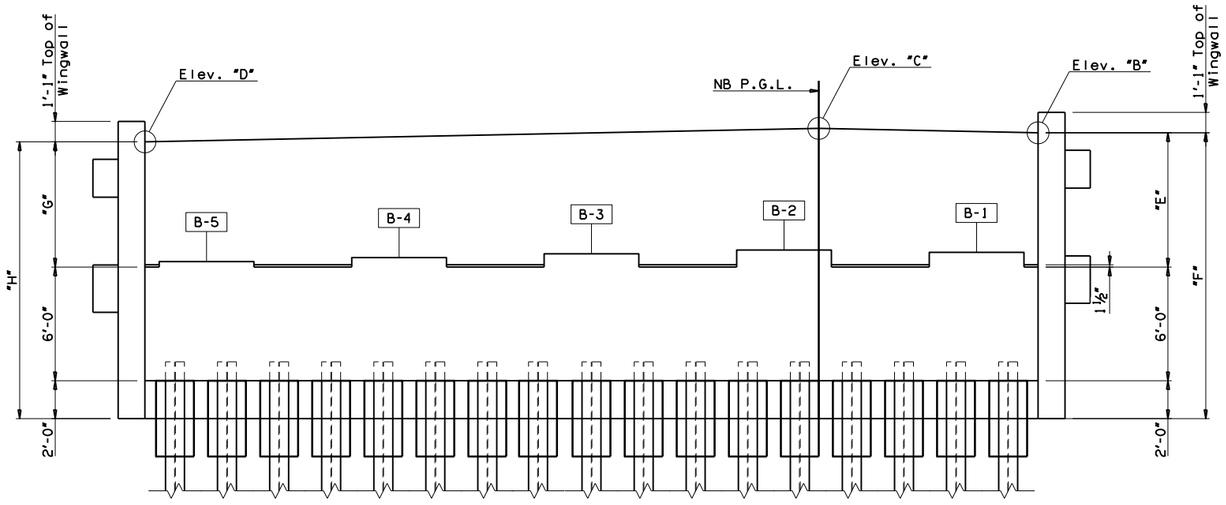
DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB008

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

PROPOSED
R/W
10/23/2017



PLAN



ELEVATION
(Looking backstation at Abutment No. 1)
(Abutment No. 2 similar but opposite hand)

TABLE OF VARIABLES		
ITEM	ABUT. NO. 1	ABUT. NO. 2
Sta. "A"	XX+XXX.XX	XX+XXX.XX
Elev. "B"	XXX.XX	XXX.XX
Elev. "C"	XXX.XX	XXX.XX
Elev. "D"	XXX.XX	XXX.XX
Length "E"	X'-XX"	X'-XX"
Length "F"	X'-XX"	X'-XX"
Length "G"	X'-XX"	X'-XX"
Length "H"	X'-XX"	X'-XX"

PEDESTAL ELEVATIONS		
PEDESTAL NO.	ABUT. NO. 1	ABUT. NO. 2
SB-A	XXX.XX	XXX.XX
SB-B	XXX.XX	XXX.XX
SB-C	XXX.XX	XXX.XX
SB-D	XXX.XX	XXX.XX
SB-E	XXX.XX	XXX.XX

SUMMARY OF QUANTITIES - ABUTMENTS				
ITEM	UNIT	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	XXX.XX	XXX.XX	XXX.XX
CLSM BACKFILL	C.Y.	XXX.XX	XXX.XX	XXX.XX
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	XXX.XX	XXX.XX	XXX.XX
SPECIAL CONCRETE FINISH	S.Y.	XXX.XX	XXX.XX	XXX.XX
CLASS A CONCRETE	C.Y.	XXX.XX	XXX.XX	XXX.XX
SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	XXX.XX
EPOXY COATED REINFORCING STEEL	LB.	XXX.XX	XXX.XX	XXX.XX
PILES FURNISHED (HP 10X42)	L.F.	XXX.XX	XXX.XX	XXX.XX
PILES FURNISHED (HP 12X53)	L.F.	XXX.XX	XXX.XX	XXX.XX
PILES DRIVEN (HP 10X42)	L.F.	XXX.XX	XXX.XX	XXX.XX
PILES DRIVEN (HP 12X53)	L.F.	XXX.XX	XXX.XX	XXX.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.XX	XXX.XX	XXX.XX
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XXX.XX	XXX.XX	XXX.XX

NOTE:
For Water Repellent Details, see Sheet No. BSTA01.

For bar lists, bar bends, and summary of quantities, See Sheet No. BBXXX.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

ABUTMENT DETAILS

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

DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BB009

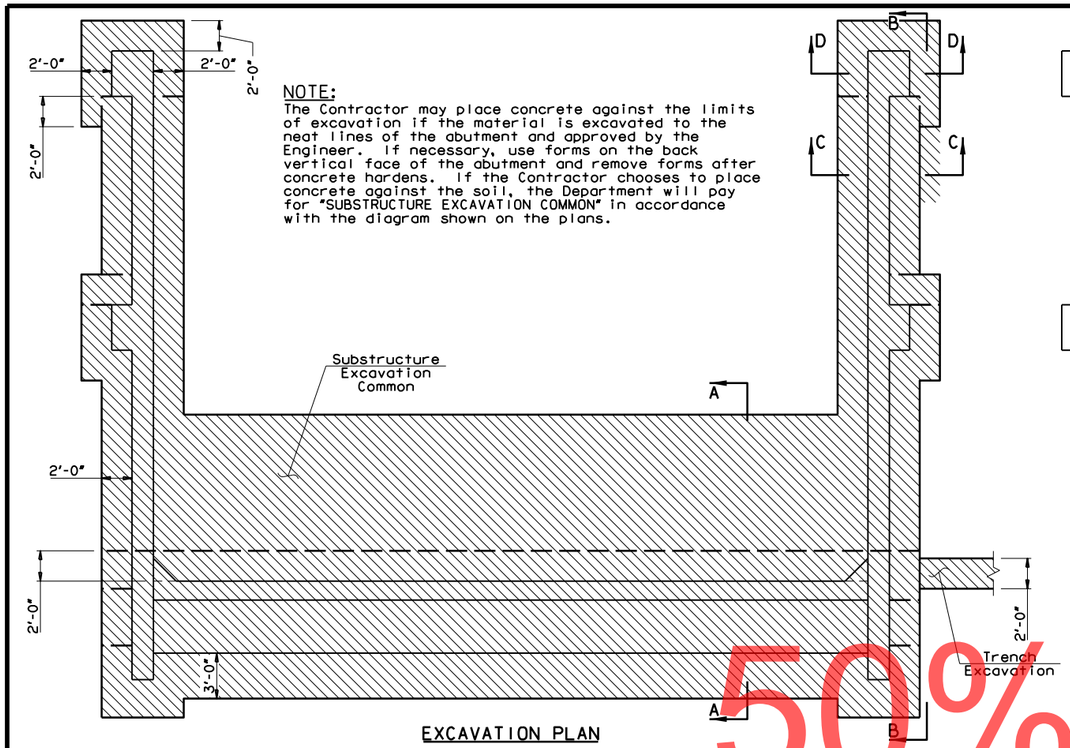
50% plans

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

PROPOSED R/W
10/23/2017

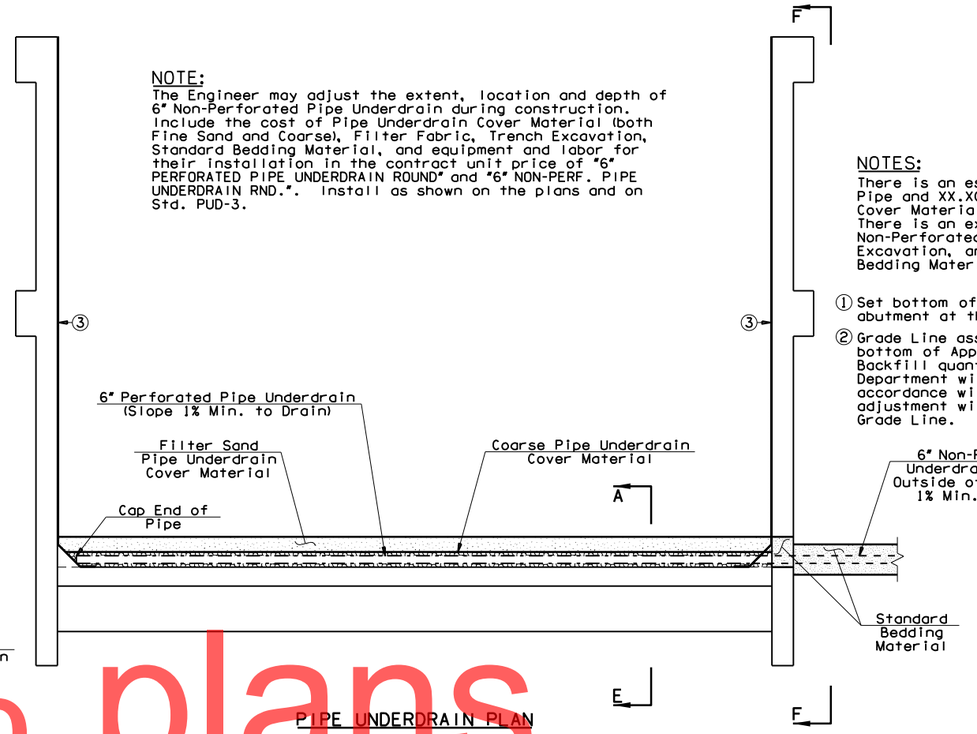
50% plans

NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.



EXCAVATION PLAN

NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.

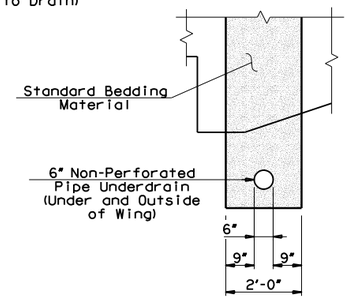


PIPE UNDERDRAIN PLAN

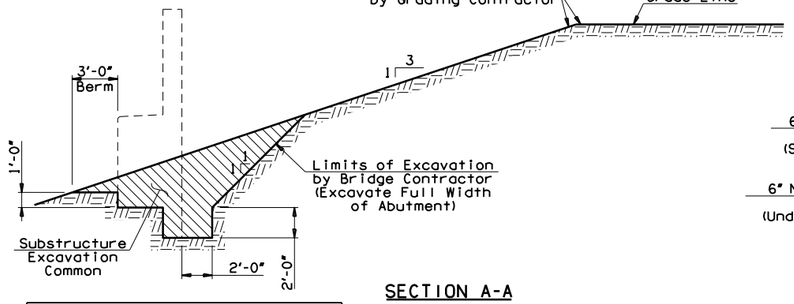
NOTES:
There is an estimated XX.00 feet of Perforated Pipe and XX.X0 cubic yards of Piper Underdrain Cover Material for both abutments.
There is an extimated XX.00 feet of Non-Perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.

① Set bottom of pipe 3" above the bottom of the abutment at the low end.

② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.

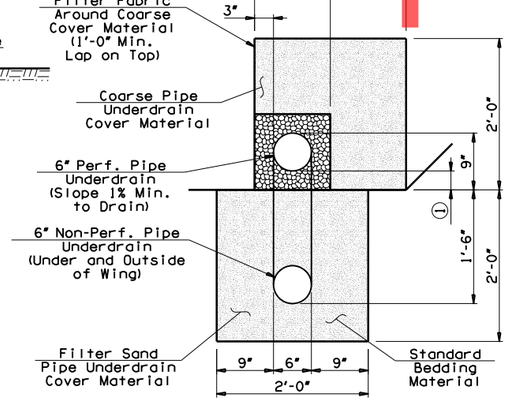


DETAIL "B"

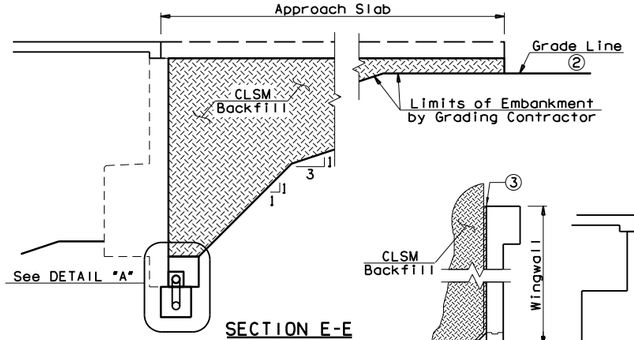


SECTION A-A

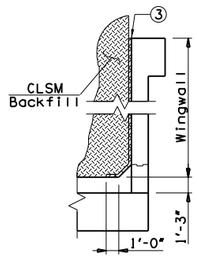
ABUTMENT GRADING DATA			
ABUT.	WING	STATION	ELEVATION ②
1	W	XXX+XX.XX	XXX.XX
	E	XXX+XX.XX	XXX.XX
2	W	XXX+XX.XX	XXX.XX
	E	XXX+XX.XX	XXX.XX



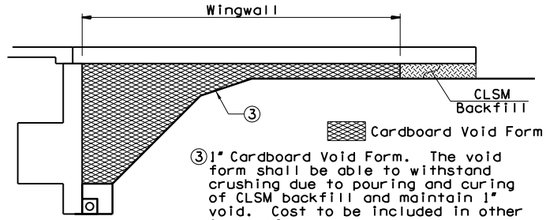
DETAIL "A"



SECTION E-E



PLAN



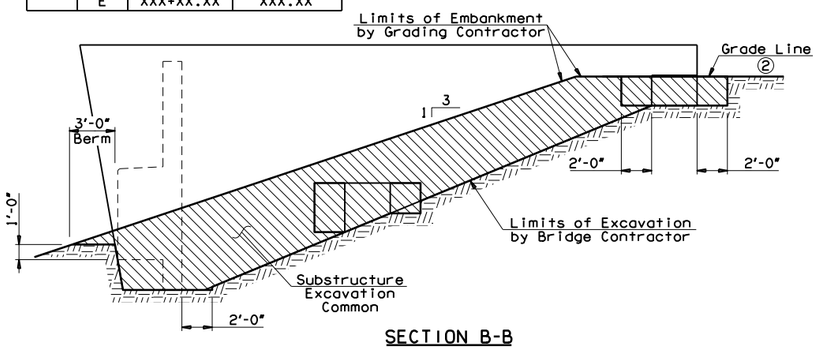
ELEVATION

NOTE:
Wingwall skew may not be depicted accurately in this schematic.

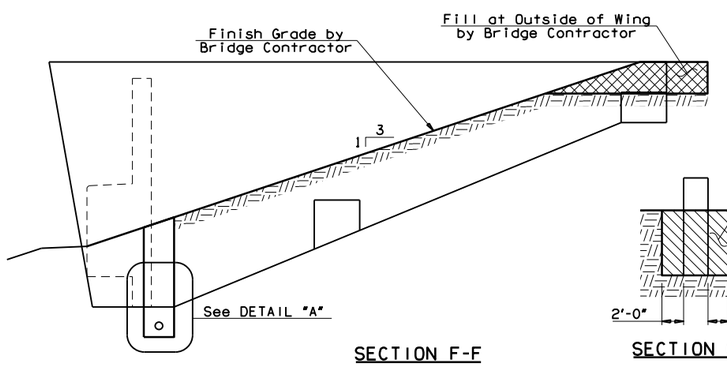
③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal. Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.

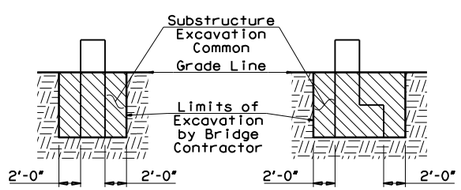
VOID FORM DETAILS



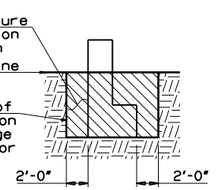
SECTION B-B



SECTION F-F



SECTION C-C



SECTION D-D

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

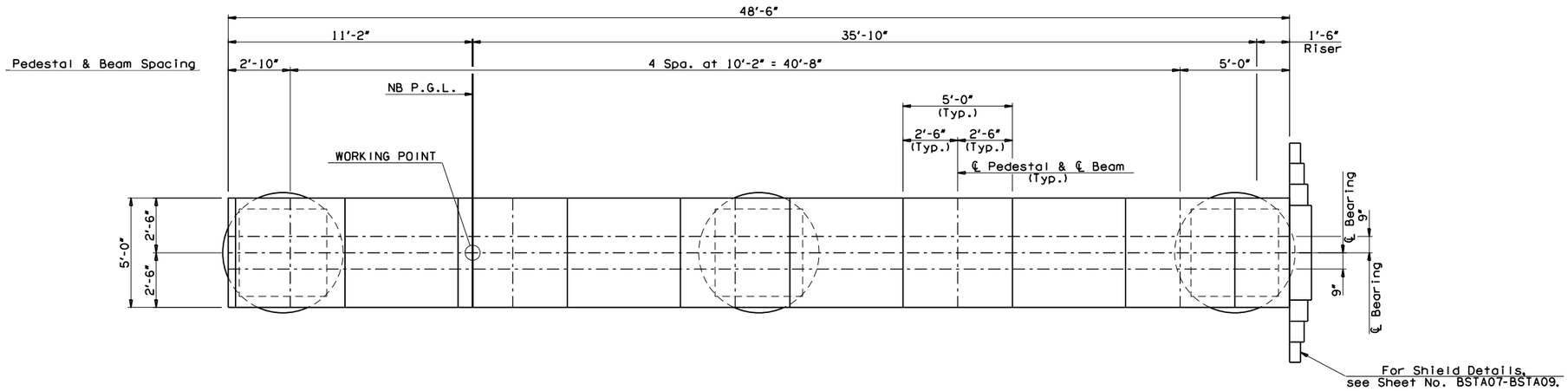
SUBSTRUCTURE EXC. & PIPE UNDERDRAIN ASSEMBLY DETAILS

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

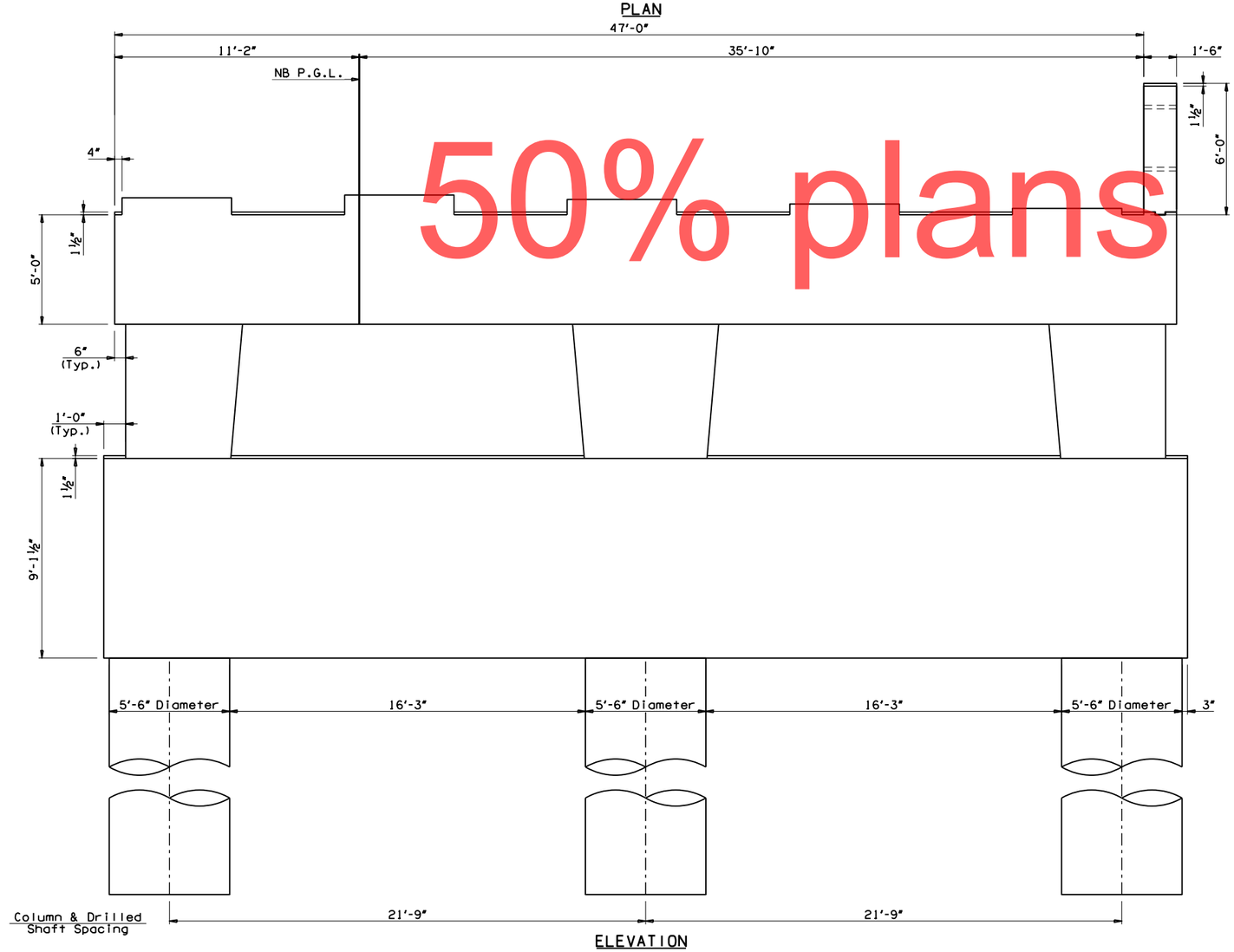
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DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB010

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

PROPOSED R/W
10/23/2017



PLAN



ELEVATION

50% plans

NOTE:
For Water Repellent Details, see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

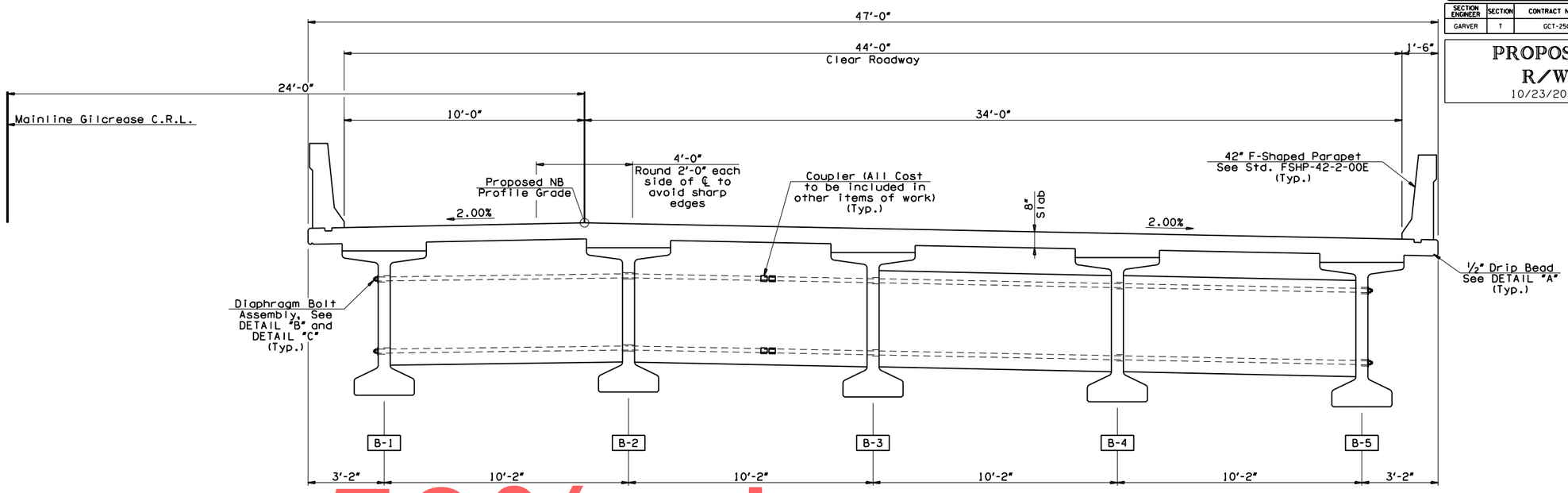
PIER DETAILS

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

DESIGNED	JMQ	9/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BB011

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

PROPOSED R/W
10/23/2017

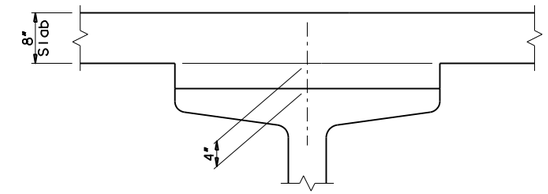


HALF SECTION AT END OF SPAN

HALF SECTION AT MIDSPAN

TYPICAL SECTION
(Looking Forward Station)

50% plans



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 bottom of Deck Slab to Top of 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.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM ITEM	UNIT	TOTAL

Ⓒ Includes a calculated XX.XO C.Y. of Class AA Concrete in the Haunches

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".

NOTE:
See Sheet Nos. BB014 - BB016 for deck reinforcing layout.
For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

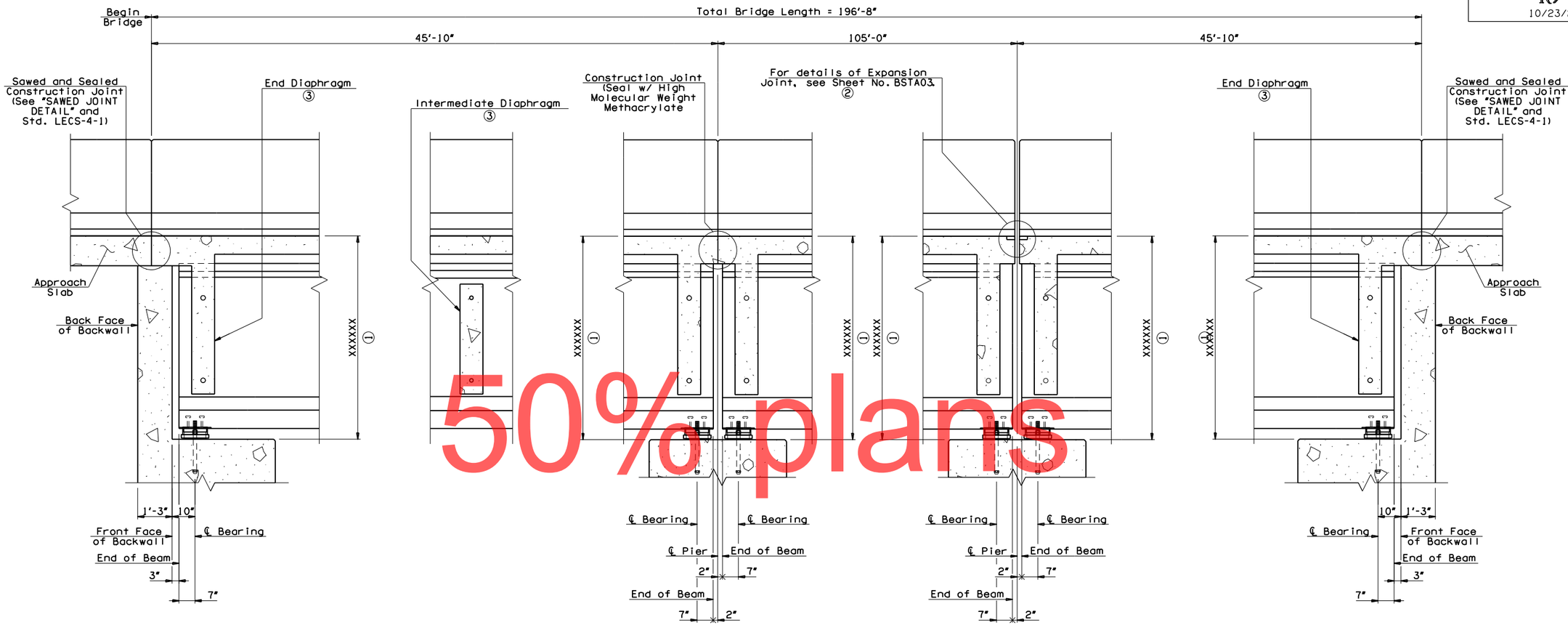
TYPICAL SECTION

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

DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BB012

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

PROPOSED R/W
10/23/2017



50% plans

LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② See Expansion Joint Opening Equations on Sheet No. BB016.

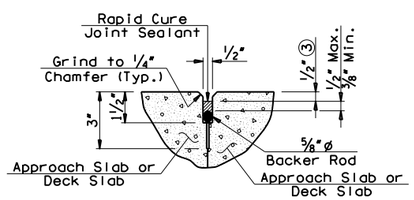
③ For Diaphragm layout see Sheet No. BB018.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

③ This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only.

NOTE:

Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

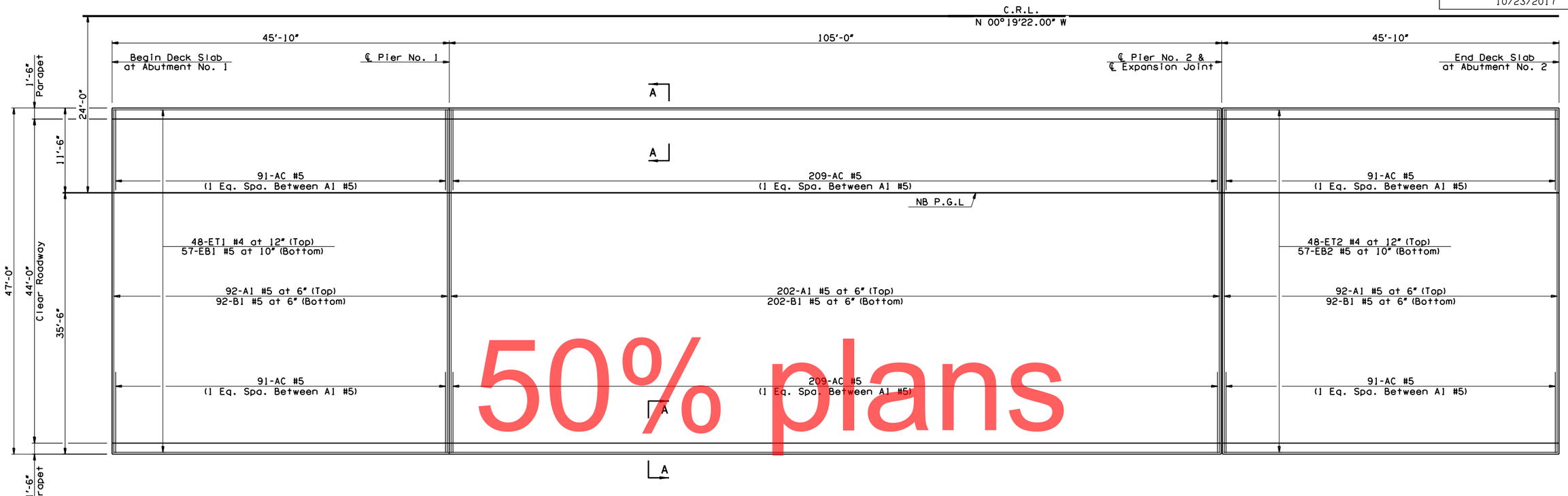
LONGITUDINAL SECTION

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

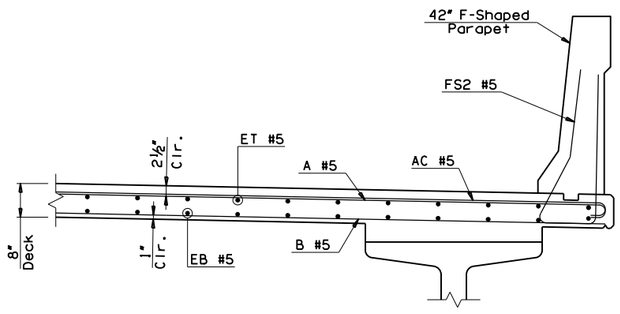
DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB013

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

PROPOSED R/W
10/23/2017



SLAB PLAN - SPAN NOS. 1 - 3
(Showing Top & Bottom of Slab Reinforcing Steel)



SECTION A-A

BAR LIST - SUPERSTRUCTURE				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				

① Includes One XX'-XX" Lap Length.
② Includes One XX'-XX" Lap Length.

NOTES:
Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BB017 for additional details.

All lap lengths shall be staggered.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BB016 for details and Expansion Joint Opening Equation.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

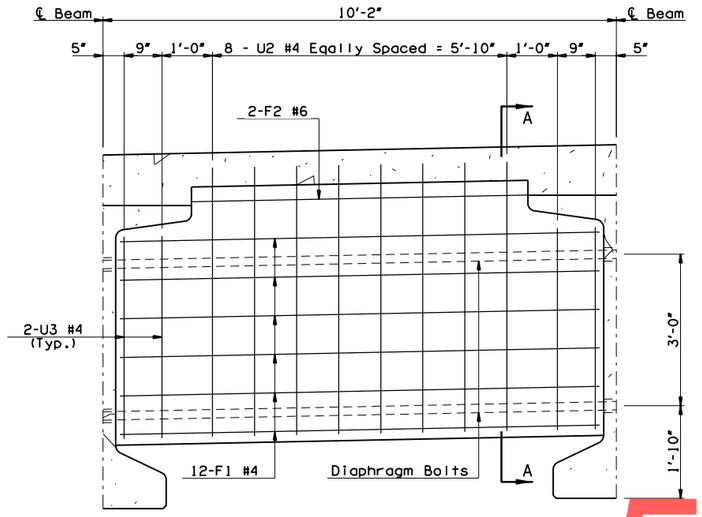
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

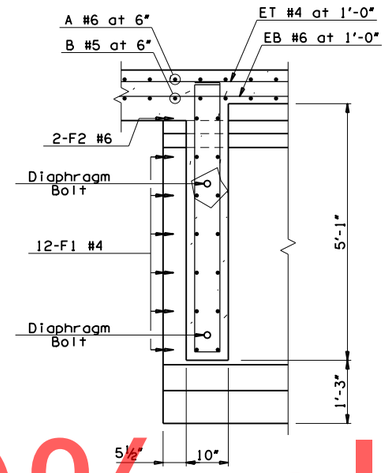
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB014

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

PROPOSED
R/W
10/23/2017



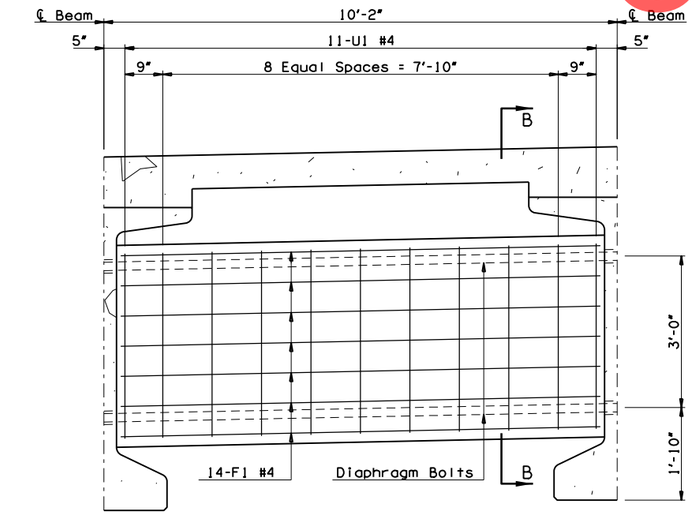
TYPE J BT - END DIAPHRAGM



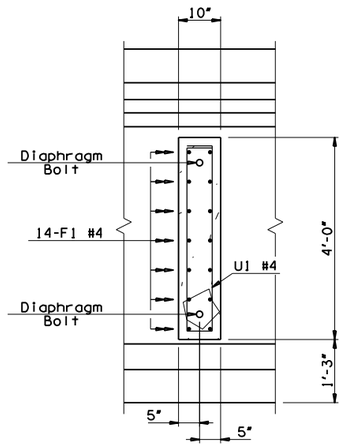
SECTION A-A

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	416	STR.	9'-4"	-
F2	#6	32	STR.	6'-4"	-
U1	#4	224	BENT	8'-10"	-
U2	#4	128	BENT	12'-2"	-
U3	#4	64	BENT	9'-6"	-

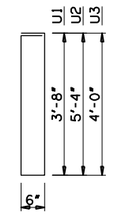
50% plans



TYPE J BT - INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)



SECTION B-B



U1 #4 x 14'-1"
U2 #4 x 13'-9"
U3 #4 x 14'-1"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

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

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB015

① AS #4. Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

NOTES:

Deck Slab reinforcement not shown for clarity.

Location of reinforcing shown is for informational purposes only. Acutal lengths of AT, EPT & FPT bars will vary depending on span arrangment. See "FRAMING PLAN" sheets for spacing of beams per span. See "SUPERSTRUCTURE DETAILS" sheets for specific bar designations and lengths per span.

SILICONE JOINT SEALANT NOTE:

The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

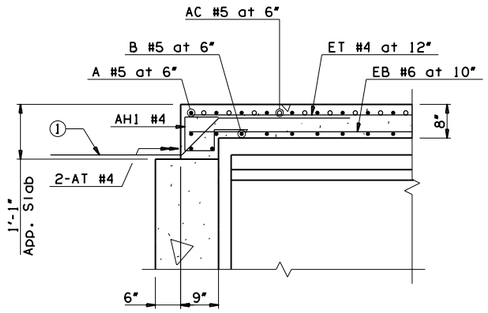
⑤ The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

X.XXXXX - (0.XXXXX x T)

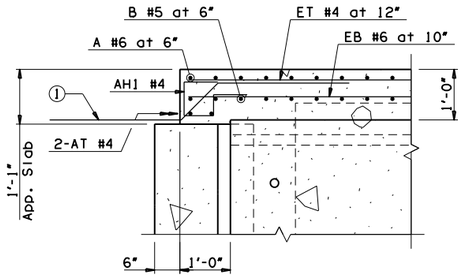
Where "T" equals the Ambient Air Temperature in degrees Farenheit at the same time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

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

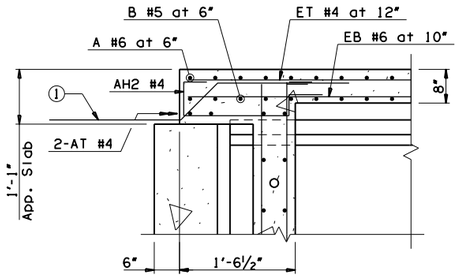
PROPOSED R/W
10/23/2017



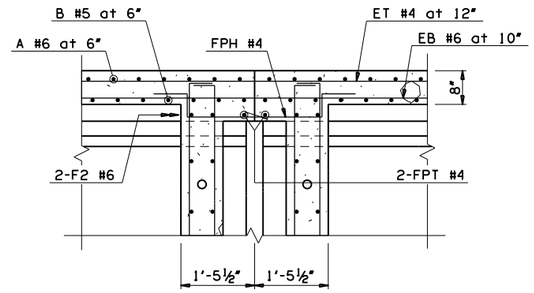
SECTION A-A



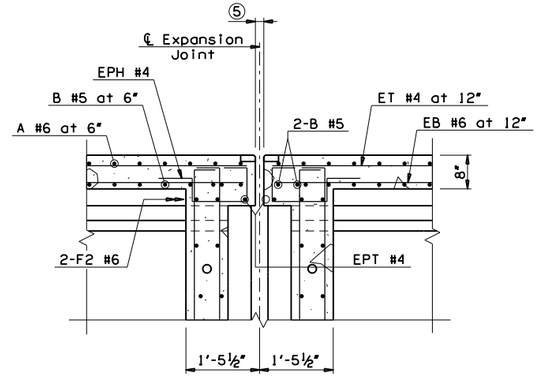
SECTION B-B



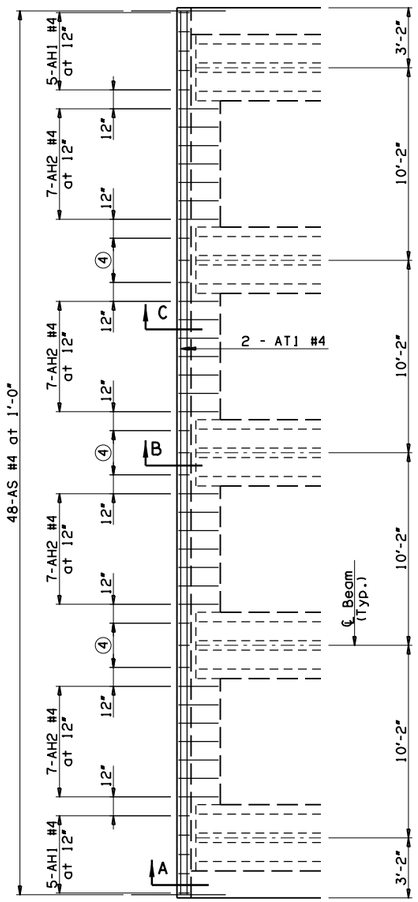
SECTION C-C



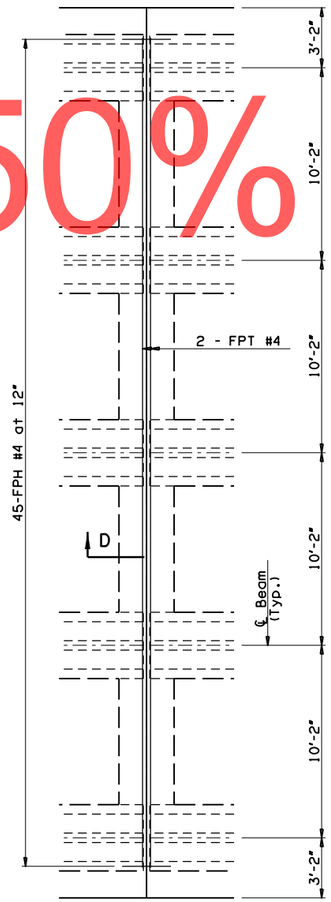
SECTION D-D



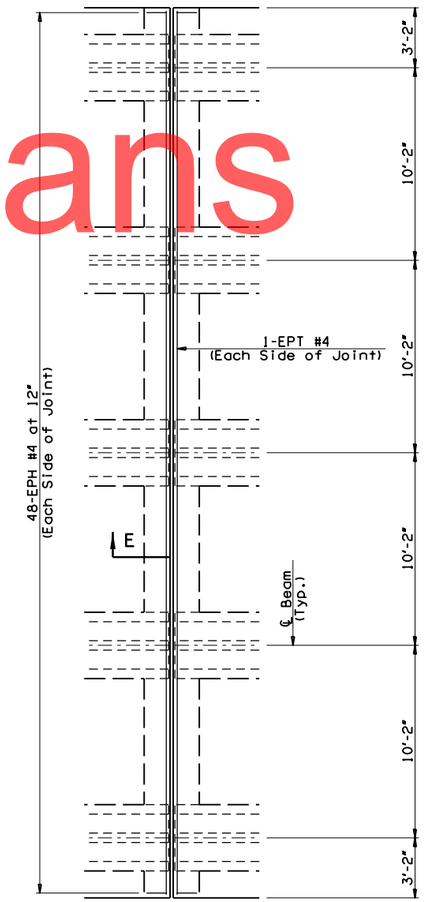
SECTION E-E



ABUTMENT



FIXED PIER NO. 1



EXPANSION PIER NO. 2

④ 3-AH1 #4 at 12"

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS

50% plans

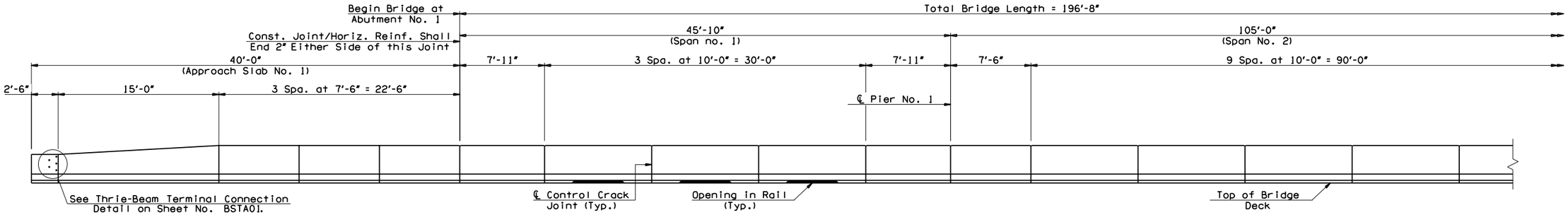
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

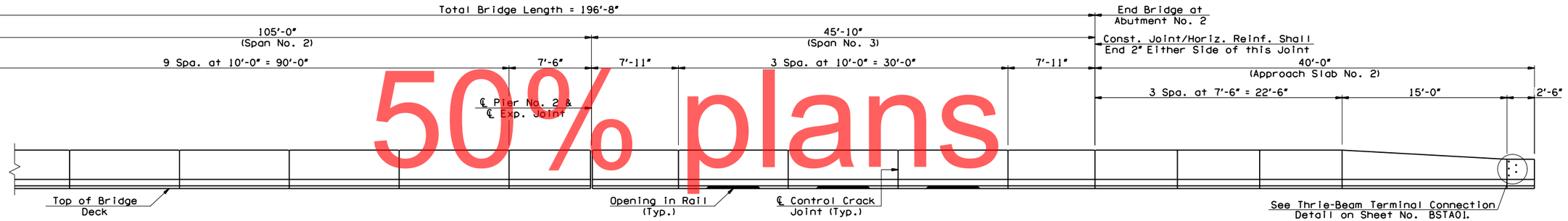
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	7/19	DATE: 10/23/2017	SHEET NO. BB016

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

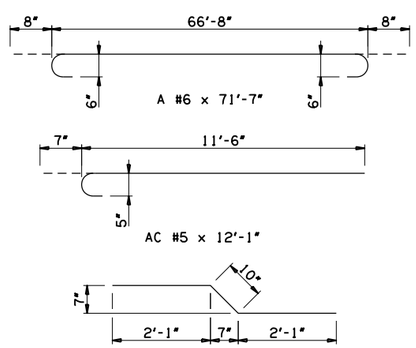
PROPOSED R/W
10/23/2017

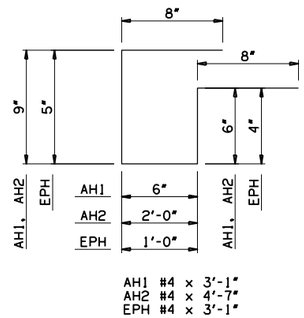


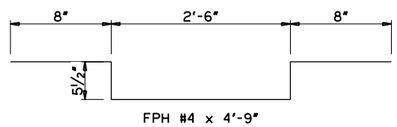


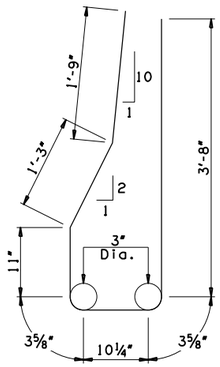
50% plans

42" F-SHAPED PARAPET LAYOUT - WITH OPENINGS
(West Parapet Shown, East Parapet Similar)









FS2 #5 x 9'-0"

NOTES:
For details showing the Parapet reinforcement layout, see bar bends and Std. FSHP-42-2-00E.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB017

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

PROPOSED
R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 - 3

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

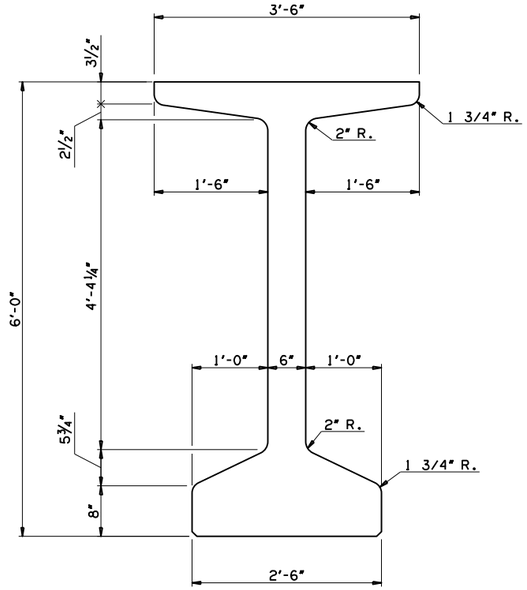
FRAMING PLAN

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

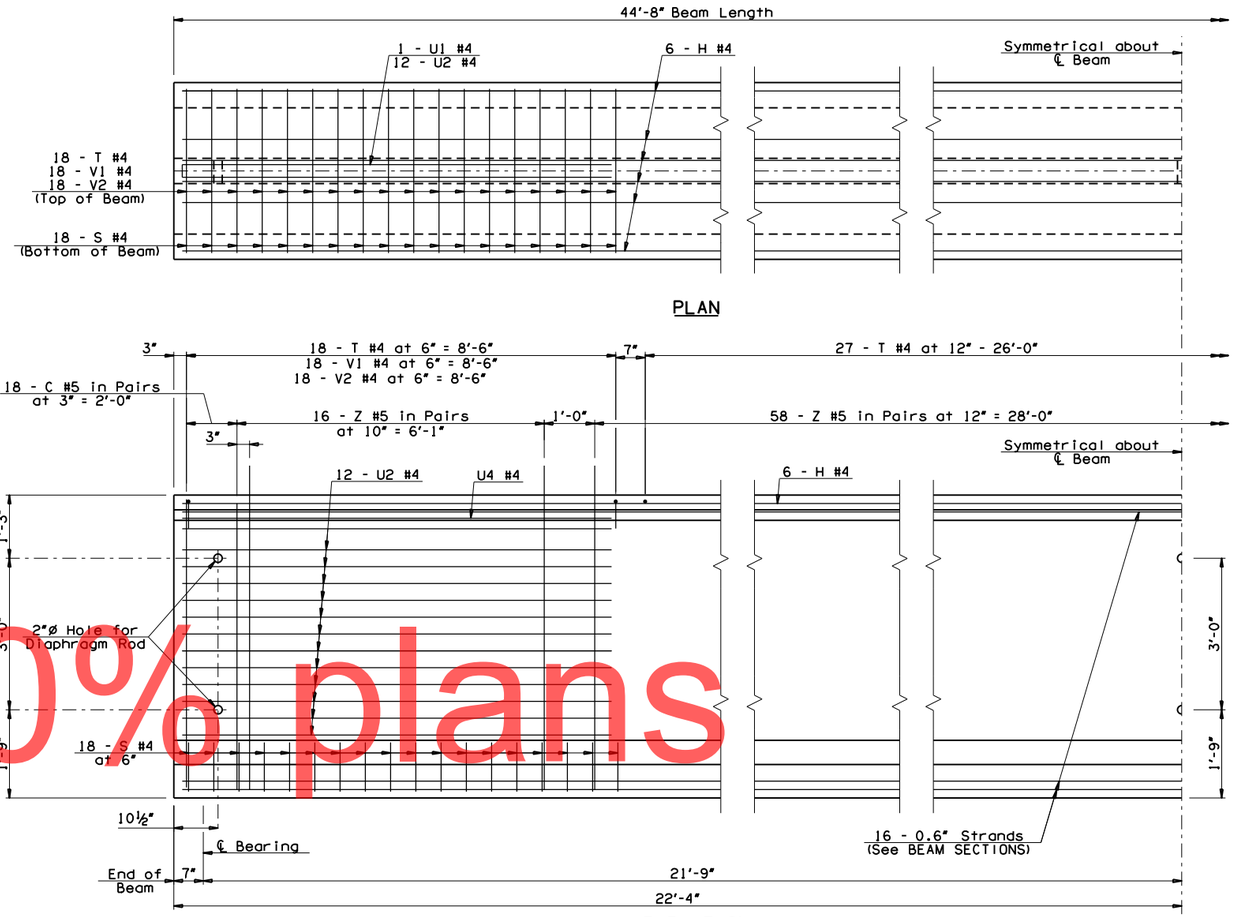
DESIGNED	JMQ	7/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB018

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

PROPOSED R/W
10/23/2017

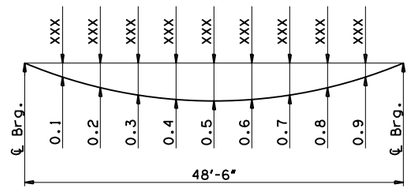


END VIEW



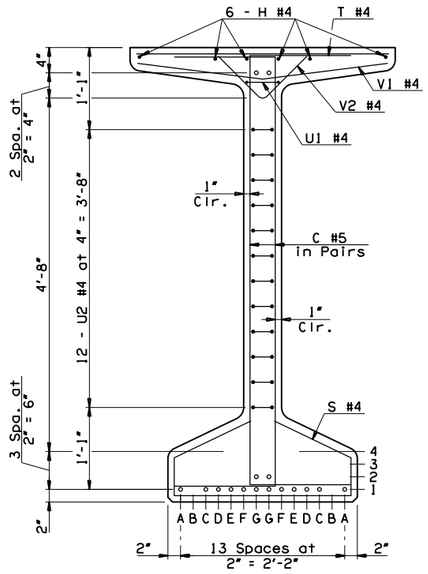
PLAN

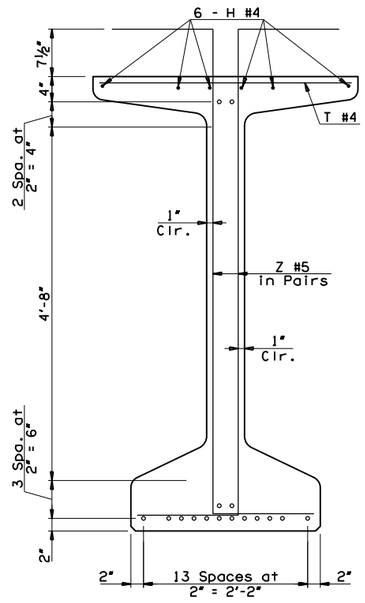
ELEVATION



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.





BEAM SECTIONS
(16-0.6" STRANDS)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

PRESTRESSED CONCRETE BEAM NOTES
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - X.XX (HL-93)
LFR OPERATING RATING - HS XXX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

50% plans

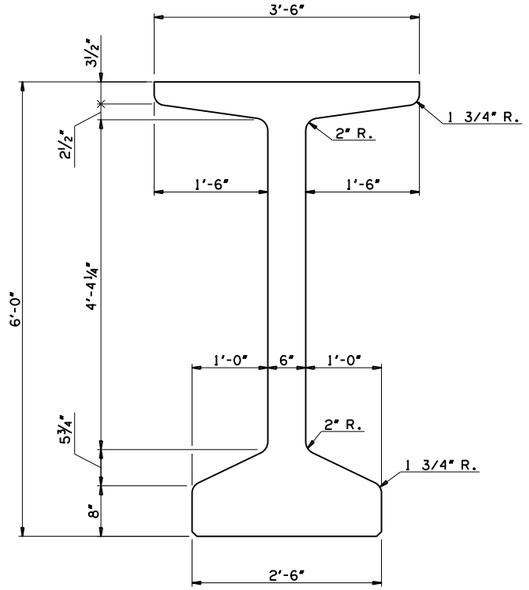
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
45'-0" BEAM DETAILS
(TYPE J BT)

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

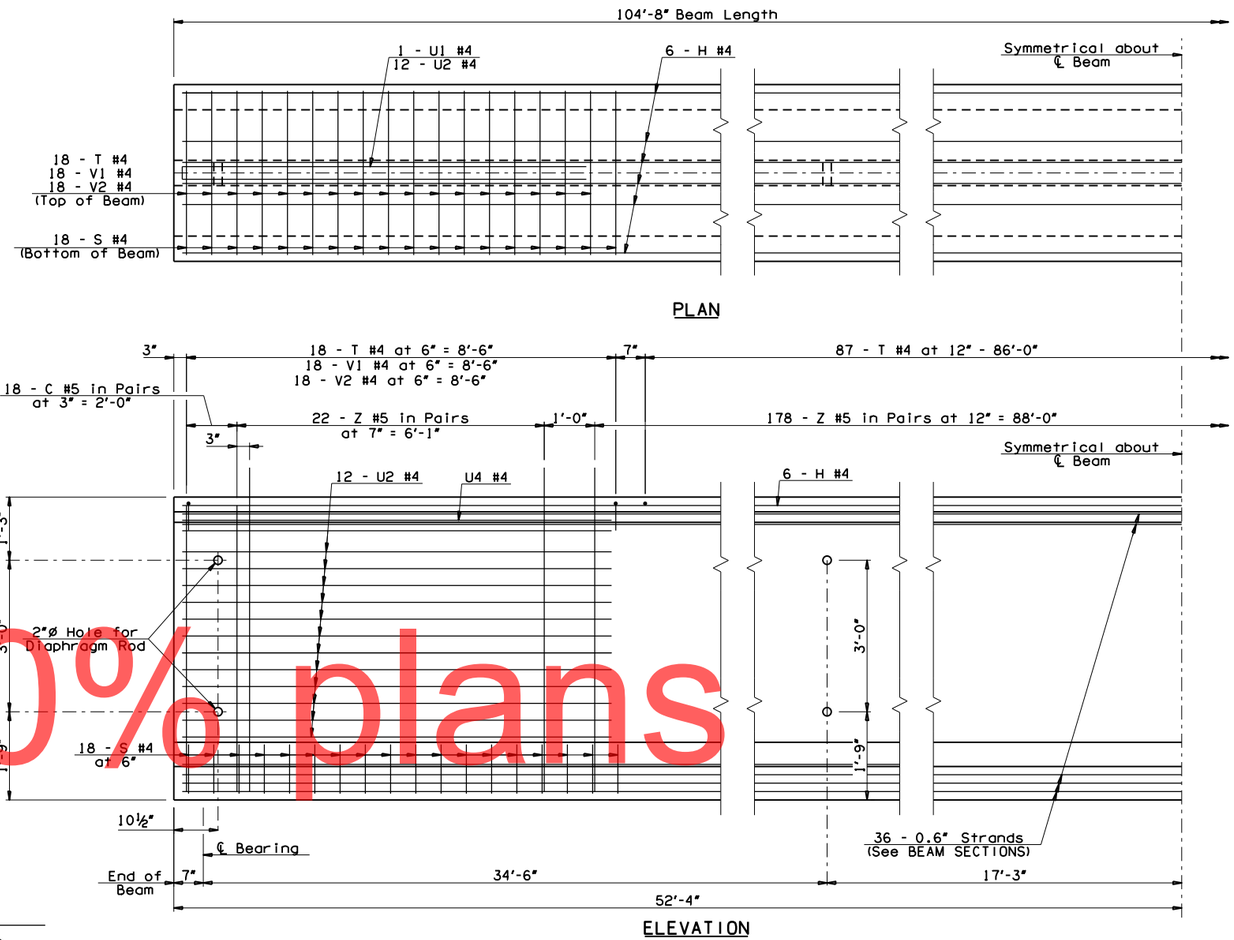
DESIGNED	JMQ	6/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB019

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

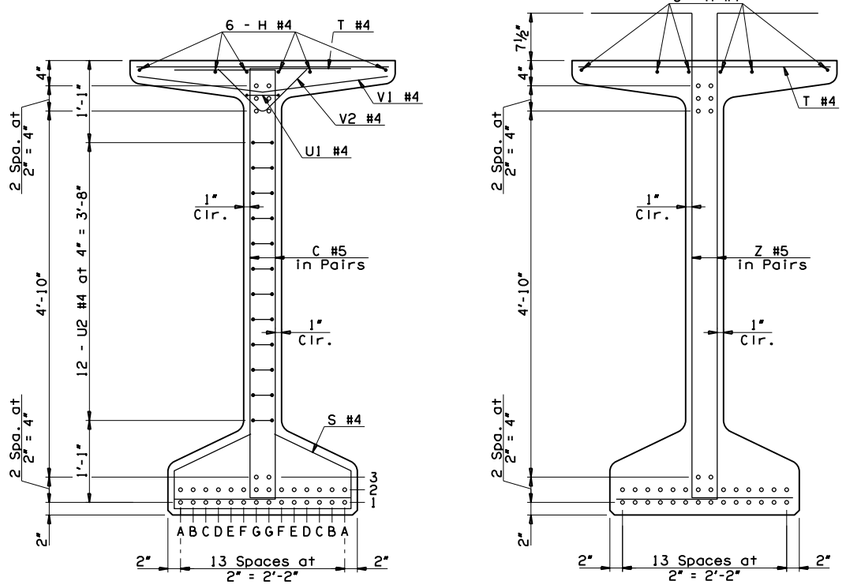
PROPOSED R/W
10/23/2017



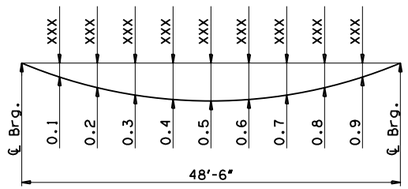
END VIEW



50% plans



BEAM SECTIONS
(36-0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - X.XX (HL-93)
LFR OPERATING RATING - HS XXX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

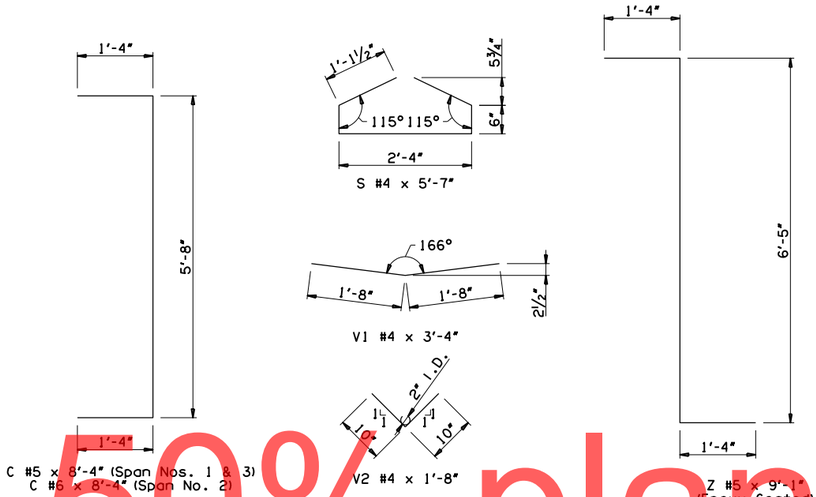
105'-0" BEAM DETAILS
(TYPE J BT)

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

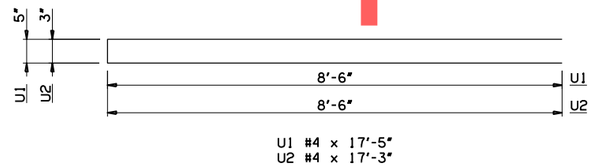
DESIGNED	JMQ	6/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/16		
CHECKED	MJY	7/19	DATE: 10/23/2017	SHEET NO. BB020

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

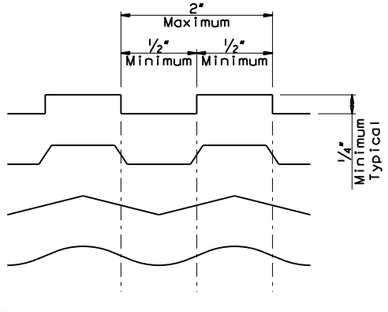
PROPOSED R/W
10/23/2017



50% plans

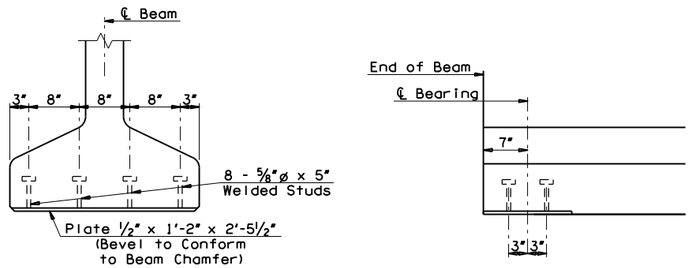


U1 #4 x 17'-5"
U2 #4 x 17'-3"



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

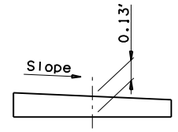
BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB021

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

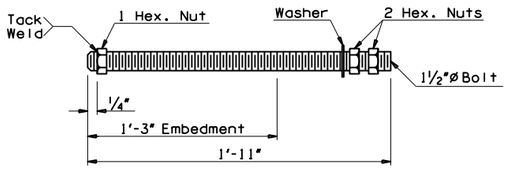
PROPOSED R/W
10/23/2017



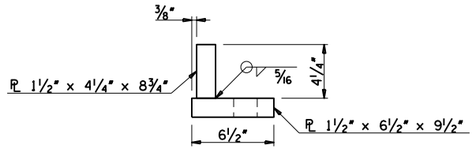
NOTE:
Paint thickest edge red.

BEVELED ANCHOR PLATE DETAIL

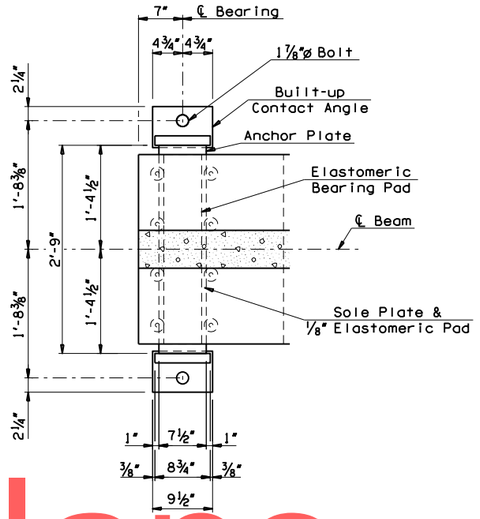
SLOPE TABLE	
LOCATION	SLOPE
ALL	0%



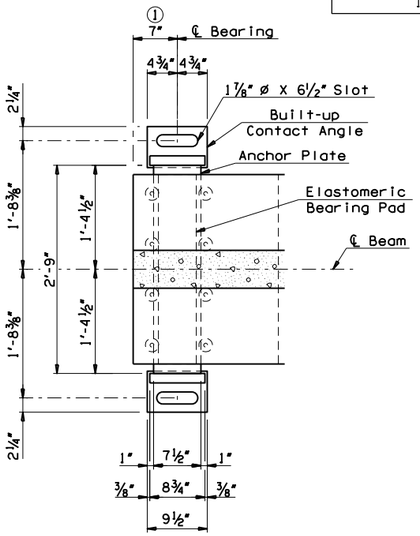
ANCHOR BOLT DETAIL



BUILT-UP CONTACT ANGLE DETAIL



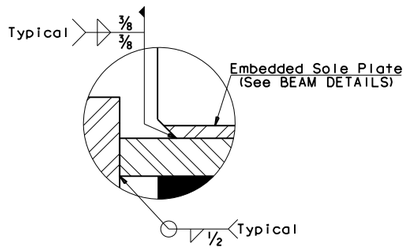
FIXED BEARING PLAN



EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.

50% plans



DETAIL "A"

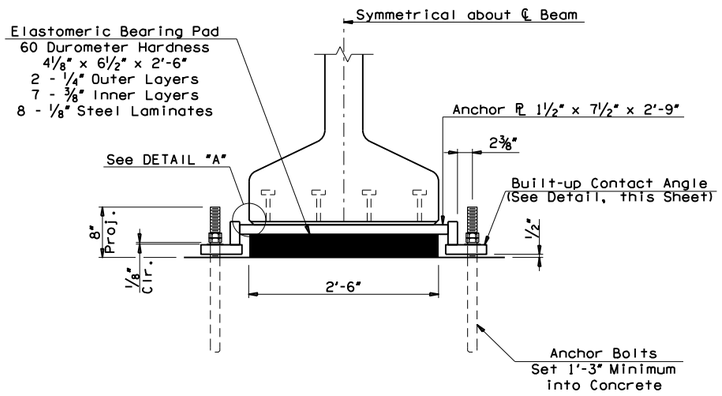
BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required).

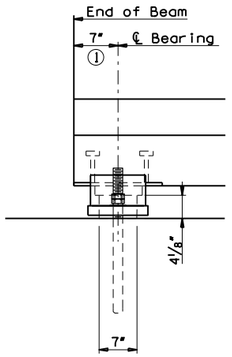
For anchor bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

The total estimated weight of structural steel per bearing assembly is as follows:

Abutments = XXX.X lbs.
Piers = XXX.X lbs.



END VIEW



ELEVATION

BEARING DETAILS

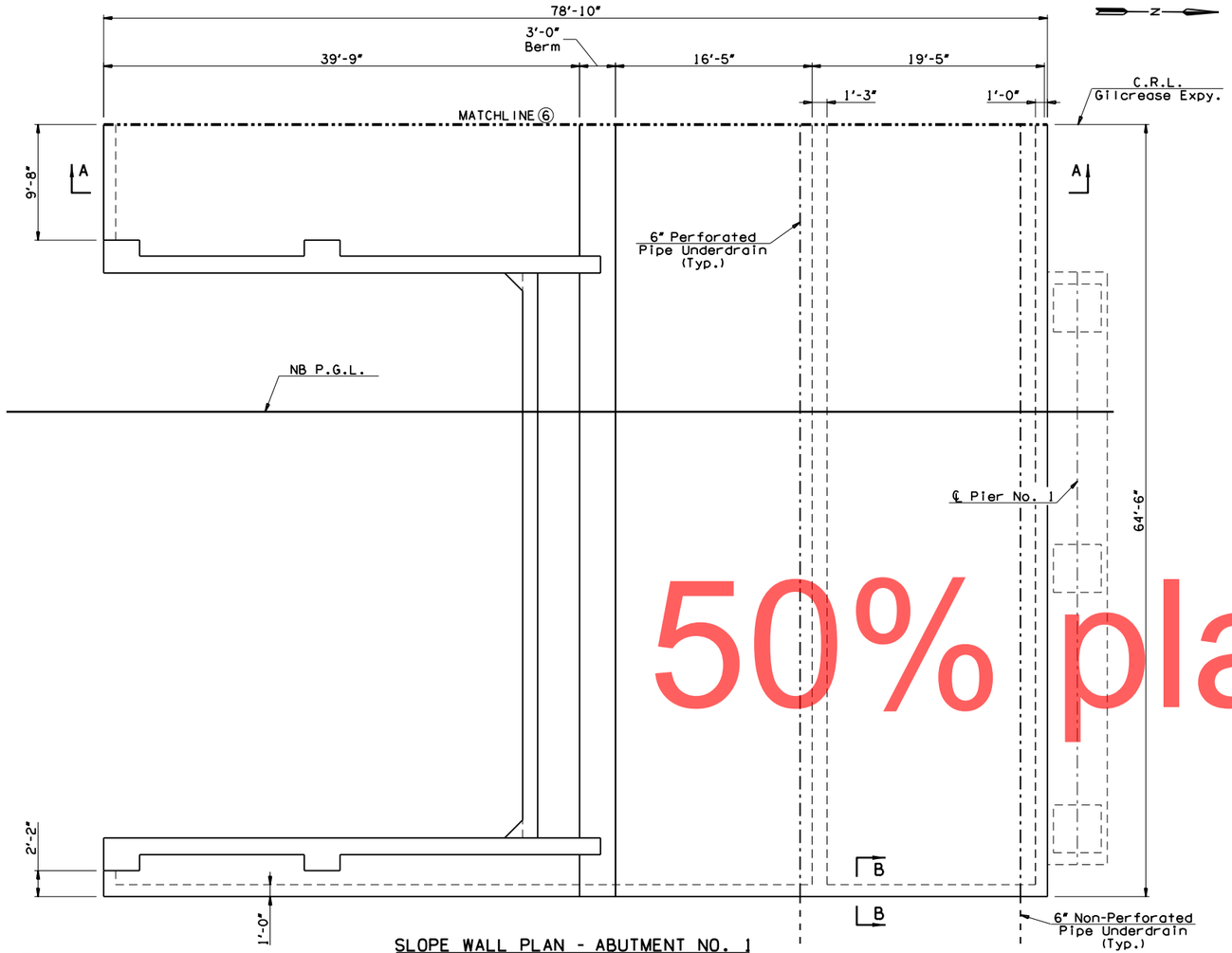
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB022

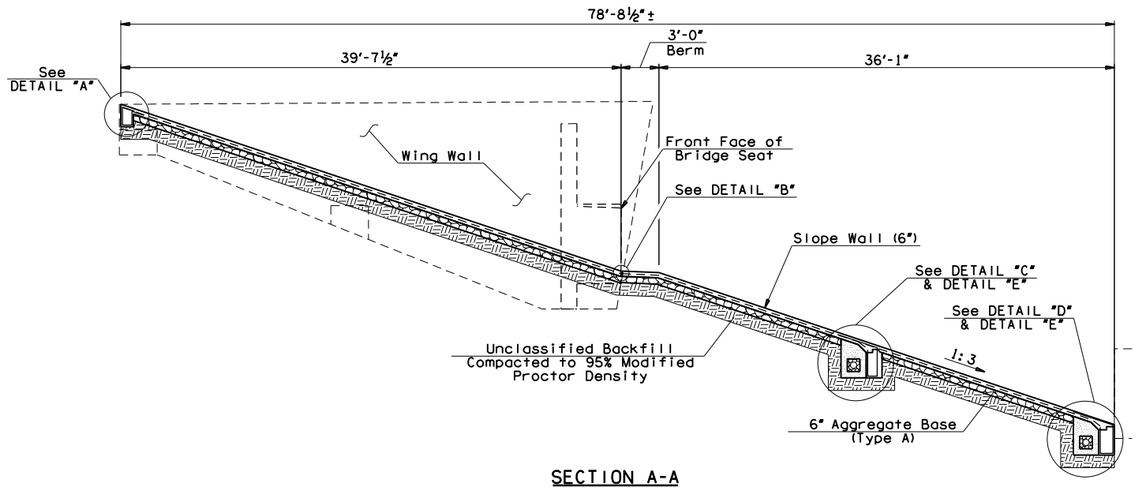
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

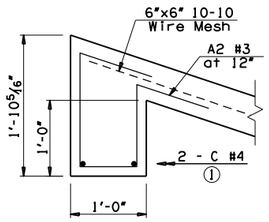


SLOPE WALL PLAN - ABUTMENT NO. 1
(Abutment No. 2 similar)

⑥For Matchline see Sheet No. BC018.

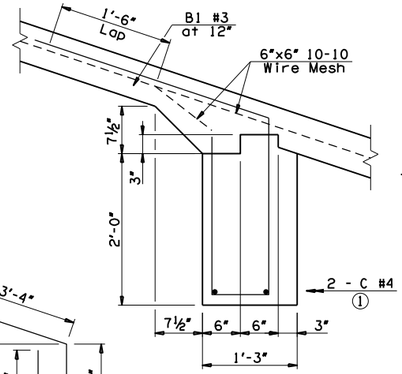


SECTION A-A

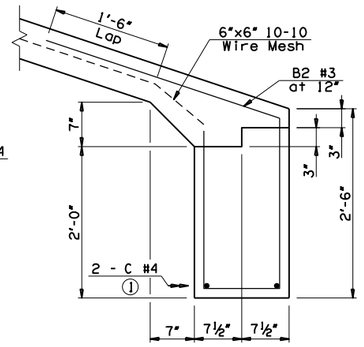


DETAIL "A"

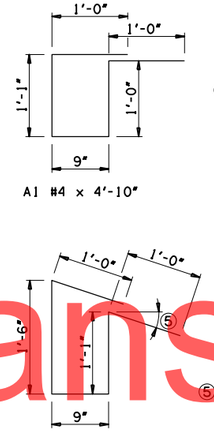
①Continuous 1'-6" lap when necessary



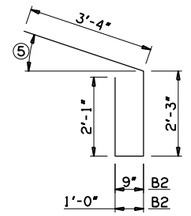
DETAIL "C"



DETAIL "D"



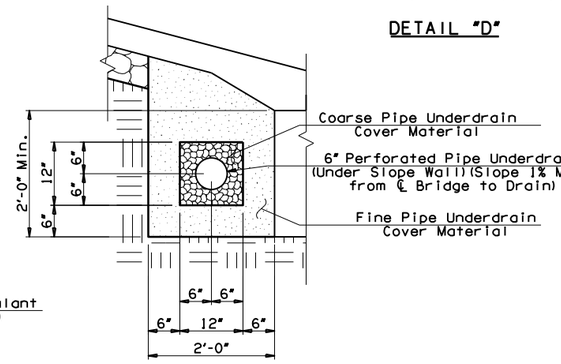
A1 #4 x 4'-10"



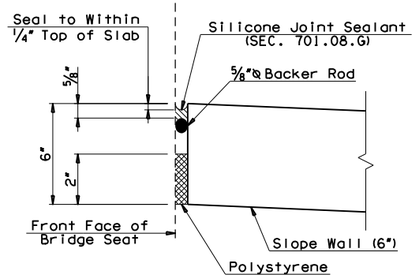
B1 #4 x 8'-5"
B1 #4 x 8'-8"

A2 #4 x 4'-10"

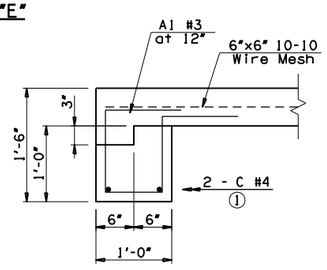
⑤Match slope of Slope Wall



DETAIL "E"



DETAIL "B"



SECTION B-B

SUMMARY OF QUANTITIES - SLOPE WALLS				
ITEM	UNIT	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL
② SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	X,XXX.XX
③ 6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
④ 6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XX.XX	XX.XX	XX.XX

②All costs of the "SLOPE WALL (6")" installation including Class A Concrete, Reinforcing Steel, Lap Splices, Backer Rod, Silicone Joint Sealant, Preformed Joint Filler, Polystyrene, 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 (6")".

③All costs of the Perforated Pipe Underdrain installation including trench excavation, cover material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

④All costs of the Non-Perforated Pipe Underdrain installation including trench excavation, backfilling, material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. B GILCREASE NB OVER W. 41ST ST.

SLOPE WALL DETAILS

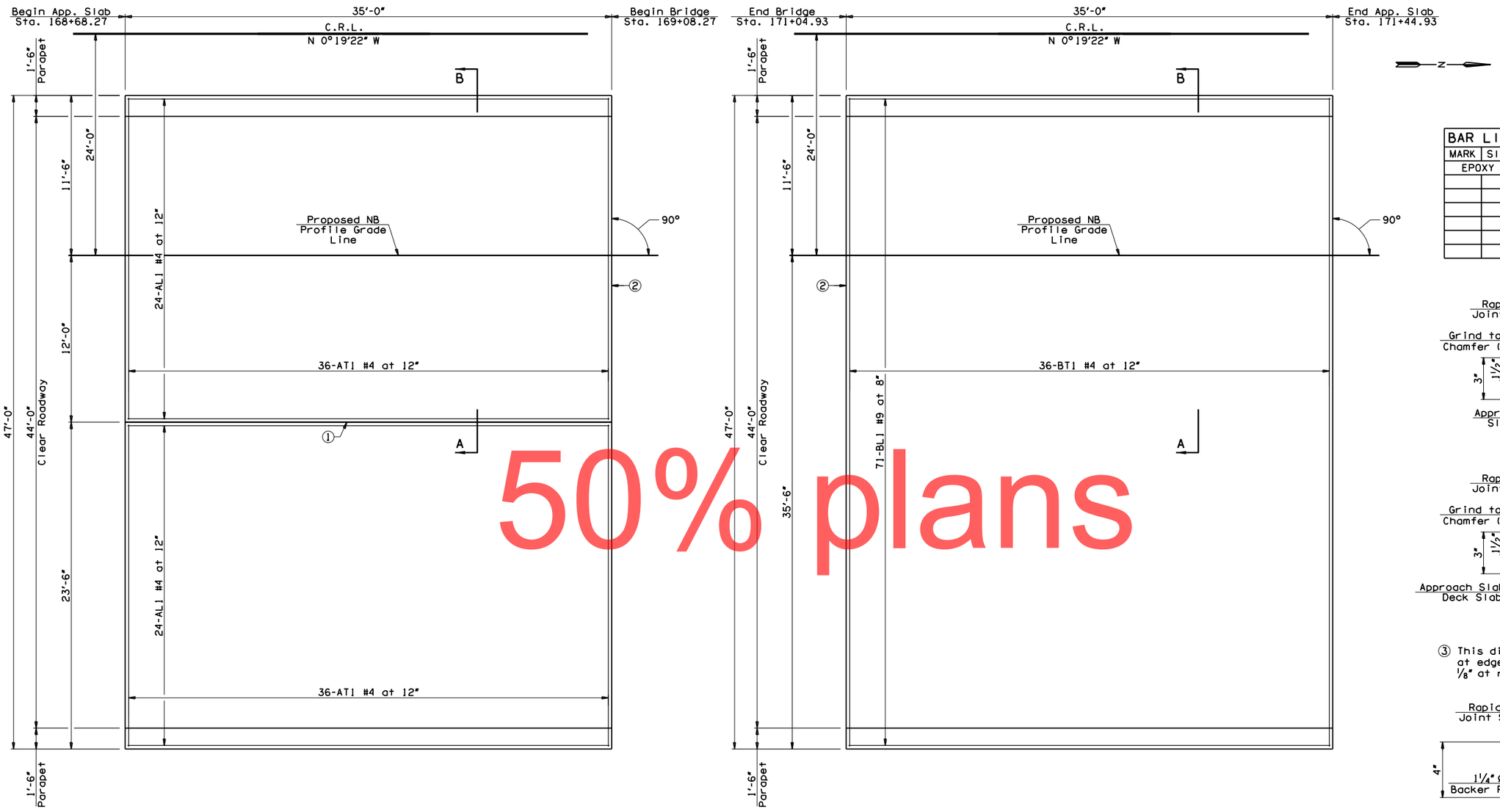
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BB023

50% plans

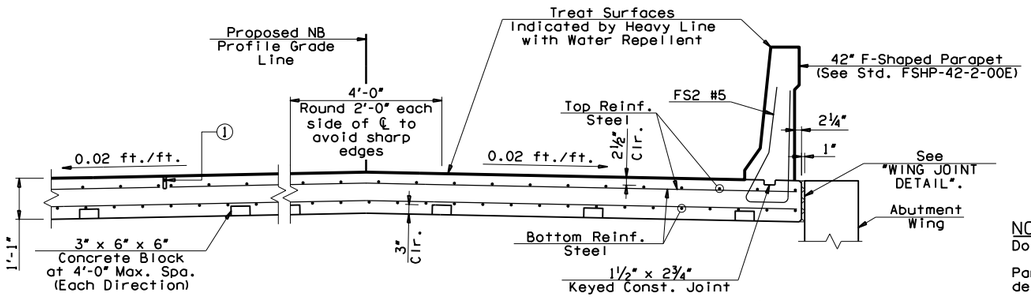
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



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

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



SECTION A THRU APPROACH SLAB

SECTION B ②

② East Parapet shown, West Parapet similar.

SUMMARY OF QUANTITIES - APPROACH SLAB NOS. 1 & 2				
ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
④⑤ APPROACH SLAB				
SAW-CUT GROOVING				
42" F-SHAPED PARAPET				
WATER REPELLENT (VISUALLY INSPECTED)				

④ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including SR1 bars), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

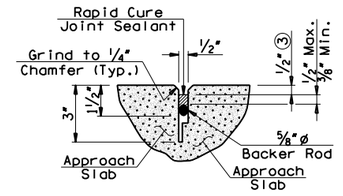
⑤ There is an estimated XX.XX C.Y. of Class AA Concrete and an estimated XXXX.XX LB. of Epoxy Coated Reinforcing Steel in each Approach Slab.

NOTES:
Do not groove within 6" of any joint.

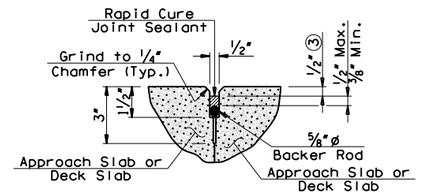
Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BB016 for additional details.

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

BAR LIST - APP. SLAB NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				

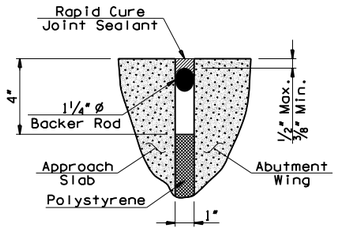


DETAIL "A"



DETAIL "B"

③ This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



WING JOINT DETAIL

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A".

② Sawed & Sealed Construction Joint. See DETAIL "B".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. B GILCREASE NB OVER W. 41ST ST.

APPROACH SLAB DETAILS

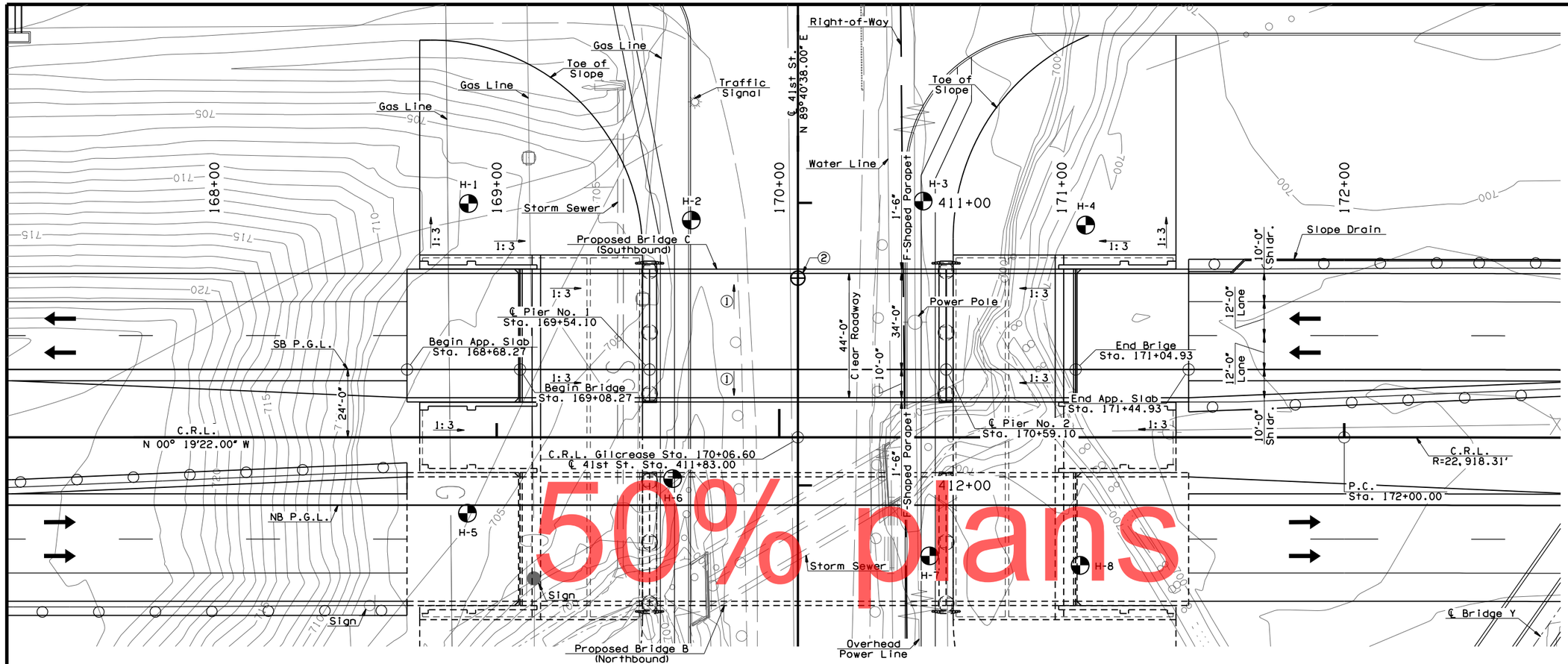
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17	DATE: 10/23/2017	SHEET NO. BB024
CHECKED	MJY	9/17		

50% plans

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

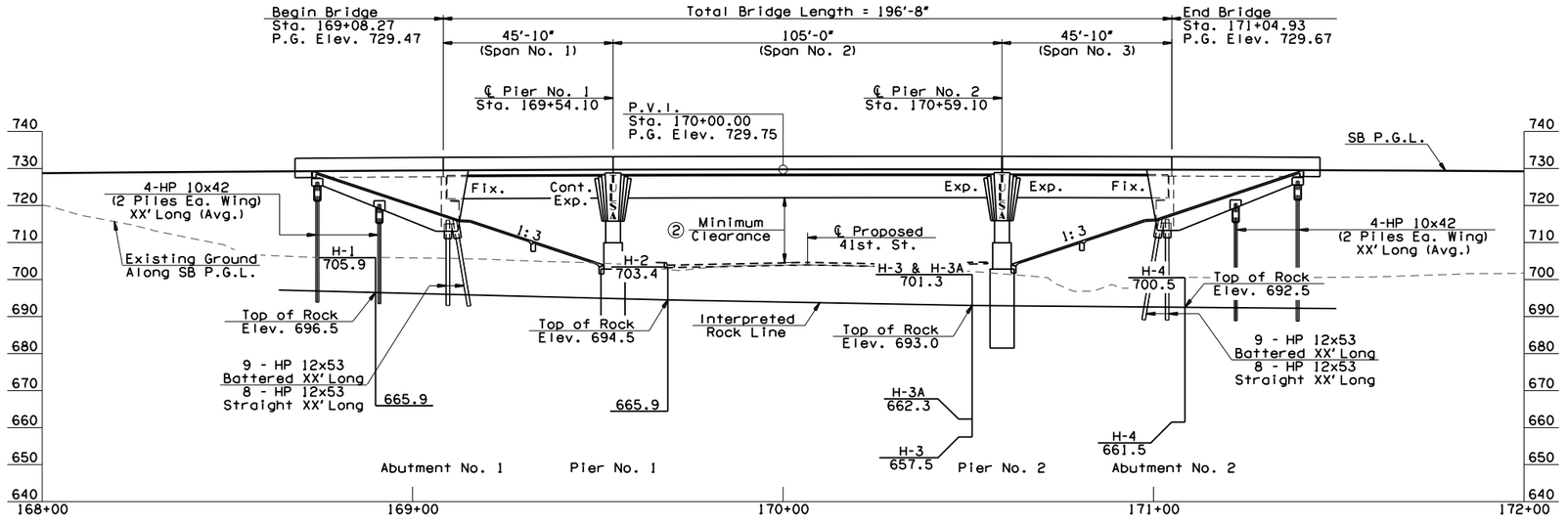
PROPOSED R/W
10/23/2017



PLAN

0 20 40 60
SCALE 1" = 20'

For Foundation Report, See Sheet Nos. BB003 - BB007.



ELEVATION

Benchmark 16		
Description #6 Rebar		
Offset 413' Lt.	Sta. 175+67	El. 698.50

Benchmark 17		
Description #6 Rebar		
Offset 275' Lt.	Sta. 168+56	El. 705.66

① 0.02 ft./ft.
② Minimum Vertical Clearance 17'-3"
Gilcrease Sta. 169+06.60
Offset 56.33' Lt.
Low Chord Elev. 722.11

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BC002.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BC001

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BC001-BC002	General Plan and Elevation
BC003	Staking Diagram
BC004	Abutment Details
BC005	Substructure Excavation and Pipe Underdrain Assembly
BC006	Pier Details
BC007	Typical Section
BC008	Longitudinal Section
BC009-BC012	Superstructure Details
BC013	Framing Plan
BC014-BC016	Beam Details
BC017	Bearing Details
BC018	Slope Wall Details
BC019	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operating Rating: X.XX (HL-93)

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (66" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X

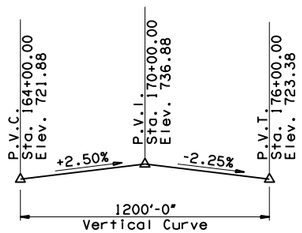
STANDARDS

FSHP-42-2-00E
HP1-2-01E

50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

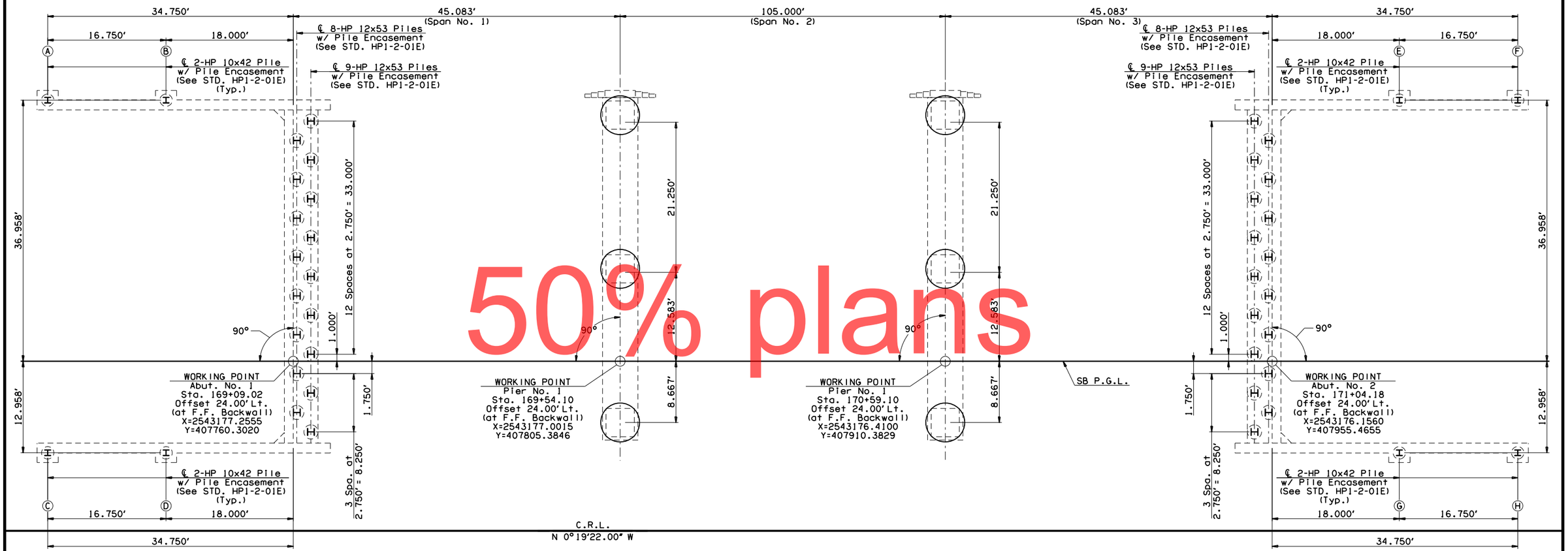
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BC002

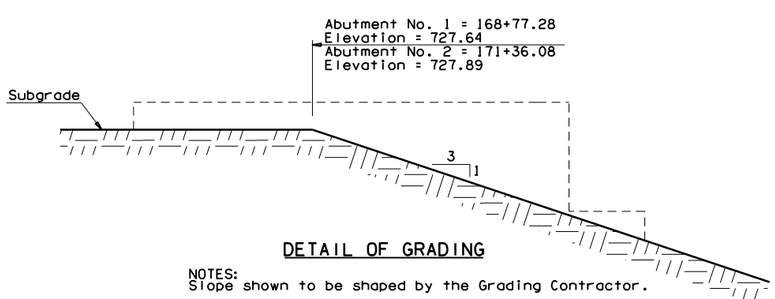
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2

50% plans



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	XXX.XX
B	XXX.XX
CAP	XXX.XX

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

STAKING DIAGRAM

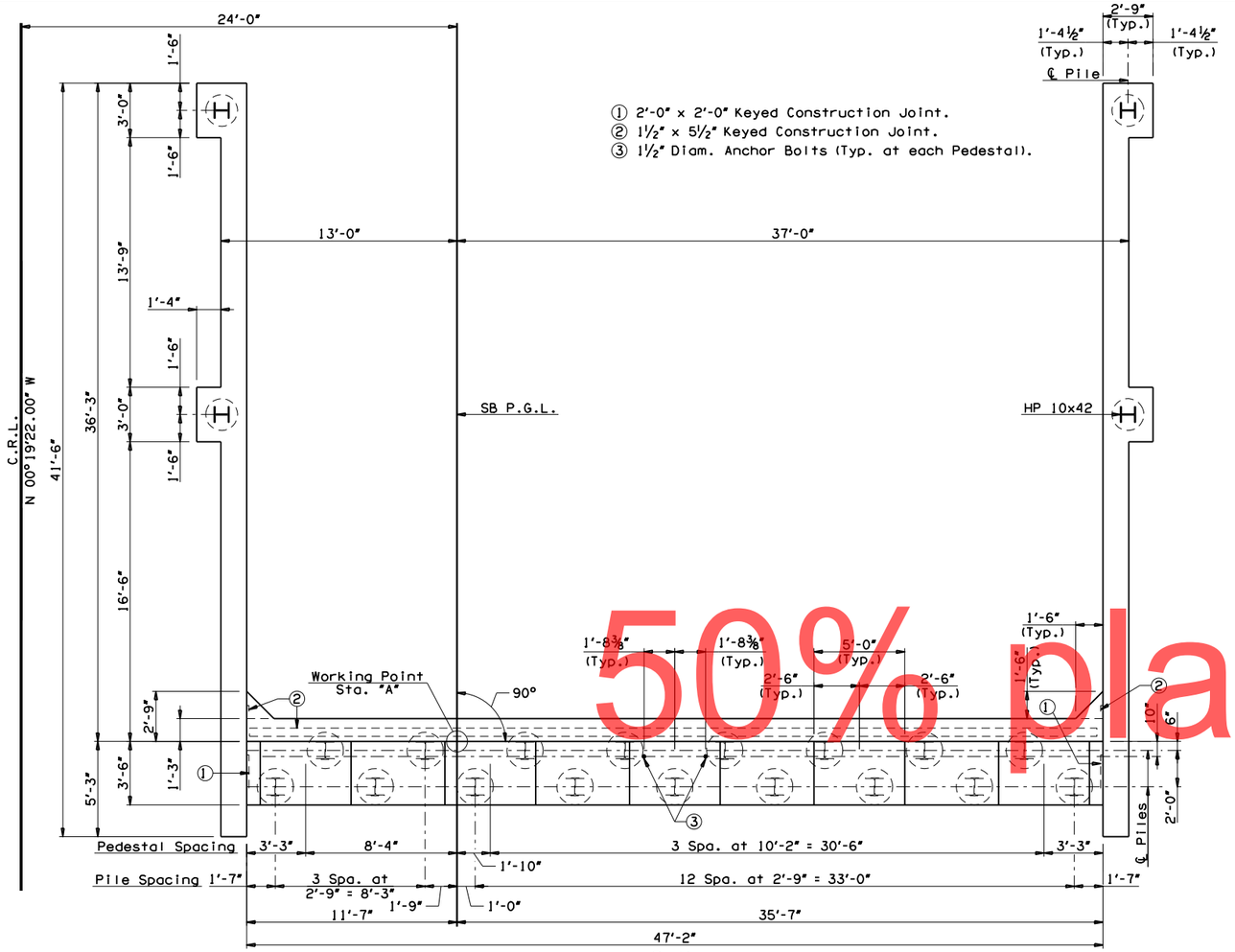
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC003

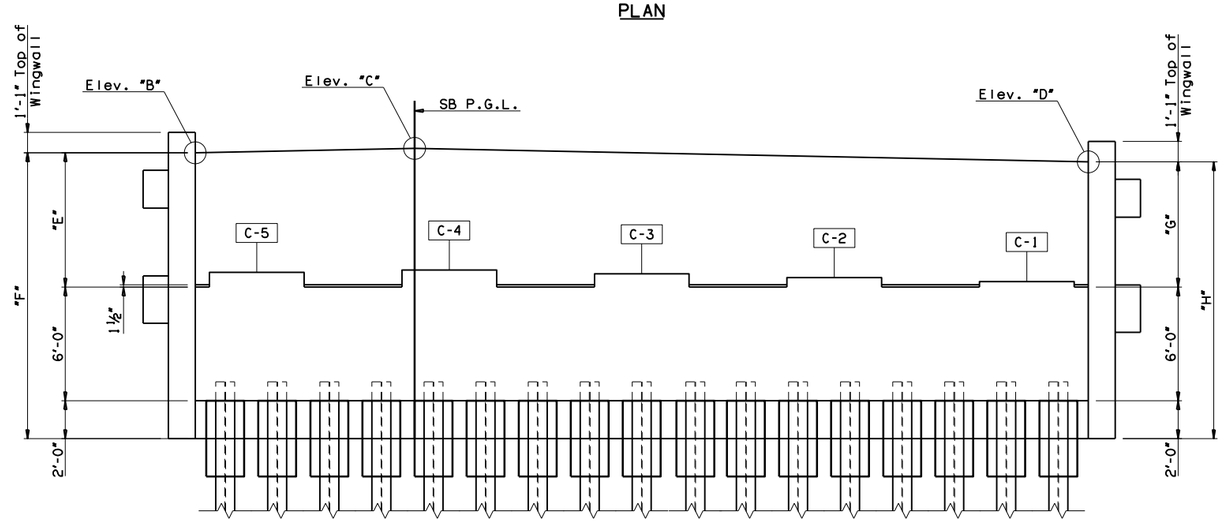
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

① 2'-0" x 2'-0" Keyed Construction Joint.
② 1½" x 5½" Keyed Construction Joint.
③ 1½" Diam. Anchor Bolts (Typ. at each Pedestal).



PLAN



ELEVATION
(Looking backstation at Abutment No. 1)
(Abutment No. 2 similar but opposite hand)

50% plans

TABLE OF VARIABLES		
ITEM	ABUT. NO. 1	ABUT. NO. 2
Sta. "A"	XX+XXX.XX	XX+XXX.XX
Elev. "B"	XXX.XX	XXX.XX
Elev. "C"	XXX.XX	XXX.XX
Elev. "D"	XXX.XX	XXX.XX
Length "E"	X'-XX"	X'-XX"
Length "F"	X'-XX"	X'-XX"
Length "G"	X'-XX"	X'-XX"
Length "H"	X'-XX"	X'-XX"

PEDESTAL ELEVATIONS		
PEDESTAL NO.	ABUT. NO. 1	ABUT. NO. 2
SB-A	XXX.XX	XXX.XX
SB-B	XXX.XX	XXX.XX
SB-C	XXX.XX	XXX.XX
SB-D	XXX.XX	XXX.XX
SB-E	XXX.XX	XXX.XX

SUMMARY OF QUANTITIES - ABUTMENTS				
ITEM	UNIT	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	XXX.XX	XXX.XX	XXX.XX
CLSM BACKFILL	C.Y.	XXX.XX	XXX.XX	XXX.XX
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	XXX.XX	XXX.XX	XXX.XX
SPECIAL CONCRETE FINISH	S.Y.	XXX.XX	XXX.XX	XXX.XX
CLASS A CONCRETE	C.Y.	XXX.XX	XXX.XX	XXX.XX
SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	XXX.XX
EPOXY COATED REINFORCING STEEL	LB.	XXX.XX	XXX.XX	XXX.XX
PILES FURNISHED (HP 10X42)	L.F.	XXX.XX	XXX.XX	XXX.XX
PILES FURNISHED (HP 12X53)	L.F.	XXX.XX	XXX.XX	XXX.XX
PILES DRIVEN (HP 10X42)	L.F.	XXX.XX	XXX.XX	XXX.XX
PILES DRIVEN (HP 12X53)	L.F.	XXX.XX	XXX.XX	XXX.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.XX	XXX.XX	XXX.XX
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XXX.XX	XXX.XX	XXX.XX

NOTE:
For Water Repellent Details, see Sheet No. BSTA01.

For bar lists, bar bends, and summary of quantities, See Sheet No. BCXXX.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

ABUTMENT DETAILS

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

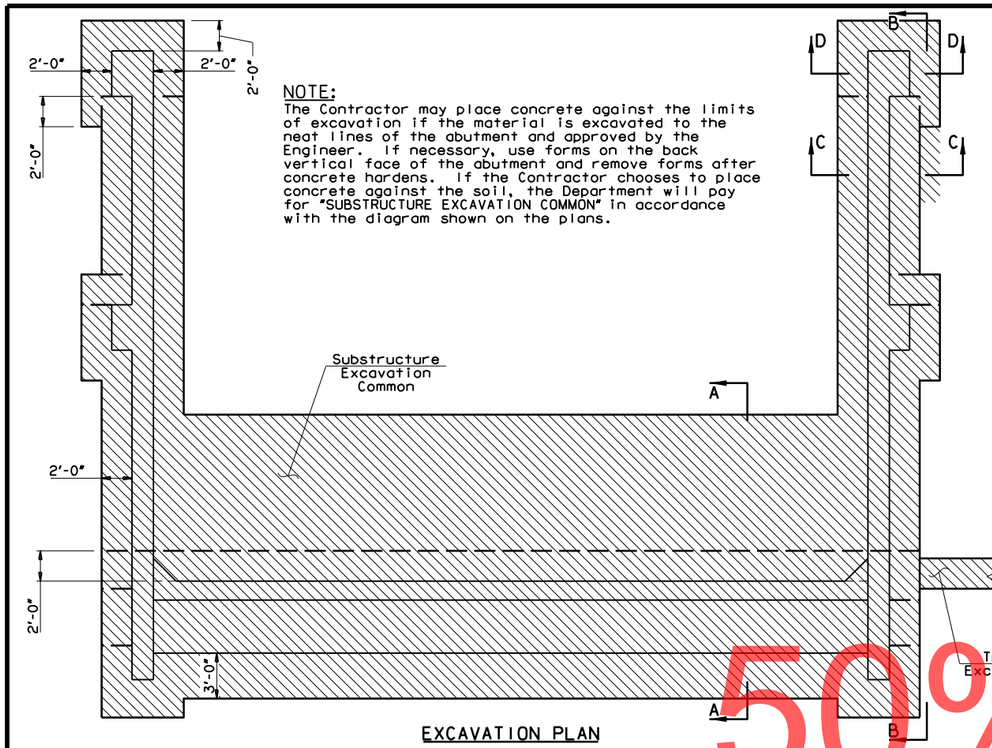
DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BC004

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

PROPOSED R/W
10/23/2017

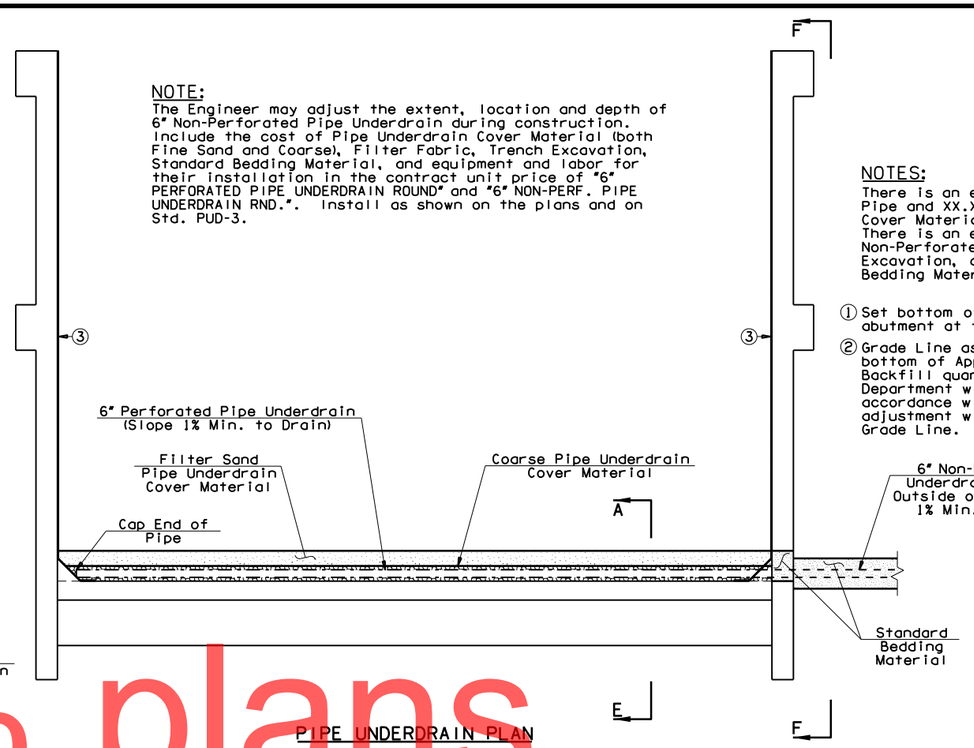
50% plans

NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.



EXCAVATION PLAN

NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.

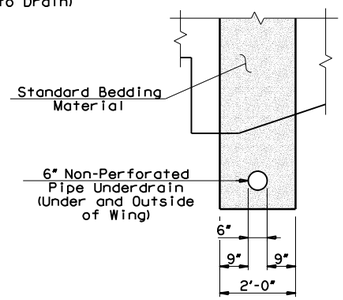


PIPE UNDERDRAIN PLAN

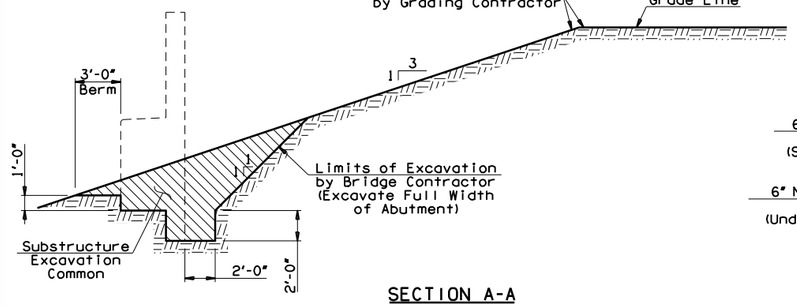
NOTES:
There is an estimated XX.00 feet of Perforated Pipe and XX.XO cubic yards of Piper Underdrain Cover Material for both abutments.
There is an extimated XX.00 feet of Non-Perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.

① Set bottom of pipe 3" above the bottom of the abutment at the low end.

② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.

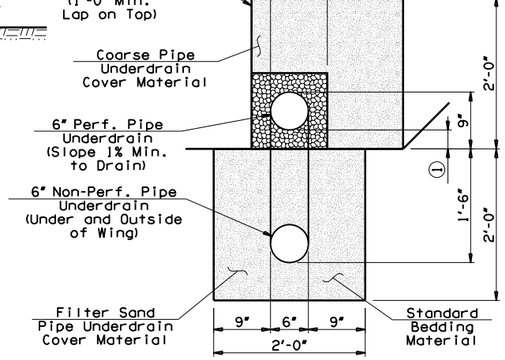


DETAIL "B"

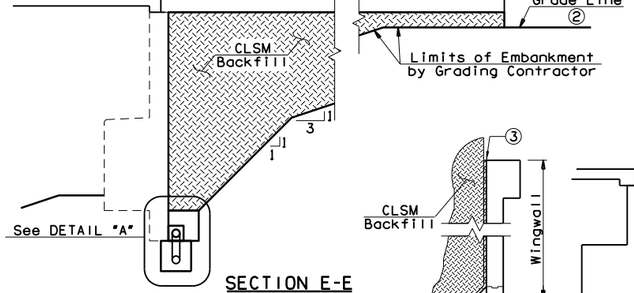


SECTION A-A

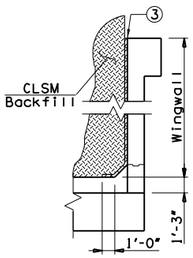
ABUTMENT GRADING DATA			
ABUT.	WING	STATION	ELEVATION ②
1	W	XXX+XX.XX	XXX.XX
	E	XXX+XX.XX	XXX.XX
2	W	XXX+XX.XX	XXX.XX
	E	XXX+XX.XX	XXX.XX



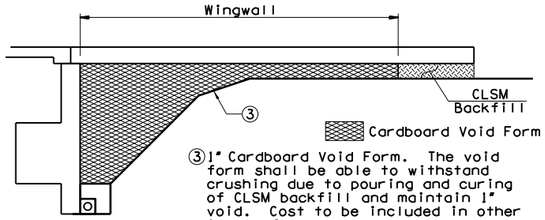
DETAIL "A"



SECTION E-E



PLAN



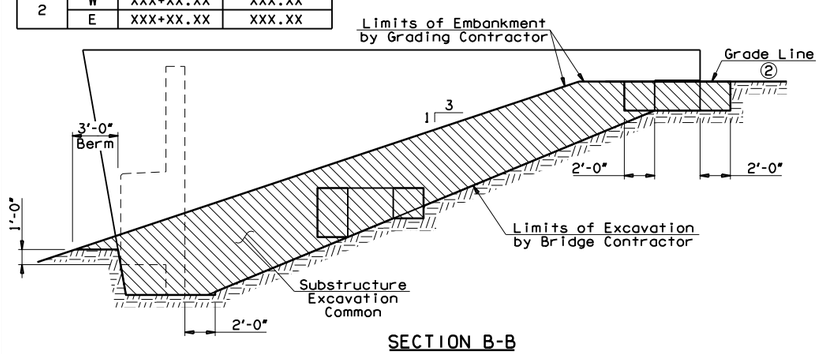
ELEVATION

NOTE:
Wingwall skew may not be depicted accurately in this schematic.

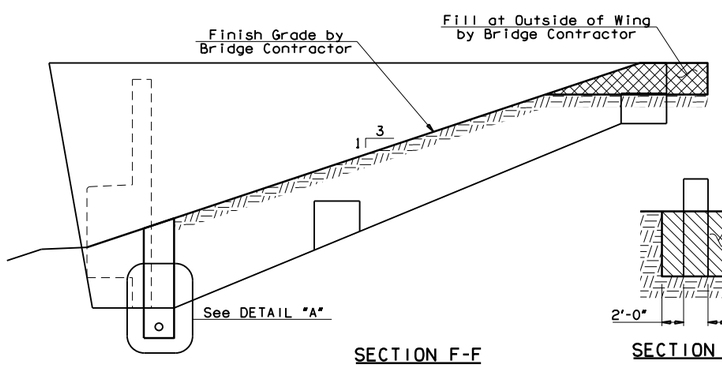
③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal. Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.

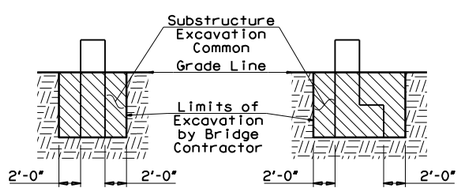
VOID FORM DETAILS



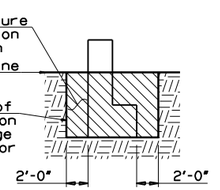
SECTION B-B



SECTION F-F



SECTION C-C



SECTION D-D

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

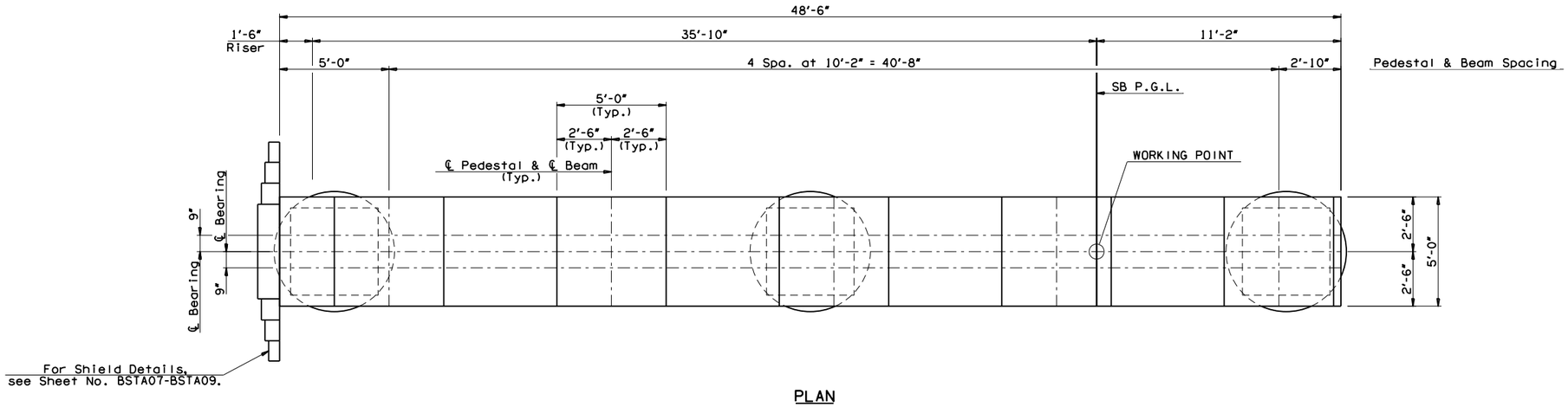
SUBSTRUCTURE EXC. & PIPE UNDERDRAIN ASSEMBLY DETAILS

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

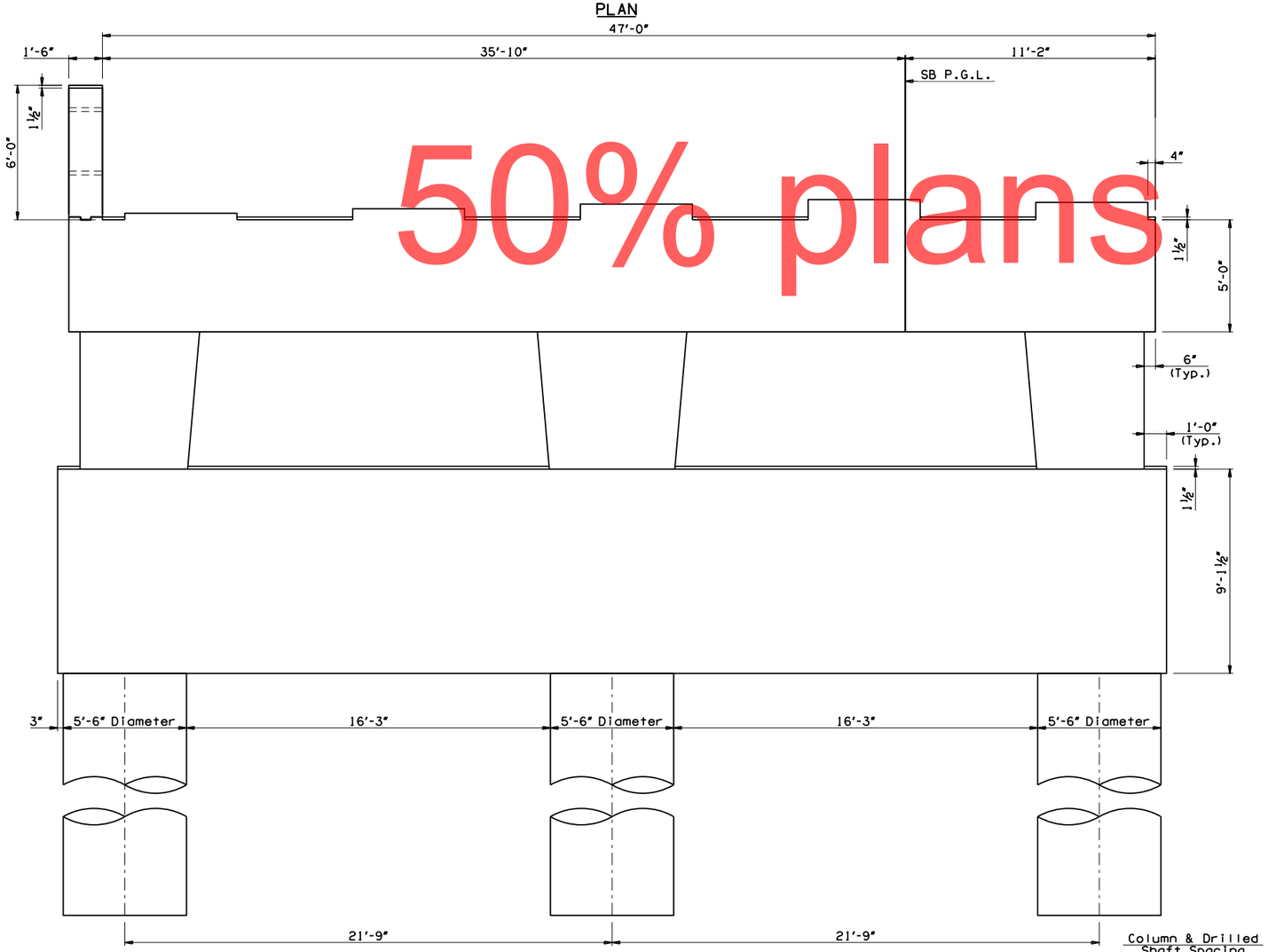
DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC005

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

PROPOSED
R/W
10/23/2017



PLAN



ELEVATION

50% plans

NOTE:
For Water Repellent Details, see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

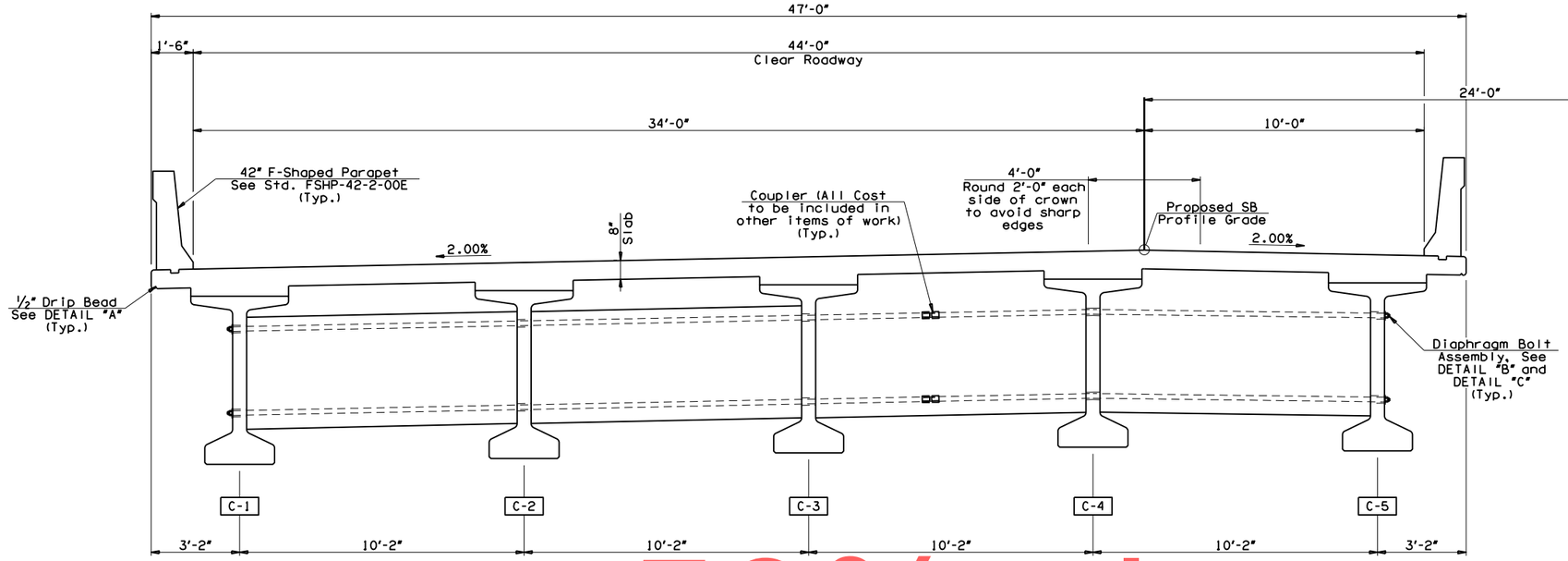
PIER DETAILS

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

DESIGNED	JMQ	9/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BC006

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

PROPOSED R/W
10/23/2017

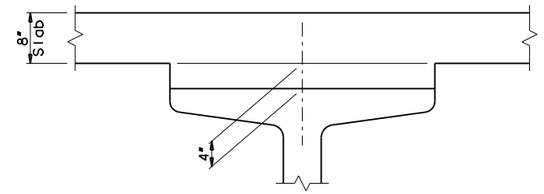


HALF SECTION AT MIDSPAN

HALF SECTION AT END OF SPAN

TYPICAL SECTION
(Looking Forward Station)

50% plans



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 bottom of Deck Slab to Top of 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.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL

Ⓒ Includes a calculated XX.XO C.Y. of Class AA Concrete in the Haunches

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).

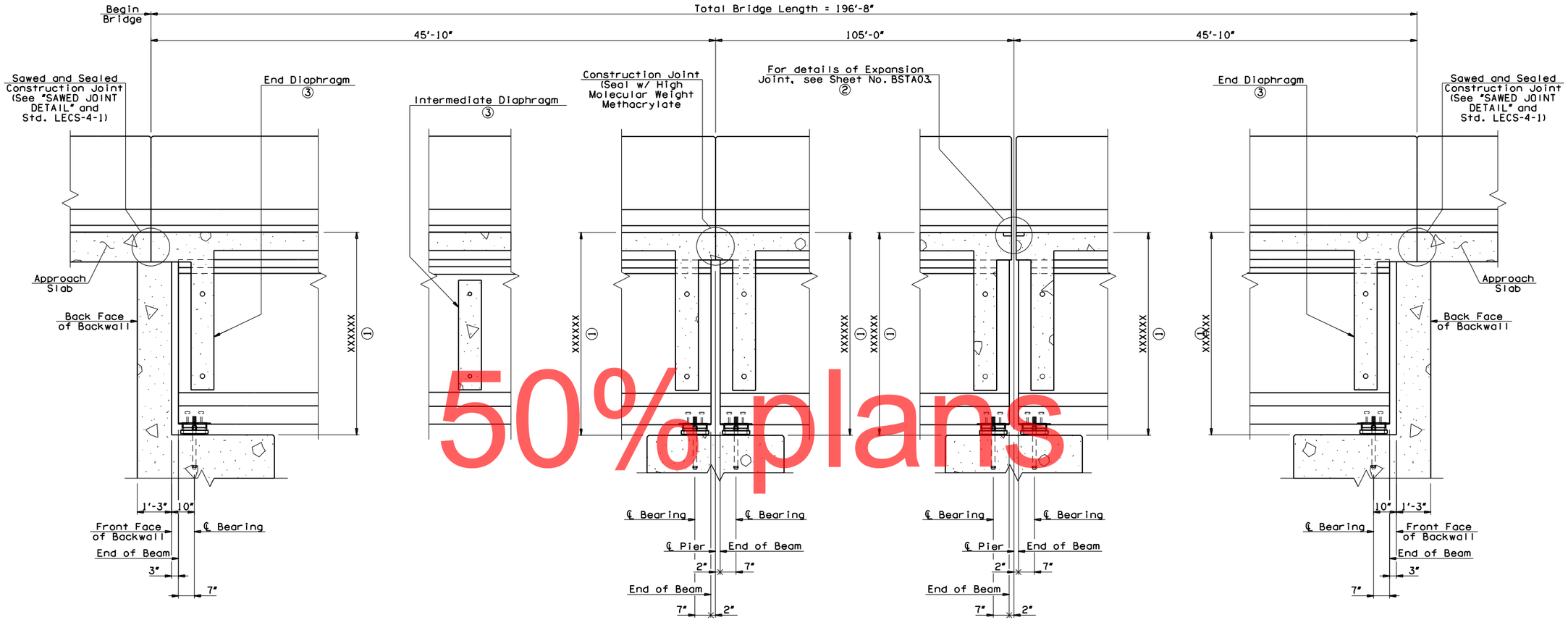
Paint exposed Diaphragm Bolt, Beveled Spacer, Plate Washer and Hex Nut with two (2) coats of zinc-rich paint (6 mil. minimum thickness) after assembly. Include all cost of Diaphragm Bolt, Beveled Spacer, Plate Washer and Hex Nut in the contract unit price for "STRUCTURAL STEEL".

NOTE:
See Sheet Nos. BC009 - BC011 for deck reinforcing layout.
For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. C GILCREASE SB OVER W. 41ST ST.
TYPICAL SECTION

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

DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BC007



LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

50% plans

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② See Expansion Joint Opening Equations on Sheet No. BC011.

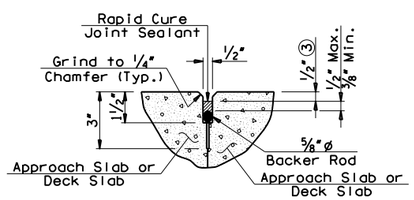
③ For Diaphragm layout see Sheet No. BC013.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

③ This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only.

NOTE:

Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

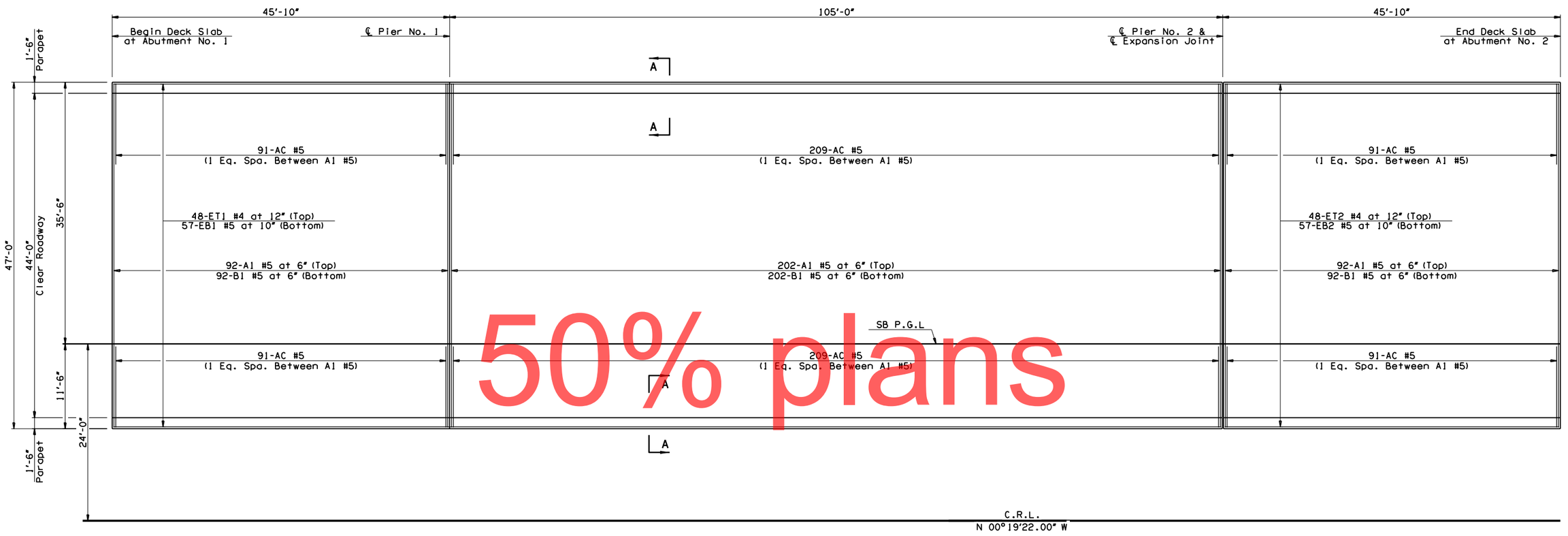
LONGITUDINAL SECTION

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC008

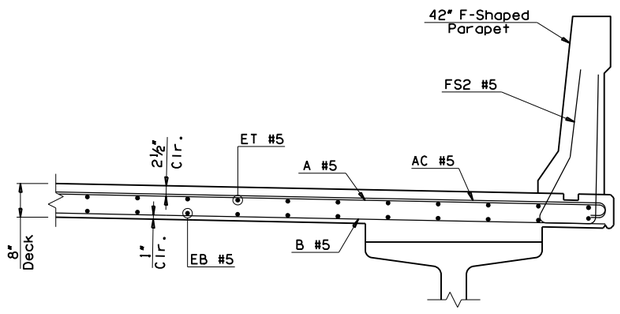
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

SLAB PLAN - SPAN NOS. 1 - 3
(Showing Top & Bottom of Slab Reinforcing Steel)



SECTION A-A

BAR LIST - SUPERSTRUCTURE				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				

① Includes One XX'-XX" Lap Length.
② Includes One XX'-XX" Lap Length.

NOTES:
Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BC012 for additional details.

All lap lengths shall be staggered.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BC011 for details and Expansion Joint Opening Equation.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

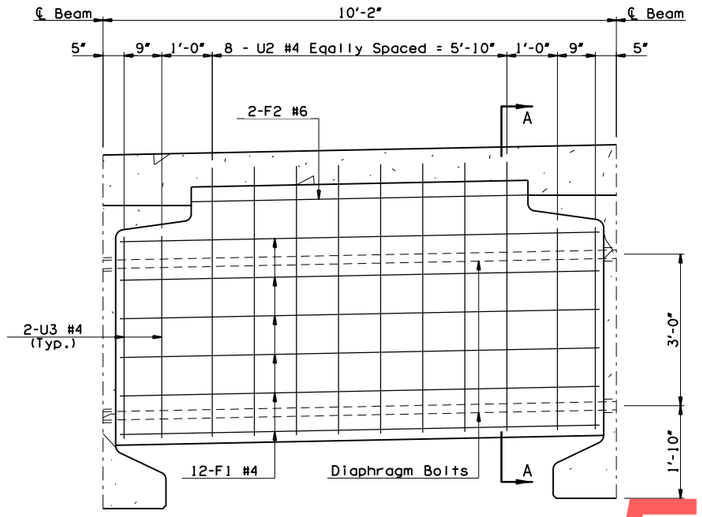
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

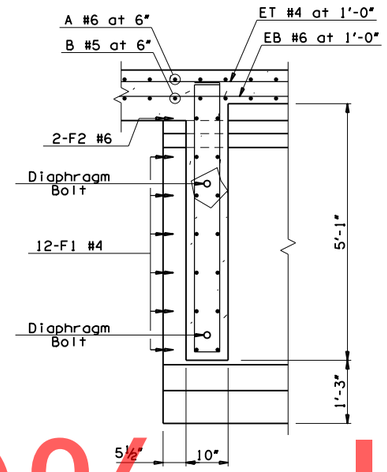
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC009

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

PROPOSED
R/W
10/23/2017



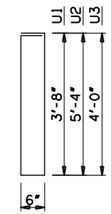
TYPE J BT - END DIAPHRAGM



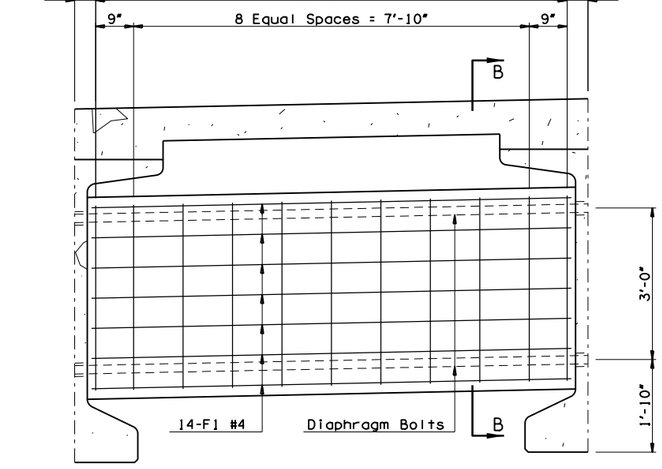
SECTION A-A

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	416	STR.	9'-4"	-
F2	#6	32	STR.	6'-4"	-
U1	#4	224	BENT	8'-10"	-
U2	#4	128	BENT	12'-2"	-
U3	#4	64	BENT	9'-6"	-

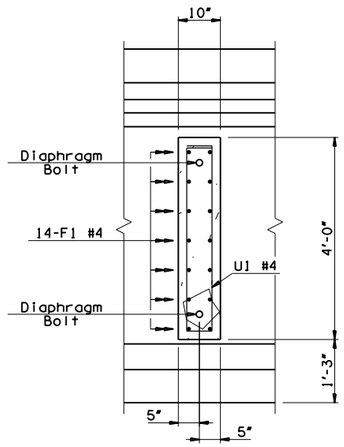
50% plans



U1 #4 x 14'-1"
U2 #4 x 13'-9"
U3 #4 x 14'-1"



TYPE J BT - INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)



SECTION B-B

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

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

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC010

① AS #4. Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

NOTES:

Deck Slab reinforcement not shown for clarity.

Location of reinforcing shown is for informational purposes only. Acutal lengths of AT, EPT & FPT bars will vary depending on span arrangment. See "FRAMING PLAN" sheets for spacing of beams per span. See "SUPERSTRUCTURE DETAILS" sheets for specific bar designations and lengths per span.

SILICONE JOINT SEALANT NOTE:

The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

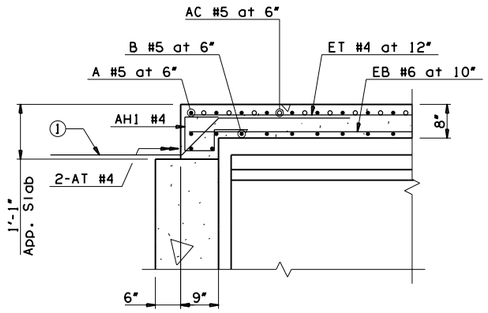
⑤ The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

X.XXXXX - (0.XXXXX x T)

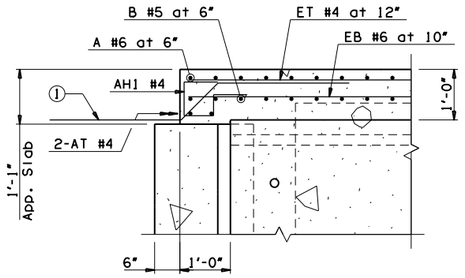
Where "T" equals the Ambient Air Temperature in degrees Farenheit at the same time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

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

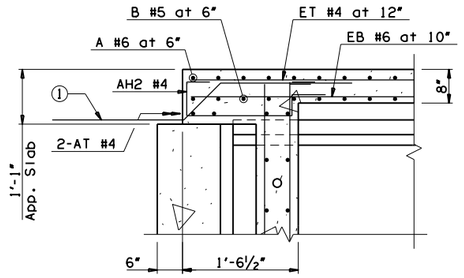
PROPOSED R/W
10/23/2017



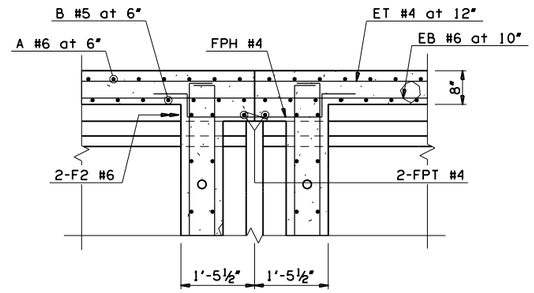
SECTION A-A



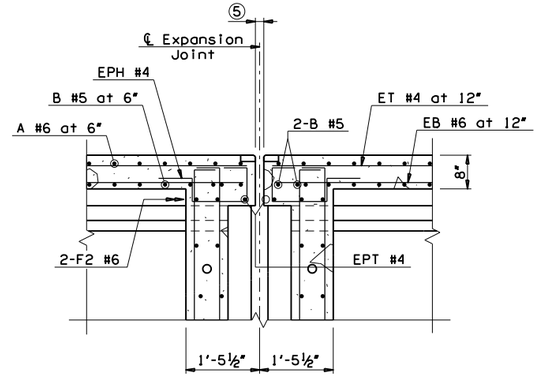
SECTION B-B



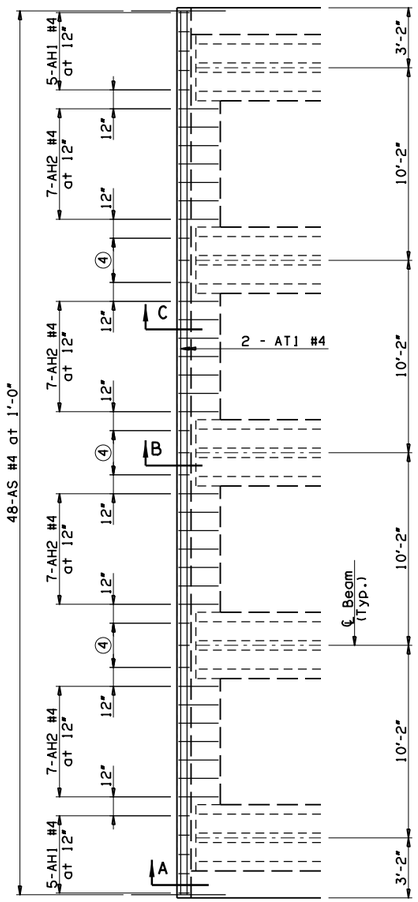
SECTION C-C



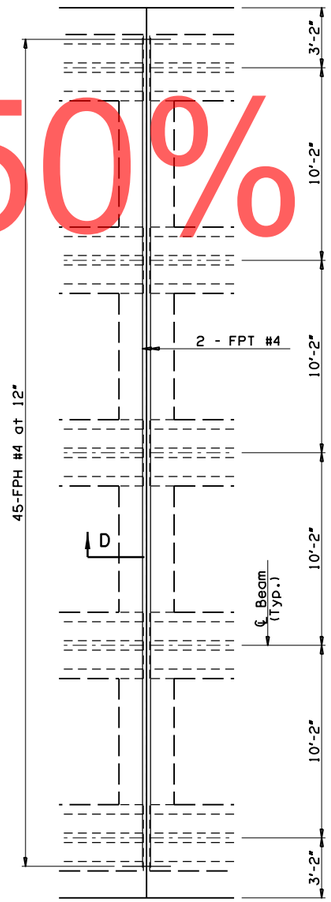
SECTION D-D



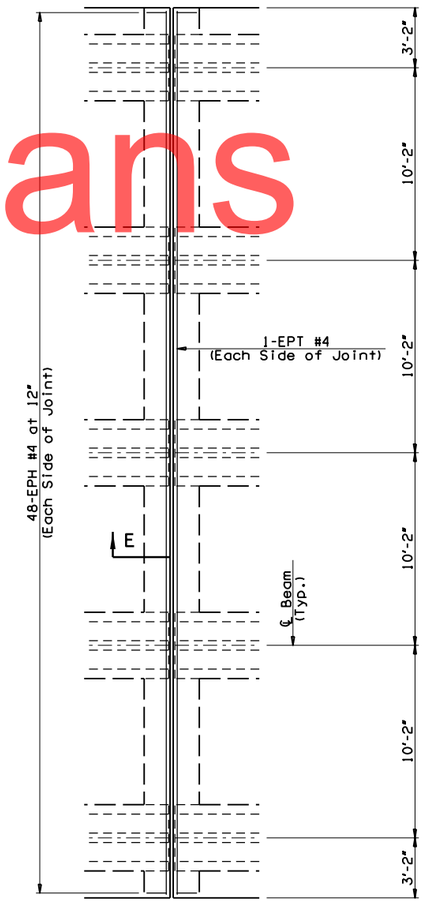
SECTION E-E



ABUTMENT



FIXED PIER NO. 1



EXPANSION PIER NO. 2

④ 3-AH1 #4 at 12"

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

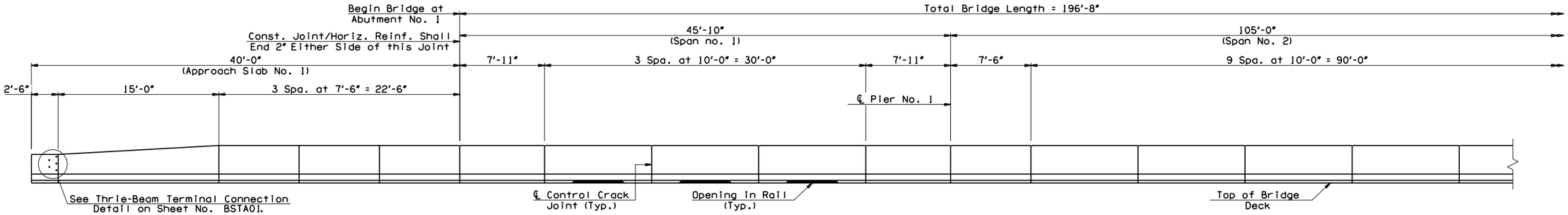
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

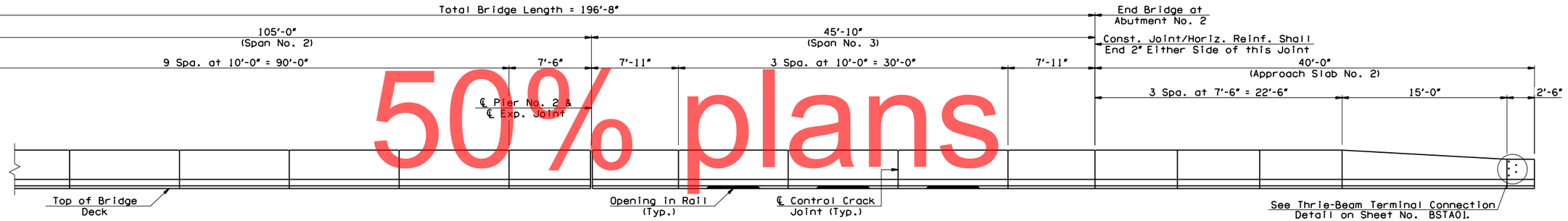
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC011

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

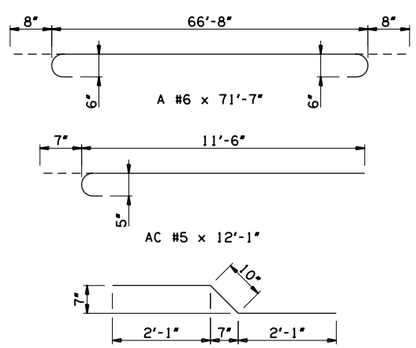
PROPOSED R/W
10/23/2017

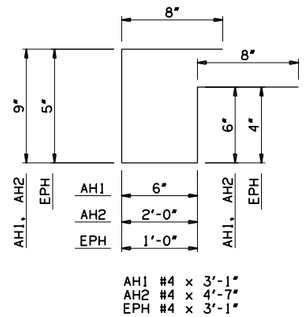


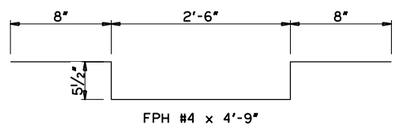


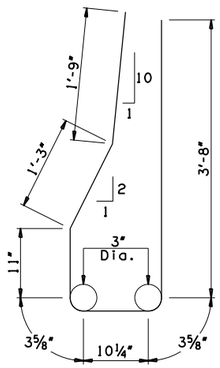
50% plans

42" F-SHAPED PARAPET LAYOUT - WITH OPENINGS
(West Parapet Shown, East Parapet Similar)









FS2 #5 x 9'-0"

NOTES:
For details showing the Parapet reinforcement layout, see bar bends and Std. FSHP-42-2-00E.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

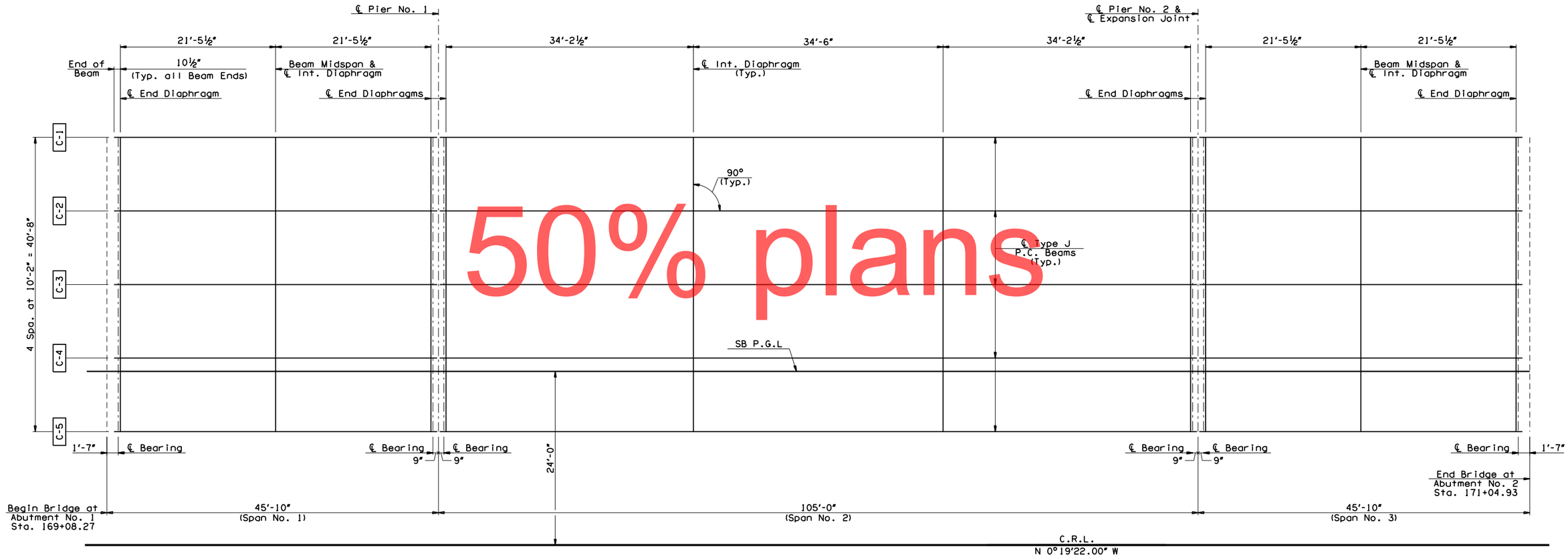
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC012

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

PROPOSED
R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 - 3

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

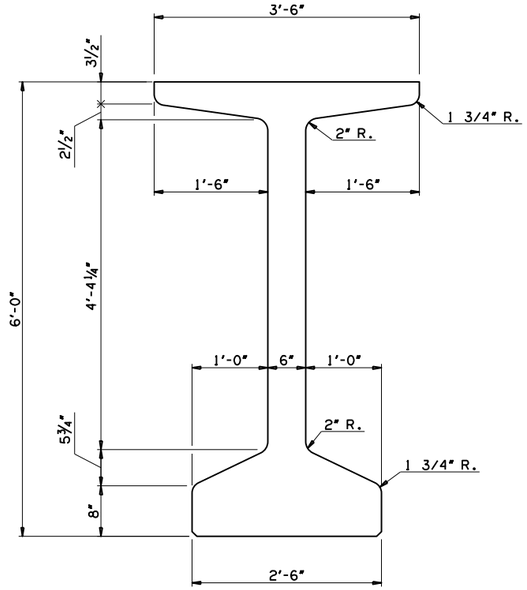
FRAMING PLAN

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

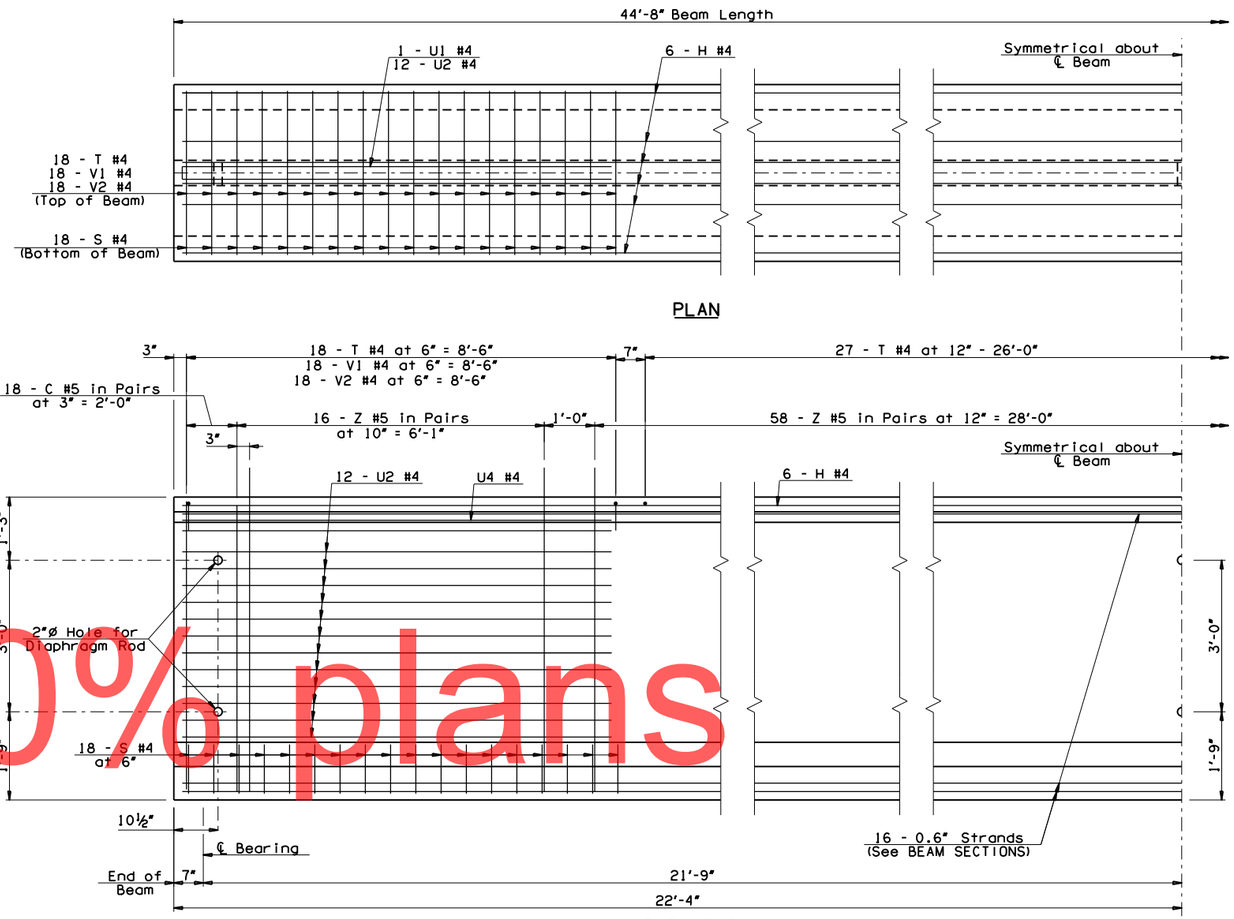
DESIGNED	JMQ	7/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC013

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

PROPOSED R/W
10/23/2017

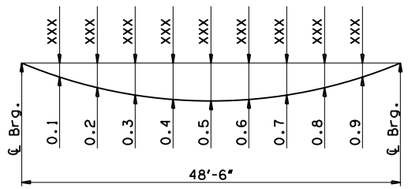


END VIEW



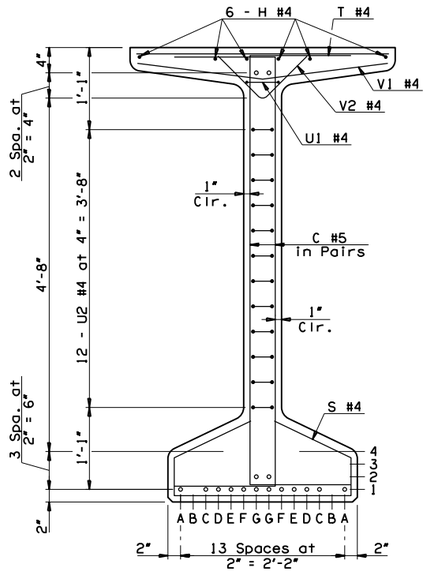
PLAN

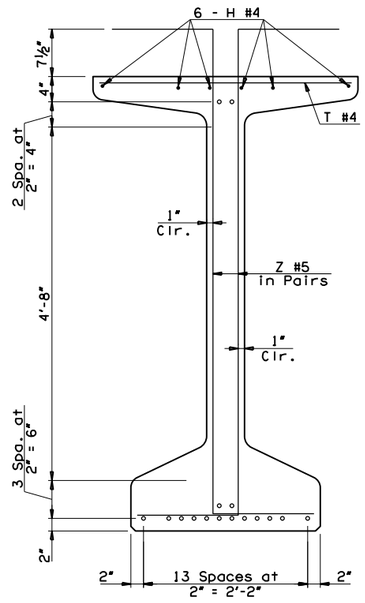
ELEVATION



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.





BEAM SECTIONS
(16-0.6" STRANDS)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

PRESTRESSED CONCRETE BEAM NOTES
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - X.XX (HL-93)
LFR OPERATING RATING - HS XXX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

50% plans

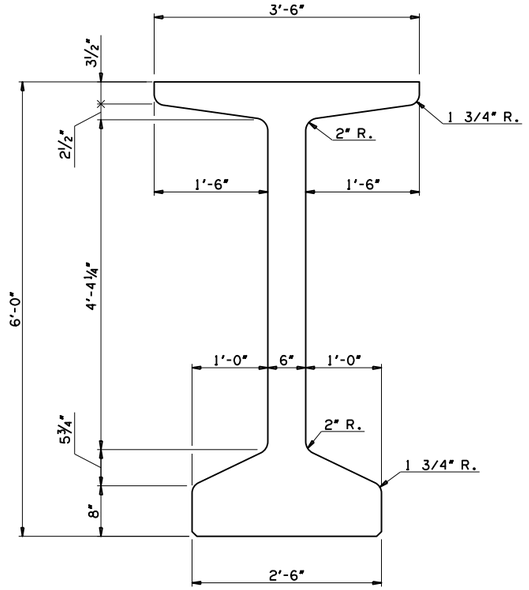
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. C GILCREASE SB OVER W. 41ST ST.
45'-0" BEAM DETAILS
(TYPE J BT)

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

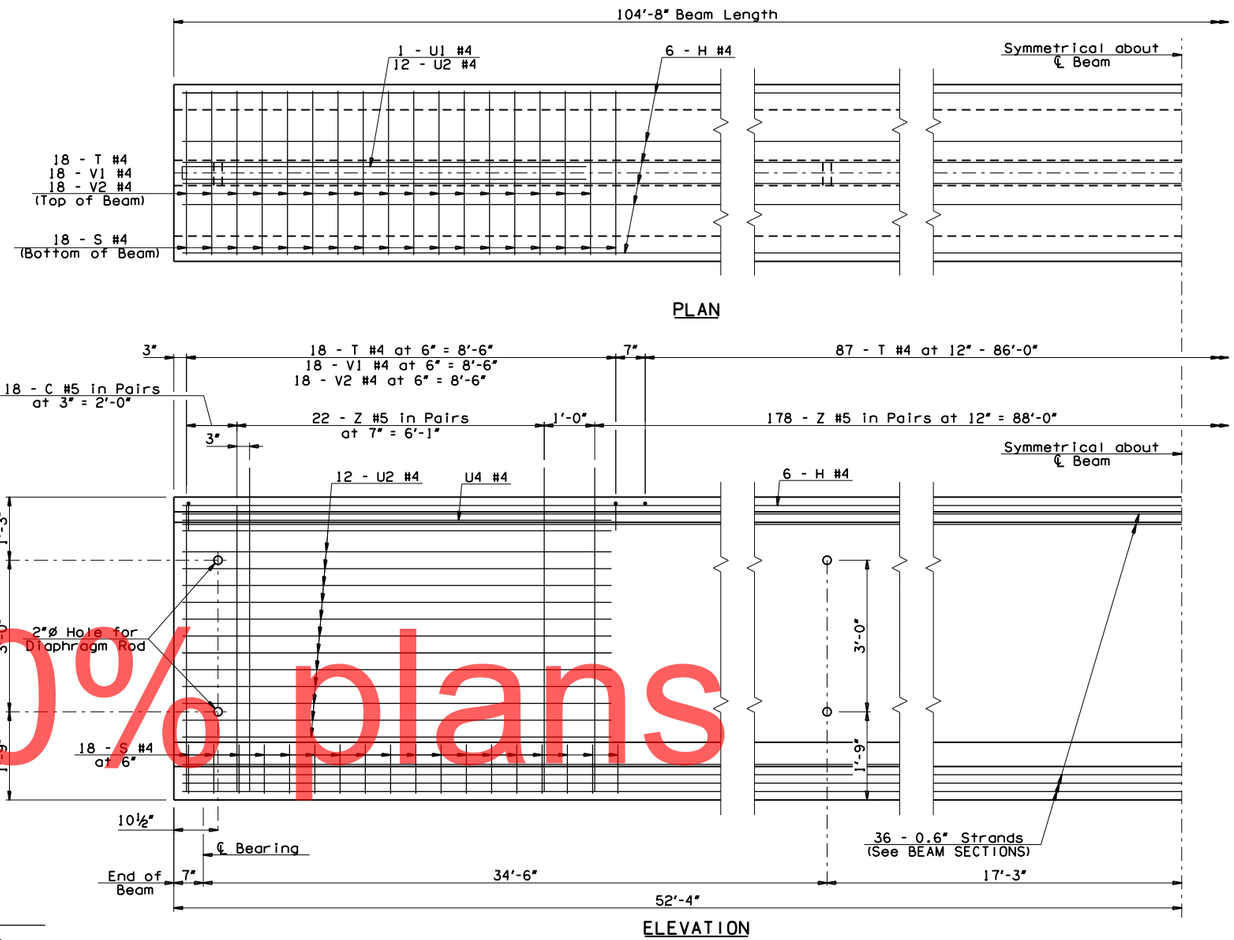
DESIGNED	JMQ	6/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC014

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

PROPOSED R/W
10/23/2017

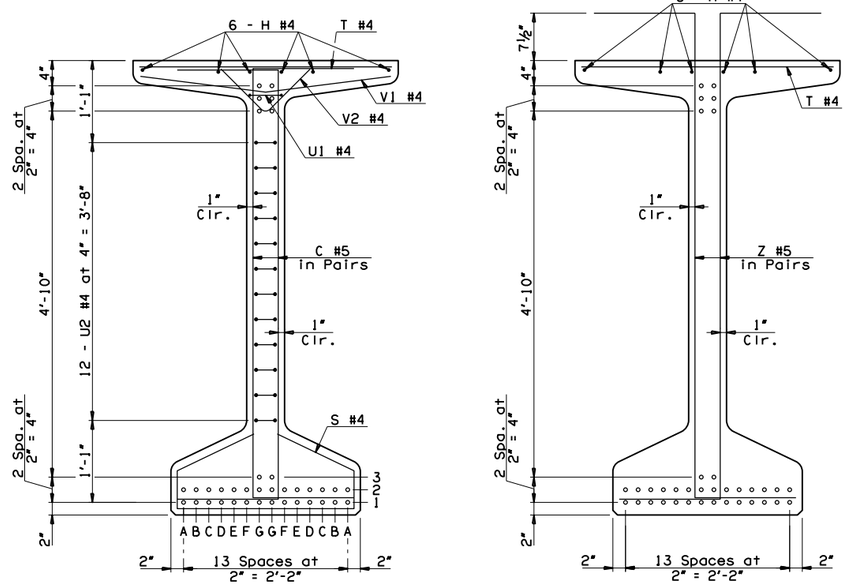


END VIEW

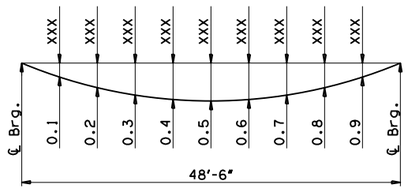


PLAN

ELEVATION



BEAM SECTIONS
(36-0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - X.XX (HL-93)
LFR OPERATING RATING - HS XXX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

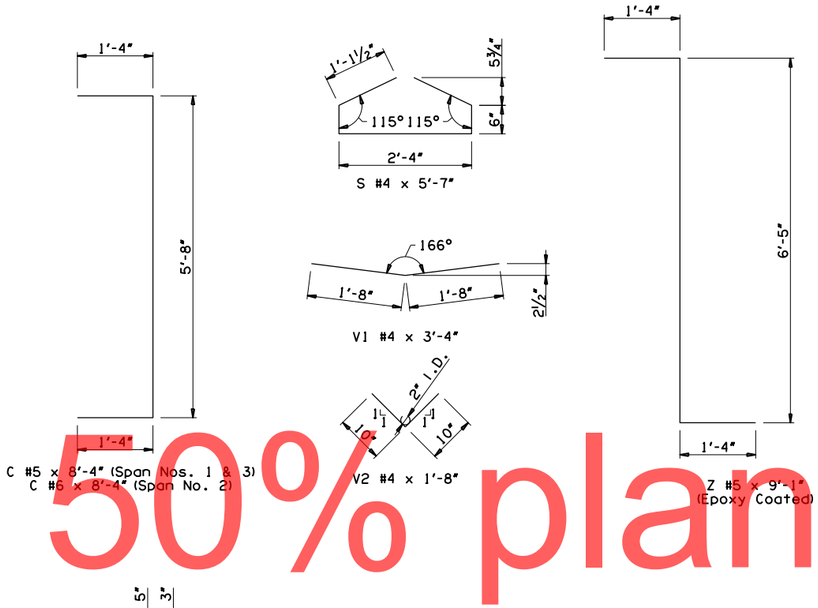
105'-0" BEAM DETAILS
(TYPE J BT)

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

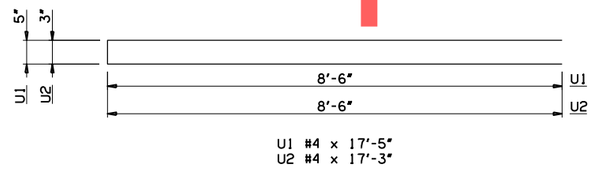
DESIGNED	JMQ	6/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/16		
CHECKED	MJY	7/19	DATE: 10/23/2017	SHEET NO. BC015

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

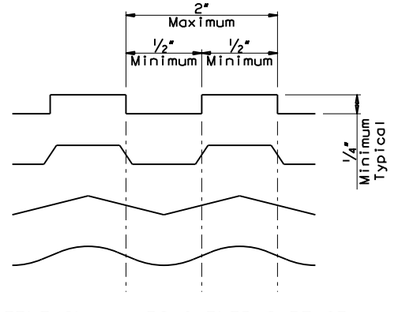
PROPOSED R/W
10/23/2017



50% plans

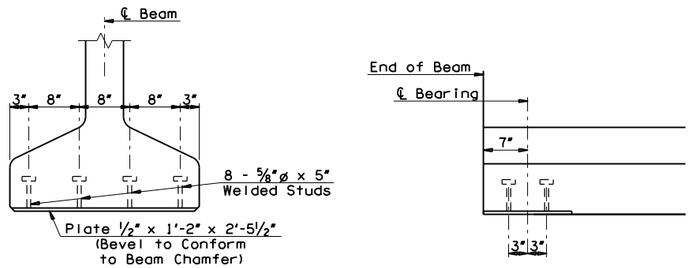


U1 #4 x 17'-5"
U2 #4 x 17'-3"



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

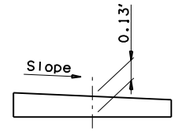
BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMQ	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC016

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

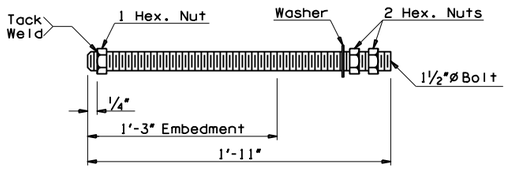
PROPOSED R/W
10/23/2017



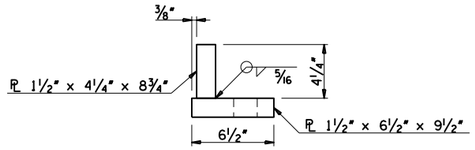
NOTE:
Paint thickest edge red.

BEVELED ANCHOR PLATE DETAIL

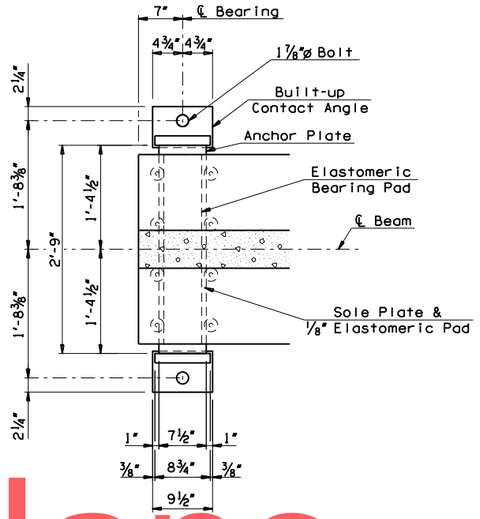
SLOPE TABLE	
LOCATION	SLOPE
ALL	0%



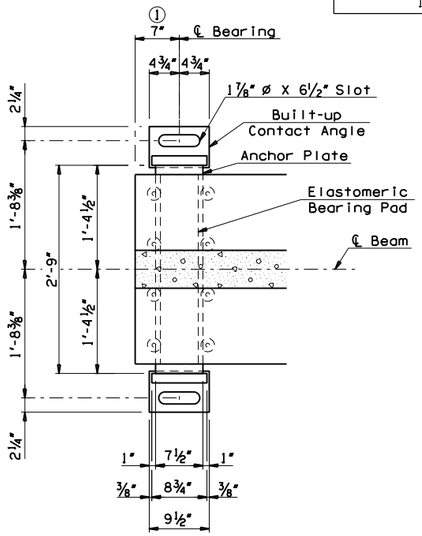
ANCHOR BOLT DETAIL



BUILT-UP CONTACT ANGLE DETAIL



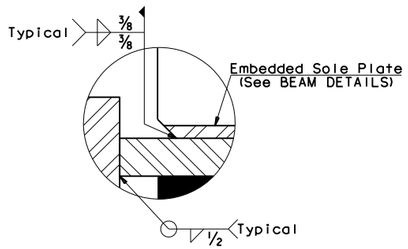
FIXED BEARING PLAN



EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.

50% plans



DETAIL "A"

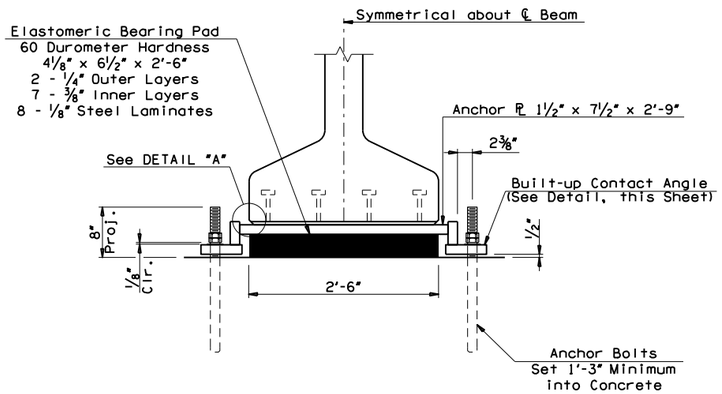
BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required).

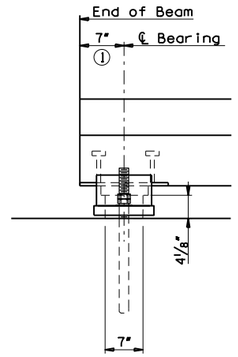
For anchor bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

The total estimated weight of structural steel per bearing assembly is as follows:

Abutments = XXX.X lbs.
Piers = XXX.X lbs.



END VIEW



ELEVATION

BEARING DETAILS

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

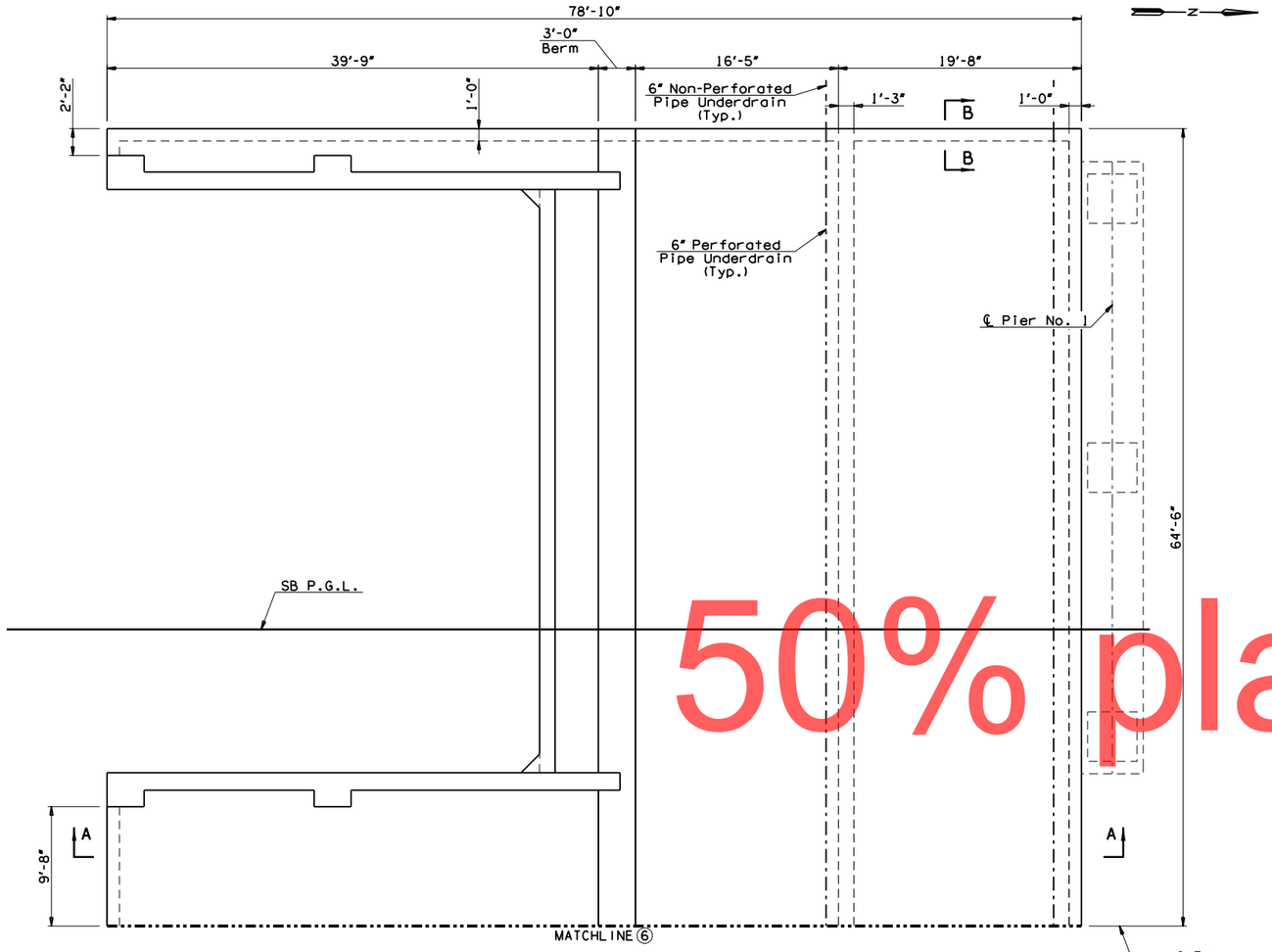
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC017

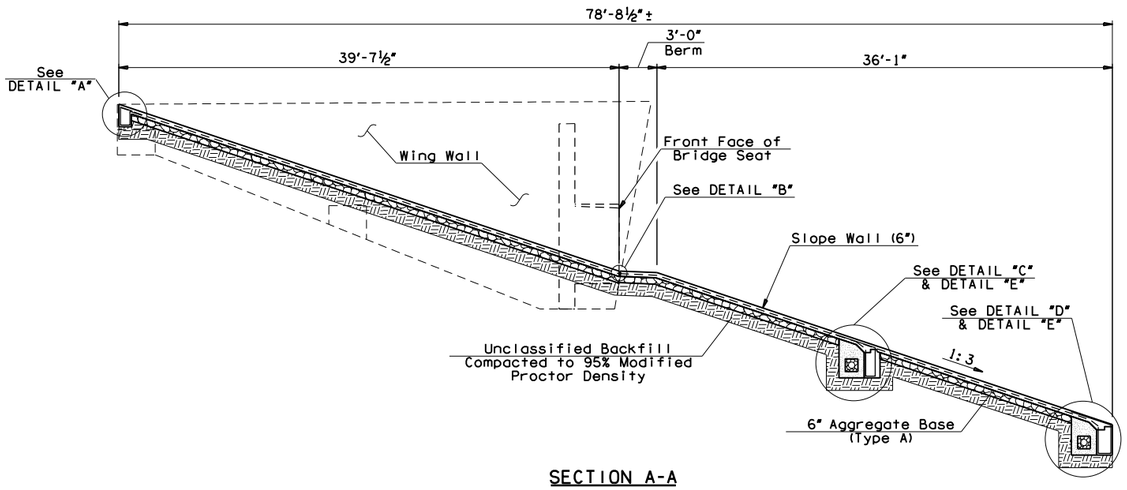
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

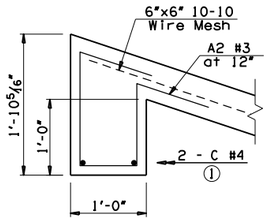


SLOPE WALL PLAN - ABUTMENT NO. 1
(Abutment No. 2 similar)

⑥For Matchline see Sheet No. BB023.

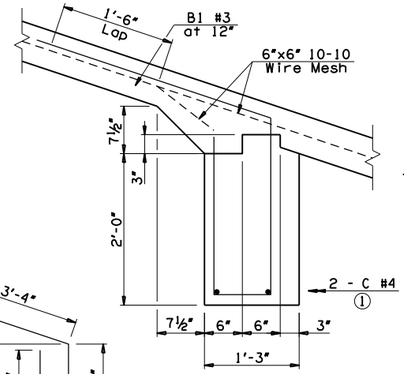


SECTION A-A

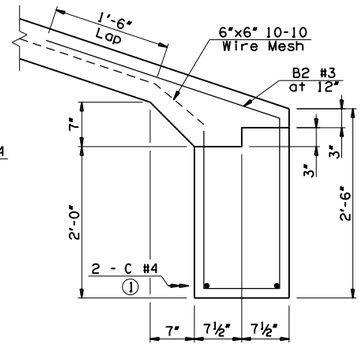


DETAIL "A"

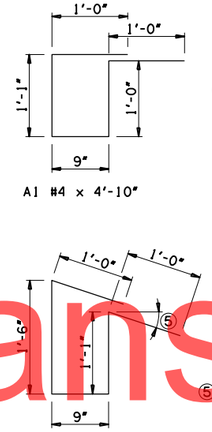
①Continuous 1'-6" lap when necessary

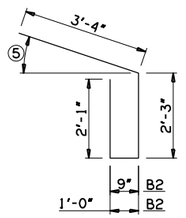


DETAIL "C"

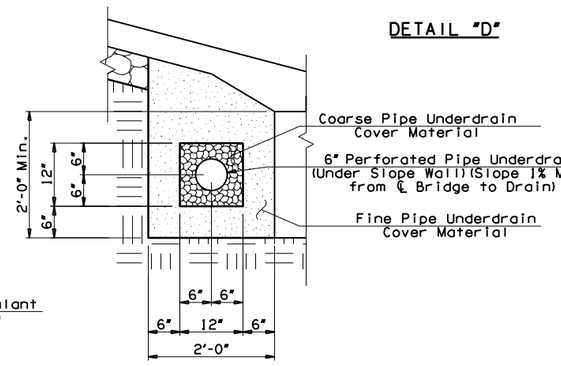


DETAIL "D"

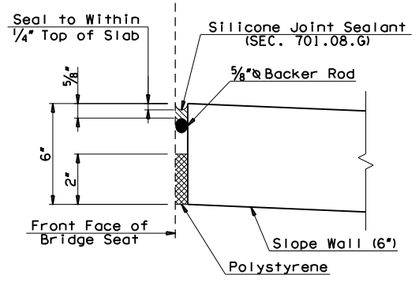




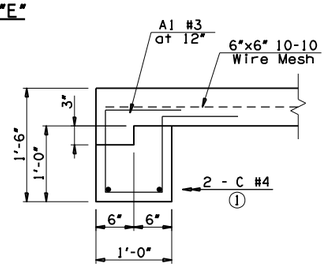
⑤Match slope of Slope Wall



DETAIL "E"



DETAIL "B"



SECTION B-B

SUMMARY OF QUANTITIES - SLOPE WALLS				
ITEM	UNIT	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL
② SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	X,XXX.XX
③ 6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
④ 6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XX.XX	XX.XX	XX.XX

②All costs of the "SLOPE WALL (6")" installation including Class A Concrete, Reinforcing Steel, Lap Splices, Backer Rod, Silicone Joint Sealant, Preformed Joint Filler, Polystyrene, 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 (6")".

③All costs of the Perforated Pipe Underdrain installation including trench excavation, cover material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

④All costs of the Non-Perforated Pipe Underdrain installation including trench excavation, backfilling, material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. C GILCREASE SB OVER W. 41ST ST.

SLOPE WALL DETAILS

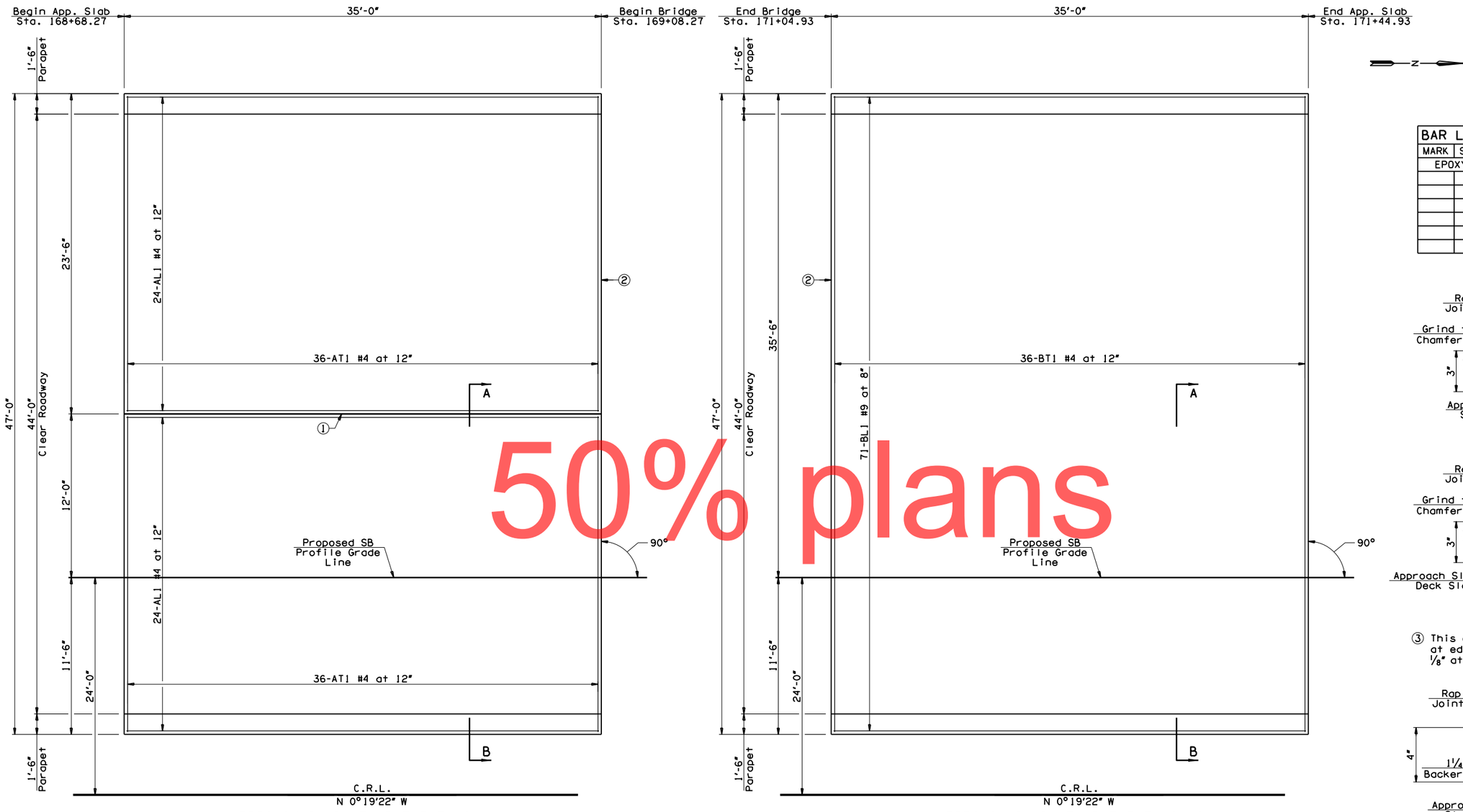
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BC018

50% plans

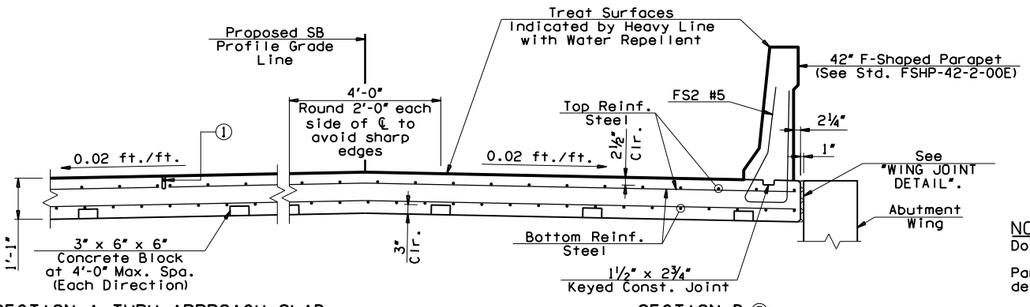
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



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

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



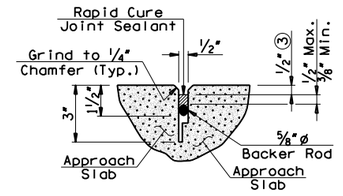
SECTION A THRU APPROACH SLAB

SECTION B ②

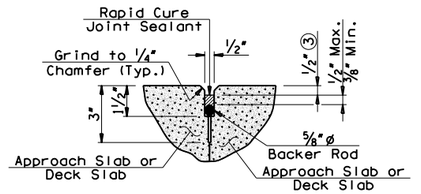
② East Parapet shown, West Parapet similar.

BAR LIST - APP. SLAB NO. 1

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				

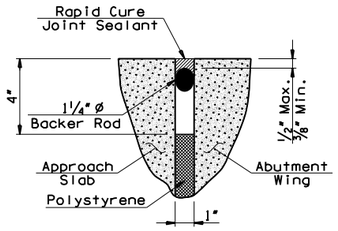


DETAIL "A"



DETAIL "B"

③ This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



WING JOINT DETAIL

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A".

② Sawed & Sealed Construction Joint. See DETAIL "B".

SUMMARY OF QUANTITIES - APPROACH SLAB NOS. 1 & 2

	ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
④⑤	APPROACH SLAB				
	SAW-CUT GROOVING				
	42" F-SHAPED PARAPET				
	WATER REPELLENT (VISUALLY INSPECTED)				

④ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including SR1 bars), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

⑤ There is an estimated XX.XX C.Y. of Class AA Concrete and an estimated XXXX.XX LB. of Epoxy Coated Reinforcing Steel in each Approach Slab.

NOTES:
Do not groove within 6" of any joint.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BC011 for additional details.

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

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. C GILCREASE SB OVER W. 41ST ST.

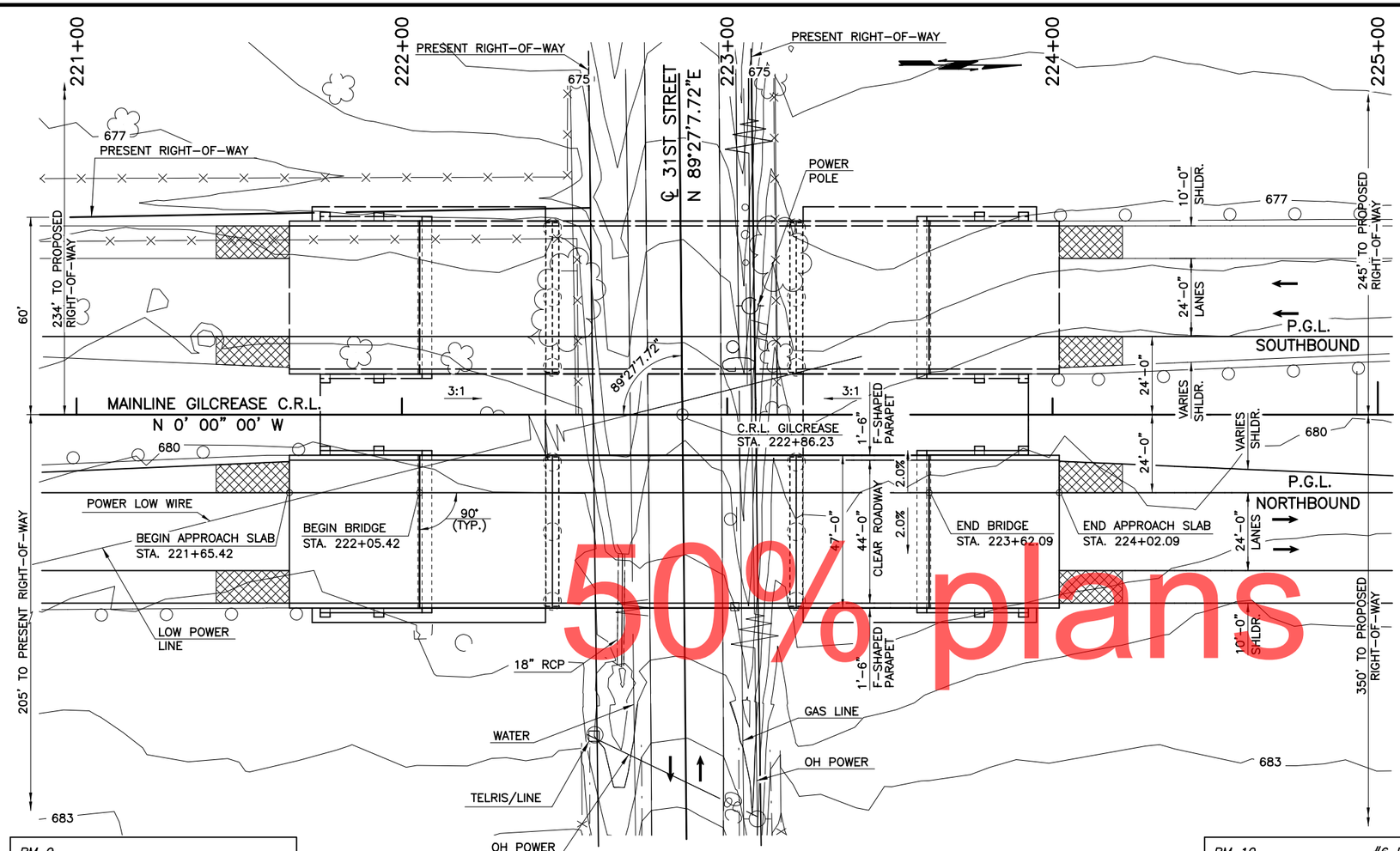
APPROACH SLAB DETAILS

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

DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17	DATE: 10/23/2017	SHEET NO. BC019
CHECKED	MJY	9/17		

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED R/W
10/23/2017

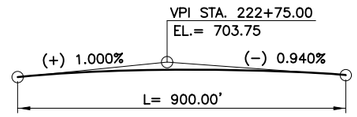


50% plans

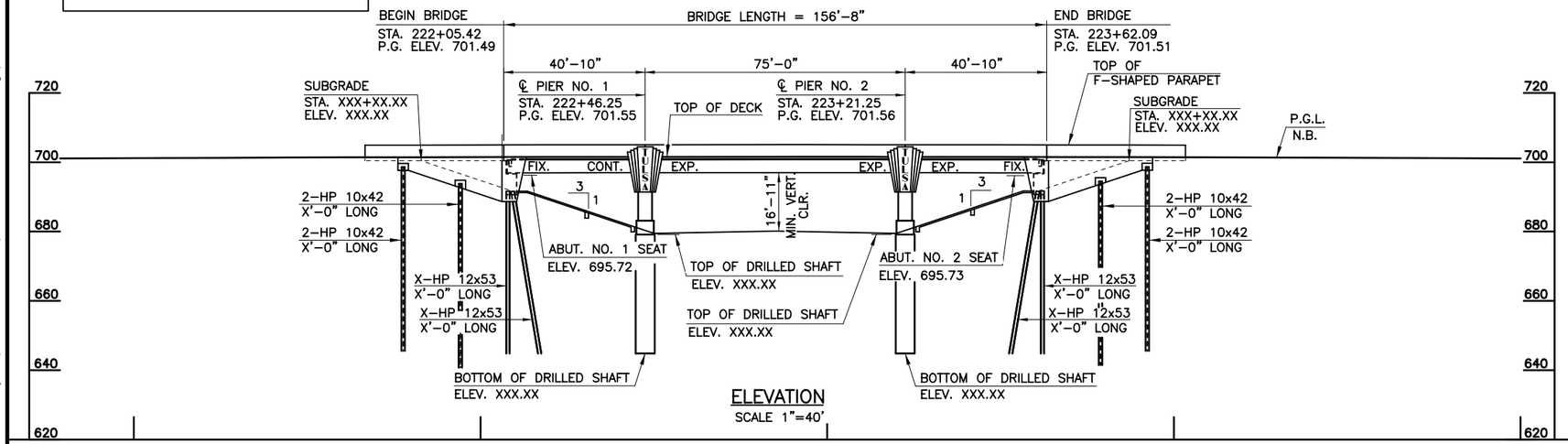
BM 9
BRASS CAP SET IN HEADWALL
STAMPED GARVER BM9
498' LT OF STA. 224+84 EL = 668.19'

BM 10 #6 REBAR
416' LT OF STA. 217+88 EL = 670.70'

PLAN
SCALE 1"=40'



VERTICAL CURVE DATA
(ALONG N.B. GILCREASE P.G.L.)



ELEVATION
SCALE 1"=40'

NOTE:
FOR INDEX OF SHEETS, FOUNDATION DATA, DESIGN DATA, AND ITEMIZED QUANTITIES, SEE SHEET NO. BD002.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE
BR. "D" NB GILCREASE OVER 31ST STREET
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500	
DETAILED	LRJ	10/17		
CHECKED	JKJ	10/17	DATE: 10/23/2017	SHEET NO. BD001

TULSA COUNTY

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OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED
R/W
10/23/2017

LOAD AND RESISTANCE FACTOR DESIGN DATA

CLASS AA CONCRETE	f'c= 4 KSI
CLASS A CONCRETE	f'c= 3 KSI
REINFORCING STEEL	fy= 60 KSI
STRUCTURAL STEEL M270 (GRADE 50W)	Fy= 50 KSI
STAINLESS STEEL A240 (TYPE 316)	Fy= 30 KSI

LOADING:
HL 93 LOADING OR OKLAHOMA OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE
5 PSF STAY IN PLACE FORMS

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,
7TH EDITION WITH CURRENT INTERIMS

ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

ANSI/AWS D1.6 STRUCTURAL STEEL WELDING
CODE–STAINLESS STEEL

LRFR OPERATING RATING FACTOR = X.XX (HL–93)
LFR OPERATING RATING = HS XX.X

BRIDGE STANDARDS:

FSHP–42–2–00E
HP1–2–01E

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
AB01 – AB07	GENERAL NOTES (BRIDGE)
BD001 – BD002	GENERAL PLAN AND ELEVATION
BD003	PIER DETAILS
BD004	TYPICAL SECTION
BSTA01 – BSTA09	BRIDGE STANDARD DETAILS

50% plans

FOUNDATION DATA

	ABUT NO. 1	ABUT NO. 2
ABUTMENTS (HP 12x53 PILING)		
FACTORED PILE REACTION (TONS/PILE)	= XX.X	= XX.X
	PIER NO. 1	PIER NO. 2
PIERS (66" DIAMETER DRILLED SHAFTS)		
FACTORED REACTION (TONS/SHAFT)	= XXX.X	= XXX.X
NOMINAL UNIT FRICTION RESISTANCE (T.S.F.)	= X.XX	= X.XX
FRICTION RESISTANCE FACTOR	= X.XX	= X.XX
FACTORED FRICTION RESISTANCE (TONS/SHAFT)	= XXX.X	= XXX.X
NOMINAL UNIT BEARING RESISTANCE (T.S.F.)	= XX	= XX
BEARING RESISTANCE FACTOR	= X.XX	= X.XX
FACTORED BEARING RESISTANCE (TONS/SHAFT)	= XXX.X	= XXX.X
	= XXX.X	= XXX.X
TOTAL FACTORED RESISTANCE	= XX'–X"	= XX'–X"
MINIMUM DEPTH OF PENETRATION INTO ROCK	= X'–X"	= X'–X"
DEPTH OF ROCK NEGLECTED FOR FRICTION		

ITEMIZED QUANTITIES

ITEM CODE	DESCRIPTION	UNIT	ABUTMENT	PIERS	SUPER–STRUCTURE	APPROACH SLAB	TOTAL
501(B)	SUBSTRUCTURE EXCAVATION COMMON	CY					
501(G)	CLSM BACKFILL	CY					
503(A)	PRESTRESSED CONCRETE BEAMS (TYPE III)	LF					
504(A)	APPROACH SLAB	SY					
504(B)	SAW–CUT GROOVING	SY					
504(E)	42" F–SHAPED PARAPET	LF					
504(G)	RAPID CURE JOINT SEALANT	LF					
504(H)	ELASTOMERIC MORTAR	CF					
506(A)	STRUCTURAL STEEL	LB					
507(A)	STAINLESS STEEL FIXED BEARING ASSEMBLY	EA					
507(B)	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA					
509(A)	CLASS AA CONCRETE	CY					
509(B)	CLASS A CONCRETE	CY					
509(D)	CLASS C CONCRETE	CY					
510(C)	SLOPE WALL (6")	SY					
511(A)	REINFORCING STEEL	LB					
511(B)	EPOXY COATED REINFORCING STEEL	LB					
514(A)	PILES, FURNISHED (HP 10X42)	LF					
514(A)	PILES, FURNISHED (HP 12X53)	LF					
514(B)	PILES, DRIVEN (HP 10X42)	LF					
514(B)	PILES, DRIVEN (HP 12X53)	LF					
514(L)	PILE SPLICE, H PILE (NON–BIDDABLE)	EA					
515(A)	WATER REPELLENT (VISUALLY INSPECTED)	SY					
516(A)	DRILLED SHAFTS 66" DIAMETER	LF					
516(C)	CROSSHOLE SONIC LOGGING	EA					
523(A)	SEALER CRACK PREPARATION	LF					
523(B)	SEALER RESIN	GAL					
613(H)	6" PERFORATED PIPE UNDERDRAIN ROUND	LF					
613(I)	6" NON–PERF. PIPE UNDERDRAIN RND.	LF					

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE
BR. "D" NB GILCREASE OVER 31ST STREET

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

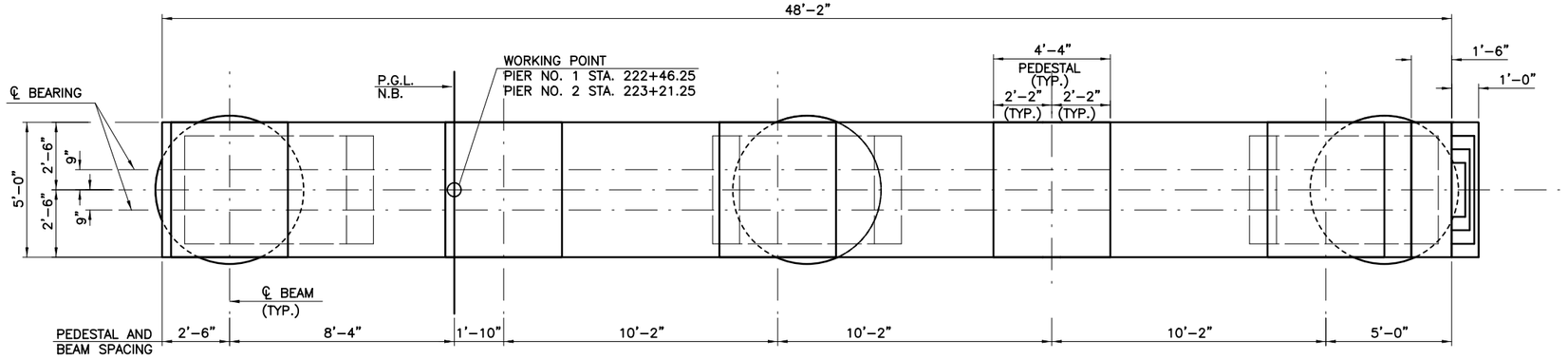
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DETAILED	LRJ	10/17		
CHECKED	JKJ	10/17	DATE: 10/23/2017	SHEET NO. BD002

TULSA COUNTY

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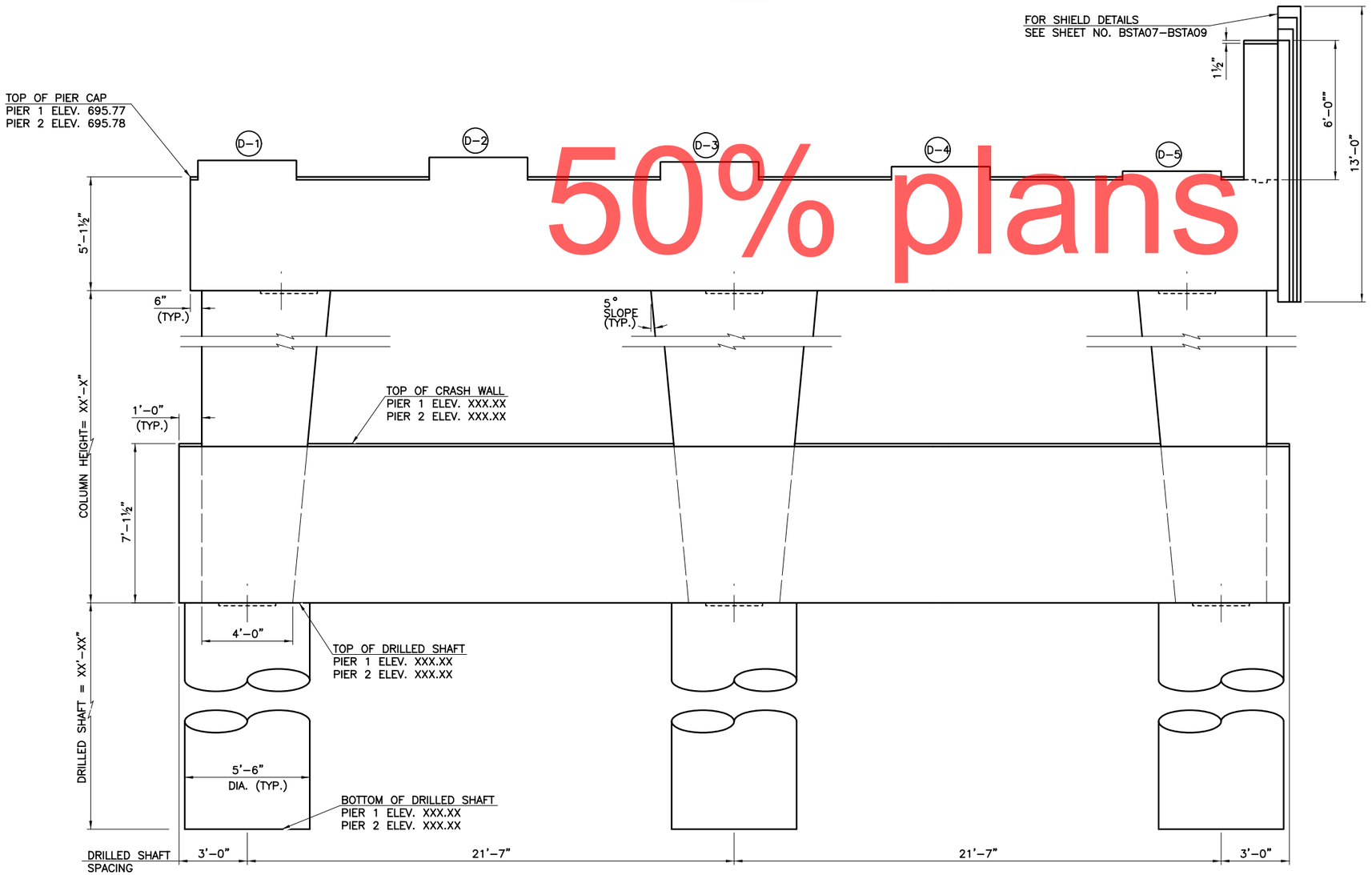
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED
R/W
10/23/2017

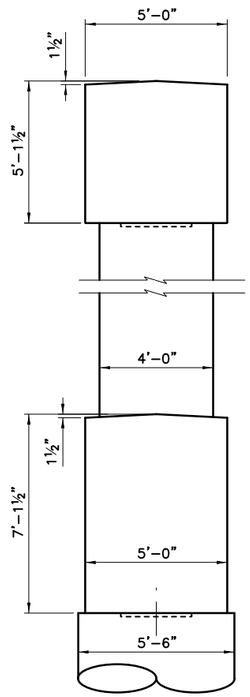


PLAN

PIER PEDESTAL ELEVATIONS		
PEDESTAL	PIER NO.1 ELEVATION	PIER NO. 2 ELEVATION
D-1	696.41	696.42
D-2	696.54	696.55
D-3	696.34	696.35
D-4	696.14	696.15
D-5	695.93	695.94



ELEVATION



TYPICAL SECTION

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE

BR. "D" NB GILCREASE OVER 31ST STREET

PIER DETAILS

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500	
DETAILED	LRJ	10/17		
CHECKED	JKJ	10/17	DATE: 10/23/2017	SHEET NO. BD003

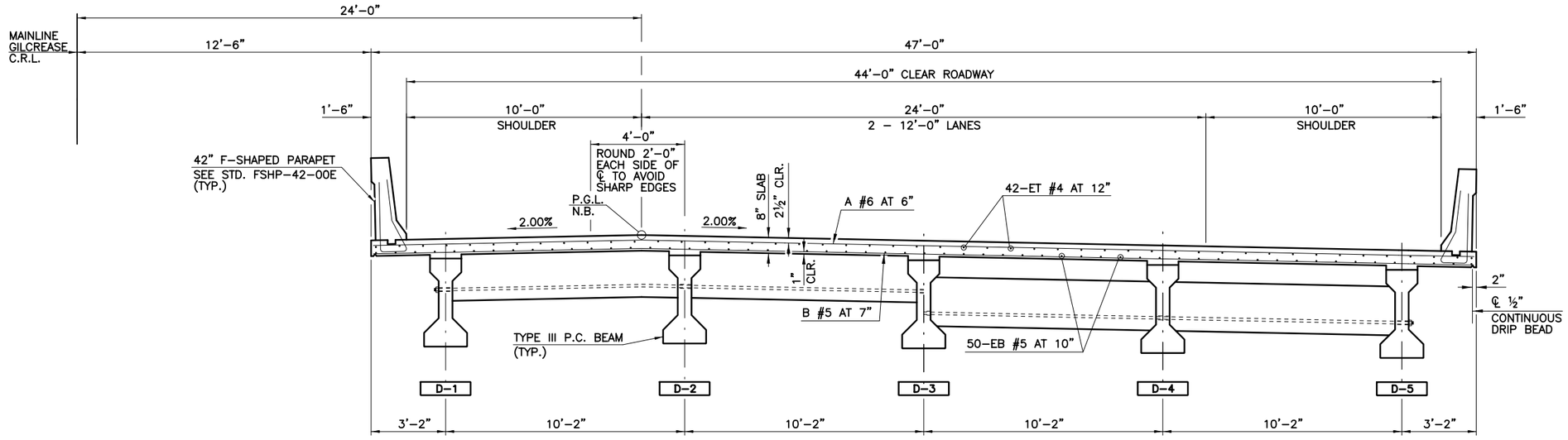
TULSA COUNTY

50% plans

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OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500	BD04	10

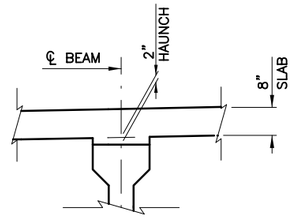
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R/W
10/23/2017



HALF-SECTION AT END DIAPHRAGM

TYPICAL SECTION

HALF-SECTION AT INTERMEDIATE DIAPHRAGM



BEAM HAUNCH DETAIL

50% plans

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, 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, PLATE WASHER, AND HEX NUT IN THE CONTRACT UNIT PRICE FOR STRUCTUAL STEEL.

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 DIFFERENCE BETWEEN THE THEORETICAL AND THE ACTUAL HAUNCH HEIGHTS FOR PAYMENT.

SUPERSTRUCTURE QUANTITES

DESCRIPTION	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE III)	LF	
SAW-CUT GROOVING	SY	
42" F-SHAPED PARAPET	LF	
RAPID CURE JOINT SEALANT	LF	
ELASTOMERIC MORTAR	CF	
STRUCTURAL STEEL	LB	
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA	
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA	
CLASS AA CONCRETE	CY	
EPOXY COATED REINFORCING STEEL	LB	
WATER REPELLENT (VISUALLY INSPECTED)	SY	
SEALER CRACK PREPARATION	LF	
SEALER RESIN	GAL	

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE

BR. "D" NB GILCREASE OVER 31ST STREET

TYPICAL SECTION

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

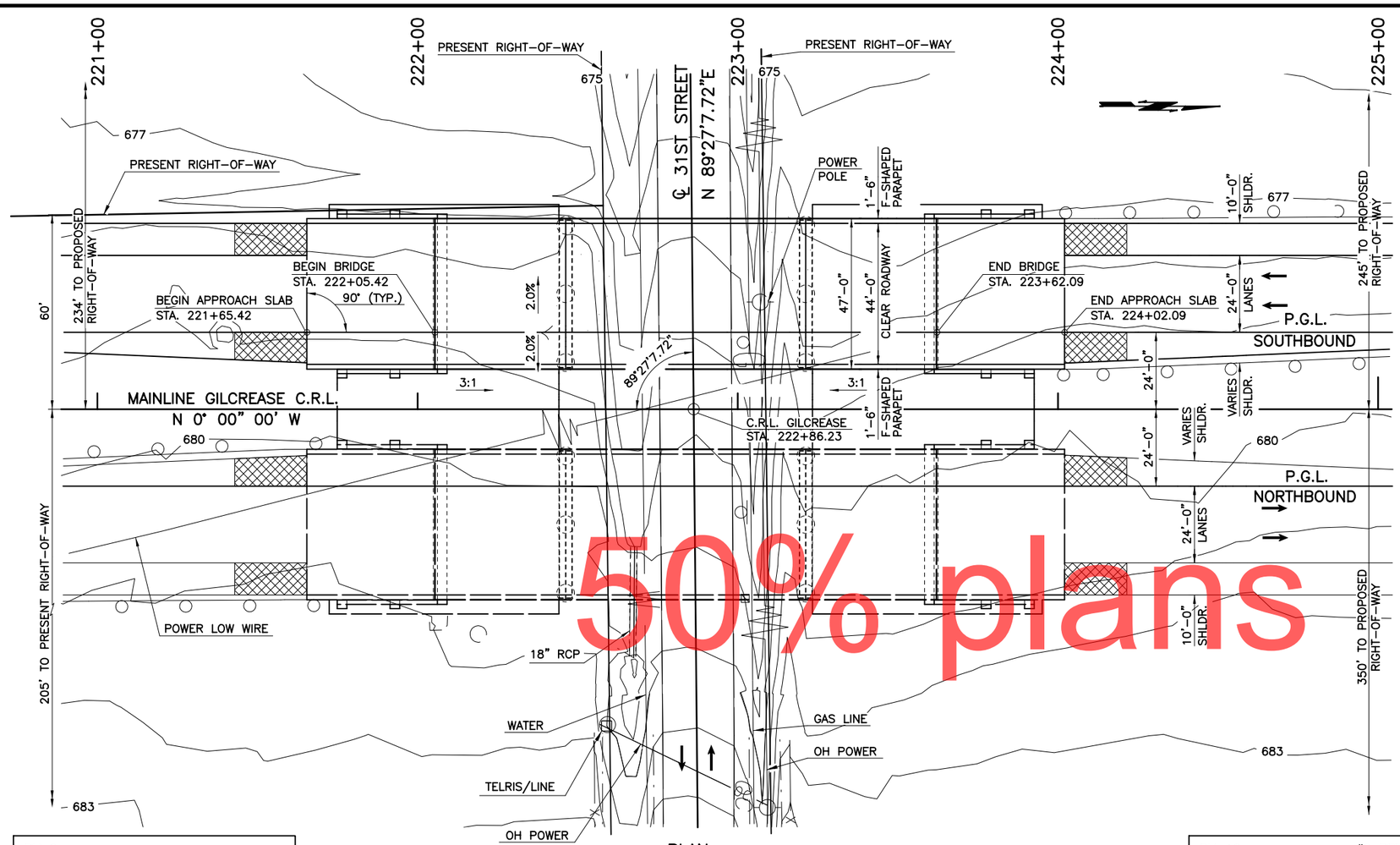
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CHECKED	JKJ	10/17		

TULSA COUNTY

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OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

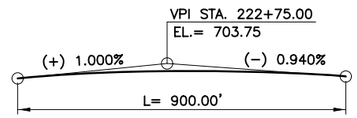
PROPOSED
R/W
10/23/2017



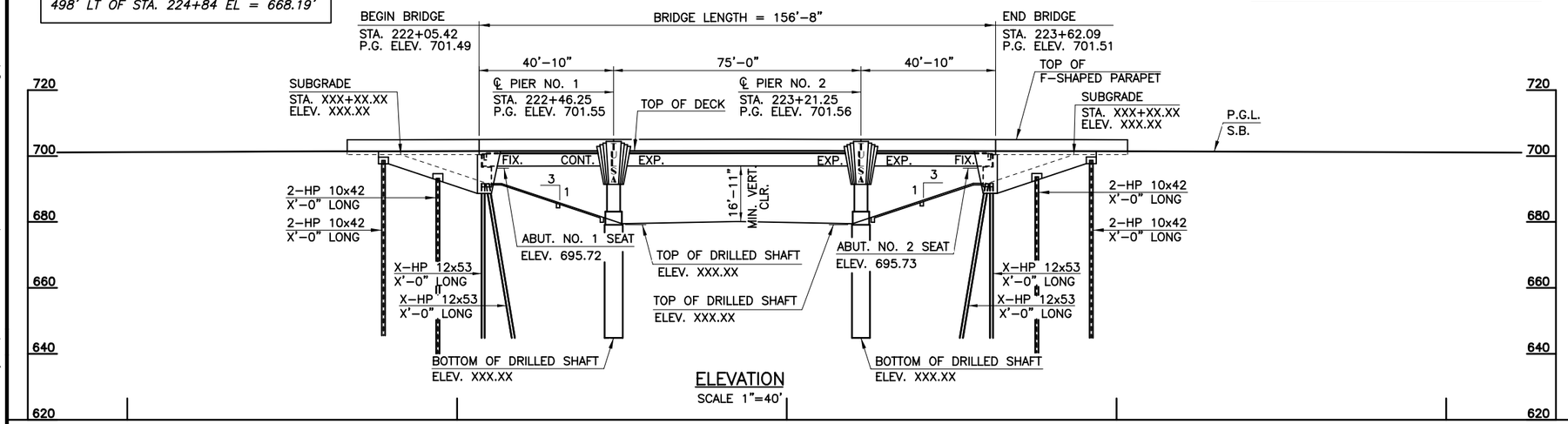
PLAN
SCALE 1"=40'

BM 9
BRASS CAP SET IN HEADWALL
STAMPED GARVER BM9
498' LT OF STA. 224+84 EL = 668.19'

BM 10 #6 REBAR
416' LT OF STA. 217+88 EL = 670.70'



VERTICAL CURVE DATA
(ALONG S.B. GILCREASE P.G.L.)



ELEVATION
SCALE 1"=40'

NOTE:
FOR INDEX OF SHEETS, FOUNDATION DATA, DESIGN DATA, AND ITEMIZED QUANTITIES, SEE SHEET NO. BE002.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE
BR. "E" SB GILCREASE OVER 31ST STREET
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500
DETAILED	LRJ	10/17	
CHECKED	JKJ	10/17	DATE: 10/23/2017 — SHEET NO. **BE001**

TULSA COUNTY

50% plans

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OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED
R/W
10/23/2017

LOAD AND RESISTANCE FACTOR DESIGN DATA

CLASS AA CONCRETE	f'c= 4 KSI
CLASS A CONCRETE	f'c= 3 KSI
REINFORCING STEEL	fy= 60 KSI
STRUCTURAL STEEL M270 (GRADE 50W)	Fy= 50 KSI
STAINLESS STEEL A240 (TYPE 316)	Fy= 30 KSI

LOADING:
HL 93 LOADING OR OKLAHOMA OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE
5 PSF STAY IN PLACE FORMS

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,
7TH EDITION WITH CURRENT INTERIMS

ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

ANSI/AWS D1.6 STRUCTURAL STEEL WELDING
CODE–STAINLESS STEEL

LRFR OPERATING RATING FACTOR = X.XX (HL–93)
LFR OPERATING RATING = HS XX.X

BRIDGE STANDARDS:

FSHP–42–2–00E
HP1–2–01E

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
AB01 – AB07	GENERAL NOTES (BRIDGE)
BE001 – BE002	GENERAL PLAN AND ELEVATION
BE003	PIER DETAILS
BE004	TYPICAL SECTION
BSTA01 – BSTA09	BRIDGE STANDARD DETAILS

FOUNDATION DATA

	ABUT NO. 1	ABUT NO. 2
ABUTMENTS (HP 12x53 PILING)		
FACTORED PILE REACTION (TONS/PILE)	= XX.X	= XX.X
	PIER NO. 1	PIER NO. 2
PIERS (66" DIAMETER DRILLED SHAFTS)		
FACTORED REACTION (TONS/SHAFT)	= XXX.X	= XXX.X
NOMINAL UNIT FRICTION RESISTANCE (T.S.F.)	= X.XX	= X.XX
FRICTION RESISTANCE FACTOR	= X.XX	= X.XX
FACTORED FRICTION RESISTANCE (TONS/SHAFT)	= XXX.X	= XXX.X
NOMINAL UNIT BEARING RESISTANCE (T.S.F.)	= XX	= XX
BEARING RESISTANCE FACTOR	= X.XX	= X.XX
FACTORED BEARING RESISTANCE (TONS/SHAFT)	= XXX.X = XXX.X	= XXX.X = XXX.X
TOTAL FACTORED RESISTANCE	= XX'–X"	= XX'–X"
MINIMUM DEPTH OF PENETRATION INTO ROCK	= X'–X"	= X'–X"
DEPTH OF ROCK NEGLECTED FOR FRICTION		

50% plans

ITEMIZED QUANTITIES

ITEM CODE	DESCRIPTION	UNIT	ABUTMENT	PIERS	SUPER–STRUCTURE	APPROACH SLAB	TOTAL
501(B)	SUBSTRUCTURE EXCAVATION COMMON	CY					
501(G)	CLSM BACKFILL	CY					
503(A)	PRESTRESSED CONCRETE BEAMS (TYPE III)	LF					
504(A)	APPROACH SLAB	SY					
504(B)	SAW–CUT GROOVING	SY					
504(E)	42" F–SHAPED PARAPET	LF					
504(G)	RAPID CURE JOINT SEALANT	LF					
504(H)	ELASTOMERIC MORTAR	CF					
506(A)	STRUCTURAL STEEL	LB					
507(A)	STAINLESS STEEL FIXED BEARING ASSEMBLY	EA					
507(B)	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA					
509(A)	CLASS AA CONCRETE	CY					
509(B)	CLASS A CONCRETE	CY					
509(D)	CLASS C CONCRETE	CY					
510(C)	SLOPE WALL (6")	SY					
511(A)	REINFORCING STEEL	LB					
511(B)	EPOXY COATED REINFORCING STEEL	LB					
514(A)	PILES, FURNISHED (HP 10X42)	LF					
514(A)	PILES, FURNISHED (HP 12X53)	LF					
514(B)	PILES, DRIVEN (HP 10X42)	LF					
514(B)	PILES, DRIVEN (HP 12X53)	LF					
514(L)	PILE SPLICE, H PILE (NON–BIDDABLE)	EA					
515(A)	WATER REPELLENT (VISUALLY INSPECTED)	SY					
516(A)	DRILLED SHAFTS 66" DIAMETER	LF					
516(C)	CROSSHOLE SONIC LOGGING	EA					
523(A)	SEALER CRACK PREPARATION	LF					
523(B)	SEALER RESIN	GAL					
613(H)	6" PERFORATED PIPE UNDERDRAIN ROUND	LF					
613(I)	6" NON–PERF. PIPE UNDERDRAIN RND.	LF					

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE
BR. "E" SB GILCREASE OVER 31ST STREET

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

DESIGNED	JKJ	10/17
DETAILED	LRJ	10/17
CHECKED	JKJ	10/17

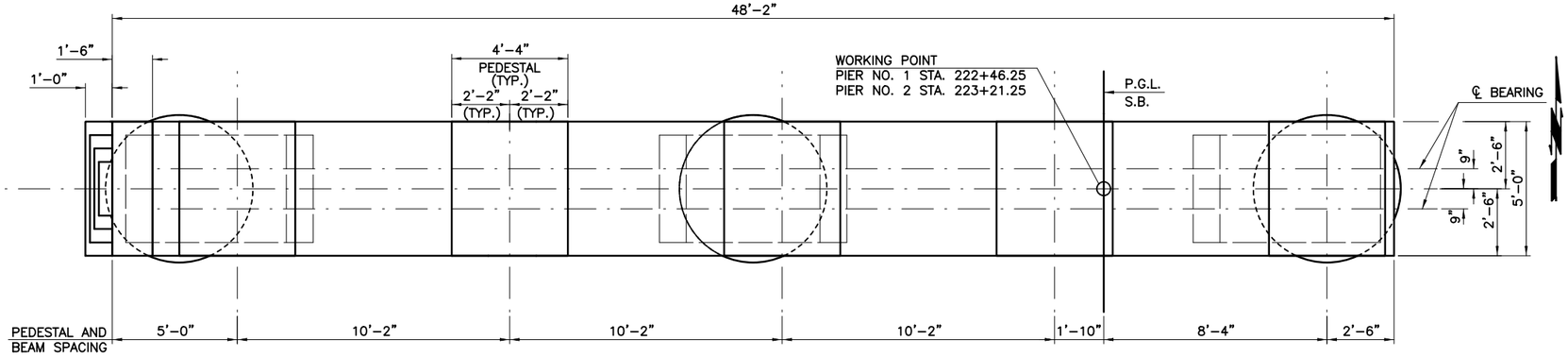
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DATE: 10/23/2017
SHEET NO. **BE002**

TULSA COUNTY

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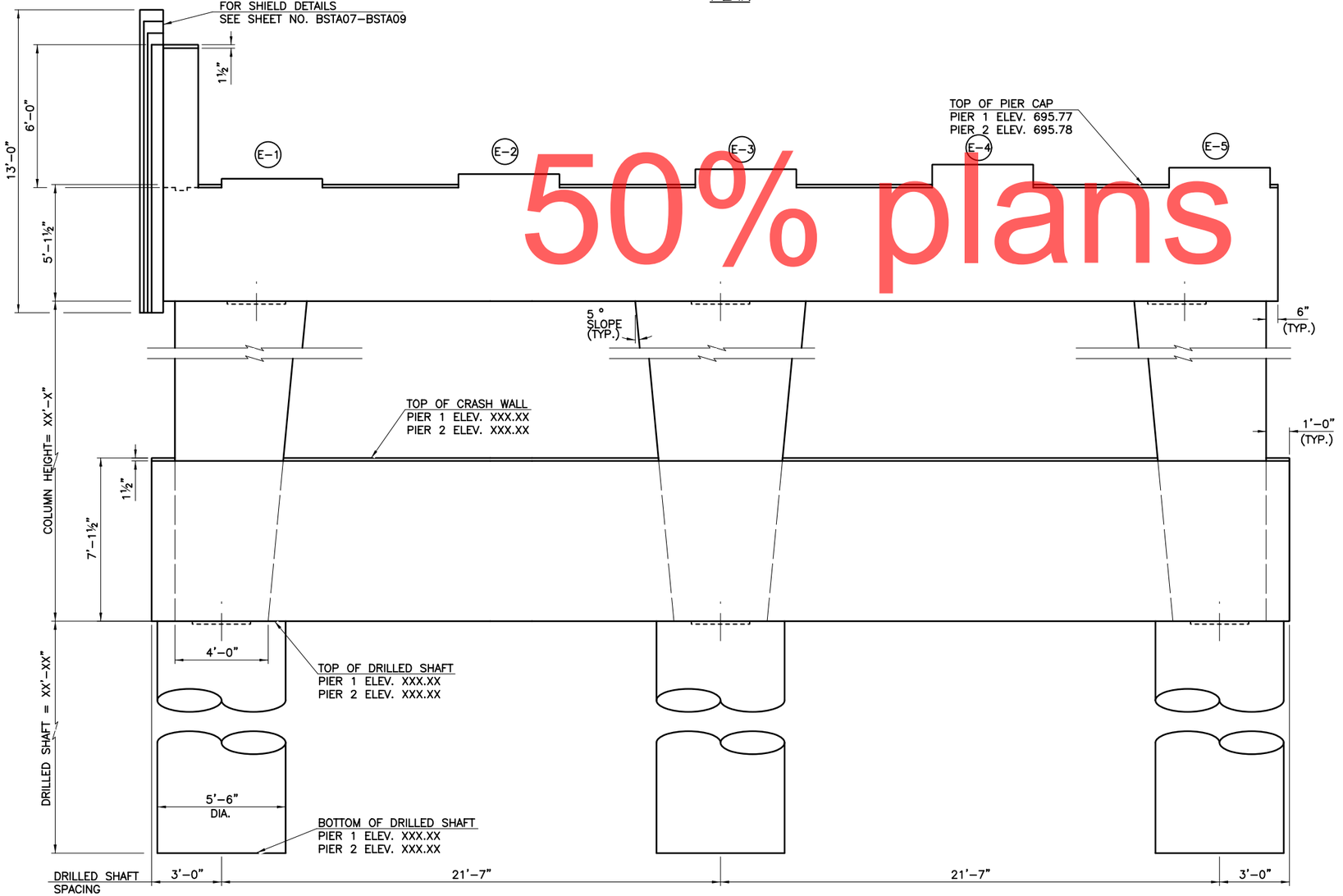
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED
R/W
10/23/2017

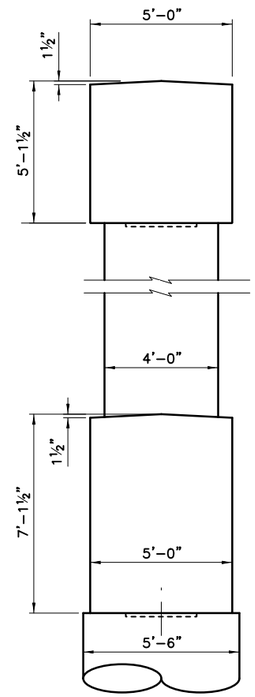


PLAN

PIER PEDESTAL ELEVATIONS		
PEDESTAL	PIER NO.1 ELEVATION	PIER NO. 2 ELEVATION
E-1	695.93	695.94
E-2	696.14	695.15
E-3	696.34	696.35
E-4	696.54	696.55
E-5	696.41	696.42



ELEVATION



TYPICAL SECTION

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE

BR. "E" SB GILCREASE OVER 31ST STREET

PIER DETAILS

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500	
DETAILED	LRJ	10/17		
CHECKED	JKJ	10/17	DATE: 10/23/2017	SHEET NO. **BE003**

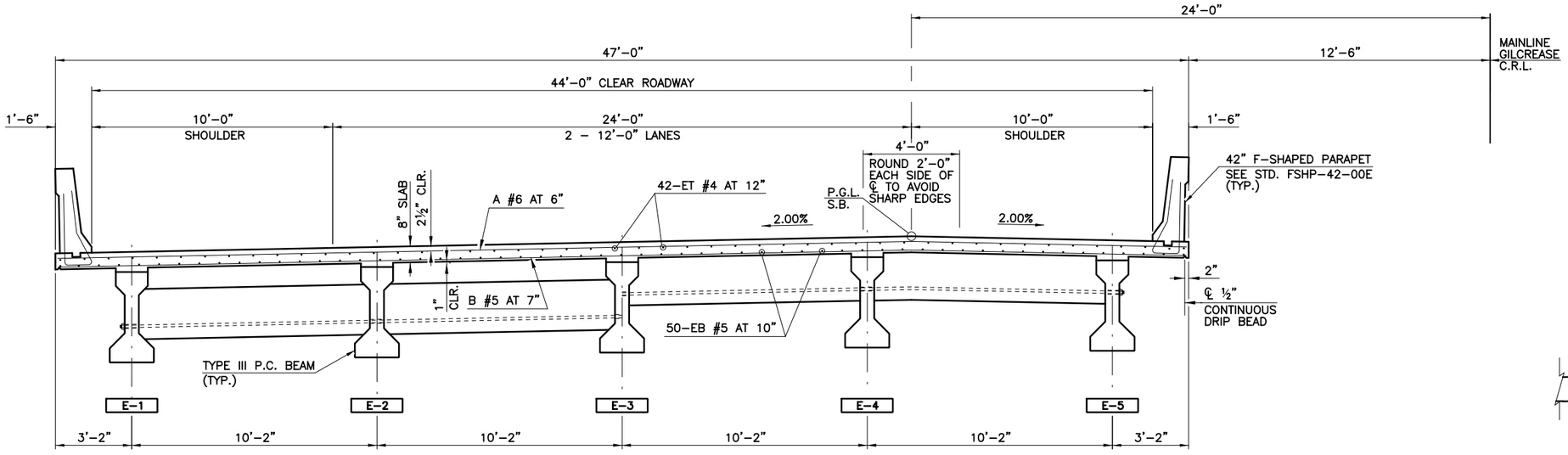
TULSA COUNTY

50% plans

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OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

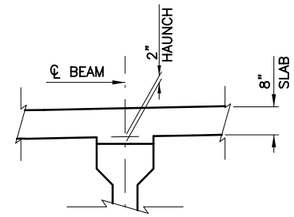
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10/23/2017



HALF-SECTION AT
INTERMEDIATE DIAPHRAGM

TYPICAL SECTION

HALF-SECTION
AT END DIAPHRAGM



BEAM HAUNCH DETAIL

50% plans

SUPERSTRUCTURE QUANTITES

DESCRIPTION	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE III)	LF	
SAW-CUT GROOVING	SY	
42" F-SHAPED PARAPET	LF	
RAPID CURE JOINT SEALANT	LF	
ELASTOMERIC MORTAR	CF	
STRUCTURAL STEEL	LB	
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA	
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA	
CLASS AA CONCRETE	CY	
EPOXY COATED REINFORCING STEEL	LB	
WATER REPELLENT (VISUALLY INSPECTED)	SY	
SEALER CRACK PREPARATION	LF	
SEALER RESIN	GAL	

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 DIFFERENCE BETWEEN THE THEORETICAL AND THE ACTUAL HAUNCH HEIGHTS FOR PAYMENT.

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, 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, PLATE WASHER, AND HEX NUT IN THE CONTRACT UNIT PRICE FOR STRUCTUAL STEEL.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE

BR. "E" SB GILCREASE OVER 31ST STREET

TYPICAL SECTION

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

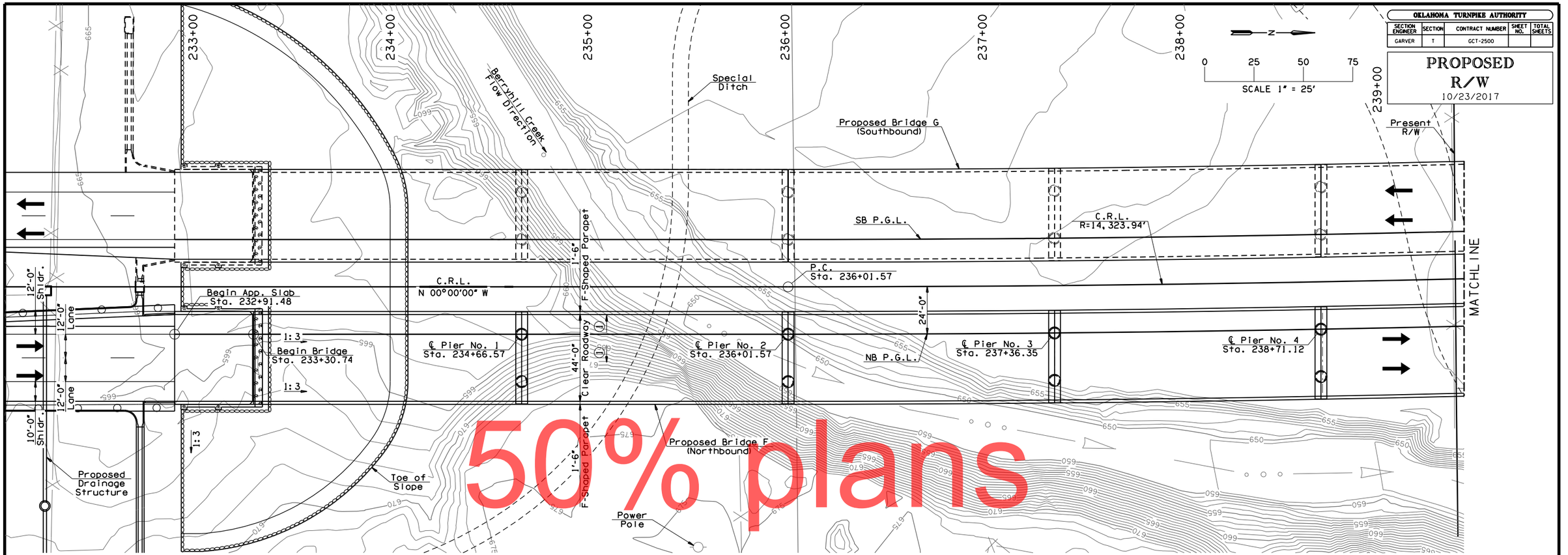
DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500	
DETAILED	LRJ	10/17		
CHECKED	JKJ	10/17	DATE: 10/23/2017	SHEET NO. **BE004**

TULSA COUNTY

jjenkins 10/23/2017 9:50:55 AM
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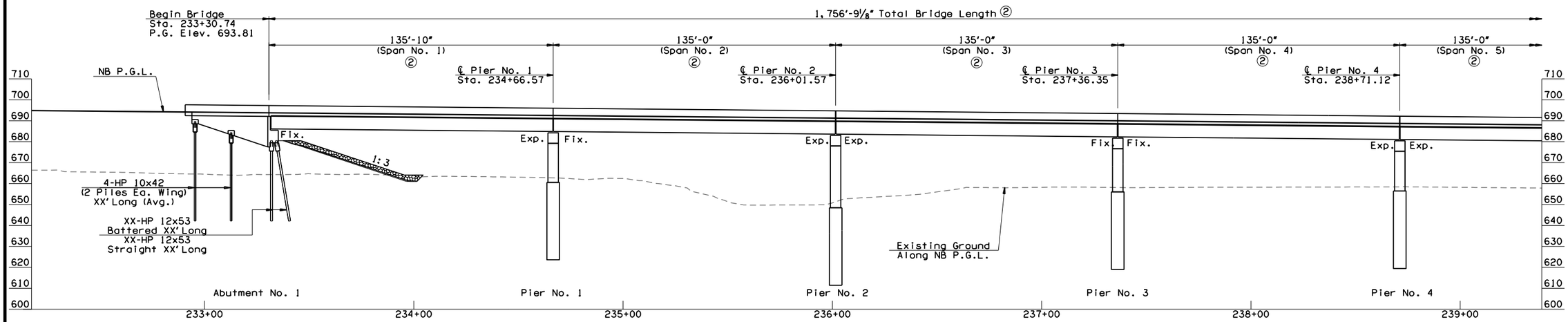
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

PLAN



ELEVATION

For Foundation Report, See Sheet Nos. XXXXX -XXXXX.

① 0.02 ft./ft.
② Stations measured along C.R.L.
Dimensions measured along P.G.L.

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BF004.

BENCHMMARK NO. BM7
DESCRIPTION #6 REBAR
OFFSET 535.0' LT. STA. 240+09.00 EL. 659.31

BENCHMMARK NO. BM8
DESCRIPTION CHILSED BOX SET ON BRIDGE RAILING
OFFSET 495.0' LT. STA. 231+84.00 EL. 670.78

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. F GILCREASE NB OVER BERRYHILL CREEK

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 4)

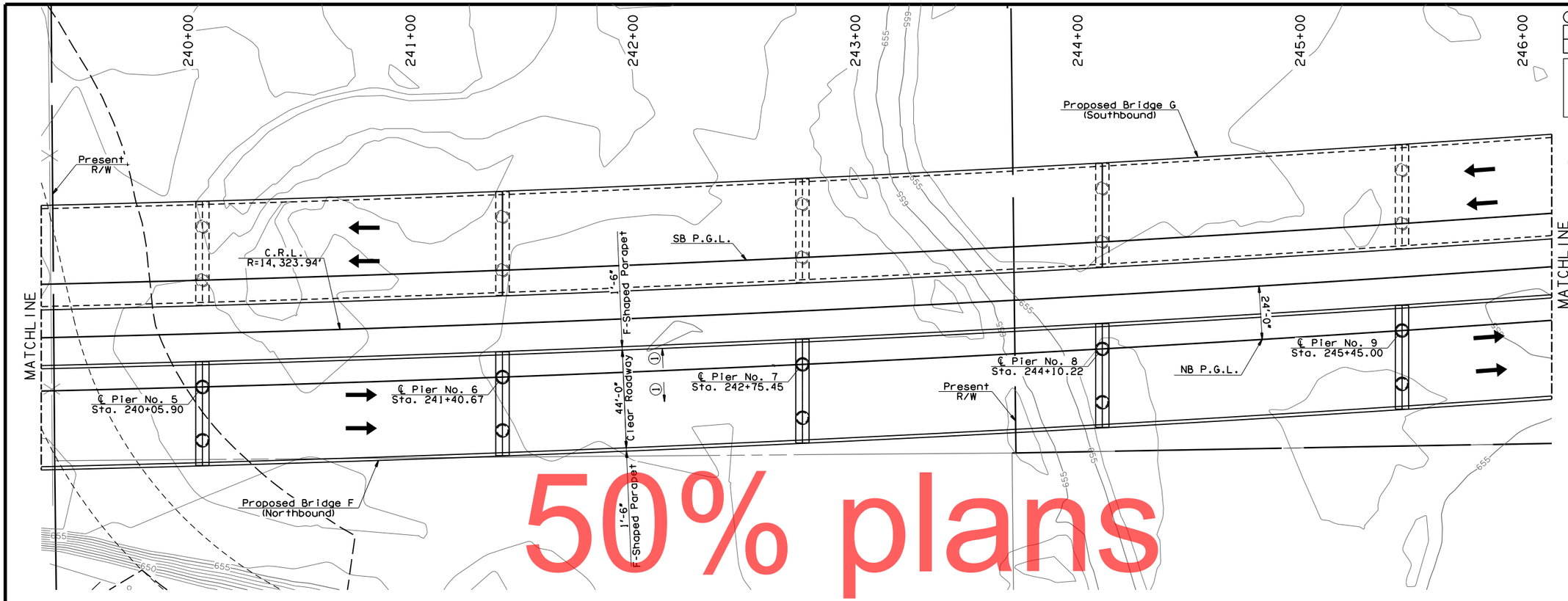
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JTR	5/17	CONTRACT NO. GCT-2500
DETAILED	JTR	5/17	
CHECKED	JCL	6/17	DATE: 10/23/2017 — SHEET NO. BF001

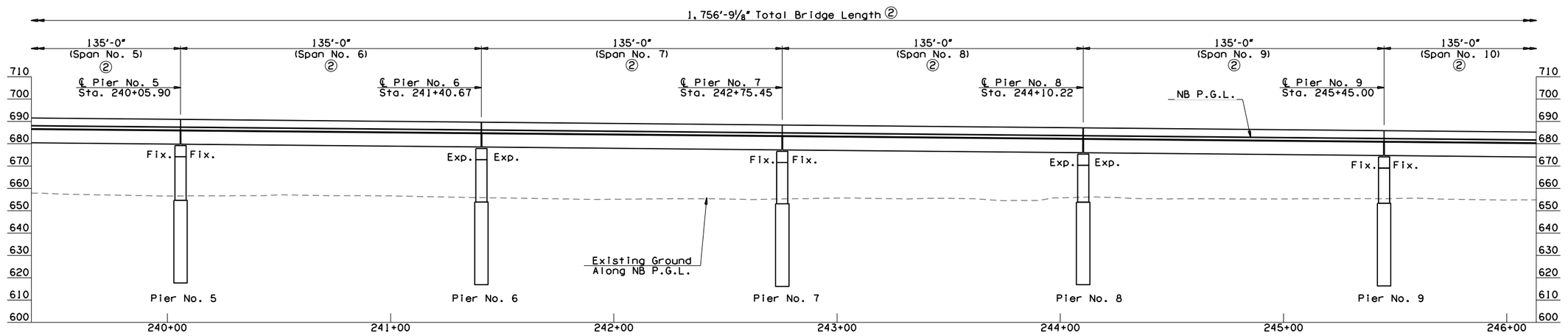
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

0 25 50 75
SCALE 1" = 25'



PLAN



ELEVATION

For Foundation Report, See Sheet Nos. XXXXX -XXXXX.

① 0.02 ft./ft.
② Stations measured along C.R.L. Dimensions measured along P.G.L.

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BF004.

BENCHMMARK NO. BM7
DESCRIPTION #6 REBAR
OFFSET 535.0' LT. STA. 240+09.00 EL. 659.31

BENCHMMARK NO. BM8
DESCRIPTION CHILSED BOX SET ON BRIDGE RAILING
OFFSET 495.0' LT. STA. 231+84.00 EL. 670.78

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. F GILCREASE NB OVER BERRYHILL CREEK
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	JTR	5/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	5/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BF002

50% plans

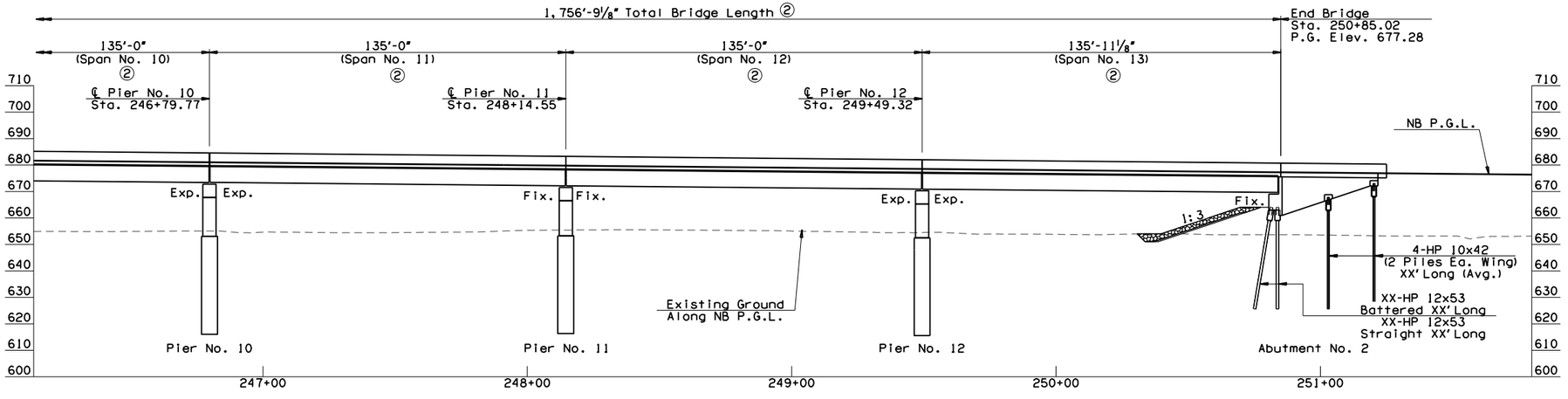
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



0 25 50 75
SCALE 1" = 25'

PLAN



ELEVATION

For Foundation Report, See Sheet Nos. XXXXX -XXXXX.

① 0.02 ft./ft.
② Stations measured along C.R.L.
Dimensions measured along P.G.L.

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BF004.

BENCHMMARK NO. BM7
DESCRIPTION #6 REBAR
OFFSET 535.0'LT. STA. 240+09.00 EL. 659.31

BENCHMMARK NO. BM8
DESCRIPTION CHILSED BOX SET ON BRIDGE RAILING
OFFSET 495.0'LT. STA. 231+84.00 EL. 670.78

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. F GILCREASE NB OVER BERRYHILL CREEK
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	JTR	5/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	5/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BF003

50% plans

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BF001-BF004	General Plan and Elevation
BF005	Pier Details
BF006	Typical Section
BF007-BF008	Beam Details
BF009	Bearing Details
BSTA01-BSTA09	Bridge Standard Details

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 4.90 sq. mi
Controlled Drainage Area = 0.00 sq. mi.
Effective Drainage Area = 4.90 sq. mi.

QOT > Q500	= 13,387 cfs
V500	= 4.10 fps
Q500 HW	= 662.28
Q10	= 4,047 cfs
V10	= 3.14 fps
Q10 HW	= 660.00
Q50	= 6,970 cfs
V50	= 3.57 fps
Q50 HW	= 660.81
Q100	= 8,639 cfs
V100	= 3.89 fps
Q100 HW	= 661.20

Max. Scour	Q100	= 7.78
Contr. Scour	Q100	= 0.00
Pier Scour	Q100	= 7.78
Max. Scour	Q500	= 8.11
Contr. Scour	Q500	= 1.45
Pier Scour	Q500	= 9.56

STANDARDS

FSHP-42-2-00E
HP1-2-01E

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 4	Pier No. 5	Pier No. 6
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

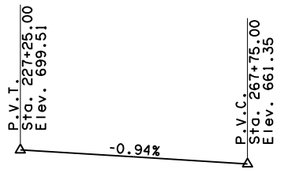
	Pier No. 7	Pier No. 8	Pier No. 9
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 10	Pier No. 11	Pier No. 12
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. F GILCREASE NB OVER BERRYHILL CREEK

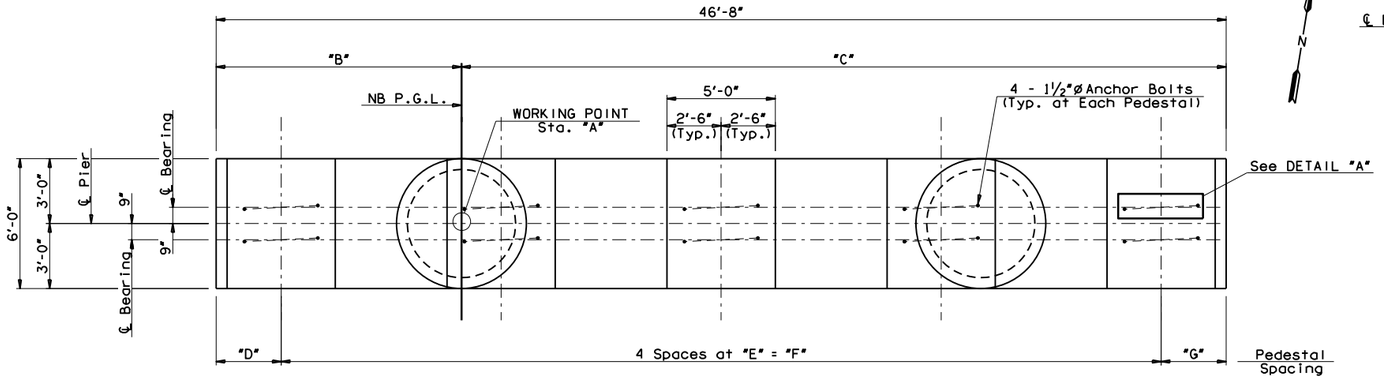
GENERAL PLAN AND ELEVATION
(SHEET 4 OF 4)

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

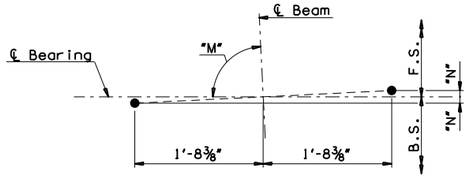
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DETAILED	JTR	5/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BF004

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

PROPOSED
R/W
10/23/2017



PLAN

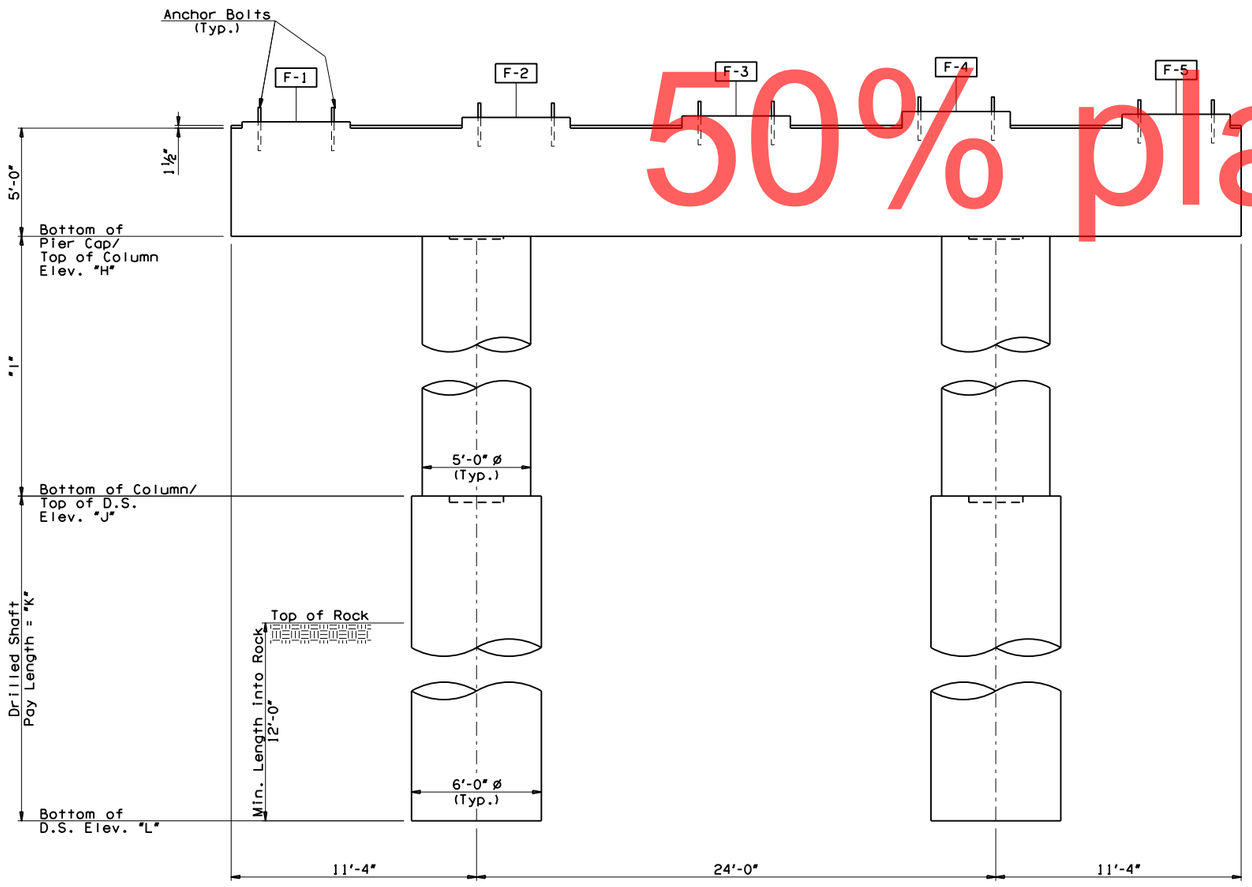


DETAIL "A"

TABLE OF VARIABLES - PIER NOS. 1 - 12							
LOCATION		"D"	"E"	"F"	"G"	"M"	"N"
PIER NO. 1	B.S.	3'-0"	10'-2"	40'-8"	3'-0"	90°0'0"	0"
	F.S.	3'-0"	10'-2"	40'-8"	3'-0"		
PIER NO. 2	B.S.	3'-0"	10'-2"	40'-8"	3'-0"	90°0'0"	0"
	F.S.	3'-0"	10'-2"	40'-8"	3'-0"	89°43'50"	⅛"
PIER NO. 3	B.S.	3'-0 1/16"	10'-2"	40'-8"	2'-11 15/16"	89°43'50"	⅛"
	F.S.	2'-11 7/8"	10'-2"	40'-8"	3'-0 1/8"	89°11'31"	5/16"
PIER NO. 4	B.S.	3'-0 1/8"	10'-2"	40'-8"	2'-11 7/8"	89°11'31"	5/16"
	F.S.	2'-11¾"	10'-2 1/16"	40'-8¼"	3'-0"	88°38'48"	½"
PIER NO. 5	B.S.	3'-0 3/16"	10'-2 1/16"	40'-8¼"	2'-11 9/16"	88°38'48"	½"
	F.S.	2'-11 5/8"	10'-2 1/16"	40'-8¼"	3'-0 1/8"	88°39'12"	11/16"
PIER NO. 6	B.S.	3'-0 3/16"	10'-2 1/16"	40'-8¼"	2'-11 9/16"	88°39'12"	11/16"
	F.S.	2'-11 7/16"	10'-2 1/8"	40'-8½"	3'-0 1/16"	87°34'34"	⅞"
PIER NO. 7	B.S.	3'-0 3/16"	10'-2 1/8"	40'-8½"	2'-11 5/16"	87°34'34"	⅞"
	F.S.	2'-11¼"	10'-2 3/16"	40'-8¾"	3'-0"	87°02'15"	1 1/16"
PIER NO. 8	B.S.	3'-0 3/16"	10'-2 3/16"	40'-8¾"	2'-11 1/16"	87°02'15"	1 1/16"
	F.S.	2'-11 1/16"	10'-2¼"	40'-9"	2'-11 5/16"	86°29'56"	1¼"
PIER NO. 9	B.S.	3'-0 1/8"	10'-2¼"	40'-9"	2'-10 7/8"	86°29'56"	1¼"
	F.S.	2'-10 13/16"	10'-2 5/16"	40'-9¼"	2'-11 5/16"	85°57'36"	1 7/16"
PIER NO. 10	B.S.	3'-0 1/16"	10'-2 5/16"	40'-9¼"	2'-10 11/16"	85°57'36"	1 7/16"
	F.S.	2'-10 9/16"	10'-2⅜"	40'-9½"	2'-11 5/16"	85°25'17"	1⅝"
PIER NO. 11	B.S.	3'-0"	10'-2⅜"	40'-9½"	2'-10½"	85°25'17"	1⅝"
	F.S.	2'-10¼"	10'-2½"	40'-10"	2'-11¾"	84°52'58"	1 13/16"
PIER NO. 12	B.S.	2'-11⅞"	10'-2½"	40'-10"	2'-10⅛"	84°52'58"	1 13/16"
	F.S.	2'-9 15/16"	10'-2⅝"	40'-10½"	2'-11 5/16"	84°20'38"	2"

PEDESTAL ELEVATIONS					
PIER NO.	PEDESTAL NO.				
	F-1	F-2	F-3	F-4	F-5
1	684.88	685.01	684.81	684.61	684.40
2	683.61	683.74	683.54	683.33	683.13
3	682.34	682.47	682.27	682.07	681.86
4	681.07	681.20	681.00	680.80	680.60
5	679.80	679.93	679.73	679.53	679.33
6	678.53	678.66	678.46	678.26	678.06
7	677.26	677.39	677.19	676.99	676.80
8	675.99	676.12	675.92	675.73	675.53
9	674.72	674.85	674.66	674.46	674.26
10	673.45	673.58	673.39	673.19	672.99
11	672.17	672.31	672.12	671.92	671.73
12	670.90	671.04	670.85	670.65	670.46

TABLE OF VARIABLES - PIER NOS. 1 - 12								
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	ELEV. "H"	LENGTH "I"	ELEV. "J"	LENGTH "K"	ELEV. "L"
1	234+66.57	11'-4"	35'-4"	679.11	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
2	236+01.57	11'-4"	35'-4"	677.84	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
3	237+36.35	11'-4"	35'-4"	676.57	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
4	238+71.12	11'-4"	35'-4"	675.30	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
5	240+05.90	11'-4"	35'-4"	674.04	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
6	241+40.67	11'-3 15/16"	35'-4 1/16"	672.77	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
7	242+75.45	11'-3⅞"	35'-4⅛"	671.50	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
8	244+10.22	11'-3 13/16"	35'-4 3/16"	670.24	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
9	245+45.00	11'-3¾"	35'-4¼"	668.97	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
10	246+79.77	11'-3⅝"	35'-4⅜"	667.70	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
11	248+14.55	11'-3 9/16"	35'-4 7/16"	666.44	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
12	249+49.32	11'-3 1/16"	35'-4 9/16"	665.17	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX



ELEVATION
(Looking Forward Station)

PIER NOS. 1-12

NOTE:
For Water Repellant Details, see Sheet No. BSTA01.

50% plans

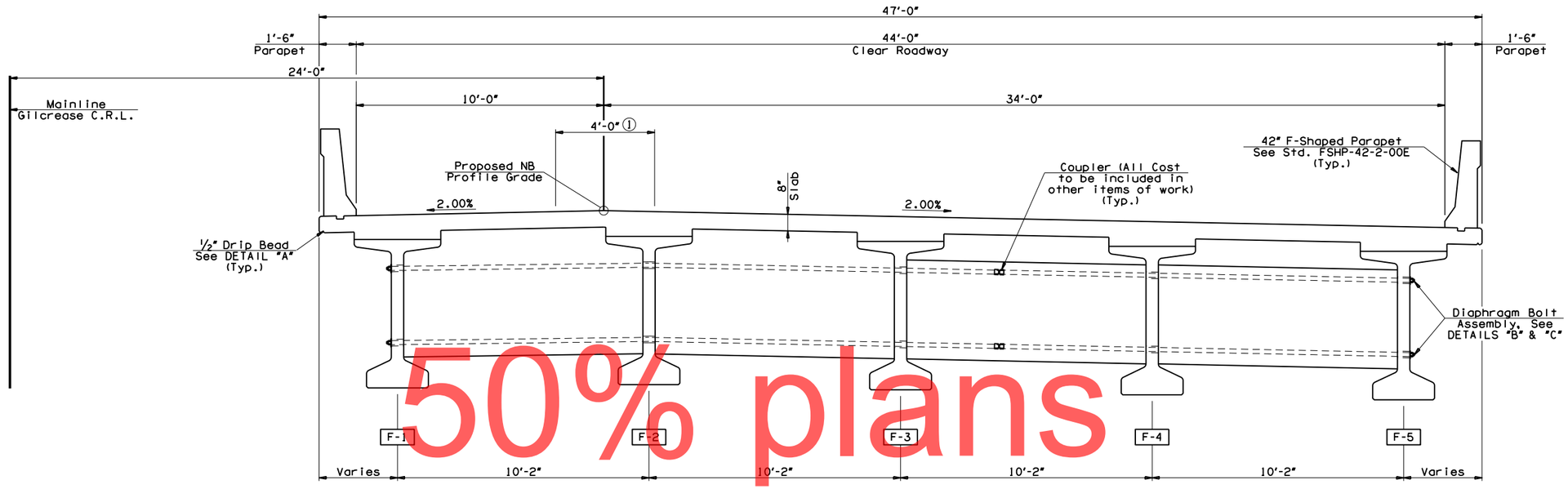
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. F GILCREASE NB OVER BERRYHILL CREEK
PIER DETAILS

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	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BF005

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

PROPOSED R/W
10/23/2017



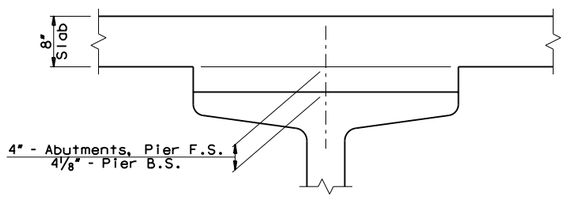
50% plans

HALF SECTION AT END DIAPHRAGM

HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

① Round 2'-0" each side of P.G.L. to avoid sharp edges.



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 bottom of Deck Slab to Top of 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.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE

	ITEM	UNIT	TOTAL
	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	XXX.XX
	SAW-CUT GROOVING	S.Y.	XXX.XX
	SEALED EXPANSION JOINT	L.F.	XXX.XX
	42" F-SHAPED PARAPET	L.F.	XXX.XX
	STRUCTURAL STEEL	LB.	XXX.XX
	STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	XXX.XX
	STAINLESS STEEL EXP. BEARING ASSEMBLY	EA.	XXX.XX
②	CLASS AA CONCRETE	C.Y.	XXX.XX
	EPOXY COATED REINFORCING STEEL	LB.	XXX.XX
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.XX

② Includes a calculated XXX.X0 C.Y. of Class AA Concrete in the Haunches.

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. Structural steel for Beveled Spacer shall conform to AASHTO A53, Grade B. 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".

NOTE:
See Sheet Nos. XXXXX - XXXXX for deck reinforcing layout.

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

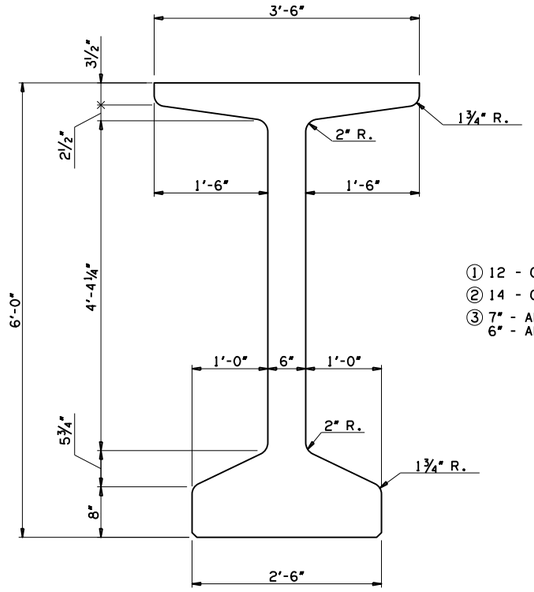
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. F GILCREASE NB OVER BERRYHILL CREEK
TYPICAL SECTION

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BF006

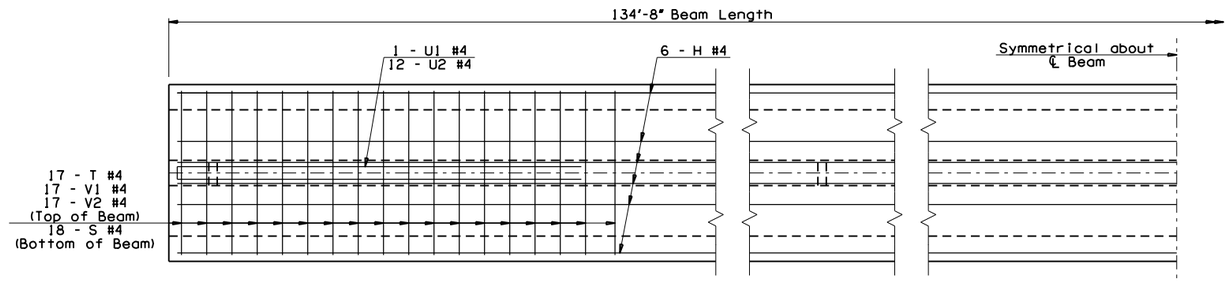
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

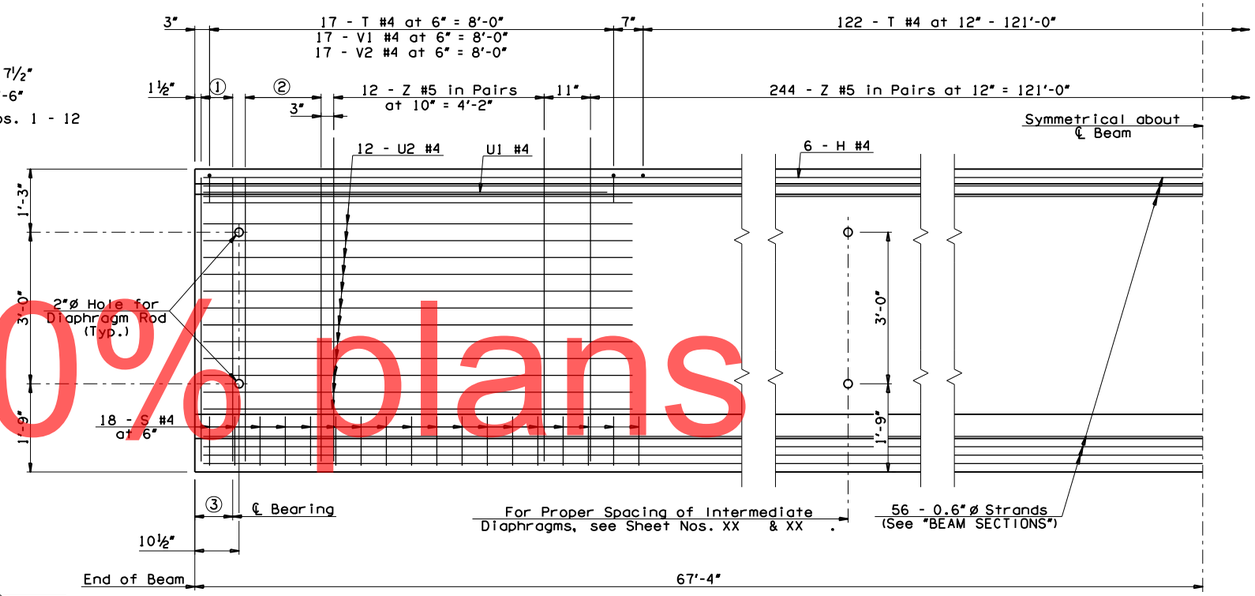


END VIEW

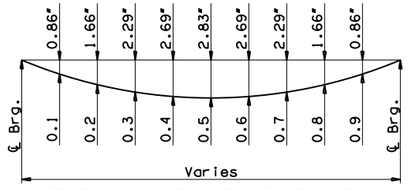
① 12 - C #5 in Pairs at 1½" = 7½"
② 14 - C #5 in Pairs at 3" = 1'-6"
③ 7" - Abutment No. 1, Pier Nos. 1 - 12
6" - Abutment No. 2



PLAN

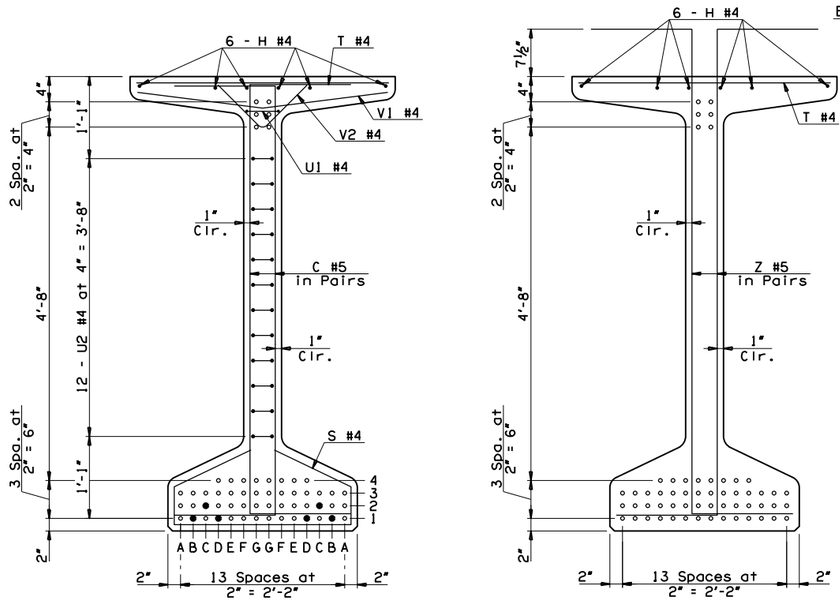


ELEVATION



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.



BEAM SECTIONS
(56-0.6"ø Strands)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

PRESTRESSED CONCRETE BEAM NOTES
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 8,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - 2.13 (HL-93)
LFR OPERATING RATING - HS 55.0
The Operating Rating shown is based on a nominal concrete strength, and include partially bonded strands in strength computations.

50% plans

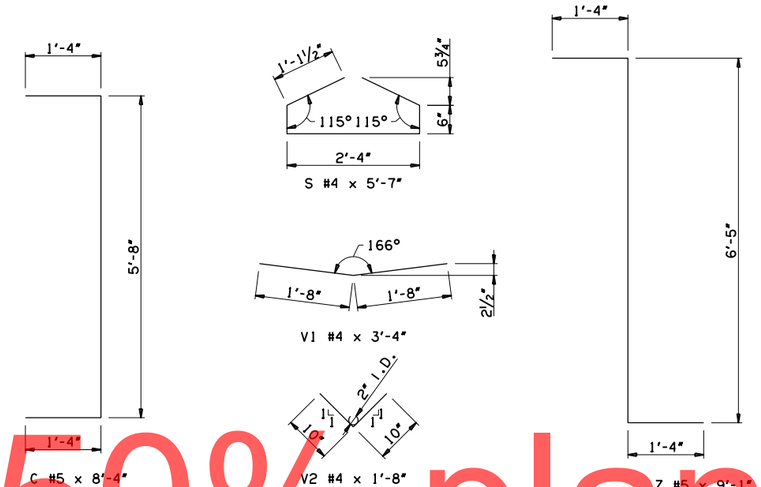
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. F GILCREASE NB OVER BERRYHILL CREEK
135'-0" BEAM DETAILS
(TYPE J BT)

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

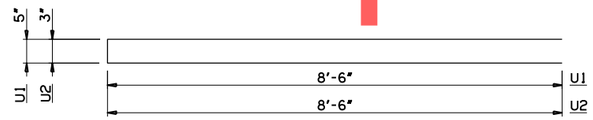
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DETAILED	SJL	8/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BF007

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

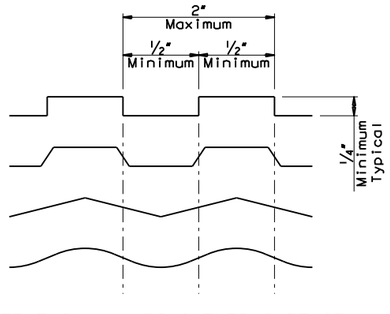
PROPOSED
R/W
10/23/2017



50% plans

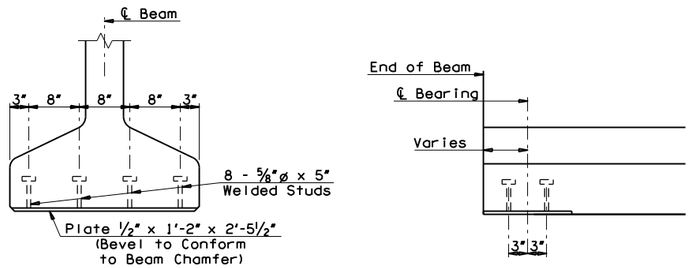


U1 #4 x 17'-5"
U2 #4 x 17'-3"



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. F GILCREASE NB OVER BERRYHILL CREEK

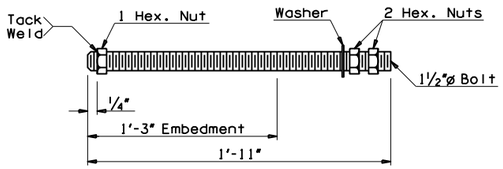
BEAM DETAILS
(TYPE J BT)

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

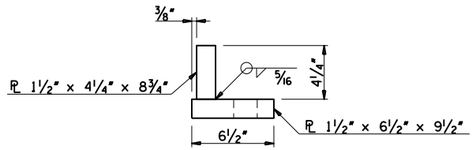
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DETAILED	SJL	8/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BF008

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

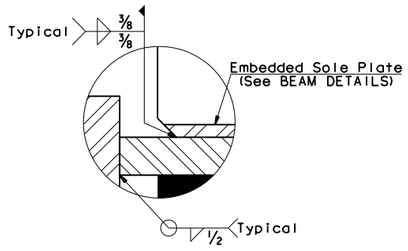
PROPOSED R/W
10/23/2017



ANCHOR BOLT DETAIL

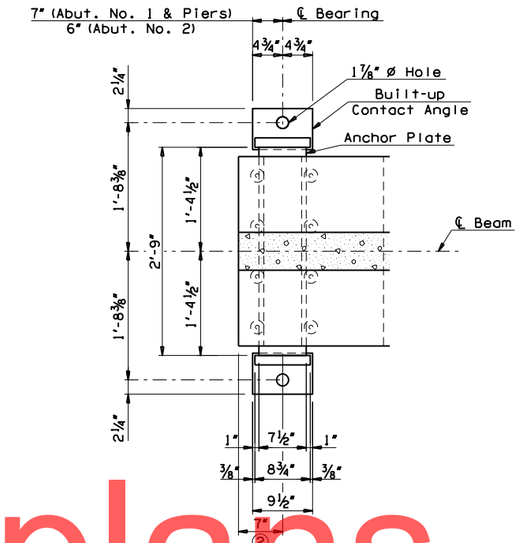


BUILT-UP CONTACT ANGLE DETAIL

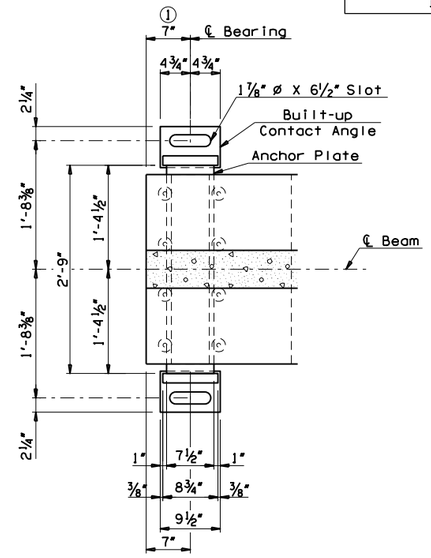


DETAIL "A"

50% plans



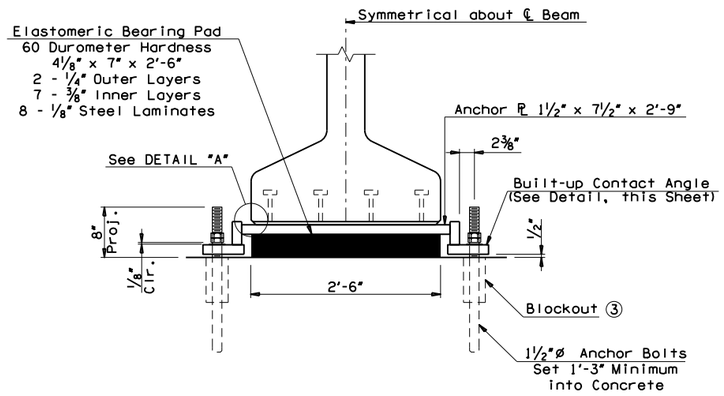
FIXED BEARING PLAN



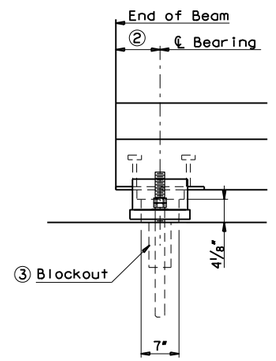
EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.

② 7" - Abut. No. 1 & Piers
6" - Abut. No. 2



END VIEW



ELEVATION

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, mGrade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

Contractor shall post install the anchor bolts in accordance with section 509.04.D(3) of the standard specification with a Type H epoxy. Fully remove blocking material prior to installing epoxy. If the epoxy manufacturer requires a longer embedment length, increase the length of the anchor bolt to provide an 8" minimum projection above the top of the cap. Include the depth of the blocked out section in the embedment length.

The total estimated weight of Structural Steel per Type J BT Bearing Assembly is XXX.XX lbs.

BEARING DETAILS

③ Provide blockouts at all bearing locations to prevent damage to reinforcing steel during installation of anchor bolts.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. F GILCREASE NB OVER BERRYHILL CREEK

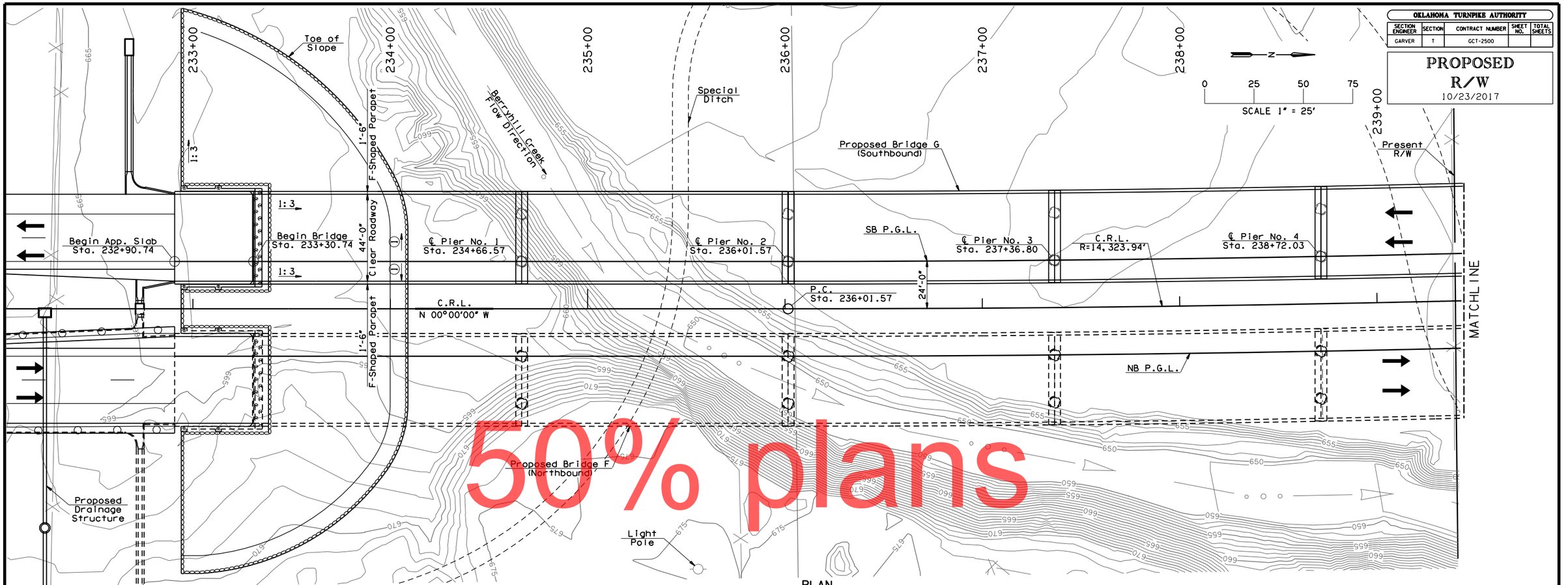
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BF009

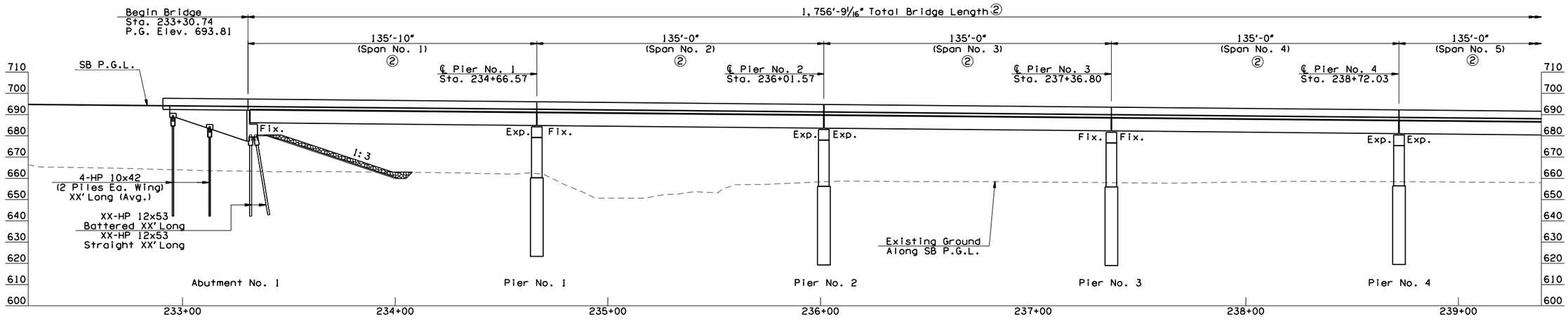
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

PLAN



ELEVATION

For Foundation Report, See Sheet Nos. XXXXX - XXXXX.

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BG004.

BENCHMMARK NO. BM7
DESCRIPTION #6 REBAR
OFFSET 535.0' LT. STA. 240+09.00 EL. 659.31

BENCHMMARK NO. BM8
DESCRIPTION CHILSED BOX SET ON BRIDGE RAILING
OFFSET 495.0' LT. STA. 231+84.00 EL. 670.78

① 0.02 ft./ft.
② Stations measured along C.R.L. Dimensions shown measured along P.G.L.

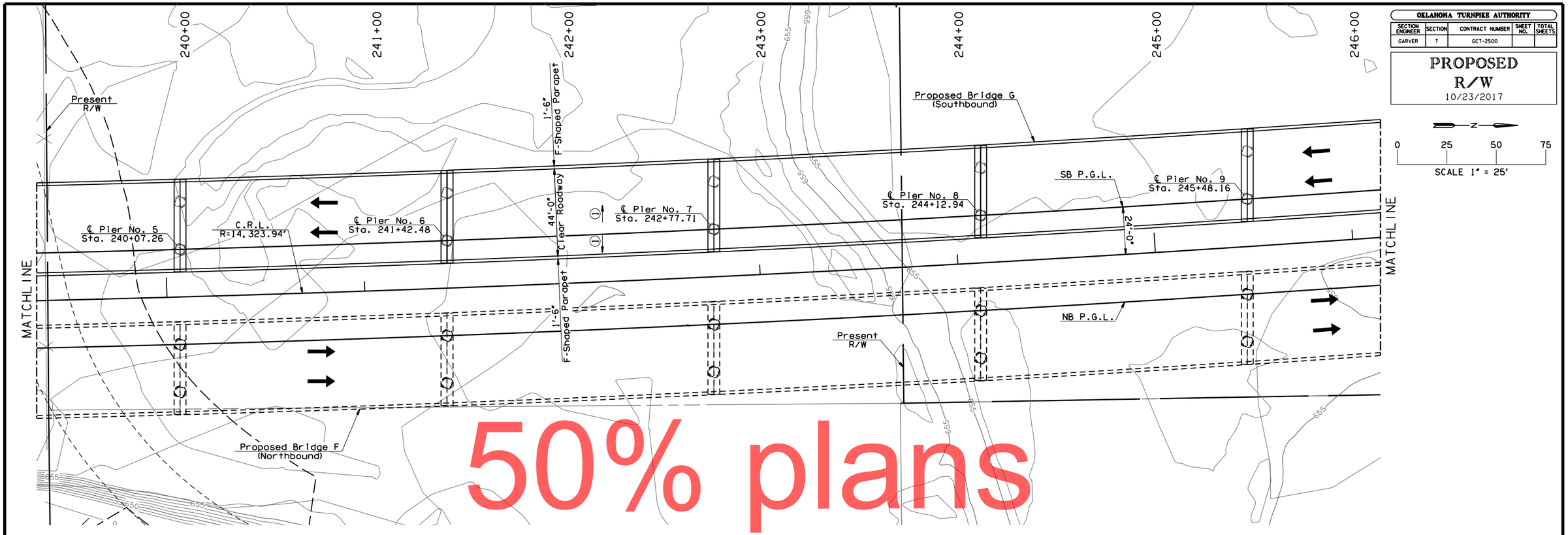
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

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	JTR	5/17	CONTRACT NO. GCT-2500
DETAILED	JTR	5/17	
CHECKED	JCL	5/17	DATE: 10/23/2017 — SHEET NO. BG001


240+00
241+00
242+00
243+00
244+00
245+00
246+00
Present R/W
1'-6" F-Shaped Parapet
44'-0" Clear Roadway
1'-6" F-Shaped Parapet
Proposed Bridge G (Southbound)
SB P.G.L.
℄ Pier No. 9 Sta. 245+48.16
24'-0"
℄ Pier No. 8 Sta. 244+12.94
℄ Pier No. 7 Sta. 242+77.71
℄ Pier No. 6 Sta. 241+42.48
C.R.L. R=14,323.94'
℄ Pier No. 5 Sta. 240+07.26
MATCHLINE
MATCHLINE
NB P.G.L.
Present R/W
Proposed Bridge F (Northbound)
655
650
655
655
655

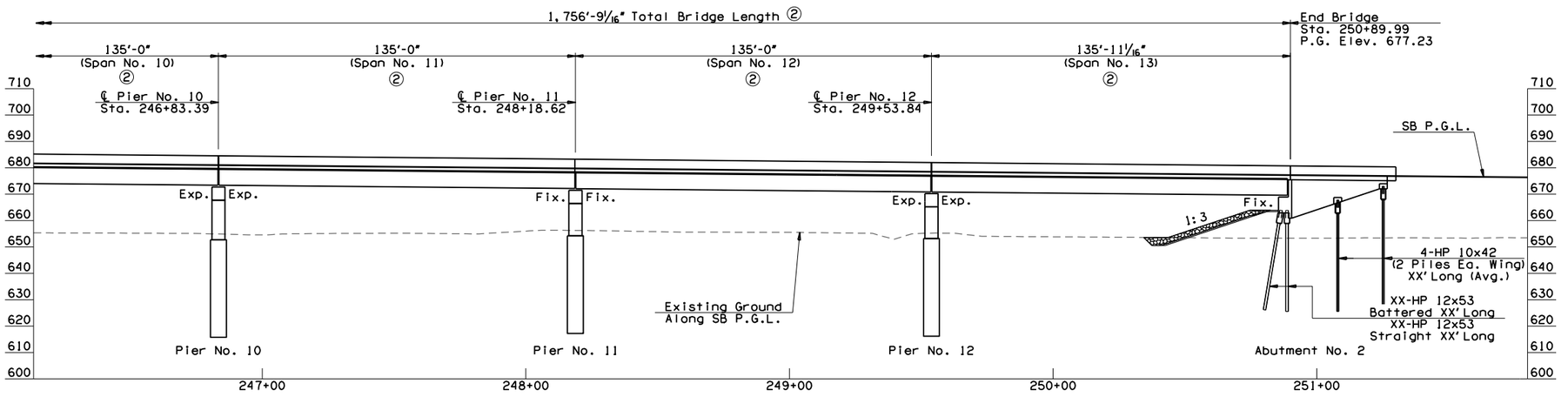
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

0 25 50 75
SCALE 1" = 25'



PLAN



For Foundation Report, See Sheet Nos. XXXXX -XXXXX.

ELEVATION

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BG004.

BENCHMARK NO. BM7
DESCRIPTION #6 REBAR
OFFSET 535.0' LT. STA. 240+09.00 EL. 659.31

BENCHMARK NO. BM8
DESCRIPTION CHILSED BOX SET ON BRIDGE RAILING
OFFSET 495.0' LT. STA. 231+84.00 EL. 670.78

① 0.02 ft./ft.
② Stations measured along C.R.L.
Dimensions shown measured along P.G.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
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	JTR	5/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	5/17		
CHECKED	JCL	5/17	DATE: 10/23/2017	SHEET NO. BG003

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BG001-BG004	General Plan and Elevation
BG005-BG006	Staking Diagram
BG007-BG009	Pier Details
BG010	Typical Section
BG011	Longitudinal Section
BG012-BG018	Superstructure Details
BG019-BG020	Framing Plan
BG021-BG022	Beam Details
BG023	Bearing Details
BG024-BG026	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

STANDARDS

FSHP-42-2-00E
HP1-2-01E

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-In-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS 66.4
LRFR Operationg Rating: 2.13

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 4.90 sq. mi
Controlled Drainage Area = 0.00 sq. mi.
Effective Drainage Area = 4.90 sq. mi.

QOT > Q500	= 13,387 cfs
V500	= 4.10 fps
Q500 HW	= 662.28
Q10	= 4,047 cfs
V10	= 3.14 fps
Q10 HW	= 660.00
Q50	= 6,970 cfs
V50	= 3.57 fps
Q50 HW	= 660.81
Q100	= 8,639 cfs
V100	= 3.89 fps
Q100 HW	= 661.20

Max. Scour	Q100	= 7.78
Contr. Scour	Q100	= 0.00
Pier Scour	Q100	= 7.78
Max. Scour	Q500	= 8.11
Contr. Scour	Q500	= 1.45
Pier Scour	Q500	= 9.56

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 4	Pier No. 5	Pier No. 6
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

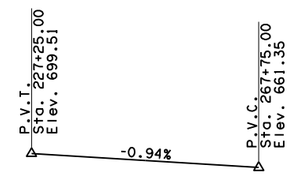
	Pier No. 7	Pier No. 8	Pier No. 9
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 10	Pier No. 11	Pier No. 12
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	C.Y.	328.00	-	-	-	328.00
CLSM BACKFILL	C.Y.	577.00	-	-	-	577.00
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	-	-	8,753.40	-	8,753.40
APPROACH SLAB	S.Y.	-	-	-	431.00	431.00
SAW-CUT GROOVING	S.Y.	-	-	8,588.20	403.50	8,991.70
EXPANSION JOINT	L.F.	-	-	270.00	-	270.00
42" F-SHAPED PARAPET	L.F.	-	-	3,513.40	165.10	3,678.50
STRUCTURAL STEEL	LB.	-	-	9,218.00	-	9,218.00
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	-	-	65.00	-	65.00
(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	-	-	65.00	-	65.00
(SP) SPECIAL CONCRETE FINISH	S.Y.	73.00	612.00	-	-	685.00
CLASS AA CONCRETE	C.Y.	-	-	2,706.50	-	2,706.50
CLASS A CONCRETE	C.Y.	177.70	923.50	-	-	1,101.20
CLASS C CONCRETE	C.Y.	-	-	-	3.00	3.00
EPOXY COATED REINFORCING STEEL	LB.	23,261.00	346,692.00	506,082.00	-	876,035.00
PILES, FURNISHED (HP 10X42)	L.F.	644.00	-	-	-	644.00
PILES, FURNISHED (HP 12X53)	L.F.	2,238.00	-	-	-	2,238.00
PILES, DRIVEN (HP 10X42)	L.F.	644.00	-	-	-	644.00
PILES, DRIVEN (HP 12X53)	L.F.	2,238.00	-	-	-	2,238.00
PILE SPLICE (NON-BIDDABLE)	EA.	1.00	-	-	-	1.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	121.00	564.00	6,530.00	485.00	7,700.00
DRILLED SHAFTS 72" DIAMETER	L.F.	-	1,622.00	-	-	1,622.00
CROSSHOLE SONIC LOGGING	EA.	-	12.00	-	-	12.00
SEALER CRACK PREPARATION	L.F.	-	-	329.00	-	329.00
SEALER RESIN	GAL.	-	-	329.00	-	329.00
TYPE I-A - PLAIN RIPRAP	TON	2,415.00	-	-	-	2,415.00
TYPE I-A - FILTER BLANKET	TON	410.00	-	-	-	410.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	92.00	-	-	-	92.00
6" NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	60.00	-	-	-	60.00



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

GENERAL PLAN AND ELEVATION
(SHEET 4 OF 4)

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

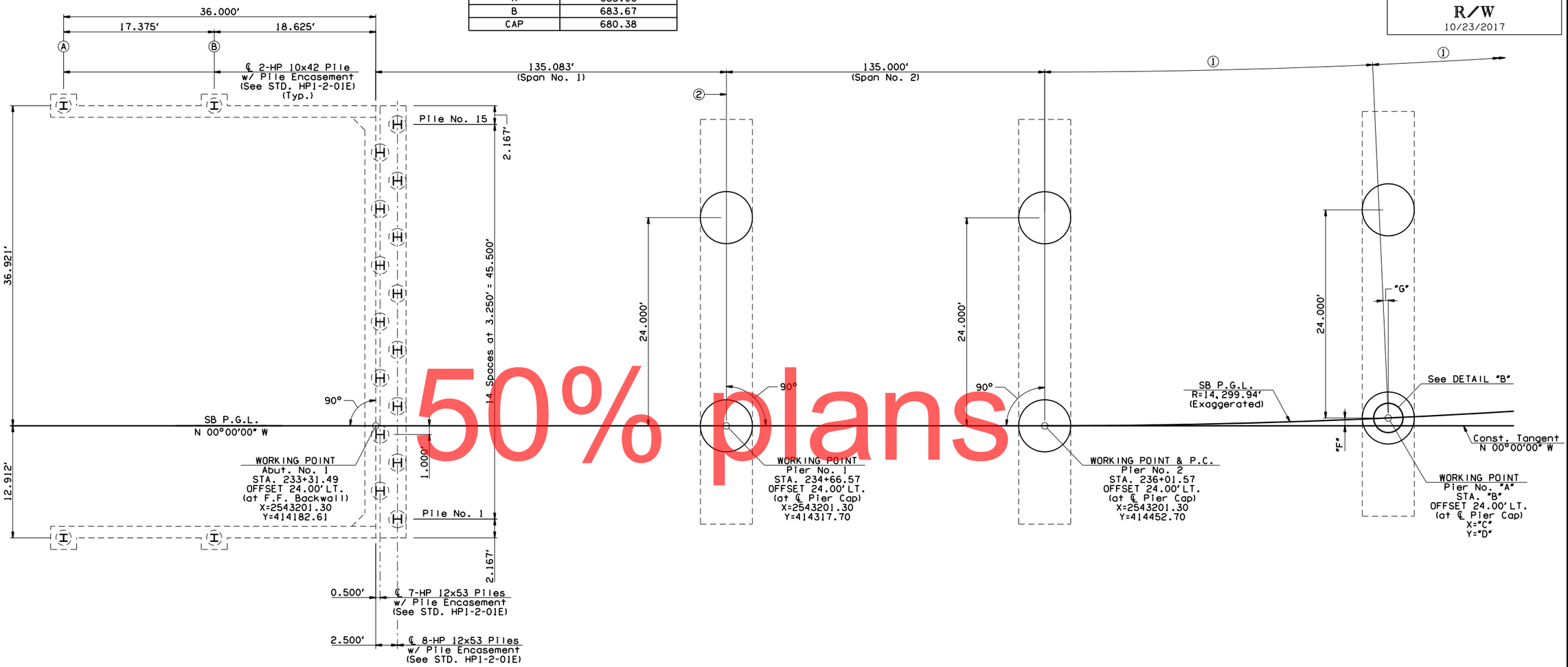
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DETAILED	JTR	5/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BG004

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	688.96
B	683.67
CAP	680.38

NOTE:
Dimensions are shown along SB P.G.L.

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

PROPOSED
R/W
10/23/2017



50% plans

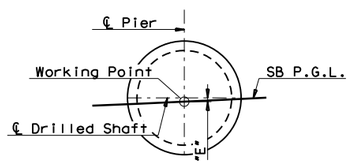
ABUTMENT NO. 1

PIER NO. 1

PIER NO. 2

SUBSTRUCTURE STAKING DIAGRAM

TYPICAL INTERIOR PIER
(Typical at Pier Nos. 3 - 11)



DETAIL "B"

TABLE OF VARIABLES						
"A"	"B"	"C"	"D"	"E"	"F"	"G"
3	237+36.80	2543200.66	414587.69		0.637'	00°32'27"
4	238+72.03	2543198.75	414722.68		2.549'	01°04'55"
5	240+07.26	2543195.57	414857.64		5.735'	01°37'22"
6	241+42.48	2543191.11	414992.57	0.01"	10.195'	02°09'49"
7	242+77.71	2543185.37	415127.45	0.01"	15.928'	02°42'16"
8	244+12.94	2543178.37	415262.27	0.02"	22.935'	03°14'44"
9	245+48.16	2543170.09	415397.01	0.03"	31.214'	03°47'11"
10	246+83.89	2543160.54	415531.67	0.03"	40.764'	04°19'38"
11	248+18.62	2543149.71	415666.24	0.04"	51.586'	04°52'05"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
STAKING DIAGRAM
(SHEET 1 OF 2)

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

DESIGNED	JTR	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG005

NOTE:
Dimensions are shown along SB P.G.L.

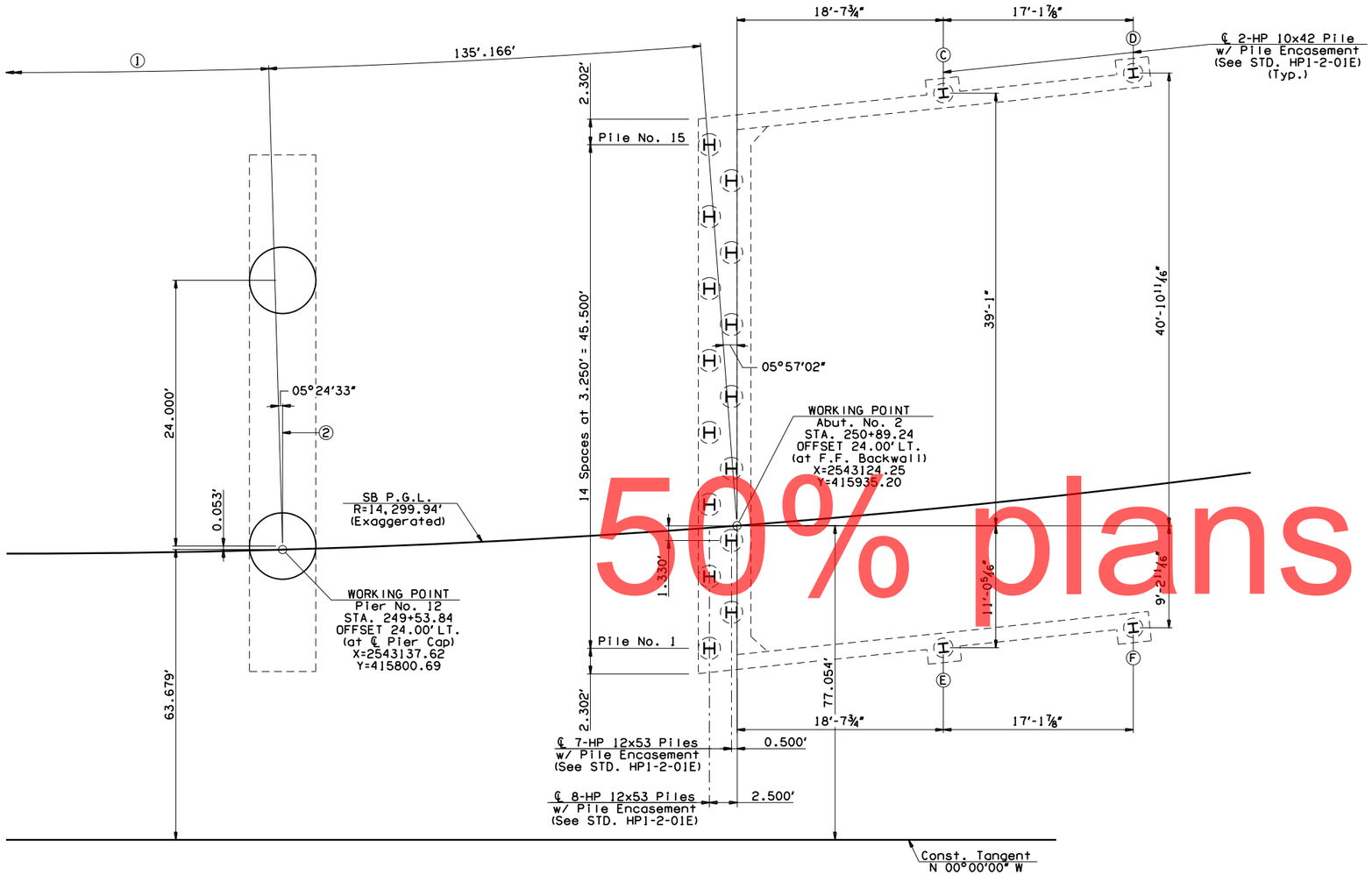
For Summary of Quantities, see
Sheet No. XX .

① 135.000' (Typ at Span Nos. 3 - 12)
② ℄ 2-72" Dia. Drilled Shaft (Typ. at all Piers)

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

PROPOSED
R/W
10/23/2017

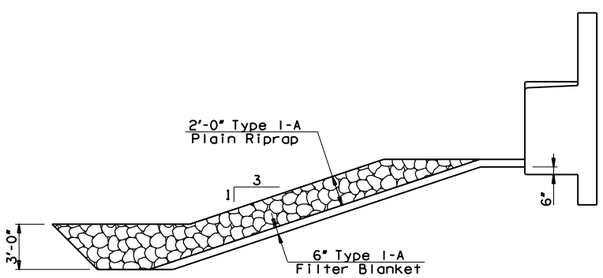
TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
C	667.19
D	672.44
CAP	663.81
E	667.09
F	672.34



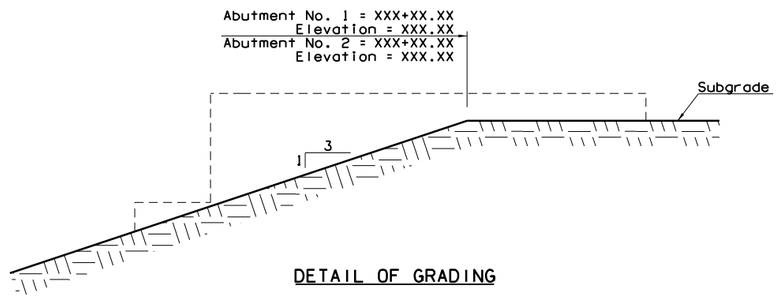
PIER NO. 12 ABUTMENT NO. 2

SUBSTRUCTURE STAKING DIAGRAM

50% plans



TYPICAL SECTION THRU RIPRAP AT BRIDGE SEAT
(Dimensions are Normal to Bridge Seat)



DETAIL OF GRADING

NOTES:
Slope Shown to be Shaped by the Grading Contractor.

Stations and elevations given are at the SB P.G.L. and will vary across the width of the bridge.

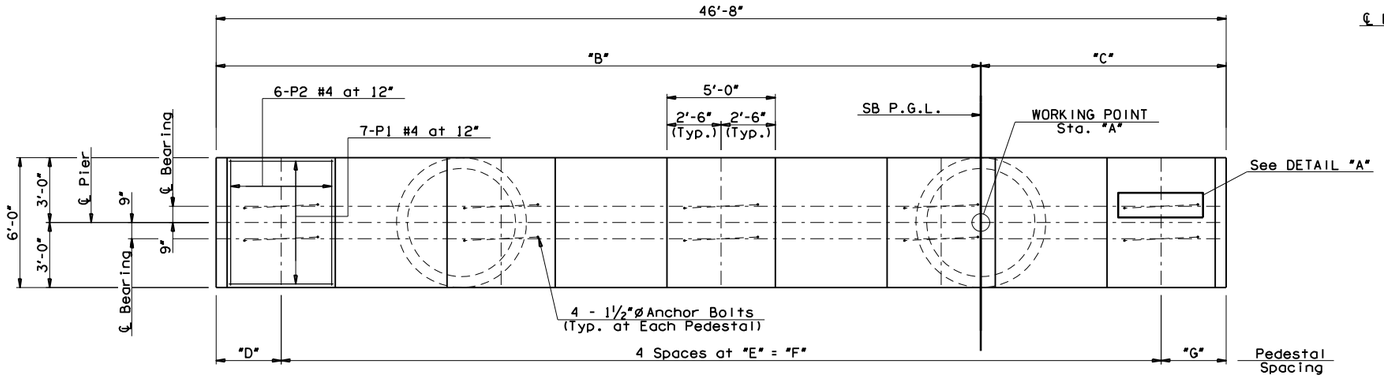
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
STAKING DIAGRAM
(SHEET 2 OF 2)

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

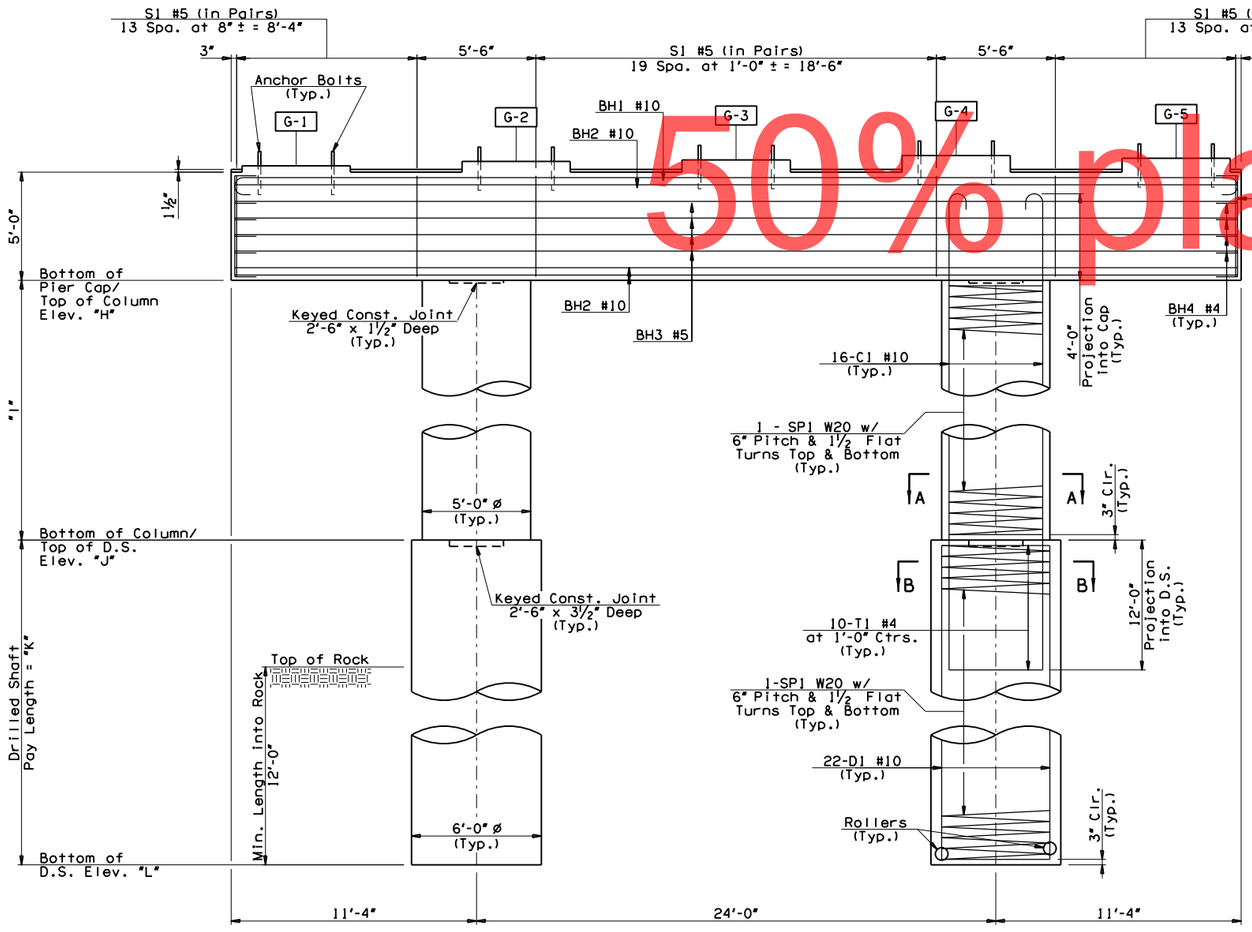
DESIGNED	JTR	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG006

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

PROPOSED
R/W
10/23/2017

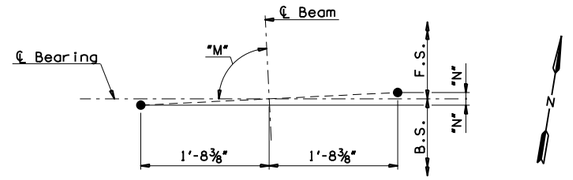


PLAN



ELEVATION
(Looking Forward Station)

PIER NOS. 1-12



DETAIL "A"

TABLE OF VARIABLES - PIER NOS. 1 - 12

LOCATION		"D"	"E"	"F"	"G"	"M"	"N"
PIER NO. 1	B.S.	3'-0"	10'-2"	40'-8"	3'-0"	90°0'0"	0"
	F.S.	3'-0"	10'-2"	40'-8"	3'-0"		
PIER NO. 2	B.S.	3'-0"	10'-2"	40'-8"	3'-0"	90°0'0"	0"
	F.S.	3'-0"	10'-2"	40'-8"	3'-0"	89°43'45"	⅛"
PIER NO. 3	B.S.	3'-0"	10'-2"	40'-8"	3'-0"	89°43'45"	⅛"
	F.S.	2'-11⅞"	10'-2"	40'-8"	3'-0⅛"	89°11'17"	5/16"
PIER NO. 4	B.S.	3'-0⅛"	10'-2"	40'-8"	2'-11⅞"	89°11'17"	5/16"
	F.S.	2'-11 11/16"	10'-2 1/16"	40'-8⅛"	3'-0⅛"	88°38'48"	½"
PIER NO. 5	B.S.	3'-0⅛"	10'-2 1/16"	40'-8⅛"	2'-11 11/16"	88°38'48"	½"
	F.S.	2'-11 9/16"	10'-2 1/16"	40'-8¼"	3'-0 3/16"	88°06'19"	11/16"
PIER NO. 6	B.S.	3'-0 3/16"	10'-2 1/16"	40'-8¼"	2'-11 9/16"	88°06'19"	11/16"
	F.S.	2'-11⅜"	10'-2⅛"	40'-8 7/16"	3'-0 3/16"	87°33'50"	⅞"
PIER NO. 7	B.S.	3'-0 3/16"	10'-2⅛"	40'-8 7/16"	2'-11⅜"	87°33'50"	⅞"
	F.S.	2'-11⅜"	10'-2 3/16"	40'-8 11/16"	3'-0⅛"	87°01'21"	1 1/16"
PIER NO. 8	B.S.	3'-0⅛"	10'-2 3/16"	40'-8 11/16"	2'-11 3/16"	87°01'21"	1 1/16"
	F.S.	2'-11"	10'-2¼"	40'-9"	3'-0"	86°28'52"	1¼"
PIER NO. 9	B.S.	3'-0"	10'-2¼"	40'-9"	2'-11"	86°28'52"	1¼"
	F.S.	2'-10¾"	10'-2 5/16"	40'-9¼"	3'-0"	85°56'23"	1 7/16"
PIER NO. 10	B.S.	3'-0"	10'-2 5/16"	40'-9¼"	2'-10¾"	85°56'23"	1 7/16"
	F.S.	2'-10½"	10'-2⅜"	40'-9 9/16"	3'-0"	85°23'54"	1⅝"
PIER NO. 11	B.S.	3'-0"	10'-2⅜"	40'-9 9/16"	2'-10½"	85°23'54"	1⅝"
	F.S.	2'-10 5/16"	10'-2½"	40'-10"	2'-11 3/16"	84°51'25"	1 13/16"
PIER NO. 12	B.S.	2'-11 3/16"	10'-2½"	40'-10"	2'-10 3/16"	84°51'25"	1 13/16"
	F.S.	2'-9⅞"	10'-2⅝"	40'-10½"	2'-11⅝"	84°18'56"	2"

PEDESTAL ELEVATIONS

PIER NO.	PEDESTAL NO.				
	G-1	G-2	G-3	G-4	G-5
1	684.40	684.61	684.81	685.01	684.88
2	683.13	683.33	683.54	683.74	683.61
3	681.85	682.06	682.26	682.47	682.34
4	680.58	680.78	680.99	681.19	681.06
5	679.30	679.51	679.71	679.92	679.79
6	678.02	678.23	678.44	678.64	678.52
7	676.75	676.95	677.16	677.37	677.24
8	675.47	675.68	675.89	676.09	675.97
9	674.19	674.40	674.61	674.82	674.70
10	672.91	673.12	673.34	673.55	673.42
11	671.63	671.85	672.06	672.27	672.15
12	670.36	670.57	670.78	671.00	670.88

TABLE OF VARIABLES - PIER NOS. 1 - 12

PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	ELEV. "H"	LENGTH "I"	ELEV. "J"	LENGTH "K"	ELEV. "L"
1	234+66.57	35'-4"	11'-4"	679.11	18'-9"	660.36	XX.XX'	XXX.XX
2	236+01.57	35'-4"	11'-4"	677.84	21'-9"	656.09	XX.XX'	XXX.XX
3	237+36.80	35'-4"	11'-4"	676.56	20'-9"	655.81	XX.XX'	XXX.XX
4	238+72.03	35'-4"	11'-4"	675.29	19'-0"	656.29	XX.XX'	XXX.XX
5	240+07.26	35'-4 1/16"	11'-3 15/16"	674.01	19'-3"	654.76	XX.XX'	XXX.XX
6	241+42.48	35'-4⅛"	11'-3⅞"	672.73	18'-6"	654.23	XX.XX'	XXX.XX
7	242+77.71	35'-4 3/16"	11'-3 13/16"	671.45	18'-0"	653.45	XX.XX'	XXX.XX
8	244+12.94	35'-4¼"	11'-3¾"	670.18	16'-3"	653.93	XX.XX'	XXX.XX
9	245+48.16	35'-4 5/16"	11'-3 11/16"	668.90	15'-6"	655.40	XX.XX'	XXX.XX
10	246+83.39	35'-4 7/16"	11'-3 9/16"	667.62	14'-9"	652.87	XX.XX'	XXX.XX
11	248+18.62	35'-4½"	11'-3½"	666.34	12'-3"	654.09	XX.XX'	XXX.XX
12	249+53.84	35'-4⅝"	11'-3⅜"	665.07	12'-0"	653.07	XX.XX'	XXX.XX

NOTE:
For Water Repellant Details, see Sheet No. BSTA01.

50% plans

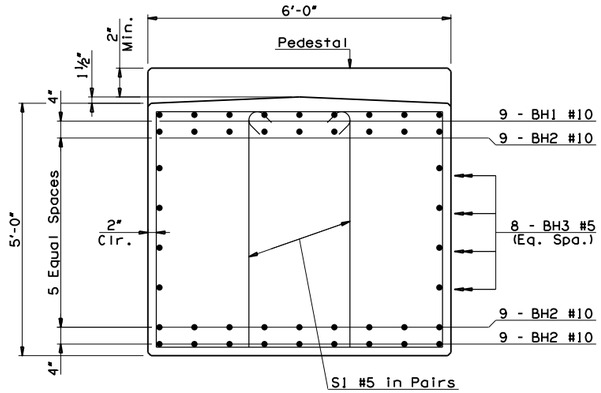
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
PIER DETAILS
(SHEET 1 OF 3)

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

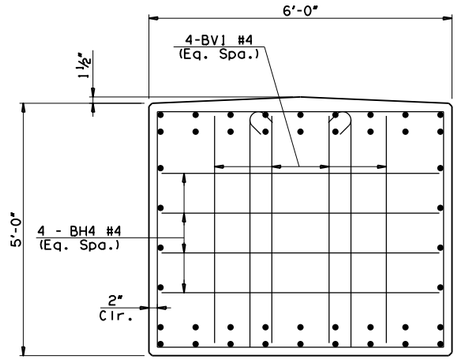
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DETAILED	SJL	7/17	
CHECKED	JTR	7/17	DATE: 10/23/2017 — SHEET NO. BG007

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

PROPOSED
R/W
10/23/2017

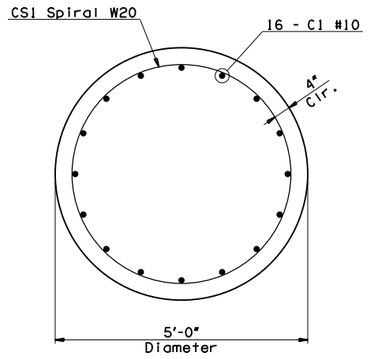


TYPICAL SECTION THRU CAP

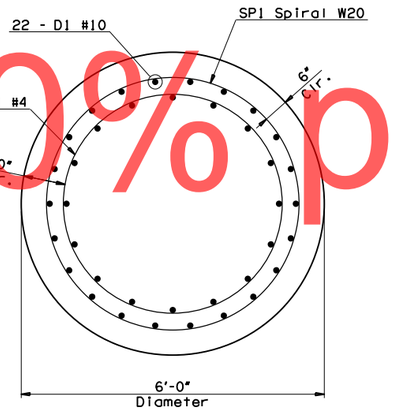


END OF PIER CAP REINFORCING

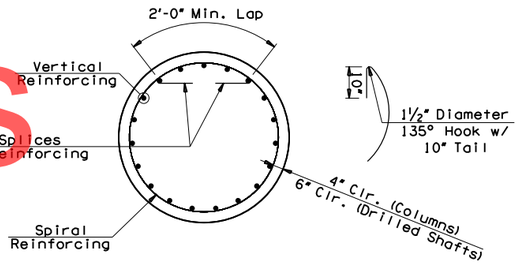
NOTE:
Pier Cap shall have ¾" chamfers on all edges unless noted otherwise.



SECTION A-A

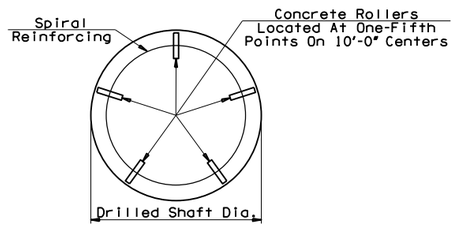


SECTION B-B

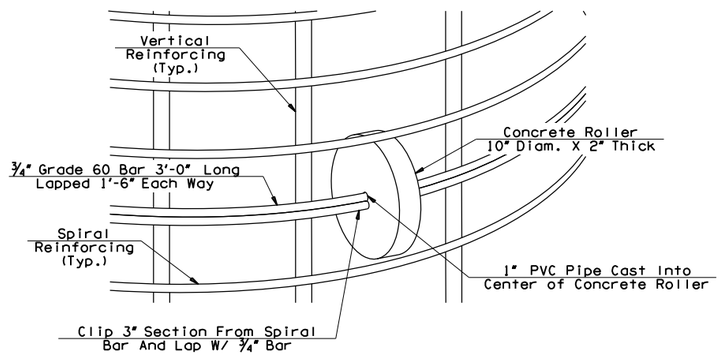


DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



CONCRETE ROLLER PLACEMENT



DETAILS OF CONCRETE ROLLER INSTALLATION

NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

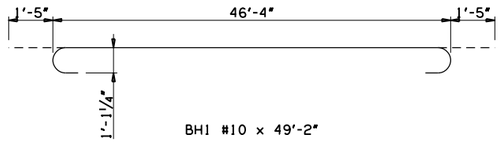
PIER DETAILS
(SHEET 2 OF 3)

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

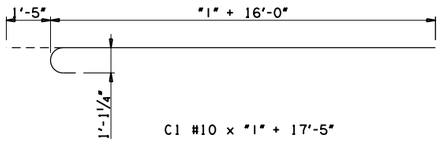
DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG008

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

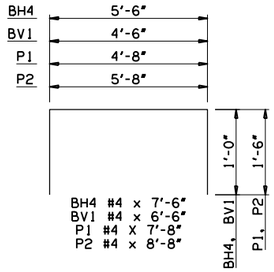
PROPOSED R/W
10/23/2017



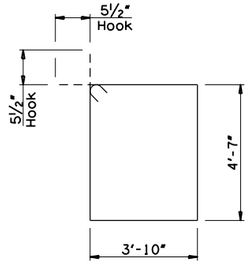
BH1 #10 x 49'-2"



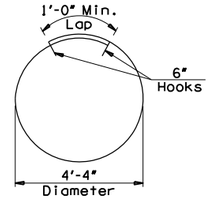
C1 #10 x "I" + 17'-5"



BH4 #4 x 7'-6"
BV1 #4 x 6'-6"
P1 #4 X 7'-8"
P2 #4 x 8'-8"



S1 #5 x 17'-9"



T1 #4 x 15'-7"

50% plans

BAR LIST - PIER NOS. 1 - 12				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1	#10	9	BENT	49'-2"
BH2	#10	27	STR.	46'-4"
BH3	#5	8	STR.	46'-4"
BH4	#4	8	BENT	7'-6"
BV1	#4	8	BENT	6'-6"
P1	#4	35	BENT	7'-8"
P2	#4	30	BENT	8'-8"
S1	#5	96	BENT	17'-9"

DRILLED SHAFT BAR LIST - PIER NOS. 1 - 12 ① (ONE PIER SHOWN; TWELVE REQUIRED)				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	32	BENT	"I" + 17'-5"
REINFORCING STEEL				
D1	#10	44	STR.	"K" - 0.5'
SP1	W20	2	SPIRAL	31.42"K" + 31.41'
T1	#4	20	BENT	15'-7"
CS1	W20	2	SPIRAL	27.26"I" + 27.21'

① Included in the price bid per Linear Foot of "DRILLED SHAFTS 72" DIAMETER".

SUMMARY OF QUANTITIES - PIERS

ITEM	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6	PIER NO. 7	PIER NO. 8	PIER NO. 9	PIER NO. 10	PIER NO. 11	PIER NO. 12	TOTAL
(SP) SPECIAL CONCRETE FINISH	S.Y.	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	612.00
CLASS A CONCRETE	C.Y.	79.20	83.50	82.10	79.50	79.90	78.80	78.10	75.50	74.40	73.40	69.70	69.40	923.50
EPOXY COATED REINFORCING STEEL	LB.	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	28,891.00	346,692.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	47.00	47.00	47.00	47.00	47.00	47.00	47.00	47.00	47.00	47.00	47.00	47.00	564.00
DRILLED SHAFTS 72" DIAMETER	L.F.	146.00	138.00	136.00	138.00	134.00	134.00	132.00	132.00	136.00	130.00	134.00	132.00	1,622.00
CROSSHOLE SONIC LOGGING	EA.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00

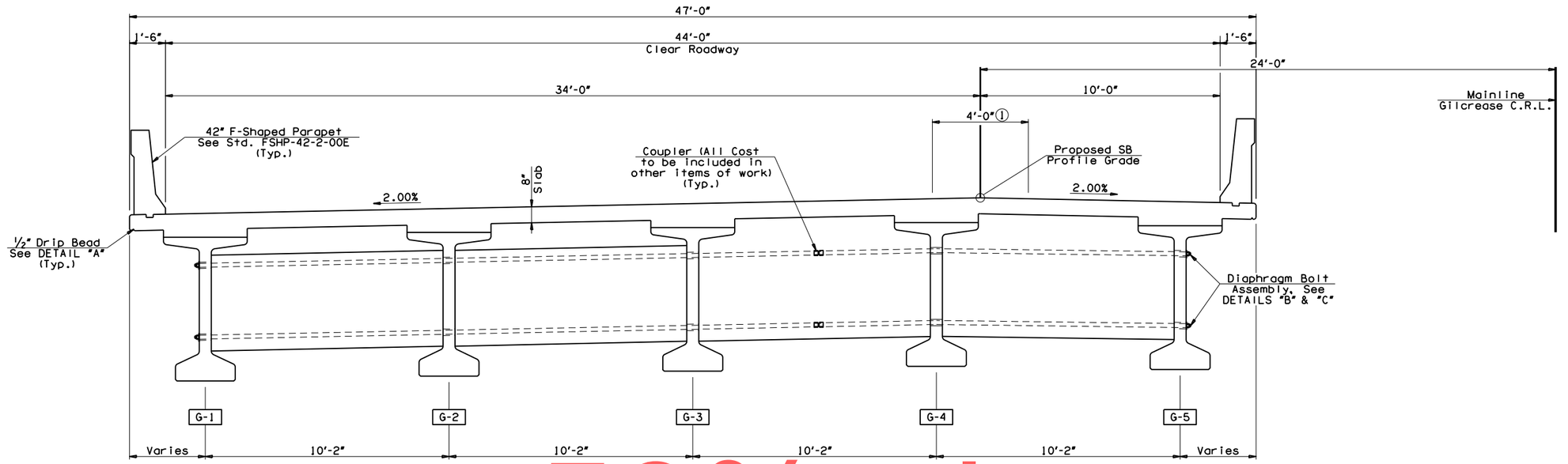
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
PIER DETAILS
(SHEET 3 OF 3)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG009

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

PROPOSED
R/W
10/23/2017



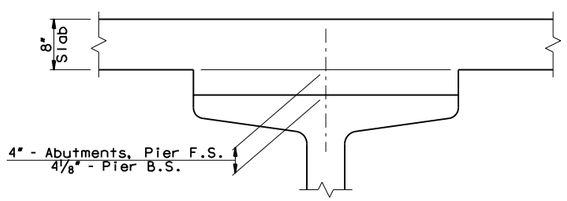
HALF SECTION AT INTERMEDIATE DIAPHRAGM

HALF SECTION AT END DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

50% plans

① Round 2'-0" each side of P.G.L. to avoid sharp edges.



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 bottom of Deck Slab to Top of 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.

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. Structural steel for Beveled Spacer shall conform to AASHTO A53, Grade B. 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".

SUMMARY OF QUANTITIES - SUPERSTRUCTURE

	ITEM	UNIT	TOTAL
	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	8,753.40
	SAW-CUT GROOVING	S.Y.	8,588.20
	EXPANSION JOINT	L.F.	270.00
	42" F-SHAPED PARAPET	L.F.	3,513.40
	STRUCTURAL STEEL	LB.	9,218.00
	(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	65.00
	(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	65.00
②	CLASS AA CONCRETE	C.Y.	2,706.50
	EPOXY COATED REINFORCING STEEL	LB.	487,217.00
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	6,530.00
	SEALER CRACK PREPARATION	L.F.	329.00
	SEALER RESIN	GAL.	329.00

② Includes a calculated 378.30 C.Y. of Class AA Concrete in the haunches.

NOTE:
See Sheet Nos. BG012 - BG014 for deck reinforcing layout.

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

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

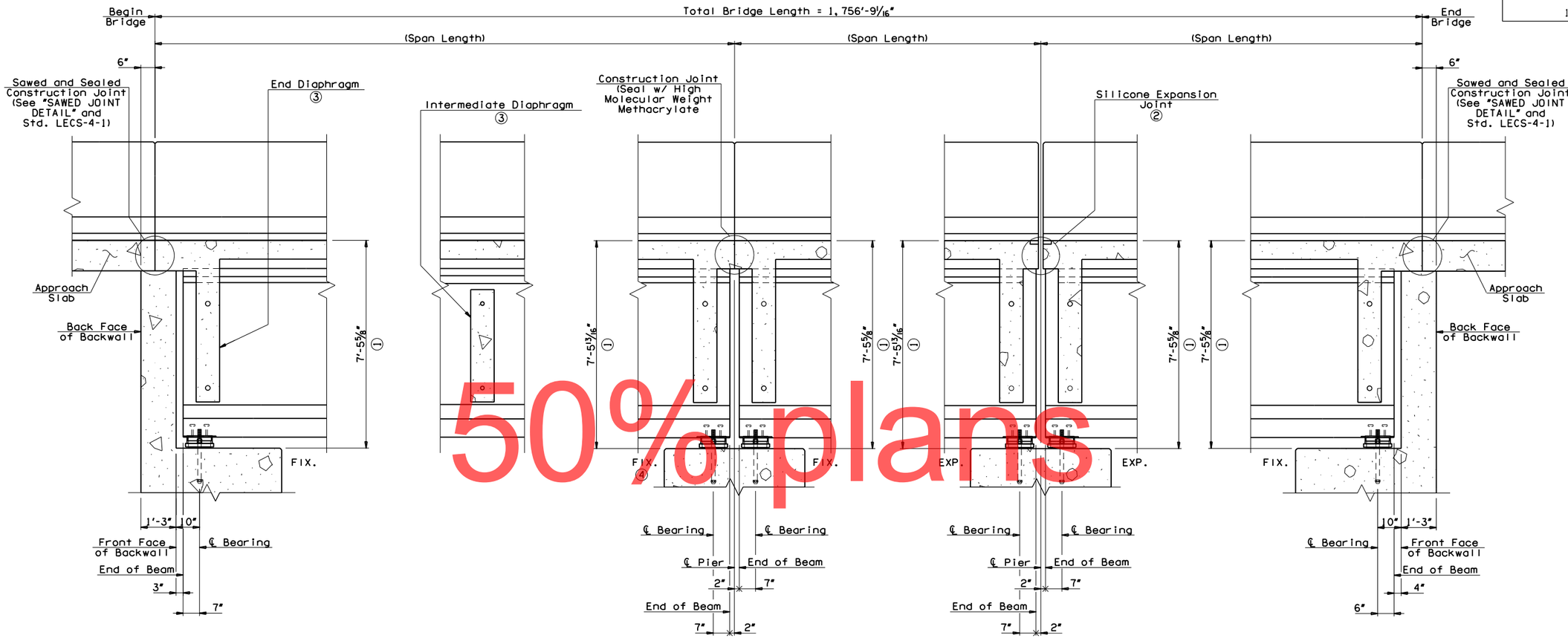
TYPICAL SECTION

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG010

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

PROPOSED R/W
10/23/2017



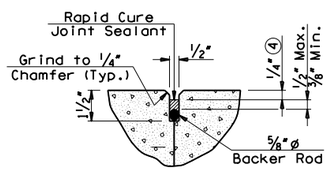
ABUTMENT NO. 1

FIXED PIERS
(Typ. at Pier Nos. 1, 3, 5, 7, 9, & 11)

EXPANSION PIERS
(Typ. at Pier Nos. 2, 4, 6, 8, 10, & 12)

ABUTMENT NO. 2

④ Pier No. 1 Back Station - EXP.



SAWED JOINT DETAIL

LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam and SB P.G.L., unless noted otherwise)
(Do not Groove within 6" of any Construction Joints)

50% plans

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.

NOTE:

Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② For Sealed Expansion Joint details, see Sheet No. BSTA03. For Expansion Joint Opening Equation, see Sheet No. BG016.

③ For Framing Plan, see Sheet Nos. BG019 & BG020.
For Concrete Beam Diaphragm details, see Sheet No. BG015.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

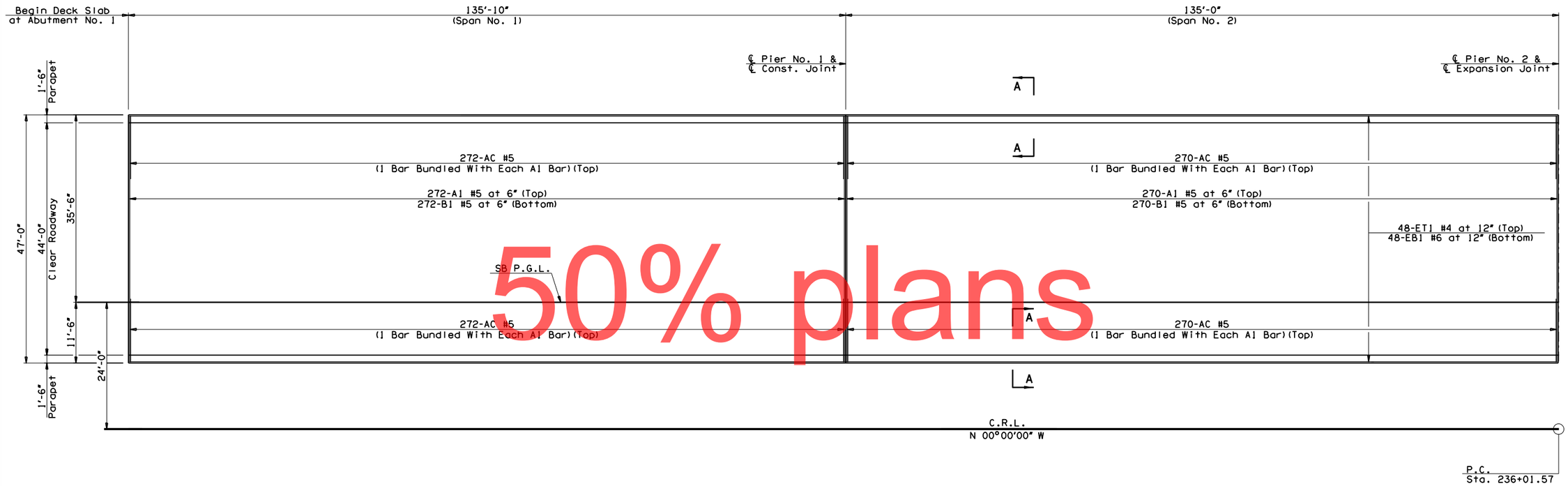
LONGITUDINAL SECTION

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG011

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

PROPOSED R/W
10/23/2017



50% plans

SLAB PLAN - SPAN NOS. 1 & 2
(Showing Top & Bottom of Slab Reinforcing Steel)

BAR LIST - SUPERSTRUCTURE
SPAN NOS. 1 & 2

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
	A1	#5	542	BENT	47'-10"
	AC	#5	1084	BENT	12'-0"
	AH1	#4	19	BENT	3'-1"
	AH2	#4	28	BENT	4'-7"
	AS	#4	48	BENT	5'-0"
	AT1	#4	2	STR.	46'-8"
	B1	#5	544	STR.	46'-8"
①	EB1	#6	48	STR.	284'-9"
	EPH	#4	48	BENT	3'-6"
	EPT1	#4	1	STR.	46'-8"
②	ET1	#4	48	STR.	281'-1"
	FPH	#4	45	BENT	5'-4"
	FPT	#4	2	STR.	43'-10"
	FS2	#5	352	BENT	7'-4"

① Includes Four 3'-7" Lap Lengths.
② Includes Four 2'-8" Lap Lengths.

NOTES:
Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcement omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BG017 for additional details.

All lap lengths shall be staggered.

For SECTION A-A and Bar Bends, see Sheet No. BG014.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BG016 for details and Expansion Joint Opening Equations.

For deck skew angles, see Sheet Nos. BG005 & BG006.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 7)

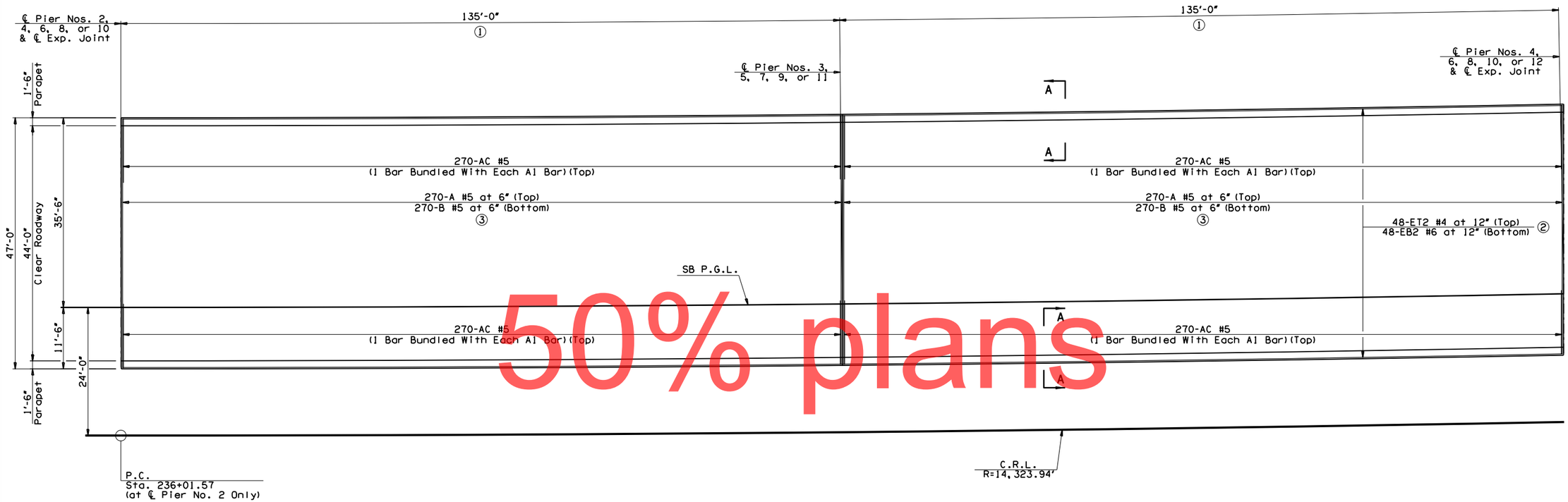
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG012

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

PROPOSED R/W
10/23/2017

① Measured Along Outside Edges of Slab & SB P.G.L.
② Concentric
③ A1/B1 (Span Nos. 3 - 8)
A2/B2 (Span Nos. 9 - 11)
A3/B3 (Span No. 12)



50% plans

SLAB PLAN - SPAN NOS. 3 & 4
(Span Nos. 5 - 12 Similar)
(Showing Top & Bottom of Slab Reinforcing Steel)

BAR LIST - SUPERSTRUCTURE
SPAN NOS. 3 - 8
(ONE SHOWN; THREE REQUIRED)

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
	A1	#5	540	BENT	47'-10"
	AC	#5	1080	BENT	12'-0"
	B1	#5	544	STR.	46'-8"
①	EB2	#6	48	STR.	283'-10"
	EPH	#4	96	BENT	3'-6"
	EPT1	#4	2	STR.	46'-8"
②	ET2	#4	48	STR.	280'-2"
	FPH	#4	45	BENT	5'-4"
	FPT	#4	2	STR.	43'-10"
	FS2	#5	352	BENT	7'-4"

① Includes Four 3'-7" Lap Lengths.
② Includes Four 2'-8" Lap Lengths.

BAR LIST - SUPERSTRUCTURE
SPAN NOS. 9 & 10

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
	A2	#5	540	BENT	47'-11"
	AC	#5	1080	BENT	12'-0"
	B2	#5	544	STR.	46'-9"
①	EB2	#5	48	STR.	283'-10"
	EPH	#4	96	BENT	3'-6"
	EPT2	#4	2	STR.	46'-9"
②	ET2	#5	48	STR.	280'-2"
	FPH	#4	45	BENT	5'-4"
	FPT	#4	2	STR.	43'-10"
	FS2	#5	352	BENT	7'-4"

BAR LIST - SUPERSTRUCTURE
SPAN NOS. 11 & 12

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
	A2	#5	270	BENT	47'-11"
	A3	#5	270	BENT	48'-0"
	AC	#5	1080	BENT	12'-0"
	B2	#5	274	STR.	46'-9"
	B3	#5	270	STR.	46'-10"
①	EB2	#6	48	STR.	283'-10"
	EPH	#4	48	BENT	3'-6"
	EPT2	#4	1	STR.	46'-9"
	EPT3	#4	1	STR.	46'-10"
②	ET2	#4	48	STR.	280'-2"
	FPH	#4	45	BENT	5'-4"
	FPT	#4	2	STR.	43'-10"
	FS2	#5	352	BENT	7'-4"

NOTES:
Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcement omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BG017 for additional details.

All lap lengths shall be staggered.

For SECTION A-A and Bar Bends, see Sheet No. BG014.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BG016 for details and Expansion Joint Opening Equations.

For deck skew angles, see Sheet Nos. BG005 & BG006.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

SUPERSTRUCTURE DETAILS
(SHEET 2 OF 7)

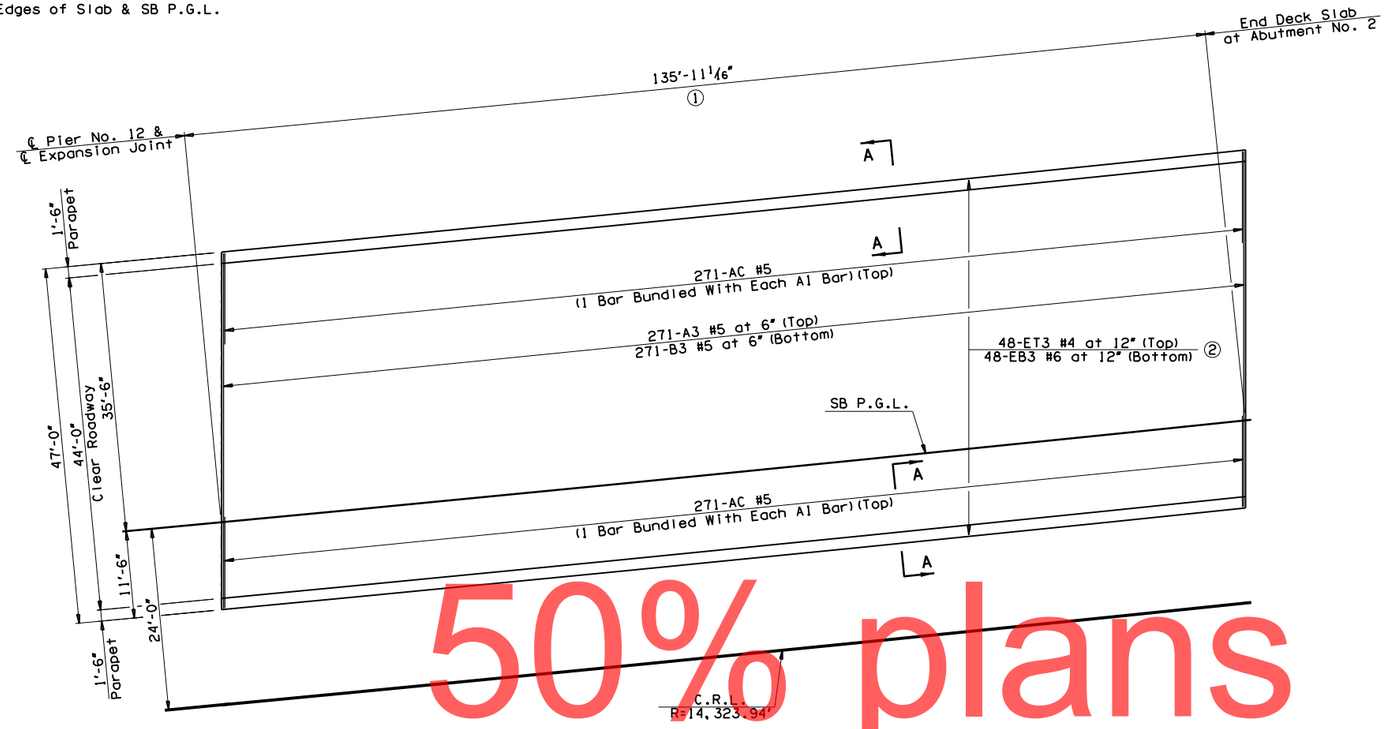
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG013

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

PROPOSED R/W
10/23/2017

① Measured Along Outside Edges of Slab & SB P.G.L.
② Concentric



50% plans

SLAB PLAN - SPAN NO. 13
(Showing Top & Bottom of Slab Reinforcing Steel)

BAR LIST - SUPERSTRUCTURE SPAN NO. 13				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
A3	#5	271	BENT	48'-0"
AC	#5	542	BENT	12'-0"
AH1	#4	19	BENT	3'-1"
AH2	#4	28	BENT	4'-7"
AT2	#4	2	STR.	46'-10"
AS	#4	48	BENT	5'-0"
B3	#5	273	STR.	46'-10"
① EB3	#6	48	STR.	142'-8"
EPH	#4	48	BENT	3'-6"
EPT3	#4	1	STR.	46'-10"
② ET3	#4	48	STR.	140'-10"
FS2	#5	352	BENT	7'-4"

① Includes Two 3'-7" Lap Lengths.
② Includes Two 2'-8" Lap Lengths.

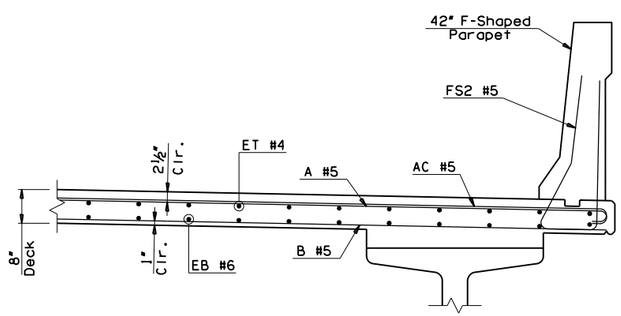
NOTES:
Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcement omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BG017 for additional details.

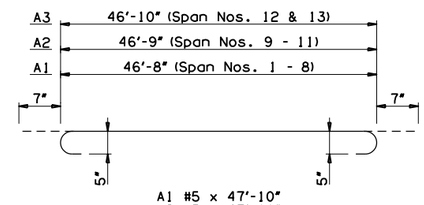
All lap lengths shall be staggered.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BG016 for details and Expansion Joint Opening Equations.

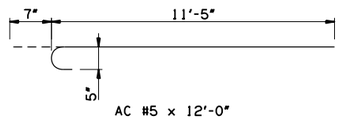
For deck skew angles, see Sheet Nos. BG005 & BG006.



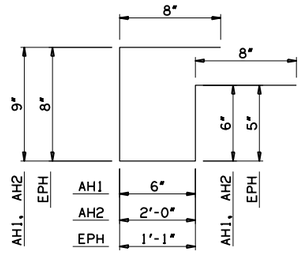
SECTION A-A



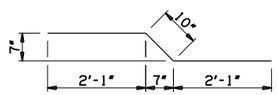
A1 #5 x 47'-10"
A2 #5 x 47'-11"
A3 #5 x 48'-0"



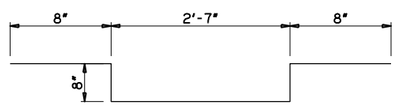
AC #5 x 12'-0"



AH1 #4 x 3'-1"
AH2 #4 x 4'-7"
EPH #4 x 3'-6"



AS #4 x 5'-0"



FPH #4 x 5'-4"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

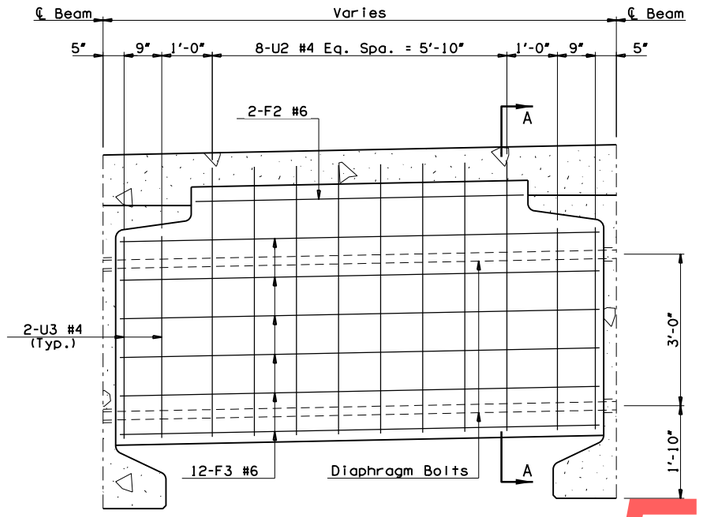
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 7)

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

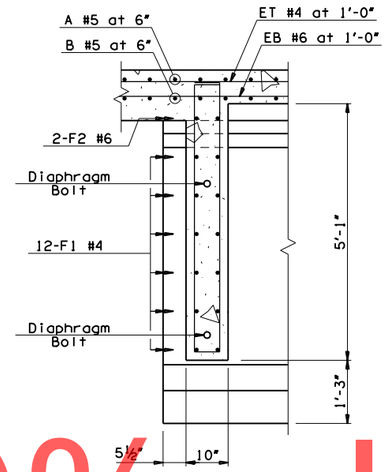
DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG014

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

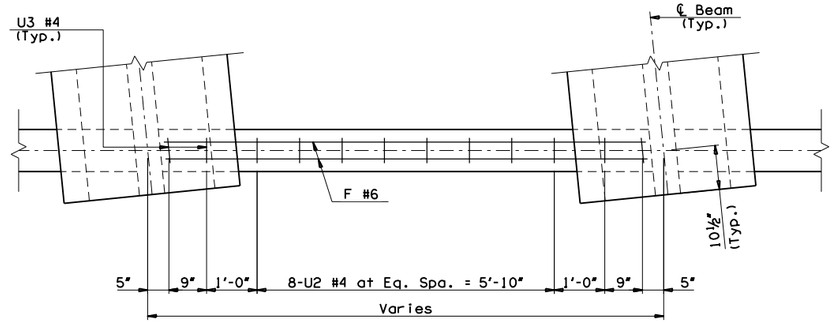
PROPOSED R/W
10/23/2017



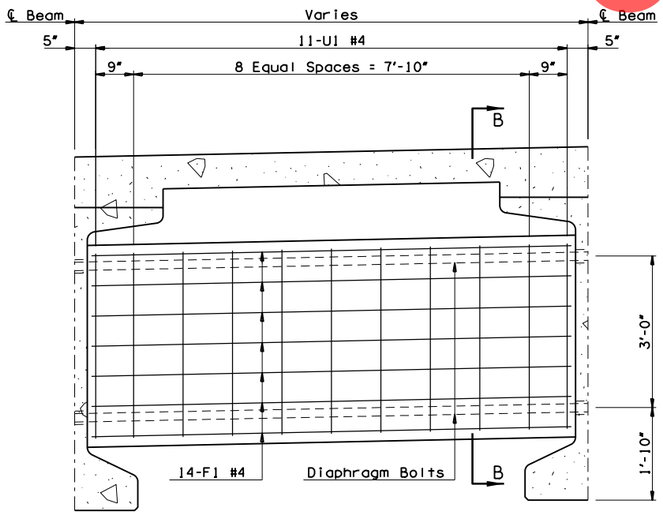
TYPE J BT - END DIAPHRAGM



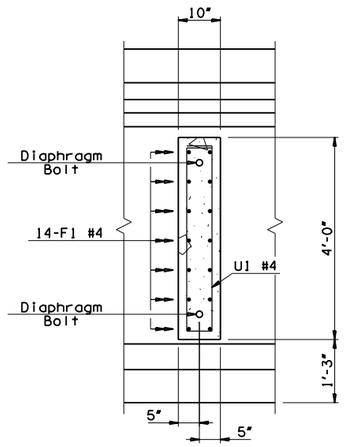
SECTION A-A



PLAN OF END DIAPHRAGM
(Typical at End Diaphragms)

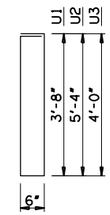


TYPE J BT - INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)



SECTION B-B

INTERMEDIATE & END DIAPHRAGM BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
F1	#4	1,456	STR.	9'-4"
F2	#6	208	STR.	6'-4"
F3	#6	1,248	STR.	9'-4"
U1	#4	1,144	BENT	8'-10"
U2	#4	832	BENT	12'-2"
U3	#4	416	BENT	9'-6"



U1 #4 x 8'-10"
U2 #4 x 12'-2"
U3 #4 x 9'-6"

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

SUPERSTRUCTURE DETAILS
(SHEET 4 OF 7)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG015

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

PROPOSED
R/W
10/23/2017

① AS #4. Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

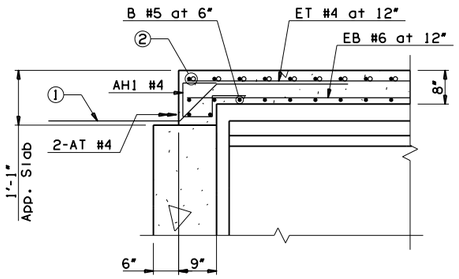
② A #5 bundled with AC #5 at 6"

③ 1'-0" at ℄ Beam, Perpendicular to Joint (Abutment No. 1)
1'-1" at ℄ Beam, Perpendicular to Joint (Abutment No. 2)

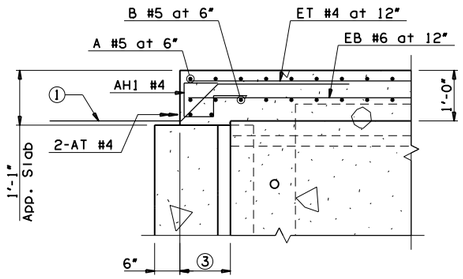
NOTES:
Deck Slab reinforcement not shown for clarity.

Location of reinforcing shown is for informational purposes only. Acutal lengths of AT, EPT & FPT bars will vary depending on span arrangment. See "FRAMING PLAN" sheets for spacing of beams per span. See "SUPERSTRUCTURE DETAILS" sheets for specific bar designations and lengths per span.

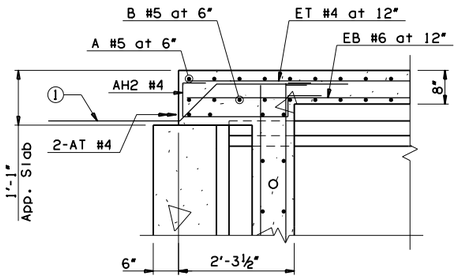
SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.



SECTION A-A



SECTION B-B

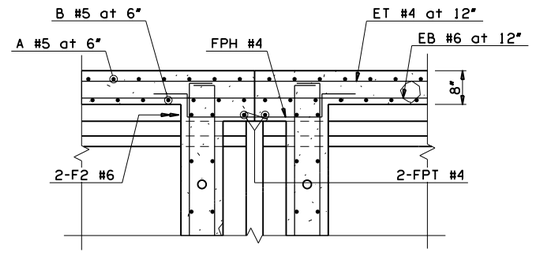


SECTION C-C

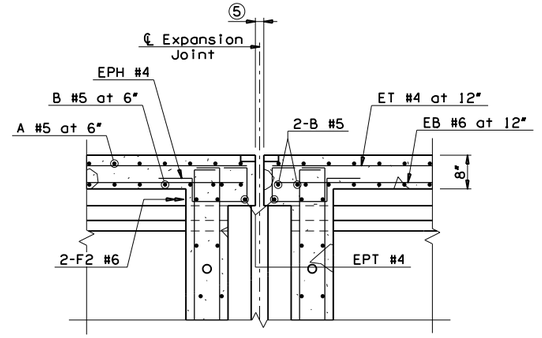
⑤ The Expansion Joint Openings shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

At Pier No. 2 = 3.2572 - (0.02924 x T)
At Pier No. 4 = 2.8372 - (0.01947 x T)
At Pier No. 6 = 2.8367 - (0.01946 x T)
At Pier No. 8 = 2.8360 - (0.01944 x T)
At Pier No. 10 = 2.8350 - (0.01942 x T)
At Pier No. 12 = 2.8364 - (0.01945 x T)

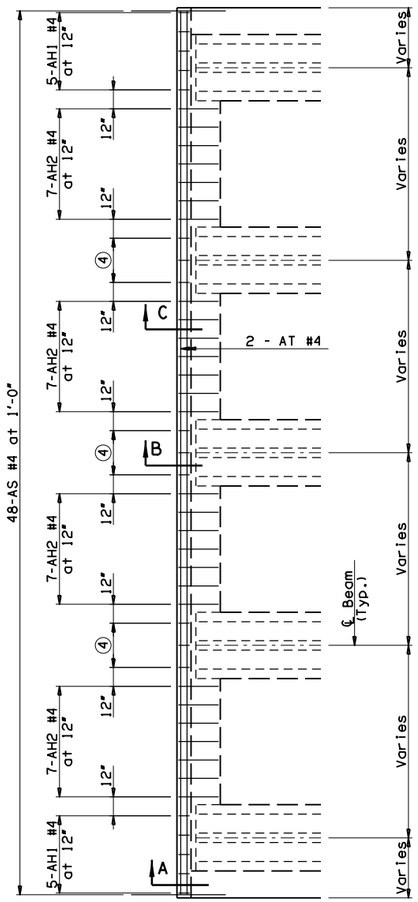
Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.



SECTION D-D

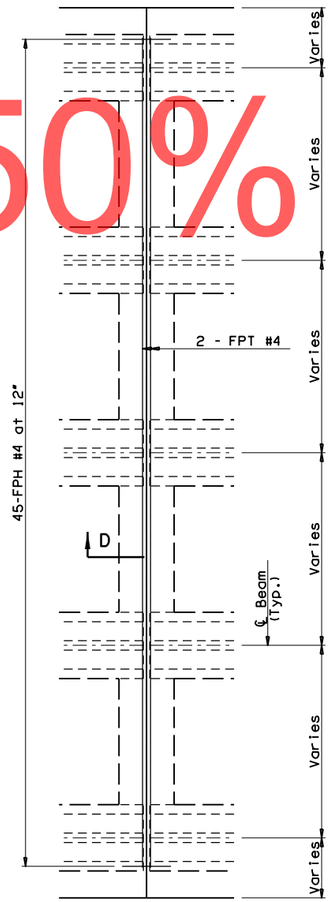


SECTION E-E

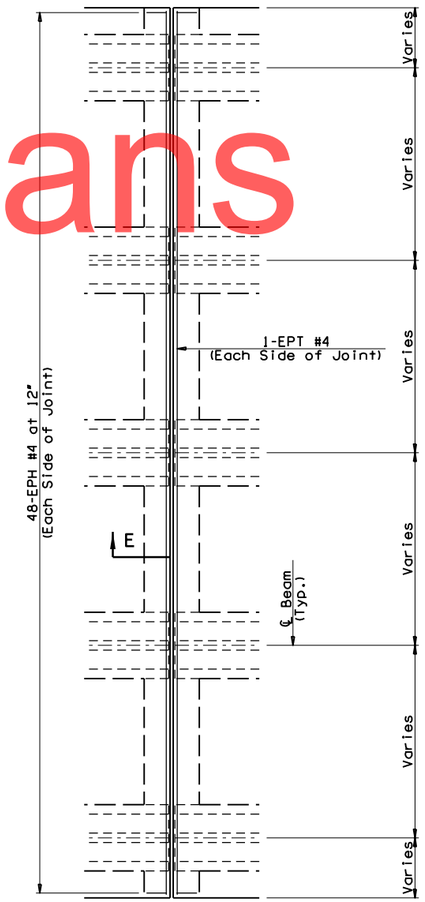


ABUTMENT

④ 3-AH1 #4 at 12"



FIXED PIER
(Pier Nos. 1, 3, 5, 7, 9, & 11)



EXPANSION PIER
(Pier Nos. 2, 4, 6, 8, 10 & 12)

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS

50% plans

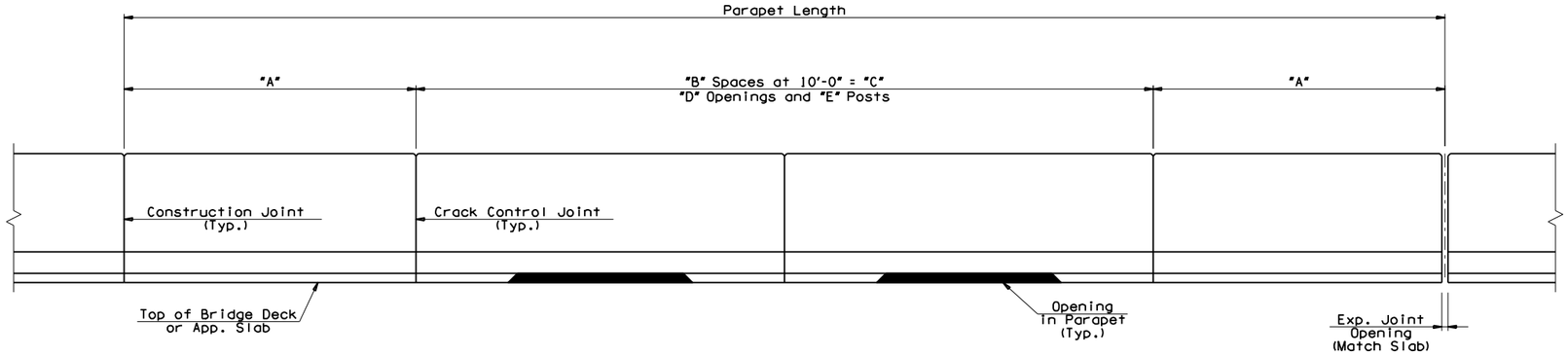
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
SUPERSTRUCTURE DETAILS
(SHEET 5 OF 7)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG016

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

PROPOSED R/W
10/23/2017

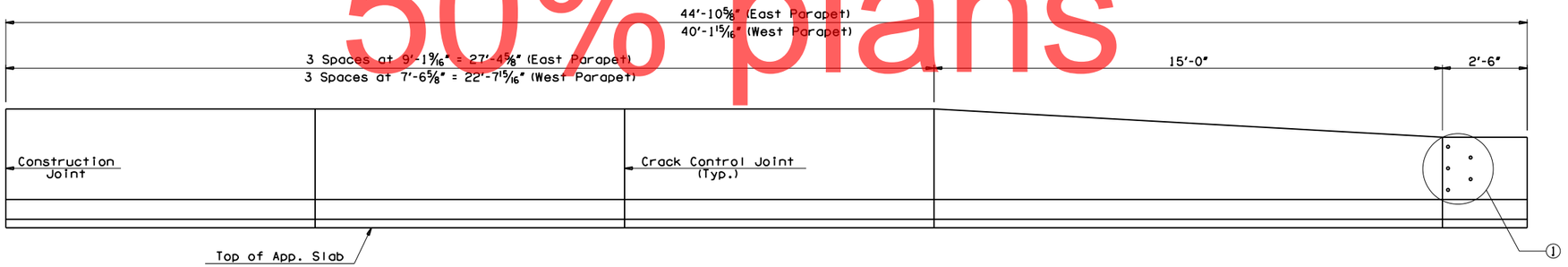


FIXED ABUTMENT OR PIER

EXPANSION PIER

42" F-SHAPED PARAPET (WITH OPENINGS)

50% plans



PARAPET TRANSITION AT APPROACH SLAB NO. 2

TABLE OF VARIABLES - 42" F-SHAPED PARAPET							
SPAN	LOCATION	LENGTH	"A"	"B"	"C"	"D"	"E"
APP. SLAB NO. 1	EAST PARAPET	40'-0"	10'-0"	2	20'-0"		
	WEST PARAPET	40'-0"	10'-0"	2	20'-0"		
1	EAST PARAPET	135'-10"	7'-11"	12	120'-0"	12	11
	WEST PARAPET	135'-10"	7'-11"	12	120'-0"	12	11
2 - 12	EAST PARAPET	135'-0"	7'-6"	12	120'-0"	12	11
	WEST PARAPET	135'-0"	7'-6"	12	120'-0"	12	11
13	EAST PARAPET	135'-11 1/16"	7'-11 1/2" ±	12	120'-0"	12	11
	WEST PARAPET	135'-11 1/16"	7'-11 1/2" ±	12	120'-0"	12	11

① See "THRIE-BEAM TERMINAL CONNECTION DETAIL" on Sheet No. BSTA01.

NOTES:
For details showing the reinforcement layout and bar bend details, see Std. FSHP-42-2-00E.

Provide blockouts for Sealed Expansion Joints.

All dimensions shown are measured along the inside face of the parapet.

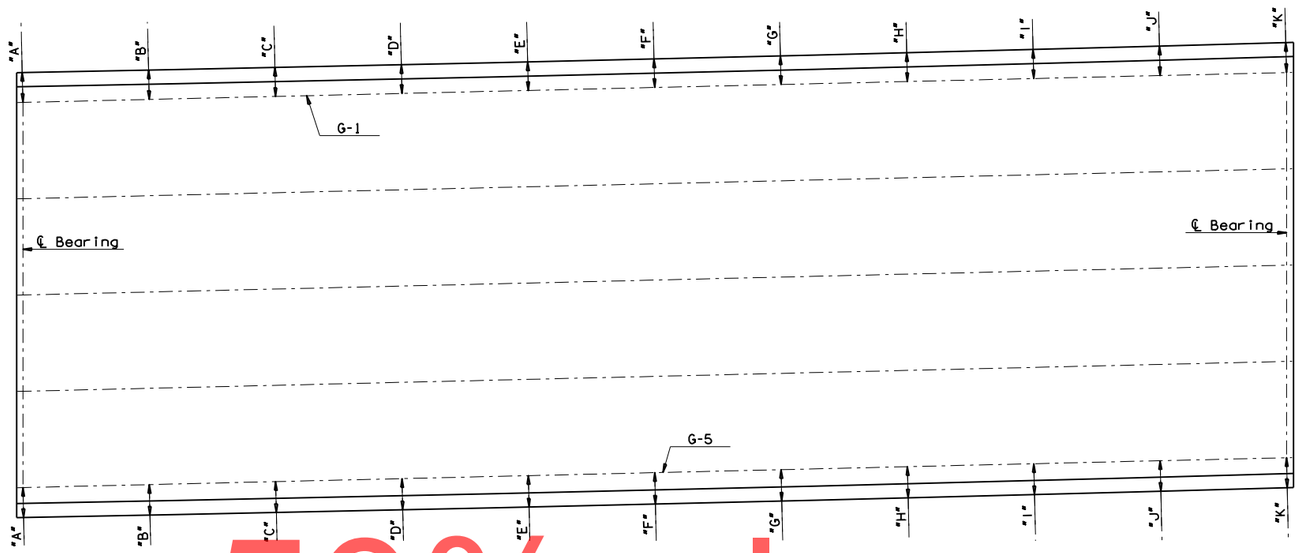
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
SUPERSTRUCTURE DETAILS
(SHEET 6 OF 7)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG017

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

PROPOSED R/W
10/23/2017



50% plans

BRIDGE DECK LAYOUT
(Showing Dimensions at Deck Cantilevers)
(Measured Perpendicular to ℄ Beam)

SPAN NOS. 1 & 2 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-2"	3'-2"
"B"	3'-2"	3'-2"
"C"	3'-2"	3'-2"
"D"	3'-2"	3'-2"
"E"	3'-2"	3'-2"
"F"	3'-2"	3'-2"
"G"	3'-2"	3'-2"
"H"	3'-2"	3'-2"
"I"	3'-2"	3'-2"
"J"	3'-2"	3'-2"
"K"	3'-2"	3'-2"

SPAN NO. 3 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-2"	3'-2 1/16"
"B"	3'-1 5/16"	3'-2 3/4"
"C"	3'-0 3/4"	3'-3 1/4"
"D"	3'-0 3/8"	3'-3 5/8"
"E"	3'-0 3/16"	3'-3 7/8"
"F"	3'-0 1/8"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 3/8"	3'-3 5/8"
"I"	3'-0 3/4"	3'-3 1/4"
"J"	3'-1 5/16"	3'-2 3/4"
"K"	3'-2"	3'-2 1/16"

SPAN NO. 4 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 5/16"	3'-2"
"B"	3'-1 1/4"	3'-2 11/16'
"C"	3'-0 3/4"	3'-3 1/4"
"D"	3'-0 3/8"	3'-3 5/8"
"E"	3'-0 3/16"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 13/16"
"H"	3'-0 3/8"	3'-3 5/8"
"I"	3'-0 3/4"	3'-3 1/4"
"J"	3'-1 5/16"	3'-2 3/4"
"K"	3'-2"	3'-2 1/16"

SPAN NO. 5 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 5/16"	3'-2"
"B"	3'-1 1/4"	3'-2 11/16"
"C"	3'-0 3/4"	3'-3 1/4"
"D"	3'-0 3/8"	3'-3 5/8"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 13/16"
"H"	3'-0 3/8"	3'-3 5/8"
"I"	3'-0 3/4"	3'-3 1/4"
"J"	3'-1 5/16"	3'-2 3/4"
"K"	3'-2"	3'-2 1/16"

SPAN NOS. 6 & 7 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 15/16"	3'-2"
"B"	3'-1 1/4"	3'-2 11/16"
"C"	3'-0 3/4"	3'-3 3/16"
"D"	3'-0 3/8"	3'-3 5/8"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 3/8"	3'-3 5/8"
"I"	3'-0 13/16"	3'-3 1/4"
"J"	3'-1 5/16"	3'-2 3/4"
"K"	3'-2"	3'-2"

SPAN NOS. 8 & 9 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 7/8"	3'-2"
"B"	3'-1 1/4"	3'-2 11/16"
"C"	3'-0 3/4"	3'-3 3/16"
"D"	3'-0 3/8"	3'-3 9/16"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 7/16"	3'-3 5/8"
"I"	3'-0 13/16"	3'-3 1/4"
"J"	3'-1 5/16"	3'-2 3/4"
"K"	3'-2"	3'-2 1/8"

SPAN NO. 10 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 7/8"	3'-1 15/16"
"B"	3'-1 1/4"	3'-2 5/8"
"C"	3'-0 11/16"	3'-3 3/16"
"D"	3'-0 3/8"	3'-3 9/16"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 7/16"	3'-3 5/8"
"I"	3'-0 13/16"	3'-3 1/16"
"J"	3'-1 3/8"	3'-2 3/4"
"K"	3'-2 1/16"	3'-2 1/8"

SPAN NO. 11 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 7/8"	3'-1 15/16"
"B"	3'-1 3/16"	3'-2 5/8"
"C"	3'-0 11/16"	3'-3 3/16"
"D"	3'-0 3/8"	3'-3 9/16"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 7/16"	3'-3 5/8"
"I"	3'-0 13/16"	3'-2 15/16"
"J"	3'-1 3/8"	3'-2 13/16"
"K"	3'-2 1/16"	3'-2 1/8"

SPAN NO. 12 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 7/8"	3'-1 15/16"
"B"	3'-1 3/16"	3'-2 5/8"
"C"	3'-0 11/16"	3'-3 3/16"
"D"	3'-0 3/8"	3'-3 9/16"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 15/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 7/16"	3'-3 5/8"
"I"	3'-0 13/16"	3'-3 5/16"
"J"	3'-1 3/8"	3'-2 13/16"
"K"	3'-2 1/16"	3'-2 1/8"

SPAN NO. 13 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	G-1	G-5
"A"	3'-1 7/8"	3'-1 15/16"
"B"	3'-1 3/16"	3'-2 5/8"
"C"	3'-0 11/16"	3'-3 3/16"
"D"	3'-0 5/16"	3'-3 9/16"
"E"	3'-0 1/8"	3'-3 13/16"
"F"	3'-0 1/16"	3'-3 5/16"
"G"	3'-0 3/16"	3'-3 7/8"
"H"	3'-0 7/16"	3'-3 11/16"
"I"	3'-0 13/16"	3'-3 5/16"
"J"	3'-1 3/8"	3'-2 13/16"
"K"	3'-2 1/16"	3'-2 7/16"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

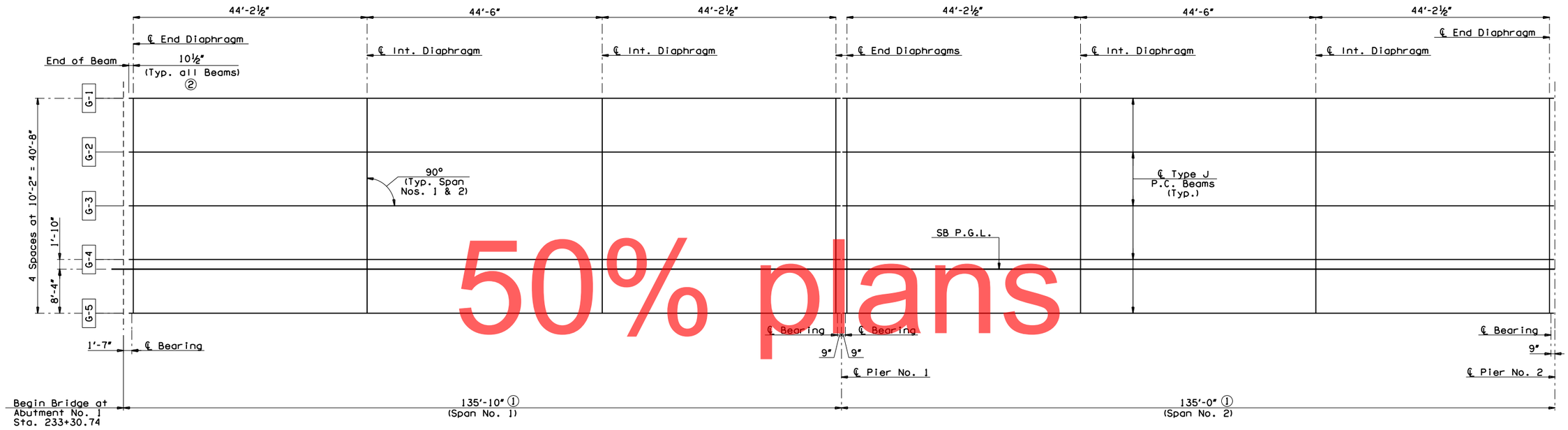
SUPERSTRUCTURE DETAILS
(SHEET 7 OF 7)

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

DESIGNED	NBK	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG018

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

PROPOSED
R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 & 2

① Stations measured along C.R.L.
Dimensions shown measured along P.G.L.
② Measured along ℄ Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

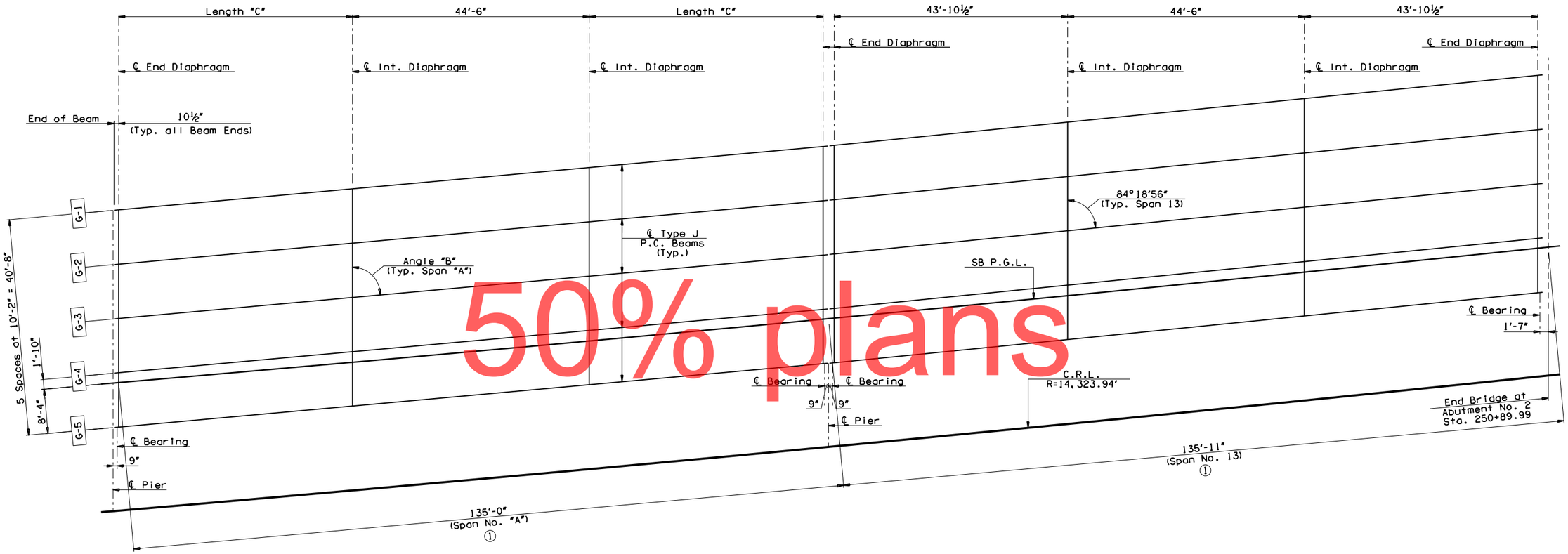
FRAMING PLAN
(SHEET 1 OF 2)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG019

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

PROPOSED R/W
10/23/2017



SPAN NOS. 3 - 12

SPAN NO. 13

FRAMING PLAN - SPAN NOS. 3 - 13

50% plans

① Stations measured along C.R.L.
Dimensions shown measured along P.G.L.
② Measured along ℄ Beam.

FRAMING TABLE OF VARIABLES		
SPAN "A"	ANGLE "B"	LENGTH "C"
3	89°43'45"	44'-2½"
4	89°11'17"	44'-2 7/16"
5	88°38'48"	44'-2 5/16"
6	88°06'19"	44'-2 1/16"
7	87°33'50"	44'-1 13/16"
8	87°01'21"	44'-1 7/16"
9	86°28'52"	44'-1"
10	85°56'23"	44'-0½"
11	85°23'54"	43'-11 7/8"
12	84°51'25"	43'-11¼"

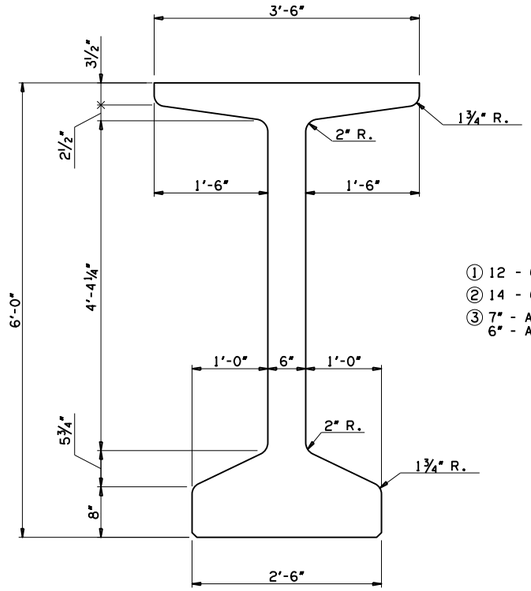
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
FRAMING PLAN
(SHEET 2 OF 2)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG020

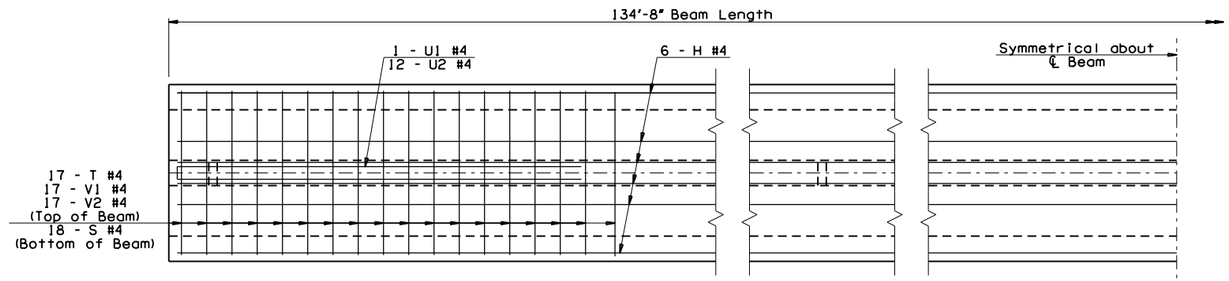
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

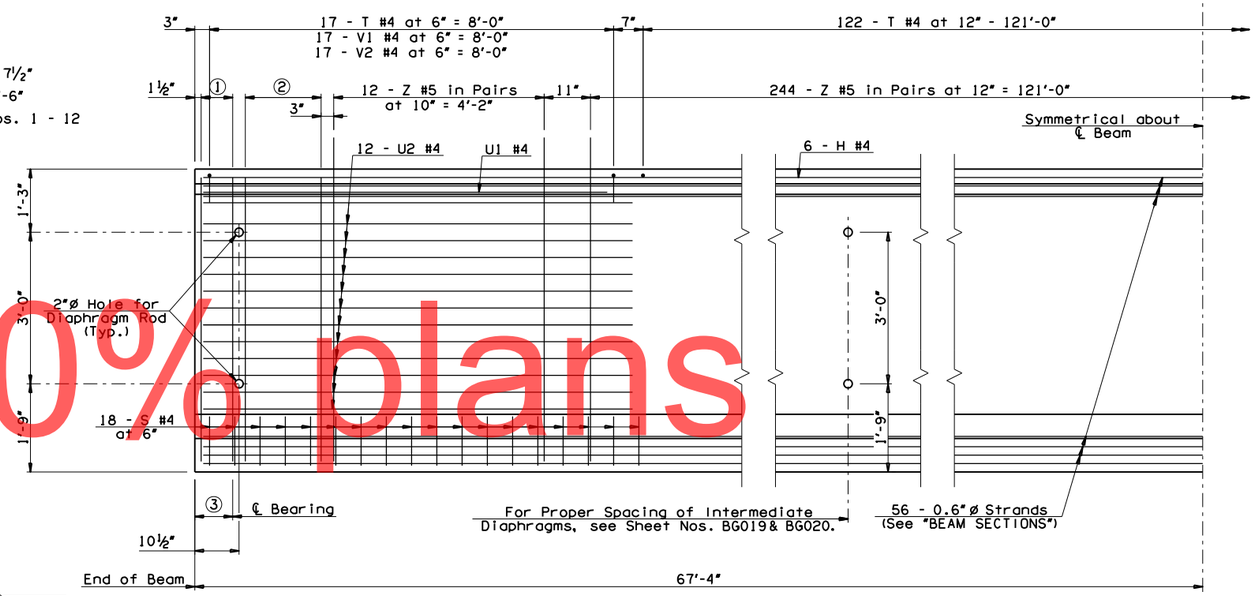


END VIEW

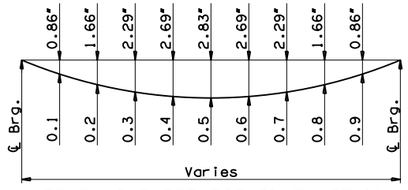
① 12 - C #5 in Pairs at 1½" = 7½"
② 14 - C #5 in Pairs at 3" = 1'-6"
③ 7" - Abutment No. 1, Pier Nos. 1 - 12
6" - Abutment No. 2



PLAN

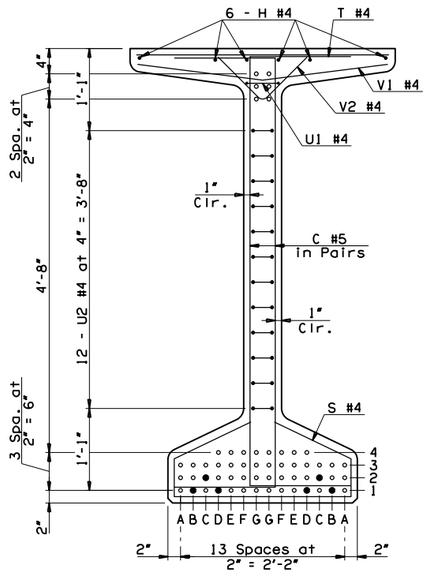


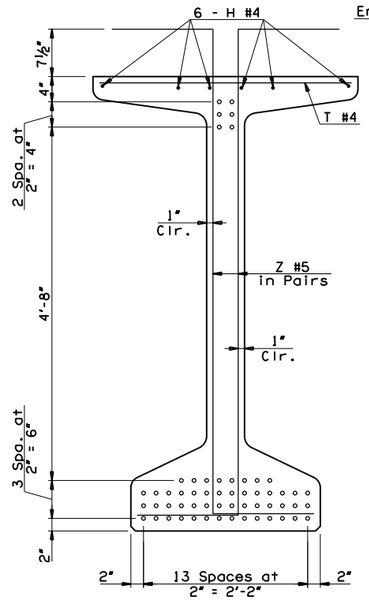
ELEVATION



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.





BEAM SECTIONS
(56-0.6"ø Strands)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

PRESTRESSED CONCRETE BEAM NOTES
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 8,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - 2.13 (HL-93)
LFR OPERATING RATING - HS 55.0
The Operating Rating shown is based on a nominal concrete strength, and include partially bonded strands in strength computations.

50% plans

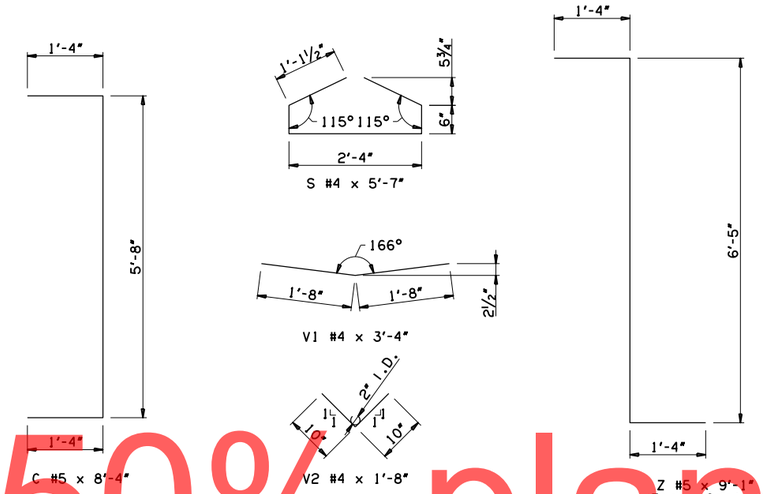
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
135'-0" BEAM DETAILS
(TYPE J BT)

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

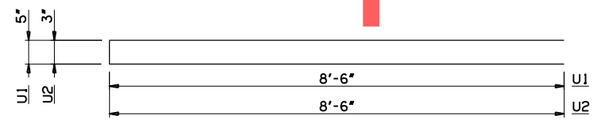
DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG021

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

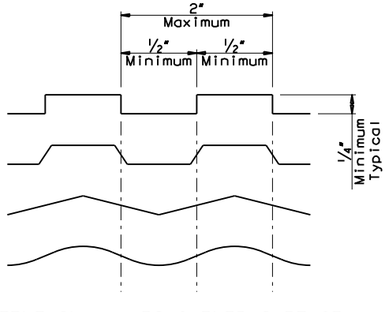
PROPOSED
R/W
10/23/2017



50% plans

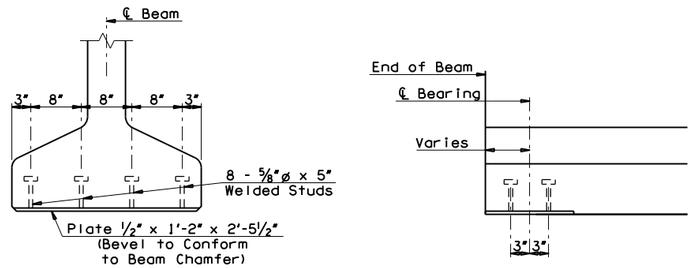


U1 #4 x 17'-5"
U2 #4 x 17'-3"



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

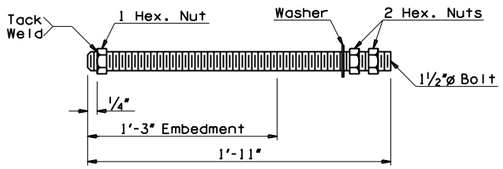
BEAM DETAILS
(TYPE J BT)

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

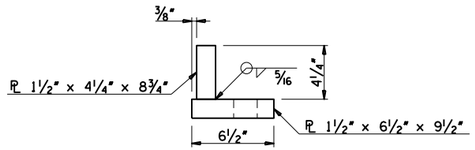
DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG022

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

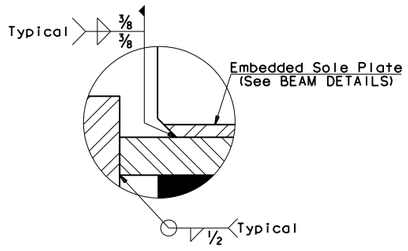
PROPOSED R/W
10/23/2017



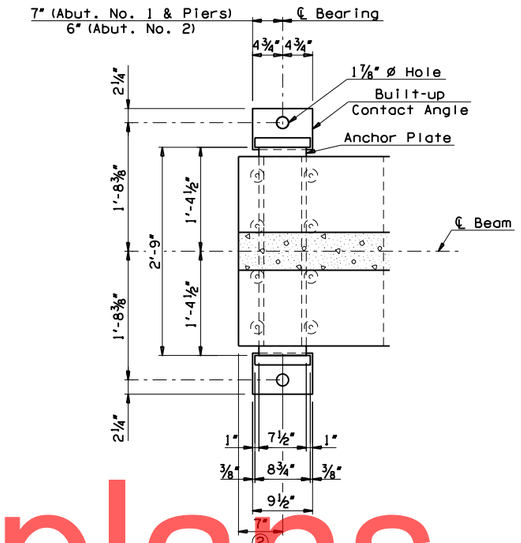
ANCHOR BOLT DETAIL



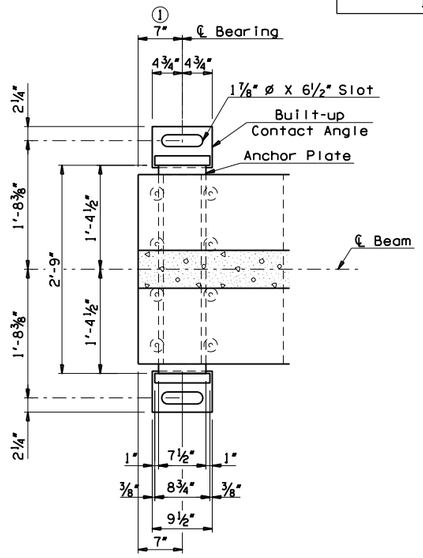
BUILT-UP CONTACT ANGLE DETAIL



DETAIL "A"



FIXED BEARING PLAN



EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.

② 7" - Abut. No. 1 & Piers
6" - Abut. No. 2

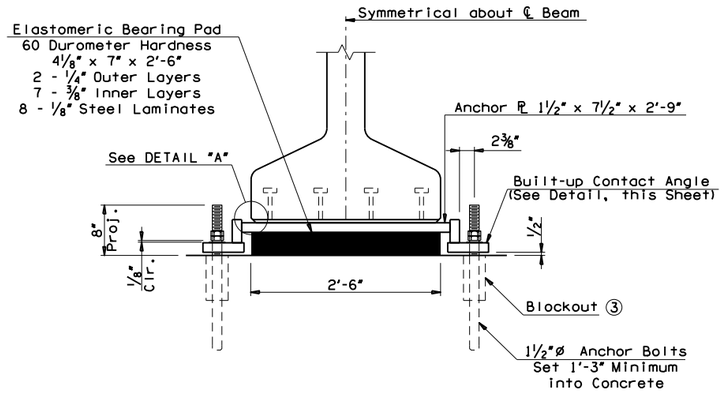
50% plans

BEARING ASSEMBLY NOTES:

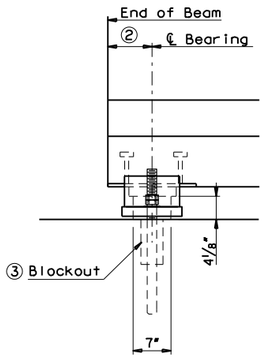
Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, mGrade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

Contractor shall post install the anchor bolts in accordance with section 509.04.D(3) of the standard specification with a Type H epoxy. Fully remove blocking material prior to installing epoxy. If the epoxy manufacturer requires a longer embedment length, increase the length of the anchor bolt to provide an 8" minimum projection above the top of the cap. Include the depth of the blocked out section in the embedment length.

The total estimated weight of Structural Steel per Type J BT Bearing Assembly is XXX.XX lbs.



END VIEW



ELEVATION

BEARING DETAILS

③ Provide blockouts at all bearing locations to prevent damage to reinforcing steel during installation of anchor bolts.

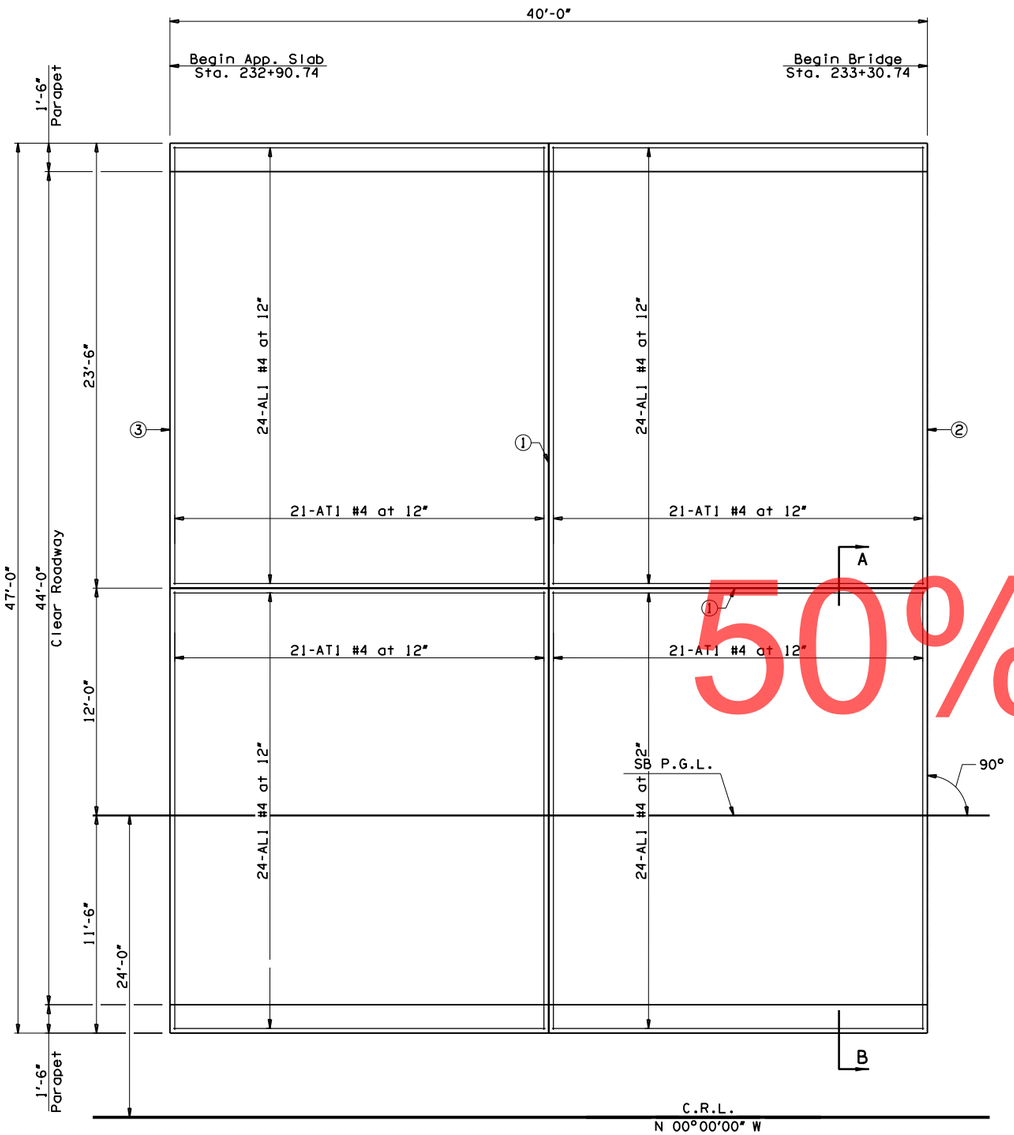
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. G GILCREASE SB OVER BERRYHILL CREEK

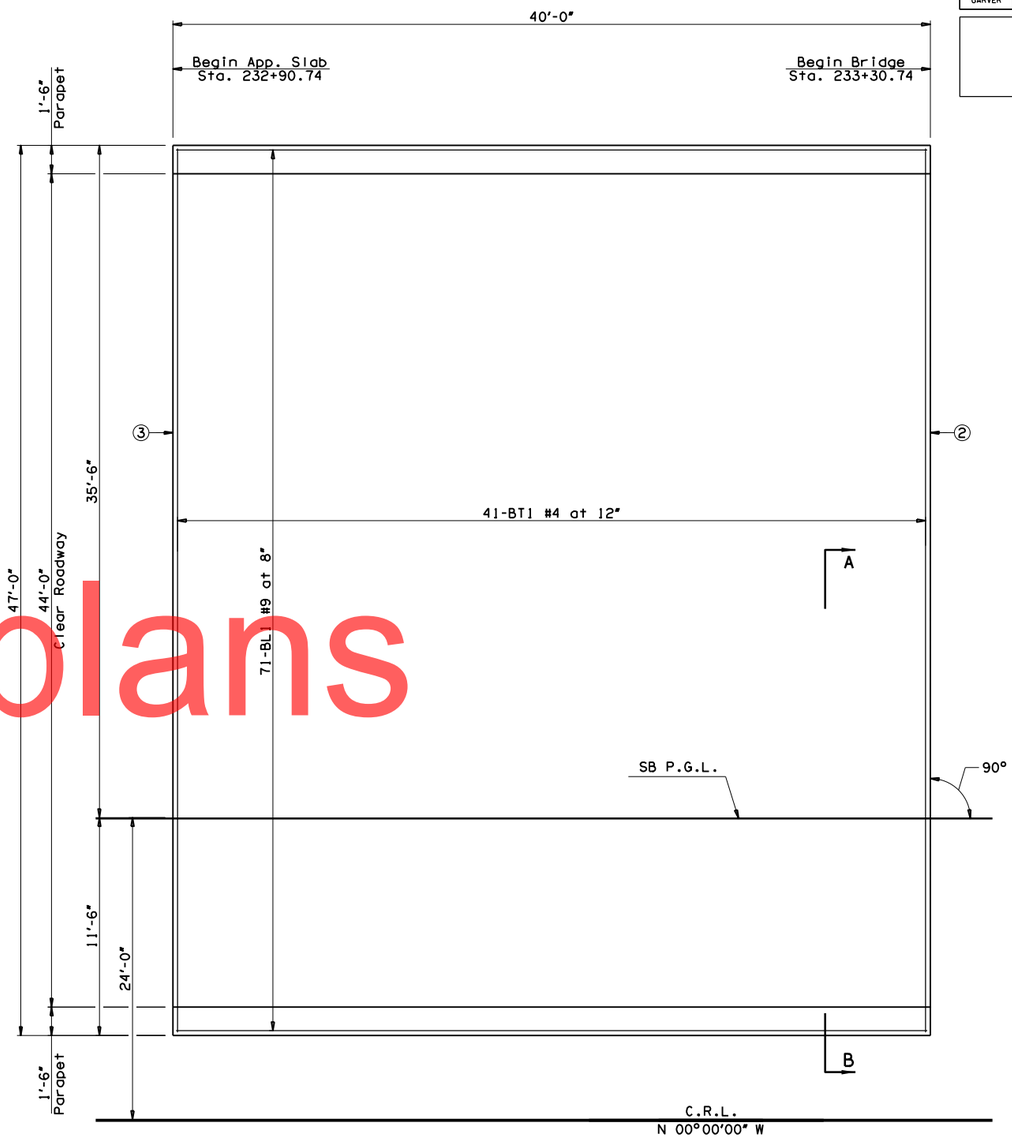
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	NBK	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BG023



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



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

BAR LIST - APP. SLAB NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
AL1	#4	96	STR.	19'-8"
AT1	#4	84	STR.	23'-2"
BL1	#9	71	STR.	39'-8"
BT1	#4	41	STR.	46'-8"
FS2	#5	82	BENT	7'-4"

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BG026.

② Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BG026.

③ Terminal Joint, see DETAIL "C" on Sheet No. BG026.

NOTES:
Do not groove within 6" of any joint.

Parapet reinforcement omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BG017 for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BG026.

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

50% plans

OKLAHOMA TURNPIKE AUTHORITY

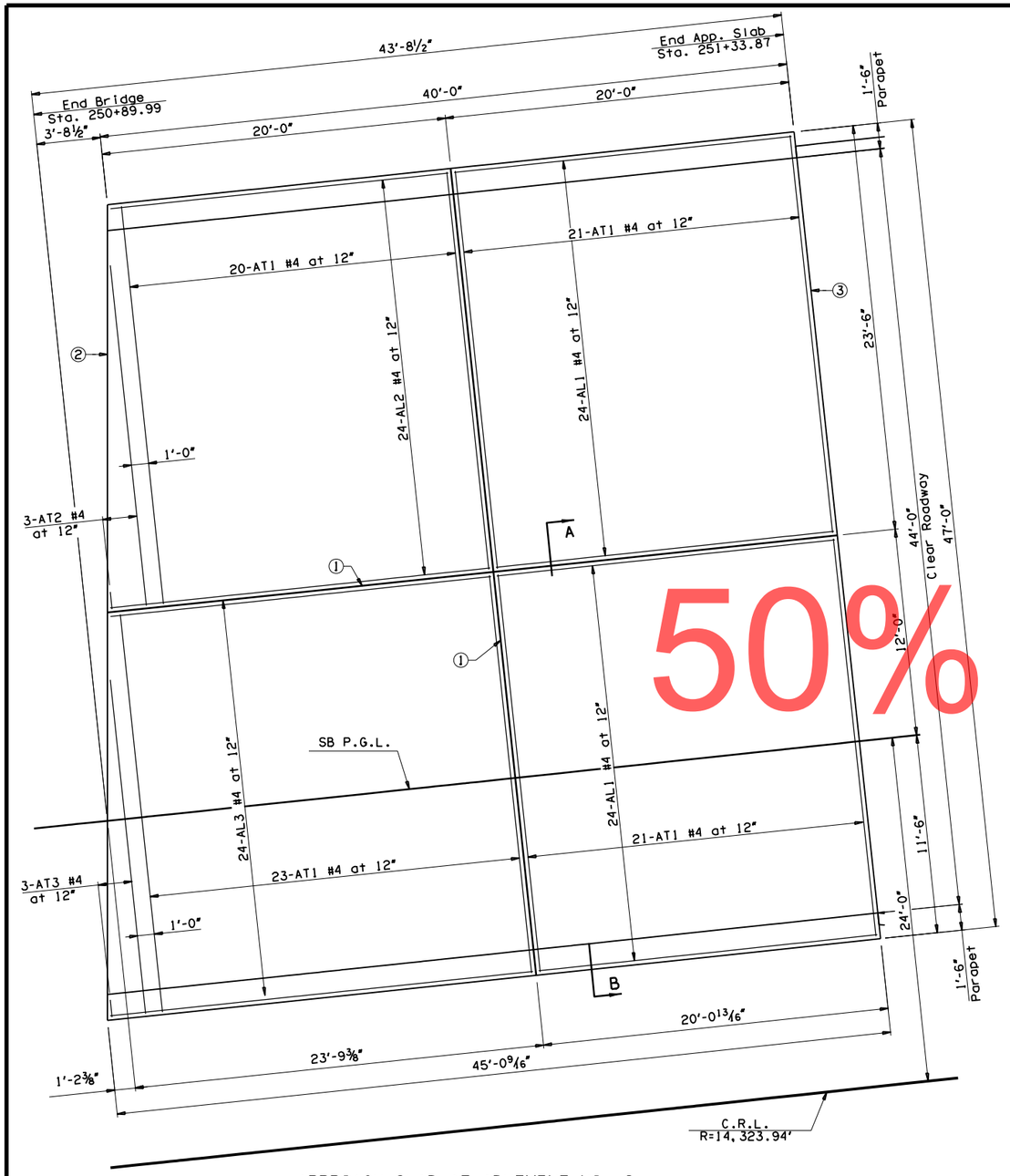
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

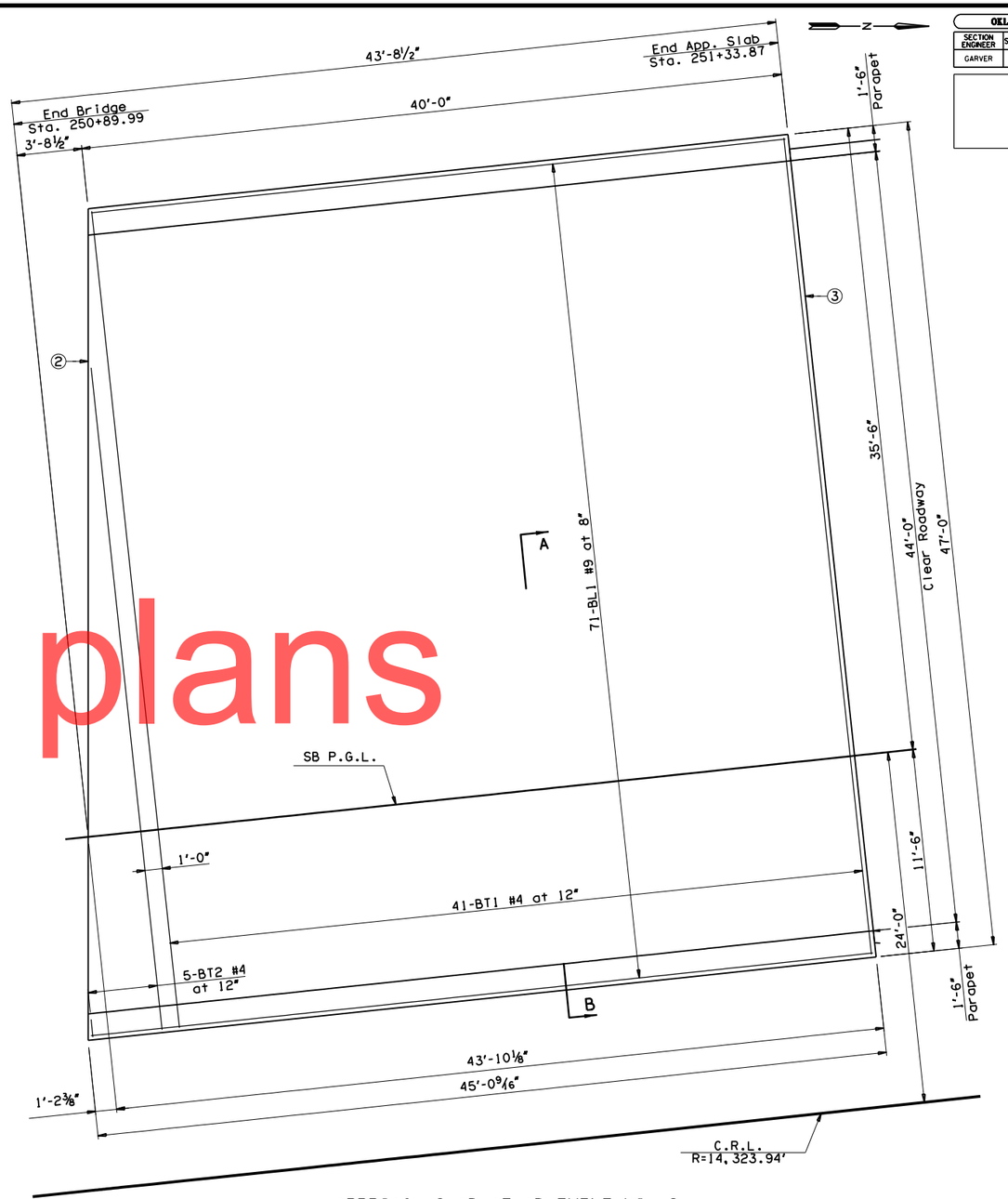
PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
APPROACH SLAB DETAILS
(SHEET 1 OF 3)

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

DESIGNED	JTR	6/17	CONTRACT NO. GCT-2500
DETAILED	SJL	6/17	
CHECKED	JTR	7/17	DATE: 10/23/2017 — SHEET NO. BG024





50% 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)

BAR LIST - APP. SLAB NO. 2

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	48	STR.	19'-8"	-
AL2	#4	24	STR.	20'-10½" AVG.	19'-8" TO 22'-1"
AL3	#4	24	STR.	23'-4½" AVG.	22'-2" TO 24'-7"
AT1	#4	85	STR.	23'-2"	-
AT2	#4	3	STR.	10'-5" AVG.	1'-0" TO 19'-10"
AT3	#4	3	STR.	10'-3" AVG.	1'-0" TO 19'-6"
BL1	#9	71	STR.	42'-2" AVG.	39'-8" TO 44'-8"
BT1	#4	41	STR.	46'-8"	-
BT2	#4	5	STR.	19'-5" AVG.	1'-0" TO 37'-10"
FS2	#5	87	BENT	7'-4"	-
FS6	#5	10	BENT	7'-7"	-

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BG026.

② Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BG026.

③ Terminal Joint, see DETAIL "C" on Sheet No. BG026.

NOTES:
Do not groove within 6" of any joint.

Parapet reinforcement omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BG017 for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BG026.

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

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
APPROACH SLAB DETAILS
(SHEET 2 OF 3)

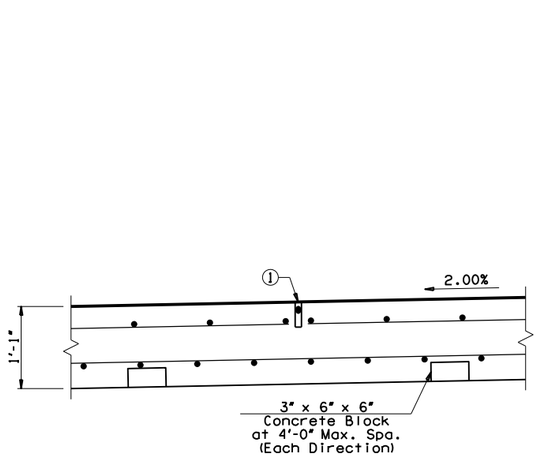
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JTR	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG025

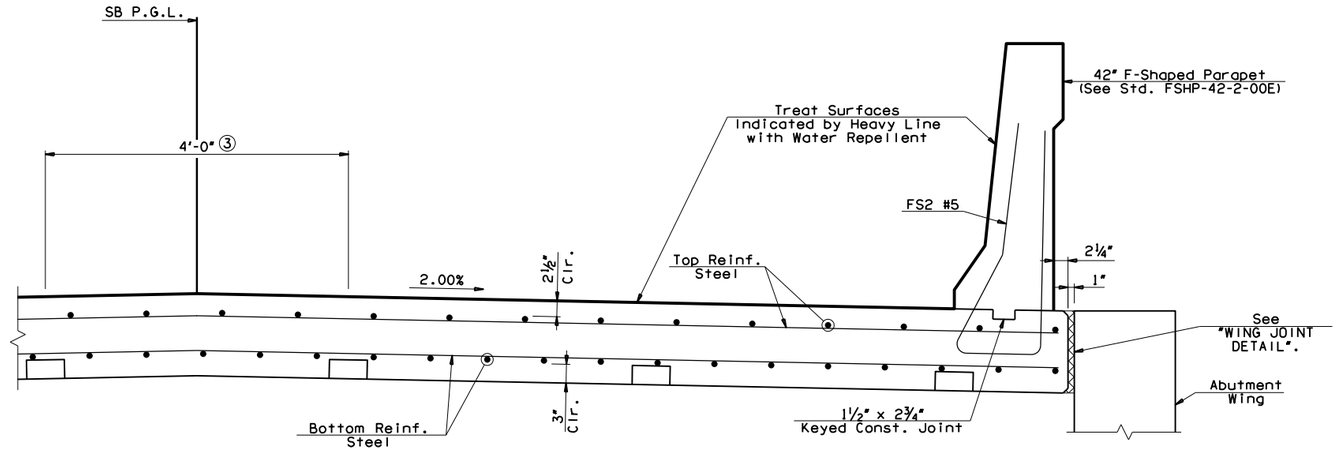
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See Detail "A".



SECTION A THRU APPROACH SLAB



SECTION B ②

② East Parapet shown, West Parapet similar.

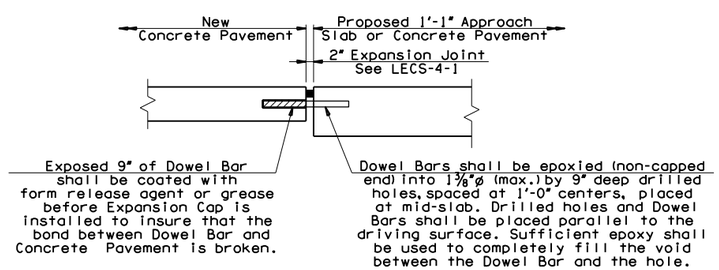
③ Round 2'-0" each side of P.G.L. to avoid sharp edges.

50% plans

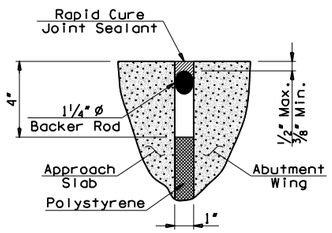
SUMMARY OF QUANTITIES - APPROACH SLAB NOS. 1 & 2				
ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
④⑤ APPROACH SLAB	S.Y.	208.90	222.10	431.00
SAW-CUT GROOVING	S.Y.	195.60	207.90	403.50
42" F-SHAPED PARAPET	L.F.	80.00	85.10	165.10
CLASS C CONCRETE	C.Y.	1.50	1.50	3.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	235.00	250.00	485.00

④ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

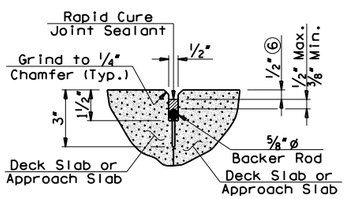
⑤ There Is An Estimated 75.50 C.Y. Of Class Aa Concrete And An Estimated 14,045.00 Lb. Of Epoxy Coated Reinforcing Steel In Approach Slab No. 1. There Is An Estimated 80.20 C.Y. Of Class Aa Concrete And An Estimated 14,966.00 Lb. Of Epoxy Coated Reinforcing Steel In Approach Slab No.2.



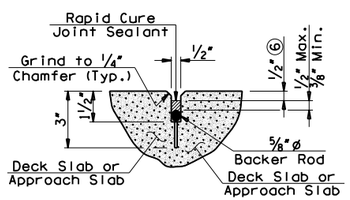
DETAIL "C"



WING JOINT DETAIL



DETAIL "A"



DETAIL "B"

NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".

⑥ This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only. See Std. LECS-4-1 for further details.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. G GILCREASE SB OVER BERRYHILL CREEK
APPROACH SLAB DETAILS
(SHEET 3 OF 3)

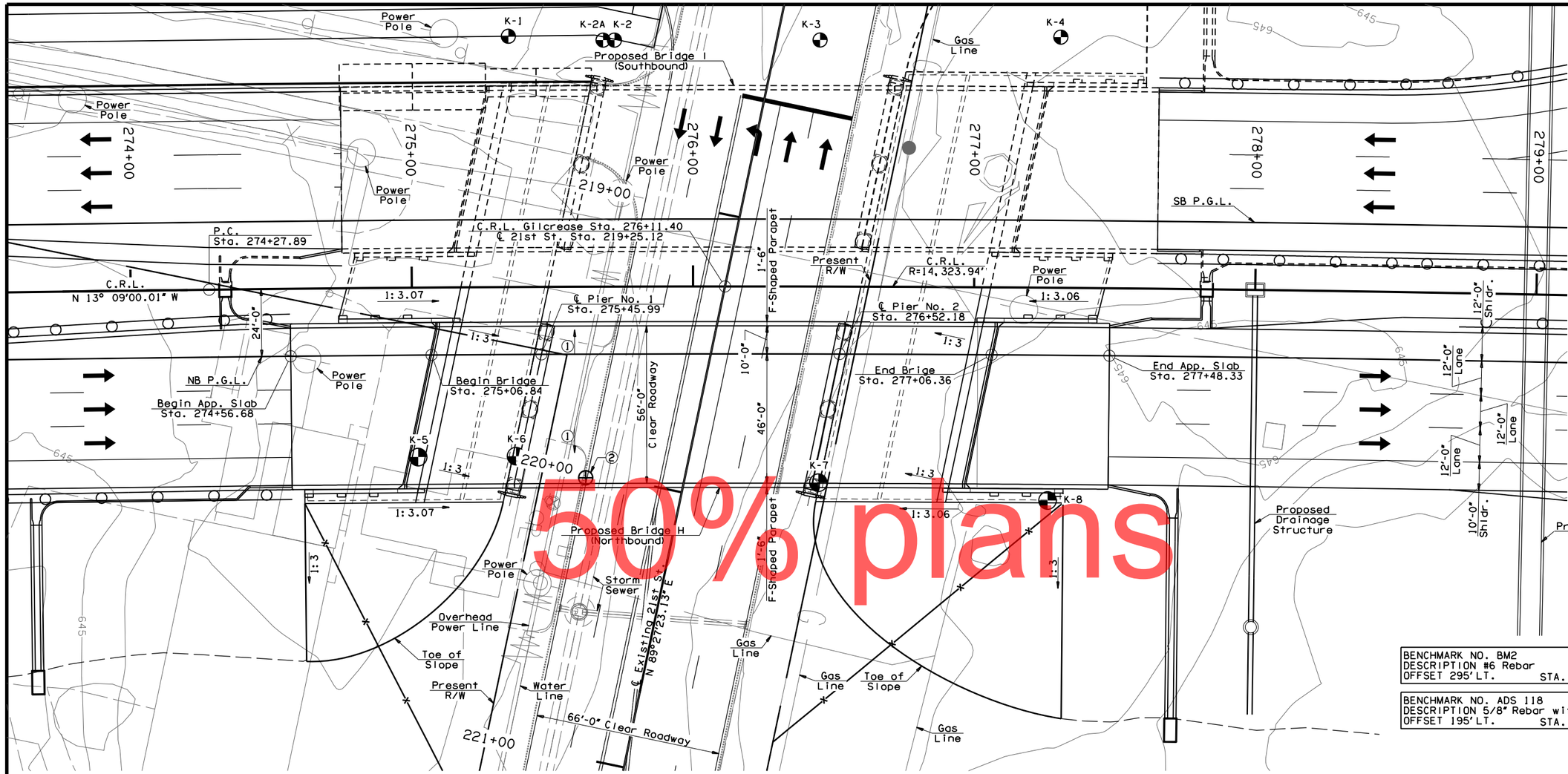
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JTR	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BG026

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

PROPOSED R/W
10/23/2017

0 20 40 60
SCALE 1" = 20'

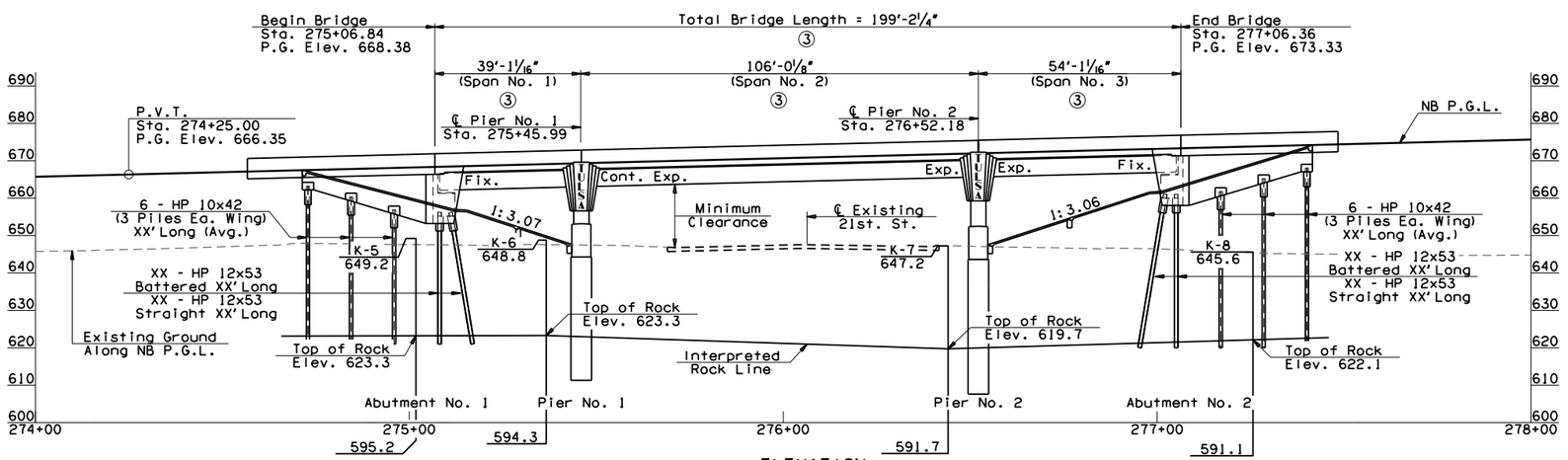


50% plans

BENCHMARK NO. BM2
DESCRIPTION #6 Rebar
OFFSET 295' LT. STA. 282+07 EL. 644.59

BENCHMARK NO. ADS 118
DESCRIPTION 5/8" Rebar with 1½" Aluminum Cap
OFFSET 195' LT. STA. 276+97 EL. 649.12

PLAN



ELEVATION

① 0.02 ft./ft.
② Minimum Vertical Clearance 16'-9⅜" Gilcrease Sta. 275+61.60 Offset 67.98' Rt. Low Chord Elev. 663.41
③ Stations measured along C.R.L. Dimensions measured along P.G.L.

For Foundation Report, See Sheet Nos. XX - XX .

NOTES:

For index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BH002.

For skew angle at piers and abutments, see Sheet No. BH003.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	DPE	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	BRT	7/17	DATE: 10/23/2017	SHEET NO. BH001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BH001-BH002	General Plan and Elevation
BH003	Staking Diagram
BH004-BH006	Pier Details
BH007	Typical Section
BH008	Longitudinal Section
BH009-BH011	Superstructure Details
BH012-BH015	Beam Details
BH016	Bearing Details
BSTA01-BSTA09	Bridge Standard Details

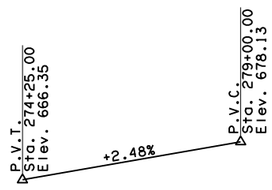
50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

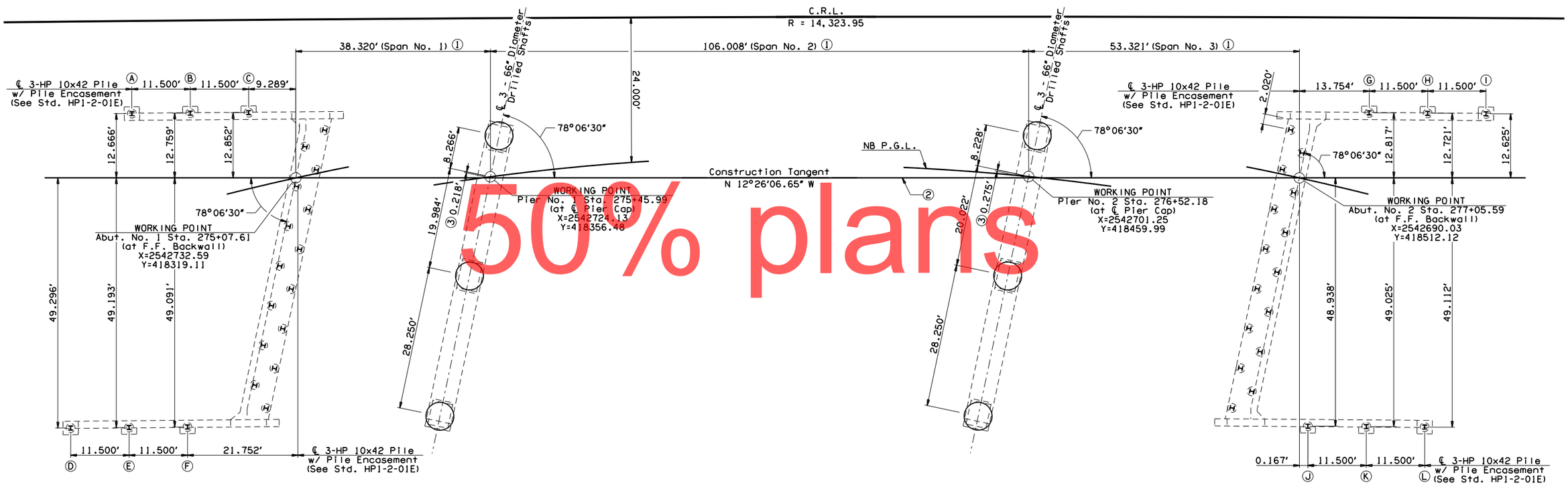
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	DPE	5/17	CONTRACT NO. GCT-2500	
DETAILED	DPE	6/17		
CHECKED	BRT	7/17	DATE: 10/23/2017	SHEET NO. BH002

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

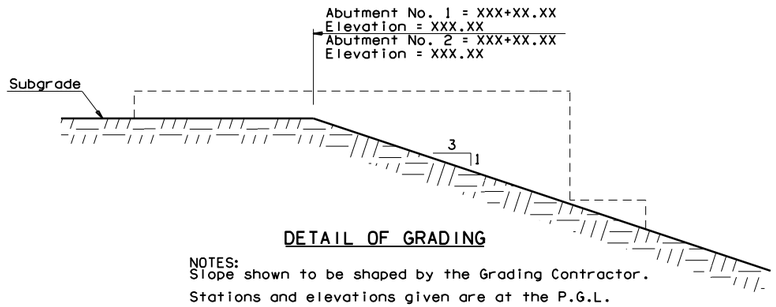
PROPOSED R/W
10/23/2017



50% plans

SUBSTRUCTURE STAKING DIAGRAM

① Measured W.P. to W.P. & along P.G.L.
② Construction line between Working Point of Abutment Nos. 1 & 2
③ Measured between Working Point & Construction Tangent



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	
B	
C	
HP 12x53 (CAP)	
D	
E	
F	

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
G	
H	
I	
HP 12x53 (CAP)	
J	
K	
L	

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

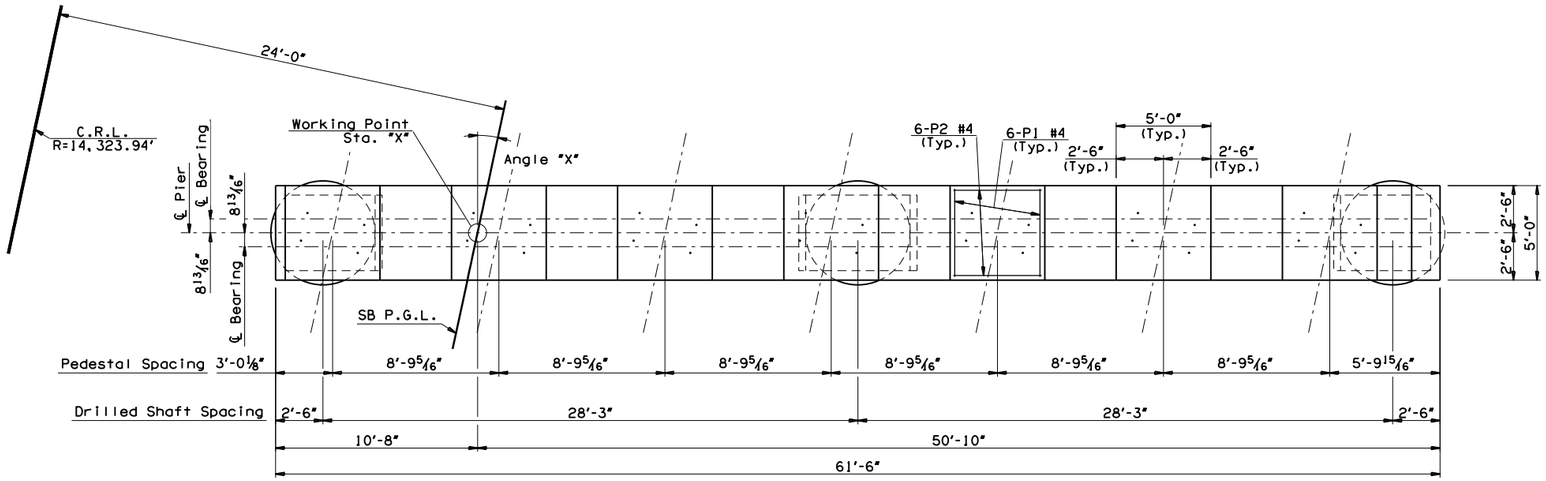
STAKING DIAGRAM

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

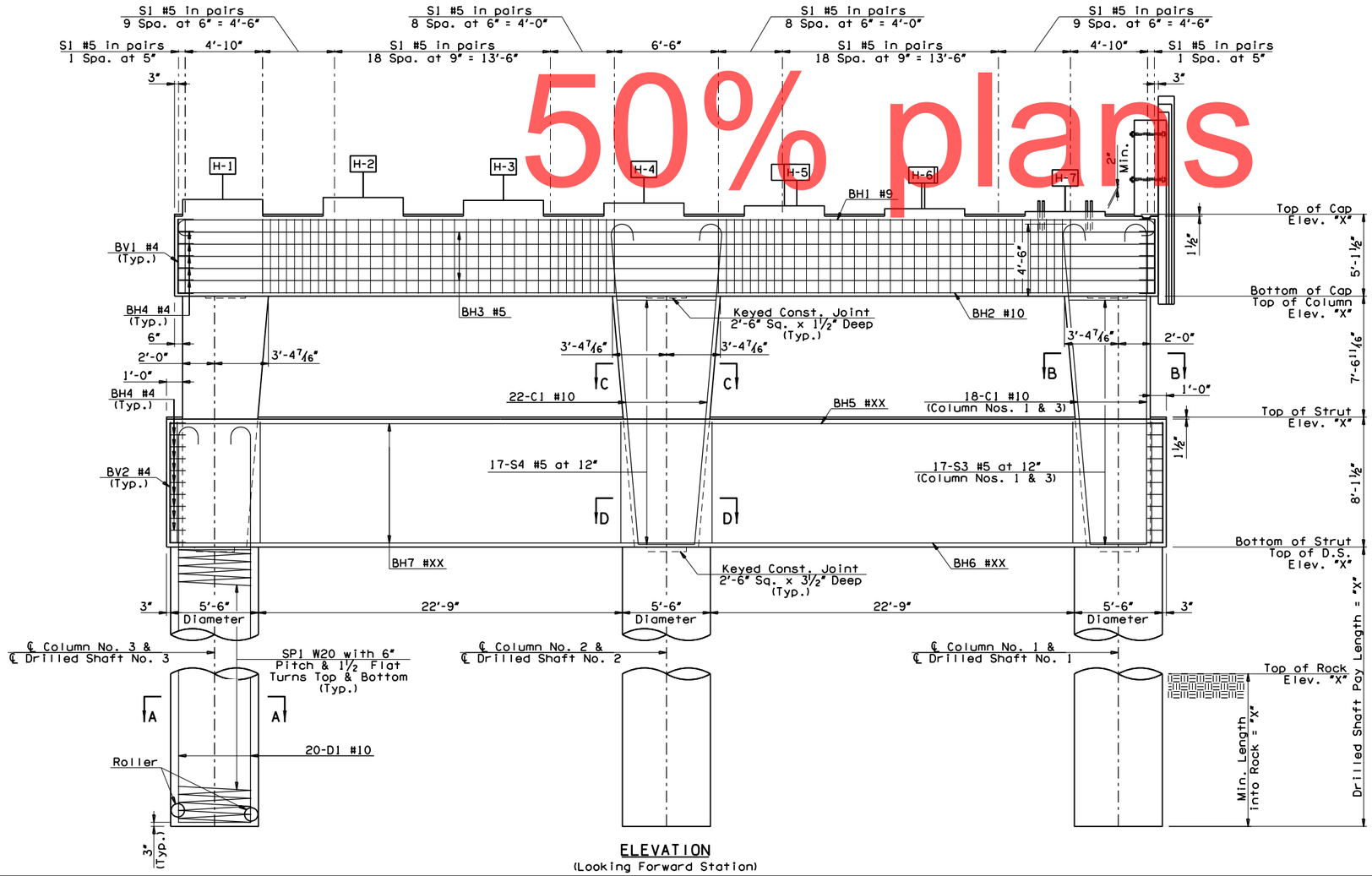
DESIGNED	JMQ	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH003

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

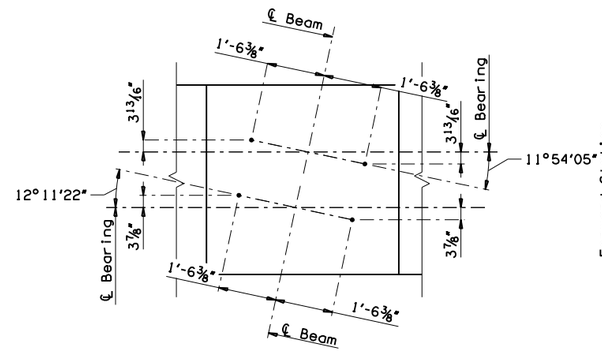
PROPOSED R/W
10/23/2017



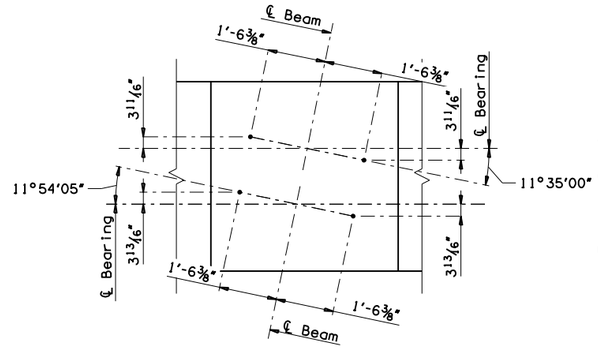
PLAN



ELEVATION
(Looking Forward Station)



ANCHOR BOLT DETAIL - PIER NO. 1



ANCHOR BOLT DETAIL - PIER NO. 2

NOTES:

For additional reinforcement details, section views, summary of quantities, and table of elevations see sheet No. BH006.

For Water Repellent Details, see Sheet No. BSTA01.

For Shield Details, see Sheet Nos. BSTA07 - BSTA09.

For Riser Details, see Sheet No. BSTA06.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

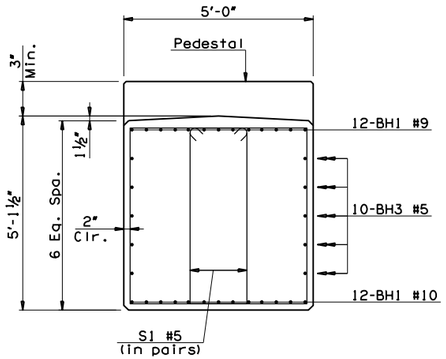
BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

PIER DETAILS
(SHEET 1 OF 3)

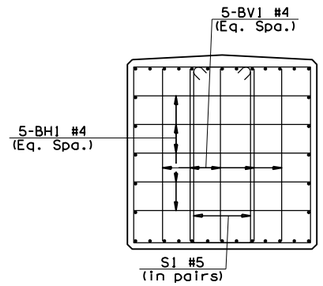
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH004

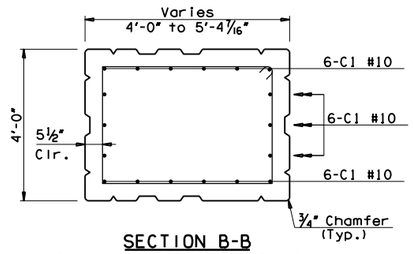
50% plans



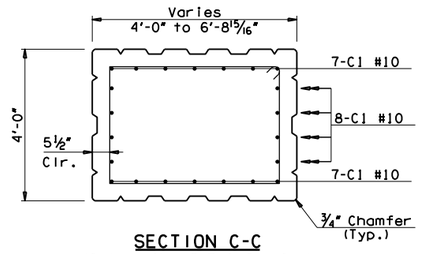
TYPICAL SECTION THRU CAP



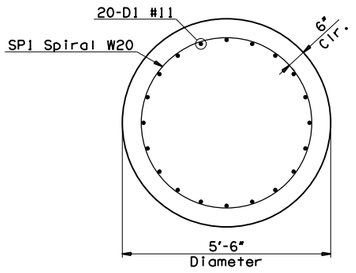
END OF PIER CAP REINFORCING



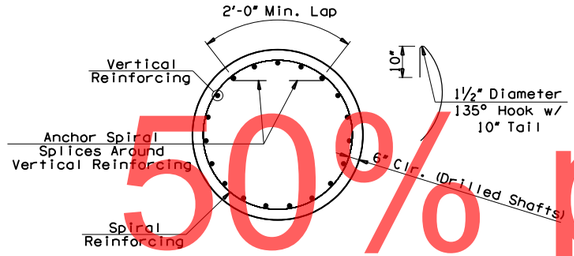
SECTION B-B
(Column Nos. 1 & 3 Reinforcing)



SECTION C-C
(Column No. 2 Reinforcing)

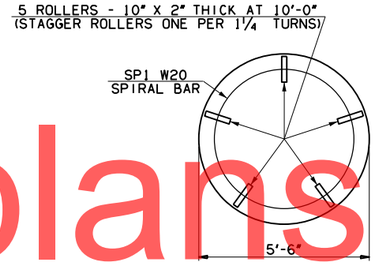


SECTION A-A

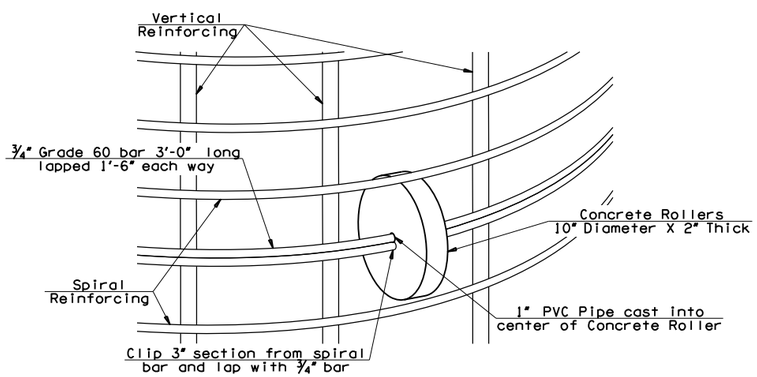


DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.

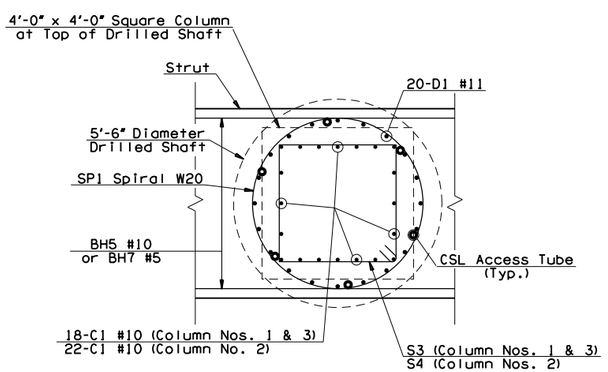


DETAIL OF ROLLER PLACEMENT



DETAILS OF CONCRETE ROLLER INSTALLATION

NOTE:
Concrete used in the Concrete Rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab Bolsters, High Chairs and Plastic Rollers shall not be substituted for the Concrete Rollers.



SECTION D-D

SUGGESTED ORDER OF PLACEMENT:
D1 #10 Bars, SP1, CSL Access Tubes, S #5 Bars, C #10 Bars, BH Bars. Adjust spacing of reinforcing bars as required.

50% plans

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)
PIER DETAILS
(SHEET 2 OF 3)

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH005

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

PROPOSED R/W
10/23/2017

4 DRILLED SHAFTS - PIER 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1				
SP2				

4 DRILLED SHAFTS - PIER 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1				
SP2				

BAR LIST - PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1				
BH2				
BH3				
BH4				
BH5				
BH6				
BV1				
BV2				
C1				
C2				
C3				
C4				
P1				
P2				
S1				
S2				
T1				
T2				

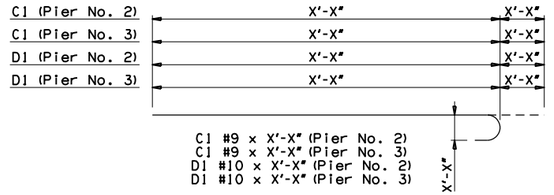
BAR LIST - PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1				
BH2				
BH3				
BH4				
BH5				
BH6				
BV1				
BV2				
C1				
C2				
C3				
C4				
P1				
P2				
S1				
S2				
T1				
T2				

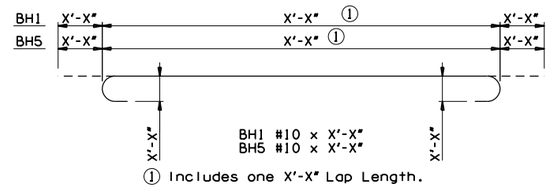
50% plans

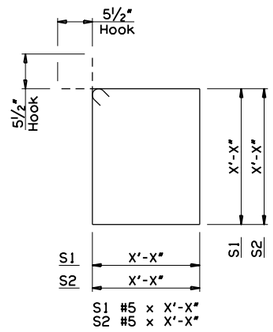
SUMMARY OF QUANTITIES - PIER NOS. 1 - 2				
ITEM	UNIT	PIER NO. 1	PIER NO.2	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	X.XX	X.XX	X.XX
CLASS A CONCRETE	C.Y.	X.XX	X.XX	X.XX
REINFORCING STEEL	LB.	X.XX	X.XX	X.XX
EPOXY COATED REINFORCING STEEL	LB.	X.XX	X.XX	X.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	X.XX	X.XX	X.XX
DRILLED SHAFTS 78" DIAMETER	L.F.	X.XX	X.XX	X.XX
CROSSHOLE SONIC LOGGING	EA.	X.XX	X.XX	X.XX

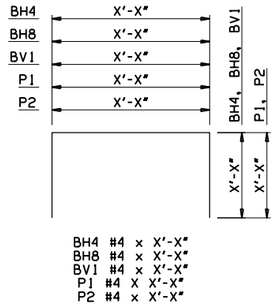
PEDESTAL ELEVATIONS							
PIER NO.	SB-A	SB-B	SB-C	SB-D	SB-E	SB-F	SB-G
1	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX
2	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX

TABLE OF VARIABLES									
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	LENGTH "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "M"	LENGTH "O"
1	XXX+XX.XX	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"
2	XXX+XX.XX	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"









OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

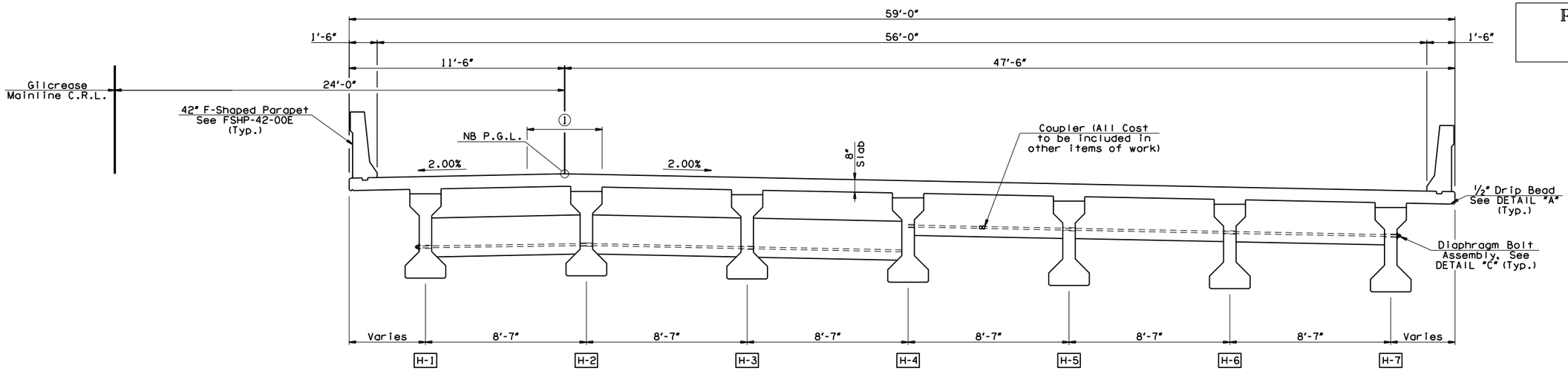
PIER DETAILS
(SHEET 3 OF 3)

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMO	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH006

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

PROPOSED R/W
10/23/2017



HALF SECTION AT INTERMEDIATE DIAPHRAGM

HALF SECTION AT END DIAPHRAGM

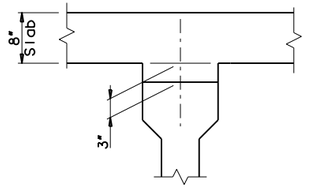
① Round 2'-0" each side of P.G.L. to avoid sharp edges.

TYPICAL SECTION
(Looking Forward Station)

50% plans

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
②		

② Includes a calculated XX.X0 C.Y. of Class AA Concrete in the Haunches.



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 bottom of Deck Slab to Top of 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.

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".

NOTES:
See Sheet Nos. XX - XX for deck reinforcing layout.

For Water Repellent Details, DETAIL "A", & DETAIL "C", see Sheet No. BSTA01

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

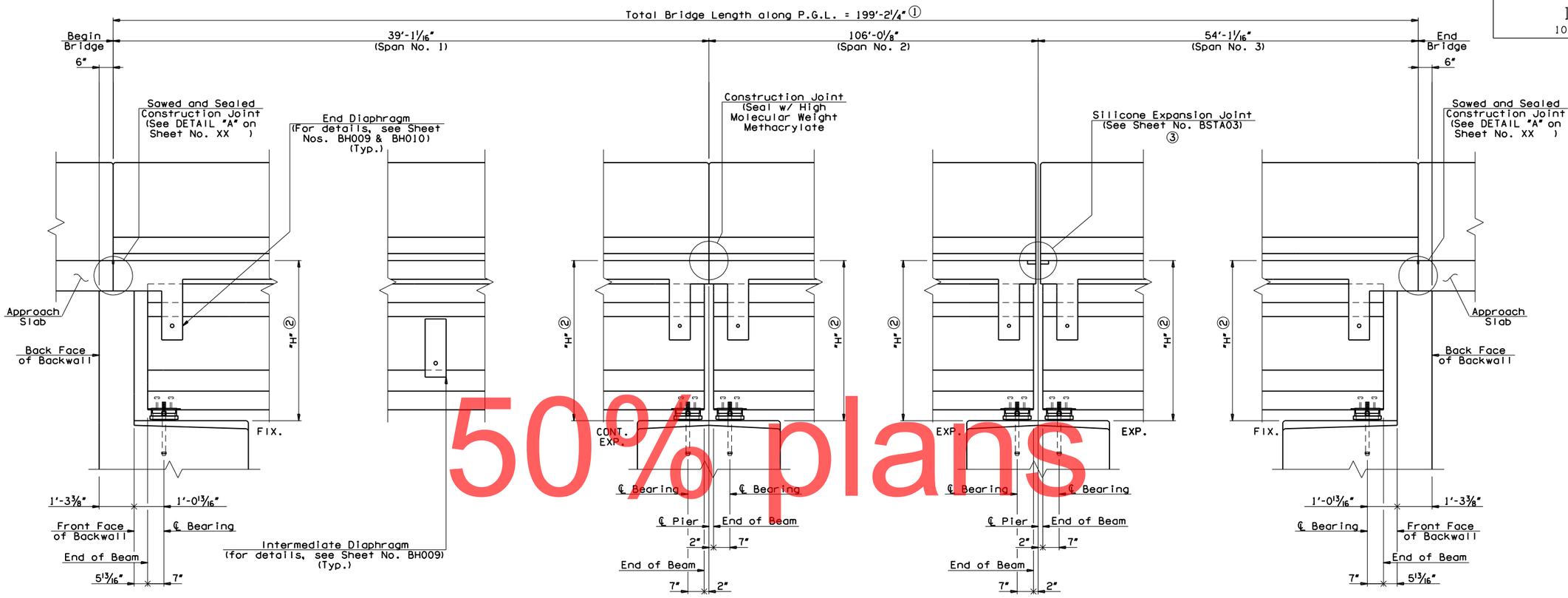
TYPICAL SECTION

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

DESIGNED	DPE	7/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH007

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

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2

LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

50% plans

① Measured along P.G.L.

② Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

③ For Expansion Joint Opening Equation, see Sheet No. BH010.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.

NOTE:

Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

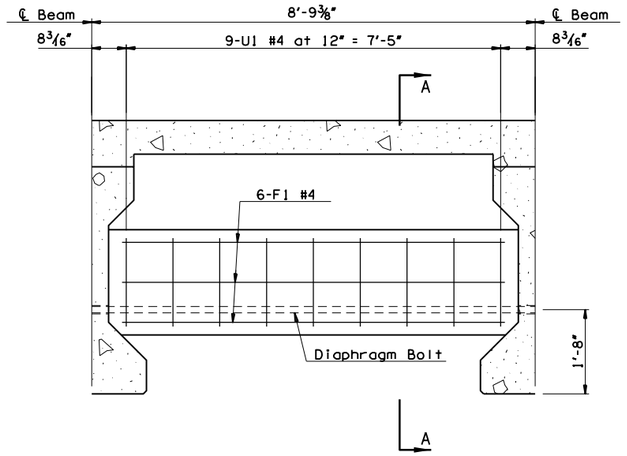
LONGITUDINAL SECTION

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

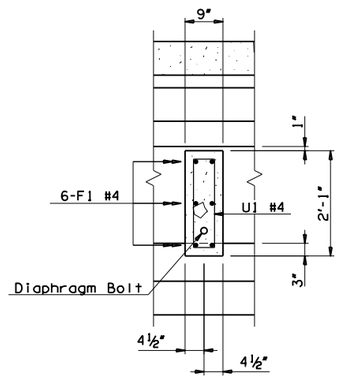
DESIGNED	DPE	7/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH008

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

PROPOSED
R/W
10/23/2017



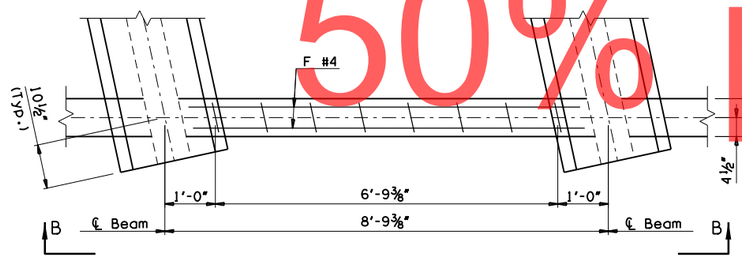
TYPE IV - INTERMEDIATE DIAPHRAGM
(1 Intermediate Diaphragm (Span Nos. 1 & 3))
(2 Intermediate Diaphragm (Span No. 2))



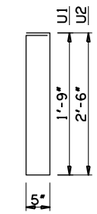
SECTION A-A

INTERMEDIATE & END DIAPHRAGM BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
F1	#4	XXX	STR.	10'-4"
F2	#6	xxx	STR.	9'-4"
F2	#6	xxx	STR.	9'-4"
U1	#4	xxx	BENT	4'-9"
U2	#4	xxx	BENT	6'-3"

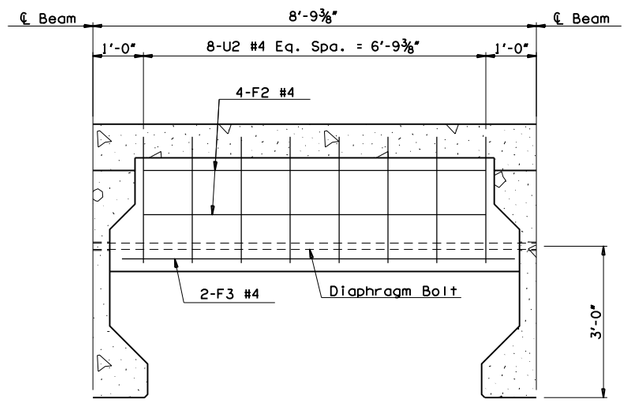
50% plans



TYPE IV - END DIAPHRAGM



U1 #4 x 4'-9"
U2 #4 x 6'-3"



SECTION B-B

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

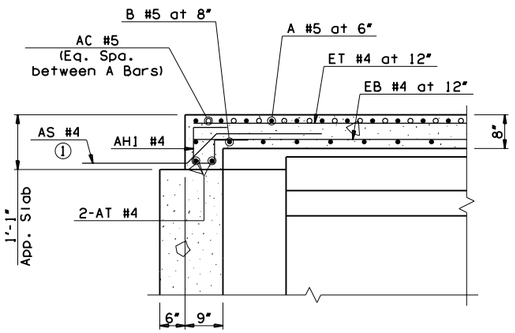
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

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

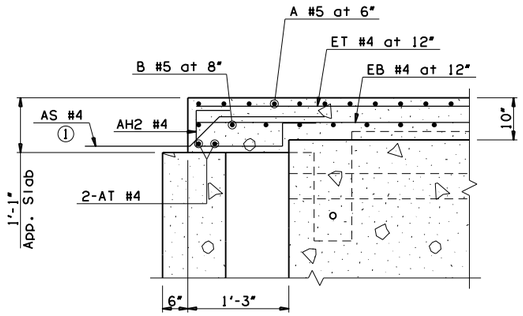
DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH009

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

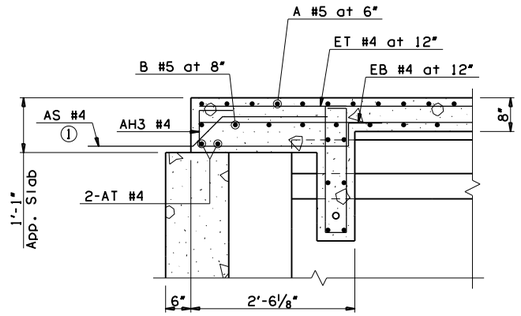
PROPOSED R/W
10/23/2017



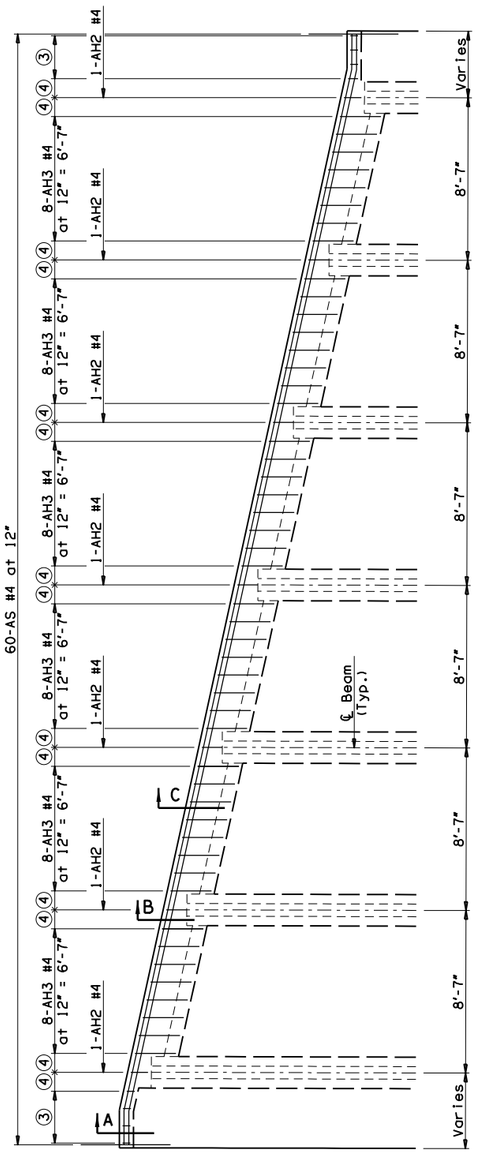
SECTION A



SECTION B

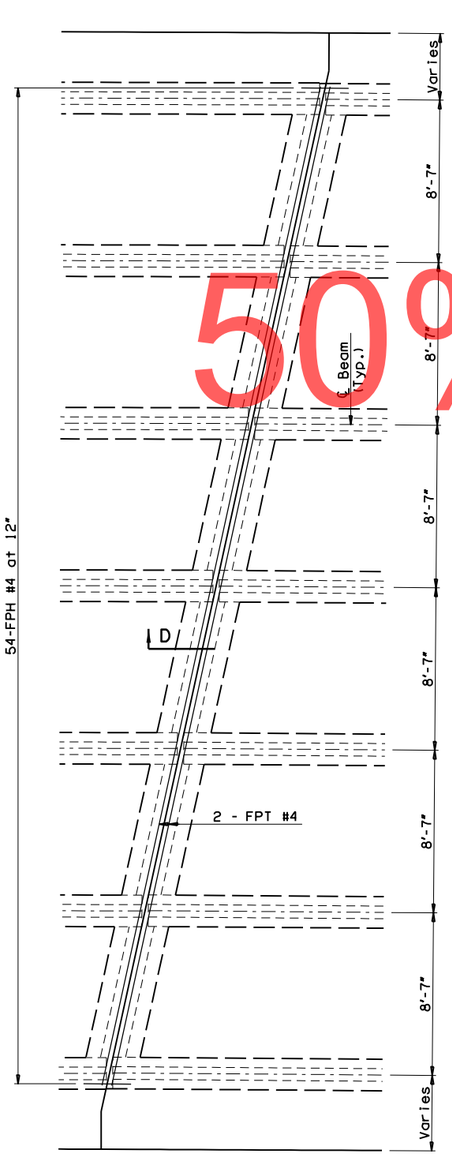


SECTION C

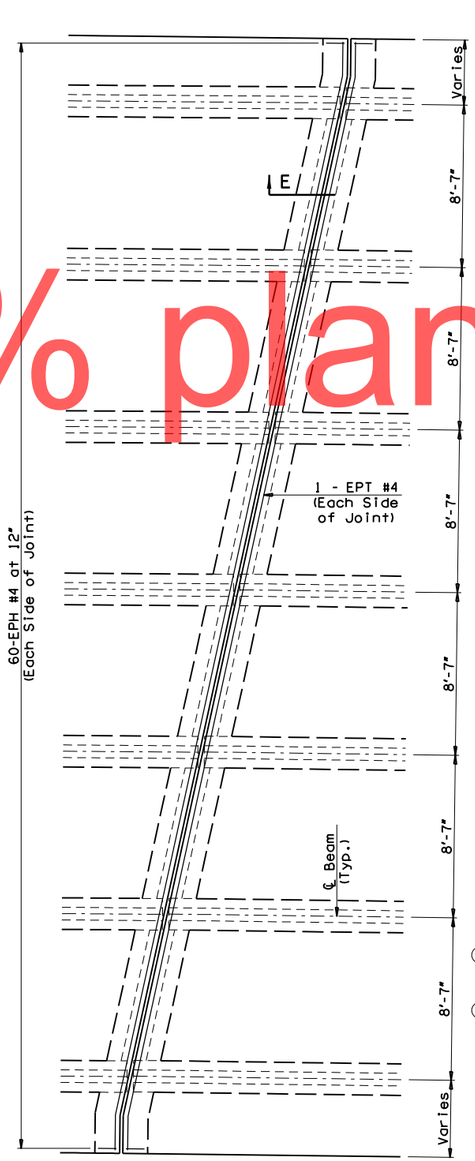


3 4-AH1 #4 at 1'-0"
4 1'-0"

ABUTMENTS

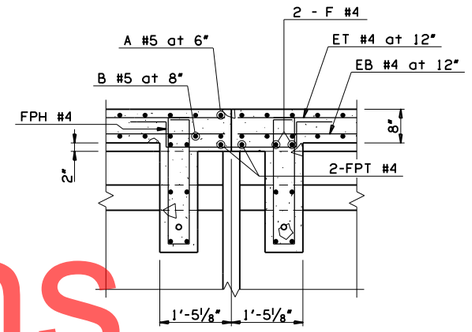


CONTINUOUS EXPANSION PIER NO. 1

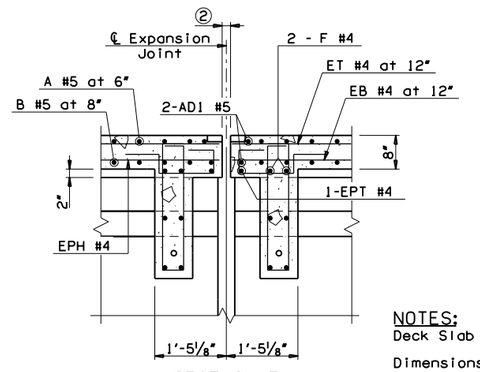


EXPANSION PIER NO. 2

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS



SECTION D



SECTION E

NOTES;
Deck Slab reinforcement not shown for clarity.

Dimensions in SECTION A thru E are taken along ℄ beam.

SILICONE JOINT SEALANT NOTE;
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

① Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

② The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

X.XXXXX - (0.XXXXX x T)

Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint Opening shall be measured perpendicular to the joint.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

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

DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH010

① Construction Joint. Horizontal reinforcing shall end 2" either side of this joint.

② West parapet only.

③ Openings are in East parapet only.

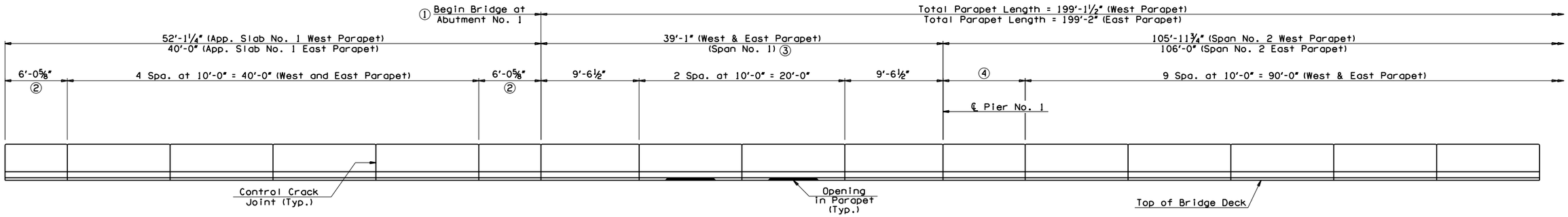
④ 7'-11⅞" (West Parapet)
8'-0" (East Parapet)

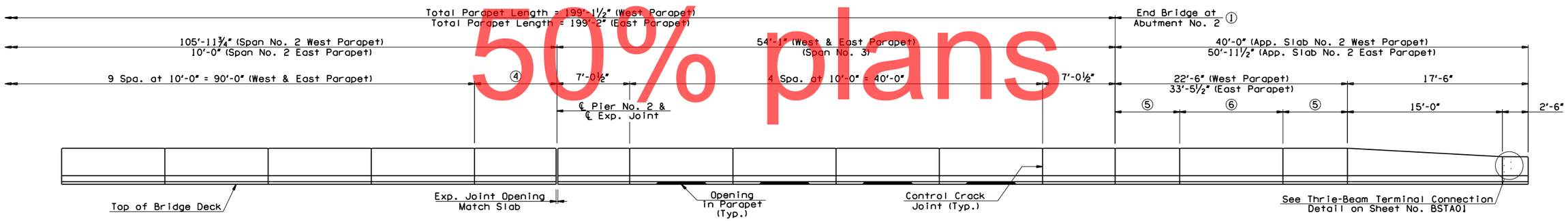
⑤ 6'-3" (West Parapet)
6'-8¾" (East Parapet)

⑥ 10'-0" (West Parapet)
2 Spa at 10'-0" = 20'-0" (East Parapet)

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

PROPOSED
R/W
10/23/2017





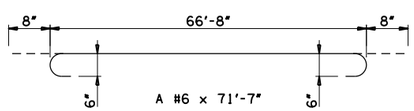
50% plans

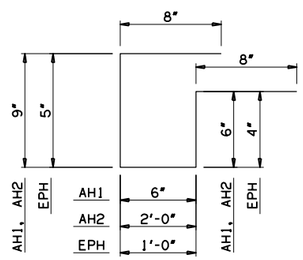
42" F-SHAPED PARAPET LAYOUT - WITH OPENINGS
(West Parapet Shown, East Parapet Similar)

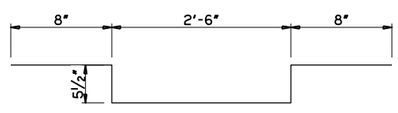
BAR LIST - SUPERSTRUCTURE

MARK	SIZE	NO.	FORM	LENGTH	VARIATION
EPOXY COATED REINFORCING STEEL					

① Includes One 3'-7" Lap Length.
② Includes One 2'-5" Lap Length.
③ Includes One 2'-0" Lap Length.







NOTES:
For details showing the Parapet reinforcement layout, see bar bends and Std. FSHP-42-2-00E.

Dimensions shown are taken from inside face of Parapet.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

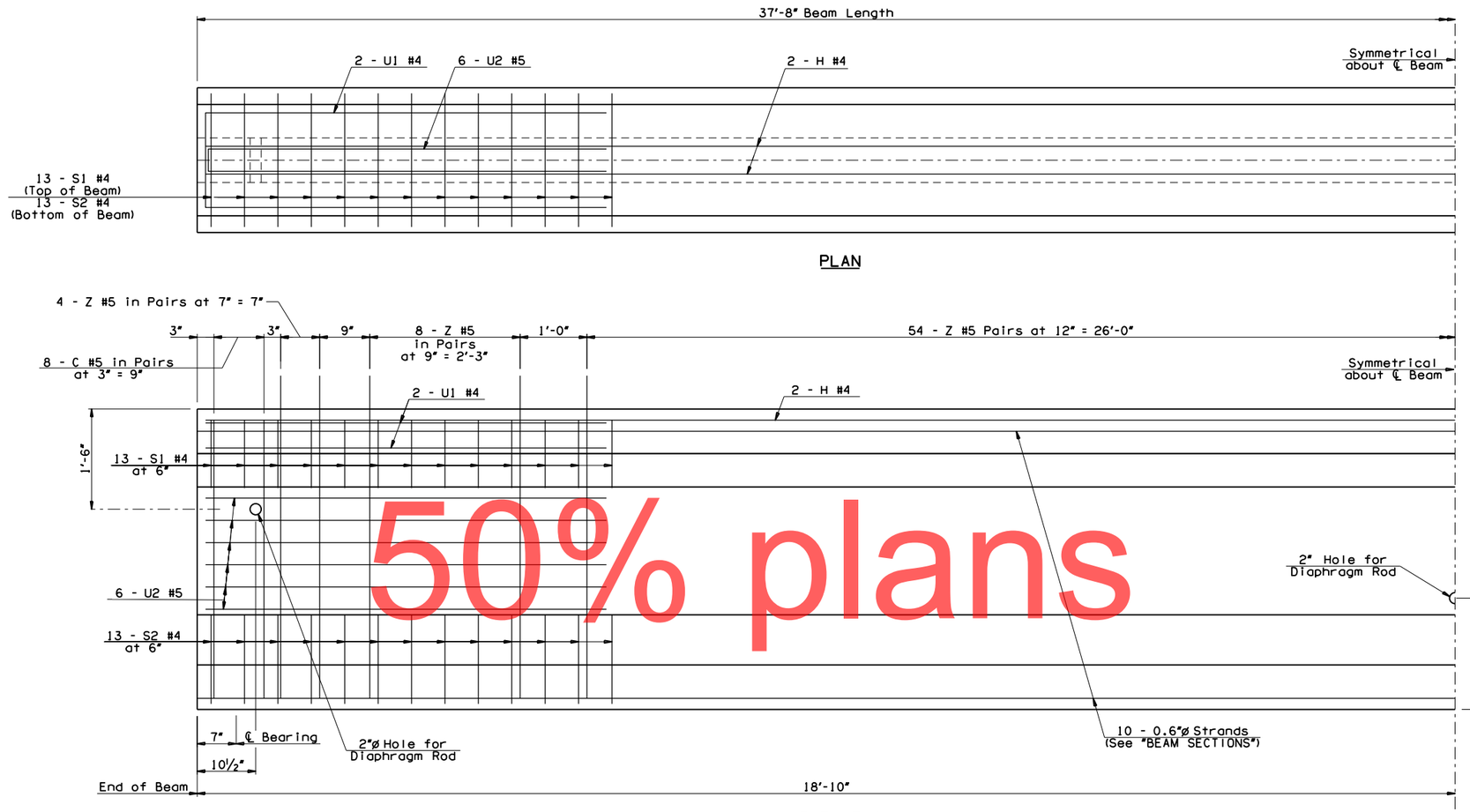
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH011

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

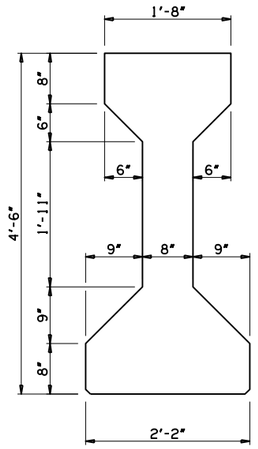
PROPOSED R/W
10/23/2017



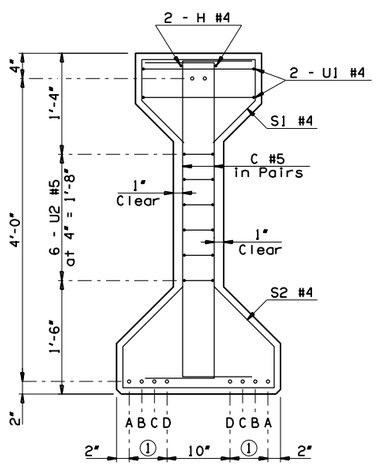
PLAN

ELEVATION

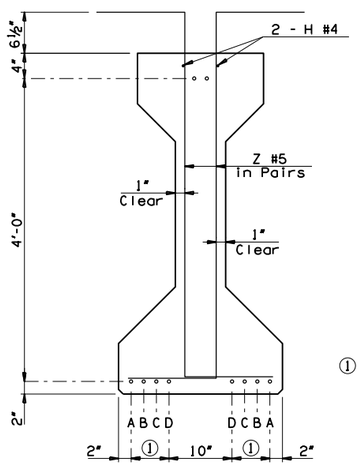
50% plans



END VIEW
(Type IV P.C.B.)



END SECTION



℄ SECTION

① 3 Spaces at 2" = 6"

BEAM SECTIONS
10 - 0.6"ø Strands

NOTE:
For bar bends, embedded plate details and dead load deflection diagrams, see Sheet No. BH015.

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
The required compressive strength of the concrete is 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
The required strand type is low-relaxation. Use strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LFR OPERATING RATING - HS XX.X
LRFR OPERATING RATING - X.XX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

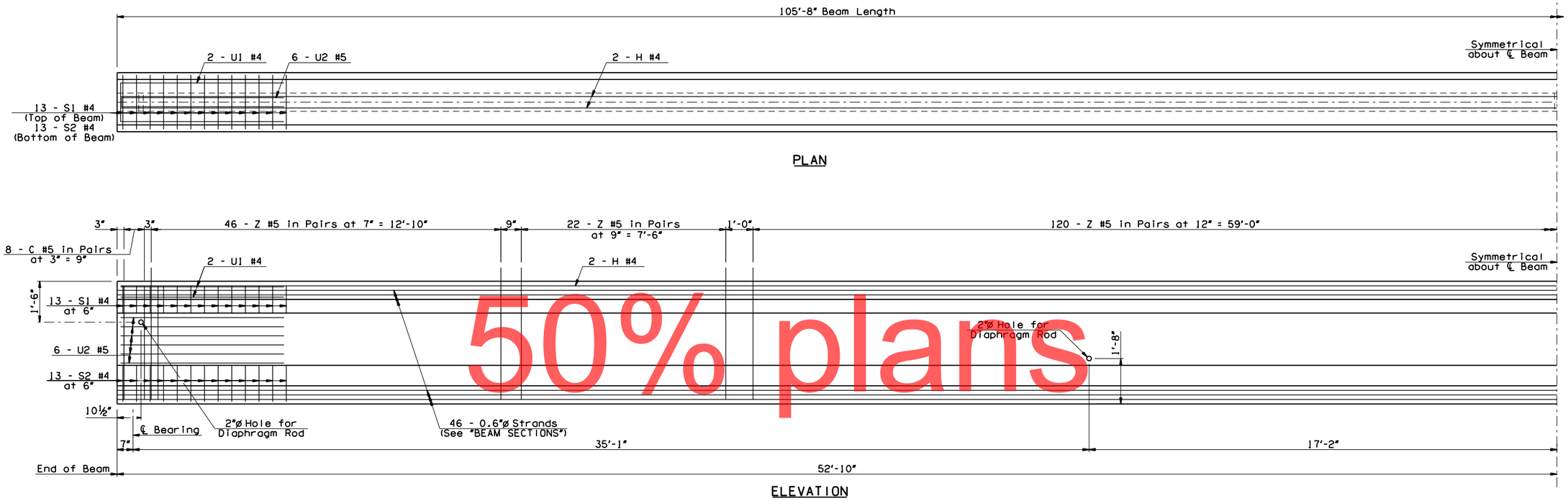
37'-8" BEAM DETAILS

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH012

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

PROPOSED R/W
10/23/2017

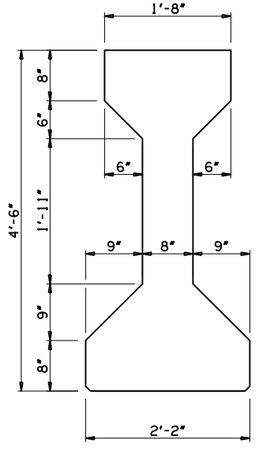


PLAN

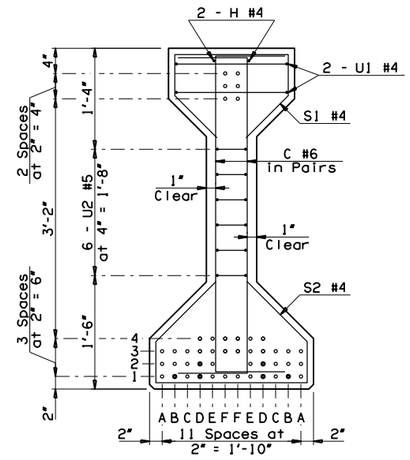
ELEVATION

50% plans

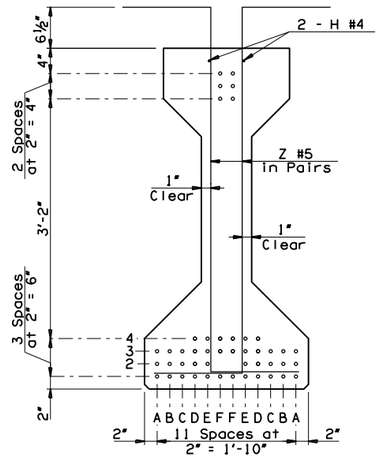
DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1 & D1	10'-0"
D2	4'-0"
C2	4'-0"



END VIEW



END SECTION



℄ SECTION

BEAM SECTIONS
46 - 0.6"ø Strands

NOTE:
For bar bends, embedded plate details and dead load deflection diagrams, see Sheet No. BH015.

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
The required compressive strength of the concrete is 4,500 p.s.i at transfer of prestress and 6,000 p.s.i at 28 days.
STRAND TYPE
The required strand type is low-relaxation. Use strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LFR OPERATING RATING - HS XX.X
LRFR OPERATING RATING - X.XX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

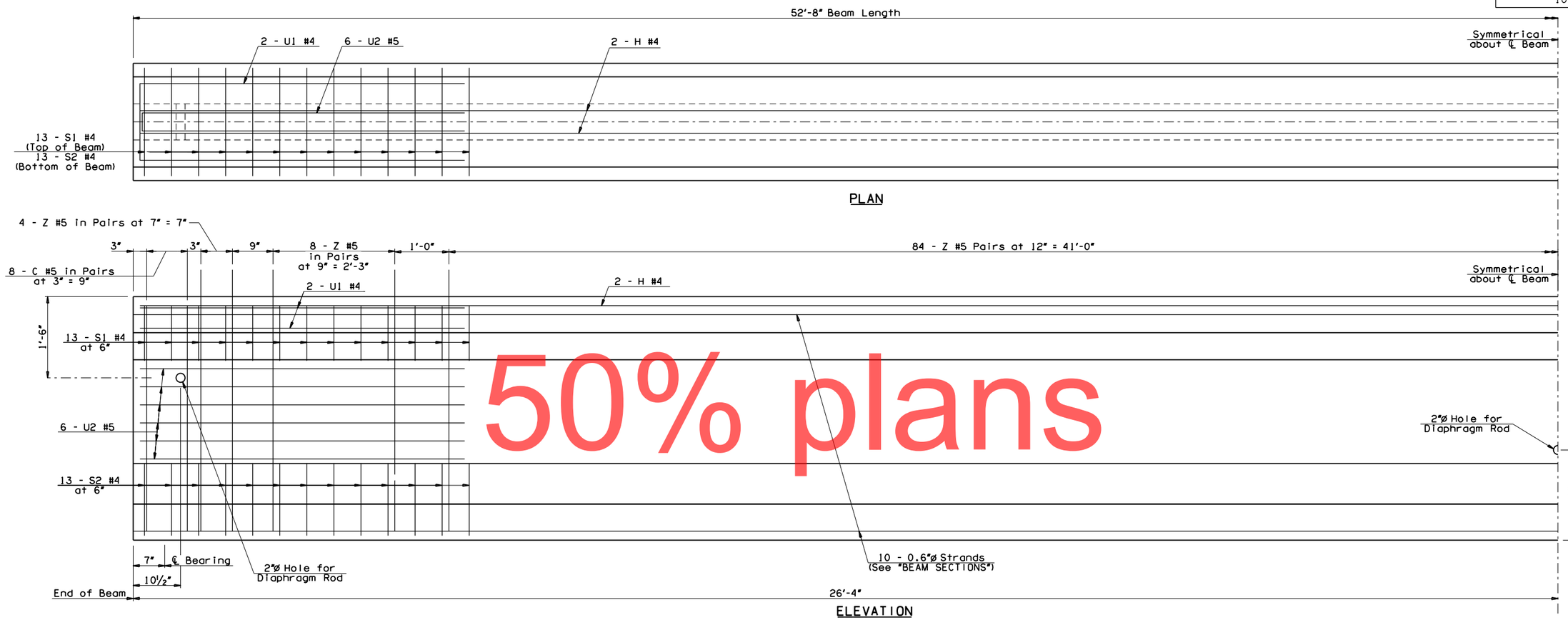
105'-8" BEAM DETAILS

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

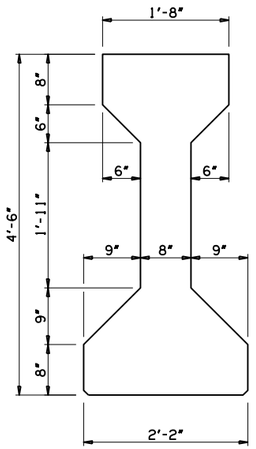
DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	7/17	DATE: 10/23/2017	SHEET NO. BH013
CHECKED	MJY	10/17		

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

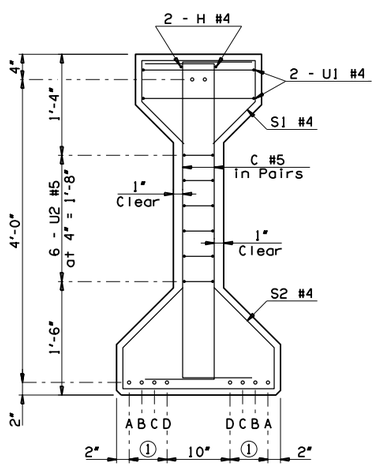
PROPOSED R/W
10/23/2017



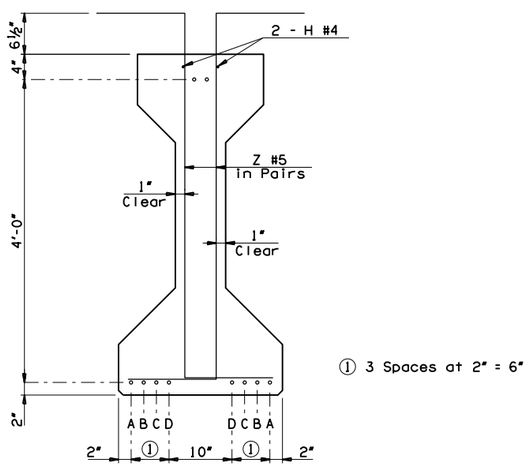
50% plans



END VIEW



END SECTION



℄ SECTION

① 3 Spaces at 2" = 6"

BEAM SECTIONS
10 - 0.6"ø Strands

NOTE:
For bar bends, embedded plate details and dead load deflection diagrams, see Sheet No. BH015.

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
The required compressive strength of the concrete is 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

STRAND TYPE
The required strand type is low-relaxation. Use strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS XX.X
LRFR OPERATING RATING - X.XX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

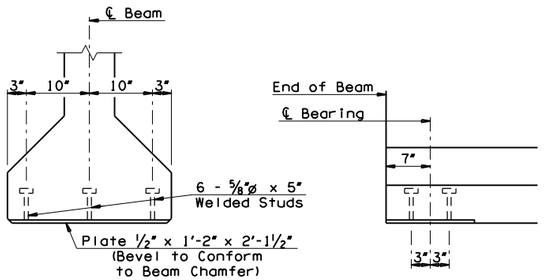
52'-8" BEAM DETAILS

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH014

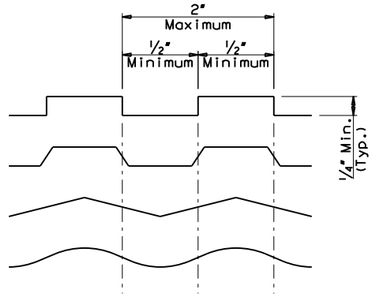
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



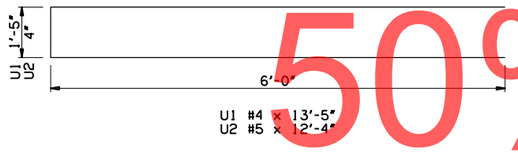
EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate at each end of the Beam.

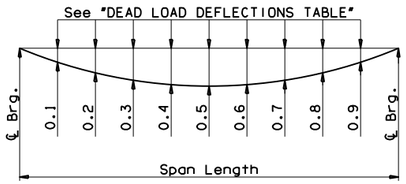


INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



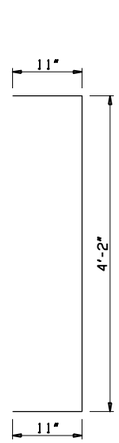
50% plans



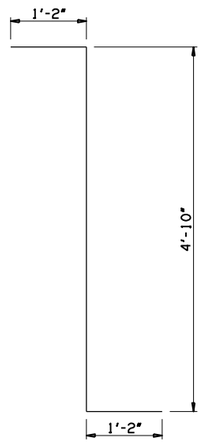
DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

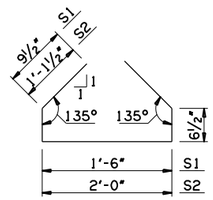
DEAD LOAD DEFLECTIONS TABLE						
SPAN NO.	BEAM NO(S).	LOCATION				
		0.1L/0.9L	0.2L/0.8L	0.3L/0.7L	0.4L/0.6L	0.5L
1	1	.01	.02	.02	.03	.03
	2 - 6	.01	.02	.03	.03	.03
	7	.01	.02	.03	.03	.03
2	1	.50	.98	1.35	1.59	1.67
	2 - 6	.57	1.11	1.53	1.80	1.89
	7	.54	1.04	1.44	1.69	1.77
3	1	.03	.07	.10	.11	.12
	2 - 6	.04	.08	.11	.13	.13
	7	.04	.07	.10	.12	.13



C #6 x 6'-0"



Z #5 x 7'-2"
(Epoxy Coated)



S1 #4 x 4'-2"
S2 #4 x 5'-4"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

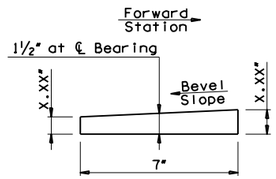
BEAM DETAILS

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH015

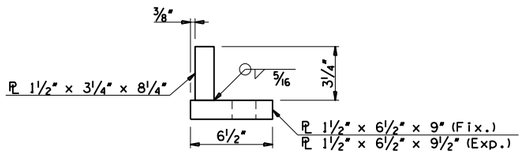
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

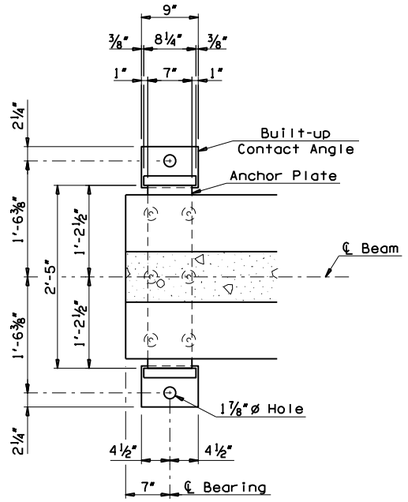


NOTE:
Paint thickest edge red.

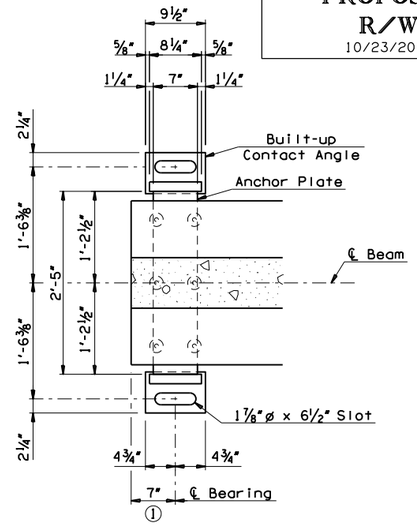
BEVELED ANCHOR PLATE DETAIL



BUILT-UP CONTACT ANGLE DETAIL



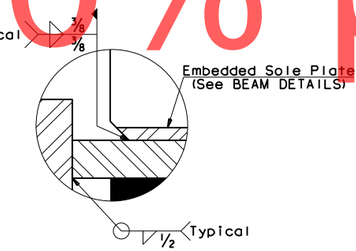
FIXED BEARING PLAN



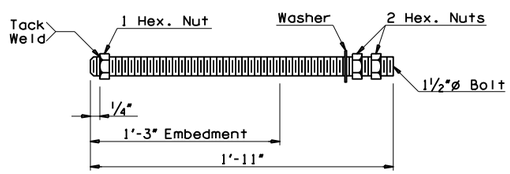
EXPANSION BEARING PLAN

(1) Anchor Bolts shall be centered in slots during setting of beams. Dimension may vary depending on temperature at the time of beam setting.

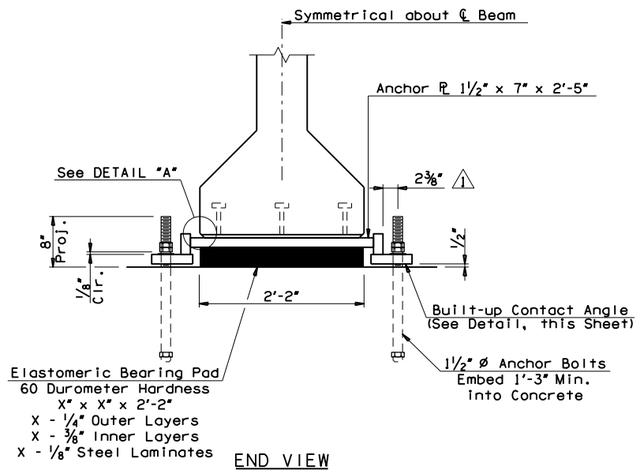
50% plans



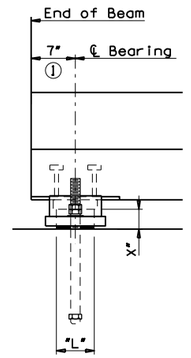
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



ELEVATION

BEARING DETAILS

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required).

For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

The total estimated weight of Structural Steel per Bearing Assembly is as follows:

Fixed Bearings = 190.30 lbs.
Expansion Bearings = 193.00 lbs.

Bonding of Bearing Pad to Anchor Plate not required.

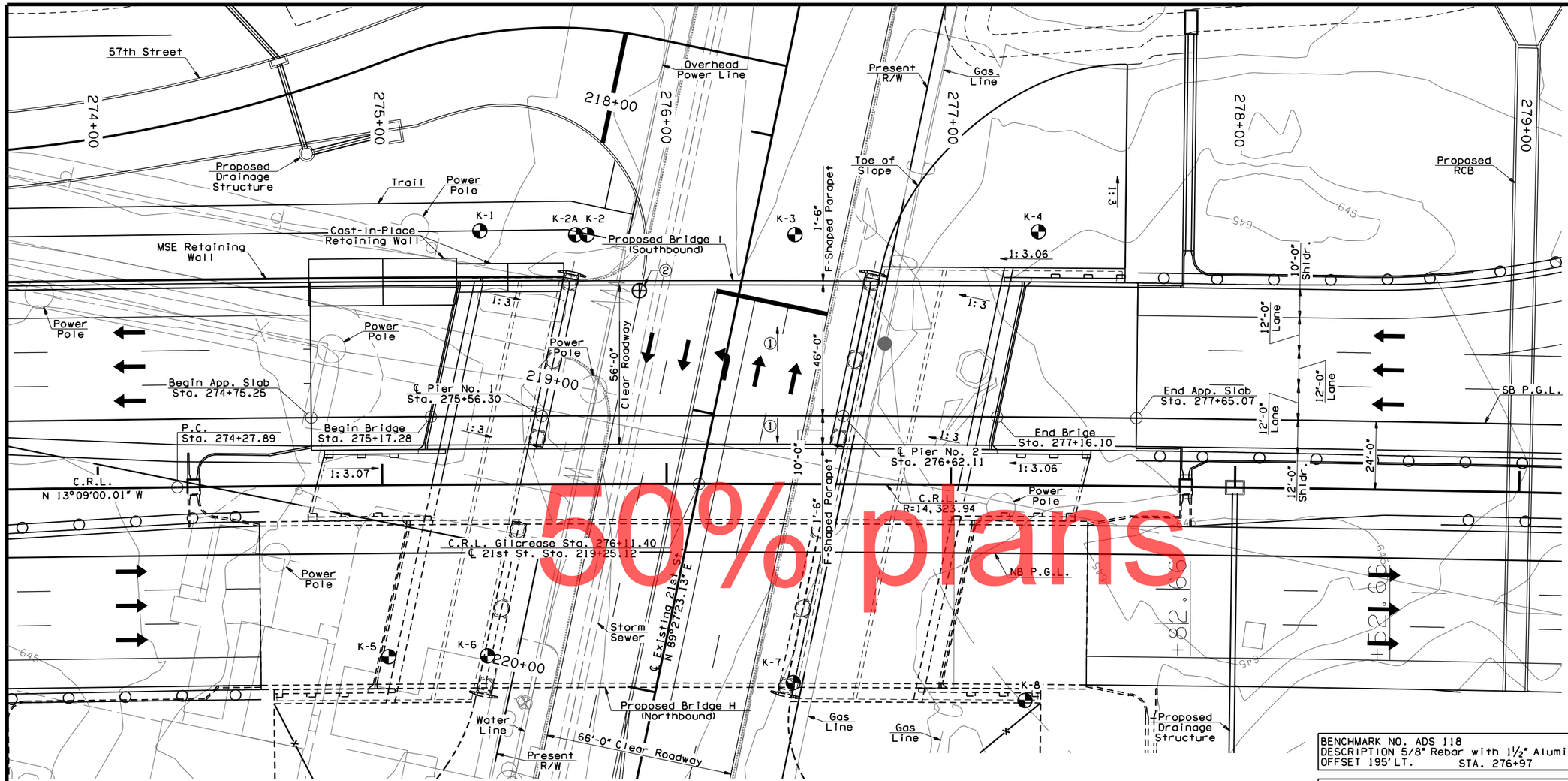
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. H GILCREASE NB OVER W. 21ST ST. (AVERY DR.)

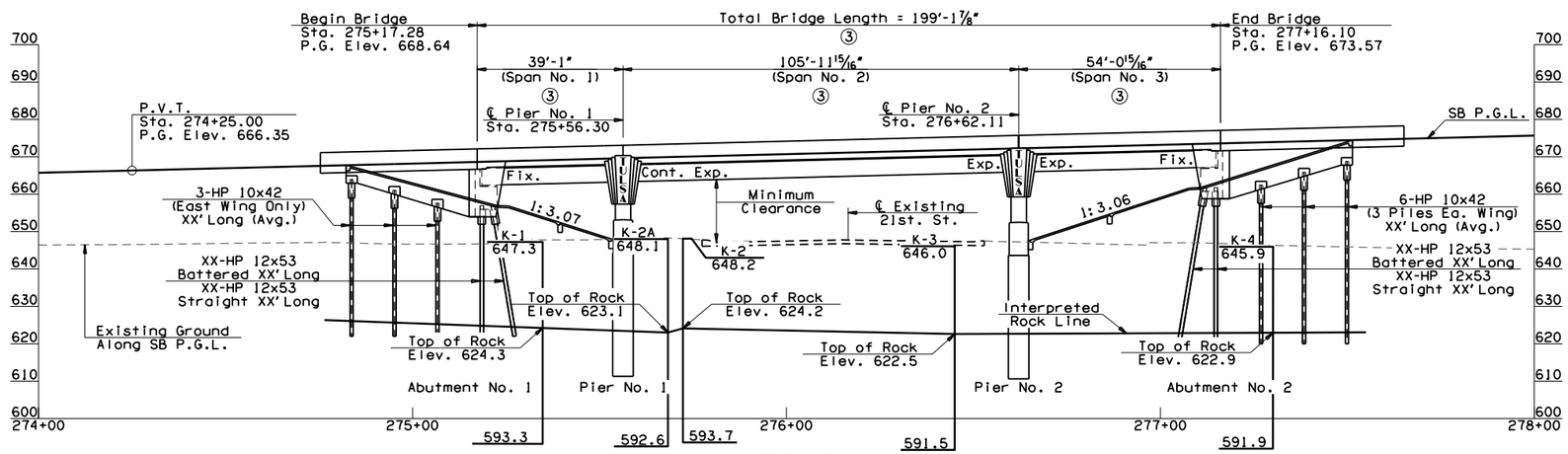
BEARING DETAILS

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

DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BH016



PLAN



ELEVATION

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

PROPOSED R/W
10/23/2017

0 20 40 60
SCALE 1" = 20'

BENCHMARK NO. ADS 118
DESCRIPTION 5/8" Rebar with 1½" Aluminum Cap
OFFSET 195' LT. STA. 276+97 EL. 649.12

BENCHMARK NO. BM2
DESCRIPTION #6 Rebar
OFFSET 295' LT. STA. 282+07 EL. 644.59

① 0.02 ft./ft.
② Minimum Vertical Clearance 16'-11⅝"
Gilcrease Sta. 275+90.53
Offset 67.95' Lt.
Low Chord Elev. 664.13
③ Stations measured along C.R.L.
Dimensions measured along P.G.L.

For Foundation Report, See Sheet Nos. XX - XX .

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. B1002.

For skew angle at piers and abutments, see Sheet No. B1003.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	DPE	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	BRT	7/17	DATE: 10/23/2017	SHEET NO. B1001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
B1001-B1002	General Plan and Elevation
B1003	Staking Diagram
B1004-B1006	Pier Details
B1007	Typical Section
B1008	Longitudinal Section
B1009-B1012	Superstructure Details
B1013	Framing Plan
B1014-B1017	Beam Details
B1018	Bearing Details
B1019-B1021	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

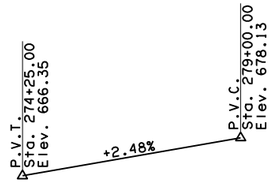
50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

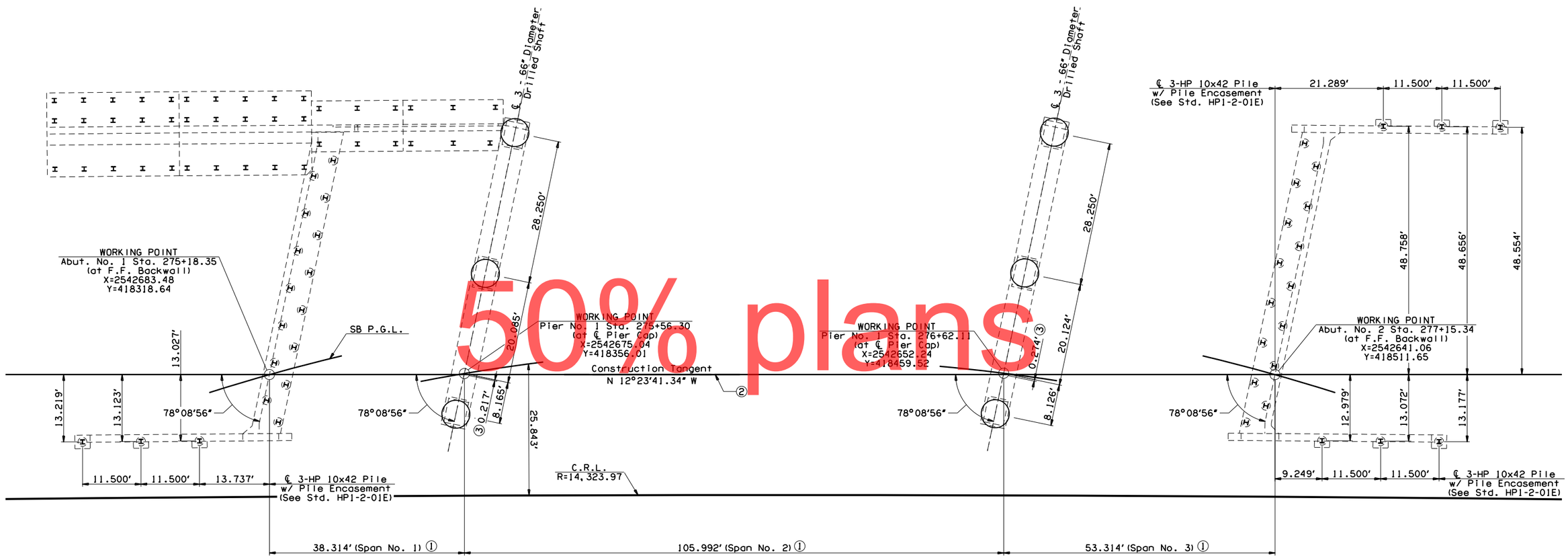
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	DPE	5/17	CONTRACT NO. GCT-2500	
DETAILED	DPE	6/17		
CHECKED	BRT	7/17	DATE: 10/23/2017	SHEET NO. B1002

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

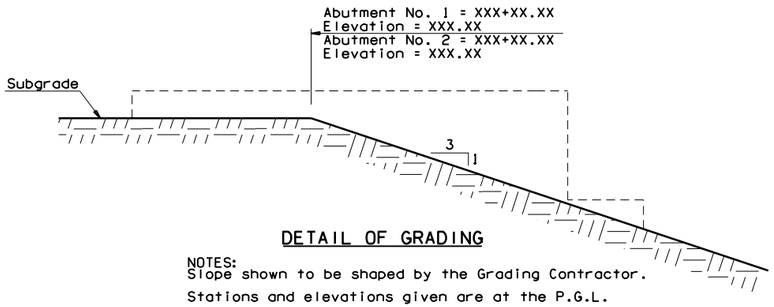
PROPOSED R/W
10/23/2017



50% plans

SUBSTRUCTURE STAKING DIAGRAM

① Measured W.P. to W.P. & along P.R.L.
② Construction line between Working Point of Abutment Nos. 1 & 2
③ Measured between Working Point & Construction Tangent



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	
B	
C	
HP 12x53 (CAP)	
D	
E	
F	

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
G	
H	
I	
HP 12x53 (CAP)	
J	
K	
L	

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

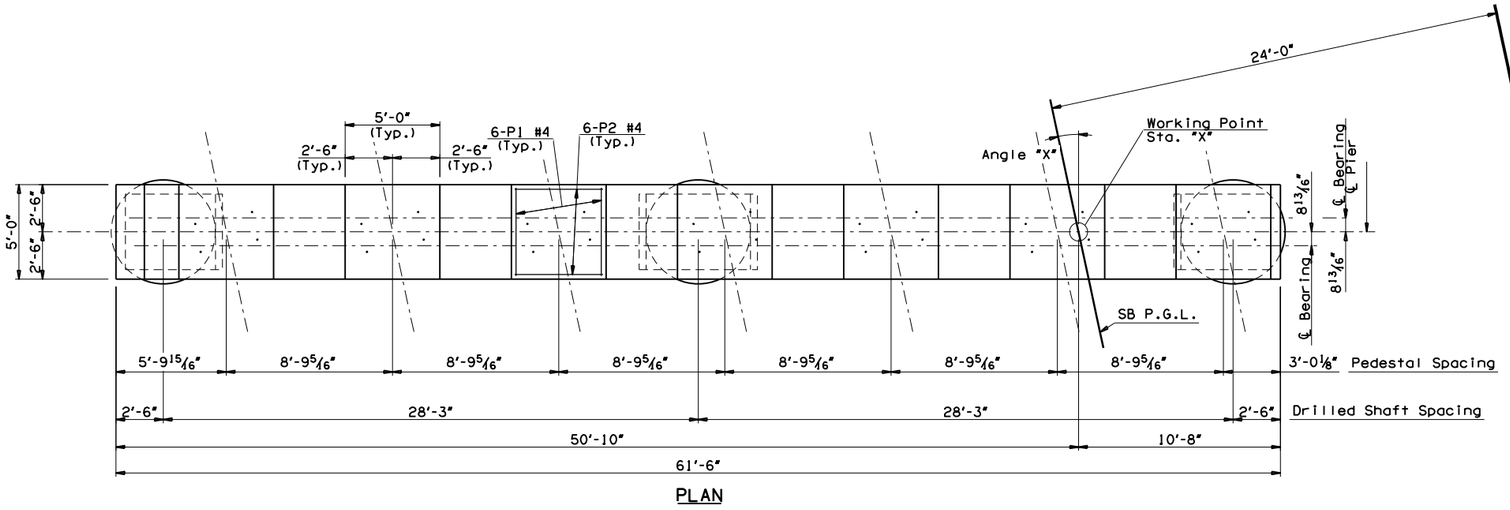
STAKING DIAGRAM

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

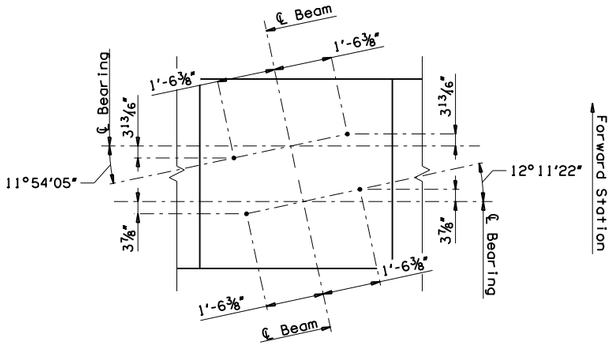
DESIGNED	DPE	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. B1003

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

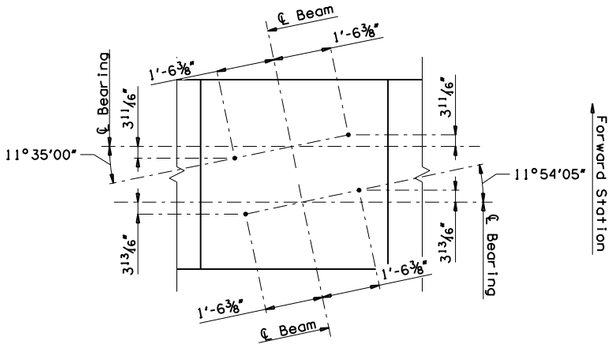
PROPOSED R/W
10/23/2017



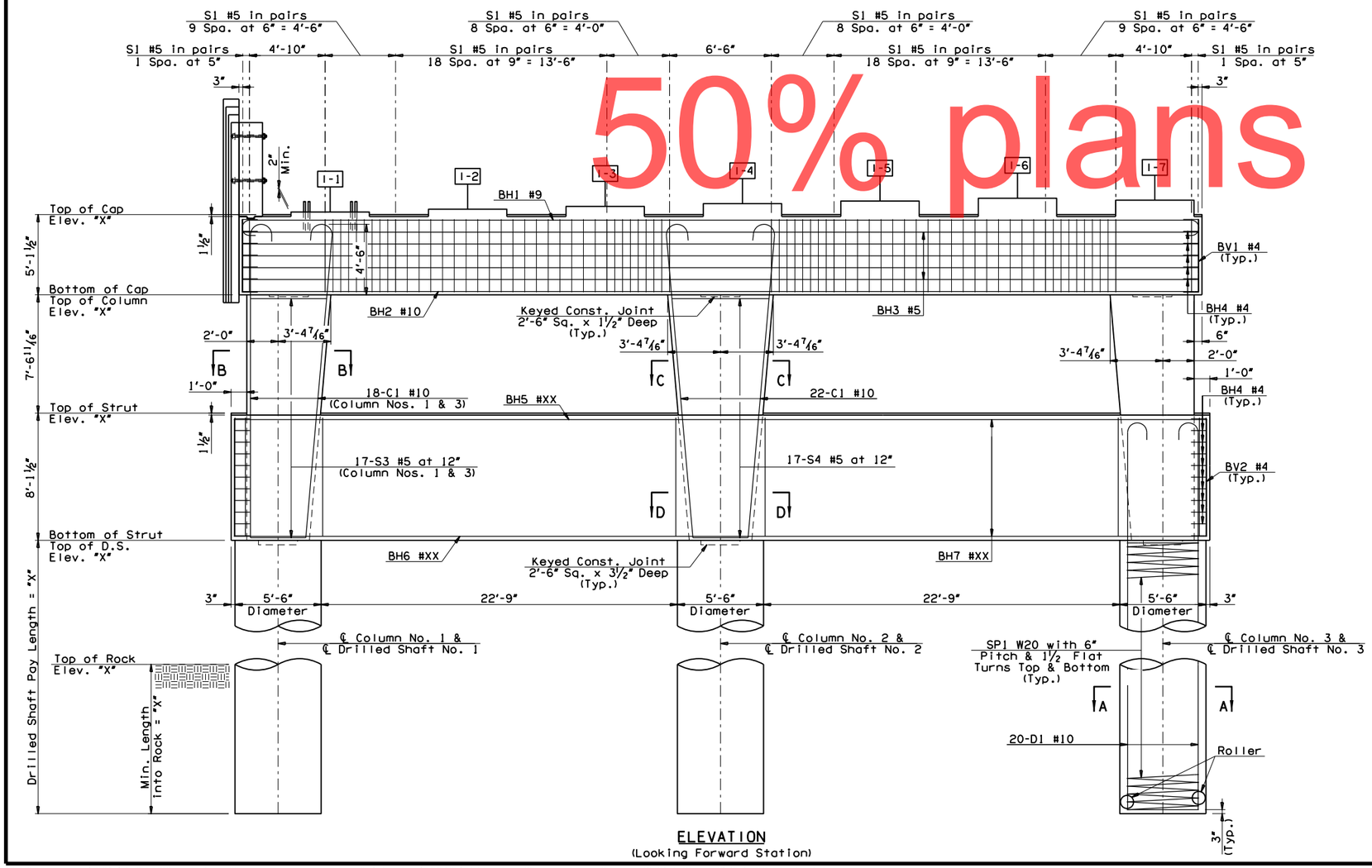
PLAN



ANCHOR BOLT DETAIL - PIER NO. 1



ANCHOR BOLT DETAIL - PIER NO. 2



ELEVATION
(Looking Forward Station)

50% plans

NOTES:
For additional reinforcement details, section views, summary of quantities, and table of elevations see Sheet No. B1006.

For Water Repellent Details, see Sheet No. BSTA01.

For Shield Details, see Sheet Nos. BSTA07 - BSTA09.

For Riser Details, see Sheet No. BSTA06.

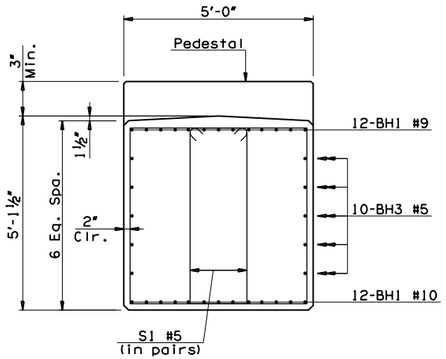
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)
PIER DETAILS
(SHEET 1 OF 3)

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

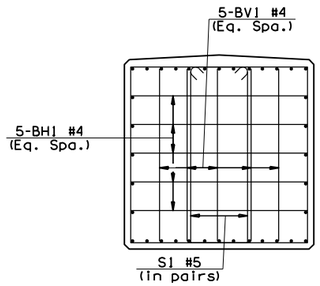
DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1004

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

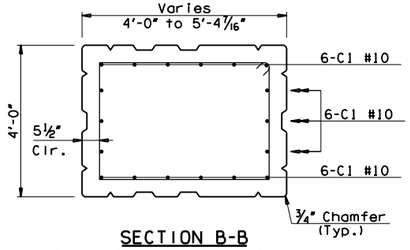
PROPOSED
R/W
10/23/2017



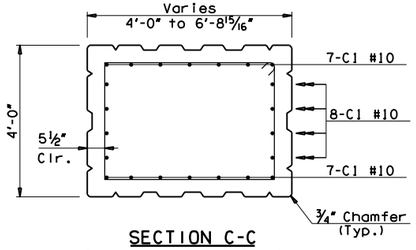
TYPICAL SECTION THRU CAP



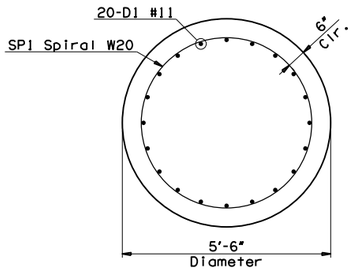
END OF PIER CAP REINFORCING



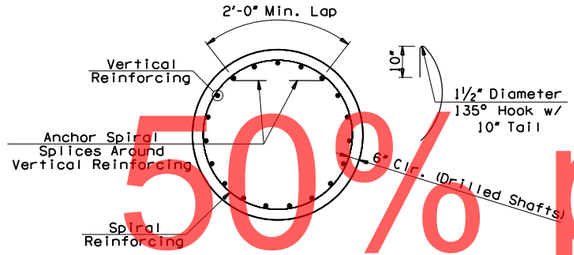
SECTION B-B
(Column Nos. 1 & 3 Reinforcing)



SECTION C-C
(Column No. 2 Reinforcing)

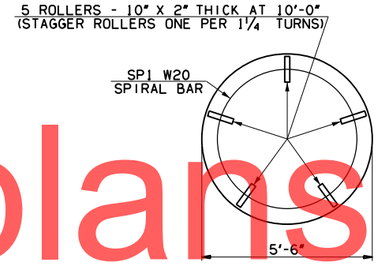


SECTION A-A



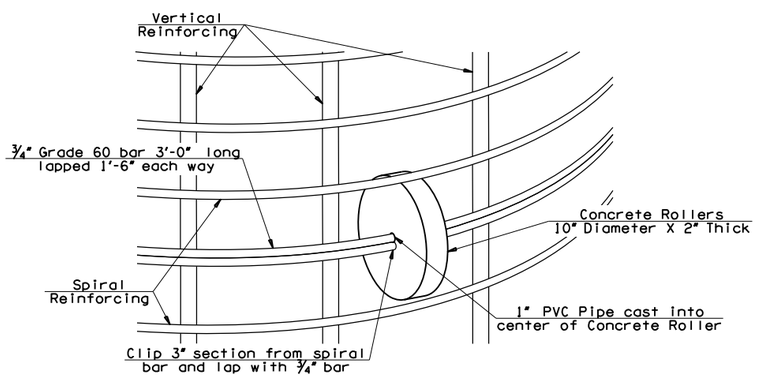
DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



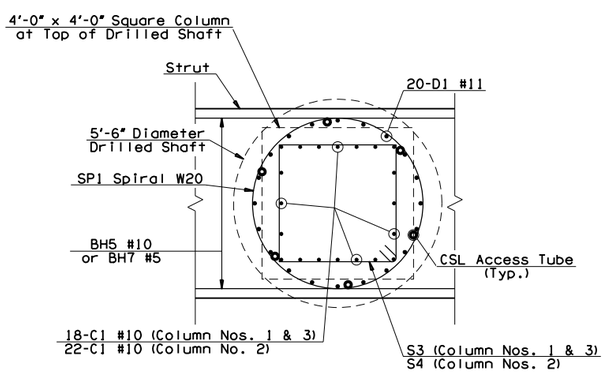
DETAIL OF ROLLER PLACEMENT

50% plans



DETAILS OF CONCRETE ROLLER INSTALLATION

NOTE:
Concrete used in the Concrete Rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab Bolsters, High Chairs and Plastic Rollers shall not be substituted for the Concrete Rollers.



SECTION D-D

SUGGESTED ORDER OF PLACEMENT:
D1 #10 Bars, SP1, CSL Access Tubes, S #5 Bars, C #10 Bars, BH Bars. Adjust spacing of reinforcing bars as required.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

PIER DETAILS
(SHEET 2 OF 3)

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

DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1005

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

PROPOSED R/W
10/23/2017

4 DRILLED SHAFTS - PIER 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1				
SP2				

4 DRILLED SHAFTS - PIER 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1				
SP2				

BAR LIST - PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1				
BH2				
BH3				
BH4				
BH5				
BH6				
BV1				
BV2				
C1				
C2				
C3				
C4				
P1				
P2				
S1				
S2				
T1				
T2				

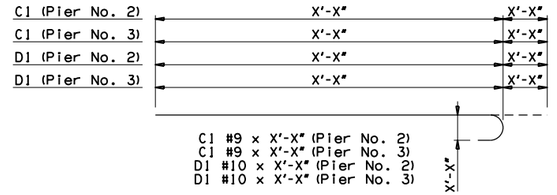
BAR LIST - PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1				
BH2				
BH3				
BH4				
BH5				
BH6				
BV1				
BV2				
C1				
C2				
C3				
C4				
P1				
P2				
S1				
S2				
T1				
T2				

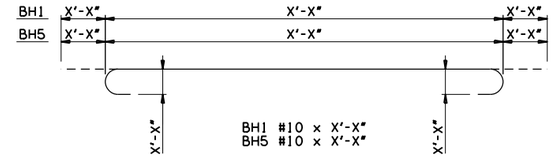
50% plans

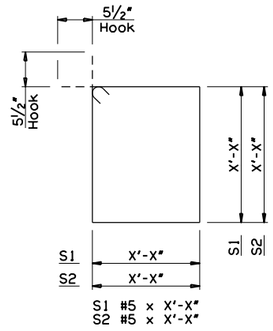
SUMMARY OF QUANTITIES - PIER NOS. 1 - 2				
ITEM	UNIT	PIER NO. 1	PIER NO.2	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	X.XX	X.XX	X.XX
CLASS A CONCRETE	C.Y.	X.XX	X.XX	X.XX
REINFORCING STEEL	LB.	X.XX	X.XX	X.XX
EPOXY COATED REINFORCING STEEL	LB.	X.XX	X.XX	X.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	X.XX	X.XX	X.XX
DRILLED SHAFTS 78" DIAMETER	L.F.	X.XX	X.XX	X.XX
CROSSHOLE SONIC LOGGING	EA.	X.XX	X.XX	X.XX

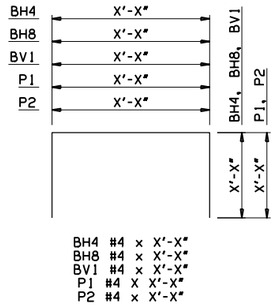
PEDESTAL ELEVATIONS							
PIER NO.	SB-A	SB-B	SB-C	SB-D	SB-E	SB-F	SB-G
1	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX
2	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX

TABLE OF VARIABLES									
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	LENGTH "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "M"	LENGTH "O"
1	XXX+XX.XX	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"
2	XXX+XX.XX	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"	XX'-X"









OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

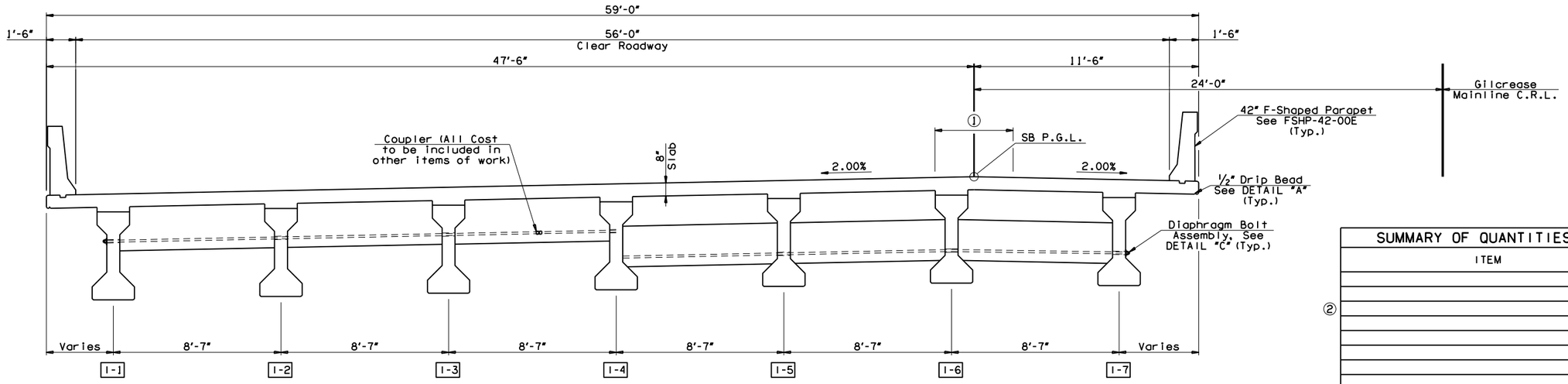
PIER DETAILS
(SHEET 3 OF 3)

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

DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1006

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

PROPOSED R/W
10/23/2017



HALF SECTION AT END DIAPHRAGM

HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

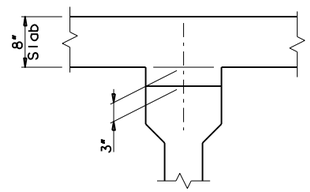
① Round 2'-0" each side of P.G.L. to avoid sharp edges.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE

ITEM	UNIT	TOTAL
②		

② Includes a calculated XX.X0 C.Y. of Class AA Concrete in the Haunches.

50% plans



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 bottom of Deck Slab to Top of 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.

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".

NOTES:
See Sheet Nos. B1009 - B1011 for deck reinforcing layout.

For Water Repellent Details, DETAIL "A", & DETAIL "C", see Sheet No. BSTA01

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

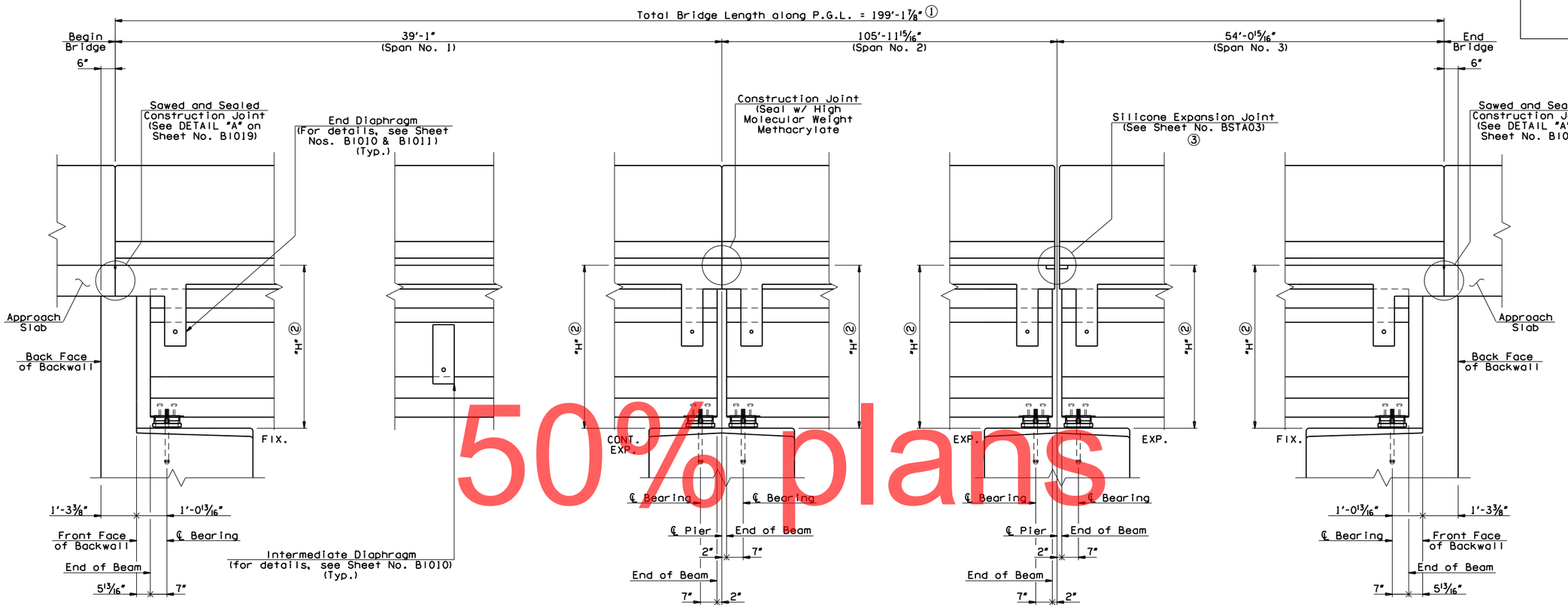
TYPICAL SECTION

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

DESIGNED	DPE	7/17	CONTRACT NO. GCT-2500	
DETAILED	JMQ	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1007

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

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2

LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

50% plans

① Measured along P.G.L.

② Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

③ For Expansion Joint Opening Equation, see Sheet No. B1011.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.

NOTE:

Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

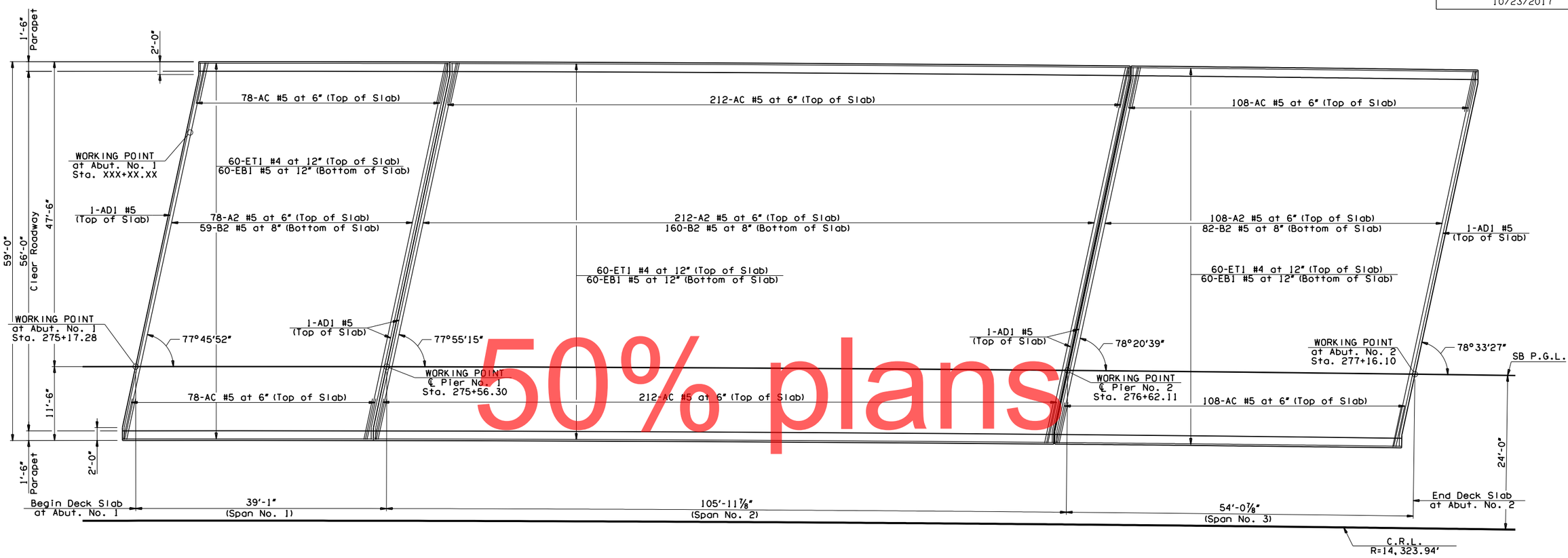
LONGITUDINAL SECTION

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

DESIGNED	DPE	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. B1008

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

PROPOSED R/W
10/23/2017



50% plans

SPAN NOS. 1 - 3
(Showing Top & Bottom of Slab Reinforcing Steel)

NOTES:

See Sheet No. B1012 for bar list and bar bends.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. B1011 for details.

42" F-Shaped Parapet reinforcing not shown for clarity. See Sheet No. B1012 and Std. FSHP-42-2-00E for details.

Rotate hooks on A1 and AC Bars to maintain minimum clearance.

All lap lengths shall be staggered.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. 1 GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

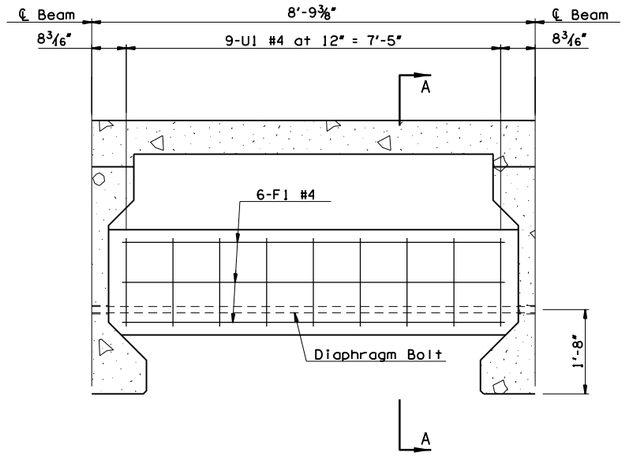
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

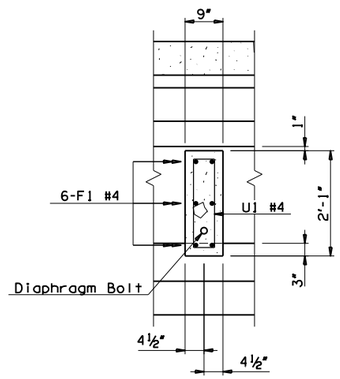
DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1009

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

PROPOSED
R/W
10/23/2017



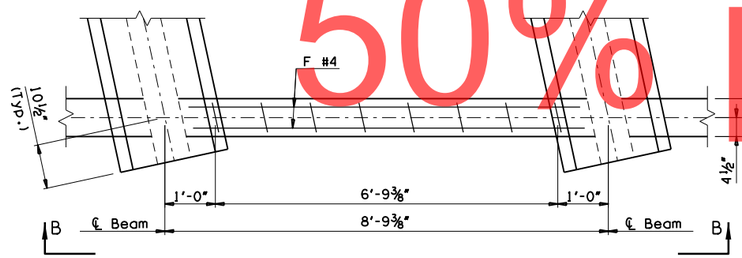
TYPE IV - INTERMEDIATE DIAPHRAGM
(1 Intermediate Diaphragm (Span Nos. 1 & 3))
(2 Intermediate Diaphragm (Span No. 2))



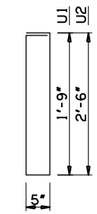
SECTION A-A

INTERMEDIATE & END DIAPHRAGM BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
F1	#4	XXX	STR.	10'-4"
F2	#6	xxx	STR.	9'-4"
F2	#6	xxx	STR.	9'-4"
U1	#4	xxx	BENT	4'-9"
U2	#4	xxx	BENT	6'-3"

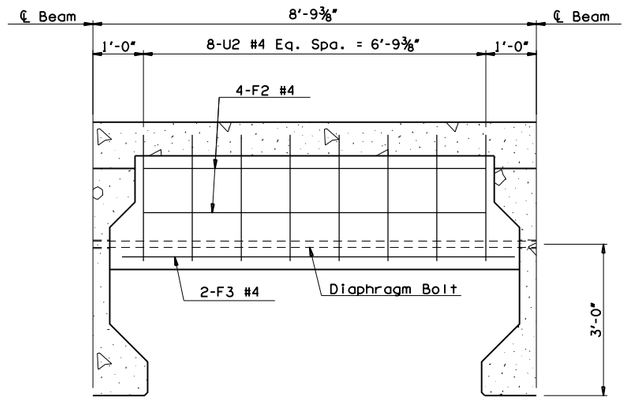
50% plans



TYPE IV - END DIAPHRAGM



U1 #4 x 4'-9"
U2 #4 x 6'-3"



SECTION B-B

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

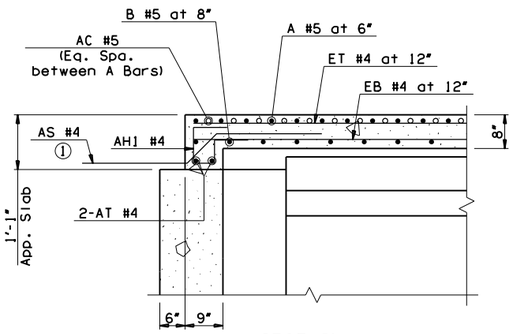
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

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

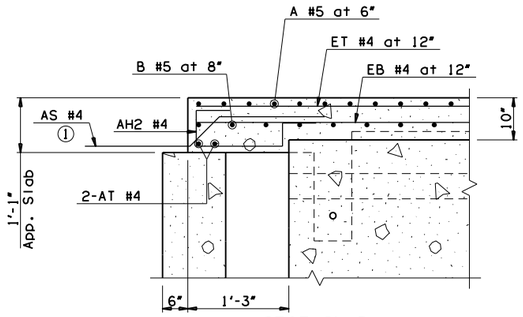
DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1010

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

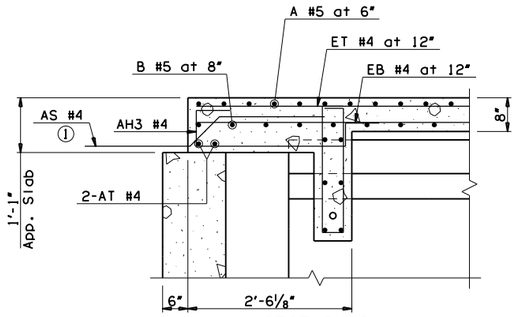
PROPOSED
R/W
10/23/2017



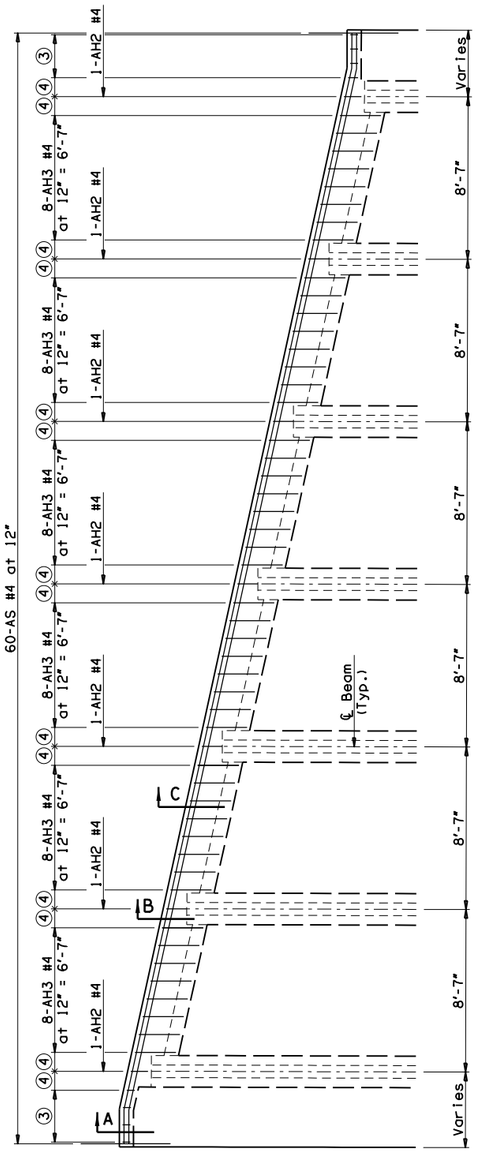
SECTION A



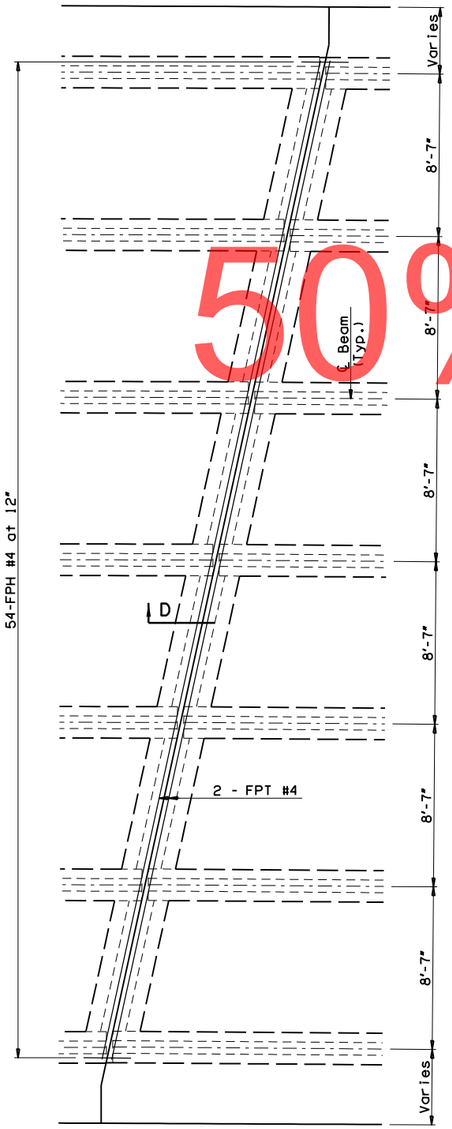
SECTION B



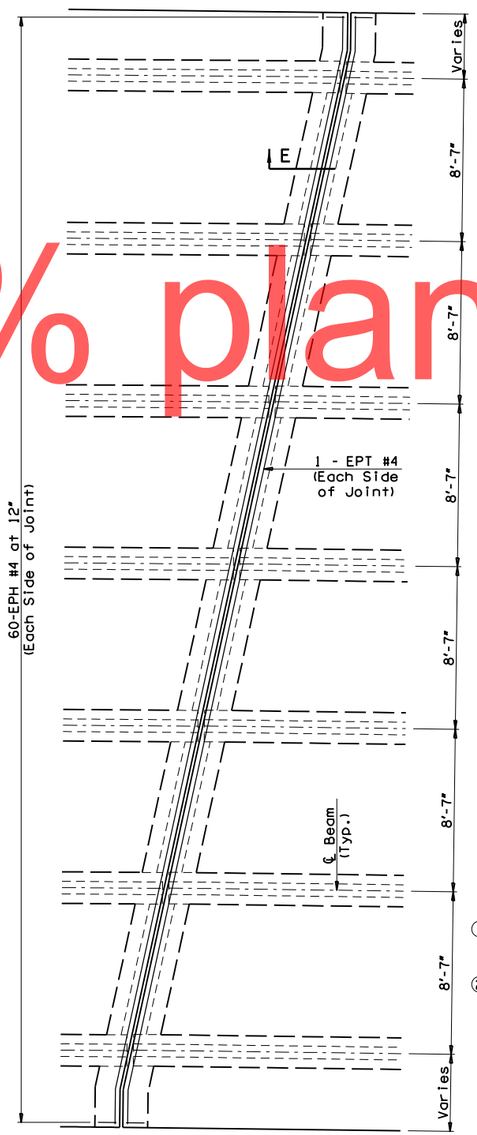
SECTION C



ABUTMENTS

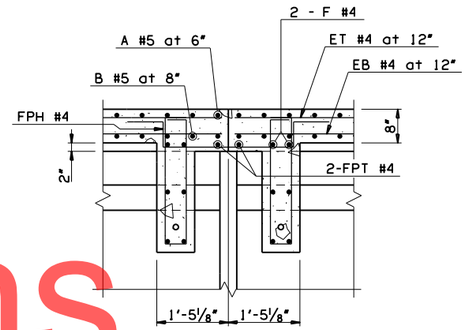


CONTINUOUS EXPANSION PIER NO. 1

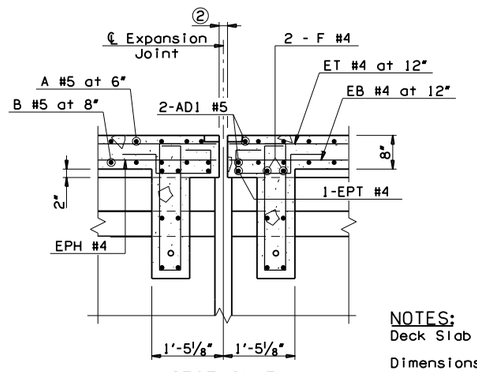


EXPANSION PIER NO. 2

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS



SECTION D



SECTION E

NOTES;
Deck Slab reinforcement not shown for clarity.

Dimensions in SECTION A thru E are taken along ℄ beam.

SILICONE JOINT SEALANT NOTE;
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

① Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

② The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

X.XXXXX - (0.XXXXX x T)

Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint Opening shall be measured perpendicular to the joint.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

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

DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1011

① Construction Joint. Horizontal reinforcing shall end 2" either side of this joint.

② West parapet only.

③ Openings are in East parapet only.

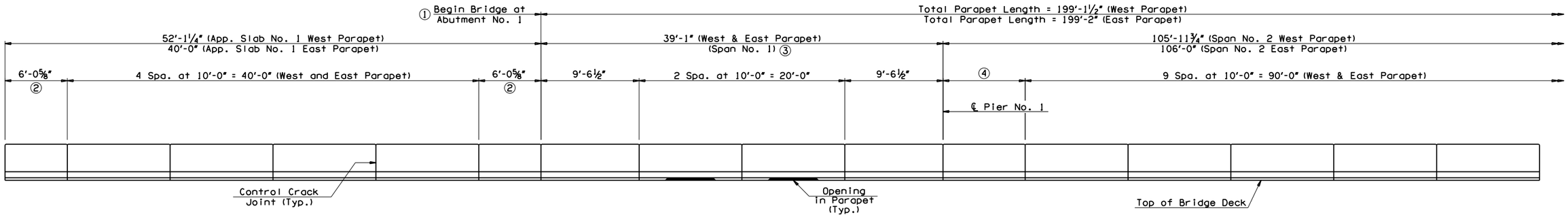
④ 7'-11⅞" (West Parapet)
8'-0" (East Parapet)

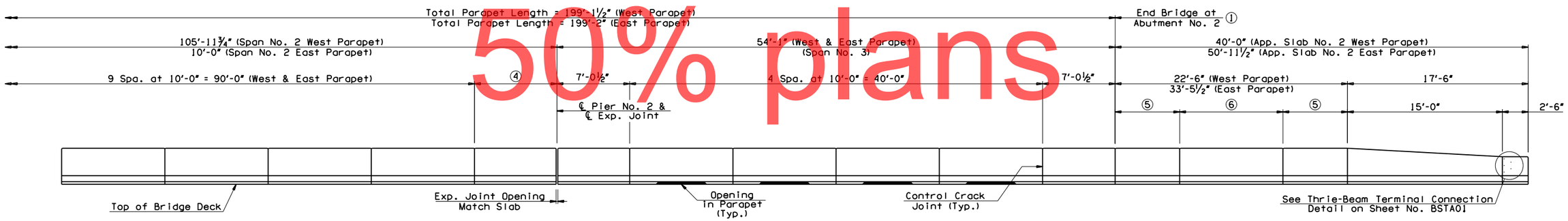
⑤ 6'-3" (West Parapet)
6'-8¾" (East Parapet)

⑥ 10'-0" (West Parapet)
2 Spa at 10'-0" = 20'-0" (East Parapet)

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

PROPOSED R/W
10/23/2017





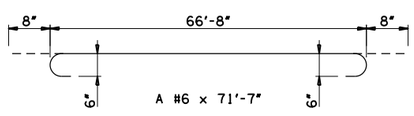
50% plans

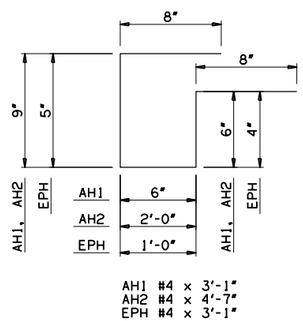
42" F-SHAPED PARAPET LAYOUT - WITH OPENINGS
(West Parapet Shown, East Parapet Similar)

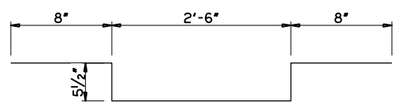
BAR LIST - SUPERSTRUCTURE

MARK	SIZE	NO.	FORM	LENGTH	VARIATION
EPOXY COATED REINFORCING STEEL					

① Includes One 3'-7" Lap Length.
② Includes One 2'-5" Lap Length.
③ Includes One 2'-0" Lap Length.







NOTES:
For details showing the Parapet reinforcement layout, see bar bends and Std. FSHP-42-2-00E.

Dimensions shown are taken from inside face of Parapet.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

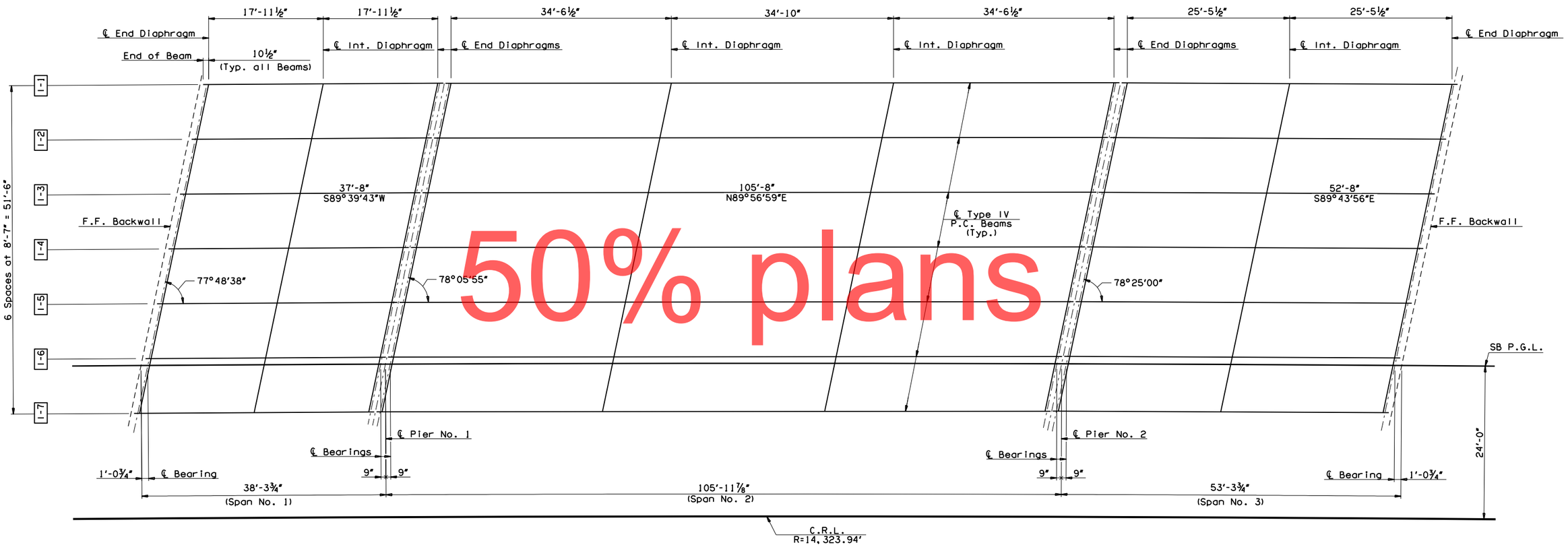
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	REH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1012

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

PROPOSED R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 - 3

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. 1 GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

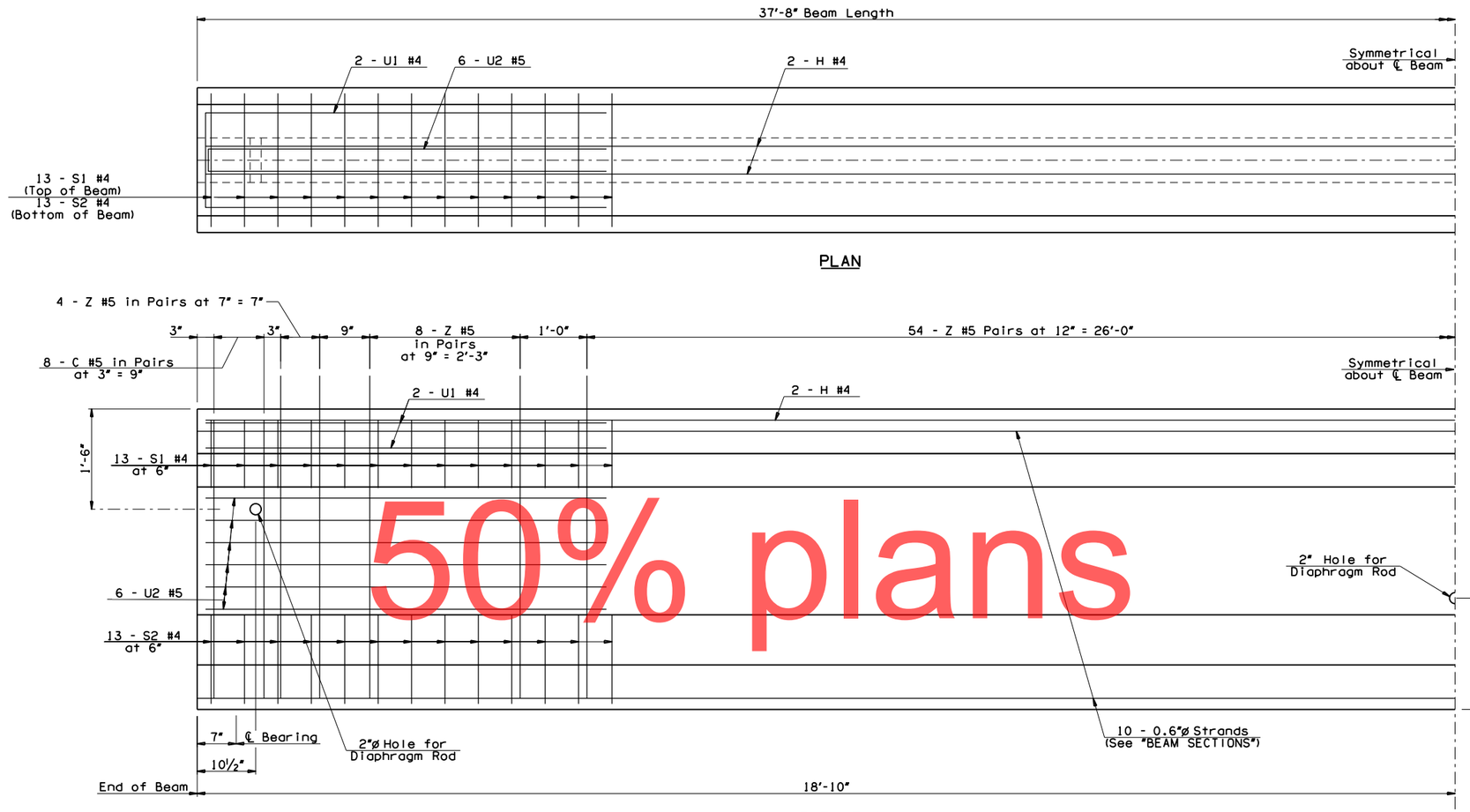
FRAMING PLAN

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

DESIGNED	DPE	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1013

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

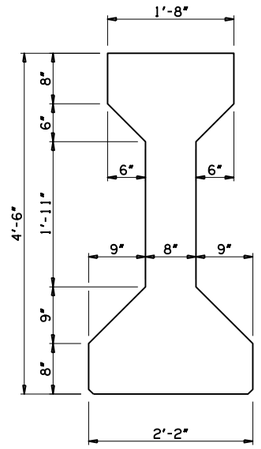
PROPOSED R/W
10/23/2017



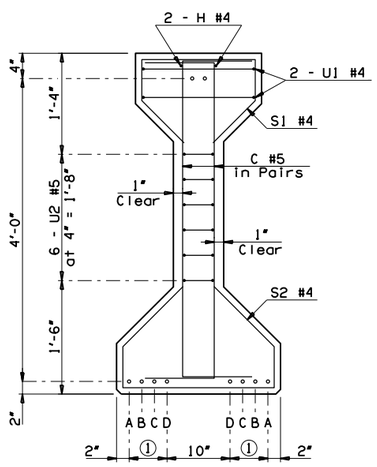
PLAN

ELEVATION

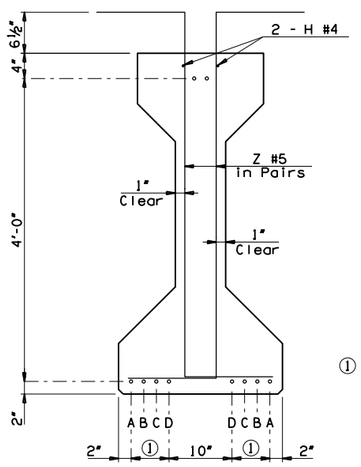
50% plans



END VIEW
(Type IV P.C.B.)



END SECTION



℄ SECTION

① 3 Spaces at 2" = 6"

BEAM SECTIONS
10 - 0.6"ø Strands

NOTE:
For bar bends, embedded plate details and dead load deflection diagrams, see Sheet No. B1017.

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
The required compressive strength of the concrete is 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
The required strand type is low-relaxation. Use strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LFR OPERATING RATING - HS XX.X
LRFR OPERATING RATING - X.XX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

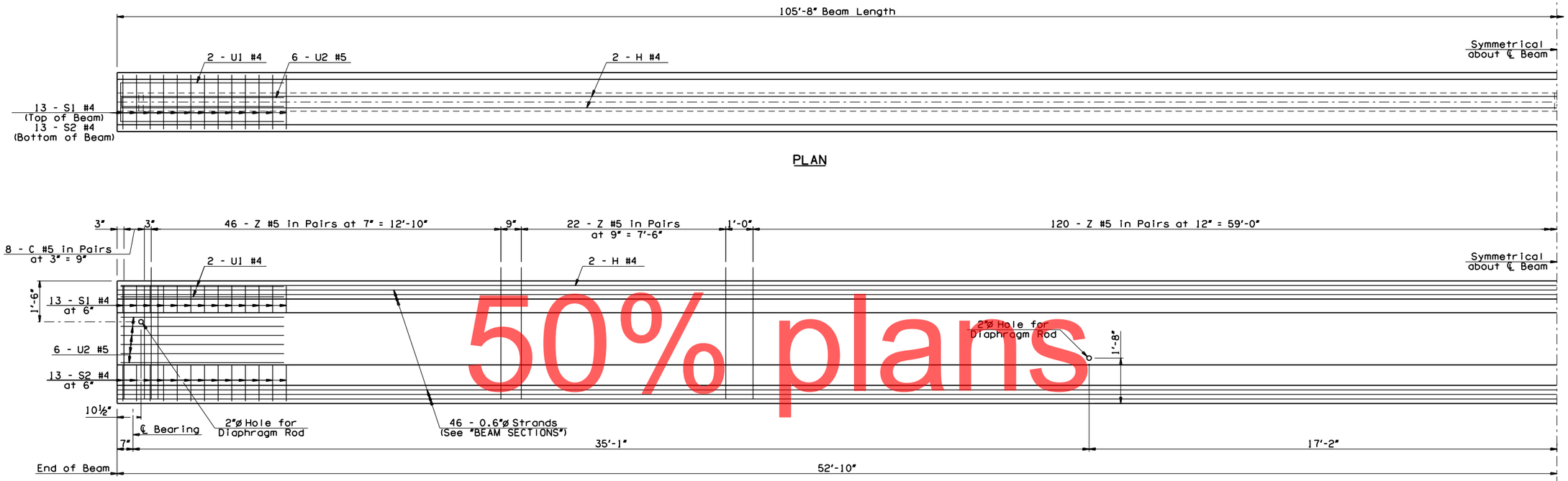
37'-8" BEAM DETAILS

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1014

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

PROPOSED R/W
10/23/2017

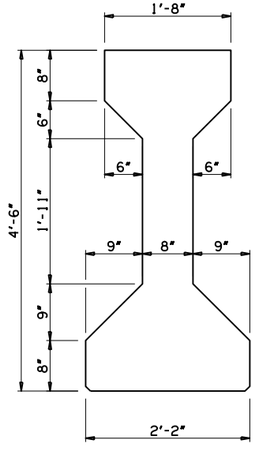


PLAN

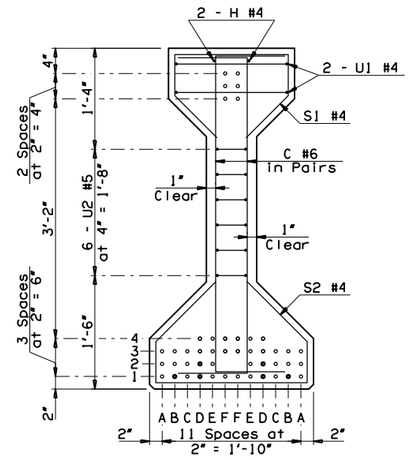
ELEVATION

50% plans

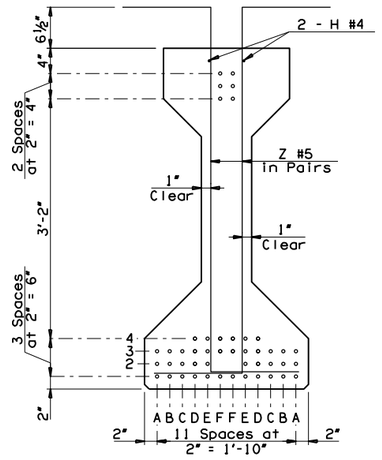
DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1 & D1	10'-0"
D2	4'-0"
C2	4'-0"



END VIEW



END SECTION



℄ SECTION

BEAM SECTIONS
46 - 0.6"ø Strands

NOTE:
For bar bends, embedded plate details and dead load deflection diagrams, see Sheet No. B1017.

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
The required compressive strength of the concrete is 4,500 p.s.i at transfer of prestress and 6,000 p.s.i at 28 days.

STRAND TYPE
The required strand type is low-relaxation. Use strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS XX.X
LRFR OPERATING RATING - X.XX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

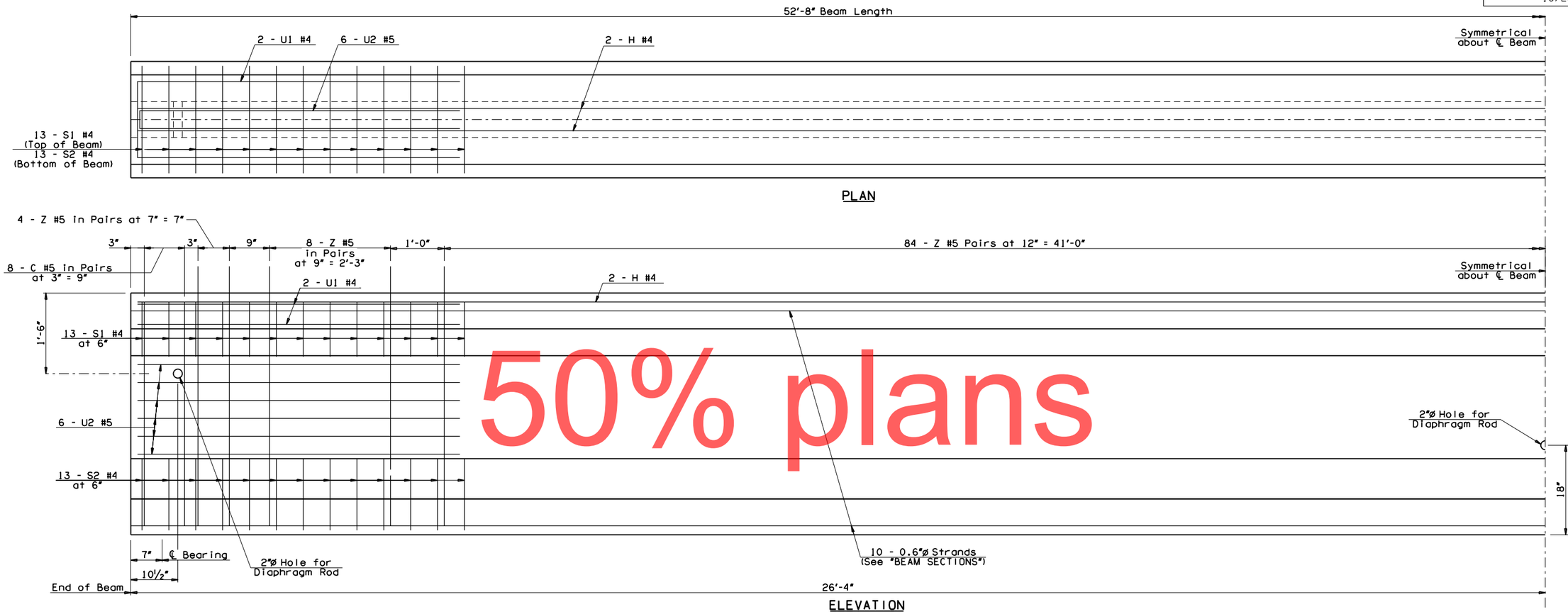
105'-8" BEAM DETAILS

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

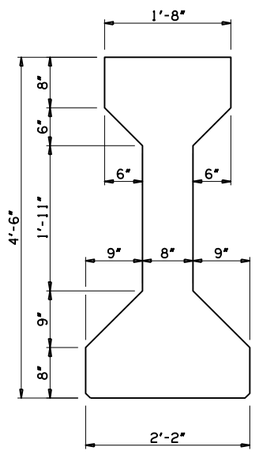
DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17	DATE: 10/23/2017	SHEET NO. B1015
CHECKED	MJY	10/17		

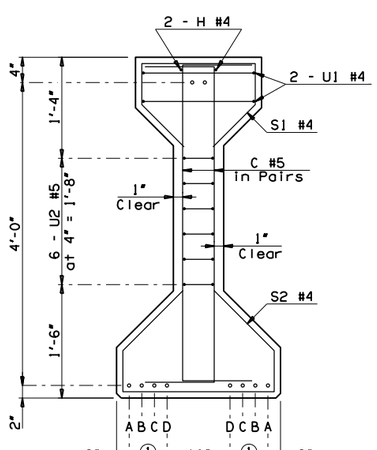
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

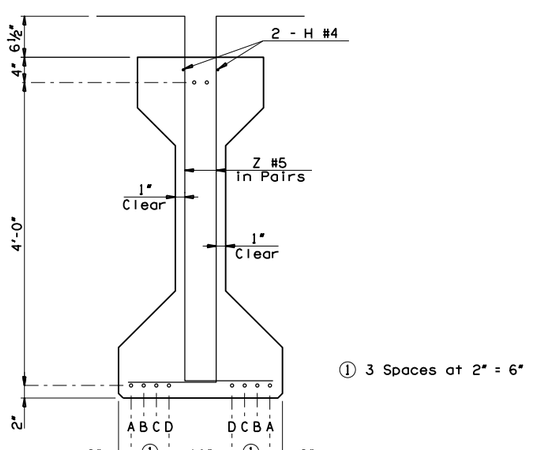
PROPOSED R/W
10/23/2017



50% plans







① 3 Spaces at 2" = 6"

BEAM SECTIONS
10 - 0.6"ø Strands

NOTE:
For bar bends, embedded plate details and dead load deflection diagrams, see Sheet No. B1017.

PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
The required compressive strength of the concrete is 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

STRAND TYPE
The required strand type is low-relaxation. Use strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS XX.X
LRFR OPERATING RATING - X.XX
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

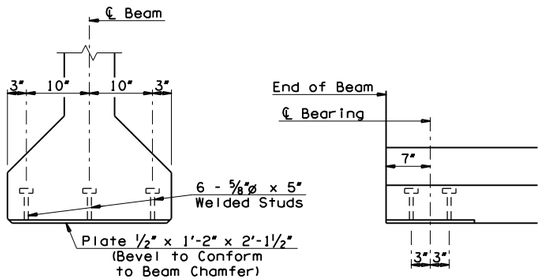
52'-8" BEAM DETAILS

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1016

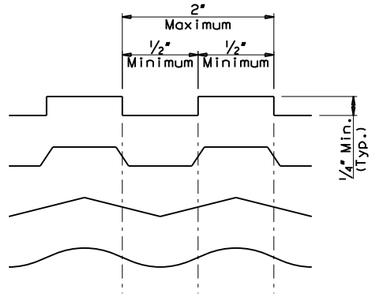
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



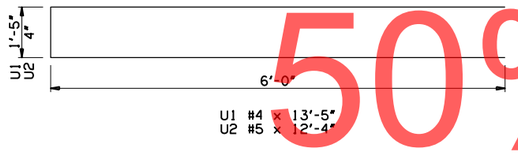
EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate at each end of the Beam.

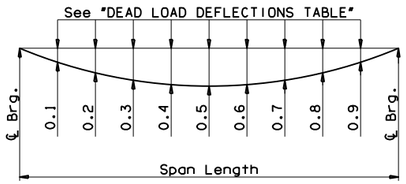


INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



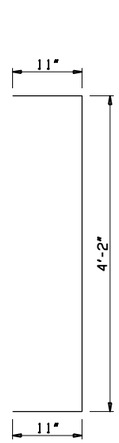
50% plans



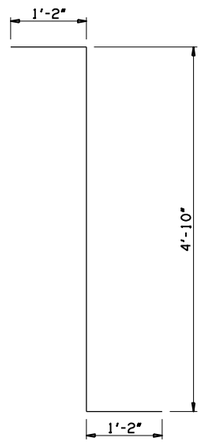
DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

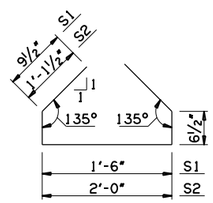
DEAD LOAD DEFLECTIONS TABLE						
SPAN NO.	BEAM NO(S).	LOCATION				
		0.1L/0.9L	0.2L/0.8L	0.3L/0.7L	0.4L/0.6L	0.5L
1	1	.01	.02	.02	.03	.03
	2 - 6	.01	.02	.03	.03	.03
	7	.01	.02	.03	.03	.03
2	1	.50	.98	1.35	1.59	1.67
	2 - 6	.57	1.11	1.53	1.80	1.89
	7	.54	1.04	1.44	1.69	1.77
3	1	.03	.07	.10	.11	.12
	2 - 6	.04	.08	.11	.13	.13
	7	.04	.07	.10	.12	.13



C #6 x 6'-0"



Z #5 x 7'-2"
(Epoxy Coated)



S1 #4 x 4'-2"
S2 #4 x 5'-4"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

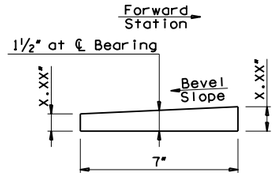
BEAM DETAILS

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1017

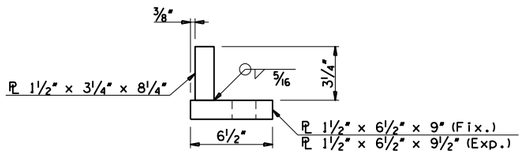
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

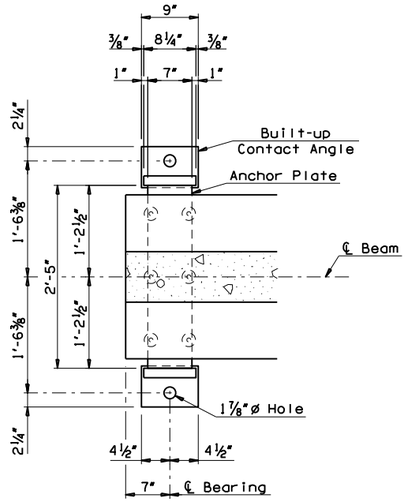


NOTE:
Paint thickest edge red.

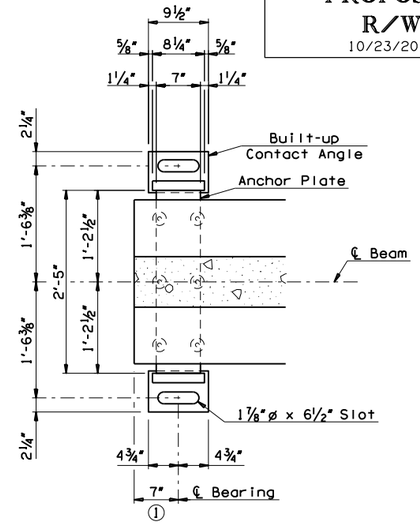
BEVELED ANCHOR PLATE DETAIL



BUILT-UP CONTACT ANGLE DETAIL



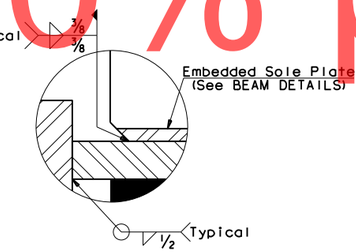
FIXED BEARING PLAN



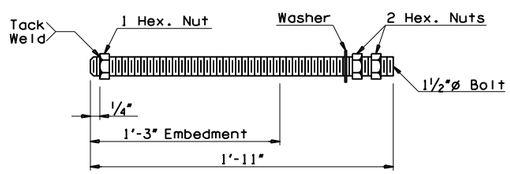
EXPANSION BEARING PLAN

(1) Anchor Bolts shall be centered in slots during setting of beams. Dimension may vary depending on temperature at the time of beam setting.

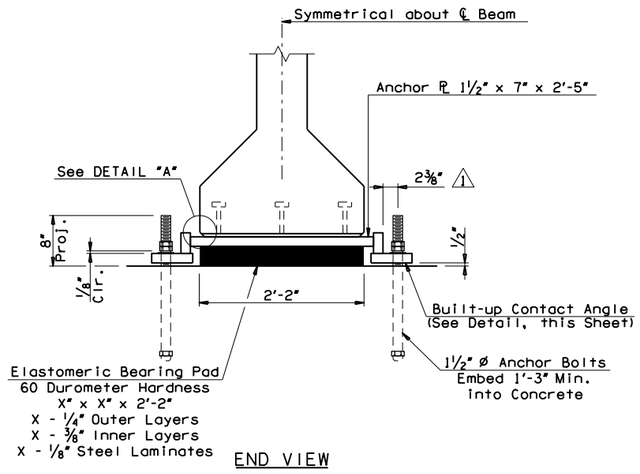
50% plans



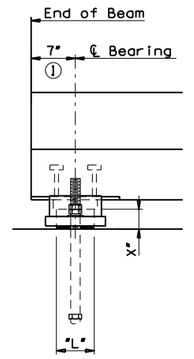
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



ELEVATION

BEARING DETAILS

BEARING ASSEMBLY NOTE:
Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required).

For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

The total estimated weight of Structural Steel per Bearing Assembly is as follows:

Fixed Bearings = 190.30 lbs.
Expansion Bearings = 193.00 lbs.

Bonding of Bearing Pad to Anchor Plate not required.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

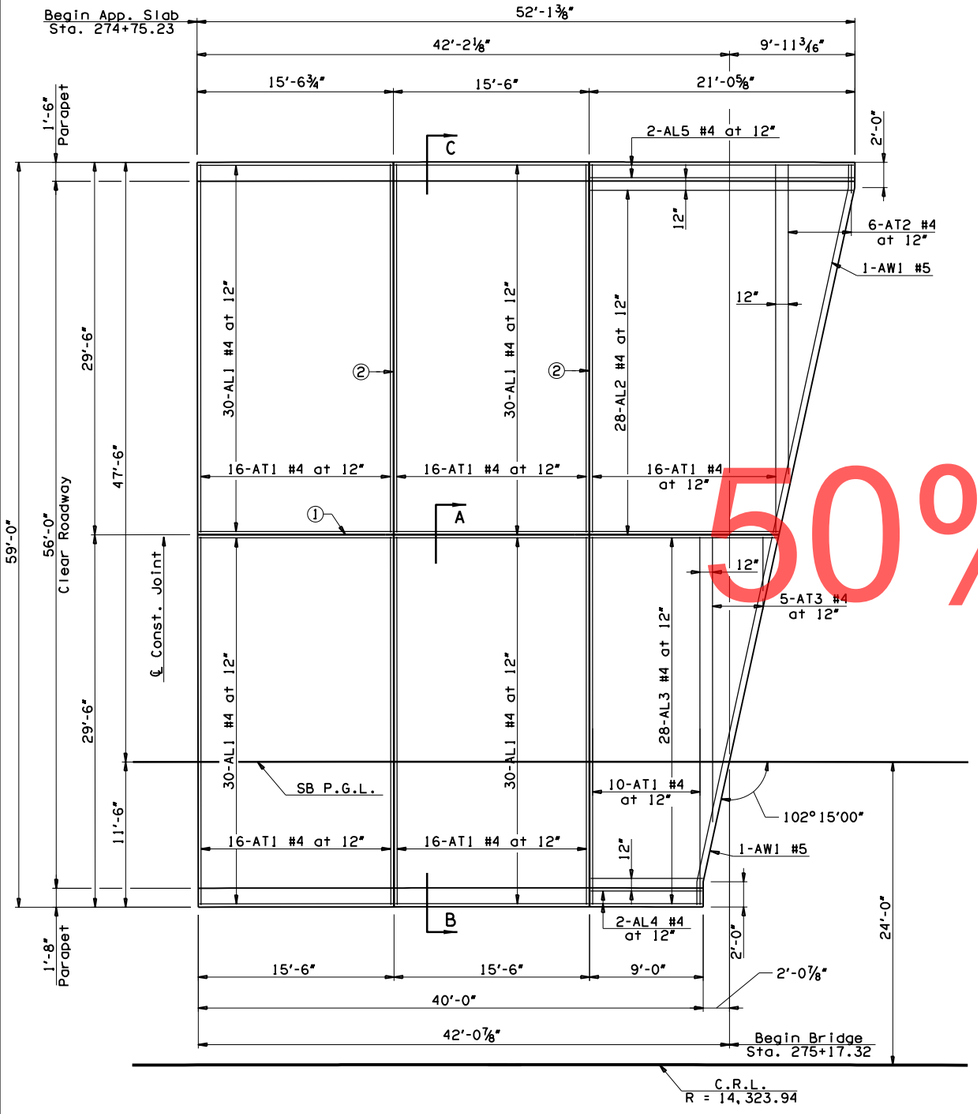
BEARING DETAILS

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

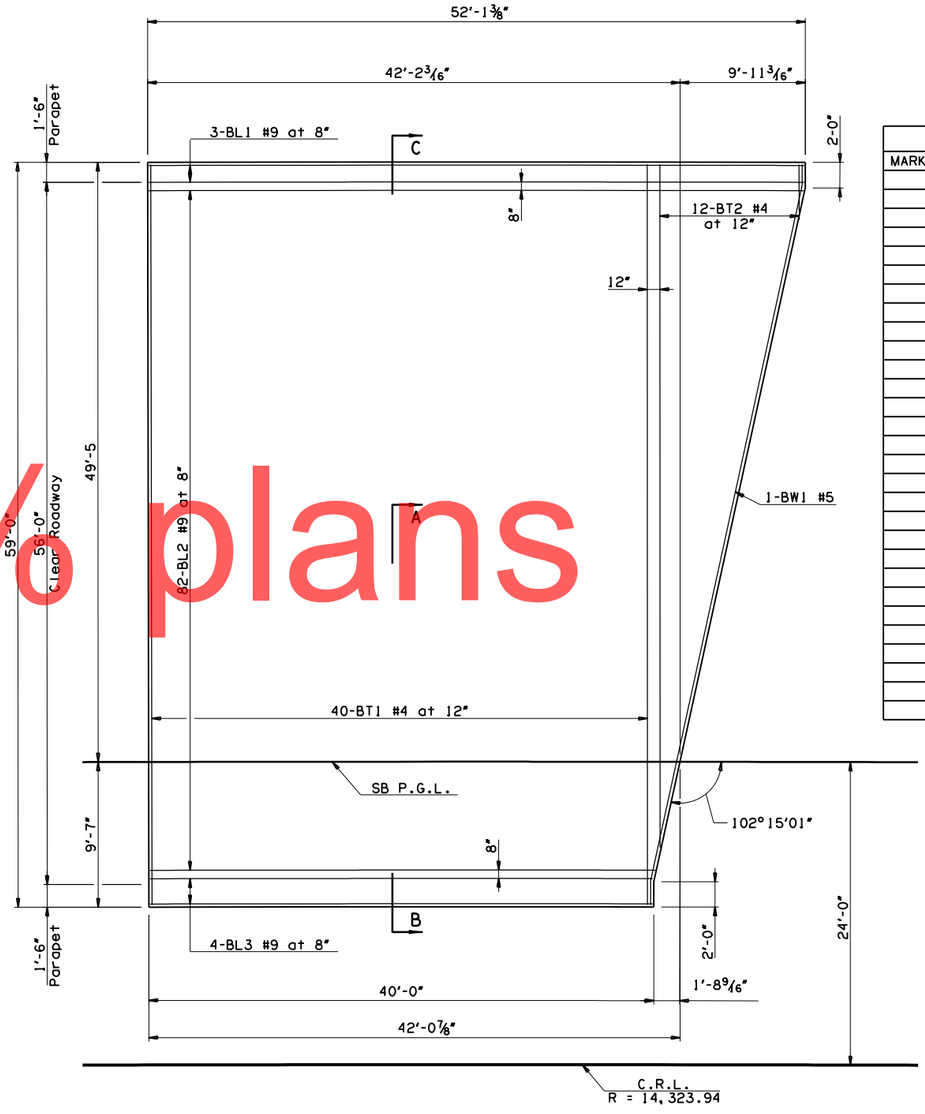
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DETAILED	JMQ	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1018

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

PROPOSED R/W
10/23/2017



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



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

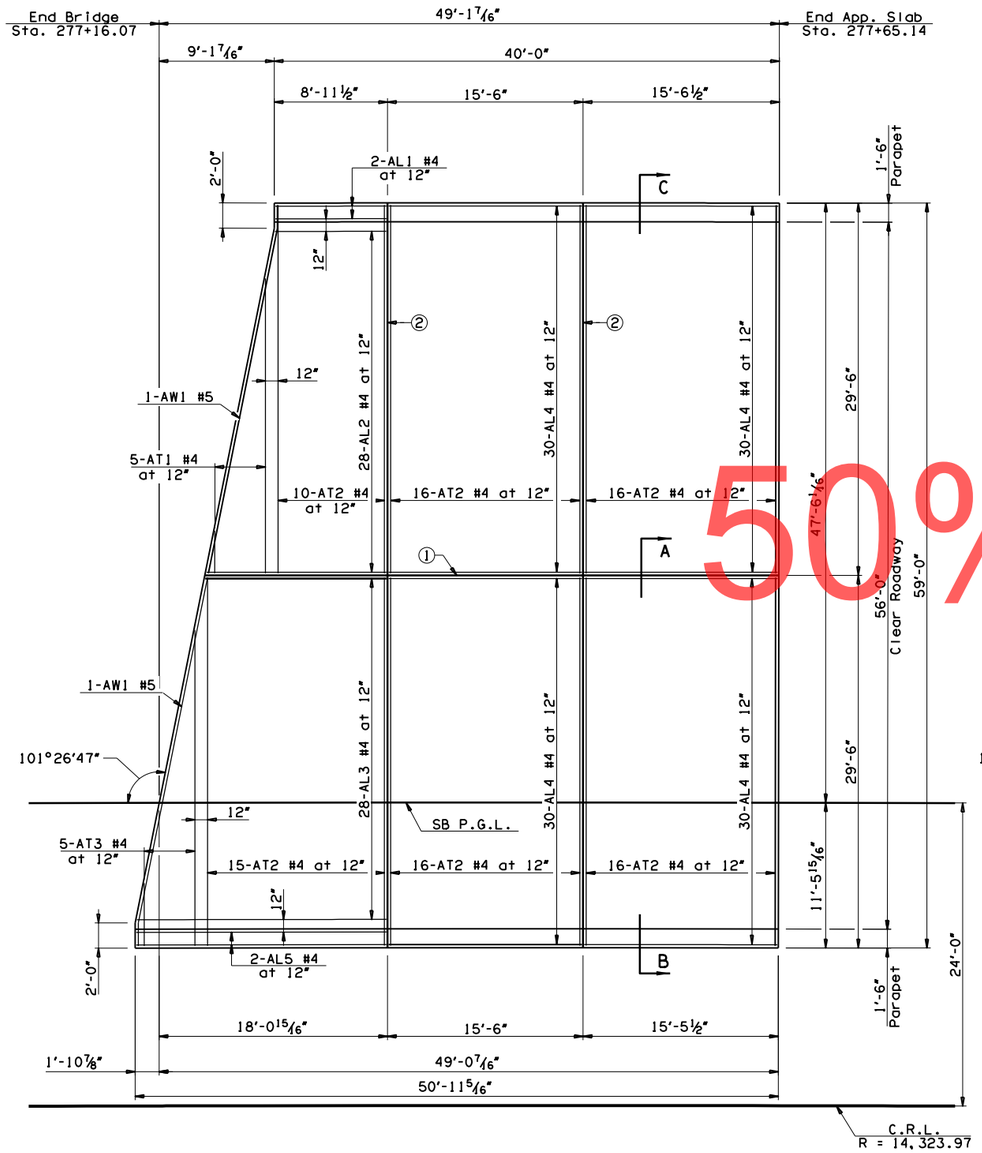
50% plans

BAR LIST - APPROACH SLAB NO. 1

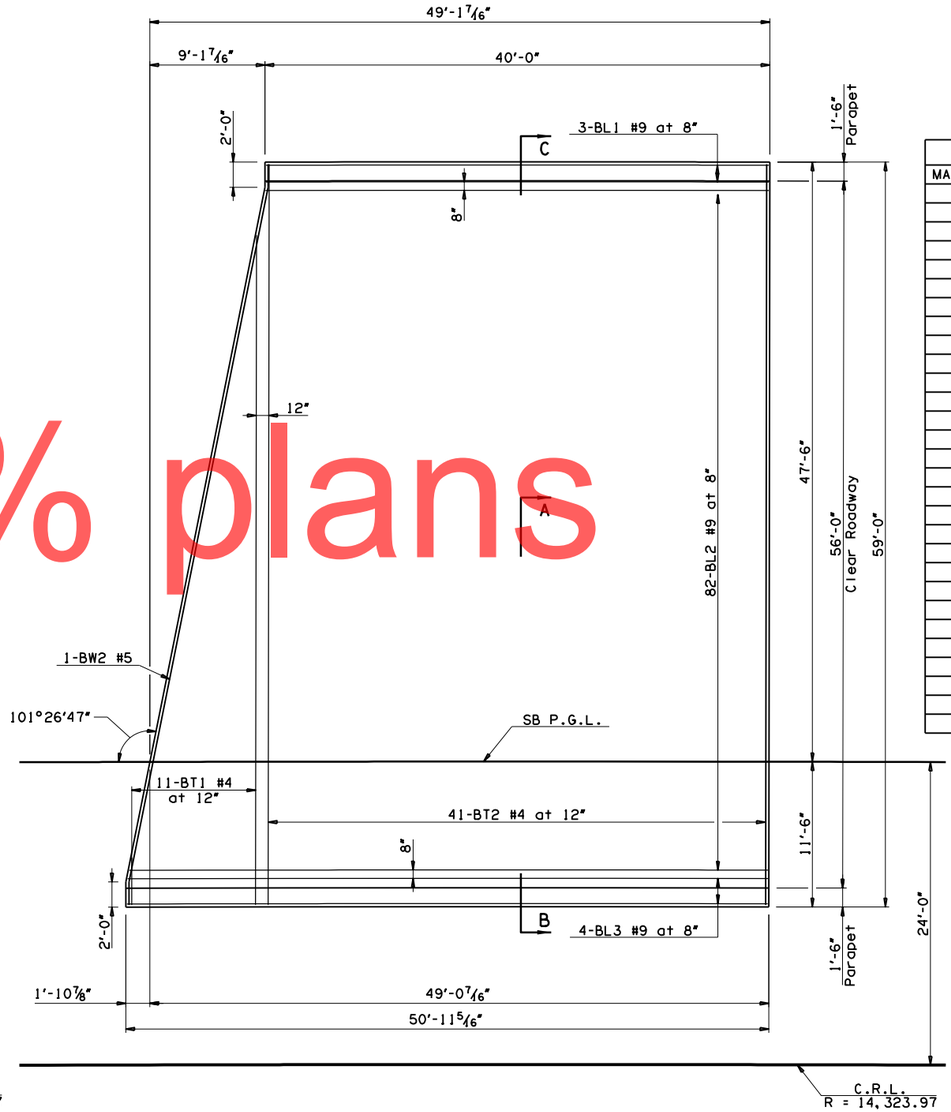
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					

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

PROPOSED R/W
10/23/2017



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



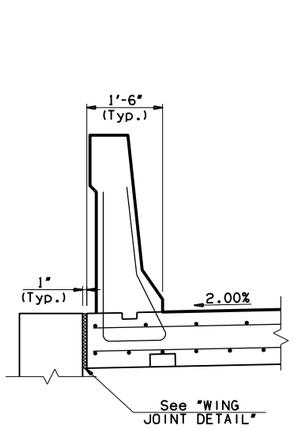
APPROACH SLAB AT ABUTMENT NO. 2
(Showing Bottom Mat of Reinforcing Steel)

BAR LIST - APPROACH SLAB NO. 2

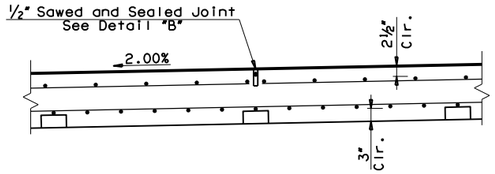
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					

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

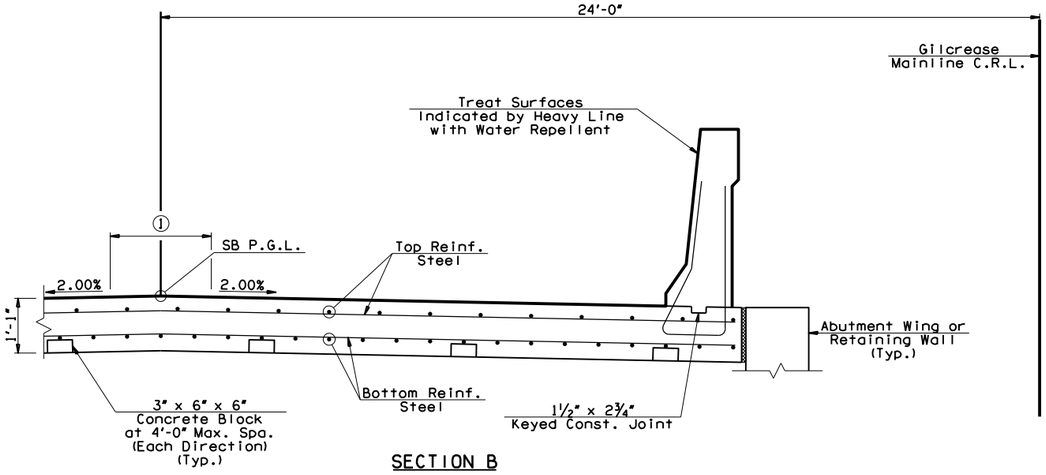
PROPOSED R/W
10/23/2017



SECTION C



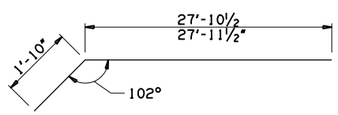
SECTION A THRU APPROACH SLAB



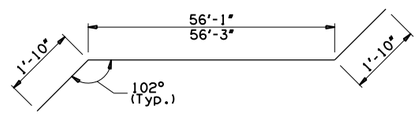
SECTION B

① Round 2'-0" each side of P.G.L. to avoid sharp edges.

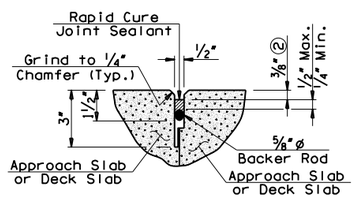
50% plans



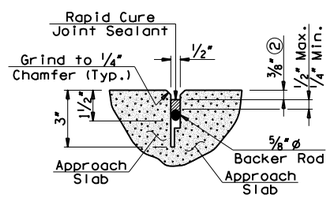
AWI SLAB 1 - #5 x 29'-9½"
AWI SLAB 2 - #5 X 29'-8½"



BWI SLAB 1 #5 x 59'-11"
BWI SLAB 2 #5 x 59'-9"

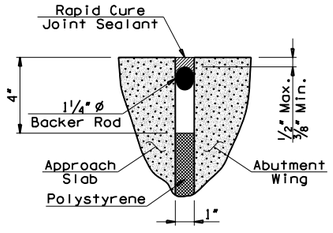


DETAIL "A"



DETAIL "B"

② This dimension shall taper from ⅜" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



WING JOINT DETAIL

SUMMARY OF QUANTITIES - APPROACH SLABS				
ITEM	UNIT	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
③④				

③ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including EPI bars), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

④ There is an estimated 57.20 C.Y. of Class AA Concrete and an estimated 10,520.00 LB. of Epoxy Coated Reinforcing Steel in Phase I Construction of Approach Slab No. 1. There is an estimated 98.60 C.Y. of Class AA Concrete and an estimated 19,690.00 LB. of Epoxy Coated Reinforcing Steel in Phase II Construction of Approach Slab No. 1.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. I GILCREASE SB OVER W. 21ST ST. (AVERY DR.)

APPROACH SLAB DETAILS
(SHEET 3 OF 3)

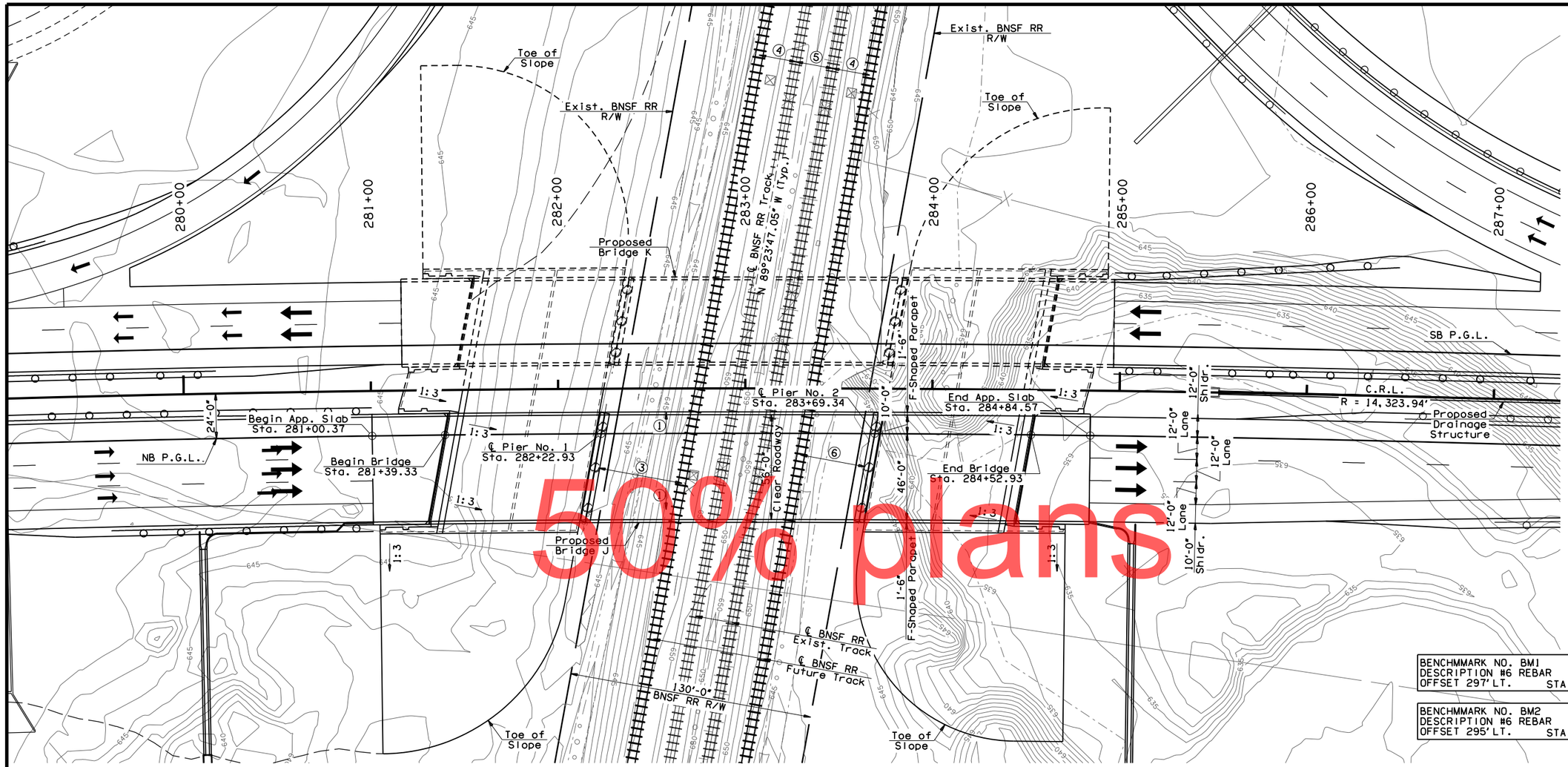
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	DPE	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. B1021

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

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'



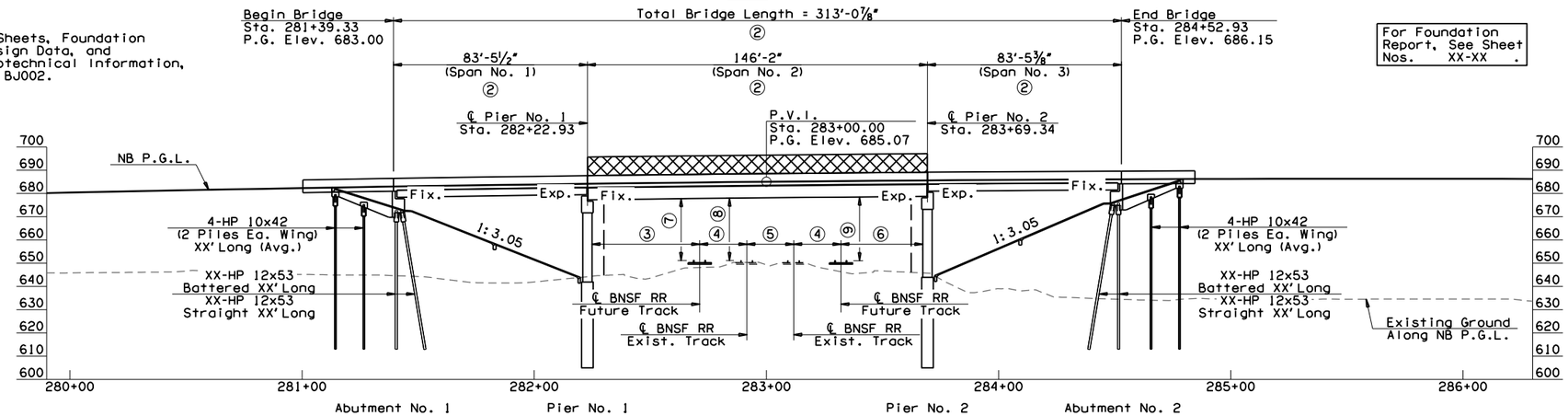
50% plans

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

BENCHMMARK NO. BM2		
DESCRIPTION #6 REBAR		
OFFSET 295' LT.	STA. 282+07.00	EL. 644.59

PLAN

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BJ002.



ELEVATION

For Foundation Report, See Sheet Nos. XX-XX .

① 0.02 ft./ft.
② Stations measured along C.R.L. Dimensions measured along N.B. P.G.L.
③ 45'-1⅛" Min. from face of column to ℄ of Future BNSF RR Track.
④ 20'-0" From ℄ Future BNSF RR Track to ℄ Existing BNSF RR Track.
⑤ 19'-9⅞" from ℄ Existing BNSF RR Track to ℄ Existing BNSF RR Track.
⑥ 34'-10⅜" Min. from Crashwall to ℄ of Future BNSF RR Track.
⑦ 26'-2" Min. Clearance at 9'-0" offset.
⑧ 26'-10" Min. Clearance at existing RR tracks.
⑨ 27'-1" Min. Clearance at 9'-0" offset.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BJ001

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BJ001-BJ002	General Plan and Elevation
BJ003	Staking Diagram
BJ004	Substructure Excavation and Pipe Underdrain Assembly
BJ005-BJ007	Pier Details
BJ008	Typical Section
BJ009	Longitudinal Section
BJ010-BJ013	Superstructure Details
BJ014	Framing Plan
BJ015	Rolled Beam Details
BJ016-BJ017	Plate Girder Details
BJ018	Bearing Details
BJ019	Fence Details
BJ020	Slope Wall Details
BJ021-BJ023	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

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) fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W) fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50) fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316) fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: 1.81

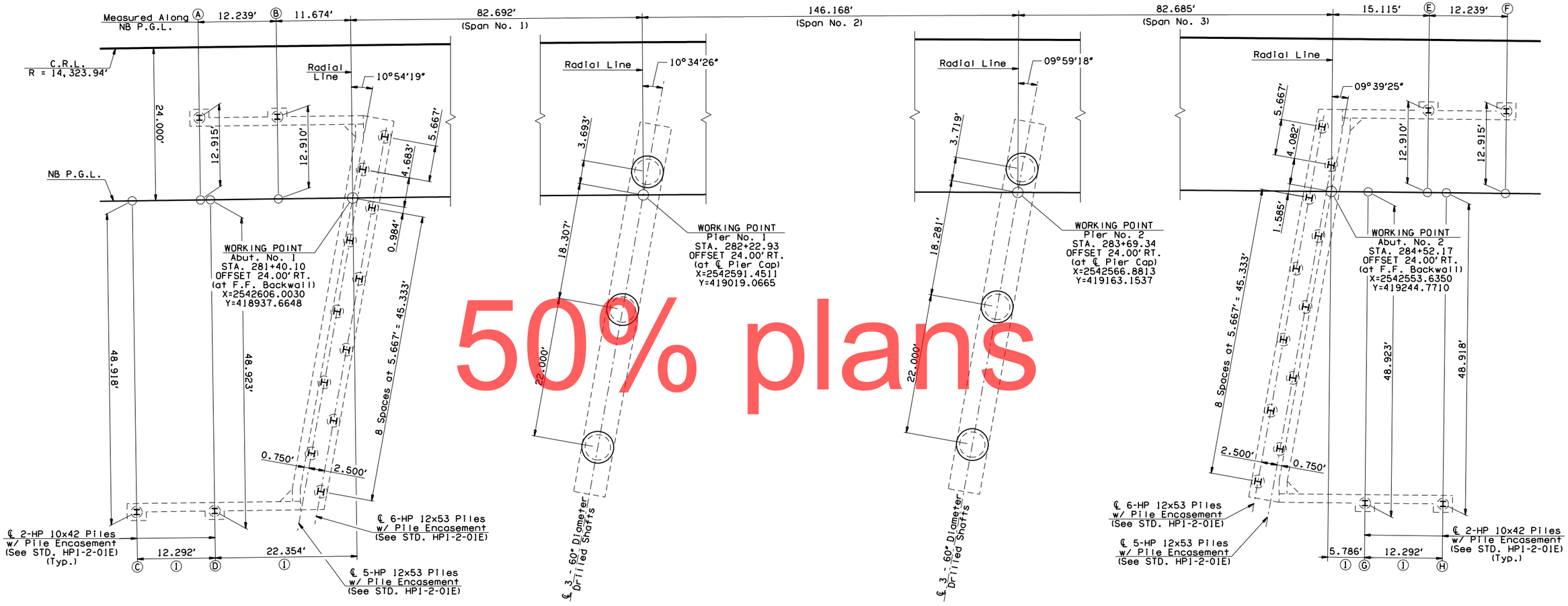
50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

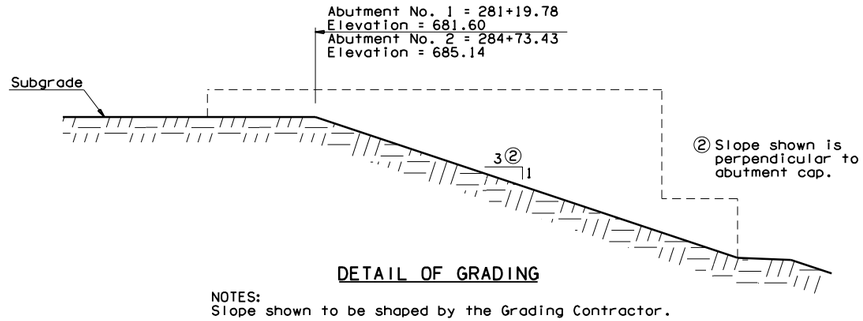
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.

Stations and elevations given are at NB P.G.L. and will vary across the width of the bridge.

① Measured along NB P.G.L.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	XXX.XX
B	XXX.XX
CAP	XXX.XX
C	XXX.XX
D	XXX.XX

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
E	XXX.XX
F	XXX.XX
CAP	XXX.XX
G	XXX.XX
H	XXX.XX

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

STAKING DIAGRAM

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ003

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

PROPOSED
R/W
10/23/2017

NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.

NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.

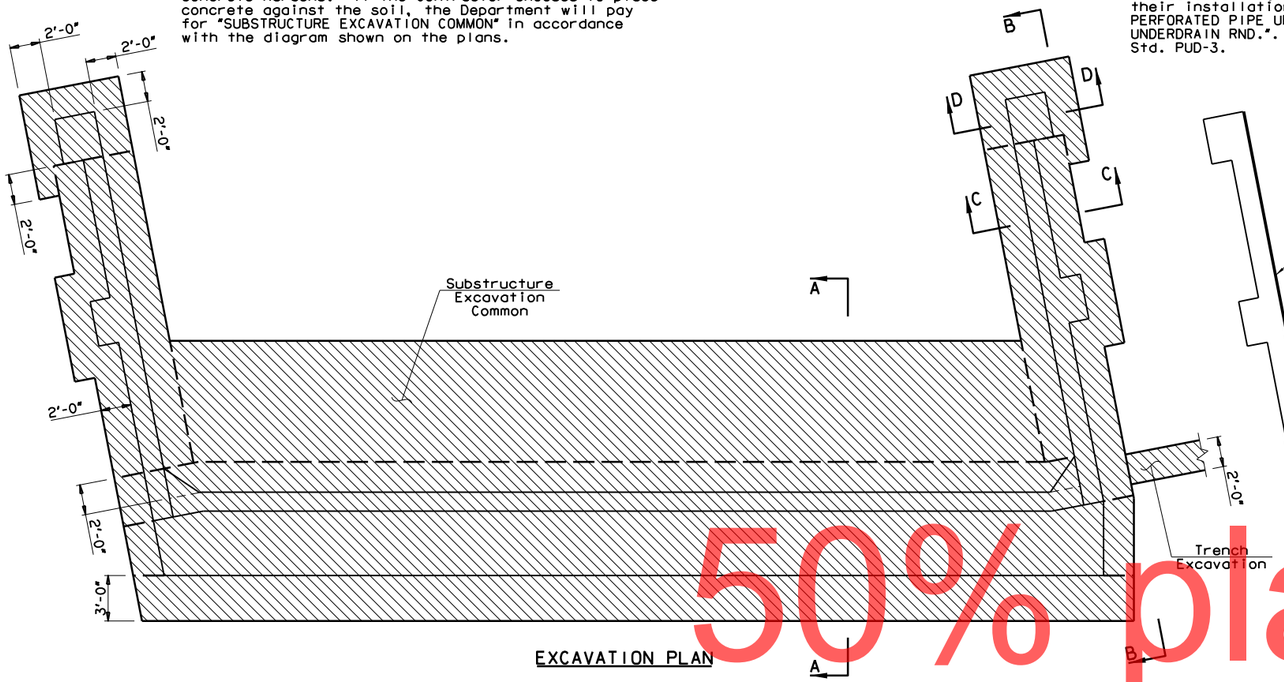
① Set bottom of pipe 3" above the bottom of the abutment at the low end.

② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.

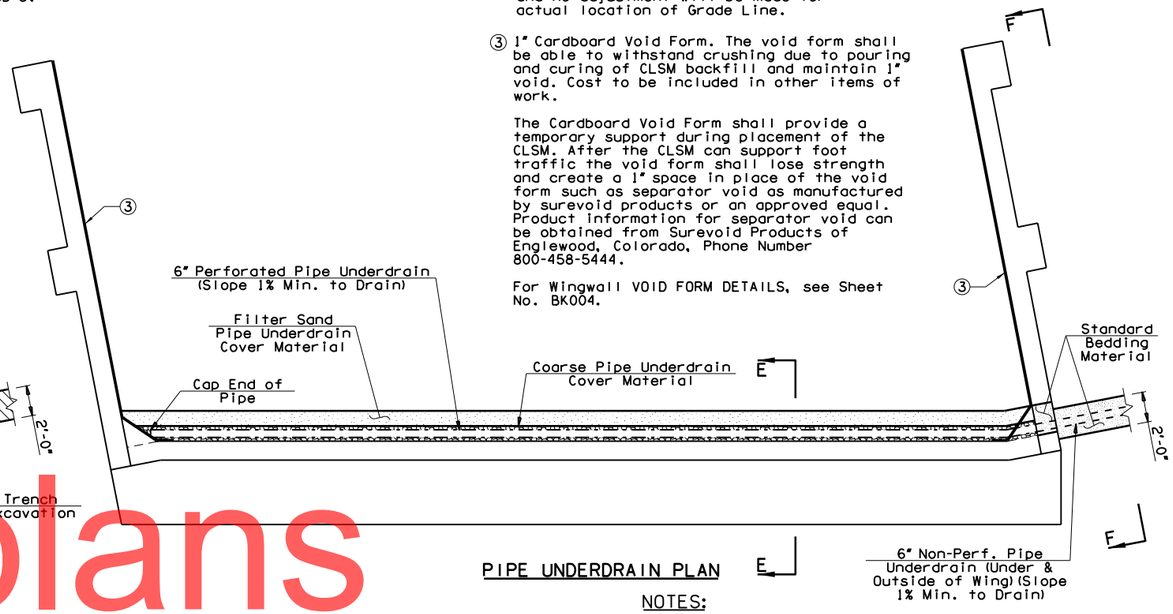
③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal. Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.

For Wingwall VOID FORM DETAILS, see Sheet No. BK004.



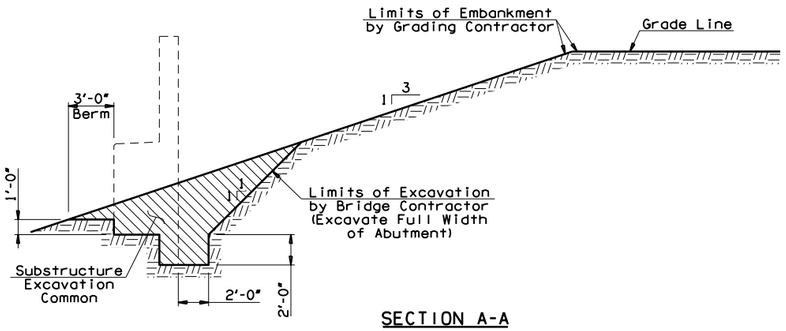
EXCAVATION PLAN



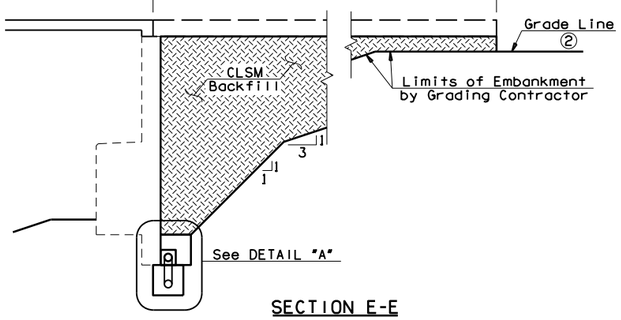
PIPE UNDERDRAIN PLAN

NOTES:
There is an estimated XX.00 feet of Perforated Pipe and XX.X0 cubic yards of Pipe Underdrain Cover Material for both abutments.

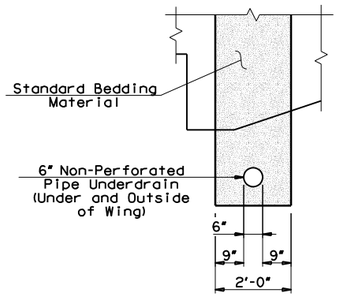
There is an estimated XX.00 feet of Non-Perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.



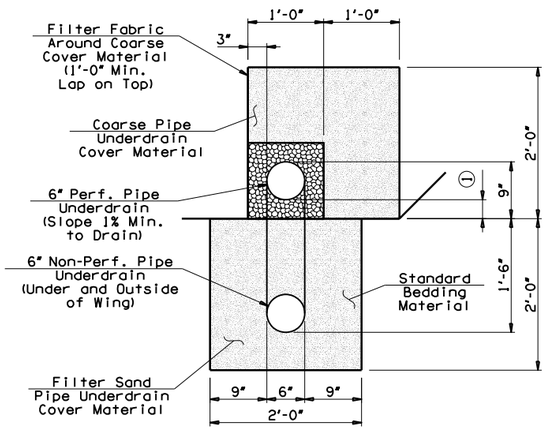
SECTION A-A



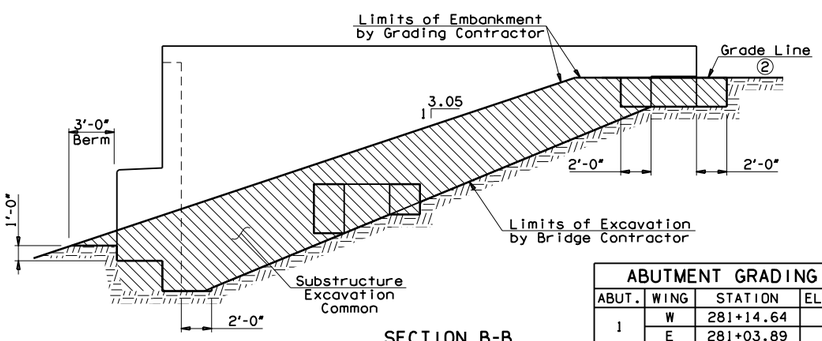
SECTION E-E



DETAIL "B"

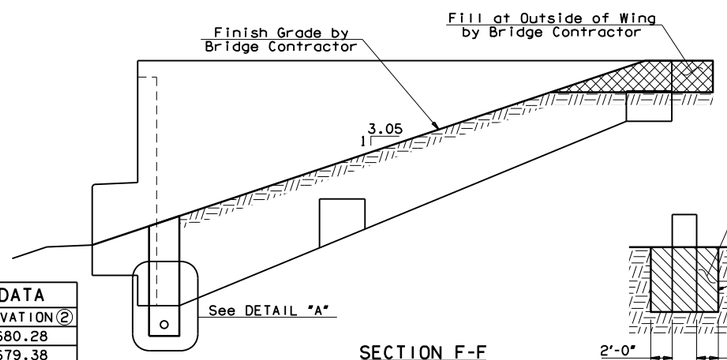


DETAIL "A"

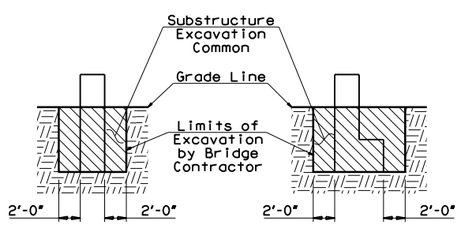


SECTION B-B

ABUTMENT GRADING DATA			
ABUT.	WING	STATION	ELEVATION ②
1	W	281+14.64	680.28
	E	281+03.89	679.38
2	W	284+81.07	683.94
	E	284+71.79	683.19



SECTION F-F



SECTION C-C SECTION D-D

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

SUBSTRUCTURE EXC. & PIPE UNDERDRAIN ASSEMBLY DETAILS

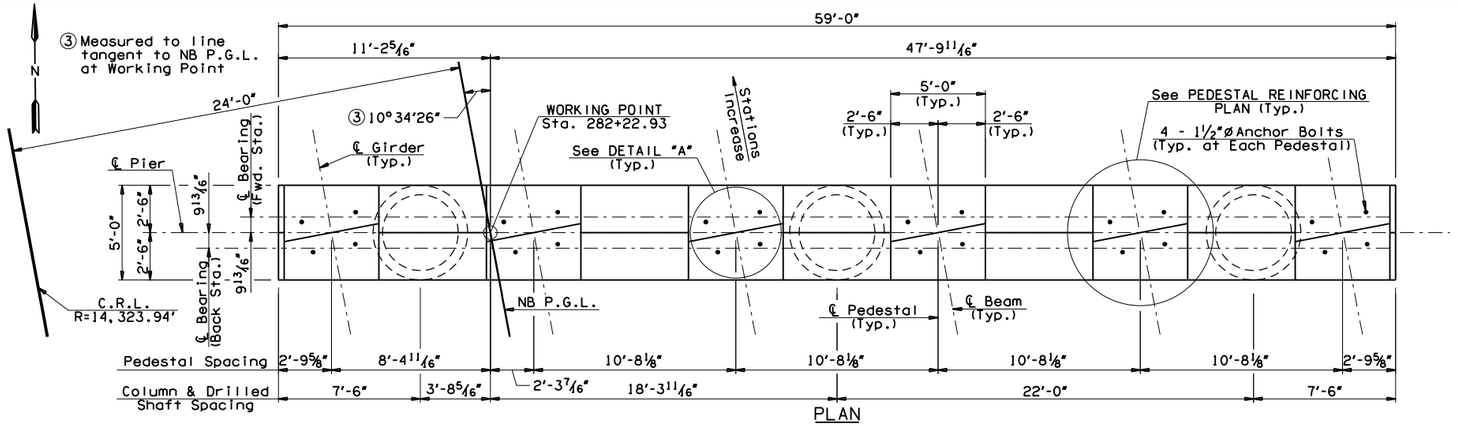
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	ABH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ004

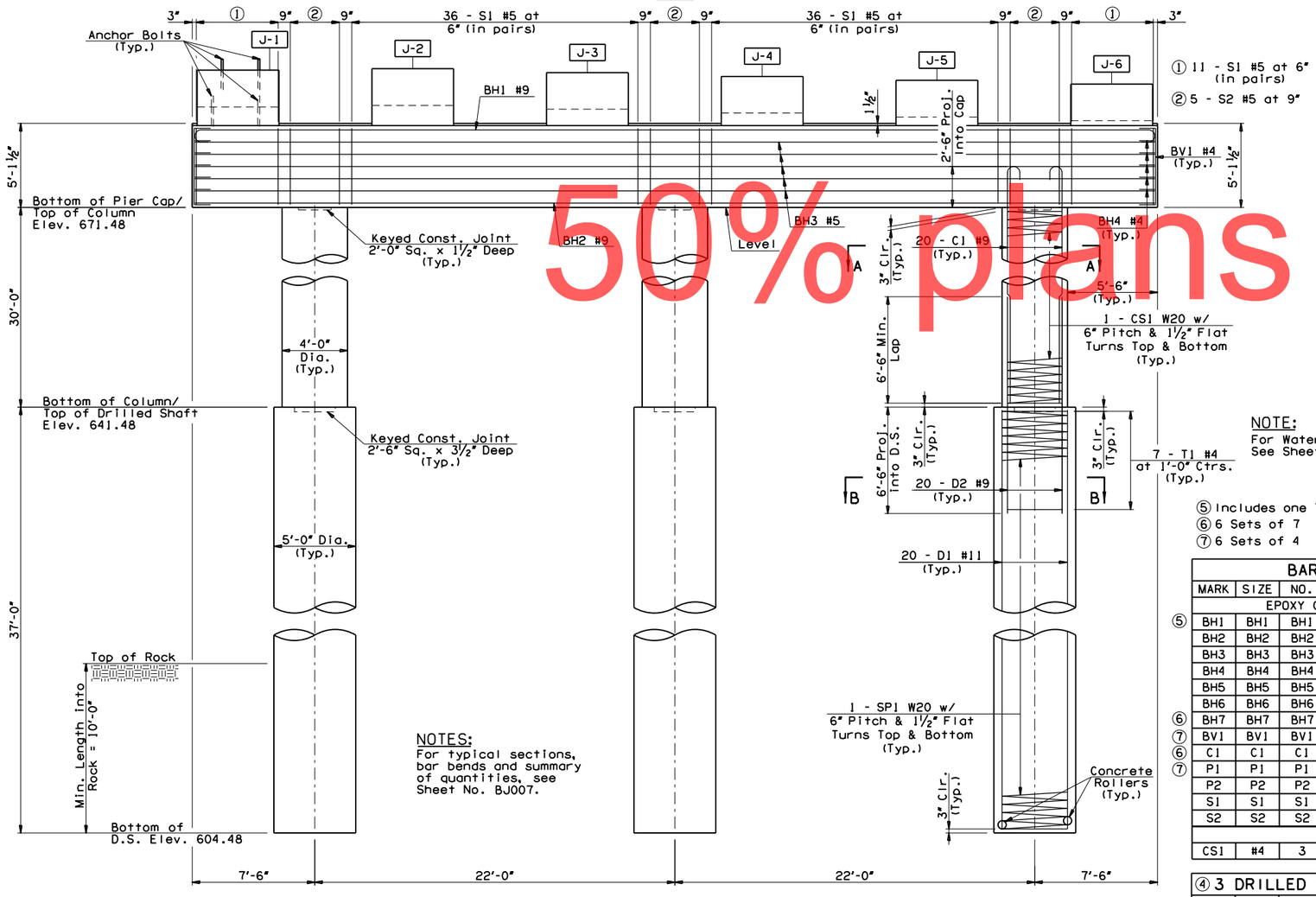
50% plans

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

PROPOSED R/W
10/23/2017



PLAN



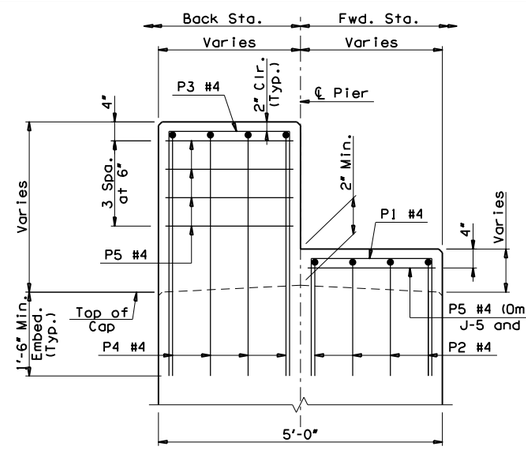
50% plans

NOTES:
For typical sections, bar bends and summary of quantities, see Sheet No. BJ007.

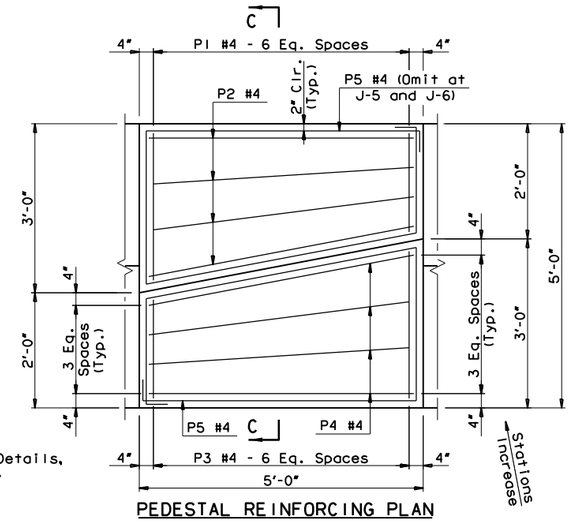
ELEVATION
(Looking Forward Station)

PIER NO. 1

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	J-1	J-2	J-3	J-4	J-5	J-6
1 (BACK STA.)	679.86	679.95	679.71	679.48	679.24	679.01
1 (FWD. STA.)	677.61	677.71	677.48	677.24	677.01	676.77



SECTION C-C



PEDESTAL REINFORCING PLAN

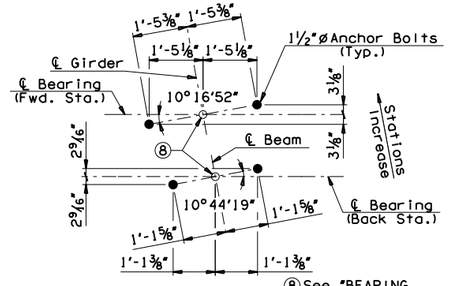
NOTE:
For Water Repellent Details, See Sheet No. BSTA01.

⑤ Includes one 7'-0" Lap Length
⑥ 6 Sets of 7
⑦ 6 Sets of 4

BAR LIST - PIER NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES
EPOXY COATED REINFORCING STEEL					
⑤ BH1	BH1	BH1	BENT	BH1	BH1
BH2	BH2	BH2	STR.	BH2	BH2
BH3	BH3	BH3	STR.	BH3	BH3
BH4	BH4	BH4	BENT	BH4	BH4
BH5	BH5	BH5	BENT	BH5	BH5
BH6	BH6	BH6	STR.	BH6	BH6
⑥ BH7	BH7	BH7	BENT	BH7	BH7
⑦ BV1	BV1	BV1	BENT	BV1	BV1
⑥ C1	C1	C1	BENT	C1	C1
⑦ P1	P1	P1	BENT	P1	P1
P2	P2	P2	BENT	P2	P2
S1	S1	S1	BENT	S1	S1
S2	S2	S2	BENT	S2	S2
REINFORCING STEEL					
CS1	#4	3	SPIRAL	650'-0"	-

④ 3 DRILLED SHAFTS - PIER 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	60	STR.	36'-6"
D2	#9	60	STR.	13'-3"
SP1	W20	3	SPIRAL	955'-9"
T1	#4	21	BENT	12'-6"

④ Included in the price bid per Linear Foot of "DRILLED SHAFTS 60" DIAMETER".



DETAIL "A"

⑧ See "BEARING LAYOUT - PIER NO. 1" on Sheet No. BJ007.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

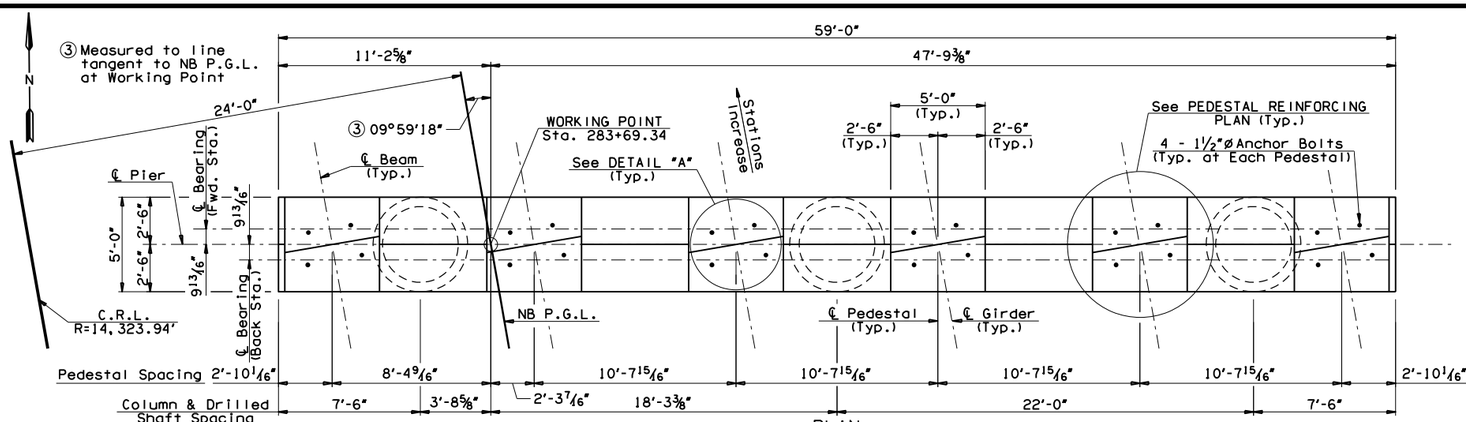
PIER DETAILS
(SHEET 1 OF 3)

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

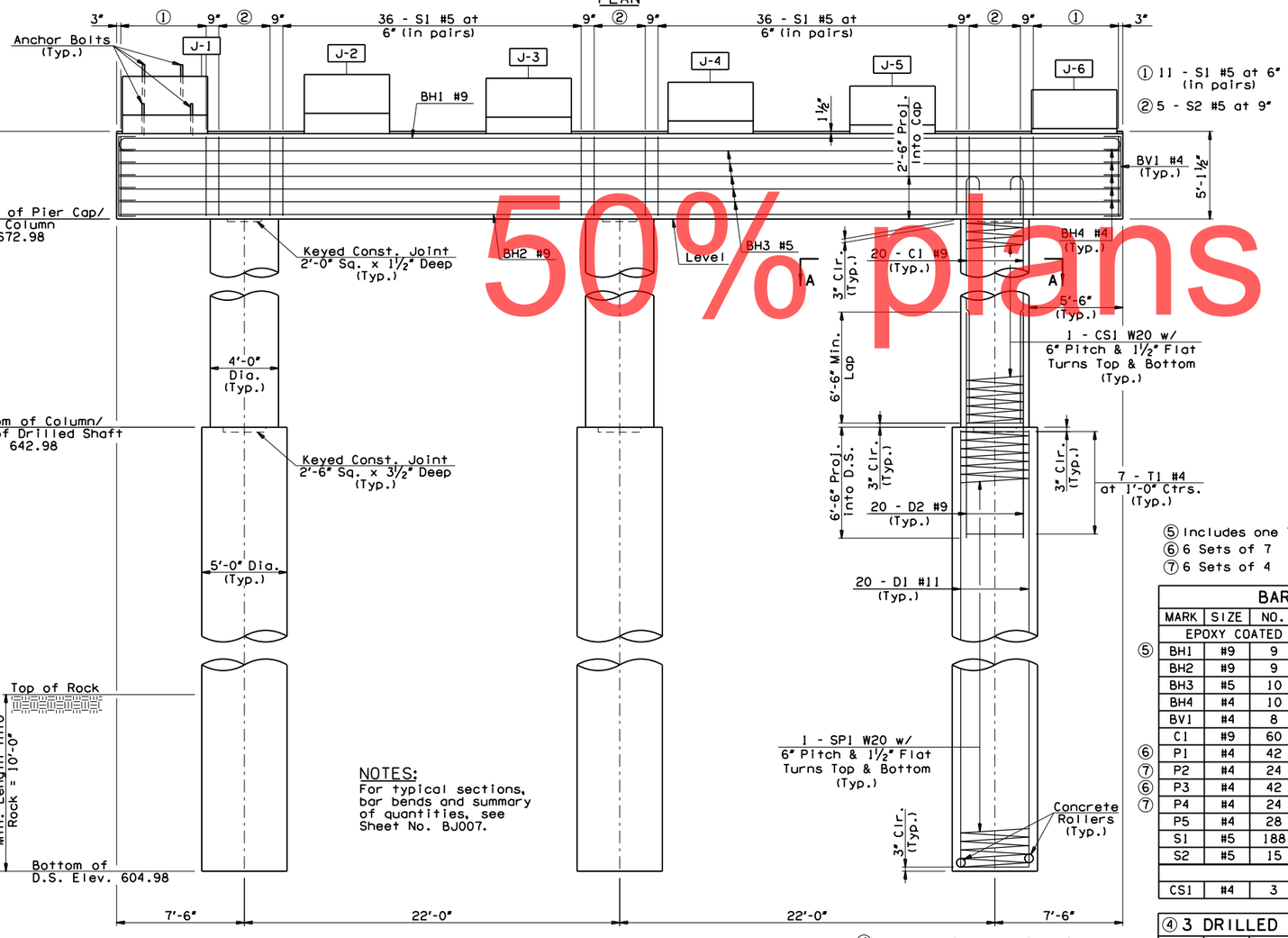
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500
DETAILED	HEW	7/17	
CHECKED	WMM	8/17	DATE: 10/23/2017 — SHEET NO. BJ005

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

PROPOSED R/W
10/23/2017



PLAN

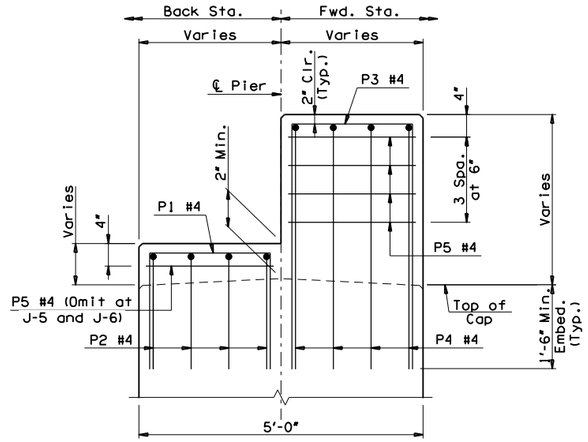


50% plans

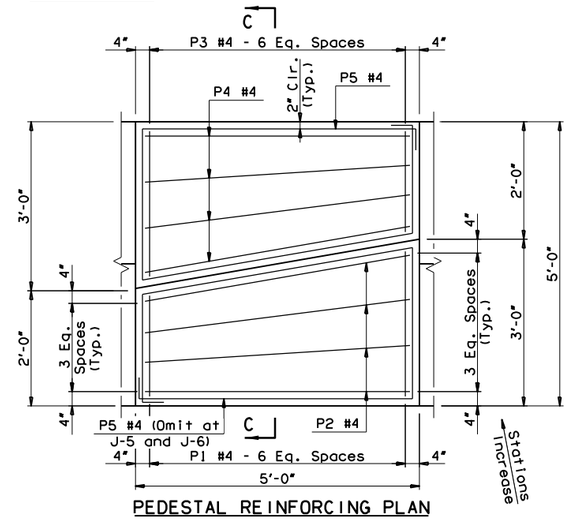
NOTES:
For typical sections, bar bends and summary of quantities, see Sheet No. BJ007.

ELEVATION
(Looking Forward Station)

PIER NO. 2



SECTION C-C



PEDESTAL REINFORCING PLAN

⑤ Includes one 7'-0" Lap Length
⑥ 6 Sets of 7
⑦ 6 Sets of 4

BAR LIST - PIER NO. 2

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES
	EPOXY COATED REINFORCING STEEL					
⑤	BH1	#9	9	BENT	68'-2"	-
	BH2	#9	9	STR.	58'-8"	-
	BH3	#5	10	STR.	58'-8"	-
	BH4	#4	10	BENT	6'-6"	-
	BV1	#4	8	BENT	6'-6"	-
	C1	#9	60	BENT	33'-9"	-
⑥	P1	#4	42	BENT	7'-2½" AVG.	6'-10" TO 7'-7"
⑦	P2	#4	24	BENT	9'-9"	-
⑥	P3	#4	42	BENT	11'-8½" AVG.	11'-4" TO 12'-1"
⑦	P4	#4	24	BENT	14'-3"	-
	P5	#4	28	BENT	14'-6"	-
	S1	#5	188	BENT	17'-5"	-
	S2	#5	15	BENT	14'-0"	-
	REINFORCING STEEL					
	CS1	#4	3	SPIRAL	650'-0"	-

④ 3 DRILLED SHAFTS - PIER 2

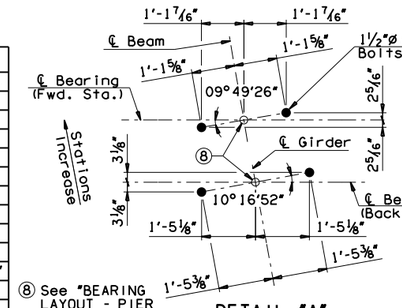
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	60	STR.	37'-6"
D2	#9	60	STR.	13'-3"
SP1	W20	3	SPIRAL	980'-11"
T1	#4	21	BENT	12'-6"

④ Included in the price bid per Linear Foot of "DRILLED SHAFTS 60" DIAMETER".

NOTE:
For Water Repellent Details, See Sheet No. BSTA01.

PEDESTAL ELEVATIONS

PIER NO.	PEDESTAL NO.					
	J-1	J-2	J-3	J-4	J-5	J-6
2 (BACK STA.)	679.06	679.17	678.94	678.72	678.49	678.27
2 (FWD. STA.)	681.33	681.44	681.22	680.99	680.77	680.54



⑧ See "BEARING LAYOUT - PIER NO. 2" on Sheet No. BJ007.

DETAIL "A"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

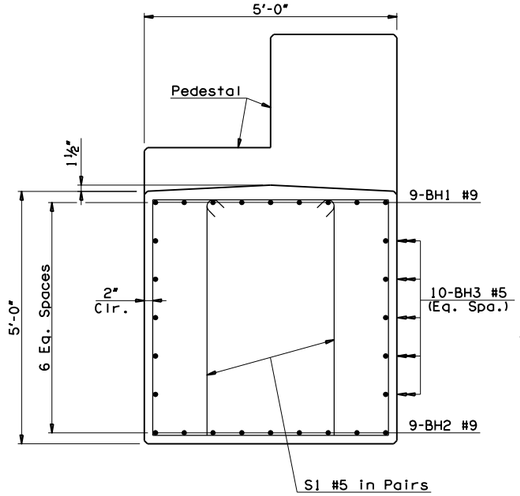
PIER DETAILS
(SHEET 2 OF 3)

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

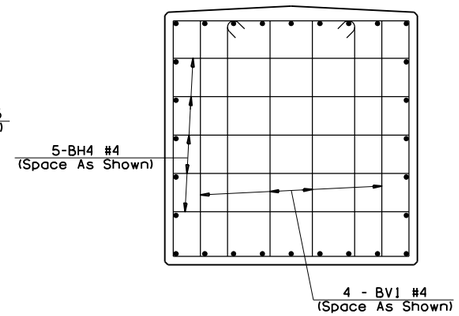
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500
DETAILED	HEW	7/27	
CHECKED	WMM	8/17	DATE: 10/23/2017 — SHEET NO. BJ006

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

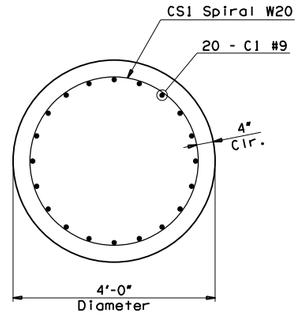
PROPOSED R/W
10/23/2017



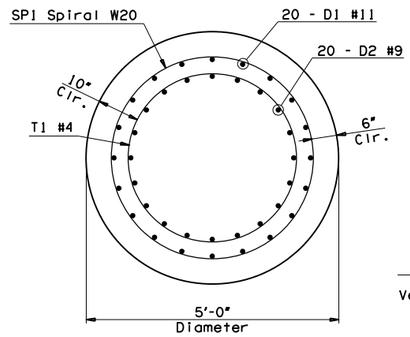
TYPICAL SECTION THRU CAP



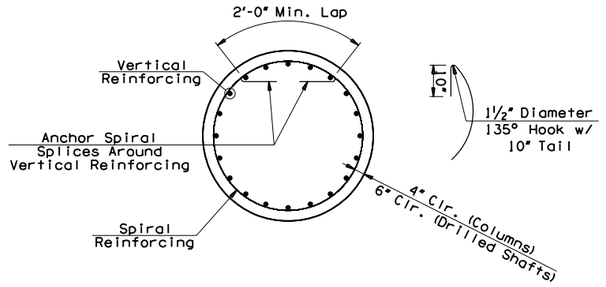
END OF PIER CAP REINFORCING



SECTION A-A

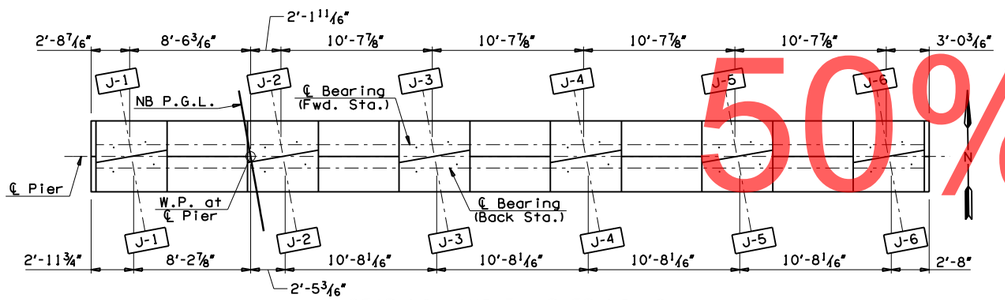


SECTION B-B

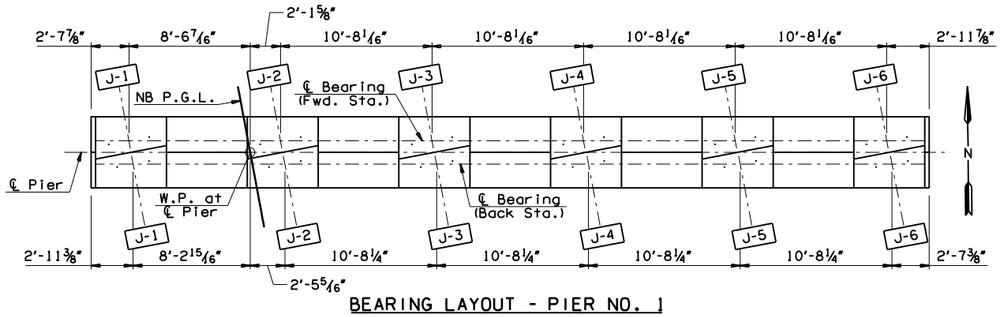


DETAIL OF SPIRAL REINFORCING STEEL

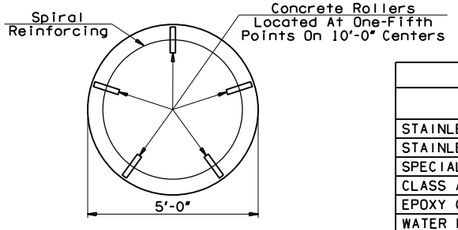
NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



BEARING LAYOUT - PIER NO. 2

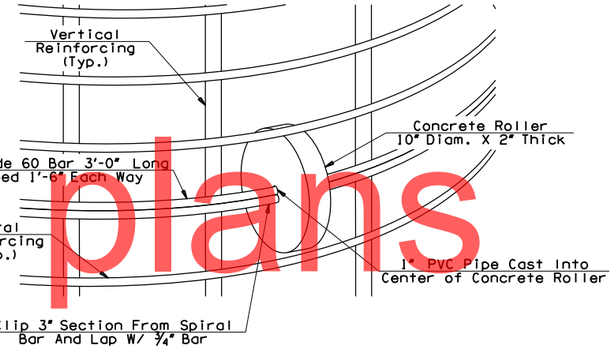


BEARING LAYOUT - PIER NO. 1



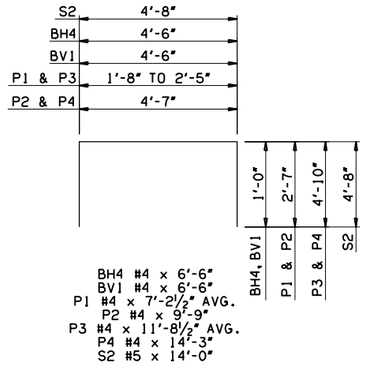
CONCRETE ROLLER PLACEMENT

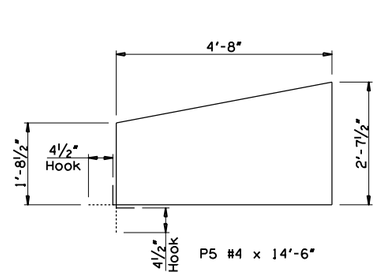
SUMMARY OF QUANTITIES				
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	6.00	—	6.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	6.00	12.00	18.00
SPECIAL CONCRETE FINISH	S.Y.	XX.00	XX.00	XXX.00
CLASS A CONCRETE	C.Y.	XXX.X0	XXX.X0	XXX.X0
EPOXY COATED REINFORCING STEEL	LB.	XX,XXX.00	XX,XXX.00	XX,XXX.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.00	XXX.00	XXX.00
DRILLED SHAFTS 60" DIAMETER	L.F.	132.00	135.00	267.00
CROSSHOLE SONIC LOGGING	EA.	1.00	1.00	2.00

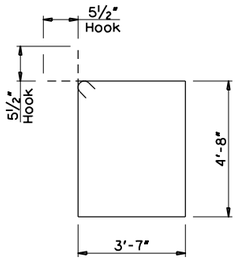


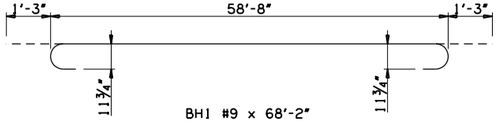
DETAILS OF CONCRETE ROLLER INSTALLATION

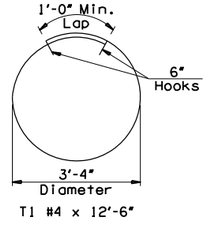
NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

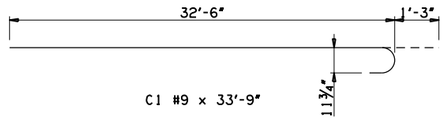












OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

PIER DETAILS
(SHEET 3 OF 3)

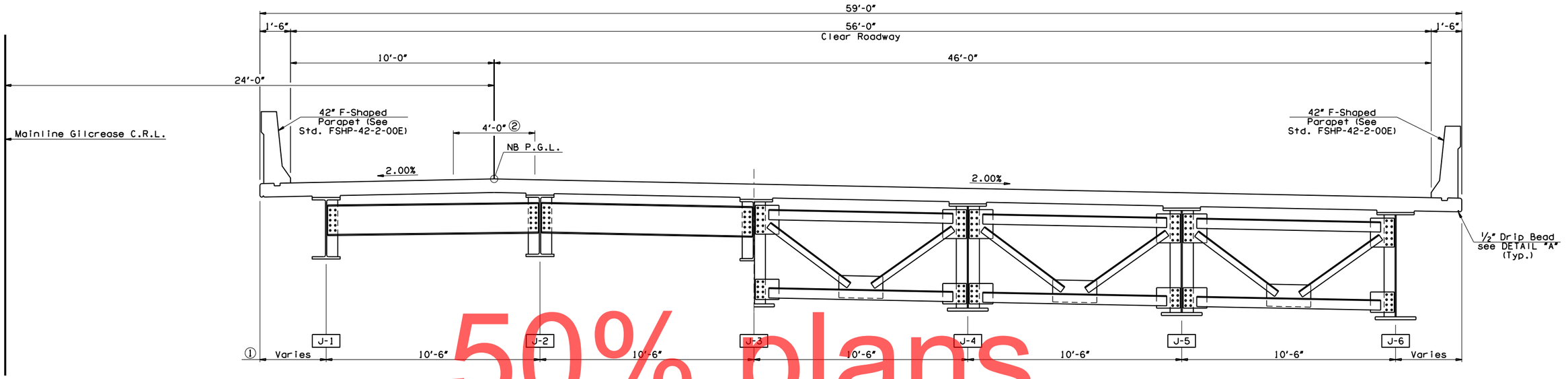
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	7/17		
CHECKED	WMM	8/17	DATE: 10/23/2017	SHEET NO. BJ007

50% plans

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

PROPOSED R/W
10/23/2017



50% plans

PART SECTION AT INTERMEDIATE DIAPHRAGM
(TYP. SPAN NOS. 1 & 3)

PART SECTION AT INTERMEDIATE CROSS-FRAME
(TYP. SPAN NO. 2)

TYPICAL SECTION
(Looking Forward Station)
(Horizontal Dimensions Measured Radial To C.R.L. Unless Noted Otherwise)

① Measured Perpendicular To Chord Line Between Working Points. See FRAMING PLAN on Sheet No. BJ014.

② Round 2'-0" either side of NB P.G.L. to avoid sharp edges.

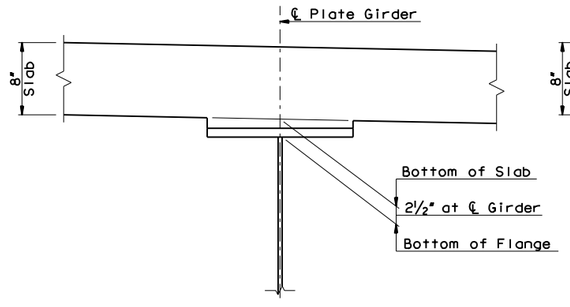
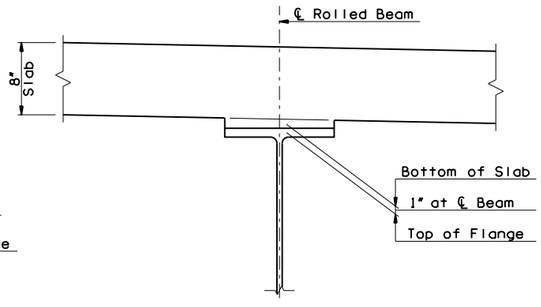


PLATE GIRDER HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Girder Haunches. Haunch height shown is at centerline bearing only, measured from bottom of Deck Slab to Bottom of Top Flange. Haunch height to be determined after erection of girder to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.



ROLLED BEAM HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Beam Haunches. Haunch height shown is at centerline bearing only, measured from bottom of Deck Slab to Top of Top Flange. Haunch height to be determined after erection of beam to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar list, see Sheet No. BJ010.

For Water Repellent Details and DETAIL "A", see Sheet No. BSTA01.

For Bridge Deck Formwork Bracing Details, see Sheet No. BSTA05.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL

③ Includes a calculated XX.XO C.Y. of Class AA Concrete in the Haunches

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR

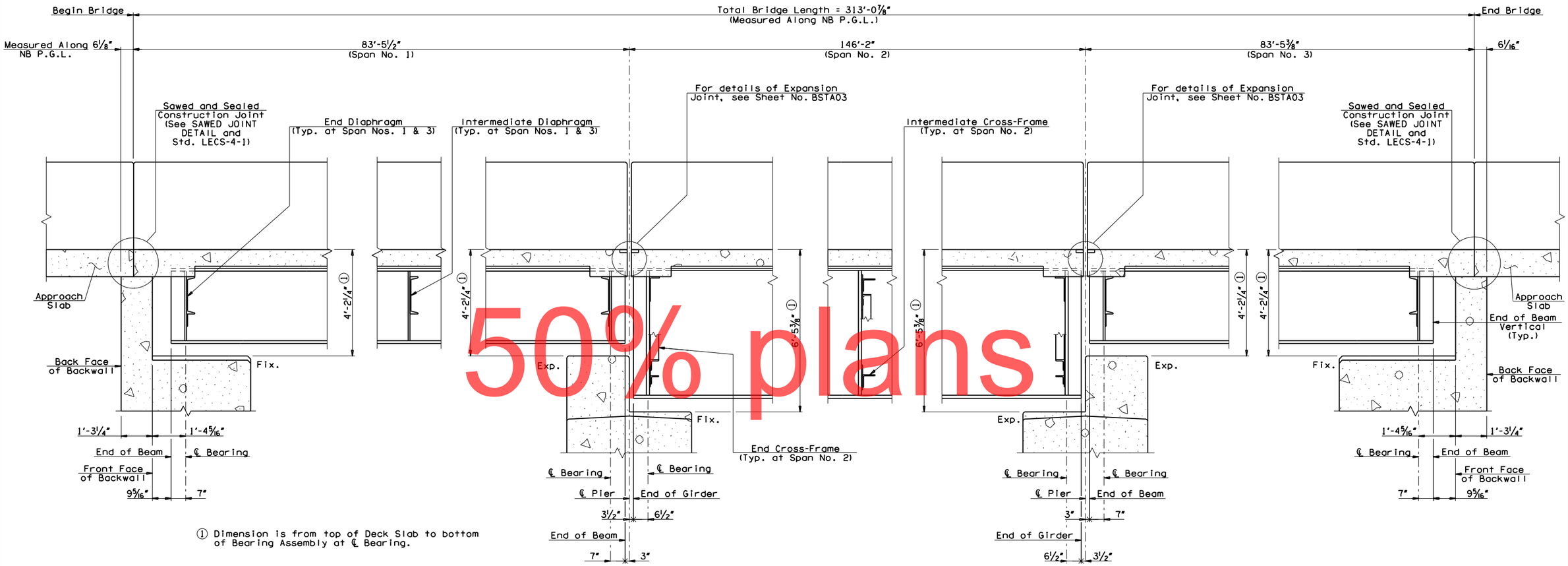
TYPICAL SECTION

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

DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ008

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

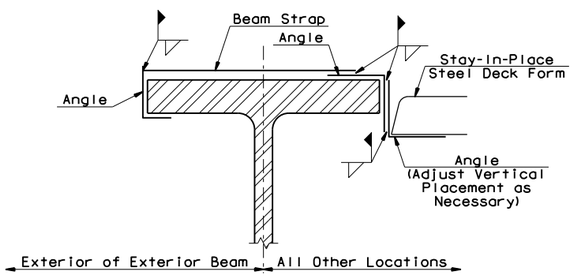
PROPOSED R/W
10/23/2017



① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2

50% plans



STAY-IN-PLACE STEEL DECK FORM FLANGE CONNECTION DETAIL

NOTE:
Do not weld to the top flange or studs. Report any arc strike, weld splatter or welding on top flange to the Bridge Engineer immediately.

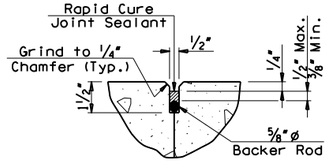
LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam Unless Noted Otherwise)
(Do not Groove within 6" of any Construction Joints)

NOTE:
Install all Cross-Frames and Diaphragms and tighten all Bolts before placing Concrete for the Deck Slab or applying other massive loads to the girders.

DECK SLAB NOTES:
Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR

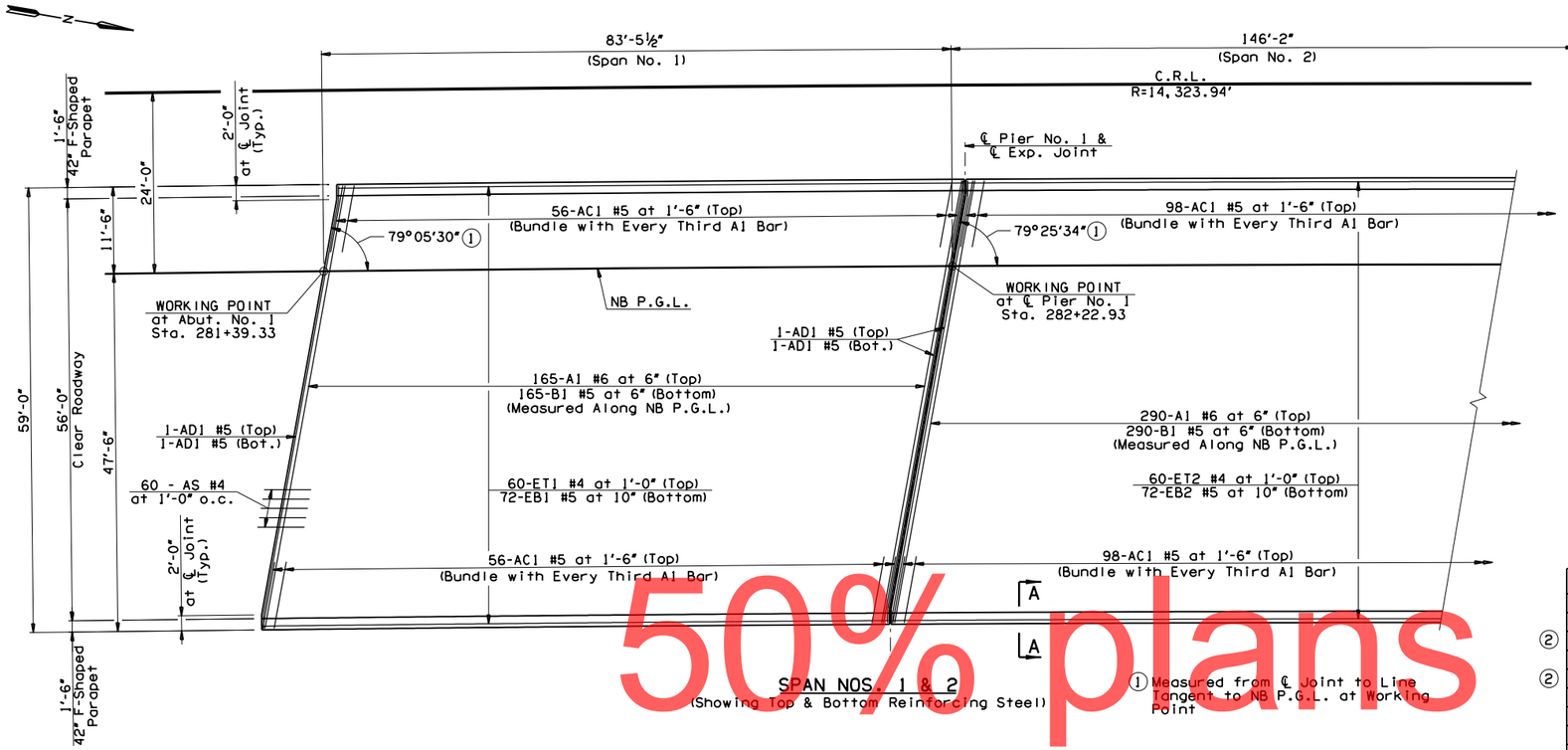
LONGITUDINAL SECTION

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

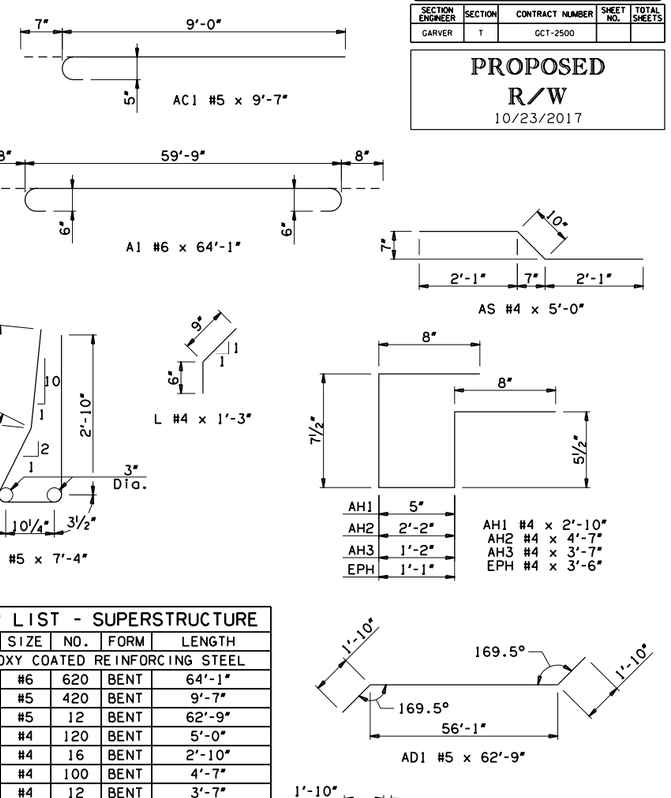
DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ009

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

PROPOSED R/W
10/23/2017



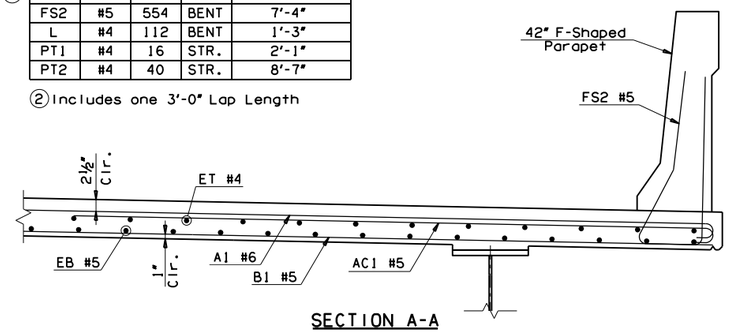
50% plans



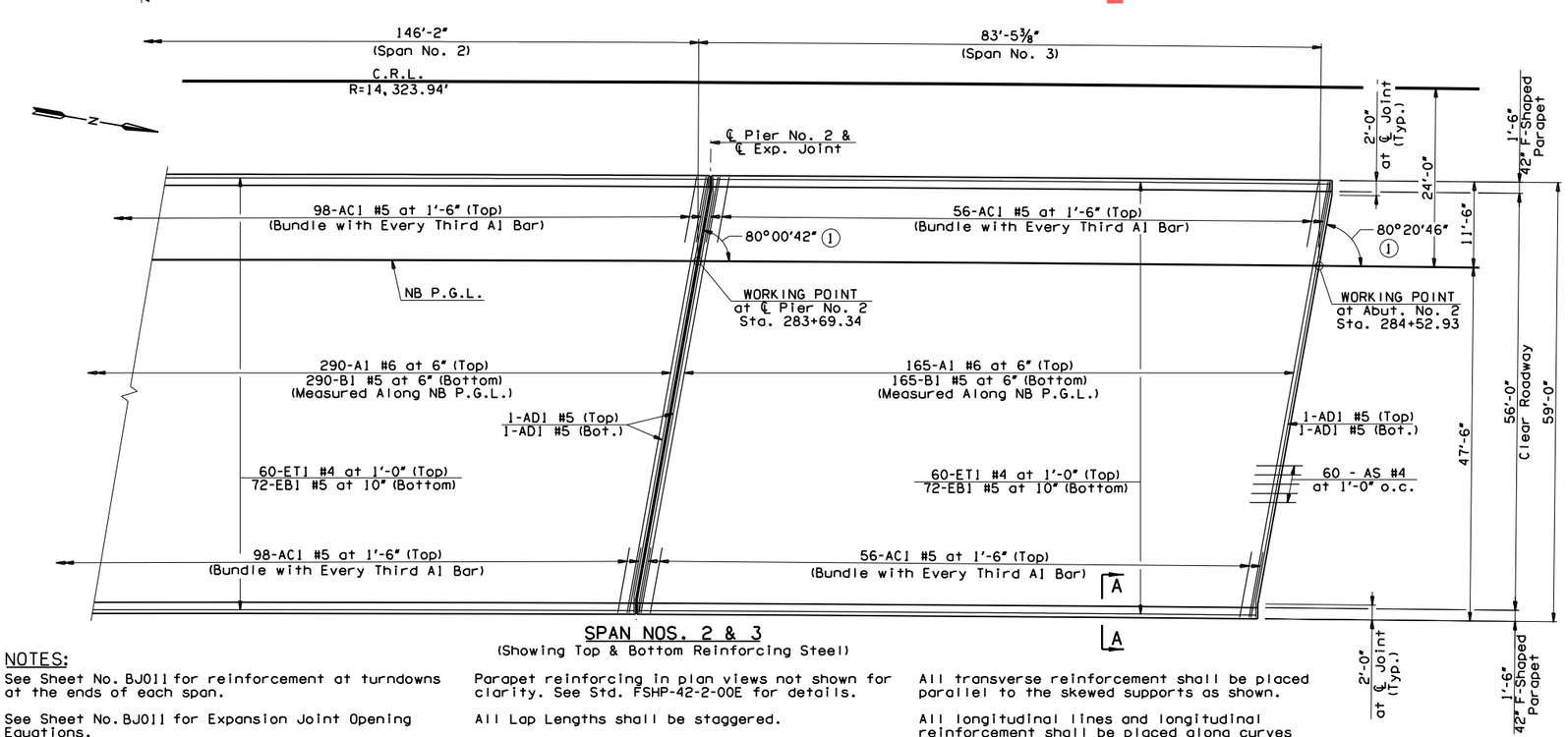
BAR LIST - SUPERSTRUCTURE

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
(2) A1	#6	620	BENT	64'-1"
AC1	#5	420	BENT	9'-7"
(2) AD1	#5	12	BENT	62'-9"
AS	#4	120	BENT	5'-0"
AH1	#4	16	BENT	2'-10"
AH2	#4	100	BENT	4'-7"
AH3	#4	12	BENT	3'-7"
AT1	#4	4	BENT	59'-8"
AT2	#4	20	STR.	9'-0"
(2) B1	#5	620	STR.	62'-9"
(2) EB1	#5	144	STR.	86'-1"
(2) EB2	#5	72	STR.	148'-9"
EPH	#4	204	BENT	3'-6"
(2) ET1	#4	120	STR.	86'-1"
(2) ET2	#4	60	STR.	148'-9"
FS2	#5	554	BENT	7'-4"
L	#4	112	BENT	1'-3"
PT1	#4	16	STR.	2'-1"
PT2	#4	40	STR.	8'-7"

(2) Includes one 3'-0" Lap Length



SECTION A-A



NOTES:

See Sheet No. BJ011 for reinforcement at turndowns at the ends of each span.

See Sheet No. BJ011 for Expansion Joint Opening Equations.

Parapet reinforcing in plan views not shown for clarity. See Std. FSHP-42-2-00E for details.

All Lap Lengths shall be staggered.

Rotate hooks on A1 and AC1 Bars to maintain minimum clearance.

All transverse reinforcement shall be placed parallel to the skewed supports as shown.

All longitudinal lines and longitudinal reinforcement shall be placed along curves concentric with C.R.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500
DETAILED	JLD	6/17	
CHECKED	MJY	10/17	DATE: 10/23/2017 — SHEET NO. BJ010

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

PROPOSED R/W
10/23/2017

NOTE:
Deck Slab reinforcement not shown for clarity.

① Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

② Measured perpendicular to CL Joint

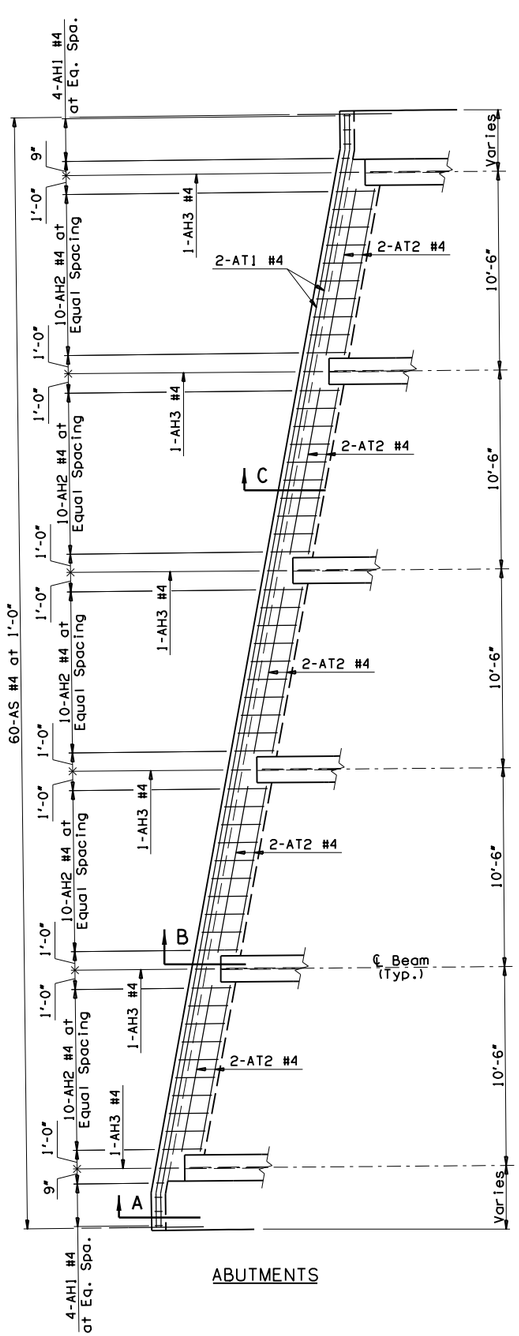
③ The Expansion Joint Openings shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

Pier No. 1 = 2.8848 - (0.00641 x T)
Pier No. 2 = 3.5577 - (0.01763 x T)

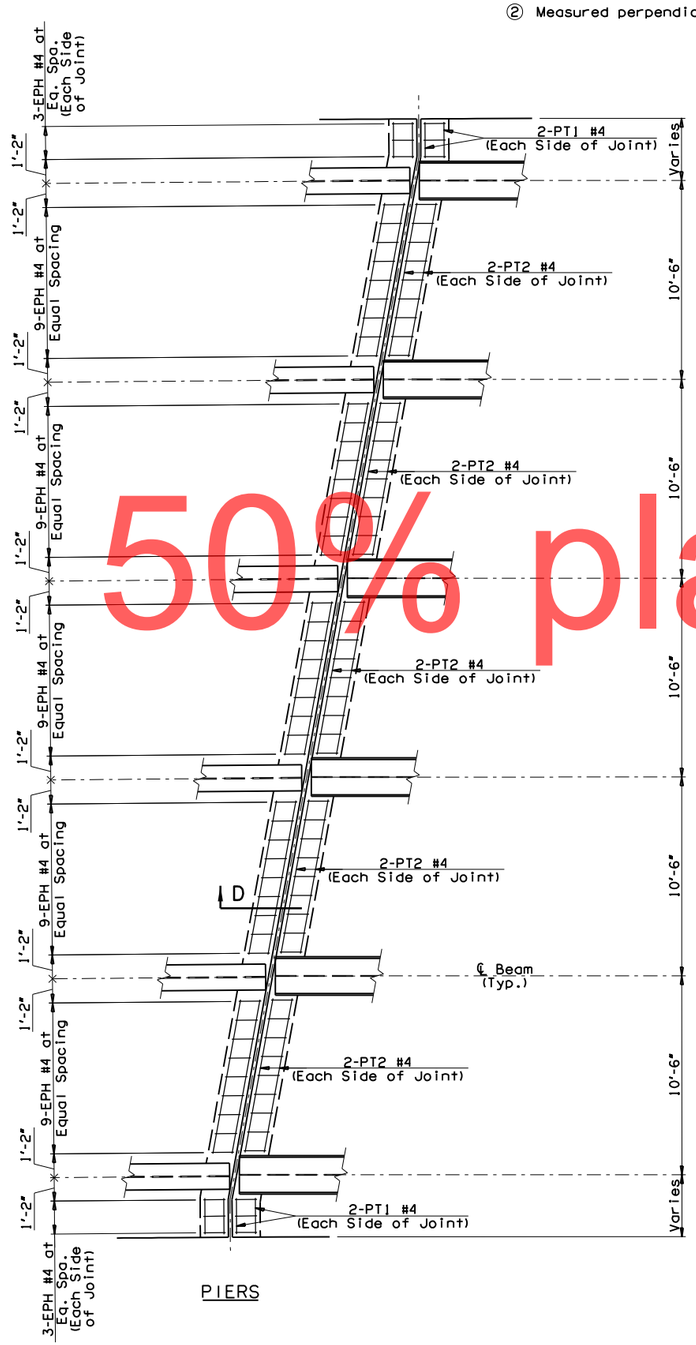
Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint opening shall be measured perpendicular to the joint.

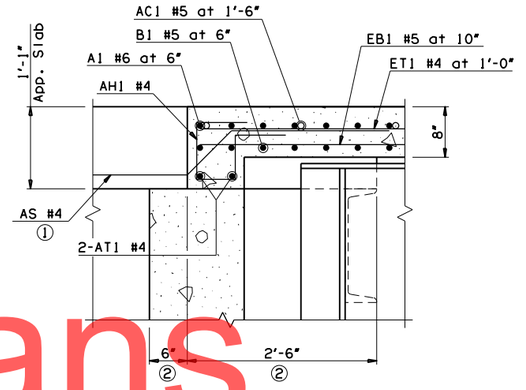
SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.



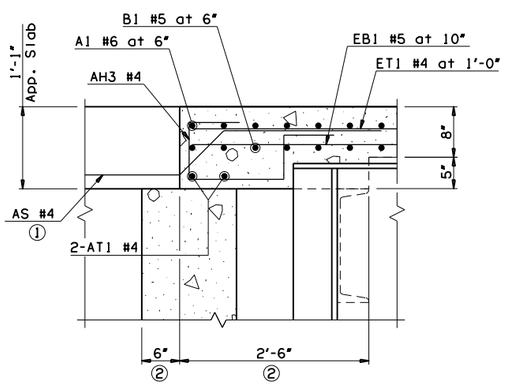
ABUTMENTS



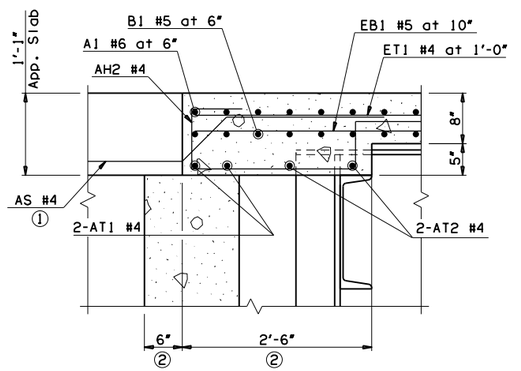
PIERS



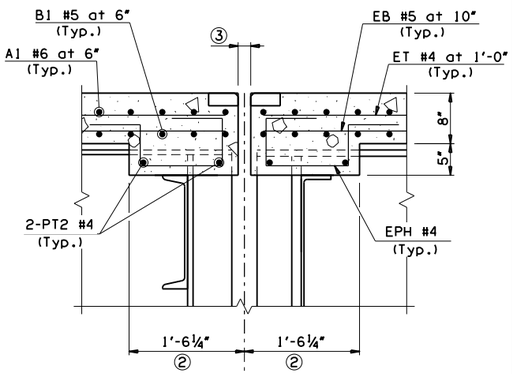
SECTION A



SECTION B



SECTION C



SECTION D

TURNDOWN REINFORCING PLANS

50% plans

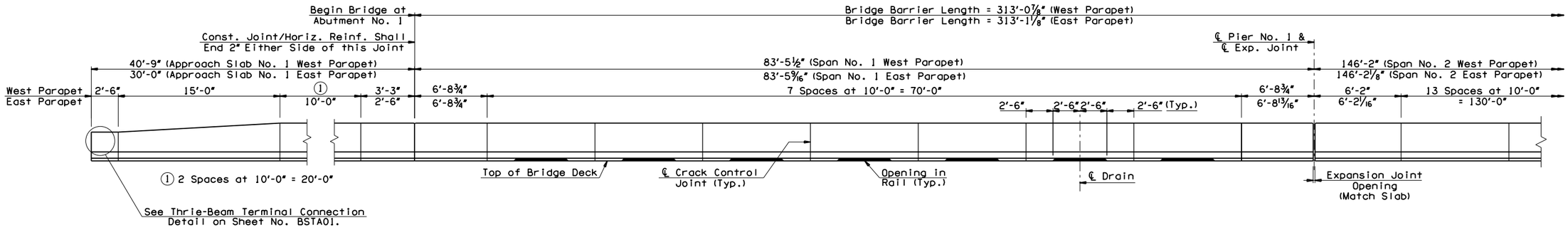
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

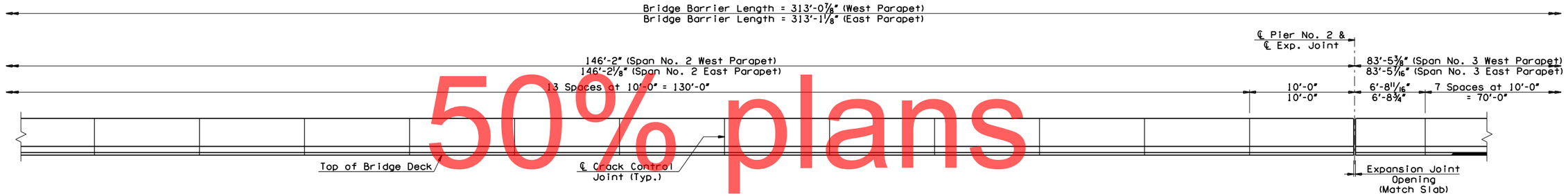
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ011

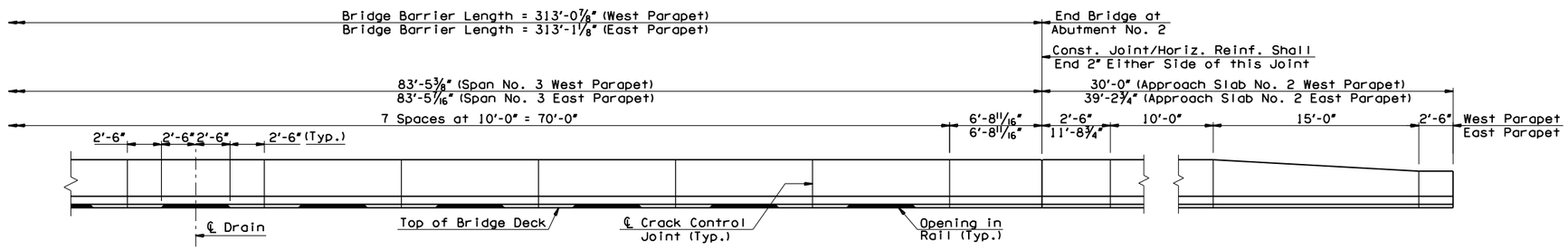
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017





50% plans



42" F-SHAPED PARAPET LAYOUT
(Looking West)

NOTES:
For details showing the Parapet reinforcement layout, see Std. FSHP-42-2-00E.

Provide blockouts for Sealed Expansion Joint.

All dimensions shown are measured along the inside face of the parapet.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

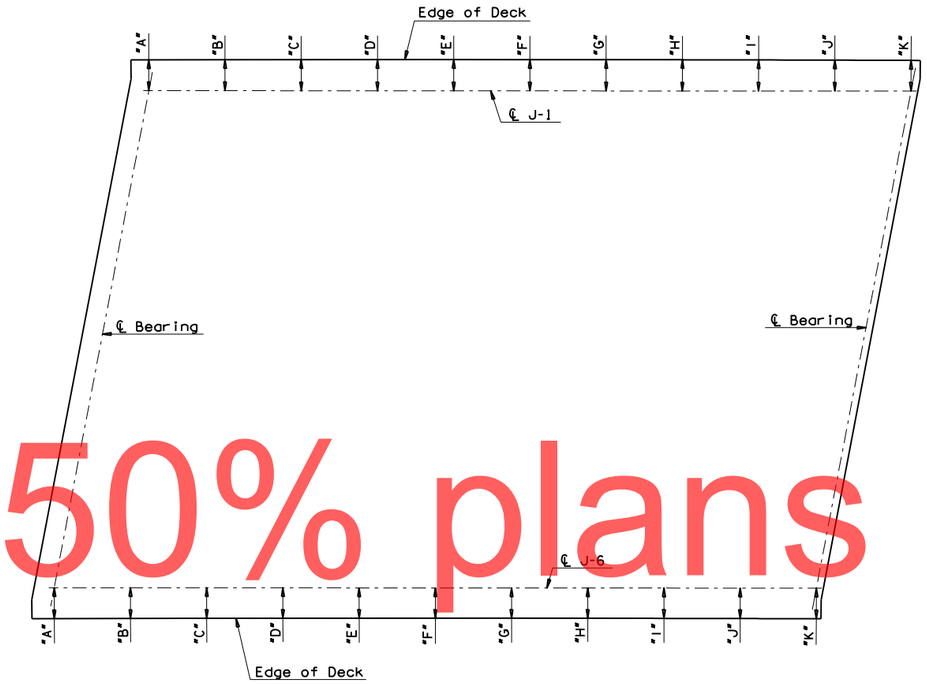
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ012

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

PROPOSED
R/W
10/23/2017



50% plans

SLAB PLAN SCHEMATIC

SPAN NO. 1 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	J-1	J-6
"A"	3'-3 1/16"	3'-3 5/16"
"B"	3'-3 5/16"	3'-3"
"C"	3'-3 7/16"	3'-2 3/4"
"D"	3'-3 9/16"	3'-2 9/16"
"E"	3'-3 11/16"	3'-2 7/16"
"F"	3'-3 11/16"	3'-2 3/8"
"G"	3'-3 9/16"	3'-2 5/16"
"H"	3'-3 9/16"	3'-2 3/8"
"I"	3'-3 3/8"	3'-2 7/16"
"J"	3'-3 3/16"	3'-2 9/16"
"K"	3'-2 15/16"	3'-2 3/4"

SPAN NO. 2 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	J-1	J-6
"A"	3'-3 1/16"	3'-3 1/2"
"B"	3'-3 3/8"	3'-2 5/8"
"C"	3'-4 7/16"	3'-1 15/16"
"D"	3'-4 7/8"	3'-1 3/8"
"E"	3'-5 1/8"	3'-1"
"F"	3'-5 3/16"	3'-0 13/16"
"G"	3'-5 1/16"	3'-0 13/16"
"H"	3'-4 13/16"	3'-1"
"I"	3'-4 3/8"	3'-1 5/16"
"J"	3'-3 11/16"	3'-1 7/8"
"K"	3'-2 15/16"	3'-2 9/16"

SPAN NO. 3 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	J-1	J-6
"A"	3'-3 1/16"	3'-3 5/16"
"B"	3'-3 5/16"	3'-3"
"C"	3'-3 7/16"	3'-2 3/4"
"D"	3'-3 9/16"	3'-2 9/16"
"E"	3'-3 11/16"	3'-2 7/16"
"F"	3'-3 11/16"	3'-2 3/8"
"G"	3'-3 3/8"	3'-2 5/16"
"H"	3'-3 9/16"	3'-2 3/8"
"I"	3'-3 3/8"	3'-2 7/16"
"J"	3'-3 3/16"	3'-2 9/16"
"K"	3'-2 15/16"	3'-2 3/4"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

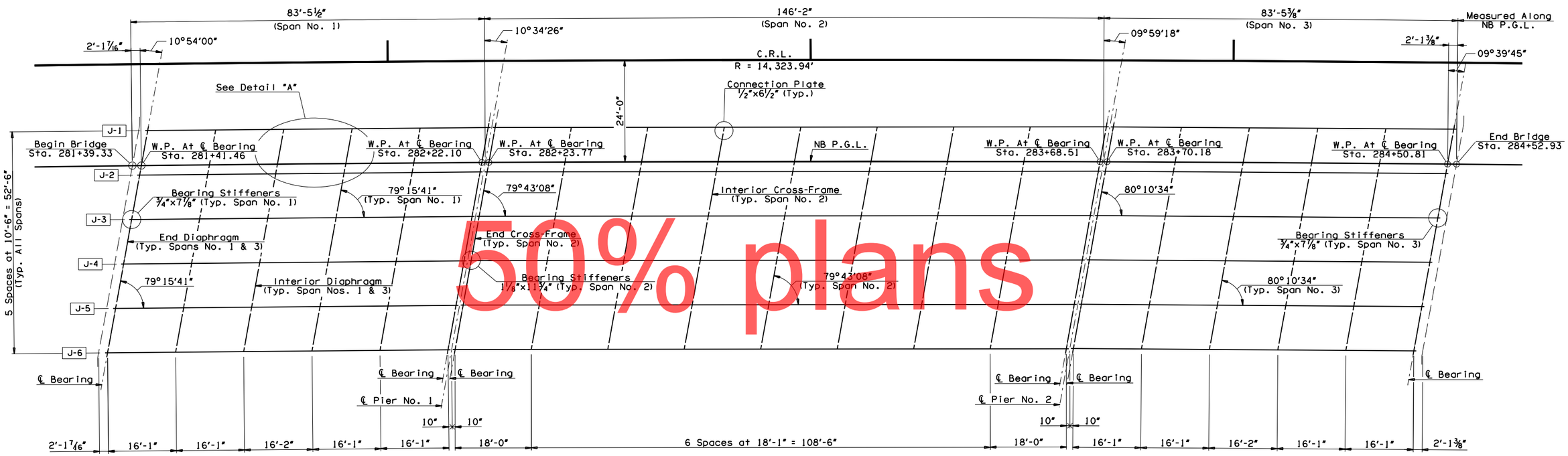
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ013

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

PROPOSED R/W
10/23/2017



50% plans

FRAMING PLAN

NOTES:

C.R.L. Consists Of A 0°24'00" Horizontal Curve (Radius = 14,323.94').

All Beams Are Oriented Parallel To Chord Line Connecting The W.P.'s At ℄ Bearing.

The Beam Spacing Is Measured Perpendicular To The Chord Line Unless Noted Otherwise.

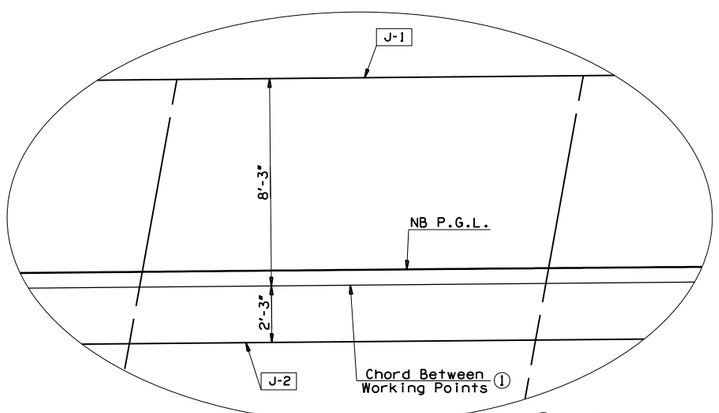
Diaphragm And Cross-Frame Spacing Is Measured Along Beam.

For Span Nos. 1 & 3 Beam Elevation, See Sheet No. BJ015.

For Span No. 2 Girder Elevation, See Sheet No. BJ016.

For Diaphragm Details, See Sheet No. BJ015.

For Cross-Frame Details, See Sheet No. BJ017.



DETAIL "A"
(Typ. All Spans)

① N 10°08'04" W (Span No. 1)
N 9°40'37" W (Span No. 2)
N 9°13'11" W (Span No. 3)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR

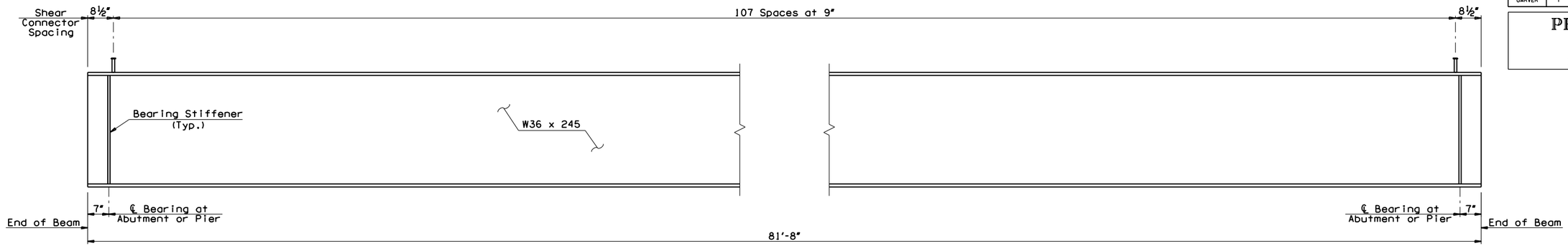
FRAMING PLAN

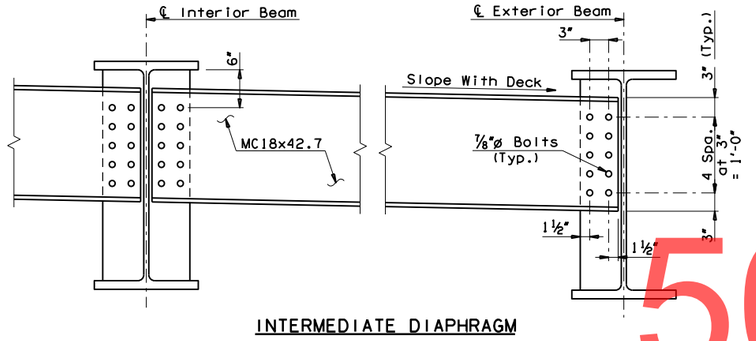
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ014

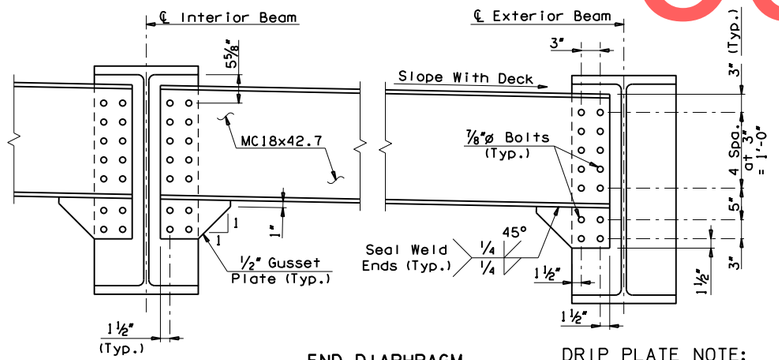
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

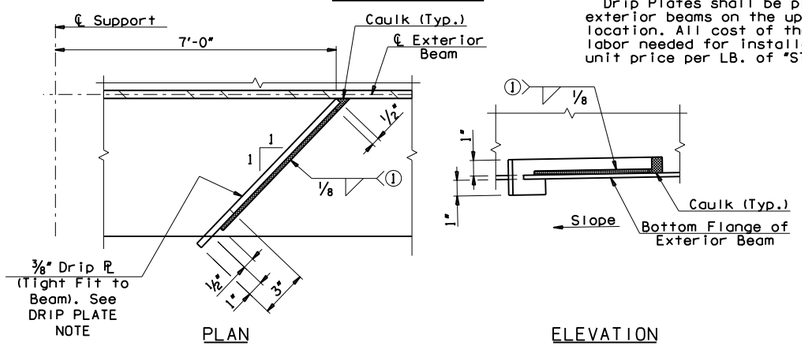




INTERMEDIATE DIAPHRAGM



END DIAPHRAGM



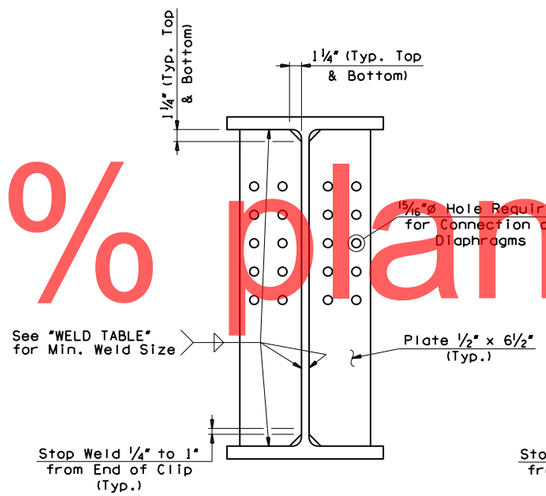
PLAN ELEVATION

TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

① Stop weld ½" from end of Drip Plate and from edge of Beam. Fill with caulk as shown.

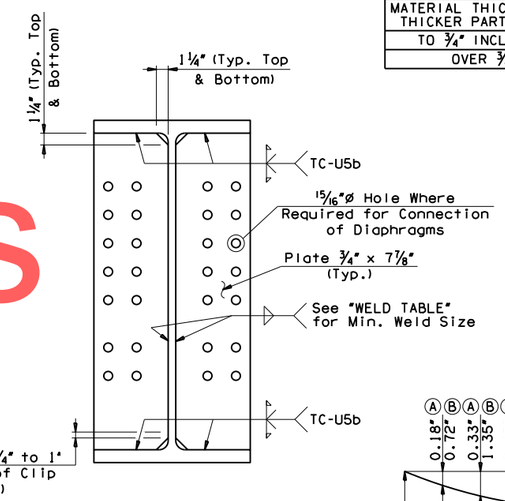
DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior beams on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".

ELEVATION - SPAN NOS. 1 & 3



CONNECTION PLATE DETAIL

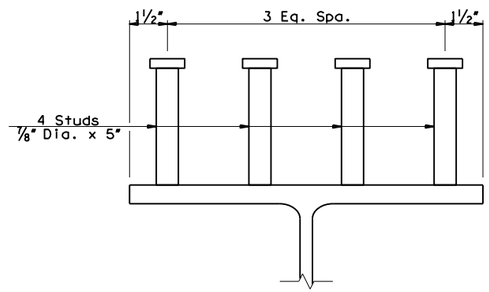
(Shall be used at all intermediate diaphragm locations)
(Only one connection plate is required on one side of the Beam Web at each bracing location along the exterior beams.)



BEARING STIFFENER DETAIL

NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.

WELD TABLE		
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO ¾" INCLUSIVE	¼"	
OVER ¾"	5/16"	



SHEAR CONNECTOR DETAIL

NOTES:
All Structural Steel, including Rolled Beams, Diaphragms, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

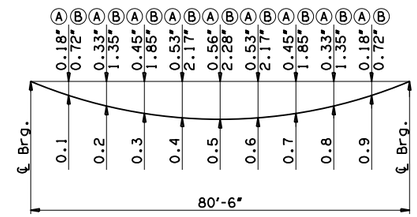
Beams shall be cambered to account for dead load deflection and, if necessary, vertical curve.

Contractor may elect to fabricate Plate Girders using equivalent sizes in lieu of Rolled Beam shape shown. Web to flange welds shall be minimum 5/16" fillet welds. Non-destructive testing will be required as appropriate. Costs to construct Plate Girders shall be at the Contractor's expense.

Contractor may elect to fabricate a Bent Plate Diaphragm in lieu of Channel and Gusset Plate at the End Diaphragm Connection. Plate shall be ½" minimum thickness and formed in the shape of a channel with minimum 4" flanges. Depth of Bent Plate Diaphragm shall be equal or greater than that shown for combined Channel and Gusset Plate. Cost to construct Bent Plate Diaphragm shall be at the Contractor's expense.

For Framing Plan, see Sheet No.BJ014.

For Rolled Beam Haunch Details, see Sheet No. BJ008.



Ⓐ Rolled Beams and Diaphragms
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, and Parapets

DEAD LOAD DEFLECTION DIAGRAM

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR

ROLLED BEAM DETAILS

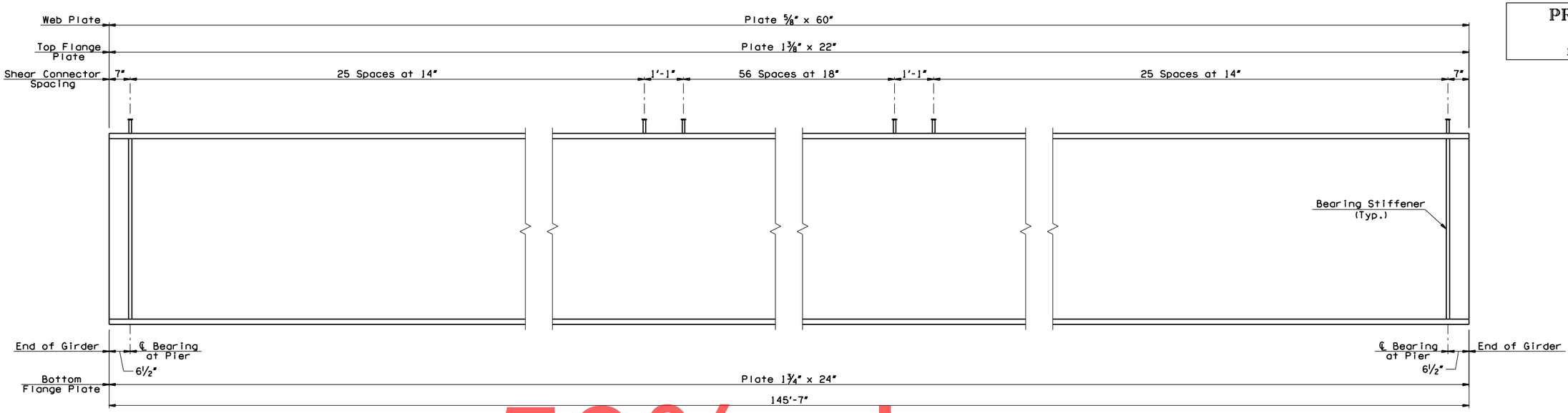
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ015

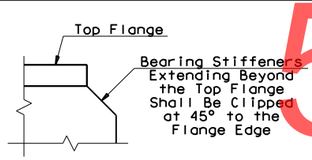
50% plans

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

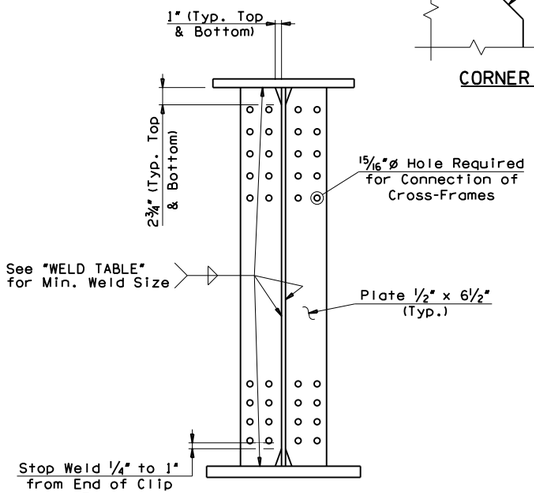
PROPOSED R/W
10/23/2017



ELEVATION - SPAN NO. 2

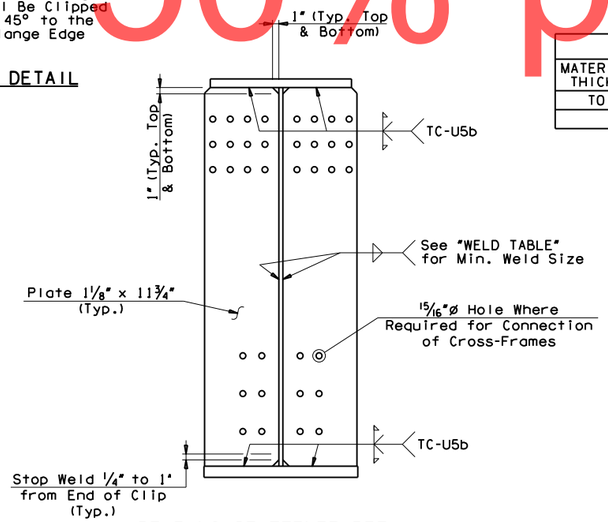


CORNER CLIP DETAIL



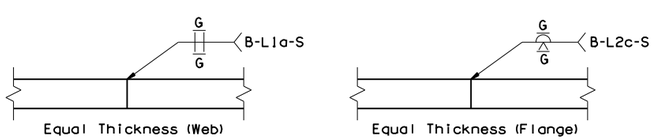
CONNECTION PLATE DETAIL

(Shall be used at all intermediate cross-frame locations)
(Only one connection plate is required on one side of the Girder at each bracing location along the exterior girders.)



BEARING STIFFENER DETAIL

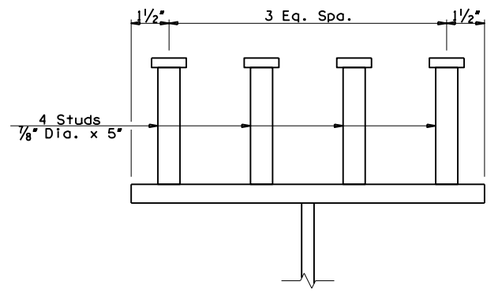
NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.



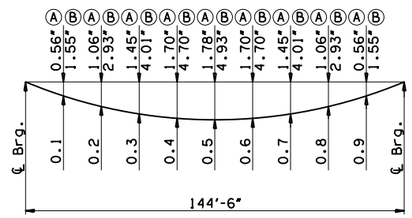
DETAILS OF WELDED SPLICES

WELD TABLE

MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO ¾" INCLUSIVE	¼"	
OVER ¾"	5/16"	



SHEAR CONNECTOR DETAIL



Ⓐ Girders and Cross-Frames
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets and Fencing

DEAD LOAD DEFLECTION DIAGRAM

NOTES:

All Structural Steel, including Plate Girders, Cross-Frames, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

Girders shall be cambered to account for dead load deflection and, if necessary, vertical curve.

For Framing Plan, see Sheet No. BJ014.

For Cross-Frame Details, see Sheet No. BJ017.

For Plate Girder Haunch Details, see Sheet No. BJ008.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

PLATE GIRDER DETAILS
(SHEET 1 OF 2)

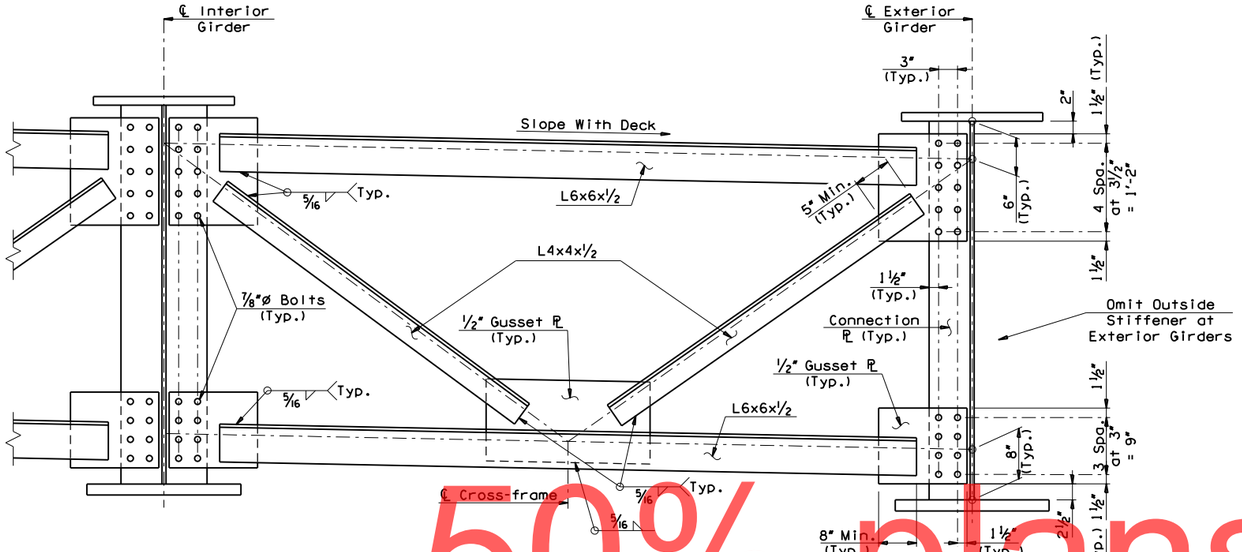
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ016

50% plans

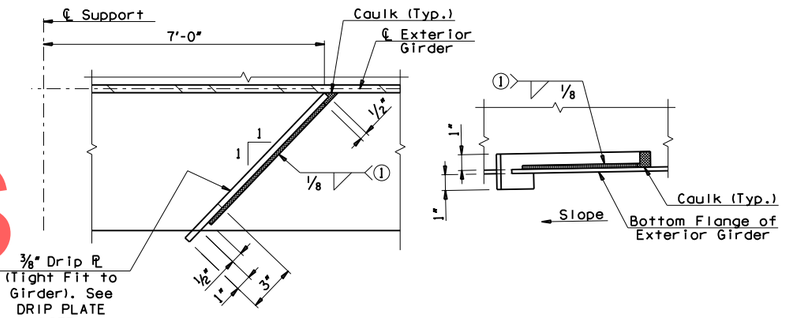
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



INTERMEDIATE CROSS-FRAME

50% plans

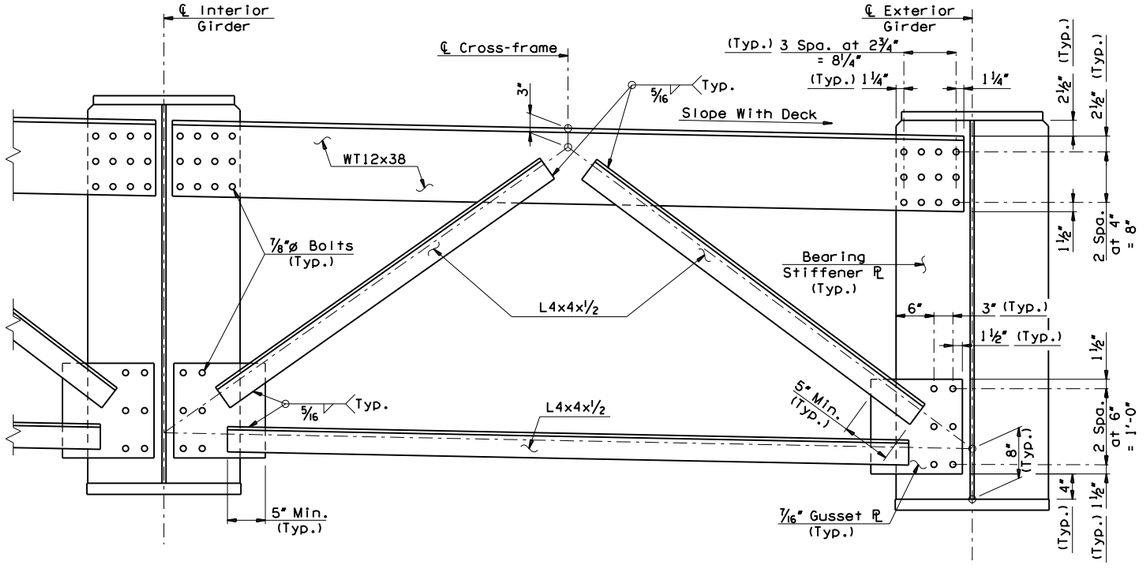


PLAN ELEVATION

TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior girders on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".

① Stop weld ½" from end of Drip Plate and from edge of Girder. Fill with caulk as shown.



END CROSS-FRAME

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR
PLATE GIRDER DETAILS
(SHEET 2 OF 2)

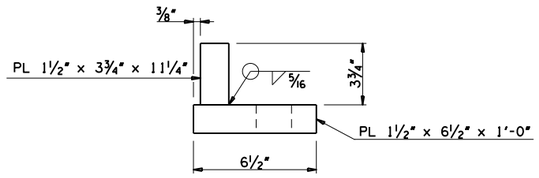
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

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DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ017

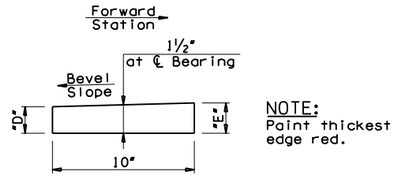
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

TABLE OF VARIABLES							
LOCATION		"A"	"B"	"C"	"D"	"E"	"F"
ABUTMENT NO. 1		1'-1⅝"	1'-7½"	9¾"	1.42"	1.58"	7"
PIER NO. 1	BACK STA.	1'-1⅝"	1'-7½"	9¾"	1.44"	1.56"	7"
PIER NO. 1	FORWARD STA.	1'-5⅜"	2'-3"	1'-1½"	1.44"	1.56"	6½"
PIER NO. 2	BACK STA.	1'-5⅜"	2'-3"	1'-1½"	1.50"	1.50"	6½"
PIER NO. 2	FORWARD STA.	1'-1⅝"	1'-7½"	9¾"	1.50"	1.50"	7"
ABUTMENT NO. 2		1'-1⅝"	1'-7½"	9¾"	1.50"	1.50"	7"

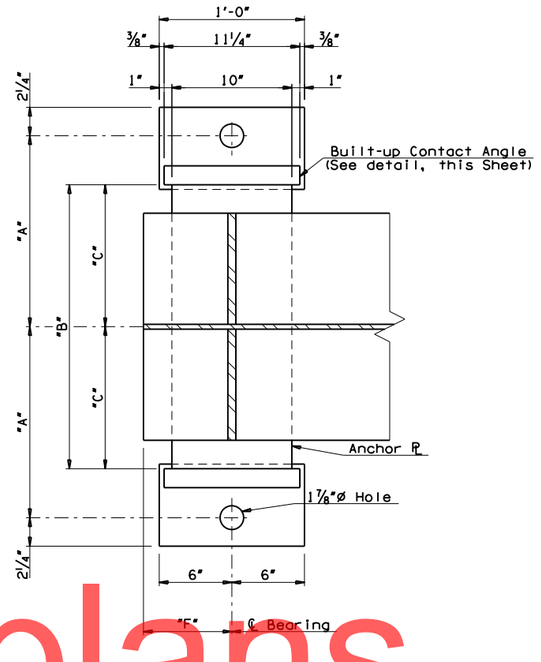


BUILT-UP CONTACT ANGLE DETAIL

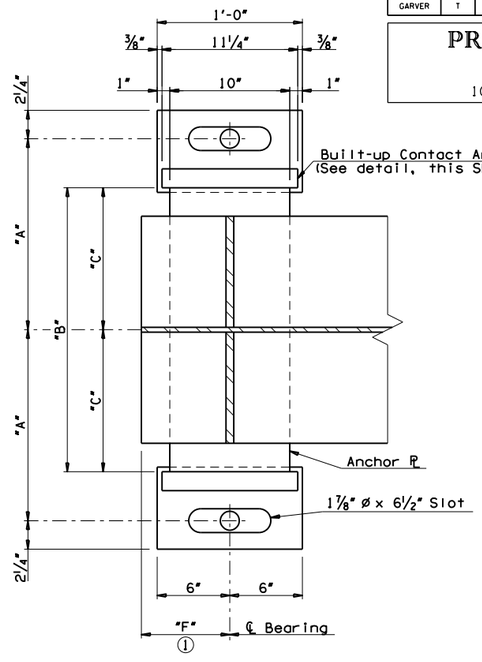


NOTE:
Paint thickest edge red.

BEVELED ANCHOR PLATE DETAIL

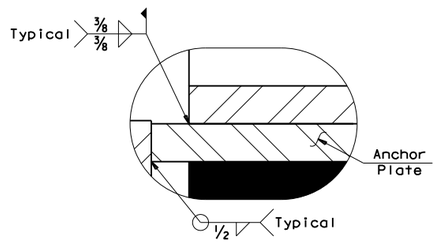


FIXED BEARING PLAN

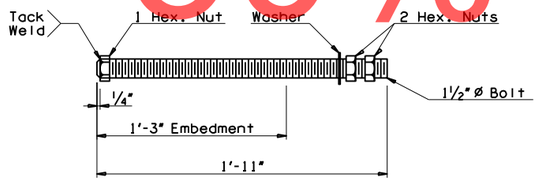


EXPANSION BEARING PLAN

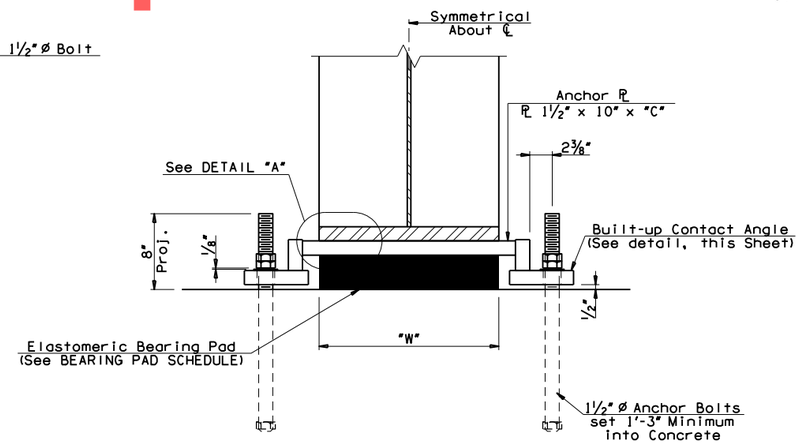
① Anchor Bolts shall be centered in slots during setting of beams. Dimension may vary depending on temperature at the time of beam setting.



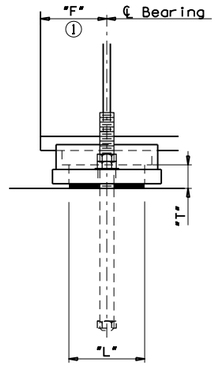
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



SIDE VIEW

BEARING DETAILS

BEARING PAD SCHEDULE						
LOCATION		60 DUROMETER ELASTOMERIC BEARING PAD				
		SIZE (T x L x W)	COVER LAYER	INNER LAYER	LAMINATE LAYER	WEIGHT ②
ABUTMENT NO. 1		3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 1	BACK STA.	3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 1	FWD. STA.	3⅝" x 9" x 2'-0"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 2	BACK STA.	3⅝" x 9" x 2'-0"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 2	FWD. STA.	3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
ABUTMENT NO. 2		3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX

② Average estimated weight of Structural Steel per Bearing

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR

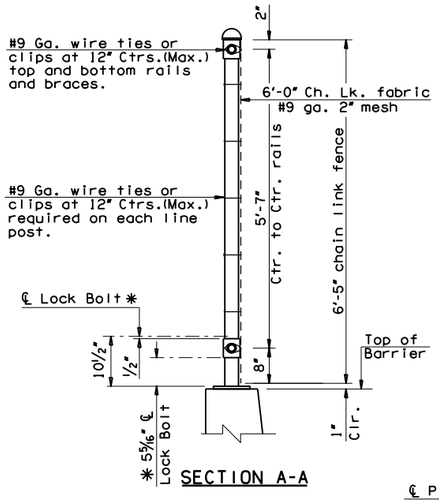
BEARING DETAILS

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

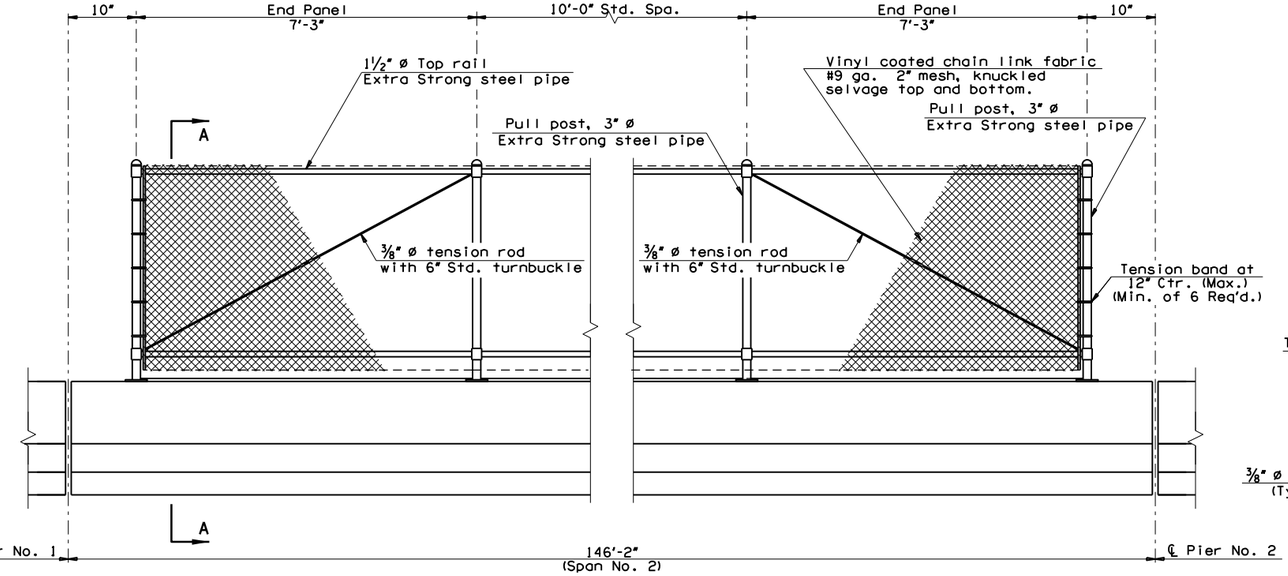
DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ018

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

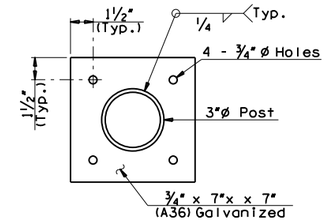
PROPOSED R/W
10/23/2017



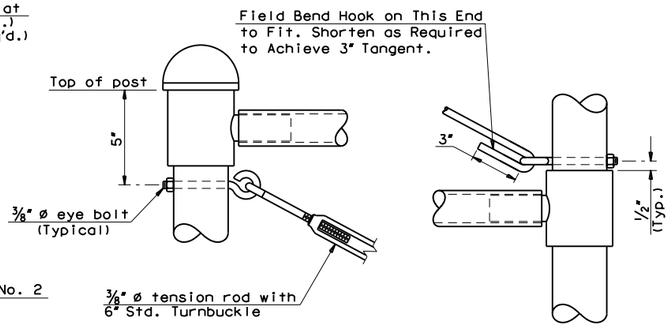
SECTION A-A



ELEVATION
(Located on both sides of Bridge)
(Horizontal dimensions are along face of parapet and do not include a vertical curve correction)



BASE PLATE



TENSION ROD DETAIL

*Lock bolt shall be 5⁄16" ø hex head bolt and and nut. Bolt holes shall be ⅜" diameter. (Omit at pull post & end post.)

50% plans

NOTES:

ANCHOR BOLTS:
Anchor Bolts shall be continuously threaded and conform to ASTM A320 Type 316 Stainless Steel. Use nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320 respectively.

POST AND RAIL:
The Contractor shall use extra strong pipe for the posts and for the top and bottom rail. The pipe shall conform to one of the following:

1) ASTM A53, Type E or S, Grade B, Schedule 80.
2) ASTM F1043 with yield strength conforming to Group IC and wall thickness conforming to Schedule 80.
3) ASTM 500, Grade B or ASTM 501, Schedule 80.

Diameters shown for tubular steel posts and rails are nominal. Weight tolerances shall be as shown in the Standard Specifications. All Posts, rails, dome caps and pipes shall be galvanized in accordance with ASTM A153.

CHAIN LINK FABRIC:
All chain link fabric shall be vinyl coated black. The chain link fabric shall be double knuckled.

Intermediate pull posts are required when the fence exceeds 200 ft. Spacing of pull posts shall be 75 ft. (min.) to 200 ft. (max.) from another pull post or end post.

HARDWARE:
Bolts, lockbolts, eyebolts and turnbuckle shall be galvanized in accordance with ASTM A153 and shall conform to ASTM A307 or A36.

STRUCTURAL STEEL:
Miscellaneous plates, bars, shapes including tension rod shall conform to ASTM A36.

ERECTION PROCEDURE:
The details of the connections require that the post and rail installation be accomplished in a sequential manner. Following the erection of a post, the rails must be installed before an adjacent post can be erected. The installation may begin with an end post or with an interior post and extend both ways.

SHOP DRAWINGS:
Approval of shop details and materials is required before installation begins.

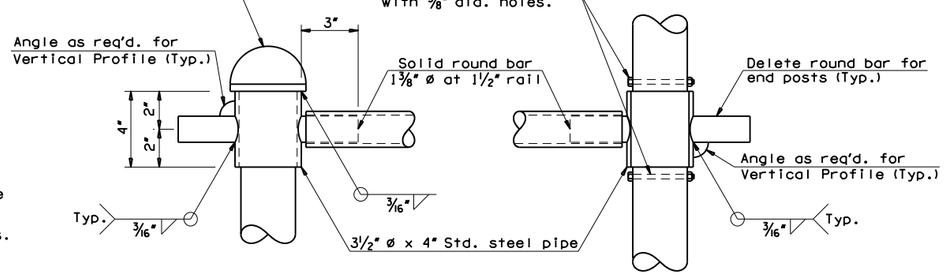
PAYMENT:
All costs of materials, labor, equipment, and any incidentals necessary to complete work to construct the fence as shown in the plans shall be included in the price bid per each of "INSTALLATION OF BRIDGE ITEMS".

① Drilled anchor hole with ⅝" threaded Stainless Steel Anchor Bolts, Nuts, and Washer. The threaded Anchor Bolts shall be embedded a minimum of 7½". The Contractor shall have the option of the methods by which the Anchor Bolts are to be anchored into the existing concrete. Anchorage into the concrete shall be accomplished by one of the following methods:

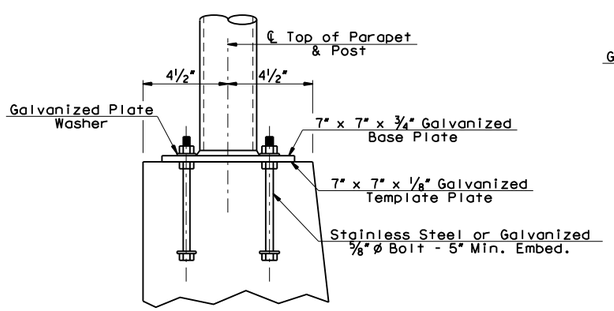
1. Self-Mixing injection type anchorage systems such as "HILTI FASTENING SYSTEMS", "UNITEX PRO-PROXY 300 FAST" or an approved equal. Anchorages shall be installed in accordance with the manufacturers specifications for the system used.

2. Encapsulated non-expanding chemical type anchorage systems such as "RAWLPLUG COMPANY CHEM-STUD", "HILTI ENCAPSULATED" or an approved equal. Anchorages shall be installed in accordance with the manufacturers specifications for the system used.

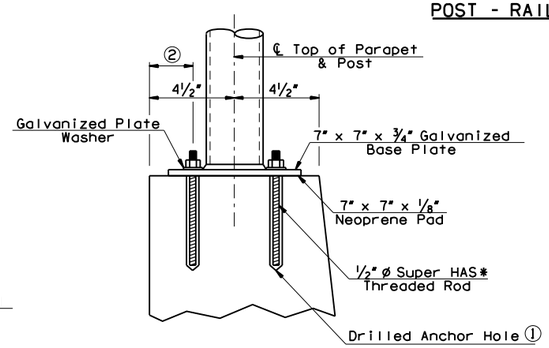
Drilling into the concrete to install the anchorage shall be accomplished without cutting existing concrete reinforcing steel bars. Prior to drilling, the Contractor shall locate and mark the existing concrete reinforcing steel bars with nondestructive tools, equipment and methods approved by the Engineer. 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.



POST - RAIL CONNECTION



POST DETAIL



DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(Epoxy Adhesive Anchors)

②Maintain 2½" Min. Between Face of Parapet and ℄ Drilled Hole.

NOTE:
Details on this drawing applicable to Bridge J and Bridge K.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR

FENCE DETAILS

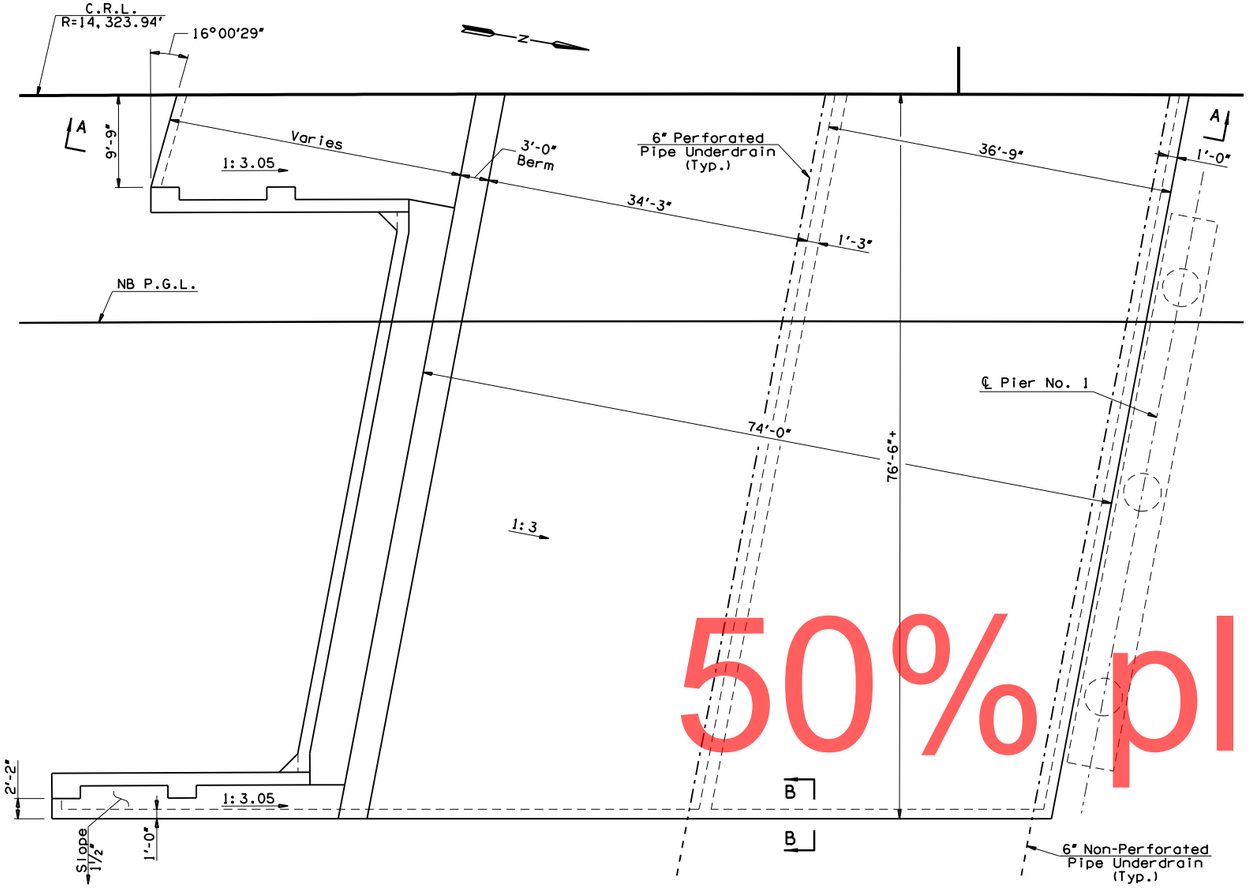
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ019

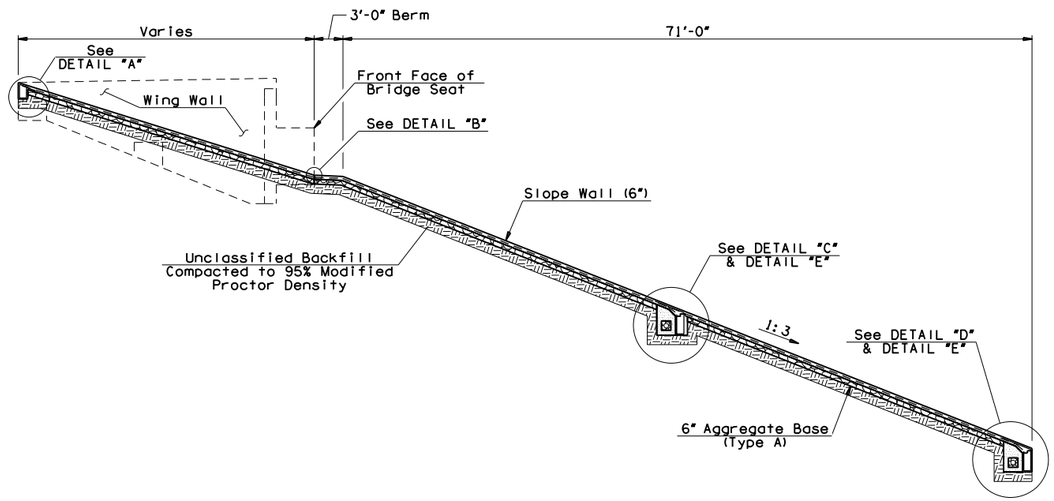
50% plans

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

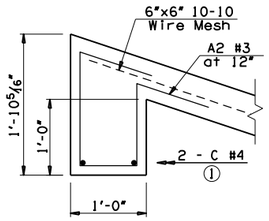
PROPOSED R/W
10/23/2017



SLOPE WALL PLAN - ABUTMENT NO. 1
(Abutment No. 2 similar)

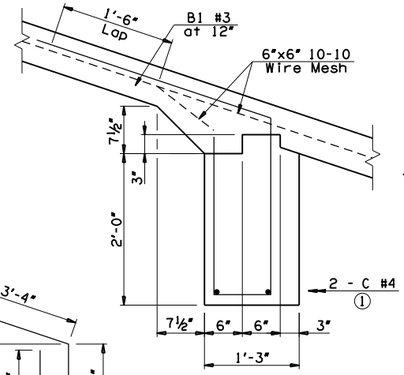


SECTION A-A

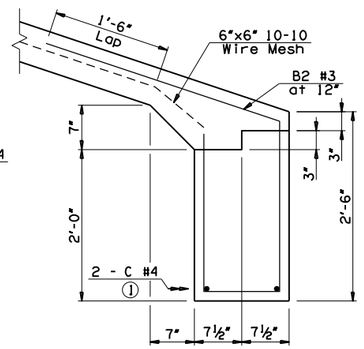


DETAIL "A"

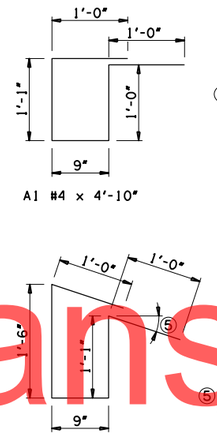
① Continuous 1'-6" lap when necessary

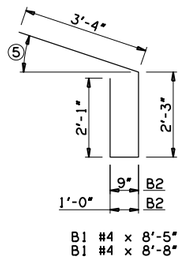


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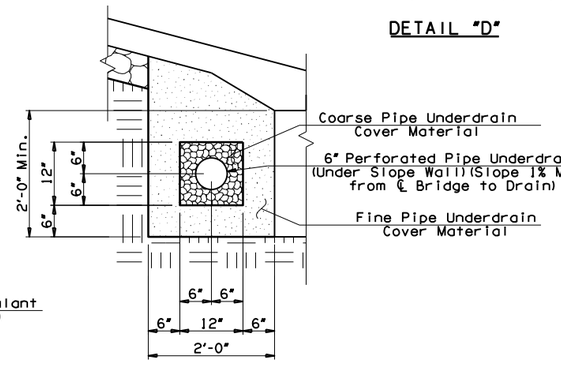


DETAIL "D"

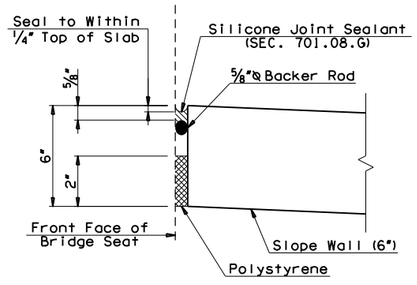




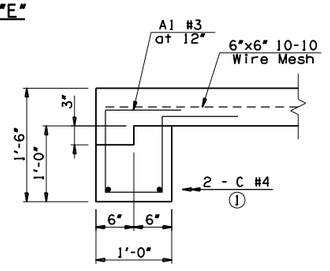
⑤ Match slope of Slope Wall



DETAIL "E"



DETAIL "B"



SECTION B-B

SUMMARY OF QUANTITIES - SLOPE WALLS

	ITEM	UNIT	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL
②	SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	X,XXX.XX
③	6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
④	6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XX.XX	XX.XX	XX.XX

② All costs of the "SLOPE WALL (6")" installation including Class A Concrete, Reinforcing Steel, Lap Splices, Backer Rod, Silicone Joint Sealant, Preformed Joint Filler, Polystyrene, 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 (6")".

③ All costs of the Perforated Pipe Underdrain installation including trench excavation, cover material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

④ All costs of the Non-Perforated Pipe Underdrain installation including trench excavation, backfilling, material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

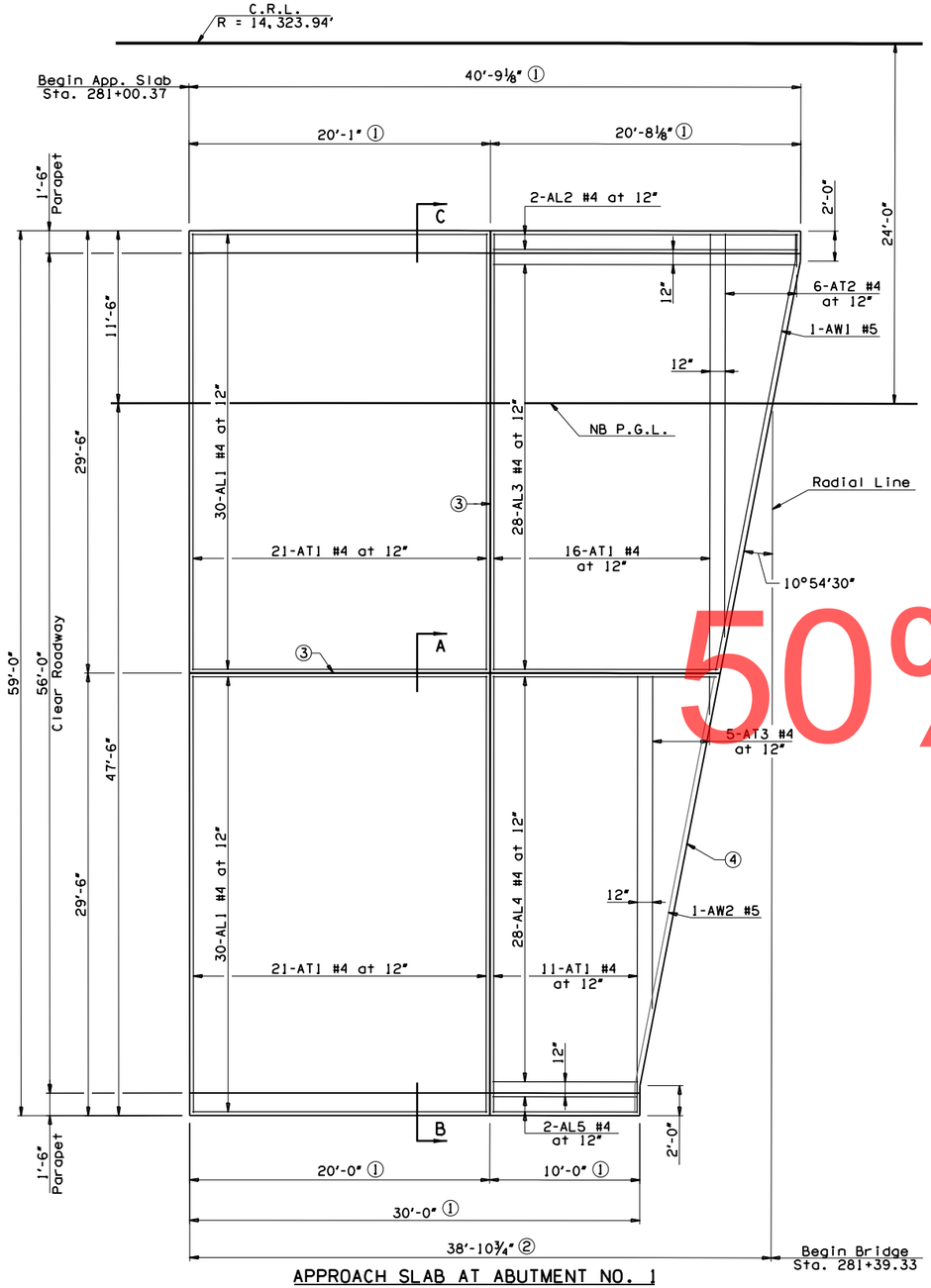
SLOPE WALL DETAILS

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

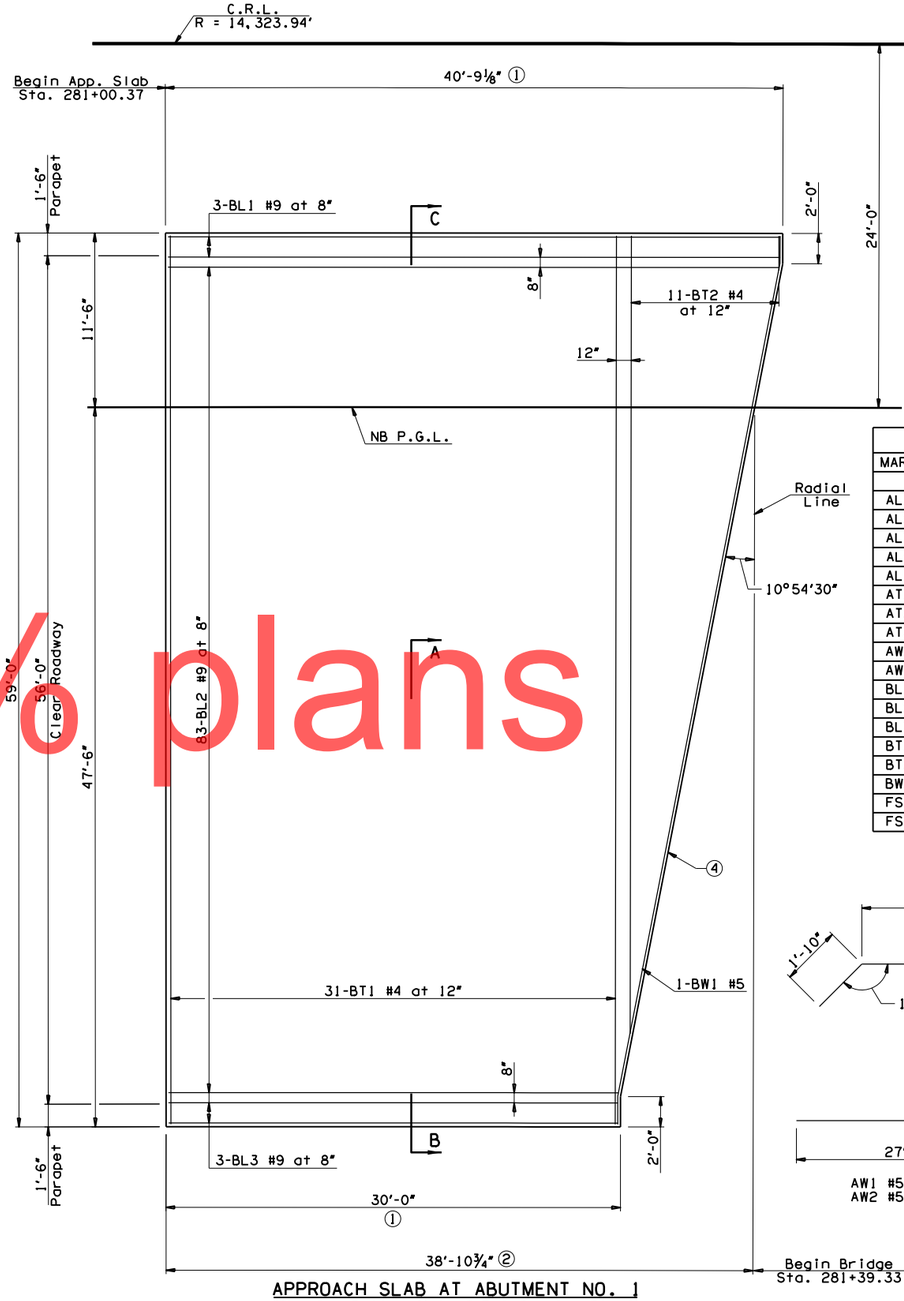
DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ020

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

PROPOSED R/W
10/23/2017



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

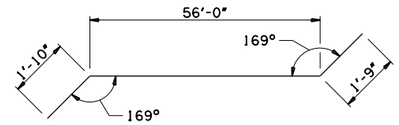


APPROACH SLAB AT ABUTMENT NO. 1
(Showing Bottom Mat of Reinforcing Steel)

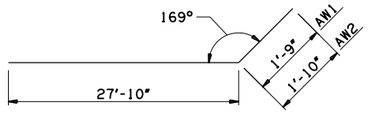
50% plans

BAR LIST - APPROACH SLAB NO. 1

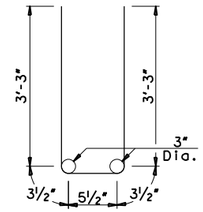
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	60	STR.	19'-8"	-
AL2	#4	2	STR.	20'-4"	-
AL3	#4	28	STR.	17'-7½" AVG.	15'-0" To 20'-3"
AL4	#4	28	STR.	12'-3½" AVG.	9'-8" To 14'-11"
AL5	#4	2	STR.	9'-8"	-
AT1	#4	69	STR.	29'-2"	-
AT2	#4	6	STR.	14'-7" AVG.	2'-3" To 26'-11"
AT3	#4	5	STR.	12'-4½" AVG.	2'-7" To 22'-2"
AW1	#5	1	BENT	29'-7"	-
AW2	#5	1	BENT	29'-8"	-
BL1	#9	3	STR.	40'-5"	-
BL2	#9	83	STR.	35'-0" AVG.	29'-8" To 40'-4"
BL3	#9	3	STR.	29'-8"	-
BT1	#4	31	STR.	58'-8"	-
BT2	#4	11	STR.	27'-5½" AVG.	2'-3" To 52'-8"
BW1	#5	1	BENT	59'-7"	-
FS2	#5	72	BENT	7'-4"	-
FS6	#5	10	BENT	7'-6½"	-



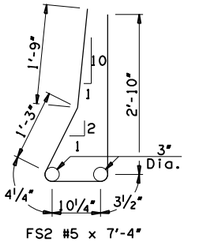
BW1 #5 x 59'-7"



AW1 #5 x 29'-7"
AW2 #5 x 29'-8"



FS6 #5 x 7'-6½"



FS2 #5 x 7'-4"

① Measured Along Outside Edge of Slab
② Measured Along NB P.G.L.
③ ½" Sawed and Sealed Joint in top of Approach Slab. See DETAIL "B" on Sheet No. BJ023.
④ ½" Sawed and Sealed Construction Joint in top of Approach Slab. See DETAIL "A" on Sheet No. BJ023.

NOTES:
Place reinforcing steel in the top of the Approach Slab 2" either side of the Sawed and Sealed Longitudinal and Transverse Joints. For additional details, See Std. LECS-4.

Do not groove within 6" of any joint.

42" F-Shaped Parapet reinforcement omitted for clarity. See Std. FSHP-42-2-00E for details.

For Summary of Quantities and Sections A, B & C, see Sheet No. BJ023.

All transverse reinforcing shall be placed on lines radial to NB P.G.L. Spacing shown for all transverse reinforcing is measured along NB P.G.L.

All longitudinal lines and longitudinal reinforcing shall be placed along curves concentric with C.R.L.

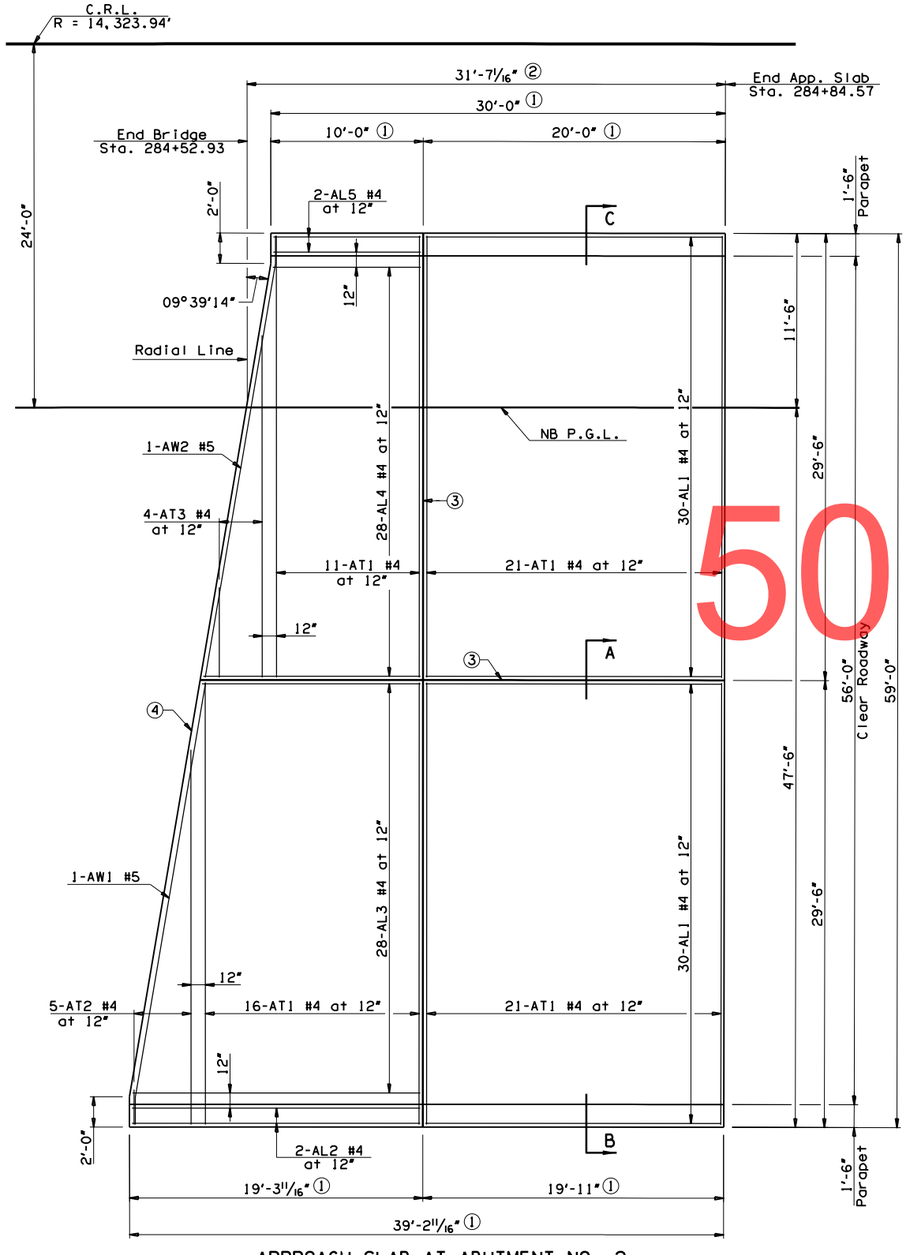
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR
APPROACH SLAB DETAILS
(SHEET 1 OF 3)

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

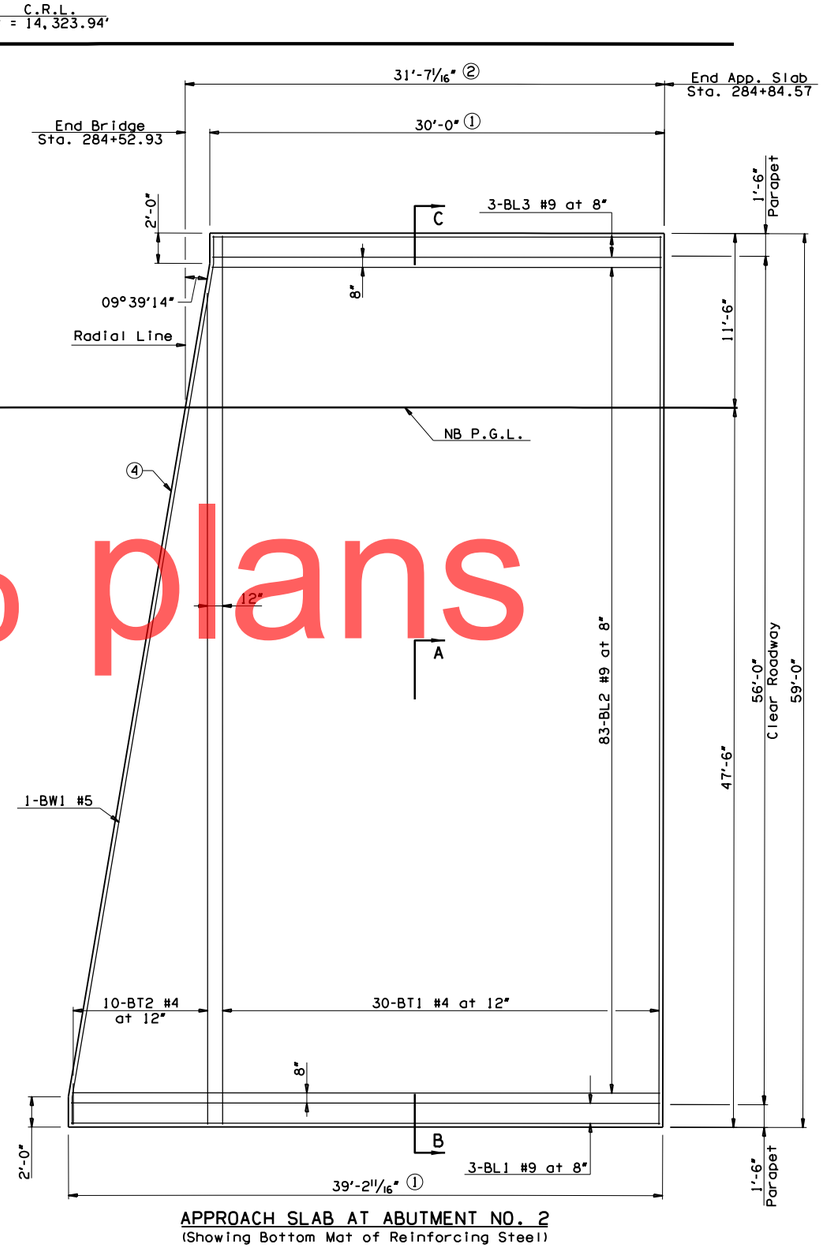
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DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ021

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

PROPOSED R/W
10/23/2017

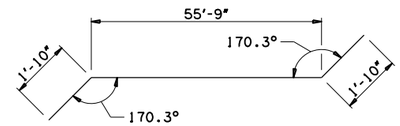


APPROACH SLAB AT ABUTMENT NO. 2
(Showing Top Mat of Reinforcing Steel)

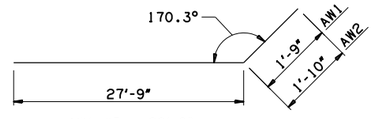


APPROACH SLAB AT ABUTMENT NO. 2
(Showing Bottom Mat of Reinforcing Steel)

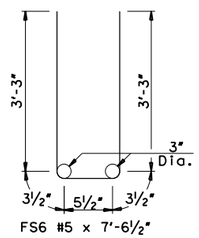
BAR LIST - APPROACH SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	60	STR.	19'-7"	-
AL2	#4	2	STR.	18'-11"	-
AL3	#4	28	STR.	16'-7 1/2" AVG.	14'-4" To 18'-11"
AL4	#4	28	STR.	11'-11 1/2" AVG.	9'-8" To 14'-3"
AL5	#4	2	STR.	9'-8"	-
AT1	#4	69	STR.	29'-2"	-
AT2	#4	5	STR.	13'-6 1/2" AVG.	2'-4" To 24'-9"
AT3	#4	4	STR.	14'-3" AVG.	5'-11" To 22'-7"
AW1	#5	1	BENT	29'-6"	-
AW2	#5	1	BENT	29'-7"	-
BL1	#9	3	STR.	38'-10"	-
BL2	#9	83	STR.	34'-3" AVG.	29'-8" To 38'-10"
BL3	#9	3	STR.	29'-8"	-
BT1	#4	30	STR.	58'-8"	-
BT2	#4	10	STR.	28'-10" AVG.	2'-9" To 54'-11"
BW1	#5	1	BENT	52'-1"	-
FS2	#5	70	BENT	7'-4"	-
FS6	#5	10	BENT	7'-6 1/2"	-



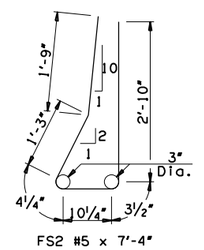
BW1 #5 x 52'-1"



AW1 #5 x 29'-6"
AW2 #5 x 29'-7"



FS6 #5 x 7'-6 1/2"



FS2 #5 x 7'-4"

① Measured Along Outside Edge of Slab
② Measured Along NB P.G.L.
③ ½" Sawed and Sealed Joint in top of Approach Slab. See DETAIL "B" on Sheet No. BJ023.
④ ½" Sawed and Sealed Construction Joint in top of Approach Slab. See DETAIL "A" on Sheet No. BJ023 .

NOTES:
Place reinforcing steel in the top of the Approach Slab 2" either side of the Sawed and Sealed Longitudinal and Transverse Joints. For additional details, See Std. LECS-4.

Do not groove within 6" of any joint.

42" F-Shaped Parapet reinforcement omitted for clarity. See Std. FSHP-42-2-00E for details.

For Summary of Quantities and Sections A, B & C, see Sheet No. BJ023.

All transverse reinforcing shall be placed on lines radial to NB P.G.L. Spacing shown for all transverse reinforcing is measured along NB P.G.L.

All longitudinal lines and longitudinal reinforcing shall be placed along curves concentric with C.R.L.

50% plans

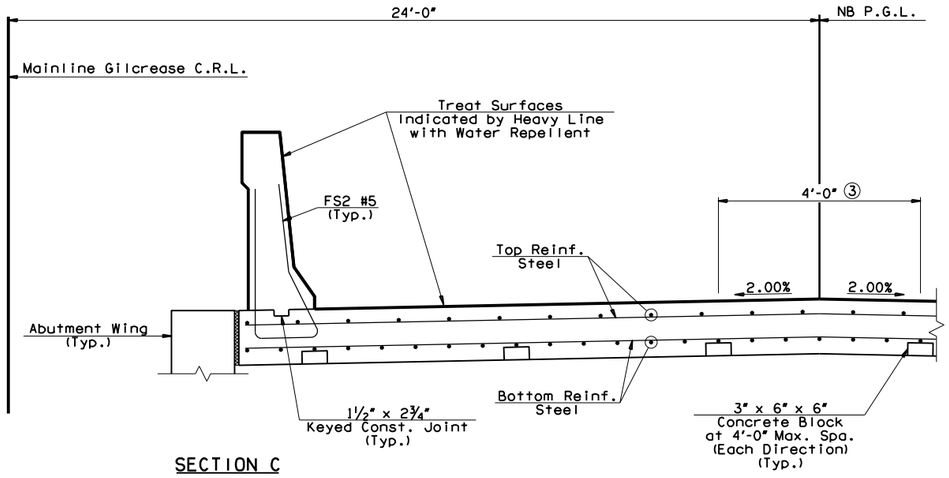
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. J GILCREASE NB OVER BNSF RR
APPROACH SLAB DETAILS
(SHEET 2 OF 3)

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

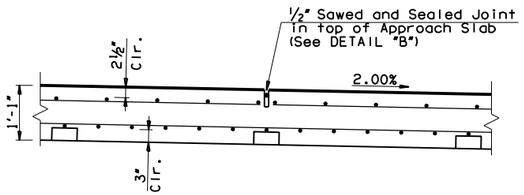
DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ022

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

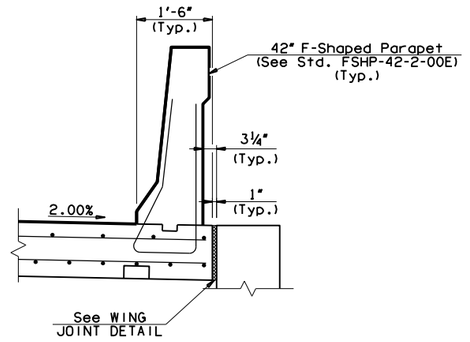
PROPOSED R/W
10/23/2017



SECTION C



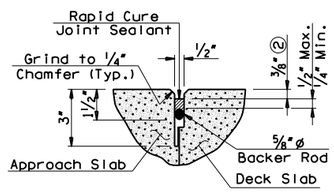
SECTION A THRU APPROACH SLAB



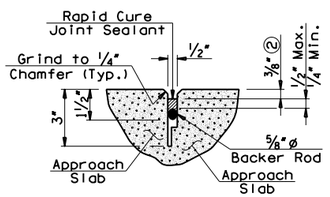
SECTION B

③ Round 2'-0" either side of NB P.G.L. to avoid sharp edges.

50% plans

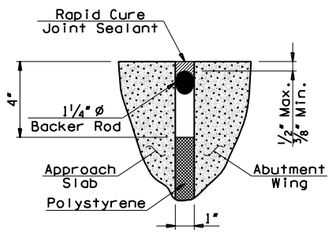


DETAIL "A"
(Construction Joint)



DETAIL "B"

② This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only. See Std. LEC-4-1 for further details.



WING JOINT DETAIL

NOTE:
All costs associated with the Wing Joint Detail, including materials, Rapid Cure Joint Sealant, Backer Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified, are included in the contract unit price for "APPROACH SLAB".

SUMMARY OF QUANTITIES - APPROACH SLABS				
ITEM	UNIT	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
① APPROACH SLAB	S.Y.	XXX.XX	XXX.XX	XXX.XX
SAW-CUT GROOVING	S.Y.	XXX.XX	XXX.XX	XXX.XX
42" F-SHAPED PARAPET	L.F.	XX.XX	XX.XX	XX.XX
CLASS AA CONCRETE	C.Y.	XX.XX	XX.XX	XX.XX
EPOXY COATED REINFORCING STEEL	LB.	XX,XXX.XX	XX,XXX.XX	XX,XXX.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XX.XX	XX.XX	XX.XX

① The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. J GILCREASE NB OVER BNSF RR

APPROACH SLAB DETAILS
(SHEET 3 OF 3)

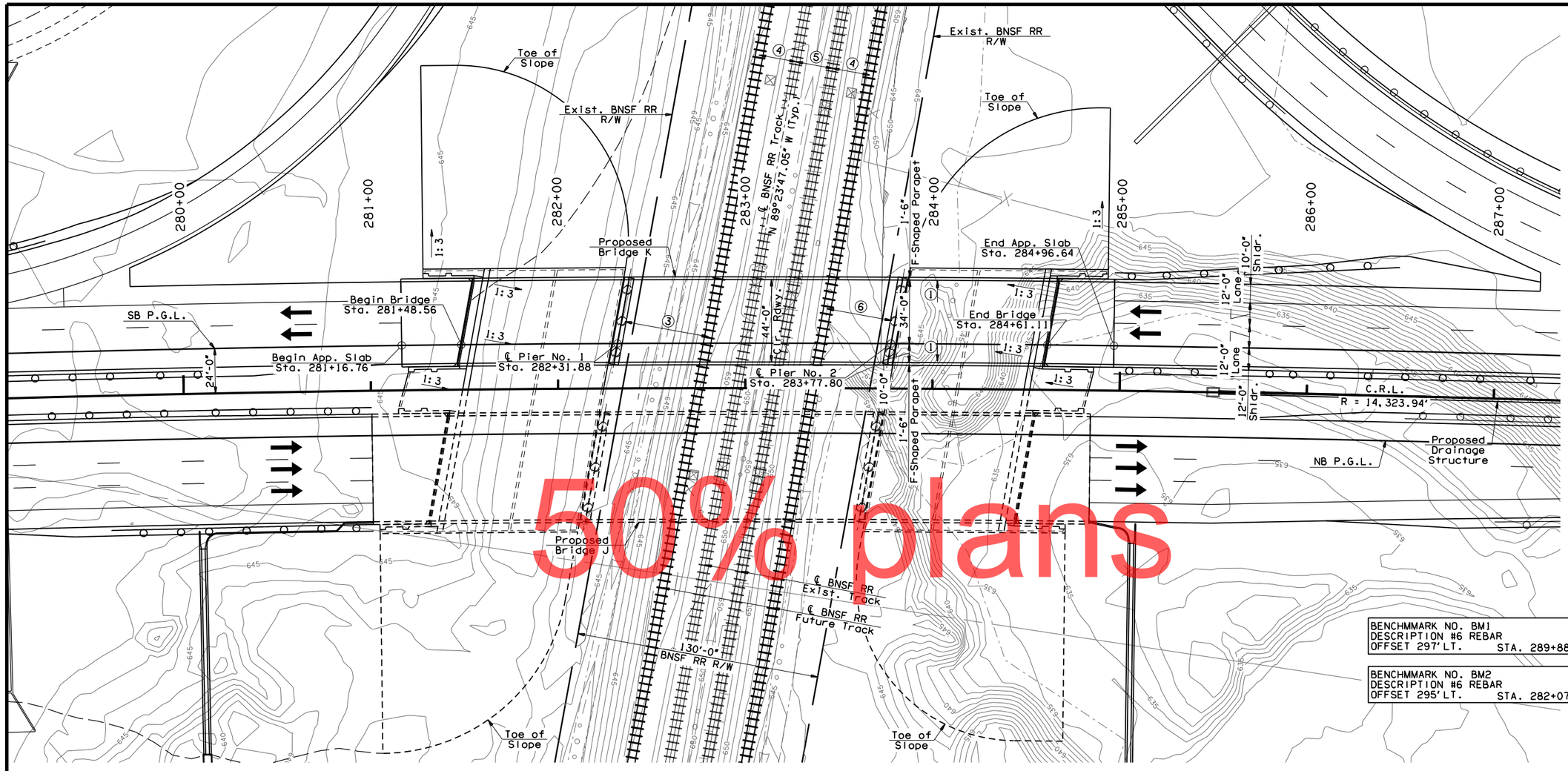
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BJ023

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

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'



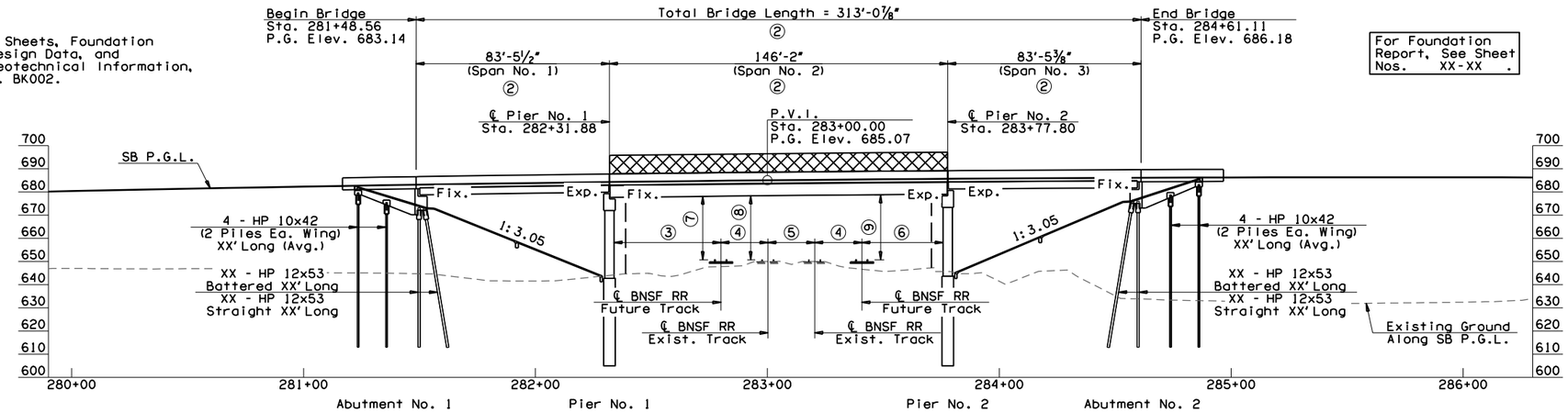
50% plans

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

BENCHMMARK NO. BM2
DESCRIPTION #6 REBAR
OFFSET 295' LT. STA. 282+07.00 EL. 644.59

PLAN

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BK002.



ELEVATION

For Foundation Report, See Sheet Nos. XX-XX .

① 0.02 ft./ft.
② Stations measured along C.R.L. Dimensions measured along SB P.G.L.
③ 45'-1⅛" Min. from face of column to ℄ of Future BNSF RR Track.
④ 20'-0" From ℄ Future BNSF RR Track to ℄ Existing BNSF RR Track.
⑤ 19'-9⁹⁄₁₆" from ℄ Existing BNSF RR Track to ℄ Existing BNSF RR Track.
⑥ 34'-10¹³⁄₁₆" Min. from face of column to ℄ of Future BNSF RR Track.
⑦ 27'-6" Min. Clearance at 9'-0" offset.
⑧ 27'-10" Min. Clearance at existing RR tracks.
⑨ 28'-3" Min. Clearance at 9'-0" offset.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BK001

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

PROPOSED R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BK001-BK002	General Plan and Elevation
BK003	Staking Diagram
BK004	Substructure Excavation and Pipe Underdrain Assembly
BK005-BK007	Pier Details
BK008	Typical Section
BK009	Longitudinal Section
BK010-BK013	Superstructure Details
BK014	Framing Plan
BK015	Rolled Beam Details
BK016-BK017	Plate Girder Details
BK018	Bearing Details
BK019	Slope Wall Details
BK020-BK022	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

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) fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W) fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50) fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316) fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-In-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: 1.80

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= 92.0 Tons	= 92.0 Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (60" DIAMETER DRILLED SHAFTS)

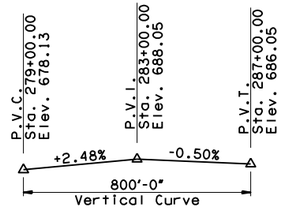
	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= 540.0 Tons	= 540.0 Tons

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

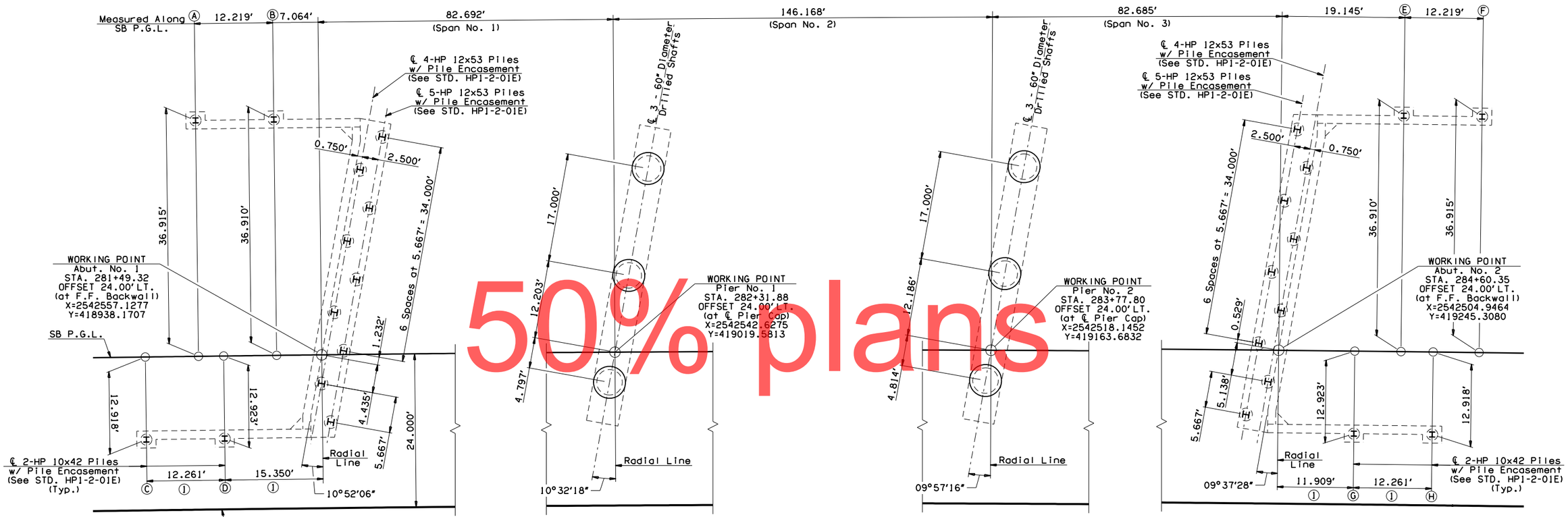
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BK002

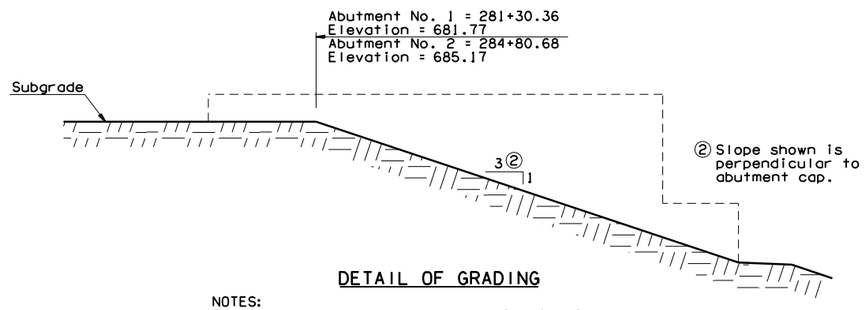
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

50% plans



ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.

Stations and elevations given are at SB P.G.L. and will vary across the width of the bridge.

① Measured along SB P.G.L.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	XXX.XX
B	XXX.XX
CAP	XXX.XX
C	XXX.XX
D	XXX.XX

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
E	XXX.XX
F	XXX.XX
CAP	XXX.XX
G	XXX.XX
H	XXX.XX

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

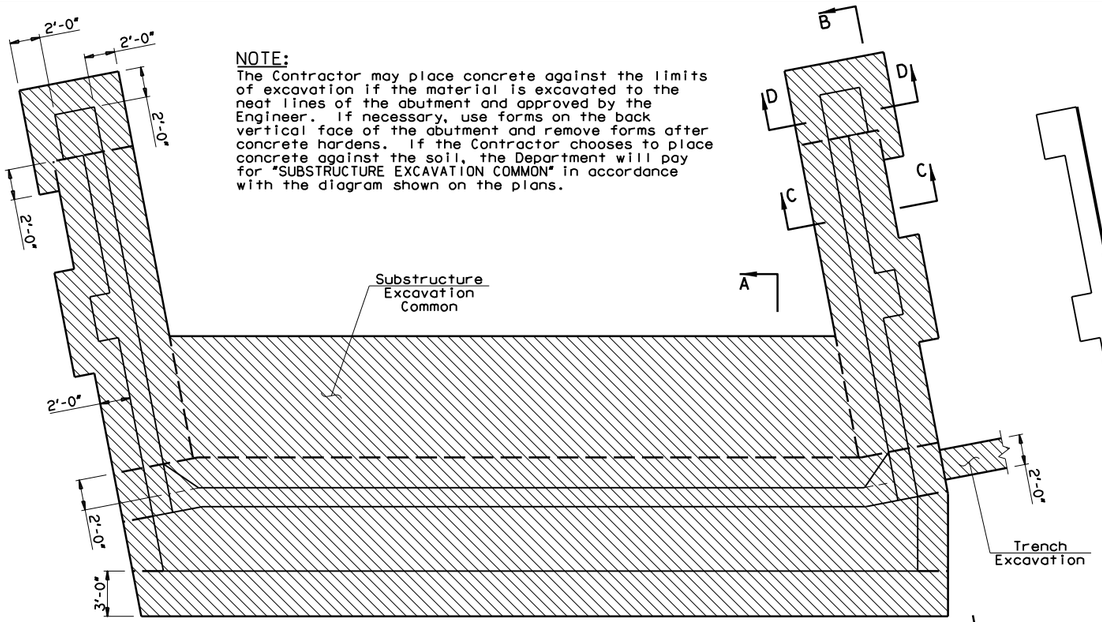
STAKING DIAGRAM

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK003

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

PROPOSED R/W
10/23/2017



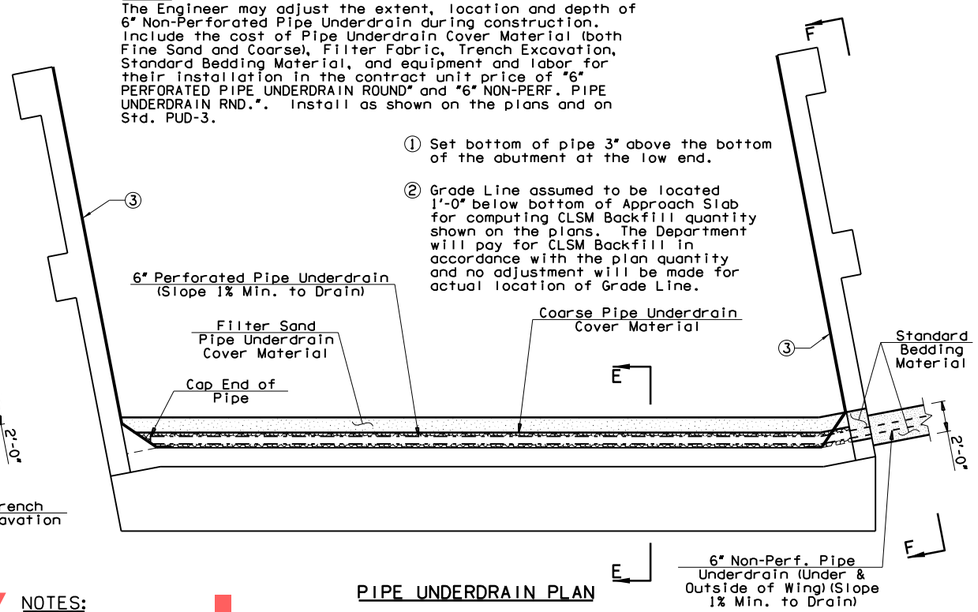
NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.

EXCAVATION PLAN

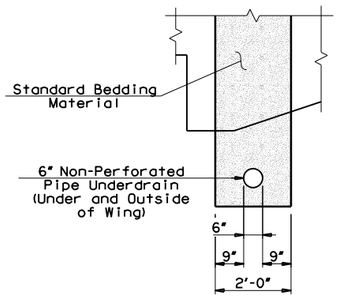
NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.

① Set bottom of pipe 3" above the bottom of the abutment at the low end.

② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.



PIPE UNDERDRAIN PLAN



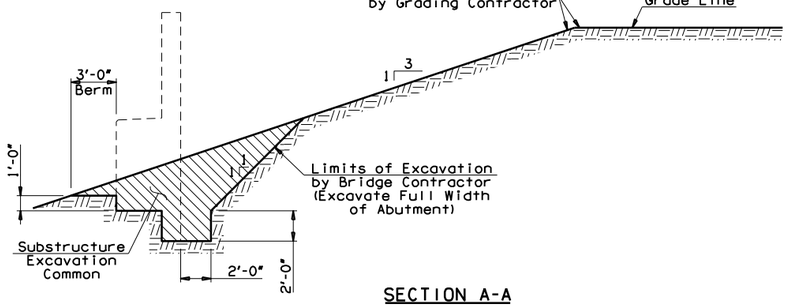
DETAIL "B"

ABUTMENT GRADING DATA			
ABUT.	WING	STATION	ELEVATION ②
1	W	281+28.58	680.03
	E	281+20.26	680.37
2	W	284+93.15	683.49
	E	284+85.97	683.95

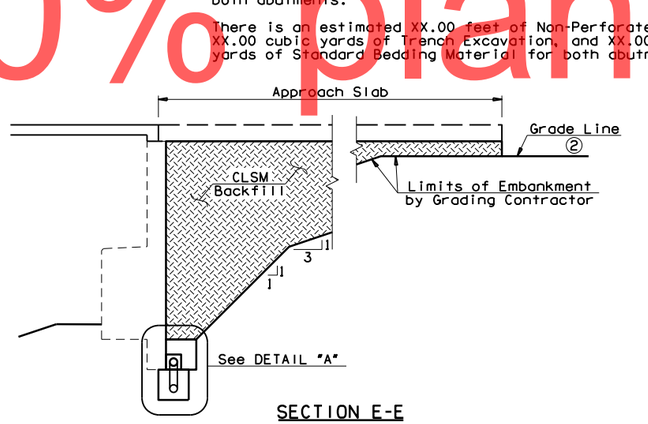
50% plans

NOTES:
There is an estimated XX.00 feet of Perforated Pipe and XX.X0 cubic yards of Pipe Underdrain Cover Material for both abutments.

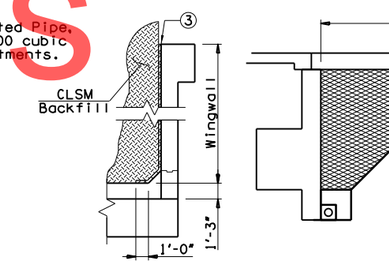
There is an estimated XX.00 feet of Non-Perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.



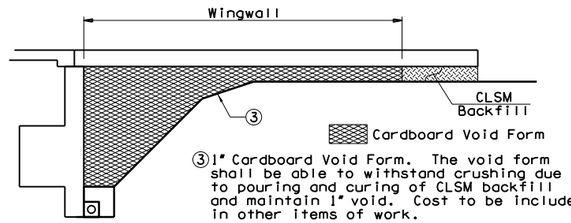
SECTION A-A



SECTION E-E



PLAN



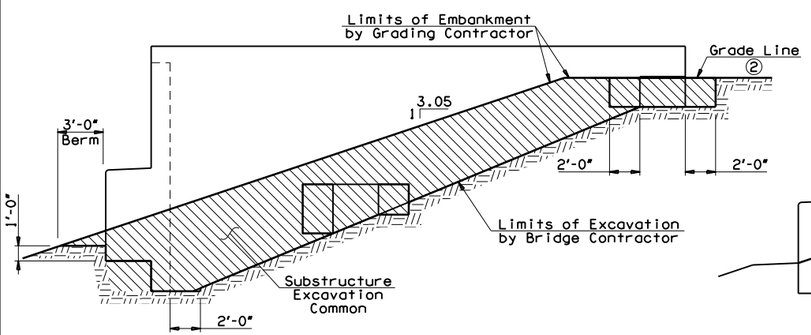
ELEVATION

NOTE:
Wingwall skew may not be depicted accurately in this schematic.

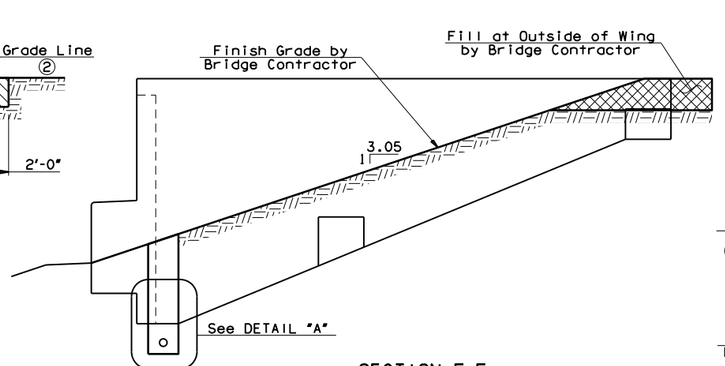
③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal. Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.

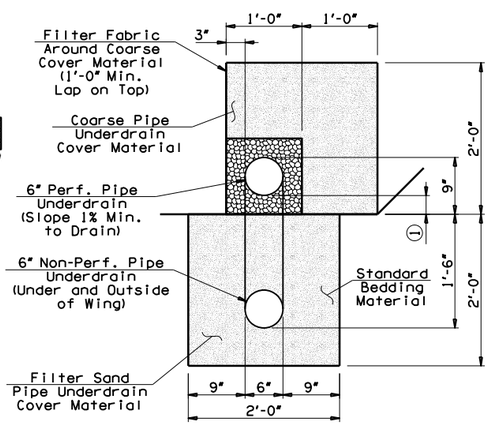
VOID FORM DETAILS



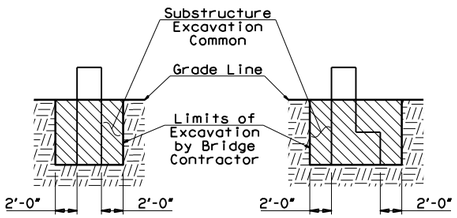
SECTION B-B



SECTION F-F



DETAIL "A"



SECTION C-C

SECTION D-D

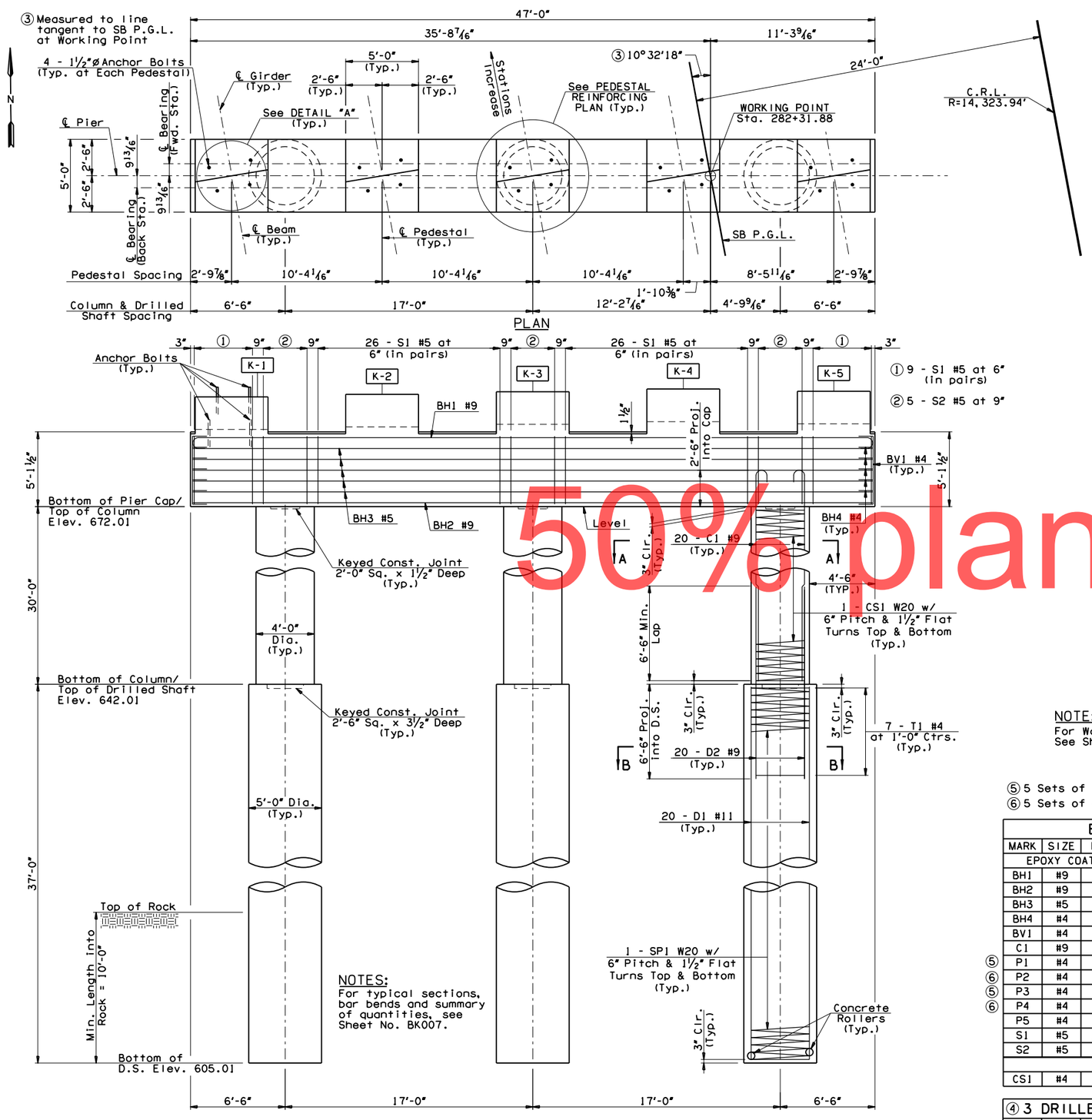
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

SUBSTRUCTURE EXC. & PIPE UNDERDRAIN ASSEMBLY DETAILS

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

DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	ABH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK004

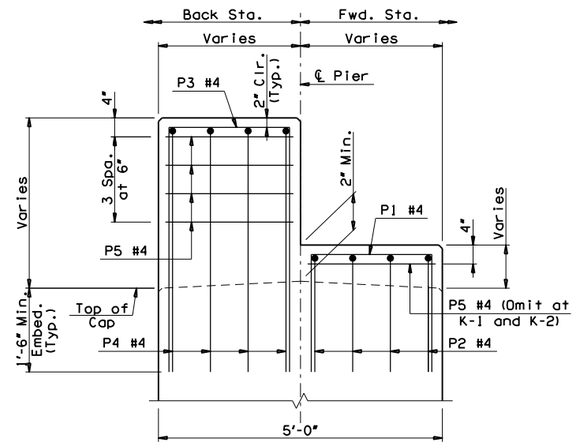


NOTES:
For typical sections, bar bends and summary of quantities, see Sheet No. BK007.

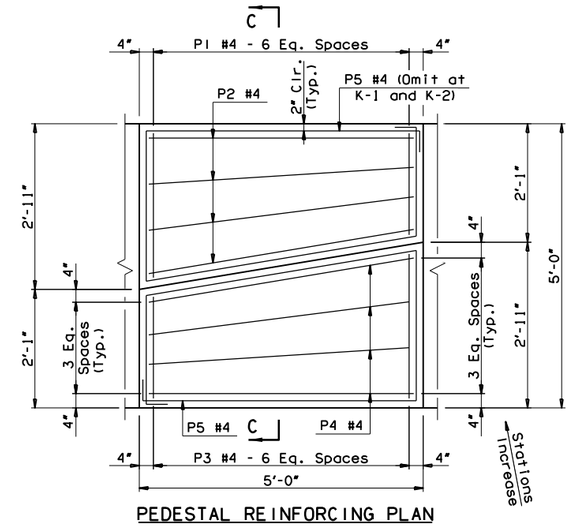
ELEVATION
(Looking Forward Station)

PIER NO. 1

PEDESTAL ELEVATIONS					
PIER NO.	PEDESTAL NO.				
	K-1	K-2	K-3	K-4	K-5
1 (BACK STA.)	679.54	679.72	679.90	680.08	679.93
1 (FWD. STA.)	677.30	677.48	677.66	677.84	677.69



SECTION C-C



PEDESTAL REINFORCING PLAN

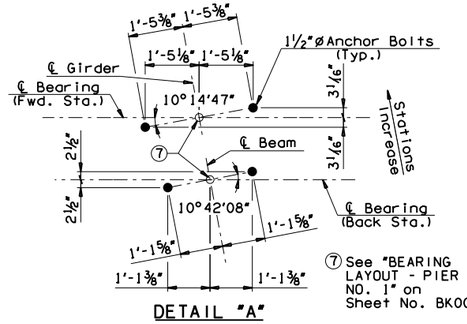
NOTE:
For Water Repellent Details, See Sheet No. BSTA01.

⑤ 5 Sets of 7
⑥ 5 Sets of 4

BAR LIST - PIER NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES
EPOXY COATED REINFORCING STEEL					
BH1	#9	8	BENT	49'-2"	-
BH2	#9	8	STR.	46'-8"	-
BH3	#5	10	STR.	46'-8"	-
BH4	#4	10	BENT	6'-6"	-
BV1	#4	8	BENT	6'-6"	-
C1	#9	60	BENT	33'-9"	-
⑤ P1	#4	35	BENT	7'-2 1/2" AVG.	6'-10" TO 7'-7"
⑥ P2	#4	20	BENT	9'-9"	-
⑤ P3	#4	35	BENT	11'-8 1/2" AVG.	11'-4" TO 12'-1"
⑥ P4	#4	20	BENT	14'-3"	-
P5	#4	23	BENT	14'-5"	-
S1	#5	140	BENT	17'-1"	-
S2	#5	15	BENT	14'-0"	-
REINFORCING STEEL					
CS1	#4	3	SPIRAL	650'-0"	-

④ 3 DRILLED SHAFTS - PIER 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	60	STR.	36'-6"
D2	#9	60	STR.	13'-3"
SP1	W20	3	SPIRAL	955'-9"
T1	#4	21	BENT	12'-6"

④ Included in the price bid per Linear Foot of "DRILLED SHAFTS 60" DIAMETER".



DETAIL "A"

⑦ See "BEARING LAYOUT - PIER NO. 1" on Sheet No. BK007.

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
PIER DETAILS
(SHEET 1 OF 3)

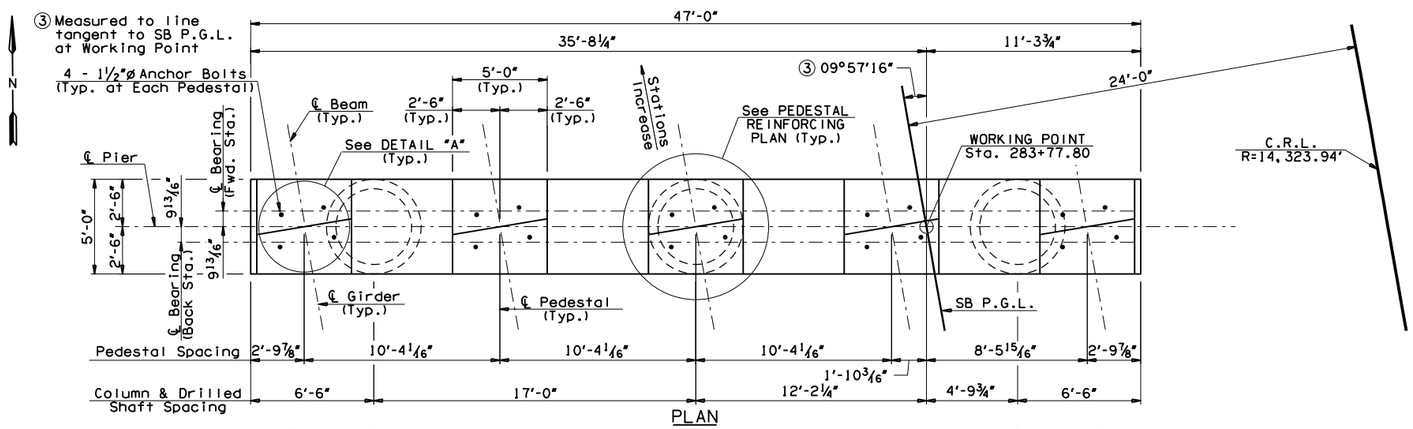
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500
DETAILED	HEW	7/17	
CHECKED	WMM	8/17	DATE: 10/23/2017 SHEET NO. BK005

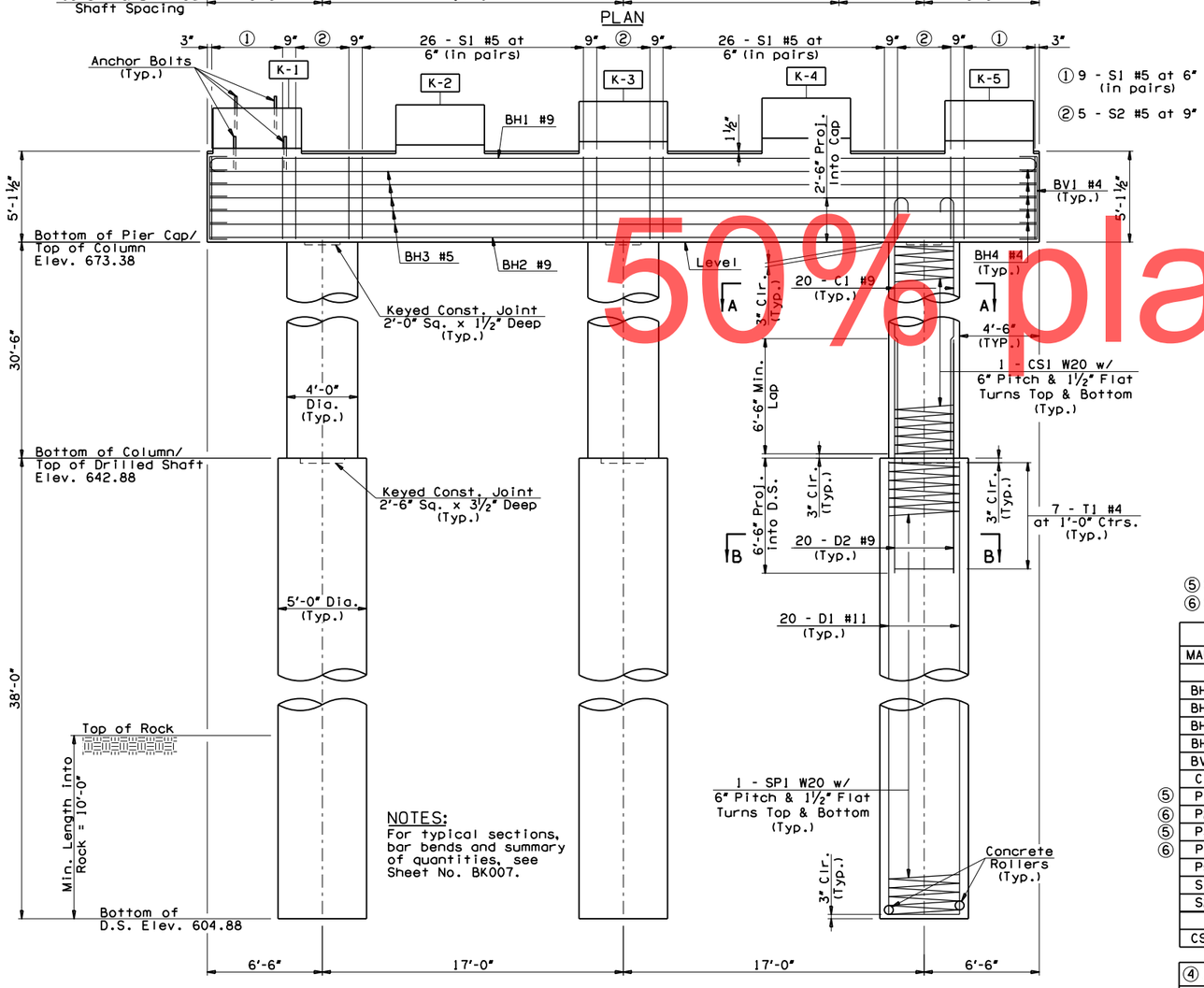
50% plans

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

PROPOSED R/W
10/23/2017



PLAN



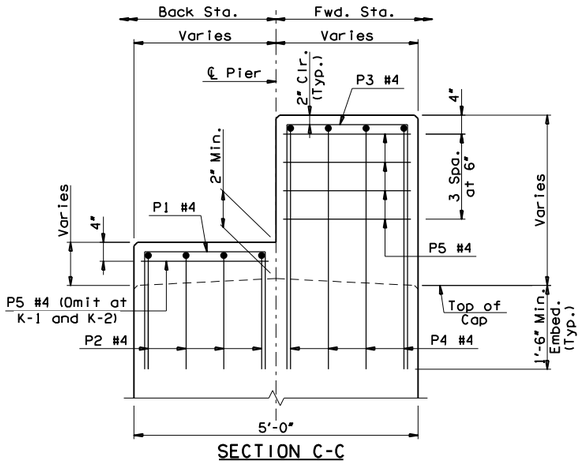
NOTES:
For typical sections, bar bends and summary of quantities, see Sheet No. BK007.

ELEVATION
(Looking Forward Station)

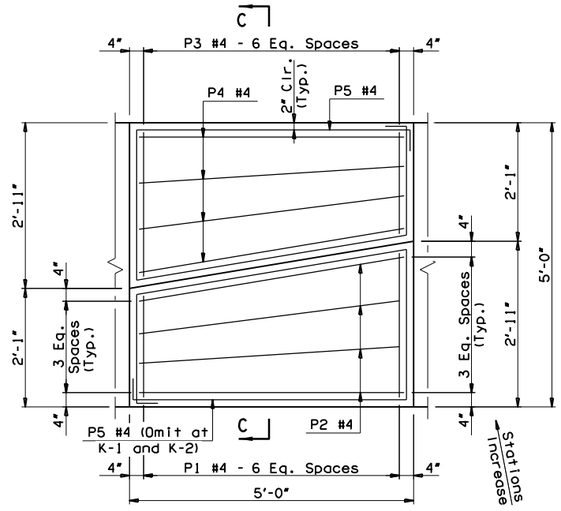
PIER NO. 2

PEDESTAL ELEVATIONS					
PIER NO.	PEDESTAL NO.				
	K-1	K-2	K-3	K-4	K-5
2 (BACK STA.)	678.67	678.86	679.05	679.24	679.10
2 (FWD. STA.)	680.94	681.13	681.32	681.51	681.37

④ Included in the price bid per Linear Foot of "DRILLED SHAFTS 60" DIAMETER".



SECTION C-C



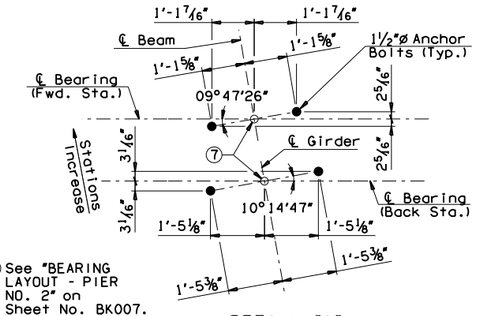
PEDESTAL REINFORCING PLAN

NOTE:
For Water Repellent Details, See Sheet No. BSTA01.

⑤ 5 Sets of 7
⑥ 5 Sets of 4

BAR LIST - PIER NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES
EPOXY COATED REINFORCING STEEL					
BH1	#9	8	BENT	49'-2"	-
BH2	#9	8	STR.	46'-8"	-
BH3	#5	10	STR.	46'-8"	-
BH4	#4	10	BENT	6'-6"	-
BV1	#4	8	BENT	6'-6"	-
C1	#9	60	BENT	34'-3"	-
⑤ P1	#4	35	BENT	7'-2½" AVG.	6'-10" TO 7'-7"
⑥ P2	#4	20	BENT	9'-9"	-
⑤ P3	#4	35	BENT	11'-8½" AVG.	11'-4" TO 12'-1"
⑥ P4	#4	20	BENT	14'-3"	-
P5	#4	23	BENT	14'-5"	-
S1	#5	140	BENT	17'-1"	-
S2	#5	15	BENT	14'-0"	-
REINFORCING STEEL					
CS1	#4	3	SPIRAL	660'-5"	-

④ 3 DRILLED SHAFTS - PIER 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	60	STR.	37'-6"
D2	#9	60	STR.	13'-3"
SP1	W20	3	SPIRAL	980'-11"
T1	#4	21	BENT	12'-6"



⑦ See "BEARING LAYOUT - PIER NO. 2" on Sheet No. BK007.

DETAIL "A"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

PIER DETAILS
(SHEET 2 OF 3)

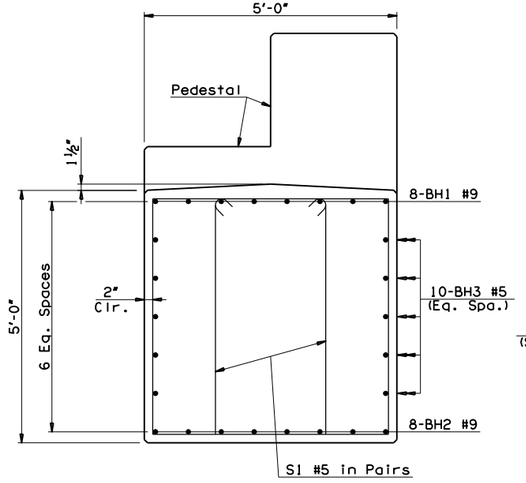
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500
DETAILED	HEW	7/17	
CHECKED	WMM	8/17	DATE: 10/23/2017 — SHEET NO. BK006

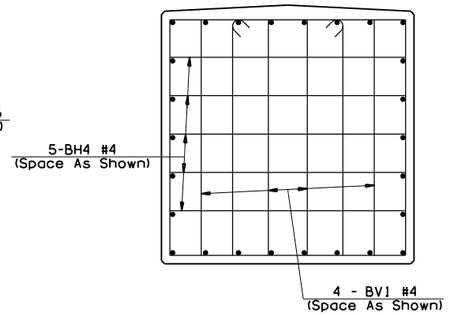
50% plans

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

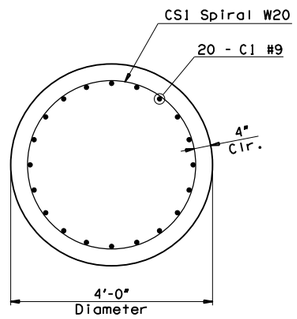
PROPOSED R/W
10/23/2017



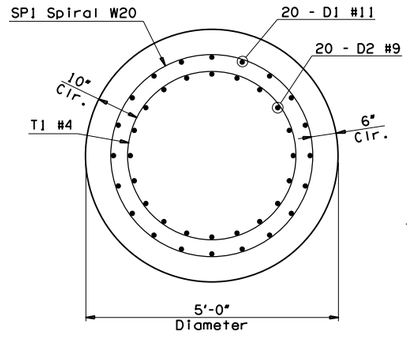
TYPICAL SECTION THRU CAP



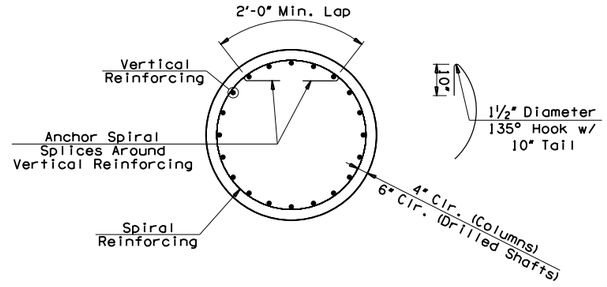
END OF PIER CAP REINFORCING



SECTION A-A

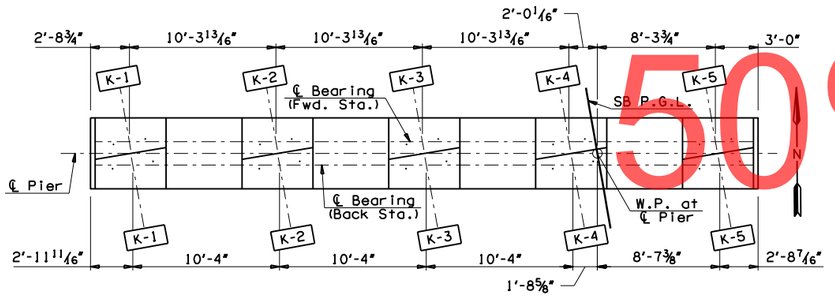


SECTION B-B

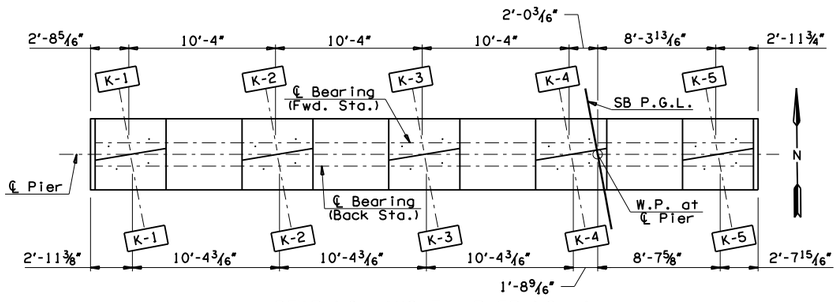


DETAIL OF SPIRAL REINFORCING STEEL

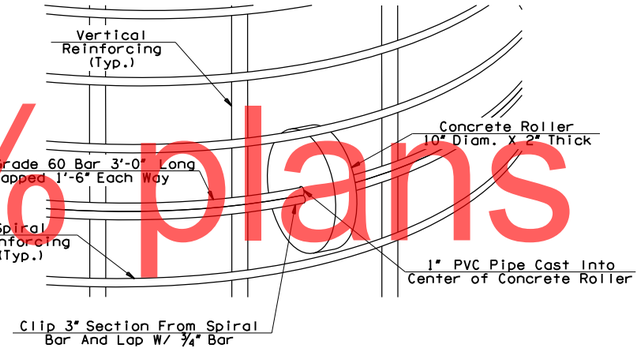
NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



BEARING LAYOUT - PIER NO. 2

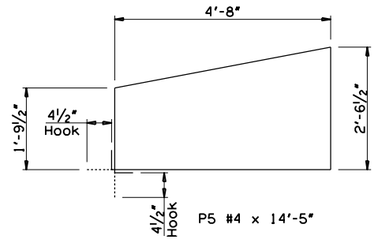


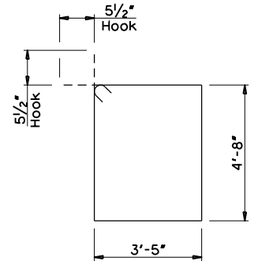
BEARING LAYOUT - PIER NO. 1



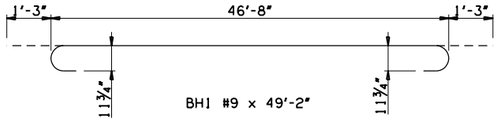
DETAILS OF CONCRETE ROLLER INSTALLATION

NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

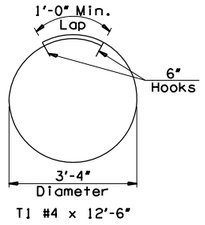




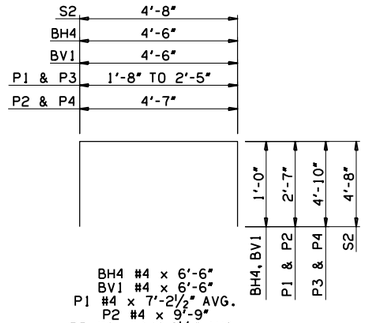
S1 #5 x 17'-1"



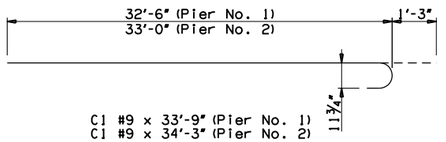
BH1 #9 x 49'-2"



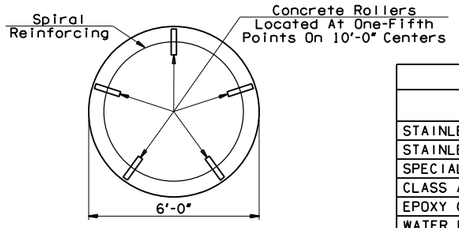
T1 #4 x 12'-6"



BH4 #4 x 6'-6"
BV1 #4 x 6'-6"
P1 #4 x 7'-2½" AVG.
P2 #4 x 9'-9"
P3 #4 x 11'-8½" AVG.
P4 #4 x 14'-3"
S2 #5 x 14'-0"



C1 #9 x 33'-9" (Pier No. 1)
C1 #9 x 34'-3" (Pier No. 2)



CONCRETE ROLLER PLACEMENT

SUMMARY OF QUANTITIES

ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	6.00	—	6.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	6.00	12.00	18.00
SPECIAL CONCRETE FINISH	S.Y.	XX.00	XX.00	XXX.00
CLASS A CONCRETE	C.Y.	XXX.X0	XXX.X0	XXX.X0
EPOXY COATED REINFORCING STEEL	LB.	XX,XXX.00	XX,XXX.00	XX,XXX.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.00	XXX.00	XXX.00
DRILLED SHAFTS 60" DIAMETER	L.F.	132.00	135.00	267.00
CROSSHOLE SONIC LOGGING	EA.	1.00	1.00	2.00

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

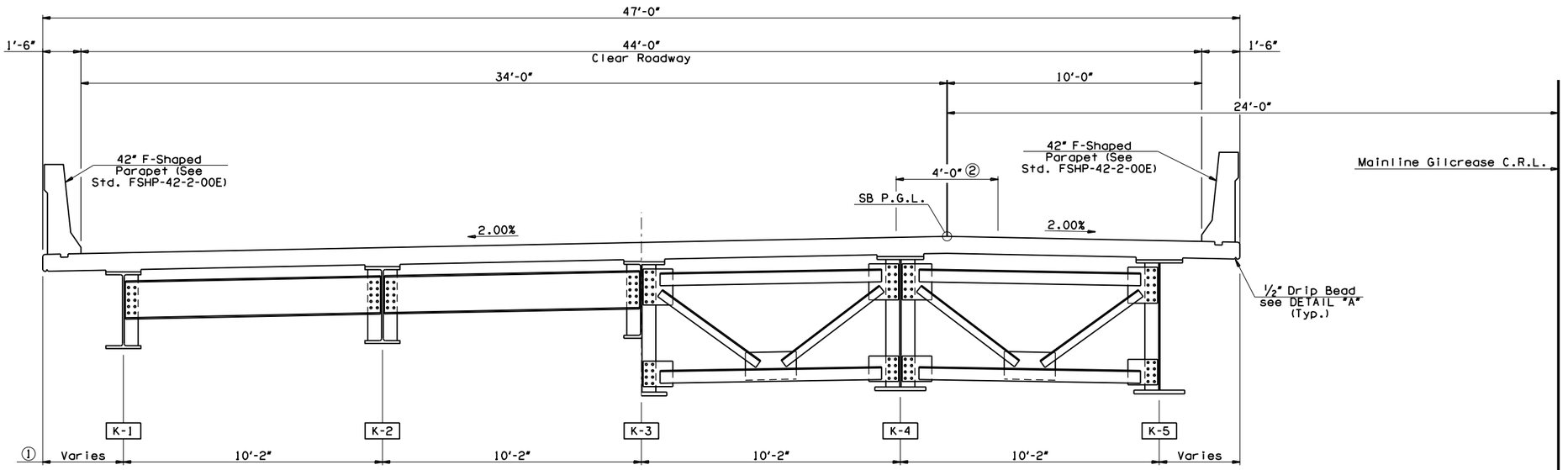
PIER DETAILS
(SHEET 3 OF 3)

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	7/17		
CHECKED	WMM	8/17	DATE: 10/23/2017	SHEET NO. BK007

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

PROPOSED R/W
10/23/2017



PART SECTION AT INTERMEDIATE DIAPHRAGM
(TYP. SPAN NOS. 1 & 3)

PART SECTION AT INTERMEDIATE CROSS-FRAME
(TYP. SPAN NO. 2)

TYPICAL SECTION
(Looking Forward Station)
(Horizontal Dimensions Measured Radial To C.R.L. Unless Noted Otherwise)

50% plans

① Measured Perpendicular To Chord Line Between Working Points. See FRAMING PLAN on Sheet No. BK014.

② Round 2'-0" either side of SB P.G.L. to avoid sharp edges.

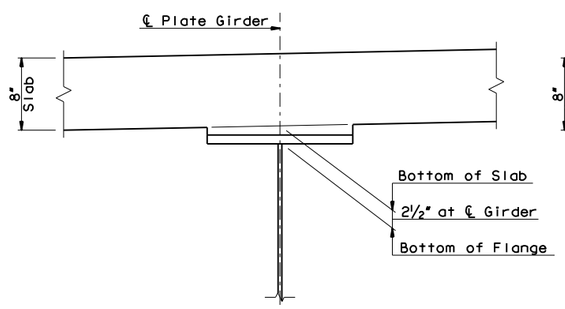
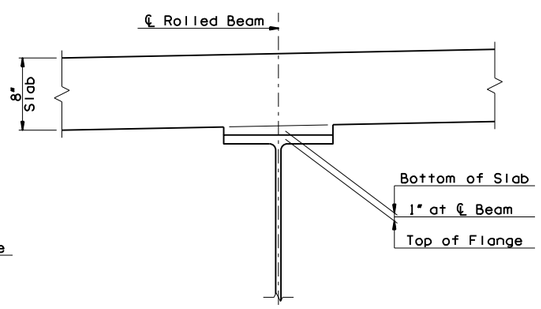


PLATE GIRDER HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Girder Haunches. Haunch height shown is at centerline bearing only, measured from bottom of Deck Slab to Bottom of Top Flange. Haunch height to be determined after erection of girder to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.



ROLLED BEAM HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Beam Haunches. Haunch height shown is at centerline bearing only, measured from bottom of Deck Slab to Top of Top Flange. Haunch height to be determined after erection of beam to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar list, see Sheet No. BK010.

For Water Repellent Details and DETAIL "A", see Sheet No. BSTA01.

For Fence Details, see Sheet No. BJ019.

For Bridge Deck Formwork Bracing Details, see Sheet No. BSTA05.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL

③ Includes a calculated XX.X0 C.Y. of Class AA Concrete in the Haunches

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR

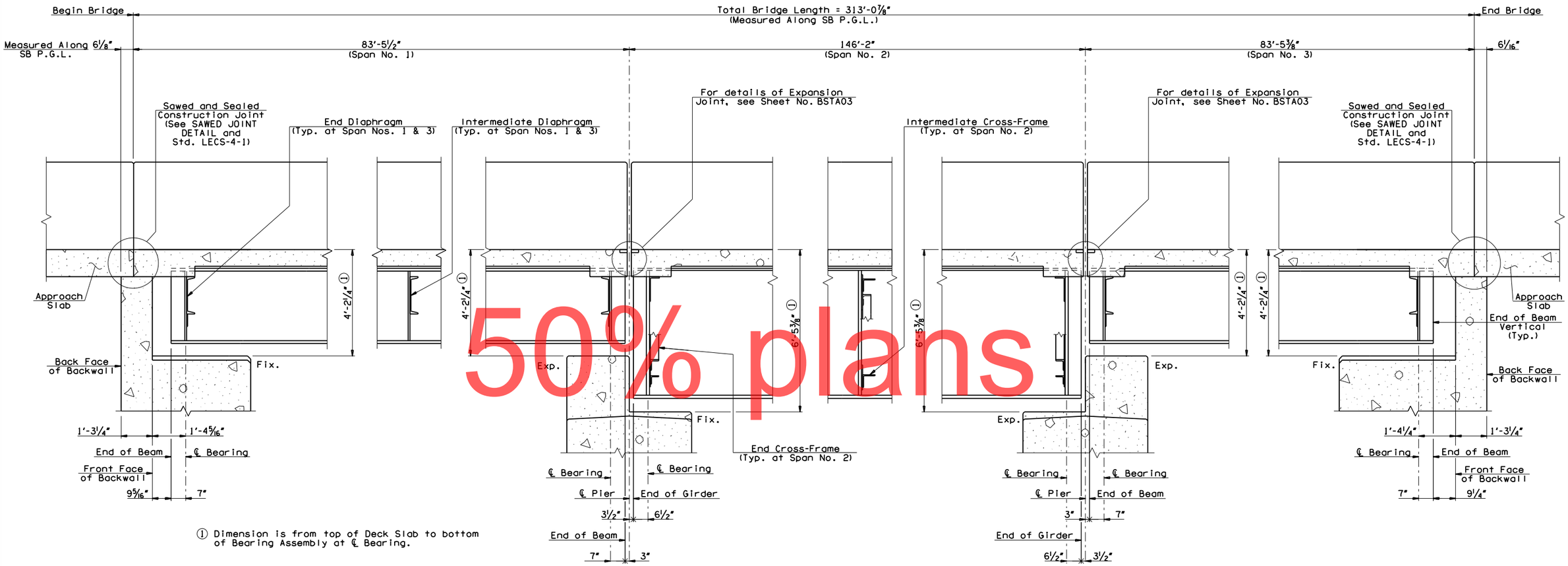
TYPICAL SECTION

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

DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK008

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

PROPOSED R/W
10/23/2017



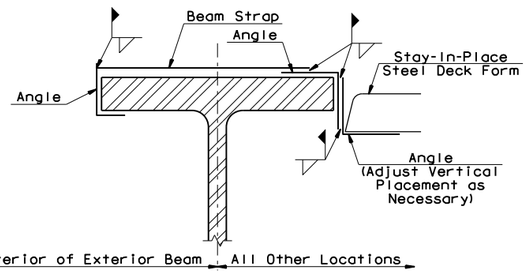
① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

ABUTMENT NO. 1 | PIER NO. 1 | PIER NO. 2 | ABUTMENT NO. 2

50% plans

LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam Unless Noted Otherwise)
(Do not Groove within 6" of any Construction Joints)



STAY-IN-PLACE STEEL DECK FORM FLANGE CONNECTION DETAIL

NOTE:
Do not weld to the top flange or studs. Report any arc strike, weld splatter or welding on top flange to the Bridge Engineer immediately.

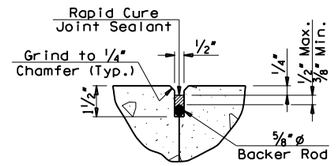
NOTE:
Install all Cross-Frames and Diaphragms and tighten all Bolts before placing Concrete for the Deck Slab or applying other massive loads to the girders.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

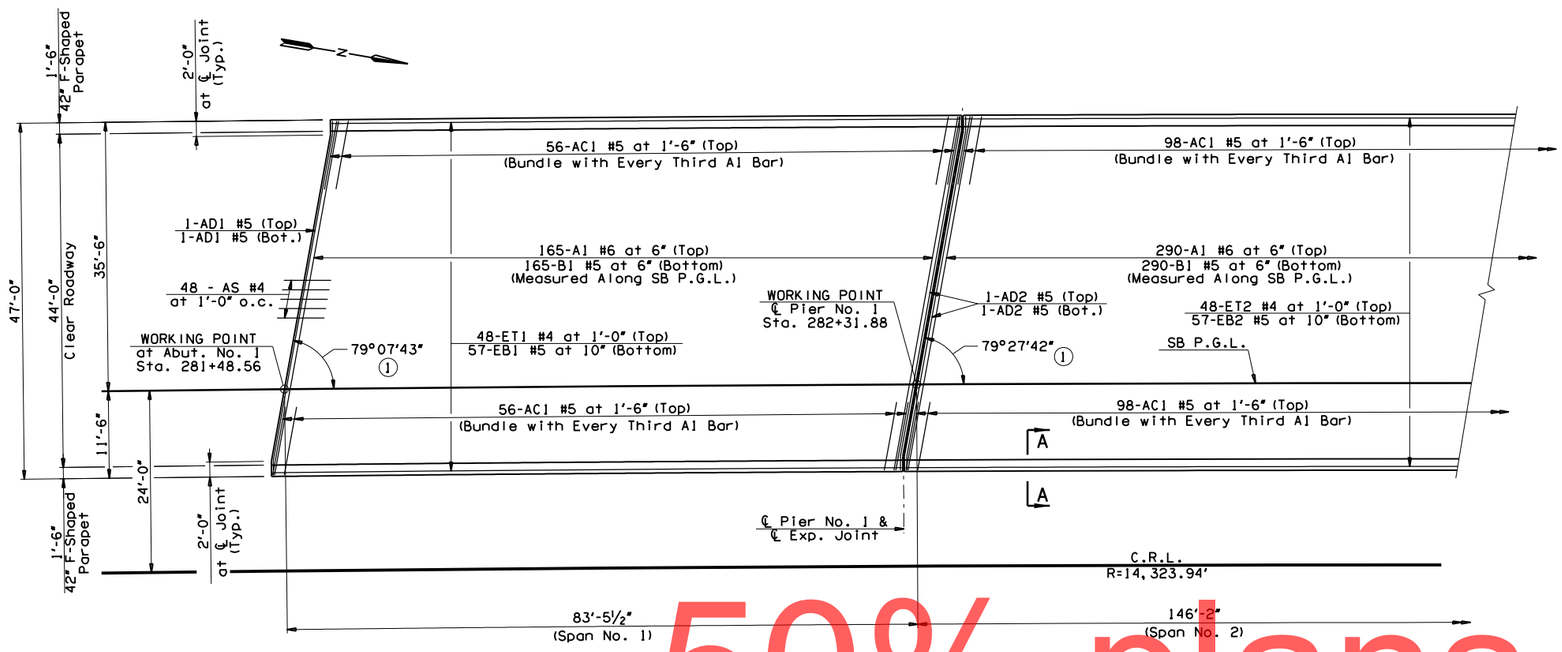
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

LONGITUDINAL SECTION

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

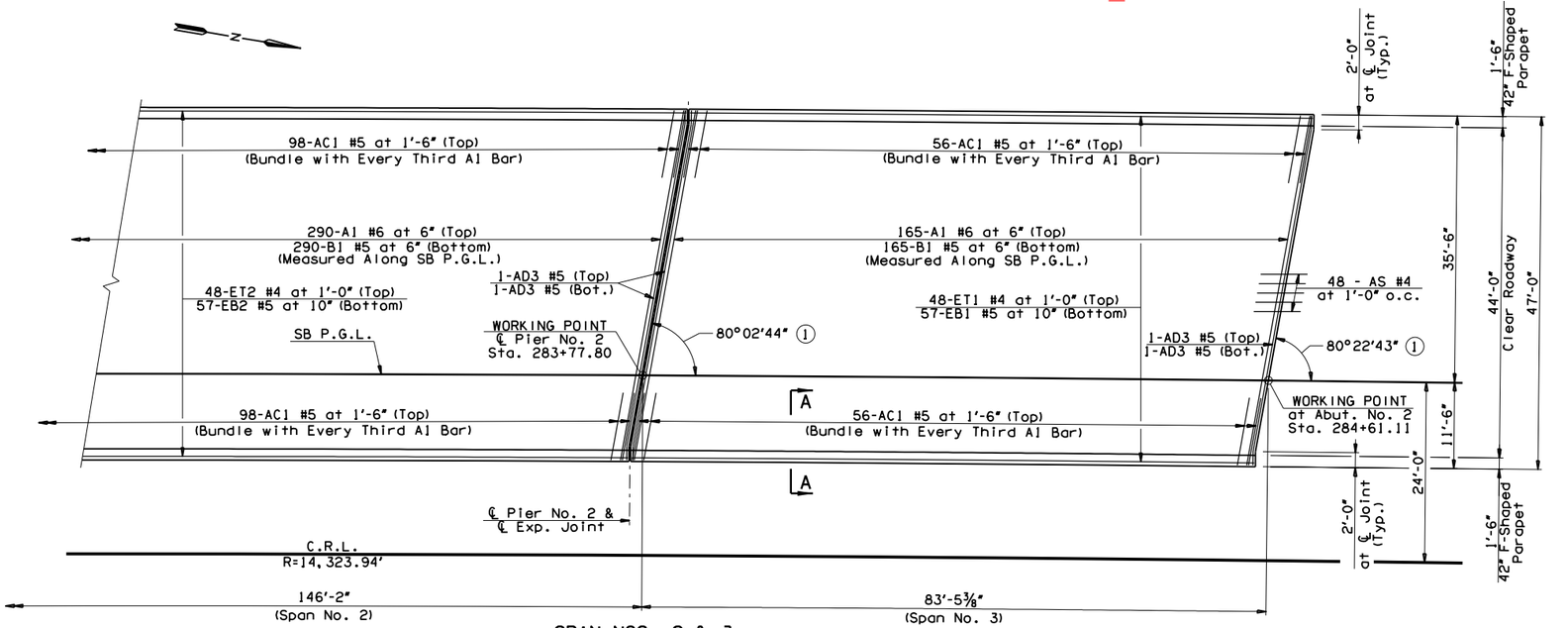
DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK009



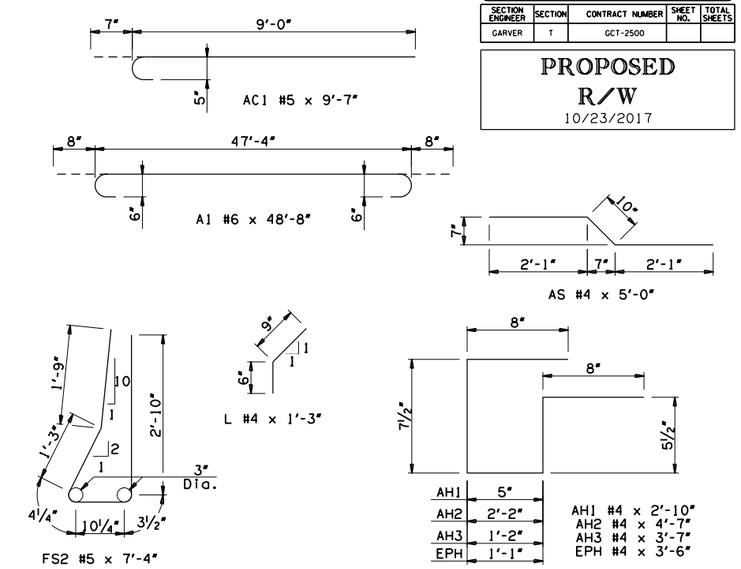
(1) Measured from ℄ Joint to Line Tangent to SB P.G.L. at Working Point

SPAN NOS. 1 & 2
(Showing Top & Bottom Reinforcing Steel)

50% plans



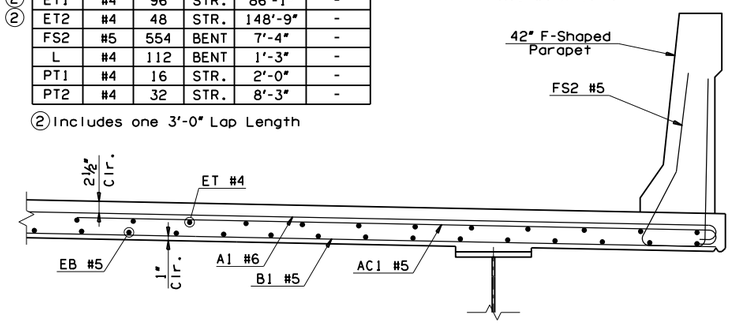
SPAN NOS. 2 & 3
(Showing Top & Bottom Reinforcing Steel)



BAR LIST - SUPERSTRUCTURE

MARK	SIZE	NO.	FORM	LENGTH	"A"
EPOXY COATED REINFORCING STEEL					
A1	#6	620	BENT	48'-8"	-
AC1	#5	420	BENT	9'-7"	-
AD1	#5	2	BENT	47'-5½"	169°
AD2	#5	4	BENT	47'-5"	169.5°
AD3	#5	4	BENT	47'-4"	170°
AD4	#5	2	BENT	47'-3"	170.5°
AS	#4	96	BENT	5'-0"	-
AH1	#4	16	BENT	2'10"	-
AH2	#4	80	BENT	4'-7"	-
AH3	#4	10	BENT	3'-7"	-
AT1	#4	4	BENT	47'-4"	-
AT2	#4	16	STR.	8'-8"	-
B1	#5	620	STR.	47'-4"	-
(2) EB1	#5	114	STR.	86'-1"	-
(2) EB2	#5	57	STR.	148'-9"	-
EPH	#4	168	BENT	3'-6"	-
(2) ET1	#4	96	STR.	86'-1"	-
(2) ET2	#4	48	STR.	148'-9"	-
FS2	#5	554	BENT	7'-4"	-
L	#4	112	BENT	1'-3"	-
PT1	#4	16	STR.	2'-0"	-
PT2	#4	32	STR.	8'-3"	-

(2) Includes one 3'-0" Lap Length



SECTION A-A

NOTES:

See Sheet No. BK011 for reinforcement at turndowns at the ends of each span.

See Sheet No. BK011 for Expansion Joint Opening Equations.

Parapet reinforcing in plan views not shown for clarity. See Std. FSHP-42-2-00E for details.

All Lap Lengths shall be staggered.

Rotate hooks on A1 and AC1 Bars to maintain minimum clearance.

All transverse reinforcement shall be placed parallel to the skewed supports as shown.

All longitudinal lines and longitudinal reinforcement shall be placed along curves concentric with C.R.L.

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK010

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

PROPOSED R/W
10/23/2017

NOTE:
Deck Slab reinforcement not shown for clarity.

① Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

② Measured perpendicular to CL Joint

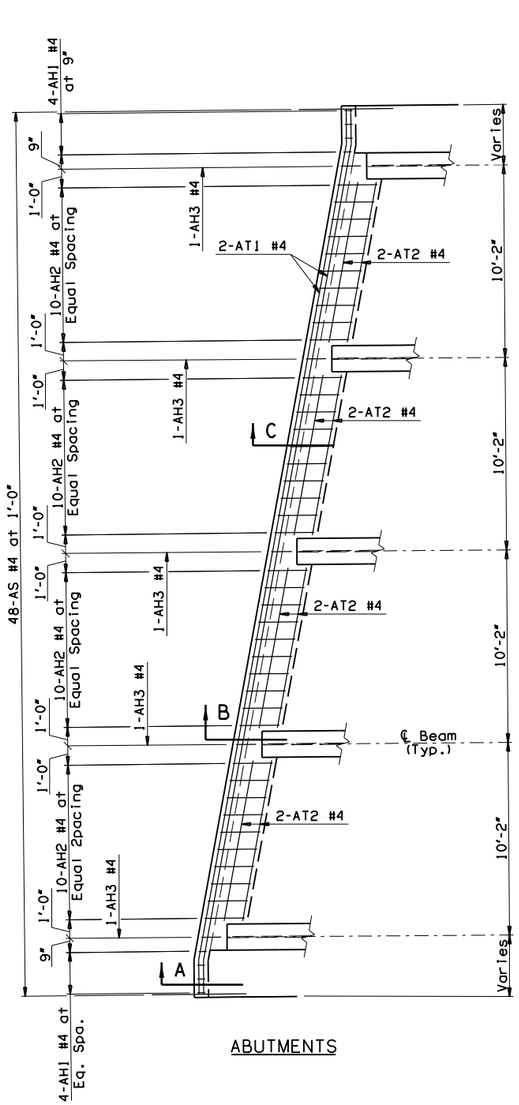
③ The Expansion Joint Openings shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

Pier No. 1 = 2.8848 - (0.00641 x T)
Pier No. 2 = 3.5577 - (0.01763 x T)

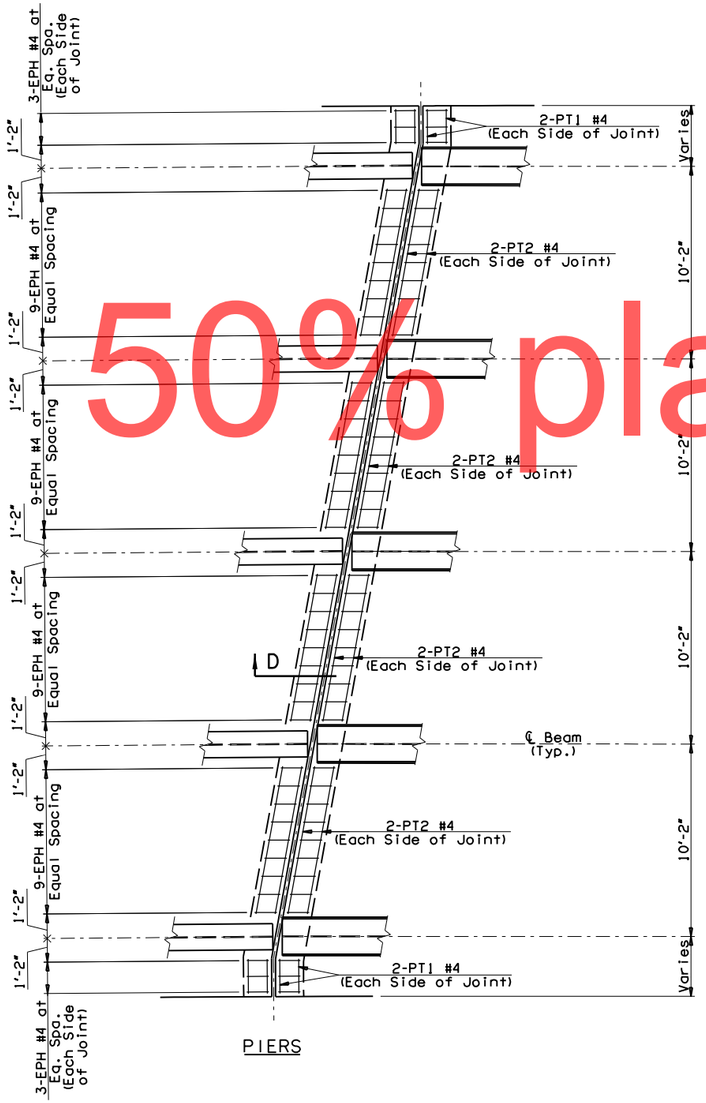
Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint opening shall be measured perpendicular to the joint.

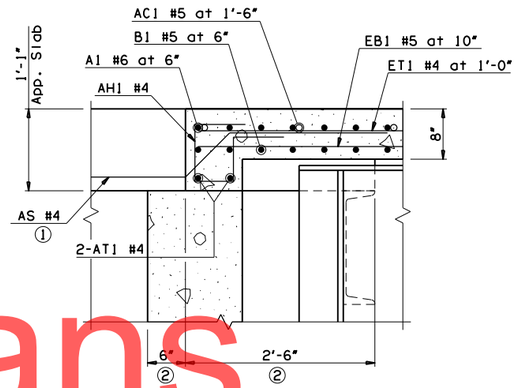
SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.



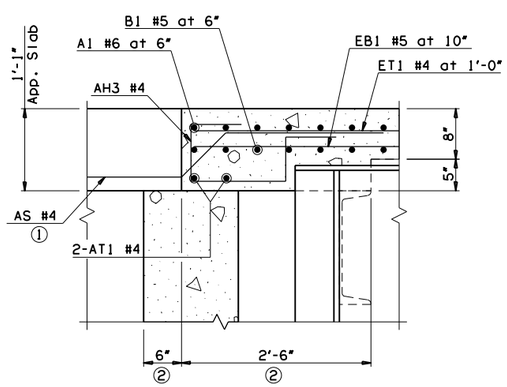
ABUTMENTS



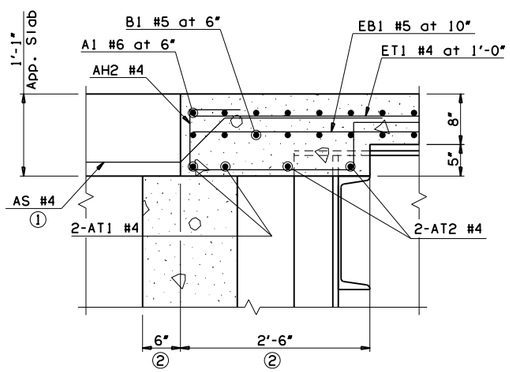
PIERS



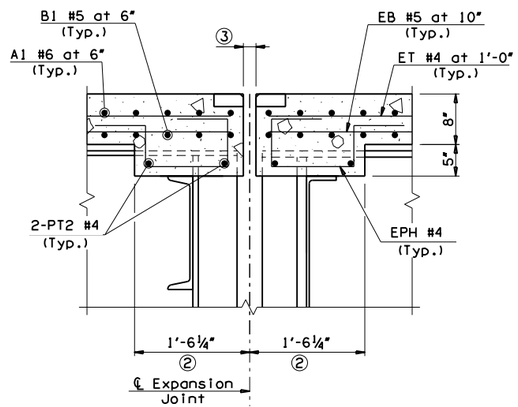
SECTION A



SECTION B



SECTION C



SECTION D

TURNDOWN REINFORCING PLANS

50% plans

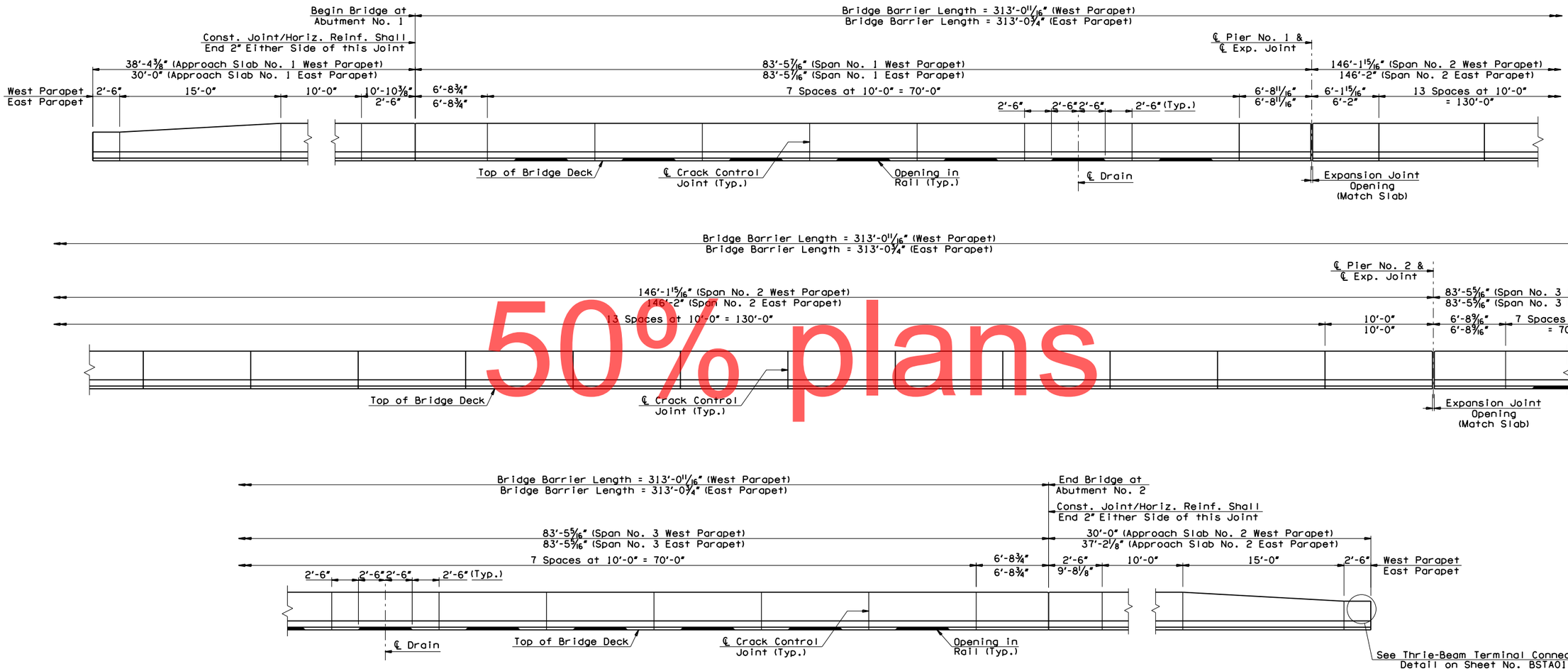
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK011

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

PROPOSED R/W
10/23/2017



42" F-SHAPED PARAPET LAYOUT
(Looking West)

50% plans

NOTES:
For details showing the Parapet reinforcement layout, see Std. FSHP-42-2-00E.

Provide blockouts for Sealed Expansion Joint.

All dimensions shown are measured along the inside face of the parapet.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

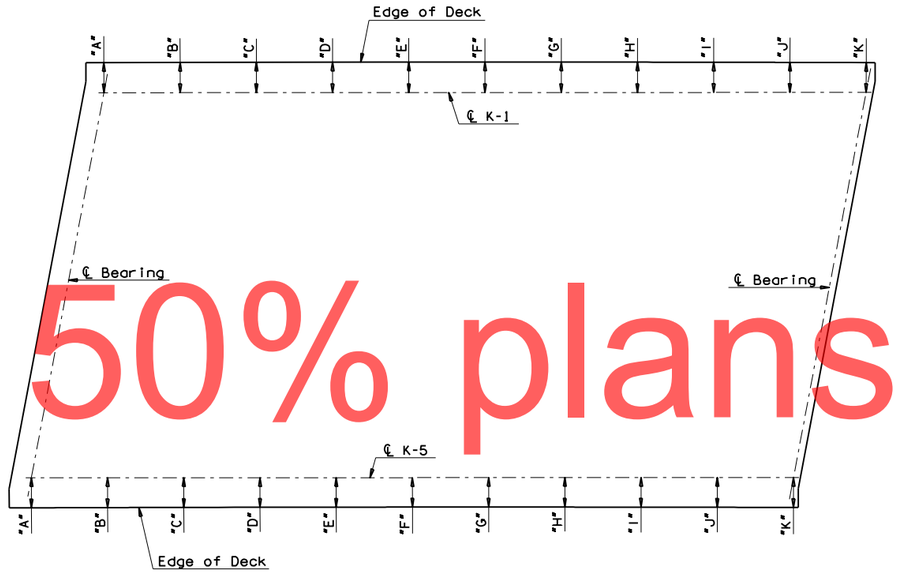
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK012

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

PROPOSED
R/W
10/23/2017



SLAB PLAN SCHEMATIC

50% plans

SPAN NO. 1 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	K-1	K-5
"A"	3'-2 3/16"	3'-2 1/16"
"B"	3'-2 3/8"	3'-1 13/16"
"C"	3'-2 1/2"	3'-1 5/8"
"D"	3'-2 5/8"	3'-1 1/2"
"E"	3'-2 11/16"	3'-1 3/8"
"F"	3'-2 11/16"	3'-1 5/16"
"G"	3'-2 5/8"	3'-1 5/16"
"H"	3'-2 9/16"	3'-1 3/8"
"I"	3'-2 5/16"	3'-1 9/16"
"J"	3'-2 1/16"	3'-1 11/16"
"K"	3'-1 3/4"	3'-1 15/16"

SPAN NO. 2 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	K-1	K-5
"A"	3'-2 5/16"	3'-2 1/16"
"B"	3'-3"	3'-1 3/8"
"C"	3'-3 5/8"	3'-0 3/4"
"D"	3'-3 7/8"	3'-0 3/16"
"E"	3'-4 1/8"	3'-0"
"F"	3'-4 3/16"	2'-11 7/8"
"G"	3'-4"	2'-11 13/16"
"H"	3'-3 11/16"	3'-0 1/8"
"I"	3'-3 3/16"	3'-0 7/16"
"J"	3'-2 1/2"	3'-1 3/16"
"K"	3'-1 5/8"	3'-1 15/16"

SPAN NO. 3 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	K-1	K-5
"A"	3'-2 3/16"	3'-2 1/16"
"B"	3'-2 3/8"	3'-1 13/16"
"C"	3'-2 1/2"	3'-1 5/8"
"D"	3'-2 5/8"	3'-1 1/2"
"E"	3'-2 11/16"	3'-1 3/8"
"F"	3'-2 11/16"	3'-1 5/16"
"G"	3'-2 5/8"	3'-1 5/16"
"H"	3'-2 9/16"	3'-1 3/8"
"I"	3'-2 5/16"	3'-1 9/16"
"J"	3'-2 1/16"	3'-1 11/16"
"K"	3'-1 13/16"	3'-1 15/16"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

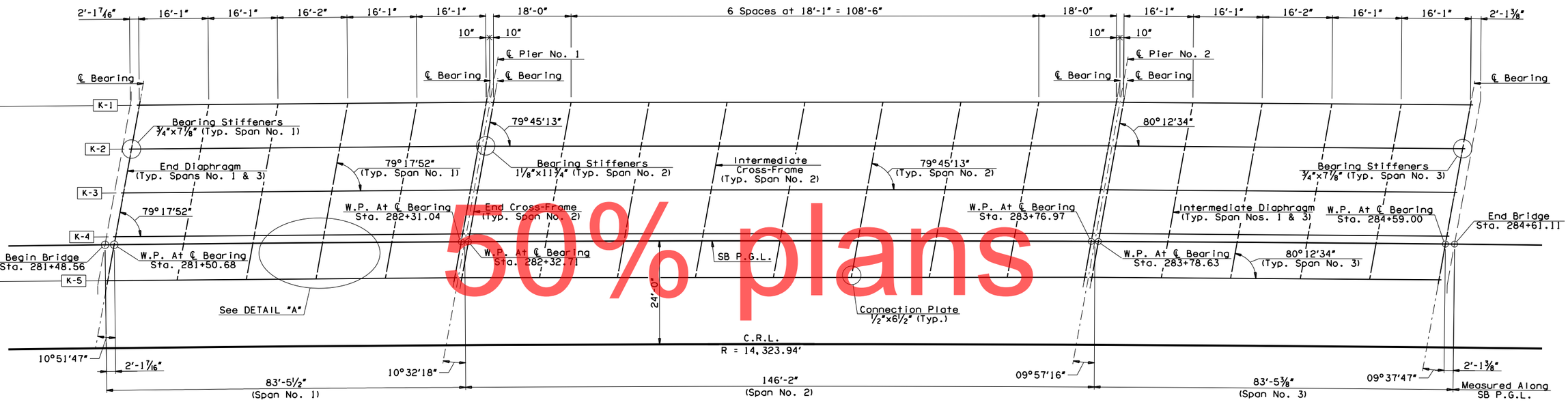
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK013

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

PROPOSED R/W
10/23/2017



50% plans

FRAMING PLAN

NOTES:

C.R.L. Consists Of A 0°24'00" Horizontal Curve (Radius = 14,323.94').

All Beams Are Oriented Parallel To Chord Line Connecting The W.P.'s At ℄ Bearing.

The Beam Spacing Is Measured Perpendicular To The Chord Line Unless Noted Otherwise.

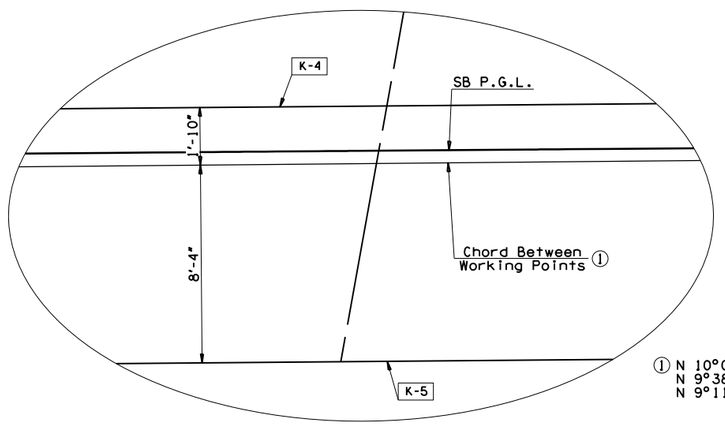
Diaphragm And Cross-Frame Spacing Is Measured Along Beam.

For Span Nos. 1 & 3 Beam Elevation, See Sheet No. BK015 .

For Span No. 2 Girder Elevation, See Sheet No. BK016.

For Diaphragm Details, See Sheet No. BK015.

For Cross-Frame Details, See Sheet No. BK017.



DETAIL "A"
(Typ. All Spans)

① N 10°05'53" W (Span No. 1)
N 9°38'32" W (Span No. 2)
N 9°11'11" W (Span No. 3)

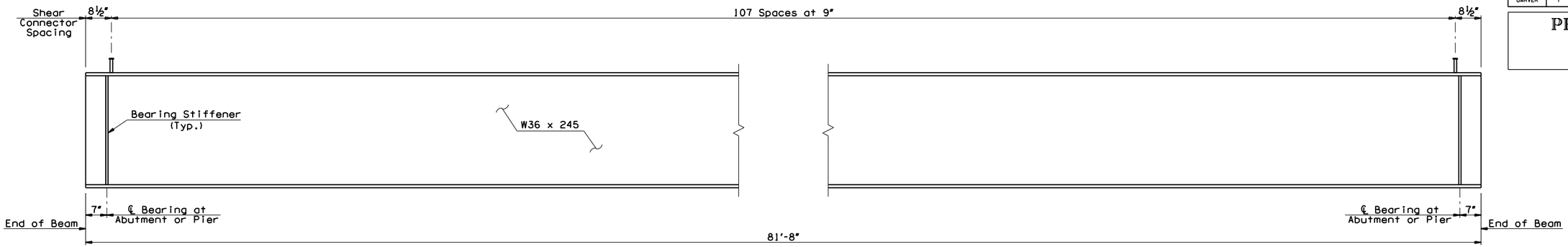
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
FRAMING PLAN

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

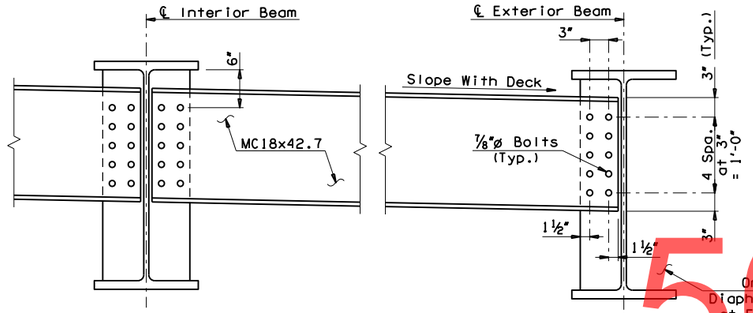
DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK014

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

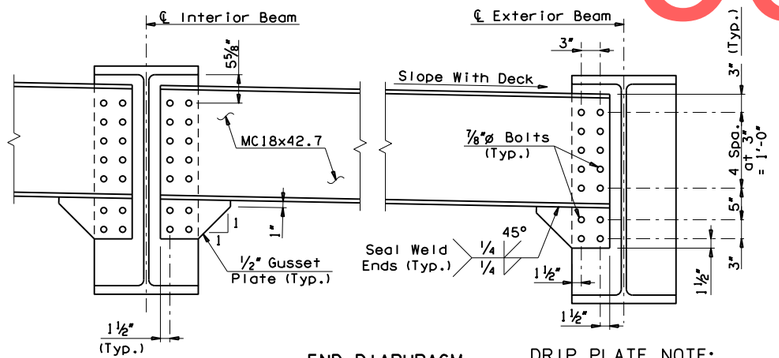
PROPOSED R/W
10/23/2017



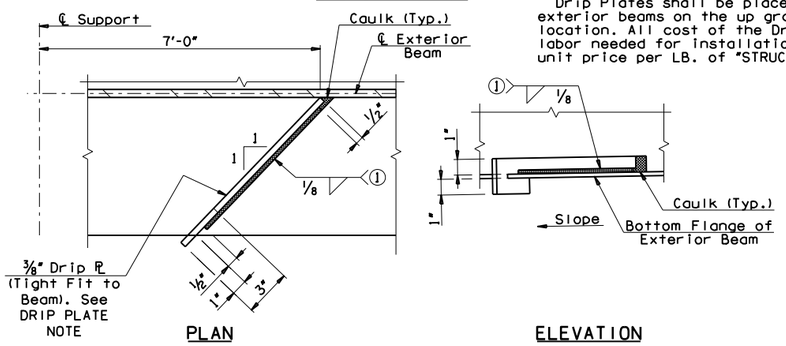
ELEVATION - SPAN NOS. 1 & 3



INTERMEDIATE DIAPHRAGM



END DIAPHRAGM

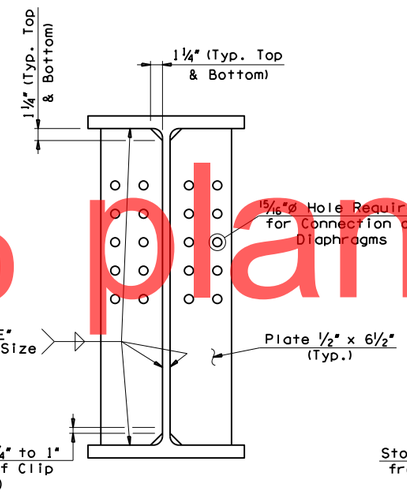


PLAN ELEVATION

TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

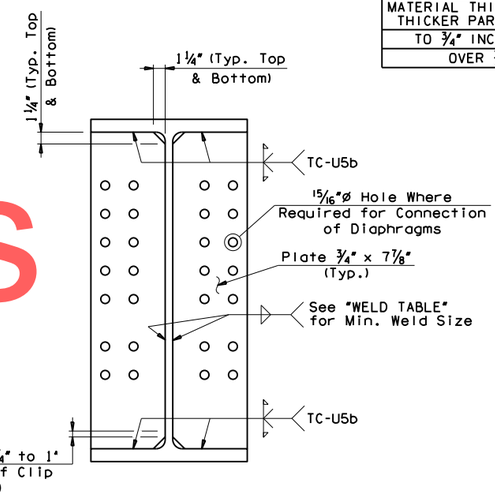
① Stop weld ½" from end of Drip Plate and from edge of Beam. Fill with caulk as shown.

DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior beams on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".



CONNECTION PLATE DETAIL

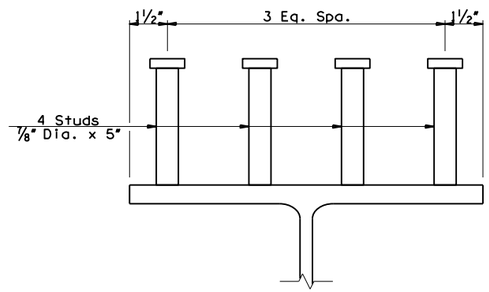
(Shall be used at all intermediate diaphragm locations)
(Only one connection plate is required on one side of the Beam Web at each bracing location along the exterior beams.)



BEARING STIFFENER DETAIL

NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.

WELD TABLE		
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO ¾" INCLUSIVE	¼"	
OVER ¾"	5/16"	



SHEAR CONNECTOR DETAIL

NOTES:
All Structural Steel, including Rolled Beams, Diaphragms, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

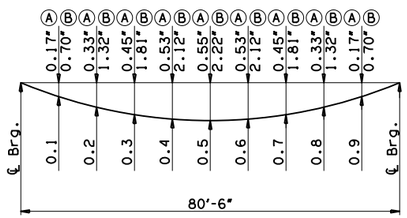
Beams shall be cambered to account for dead load deflection and, if necessary, vertical curve.

Contractor may elect to fabricate Plate Girders using equivalent sizes in lieu of Rolled Beam shape shown. Web to flange welds shall be minimum 5/16" fillet welds. Non-destructive testing will be required as appropriate. Costs to construct Plate Girders shall be at the Contractor's expense.

Contractor may elect to fabricate a Bent Plate Diaphragm in lieu of Channel and Gusset Plate at the End Diaphragm Connection. Plate shall be ½" minimum thickness and formed in the shape of a channel with minimum 4" flanges. Depth of Bent Plate Diaphragm shall be equal or greater than that shown for combined Channel and Gusset Plate. Cost to construct Bent Plate Diaphragm shall be at the Contractor's expense.

For Framing Plan, see Sheet No. BK014.

For Rolled Beam Haunch Details, see Sheet No. BK008.



Ⓐ Rolled Beams and Diaphragms
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, and Parapets

DEAD LOAD DEFLECTION DIAGRAM

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

ROLLED BEAM DETAILS

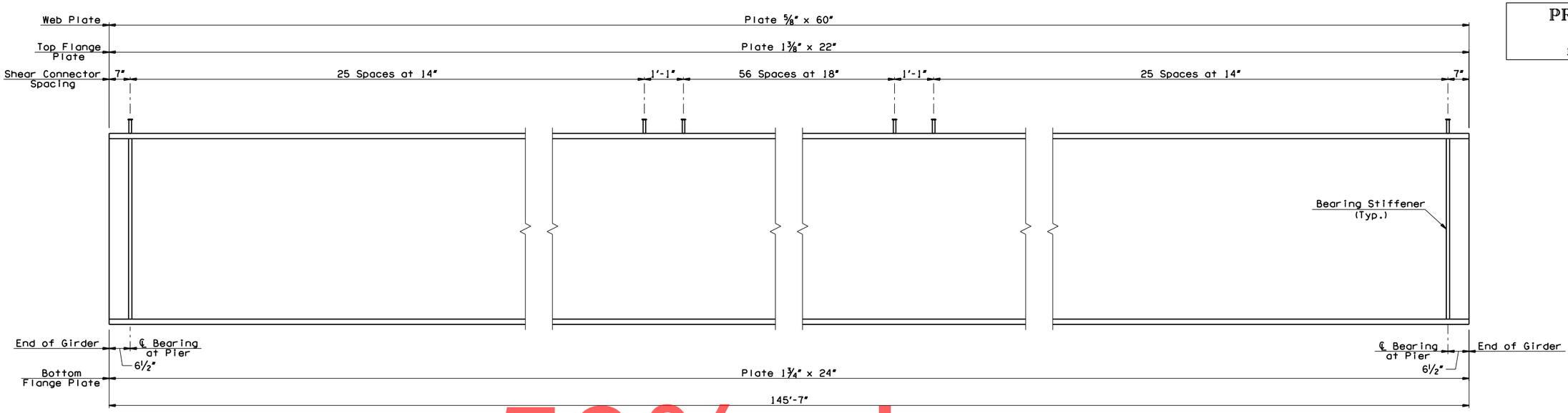
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK015

50% plans

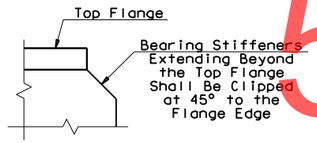
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



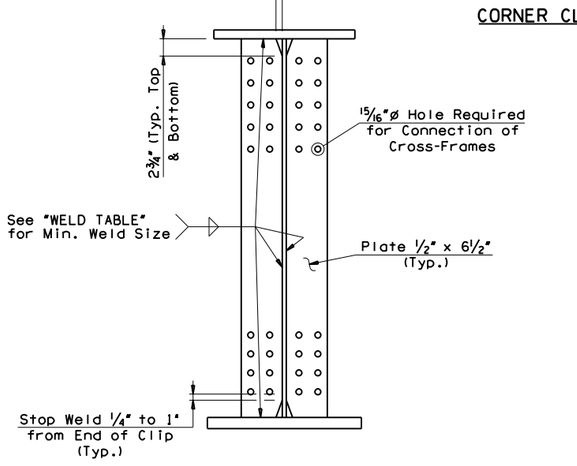
ELEVATION - SPAN NO. 2

50% plans



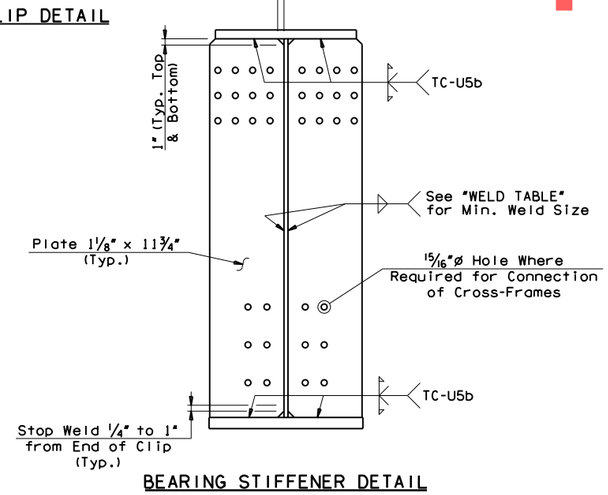
CORNER CLIP DETAIL

WELD TABLE		
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO ¾" INCLUSIVE	¼"	
OVER ¾"	5/16"	



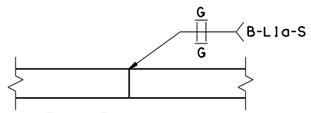
CONNECTION PLATE DETAIL

(Shall be used at all intermediate cross-frame locations)
(Only one connection plate is required on one side of the Girder at each bracing location along the exterior girders.)

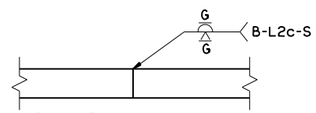


BEARING STIFFENER DETAIL

NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.

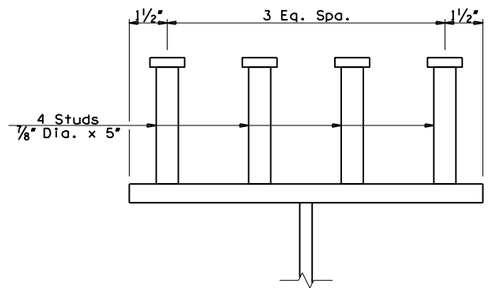


Equal Thickness (Web)

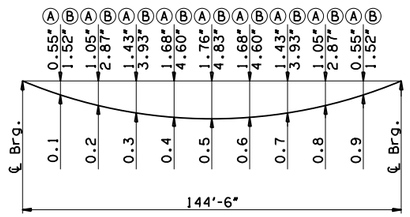


Equal Thickness (Flange)

DETAILS OF WELDED SPLICES



SHEAR CONNECTOR DETAIL



Ⓐ Girders and Cross-Frames
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets and Fencing

DEAD LOAD DEFLECTION DIAGRAM

NOTES:
All Structural Steel, including Plate Girders, Cross-Frames, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

Girders shall be cambered to account for dead load deflection and, if necessary, vertical curve.

For Framing Plan, see Sheet No. BK014.

For Cross-Frame Details, see Sheet No. BK017.

For Plate Girder Haunch Details, see Sheet No. BK008.

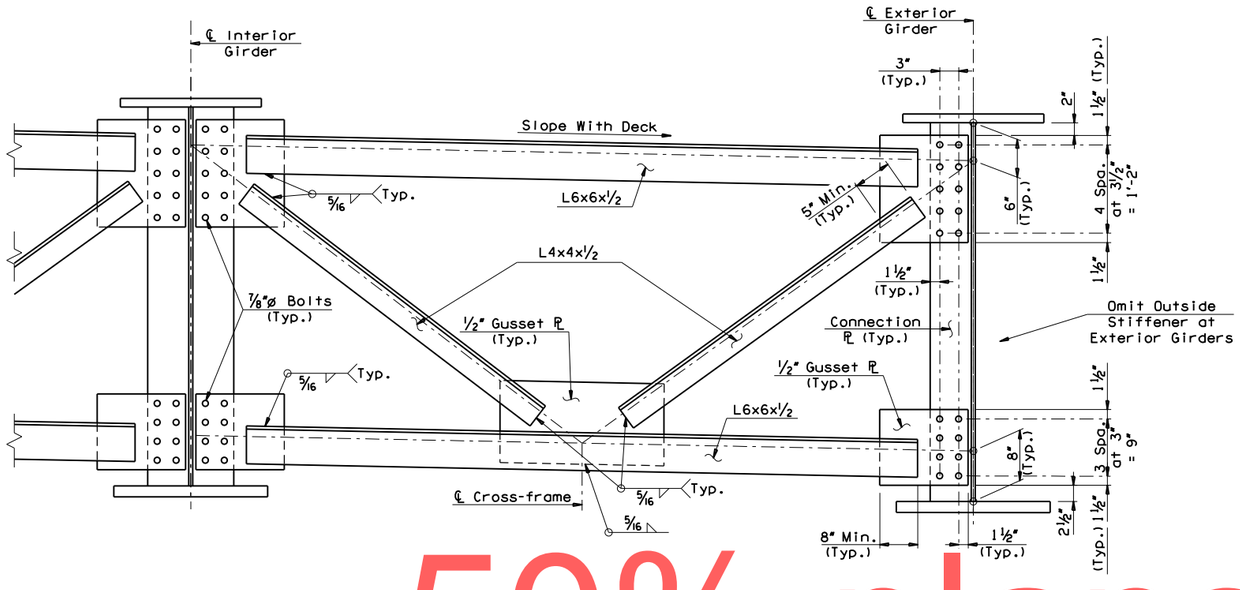
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
PLATE GIRDER DETAILS
(SHEET 1 OF 2)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK016

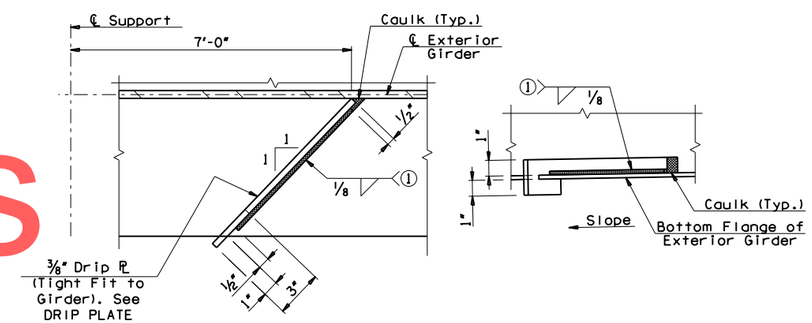
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



INTERMEDIATE CROSS-FRAME

50% plans

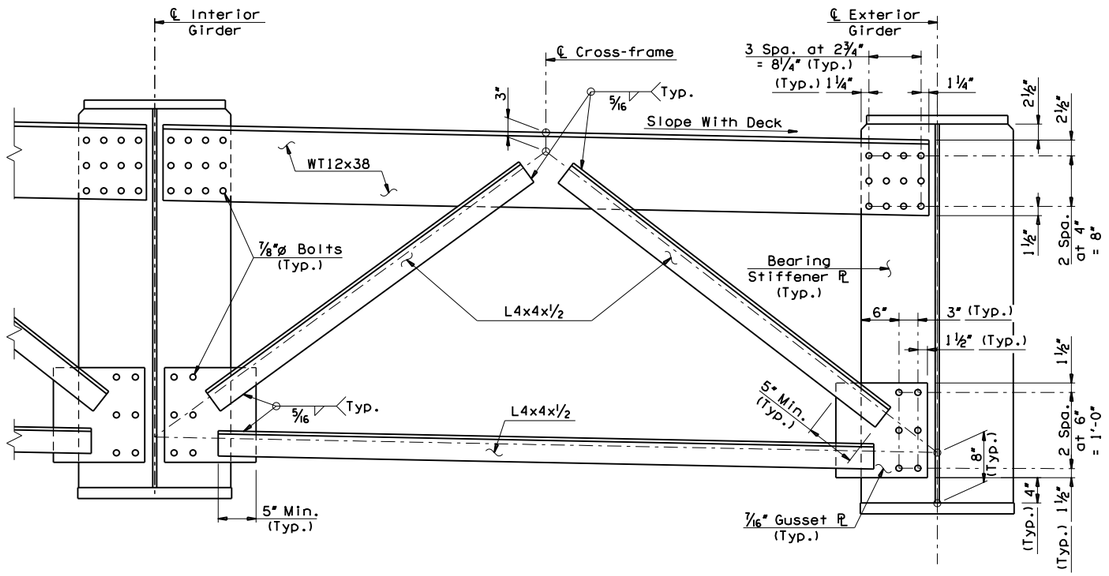


PLAN ELEVATION

TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior girders on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".

① Stop weld 1/2" from end of Drip Plate and from edge of Girder. Fill with caulk as shown.



END CROSS-FRAME

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
PLATE GIRDER DETAILS
(SHEET 2 OF 2)

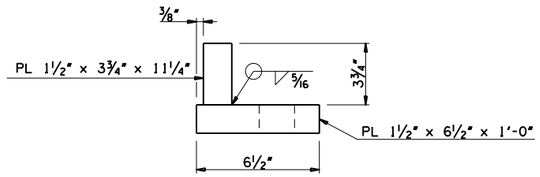
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK017

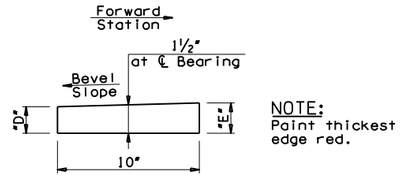
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

TABLE OF VARIABLES							
LOCATION		"A"	"B"	"C"	"D"	"E"	"F"
ABUTMENT NO. 1		1'-1⅝"	1'-7½"	9¾"	1.42"	1.58"	7"
PIER NO. 1	BACK STA.	1'-1⅝"	1'-7½"	9¾"	1.44"	1.56"	7"
PIER NO. 1	FORWARD STA.	1'-5⅜"	2'-3"	1'-1½"	1.44"	1.56"	6½"
PIER NO. 2	BACK STA.	1'-5⅜"	2'-3"	1'-1½"	1.50"	1.50"	6½"
PIER NO. 2	FORWARD STA.	1'-1⅝"	1'-7½"	9¾"	1.50"	1.50"	7"
ABUTMENT NO. 2		1'-1⅝"	1'-7½"	9¾"	1.50"	1.50"	7"

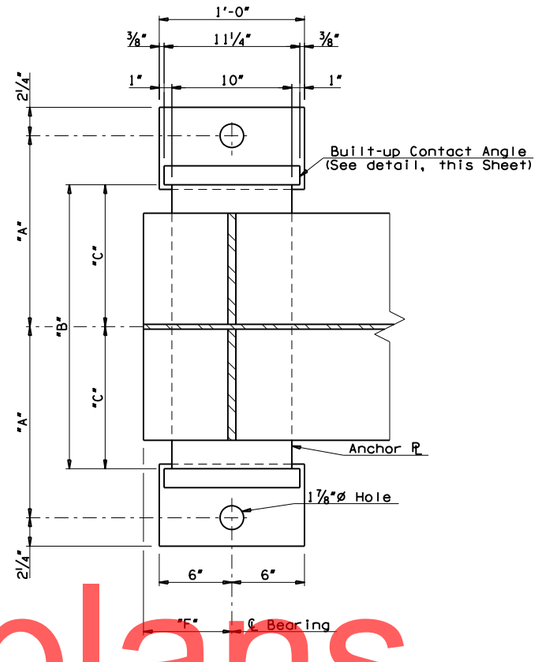


BUILT-UP CONTACT ANGLE DETAIL

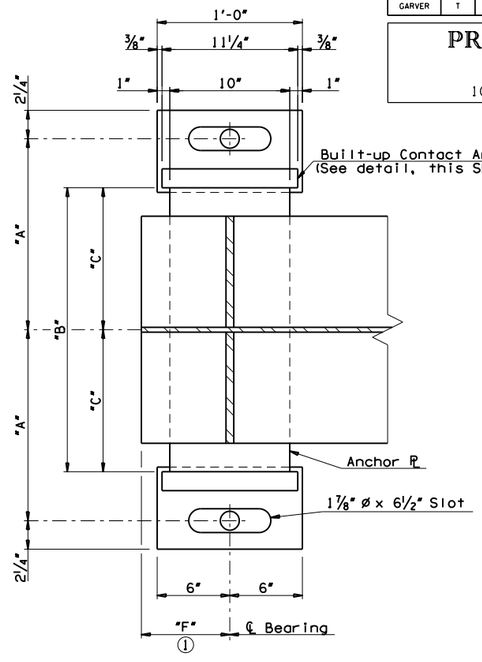


NOTE:
Paint thickest edge red.

BEVELED ANCHOR PLATE DETAIL

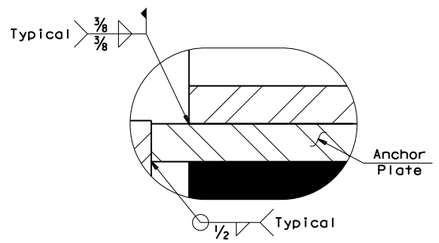


FIXED BEARING PLAN

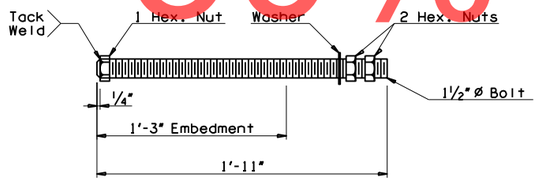


EXPANSION BEARING PLAN

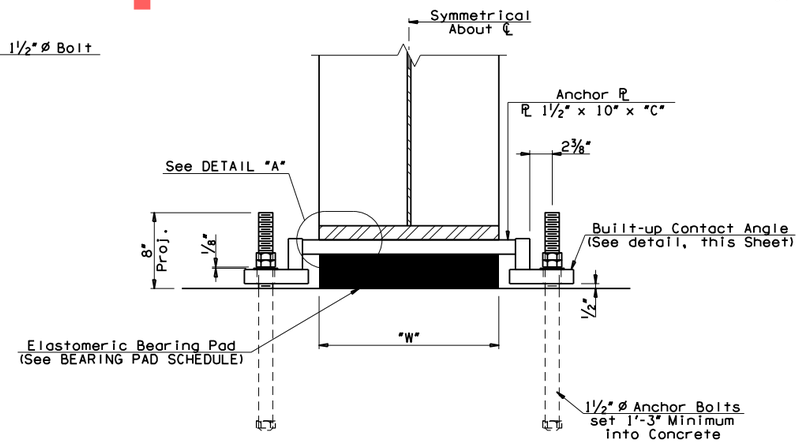
① Anchor Bolts shall be centered in slots during setting of beams. Dimension may vary depending on temperature at the time of beam setting.



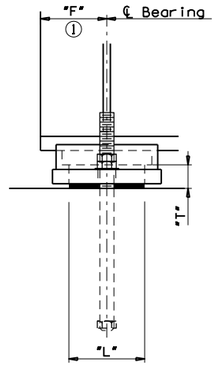
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



SIDE VIEW

BEARING DETAILS

BEARING PAD SCHEDULE						
LOCATION		60 DUROMETER ELASTOMERIC BEARING PAD				
		SIZE (T x L x W)	COVER LAYER	INNER LAYER	LAMINATE LAYER	WEIGHT ②
ABUTMENT NO. 1		3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 1	BACK STA.	3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 1	FWD. STA.	3⅝" x 9" x 2'-0"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 2	BACK STA.	3⅝" x 9" x 2'-0"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
PIER NO. 2	FWD. STA.	3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX
ABUTMENT NO. 2		3⅝" x 9" x 1'-4½"	2 - ¼"	6 - ⅜"	7 - ⅛"	XXX.XX

② Average estimated weight of Structural Steel per Bearing

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

50% plans

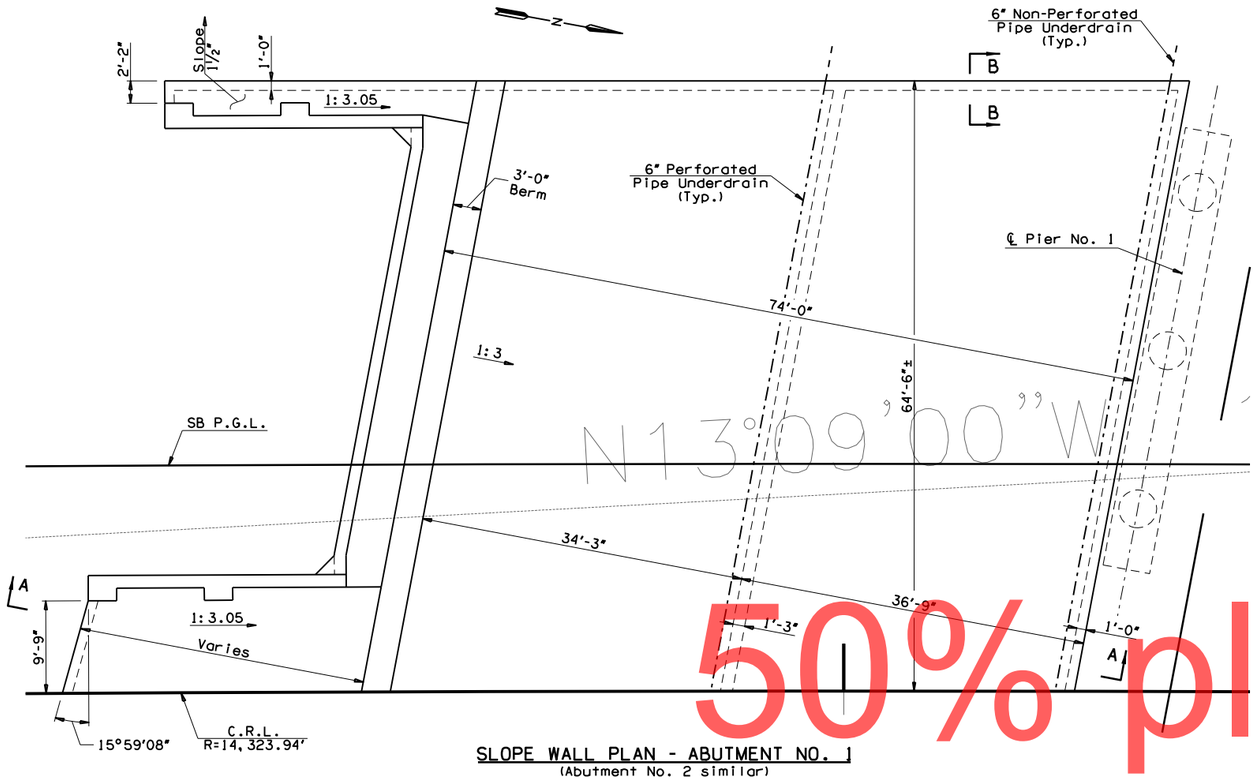
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
BEARING DETAILS

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

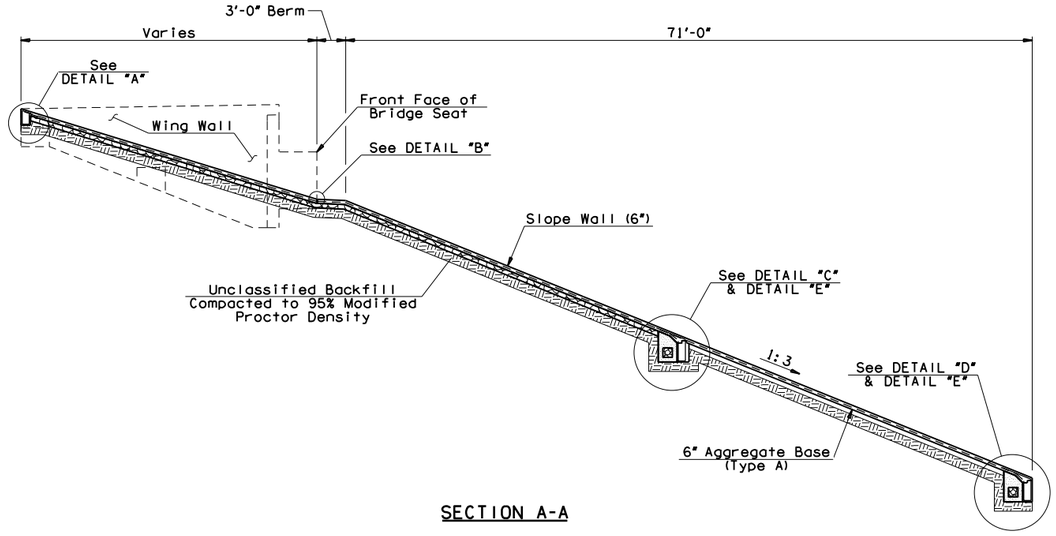
DESIGNED	ABH	5/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	5/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK018

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

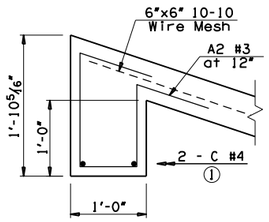
PROPOSED R/W
10/23/2017



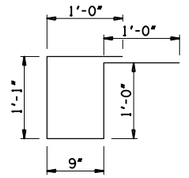
SLOPE WALL PLAN - ABUTMENT NO. 1
(Abutment No. 2 similar)



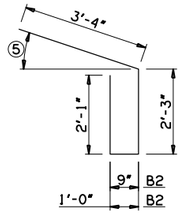
SECTION A-A



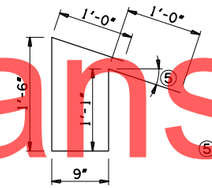
DETAIL "A"



A1 #4 x 4'-10"



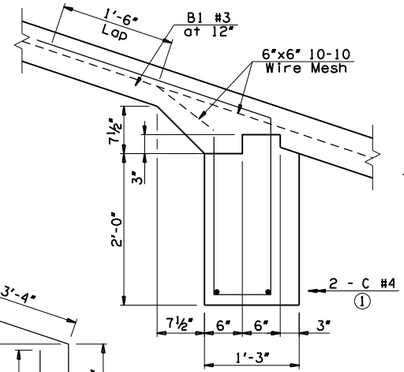
B1 #4 x 8'-5"
B1 #4 x 8'-8"



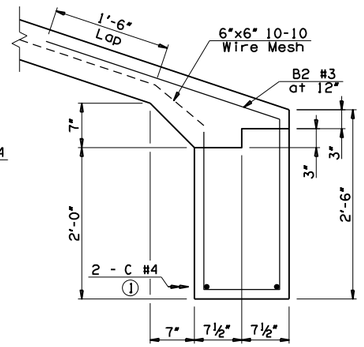
A2 #4 x 4'-10"

⑤Match slope of Slope Wall

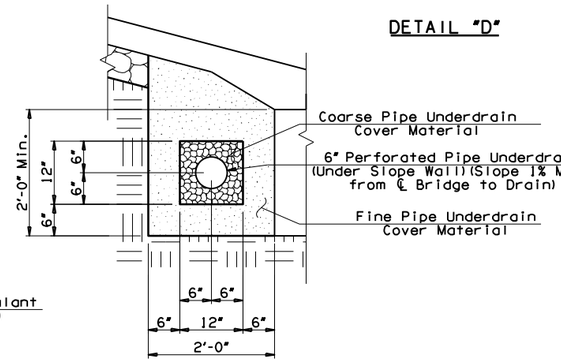
① Continuous 1'-6" lap when necessary



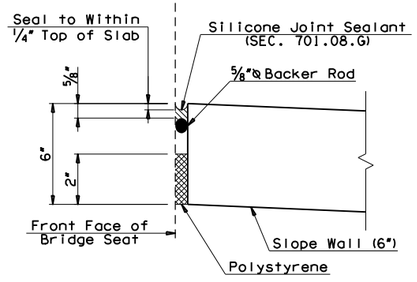
DETAIL "C"



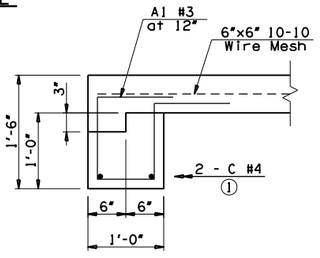
DETAIL "D"



DETAIL "E"



DETAIL "B"



SECTION B-B

SUMMARY OF QUANTITIES - SLOPE WALLS				
ITEM	UNIT	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL
② SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	X,XXX.XX
③ 6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
④ 6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XX.XX	XX.XX	XX.XX

② All costs of the "SLOPE WALL (6")" installation including Class A Concrete, Reinforcing Steel, Lap Splices, Backer Rod, Silicone Joint Sealant, Preformed Joint Filler, Polystyrene, 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 (6")".

③ All costs of the Perforated Pipe Underdrain installation including trench excavation, cover material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

④ All costs of the Non-Perforated Pipe Underdrain installation including trench excavation, backfilling, material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

SLOPE WALL DETAILS

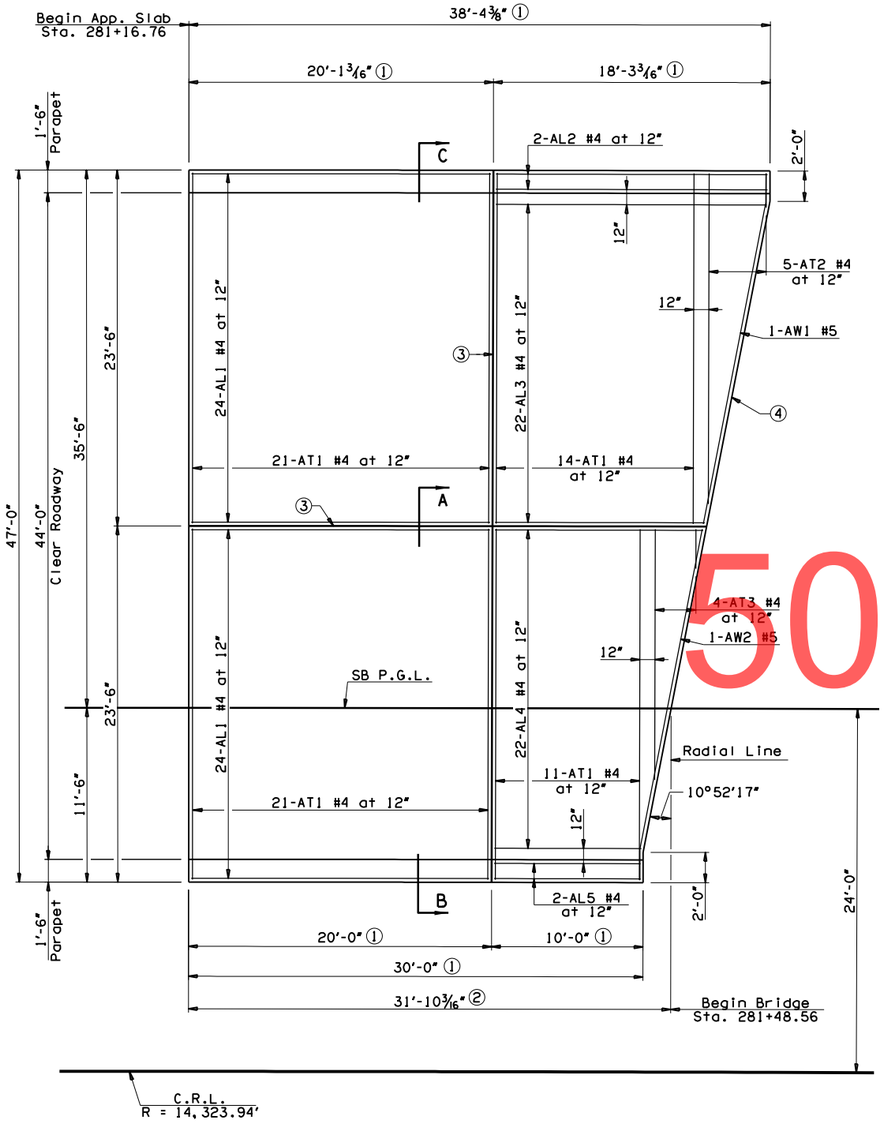
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK019

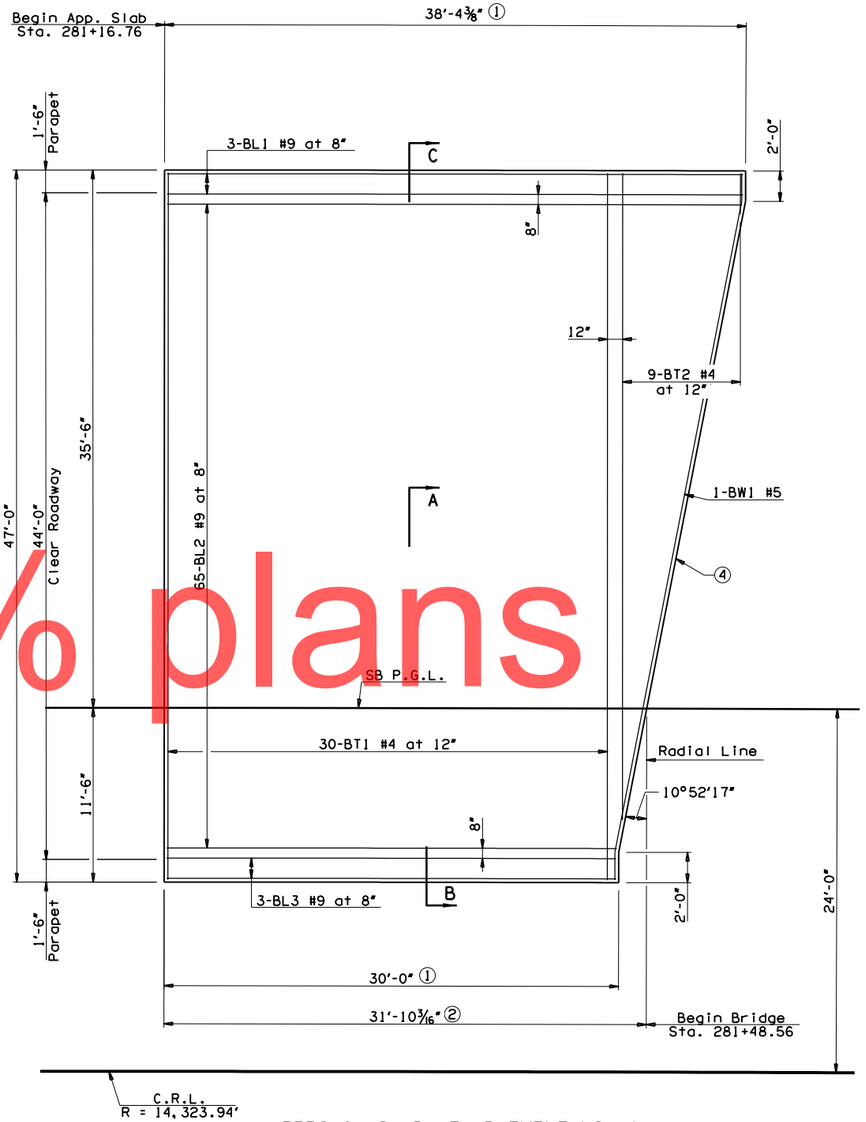
50% plans

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

PROPOSED R/W
10/23/2017



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

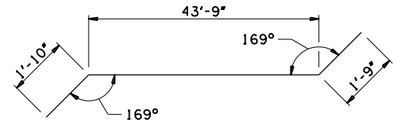


APPROACH SLAB AT ABUTMENT NO. 1
(Showing Bottom Mat of Reinforcing Steel)

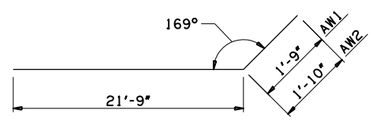
50% plans

BAR LIST - APPROACH SLAB NO. 1

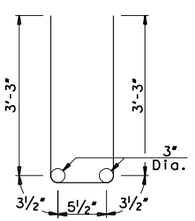
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	48	STR.	19'-8"	-
AL2	#4	2	STR.	17'-11"	-
AL3	#4	22	STR.	15'-10" AVG.	13'-10" To 17'-10"
AL4	#4	22	STR.	11'-8½" AVG.	9'-8" To 13'-9"
AL5	#4	2	STR.	9'-8"	-
AT1	#4	67	STR.	23'-2"	-
AT2	#4	5	STR.	12'-0½" AVG.	2'-3" To 21'-10"
AT3	#4	4	STR.	9'-6½" AVG.	2'-7" To 16'-6"
AW1	#5	1	BENT	23'-6"	-
AW2	#5	1	BENT	23'-7"	-
BL1	#9	3	STR.	38'-0"	-
BL2	#9	65	STR.	33'-9½" AVG.	29'-8" To 37'-11"
BL3	#9	3	STR.	29'-8"	-
BT1	#4	30	STR.	46'-8"	-
BT2	#4	9	STR.	22'-8" AVG.	2'-8" To 42'-8"
BW1	#5	1	BENT	47'-4"	-
FS2	#5	69	BENT	7'-4"	-
FS6	#5	10	BENT	7'-6½"	-



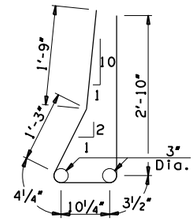
BW1 #5 x 47'-4"



AW1 #5 x 23'-6"
AW2 #5 x 23'-7"



FS6 #5 x 7'-6½"



FS2 #5 x 7'-4"

① Measured Along Outside Edge of Slab
② Measured Along SB P.G.L.
③ ½" Sawed and Sealed Joint in top of Approach Slab. See DETAIL "B" on Sheet No. BK022.
④ ½" Sawed and Sealed Construction Joint in top of Approach Slab. See DETAIL "A" on Sheet No. BK022.

NOTES:
Place reinforcing steel in the top of the Approach Slab 2" either side of the Sawed and Sealed Longitudinal and Transverse Joints. For additional details, See Std. LECS-4.

Do not groove within 6" of any joint.

42" F-Shaped Parapet reinforcement omitted for clarity. See Std. FSHP-42-2-00E for details.

For Summary of Quantities and Sections A, B & C, see Sheet No. BK022.

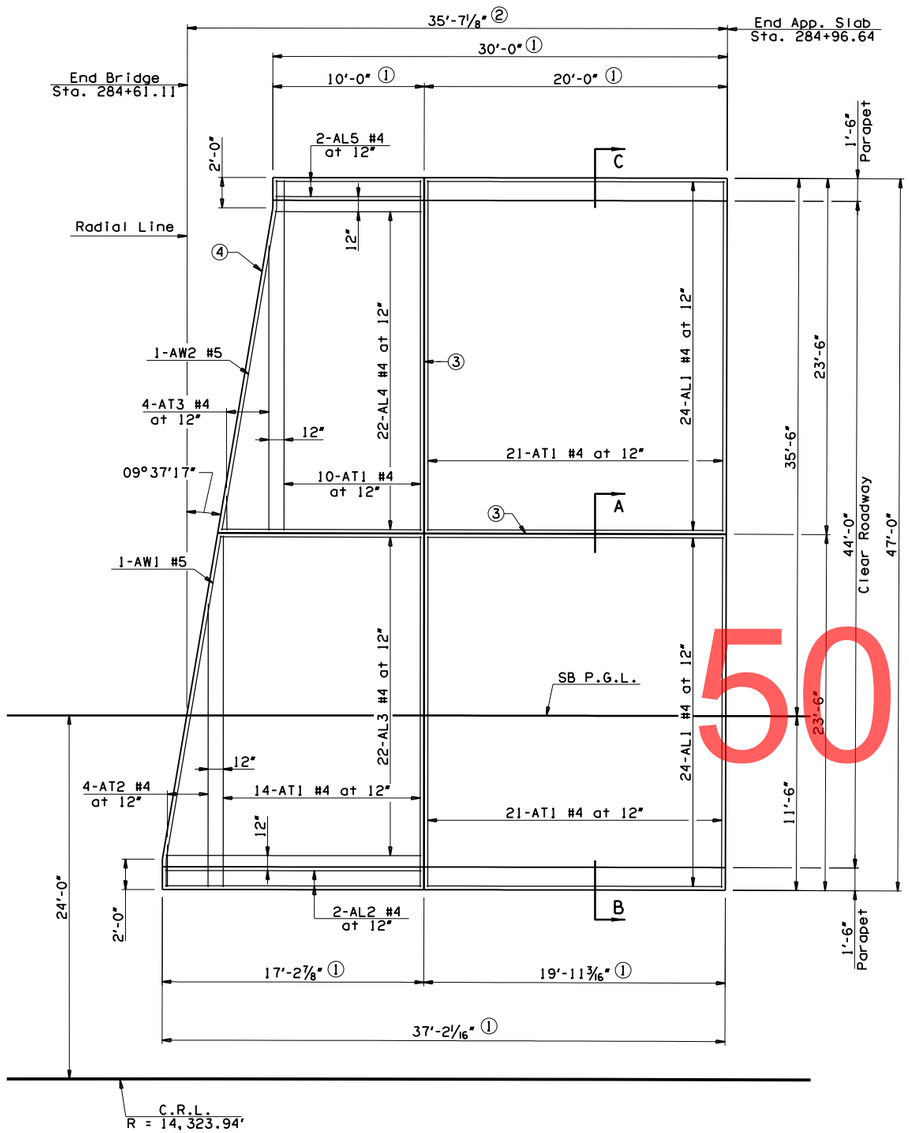
All transverse reinforcing shall be placed on lines radial to SB P.G.L. Spacing shown for all transverse reinforcing is measured along SB P.G.L.

All longitudinal lines and longitudinal reinforcing shall be placed along curves concentric with C.R.L.

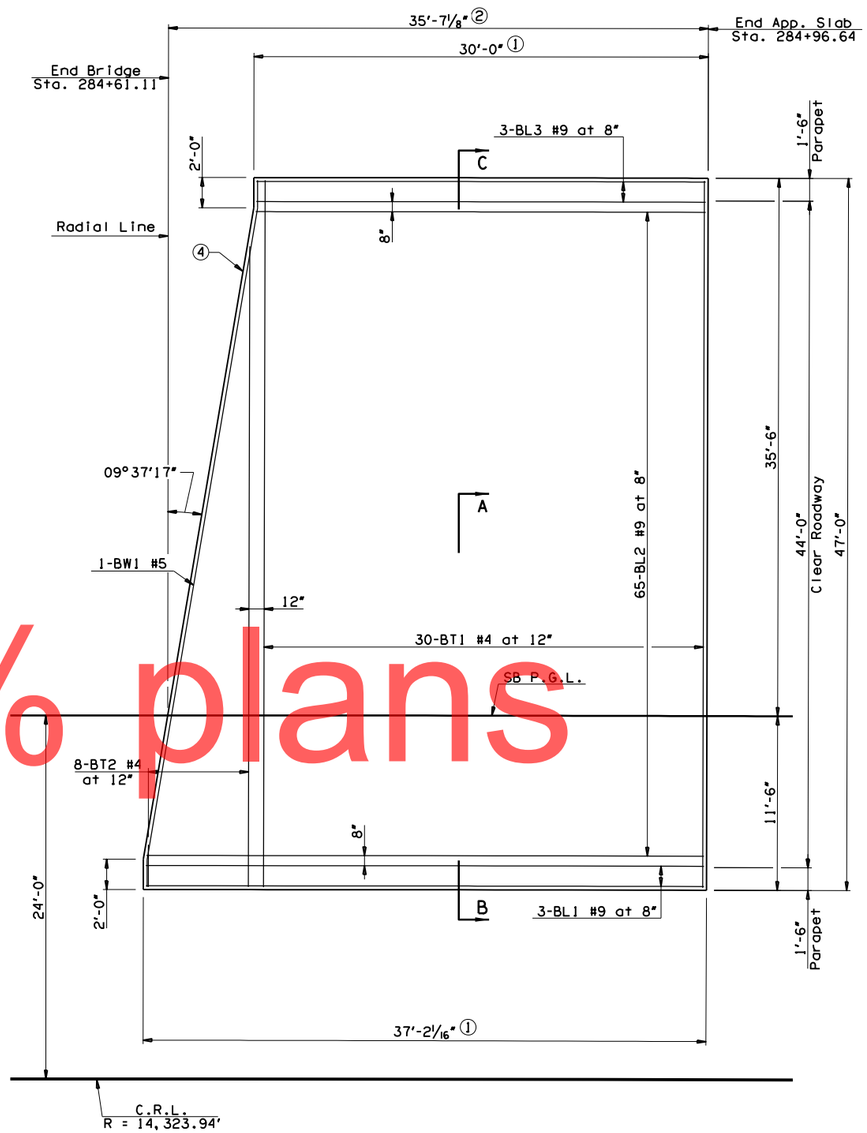
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
APPROACH SLAB DETAILS
(SHEET 1 OF 3)

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

DESIGNED	ABH	8/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK020



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



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

50% plans

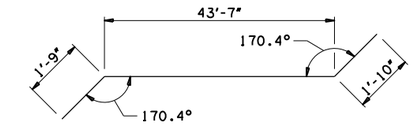
OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

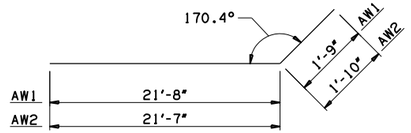
PROPOSED R/W
10/23/2017

BAR LIST - APPROACH SLAB NO. 2

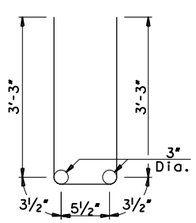
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	48	STR.	19'-7"	-
AL2	#4	2	STR.	16'-11"	-
AL3	#4	22	STR.	15'-1" AVG.	13'-4" To 16'-10"
AL4	#4	22	STR.	11'-5½" AVG.	9'-8" To 13'-3"
AL5	#4	2	STR.	9'-8"	-
AT1	#4	66	STR.	23'-2"	-
AT2	#4	4	STR.	10'-8½" AVG.	2'-9" To 18'-8"
AT3	#4	4	STR.	10'-7" AVG.	2'-4" To 18'-10"
AW1	#5	1	BENT	23'-5"	-
AW2	#5	1	BENT	23'-5"	-
BL1	#9	3	STR.	36'-10"	-
BL2	#9	65	STR.	33'-2½" AVG.	29'-8" To 36'-9"
BL3	#9	3	STR.	29'-8"	-
BT1	#4	30	STR.	46'-8"	-
BT2	#4	8	STR.	22'-6" AVG.	2'-9" To 42'-3"
BW1	#5	1	BENT	47'-2"	-
FS2	#5	68	BENT	7'-4"	-
FS6	#5	10	BENT	7'-6½"	-



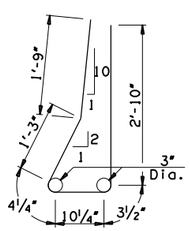
BW1 #5 x 47'-2"



AW1 #5 x 23'-5"
AW2 #5 x 23'-5"



FS6 #5 x 7'-6½"



FS2 #5 x 7'-4"

① Measured Along Outside Edge of Slab
② Measured Along SB P.G.L.
③ ½" Sawed and Sealed Joint in top of Approach Slab. See DETAIL "B" on Sheet No. BK022.
④ ½" Sawed and Sealed Construction Joint in top of Approach Slab. See DETAIL "A" on Sheet No. BK022.

NOTES:
Place reinforcing steel in the top of the Approach Slab 2" either side of the Sawed and Sealed Longitudinal and Transverse Joints. For additional details, See Std. LECS-4.

Do not groove within 6" of any joint.

42" F-Shaped Parapet reinforcement omitted for clarity. See Std. FSHP-42-2-00E for details.

For Summary of Quantities and Sections A, B & C, see Sheet No. BK022.

All transverse reinforcing shall be placed on lines radial to SB P.G.L. Spacing shown for all transverse reinforcing is measured along SB P.G.L.

All longitudinal lines and longitudinal reinforcing shall be placed along curves concentric with C.R.L.

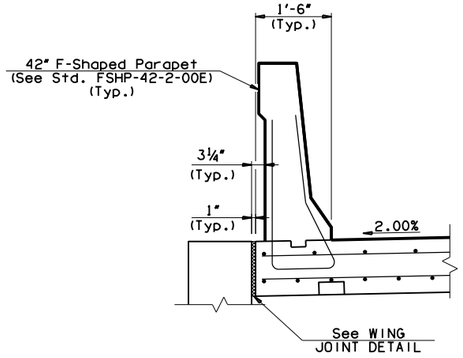
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. K GILCREASE SB OVER BNSF RR
APPROACH SLAB DETAILS
(SHEET 2 OF 3)

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

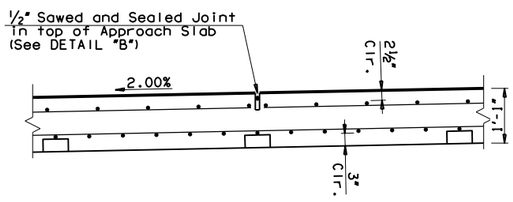
DESIGNED	ABH	8/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK021

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

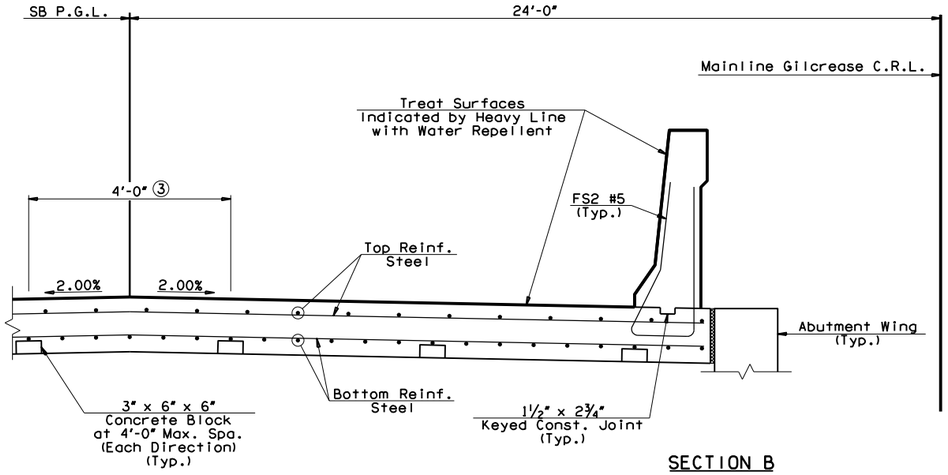
PROPOSED R/W
10/23/2017



SECTION C



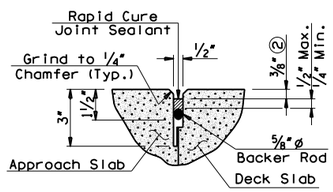
SECTION A THRU APPROACH SLAB



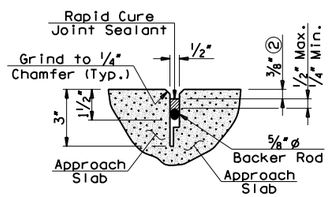
SECTION B

50% plans

③ Round 2'-0" either side of SB P.G.L. to avoid sharp edges.

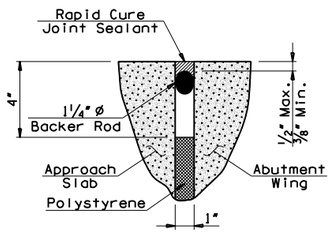


DETAIL "A"
(Construction Joint)



DETAIL "B"

② This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only. See Std. LEC-4-1 for further details.



WING JOINT DETAIL

NOTE:
All costs associated with the Wing Joint Detail, including materials, Rapid Cure Joint Sealant, Backer Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified, are included in the contract unit price for "APPROACH SLAB".

SUMMARY OF QUANTITIES - APPROACH SLABS

	ITEM	UNIT	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
①	APPROACH SLAB	S.Y.	XXX.XX	XXX.XX	XXX.XX
	SAW-CUT GROOVING	S.Y.	XXX.XX	XXX.XX	XXX.XX
	42" F-SHAPED PARAPET	L.F.	XX.XX	XX.XX	XX.XX
	CLASS AA CONCRETE	C.Y.	XX.XX	XX.XX	XX.XX
	EPOXY COATED REINFORCING STEEL	LB.	XX,XXX.XX	XX,XXX.XX	XX,XXX.XX
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XX.XX	XX.XX	XX.XX

① The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. K GILCREASE SB OVER BNSF RR

APPROACH SLAB DETAILS
(SHEET 3 OF 3)

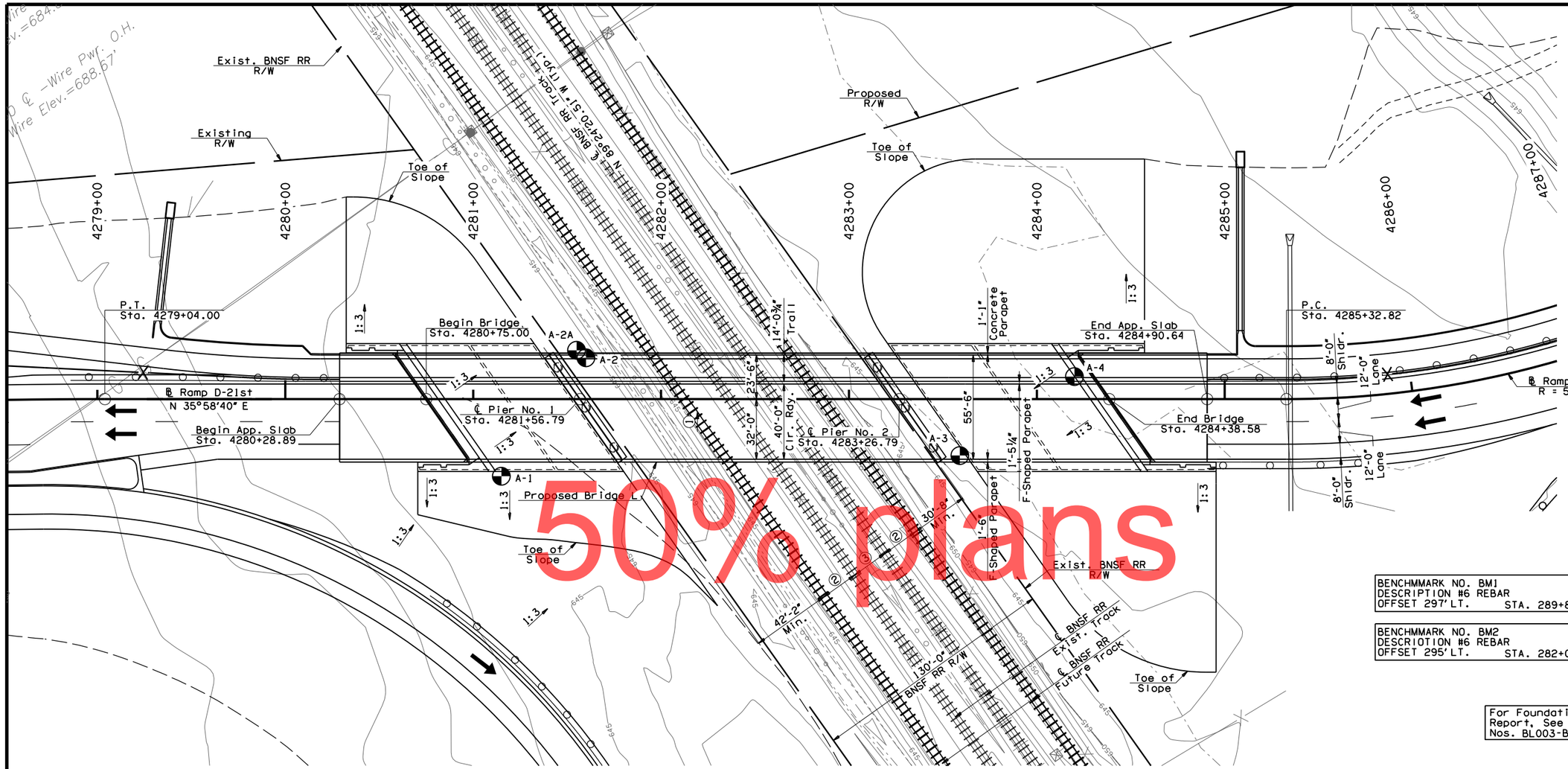
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	8/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BK022

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

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'



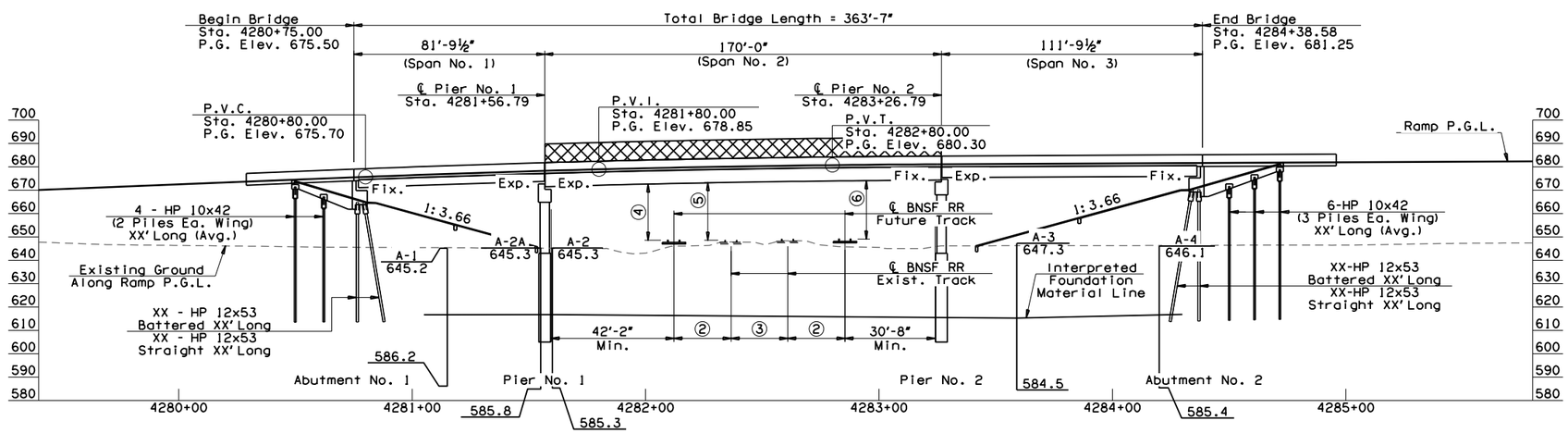
50% plans

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

BENCHMARK NO. BM2		
DESCRIPTION #6 REBAR		
OFFSET 295' LT.	STA. 282+07.00	EL. 644.59

For Foundation Report, See Sheet Nos. BL003-BL005.

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, Vertical Grade Data and Additional Geotechnical Information, see Sheet No. BL002.



① 0.02 ft./ft.
② 20'-0" From ℄ Future BNSF RR Track to ℄ Existing BNSF RR Track.
③ 19'-9 7/16" from ℄ Existing BNSF RR Track to ℄ Existing BNSF RR Track.
④ 23'-8" Min. Clearance at 9'-0" offset.
⑤ 24'-1" Min. Clearance at existing RR tracks.
⑥ 24'-4" Min. Clearance at 9'-0" offset.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JCL	7/17	DATE: 10/23/2017	SHEET NO. BL001

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BL001-BL002	General Plan and Elevation
BL003-BL005	Foundation Report
BL006	Staking Diagram
BL007	Substructure Excavation and Pipe Underdrain Assembly
BL008-BL010	Pier Details
BL011	Typical Section
BL012	Longitudinal Section
BL013-BL017	Superstructure Details
BL018	Handrail Details
BL019	Framing Plan
BL020-BL021	Rolled Beam Details
BL022-BL026	Plate Girder Details
BL027	Bearing Details
BL028-BL029	Fence Details
BL030	Slope Wall Details
BL031-BL033	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: 1.61

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= 84.0 Tons	= 84.0 Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (60" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= 785.0 Tons	= 785.0 Tons

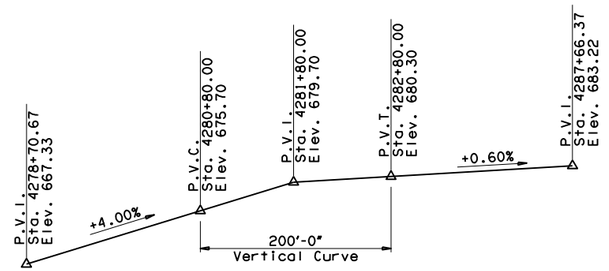
STANDARDS

FSHP-42-2-00E
HP1-2-01E

50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

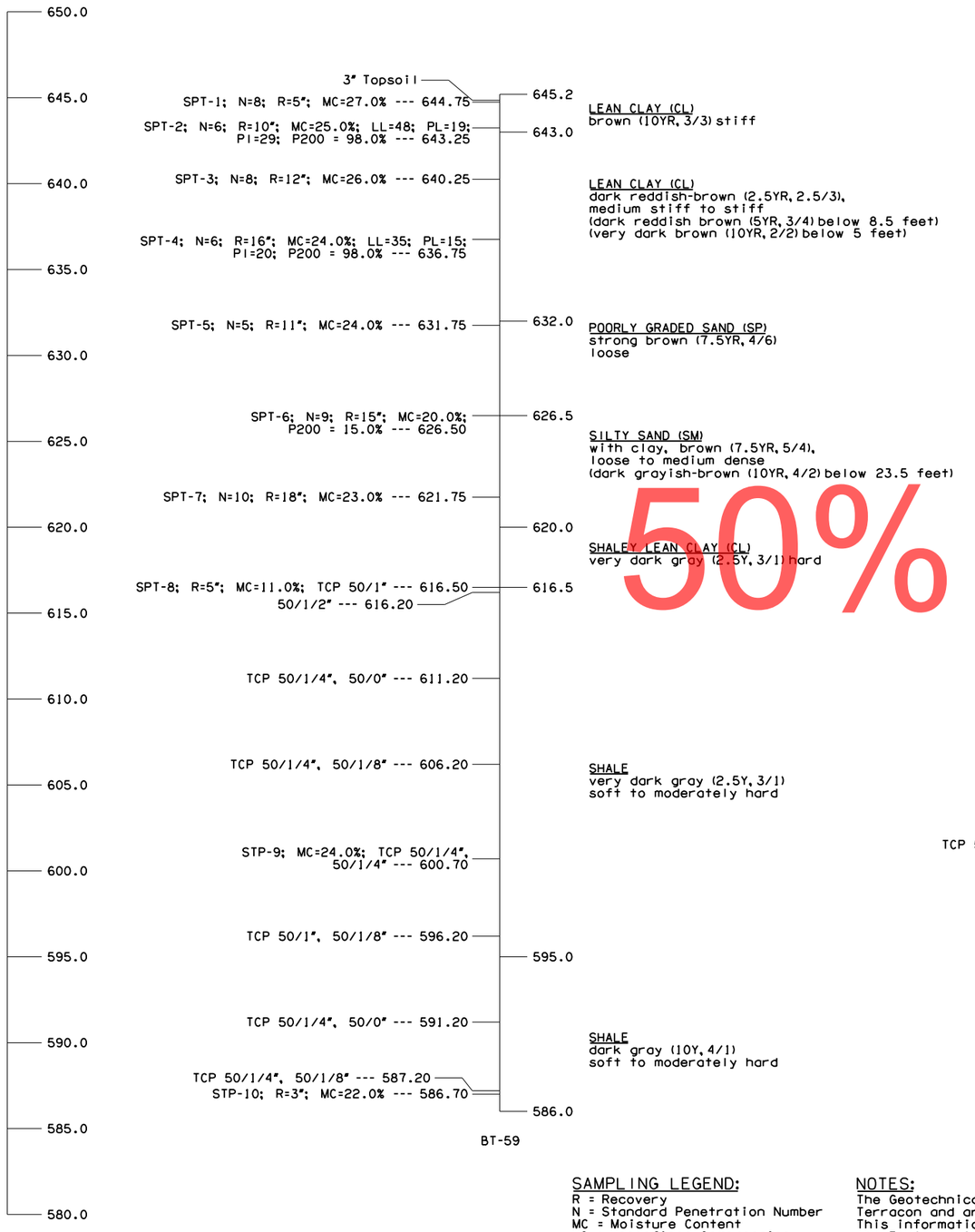
DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JCL	7/17	DATE: 10/23/2017	SHEET NO. BL002

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

PROPOSED
R/W
10/23/2017

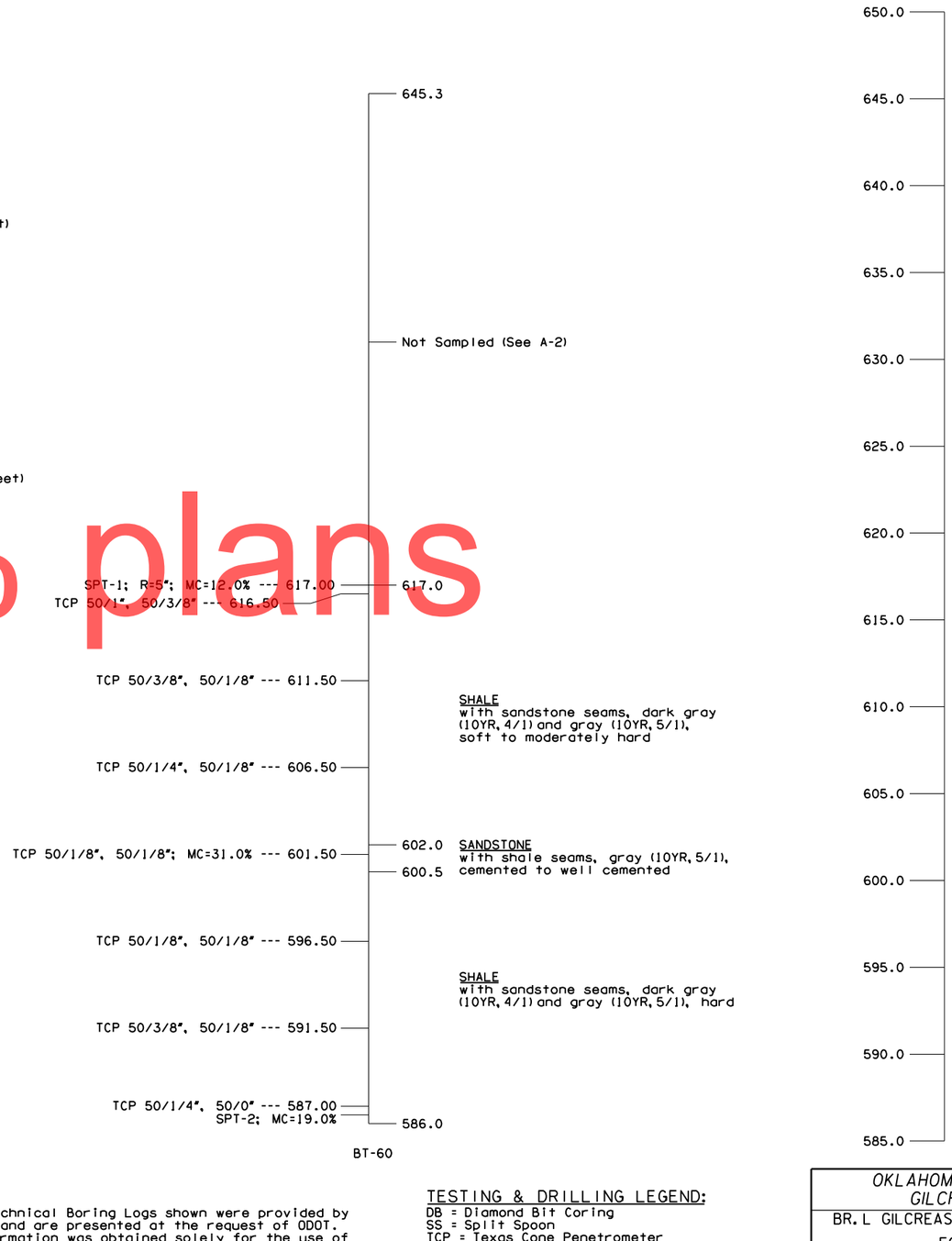
BORING NO. A-1

Sta. 4281+15.00, 41.00' Rt.
Total Depth = 59.00 ft.



BORING NO. A-2A

Sta. 4281+55.00, 26.00' Lt.
Total Depth = 59.50 ft.



50% plans

SAMPLING LEGEND:

R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:

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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:

DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer
SPT = Standard Penetration Test, ASTN D1586

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
FOUNDATION REPORT
(SHEET 1 OF 3)

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

DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL003

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

PROPOSED R/W
10/23/2017

BORING NO. A-2

Sta. 4281+60.00, 22.00' Lt.
Total Depth = 60.00 ft.

650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0

4" Topsoil — 645.3

SPT-1; N=7; R=16"; MC=23.0% --- 644.90

SPT-2; N=7; R=17"; MC=22.0%; LL=34; PL=18; PI=16; P200 = 95.0% --- 643.50

LEAN CLAY (CL)
dark brown (10YR, 3/3), medium stiff

SPT-3; N=21; R=18"; MC=11.0% --- 640.50 — 640.5

SPT-4; N=7; R=16"; MC=23.0% --- 637.00

LEAN CLAY (CL)
trace silt, dark brown (10YR, 3/3) and brown (10YR, 5/3), medium stiff to very stiff

SPT-5; N=13; R=13"; MC=18.0% --- 632.00 — 632.5

CLAYEY SAND (SC)
brown (7.5YR, 5/4), medium dense

SPT-6; N=21; R=8"; MC=13.0%; P200 = 5.0% --- 627.00 — 627.0

POORLY GRADED SAND WITH SILT (SP-SM)
yellowish-brown (10YR, 5/8), medium dense

SPT-7; N=12; R=7"; MC=24.0% --- 622.00 — 621.0

POORLY GRADED SAND WITH SILT (SP-SM)
olive (5Y, 4/4), dense to very dense

SPT-8; R=4"; MC=19.00% --- 617.00 — 617.0

SHALE
with sandstone seams, dark gray (10YR, 4/1), and gray (10YR, 5/1), soft to moderatrly hard

602.0 SANDSTONE
with shale seams, gray (10YR, 5/1), cemented to well cemented
600.5

SHALE
with sandstone seams, dark gray (10YR, 4/1), and gray (10YR, 5/1), hard

585.5

BT-60

BORING NO. A-3

Sta. 4283+59.00, 30.00' Lt.
Total Depth = 62.80 ft.

650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0

4" Topsoil — 647.3

SPT-1; N=6; R=6"; MC=20.0%; LL=28; PL=17; PI=11; P200 = 88.0% --- 646.75

SPT-2; N=5; R=11"; MC=21.0% --- 645.50

LEAN CLAY (CL)
dark brown (10YR, 3/3), medium stiff

SPT-3; N=5; R=10"; MC=21.0% --- 642.50

SPT-4; N=5; R=9"; MC=28.0%; LL=40; PL=19; PI=21; P200 = 99.0% --- 639.00 — 639.0

LEAN CLAY (CL)
dark brown (10YR, 3/3) and brown (10YR, 5/3), medium stiff

SPT-5; N=16; R=8"; MC=32.0%; P200 = 19.0% --- 634.00 — 634.5

SILTY SAND (SM)
brown (7.5YR, 5/4), medium dense

SPT-6; N=24; R=10"; MC=21.0% --- 629.00 — 629.0

SPT-7; N=10; R=8"; MC=14.0% --- 624.00

WELL GRADED SAND (SW)
yellowish-brown (10YR, 5/8), medium dense

SPT-8; N=23; MC=21.0% --- 619.00 — 618.0

SHALEY LEAN CLAY (CL)
olive-gray (5Y, 4/2), hard

SPT-9 — 615.5

TCP 50/1/2", 50/1/8" --- 615.00

TCP 50/1/2", 50/5/16" --- 610.00

TCP 50/5/8", 50/3/16" --- 605.00

TCP 50/1/2", 50/3/16" --- 600.00

SPT-10; R=2"; MC=13.0% --- 599.50

SANDSTONE
with shale seams, light gray (10YR, 7/1) and gray (10YR, 5/1), cemented to well cemented

TCP 50/7/17", 50/1/16" --- 594.00

TCP 50/3/8", 50/3/16" --- 590.00

TCP 50/11/8", 50/3/16" --- 586.00

SPT-11; R=2"; MC=15.0% --- 585.00 — 584.5

BT-63

50% plans

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer
SPT = Standard Penetration Test, ASTN D1586

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

FOUNDATION REPORT
(SHEET 2 OF 3)

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

DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL004

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

PROPOSED R/W
10/23/2017

BORING NO. A-4

Sta. 4284+20.00, 12.00' Lt.
Total Depth = 60.70 ft.

650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0

4" Topsoil
SPT-1; N=3; R=18"; MC=28.0% --- 645.75 — 646.1

SPT-2; N=2; R=9"; MC=21.0%; LL=28; PL=21; PI=7; P200 = 81.0% --- 644.00

SILTY CLAY (CL-ML)
with sand, dark brown (10YR, 3/3), soft

SPT-3; N=2; R=12"; MC=26.0% --- 641.00 — 641.0

LEAN CLAY (CL)
brown (10YR, 5/3), soft

SPT-4; N=7; R=17"; MC=29.0%; LL=51; PL=22; PI=29; P200 = 99.0% --- 637.50 — 637.5

FAT CLAY (CH)
dark brown (10YR, 3/3), and brown (10YR, 5/3) medium stiff

SPT-5; N=28; R=11"; MC=21.0% --- 632.50 — 633.0

SPT-6; N=15; R=12"; MC=20.0%; P200 = 9.0% --- 627.50

POORLY GRADED SAND WITH SILT (SP-SM)
brown (7.5YR, 5/4), medium dense

SPT-7; N=11; R=10"; MC=20.0% --- 622.50 — 622.5

WELL GRADED SAND (SW)
yellowish-brown (10YR, 5/8), medium dense

SPT-8; MC=16.0% --- 617.50 — 616.5

TCP 50/1 1/16", 50/3/8" --- 615.50

TCP 50/7/16", 50/3/16" --- 610.50

TCP 50/3/4", 50/5/16" --- 605.50

TCP 50/9/16", 50/3/16" --- 600.50

SPT-9; R=3"; MC=21.0% --- 600.00

SHALE
with sandstone seams, light gray (10YR, 7/1) and gray (10YR, 5/1), soft

TCP 50/9/16", 50/3/16" --- 595.50

TCP 50/5/16", 50/1/8" --- 590.50

TCP 50/5/16", 50/1/16" --- 586.50

SPT-10; R=0" --- 585.75 — 585.5

BT-61

50% plans

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer
SPT = Standard Penetration Test, ASTN D1586

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

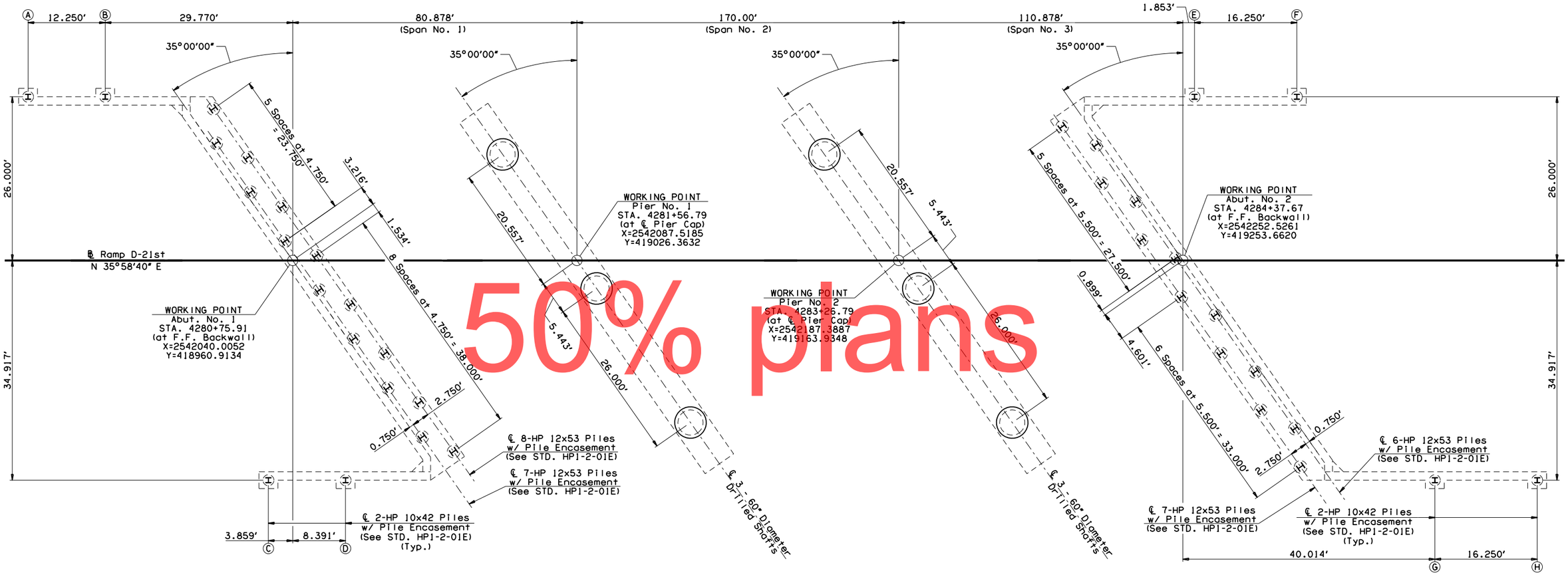
FOUNDATION REPORT
(SHEET 3 OF 3)

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

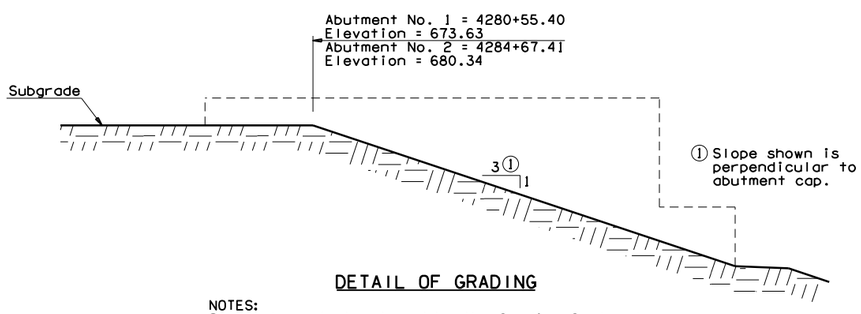
DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL005

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

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1 PIER NO. 1 PIER NO. 2 ABUTMENT NO. 2



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.

Stations and elevations given are at ℄ Ramp D-21st and will vary across the width of the bridge.

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	XXX.XX
B	XXX.XX
CAP	XXX.XX
C	XXX.XX
D	XXX.XX

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
E	XXX.XX
F	XXX.XX
CAP	XXX.XX
G	XXX.XX
H	XXX.XX

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

STAKING DIAGRAM

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL006

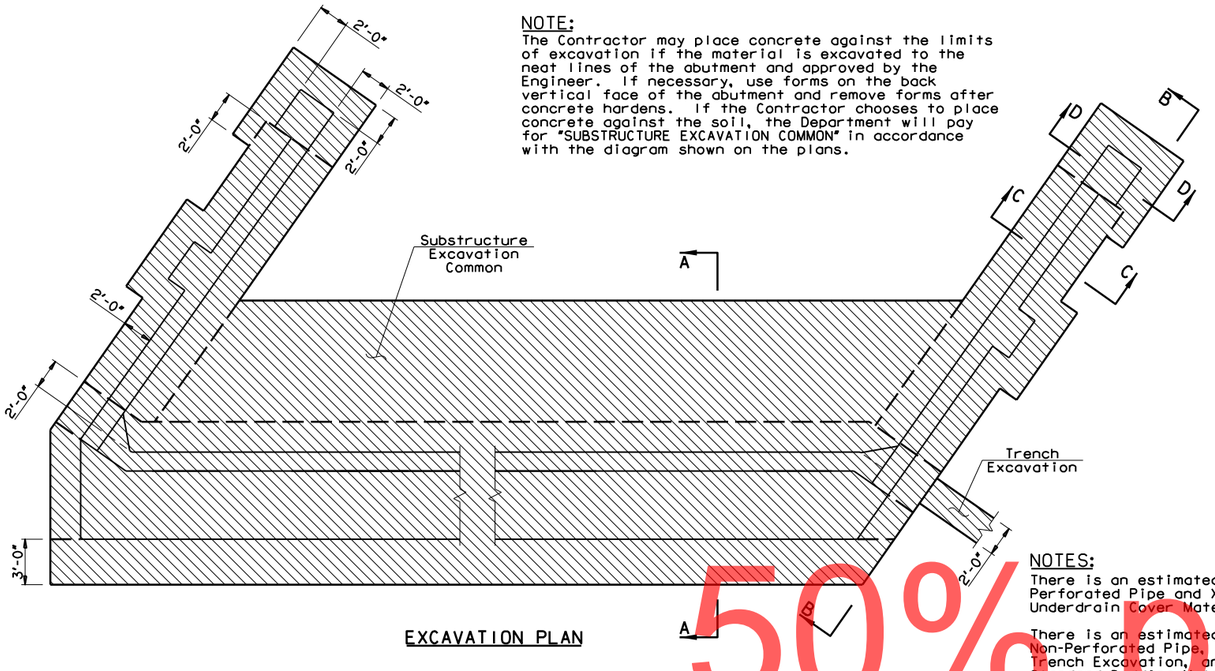
50% plans

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

PROPOSED
R/W
10/23/2017

50% plans

NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.



EXCAVATION PLAN

NOTES:
There is an estimated XX.00 feet of Perforated Pipe and XX.X0 cubic yards of Pipe Underdrain Cover Material for both abutments.

There is an estimated XX.00 feet of Non-Perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.

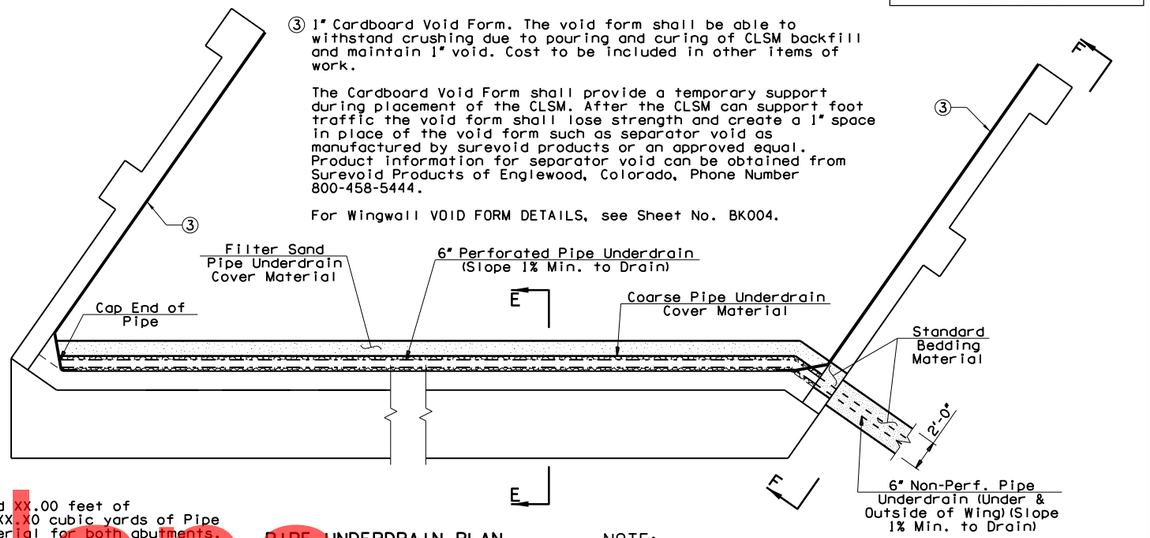
① Set bottom of pipe 3" above the bottom of the abutment at the low end.

② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.

③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

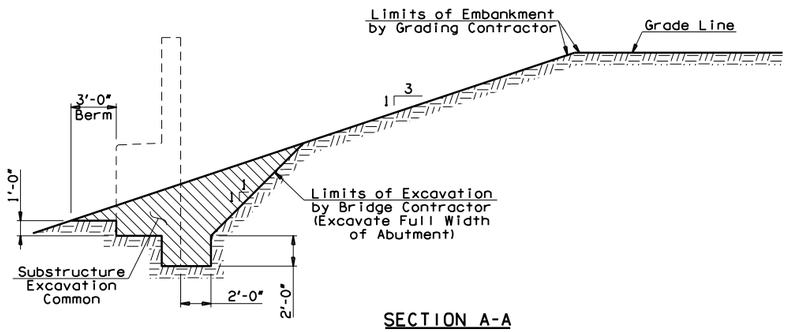
The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal. Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.

For Wingwall VOID FORM DETAILS, see Sheet No. BK004.

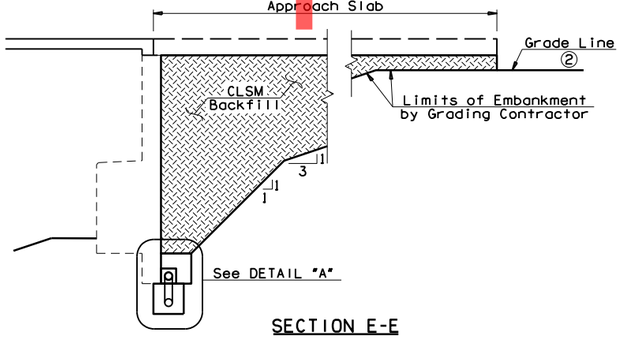


PIPE UNDERDRAIN PLAN

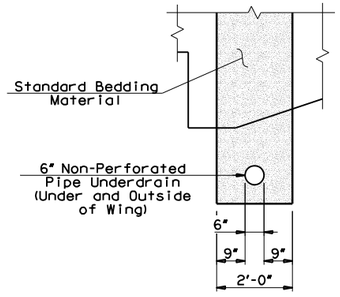
NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.



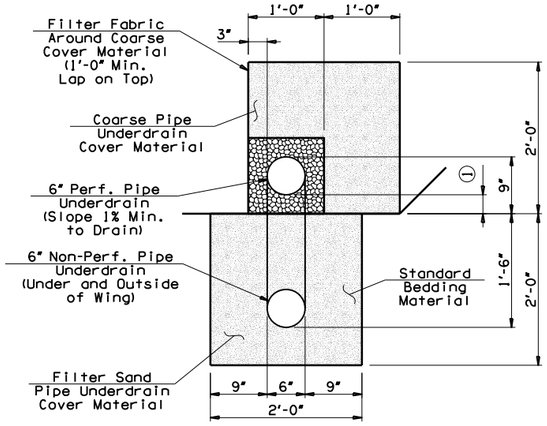
SECTION A-A



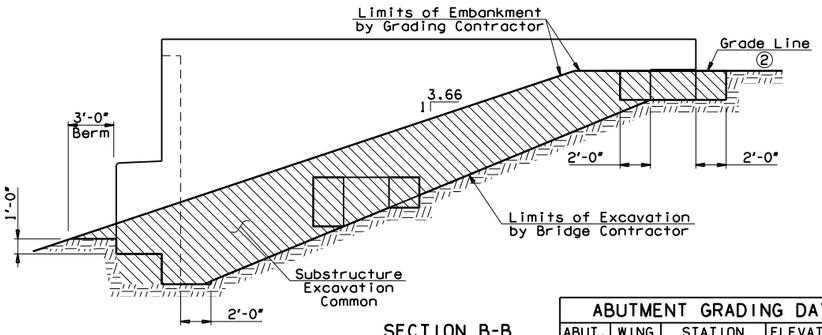
SECTION E-E



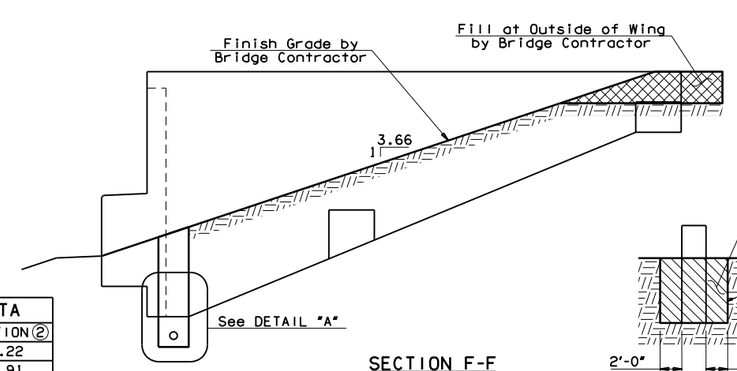
DETAIL "B"



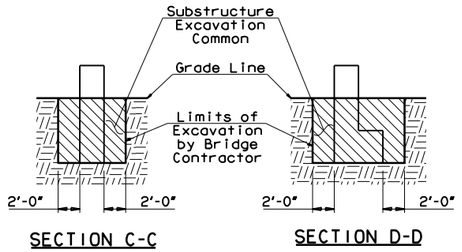
DETAIL "A"



SECTION B-B



SECTION F-F



SECTION C-C

SECTION D-D

ABUTMENT GRADING DATA			
ABUT.	WING	STATION	ELEVATION ②
1	W	4280+32.39	671.22
	E	4280+70.55	673.91
2	W	4284+57.27	678.79
	E	4284+95.43	680.18

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

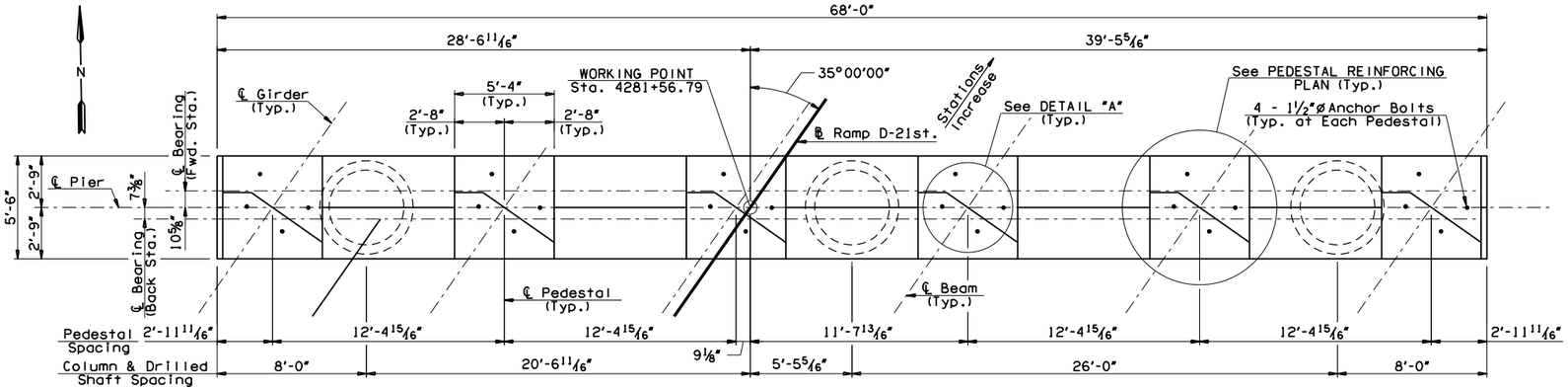
SUBSTRUCTURE EXC. & PIPE UNDERDRAIN ASSEMBLY DETAILS

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

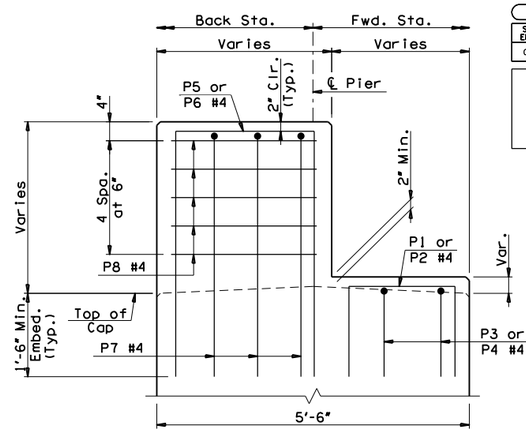
DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500
DETAILED	ABH	9/17	
CHECKED	MJY	10/17	DATE: 10/23/2017 — SHEET NO. BL007

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

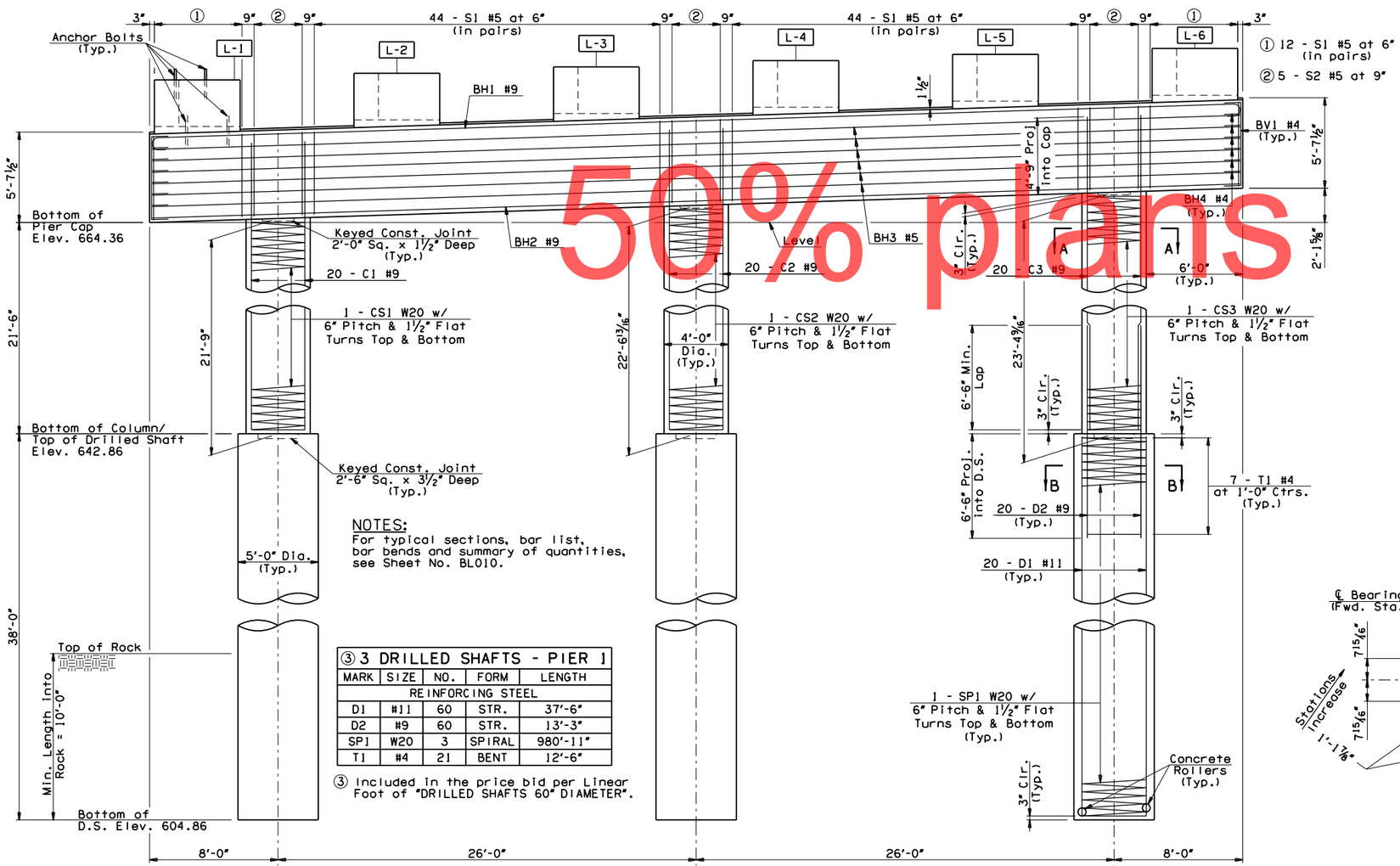
PROPOSED R/W
10/23/2017



PLAN



SECTION C-C



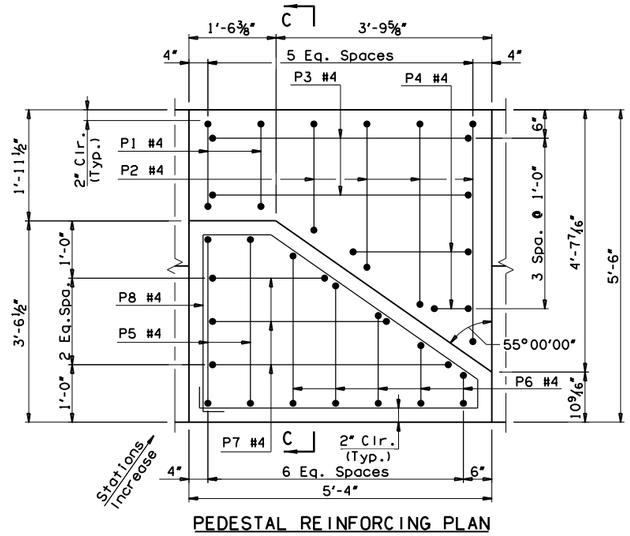
ELEVATION
(Looking Forward Station)

PIER NO. 1

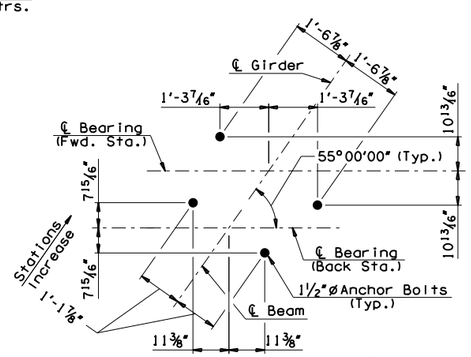
③ 3 DRILLED SHAFTS - PIER 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	60	STR.	37'-6"
D2	#9	60	STR.	13'-3"
SP1	W20	3	SPIRAL	980'-11"
T1	#4	21	BENT	12'-6"

③ Included in the price bid per Linear Foot of "DRILLED SHAFTS 60" DIAMETER".

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	L-1	L-2	L-3	L-4	L-5	L-6
1 (BACK STA.)	673.23	673.64	674.04	674.43	674.82	675.19
1 (FWD. STA.)	670.33	670.74	671.14	671.53	671.91	672.28



PEDESTAL REINFORCING PLAN



DETAIL "A"

NOTES:
For typical sections, bar list, bar bends and summary of quantities, see Sheet No. BL010.

NOTE:
For Water Repellent Details, See Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

PIER DETAILS
(SHEET 1 OF 3)

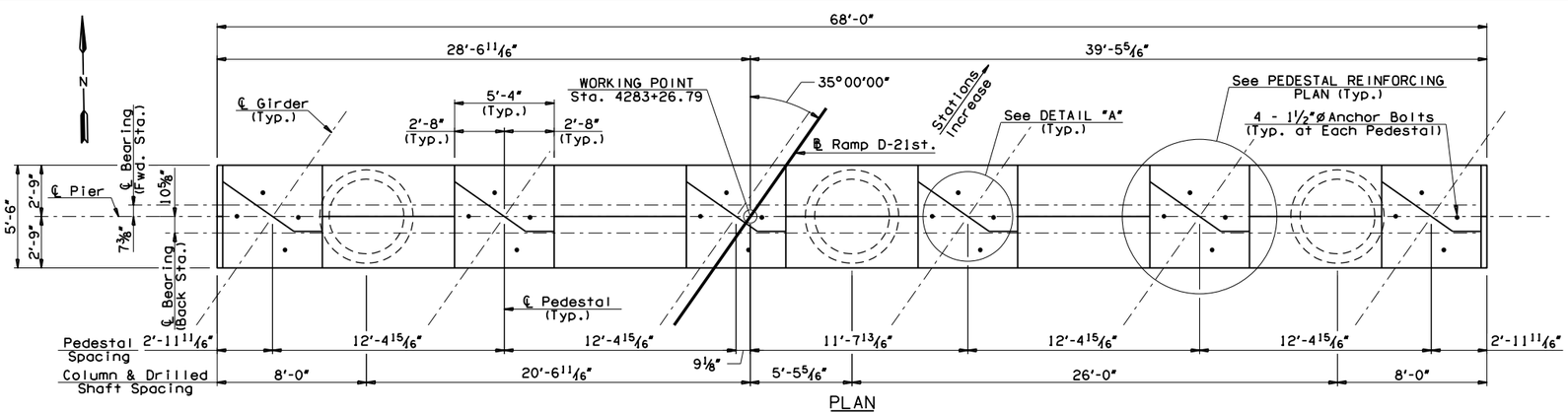
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	7/17		
CHECKED	WMM	10/17	DATE: 10/23/2017	SHEET NO. BL008

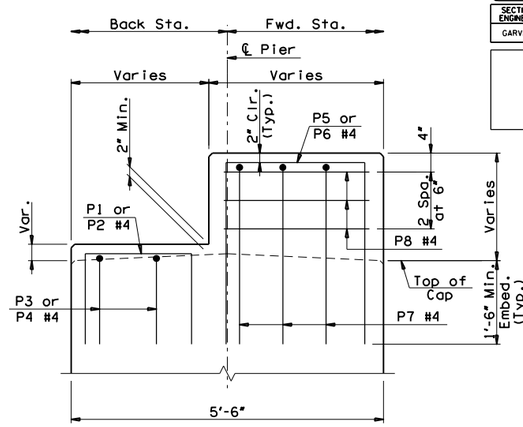
50% plans

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

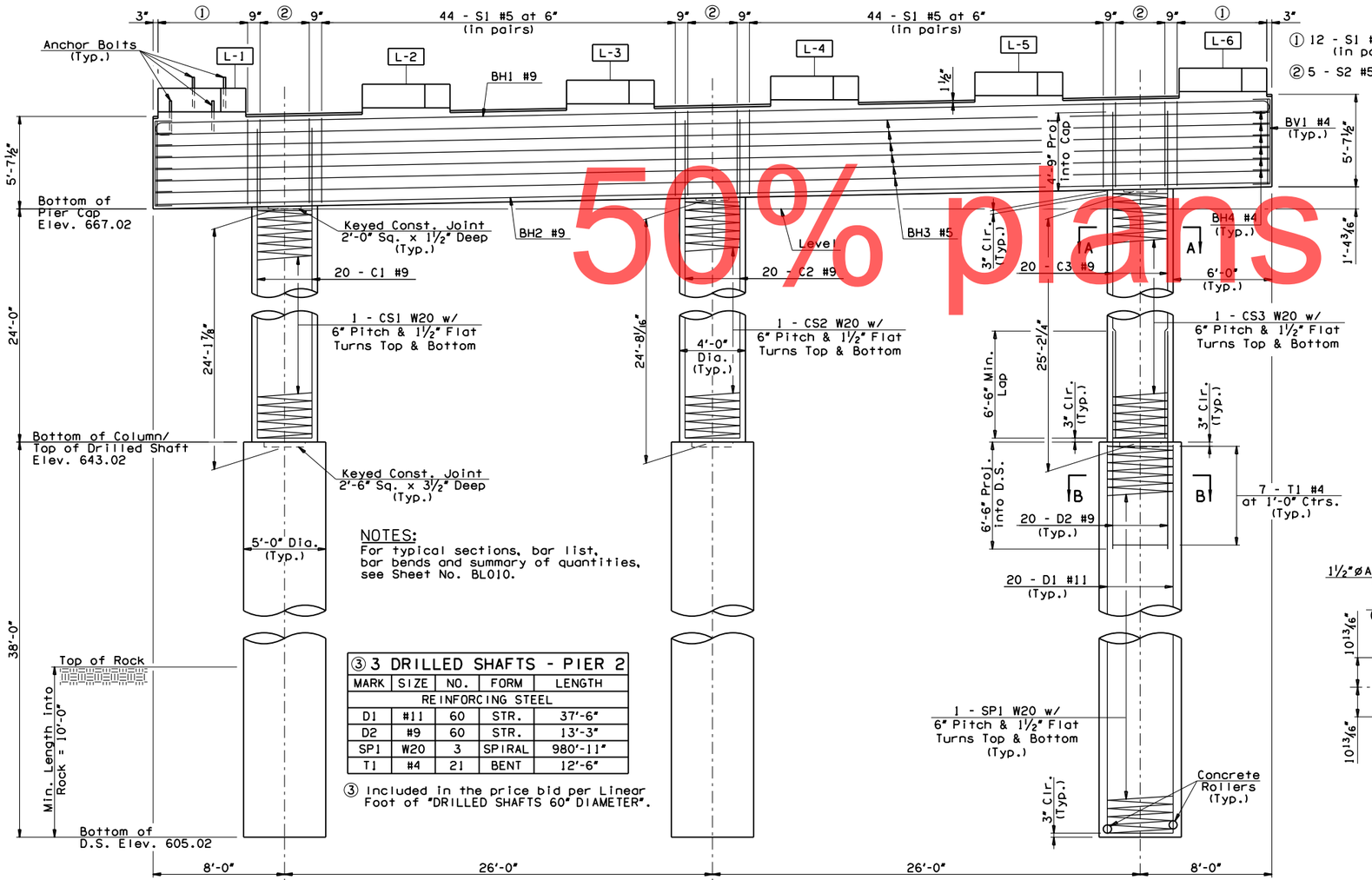
PROPOSED
R/W
10/23/2017



PLAN



SECTION C-C



NOTES:
For typical sections, bar list, bar bends and summary of quantities, see Sheet No. BL010.

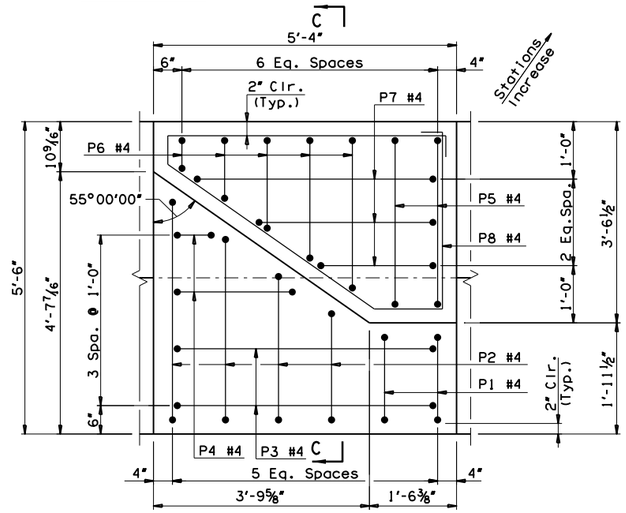
③ 3 DRILLED SHAFTS - PIER 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	60	STR.	37'-6"
D2	#9	60	STR.	13'-3"
SP1	W20	3	SPIRAL	980'-11"
T1	#4	21	BENT	12'-6"

③ Included in the price bid per Linear Foot of "DRILLED SHAFTS 60" DIAMETER".

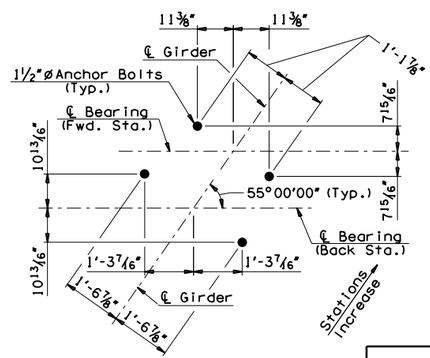
PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	L-1	L-2	L-3	L-4	L-5	L-6
2 (BACK STA.)	672.93	673.18	673.42	673.67	673.92	674.16
2 (FWD. STA.)	674.36	674.61	674.85	675.10	675.34	675.59

ELEVATION
(Looking Forward Station)

PIER NO. 2



PEDESTAL REINFORCING PLAN



DETAIL "A"

NOTE:
For Water Repellent Details, See Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

PIER DETAILS
(SHEET 2 OF 3)

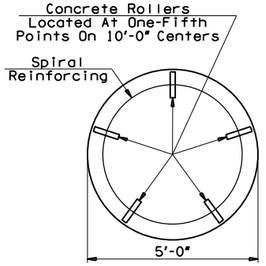
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	7/17		
CHECKED	WMM	9/17	DATE: 10/23/2017	SHEET NO. BL009

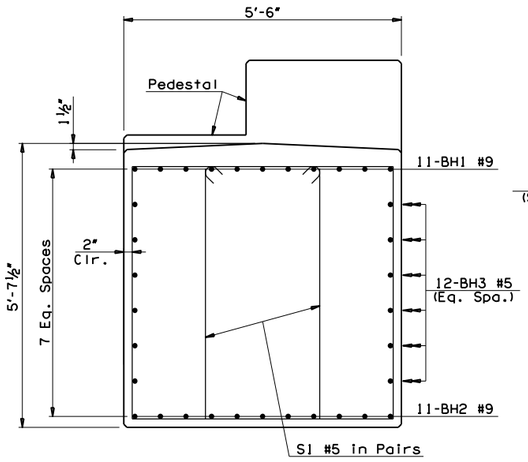
50% plans

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

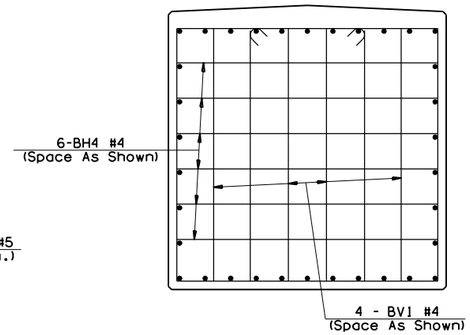
PROPOSED R/W
10/23/2017



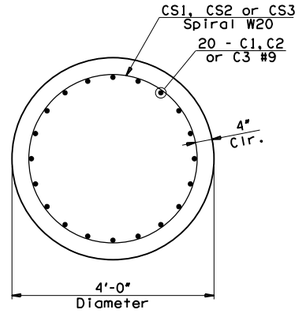
CONCRETE ROLLER PLACEMENT



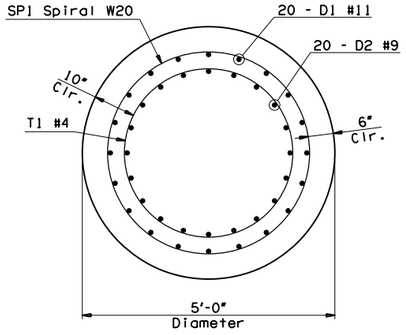
TYPICAL SECTION THRU CAP



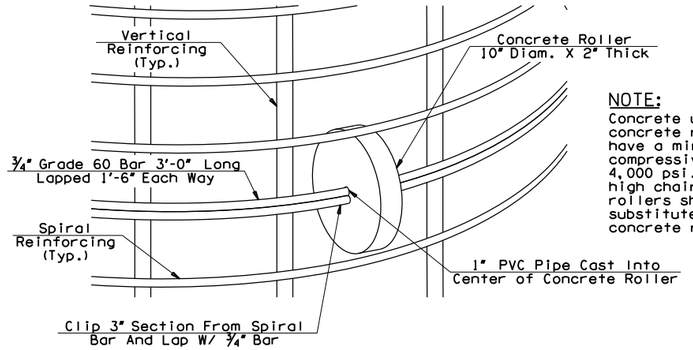
END OF PIER CAP REINFORCING



SECTION A-A

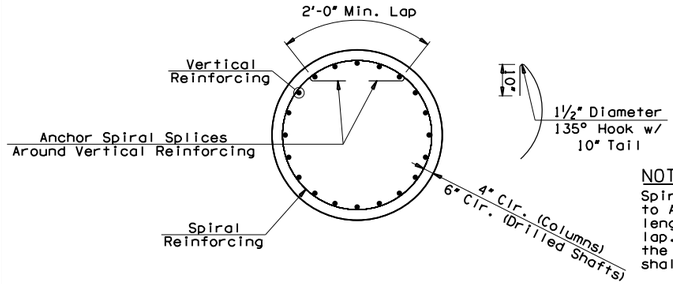


SECTION B-B



NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

DETAILS OF CONCRETE ROLLER INSTALLATION



NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.

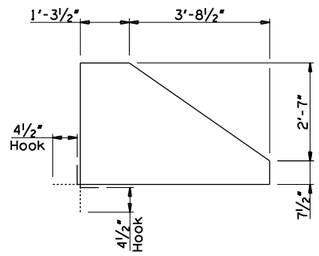
DETAIL OF SPIRAL REINFORCING STEEL

SUMMARY OF QUANTITIES				
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	—	6.00	6.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	12.00	6.00	18.00
SPECIAL CONCRETE FINISH	S.Y.	XX.00	XX.00	XXX.00
CLASS A CONCRETE	C.Y.	XXX.X0	XXX.X0	XXX.X0
EPOXY COATED REINFORCING STEEL	LB.	XX,XXX.00	XX,XXX.00	XX,XXX.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.00	XXX.00	XXX.00
DRILLED SHAFTS 60" DIAMETER	L.F.	120.00	120.00	240.00
CROSSHOLE SONIC LOGGING	EA.	1.00	1.00	2.00

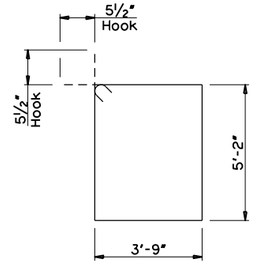
BAR LIST - PIER NO. 1						
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES	"A"
EPOXY COATED REINFORCING STEEL						
① BH1	#9	11	BENT	77'-2"	-	-
① BH2	#9	11	STR.	74'-8"	-	-
② BH3	#5	12	STR.	71'-8"	-	-
BH4	#4	12	BENT	7'-0"	-	-
BV1	#4	8	BENT	7'-0"	-	-
C1	#9	20	STR.	26'-7"	-	-
C2	#9	20	STR.	27'-5"	-	-
C3	#9	20	STR.	28'-3"	-	-
P1	#4	12	BENT	5'-3"	-	1'-7"
③ P2	#4	24	BENT	6'-8" AVG.	5'-8" TO 7'-8"	2'-0" TO 4'-0"
P3	#4	12	BENT	8'-3"	-	4'-7"
④ P4	#4	12	BENT	5'-3½" AVG.	4'-7" TO 6'-0"	11" TO 2'-4"
P5	#4	12	BENT	12'-7"	-	3'-1"
⑤ P6	#4	30	BENT	11'-3½" AVG.	10'-3" TO 12'-4"	9" TO 2'-10"
⑥ P7	#4	18	BENT	12'-10" AVG.	11'-9" TO 13'-11"	2'-3" TO 4'-5"
P8	#4	30	BENT	15'-5"	-	-
S1	#5	224	BENT	18'-9"	-	-
S2	#5	15	BENT	15'-6"	-	-
REINFORCING STEEL						
CS1	#4	1	SPIRAL	477'-0"	-	-
CS2	#4	1	SPIRAL	494'-2"	-	-
CS3	#4	1	SPIRAL	511'-2"	-	-

BAR LIST - PIER NO. 2						
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES	"A"
EPOXY COATED REINFORCING STEEL						
① BH1	#9	11	BENT	77'-2"	-	-
① BH2	#9	11	STR.	74'-8"	-	-
② BH3	#5	12	STR.	71'-8"	-	-
BH4	#4	12	BENT	7'-0"	-	-
BV1	#4	8	BENT	7'-0"	-	-
C1	#9	20	STR.	29'-0"	-	-
C2	#9	20	STR.	29'-6"	-	-
C3	#9	20	STR.	30'-0"	-	-
P1	#4	12	BENT	5'-3"	-	1'-7"
③ P2	#4	24	BENT	6'-8" AVG.	5'-8" TO 7'-8"	2'-0" TO 4'-0"
P3	#4	12	BENT	8'-3"	-	4'-7"
④ P4	#4	12	BENT	5'-3½" AVG.	4'-7" TO 6'-0"	11" TO 2'-4"
P5	#4	12	BENT	9'-5"	-	3'-1"
⑤ P6	#4	30	BENT	8'-1½" AVG.	7'-1" TO 9'-2"	9" TO 2'-10"
⑥ P7	#4	18	BENT	9'-8" AVG.	8'-7" TO 10'-9"	2'-3" TO 4'-5"
P8	#4	18	BENT	15'-5"	-	-
S1	#5	224	BENT	18'-9"	-	-
S2	#5	15	BENT	15'-6"	-	-
REINFORCING STEEL						
CS1	#4	1	SPIRAL	527'-5"	-	-
CS2	#4	1	SPIRAL	538'-3"	-	-
CS3	#4	1	SPIRAL	549'-1"	-	-

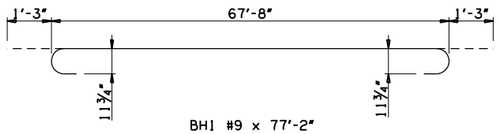
① Includes one 7'-0" Lap Length
② Includes one 4'-0" Lap Length
③ 6 Sets of 4
④ 6 Sets of 2
⑤ 6 Sets of 5
⑥ 6 Sets of 3



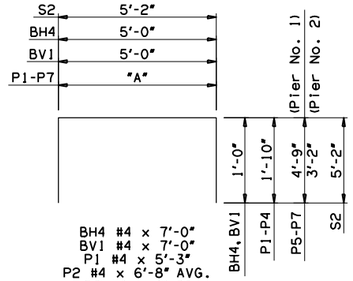
P8 #4 x 15'-5"



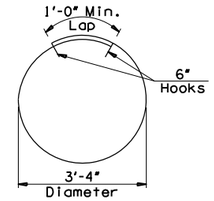
S1 #5 x 18'-9"



BH1 #9 x 77'-2"



BH4 #4 x 7'-0"
BV1 #4 x 7'-0"
P1 #4 x 5'-3"
P2 #4 x 6'-8" AVG.
P3 #4 x 8'-3"
P4 #4 x 5'-3½" AVG.
P5 #4 x 12'-7" (Pier No. 1)
P5 #4 x 9'-5" (Pier No. 2)
P6 #4 x 11'-3½" AVG. (Pier No. 1)
P6 #4 x 8'-1½" AVG. (Pier No. 2)
P7 #4 x 12'-10" AVG. (Pier No. 1)
P7 #4 x 9'-8" AVG. (Pier No. 2)
S2 #5 x 15'-6"



T1 #4 x 12'-6"

50% plans

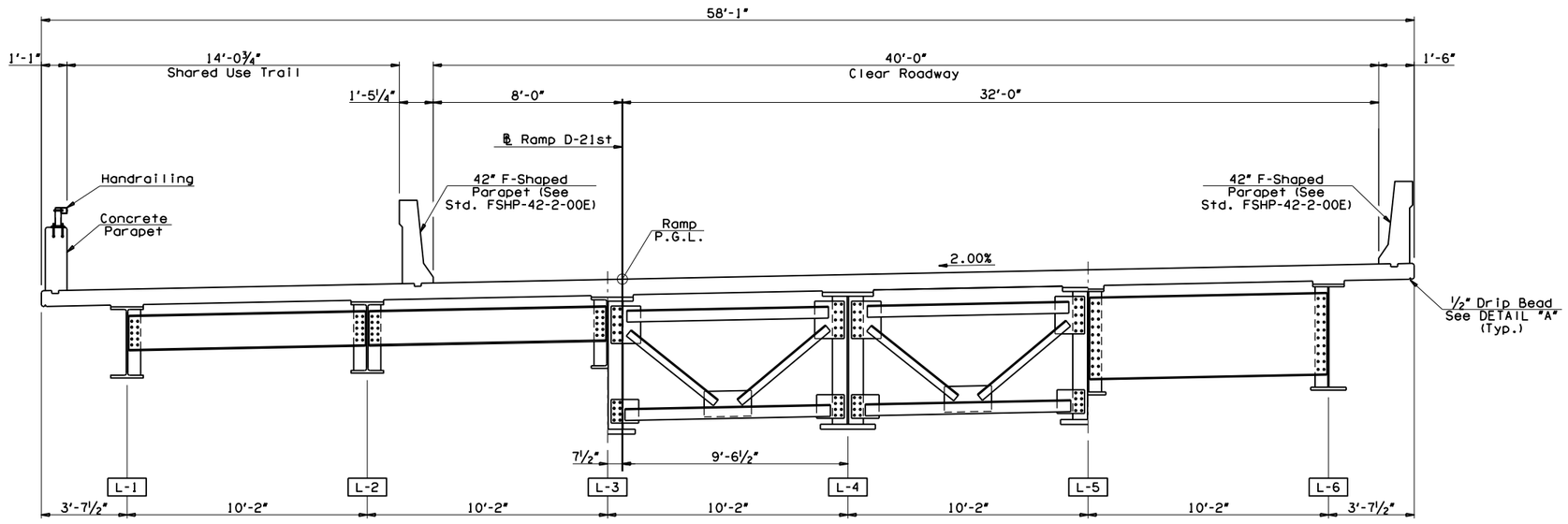
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
PIER DETAILS
(SHEET 3 OF 3)

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	7/17		
CHECKED	WMM	10/17	DATE: 10/23/2017	SHEET NO. BL010

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

PROPOSED R/W
10/23/2017



PART SECTION AT INTERMEDIATE DIAPHRAGM
(TYP. SPAN NO. 1)

PART SECTION AT INTERMEDIATE CROSS-FRAME
(TYP. SPAN NO. 2)

PART SECTION AT INTERMEDIATE DIAPHRAGM
(TYP. SPAN NO. 3)

TYPICAL SECTION
(Looking Forward Station)

50% plans

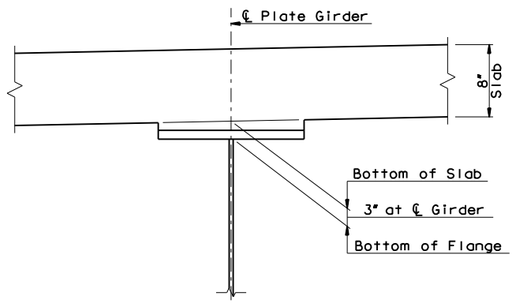
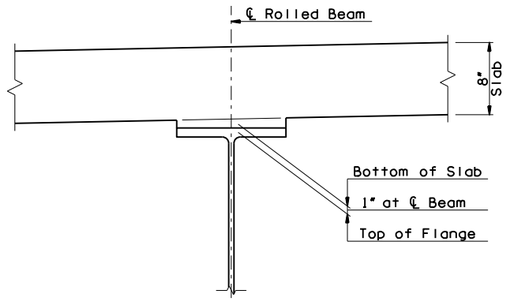


PLATE GIRDER HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Girder Haunches. Haunch height shown is at centerline bearing only, measured from bottom of Deck Slab to Bottom of Top Flange. Haunch height to be determined after erection of girder to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.



ROLLED BEAM HAUNCH DETAIL

NOTE:
Plan quantities for CLASS AA CONCRETE include Beam Haunches. Haunch height shown is at centerline bearing only, measured from bottom of Deck Slab to Top of Top Flange. Haunch height to be determined after erection of beam to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, see Sheet No. BL013.

For bar bends and bar list, see Sheet No. BL014.

For Water Repellent Details and DETAIL "A", see Sheet No. BSTA01.

For Bridge Deck Formwork Bracing Details, see Sheet No. BSTA05.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL

① Includes a calculated XX.X0 C.Y. of Class AA Concrete in the Haunches

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

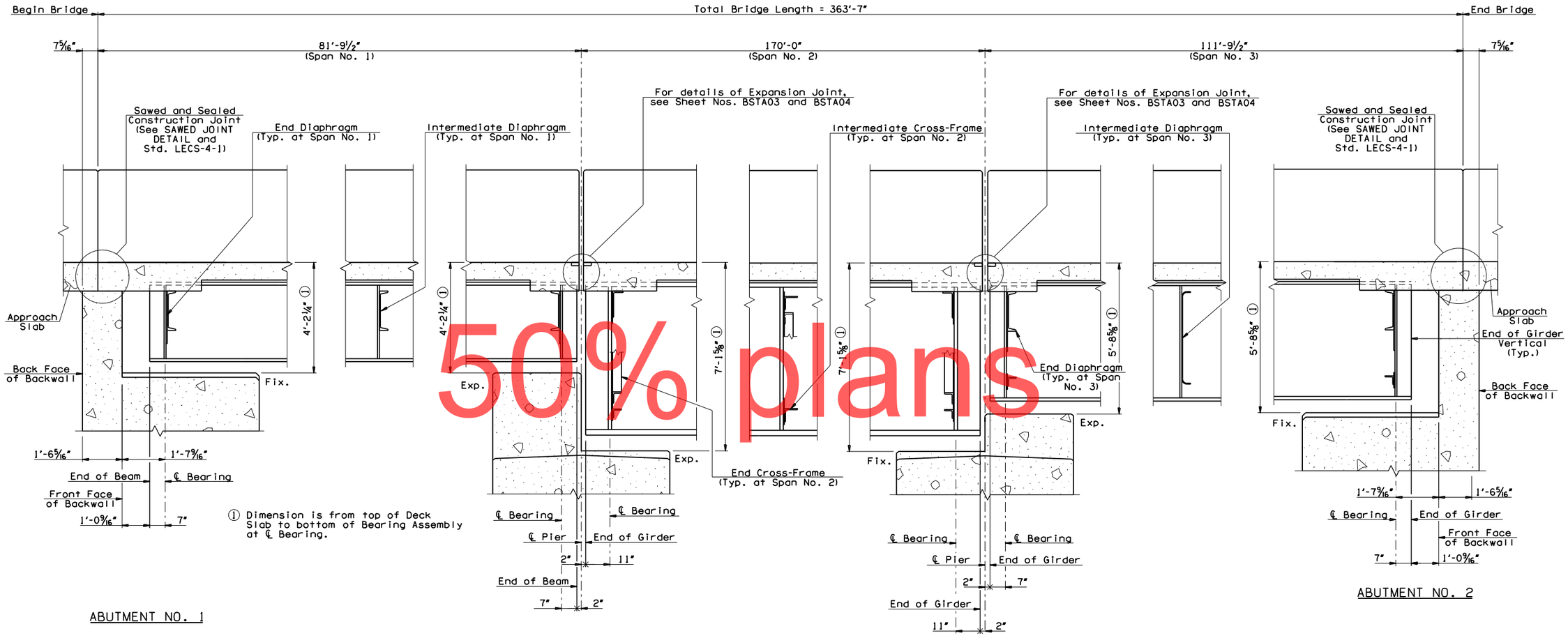
TYPICAL SECTION

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

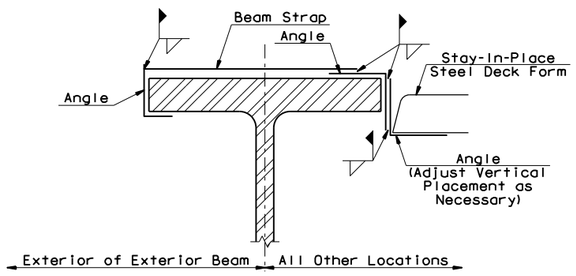
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL011

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

PROPOSED R/W
10/23/2017



50% plans



STAY-IN-PLACE STEEL DECK FORM FLANGE CONNECTION DETAIL

NOTE:
Do not weld to the top flange or studs. Report any arc strike, weld splatter or welding on top flange to the Bridge Engineer immediately.

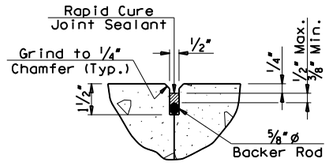
LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam Unless Noted Otherwise)
(Do not Groove within 6" of any Construction Joints)

NOTE:
Install all Cross-Frames and Diaphragms and tighten all Bolts before placing Concrete for the Deck Slab or applying other massive loads to the girders.

DECK SLAB NOTES:
Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

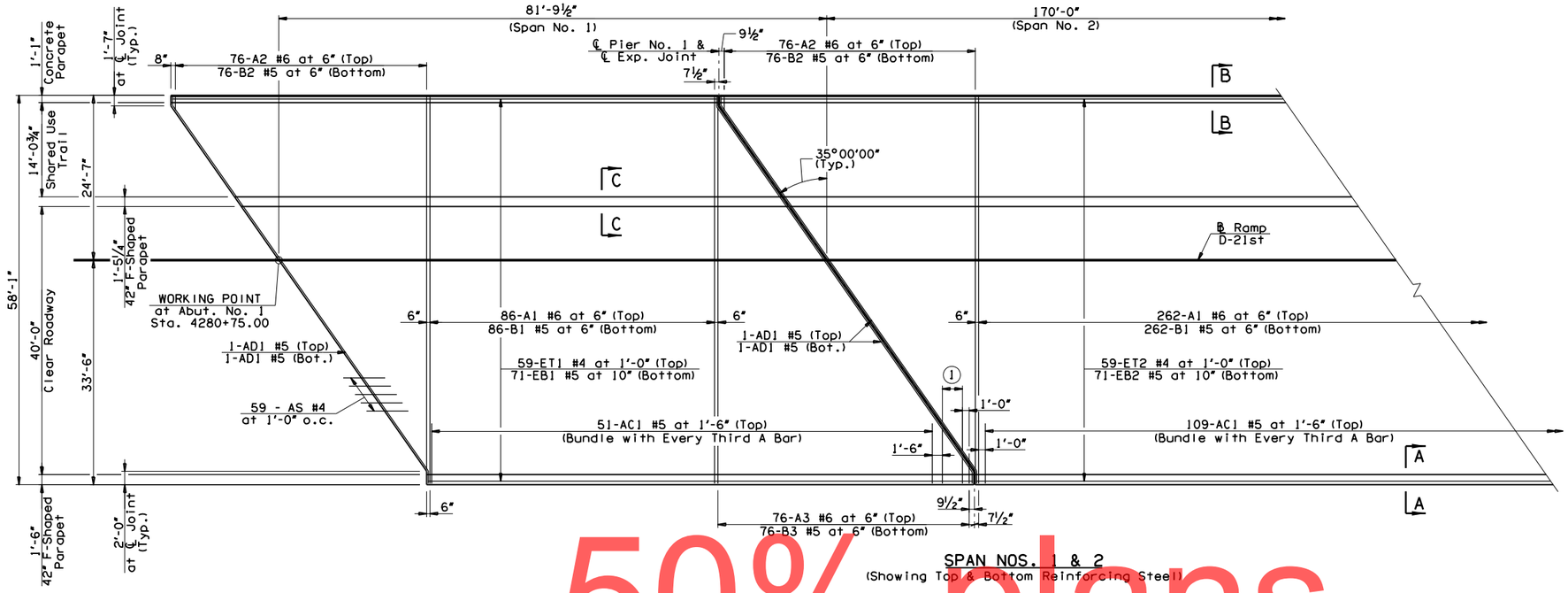
LONGITUDINAL SECTION

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL012

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

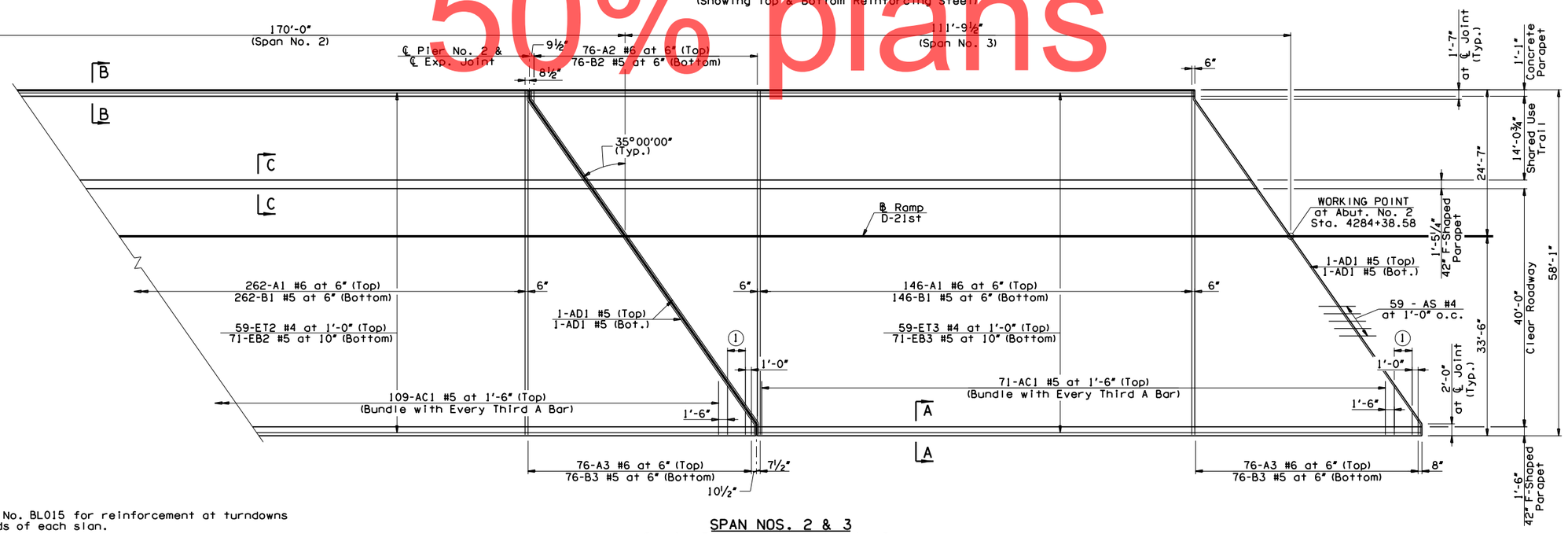
PROPOSED R/W
10/23/2017



① 3-AC2 #5 at 1'-6" (Top)
(Bundle with Every Third A Bar)

SPAN NOS. 1 & 2
(Showing Top & Bottom Reinforcing Steel)

50% plans



SPAN NOS. 2 & 3
(Showing Top & Bottom Reinforcing Steel)

NOTES:

See Sheet No. BL015 for reinforcement at turndowns at the ends of each slan.

See Sheet No. BL015 for Expansion Joint Opening Equations.

See Sheet No. BL014 for SECTION A-A, SECTION B-B and SECTION C-C.

Parapet reinforcing in plan views not shown for clarity. See Std. FSHP-42-2-00E and Sheet No. BL017 for details.

All Lap Lengths shall be staggered.

Rotate hooks on A and AC Bars to maintain minimum clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

SUPERSTRUCTURE DETAILS
(SHEET 1 OF 5)

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL013

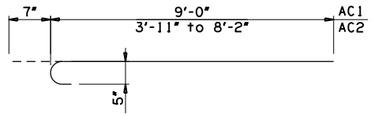
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

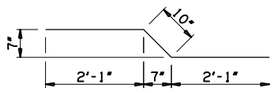
BAR LIST - SUPERSTRUCTURE

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIES
	EPOXY COATED REINFORCING STEEL					
	A1	#6	494	BENT	59'-1"	-
(3)	A2	#6	228	BENT	29'-6" AVG.	2'-9" To 56'-3"
(3)	A3	#6	228	BENT	29'-11 AVG.	3'-2" To 56'-8"
	AC1	#5	231	BENT	9'-7"	-
(4)	AC2	#5	9	BENT	6'-7½" AVG.	4'-6" To 8'-9"
(1)	AD1	#6	12	BENT	72'-10"	-
	AS	#4	118	BENT	5'-0"	-
	AH1	#4	16	BENT	2'-10"	-
	AH2	#4	10	BENT	4'-3"	-
	AH3	#4	10	BENT	3'-9"	-
	AH4	#4	90	BENT	5'-9"	-
(1)	AT1	#4	4	BENT	72'-10"	-
	AT2	#4	30	STR.	10'-5"	-
	B1	#5	494	STR.	57'-9"	-
(3)	B2	#5	228	STR.	28'-10 AVG.	2'-1" To 55'-7"
(3)	B3	#5	228	STR.	29'-3" AVG.	2'-6" To 56'-0"
(1)	EB1	#5	71	STR.	84'-5"	-
(2)	EB2	#5	71	STR.	175'-6"	-
(1)	EB3	#5	71	STR.	114'-5"	-
	EPH1	#4	90	BENT	3'-8"	-
	EPH2	#4	90	BENT	4'-6"	-
(1)	ET1	#4	59	STR.	84'-5"	-
(2)	ET2	#4	59	STR.	175'-6"	-
(1)	ET3	#4	59	STR.	114'-5"	-
	FS2	#5	721	BENT	7'-4"	-
	L	#4	136	BENT	1'-3"	-
(1)	PH1	#4	8	STR.	84'-4"	-
(2)	PH2	#4	8	STR.	175'-5"	-
(1)	PH3	#4	8	STR.	114'-4"	-
	PT1	#4	4	BENT	2'-10"	-
	PT2	#4	20	STR.	10'-5"	-
	PT3	#4	4	BENT	2'-10"	-
	PT4	#4	6	BENT	2'-5½"	-
	PT5	#4	30	STR.	9'-5"	-
	PT6	#4	6	STR.	2'-3"	-
	PV1	#5	318	BENT	5'-3"	-
	PV2	#5	318	BENT	6'-3"	-
	PV3	#5	102	BENT	6'-4"	-

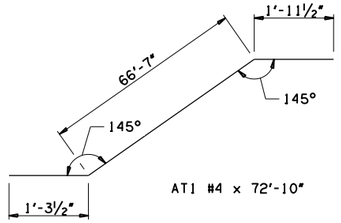
(1) Includes one 3'-0" Lap Length
(2) Includes two 3'-0" Lap Lengths
(3) Three Sets of 76
(4) Three Sets of 3



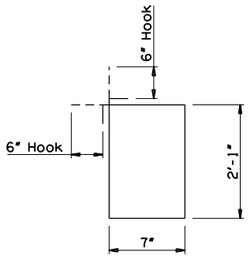
AC1 #5 x 9'-7"
AC2 #5 x 6'-7½" AVG.



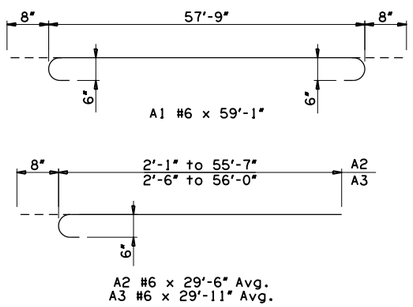
AS #4 x 5'-0"



AT1 #4 x 72'-10"

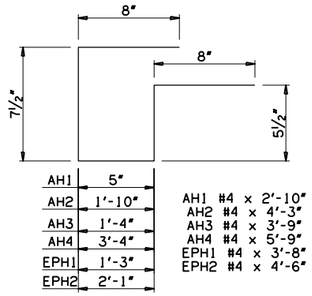


PV3 #5 x 6'-4"

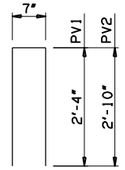


A1 #6 x 59'-1"

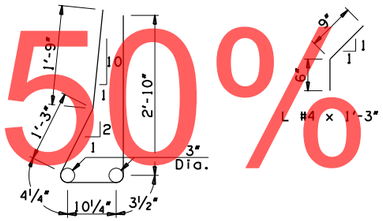
A2 #6 x 29'-6" Avg.
A3 #6 x 29'-11" Avg.



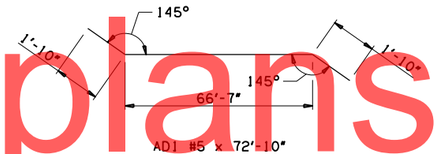
AH1 #4 x 2'-10"
AH2 #4 x 4'-3"
AH3 #4 x 3'-9"
AH4 #4 x 5'-9"
EPH1 #4 x 3'-8"
EPH2 #4 x 4'-6"



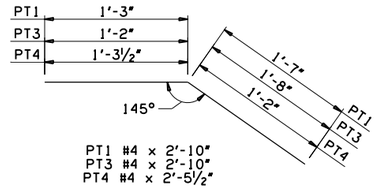
PV1 #5 x 5'-3"
PV2 #5 x 6'-3"



FS2 #5 x 7'-4"

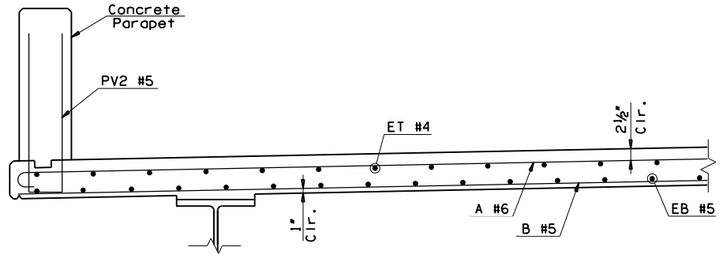


AD1 #5 x 72'-10"

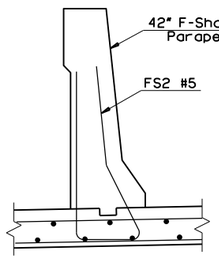


PT1 #4 x 2'-10"
PT3 #4 x 2'-10"
PT4 #4 x 2'-5½"

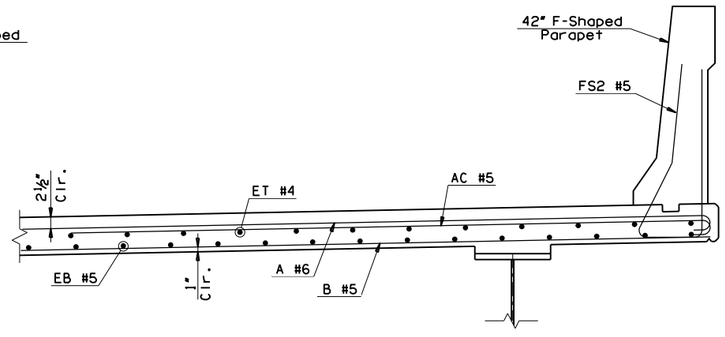
50% plans



SECTION B-B



SECTION C-C



SECTION A-A

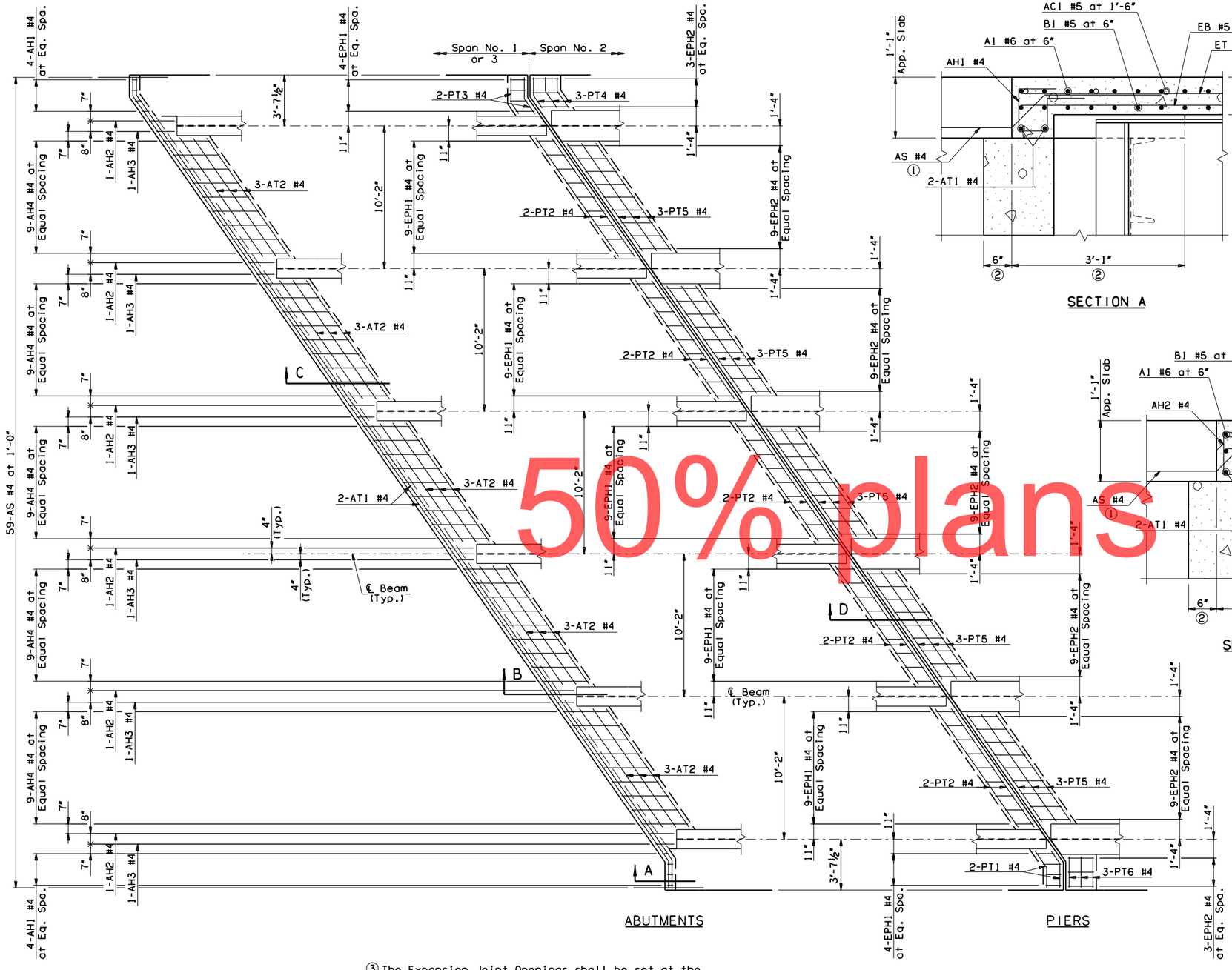
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 5)

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL014

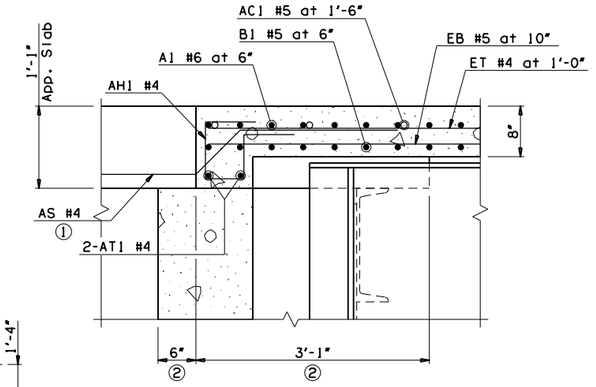
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

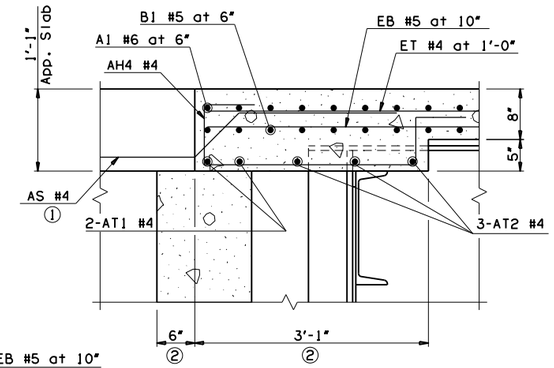


ABUTMENTS

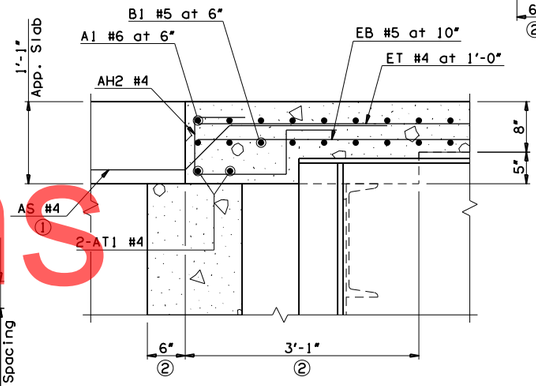
PIERS



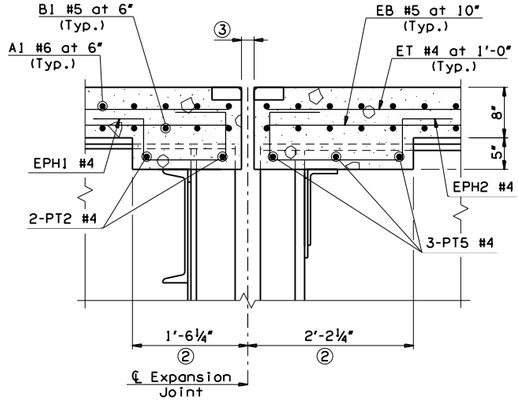
SECTION A



SECTION C



SECTION B



SECTION D

50% plans

NOTE:
Deck Slab reinforcement not shown for clarity.

① Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

② Measured perpendicular to CL Joint

③ 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:

Pier No. 1 = 3.4653 - (0.01609 x T)
Pier No. 2 = 2.9286 - (0.00714 x T)

Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint opening shall be measured perpendicular to the joint.

TURNDOWN REINFORCING PLANS

SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

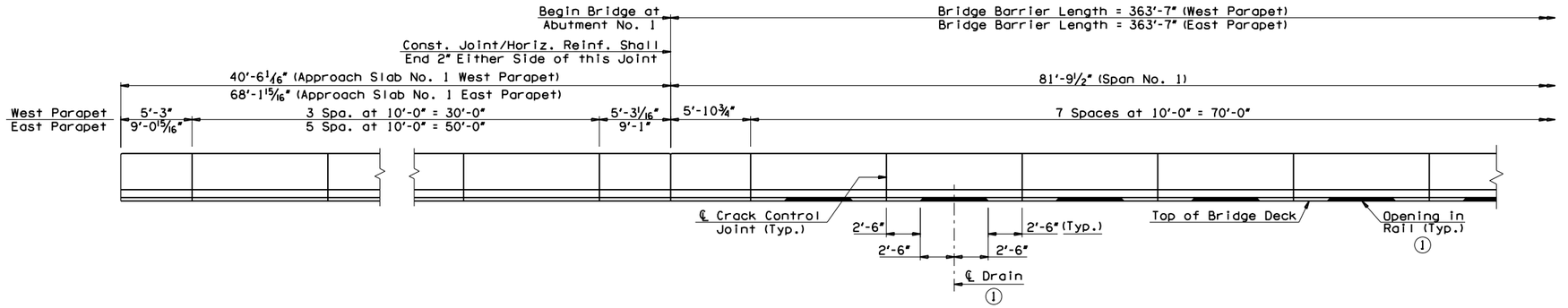
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 5)

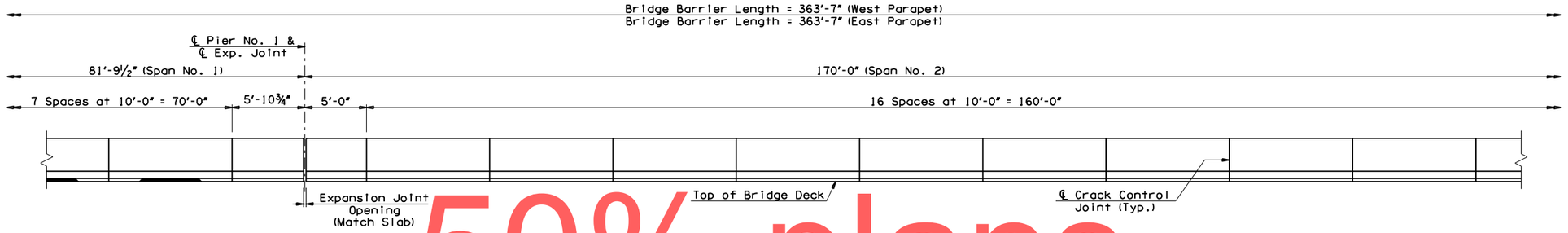
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL015

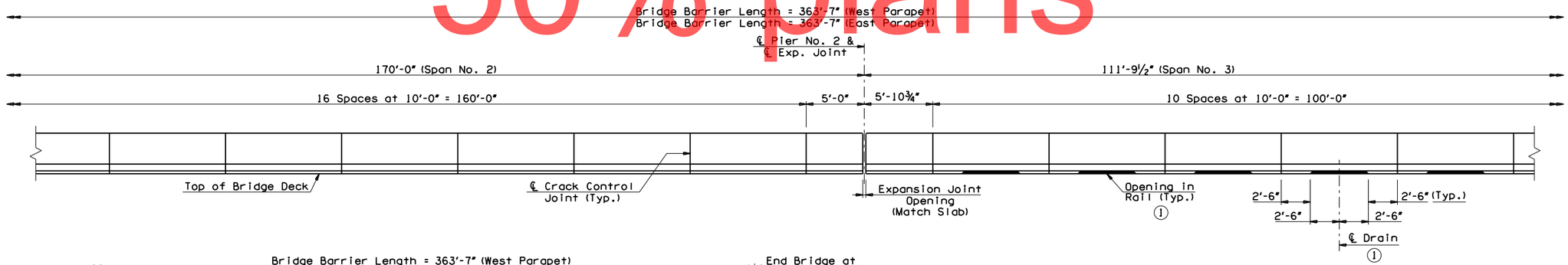
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

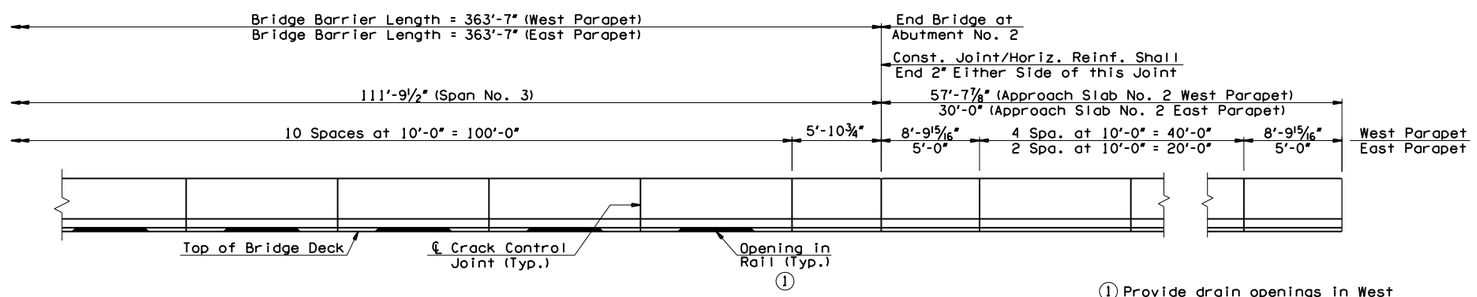
PROPOSED
R/W
10/23/2017





50% plans





(1) Provide drain openings in West F-Shaped Parapet only.

42" F-SHAPED PARAPET LAYOUT
(Looking West)

NOTES:
For details showing the Parapet reinforcement layout, see Std. FSHP-42-2-00E.

Provide blockouts for Sealed Expansion Joint.

All dimensions shown are measured along the Roadway face of the parapet.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

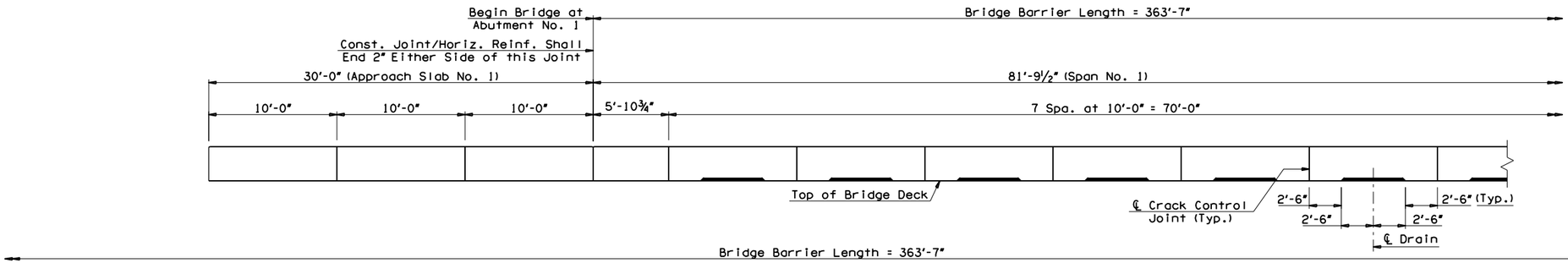
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 5)

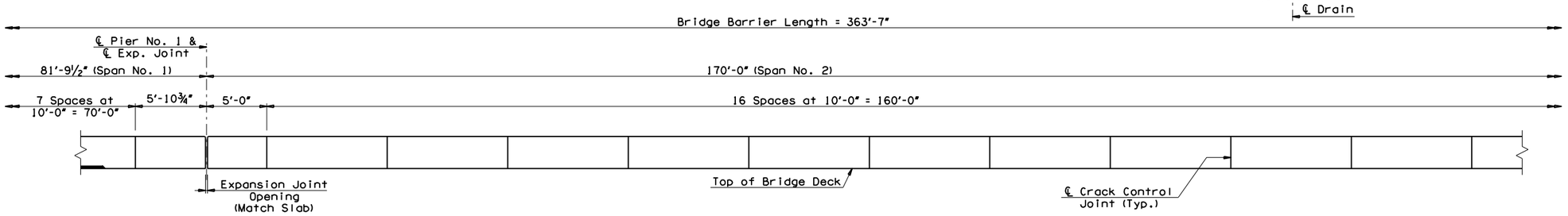
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

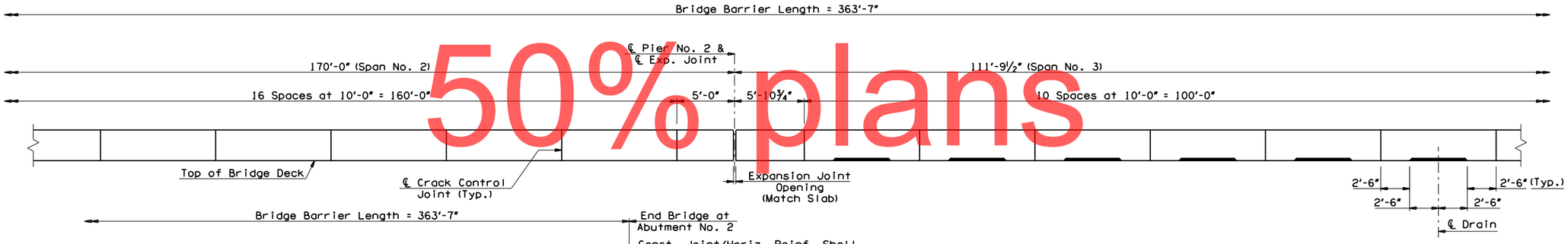
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DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL016

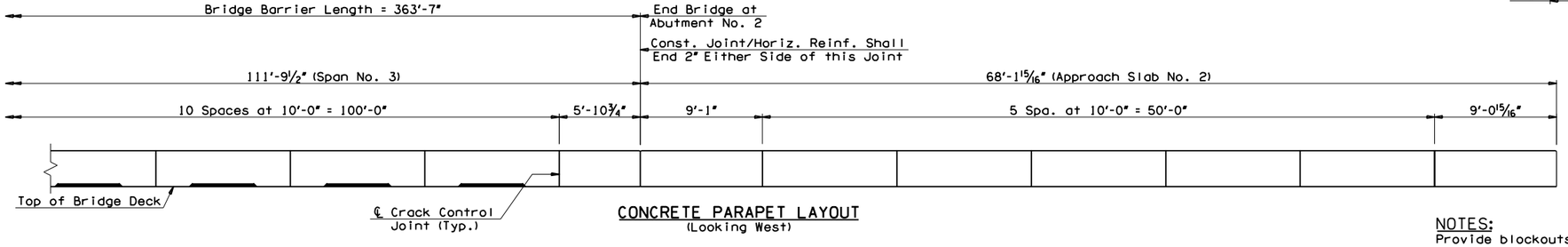
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017



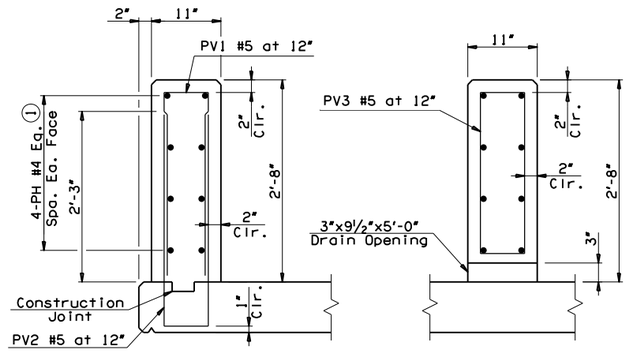






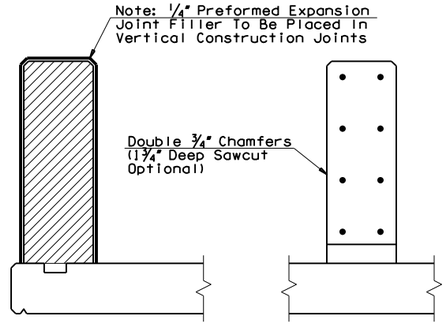
① PH1 (Span No.1)
PH2 (Span No.2)
PH3 (Span No.3)
PH4 (App. Slab No. 1)
PH5 (App. Slab No. 2)

CONCRETE PARAPET LAYOUT
(Looking West)



SECTION THRU POST

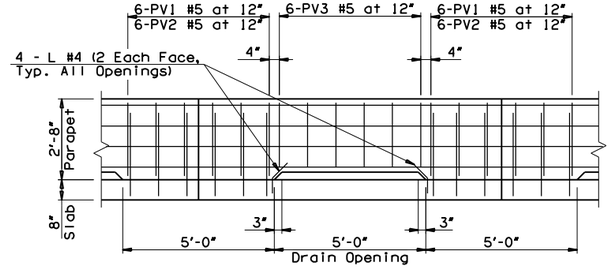
SECTION THRU DRAIN OPENING



CONSTRUCTION JOINT
NOTE: TYPICAL AND FIXED ABUTMENT

CRACK CONTROL JOINT
NOTE: ALL BARS SHALL BE CONTINUOUS THRU CRACK CONTROL JOINT

CONCRETE PARAPET TYPICAL SECTION



TYPICAL PARAPET REINFORCING SPACING (PARAPETS WITH DRAIN OPENINGS)

NOTES:
Provide blockouts for Sealed Expansion Joint.

All dimensions shown are measured along the inside face of the parapet.

Class AA Concrete shall be used in the Concrete Parapet. All costs of concrete to be included in the price bid per cubic yard of Class AA Concrete.

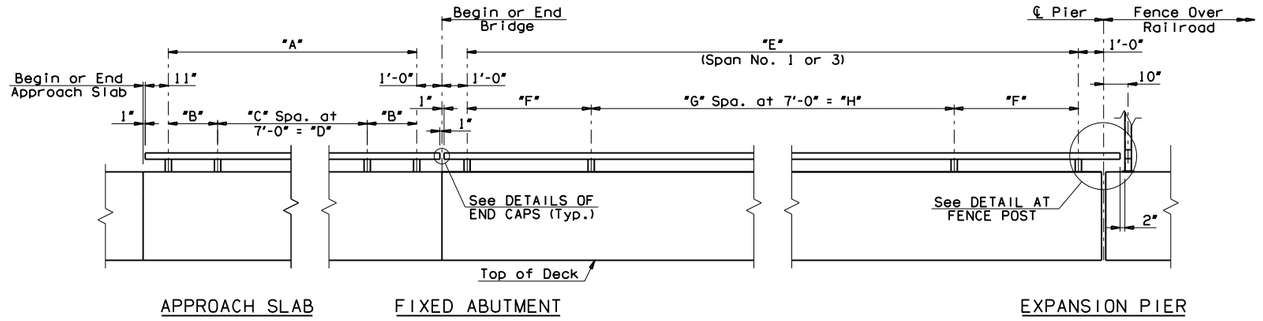
All Reinforcing Steel used in the Pedestrian Parapet shall be epoxy coated. Place and tie all PV2 and L bars before concrete is placed in the deck slab or approach slab, as applicable. All Reinforcing Steel in the Parapet shall be measured and paid for as "EPOXY COATED REINFORCING STEEL".

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
SUPERSTRUCTURE DETAILS
(SHEET 5 OF 5)

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL017



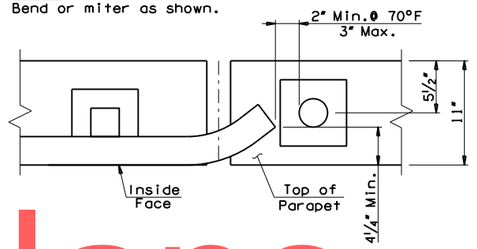
NOTE:
Rail layout shall conform to the vertical and horizontal alignment of the bridge.

HANDRAILING LAYOUT

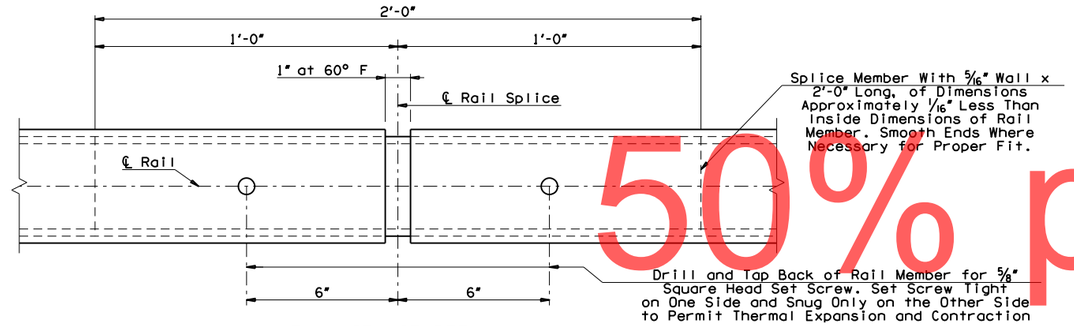
(Horizontal dimesnions are along face of parapet and do not include a vertical curve correction)

TABLE OF VARIABLES - HANDRAILING								
SPAN NO.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H
1	28'-0"	7'-0"	2	14'-0"	79'-9½"	4'-10¾"	10	70'-0"
3	71'-1 15/16"	4'-1"	9	63'-0"	109'-9½"	5'-10¾"	14	98'-0"

NOTE:
Bend or miter as shown.

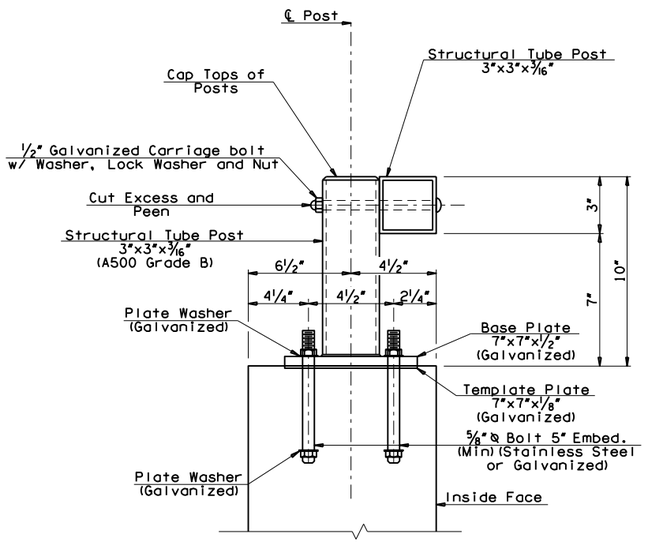


DETAIL AT FENCE POST

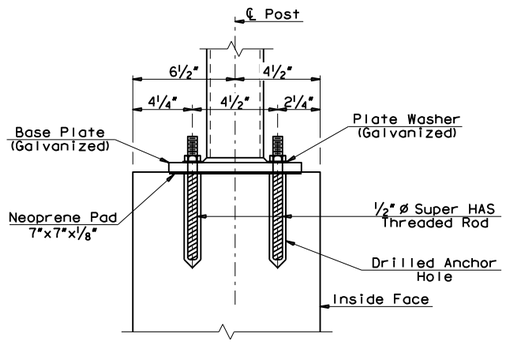


RAIL SPLICE DETAIL

50% plans

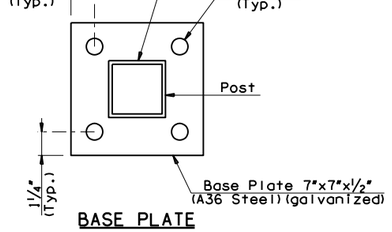


RAIL DETAILS

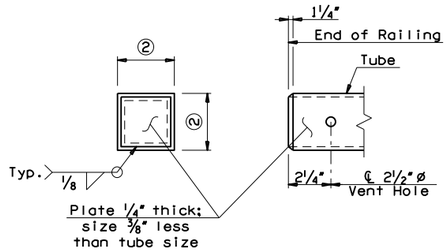


① HILTI HIt RE 500 Epoxy Adhesive Anchor System with 4½" embedment or an approved equal. The HILTI Epoxy Adhesive Anchor System shall be installed in accordance with the Manufacturer's recommendation.

ALTERNATE POST ANCHOR SYSTEM DETAILS
(Epoxy Adhesive Anchors)



BASE PLATE



② Tube Width minus ⅜"

END ELEVATION

SIDE ELEVATION

DETAILS OF END CAPS

NOTES:
Handrailing shall be installed on the Concrete Parapet on the West side of the bridge on the approach slabs and Span Nos. 1 and 3 only.

Post Anchorages shall be cast in the Concrete Parapet. No portion of the handrailing shall be erected until the entire Concrete Parapet has been poured and cured.

All galvanizing which has been damaged in handling or during transportation shall be repaired at the Contractor's expense.

All exposed edges shall be ground smooth.

Base Plates shall not be placed in areas that are improperly finished, deformed or irregular.

Neoprene Pads and Template Plates will not be paid for directly, but will be considered subsidiary to the price bid per Linear Foot of "HANDRAILING".

Splices to be at 40'-0" maximum spacing. Rail sections must be fabricated to attach to at least three Posts. Center of Splices shall be located at a minimum of 2'-0" from center of Post.

MATERIALS FOR HANDRAILING:

Shop Drawings showing details of Railing shall be submitted and approval secured before fabrication is begun. The Contractor shall be responsible for coordinating between the supplier for Metal Railing.

Tubing, Posts & Accessories:
AASHTO Specifications M270, Grade 36 or ASTM 500 - Grade B.

Railing End Caps:
AASHTO specifications M270, Grade 36.

Steel Rail Members:
Steel rail members shall be galvanized in accordance with AASHTO M111 after fabrication and shall receive a powder coating process after Galvanizing. Galvanizing shall 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. 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.

The Contractor shall submit a paint color sample prior to fabrication for Owner's approval.

Anchor Bolts:
Shall be of Stainless Steel or High Strength Steel. Stainless Steel Anchor Bolts shall conform to ASTM A193 or A320 - Grade B8 with a minimum yield strength of 80,000 psi. High Strength Steel Anchor Bolts shall conform to AASHTO M164 or ASTM A354 - Grade BC Galvanized in accordance with AASHTO M232.

Bolts:
Shall conform to ASTM A193 or A320 - Grade 8 (Structural Steel) or AASHTO M270, Grade 36, Galvanized.

Nuts:
Shall conform to ASTM A194 - Grade 8 (stainless steel) or AASHTO M164 Galvanized in accordance with AASHTO M232.

Threads:
Threads on Bolts, Screws and Nuts shall conform to American Standard Course Series, Class 2 fit, ASA specifications B1.1.

Washers:
Shall be of High Strength Steel conforming to AASHTO M270, Grade 36, Galvanized in accordance with AASHTO M232, or of Stainless Steel conforming to ASTM A276 or A167 - Type 302.

The total estimated amount of Structural Steel for the Railing is XXX pounds.

All costs associated with the Railing including the cost of Structural Tube Posts, Rails, End Caps, Base Plates, Anchor Bolts, Bolts, Nuts, Washers, materials, labor, installation, equipment and incidentals shall be included in the price bid per Linear Foot of "HANDRAILING".

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

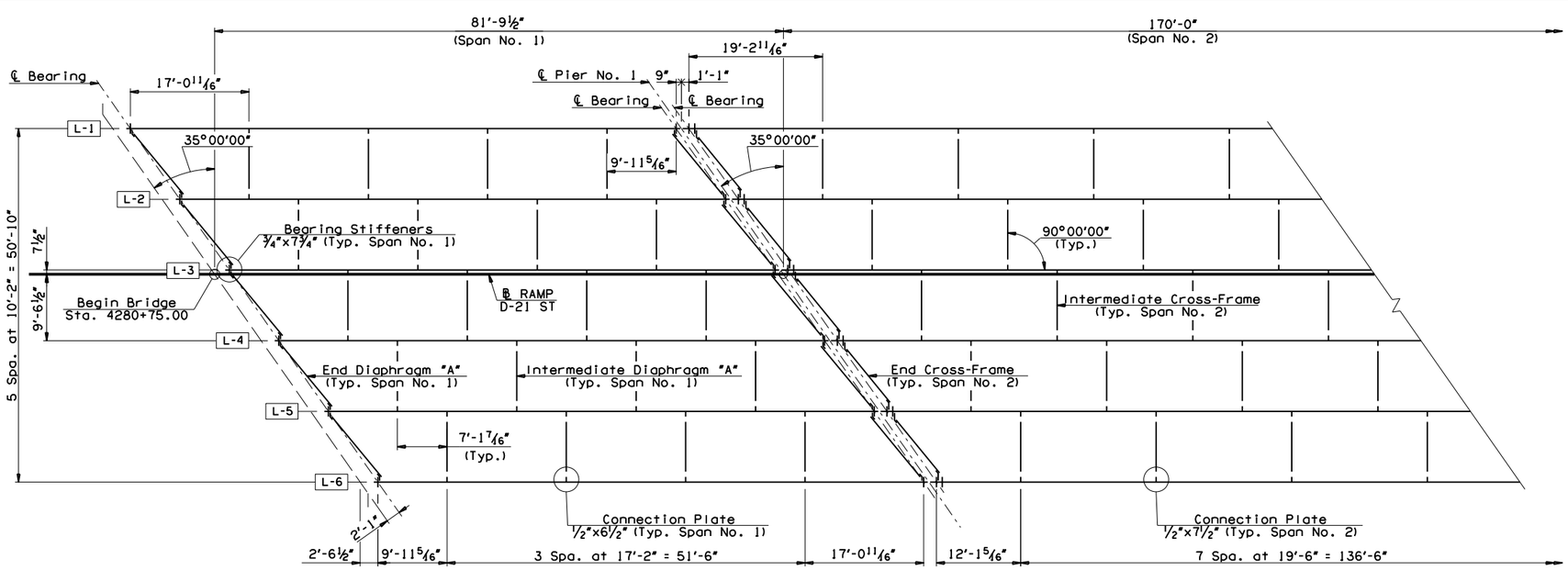
HANDRAIL DETAILS

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL018

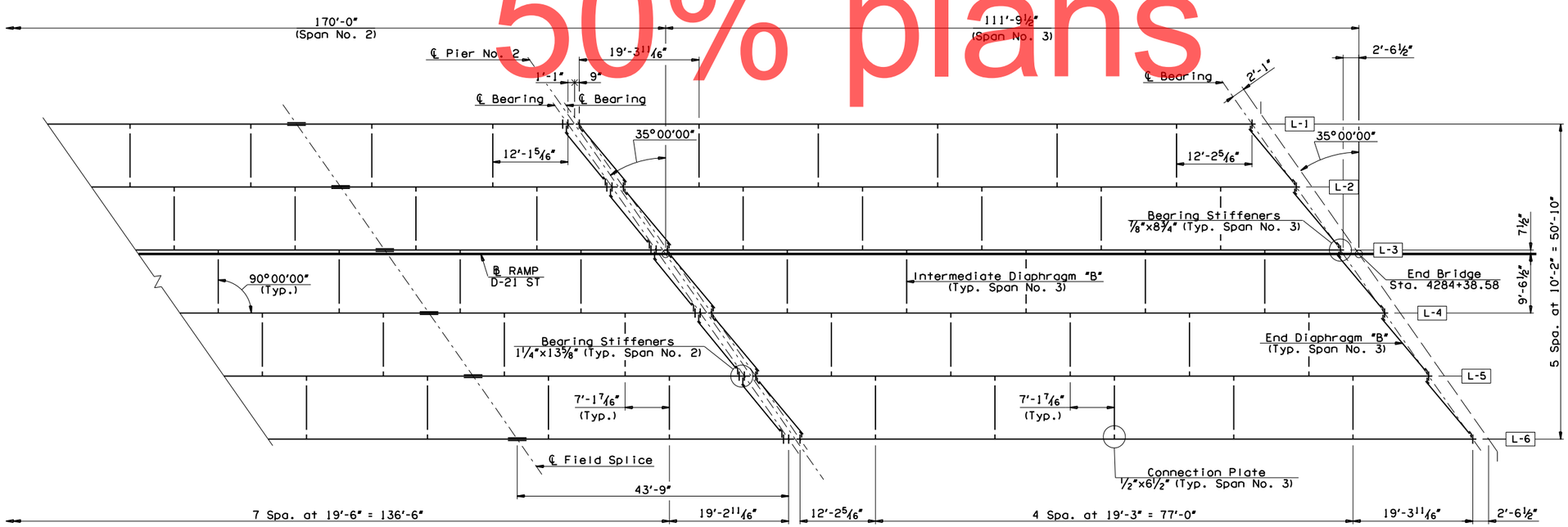
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



FRAMING PLAN - SPAN NOS. 1 & 2

50% plans



FRAMING PLAN - SPAN NOS. 2 & 3

NOTES:

For Span No. 1 Beam Elevation, see Sheet No. BL020.

For Span No. 2 Girder Elevation, see Sheet No. BL022.

For Span No. 3 Girder Elevation, see Sheet No. BL025.

For Diaphragm and Cross-Frame Details, see Sheet Nos. BL021, BL023 and BL026.

For Splice Details, see Sheet No. BL024.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

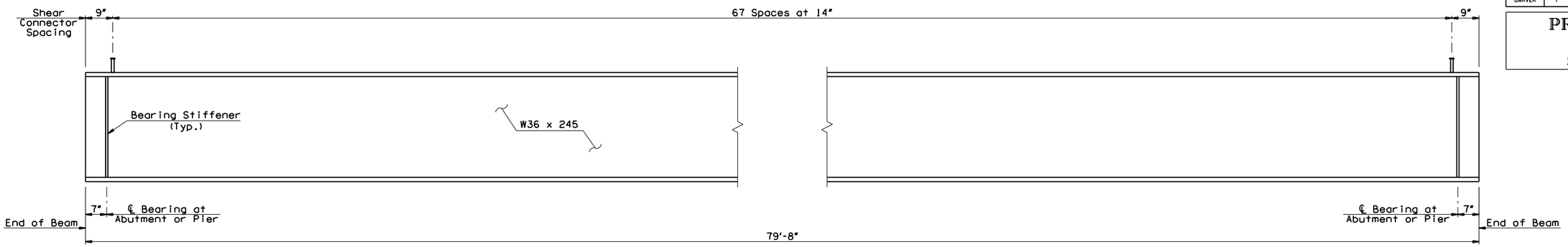
FRAMING PLAN

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

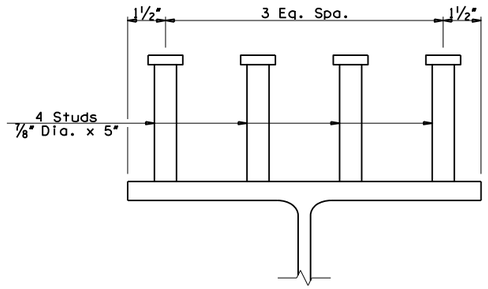
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL019

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

PROPOSED R/W
10/23/2017



ELEVATION - SPAN NO. 1



SHEAR CONNECTOR DETAIL

NOTES:

All Structural Steel, including Rolled Beams, Diaphragms, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

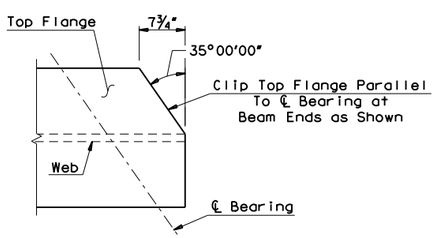
Beams shall be cambered to account for dead load deflection and, if necessary, vertical curve.

Contractor may elect to fabricate Plate Girders using equivalent sizes in lieu of Rolled Beam shape shown. Web to flange welds shall be minimum 5/16" fillet welds. Non-destructive testing will be required as appropriate. Costs to construct Plate Girders shall be at the Contractor's expense.

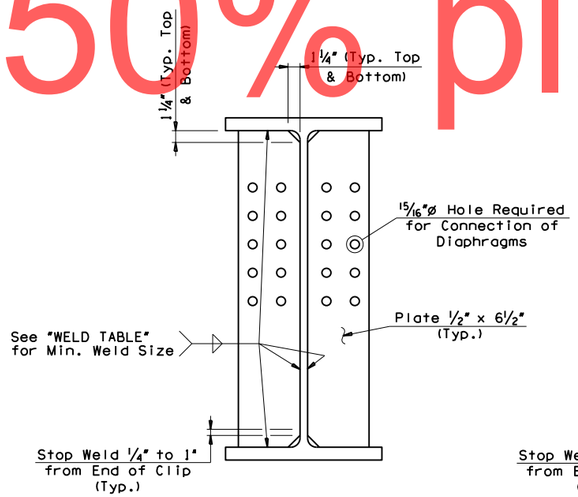
For Framing Plan, see Sheet No. BL019.

For Rolled Beam Haunch Details, see Sheet No. BL011.

For Diaphragm Details, see Sheet No. BL021.

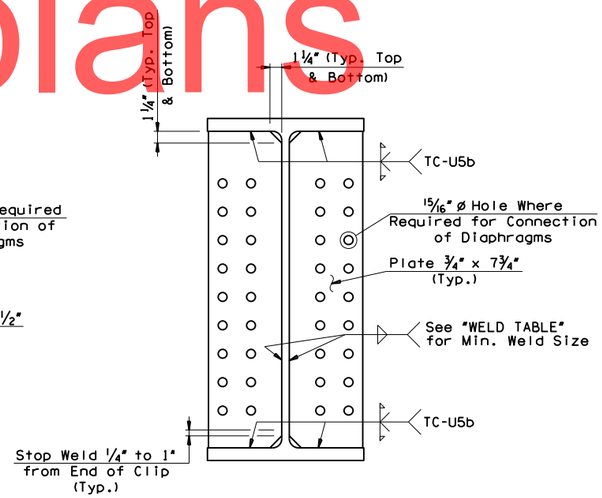


TOP FLANGE CLIP DETAIL



CONNECTION PLATE DETAIL

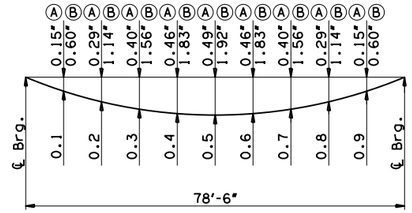
(Shall be used at all intermediate diaphragm locations)
(Only one connection plate is required on one side of the Beam Web at each bracing location along the exterior beams.)



BEARING STIFFENER DETAIL

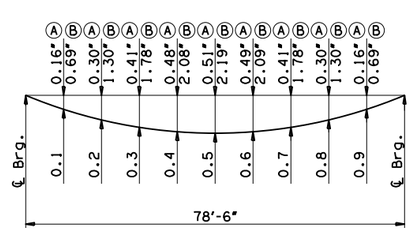
NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.

WELD TABLE		
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO ¾" INCLUSIVE	¼"	
OVER ¾"	5/16"	



Ⓐ Rolled Beams and Diaphragms
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets and Handrail

DEAD LOAD DEFLECTION DIAGRAM
EXTERIOR BEAMS



Ⓐ Rolled Beams and Diaphragms
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets and Handrail

DEAD LOAD DEFLECTION DIAGRAM
INTERIOR BEAMS

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

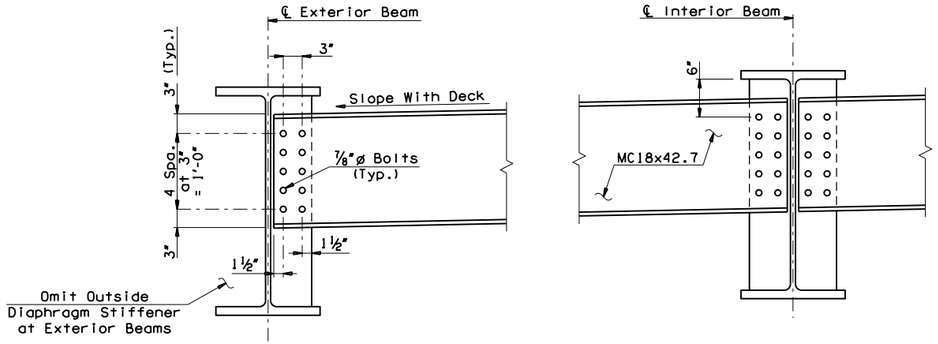
ROLLED BEAM DETAILS
(SHEET 1 OF 2)

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

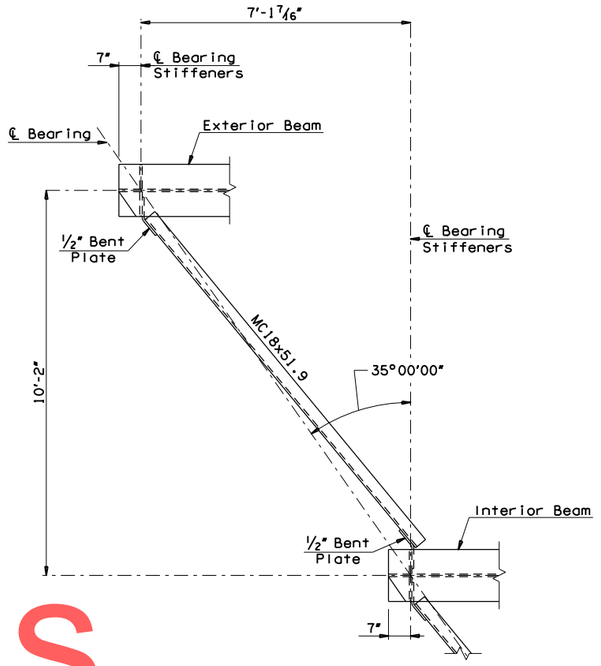
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL020

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

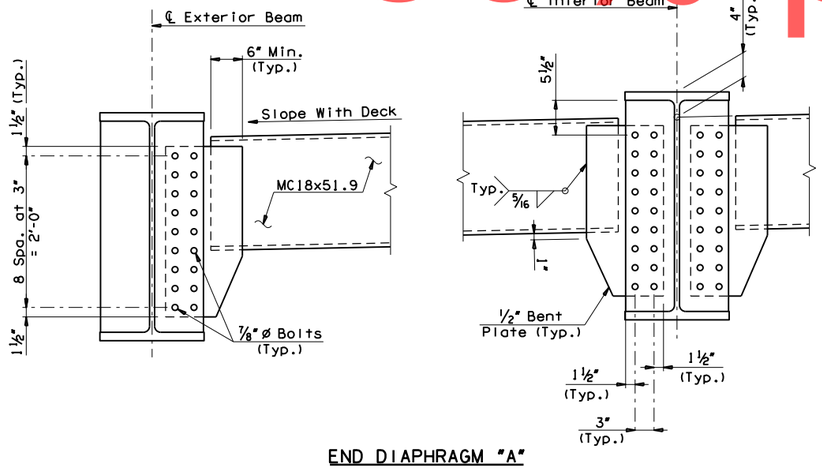
PROPOSED R/W
10/23/2017



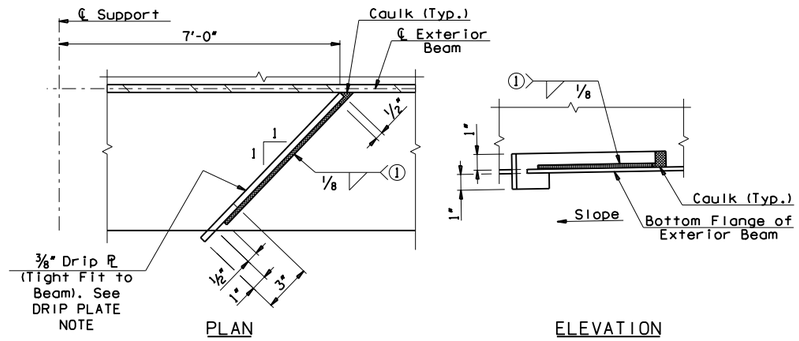
INTERMEDIATE DIAPHRAGM "A"



END DIAPHRAGM "A" PLAN



END DIAPHRAGM "A"



TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

① Stop weld ½" from end of Drip Plate and from edge of Beam. Fill with caulk as shown.

DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior beams on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

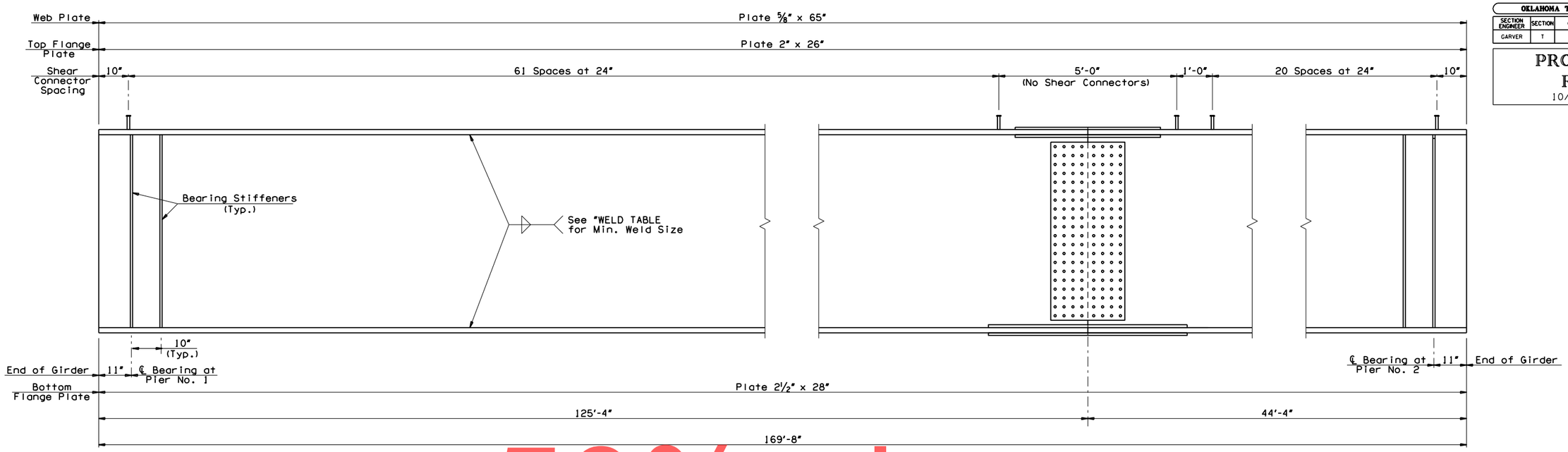
ROLLED BEAM DETAILS
(SHEET 2 OF 2)

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

DESIGNED	ABH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	6/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL021

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

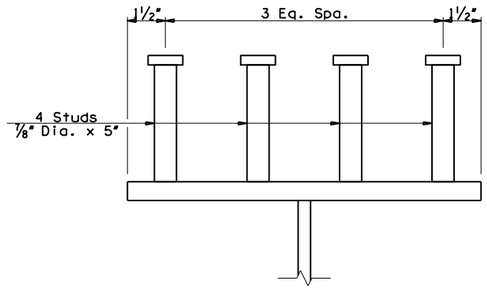
PROPOSED R/W
10/23/2017



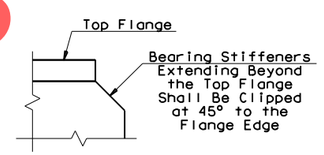
ELEVATION - SPAN NO. 2

50% plans

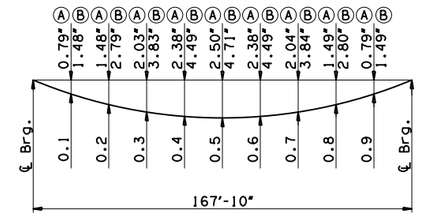
WELD TABLE		
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO 3/4" INCLUSIVE	1/4"	
OVER 3/4"	5/16"	



SHEAR CONNECTOR DETAIL

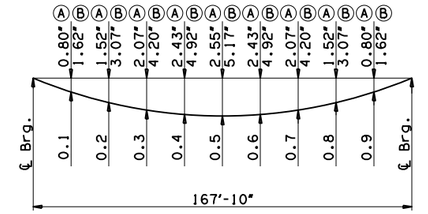


CORNER CLIP DETAIL



Ⓐ Plate Girders and Cross-Frames
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets, Handrail and Fencing

DEAD LOAD DEFLECTION DIAGRAM EXTERIOR GIRDERS



Ⓐ Plate Girders and Cross-Frames
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets, Handrail and Fencing

DEAD LOAD DEFLECTION DIAGRAM INTERIOR GIRDERS

NOTES:

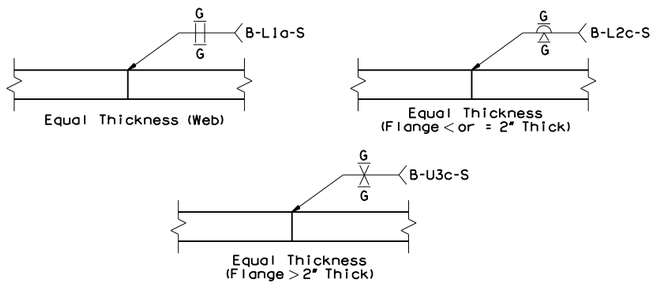
All Structural Steel, including Plate Girders, Cross-Frames, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

Girders shall be cambered to account for dead load deflection and, if necessary, vertical curve.

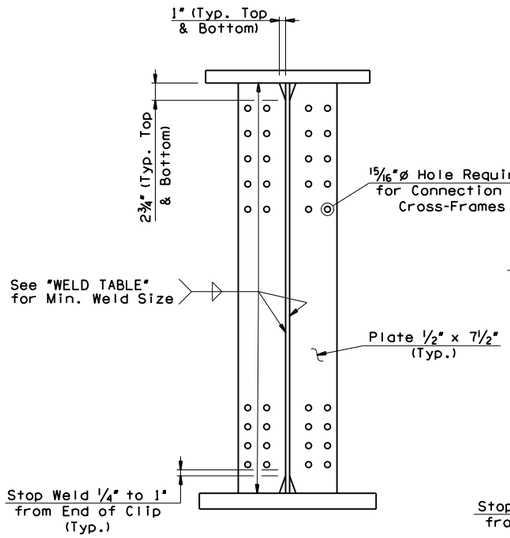
For Framing Plan, see Sheet No. BL019.

For Cross-Frame Details, see Sheet No. BL023.

For Plate Girder Haunch Details, see Sheet No. BL011.

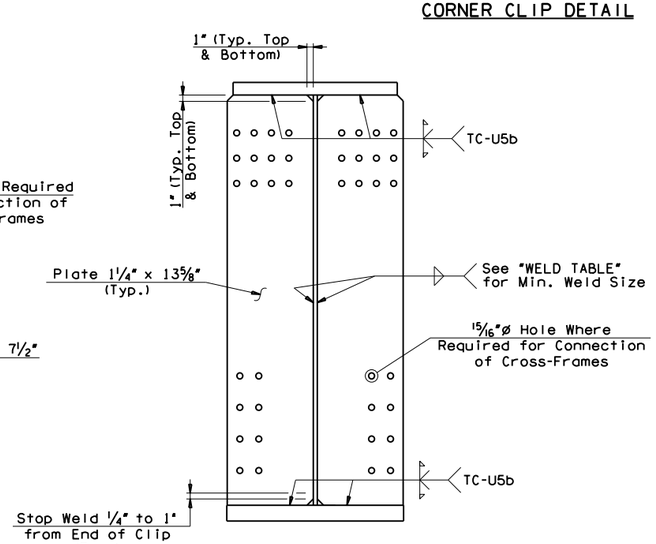


DETAILS OF WELDED SPLICES



CONNECTION PLATE DETAIL

(Shall be used at all intermediate cross-frame locations)
(Only one connection plate is required on one side of the Girder at each bracing location along the exterior girders.)



BEARING STIFFENER DETAIL

NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

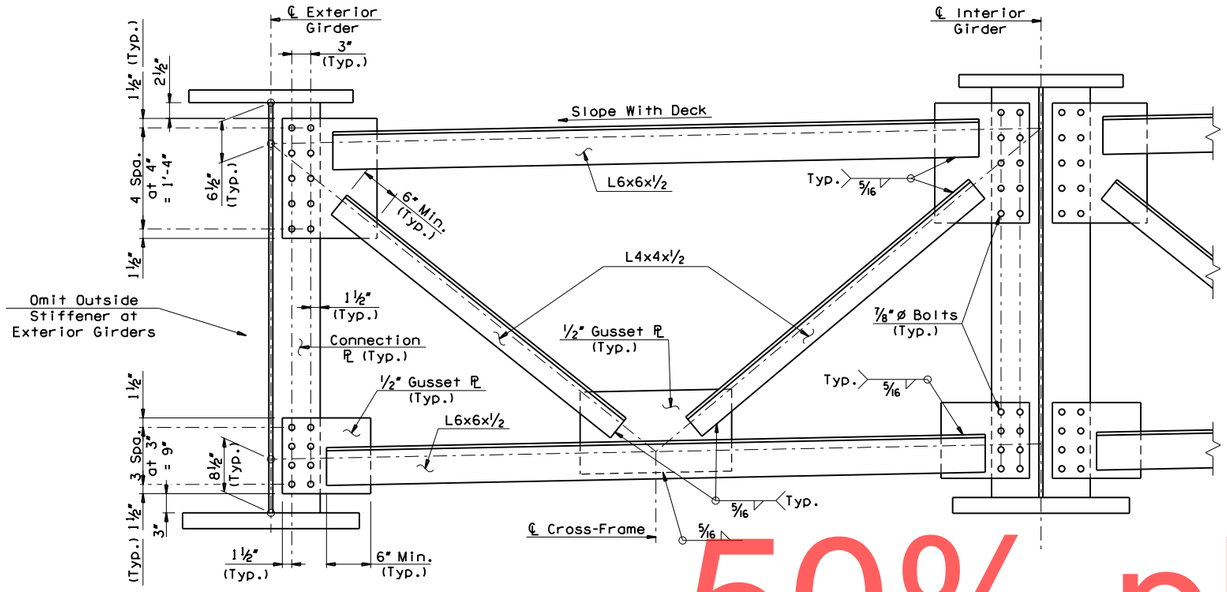
SPAN NO. 2 PLATE GIRDER DETAILS
(SHEET 1 OF 3)

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

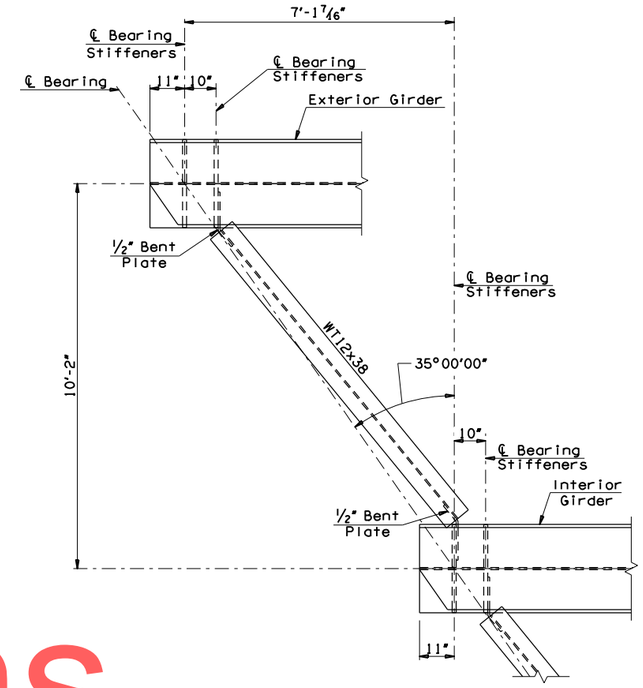
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL022

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

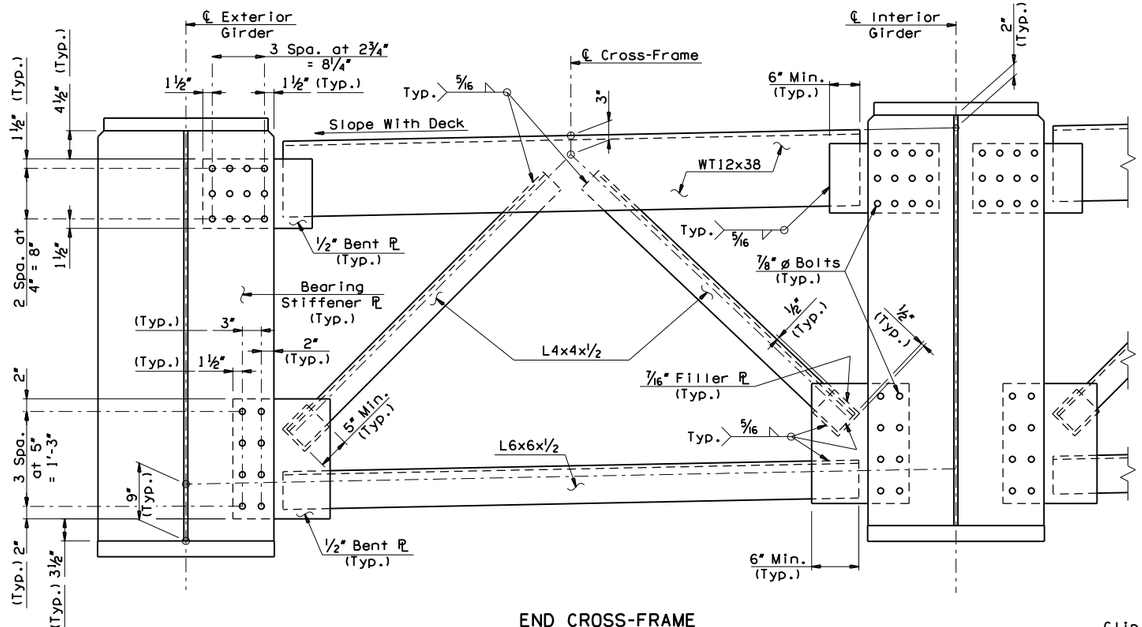
PROPOSED R/W
10/23/2017



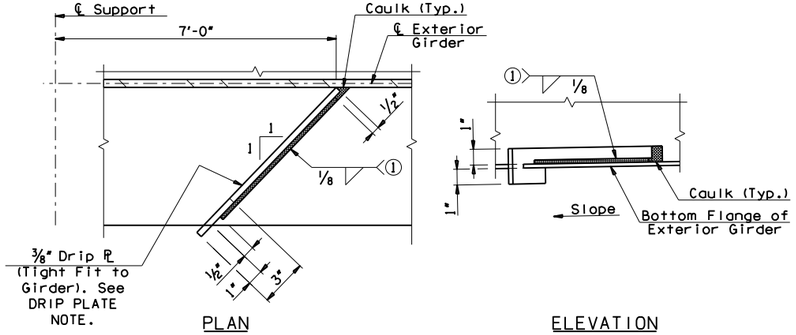
INTERMEDIATE CROSS-FRAME



END CROSS-FRAME PLAN



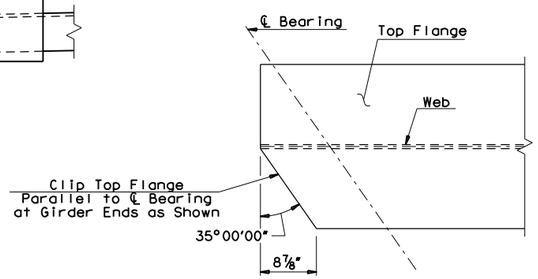
END CROSS-FRAME



TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior girders on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".

① Stop weld ½" from end of Drip Plate and from edge of Girder. Fill with caulk as shown.



TOP FLANGE CLIP DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

SPAN NO. 2 PLATE GIRDER DETAILS
(SHEET 2 OF 3)

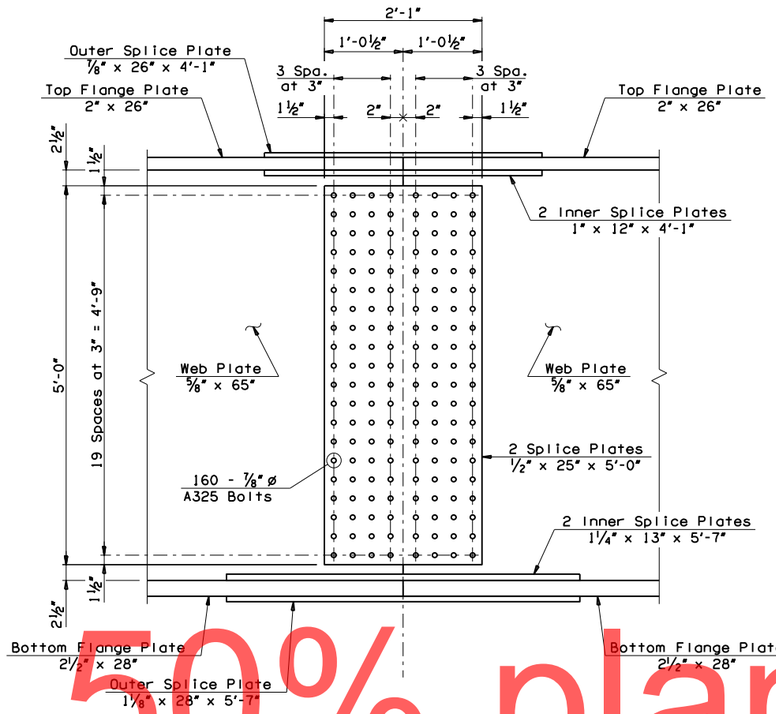
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL023

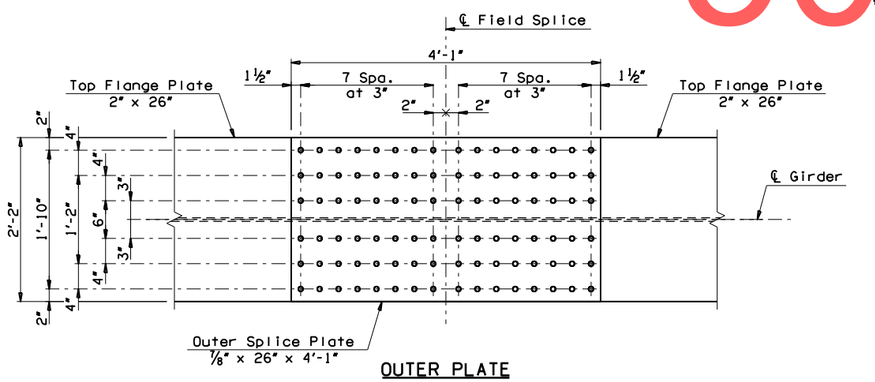
50% plans

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

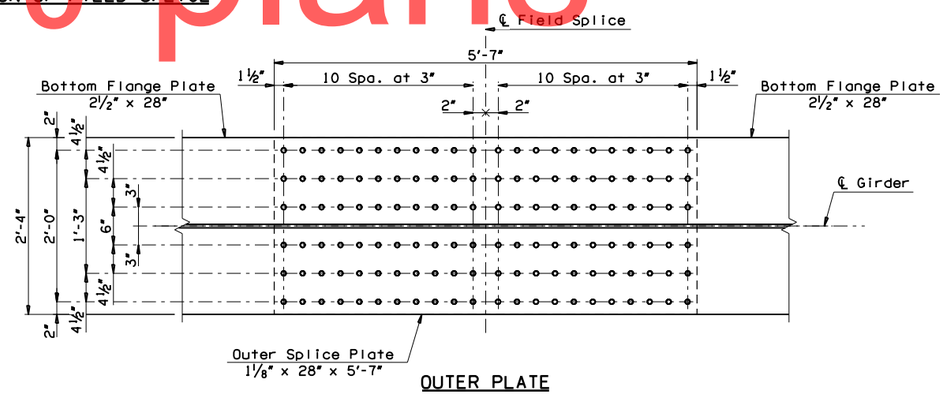
PROPOSED
R/W
10/23/2017



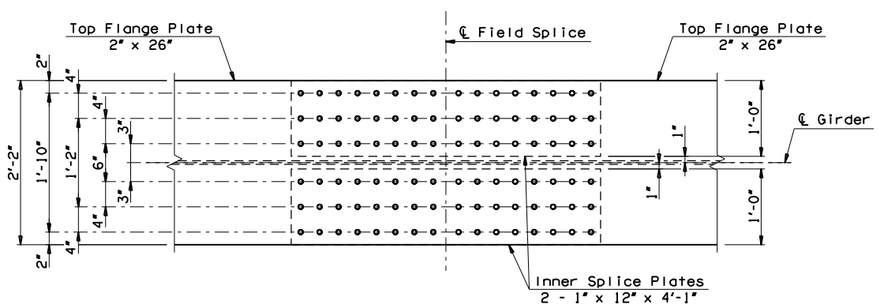
ELEVATION OF FIELD SPLICE



OUTER PLATE

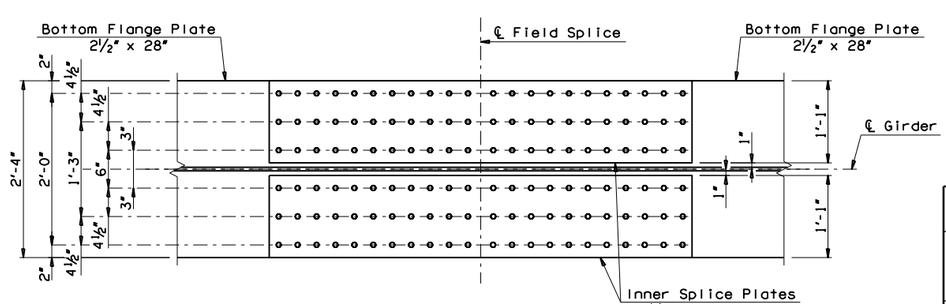


OUTER PLATE



INNER PLATE

FIELD SPLICE OF TOP FLANGE
Flange Splice Bolts: 96 - ⅞" Diameter



INNER PLATE

FIELD SPLICE OF BOTTOM FLANGE
Flange Splice Bolts: 132 - ⅞" Diameter

NOTES:
All bolted connections shall use ⅞" ø high strength bolts (A325) Type 3 with direct tension indicators as specified in Section 506 of the Standard Specifications.

All Splice Plate Material, both Webs and Flanges shall be AASHTO M270, Grade 50W.

All bolt holes shall be 15/16" ø.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

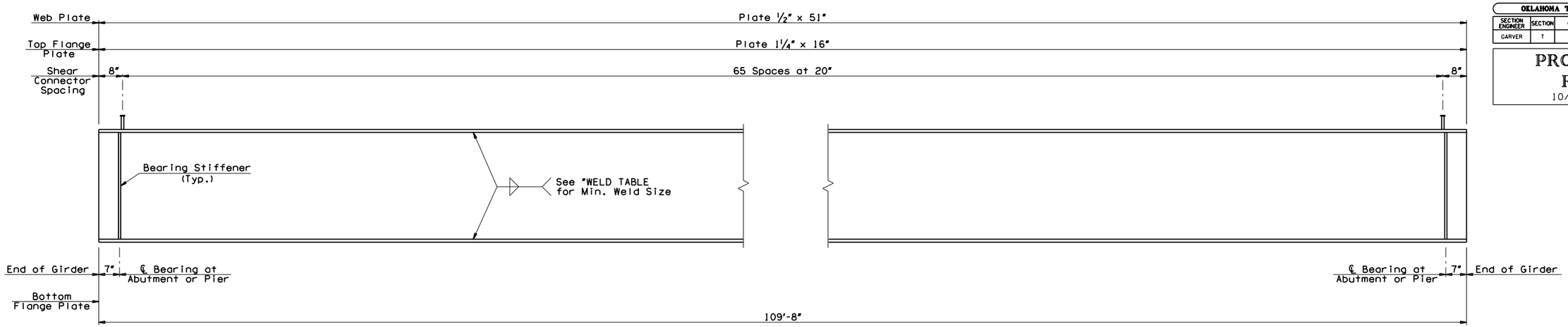
SPAN NO. 2 PLATE GIRDER DETAILS
(SHEET 3 OF 3)

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

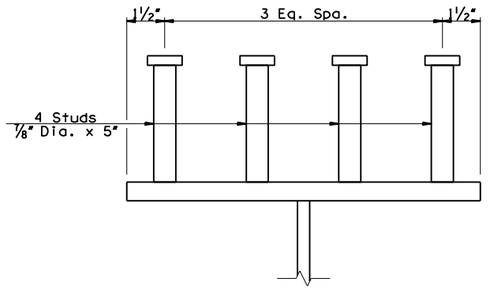
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DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL024

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

PROPOSED
R/W
10/23/2017



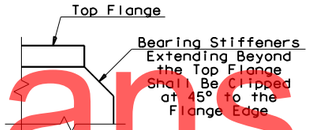
ELEVATION - SPAN NO. 3



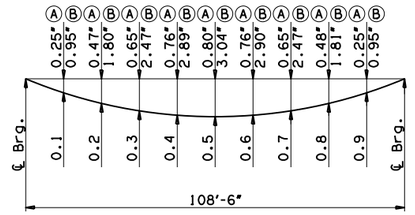
SHEAR CONNECTOR DETAIL

WELD TABLE		
MATERIAL THICKNESS OF THICKER PART JOINED	MINIMUM SIZE OF FILLET WELD	SINGLE PASS WELD MUST BE USED
TO ¾" INCLUSIVE	¼"	
OVER ¾"	5⁄16"	

50% plans

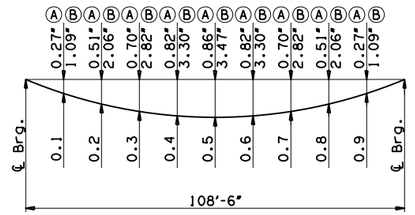


CORNER CLIP DETAIL



Ⓐ Plate Girders and Diaphragms
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets and Handrail

DEAD LOAD DEFLECTION DIAGRAM
EXTERIOR GIRDERS



Ⓐ Plate Girders and Diaphragms
Ⓑ Deck, Haunch, 5 p.s.f. S.I.P. Steel Deck Form Allowance, Parapets and Handrail

DEAD LOAD DEFLECTION DIAGRAM
INTERIOR GIRDERS

NOTES:

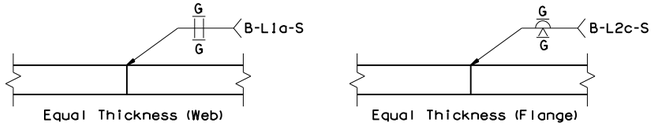
All Structural Steel, including Plate Girders, Diaphragms, Bearing Stiffeners and Connection Plates, shall be AASHTO M270, Grade 50W. Shear Connectors shall conform to AASHTO M169, Grade 1015, 1018, or 1020. Bolts shall conform to AASHTO M164 (Type 3). Welding shall have weathering characteristics.

Girders shall be cambered to account for dead load deflection and, if necessary, vertical curve.

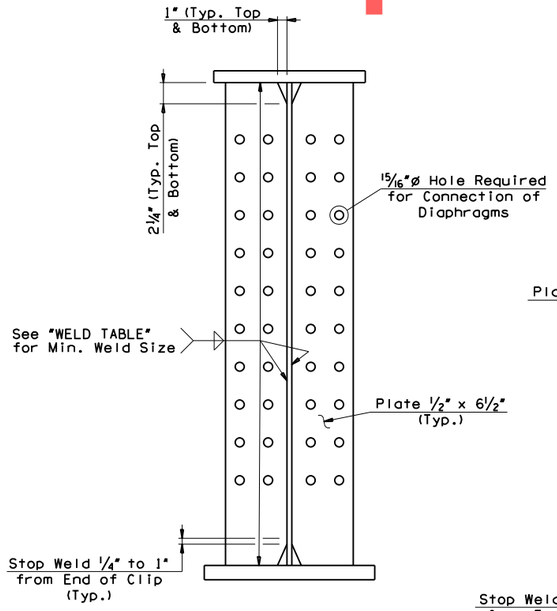
For Framing Plan, see Sheet No. BL019.

For Diaphragm Details, see Sheet No. BL026.

For Plate Girder Haunch Details, see Sheet No. BL011.

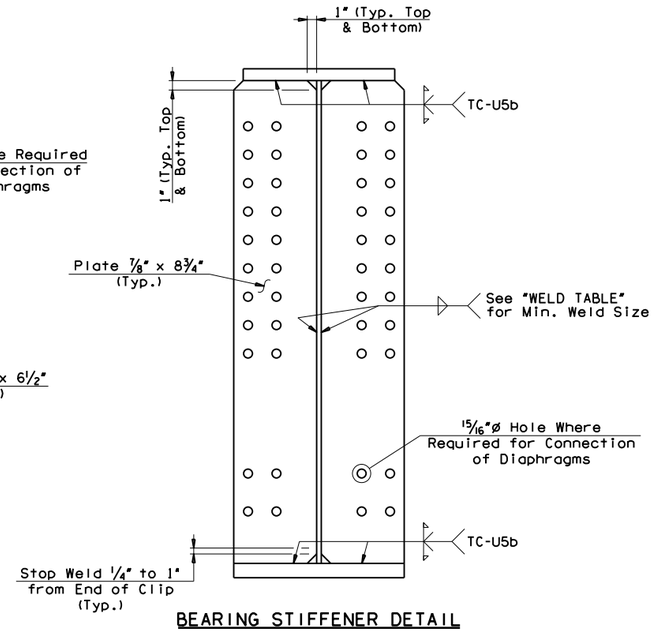


DETAILS OF WELDED SPLICES



CONNECTION PLATE DETAIL

(Shall be used at all intermediate diaphragm locations)
(Only one connection plate is required on one side of the Girder at each bracing location along the exterior girders.)



BEARING STIFFENER DETAIL

NOTE:
Bearing Stiffeners shall be fabricated to be plumb in their final positions.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

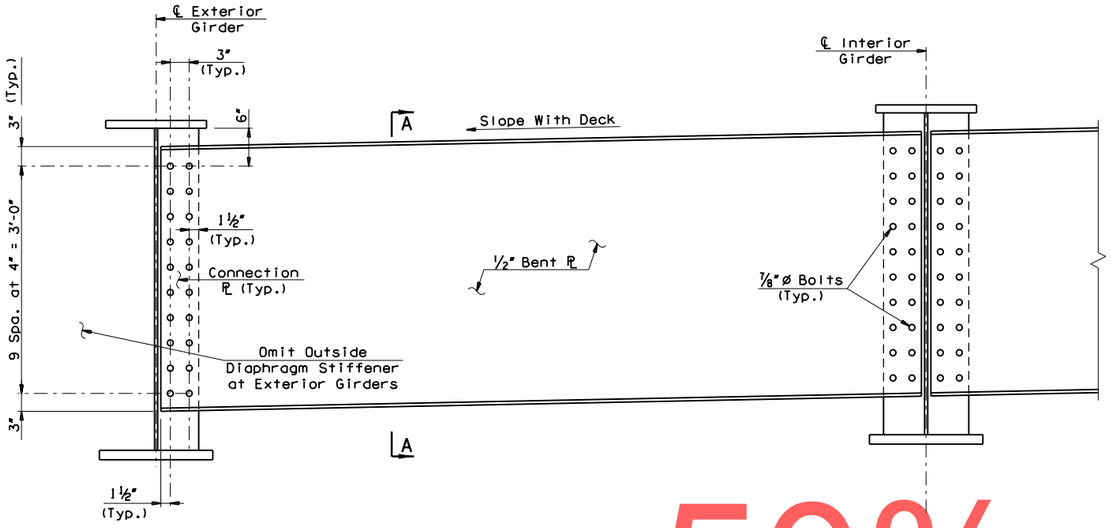
SPAN NO. 3 PLATE GIRDER DETAILS
(SHEET 1 OF 2)

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

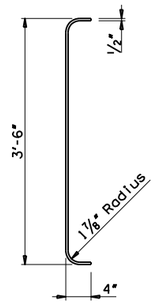
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL025

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

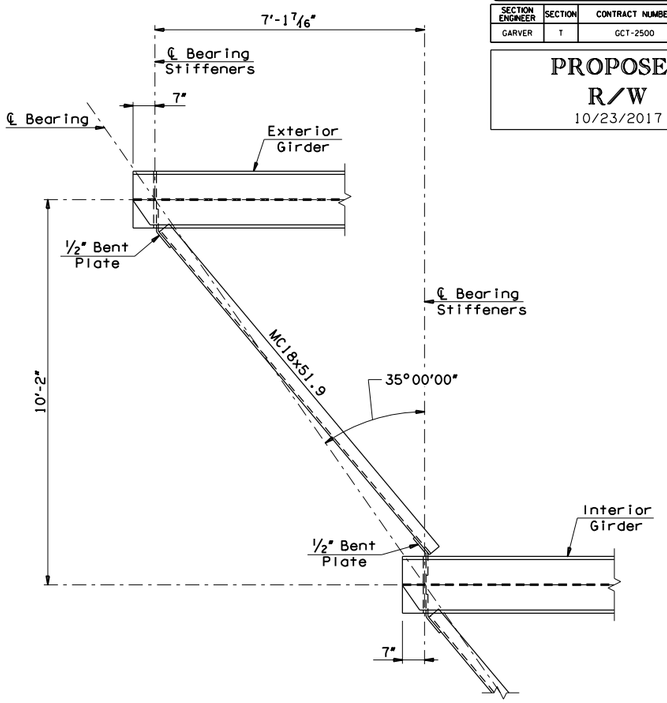
PROPOSED R/W
10/23/2017



INTERMEDIATE DIAPHRAGM "B"

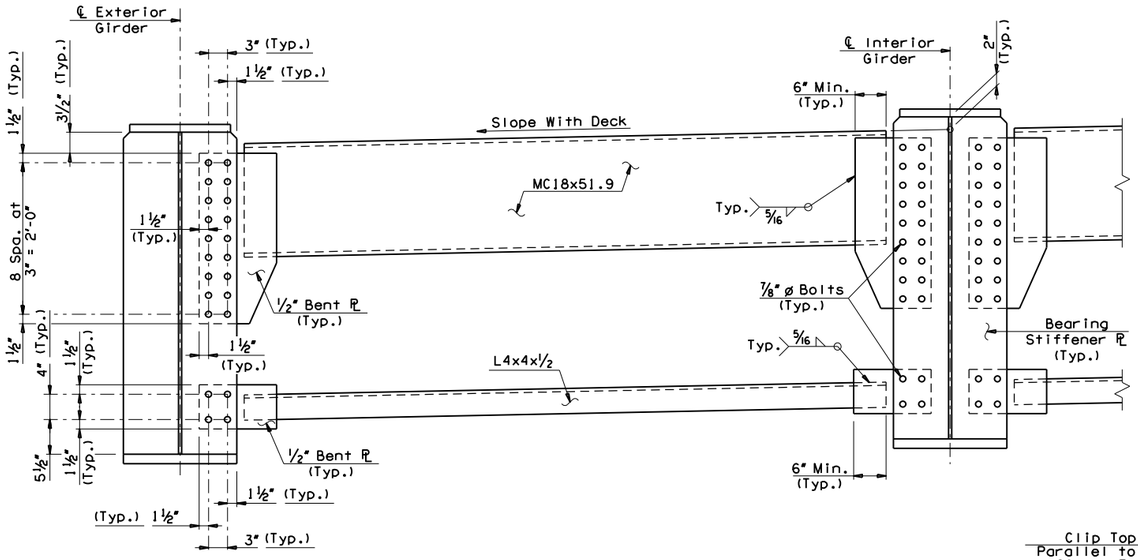


SECTION A-A

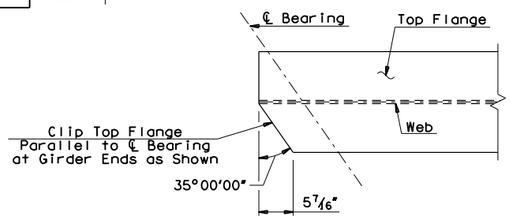


END DIAPHRAGM "B" PLAN

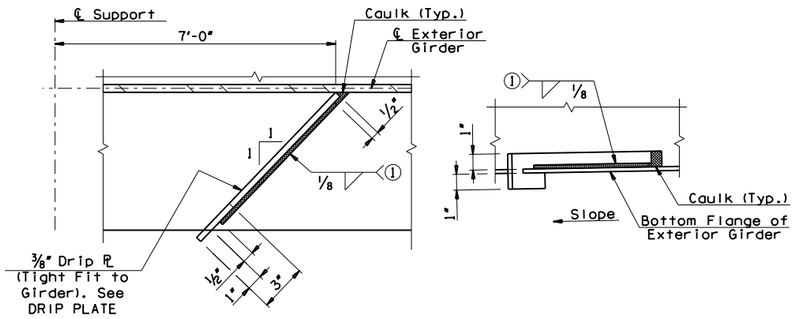
50% plans



END DIAPHRAGM "B"



TOP FLANGE CLIP DETAIL



PLAN ELEVATION

TYPICAL EXTERIOR BEAM DRIP PLATE DETAILS

DRIP PLATE NOTE:
Drip Plates shall be placed on the outside of the exterior girders on the up grade side of each support location. All cost of the Drip Plate, Weld, Caulk and labor needed for installation shall be included in the unit price per LB. of "STRUCTURAL STEEL M270 GRADE 50W".

(1) Stop weld ½" from end of Drip Plate and from edge of Girder. Fill with caulk as shown.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

SPAN NO. 3 PLATE GIRDER DETAILS
(SHEET 2 OF 2)

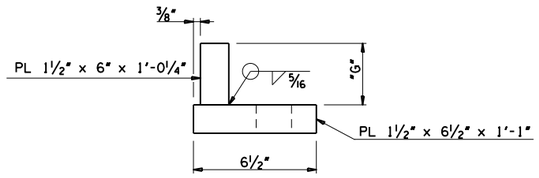
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL026

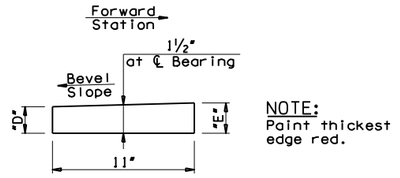
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

TABLE OF VARIABLES								
LOCATION		"A"	"B"	"C"	"D"	"E"	"F"	"G"
ABUTMENT NO. 1		1'-1 7/8"	1'-8"	10"	1.28"	1.72"	7"	3 3/4"
PIER NO. 1	BACK STA.	1'-1 7/8"	1'-8"	10"	1.35"	1.65"	7"	3 3/4"
PIER NO. 1	FORWARD STA.	1'-6 7/8"	2'-6"	1'-3"	1.36"	1.64"	11"	5 3/4"
PIER NO. 2	BACK STA.	1'-6 7/8"	2'-6"	1'-3"	1.50"	1.50"	11"	5 3/4"
PIER NO. 2	FORWARD STA.	1'-1 7/8"	1'-8"	10"	1.50"	1.50"	7"	3 3/4"
ABUTMENT NO. 2		1'-1 7/8"	1'-8"	10"	1.50"	1.50"	7"	3 3/4"

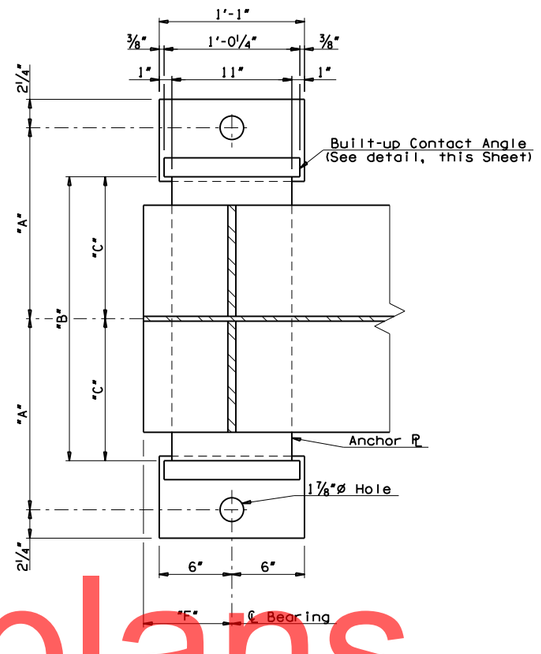


BUILT-UP CONTACT ANGLE DETAIL

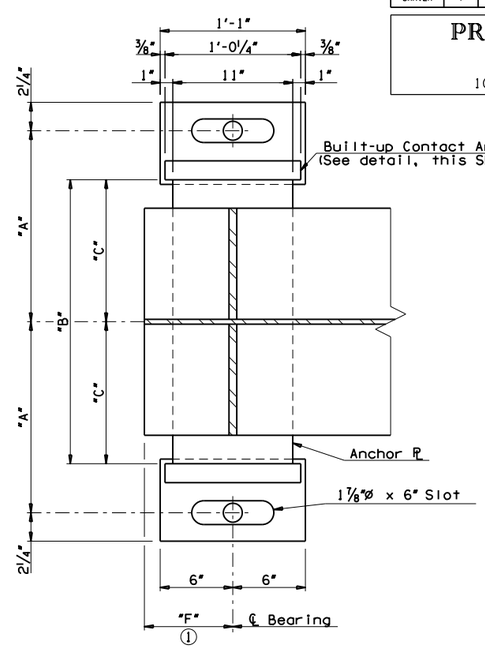


NOTE:
Paint thickest edge red.

BEVELED ANCHOR PLATE DETAIL

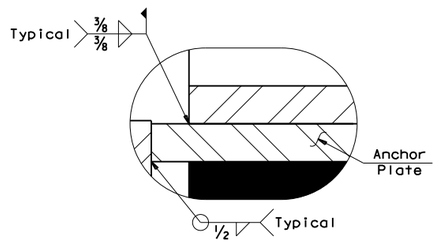


FIXED BEARING PLAN

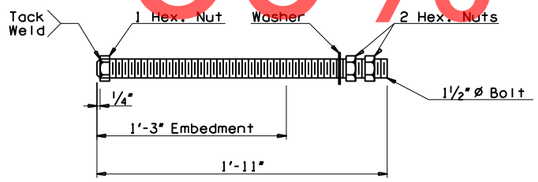


EXPANSION BEARING PLAN

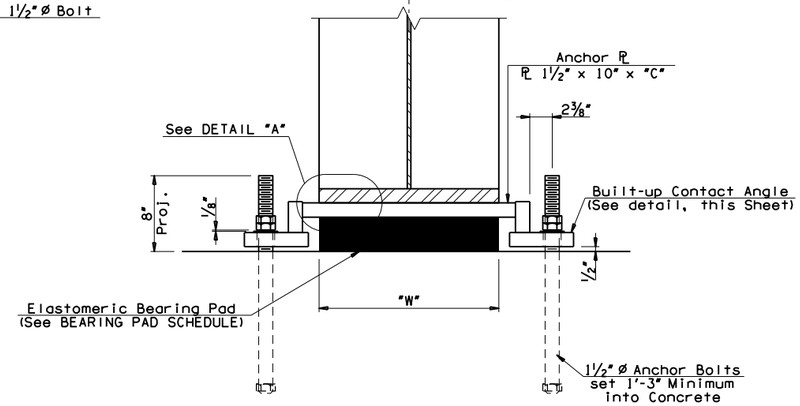
① Anchor Bolts shall be centered in slots during setting of beams. Dimension may vary depending on temperature at the time of beam setting.



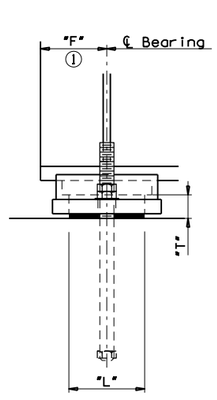
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



SIDE VIEW

BEARING DETAILS

BEARING PAD SCHEDULE						
LOCATION		60 DUROMETER ELASTOMERIC BEARING PAD				
		SIZE (T x L x W)	COVER LAYER	INNER LAYER	LAMINATE LAYER	WEIGHT ②
ABUTMENT NO. 1		3 5/8" x 10" x 1'-4 1/2"	2 - 1/4"	6 - 3/8"	7 - 1/8"	XXX.XX
PIER NO. 1	BACK STA.	3 5/8" x 10" x 1'-4 1/2"	2 - 1/4"	6 - 3/8"	7 - 1/8"	XXX.XX
PIER NO. 1	FWD. STA.	5 5/8" x 10" x 2'-1"	2 - 1/4"	10 - 3/8"	11 - 1/8"	XXX.XX
PIER NO. 2	BACK STA.	5 5/8" x 10" x 2'-1"	2 - 1/4"	10 - 3/8"	11 - 1/8"	XXX.XX
PIER NO. 2	FWD. STA.	3 5/8" x 10" x 1'-4 1/2"	2 - 1/4"	6 - 3/8"	7 - 1/8"	XXX.XX
ABUTMENT NO. 2		3 5/8" x 10" x 1'-4 1/2"	2 - 1/4"	6 - 3/8"	7 - 1/8"	XXX.XX

② Average estimated weight of Structural Steel per Bearing

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

50% plans

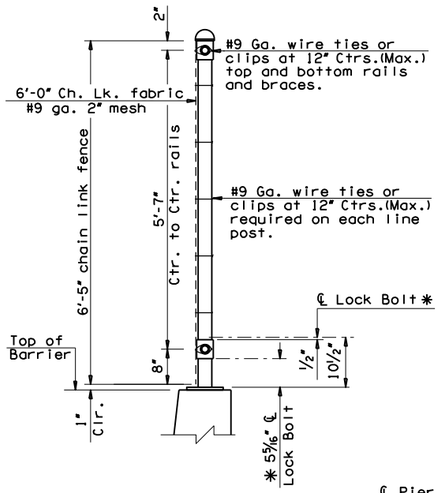
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

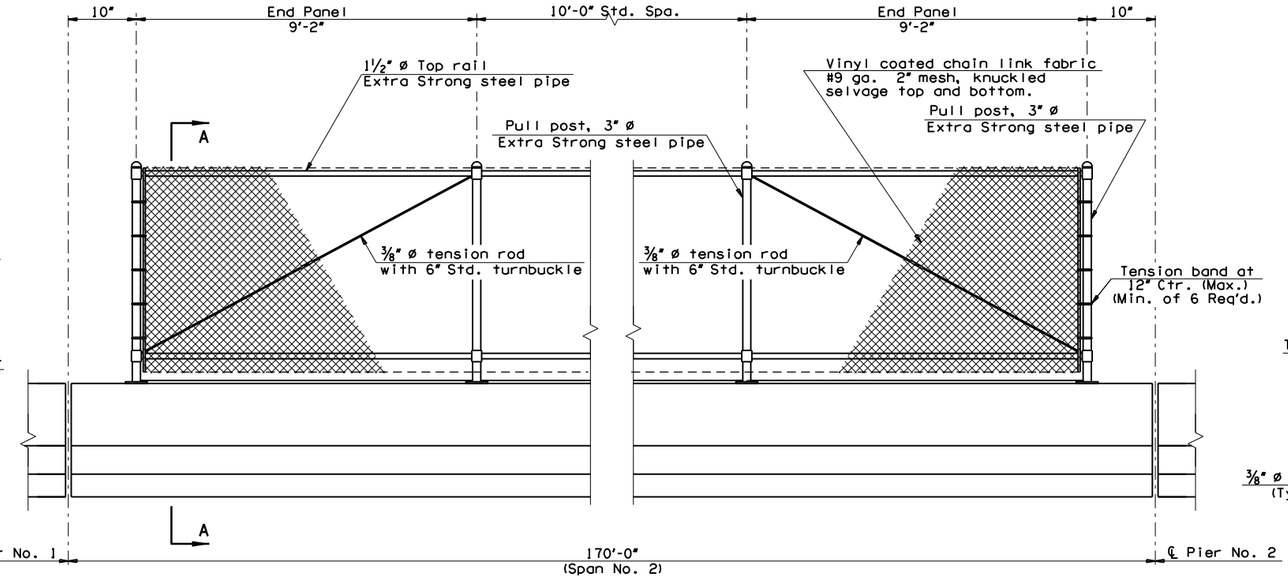
BEARING DETAILS

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL027

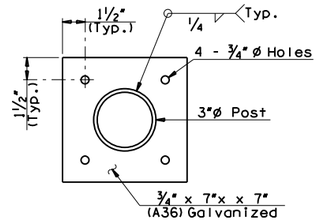


SECTION A-A

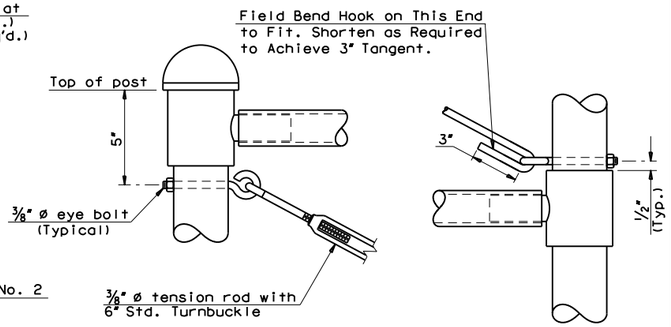


ELEVATION

(Located on east side of Bridge)
(Horizontal dimensions are along face of parapet and do not include a vertical curve correction)



BASE PLATE



TENSION ROD DETAIL

* Lock bolt shall be 5/16" ø hex head bolt and and nut. Bolt holes shall be 3/8" diameter. (Omit at pull post & end post.)

50% plans

NOTES:

ANCHOR BOLTS:
Anchor Bolts shall be continuously threaded and conform to ASTM A320 Type 316 Stainless Steel. Use nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320 respectively.

POST AND RAIL:
The Contractor shall use extra strong pipe for the posts and for the top and bottom rail. The pipe shall conform to one of the following:

1) ASTM A53, Type E or S, Grade B, Schedule 80.
2) ASTM F1043 with yield strength conforming to Group IC and wall thickness conforming to Schedule 80.
3) ASTM 500, Grade B or ASTM 501, Schedule 80.

Diameters shown for tubular steel posts and rails are nominal. Weight tolerances shall be as shown in the Standard Specifications. All Posts, rails, dome caps and pipes shall be galvanized in accordance with ASTM A153.

CHAIN LINK FABRIC:
All chain link fabric shall be vinyl coated black. The chain link fabric shall be double knuckled.

Intermediate pull posts are required when the fence exceeds 200 ft. Spacing of pull posts shall be 75 ft. (min.) to 200 ft. (max.) from another pull post or end post.

HARDWARE:
Bolts, lockbolts, eyebolts and turnbuckle shall be galvanized in accordance with ASTM A153 and shall conform to ASTM A307 or A36.

STRUCTURAL STEEL:
Miscellaneous plates, bars, shapes including tension rod shall conform to ASTM A36.

ERECTION PROCEDURE:
The details of the connections require that the post and rail installation be accomplished in a sequential manner. Following the erection of a post, the rails must be installed before an adjacent post can be erected. The installation may begin with an end post or with an interior post and extend both ways.

SHOP DRAWINGS:
Approval of shop details and materials is required before installation begins.

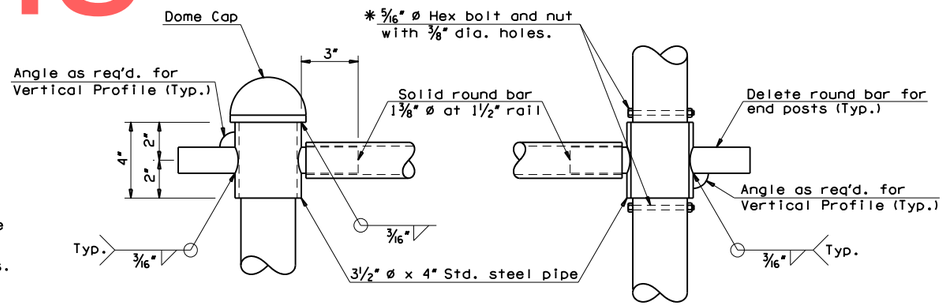
PAYMENT:
All costs of materials, labor, equipment, and any incidentals necessary to complete work to construct the East Roadway Fence as shown in the plans shall be included in the price bid per each of "INSTALLATION OF BRIDGE ITEMS".

① Drilled anchor hole with 5/8"ø threaded Stainless Steel Anchor Bolts, Nuts, and Washer. The threaded Anchor Bolts shall be embedded a minimum of 7½". The Contractor shall have the option of the methods by which the Anchor Bolts are to be anchored into the existing concrete. Anchorage into the concrete shall be accomplished by one of the following methods:

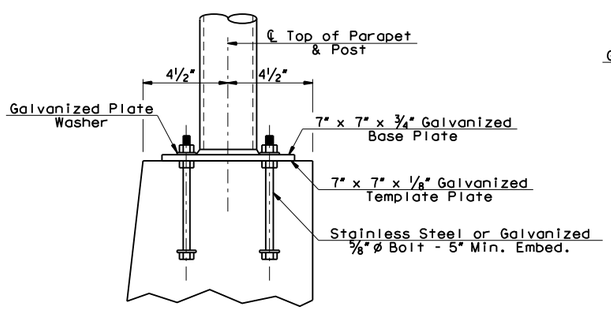
1. Self-Mixing injection type anchorage systems such as "HILTI FASTENING SYSTEMS", "UNITEX PRO-PROXY 300 FAST" or an approved equal. Anchorages shall be installed in accordance with the manufacturers specifications for the system used.

2. Encapsulated non-expanding chemical type anchorage systems such as "RAWLPLUG COMPANY CHEM-STUD", "HILTI ENCAPSULATED" or an approved equal. Anchorages shall be installed in accordance with the manufacturers specifications for the system used.

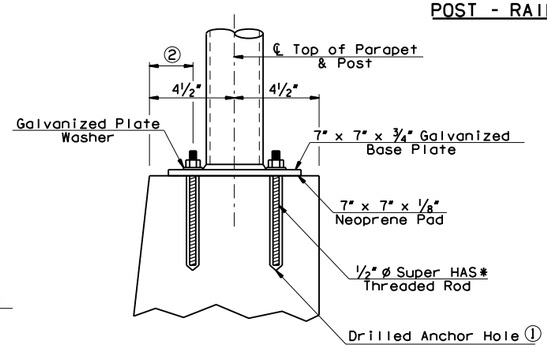
Drilling into the concrete to install the anchorage shall be accomplished without cutting existing concrete reinforcing steel bars. Prior to drilling, the Contractor shall locate and mark the existing concrete reinforcing steel bars with nondestructive tools, equipment and methods approved by the Engineer. 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.



POST - RAIL CONNECTION



POST DETAIL



DETAILS OF ALTERNATE POST ANCHOR SYSTEM

(Epoxy Adhesive Anchors)

②Maintain 2½" Min. Between Face of Parapet and ℄ Drilled Hole.

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

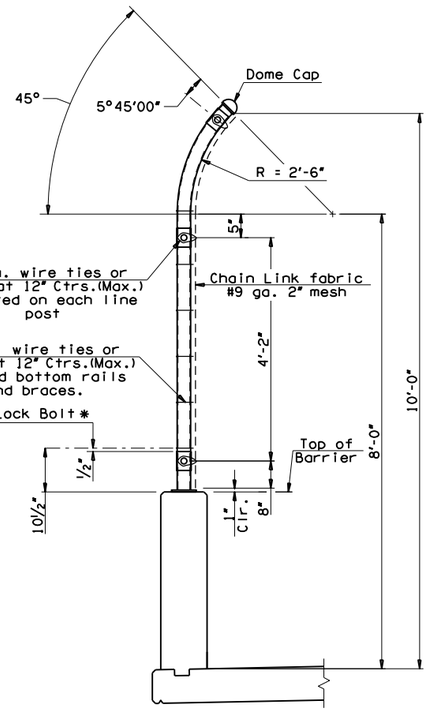
EAST FENCE DETAILS

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

DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL028

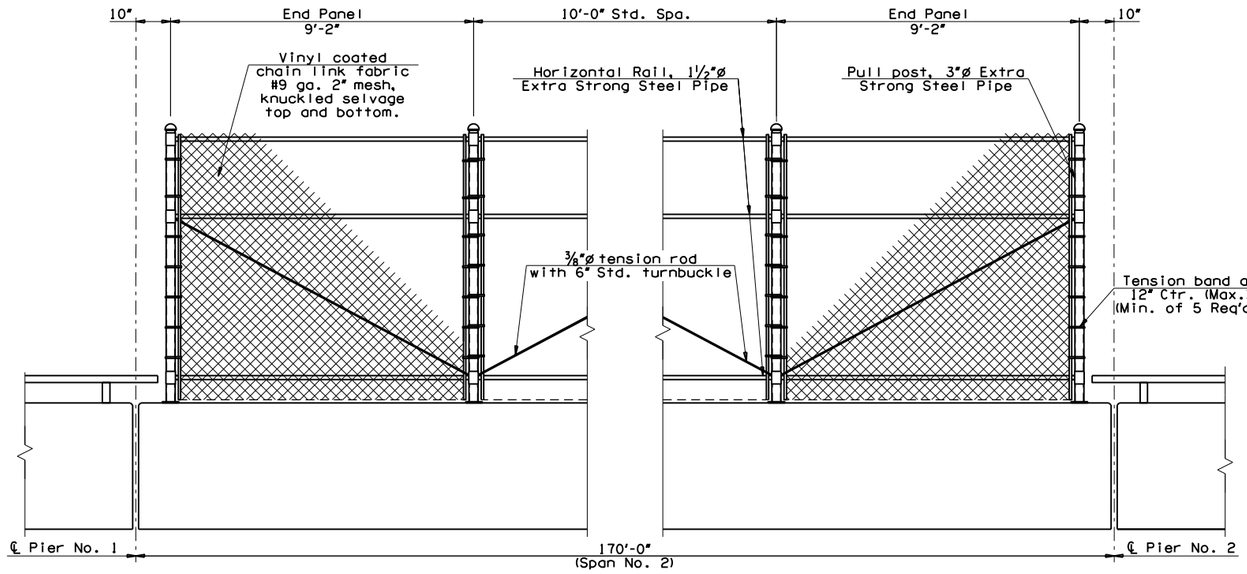
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017



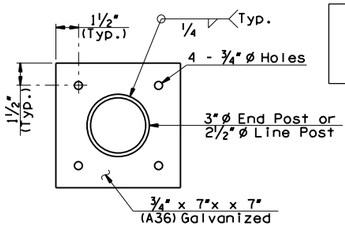
TYPICAL SECTION

* Lock bolt shall be 5/16" hex head bolt and and nut. Bolt holes shall be 3/8" diameter. (Omit at pull post & end post.)

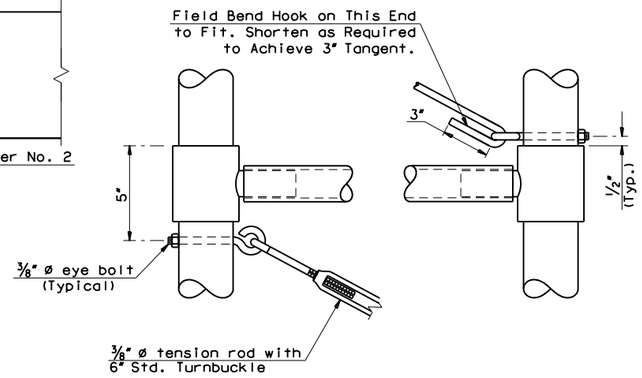


ELEVATION

(Located on West Side of Bridge)
(Horizontal dimensions are along face of parapet and do not include a vertical curve correction)

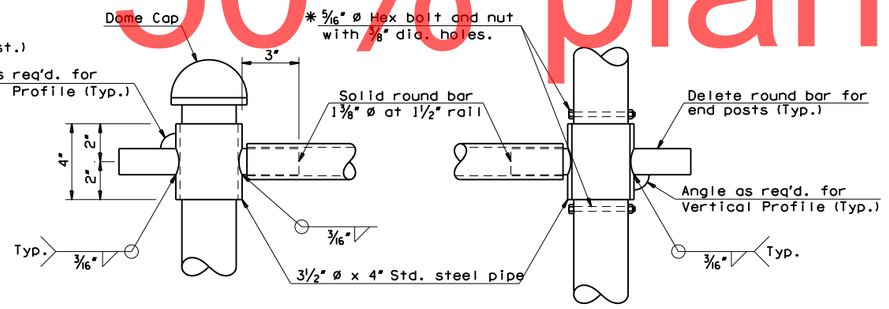


BASE PLATE

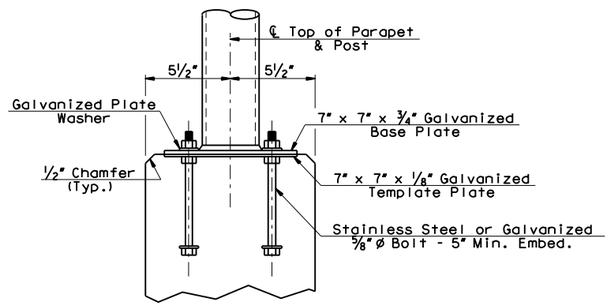


TENSION ROD DETAIL

50% plans



POST - RAIL CONNECTION



POST DETAIL

NOTES:

ANCHOR BOLTS:
Anchor Bolts shall be continuously threaded and conform to ASTM A320 Type 316 Stainless Steel. Use nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320 respectively.

POST AND RAIL:
The Contractor shall use extra strong pipe for the posts and for the top and bottom rail. The pipe shall conform to one of the following:

1) ASTM A53, Type E or S, Grade B, Schedule 80.
2) ASTM F1043 with yield strength conforming to Group IC and wall thickness conforming to Schedule 80.
3) ASTM 500, Grade B or ASTM 501, Schedule 80.

Diameters shown for tubular steel posts and rails are nominal. Weight tolerances shall be as shown in the Standard Specifications. All Posts, rails, dome caps and pipes shall be galvanized in accordance with ASTM A153.

CHAIN LINK FABRIC:
All chain link fabric shall be vinyl coated black. The chain link fabric shall be double knuckled.

Intermediate pull posts are required when the fence exceeds 200 ft. Spacing of pull posts shall be 75 ft. (min.) to 200 ft. (max.) from another pull post or end post.

HARDWARE:
Bolts, lockbolts, eyebolts and turnbuckle shall be galvanized in accordance with ASTM A153 and shall conform to ASTM A307 or A36.

STRUCTURAL STEEL:
Miscellaneous plates, bars, shapes including tension rod shall conform to ASTM A36.

ERECTION PROCEDURE:
The details of the connections require that the post and rail installation be accomplished in a sequential manner. Following the erection of a post, the rails must be installed before an adjacent post can be erected. The installation may begin with an end post or with an interior post and extend both ways.

SHOP DRAWINGS:
Approval of shop details and materials is required before installation begins.

PAYMENT:
All costs of materials, labor, equipment, and any incidentals necessary to complete work for the West Pedestrian Fence as shown in the plans shall be included in the price bid per Each of "INSTALLATION OF BRIDGE ITEMS".

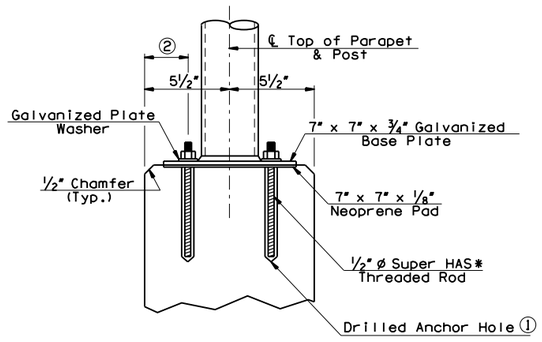
① Drilled anchor hole with 5/8"ø threaded Stainless Steel Anchor Bolts, Nuts, and Washer. The threaded Anchor Bolts shall be embedded a minimum of 7½". The Contractor shall have the option of the methods by which the Anchor Bolts are to be anchored into the existing concrete. Anchorage into the concrete 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 "RAWLPLUG 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 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.

② Maintain 2½" Min. Between Face of Parapet and ℄ Drilled Hole.



DETAILS OF ALTERNATE POST ANCHOR SYSTEM

(Epoxy Adhesive Anchors)

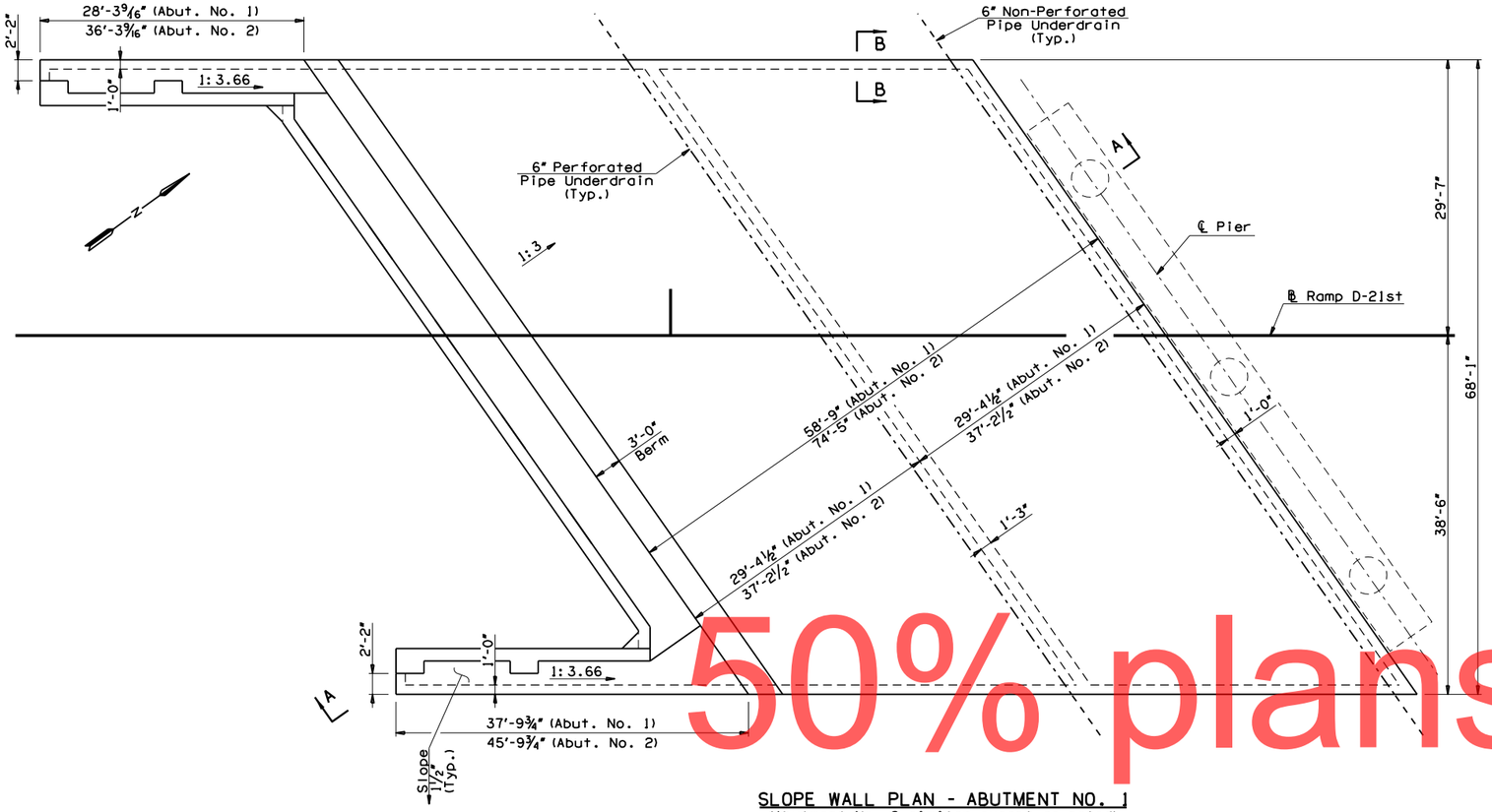
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

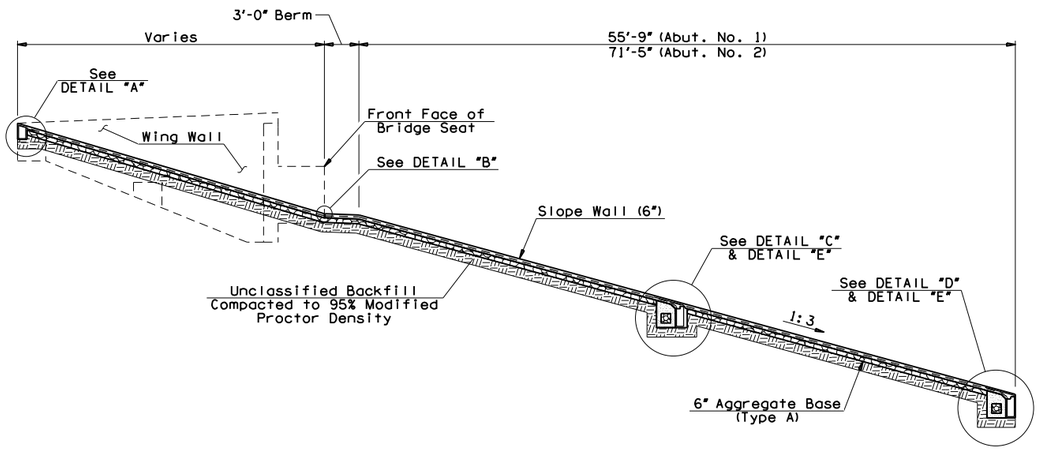
WEST FENCE DETAILS

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

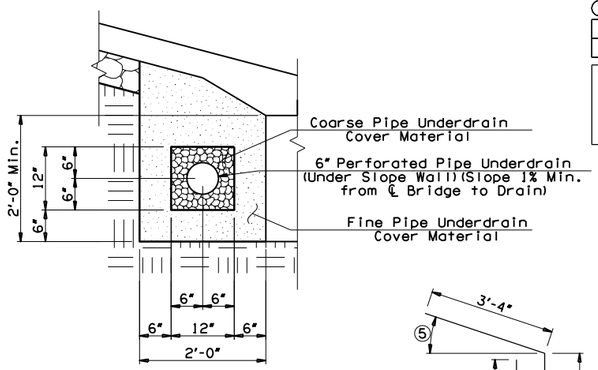
DESIGNED	ABH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL029



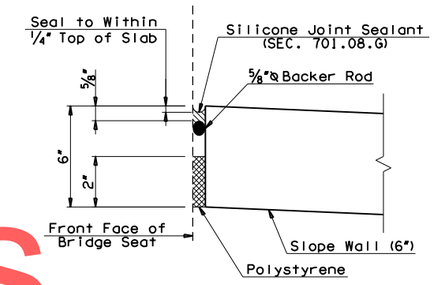
SLOPE WALL PLAN - ABUTMENT NO. 1
(Abutment No. 2 similar except as noted)



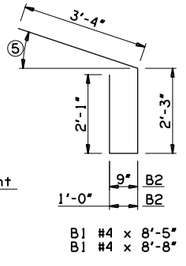
SECTION A-A



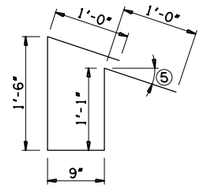
DETAIL "E"



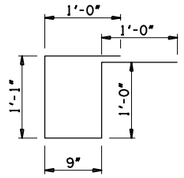
DETAIL "B"



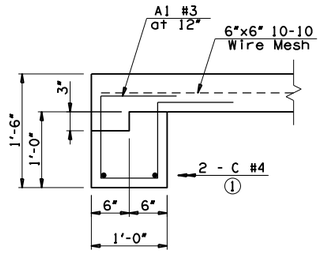
B1 #4 x 8'-5"
B1 #4 x 8'-8"



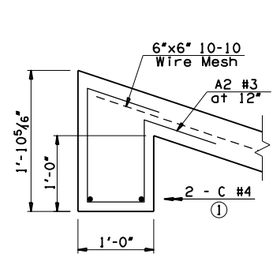
A2 #4 x 4'-10"



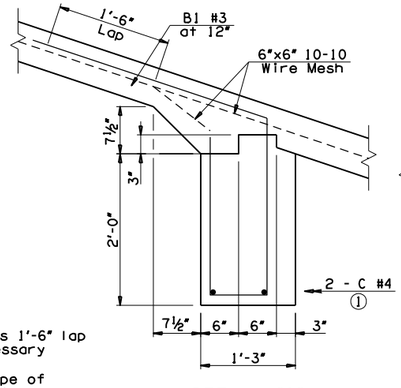
A1 #4 x 4'-10"



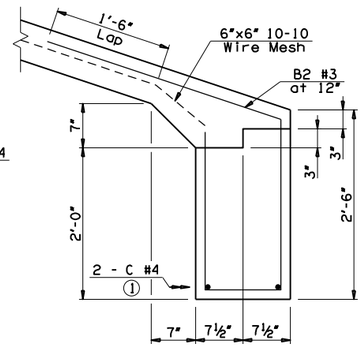
SECTION B-B



DETAIL "A"



DETAIL "C"



DETAIL "D"

① Continuous 1'-6" lap when necessary

⑤ Match slope of Slope Wall

SUMMARY OF QUANTITIES - SLOPE WALLS

	ITEM	UNIT	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL
②	SLOPE WALL (6")	S.Y.	XXX.XX	XXX.XX	X,XXX.XX
③	6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX	XXX.XX	XXX.XX
④	6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XX.XX	XX.XX	XX.XX

② All costs of the "SLOPE WALL (6")" installation including Class A Concrete, Reinforcing Steel, Lap Splices, Backer Rod, Silicone Joint Sealant, Preformed Joint Filler, Polystyrene, 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 (6")".

③ All costs of the Perforated Pipe Underdrain installation including trench excavation, cover material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

④ All costs of the Non-Perforated Pipe Underdrain installation including trench excavation, backfilling, material, labor, equipment, and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

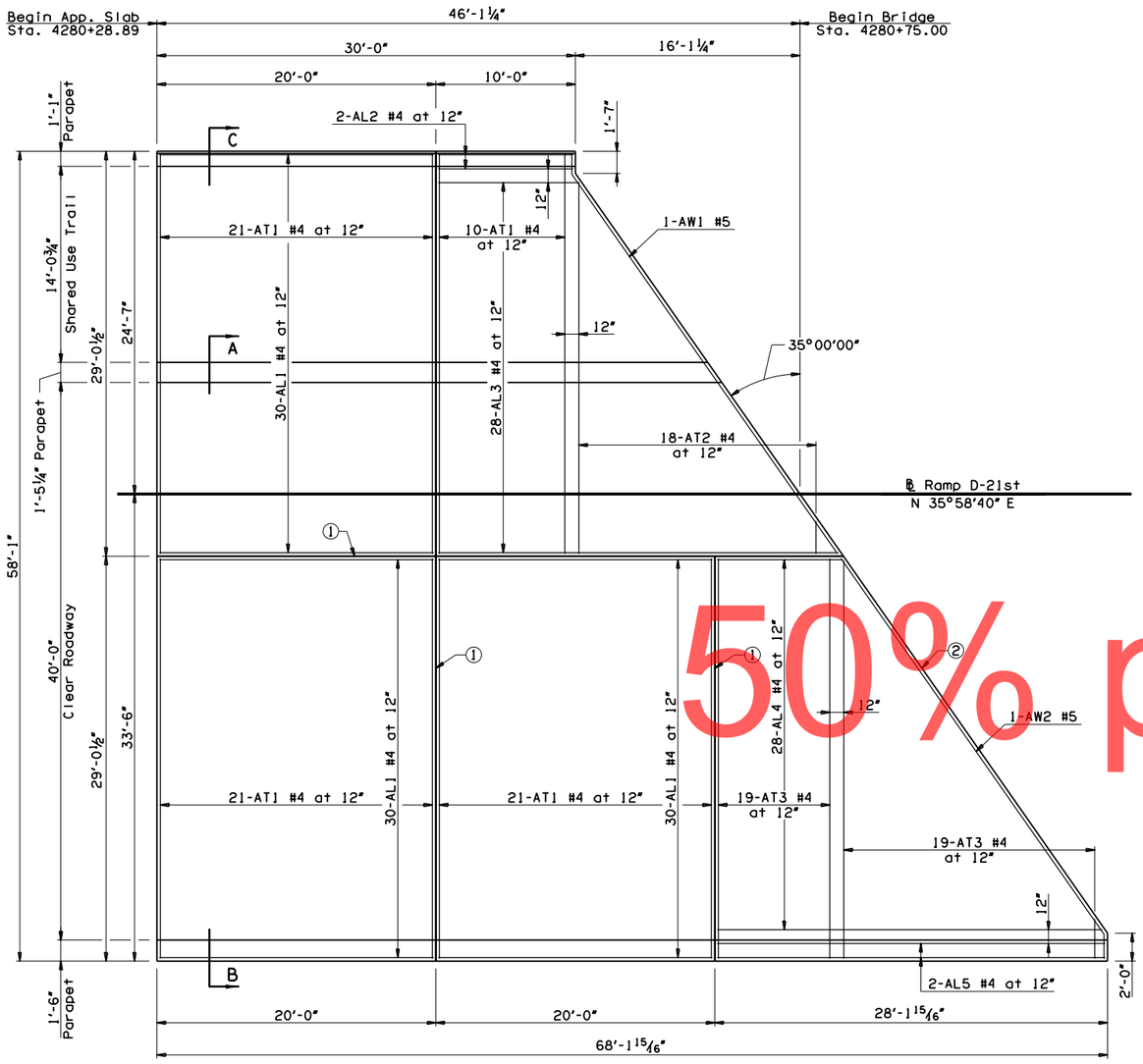
PROPOSED R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
SLOPE WALL DETAILS

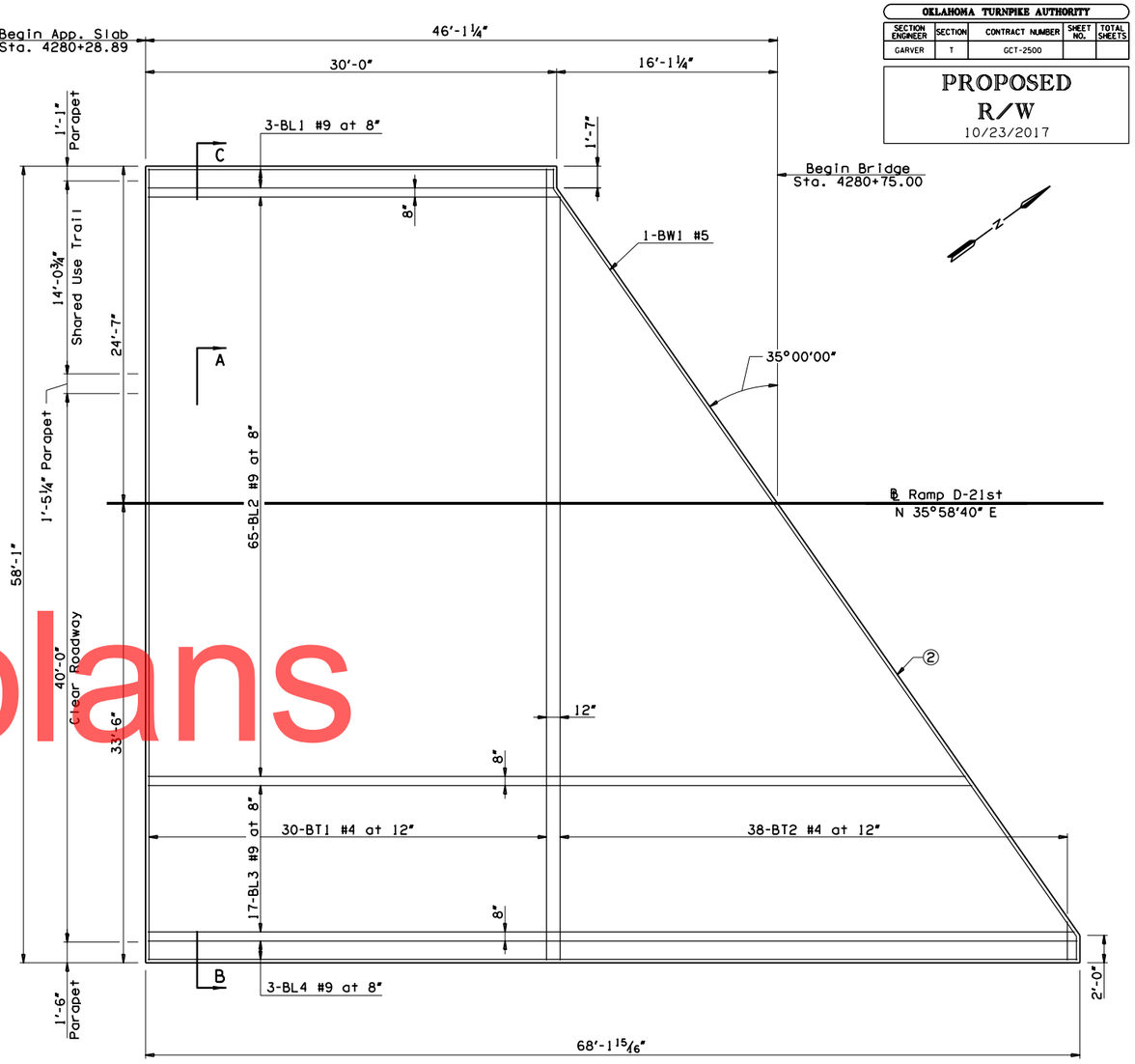
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	9/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL030

50% 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)

① ½" Sawed and Sealed Joint in top of Approach Slab. See DETAIL "B" on Sheet No. BL033.

② ½" Sawed and Sealed Construction Joint in top of Approach Slab. See DETAIL "A" on Sheet No. BL033.

NOTES:
Place reinforcing steel in the top of the Approach Slab 2" either side of the Sawed and Sealed Longitudinal and Transverse Joints. For additional details, See Std. LECS-4.

Do not groove within 6" of any joint.

42" F-Shaped Parapet reinforcement omitted for clarity. See Std. FSHP-42-2-00E for details.

Concrete Parapet reinforcement omitted for clarity. See Sheet No. BL017 for details.

For Summary of Quantities and Sections A, B & C, see Sheet No. BL033.

BAR LIST - APPROACH SLAB NO. 1

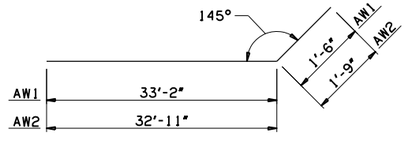
	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	EPOXY COATED REINFORCING STEEL					
	AL1	#4	90	STR.	19'-8"	-
	AL2	#4	2	STR.	9'-8"	-
	AL3	#4	28	STR.	19'-4½" AVG.	10'-1" To 28'-8"
	AL4	#4	28	STR.	18'-3½" AVG.	9'-0" To 27'-7"
	AL5	#4	2	STR.	27'-10"	-
	AT1	#4	82	STR.	28'-8"	-
	AT2	#4	18	STR.	14'-6" AVG.	2'-4" To 26'-8"
	AT3	#4	19	STR.	15'-8½" AVG.	2'-10" To 28'-7"
	AW1	#5	1	BENT	34'-8"	-
	AW2	#5	1	BENT	34'-8"	-
	BL1	#9	3	STR.	29'-8"	-
	BL2	#9	65	STR.	45'-0" AVG.	30'-1" To 59'-11"
③	BL3	#9	17	STR.	69'-6" AVG.	65'-11" To 73'-1"
③	BL4	#9	3	STR.	73'-4"	-
	BT1	#4	30	STR.	57'-9"	-
	BT2	#4	38	STR.	29'-3" AVG.	2'-10" To 55'-8"
④	BW1	#5	1	BENT	72'-9"	-

BAR LIST - APPROACH SLAB NO. 1

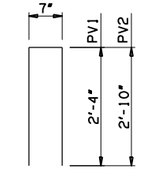
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
FS2	#5	120	BENT	7'-4"	-
PH4	#4	8	STR.	29'-8"	-
PV1	#5	33	BENT	5'-3"	-
PV2	#5	33	BENT	6'-3"	-

③ Includes one 5'-6" Lap Length

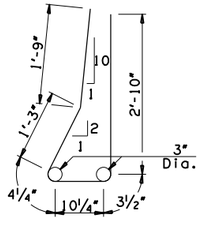
④ Includes one 3'-0" Lap Length



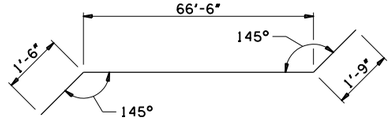
AW1 #5 x 34'-8"
AW2 #5 x 34'-8"



PV1 #5 x 5'-3"
PV2 #5 x 6'-3"



FS2 #5 x 7'-4"



BW1 #5 x 72'-9"

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
APPROACH SLAB DETAILS
(SHEET 1 OF 3)

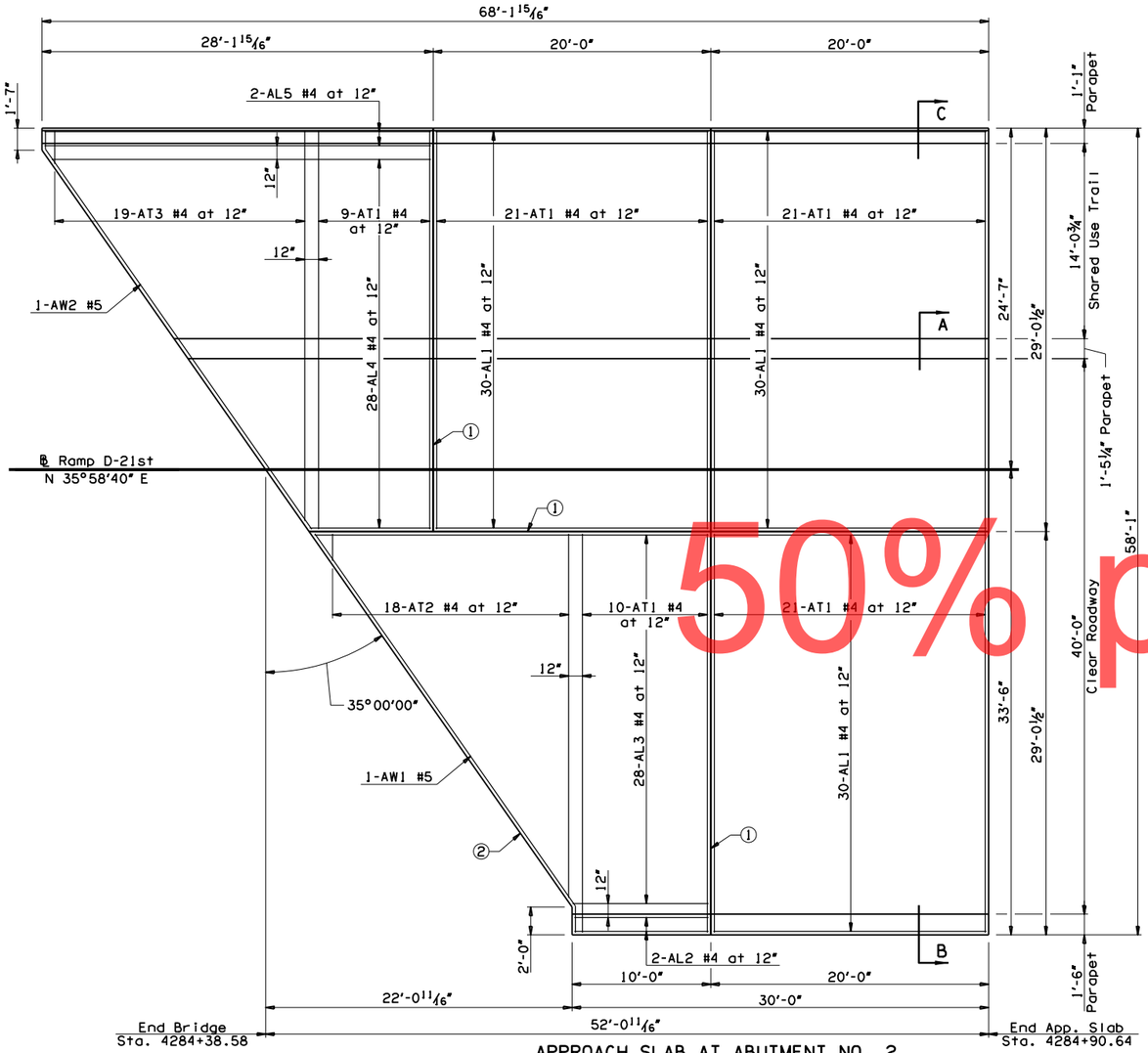
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	10/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL031

50% plans

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

PROPOSED R/W
10/23/2017



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

BAR LIST - APPROACH SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	90	STR.	19'-8"	-
AL2	#4	2	STR.	9'-8"	-
AL3	#4	28	STR.	19'-0½" AVG.	9'-9" To 28'-4"
AL4	#4	28	STR.	18'-0½" AVG.	8'-9" To 27'-4"
AL5	#4	2	STR.	27'-10"	-
AT1	#4	82	STR.	28'-8"	-
AT2	#4	18	STR.	14'-0½" AVG.	1'-11" To 26'-2"
AT3	#4	19	STR.	15'-3" AVG.	2'-5" To 28'-1"
AW1	#5	1	BENT	34'-7"	-
AW2	#5	1	BENT	34'-9"	-
BL1	#9	3	STR.	29'-8"	-
BL2	#9	65	STR.	44'-8½" AVG.	29'-9" To 59'-8"
③ BL3	#9	17	STR.	69'-3" AVG.	65'-8" To 72'-10"
③ BL4	#9	3	STR.	73'-4"	-
BT1	#4	30	STR.	57'-9"	-
BT2	#4	38	STR.	28'-10" AVG.	2'-5" To 55'-3"
④ BW1	#5	1	BENT	72'-9"	-

BAR LIST - APPROACH SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
FS2	#5	98	BENT	7'-4"	-
④ PH4	#4	8	STR.	70'-10"	-
PV1	#5	75	BENT	5'-3"	-
PV2	#5	75	BENT	6'-3"	-

③ Includes one 5'-6" Lap Length

④ Includes one 3'-0" Lap Length

① ½" Sawed and Sealed Joint in top of Approach Slab. See DETAIL "B" on Sheet No. BL033.

② ½" Sawed and Sealed Construction Joint in top of Approach Slab. See DETAIL "A" on Sheet No. BL033.

50% plans

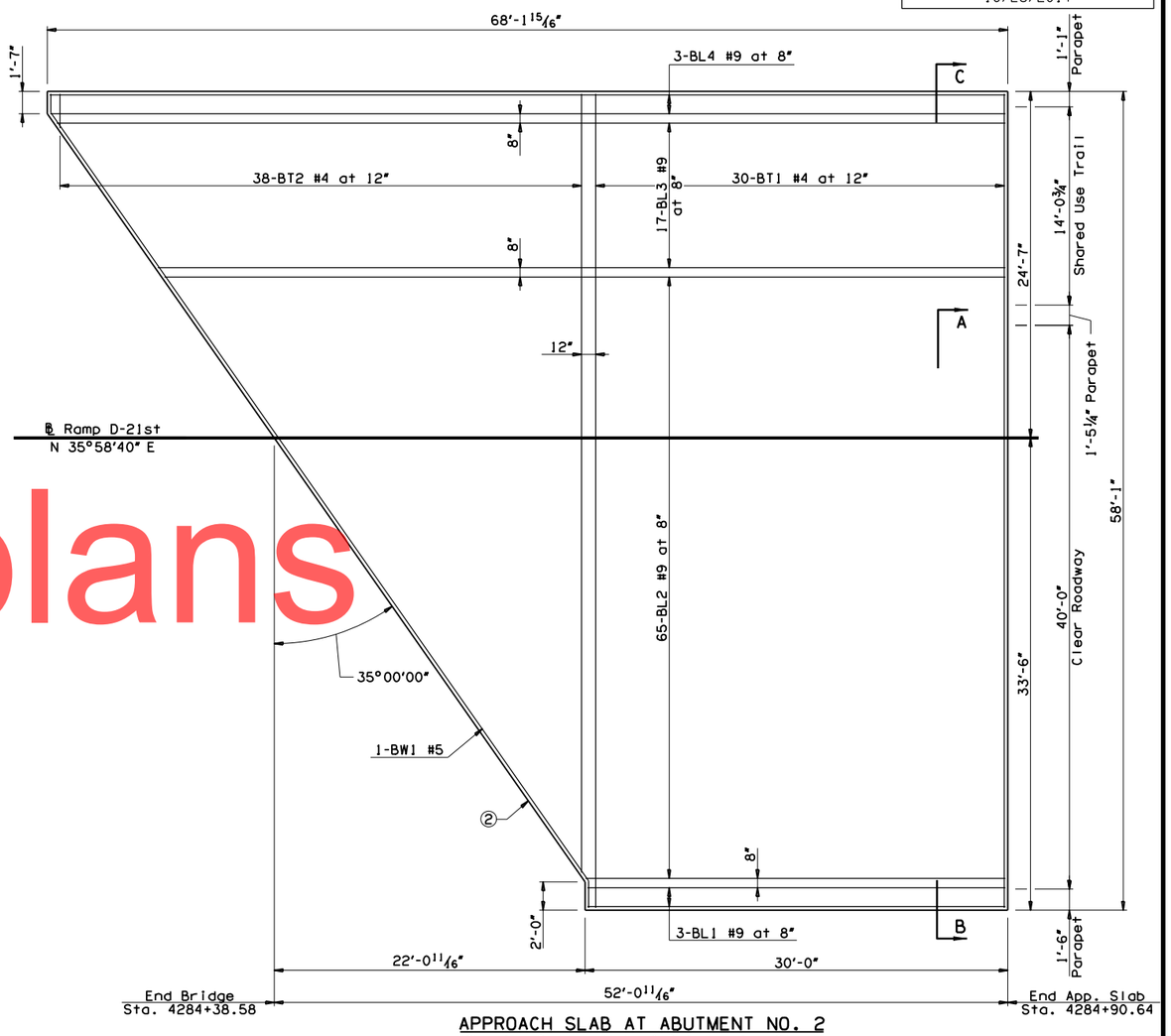
NOTES:
Place reinforcing steel in the top of the Approach Slab 2" either side of the Sawed and Sealed Longitudinal and Transverse Joints. For additional details, See Std. LECS-4.

Do not groove within 6" of any joint.

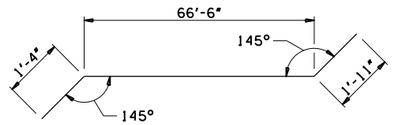
42" F-Shaped Parapet reinforcement omitted for clarity. See Std. FSHP-42-2-00E for details.

Concrete Parapet reinforcement omitted for clarity. See Sheet No. BL017 for details.

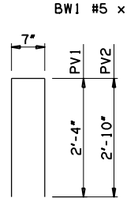
For Summary of Quantities and Sections A, B & C, see Sheet No. BL033.



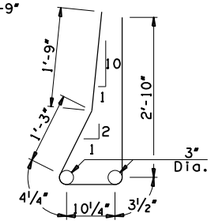
APPROACH SLAB AT ABUTMENT NO. 2
(Showing Bottom Mat of Reinforcing Steel)



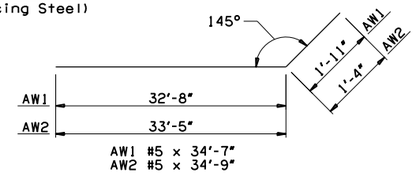
BW1 #5 x 72'-9"



PV1 #5 x 5'-3"
PV2 #5 x 6'-3"



FS2 #5 x 7'-4"



AW1 #5 x 34'-7"
AW2 #5 x 34'-9"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. L GILCREASE SB OFF-RAMP OVER BNSF RR
APPROACH SLAB DETAILS
(SHEET 2 OF 3)

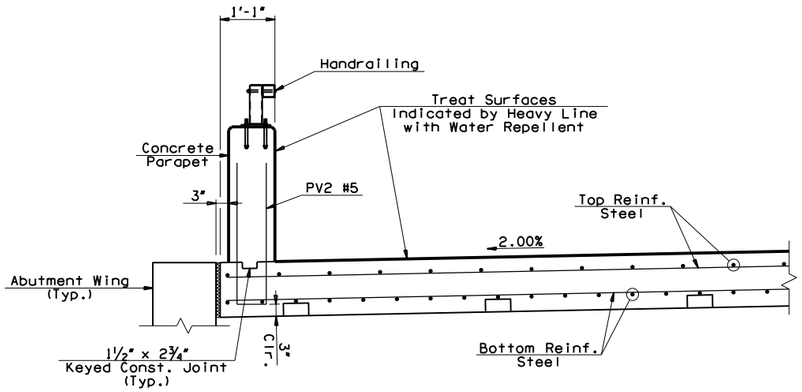
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	ABH	10/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL032

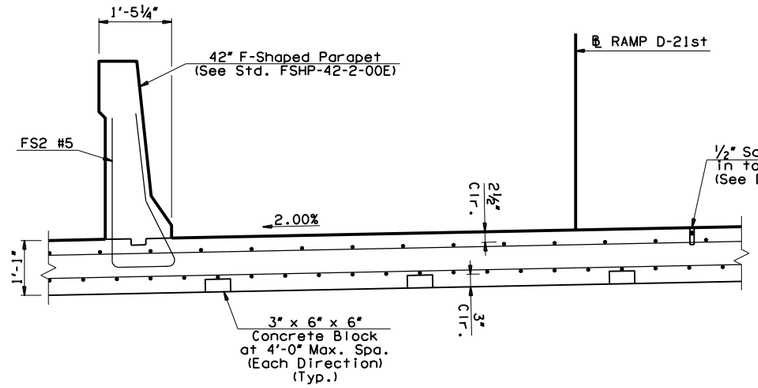
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

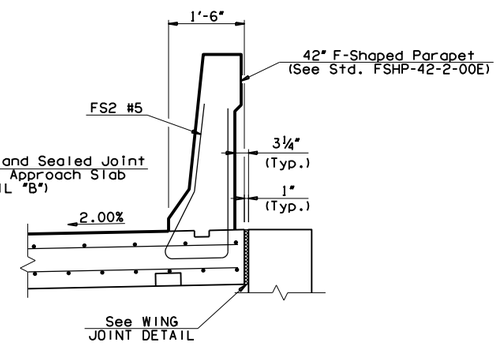
NOTE:
For handrailing details, see Sheet No. BL018.



SECTION C

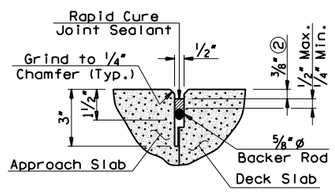


SECTION A THRU APPROACH SLAB

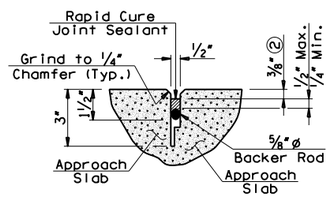


SECTION B

50% plans

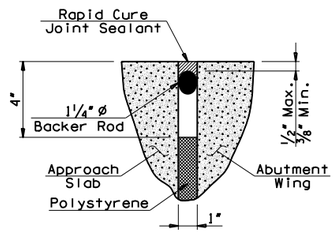


DETAIL "A"
(Construction Joint)



DETAIL "B"

② This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only. See Std. LEC-4-1 for further details.



WING JOINT DETAIL

NOTE:
All costs associated with the Wing Joint Detail, including materials, Rapid Cure Joint Sealant, Backer Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified, are included in the contract unit price for "APPROACH SLAB".

SUMMARY OF QUANTITIES - APPROACH SLABS

	ITEM	UNIT	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
①	APPROACH SLAB	S.Y.	XXX.XX	XXX.XX	XXX.XX
	SAW-CUT GROOVING	S.Y.	XXX.XX	XXX.XX	XXX.XX
	42" F-SHAPED PARAPET	L.F.	XX.XX	XX.XX	XX.XX
	CLASS AA CONCRETE	C.Y.	XX.XX	XX.XX	XX.XX
	EPOXY COATED REINFORCING STEEL	LB.	XX,XXX.XX	XX,XXX.XX	XX,XXX.XX
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XX.XX	XX.XX	XX.XX

① The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

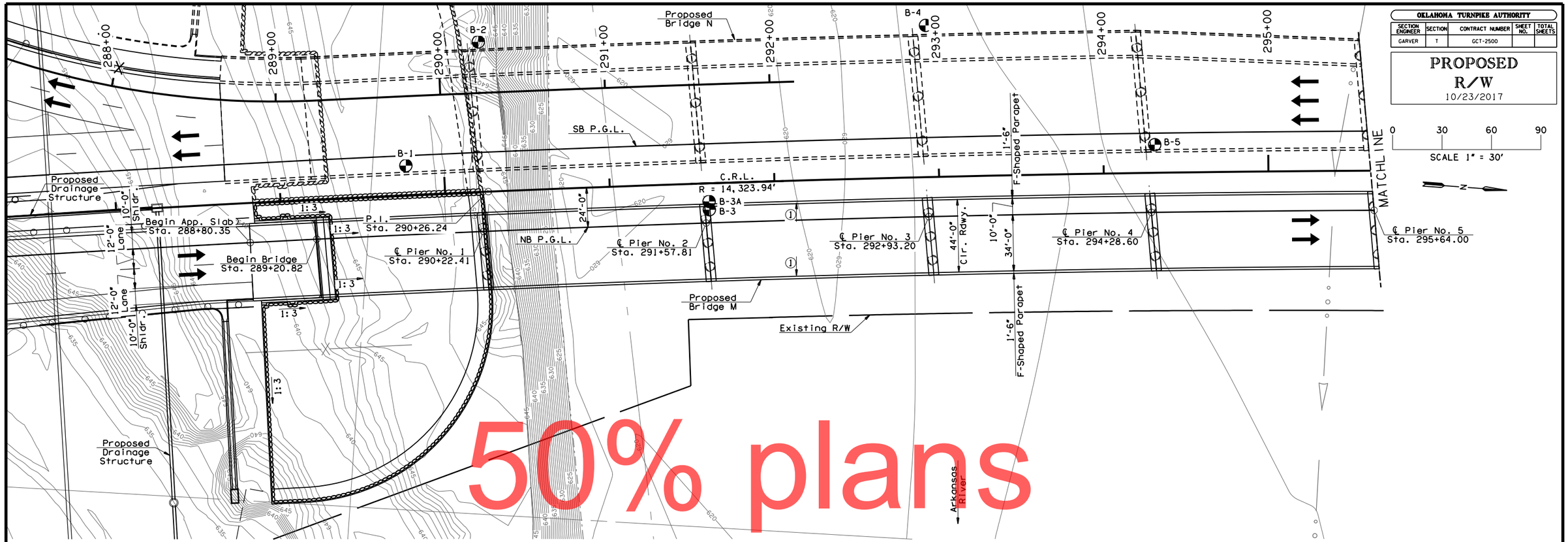
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. L GILCREASE SB OFF-RAMP OVER BNSF RR

APPROACH SLAB DETAILS
(SHEET 3 OF 3)

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

DESIGNED	ABH	10/17	CONTRACT NO. GCT-2500	
DETAILED	HEW	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BL033



50% plans

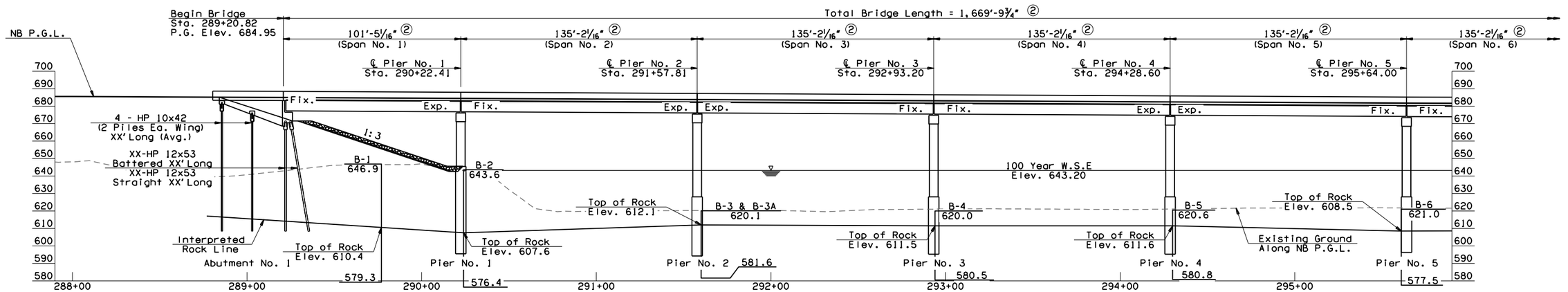
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

BENCHMMARK NO. BM1
DESCRIPTION #6 REBAR
OFFSET 297' LT. STA. 289+88 EL. 646.72

BENCHMMARK NO. ADS85
DESCRIPTION 5/8" REBAR W/1 1/2" ALUMINUM CAP
OFFSET 2558.80' LT. STA. 328+74.84 EL. 642.96

PLAN



ELEVATION

① 0.02 ft/ft
② Stations measured along C.R.L.
Dimensions measured along P.G.L.

For Foundation Report, See Sheet Nos. BM005-BM012.

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BM004.

For skew angle at piers, see Sheet Nos. XXXXX - XXXXX.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. M GILCREASE NB 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	JCL	6/17	DATE: 10/23/2017 — SHEET NO. BM001

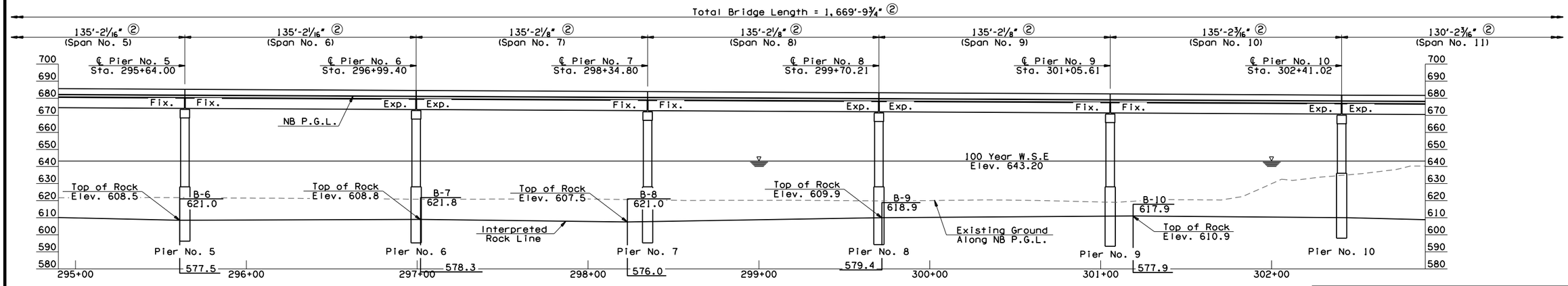
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'



PLAN



ELEVATION

① 0.02 ft/ft
② Stations measured along C.R.L.
Dimensions measured along P.G.L.

NOTES:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BM004.

For skew angle at piers, see Sheet Nos. XXXXX - XXXXX.

For Foundation Report, See Sheet Nos. BM005-BM012.

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

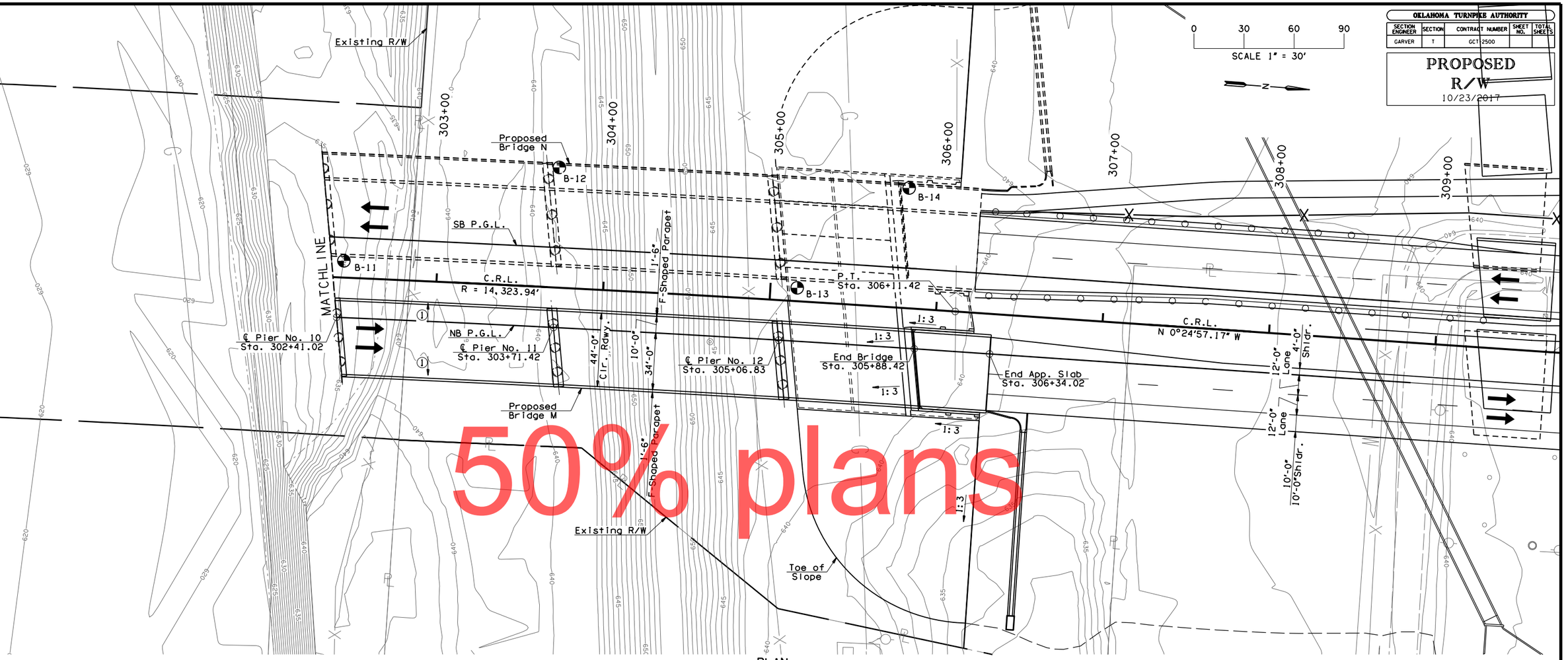
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BM002

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

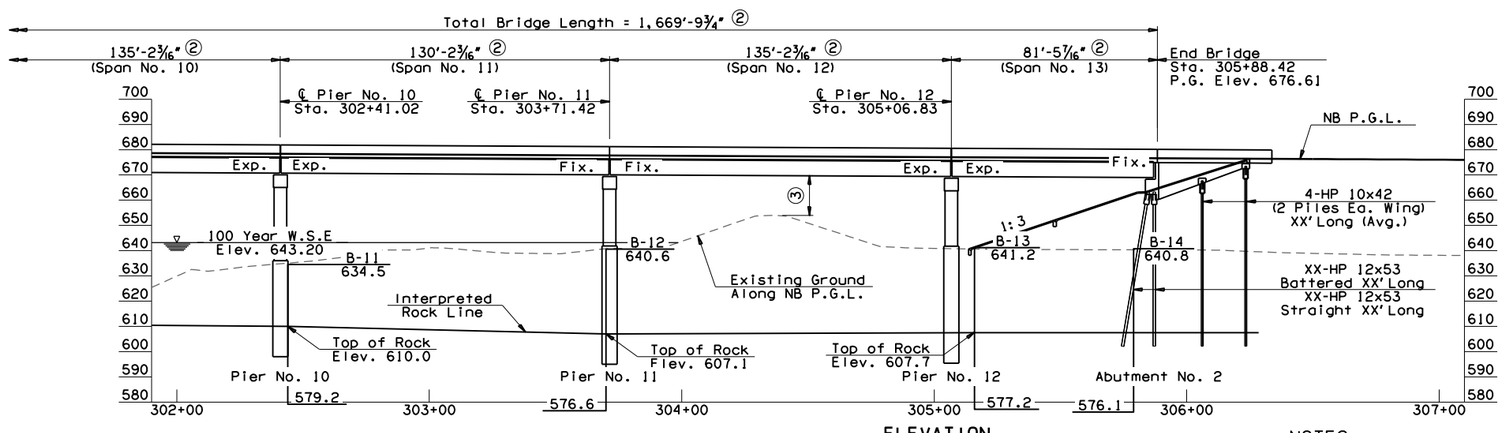
PROPOSED R/W
10/23/2017

SCALE 1" = 30'



PLAN

50% plans



ELEVATION

For Foundation Report, See Sheet Nos. BM005-BM012.

① 0.02 ft/ft

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

③ 15'-8⅞" Minimum Vertical Clearance at Levee.

BENCHMMARK NO. BM1
DESCRIPTION #6 REBAR
OFFSET 297' LT. STA. 289+88 EL. 646.72

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

NOTES:

For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BM004.

For skew angle at piers, see Sheet Nos. XXXXX - XXXXX.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. M GILCREASE NB 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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BM003

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

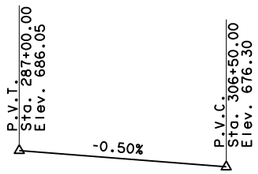
PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BM001-BM004	General Plan and Elevation
BM005-BM012	Foundation Report Sheets
BM013	Pier Details
BM014	Typical Section
BSTA01-BSTA09	Bridge Standard Details

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-In-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 74,460.0 sq. mi
Controlled Drainage Area = 73,614.0 sq. mi.
Effective Drainage Area = 846.0 sq. mi.

QOT > Q500	= 490,000 cfs
V500	= 11.11 fps
Q500 HW	= 658.38
Q10	= 90,000 cfs
V10	= 5.78 fps
Q10 HW	= 635.51
Q50	= 155,000 cfs
V50	= 7.45 fps
Q50 HW	= 640.16
Q100	= 205,000 cfs
V100	= 8.37 fps
Q100 HW	= 643.20
Max. Scour Q100	= 13.56
Contr. Scour Q100	= 0.66
Pier Scour Q100	= 12.90
Max. Scour Q500	= 23.56
Contr. Scour Q500	= 9.16
Pier Scour Q500	= 14.40

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 4	Pier No. 5	Pier No. 6
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 7	Pier No. 8	Pier No. 9
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 10	Pier No. 11	Pier No. 12
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. M GILCREASE NB OVER ARKANSAS RIVER

GENERAL PLAN AND ELEVATION
(SHEET 4 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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BM004

TESTING & DRILLING LEGEND:

DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-1

Sta. 289+77.00, 18.00' Lt.
Total Depth = 67.5 ft.

650.0

SS-1; N=2; R=10"; MC=18.0%; LL=NP; PL=NP; PI=NP; #200=52.0% --- 646.5

645.0

SS-2; N=3; R=12"; MC=14.0% --- 645.0

SS-3; N=3; R=13"; MC=17.0% --- 642.0

640.0

SS-4; N=4; R=8"; MC=15.0% --- 638.5

635.0

SS-5; N=7; R=10"; MC=11.0%; LL=NP; PL=NP; PI=NP; #200=55.0% --- 633.5

630.0

SS-6; N=16; R=6"; MC=5.0% --- 628.5

625.0

SS-7; N=5; R=9"; MC=15.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 623.5

▽ Water Level While Boring --- 623.5

620.0

SS-8; N=14; R=18"; MC=12.0% --- 618.5

615.0

SS-9; N=15; R=7"; MC=12.0% --- 613.5

SS-10; N=50/2.00"; R=0"; MC=15.0% --- 610.5

610.0

TCP-11; N=50/0.50", 50/0.13" --- 609.5

605.0

TCP-12; N=50/0.75", 50/0.13" --- 604.5

600.0

TCP-13; N=50/0.75", 50/0.06" --- 599.5

595.0

TCP-14; N=50/0.38", 50/0.06" --- 594.5

SS-15; N=50/2.00"; R=2" --- 594.0

590.0

TCP-16; N=50/0.38", 50/0.06" --- 589.5

585.0

TCP-17; N=50/0.38", 50/0.06" --- 584.5

TCP-18; N=50/0.56", 50/0.06" --- 580.5

580.0

SS-19; N=50/1.00"; R=1"; MC=19.0% --- 580.0

575.0

647.0 — SANDY SILT
dark yellowish-brown, very loose to loose

628.5 — POORLY GRADED SAND
yellow, loose to medium dense

618.5 — POORLY GRADED SAND
trace gravel, dark grayish-brown, medium dense

613.5 — POORLY GRADED SAND
with gravel, light yellowish-brown, medium dense

612.0 — SHALE
gray

610.5 — SANDSTONE
gray, cemented to well-cemented

594.5 — SHALE
with gravel, gray, soft to moderately hard

579.5 — SHALE
gray

NOTES:

The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

SAMPLING LEGEND:

R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

▽ Water Level While Boring
▼ Water Level After Boring
▽ Water Level 24 Hours After Boring

BORING NO. B-2

Sta. 290+24.00, 91.00' Lt.
Total Depth = 67.0' ft.

643.5 — SILT
dark yellowish-brown, very loose

SS-1; N=3; R=12"; MC=23.0%; LL=NP; PL=NP; PI=NP; #200=86.0% --- 643.0

641.5 — CLAYEY SAND
yellowish-brown, loose

SS-2; N=4; R=13"; MC=21.0% --- 641.5

638.5 — SILT WITH SAND
yellowish-brown, loose

SS-3; N=5; R=10"; MC=15.0%; LL=NP; PL=NP; PI=NP; #200=75.0% --- 638.5

SS-4; N=6; R=8"; MC=8.0% --- 635.0

630.0 — POORLY GRADED SAND
dark yellowish-brown, loose

SS-5; N=8; R=11"; MC=14.0% --- 630.0

625.0 — CLAYEY SAND
dark yellowish-brown, loose

SS-6; N=6; R=16"; MC=29.0% --- 625.0

620.5 — SILTY CLAYEY SAND
yellowish-brown, loose

SS-7; N=4; R=5"; MC=20.0%; LL=23; PL=16; PI=7; #200=42.0% --- 620.0

▽ Water Level While Boring --- 620.0

615.0 — SAND
with gravel, brown, medium dense

SS-8; N=10; R=3"; MC=24.0% --- 615.0

610.0 — SAND
yellowish-brown, medium dense

SS-9; N=27; R=4"; MC=19.0% --- 610.0

607.5 — SAND
yellowish-brown, medium dense

SS-10; N=50/4.00"; R=4"; MC=22.0% --- 607.5

TCP-11; N=50/0.75", 50/0.25" --- 606.5

TCP-12; N=50/0.75", 50/0.13" --- 601.5

TCP-13; N=50/0.13", 50/0.13" --- 596.5

SANDSTONE
gray, cemented to well-cemented

TCP-14; N=50/0.50", 50/0.13"; MC=19.0% --- 591.5

SS-15; N=50/1.00" --- 591.0

586.5 — SHALE
gray, soft to moderately hard

TCP-16; N=50/0.19", 50/0.00" --- 586.5

TCP-17; N=50/0.50", 50/0.19" --- 581.5

TCP-18; N=50/0.38", 50/0.06" --- 577.3

576.5

SS-19; N=50/2.00"; MC=19.0% --- 576.8

50% plans

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

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 1 OF 8)

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	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM005

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-3
Sta. 291+60.00, 16.00' Rt.
Total Depth = 38.5 ft.

645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0

Water Level After Boring --- 620.0
Water Level While Boring --- 620.0
SS-1; N=5; R=6"; MC=14.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 619.5
SS-2; N=39; R=6"; MC=15.0% --- 618.0
SS-3; N=7; R=10"; MC=17.0% --- 615.0
SS-4; N=50/3.00"; R=6"; MC=15.0% --- 612.0
DB-5; R=73%; RQD=0% --- 611.5
DB-6; R=86%; RQD=0% --- 609.0
DB-7; R=33%; RQD=0% --- 605.5
DB-8; R=100%; RQD=8%; UC=530 psi --- 605.0
DB-9; R=95%; RQD=11%; UC=450 psi --- 600.0
DB-10; R=100%; RQD=83%; UC=1040 psi --- 595.0
DB-11; R=100%; RQD=7%; UC=1180 psi --- 591.5
DB-12; R=100%; RQD=53%; UC=1040 psi --- 586.5

620.0
618.0
612.0
581.5

POORLY GRADED SAND
with gravel, coarse grained, dark yellowish-brown, loose

SAND
with sandstone fragments, light olive-brown, loose to dense

SHALE
with sandstone seams, gray, soft to moderately hard

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. B-3A
Sta. 291+60.00, 11.00' Rt.
Total Depth = 38.5 ft.

Water Level After Boring --- 620.0
Water Level While Boring --- 620.0
SS-1; N=50/4.00"; R=4"; MC=13.0% --- 612.0
TCP-2; N=50/1.94", 50/1.00" --- 611.5
TCP-3; N=50/0.75", 50/0.31" --- 606.5
TCP-4; N=50/0.50", 50/0.25" --- 601.5
SS-5; N=50/3.00"; R=3"; MC=14.0% --- 596.5
TCP-6; N=50/0.50", 50/0.13" --- 596.0
TCP-7; N=50/0.25", 50/0.25" --- 591.5
TCP-8; N=50/0.50", 50/0.13" --- 586.5
SS-9; N=50/3.00"; R=3"; MC=22.0% --- 582.5
TCP-10; N=50/0.38", 50/0.13" --- 582.0

620.0
612.0
596.5
581.5

SHALE
with sandstone seams, gray, soft to moderately hard

SHALE
gray, soft to moderately hard

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation
Water Level While Boring
Water Level After Boring
Water Level 24 Hours After Boring

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 2 OF 8)

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	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM006

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-4
Sta. 292+94.00, 92.00' Rt.
Total Depth = 39.5 ft.

645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0

Water Level After Boring --- 620.0
Water Level While Boring --- 620.0
SS-1; N=1; R=6"; MC=15.0% --- 619.5
SS-2; N=10; R=6"; MC=10.0% --- 618.0
SS-3; N=50/5.00"; R=5"; MC=11.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 615.0
SS-4; N=40-50/2.00"; R=8"; MC=13.0% --- 612.0
TCP-5; N=50/1.50", 50/0.75" --- 611.0
TCP-6; N=50/1.25", 50/0.75" --- 606.0
TCP-7; N=50/0.75", 50/0.13" --- 601.0
SS-8; N=50/3.00"; R=3"; MC=19.0% --- 596.0
TCP-9; N=50/0.50", 50/0.19" --- 595.5
TCP-10; N=50/0.38", 50/0.13" --- 591.0
TCP-11; N=50/0.38", 50/0.13" --- 586.0
SS-12; N=50/3.00"; R=3"; MC=15.0% --- 581.5
TCP-13; N=50/0.38", 50/0.13" --- 581.0

620.0
611.5
596.0
580.5

POORLY GRADED SAND
dark yellowish-brown, very loose to medium dense
(trace shale at about 5 feet)

SHALE
with sandstone seams, very dark gray, soft to moderately hard

SHALE
gray, moderately hard

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. B-5
Sta. 294+30.00, 17.00' Lt.
Total Depth = 40.0 ft.

Water Level After Boring --- 621.5
Water Level While Boring --- 621.5
SS-1; N=0; R=4"; MC=15.0% --- 620.0
SS-2; N=1; R=6"; MC=20.0% --- 618.5
SS-3; N=6"; R=6"; MC=14.0%; LL=NP; PL=NP; PI=NP; #200=2.0% --- 615.5
SS-4; N=13-50/6.00"; R=12"; MC=15.0% --- 612.0
TCP-5; N=50/0.63", 50/0.38" --- 611.0
TCP-6; N=50/0.38", 50/0.13" --- 606.0
TCP-7; N=50/0.31", 50/0.06" --- 601.0
TCP-8; N=50/0.25", 50/0.06" --- 596.0
SS-9; N=50/3.00"; R=0" --- 595.5
TCP-10; N=50/0.25", 50/0.06" --- 591.0
TCP-11; N=50/0.19", 50/0.06" --- 586.0
TCP-12; N=50/0.19", 50/0.06" --- 581.7
SS-13; N=50/3.00"; R=3"; MC=12.0% --- 581.2

620.5
611.5
580.5

WELL GRADED SAND WITH GRAVEL
light brown and light gray, very loose
(trace sandstone fragments at about 5 feet)

SHALE
gray, soft to moderately hard
(dark gray and light gray at 39.5 feet)

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation
Water Level While Boring
Water Level After Boring
Water Level 24 Hours After Boring

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

PROPOSED
R/W
10/23/2017

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 3 OF 8)

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	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM007

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-6
Sta. 295+61.00, 82.00' Lt.
Total Depth = 43.5 ft.

645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0

Water Level After Boring --- 621.5
Water Level While Boring --- 621.5

621.0

SS-1; N=2; R=5"; MC=18.0% --- 620.5
SS-2; N=9; R=8"; MC=13.0% --- 619.0
SS-3; N=13"; R=10"; MC=15.0%; LL=NP; PL=NP; PI=NP; #200=3.0% --- 616.0
SS-4; N=2; R=4"; MC=12.0% --- 612.5
SS-5; N=50/5.00"; R=5"; MC=17.0% --- 608.5

608.5

TCP-6; N=50/0.88", 50/0.75" --- 607.5
TCP-7; N=50/1.00", 50/0.88" --- 602.5
TCP-8; N=50/0.44", 50/0.13" --- 597.5
TCP-9; N=50/0.50", 50/0.06" --- 592.5
TCP-10; N=50/0.38", 50/0.13" --- 587.5
TCP-11; N=50/0.25", 50/0.06" --- 582.5
TCP-12; N=50/0.50", 50/0.25" --- 578.0

577.5

WELL GRADED SAND
pale brown, very loose to medium dense

SHALE
dark gray, soft to moderately hard

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. B-7
Sta. 297+02.00, 12.00' Lt.
Total Depth = 43.5 ft.

SS-1; N=0"; R=6"; MC=17.0%; LL=NP; PL=NP; PI=NP; #200=0.0% --- 621.5
Water Level After Boring --- 620.5
Water Level While Boring --- 620.5

622.0

SS-2; N=5; R=10"; MC=13.0% --- 620.0

620.0

SS-3; N=18; R=10"; MC=10.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 617.0
SS-4; N=8; R=6"; MC=19.0% --- 613.5
SS-5; N=50/3.00"; R=3" --- 609.0

609.0

TCP-6; N=50/0.13", 50/0.06" --- 608.5
TCP-7; N=50/0.75", 50/0.19" --- 603.5
TCP-8; N=50/0.31", 50/0.19"; MC=13.0% --- 598.5
SS-9; N=50/2.00"; R=2" --- 598.0
TCP-10; N=50/0.38", 50/0.13" --- 593.5
TCP-11; N=50/0.38", 50/0.13"; MC=24.0% --- 588.5
SS-12; N=50/2.00"; R=2" --- 588.0
TCP-13; N=50/0.38", 50/0.19" --- 583.5
TCP-14; N=50/0.44", 50/0.19" --- 579.0

578.5

POORLY GRADED SAND
yellowish-brown, very loose

WELL GRADED SAND
with gravel, coarse to medium grained, yellowish-brown, loose

SHALE
with sandstone seams, dark gray, moderately hard

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation
Water Level While Boring
Water Level After Boring
Water Level 24 Hours After Boring

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

PROPOSED
R/W
10/23/2017

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 4 OF 8)

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	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM008

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-8

Sta. 298+23.00, 61.00' Lt.
Total Depth = 45.0 ft.

645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0

SS-1; N=1; R=6"; MC=15.0% --- 620.5
SS-2; N=2; R=6"; MC=16.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 619.0
SS-3; N=3; R=6"; MC=12.0% --- 616.0
SS-4; N=4; R=8"; MC=14.0% --- 612.5
SS-5; N=50/6.00"; R=6"; MC=13.0% --- 607.5
TCP-6; N=50/0.50", 50/0.31" --- 607.0
TCP-7; N=50/0.38", 50/0.06" --- 602.0
TCP-8; N=50/0.25", 50/0.06" --- 597.0
TCP-9; N=50/0.38", 50/0.13" --- 592.0
SS-10; N=50/2.00"; R=2"; MC=16.0% --- 591.5
TCP-11; N=50/0.25", 50/0.06" --- 587.0
TCP-12; N=50/0.25", 50/0.13" --- 582.0
TCP-13; N=50/0.19", 50/0.13" --- 577.0
SS-14; N=50/3.00"; R=3"; MC=11.0% --- 576.5

621.0
607.5
576.0

(trace gravel below 5 feet)

POORLY GRADED SAND
coarse grained, light brown and light gray, very loose to loose

SHALE
gray, soft to moderately hard

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. B-9

Sta. 299+72.00, 11.00' Lt.
Total Depth = 39.5 ft.

Water Level After Boring --- 621.5
Water Level While Boring --- 621.5
SS-1; N=2; R=5"; MC=14.0% --- 619.0
SS-2; N=6; R=12"; MC=14.0%; LL=NP; PL=NP; PI=NP --- 617.0
SS-3; N=2; R=0" --- 614.0
SS-4; N=50/6.00"; R=6"; MC=13.0% --- 610.0
TCP-5; N=50/0.38", 50/0.25" --- 609.5
TCP-6; N=50/0.38", 50/0.06" --- 605.5
TCP-7; N=50/0.25", 50/0.06" --- 600.5
TCP-8; N=50/0.25", 50/0.06"; MC=13.0% --- 595.5
SS-9; N=50/4.00"; R=3" --- 595.0
TCP-10; N=50/0.38", 50/0.13" --- 590.5
TCP-11; N=50/0.44", 50/0.06" --- 585.5
TCP-12; N=50/0.38", 50/0.06" --- 581.0
TCP-13; N=50/0.25", 50/0.13" --- 580.5
SS-14; N=50/3.00"; R=2"; MC=16.0% --- 580.0

619.0
610.0
579.5

POORLY GRADED SAND
dark yellowish-brown, very loose to loose

SHALE
with sandstone seams, dark gray, soft to moderately hard

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation
Water Level While Boring
Water Level After Boring
Water Level 24 Hours After Boring

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 5 OF 8)

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	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM009

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-10
Sta. 301+19.00, 73.00' Lt.
Total Depth = 40.0 ft.

645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0

▼ Water Level After Boring --- 621.0
▽ Water Level While Boring --- 621.0

619.5
618.0

SS-1; N=20; R=12"; MC=14.0%; LL=NP; PL=NP; PI=NP; #200=3.0% --- 616.0

RIVER WATER
(riverbed 1.5 feet below water surface)

WELL GRADED SAND
brown, medium dense

SS-2; N=50/6.00"; R=6"; MC=12.0% --- 611.0

611.0

TCP-3; N=50/1.88", 50/0.50" --- 610.5

TCP-4; N=50/0.19", 50/0.13" --- 605.5

TCP-5; N=50/0.38", 50/0.25" --- 600.5

TCP-6; N=50/0.25", 50/0.06" --- 595.5

TCP-7; N=50/0.38", 50/0.25" --- 590.5

TCP-8; N=50/0.38", 50/0.06" --- 585.5

TCP-9; N=50/0.25", 50/0.06" --- 580.5
SS-10; N=50/1.00"; MC=14.0% --- 580.0

579.5

SHALE
dark gray, soft to moderately hard

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. B-11
Sta. 302+44.00, 10.00' Lt.
Total Depth = 55.5 ft.

SS-1; N=2; R=12"; MC=13.0%; LL=NP; PL=NP; PI=NP; #200=21.0% --- 634.0

634.5

(dozed ground)

(pale brown below 2 feet)

SS-2; N=12; R=12"; MC=18.0%; LL=NP; PL=NP; PI=NP; #200=31.0% --- 632.5

SS-3; N=4; R=18"; MC=5.0%; LL=NP; PL=NP; PI=NP; #200=46.0% --- 629.5

SILTY SAND
light brown, very loose

SS-4; N=14; R=12"; MC=2.0% --- 626.0

SS-5; N=7; R=12"; MC=10.0% --- 621.0
▽ Water Level While Boring --- 621.0

621.0

SS-6; N=5; R=16"; MC=10.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 616.0

POORLY GRADED SAND
coarse grained, pale brown and light gray, loose

SS-7; N=7-18-50/4.00"; MC=16.0% --- 611.0

610.0

TCP-8; N=50/3.25", 50/0.13" --- 609.5

TCP-9; N=50/3.00", 50/1.00" --- 604.5

TCP-10; N=50/0.75", 50/0.13" --- 599.5

TCP-11; N=50/1.00", 50/0.13" --- 594.5
SS-12; N=50/1.00"; R=1"; MC=16.0% --- 594.0

SHALE
trace sandstone seams, dark gray, soft to hard

TCP-13; N=50/0.50", 50/0.19" --- 589.5

TCP-14; N=50/0.25", 50/0.00" --- 584.5

TCP-15; N=50/0.25", 50/0.00" --- 580.5
SS-16; N=50/2.00"; MC=15.0% --- 580.0

579.0

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation
▽ Water Level While Boring
▼ Water Level After Boring
▼ Water Level 24 Hours After Boring

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

PROPOSED
R/W
10/23/2017

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 6 OF 8)

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	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM010

TESTING & DRILLING LEGEND:

DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. B-12

Sta. 30+70.00, 72.00' Lt.
Total Depth = 64.0 ft.

645.0

640.0

635.0

630.0

625.0

620.0

615.0

610.0

605.0

600.0

595.0

590.0

585.0

580.0

575.0

SS-1; N=3; R=15"; MC=16.0%; LL=26; PL=18; PI=8; #200=83.0% --- 640.0

SS-2; N=4; R=12"; MC=13.0% --- 638.5

SS-3; N=6; R=18"; MC=16.0% --- 635.5

SS-4; N=6; R=15"; MC=13.0%; LL=NP; PL=NP; PI=NP; #200=2.0% --- 632.0

SS-5; N=13; R=16"; MC=2.0% --- 627.0

Water Level at 24 hrs. --- 623.5

SS-6; N=8; R=14"; MC=13.0%; LL=NP; PL=NP; PI=NP; #200=3.0% --- 622.0

Water Level After Boring --- 619.5

SS-7; N=8; R=7"; MC=15.0% --- 617.0

SS-8; N=44; R=18"; MC=16.0% --- 612.0

SS-9; N=50/4.00"; R=4"; MC=10.0% --- 607.0

TCP-10; N=50/0.75", 50/0.63" --- 606.5

TCP-11; N=50/0.38", 50/0.13" --- 601.5

TCP-12; N=50/0.25", 50/0.13" --- 596.5

TCP-13; N=50/0.38", 50/0.06" --- 591.5

SS-14; N=50/3.00"; MC=16.0% --- 591.0

TCP-15; N=50/0.44", 50/0.19" --- 586.5

TCP-16; N=50/0.38", 50/0.25" --- 581.5

TCP-17; N=50/0.38", 50/0.13" --- 577.5

SS-15; N=50/2.00"; MC=13.0% --- 577.0

640.5 (3" topsoil)

638.5 LEAN CLAY
with sand, strong brown, soft

634.5 SILTY SAND
strong brown, loose

622.0 POORLY GRADED SAND
fine grained, pale brown, loose to medium dense

607.0 WELL GRADED SAND
pale brown and light gray, loose to dense

(with shale fragments at about 28 feet)

576.5 SHALE
dark gray, moderately hard to hard

NOTES:

The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

SAMPLING LEGEND:

R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation
Water Level While Boring
Water Level After Boring
Water Level 24 Hours After Boring

BORING NO. B-13

Sta. 305+16.00, 8.00' Lt.
Total Depth = 64.0 ft.

SS-1; N=3; R=15"; MC=13.0%; LL=NP; PL=NP; PI=NP; #200=66.0% --- 640.5

SS-2; N=6; R=12"; MC=7.0% --- 639.0

SS-3; N=11; R=12"; MC=4.0% --- 636.0

SS-4; N=11; R=12"; MC=2.0%; LL=NP; PL=NP; PI=NP; #200=3.0% --- 632.5

SS-5; N=15; R=12"; MC=4.0% --- 627.5

Water Level at 24 hrs. --- 626.0

Water Level After Boring --- 626.0

Water Level While Boring --- 622.5

SS-6; N=8; R=14"; MC=10.0%; LL=NP; PL=NP; PI=NP; #200=2.0% --- 622.5

SS-7; N=9; R=10"; MC=13.0% --- 617.5

SS-8; N=8; R=7"; MC=15.0% --- 612.5

SS-9; N=50/2.00"; MC=10.0% --- 607.5

TCP-10; N=50/1.00", 50/0.25" --- 607.0

TCP-11; N=50/0.38", 50/0.06" --- 602.0

TCP-12; N=50/0.25", 50/0.06" --- 597.0

TCP-13; N=50/0.38", 50/0.06" --- 592.0

SS-14; N=50/2.00"; R=2"; MC=9.0% --- 591.5

TCP-14; N=50/0.44", 50/0.13" --- 587.0

TCP-15; N=50/0.38", 50/0.19" --- 582.0

TCP-16; N=50/0.31", 50/0.06" --- 578.0

SS-17; N=50/2.00"; MC=9.0% --- 577.5

641.0 (3" topsoil)

SANDY SILT
strong brown, loose

636.0

POORLY GRADED SAND
fine grained, pale brown, medium dense

622.5

(with gravel at about 23.5 feet)

WELL GRADED SAND
pale brown and light gray, loose

607.5

SHALE
dark gray, moderately hard

592.0

SHALE
with sandstone seams, dark gray, moderately hard

577.0

50% plans

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 7 OF 8)

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

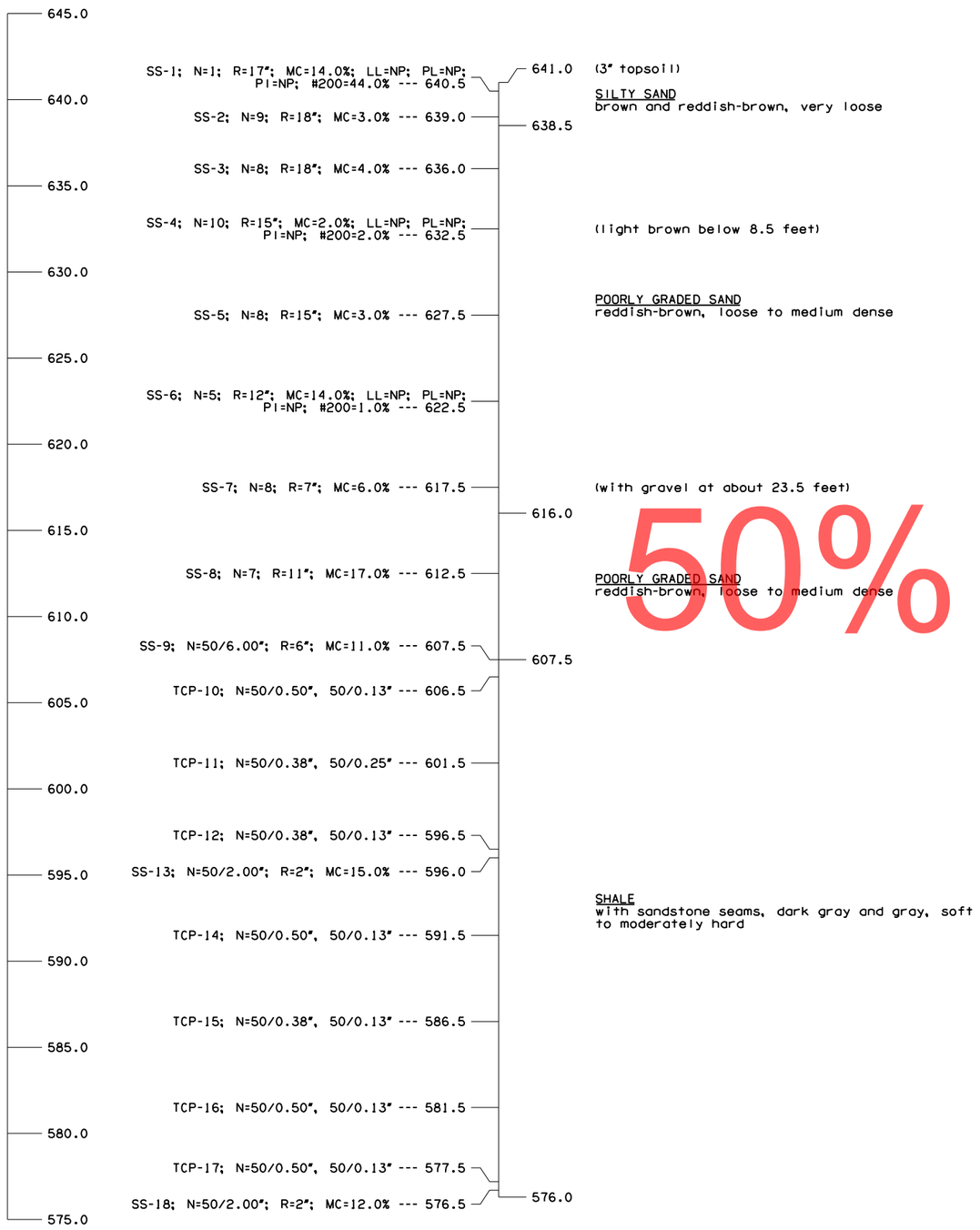
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DETAILED	SJL	7/17	
CHECKED	JTR	8/17	DATE: 10/23/2017 — SHEET NO. BM011

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

PROPOSED
R/W
10/23/2017

BORING NO. B-14

Sta. 305+79.00, 72.00' Lt.
Total Depth = 65.0 ft.



(3" topsoil)

SILTY SAND
brown and reddish-brown, very loose

(light brown below 8.5 feet)

POORLY GRADED SAND
reddish-brown, loose to medium dense

(with gravel at about 23.5 feet)

POORLY GRADED SAND
reddish-brown, loose to medium dense

SHALE
with sandstone seams, dark gray and gray, soft to moderately hard

50% plans

NOTES:

The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:

DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

SAMPLING LEGEND:

R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

▽ Water Level While Boring
▼ Water Level After Boring
▼ Water Level 24 Hours After Boring

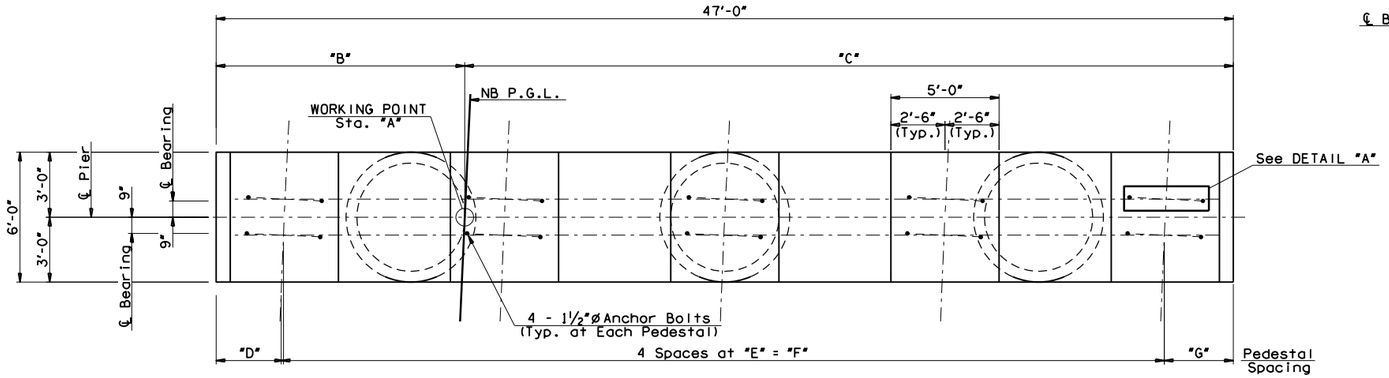
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
FOUNDATION REPORT
(SHEET 8 OF 8)

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

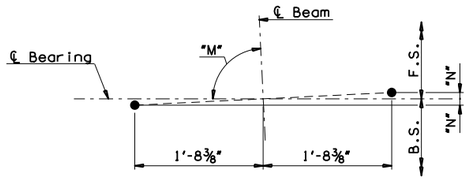
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BM012

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

PROPOSED R/W
10/23/2017



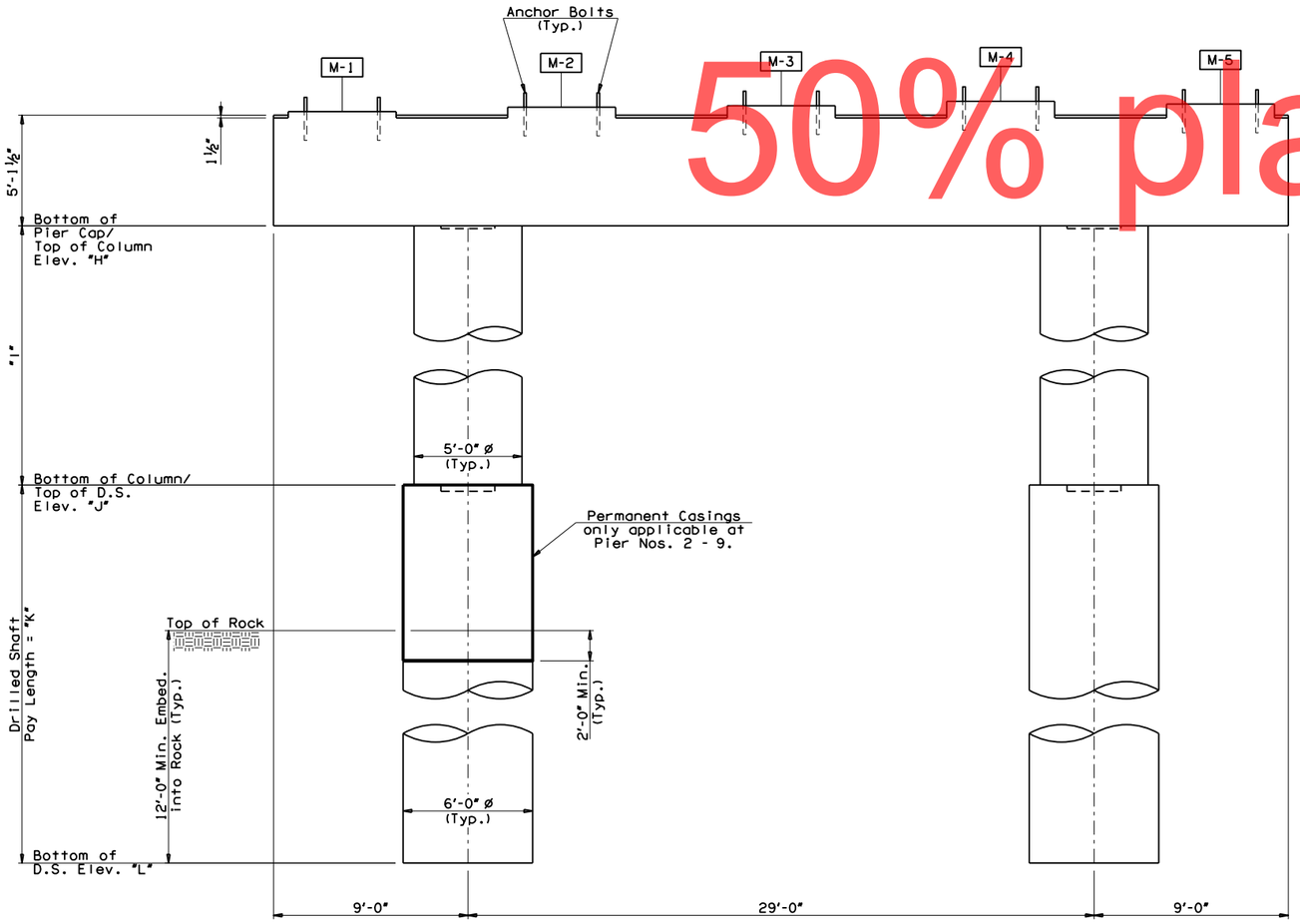
PLAN



DETAIL "A"

TABLE OF VARIABLES - PIER NOS. 1 - 12							
LOCATION		"D"	"E"	"F"	"G"	"M"	"N"
PIER NO. 1	B.S.	3'-1⅝"	10'-2⅛"	40'-8½"	3'-2⅜"	87°38'44"	13/16"
	F.S.	3'-2¼"	10'-2⅛"	40'-8½"	3'-1¼"	87°10'27"	1"
PIER NO. 2	B.S.	3'-1⅛"	10'-2⅛"	40'-8½"	3'-2⅜"		
	F.S.	3'-2⅛"	10'-2⅜16"	40'-8¾"	3'-1⅛"	86°37'57"	1 3/16"
PIER NO. 3	B.S.	3'-0⅞"	10'-2⅜16"	40'-8¾"	3'-2⅜"		
	F.S.	3'-2⅛"	10'-2⅝16"	40'-9¼"	3'-0⅝"	86°05'28"	1⅜"
PIER NO. 4	B.S.	3'-0⅝"	10'-2⅝16"	40'-9¼"	3'-2⅛"		
	F.S.	3'-2 1/16"	10'-2⅜"	40'-9½"	3'-0 7/16"	85°32'58"	1 9/16"
PIER NO. 5	B.S.	3'-0⅜"	10'-2⅜"	40'-9½"	3'-2⅛"		
	F.S.	3'-1 15/16"	10'-2 7/16"	40'-9¾"	3'-0 5/16"	85°00'28"	1¾"
PIER NO. 6	B.S.	3'-0 1/16"	10'-2 7/16"	40'-9¾"	3'-2 3/16"		
	F.S.	3'-1 13/16"	10'-2 9/16"	40'-10¼"	2'-11 15/16"	84°27'58"	1 15/16"
PIER NO. 7	B.S.	2'-11¾"	10'-2 9/16"	40'-10¼"	3'-2"		
	F.S.	3'-1 11/16"	10'-2 11/16"	40'-10¾"	2'-11 9/16"	83°55'29"	2⅛"
PIER NO. 8	B.S.	2'-11 9/16"	10'-2 11/16"	40'-10¾"	3'-1 11/16"		
	F.S.	3'-1 11/16"	10'-2 13/16"	40'-11¼"	2'-11 1/16"	83°22'59"	2⅜"
PIER NO. 9	B.S.	2'-11 1/16"	10'-2 13/16"	40'-11¼"	3'-1 11/16"		
	F.S.	3'-1⅜"	10'-2 15/16"	40'-11¾"	2'-10⅞"	82°50'29"	2½"
PIER NO. 10	B.S.	2'-10 11/16"	10'-2 15/16"	40'-11¾"	3'-1 9/16"		
	F.S.	3'-1 3/16"	10'-3⅛"	41'-0½"	2'-10 5/16"	82°18'35"	2¾"
PIER NO. 11	B.S.	2'-10 5/16"	10'-3⅛"	41'-0½"	3'-1 3/16"		
	F.S.	3'-0 15/16"	10'-3¼"	41'-1"	2'-10 1/16"	81°46'41"	2 15/16"
PIER NO. 12	B.S.	2'-9⅞"	10'-3¼"	41'-1"	3'-1⅛"		
	F.S.	3'-0¾"	10'-3⅜"	41'-1½"	2'-9¾"	81°20'48"	3/16"

PEDESTAL ELEVATIONS					
PIER NO.	PEDESTAL NO.				
	M-1	M-2	M-3	M-4	M-5
1	676.80	676.93	676.72	676.52	676.31
2	676.12	676.25	676.04	675.84	675.63
3	675.45	675.57	675.37	675.16	674.95
4	674.77	674.90	674.69	674.48	674.27
5	674.09	674.22	674.01	673.80	673.60
6	673.42	673.54	673.33	673.13	672.92
7	672.74	672.86	672.66	672.45	672.24
8	672.06	672.19	671.98	671.77	671.56
9	671.39	671.51	671.30	671.09	670.88
10	670.71	670.83	670.62	670.41	670.20
11	670.06	670.18	669.97	669.76	669.55
12	669.38	669.50	669.29	669.08	668.87



ELEVATION
(Looking Forward Station)
PIER NOS. 1-12

TABLE OF VARIABLES - PIER NOS. 1 - 12									
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	ELEV. "H"	LENGTH "I"	ELEV. "J"	LENGTH "K"	ELEV. "L"
1	290+22.41	11'-5⅞"	35'-6⅛"	671.02	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
2	291+57.81	11'-5 13/16"	35'-6 3/16"	670.34	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
3	292+93.20	11'-5 11/16"	35'-6 5/16"	669.66	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
4	294+28.60	11'-5⅝"	35'-6⅜"	668.98	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
5	295+64.00	11'-5½"	35'-6½"	668.30	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
6	296+99.40	11'-5⅜"	35'-6⅝"	667.63	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
7	298+34.80	11'-5¼"	35'-6¾"	666.95	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
8	299+70.21	11'-5¼"	35'-6¾"	666.27	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
9	301+05.61	11'-4 15/16"	35'-7 1/16"	665.59	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
10	302+41.02	11'-4¾"	35'-7 1/4"	664.91	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
11	303+71.42	11'-4⅝"	35'-7⅜"	664.26	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX
12	305+06.83	11'-4 1/16"	35'-7 9/16"	663.58	XX'-XX"	XXX.XX	XX'-XX"	XXX.XX

NOTE:
PIER NOS. 2 - 9 ONLY: The Permanent Casing Method outlined in Section 516.04.C.1.c.3 of the Standard Specifications is required for the construction of the drilled shafts at Pier Nos. 2 - 9.

NOTE:
For Water Repellant Details, see Sheet No. BSTA01.

50% plans

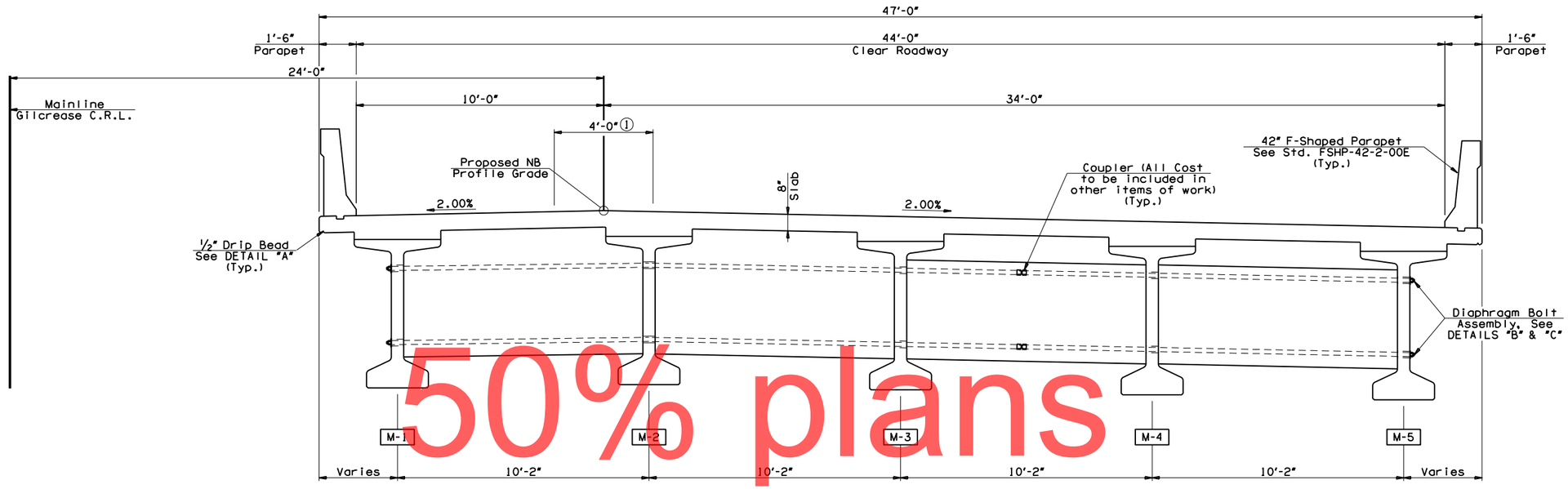
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. M GILCREASE NB OVER ARKANSAS RIVER
PIER DETAILS

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	7/17		
CHECKED	JTR	7/17	DATE: 10/23/2017	SHEET NO. BM013

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

PROPOSED R/W
10/23/2017



HALF SECTION AT END DIAPHRAGM

HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

① Round 2'-0" each side of P.G.L. to avoid sharp edges.

50% plans

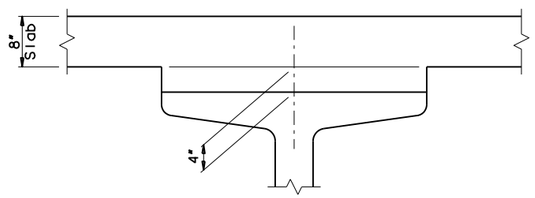
SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	XXX.XX
SAW-CUT GROOVING	S.Y.	XXX.XX
SEALED EXPANSION JOINT	L.F.	XXX.XX
42" F-SHAPED PARAPET	L.F.	XXX.XX
CONCRETE PARAPET	L.F.	XXX.XX
STRUCTURAL STEEL	LB.	XXX.XX
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	XXX.XX
STAINLESS STEEL EXP. BEARING ASSEMBLY	EA.	XXX.XX
② CLASS AA CONCRETE	C.Y.	XXX.XX
EPOXY COATED REINFORCING STEEL	LB.	XXX.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.XX

② Includes a calculated XXX.XO C.Y. of Class AA Concrete in the Haunches.

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".



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 bottom of Deck Slab to Top of 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.

NOTE:
See Sheet Nos. XXXXX - XXXXX for deck reinforcing layout.

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

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. M GILCREASE NB OVER ARKANSAS RIVER

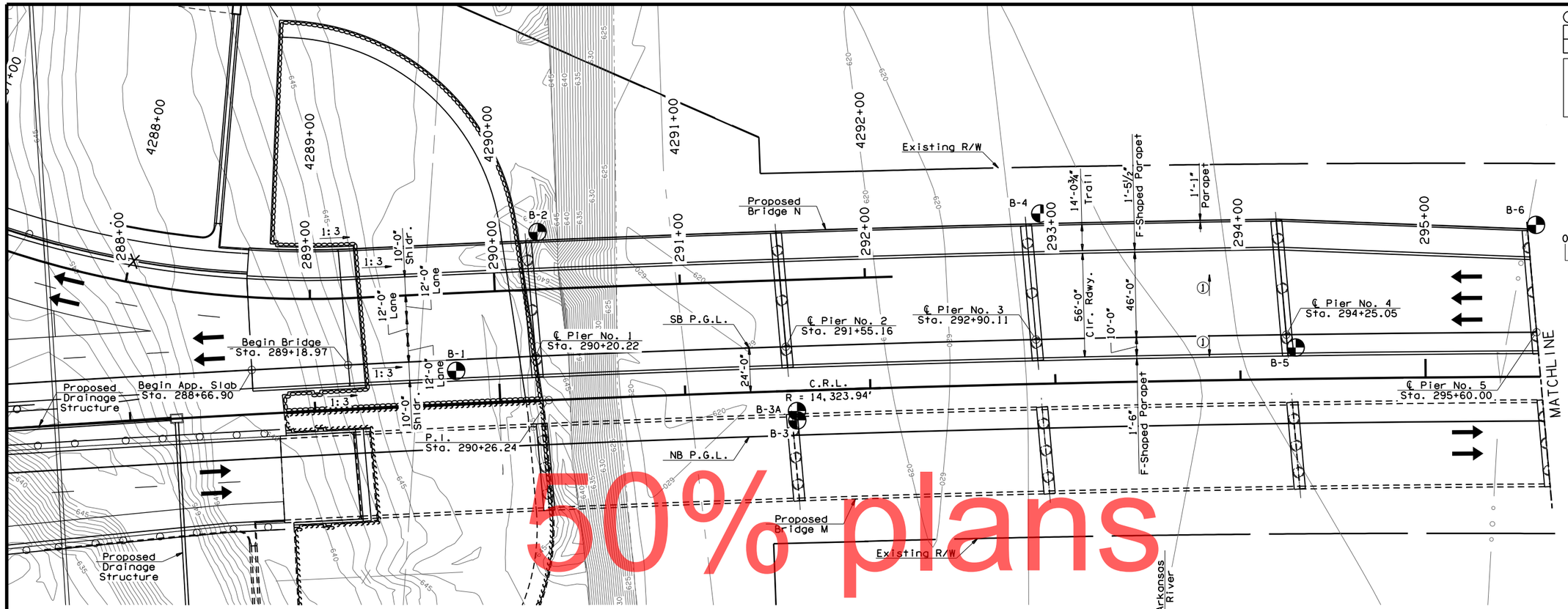
TYPICAL SECTION

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

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	6/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BM014

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

PROPOSED R/W
10/23/2017

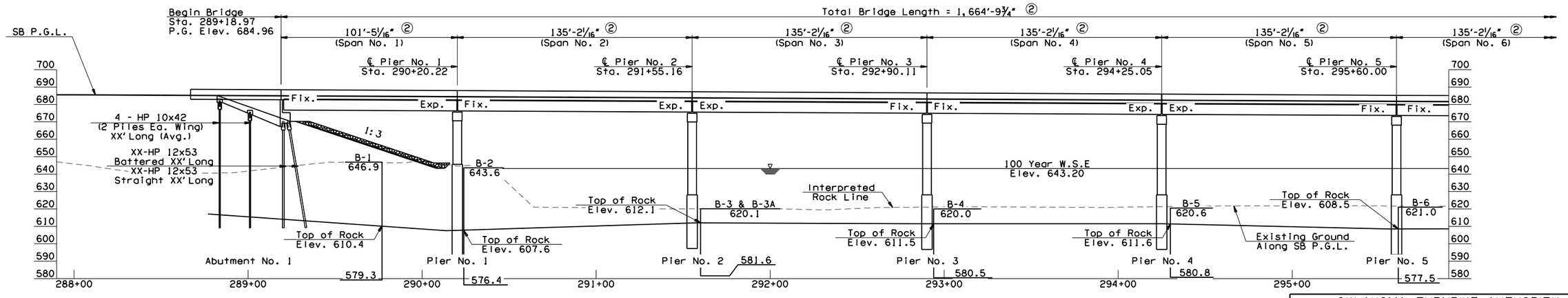


PLAN

50% plans

BENCHMMARK NO. BM1
DESCRIPTION #6 REBAR
OFFSET 297' LT. STA. 289+88 EL. 646.72

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



ELEVATION

For Foundation Report, See Sheet Nos. BM005 - BM012.

NOTES:

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

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

① 0.02 ft/ft

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

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	JCL	6/17	DATE: 10/23/2017 SHEET NO. BN001

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

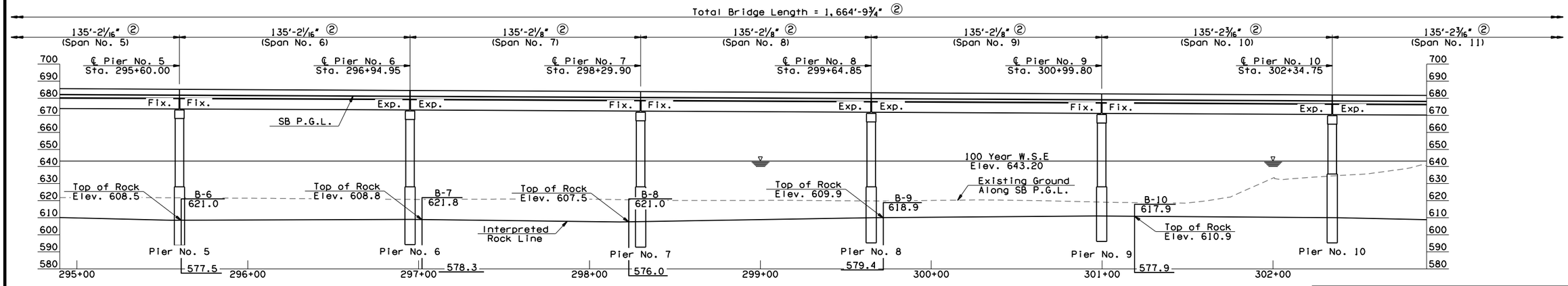
PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'



PLAN

50% plans



ELEVATION

① 0.02 ft/ft
② Stations measured along C.R.L.
Dimensions measured along P.G.L.

For Foundation Report, See Sheet Nos. BM005 -BM012.

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

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

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

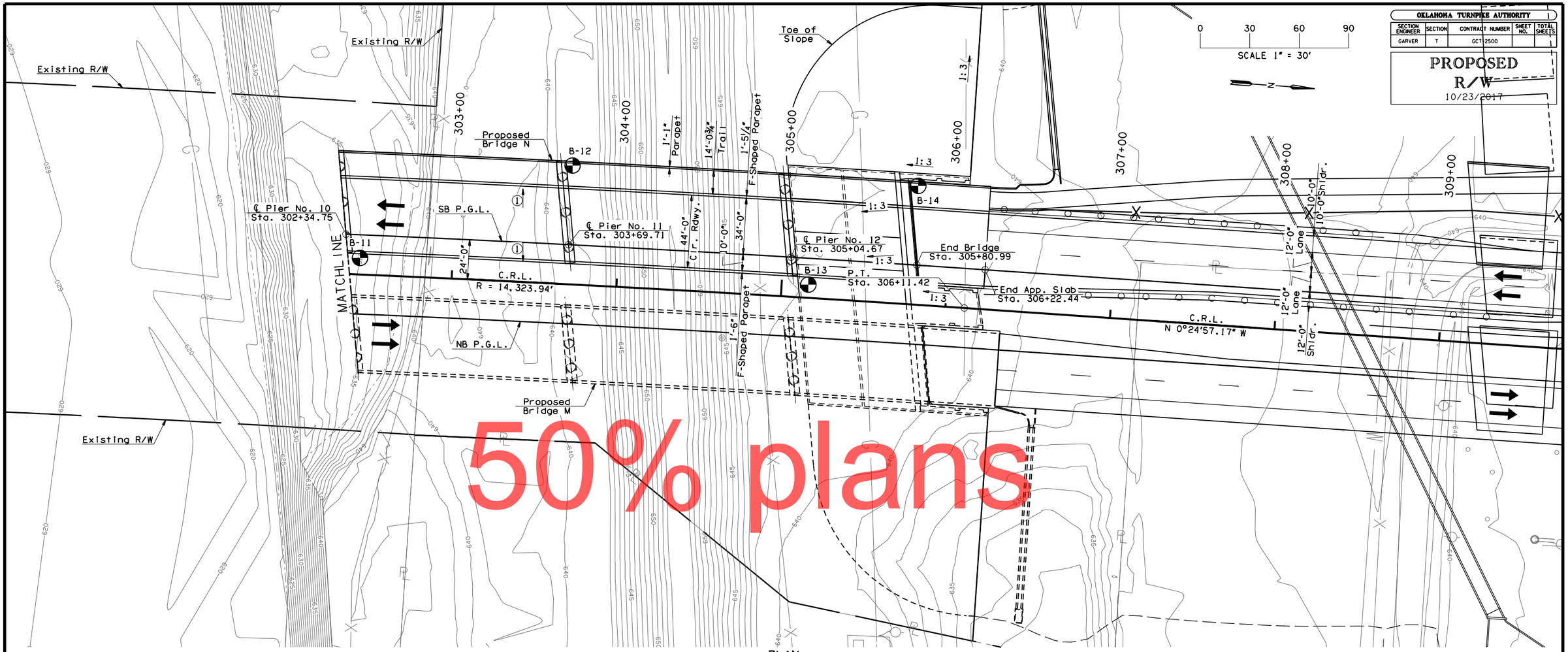
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500
DETAILED	SJL	6/17	
CHECKED	JCL	6/17	DATE: 10/23/2017 — SHEET NO. BN002

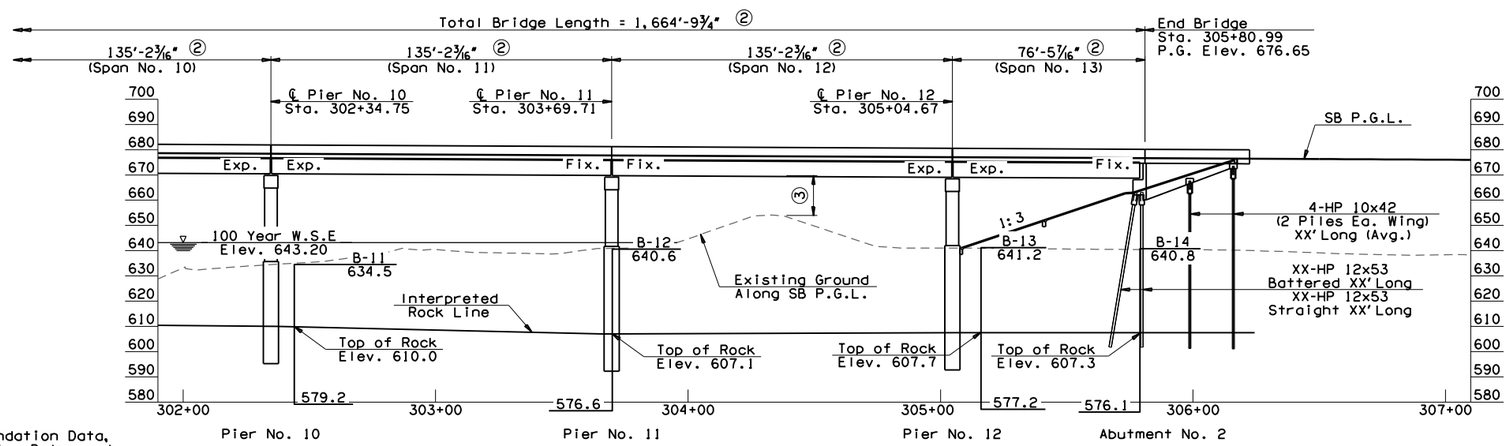
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

SCALE 1" = 30'



PLAN



ELEVATION

① 0.02 ft/ft
② Stations measured along C.R.L. Dimensions measured along P.G.L.
③ 15'-7⅞" Minimum Vertical Clearance at Levee.

BENCHMMARK NO. BM1
DESCRIPTION #6 REBAR
OFFSET 297' LT. STA. 289+88 EL. 646.72

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

NOTES:

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

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

For Foundation Report, See Sheet Nos. BM005 -BM012.

50% plans

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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BN003

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

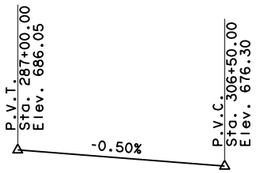
PROPOSED R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BN001-BN004	General Plan and Elevation
BN005-BN009	Staking Diagram
BN010-BN018	Pier Details
BN019	Typical Section
BN020	Longitudinal Section
BN021-BN030	Superstructure Details
BN031-BN032	Framing Plan
BN033-BN037	Beam Details
BN038	Bearing Details
BN039	Slope Wall Details
BN040-BN042	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-In-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS 42.4
LRFR Operationg Rating: 1.54

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 74,460.0 sq. mi
Controlled Drainage Area = 73,614.0 sq. mi.
Effective Drainage Area = 846.0 sq. mi.

QOT > Q500	= 490,000 cfs
V500	= 11.11 fps
Q500 HW	= 658.38
Q10	= 90,000 cfs
V10	= 5.78 fps
Q10 HW	= 635.51
Q50	= 155,000 cfs
V50	= 7.45 fps
Q50 HW	= 640.16
Q100	= 205,000 cfs
V100	= 8.37 fps
Q100 HW	= 643.20

Max. Scour	Q100	= 13.56
Contr. Scour	Q100	= 0.66
Pier Scour	Q100	= 12.90
Max. Scour	Q500	= 23.56
Contr. Scour	Q500	= 9.16
Pier Scour	Q500	= 14.40

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 4	Pier No. 5	Pier No. 6
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 7	Pier No. 8	Pier No. 9
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

	Pier No. 10	Pier No. 11	Pier No. 12
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

GENERAL PLAN AND ELEVATION
(SHEET 4 OF 4)

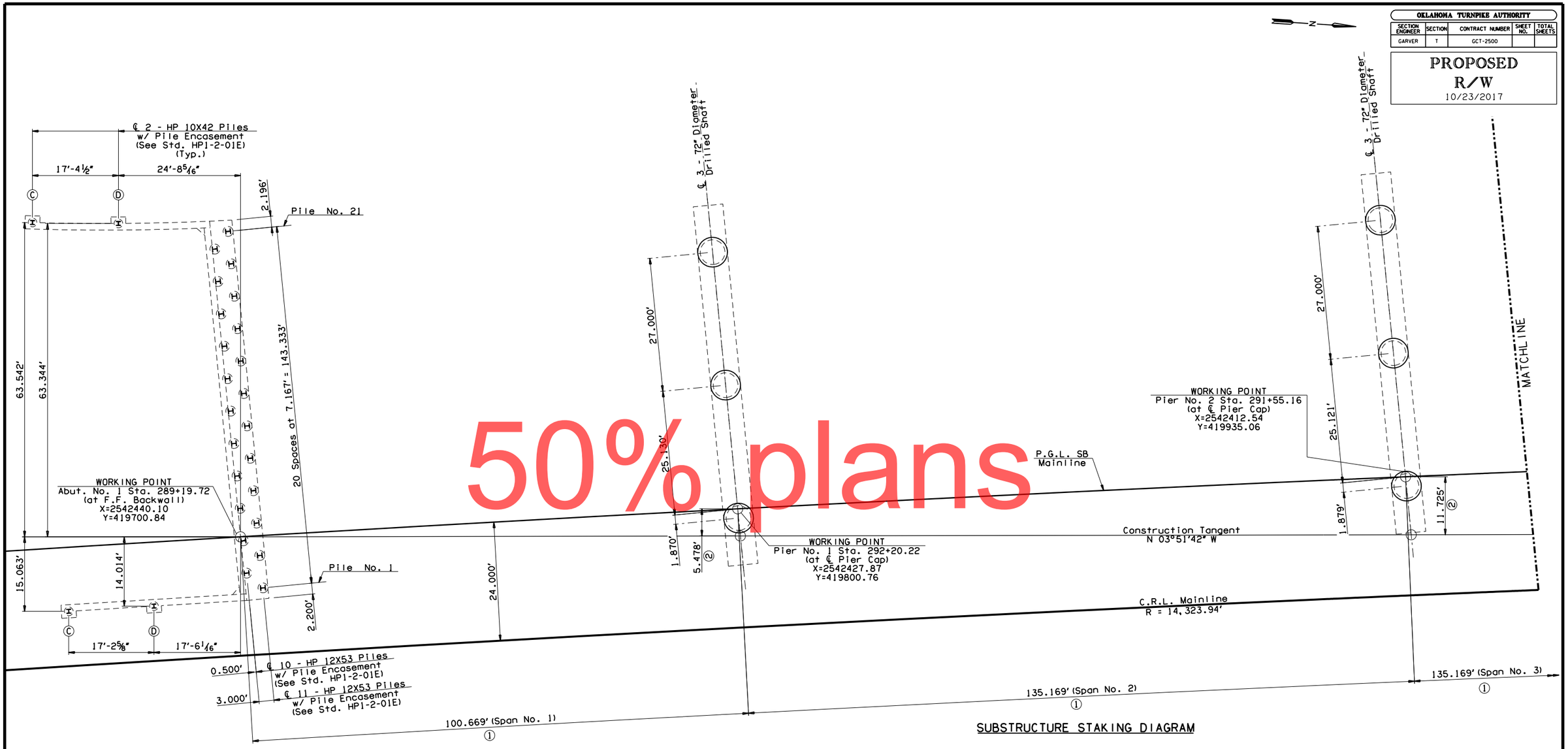
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	6/17		
CHECKED	JCL	6/17	DATE: 10/23/2017	SHEET NO. BN004

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

PROPOSED R/W
10/23/2017

50% plans



SUBSTRUCTURE STAKING DIAGRAM

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	-
B	-
CAP	-
C	-
D	-

① Measured W.P. to W.P. & along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

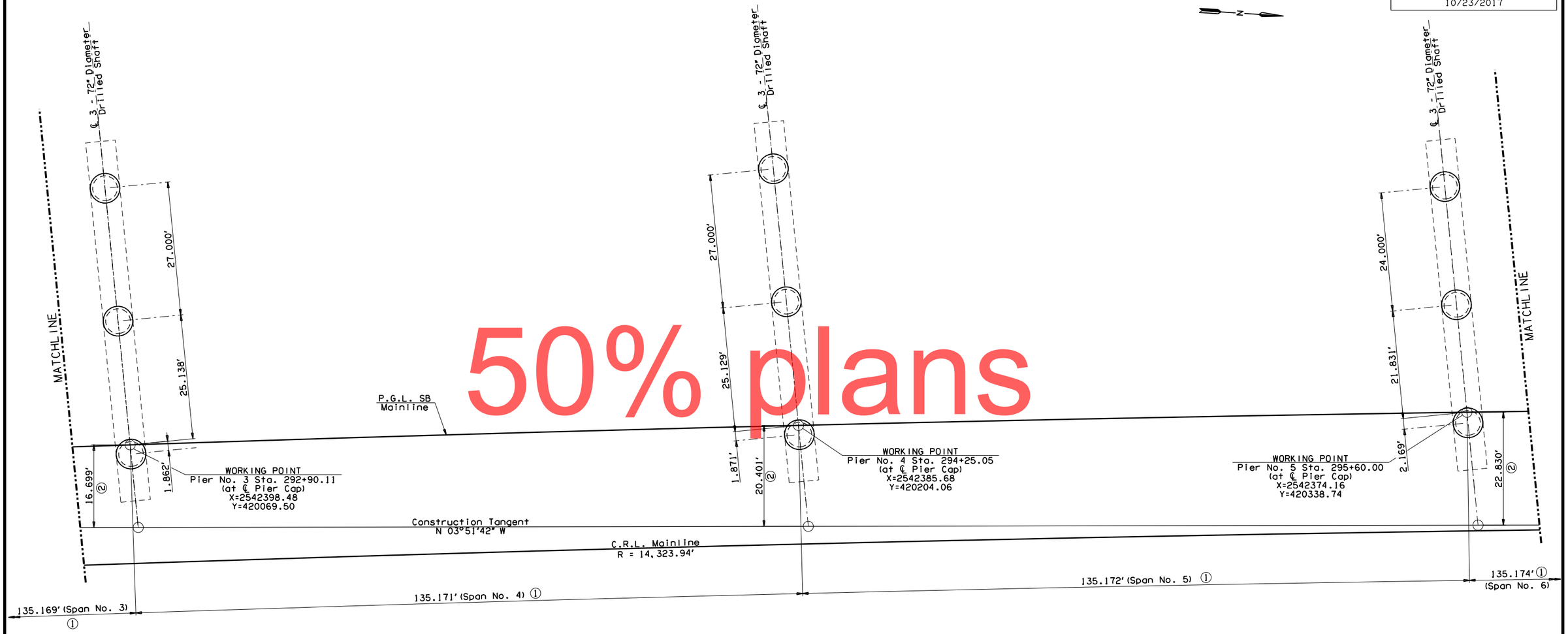
STAKING DIAGRAM
(SHEET 1 OF 5)

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	2/16		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BN005

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

PROPOSED R/W
10/23/2017



50% plans

SUBSTRUCTURE STAKING DIAGRAM

① Measured W.P. to W.P. & along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

STAKING DIAGRAM
(SHEET 2 OF 5)

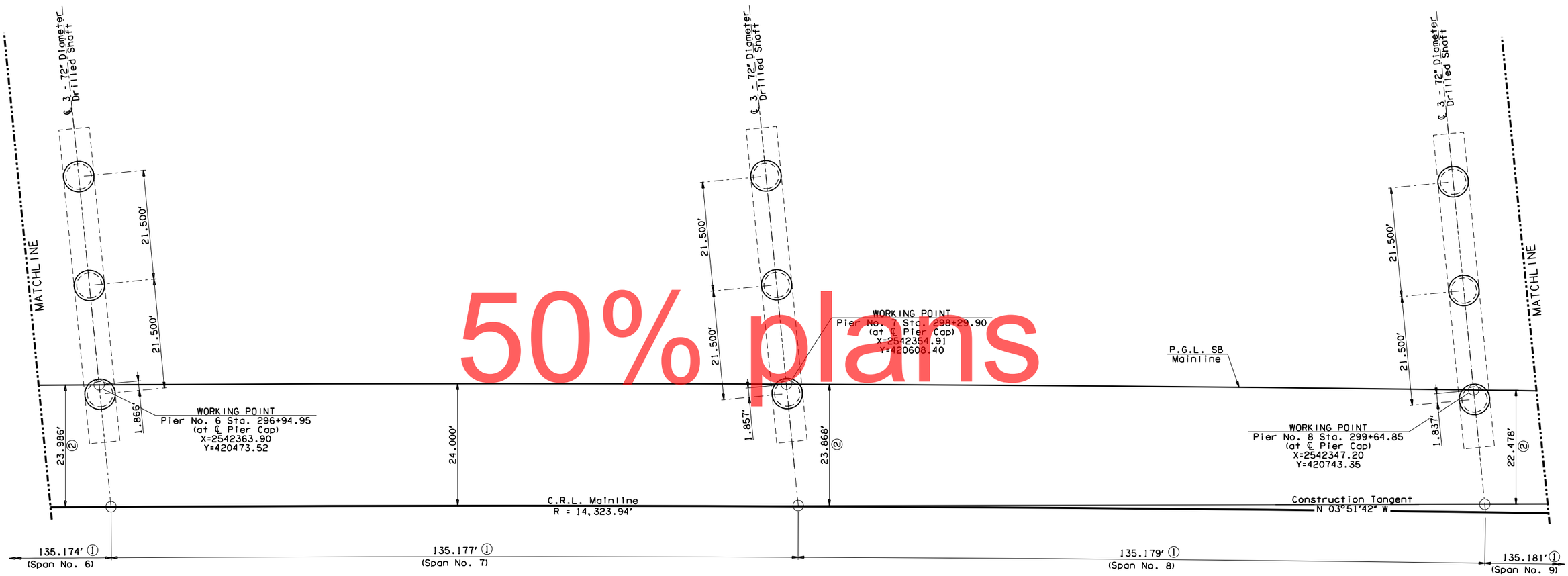
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	2/16		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BN006

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

PROPOSED R/W
10/23/2017

50% plans



SUBSTRUCTURE STAKING DIAGRAM

① Measured W.P. to W.P. & along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

STAKING DIAGRAM
(SHEET 3 OF 5)

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	2/16		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BN007

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

PROPOSED R/W
10/23/2017

50% plans



SUBSTRUCTURE STAKING DIAGRAM

① Measured W.P. to W.P. & along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

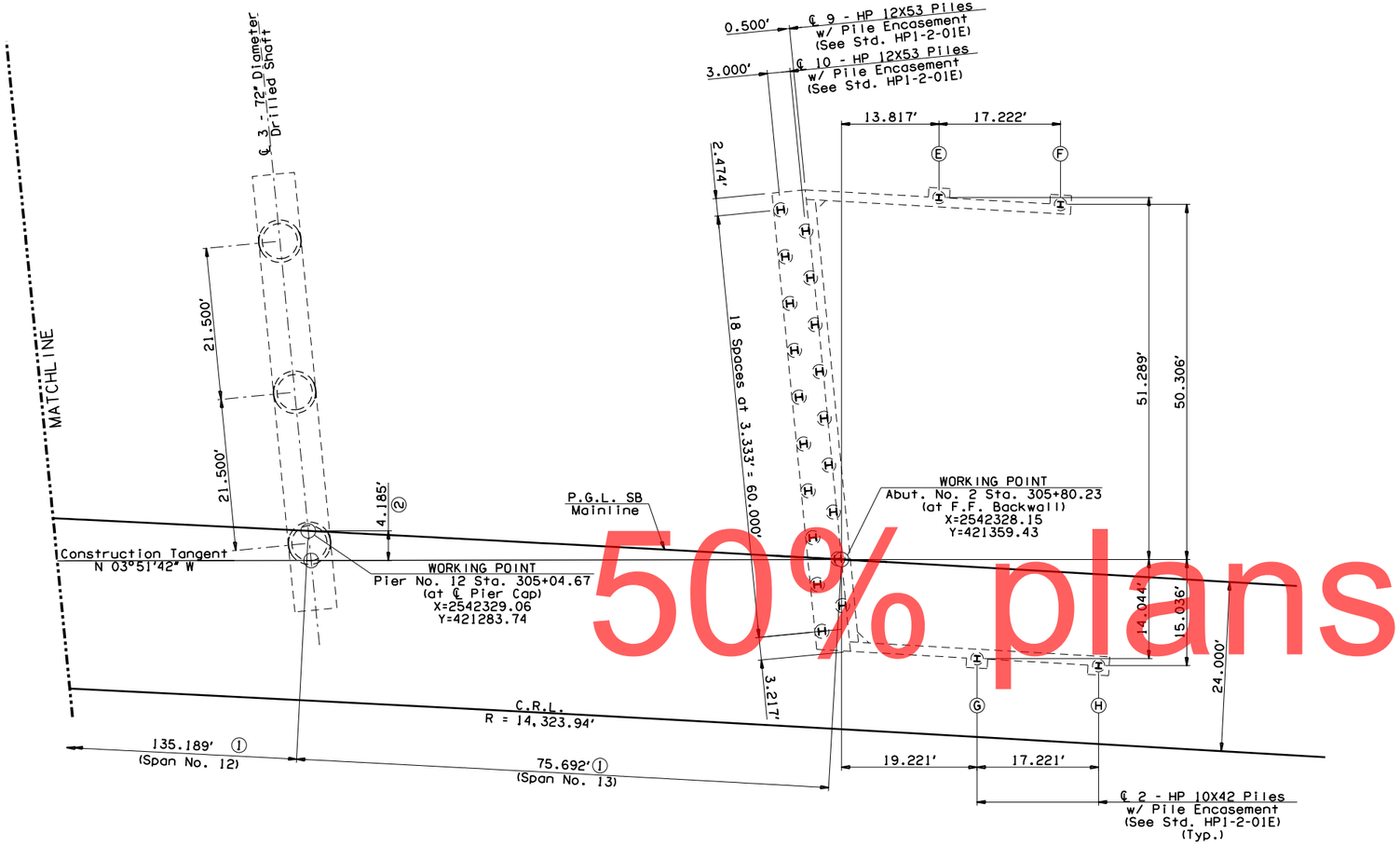
STAKING DIAGRAM
(SHEET 4 OF 5)

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

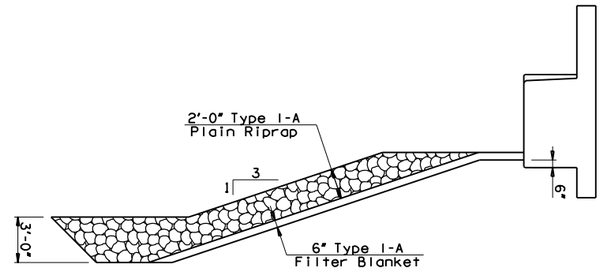
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DETAILED	JLD	2/16		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BN008

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

PROPOSED R/W
10/23/2017



SUBSTRUCTURE STAKING DIAGRAM



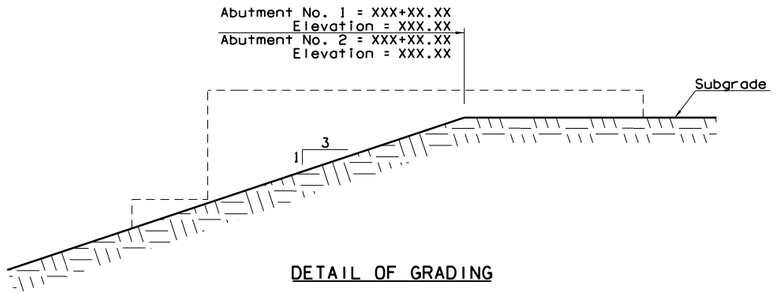
TYPICAL SECTION THRU RIPRAP AT BRIDGE SEAT
(Dimensions are Normal to Bridge Seat)

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
E	-
F	-
CAP	-
G	-
H	-

50% plans

① Measured W.P. to W.P. & along P.G.L.

② Measured between Working Point & Construction Tangent.



DETAIL OF GRADING

NOTES:
Slope Shown to be Shaped by the Grading Contractor.

Stations and elevations given are at the SB P.G.L. and will vary across the width of the bridge.

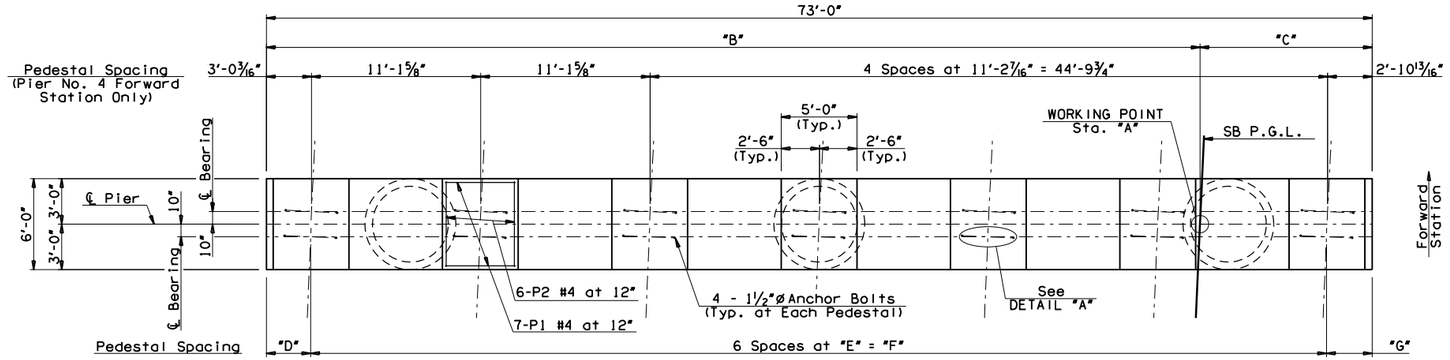
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
STAKING DIAGRAM
(SHEET 5 OF 5)

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

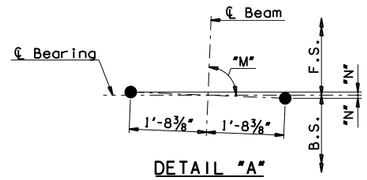
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	JTR	8/17	DATE: 10/23/2017	SHEET NO. BN009

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

PROPOSED
R/W
10/23/2017



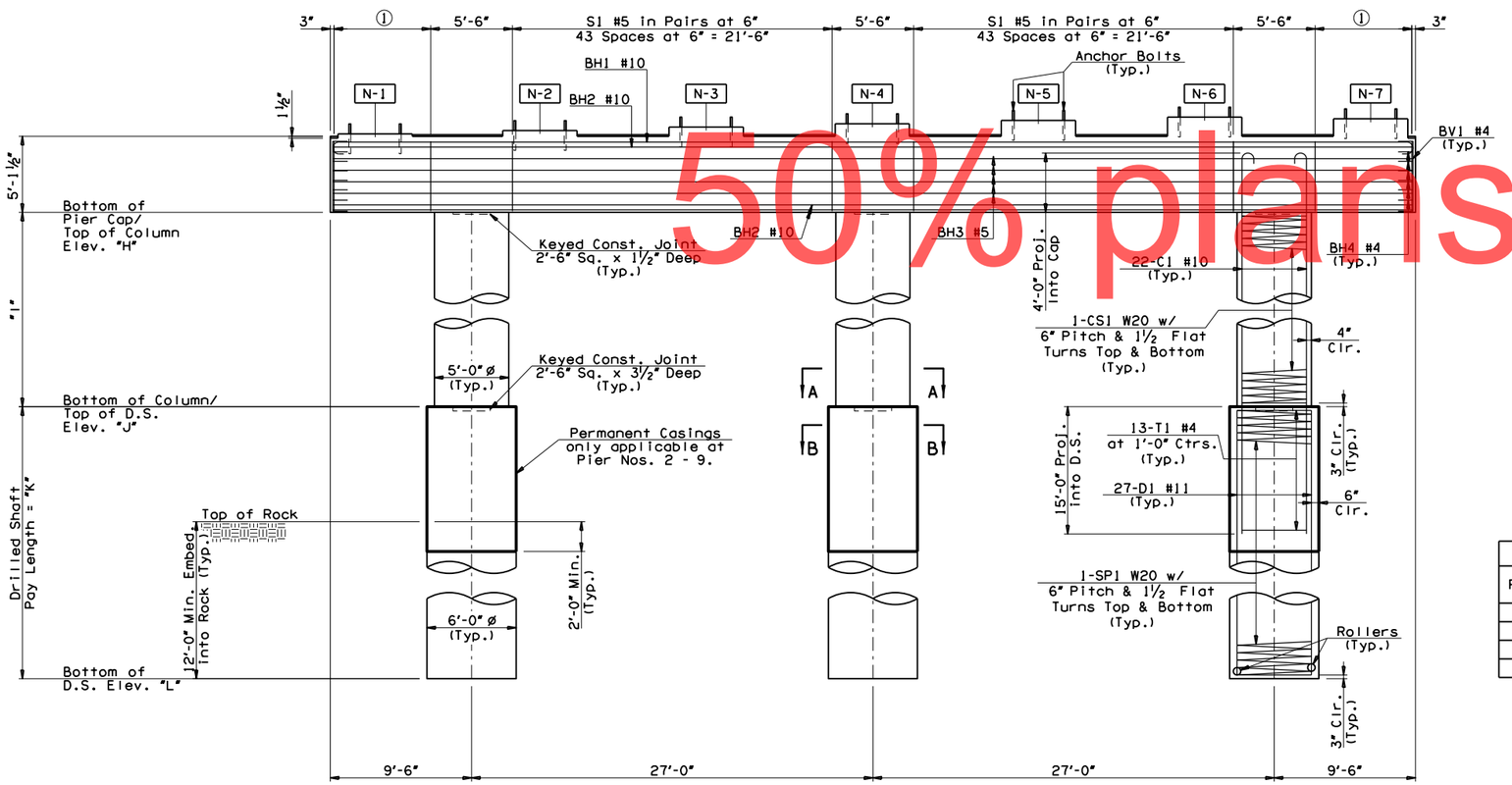
PLAN



DETAIL "A"

TABLE OF VARIABLES - PIER NOS. 1 - 4 BEARINGS							
LOCATION		N-1		N-2		N-3 - N-7	
		"M"	"J"	"M"	"J"	"M"	"J"
PIER NO. 1	B.S.	87°31'41"	7/8"	87°31'41"	7/8"	87°31'41"	7/8"
	F.S.	87°09'29"	1"	87°09'29"	1"	87°09'29"	1"
PIER NO. 2	B.S.	87°09'29"	1"	87°09'29"	1"	87°09'29"	1"
	F.S.	86°37'06"	1 3/16"	86°37'06"	1 3/16"	86°37'06"	1 3/16"
PIER NO. 3	B.S.	86°37'06"	1 3/16"	86°37'06"	1 3/16"	86°37'06"	1 3/16"
	F.S.	86°04'43"	1 3/8"	86°04'43"	1 3/8"	86°04'43"	1 3/8"
PIER NO. 4	B.S.	86°04'43"	1 3/8"	86°04'43"	1 3/8"	86°04'43"	1 3/8"
	F.S.	82°45'18"	2 3/16"	84°08'36"	2 1/16"	85°32'20"	1 9/16"

TABLE OF VARIABLES - PEDESTAL SPACING					
LOCATION		LENGTH "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"
PIER NO. 1	B.S.	2'-11"	11'-2 1/8"	67'-0 3/4"	3'-0 5/16"
	F.S.	2'-11 5/8"	11'-2 3/16"	67'-1"	2'-11 5/16"
PIER NO. 2	B.S.	2'-10 5/16"	11'-2 3/16"	67'-1"	3'-0 5/16"
	F.S.	2'-11 1/4"	11'-2 1/4"	67'-1 1/2"	2'-11 1/4"
PIER NO. 3	B.S.	2'-10 5/16"	11'-2 1/4"	67'-1 1/2"	3'-0 3/16"
	F.S.	2'-11 1/8"	11'-2 5/16"	67'-1 7/8"	2'-11"
PIER NO. 4	B.S.	2'-9 11/16"	11'-2 5/16"	67'-1 7/8"	3'-0 7/16"
	F.S.				



ELEVATION
(Looking Forward Station)

PIER NOS. 1 - 4

TABLE OF VARIABLES								
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	ELEV. "H"	LENGTH "I"	ELEV. "J"	LENGTH "K"	ELEV. "L"
1	290+20.22	61'-7 7/16"	11'-4 7/16"	670.53	25'-0"	645.53	57'-0"	588.53
2	291+55.17	61'-7 7/16"	11'-4 9/16"	669.86	41'-9"	628.11	35'-0"	593.11
3	292+90.11	61'-7 5/8"	11'-4 3/8"	669.19	41'-1"	628.11	35'-0"	593.11
4	294+25.05	61'-7 9/16"	11'-4 7/16"	668.52	40'-5"	628.10	35'-0"	593.10

PEDESTAL ELEVATIONS							
PIER NO.	PEDESTAL NO.						
	N-1	N-2	N-3	N-4	N-5	N-6	N-7
1	675.82	676.04	676.26	676.48	676.70	676.92	676.81
2	675.15	675.37	675.59	675.81	676.03	676.25	676.14
3	674.48	674.70	674.92	675.14	675.36	675.58	675.46
4	673.81	674.02	674.24	674.46	674.68	674.90	674.79

NOTES:

See Sheet No. BN018 for Sections, Pedestal Details, Column Construction Details and Miscellaneuous Details.

See Sheet No. BN011 for Bar Llists, Bar Bends, and Summary of Quantities.

For Water Repellant Details, see Sheet No. BSTA01.

NOTE:
PIER NOS. 2 - 9 ONLY: The Permanent Casing Method outlined in Section 516.04.C.1.c.3 of the Standard Specifications is required for the construction of the drilled shafts at Pier Nos. 2 - 9.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

PIER NOS. 1 - 4 DETAILS
(SHEET 1 OF 2)

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	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN010

50% plans

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

PROPOSED
R/W
10/23/2017

BAR LIST - PIER NOS. 1 - 4
(ONE PIER SHOWN; FOUR REQUIRED)

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	BH1	#10	10	BENT	83'-4"
①	BH2	#10	30	STR.	80'-6"
②	BH3	#5	8	STR.	76'-8"
	BH4	#4	8	BENT	7'-6"
	BV1	#4	8	BENT	6'-6"
	P1	#4	42	BENT	7'-11"
	P2	#4	49	BENT	8'-11"
	S1	#5	232	BENT	17'-9"
	REINFORCING STEEL				
	CS1	W20	3	SPIRAL	27.26"I"+27.21'

① Includes One 7'-10" Lap Length.
② Includes One 4'-0" Lap Length.

DRILLED SHAFT BAR LIST - PIER NO. 1 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	30'-2"
REINFORCING STEEL				
D1	#10	81	STR.	56'-6"
SP1	W20	3	SPIRAL	1,823'-0"
T1	#4	39	BENT	15'-7"

DRILLED SHAFT BAR LIST - PIER NO. 2 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	46'-10"
REINFORCING STEEL				
D1	#10	81	STR.	34'-6"
SP1	W20	3	SPIRAL	1,131'-0"
T1	#4	39	BENT	15'-7"

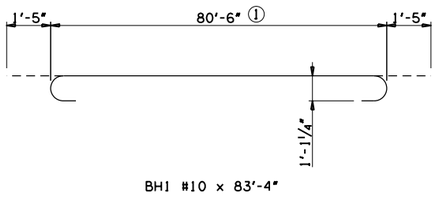
DRILLED SHAFT BAR LIST - PIER NO. 3 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	46'-3"
REINFORCING STEEL				
D1	#10	81	STR.	34'-6"
SP1	W20	3	SPIRAL	1,131'-0"
T1	#4	39	BENT	15'-7"

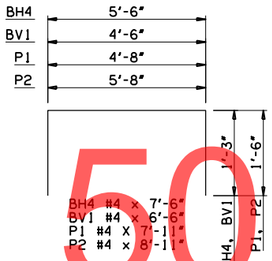
DRILLED SHAFT BAR LIST - PIER NO. 4 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	45'-7"
REINFORCING STEEL				
D1	#10	81	STR.	34'-6"
SP1	W20	3	SPIRAL	1,131'-0"
T1	#4	39	BENT	15'-7"

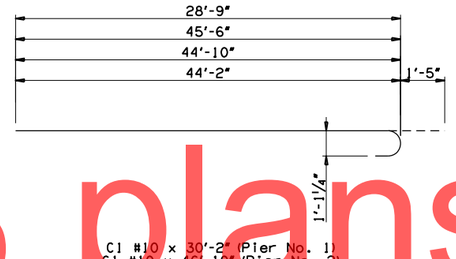
③ Included in the price bid per Linear Foot of "DRILLED SHAFTS 72" DIAMETER".



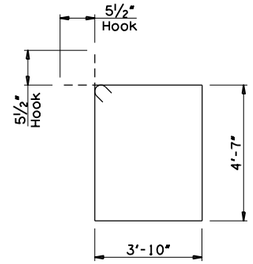
BH1 #10 x 83'-4"



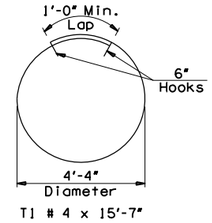
BH4 #4 x 7'-6"
BV1 #4 x 6'-6"
P1 #4 X 7'-11"
P2 #4 x 8'-11"



C1 #10 x 30'-2" (Pier No. 1)
C1 #10 x 46'-10" (Pier No. 2)
C1 #10 x 46'-3" (Pier No. 3)
C1 #10 x 45'-7" (Pier No. 4)



S #5 x 17'-9"



T1 # 4 x 15'-7"

60% plans

SUMMARY OF QUANTITIES - PIER NOS. 1 - 4

ITEM	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	TOTAL
	S.Y.					
	C.Y.					
	LB.					
	S.Y.					
	L.F.					
	EA.					

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

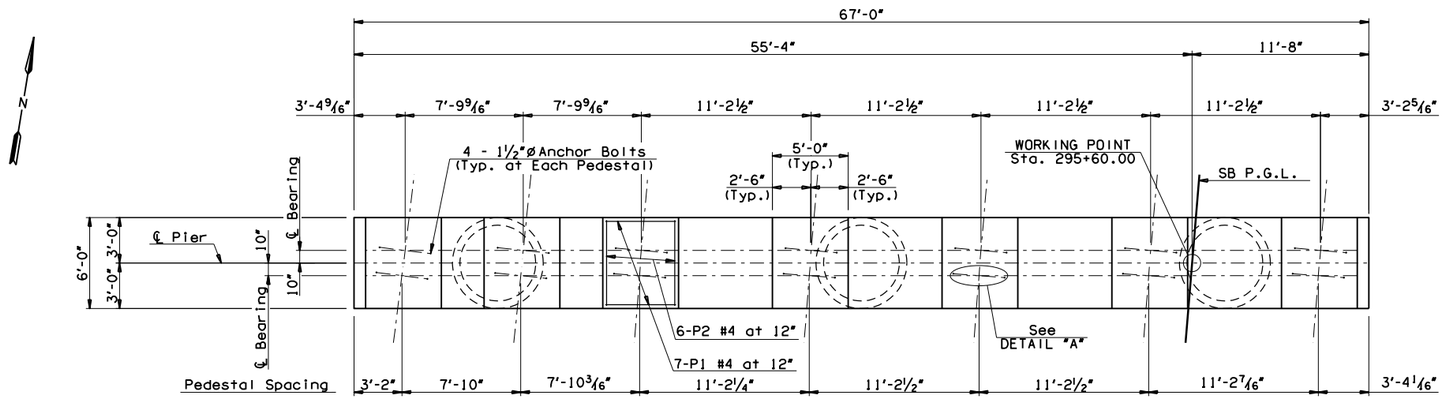
PIER NOS. 1- 4 DETAILS
(SHEET 2 OF 2)

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

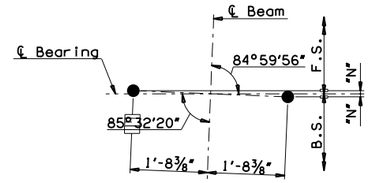
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN011

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

PROPOSED R/W
10/23/2017

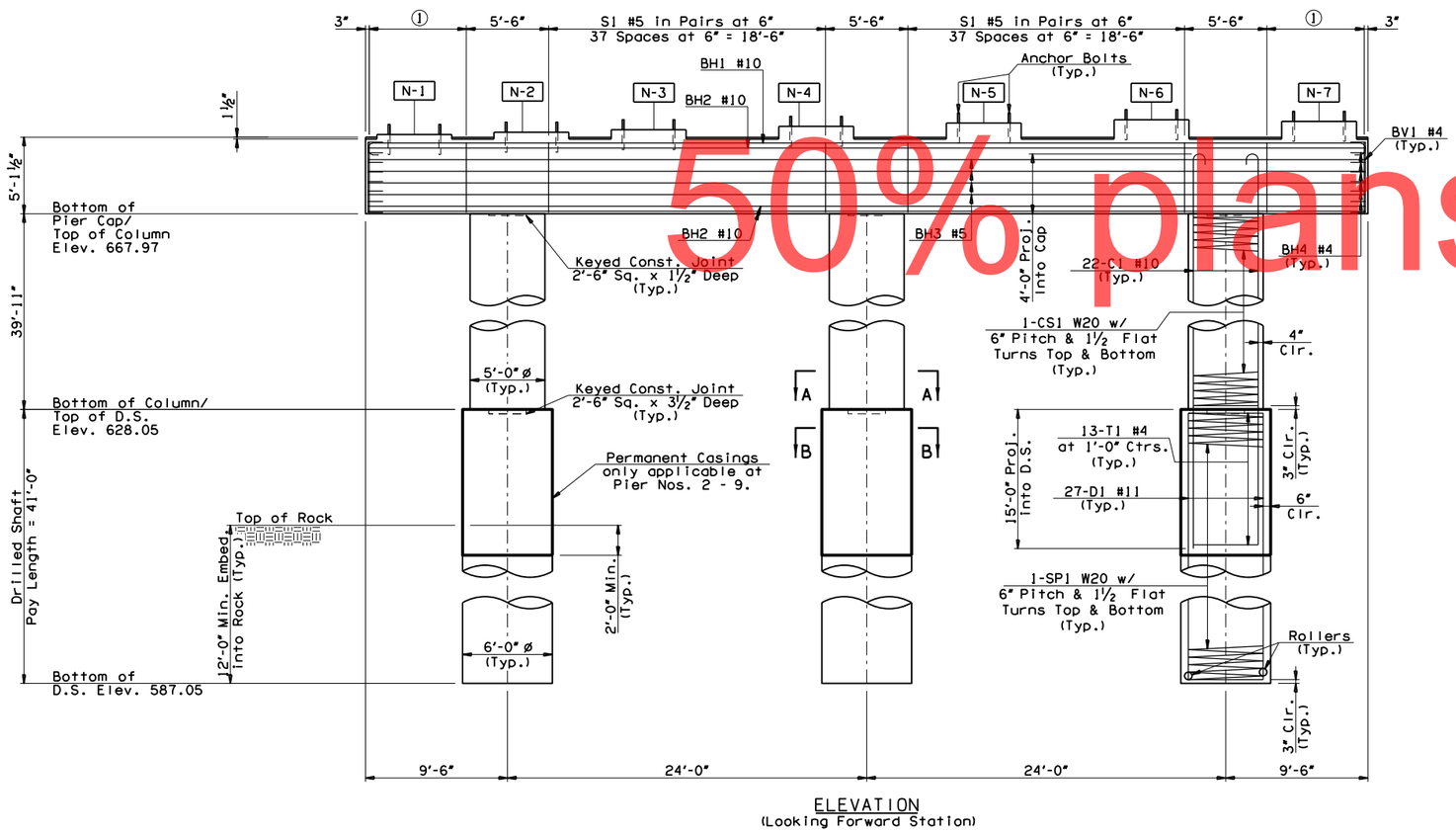


PLAN



DETAIL "A"

① S1 #5 (in Pairs) 13 Spaces at 6" = 6'-6"



ELEVATION
(Looking Forward Station)

PIER NO. 5

50% plans

PEDESTAL ELEVATIONS							
PIER NO.	PEDESTAL NO.						
	N-1	N-2	N-3	N-4	N-5	N-6	N-7
5	673.26	673.41	673.57	673.79	674.01	674.22	674.11

NOTES:

See Sheet No. BN018 for Sections, Pedestal Details, Column Construction Details and Miscellaneuous Details.

See Sheet No. BN011 for Bar Liists, Bar Bends, and Summary of Quantities.

For Water Repellant Details, see Sheet No. BSTA01.

NOTE:
PIER NOS. 2 - 9 ONLY: The Permanent Casing Method outlined in Section 516.04.C.1.c.3 of the Standard Specifications is required for the construction of the drilled shafts at Pier Nos. 2 - 9.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

PIER NO. 5 DETAILS
(SHEET 1 OF 2)

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	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN012

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

PROPOSED R/W
10/23/2017

BAR LIST - PIER NO. 5
(ONE PIER SHOWN; FOUR REQUIRED)

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	BH1	#10	10	BENT	77'-4"
①	BH2	#10	30	STR.	74'-6"
②	BH3	#5	8	STR.	70'-8"
	BH4	#4	8	BENT	7'-6"
	BV1	#4	8	BENT	6'-6"
	P1	#4	42	BENT	7'-11"
	P2	#4	49	BENT	8'-11"
	S1	#5	232	BENT	17'-9"
	REINFORCING STEEL				
	CS1	W20	3	SPIRAL	1,114'-9"

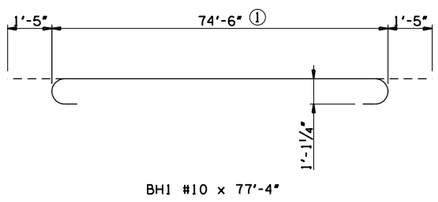
① Includes One 7'-10" Lap Length.
② Includes One 4'-0" Lap Length.

DRILLED SHAFT BAR LIST - PIER NO. 5 ③

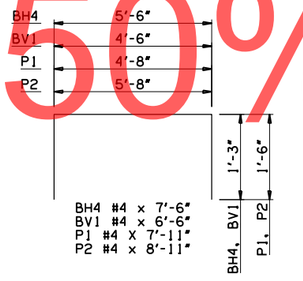
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	45'-1"
REINFORCING STEEL				
D1	#10	81	STR.	40'-6"
SP1	W20	3	SPIRAL	1,320'-1"
T1	#4	39	BENT	15'-7"

③ Included in the price bid per Linear Foot of "DRILLED SHAFTS 72" DIAMETER".

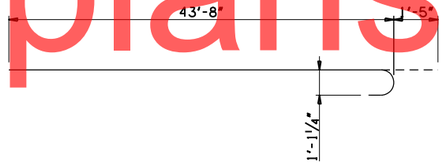
50% plans



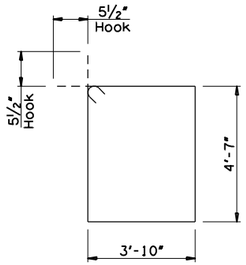
BH1 #10 x 77'-4"



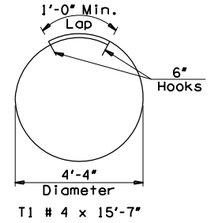
BH4 #4 x 7'-6"
BV1 #4 x 6'-6"
P1 #4 x 7'-11"
P2 #4 x 8'-11"



C1 #10 x 45'-1"



S #5 x 17'-9"



T1 # 4 x 15'-7"

SUMMARY OF QUANTITIES - PIER NO. 5

ITEM	UNIT	PIER NO. 5	TOTAL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

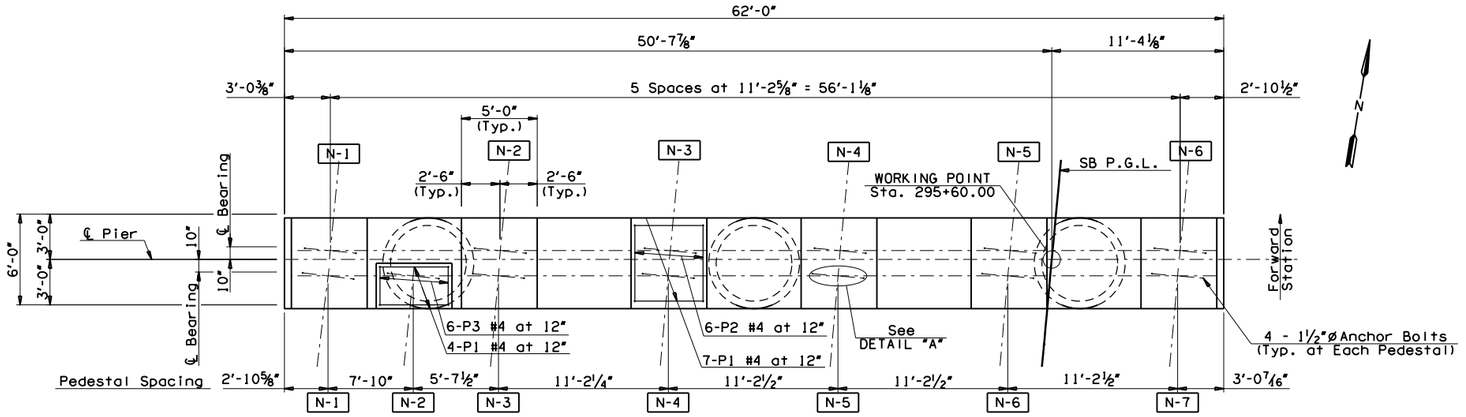
PIER NO. 5 DETAILS
(SHEET 2 OF 2)

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

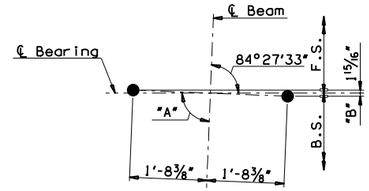
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN013

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

PROPOSED R/W
10/23/2017



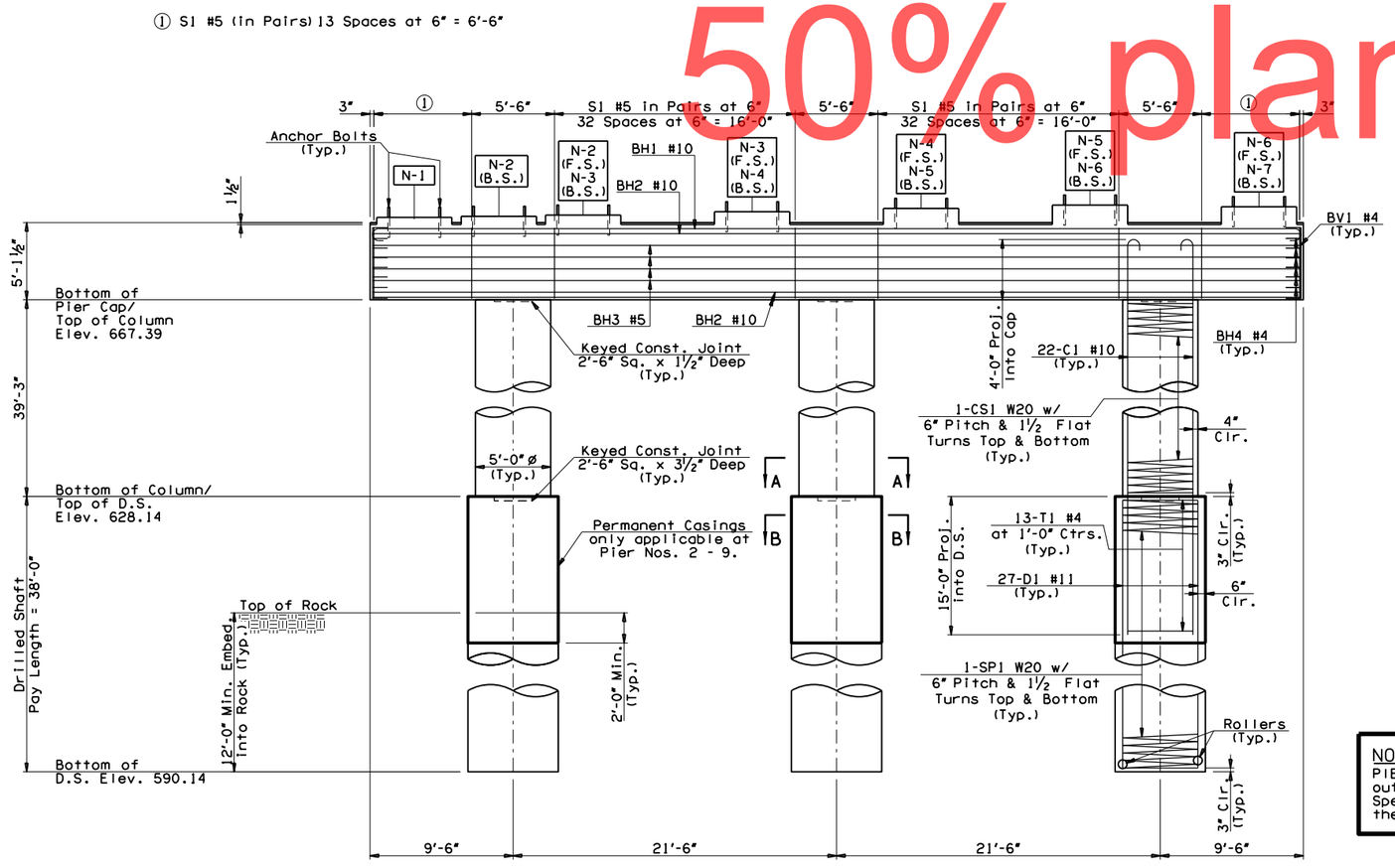
PLAN



DETAIL "A"

TABLE OF VARIABLES - PIER NO. 6 BEARINGS					
N-1		N-2 B.S.		N-2 F.S. - N-7	
"A"	"B"	"A"	"B"	"A"	"B"
83°07'45"	2 7/16"	84°03'45"	1¾"	84°59'56"	1¾"

50% plans



ELEVATION
(Looking Forward Station)

PIER NO. 6

PEDESTAL ELEVATIONS							
PIER NO.	PEDESTAL NO.						
	N-1	N-2 B.S.	N-2/N-3	N-3/N-4	N-4/N-5	N-5/N-6	N-6/N-7
6	672.68	672.79	672.89	673.11	673.33	673.55	673.43

NOTES:

See Sheet No. BN018 for Sections, Pedestal Details, Column Construction Details and Miscellaneuous Details.

See Sheet No. BN011 for Bar Liists, Bar Bends, and Summary of Quantities.

For Water Repellant Details, see Sheet No. BSTA01.

NOTE:
PIER NOS. 2 - 9 ONLY: The Permanent Casing Method outlined in Section 516.04.C.1.c.3 of the Standard Specifications is required for the construction of the drilled shafts at Pier Nos. 2 - 9.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
PIER NO. 6 DETAILS
(SHEET 1 OF 2)

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	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN014

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

PROPOSED
R/W
10/23/2017

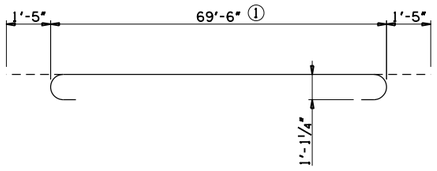
BAR LIST - PIER NO. 6				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
① BH1	#10	10	BENT	77'-4"
① BH2	#10	30	STR.	74'-6"
② BH3	#5	8	STR.	70'-8"
BH4	#4	8	BENT	7'-6"
BV1	#4	8	BENT	6'-6"
P1	#4	42	BENT	7'-11"
P2	#4	49	BENT	8'-11"
S1	#5	232	BENT	17'-9"
REINFORCING STEEL				
CS1	W20	3	SPIRAL	1,128'-5"

① Includes One 7'-10" Lap Length.
② Includes One 4'-0" Lap Length.

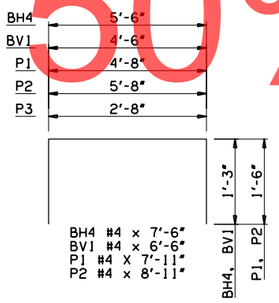
DRILLED SHAFT BAR LIST - PIER NO. 6 ③				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	44'-5"
REINFORCING STEEL				
D1	#10	81	STR.	40'-6"
SP1	W20	3	SPIRAL	1,225'-10"
T1	#4	39	BENT	15'-7"

③ Included in the price bid per Linear Foot of "DRILLED SHAFTS 72" DIAMETER".

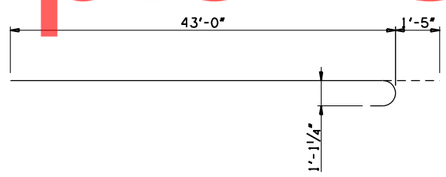
50% plans



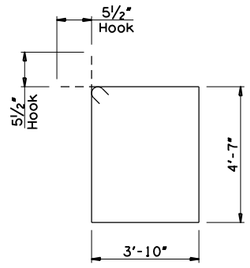
BH1 #10 x 72'-4"



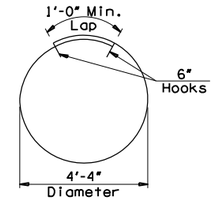
BH4 #4 x 7'-6"
BV1 #4 x 6'-6"
P1 #4 X 7'-11"
P2 #4 x 8'-11"



C1 #10 x 44'-5"



S #5 x 17'-9"



T1 # 4 x 15'-7"

SUMMARY OF QUANTITIES - PIER NO. 6			
ITEM	UNIT	PIER NO. 5	TOTAL
(SP) SPECIAL CONCRETE FINISH	S.Y.		
CLASS A CONCRETE	C.Y.		
EPOXY COATED REINFORCING STEEL	LB.		
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.		
DRILLED SHAFTS 72" DIAMETER	L.F.		
CROSSHOLE SONIC LOGGING	EA.		

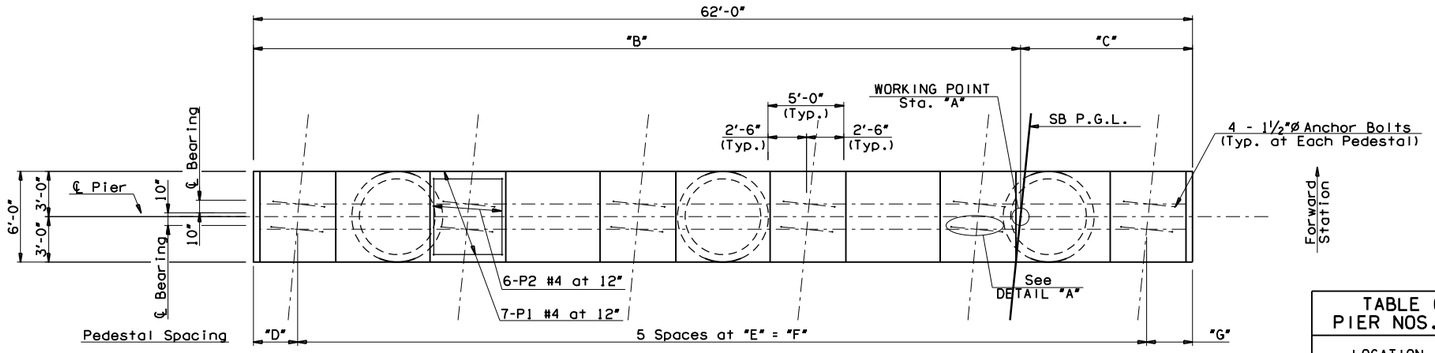
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
PIER NO. 6 DETAILS
(SHEET 2 OF 2)

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

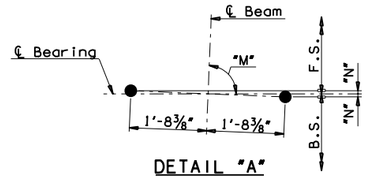
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN015

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

PROPOSED R/W
10/23/2017



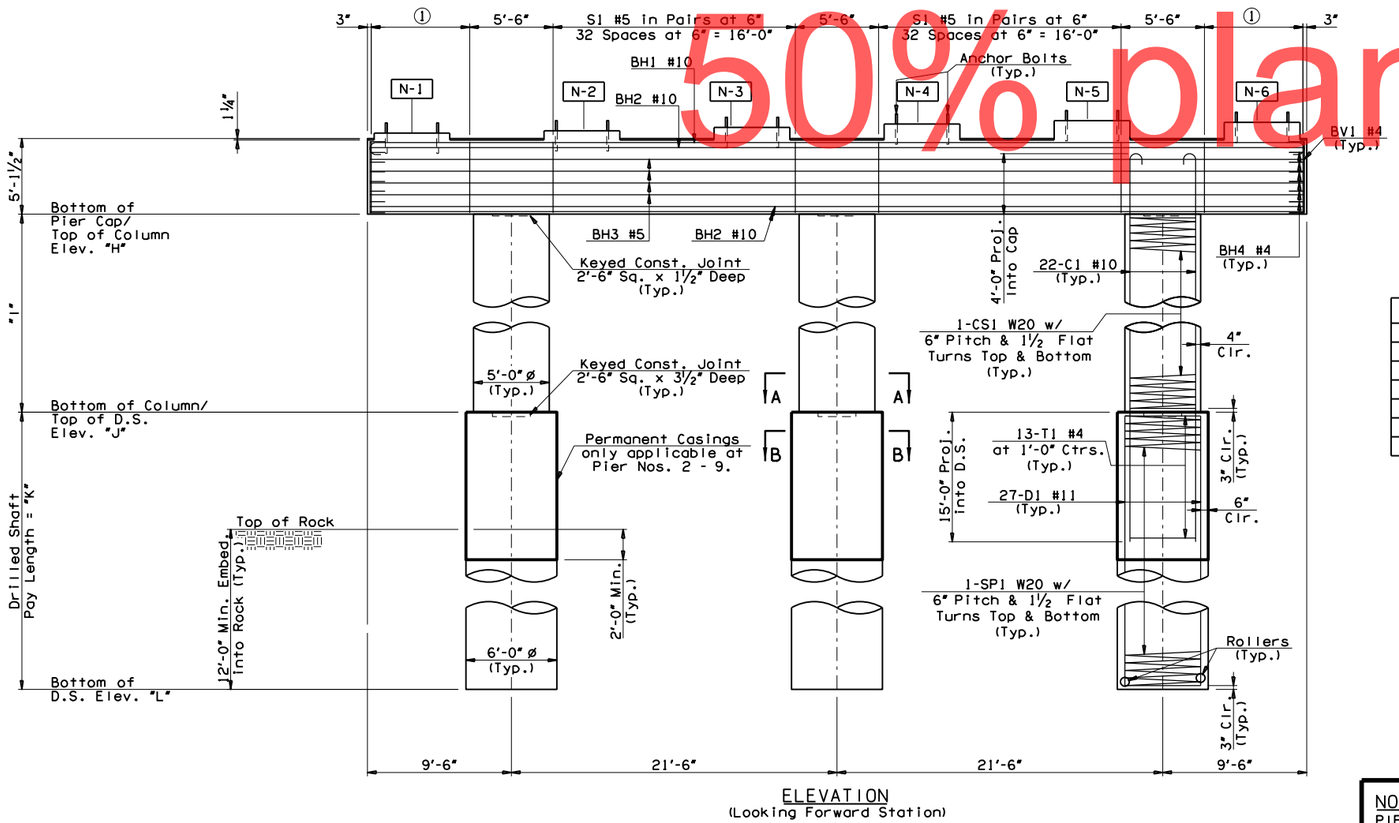
PLAN



DETAIL "A"

TABLE OF VARIABLES - PIER NOS. 7 - 12 BEARINGS			
LOCATION		N-1	
		"M"	"J"
PIER NO. 7	B.S.	84°27'33"	1 15/16"
	F.S.	83°55'09"	2 3/16"
PIER NO. 8	B.S.	83°55'09"	2 3/16"
	F.S.	83°22'47"	2 3/8"
PIER NO. 9	B.S.	83°22'47"	2 3/8"
	F.S.	82°50'23"	2 9/16"
PIER NO. 10	B.S.	82°50'23"	2 9/16"
	F.S.	82°18'00"	2 3/4"
PIER NO. 11	B.S.	82°18'00"	2 3/4"
	F.S.	81°45'36"	2 15/16"
PIER NO. 12	B.S.	81°45'36"	2 15/16"
	F.S.	81°20'24"	3 1/16"

TABLE OF VARIABLES - PEDESTAL SPACING					
LOCATION		LENGTH "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"
PIER NO. 7	B.S.	2'-10½"	11'-2⅝"	51'-1⅛"	3'-0⅜"
	F.S.	3'-0"	11'-2¾"	51'-1¾"	2'-10¼"
PIER NO. 8	B.S.	2'-10⅛"	11'-2¾"	51'-1¾"	3'-0⅛"
	F.S.	2'-11¾"	11'-2⅞"	51'-2⅜"	2'-9⅞"
PIER NO. 9	B.S.	2'-9 11/16"	11'-2⅞"	51'-2⅜"	2'-11 5/16"
	F.S.	2'-11 7/16"	11'-3 1/16"	51'-3 5/16"	2'-9¼"
PIER NO. 10	B.S.	2'-9⅛"	11'-3 1/16"	51'-3 5/16"	2'-11 5/16"
	F.S.	2'-11"	11'-3¼"	51'-4¼"	2'-8¾"
PIER NO. 11	B.S.	2'-8¾"	11'-3¼"	51'-4¼"	2'-11"
	F.S.	2'-10 13/16"	11'-3⅜"	51'-4⅞"	2'-8 5/16"
PIER NO. 12	B.S.	2'-8"	11'-3⅜"	51'-4⅞"	2'-11⅛"
	F.S.	2'-10⅜"	11'-3 9/16"	51'-5 13/16"	2'-7 13/16"



ELEVATION
(Looking Forward Station)

PIER NOS. 7 - 12

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	N-1	N-2	N-3	N-4	N-5	N-6
7	672.00	672.22	672.44	672.66	672.87	672.76
8	671.33	671.55	671.77	671.98	672.70	672.08
9	670.66	670.88	671.09	671.31	671.53	671.41
10	669.99	670.20	670.42	670.63	670.85	670.73
11	669.31	669.53	669.75	669.96	670.18	670.06
12	668.64	668.86	669.07	669.29	669.50	669.39

TABLE OF VARIABLES								
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	ELEV. "H"	LENGTH "I"	ELEV. "J"	LENGTH "K"	ELEV. "L"
7	298+29.90	50'-7 11/16"	11'-4 5/16"	666.71	38'-8"	628.04	39'-0"	589.04
8	299+64.85	50'-7 15/16"	11'-4 1/16"	666.04	38'-0"	628.04	37'-0"	591.04
9	300+99.80	50'-8 3/16"	11'-3 13/16"	665.37	37'-3"	628.12	36'-0"	592.12
10	302+34.75	50'-8⅜"	11'-3⅝"	664.70	29'-0"	635.70	44'-0"	591.70
11	303+69.71	50'-8⅞"	11'-3⅛"	664.02	22'-4"	641.69	53'-0"	588.69
12	305+04.67	50'-8 15/16"	11'-3 1/16"	663.35	21'-4"	642.02	53'-0"	589.02

50% plans

NOTES:

See Sheet No. BN018 for Sections, Pedestal Details, Column Construction Details and Miscellaneuous Details.

See Sheet No. BN011 for Bar Lists, Bar Bends, and Summary of Quantities.

For Water Repellant Details, see Sheet No. BSTA01.

NOTE:
PIER NOS. 2 - 9 ONLY: The Permanent Casing Method outlined in Section 516.04.C.1.c.3 of the Standard Specifications is required for the construction of the drilled shafts at Pier Nos. 2 - 9.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
PIER NOS. 7 - 12 DETAILS
(SHEET 1 OF 2)

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	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN016

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

PROPOSED
R/W
10/23/2017

BAR LIST - PIER NOS. 7 - 12
(ONE PIER SHOWN; SIX REQUIRED)

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	BH1	#10	10	BENT	72'-4"
①	BH2	#10	30	STR.	69'-6"
②	BH3	#5	8	STR.	65'-8"
	BH4	#4	8	BENT	7'-6"
	BV1	#4	8	BENT	6'-6"
	P1	#4	42	BENT	7'-11"
	P2	#4	49	BENT	8'-11"
	S1	#5	232	BENT	17'-9"
	REINFORCING STEEL				
	CS1	W20	3	SPIRAL	27.26"I"+27.21'

① Includes One 7'-10" Lap Length.
② Includes One 4'-0" Lap Length.

DRILLED SHAFT BAR LIST - PIER NO. 7 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	43'-10"
REINFORCING STEEL				
D1	#10	81	STR.	38'-6"
SP1	W20	3	SPIRAL	1,257'-3"
T1	#4	39	BENT	15'-7"

DRILLED SHAFT BAR LIST - PIER NO. 8 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	43'-2"
REINFORCING STEEL				
D1	#10	81	STR.	36'-6"
SP1	W20	3	SPIRAL	1,194'-5"
T1	#4	39	BENT	15'-7"

DRILLED SHAFT BAR LIST - PIER NO. 9 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	42'-5"
REINFORCING STEEL				
D1	#10	81	STR.	35'-6"
SP1	W20	3	SPIRAL	1,162'-11"
T1	#4	39	BENT	15'-7"

③ Included in the price bid per Linear Foot of "DRILLED SHAFTS 72" DIAMETER".

DRILLED SHAFT BAR LIST - PIER NO. 10 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	34'-2"
REINFORCING STEEL				
D1	#10	81	STR.	43'-6"
SP1	W20	3	SPIRAL	1,414'-5"
T1	#4	39	BENT	15'-7"

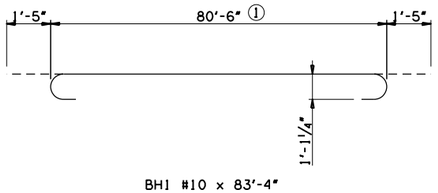
DRILLED SHAFT BAR LIST - PIER NO. 11 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	27'-6"
REINFORCING STEEL				
D1	#10	81	STR.	52'-6"
SP1	W20	3	SPIRAL	1,697'-4"
T1	#4	39	BENT	15'-7"

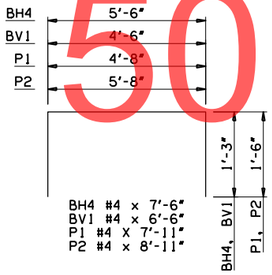
DRILLED SHAFT BAR LIST - PIER NO. 12 ③

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
C1	#10	66	BENT	26'-6"
REINFORCING STEEL				
D1	#10	81	STR.	52'-6"
SP1	W20	3	SPIRAL	1,697'-4"
T1	#4	39	BENT	15'-7"

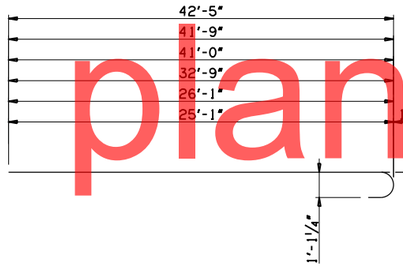
50% plans



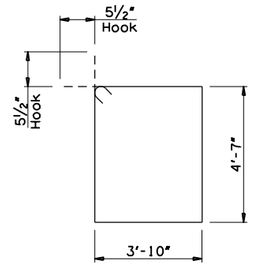
BH1 #10 x 83'-4"



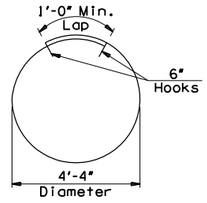
BH4 #4 x 7'-6"
BV1 #4 x 6'-6"
P1 #4 X 7'-11"
P2 #4 x 8'-11"



C1 #10 x 43'-10" (Pier No. 7)
C1 #10 x 43'-2" (Pier No. 8)
C1 #10 x 42'-5" (Pier No. 9)
C1 #10 x 34'-2" (Pier No. 10)
C1 #10 x 27'-6" (Pier No. 11)
C1 #10 x 26'-6" (Pier No. 12)



S #5 x 17'-9"



T1 # 4 x 15'-7"

SUMMARY OF QUANTITIES - PIER NOS. 7 - 12

ITEM	UNIT	PIER NO. 7	PIER NO. 8	PIER NO. 9	PIER NO. 10	PIER NO. 11	PIER NO. 12	TOTAL
	S.Y.							
	C.Y.							
	LB.							
	S.Y.							
	L.F.							
	EA.							

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

PIER NOS. 7 - 12 DETAILS
(SHEET 2 OF 2)

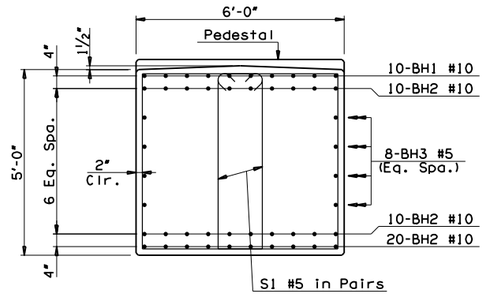
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JTR	7/17
DETAILED	JTR	8/17
CHECKED	MJY	9/17

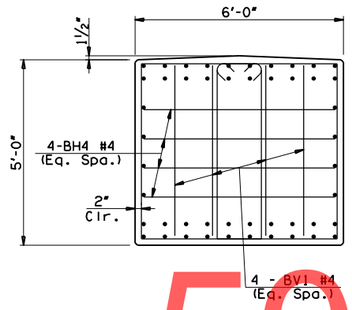
CONTRACT NO. GCT-2500
DATE: 10/23/2017
SHEET NO. BN017

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

PROPOSED
R/W
10/23/2017

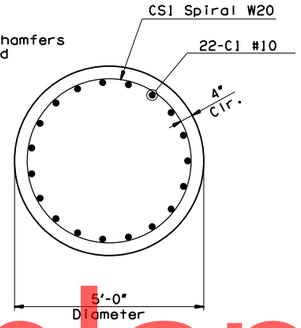


TYPICAL SECTION THRU CAP

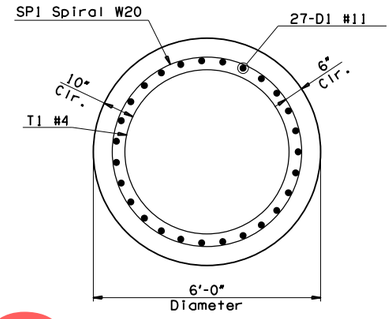


END OF PIER CAP REINFORCING

NOTE:
Pier Cap shall have ¾" chamfers on all edges unless noted otherwise.

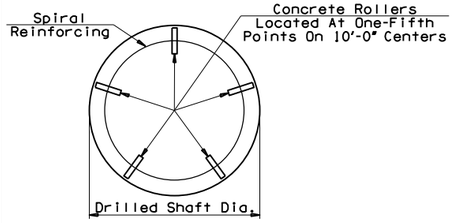


SECTION A-A

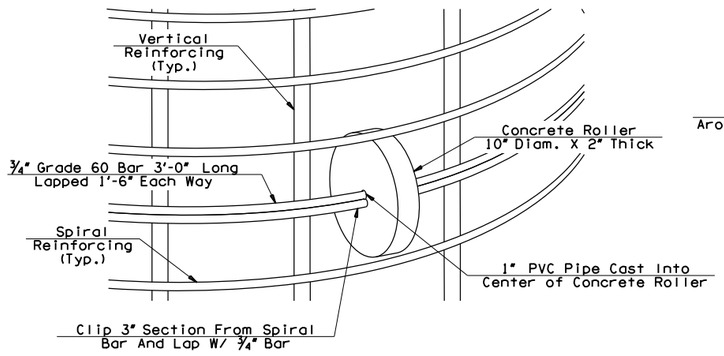


SECTION B-B

50% plans

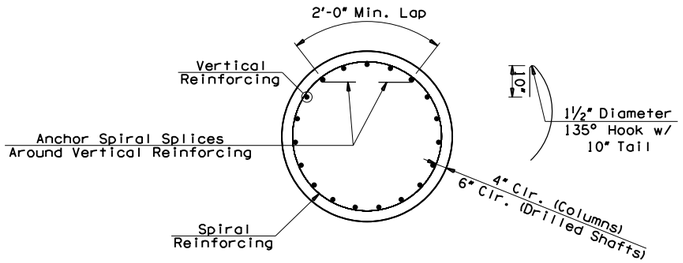


CONCRETE
ROLLER PLACEMENT



DETAILS OF CONCRETE ROLLER INSTALLATION

NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.



DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

PIER DETAILS

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

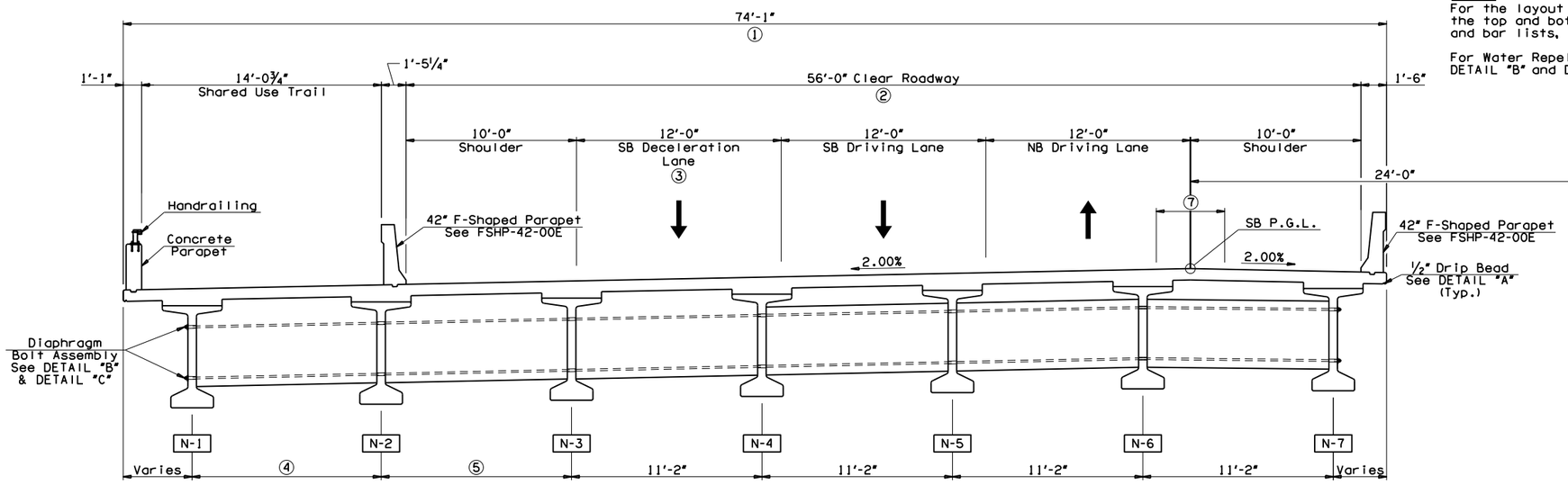
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN018

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

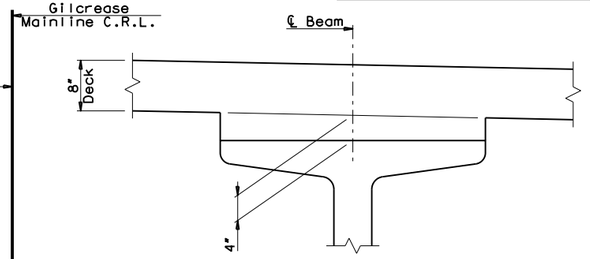
PROPOSED R/W
10/23/2017

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar lists, see Sheet Nos. BN021 - BN025.

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



HALF SECTION AT END DIAPHRAGM HALF SECTION AT INTERMEDIATE DIAPHRAGM



BEAM HAUNCH DETAIL

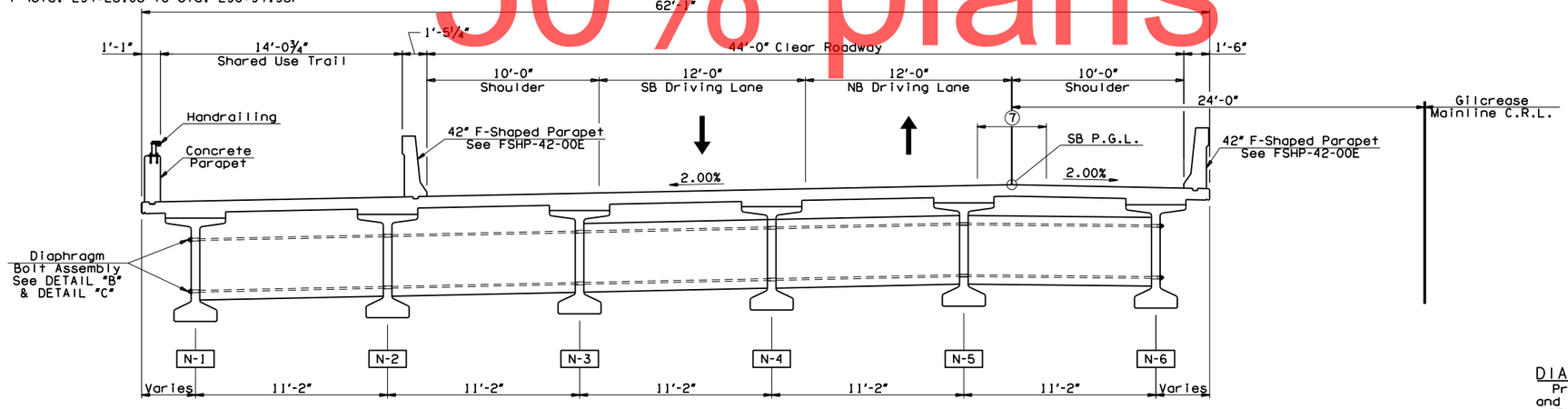
NOTE:
Plan quantities for CLASS AA CONCRETE include Beam Haunches. The haunch height shown is the theoretical haunch height at the centerline bearing only, measured from the bottom of the Deck Slab to the top of the Beam, and varies across the span. Determine the actual haunch height (accounting for 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.

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'-1" (Sta. 289+68.89 to Sta. 294+25.05)
Varies 11'-1" to 5'-7" (Sta. 294+25.05 to Sta. 296+94.95)
⑤ 11'-2" (Sta. 289+68.89 to Sta. 294+25.05)
Varies 11'-2" to 5'-7" (Sta. 294+25.05 to Sta. 296+94.95)

TYPICAL SECTION 1
(Sta. 289+68.89 - 296+94.95)

⑦ 4'-0" (Round 2'-0" each side of ℄ to avoid sharp edges).

50% plans



HALF SECTION AT END DIAPHRAGM HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION 2
(Sta. 296+94.95 - 305+80.99)

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	XXX.XX
SAW-CUT GROOVING	S.Y.	XXX.XX
SEALED EXPANSION JOINT	L.F.	XXX.XX
42" F-SHAPED PARAPET	L.F.	XXX.XX
CONCRETE PARAPET	L.F.	XXX.XX
STRUCTURAL STEEL	LB.	XXX.XX
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	XXX.XX
STAINLESS STEEL EXP. BEARING ASSEMBLY	EA.	XXX.XX
⑥ CLASS AA CONCRETE	C.Y.	XXX.XX
EPOXY COATED REINFORCING STEEL	LB.	XXX.XX
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	XXX.XX

⑥ Includes a calculated XXX.XO C.Y. of Class AA Concrete in the Haunches.

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".

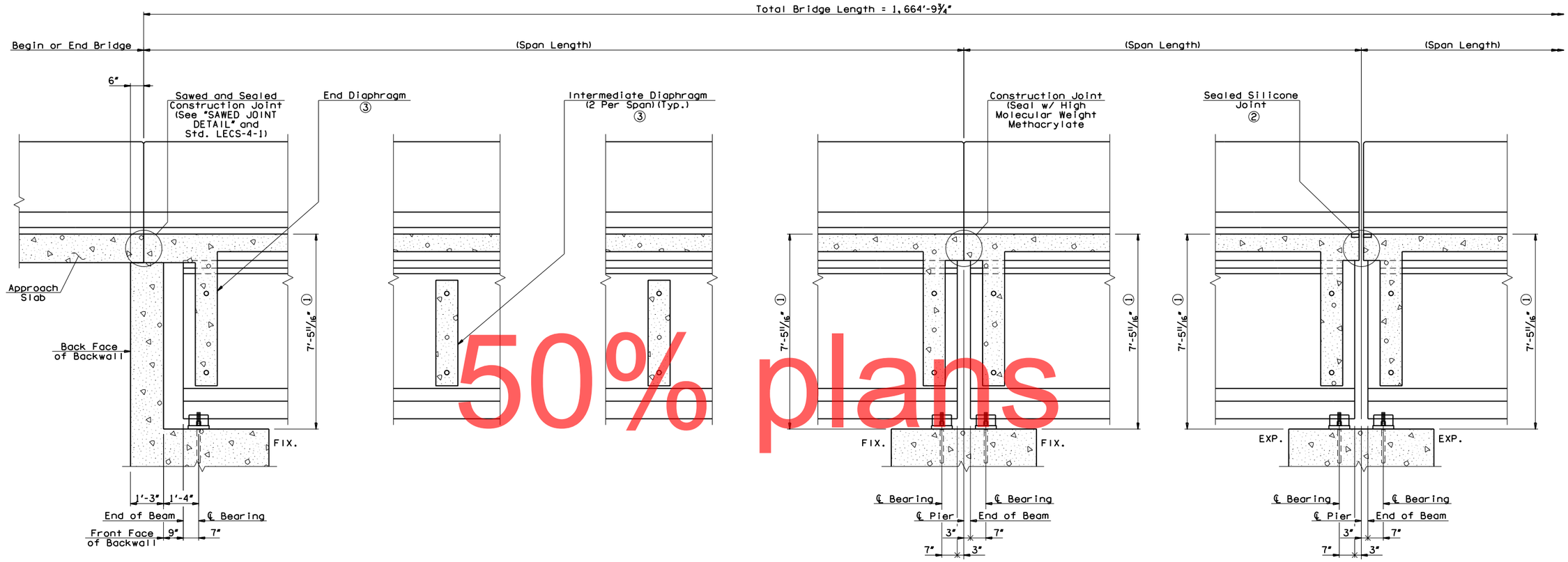
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
TYPICAL SECTION

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	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN019

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

PROPOSED R/W
10/23/2017



ABUTMENTS

FIXED PIERS
(Typ. at Pier Nos. 1, 3, 5, 7, 9, & 11)

EXPANSION PIERS
(Typ. at Pier Nos. 2, 4, 6, 8, 10, & 12)

50% plans

LONGITUDINAL SECTION

(All dimensions shown are along ℄ Beam & SB P.G.L., unless noted otherwise)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② See Expansion Joint Opening Equations on Sheet No. BN027.

③ For Framing Plan, see Sheet Nos. BN031 & BN032.
For Concrete Beam Diaphragm details, see Sheet Nos. BN026 & BN027.

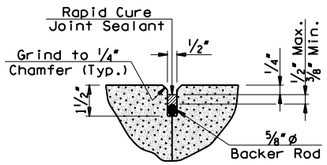
NOTE:
Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



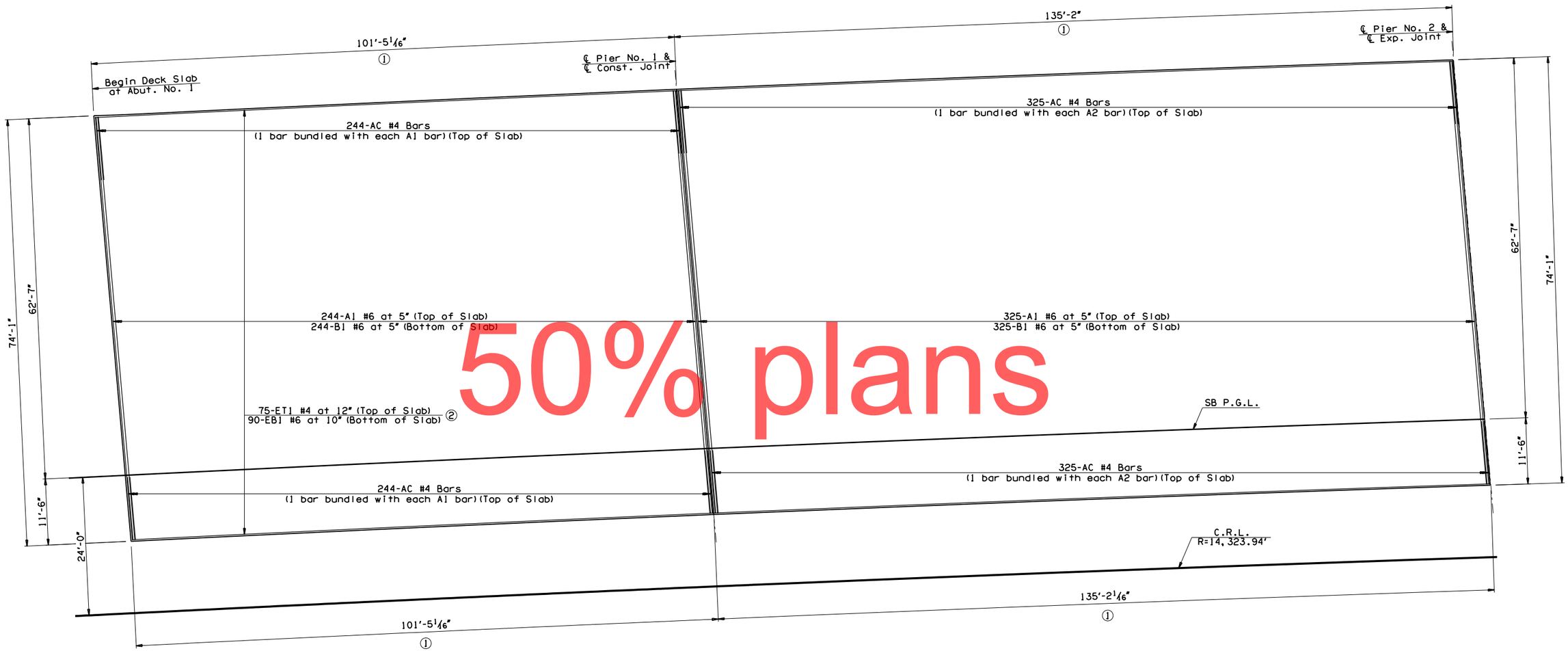
SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY GILCREASE EXPRESSWAY				
BR. N GILCREASE SB OVER ARKANSAS RIVER				
LONGITUDINAL SECTION				
GARVER 6450 SOUTH LEWIS, SUITE 300 TULSA, OKLAHOMA 74136 (918) 250-5922 (V) (918) 858-0107 (F)				
DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN020

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

PROPOSED R/W
10/23/2017

① Measured Along Outside Edge of Slab
② Concentric



50% plans

SLAB PLAN - SPAN NOS. 1 & 2
(Showing Top & Bottom of Slab Reinforcing Steel)

BAR LIST - SUPERSTRUCTURE					
	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	A1	#6	569	BENT	79'-2"
	AC	#4	1138	BENT	11'-6"
	AH1	#4	25	BENT	3'-1"
	AH2	#4	54	BENT	5'-1"
	AS	#4	75	BENT	4'-0"
②	AT1	#4	2	STR.	76'-10"
①	B1	#5	569	STR.	77'-10"
③	EB1	#6	90	STR.	256'-2"
	EPH	#4	75	BENT	3'-6"
②	EPT1	#4	1	STR.	76'-10"
④	ET1	#4	75	STR.	248'-2"
	FPH	#4	71	BENT	5'-4"
②	FPT1	#4	2	STR.	73'-2"
	FS2	#5	308	BENT	7'-4"
	PV2	#5	144	BENT	6'-3"

① Includes One 4'-0" Lap Length.
② Includes One 3'-0" Lap Length.
③ Includes Four 5'-0" Lap Length.
④ Includes Four 3'-0" Lap Length.

NOTE:
Rotate hooks on A & AC Bars to maintain minimum clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 10)

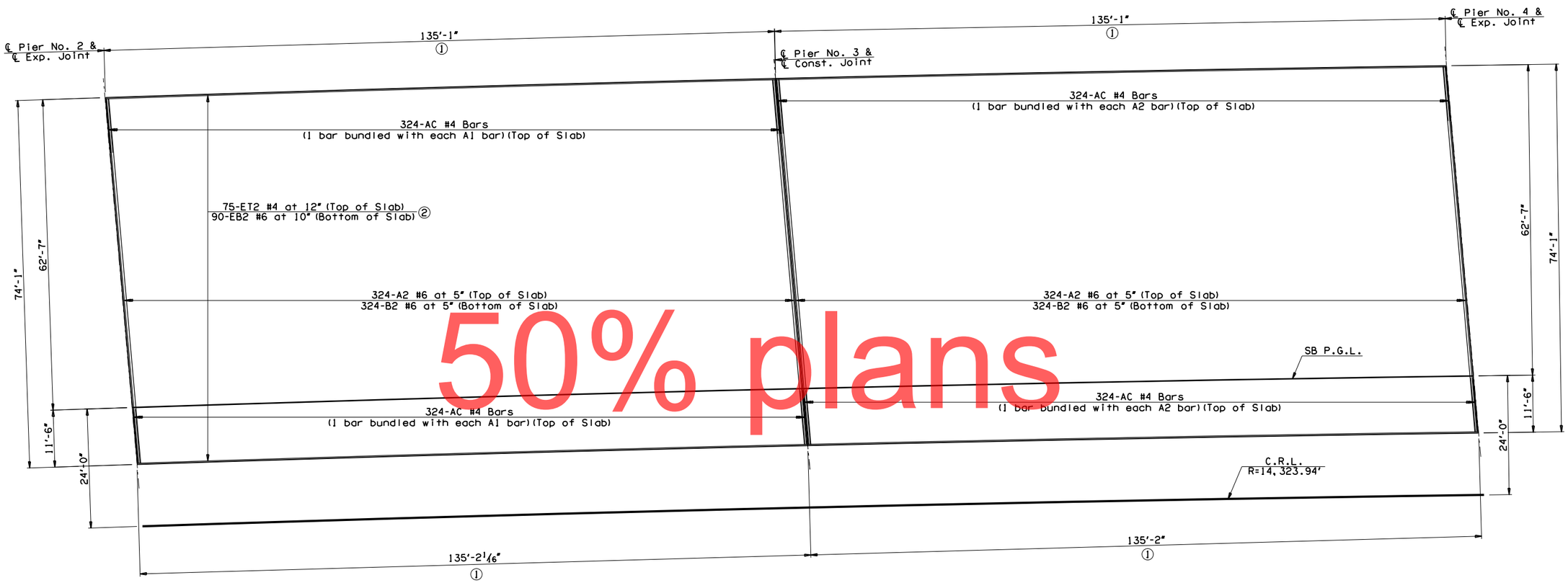
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN021

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

PROPOSED R/W
10/23/2017

① Measured Along Outside Edge of Slab
② Concentric



50% plans

SLAB PLAN - SPANS NO. 3 & 4
(Showing Top & Bottom of Slab Reinforcing Steel)

BAR LIST - SUPERSTRUCTURE					
	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	A2	#6	648	BENT	79'-3"
	AC	#4	1296	BENT	11'-6"
①	B2	#5	648	STR.	77'-11"
②	EB2	#6	90	STR.	289'-10"
	EPH	#4	150	BENT	3'-6"
③	EPT2	#4	2	STR.	76'-11"
④	ET2	#4	75	STR.	281'-10"
	FPH	#4	72	BENT	5'-4"
③	FPT1	#4	2	STR.	73'-2"
	FS2	#5	352	BENT	7'-4"
	PV2	#5	150	BENT	6'-3"

① Includes One 4'-0" Lap Length.
② Includes Four 5'-0" Lap Length.
③ Includes One 3'-0" Lap Length.
④ Includes Four 3'-0" Lap Length.

NOTE:
Rotate hooks on A & AC Bars to maintain minimum clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 10)

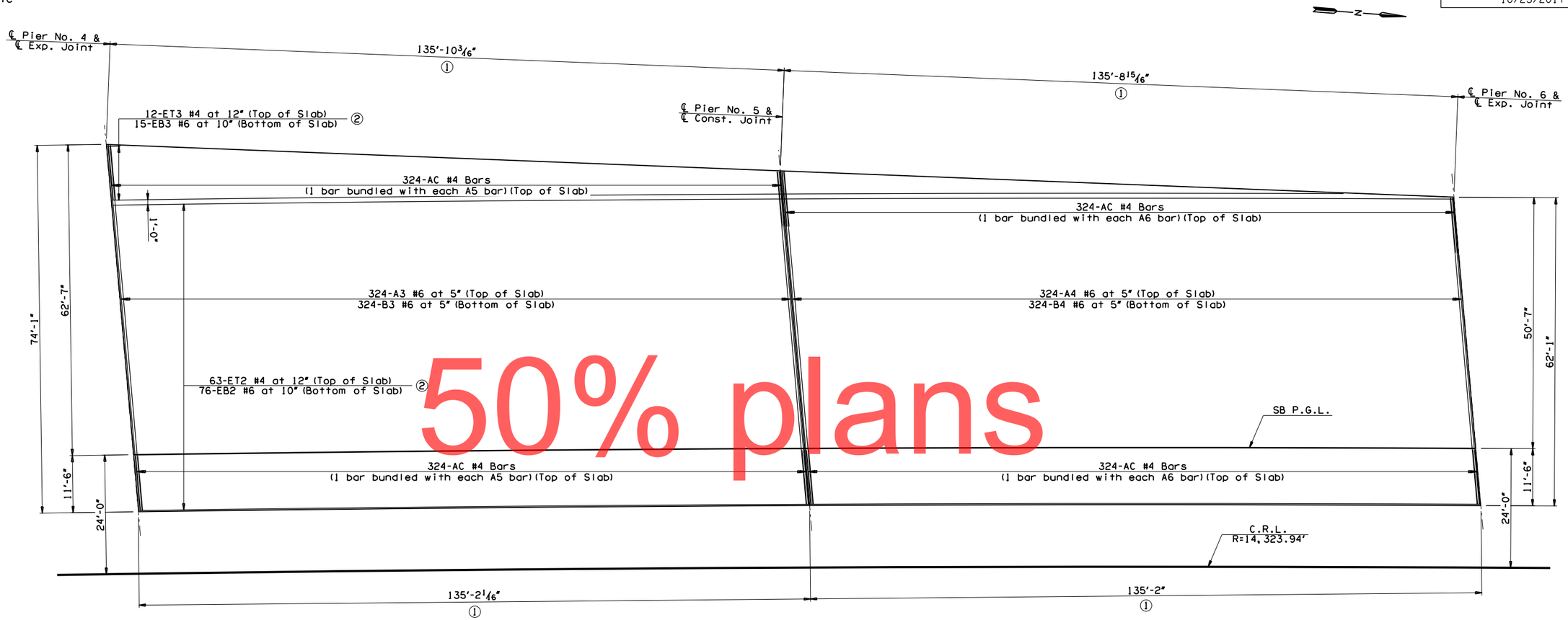
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN022

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

PROPOSED R/W
10/23/2017

① Measured Along Outside Edge of Slab
② Concentric



50% plans

SLAB PLAN - SPAN NOS. 5 & 6
(Showing Top of Slab Reinforcing Steel)

BAR LIST - SUPERSTRUCTURE

	MARK	SIZE	NO.	FORM	LENGTH	VARIATION
	EPOXY COATED REINFORCING STEEL					
①	A3	#6	324	BENT	75'-11½" AVG.	72'-8" TO 79'-3"
①	A4	#6	324	BENT	70'-0" AVG.	67'-4" TO 72'-8"
	AC	#4	1296	BENT	11'-6"	-
①	B3	#5	324	STR.	74'-7½" AVG.	71'-4" TO 77'-11"
①	B4	#5	324	STR.	68'-8" AVG.	66'-0" TO 71'-4"
②	EB2	#6	76	STR.	289'-10"	-
	EPH	#4	139	BENT	3'-6"	-
③	EPT2	#4	1	STR.	76'-11"	-
③	EPT3	#4	1	STR.	65'-0"	-
④	ET2	#4	63	STR.	281'-10"	-
②	EB3	#6	15	STR.	135'-3" AVG.	2'-7" TO 267'-11"
④	ET3	#4	12	STR.	131'-3" AVG.	2'-7" TO 259'-11"
	FPH	#4	65	BENT	5'-4"	-
③	FPT2	#4	2	STR.	66'-8"	-
	FS2	#5	352	BENT	7'-4"	-
	PV2	#5	144	BENT	6'-3"	-

① Includes One 4'-0" Lap Length.
② Includes Four 5'-0" Lap Length.
③ Includes One 3'-0" Lap Length.
④ Includes Four 3'-0" Lap Length.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 10)

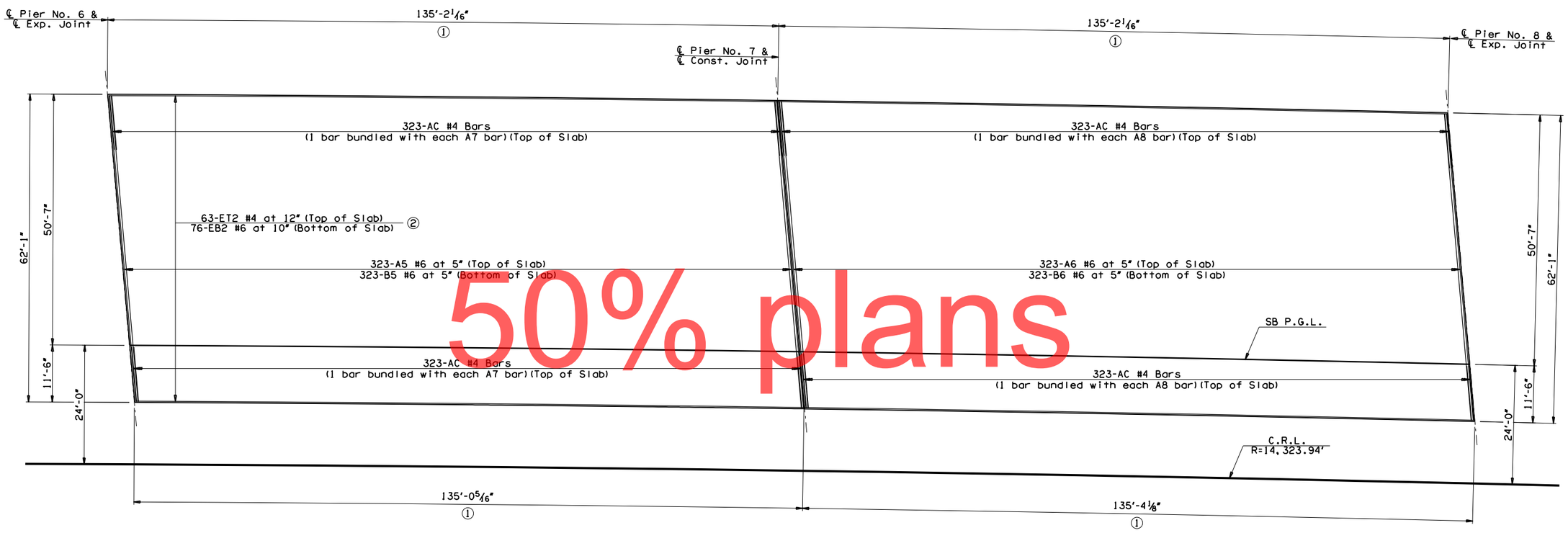
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN023

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

PROPOSED R/W
10/23/2017

① Measured Along Outside Edge of Slab
② Concentric



50% plans

SLAB PLAN - SPAN NOS. 7 - 12
(Span Nos. 7 & 8 Shown, Span Nos. 9 - 12 Similar)

BAR LIST - SUPERSTRUCTURE SPAN NOS. 7-8

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	A5	#6	323	BENT	67'-4"
①	A6	#6	323	BENT	67'-5"
	AC	#4	1292	BENT	11'-6"
①	B5	#5	323	STR.	66'-0"
①	B6	#5	323	STR.	66'-1"
②	EB2	#6	76	STR.	289'-10"
	EPH	#4	128	BENT	3'-6"
③	EPT3	#4	1	STR.	65'-0"
③	EPT4	#4	1	STR.	65'-1"
④	ET2	#4	63	STR.	281'-10"
	FPH	#4	61	BENT	5'-4"
③	FPT3	#4	2	STR.	62'-3"
	FS2	#5	352	BENT	7'-4"
	PV2	#5	144	BENT	6'-3"

BAR LIST - SUPERSTRUCTURE SPAN NOS. 9-10

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	A7	#6	323	BENT	67'-6"
①	A8	#6	322	BENT	67'-7"
	AC	#4	1290	BENT	11'-6"
①	B7	#5	323	STR.	66'-2"
①	B8	#5	322	STR.	66'-3"
②	EB2	#6	76	STR.	289'-10"
	EPH	#4	128	BENT	3'-6"
③	EPT4	#4	1	STR.	65'-1"
③	EPT5	#4	1	STR.	65'-3"
④	ET2	#4	63	STR.	281'-10"
	FPH	#4	61	BENT	5'-4"
③	FPT4	#4	2	STR.	62'-5"
	FS2	#5	352	BENT	7'-4"
	PV2	#5	142	BENT	6'-3"

BAR LIST - SUPERSTRUCTURE SPAN NOS. 11-12

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	A9	#6	322	BENT	67'-8"
①	A10	#6	322	BENT	67'-9"
	AC	#4	1288	BENT	11'-6"
①	B9	#5	322	STR.	66'-4"
①	B10	#5	322	STR.	66'-5"
②	EB2	#6	76	STR.	289'-10"
	EPH	#4	128	BENT	3'-6"
③	EPT5	#4	2	STR.	65'-3"
③	EPT6	#4	2	STR.	65'-5"
④	ET2	#4	63	STR.	281'-10"
	FPH	#4	61	BENT	5'-4"
③	FPT5	#4	2	STR.	62'-6"
	FS2	#5	352	BENT	7'-4"
	PV2	#5	140	BENT	6'-3"

① Includes One 4'-0" Lap Length.
② Includes Four 5'-0" Lap Length.
③ Includes One 3'-0" Lap Length.
④ Includes Four 3'-0" Lap Length.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 10)

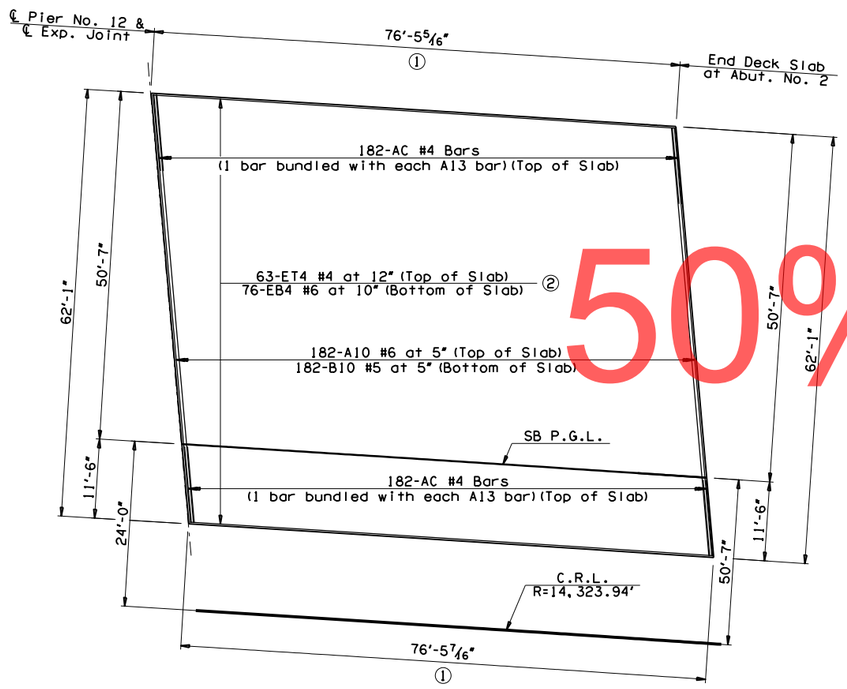
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN024

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

PROPOSED
R/W
10/23/2017

① Measured Along Outside Edge of Slab
② Concentric



SLAB PLAN - SPAN NO. 13
(Showing Top & Bottom of Slab Reinforcing Steel)

50% plans

BAR LIST - SUPERSTRUCTURE					
	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING STEEL				
①	A10	#6	182	BENT	67'-9"
	AC	#4	364	BENT	11'-6"
	AH1	#4	22	BENT	3'-1"
	AH2	#4	45	BENT	5'-1"
	AS	#4	63	BENT	4'-0"
②	AT2	#4	2	STR.	65'-6"
①	B10	#5	182	STR.	66'-5"
③	EB4	#6	76	STR.	81'-0"
	EPH	#4	64	BENT	3'-6"
②	EPT6	#4	1	STR.	65'-5"
②	ET4	#4	63	STR.	79'-0"
	FS2	#5	108	BENT	7'-4"
	PV2	#5	34	BENT	6'-3"

① Includes One 4'-0" Lap Length.
② Includes One 3'-0" Lap Length.
③ Includes One 5'-0" Lap Length.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

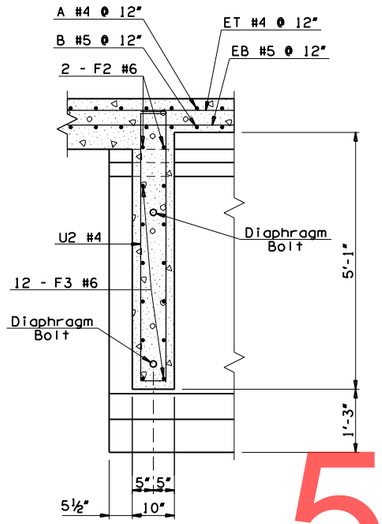
SUPERSTRUCTURE DETAILS
(SHEET 5 OF 10)

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

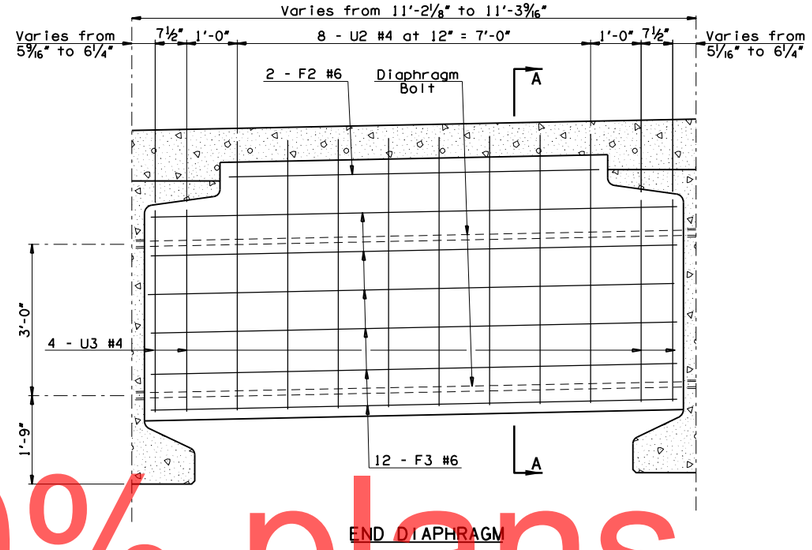
DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN025

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

PROPOSED R/W
10/23/2017

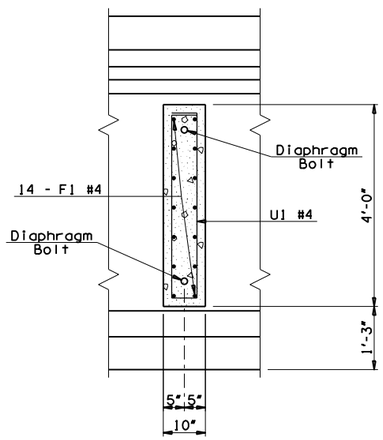


SECTION A-A

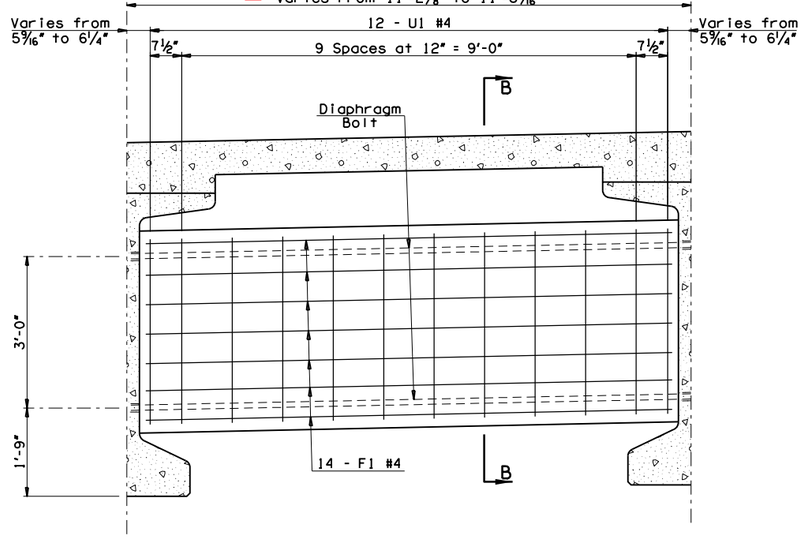


END DIAPHRAGM

50% plans



SECTION B-B



INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

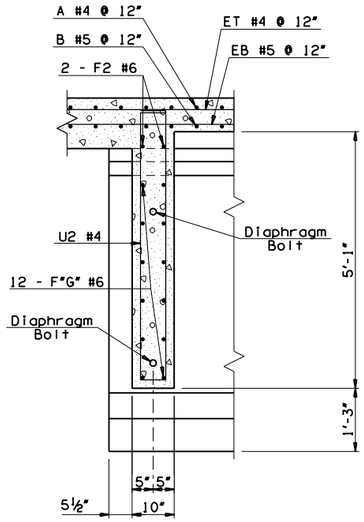
SUPERSTRUCTURE DETAILS
(SHEET 6 OF 10)

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

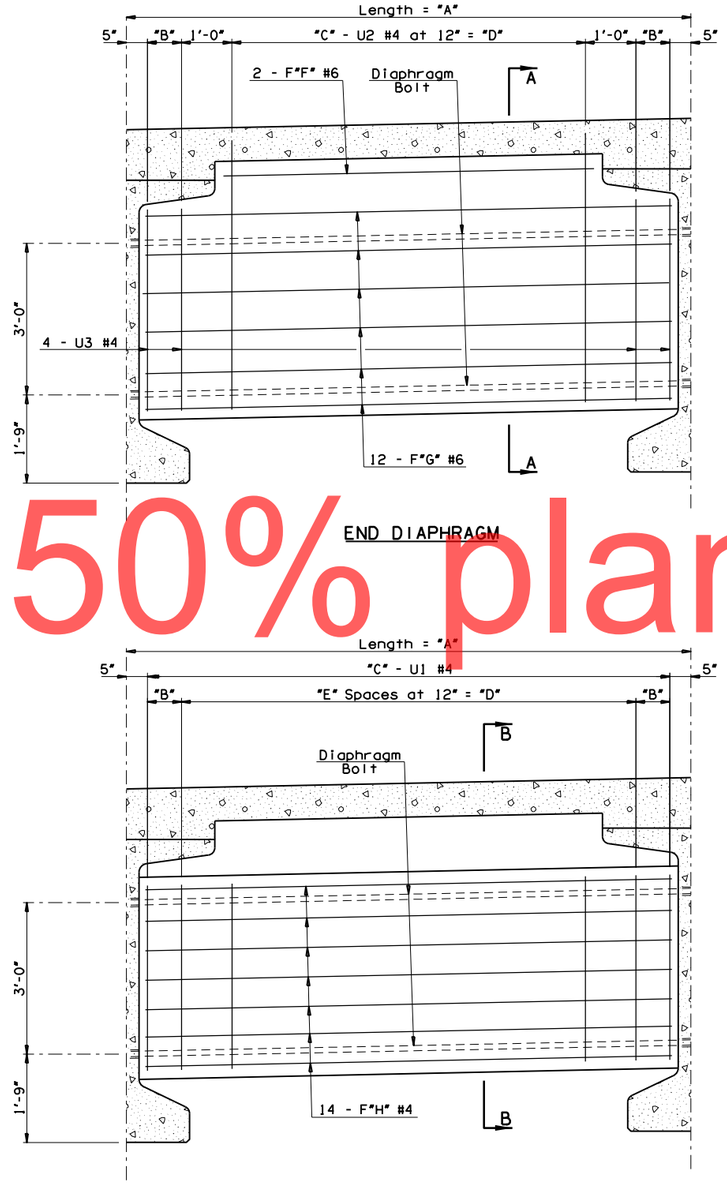
DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	1/16		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BN026

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

PROPOSED R/W
10/23/2017

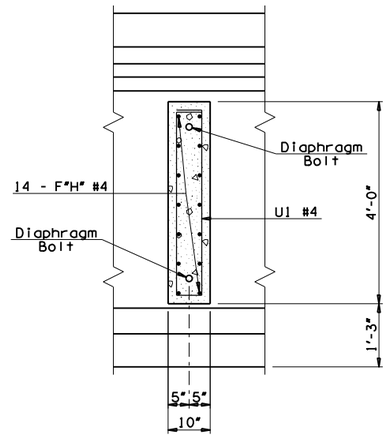


SECTION A-A



END DIAPHRAGM

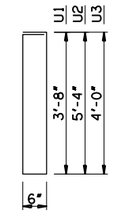
50% plans



SECTION B-B

INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)

DIAPHRAGM TABLE OF VARIABLES								
Diaphragm	Length "A"	Length "B"	"C"	Length "D"	"E"	"F"	"G"	"H"
D1	11'-1½"	7¾"	8	7'-0"	-	4	7	-
D2	10'-0½"	7¼"	11	8'-0"	8	-	-	10
D3	8'-11½"	6¾"	10	7'-0"	7	-	-	11
D4	7'-10½"	6¼"	5	4'-0"	-	5	8	-
D5	7'-9¾"	5⅞"	5	4'-0"	-	5	8	-
D6	7'-1"	7½"	8	5'-0"	5	-	-	12
D7	6'-4¼"	9⅛"	7	4'-0"	4	-	-	13
D8	5'-7½"	10¾"	2	1'-0"	-	6	9	-



U1 #4 x 14'-1"
U2 #4 x 13'-9"
U3 #4 x 14'-1"

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	2338	STR.	10'-5"	-
F2	#6	270	STR.	7'-4"	-
F3	#6	1620	STR.	10'-5"	-
F4	#6	2	STR.	7'-3"	-
F5	#6	4	STR.	4'-0"	-
F6	#6	2	STR.	1'-11"	-
F7	#6	12	STR.	10'-4"	-
F8	#6	24	STR.	7'-2"	-
F9	#6	12	STR.	5'-0"	-
F10	#4	28	STR.	9'-3"	-
F11	#4	28	STR.	8'-2"	-
F12	#4	14	STR.	6'-4"	-
F13	#4	14	STR.	5'-7"	-
U1	#4	2076	BENT	8'-10"	-
U2	#4	1120	BENT	12'-2"	-
U3	#4	568	BENT	9'-6"	-

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

SUPERSTRUCTURE DETAILS
(SHEET 7 OF 10)

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

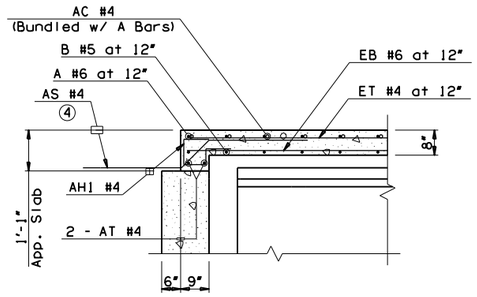
DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	1/16		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BN027

① Deck cantilever varies. See Sheet No. BN029.
② Beam spacing varies. See Sheet No. BN019.
③ Number of Bars varies. See Sheet Nos. BN021 -BN024.
④ Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)
⑤ The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

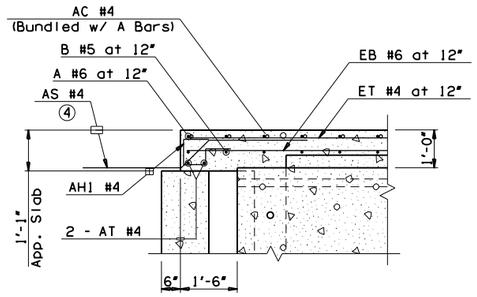
Pier No. 1 = 2.9500 - (0.02209 x T)
Pier No. 5 = 2.6099 - (0.01418 x T)
Pier Nos. 9, 13, 17, 21, & 25 = 3.2632 - (0.02938 x T)

Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

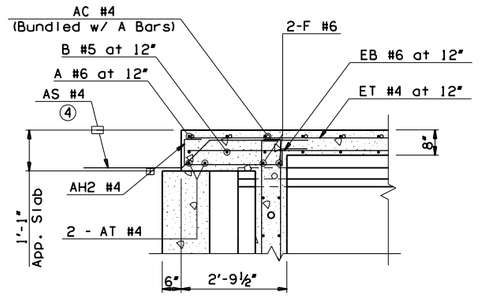
The Expansion Joint Opening shall be measred perpendicular to the joint.



SECTION A



SECTION B

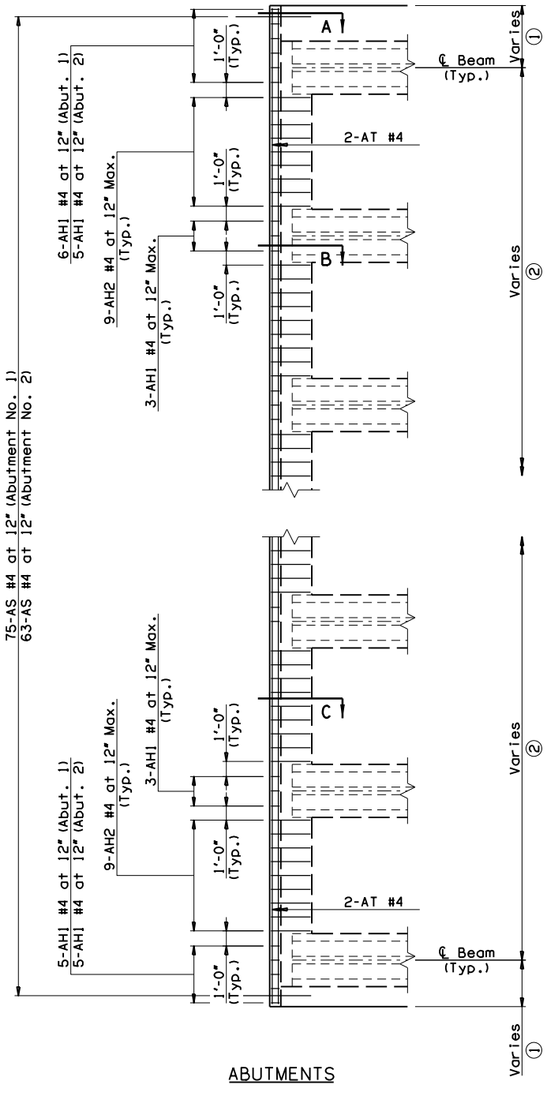


SECTION C

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

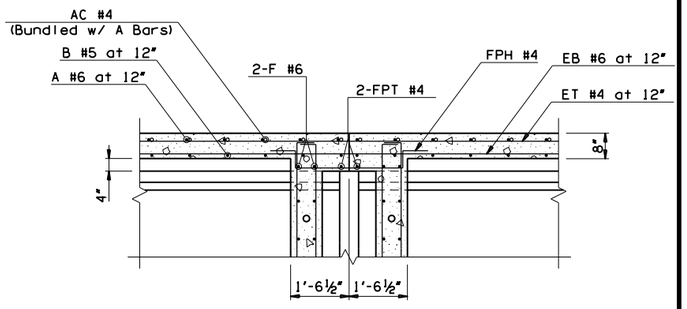
PROPOSED
R/W
10/23/2017



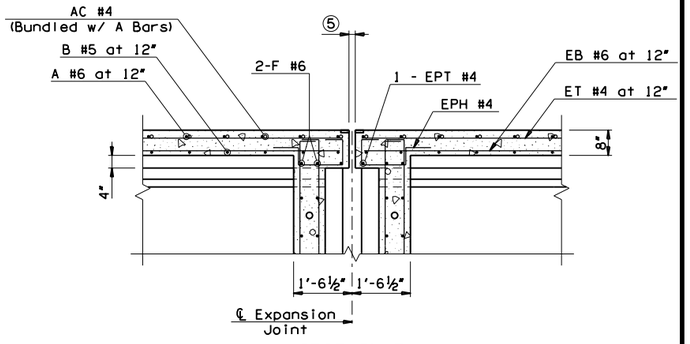
ABUTMENTS

FIXED PIERS

EXPANSION PIERS



SECTION D



SECTION E

NOTES:
Deck slab reinforcing not shown for clarity.

Location of reinforcing shown is for informational purposes only. Actual lengths of AT, FPT, & EPT bars will vary depending on span arrangement. See "FRAMING PLAN" sheets for spacing of beams per span. See "SUPERSTRUCTURE DETAILS" sheets for specific bar designations and lengths per span.

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS

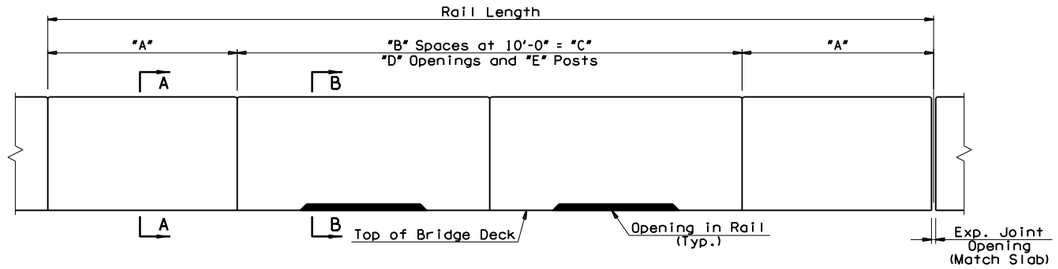
SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
SUPERSTRUCTURE DETAILS
(SHEET 8 OF 10)

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

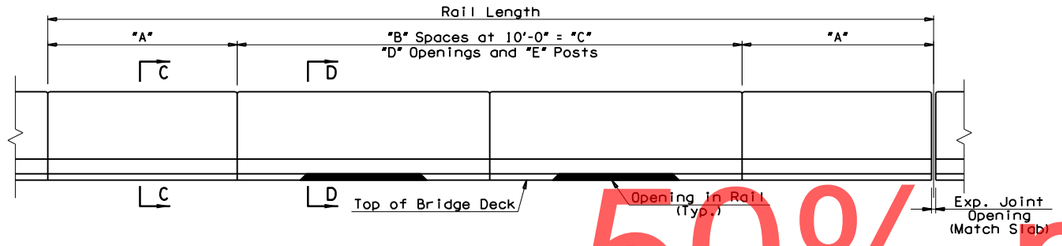
DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	JMH	9/17	DATE: 10/23/2017	SHEET NO. BN028



FIXED ABUTMENT OR PIER

EXPANSION PIER

CONCRETE RAIL (WITH OPENINGS)



FIXED ABUTMENT OR PIER

EXPANSION PIER

CONCRETE PARAPET (WITH OPENINGS)

TABLE OF VARIABLES - CONCRETE RAIL (TR4)								
LOCATION	LOCATION ②	TYPE	LENGTH	"A"	"B"	"C"	"D"③	"E"③
APPROACH SLAB NO. 1	W. RDY.	④	52'-6"	8'-9"	4	40'-0"		
	E. RDY.	④	50'-8¾"	7'-9⅞"	4	40'-0"		
	PED.	⑤	48'-4⅞"	7'-6⅛"	4	40'-0"		
SPAN NO. 1	ALL	④⑤	101'-5"	5'-8½"	9	90'-0"	9	8
SPAN NOS. 2 & 3	ALL	④⑤	135'-2"	7'-7"	12	120'-0"	12	11
SPAN NO. 4 ⑥	W. RDY.	④	135'-2⅛"	7'-7⅛"	12	120'-0"	12	11
	E. RDY. & PED.	④⑤	135'-2"	7'-7"				
SPAN NO. 5	W. RDY.	④	135'-10¾"	7'-11⅛"	12	120'-0"	12	11
	E. RDY.	④	135'-2"	7'-7"				
	PED.	⑤	135'-10¾"	7'-11⅛"				
SPAN NO. 6 ⑥	W. RDY.	④	135'-8⅛"	7'-10⅞"	12	120'-0"	12	11
	E. RDY.	④	135'-2⅛"	7'-7⅛"				
	PED.	⑤	135'-8⅝"	7'-10½"				
SPAN NOS. 7 & 8	W. RDY.	④	135'-2"	7'-7"	12	120'-0"	12	11
	E. RDY.	④	135'-2⅛"	7'-7⅛"				
	PED.	⑤	135'-2"	7'-7"				
SPAN NO. 9	W. RDY.	④	135'-2"	7'-7"	12	120'-0"	12	11
	E. RDY.	④	135'-2⅜"	7'-7⅛"				
	PED.	⑤	135'-2"	7'-7"				
SPAN NOS. 10 & 11	W. RDY.	④	135'-2⅛"	7'-7⅛"	12	120'-0"	12	11
	E. RDY.	④	135'-2⅜"	7'-7⅛"				
	PED.	⑤	135'-2"	7'-7"				
SPAN NO. 12	W. RDY.	④	135'-2⅛"	7'-7⅛"	12	120'-0"	12	11
	E. RDY.	④	135'-2¼"	7'-7⅛"				
	PED.	⑤	135'-2⅛"	7'-7⅛"				
SPAN NO. 13	W. RDY.	④	76'-5⅝"	8'-2¹¹⁄₁₆"	6	60'-0"	6	5
	E. RDY.	④	76'-5⅞"					
	PED.	⑤	76'-5⅝"					
APP. SLAB NO. 2	W. & E. RDY.	SEE "PARAPET TRANSITION AT APPROACH SLAB NO. 2"						
	PED.	⑤	49'-3¼"	9'-7⅝"	3	30'-0"		

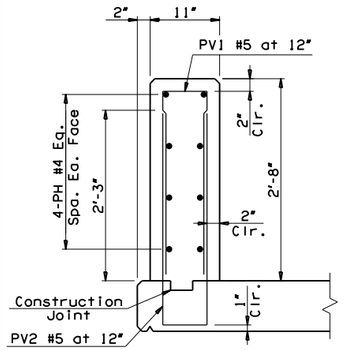
② "E. RDY." or "W. RDY." refer to parapets adjacent to the clear roadway. "PED." refers to the outboard rail of the Shared Use Trail.

③ "D" & "E" apply only to the "W. RDY." & "PED." rails. The "E RDY." rail is enitrely closed.

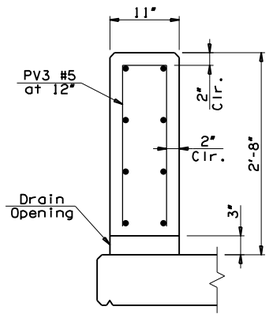
④ "E. RDY." and "W. RDY." are 42" F-Shaped Parapets. See SECTIONS C-C & D-D and Std. FSHP-42-2-00E for details.

⑤ "PED." Rails are Concrete Barriers. See SECTIONS A-A & B-B for details.

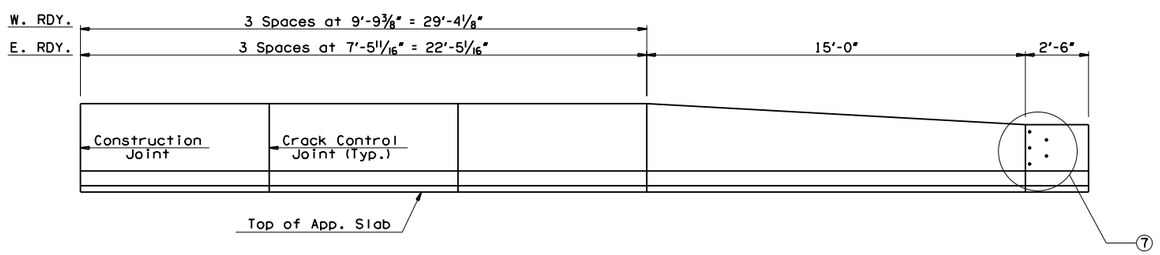
⑥ For partial rail layout at Expansion Piers, See DETAIL "A".



SECTION THRU POST

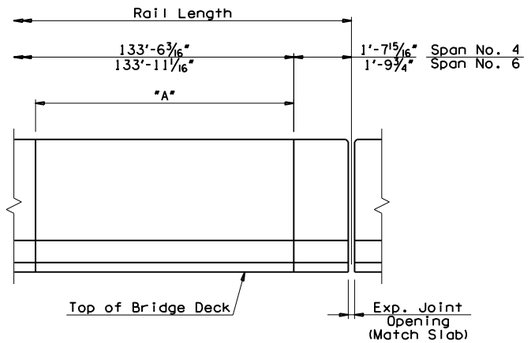


SECTION THRU DRAIN OPENING

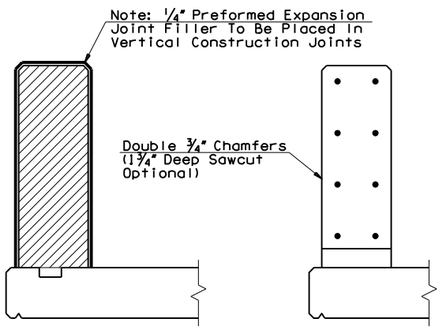


PARAPET TRANSITION AT APPROACH SLAB NO. 2

⑦ See "THRIE-BEAM TERMINAL CONNECTION DETAIL" on Sheet No. BSTA01.



DETAIL "A"

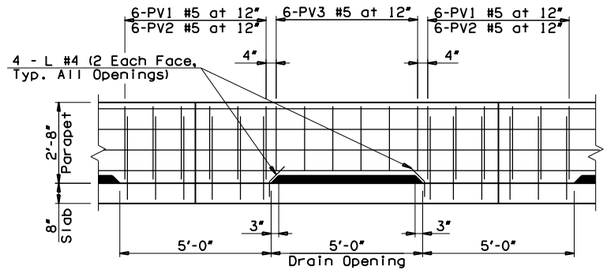


CONSTRUCTION JOINT

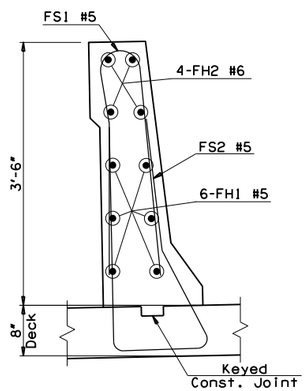
NOTE: Typical and fixed abutment

CRACK CONTROL JOINT

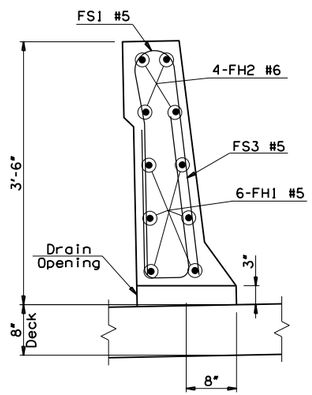
note: all bars shall be continuous thru crack control joint



TYPICAL PARAPET REINFORCING SPACING (PARAPETS WITH DRAIN OPENINGS)



SECTION C-C



SECTION D-D

NOTES:

For details showing the reinforcement layout and bar bend details for 42" F-Shaped Traffic Rails, see Std. FSHP-42-2-00E

Provide blockouts for Sealed Expansion Joints.

All dimensions shown are measured along the inside face of the traffic rail.

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

SUPERSTRUCTURE DETAILS
(SHEET 9 OF 10)

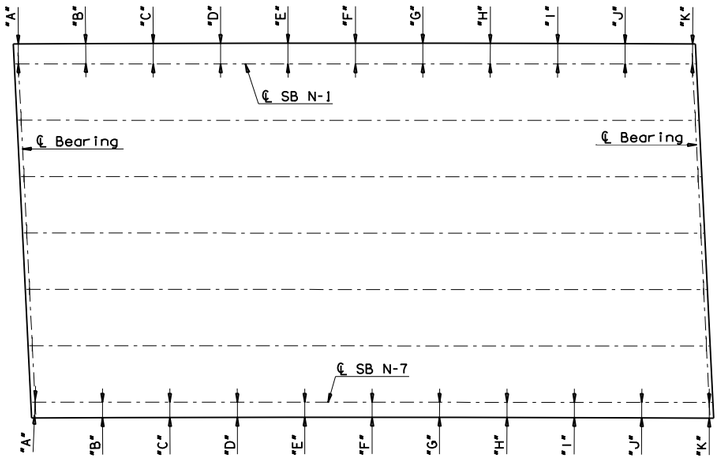
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	2/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	2/16		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BN029

50% plans

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

PROPOSED R/W
10/23/2017



TENTH POINT LOCATIONS ALONG BEAMS
(Showing Dimensions from Exterior Beams to Deck Facia)
(Measured Perpendicular to ℄ Beam)

50% plans

SPAN NO. 1 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-11 7/8"	3'-1 1/2"
"B"	3'-11 13/16"	3'-1 1/8"
"C"	4'-0 1/16"	3'-0 13/16"
"D"	4'-0 5/16"	3'-0 5/8"
"E"	4'-0 7/16"	3'-0 1/2"
"F"	4'-0 1/2"	3'-0 1/2"
"G"	4'-0 11/16"	3'-0 1/2"
"H"	4'-0 3/8"	3'-0 5/8"
"I"	4'-0 9/16"	3'-0 7/8"
"J"	3'-11 15/16"	3'-1 1/8"
"K"	3'-11 7/8"	3'-1 1/2"

SPAN NO. 2 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-11 15/16"	3'-1 1/2"
"B"	4'-0 1/16"	3'-0 13/16"
"C"	4'-0 5/8"	3'-0 5/8"
"D"	4'-1"	2'-11 15/16"
"E"	4'-1 1/4"	2'-11 11/16"
"F"	4'-1 3/8"	2'-11 5/8"
"G"	4'-1 5/16"	2'-11 11/16"
"H"	4'-1 1/8"	2'-11 15/16"
"I"	4'-0 13/16"	3'-0 5/16"
"J"	4'-0 5/16"	3'-0 7/8"
"K"	3'-11 11/16"	3'-1 1/2"

SPAN NO. 3 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-11 5/16"	3'-1 1/2"
"B"	4'-0"	3'-0 13/16"
"C"	4'-0 3/16"	3'-0 5/16"
"D"	4'-1"	2'-11 15/16"
"E"	4'-1 1/4"	2'-11 11/16"
"F"	4'-1 3/8"	2'-11 5/8"
"G"	4'-1 5/16"	2'-11 11/16"
"H"	4'-1 1/8"	2'-11 15/16"
"I"	4'-0 13/16"	3'-0 5/16"
"J"	4'-0 5/16"	3'-0 7/8"
"K"	3'-11 11/16"	3'-1 1/2"

SPAN NO. 4 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-11 1/4"	3'-1 1/2"
"B"	4'-0"	3'-0 13/16"
"C"	4'-0 9/16"	3'-0 5/16"
"D"	4'-1"	2'-11 15/16"
"E"	4'-1 1/4"	2'-11 11/16"
"F"	4'-1 3/8"	2'-11 5/8"
"G"	4'-1 5/16"	2'-11 11/16"
"H"	4'-1 1/8"	2'-11 15/16"
"I"	4'-0 13/16"	3'-0 5/16"
"J"	4'-0 3/8"	3'-0 7/8"
"K"	3'-11 3/4"	3'-1 9/16"

SPAN NO. 5 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	4'-0"	3'-1 7/16"
"B"	4'-0"	3'-0 13/16"
"C"	4'-0"	3'-0 5/16"
"D"	4'-0"	2'-11 15/16"
"E"	4'-0"	2'-11 11/16"
"F"	4'-0"	2'-11 5/8"
"G"	4'-0"	2'-11 3/4"
"H"	4'-0"	2'-11 15/16"
"I"	4'-0"	3'-0 5/16"
"J"	4'-0"	3'-0 7/8"
"K"	4'-0"	3'-1 9/16"

SPAN NO. 6 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	4'-0"	3'-1 7/16"
"B"	3'-10 15/16"	3'-0 13/16"
"C"	3'-9 7/8"	3'-0 5/16"
"D"	3'-8 7/8"	2'-11 15/16"
"E"	3'-7 13/16"	2'-11 11/16"
"F"	3'-6 3/4"	2'-11 5/8"
"G"	3'-5 11/16"	2'-11 3/4"
"H"	3'-4 5/8"	2'-11 15/16"
"I"	3'-3 5/8"	3'-0 5/16"
"J"	3'-2 9/16"	3'-0 7/8"
"K"	3'-1 1/2"	3'-1 9/16"

SPAN NO. 7 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-1 1/4"	3'-1 7/16"
"B"	3'-1 5/16"	3'-0 13/16"
"C"	3'-2 9/16"	3'-0 1/4"
"D"	3'-2 15/16"	2'-11 15/16"
"E"	3'-3 3/8"	2'-11 11/16"
"F"	3'-3 3/8"	2'-11 5/8"
"G"	3'-3 5/16"	2'-11 3/4"
"H"	3'-3 3/16"	2'-11 5/16"
"I"	3'-2 13/16"	3'-0 5/16"
"J"	3'-2 3/8"	3'-0 7/8"
"K"	3'-1 3/4"	3'-1 9/16"

SPAN NO. 8 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-1 3/16"	3'-1 7/16"
"B"	3'-1 5/16"	3'-0 13/16"
"C"	3'-2 1/2"	3'-0 1/4"
"D"	3'-2 15/16"	2'-11 15/16"
"E"	3'-3 1/4"	2'-11 11/16"
"F"	3'-3 3/8"	2'-11 5/8"
"G"	3'-3 5/16"	2'-11 3/4"
"H"	3'-3 3/16"	2'-11 5/16"
"I"	3'-2 7/8"	3'-0 5/16"
"J"	3'-2 3/8"	3'-0 7/8"
"K"	3'-1 3/4"	3'-1 9/16"

SPAN NO. 9 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-1 3/16"	3'-1 7/16"
"B"	3'-1 5/16"	3'-0 13/16"
"C"	3'-2 1/2"	3'-0 1/4"
"D"	3'-2 15/16"	2'-11 15/16"
"E"	3'-3 3/16"	2'-11 11/16"
"F"	3'-3 3/8"	2'-11 5/8"
"G"	3'-3 5/16"	2'-11 3/4"
"H"	3'-3 3/16"	2'-11 5/16"
"I"	3'-2 7/8"	3'-0 5/16"
"J"	3'-2 7/16"	3'-0 7/8"
"K"	3'-1 13/16"	3'-1 9/16"

SPAN NO. 10 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-1 3/16"	3'-1 7/16"
"B"	3'-1 7/8"	3'-0 13/16"
"C"	3'-2 1/2"	3'-0 1/4"
"D"	3'-2 15/16"	2'-11 15/16"
"E"	3'-3 3/16"	2'-11 11/16"
"F"	3'-3 3/8"	2'-11 5/8"
"G"	3'-3 5/16"	2'-11 3/4"
"H"	3'-3 3/16"	2'-11 5/16"
"I"	3'-2 7/8"	3'-0 5/16"
"J"	3'-2 7/16"	3'-0 7/8"
"K"	3'-1 13/16"	3'-1 9/16"

SPAN NO. 11 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-1 1/8"	3'-1 7/16"
"B"	3'-1 7/8"	3'-0 3/4"
"C"	3'-2 7/16"	3'-0 1/4"
"D"	3'-2 7/8"	2'-11 15/16"
"E"	3'-3 3/16"	2'-11 11/16"
"F"	3'-3 3/8"	2'-11 5/8"
"G"	3'-3 5/16"	2'-11 3/4"
"H"	3'-3 3/16"	2'-11 5/16"
"I"	3'-2 7/8"	3'-0 3/8"
"J"	3'-2 7/16"	3'-0 7/8"
"K"	3'-1 7/8"	3'-1 9/16"

SPAN NO. 12 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO.	
	SB N-1	SB N-7
"A"	3'-1 1/8"	3'-1 7/16"
"B"	3'-1 7/8"	3'-0 3/4"
"C"	3'-2 7/16"	3'-0 1/4"
"D"	3'-2 7/8"	2'-11 15/16"
"E"	3'-3 3/16"	2'-11 11/16"
"F"	3'-3 5/16"	2'-11 5/8"
"G"	3'-3 3/8"	2'-11 3/4"
"H"	3'-3 3/16"	2'-11 5/16"
"I"	3'-2 7/8"	3'-0 3/8"
"J"	3'-2 7/16"	3'-0 7/8"
"K"	3'-1 7/8"	3'-1 9/16"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

SUPERSTRUCTURE DETAILS
(SHEET 10 OF 10)

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

DESIGNED	RH	1/16	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BN030

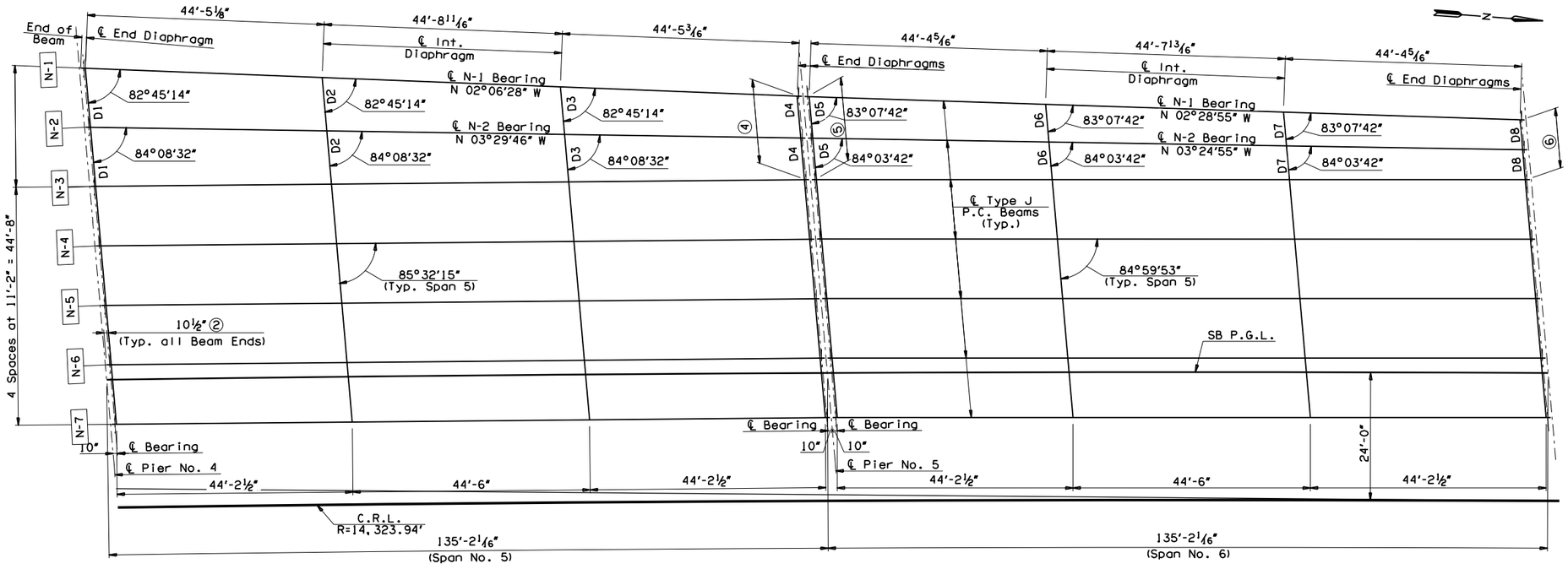
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



FRAMING PLAN - SPAN NOS. 1 - 4

50% plans



FRAMING PLAN - SPAN NOS. 5 & 6

① Measured along SB P.G.L.
② Measured along ℄ Beam
③ 2 Spaces at 11'-1⅝" = 22'-3¼" (Measured along ℄ Bearing)
④ 2 Spaces at 7'-10⁷⁄₁₆" = 15'-8⅞" (Measured along ℄ Bearing)
⑤ 2 Spaces at 7'-9¹³⁄₁₆" = 15'-7⅝" (Measured along ℄ Bearing)
⑥ 2 Spaces at 5'-7½" = 11'-3" (Measured along ℄ Bearing)
⑦ Span No. 2 - 87°09'29"
Span No. 3 - 86°37'06"
Span No. 4 - 86°04'43"

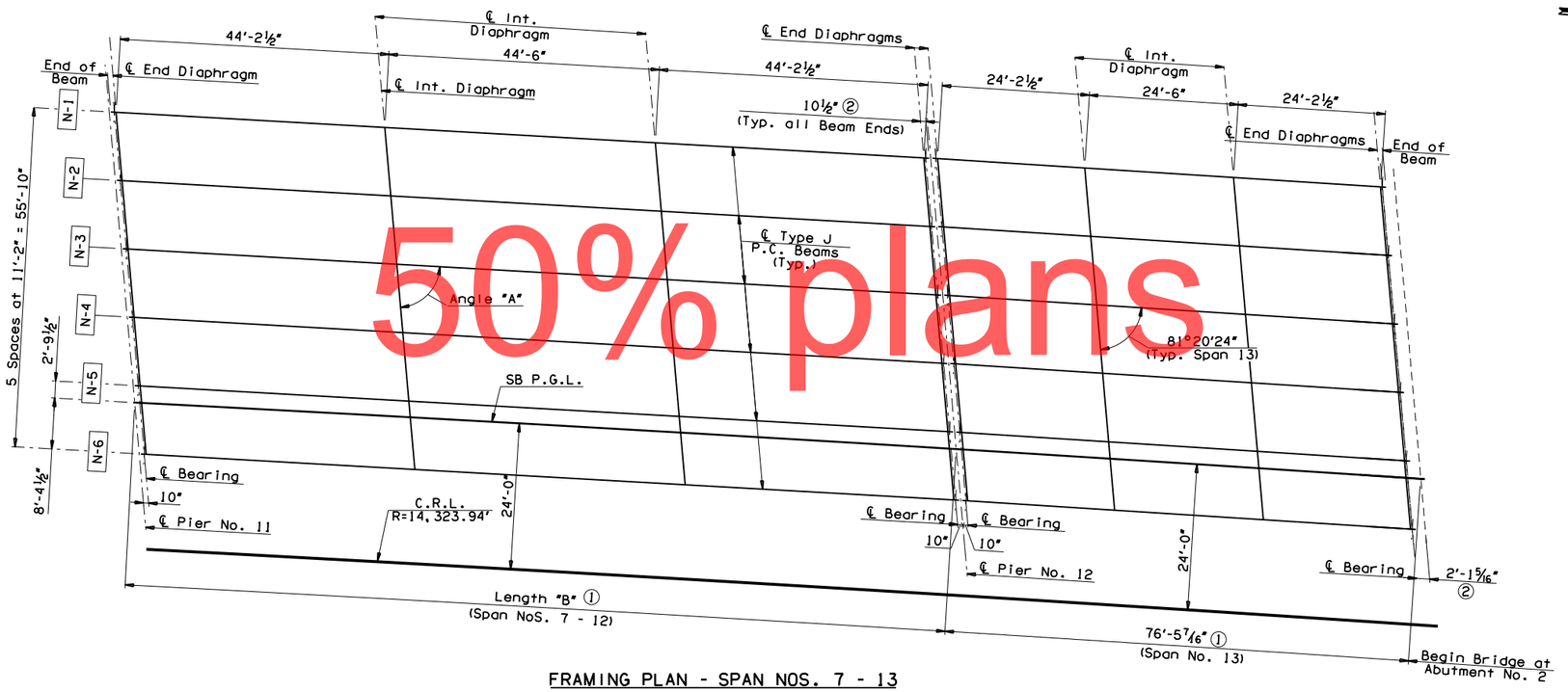
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
FRAMING PLAN
(SHEET 1 OF 2)

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	JTR	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN031

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

PROPOSED R/W
10/23/2017



FRAMING PLAN - SPAN NOS. 7 - 13

50% plans

FRAMING TABLE OF VARIABLES		
SPAN NO.	ANGLE "A"	LENGTH "B"
7	84°27'33"	135'-2⅛"
8	83°55'10"	135'-2⅛"
9	83°22'47"	135'-2⅛"
10	82°50'23"	135'-2⅜16"
11	82°18'00"	135'-2⅜16"
12	81°45'36"	135'-2⅜16"

① Measured along SB P.G.L.
② Measured along ℄ Beam

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

FRAMING PLAN
(SHEET 2 OF 2)

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	JTR	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN032

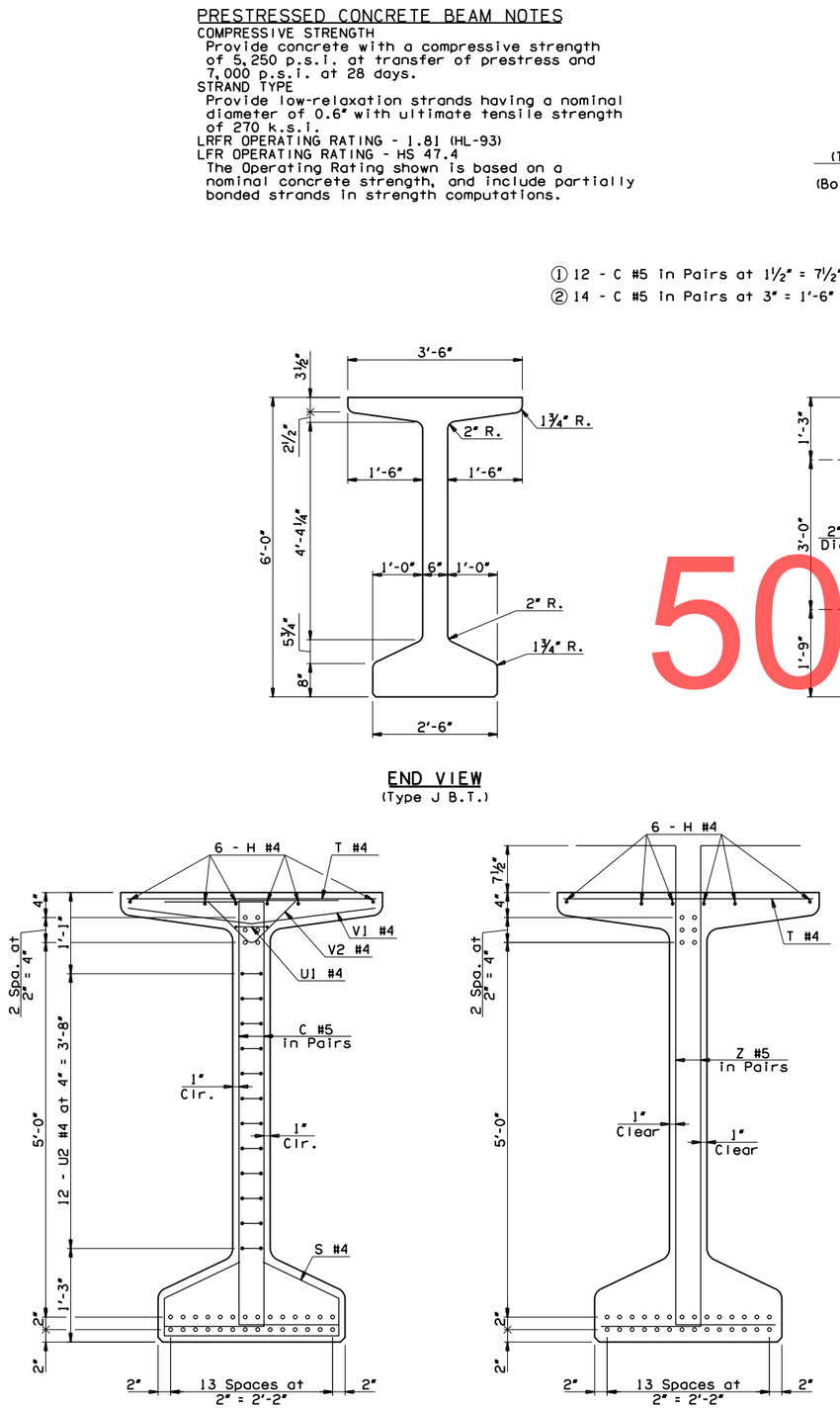
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

PRESTRESSED CONCRETE BEAM NOTES

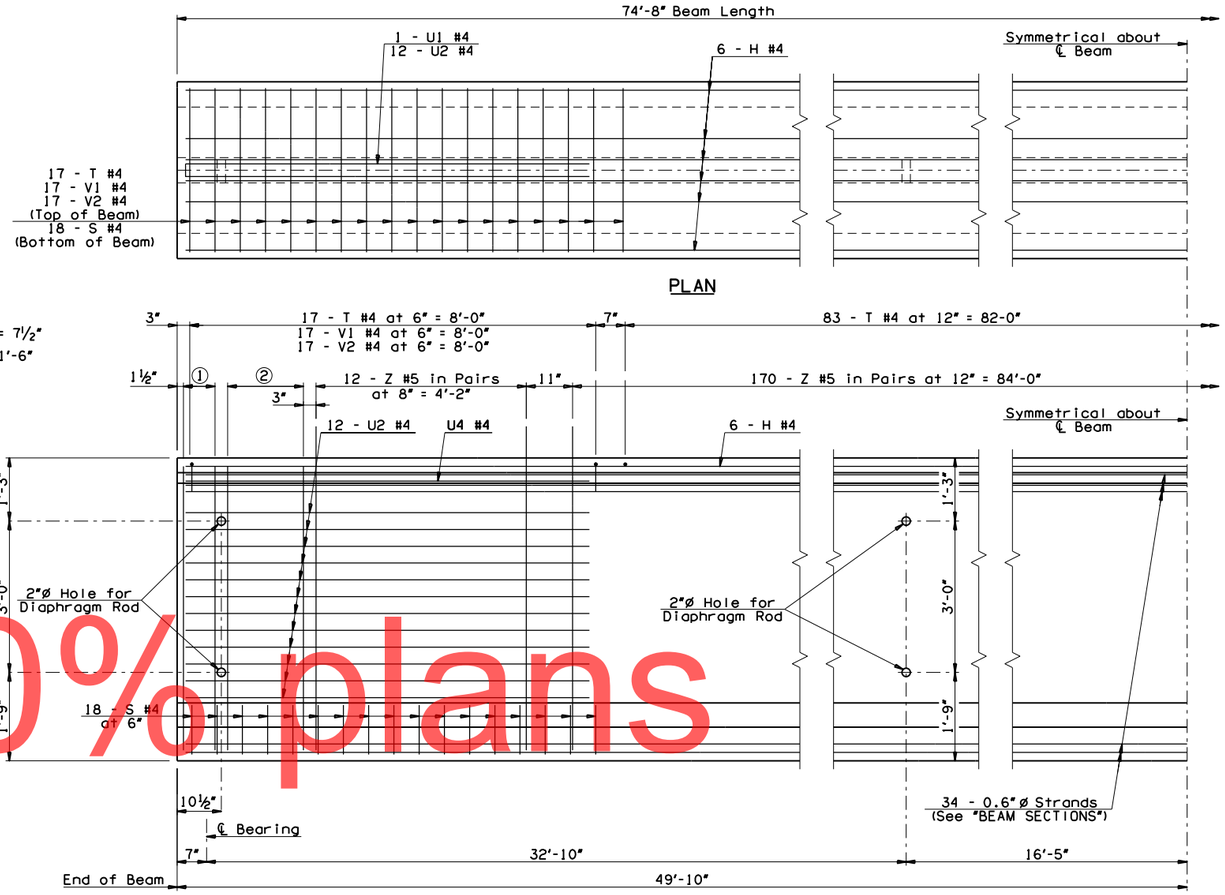
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 5,250 p.s.i. at transfer of prestress and 7,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - 1.81 (HL-93)
LFR OPERATING RATING - HS 47.4
The Operating Rating shown is based on a nominal concrete strength, and include partially bonded strands in strength computations.

END VIEW
(Type J B.T.)



END SECTION ℄ SECTION

BEAM SECTIONS
(18 - 0.6"ø STRANDS)



PLAN

ELEVATION

50% plans

NOTE:
For Bar Bends, Dead Load Deflections, and Embedded Plate Details, see Sheet No. BN037.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

100'-0" BEAM DETAILS
(TYPE J B.T.)

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

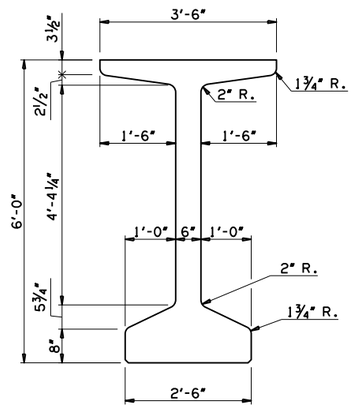
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN033

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

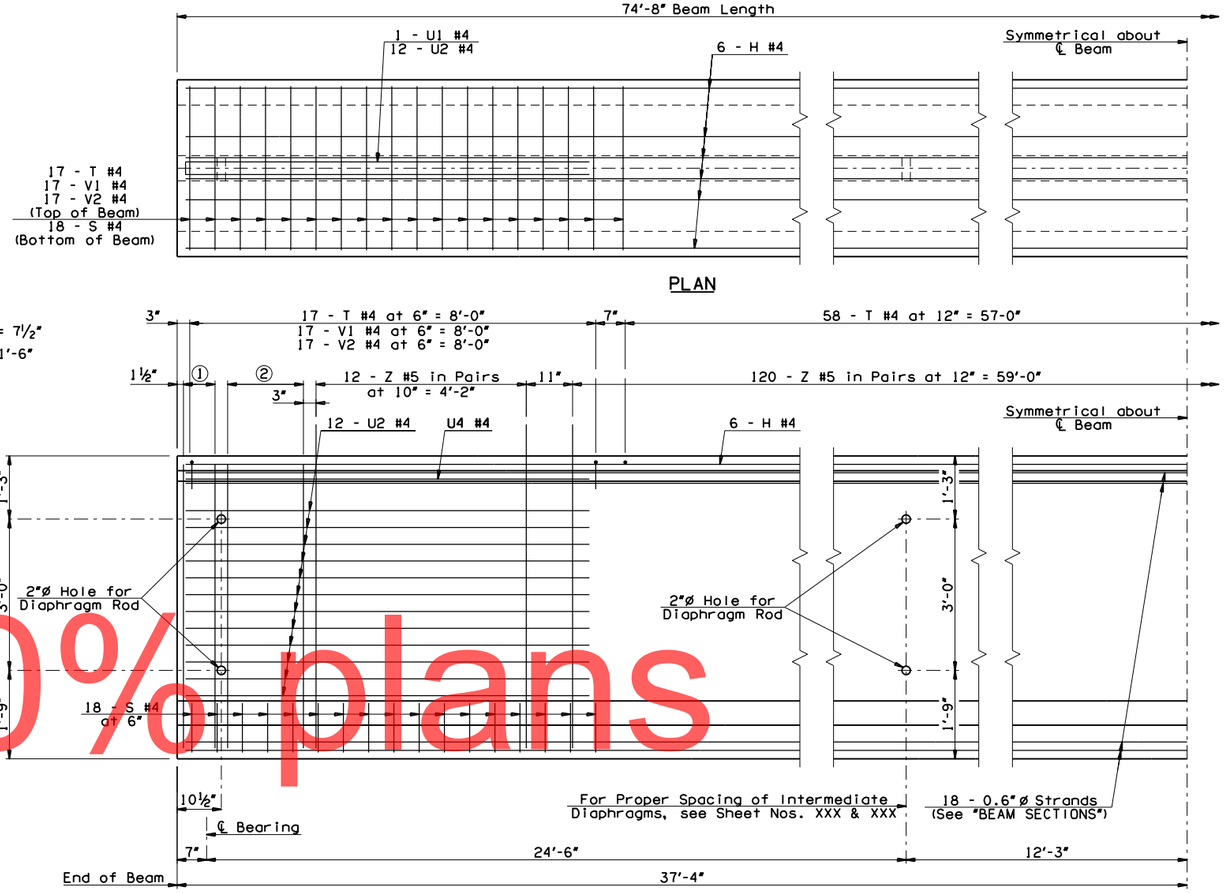
PROPOSED R/W
10/23/2017

PRESTRESSED CONCRETE BEAM NOTES

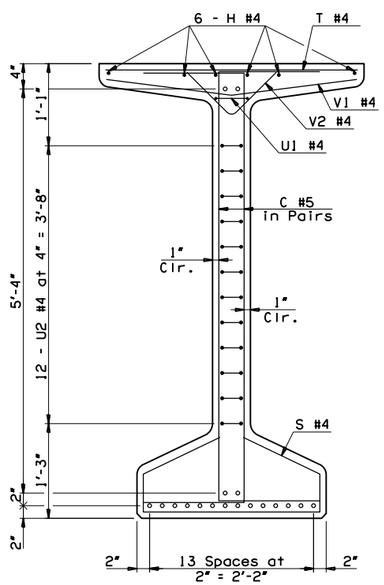
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.
LRFR OPERATING RATING - 1.54 (HL-93)
LFR OPERATING RATING - HS 42.4
The Operating Rating shown is based on a nominal concrete strength, and include partially bonded strands in strength computations.



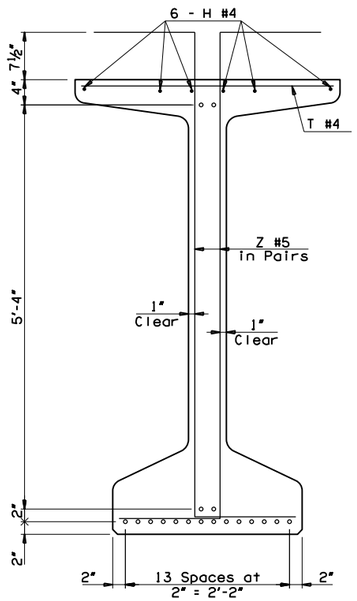
END VIEW
(Type J B.T.)



ELEVATION



END SECTION



℄ SECTION

BEAM SECTIONS
(18 - 0.6"ø STRANDS)

NOTE:
For Bar Bends, Dead Load Deflections, and Embedded Plate Details, see Sheet No. BN037.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
75'-0" BEAM DETAILS
(TYPE J B.T.)

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	JTR	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN034

50% plans

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

PROPOSED R/W
10/23/2017

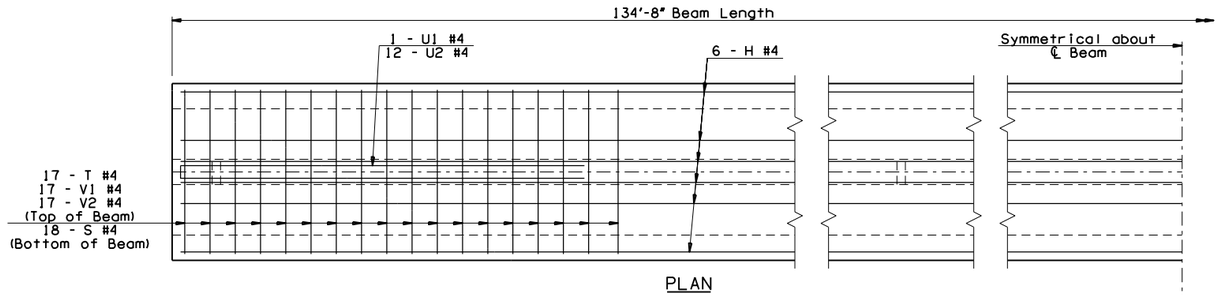
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 8,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.

STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

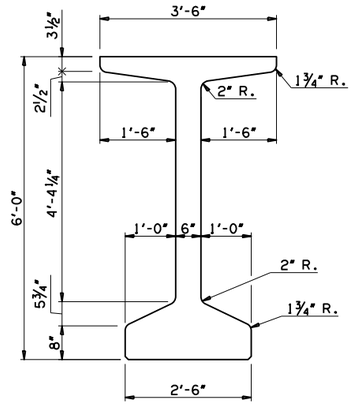
LRFR OPERATING RATING - 1.91 (HL-93)

LFR OPERATING RATING - HS 46.0
The Operating Rating shown is based on a nominal concrete strength, and include partially bonded strands in strength computations.

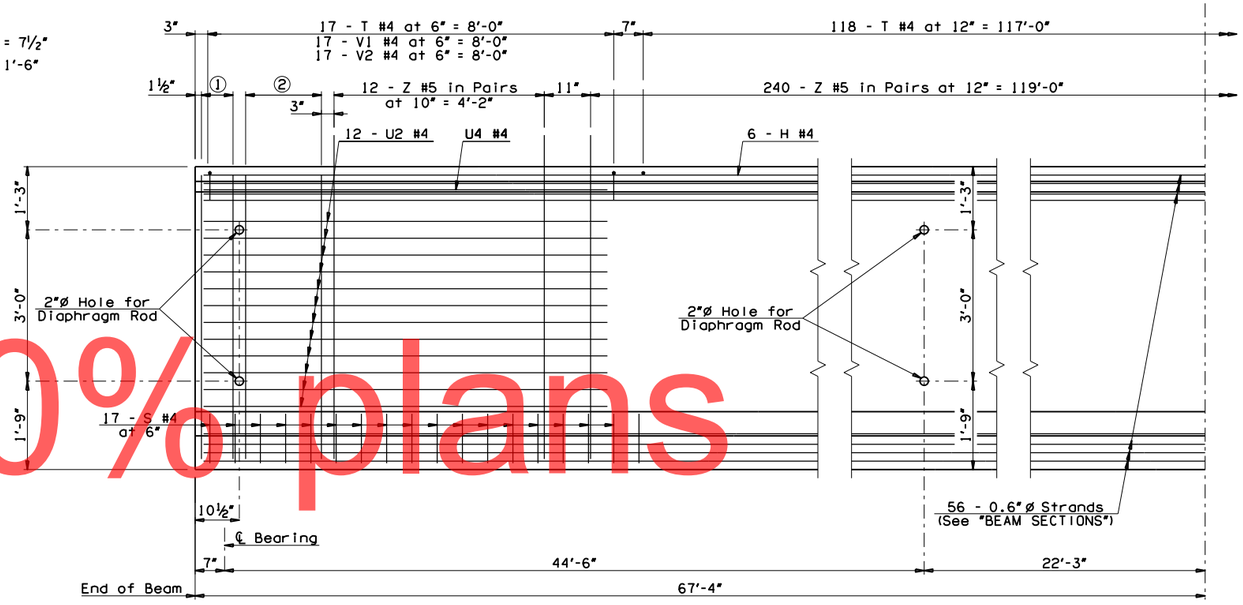


PLAN

① 12 - C #5 in Pairs at 1½" = 7½"
② 14 - C #5 in Pairs at 3" = 1'-6"



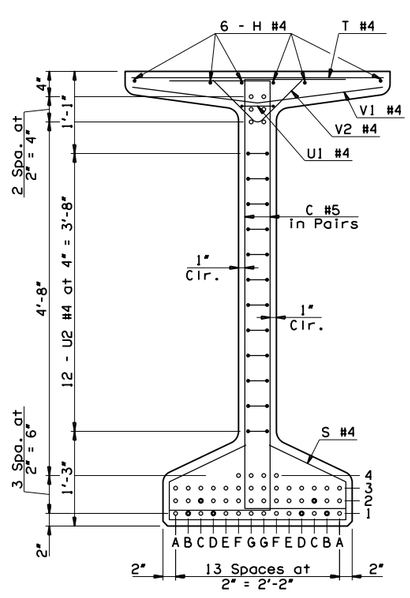
END VIEW
(Type J BT)



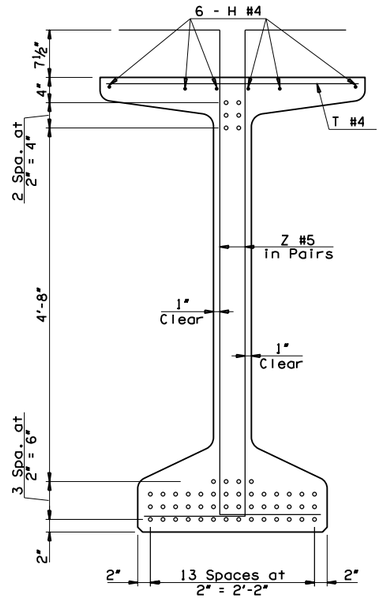
ELEVATION

135'-0" BEAM DETAILS

Applicable for the following locations only:
Span Nos. 2 - 4 - Beam Nos. 1 - 7
Span Nos. 5 & 6 - Beam Nos. 3 - 7
Span Nos. 7 - 12 - Beam Nos. 1 - 6



END SECTION



℄ SECTION

BEAM SECTIONS
(56 - 0.6"ø STRANDS)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

NOTE:
For Bar Bends, Dead Load Deflections, and Embedded Plate Details, see Sheet No. BN037.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
135'-0" BEAM DETAILS
(TYPE J BT) (SHEET 1 OF 2)

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	JTR	7/17		
CHECKED	MJY	7/17	DATE: 10/23/2017	SHEET NO. BN035

50% plans

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

PROPOSED R/W
10/23/2017

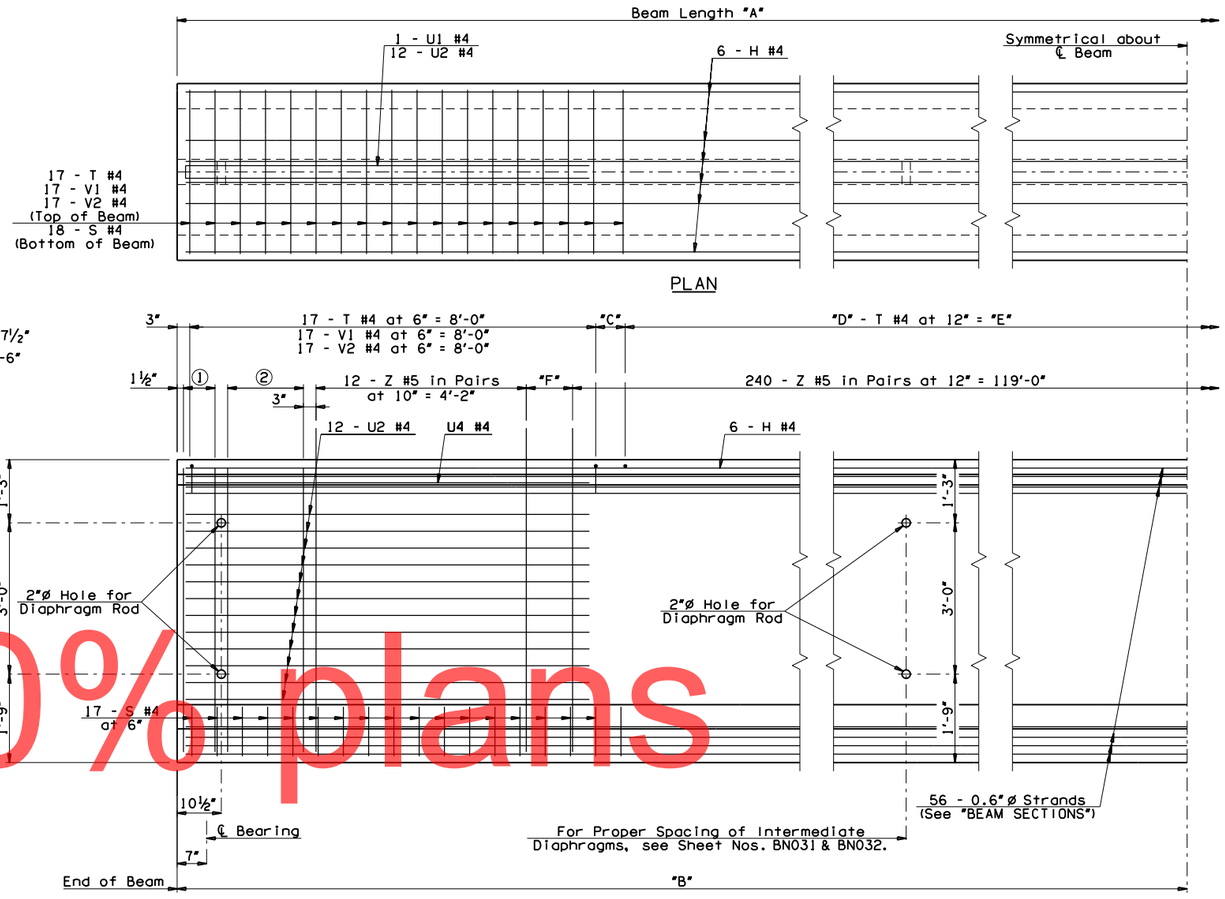
PRESTRESSED CONCRETE BEAM NOTES

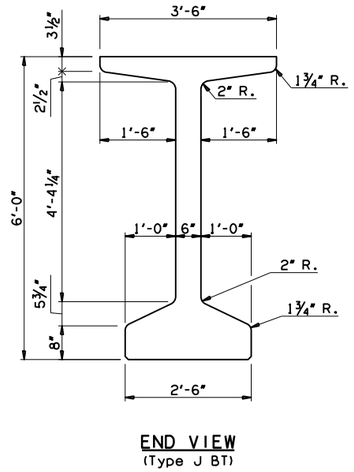
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 8,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.

STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

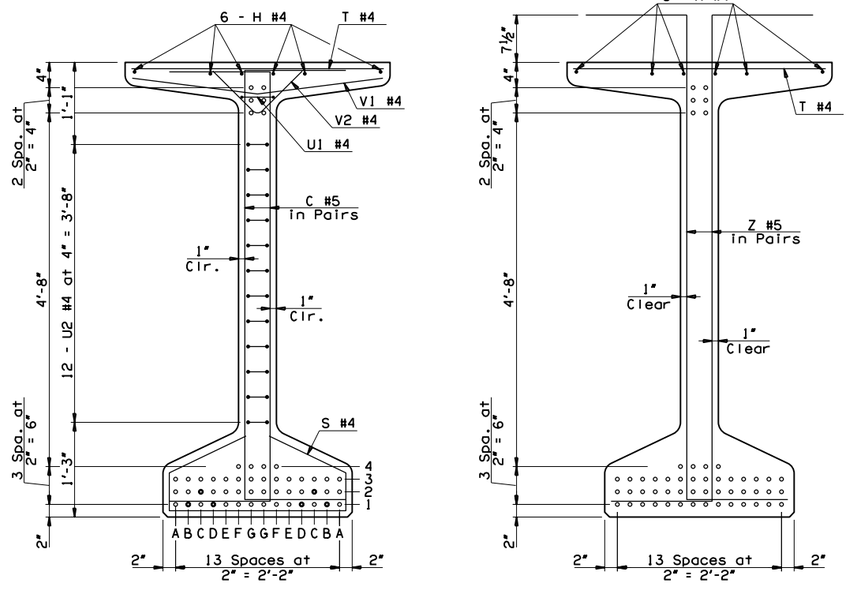
LRFR OPERATING RATING - 1.79 (HL-93)

LFR OPERATING RATING - HS 45.8
The Operating Rating shown is based on a nominal concrete strength, and include partially bonded strands in strength computations.





END VIEW
(Type J BT)



END SECTION

℄ SECTION

BEAM SECTIONS
(56 - 0.6"ø STRANDS)

ELEVATION

135'-0" BEAM DETAILS

Applicable for the following locations only:
Span Nos. 5 & 6 - Beam Nos. 1 & 2

BEAM TABLE OF VARIABLES

BEAM	SPAN	LENGTH "A"	LENGTH "B"	Length "C"	"D"	LENGTH "E"	LENGTH "F"
N-1	5	135'-4"	67'-8"	5"	119	118'-0"	1'-0"
N-2	5	134'-11⅜"	67'-5 13/16"	8 13/16"	118	117'-0"	9 13/16"
N-1	6	135'-1⅜"	67'-6 11/16"	9 11/16"	118	117'-0"	10 11/16"
N-2	6	134'-10½"	67'-5¼"	8¼"	118	117'-0"	9¼"

DEBOND SCHEDULE

DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

NOTE:
For Bar Bends, Dead Load Deflections, and Embedded Plate Details, see Sheet No. BN037.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
135'-0" BEAM DETAILS
(TYPE J BT) (SHEET 2 OF 2)

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

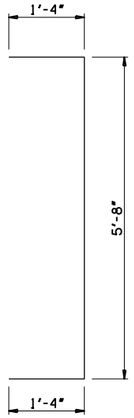
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN036

50% plans

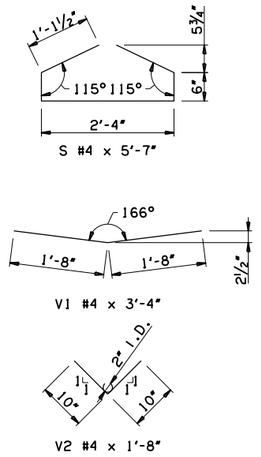
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

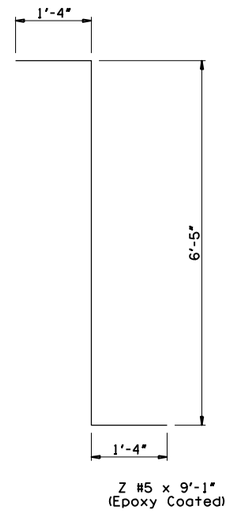
DEAD LOAD DEFLECTION TABLE							
Span No(s).	Beam No.	Location					
		Bearing	0.1L/0.9L	0.2L/0.8L	0.3L/0.7L	0.4L/0.6L	0.5L
1	1	0.00 in.	0.26 in.	0.52 in.	0.71 in.	0.84 in.	0.88 in.
	2-6	0.00 in.	0.31 in.	0.61 in.	0.85 in.	0.99 in.	1.04 in.
	7	0.00 in.	0.24 in.	0.48 in.	0.66 in.	0.78 in.	0.82 in.
2-4	1	0.00 in.	0.75 in.	1.46 in.	2.01 in.	2.37 in.	2.49 in.
	2-6	0.00 in.	0.89 in.	1.72 in.	2.37 in.	2.78 in.	2.92 in.
	7	0.00 in.	0.71 in.	1.36 in.	1.88 in.	2.21 in.	2.33 in.
5	1	0.00 in.	0.70 in.	1.36 in.	1.87 in.	2.20 in.	2.31 in.
	2	0.00 in.	0.77 in.	1.50 in.	2.07 in.	2.43 in.	2.56 in.
	3	0.00 in.	0.83 in.	1.61 in.	2.22 in.	2.61 in.	2.74 in.
	4-6	0.00 in.	0.89 in.	1.72 in.	2.37 in.	2.78 in.	2.92 in.
	7	0.00 in.	0.71 in.	1.36 in.	1.88 in.	2.21 in.	2.33 in.
6	1	0.00 in.	0.59 in.	1.13 in.	1.57 in.	1.84 in.	1.93 in.
	2	0.00 in.	0.60 in.	1.15 in.	1.59 in.	1.87 in.	1.97 in.
	3	0.00 in.	0.74 in.	1.43 in.	1.98 in.	2.32 in.	2.44 in.
	4-6	0.00 in.	0.89 in.	1.72 in.	2.37 in.	2.78 in.	2.92 in.
	7	0.00 in.	0.71 in.	1.36 in.	1.88 in.	2.21 in.	2.33 in.
7-12	1 & 6	0.00 in.	0.71 in.	1.38 in.	1.91 in.	2.24 in.	2.36 in.
	2-5	0.00 in.	0.89 in.	1.73 in.	2.39 in.	2.81 in.	2.95 in.
13	1 & 6	0.00 in.	0.08 in.	0.16 in.	0.22 in.	0.26 in.	0.28 in.
	2-5	0.00 in.	0.11 in.	0.21 in.	0.29 in.	0.34 in.	0.36 in.



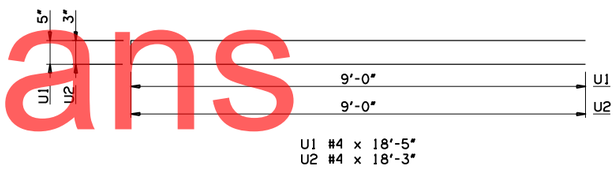
C #5 x 8'-4"



S #4 x 5'-7"
V1 #4 x 3'-4"
V2 #4 x 1'-8"

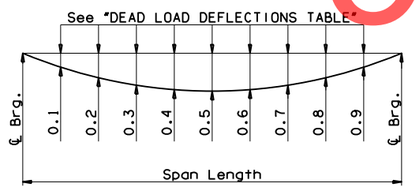


Z #5 x 9'-1"
(Epoxy Coated)



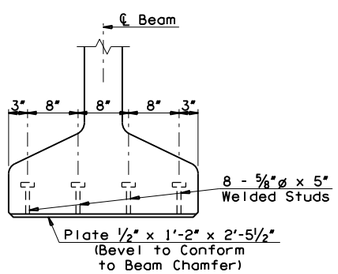
U1 #4 x 18'-5"
U2 #4 x 18'-3"

50% plans

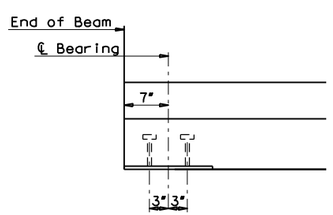


DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets + Handrailing. It does not include the Beam weight or Future Wearing Surface.



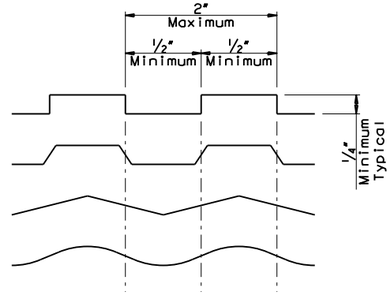
END VIEW



ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

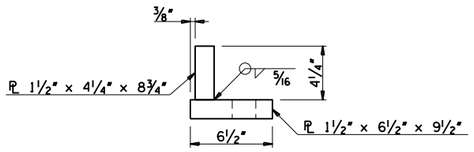
BEAM DETAILS
(TYPE J BT)

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

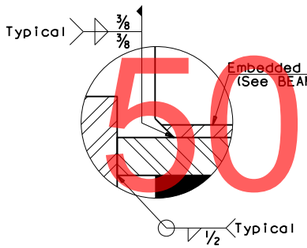
DESIGNED	JTR	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN037

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

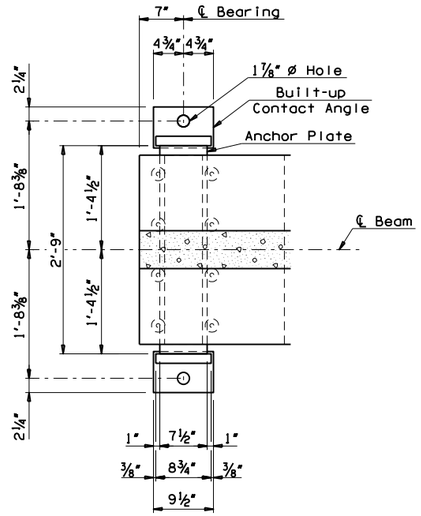
PROPOSED R/W
10/23/2017



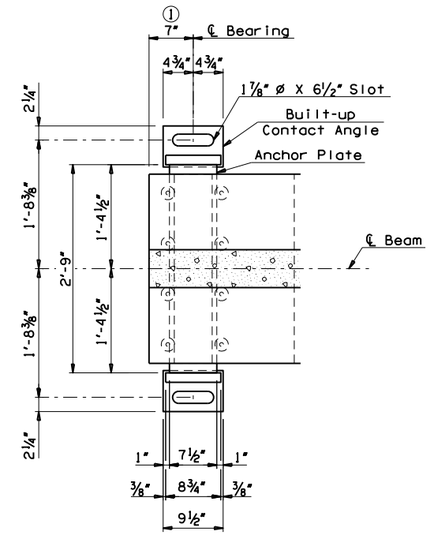
BUILT-UP CONTACT ANGLE DETAIL



DETAIL "A"

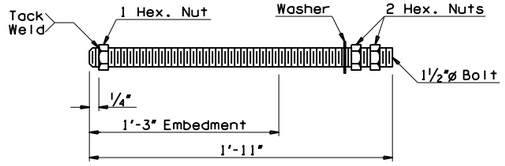


FIXED BEARING PLAN

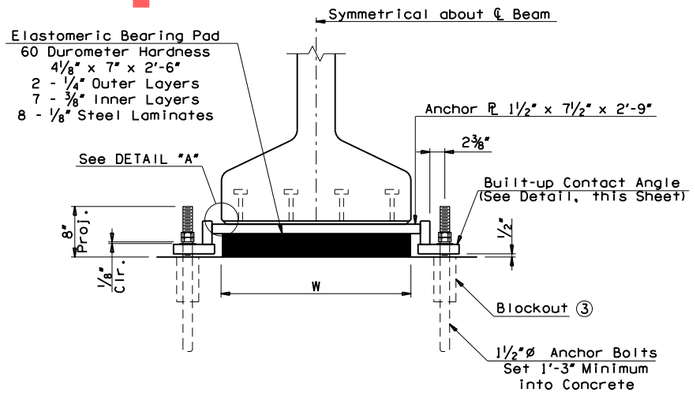


EXPANSION BEARING PLAN

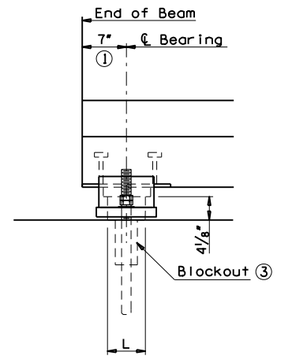
① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.



ANCHOR BOLT DETAIL



END VIEW



ELEVATION

③ Provide blockouts at all bearing locations to prevent damage to reinforcing steel during installation of anchor bolts.

BEARING DETAILS

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, mGrade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

Contractor shall post install the anchor bolts in accordance with section 509.04.D(3) of the standard specification with a Type H epoxy. Fully remove blocking material prior to installing epoxy. If the epoxy manufacturer requires a longer embedment length, increase the length of the anchor bolt to provide an 8" minimum projection above the top of the cap. Include the depth of the blocked out section in the embedment length.

The total estimated weight of Structural Steel per Type J BT Bearing Assembly is XXX.XX lbs.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

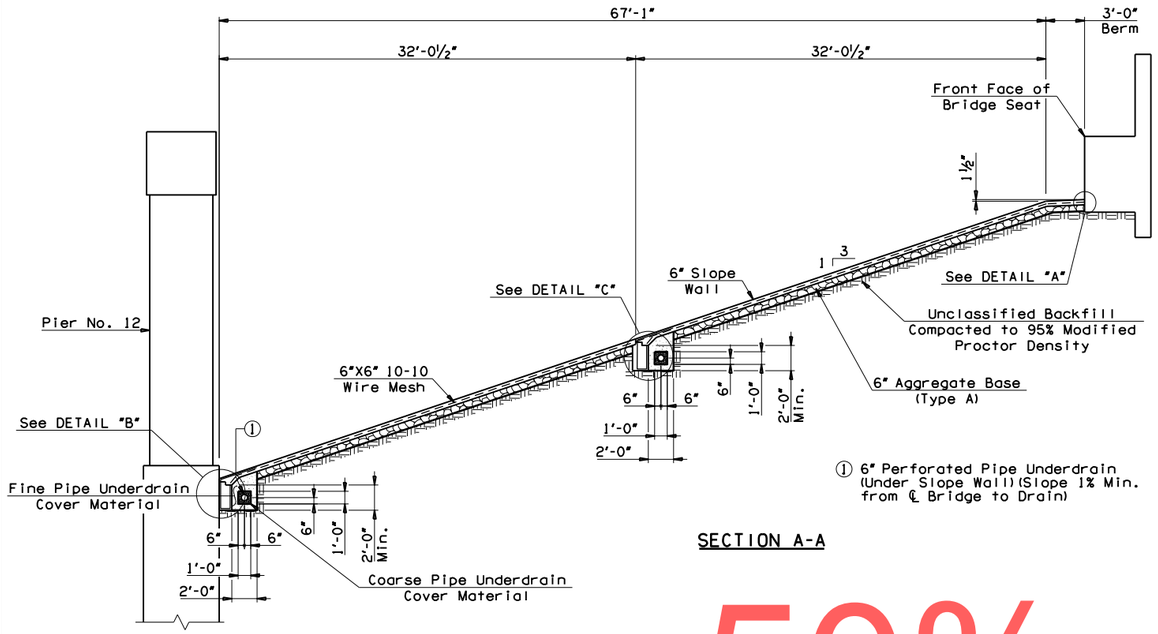
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	NBK	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN038

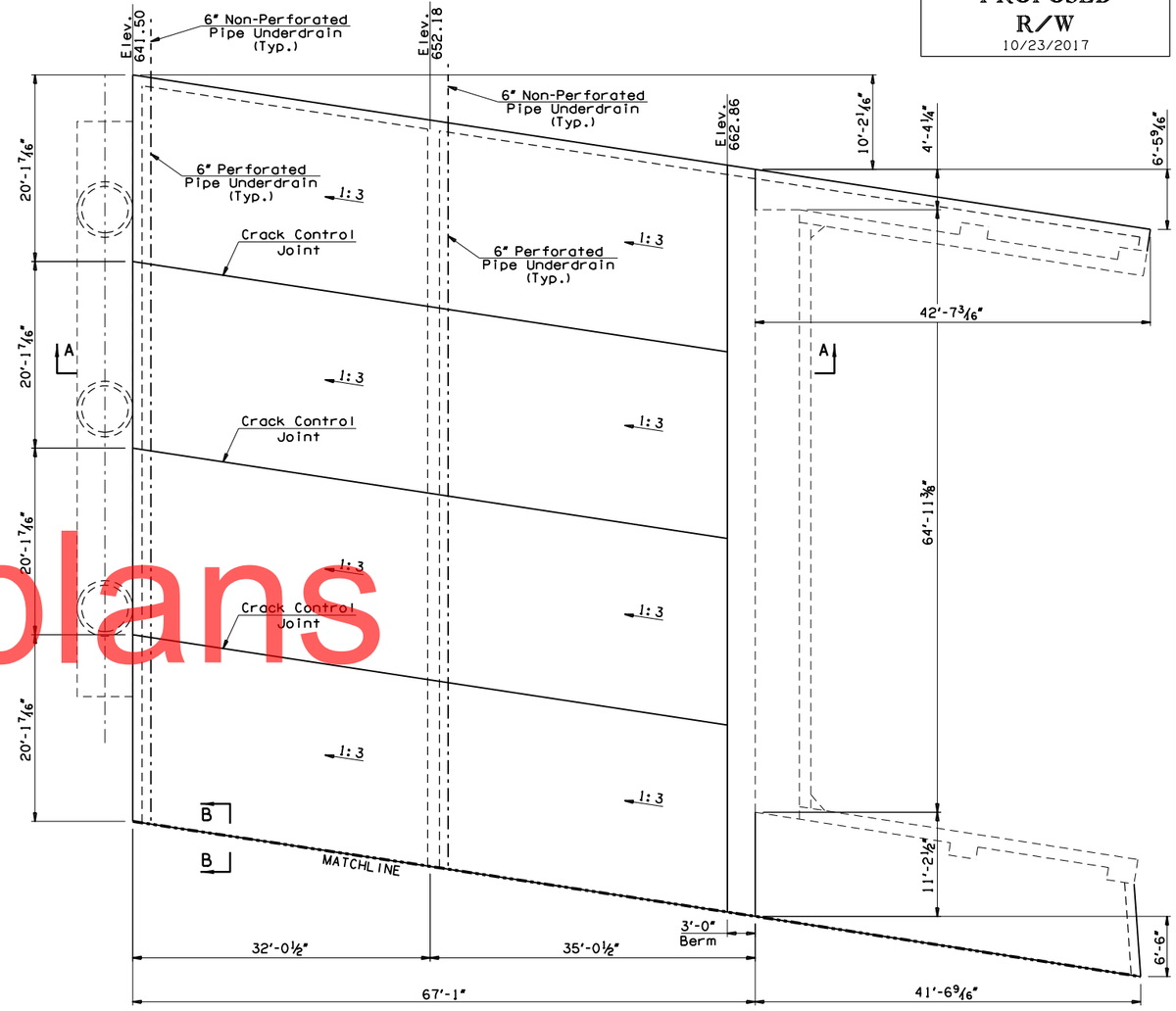
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

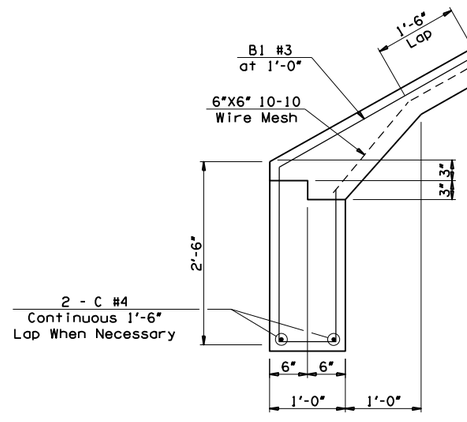
PROPOSED R/W
10/23/2017



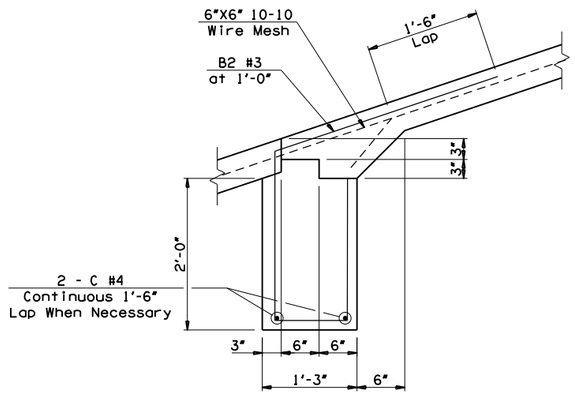
① 6" Perforated Pipe Underdrain (Under Slope Wall)(Slope 1% Min. from ℄ Bridge to Drain)

SECTION A-A

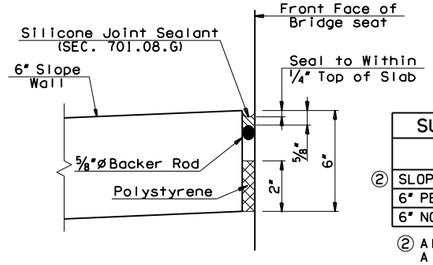




DETAIL "B"



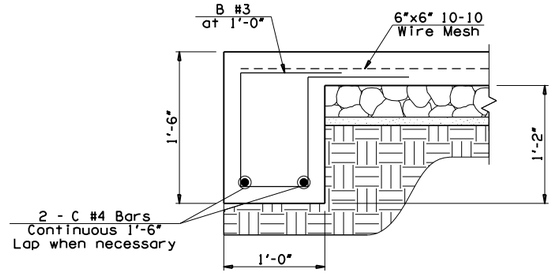
DETAIL "C"



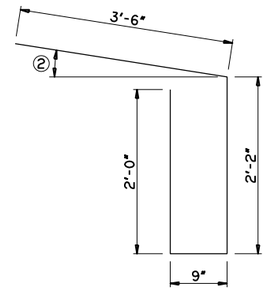
DETAIL "A"

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

② All costs of the "SLOPE WALL (6")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, 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 (6")".



SECTION B-B



B1 #3 X 8'-5"
② Match Slope of Slope Wall.

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

SLOPE WALL DETAILS

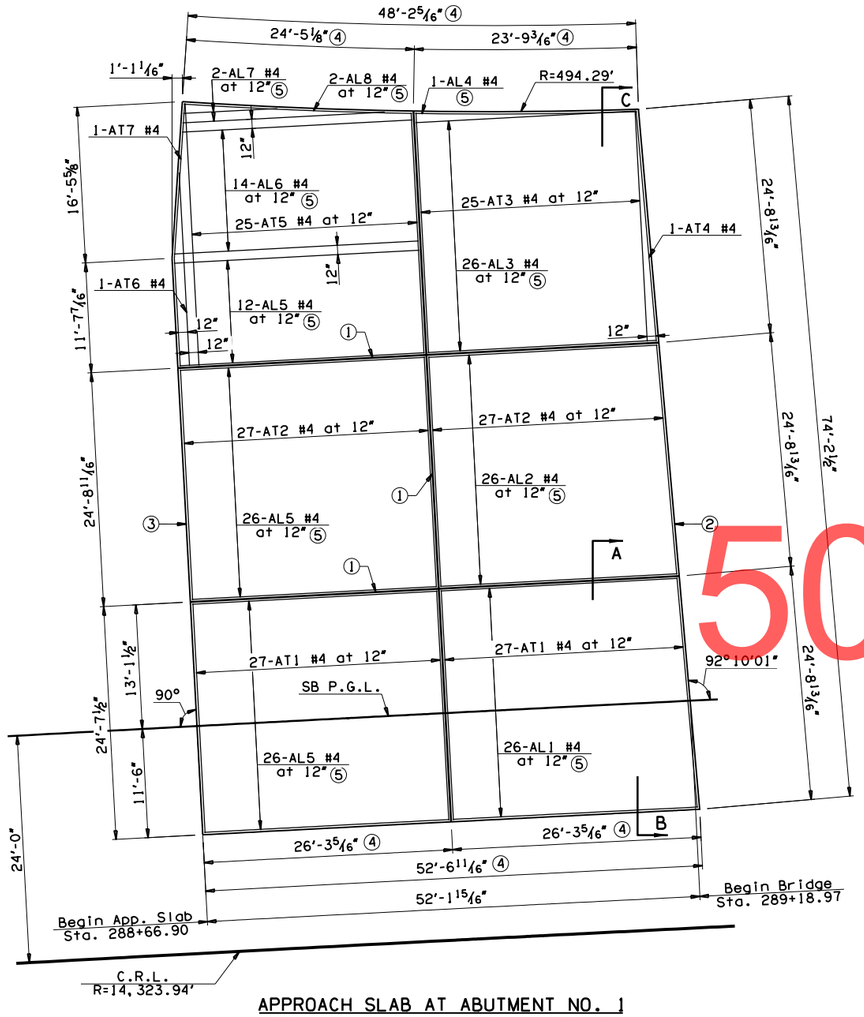
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	6/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN039

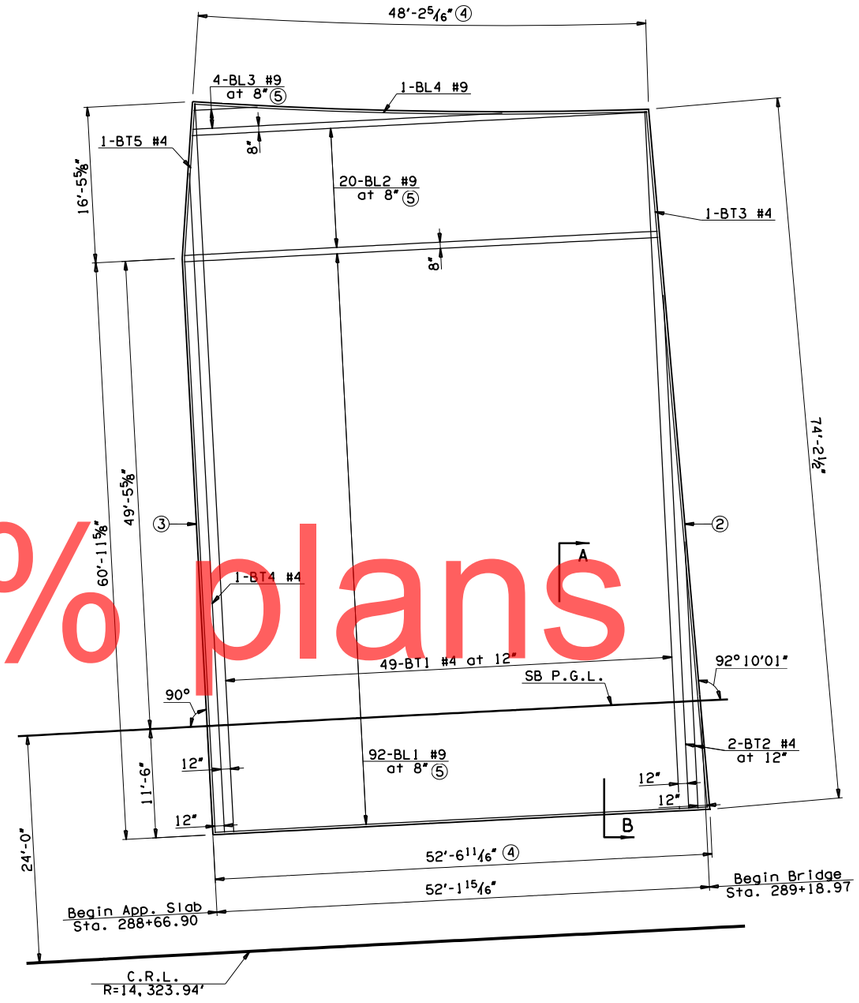
50% plans

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

PROPOSED R/W
10/23/2017



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

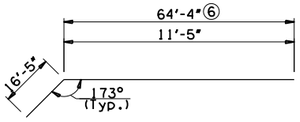


APPROACH SLAB AT ABUTMENT NO. 1
(Showing Bottom Mat of Reinforcing Steel)

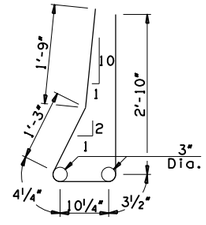
50% plans

BAR LIST - APP. SLAB NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AT1	#4	54	STR.	24'-3"	-
AT2	#4	54	STR.	24'-4"	-
AT3	#4	25	STR.	24'-11" AVG.	24'-4" TO 25'-6"
AT4	#4	1	STR.	24'-5"	-
AT5	#4	27	STR.	26'-6½" AVG.	25'-5" TO 27'-8"
AT6	#4	27	STR.	20'-5"	-
AT7	#4	25	BENT	27'-10"	-
AL1	#4	26	STR.	25'-6" AVG.	25'-1" TO 25'-11"
AL2	#4	26	STR.	24'-8" AVG.	24'-3" TO 25'-1"
AL3	#4	26	STR.	23'-9½" AVG.	23'-4" TO 24'-3"
AL4	#4	1	STR.	23'-5"	-
AL5	#4	64	STR.	25'-11"	-
AL6	#4	14	STR.	25'-1" AVG.	24'-4" TO 25'-10"
AL7	#4	2	STR.	15'-7½" AVG.	9'-11" TO 21'-4"
AL8	#4	2	STR.	24'-1"	-
BL1	#9	92	STR.	51'-1½" AVG.	50'-1" TO 52'-2"
BL2	#9	20	STR.	49'-1½" AVG.	48'-2" TO 50'-1"
BL3	#9	4	STR.	19'-9" AVG.	6'-9" TO 32'-9"
BL4	#9	1	STR.	47'-10"	-
⑥ BT1	#4	49	STR.	78'-0½" AVG.	76'-5" TO 79'-8"
⑥ BT2	#4	2	STR.	41'-3" AVG.	28'-2" TO 54'-4"
⑥ BT3	#4	1	STR.	76'-5"	-
⑥ BT4	#4	1	STR.	72'-4"	-
⑥ BT5	#4	1	BENT	80'-9"	-
FS2	#5	105	BENT	7'-4"	-
PV2	#5	49	BENT	6'-3"	-

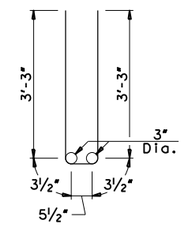
⑥ Includes One 2'-7" Lap Length.



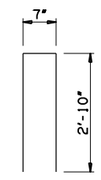
AT7 #4 x 27'-10"
BT5 #4 x 80'-9"



FS2 #5 x 7'-4"



FS6 #5 x 7'-7"



PV2 #5 x 6'-3"

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BG027.
② Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BG027.
③ Terminal Joint, see DETAIL "C" on Sheet No. BG027.
④ Measured along outside edge of slab.
⑤ Concentric

NOTES:
Do not groove within 6" of any joint.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BN026 for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BN042.

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

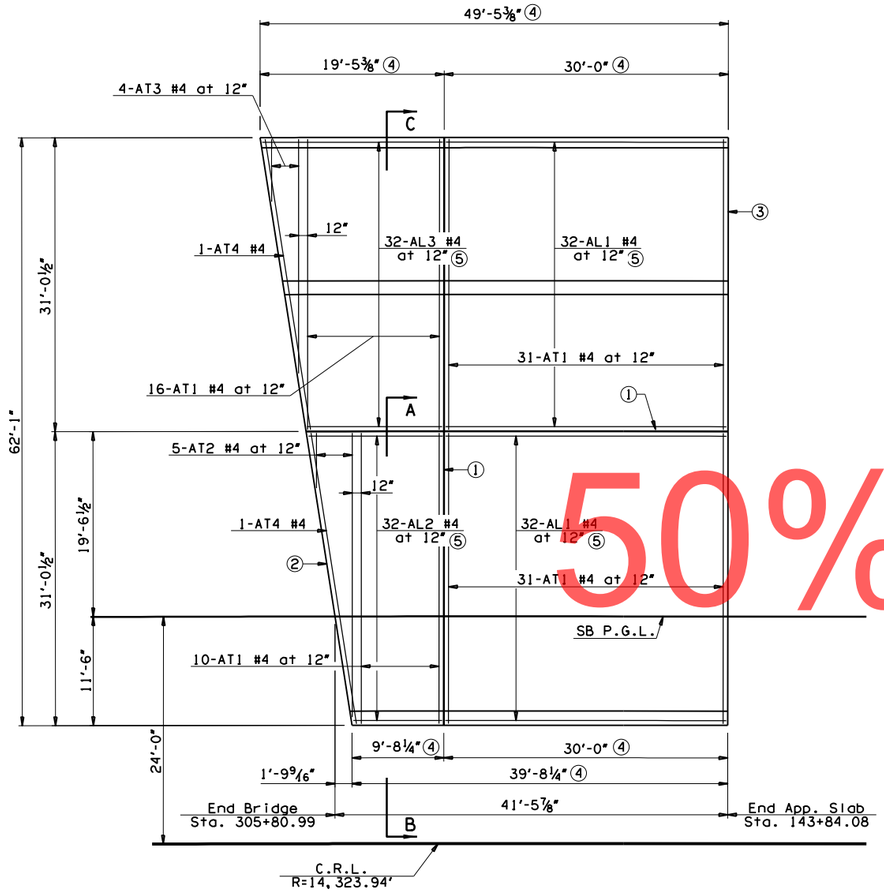
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. N GILCREASE SB OVER ARKANSAS RIVER
APPROACH SLAB DETAILS
(SHEET 1 OF 3)

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

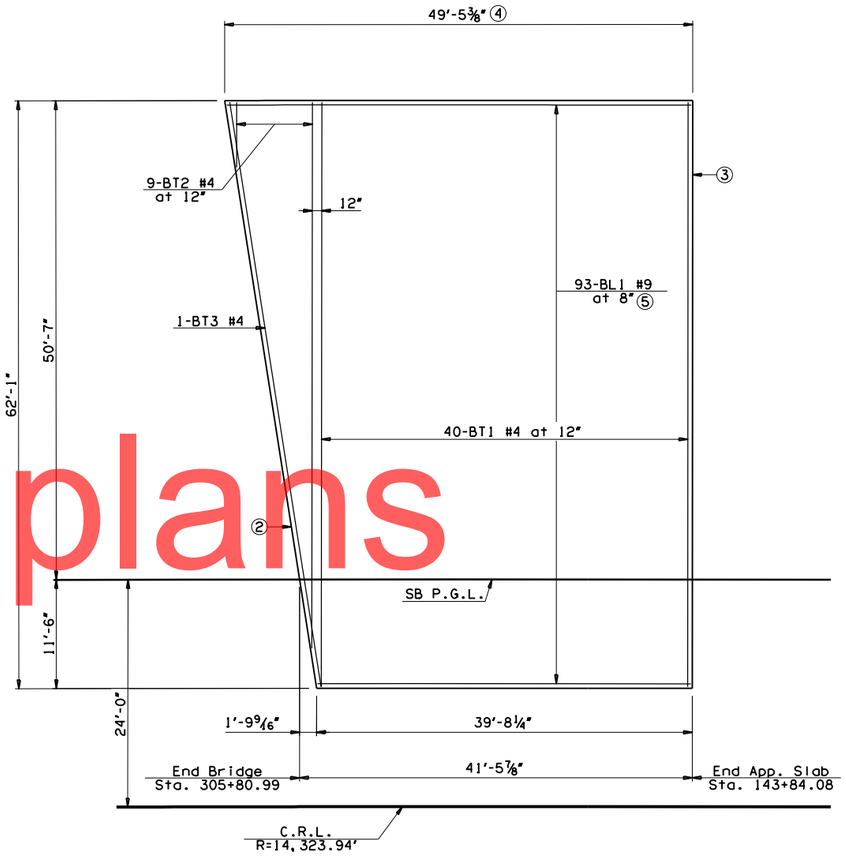
DESIGNED	JTR	9/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BN040

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

PROPOSED R/W
10/23/2017



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



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

BAR LIST - APP. SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AT1	#4	88	STR.	30'-8"	-
AT2	#4	5	STR.	17'-10½" AVG.	5'-9" TO 30'-0"
AT3	#4	4	STR.	15'-8" AVG.	6'-7" TO 24'-9"
AT4	#4	2	STR.	31'-1"	-
AL1	#4	64	STR.	29'-8"	-
AL2	#4	32	STR.	11'-9" AVG.	9'-4" TO 14'-2"
AL3	#4	32	STR.	16'-8" AVG.	14'-3" TO 19'-1"
BL1	#9	93	STR.	44'-3" AVG.	39'-5" TO 49'-1"
BT1	#4	40	STR.	64'-4"	-
⑥ BT2	#4	9	STR.	32'-3" AVG.	6'-10" TO 57'-8"
⑥ BT3	#4	1	STR.	65'-1"	-
FS2	#5	83	BENT	7'-4"	-
FS6	#5	10	BENT	7'-7"	-
PV2	#5	50	BENT	6'-3"	-

⑥ Includes One 2'-7" Lap Length.

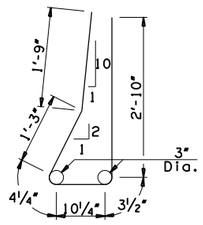
① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BG027.

② Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BG027.

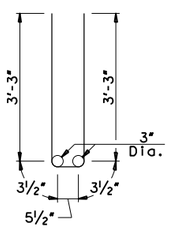
③ Terminal Joint, see DETAIL "C" on Sheet No. BG027.

④ Measured along outside edge of slab.

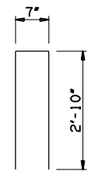
⑤ Concentric



FS2 #5 x 7'-4"



FS6 #5 x 7'-7"



PV2 #5 x 6'-3"

NOTES:
Do not groove within 6" of any joint.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BN026 for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BN042.

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

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

APPROACH SLAB DETAILS
(SHEET 2 OF 3)

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	2/16		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BN041

50% plans

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

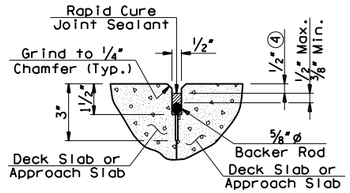
PROPOSED R/W
10/23/2017

SUMMARY OF QUANTITIES - APPROACH SLAB NO. 1			
	ITEM	UNIT	TOTAL
⑤	APPROACH SLAB	S.Y.	420.40
	SAW-CUT GROOVING	S.Y.	391.60
	42" F-SHAPED PARAPET	L.F.	87.00
⑥	CLASS AA CONCRETE	C.Y.	151.90
	CLASS C CONCRETE	C.Y.	7.90
⑥	EPOXY COATED REINFORCING STEEL	LB.	28,092.00
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	42.00

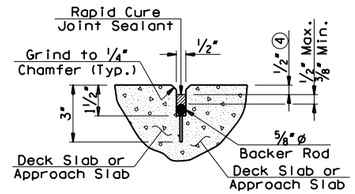
SUMMARY OF QUANTITIES - APPROACH SLAB NO. 2			
	ITEM	UNIT	TOTAL
⑤	APPROACH SLAB	S.Y.	424.40
	SAW-CUT GROOVING	S.Y.	395.40
	42" F-SHAPED PARAPET	L.F.	87.80
⑥	CLASS AA CONCRETE	C.Y.	153.30
	CLASS C CONCRETE	C.Y.	6.50
⑥	EPOXY COATED REINFORCING STEEL	LB.	28,353.00
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	42.00

⑤ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2, FS6 & PV2), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

⑥ Costs included in the contract unit price for "APPROACH SLAB". Quantities given are estimated ammounts.

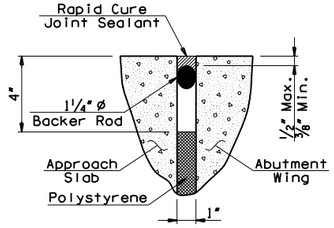


DETAIL "A"



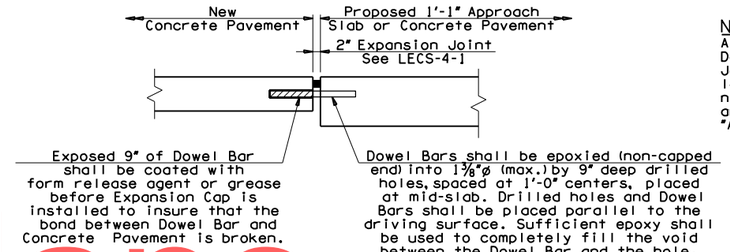
DETAIL "B"

④ This dimension shall taper from 1/2" at edge of driving lane/shoulder to 1/8" at rail for Transverse Joints only. See Std. LECS-4-0 for further details.



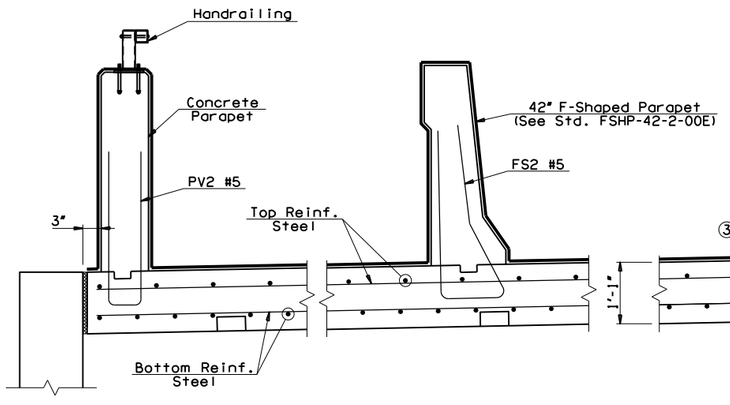
WING JOINT DETAIL

NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".

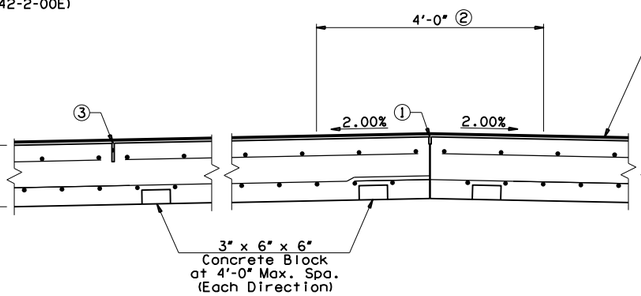


DETAIL "C"

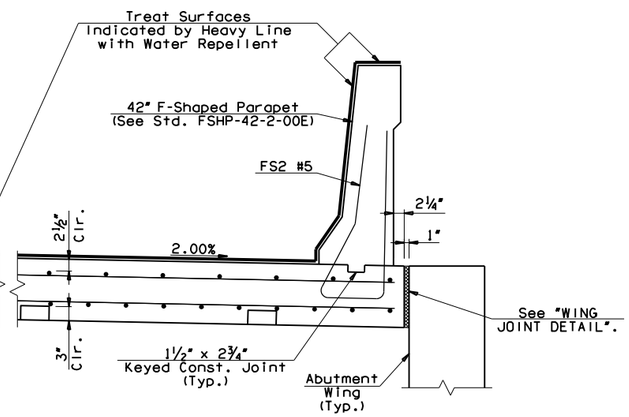
50% plans



SECTION C



SECTION A THRU APPROACH SLAB



SECTION B

① 1/2" Sawed and Sealed Construction Joint in the top of each Approach Slab (See DETAIL "A").

② Round 2'-0" each side of crown to avoid sharp edges.

③ 1/2" Sawed & Sealed Expansion Joint in top of each Approcah Slab. See DETAIL "B".

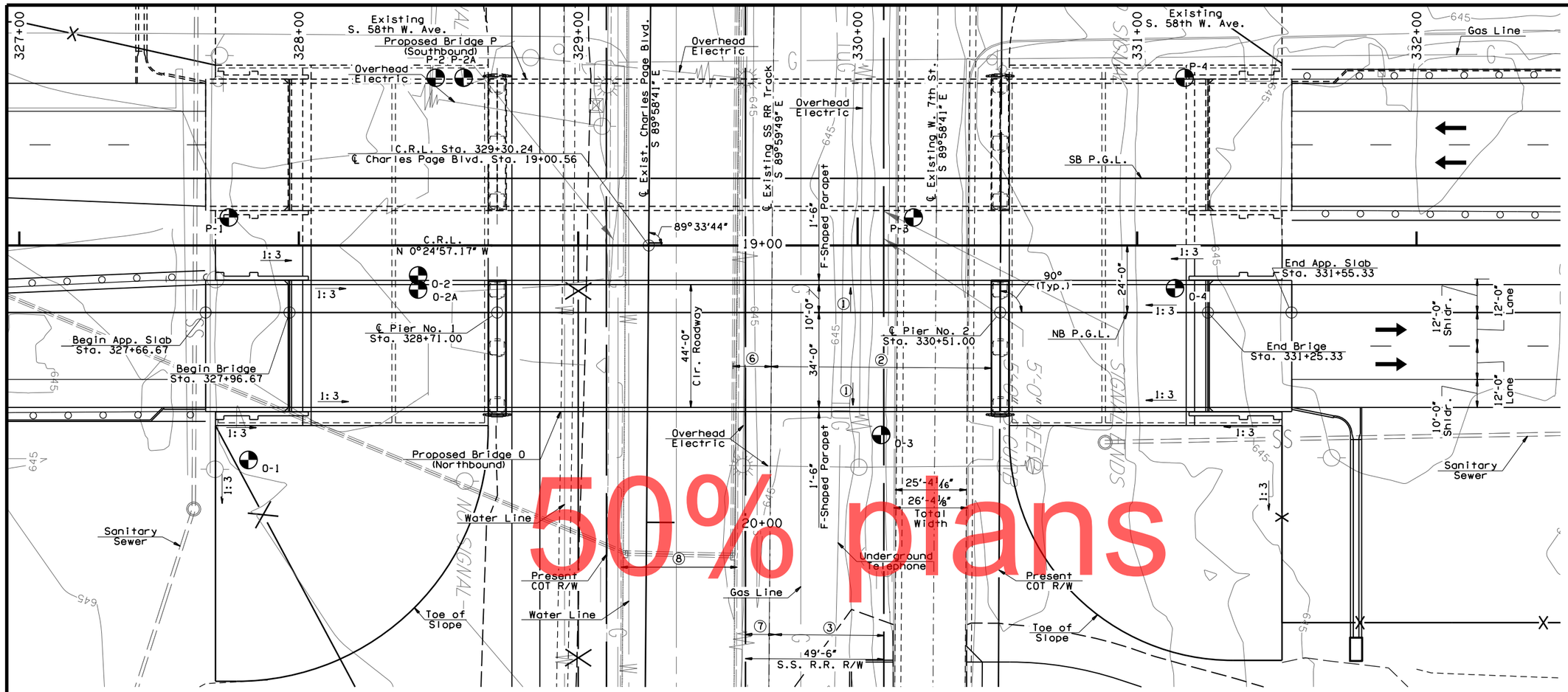
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. N GILCREASE SB OVER ARKANSAS RIVER

APPROACH SLAB DETAILS
(SHEET 3 OF 3)

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	JLD	2/16		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BN042



50% plans

OKLAHOMA TURNPIKE AUTHORITY

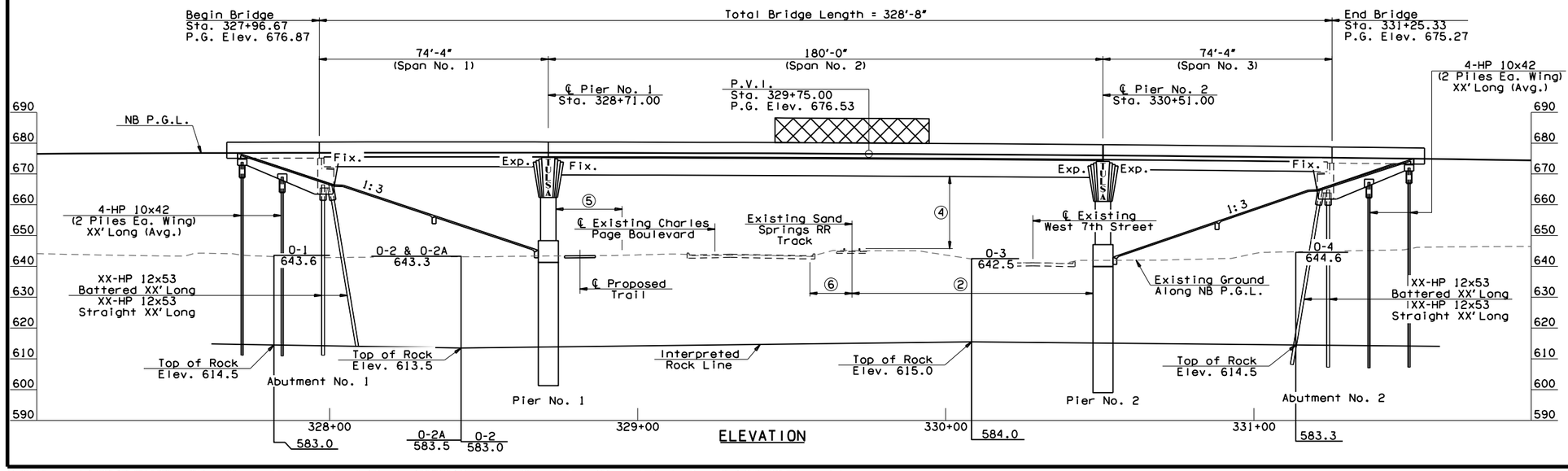
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

0 20 40 60
Scale 1" = 20'

BENCHMMARK NO. ADS130
DESCRIPTION 5/8" REBAR W/ ALUMINUM CAP
OFFSET 207.10' RT. STA. 329+91.10 EL. 644.90

For Foundation Report, See Sheet Nos. XXXXX - XXXXX.



ELEVATION

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. B0002.

1. 0.02 ft/ft
2. 78'-5" Min. Measured Perpendicular from ℄ Existing Track to face of Crashwall.
3. 39'-9 1/8" Measured Perpendicular from ℄ Track to present Sand Springs Railroad R/W at P.G.L.
4. 23'-7 3/16" Minimum Clearance
5. 20'-0" Min. from Crashwall to Edge of Future Travel Lane
6. 13'-7 5/8" from ℄ Track to Edge of Existing & Future Travel Lane at P.G.L.
7. 9'-4" Measured Perpendicular from ℄ Track to present Sand Springs Railroad R/W at P.G.L.
8. 40'-2" Existing Charles Page Blvd.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. O GIL. NB OVER C.P. BLVD. SS RR. & 7TH ST.

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500
DETAILED	SJL	5/17	
CHECKED	BRT	5/17	DATE: 10/23/2017 — SHEET NO. B0001

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
B0001-B0002	General Plan and Elevation
B0003	Typical Pier Details
B0004	Typical Section
BSTA01-BSTA09	Bridge Standard Details

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

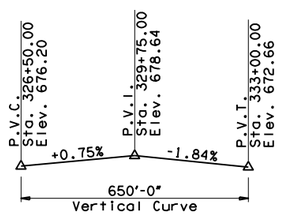
	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (78" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. O GIL. NB OVER C.P. BLVD, SS RR, & 7TH ST.

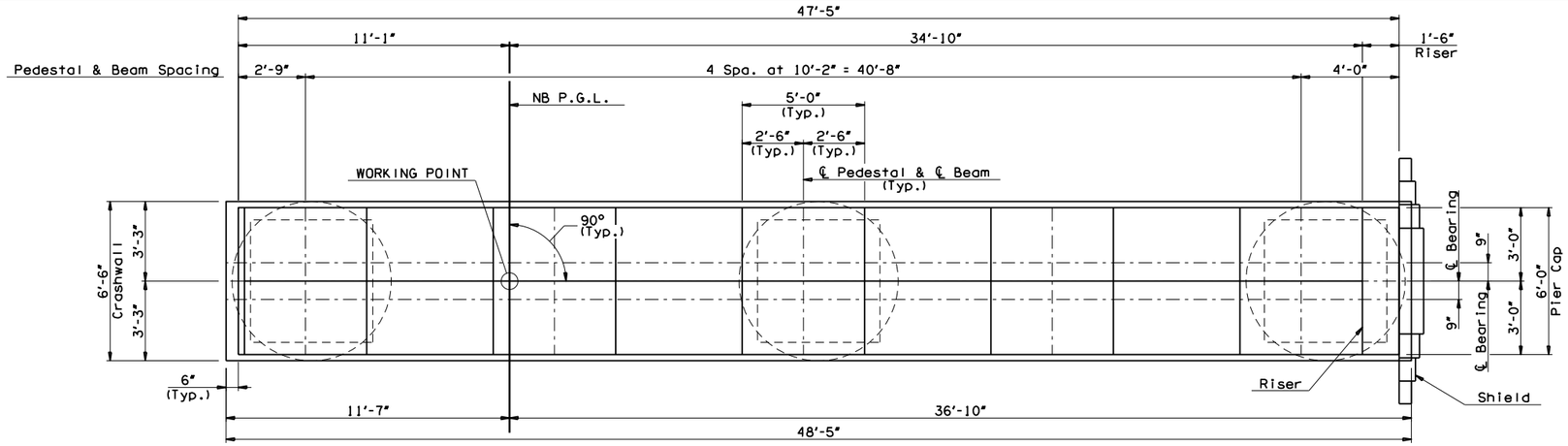
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

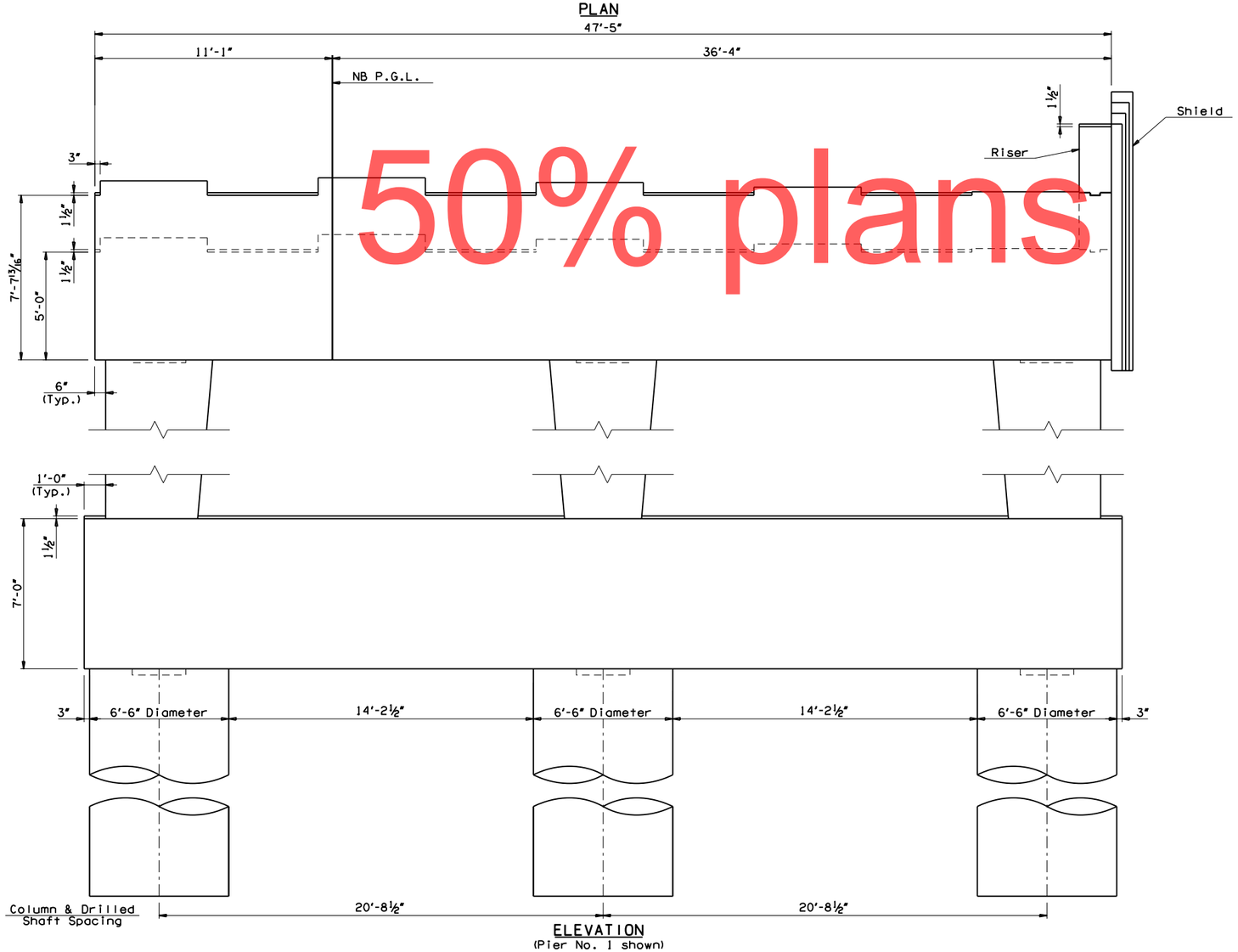
DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. B0002

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

PROPOSED R/W
10/23/2017



PLAN



ELEVATION
(Pier No. 1 shown)

50% plans

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.
For Shield Details, see Sheet Nos. BSTA07- BSTA09.
For Riser Details, see Sheet No. BSTA06.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. O GIL. NB OVER C.P. BLVD, SS RR, & 7TH ST.

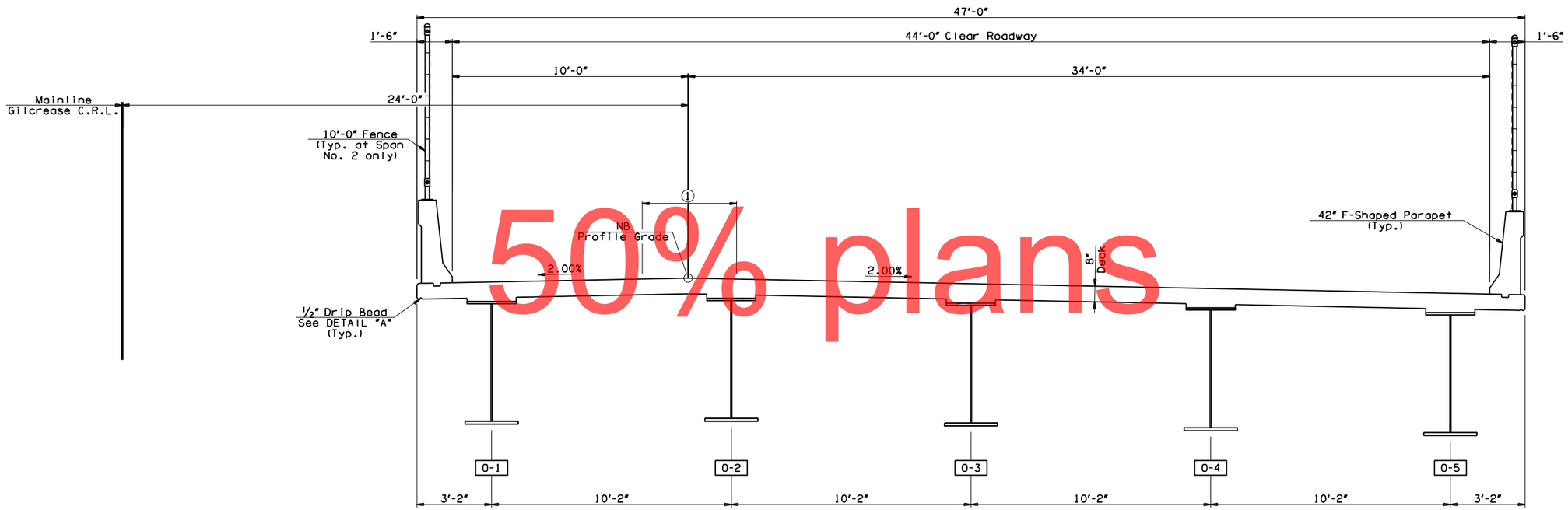
TYPICAL PIER DETAILS

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

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	BRT	9/17	DATE: 10/23/2017	SHEET NO. B0003

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

PROPOSED
R/W
10/23/2017



50% plans

TYPICAL SECTION
(Looking Forward Station)

① 4'-0" (Round 2'-0" each side of ℄ to avoid sharp edges).

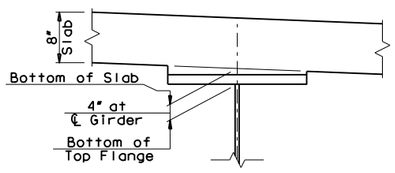
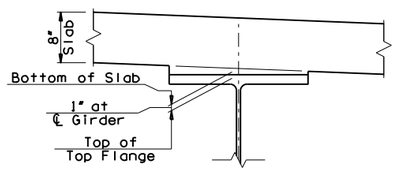


PLATE GIRDER HAUNCH DETAIL
(Span No. 2 Only)



ROLLED BEAM HAUNCH DETAIL
(Span Nos. 1 & 3 Only)

NOTE:
Plan quantities for CLASS AA CONCRETE include Girder Haunches. Haunch height shown is at centerline bearing only, measured as shown above. Haunch height to be determined after erection of girder to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.

NOTE:
For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. O GIL. NB OVER C.P. BLVD, SS RR, & 7TH ST.

TYPICAL SECTION

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

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	BRT	9/17	DATE: 10/23/2017	SHEET NO. B0004

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

PROPOSED R/W
10/23/2017

0 20 40 60
Scale 1" = 20'

50% plans

BENCHMMARK NO. ADS130
DESCRIPTION ⅝" REBAR W/ ALUMINUM CAP
OFFSET 207.10' RT. STA. 329+91.10 EL. 644.90

For Foundation Report, See Sheet Nos. XXXXX - XXXXX.

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BP002.

PLAN

ELEVATION

Begin Bridge Sta. 327+96.67 P.G. Elev. 676.87
Total Bridge Length = 328'-8"
End Bridge Sta. 331+25.33 P.G. Elev. 675.27
74'-4" (Span No. 1)
180'-0" (Span No. 2)
74'-4" (Span No. 3)
℄ Pier No. 1 Sta. 328+71.00
P.V.I. Sta. 329+75.00 P.G. Elev. 676.53
℄ Pier No. 2 Sta. 330+51.00
SB P.G.L.
4 - HP 10x42 (2 Piles Ea. Wing) XX' Long (Avg.)
XX - HP 12x53 Battered XX' Long
XX - HP 12x53 Straight XX' Long
P-1 643.0
P-2 642.5
P-2A 643.5
P-3 641.5
P-4 644.5
Fix.
Exp.
℄ Existing Charles Page Boulevard
℄ Proposed Trail
Existing Sand Springs RR Track
℄ Existing West 7th Street
Existing Ground Along SB P.G.L.
Top of Rock Elev. 614.0
Top of Rock Elev. 613.5
Top of Rock Interpreted Rock Line Elev. 615.0
Top of Rock Elev. 613.0
Top of Rock Elev. 611.0
583.0
584.5
582.5
581.5
580.5
Abutment No. 1
Pier No. 1
Pier No. 2
Abutment No. 2
690 680 670 660 650 640 630 620 610 600 590
328+00 329+00 330+00 331+00

1. 0.02 ft/ft
2. 77'-10" Min. Measured Perpendicular from ℄ Existing Track to face of Crashwall.
3. 39'-9⅛" Measured Perpendicular from ℄ Track to present Sand Springs Railroad R/W at P.G.L.
4. 23'-4⅝" Minimum Clearance
5. 20'-7" Min. from Crashwall to Edge of Future Travel Lane
6. 13'-7⅝" from ℄ Track to Edge of Existing & Future Travel Lane at P.G.L.
7. 9'-7" Measured Perpendicular from ℄ Track to present Sand Springs Railroad R/W at P.G.L.
8. 40'-2" Existing Charles Page Blvd.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. P GIL. SB OVER C.P. BLVD, SS RR, & 7TH ST.
GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17	DATE: 10/23/2017	SHEET NO. BP001
CHECKED	BRT	5/17		

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS XX.X
LRFR Operationg Rating: X.XX

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BP001-BP002	General Plan and Elevation
BP003	Typical Pier Details
BP004	Typical Section
BSTA01-BSTA09	Bridge Standard Details

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

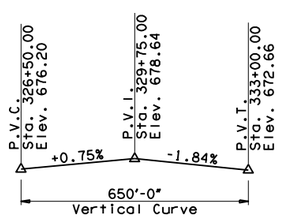
	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (78" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2
Minimum Depth into Rock	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. P GIL. SB OVER C.P. BLVD, SS RR, & 7TH ST.

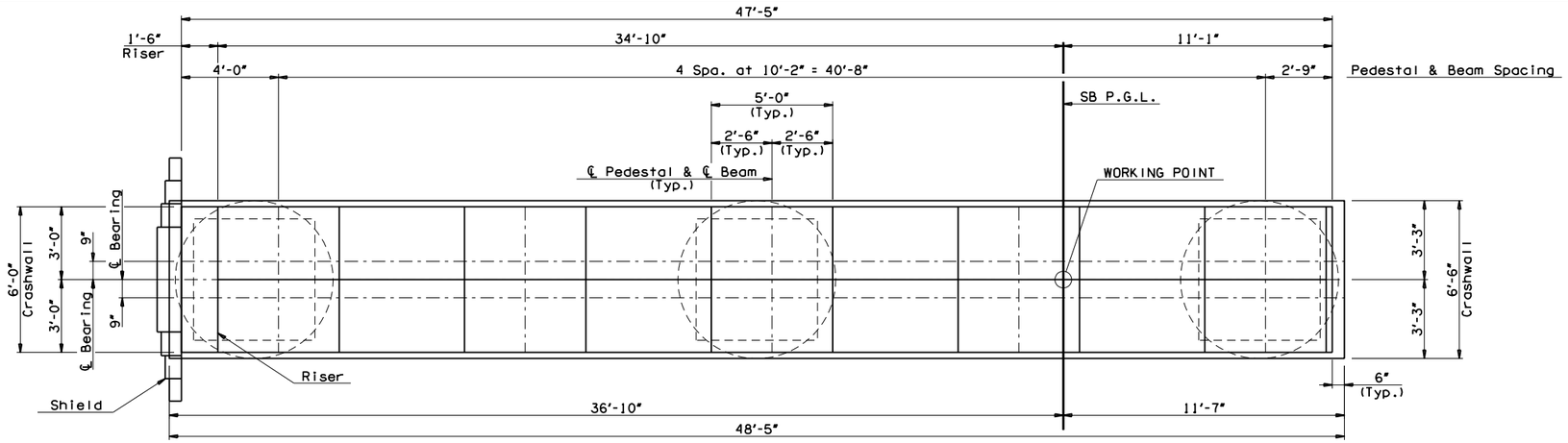
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

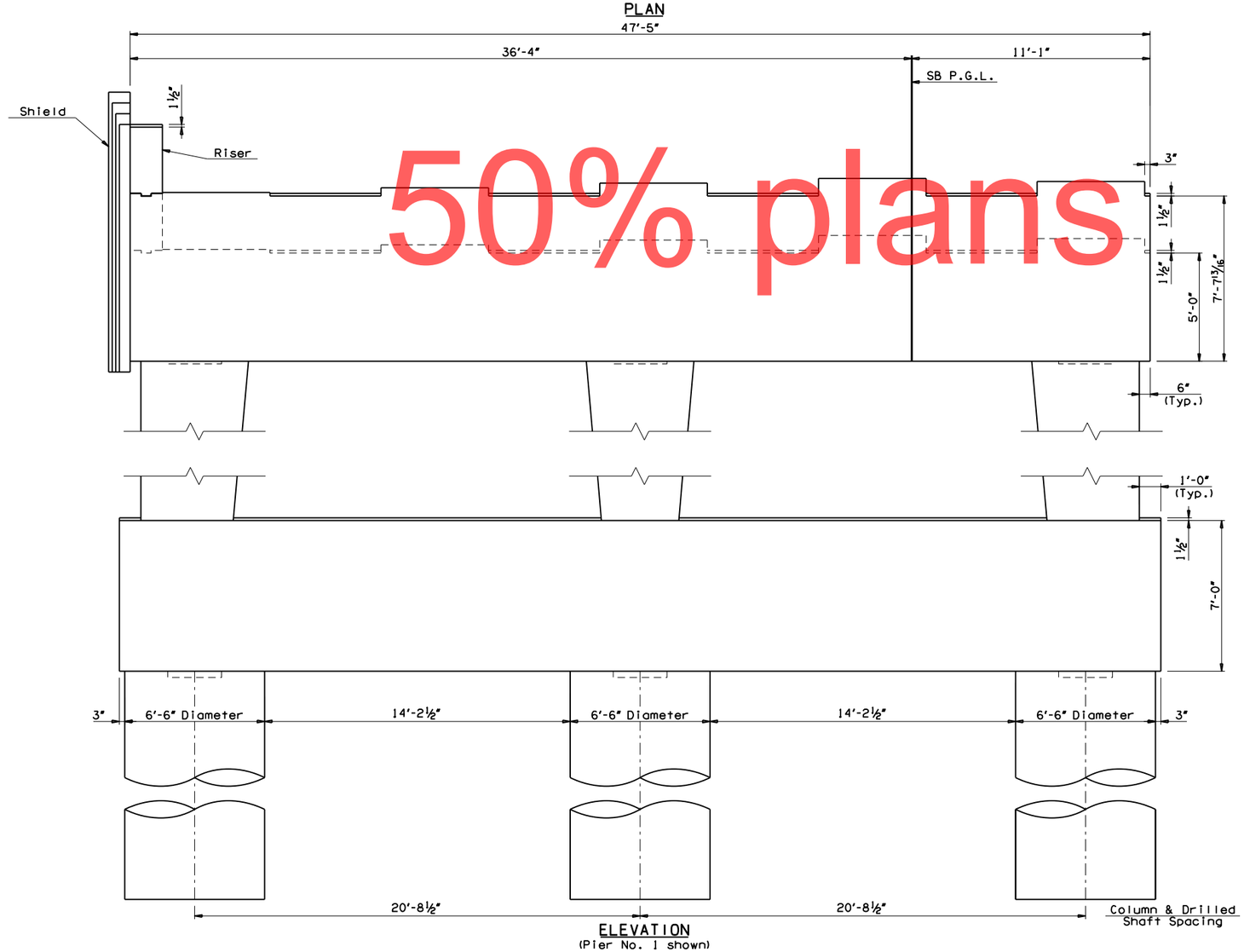
DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BP002

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

PROPOSED
R/W
10/23/2017



PLAN



ELEVATION
(Pier No. 1 shown)

50% plans

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.
For Shield Details, see Sheet Nos. BSTA07- BSTA09.
For Riser Details, see Sheet No. BSTA06.

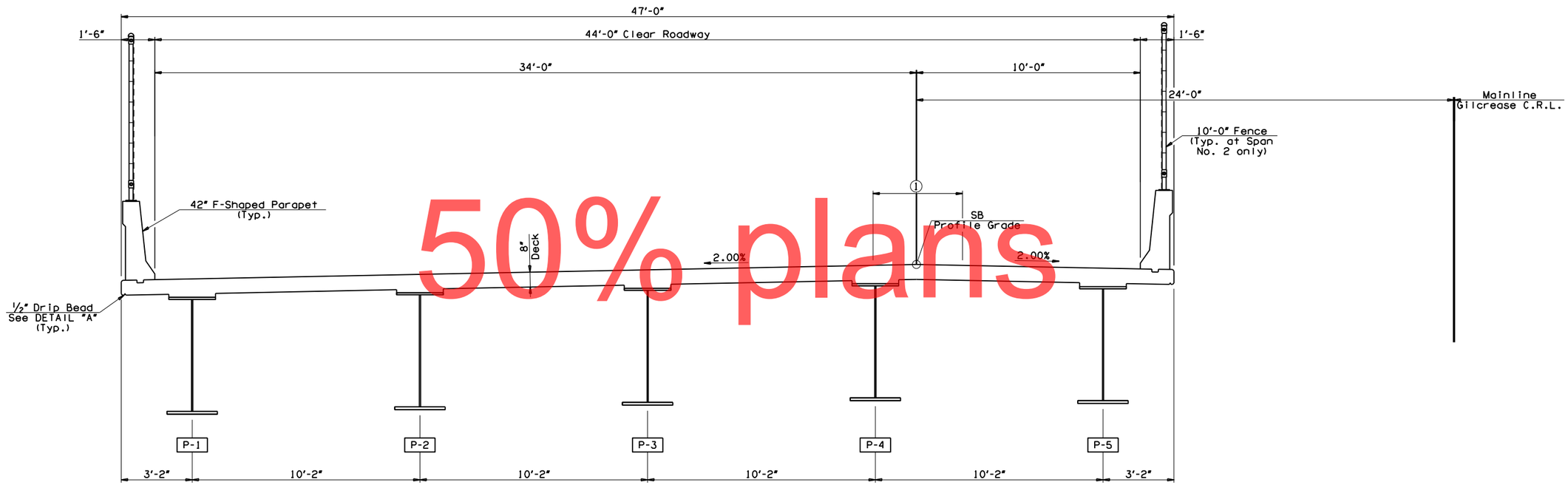
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. P GIL. SB OVER C.P. BLVD, SS RR, & 7TH ST.
TYPICAL PIER DETAILS

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

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	BRT	9/17	DATE: 10/23/2017	SHEET NO. BP003

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

PROPOSED R/W
10/23/2017



TYPICAL SECTION
(Looking Forward Station)

50% plans

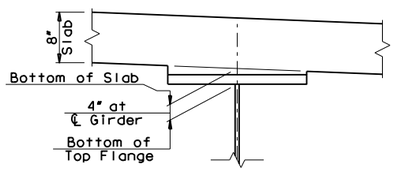
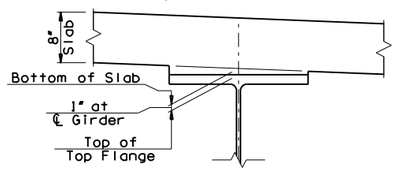


PLATE GIRDER HAUNCH DETAIL
(Span No. 2 Only)

① 4'-0" (Round 2'-0" each side of ℄ to avoid sharp edges).



ROLLED BEAM HAUNCH DETAIL
(Span Nos. 1 & 3 Only)

NOTE:
Plan quantities for CLASS AA CONCRETE include Girder Haunches. Haunch height shown is at centerline bearing only, measured as shown above. Haunch height to be determined after erection of girder to provide for dead load deflection and grade adjustment, but the pay quantity will be as shown on the plans.

NOTE:
For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. P GIL. SB OVER C.P. BLVD, SS RR, & 7TH ST.

TYPICAL SECTION

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

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	BRT	9/17	DATE: 10/23/2017	SHEET NO. BP004

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

PROPOSED R/W
10/23/2017

0 20 40 60
Scale 1" = 20'

N

335+00 336+00 337+00 338+00 339+00 340+00

S 58th W Ave
Gas Line
SB P.G.L.
NB P.G.L.
C.R.L. N 0°24'57.17" W
C.R.L. Gilcrease Sta. 337+17.52
Proposed Bridge R (Southbound)
R-2B
R-2
R-1
R-3
Begin App. Slab Sta. 336+02.55
Begin Bridge Sta. 336+46.00
℄ Pier No. 1 Sta. 337+57.47
End Bridge Sta. 338+48.94
End App. Slab Sta. 339+01.13
24'-0"
44'-0" Clear Roadway
1'-6" F-Shaped Parapet
10'-0"
34'-0"
12'-0" Shldr.
12'-0" Lane
12'-0" Lane
10'-0" Shldr.
1:3
1:6
Q-1
Q-2
Q-2A
Q-3
20° (Typ.)
21'-4" Total Width
23'-0"
Proposed Bridge Q (Northbound)
Sanitary Sewer
Proposed Drainage Structure
Toe of Slope
℄ Future W. 4th Pl. S.
Drainage Structure
Overhead Power Line
Katy Trail
Existing Katy Trail
10'-0"
Toe of Slope

50% plans

PLAN

BENCHMARK NO. BM5-N
DESCRIPTION #6 REBAR
OFFSET 206.10' RT. STA. 336+91.50 EL. 642.00

For Foundation Report, See Sheet Nos. BQ003-BQ006.

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BQ002.

Begin Bridge
Sta. 336+46.00
P.G. Elev. 666.29

Total Bridge Length = 202'-11¼"

End Bridge
Sta. 338+48.94
P.G. Elev. 662.70

111'-5⅝" (Span No. 1)
91'-5⅝" (Span No. 2)

℄ Pier No. 1
Sta. 337+57.47

P.V.C.
Sta. 337+75.00
P.G. Elev. 663.92

680 670 660 650 640 630 620 610 600 590

NB P.G.L.
Fix.
Exp.
Exp.
Fix.
4-HP 10x42 (2 Piles Ea. Wing) XX' Long (Avg.)
Existing Ground Along NB P.G.L.
1:3.19
1:6.39
℄ Future W. 4th Pl. S.
℄ Existing Katy Trail
Q-1 639.6
Q-2 & Q-2A 637.6
Q-3 636.0
8-HP 12x53 Battered XX' Long
7-HP 12x53 Straight XX' Long
Interpreted Rock Line
Top of Rock Elev. 614.0
Top of Rock Elev. 613.5
Top of Rock Elev. 614.5
Abutment No. 1
Pier No. 1
Abutment No. 2
583.0
583.0
583.0
Q-2A
Q-2
582.5
336+00
337+00
338+00
339+00

ELEVATION

① 0.02 ft/ft
② 12'-5" Minimum Clearance
③ 19'-1" Minimum Clearance

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BQ001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS 55.2
LRFR Operationg Rating: 1.96 (HL-93)

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BQ001-BQ002	General Plan and Elevation
BQ003-BQ006	Foundation Report Sheets
BQ007-BQ008	Pier Details
BQ009	Typical Section
BQ010	Longitudinal Section
BQ011-BQ014	Superstructure Details
BQ015	Framing Plan
BQ016-BQ018	Beam Details
BQ019	Bearing Details
BQ020-BQ021	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= 92.7 Tons	= 92.7 Tons
Pile Lengths	= 679.00 Ft.	= 594.00 Ft.

PIERS (78" DIAMETER DRILLED SHAFTS)

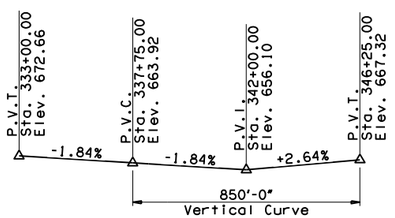
	Pier No. 1
Minimum Depth into Rock	= XX.X
Depth of Rock Neg'd for Friction	= XX.X
Unit Bearing Resistance	= XX.X
Bearing Resistance Factor	= XX.X
Factored Bearing Resistance	= XX.X
Unit Friction Resistance	= XX.X
Friction Resistance Factor	= XX.X
Factored Friction Resistance	= XX.X
Total Factored Resistance	= XX.X
Total Factored Reaction	= XX.X

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	386.00				386.00
CLSM BACKFILL	C.Y.	661.00				661.00
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.			996.70		996.70
APPROACH SLAB	S.Y.				499.60	499.60
SAW-CUT GROOVING	S.Y.			987.70	467.80	1,455.50
SEALED EXPANSION JOINT	L.F.			47.80		47.80
42" F-SHAPED PARAPET	L.F.			405.60	191.40	597.00
STRUCTURAL STEEL	LB.			3,064.00		3,064.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	10.00				10.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.		10.00			10.00
SPECIAL CONCRETE FINISH	S.Y.	72.00	48.00			120.00
CLASS AA CONCRETE	C.Y.			328.90		328.90
CLASS A CONCRETE	C.Y.	269.80	196.40			466.20
SLOPE WALL (6")	S.Y.	955.20				955.20
REINFORCING STEEL	LB.		16,345.00			16,345.00
EPOXY COATED REINFORCING STEEL	LB.	27,944.57	21,918.75	87,055.26	32,320.66	169,239.23
PILES FURNISHED (HP 10X42)	L.F.	359.00				359.00
PILES FURNISHED (HP 12X53)	L.F.	1,167.00				1,167.00
PILES DRIVEN (HP 10X42)	L.F.	359.00				359.00
PILES DRIVEN (HP 12X53)	L.F.	1,167.00				1,167.00
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.		1.00			1.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	114.00	197.00	1,508.00	638.00	2,457.00
DRILLED SHAFTS 78" DIAMETER	L.F.		105.00			105.00
CROSSHOLE SONIC LOGGING	EA.		1.00			1.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	443.00				443.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	350.00				350.00

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BQ002

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

PROPOSED R/W
10/23/2017

BORING NO. R-1
Sta. 336+36.58, 3.00' Lt.
Total Depth = 59.5 ft.

640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0
570.0

SS-1; N=2; R=11"; MC=19.0%; LL=NP; PL=NP; PI=NP; #200=53.0% --- 638.5
SS-2; N=3; R=8"; MC=14.0% --- 637.0
SS-3; N=7; R=5"; MC=5.0% --- 634.0
SS-4; N=6; R=15"; MC=16.0%; LL=NP; PL=NP; PI=NP; #200=2.0% --- 630.5
Water Level While Boring --- 630.0
SS-5; N=4; R=14"; MC=20.0% --- 625.5
SS-6; N=11; R=10"; MC=11.0%; LL=NP; PL=NP; PI=NP; #200=7.0% --- 620.5
SS-7; N=37; R=16"; MC=16.0% --- 615.5
SS-8; N=50/3.00"; R=2"; MC=15.0% --- 610.5
TCP-9; N=50/0.38", 50/0.13" --- 610.0
TCP-10; N=50/0.38", 50/0.06" --- 605.0
TCP-11; N=50/0.56", 50/0.06" --- 600.0
TCP-12; N=50/0.19", 50/0.06" --- 595.0
TCP-13; N=50/0.31", 50/0.06" --- 590.0
TCP-14; N=50/0.31", 50/0.13" --- 585.0
TCP-15; N=50/0.25", 50/0.00" --- 580.0

639.0 (3" topsoil)

SANDY SILT
dark brown, soft

634.0

POORLY GRADED SAND
light brown, loose
(trace clay, brown at 13.5 feet)

620.5

WELL GRADED SAND
brown, medium dense to dense

610.5

SHALE
dark gray, soft to moderately hard

579.5

BORING NO. R-2
Sta. 337+28.35, 83.00' Lt.
Total Depth = 55.0' ft.

640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0

SS-1; N=10; R=18"; MC=22.0% --- 635.5
SS-2; N=12; R=18"; MC=19.0%; LL=NP; PL=NP; PI=NP; #200=40.0% --- 634.0
Water Level After Boring --- 631.5
Water Level at 24 hrs. --- 631.0
SS-3; N=8; R=18"; MC=20.0% --- 631.0
Water Level While Boring --- 630.0
SS-4; N=5; R=18"; MC=19.0%; LL=NP; PL=NP; PI=NP; #200=14.0% --- 627.5
SS-5; N=9; R=13"; MC=16.0% --- 622.5
SS-6; N=5; R=7"; MC=11.0%; LL=NP; PL=NP; PI=NP; #200=6.0% --- 617.5
SS-7; N=26-50/3.00"; R=8"; MC=15.0% --- 612.5
DB-8; R=22%; RQD=0% at 25.0 ft. --- 611.0
DB-9; R=80%; RQD=0% at 28.0 ft. --- 608.0
DB-10; R=98%; RQD=10% UC=260 psi at 33.0 ft. --- 603.0
DB-11; R=98%; RQD=52% UC=620 psi at 38.0 ft. --- 598.0
DB-12; R=97%; RQD=12% UC=750 psi at 43.0 ft. --- 593.0
DB-13; R=100%; RQD=83% UC=1280 psi at 48.0 ft. --- 588.0
DB-14; R=83%; RQD=17% UC=690 psi at 53.0 ft. --- 583.0

636.0 (3" topsoil)

617.5

612.0

SANDY SILT
brown, loose to medium dense
(brown to pinkish gray below 8.5 feet)

625.0

POORLY GRADED SAND
with silt and gravel, light brown, loose

615.0

SHALE
dark gray, soft to moderately hard

581.0

50% plans

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
FOUNDATION REPORT
(SHEET 1 OF 4)

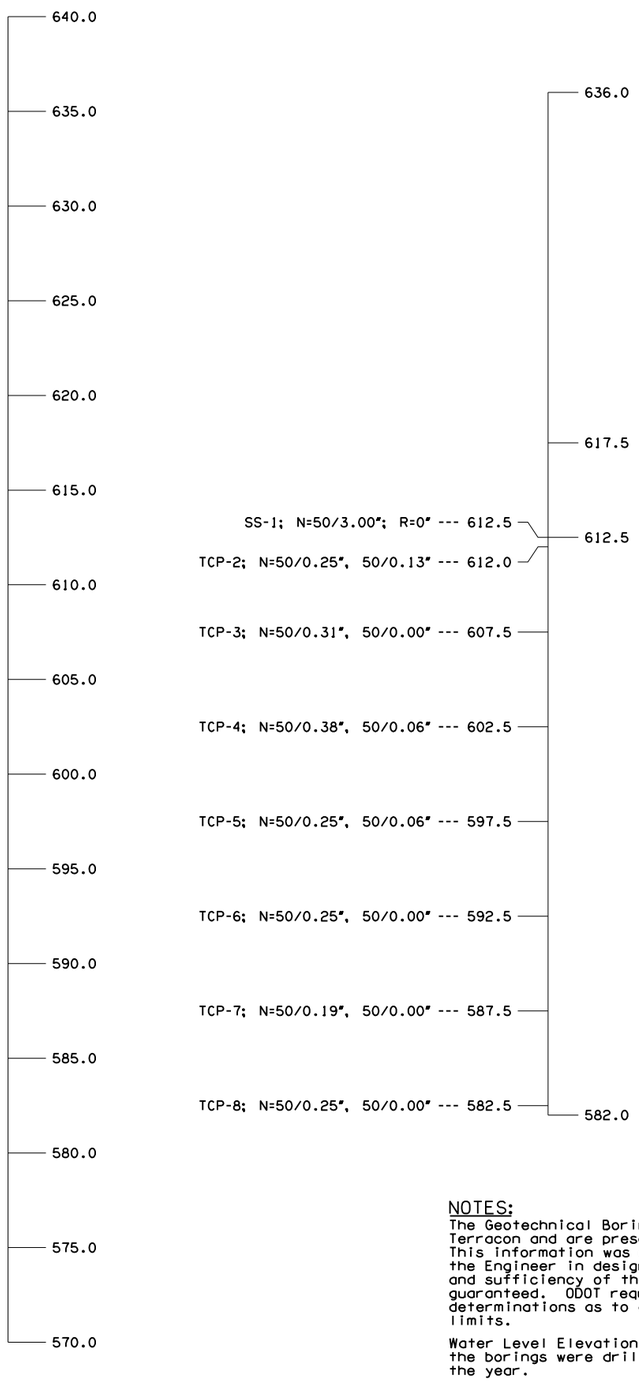
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	SJL	2/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	2/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ003

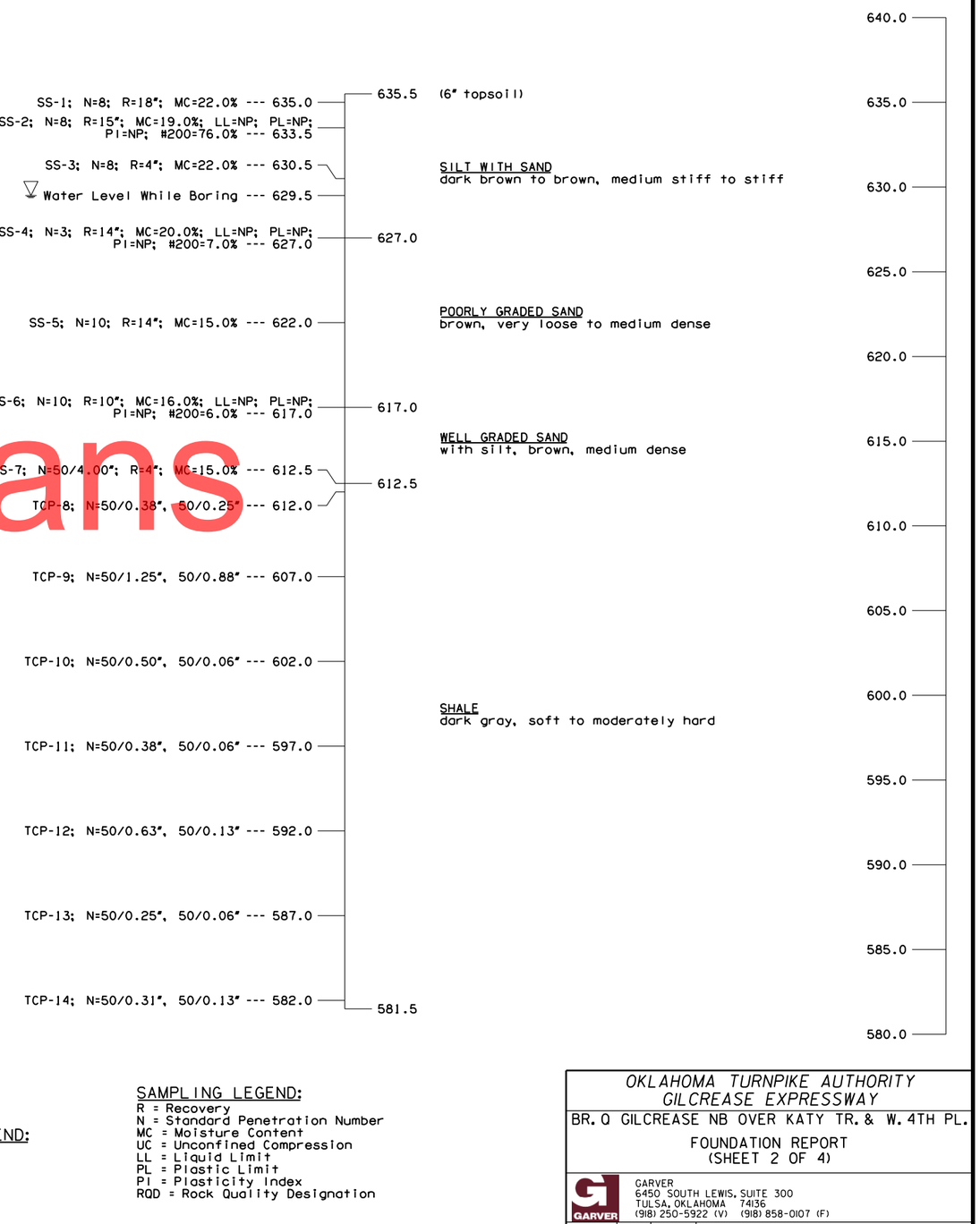
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

BORING NO. R-2B
Sta. 336+36.58, 3.00' Lt.
Total Depth = 54.0 ft.



BORING NO. R-2
Sta. 337+28.35, 83.00' Lt.
Total Depth = 55.0' ft.



50% plans

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DB = Diamond Bit Coring
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SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
FOUNDATION REPORT
(SHEET 2 OF 4)

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

DESIGNED	SJL	2/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	2/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ004

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

PROPOSED R/W
10/23/2017

BORING NO. Q-1
Sta. 336+54.14, 79.08' Rt.
Total Depth = 56.5 ft.

640.0
- SS-1; N=2; R=17"; MC=21.0%; LL=27; PL=18; PI=9; #200=75.0% --- 639.0
- 639.5 (3" topsoil)
- LEAN CLAY, brown, soft
- SS-2; N=8; R=18"; MC=19.0% --- 637.5
- 637.0
635.0
- SS-3; N=7; R=18"; MC=4.0% --- 634.5
- SILTY SAND, very pale yellow, very lose to lose
- SS-4; N=8; R=18"; MC=5.0% --- 631.0
630.0
- Water Level After Boring --- 627.5
- Water Level While Boring --- 626.0
- SS-5; N=3; R=18"; MC=22.0%; LL=NP; PL=NP; PI=NP; #200=1.0% --- 626.0
- 626.0
625.0
- SAND, grayish-brown, medium dense
- SS-6; N=17; R=12"; MC=16.0% --- 621.0
620.0
- SS-7; N=10; R=10"; MC=13.0%; LL=NP; PL=NP; PI=NP; #200=4.0% --- 616.0
- 616.0
615.0
- SAND, grayish-brown and greenish-gray, medium dense
- SS-8; N=50/5.00"; R=5"; MC=12.0% --- 614.0
- 614.0
- TCP-9; N=50/0.63"; 50/0.25" --- 613.5
610.0
- TCP-10; N=50/0.44", 50/0.13" --- 608.5
- SHALE, greenish gray to gray, soft to moderately hard
605.0
- TCP-11; N=50/0.38", 50/0.19" --- 603.5
600.0
- TCP-12; N=50/0.38", 50/0.13" --- 598.5
- 598.5
- SS-13; N=50/1.00"; R=1" MC=26.0% --- 598.0
595.0
- TCP-14; N=50/0.44", 50/0.06" --- 593.5
590.0
- SHALE, gray, moderately hard
- TCP-15; N=50/0.38", 50/0.06" --- 588.5
585.0
- TCP-16; N=50/0.38"; 50/0.13" --- 631.0
- SS-17; N=50/2", R=2" MC=23.0% --- 583.5
- 583.5
580.0
575.0
570.0

BORING NO. Q-2
Sta. 337+55.05, 41.14' Rt.
Total Depth = 55.0' ft.

640.0
- SS-1; N=8; R=4"; MC=23.0% --- 637.0
- 637.5 (3" topsoil)
- SS-2; N=6; R=10"; MC=26.0%; LL=45; PL=20; PI=25; #200=99.0% --- 635.5
- LEAN CLAY, dark reddish-brown, medium stiff to stiff
635.0
- SS-3; N=7; R=6"; MC=8.0% --- 632.5
- 632.5
630.0
- SS-4; N=2; R=6"; MC=23.0%; LL=NP; PL=NP; PI=NP; #200=4.0% --- 629.0
- SAND, light reddish-brown, very loose to loose
- Water Level After Boring --- 624.0
- SS-5; N=3; R=8"; MC=20.0% --- 624.0
- Water Level While Boring
625.0
620.0
- SS-6; N=12; R=6"; MC=14.0%; LL=NP; PL=NP; PI=NP; #200=4.0% --- 619.0
- 619.0
- SAND, light reddish-brown, medium dense
615.0
- SS-7; N=50/3.00"; R=9"; MC=14.0% --- 614.0
- 613.5
- DB-8; R=100%; RQD=32% at 25.0 ft. --- 612.5
610.0
- DB-9; R=100%; RQD=46% UC=1510 psi at 30.0 ft. --- 607.5
605.0
- DB-10; R=100%; RQD=73% UC=2110 psi at 35.0 ft. --- 602.5
600.0
- SHALE, dark gray, moderately hard
- DB-11; R=100%; RQD=83% UC=610 psi at 40.0 ft. --- 597.5
595.0
- DB-12; R=100%; RQD=95% UC=1420 psi at 45.0 ft. --- 592.5
590.0
- DB-13; R=100%; RQD=100% UC=1540 psi at 50.0 ft. --- 587.5
585.0
- 582.5
580.0

50% plans

NOTES:
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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

SAMPLING LEGEND:
R = Recovery
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MC = Moisture Content
UC = Unconfined Compression
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OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
FOUNDATION REPORT
(SHEET 3 OF 4)

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

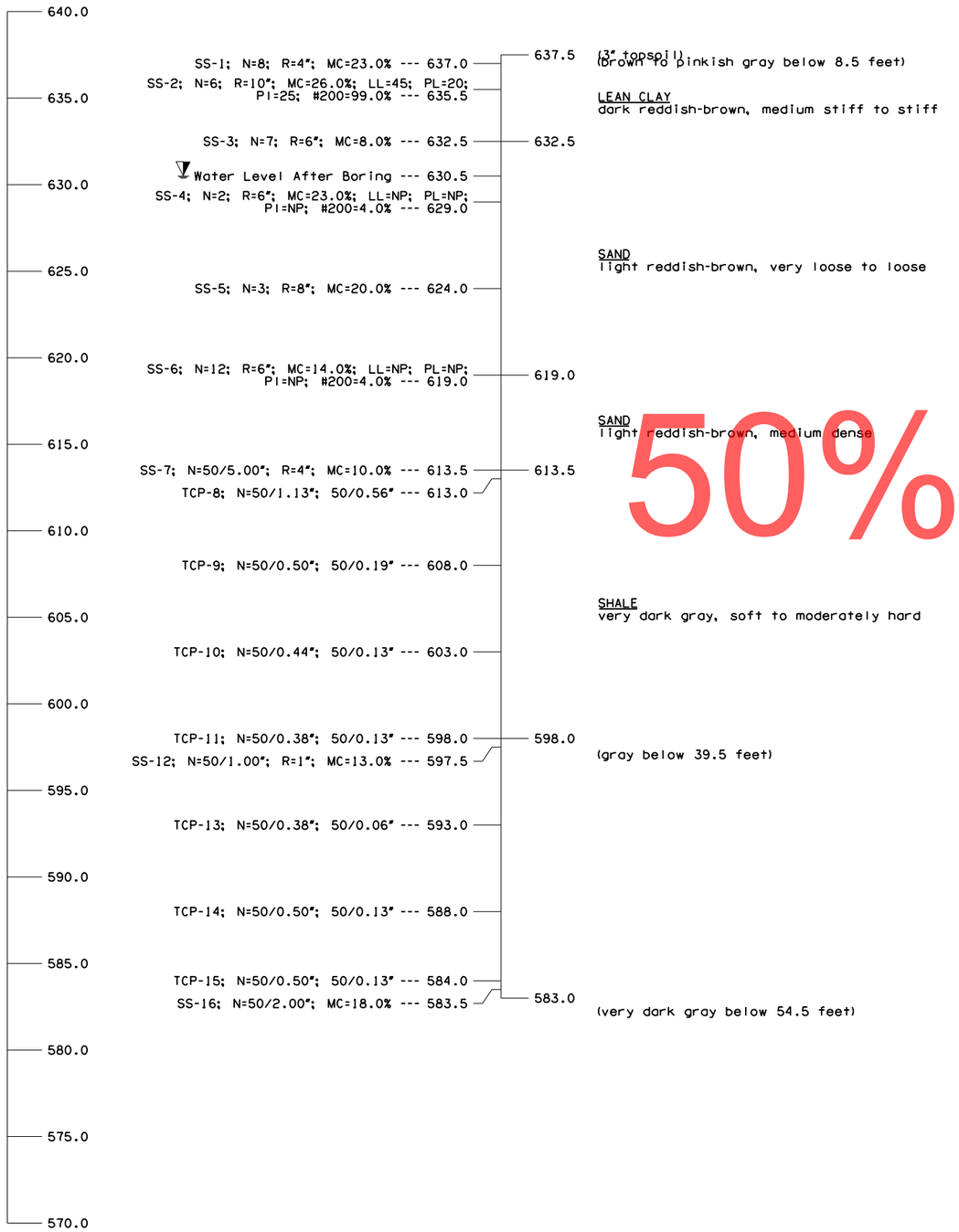
DESIGNED	RH	10/17	CONTRACT NO. GCT-2500	
DETAILED	RH	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BQ005

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

PROPOSED R/W
10/23/2017

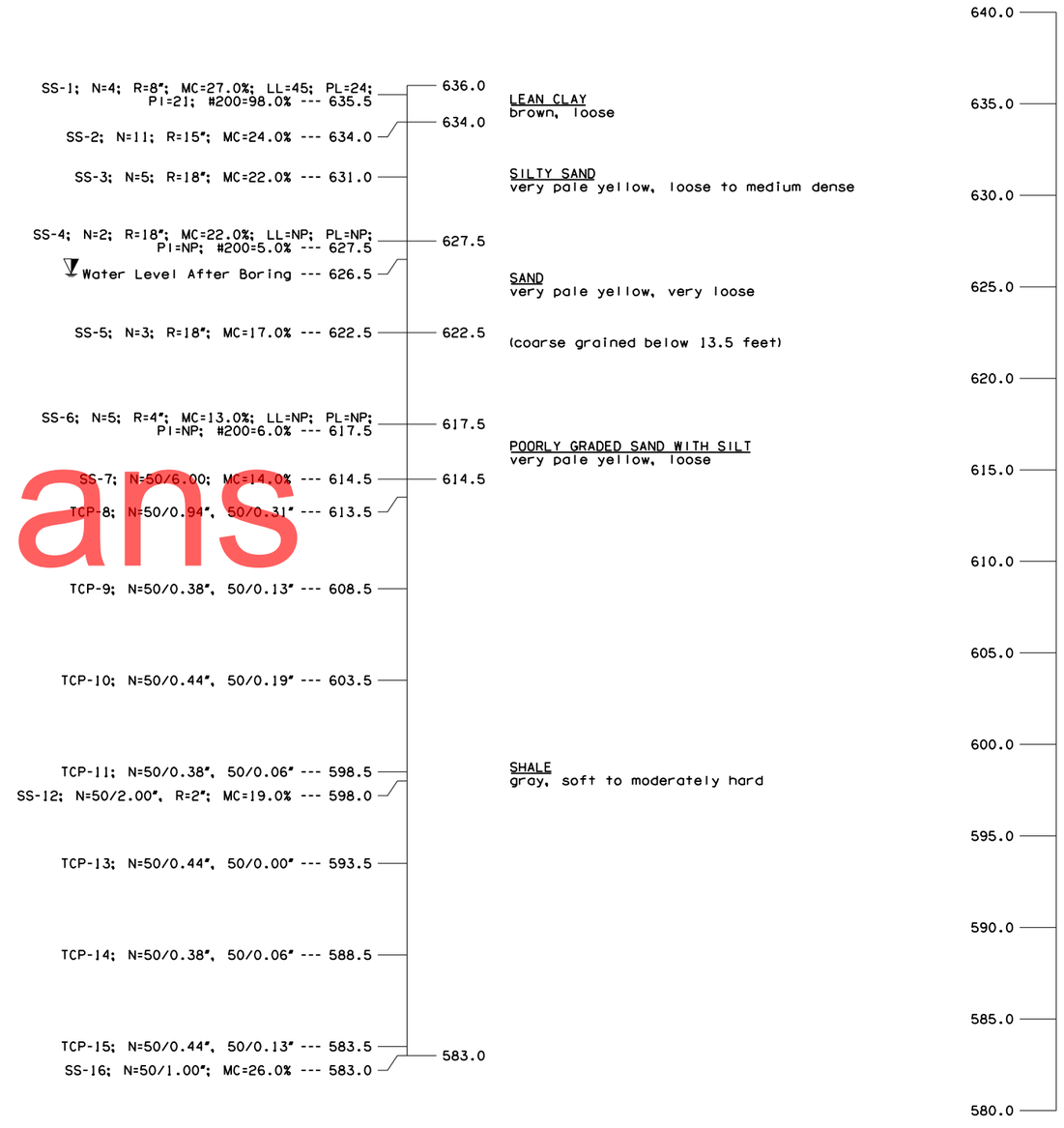
BORING NO. Q-2A

Sta. 337+55.05, 36.14' Rt.
Total Depth = 54.8 ft.



BORING NO. Q-3

Sta. 338+63.30, 78.06' Rt.
Total Depth = 53.0' ft.



50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

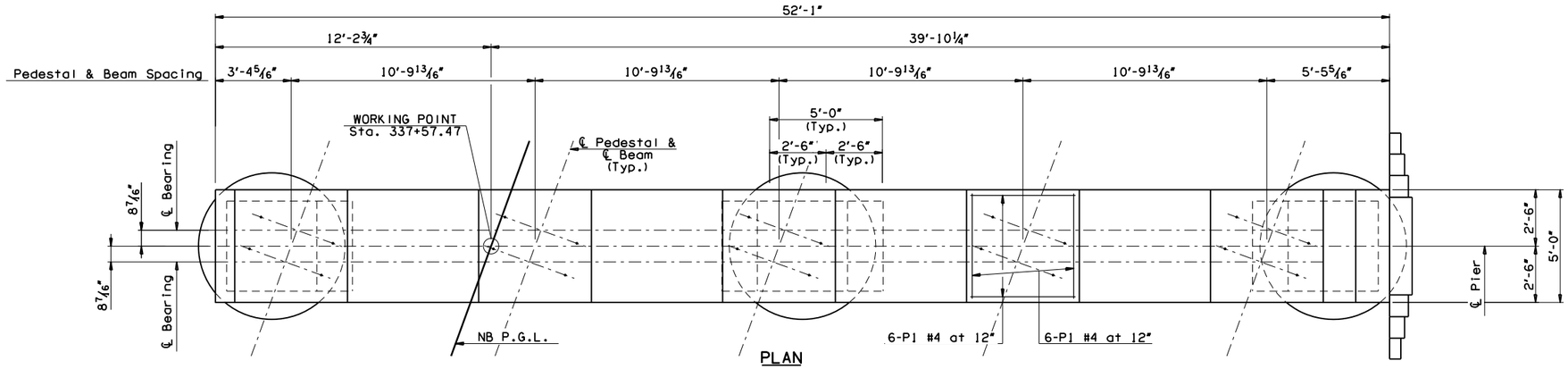
FOUNDATION REPORT
(SHEET 4 OF 4)

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

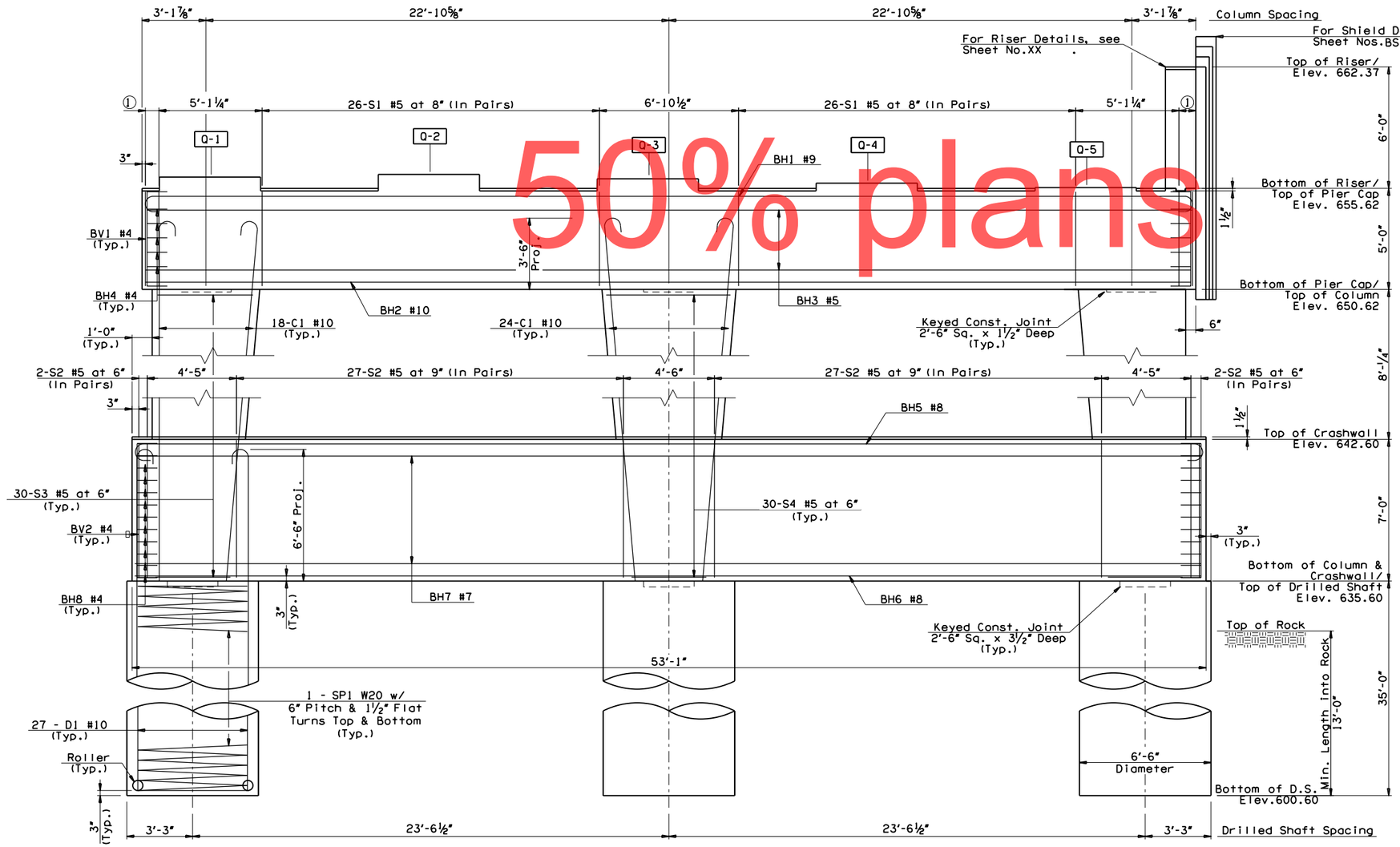
DESIGNED	RH	10/17	CONTRACT NO. GCT-2500	
DETAILED	RH	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BQ006

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

PROPOSED
R/W
10/23/2017



PLAN



ELEVATION
(Looking Forward Station)

50% plans

PEDESTAL ELEVATIONS	
PEDESTAL NO.	ELEV.
Q-1	656.66
Q-2	656.72
Q-3	656.45
Q-4	656.18
Q-5	655.91

BAR LIST - PIER				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1	#9	12	BENT	54'-11"
BH2	#10	12	STR.	51'-9"
BH3	#5	10	STR.	51'-9"
BH4	#4	10	BENT	6'-8"
BH5	#8	20	STR.	52'-9"
BH6	#7	20	STR.	52'-9"
BH7	#4	16	BENT	6'-8"
BV1	#4	8	BENT	6'-8"
BV2	#4	16	BENT	8'-8"
C1	#10	60	BENT	19'-11"
P1	#4	60	BENT	7'-8"
S1	#5	112	BENT	16'-5"
S2	#5	116	BENT	19'-1"
S3	#5	60	BENT	14'-9" AVG.
S4	#5	20	BENT	16'-4" AVG.
RH	#5	14	BENT	9'-1"
RV	#6	12	STR.	8'-5"

DRILLED SHAFTS - PIER (ONE SHOWN, THREE REQUIRED)				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#10	27	BENT	42'-11"
SP1	W20	1	SPIRAL	1244'-7"

NOTE:
For Water Repellent Details, see Sheet No. BSTA01

① 2-S1 #5 at 6" (In Pairs)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

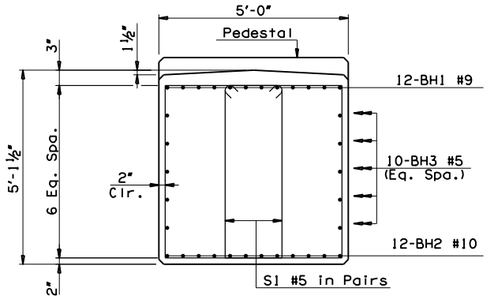
PIER DETAILS
(SHEET 1 OF 2)

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

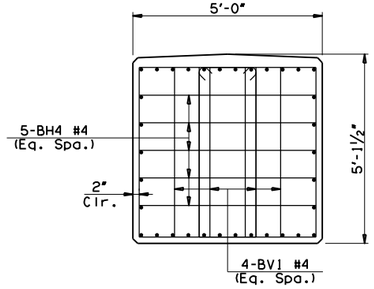
DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ007

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

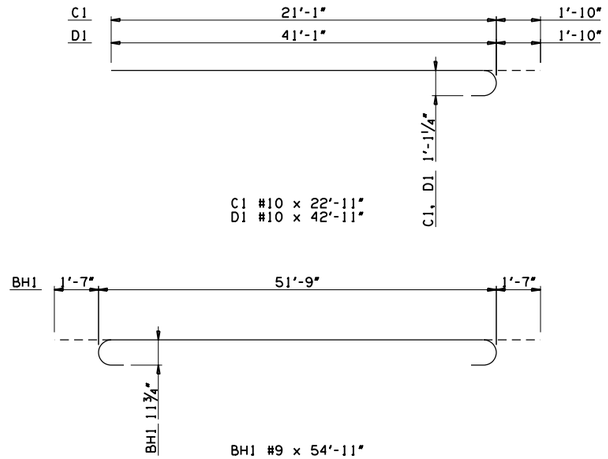
PROPOSED
R/W
10/23/2017

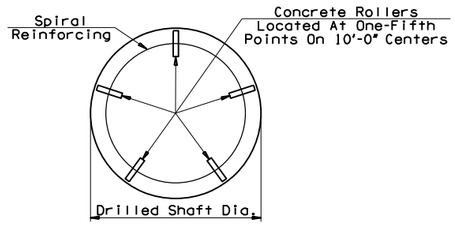


TYPICAL SECTION THRU CAP

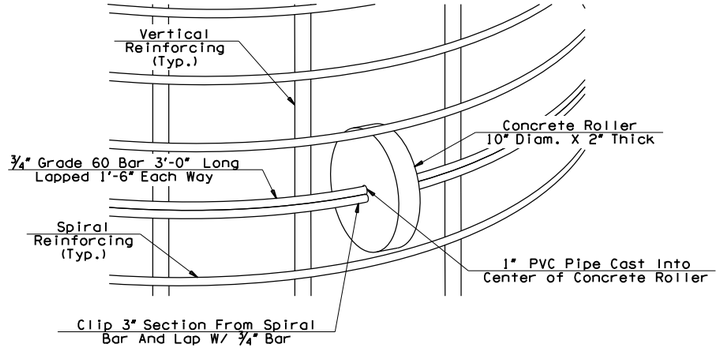


END OF PIER CAP REINFORCING



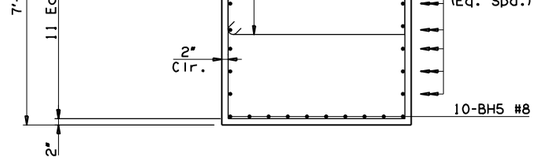


CONCRETE
ROLLER PLACEMENT

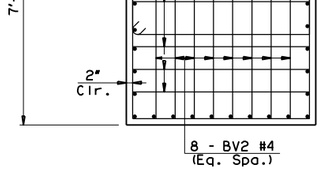


DETAILS OF CONCRETE ROLLER INSTALLATION

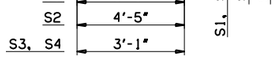
NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.



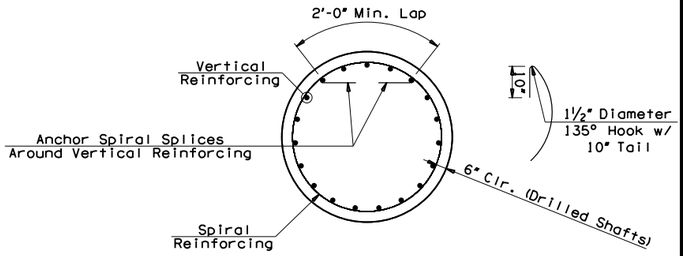
TYPICAL SECTION THRU
CRASHWALL



END OF CRASHWALL
REINFORCING

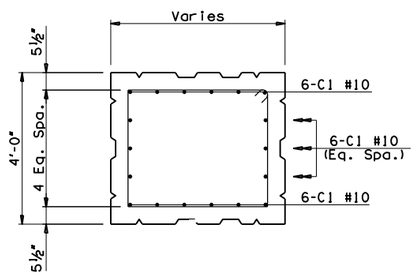




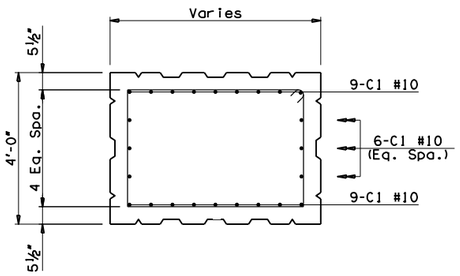


DETAIL OF SPIRAL REINFORCING STEEL

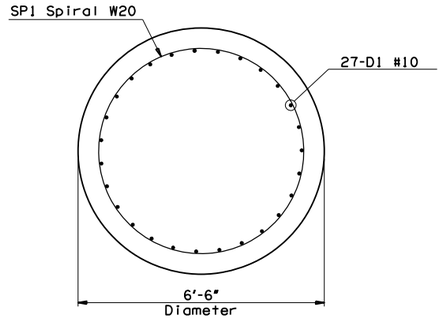
NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



TYPICAL SECTION THRU
END COLUMNS



TYPICAL SECTION THRU
CENTER COLUMN



TYPICAL SECTION THRU
DRILLED SHAFTS

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

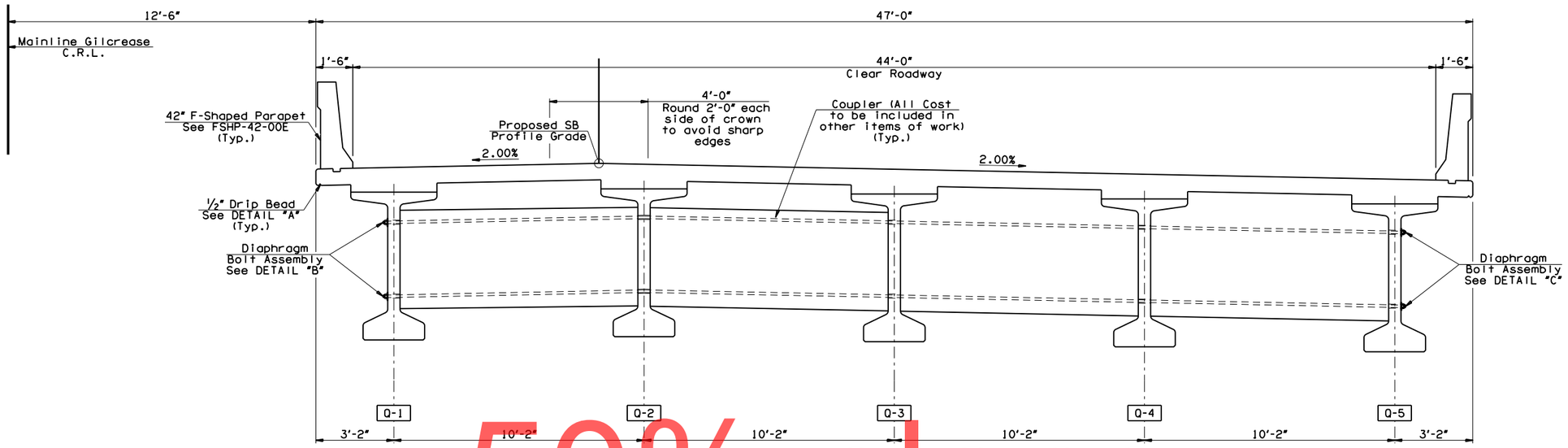
PIER DETAILS
(SHEET 2 OF 2)

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

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ008

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

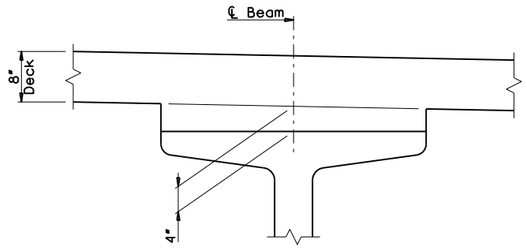
PROPOSED R/W
10/23/2017



HALF SECTION AT INTERMEDIATE DIAPHRAGM — HALF SECTION AT END DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

50% plans



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.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE

	ITEM	UNIT	TOTAL
	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	996.70
	SAW-CUT GROOVING	S.Y.	987.70
	SEALED EXPANSION JOINT	L.F.	47.80
	42" F-SHAPED PARAPET	L.F.	405.60
	STRUCTURAL STEEL	LB.	3,064.00
①	CLASS AA CONCRETE	C.Y.	328.90
	EPOXY COATED REINFORCING STEEL	LB.	87,055.26
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	1,508.00
	STAINLESS STEEL FIXED BEARING ASSEMBLY	E.A.	10
	STAINLESS STEEL EXP. BEARING ASSEMBLY	E.A.	10

① Includes 43.06 C.Y. in the Haunches

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar lists, see Sheet Nos. BQ011 - BQ014.

For Detail "A", Detail "B", Detail "C", and details of water repellent, see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

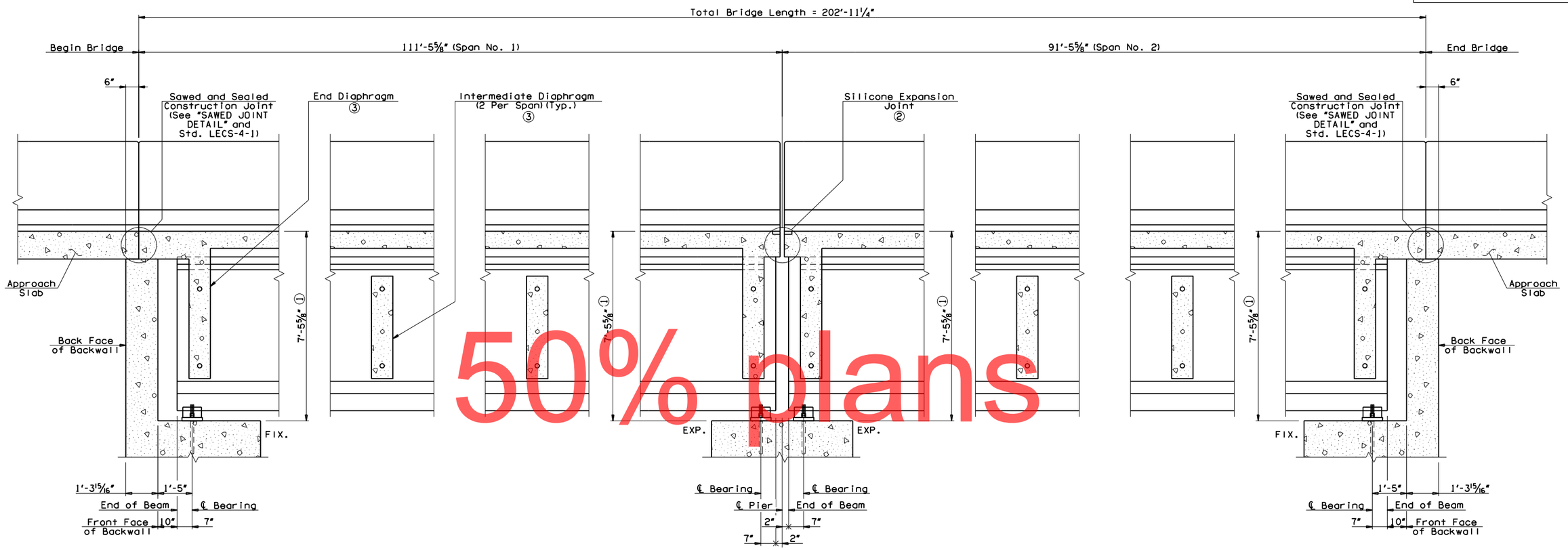
TYPICAL SECTION

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

DESIGNED	BRT	9/15	CONTRACT NO. GCT-2500	
DETAILED	RH	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ009

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

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1

PIER NO. 1

ABUTMENT NO. 2

50% plans

LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② See Expansion Joint Opening Equations on Sheet No. BQ012.

③ For Framing Plan, see Sheet No. BQ015 .
For Concrete Beam Diaphragm details, see Sheet No. BQ013 .
For Span Arrangement, see Sheet No. BQ001 .

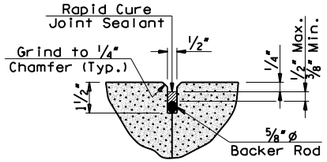
NOTE:
Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

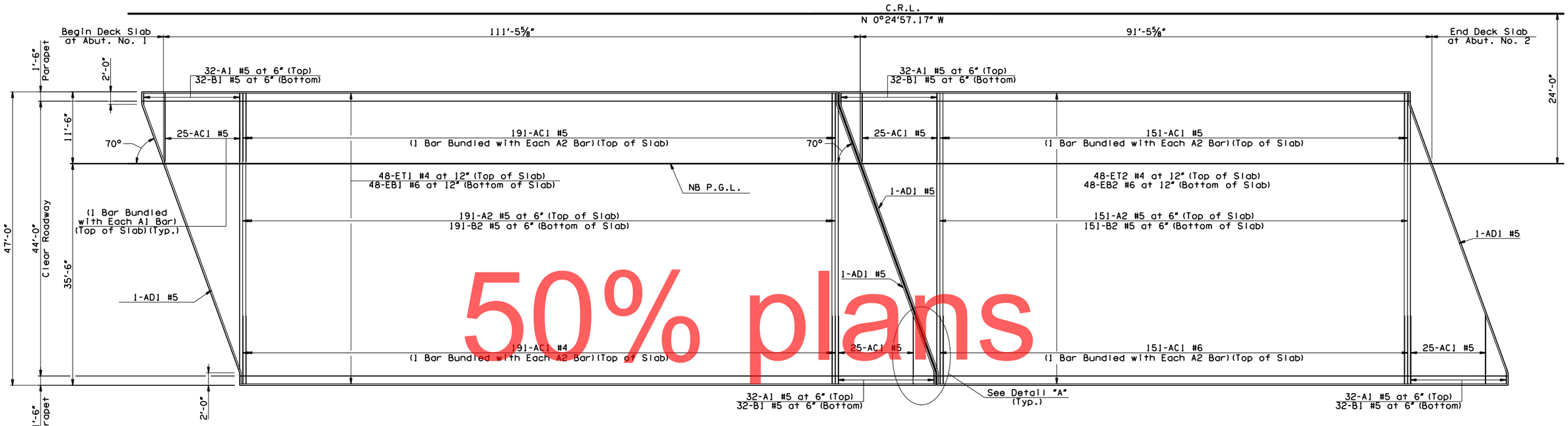
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
LONGITUDINAL SECTION

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ010

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

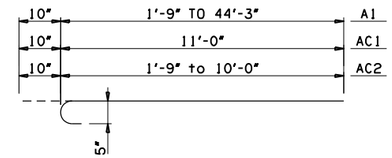
PROPOSED R/W
10/23/2017



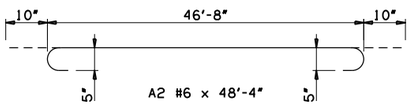
50% plans

SLAB PLAN
(Showing Top & Bottom of Slab Reinforcing Steel)

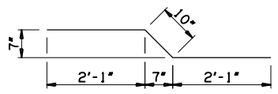
BAR LIST - SUPERSTRUCTURE					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
A1	#5	128	BENT	23'-10" AVG.	2'-7" TO 45'-1"
A2	#5	342	BENT	48'-4"	-
AC1	#5	784	BENT	11'-10"	-
AC2	#5	28	BENT	6'-8½" AVG.	2'-7" TO 10'-10"
AD1	#5	4	BENT	49'-5"	-
AS	#4	94	BENT	5'-0"	-
B1	#5	128	STR.	23'-0" AVG.	1'-9" TO 44'-3"
B2	#5	342	STR.	46'-8"	-
EB1	#6	48	STR.	111'-9½" AVG.	112'-7" TO 111'-0"
EB2	#6	48	STR.	160'-3" AVG.	229'-6" TO 91'-0"
ET1	#4	48	STR.	111'-9½" AVG.	112'-7" TO 111'-0"
ET2	#4	48	STR.	160'-3" AVG.	229'-6" TO 91'-0"
AH1	#4	20	BENT	3'-1"	-
AH2	#4	64	BENT	5'-7"	-
AT	#4	4	BENT	49'-7"	-
F	#6	32	STR.	7'-1"	-
EPH	#4	96	BENT	3'-1"	-
EPT	#4	2	BENT	49'-7"	-



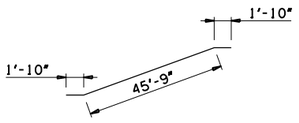
A1 #5 x 23'-10" Avg.
AC1 #5 x 11'-10"
AC2 #5 x 6'-8½"



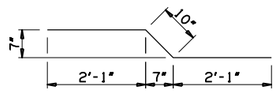
A2 #6 x 48'-4"



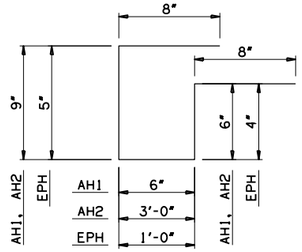
AS #4 x 5'-0"



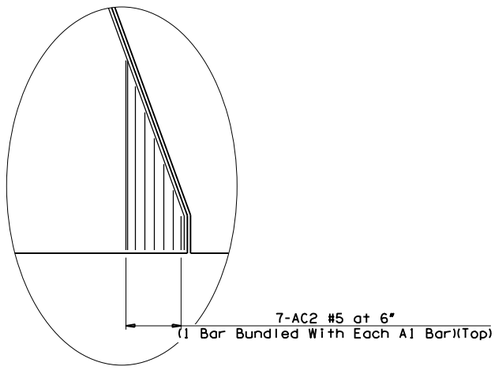
AD1 #5 x 49'-5"



AS #4 x 5'-0"



AH1 #4 x 3'-1"
AH2 #4 x 5'-7"
EPH #4 x 3'-1"



DETAIL "A"

NOTE:
Rotate hooks on A & AC Bars to maintain minimum clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ011

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

PROPOSED R/W
10/23/2017

① 3-AH1 #4 at 12"
② Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

NOTE:
Deck slab reinforcing not shown for clarity.

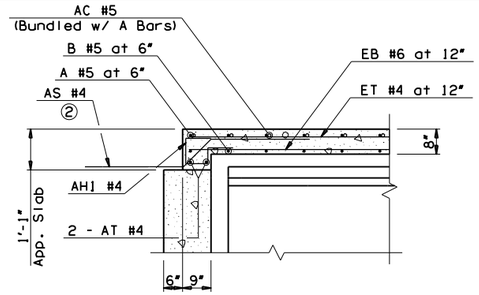
③ The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

2.5899 - (0.01372 x T)

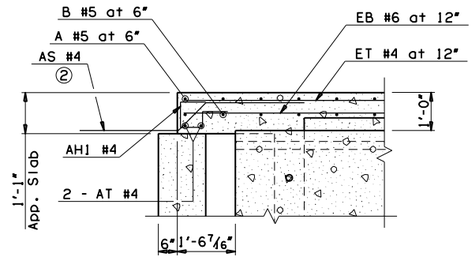
Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint Opening shall be measured perpendicular to the joint.

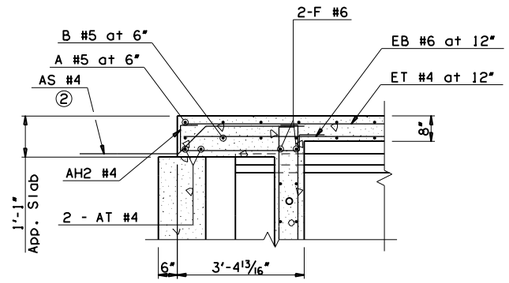
SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.



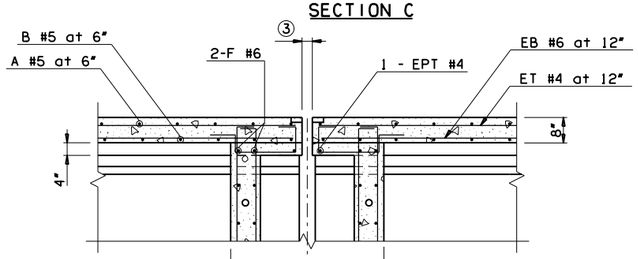
SECTION A



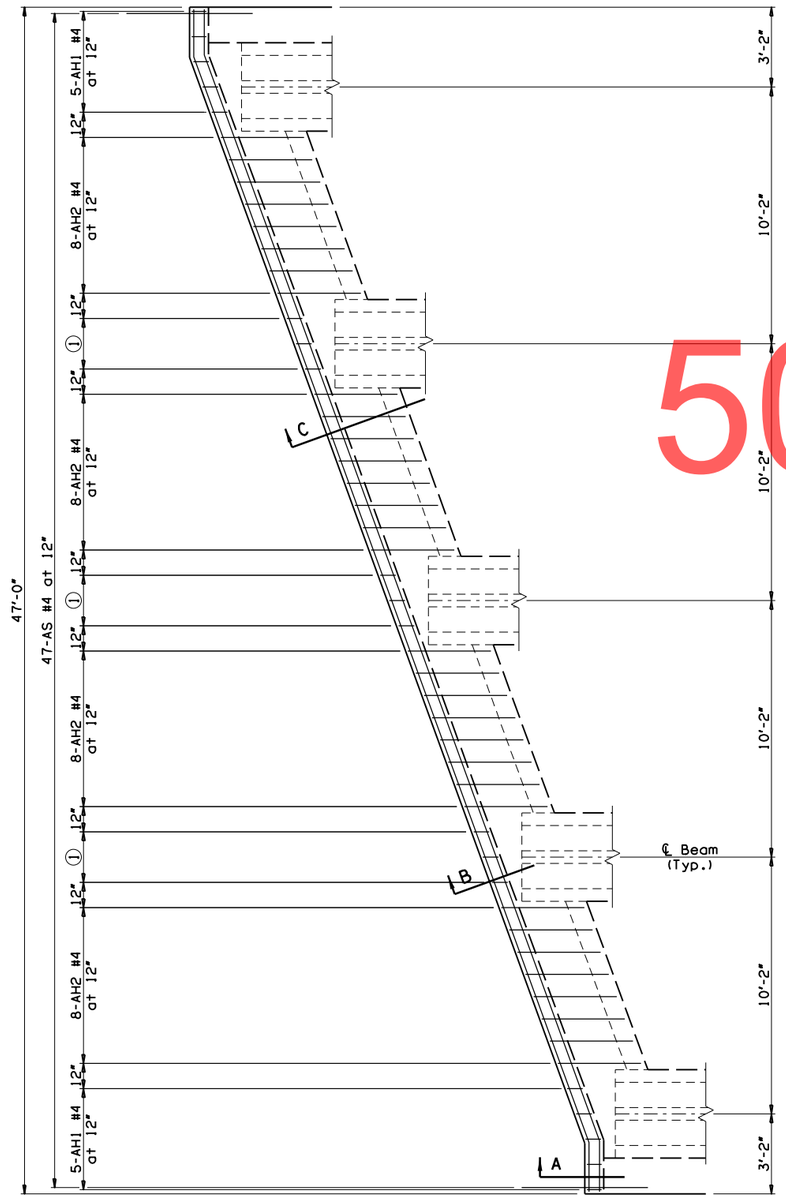
SECTION B



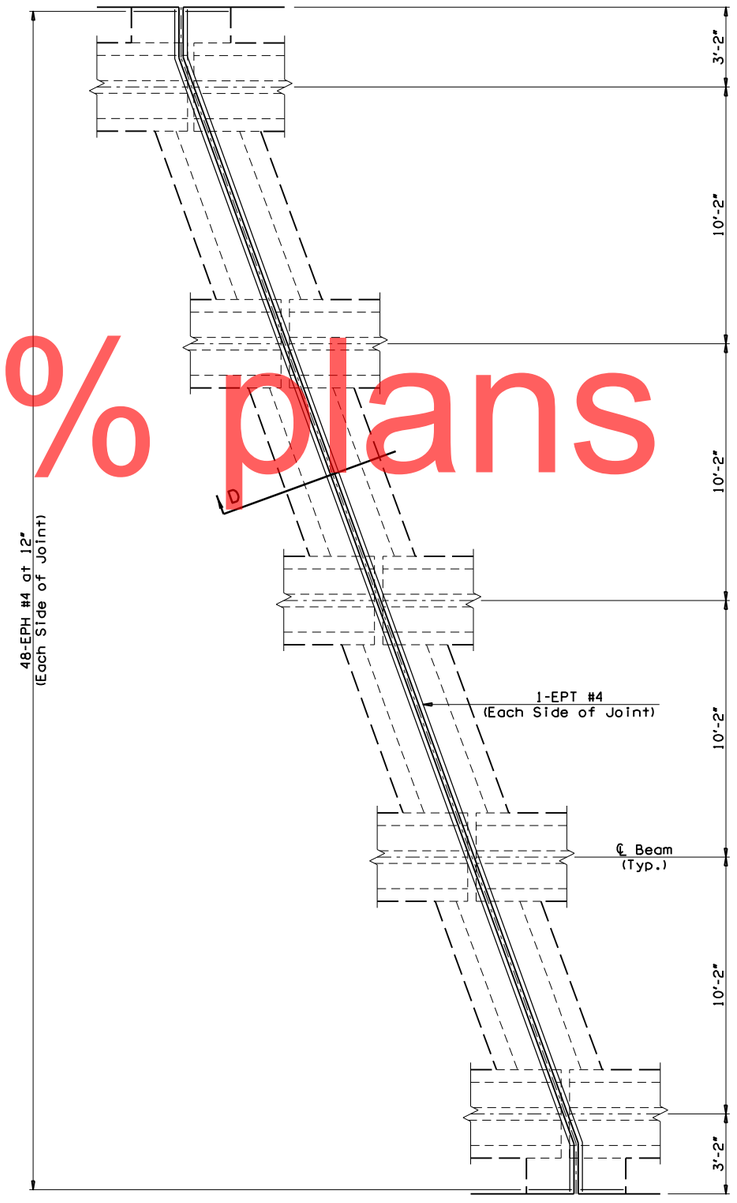
SECTION C



SECTION D



ABUTMENTS



EXPANSION PIER

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS

50% plans

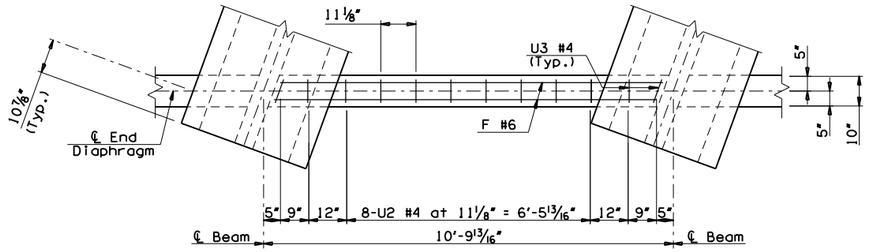
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

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

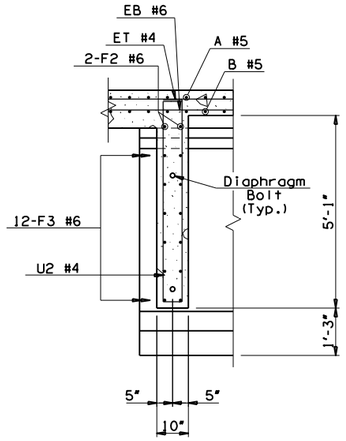
DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ012

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

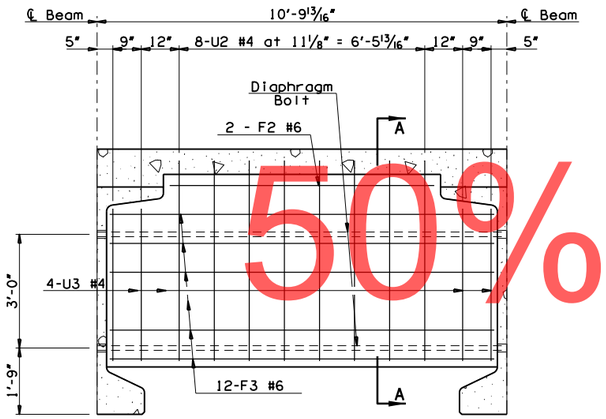
PROPOSED R/W
10/23/2017



PLAN



SECTION A-A

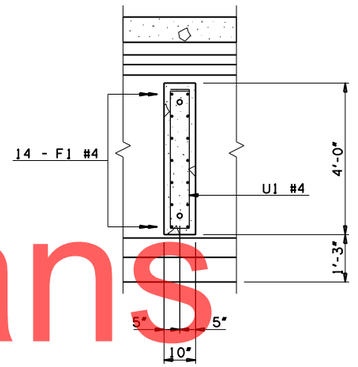


ELEVATION

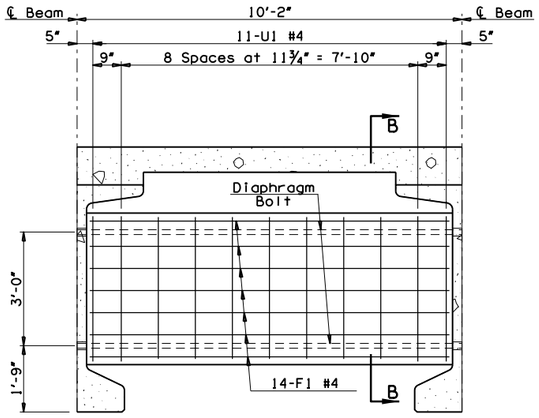
END DIAPHRAGM

U1 #4 x 8'-10"
U2 #4 x 12'-2"
U3 #4 x 9'-6"

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	224	STR.	9'-4"	-
F2	#6	32	STR.	7'-0"	-
F3	#6	192	STR.	10'-0"	-
U1	#4	176	BENT	8'-10"	-
U2	#4	128	BENT	12'-2"	-
U3	#4	64	BENT	9'-6"	-

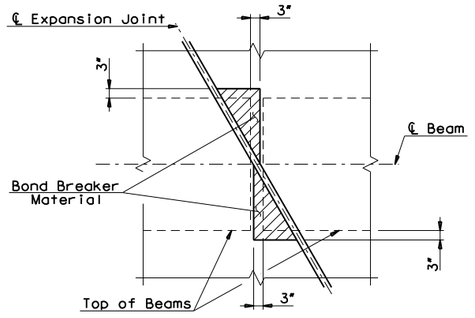


SECTION B-B



ELEVATION

INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)



DETAIL OF BOND BREAKER AT BEAM CORNERS

NOTE:
Where the top corner of the beam projects under the slab of the adjacent span, a minimum of 1" clearance between the top of the beam and the bottom of the slab shall be provided in the hatched areas shown above. 1" thick Expansion Material shall be used as a bond breaker.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

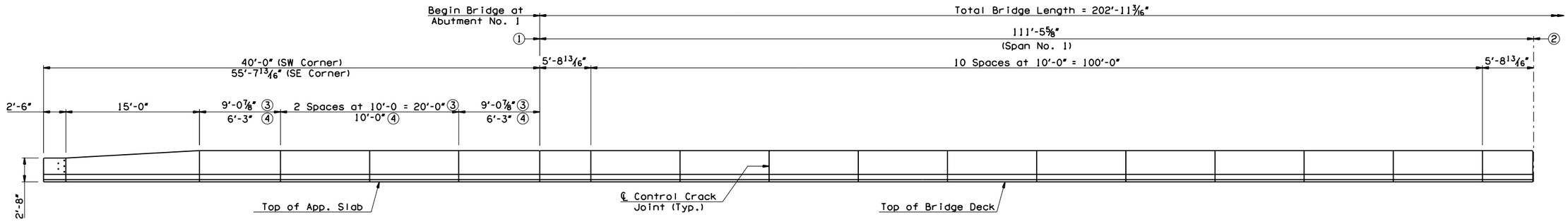
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

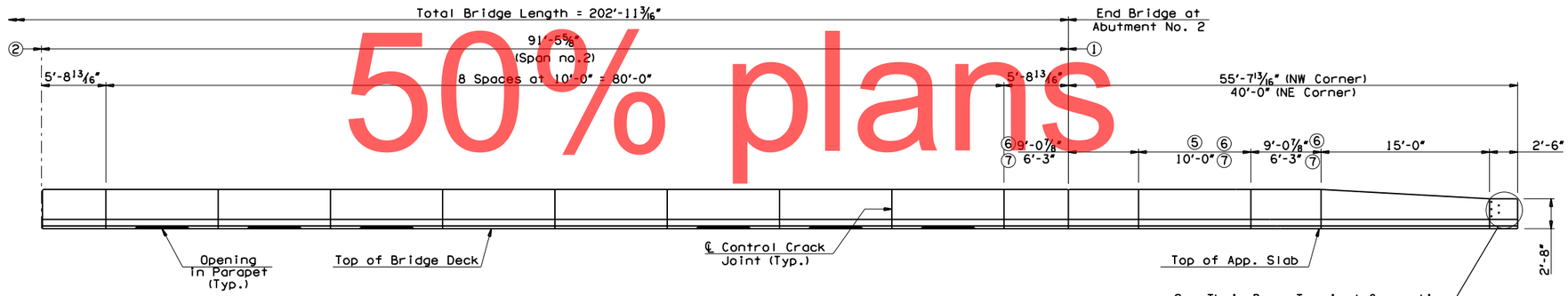
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	NBK	5/16	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ013

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

PROPOSED R/W
10/23/2017





42" F-SHAPED PARAPET LAYOUT
(West Parapet Shown, East Parapet Similar)

50% plans

① Construction Joint. End horizontal reinforcing steel 2" either side of joint.
② ℄ Expansion Joint. Expansion Joint opening shall match slab opening.
③ SE Corner
④ SW Corner
⑤ 2 Spaces at 10'-0 = 20'-0"
⑥ NW Corner
⑦ NE Corner

NOTES:
For details showing the reinforcement layout and bar bend details for 42" F-Shaped Traffic Rails, see Std. FSHP-42-2-00E

Provide blockouts for Sealed Expansion Joints.

All dimensions shown are measured along the inside face of the traffic rail.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

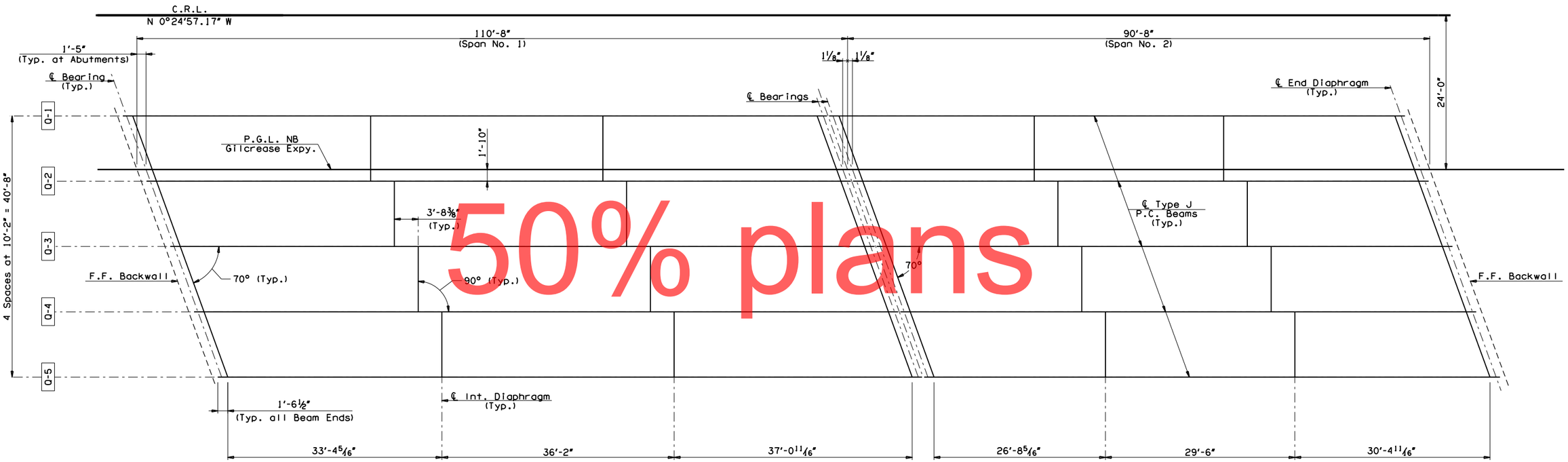
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	BRT	9/15	CONTRACT NO. GCT-2500	
DETAILED	RH	9/17		
CHECKED	JCL	9/15	DATE: 10/23/2017	SHEET NO. BQ014

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

PROPOSED R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 & 2

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.
FRAMING PLAN

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

DESIGNED	JMH	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ015

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

PROPOSED
R/W
10/23/2017

PRESTRESSED CONCRETE BEAM NOTES

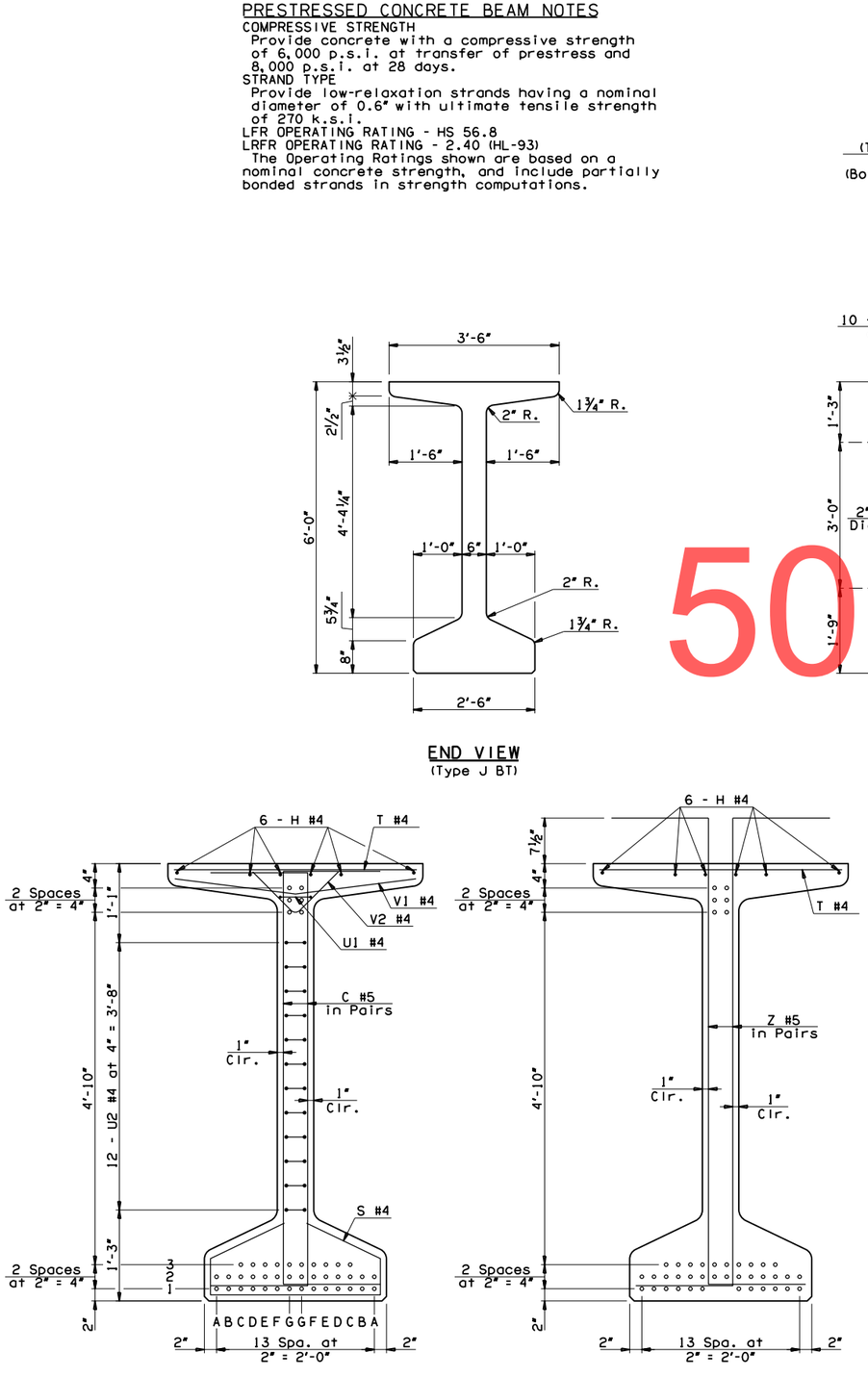
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 6,000 p.s.i. at transfer of prestress and 8,000 p.s.i. at 28 days.

STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS 56.8

LRFR OPERATING RATING - 2.40 (HL-93)
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.

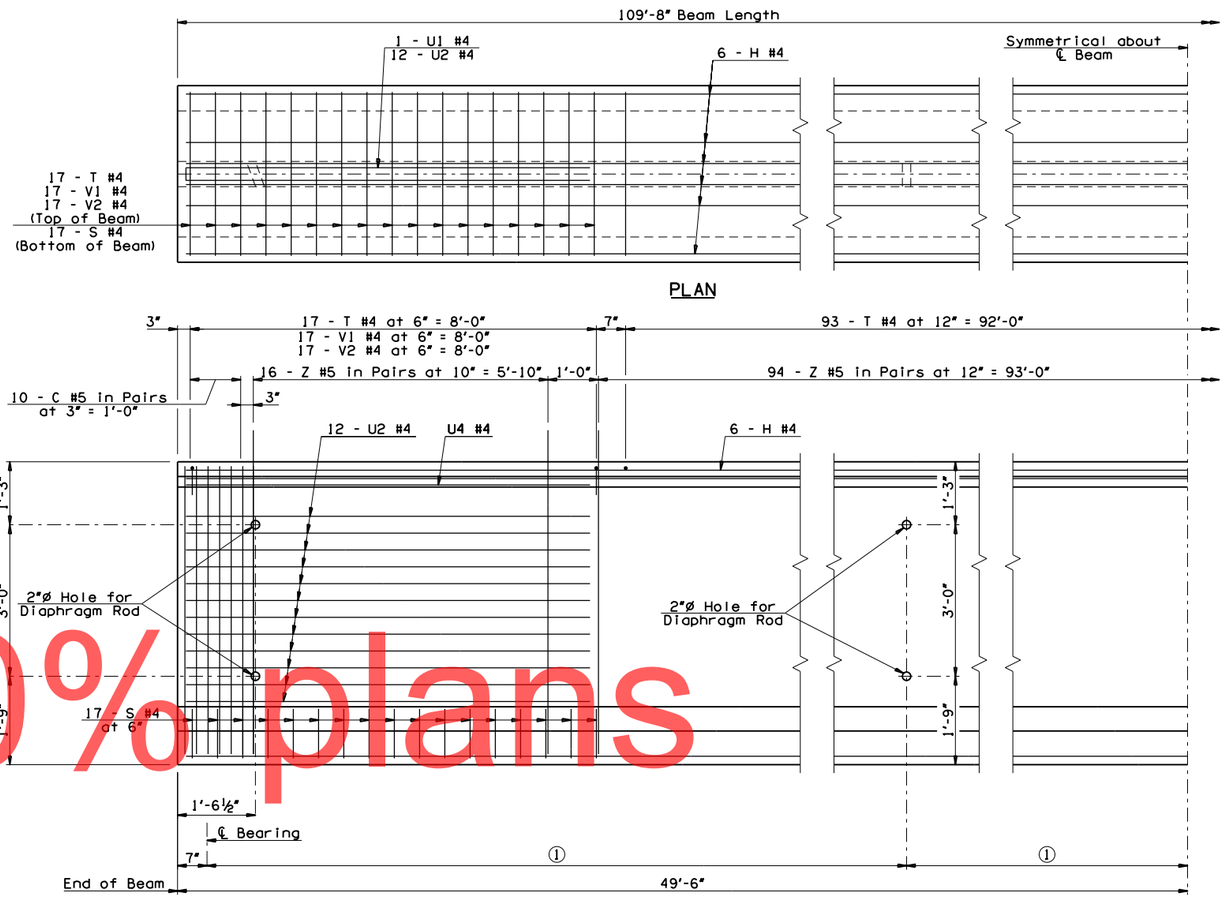
END VIEW
(Type J BT)



END SECTION

℄ SECTION

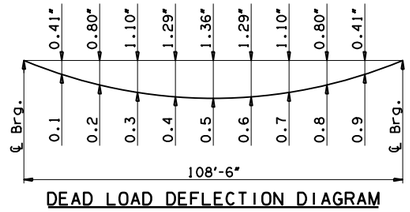
BEAM SECTIONS
(44 - 0.6" ø STRANDS)



PLAN

ELEVATION

① See Framing Plan for Diaphragm Spacing.



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
D1	12'-0"

NOTE:
For bar bend and embedded plate details, see Sheet No. BQ018.

For diaphragm skew angles, see Sheet No. BQ015.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

110'-0" BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ016

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

PROPOSED
R/W
10/23/2017

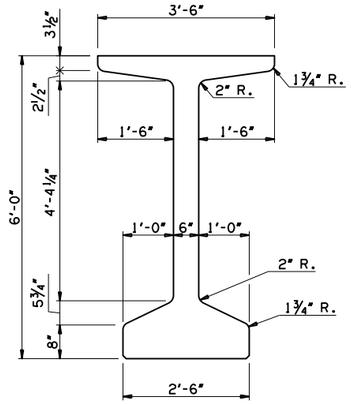
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

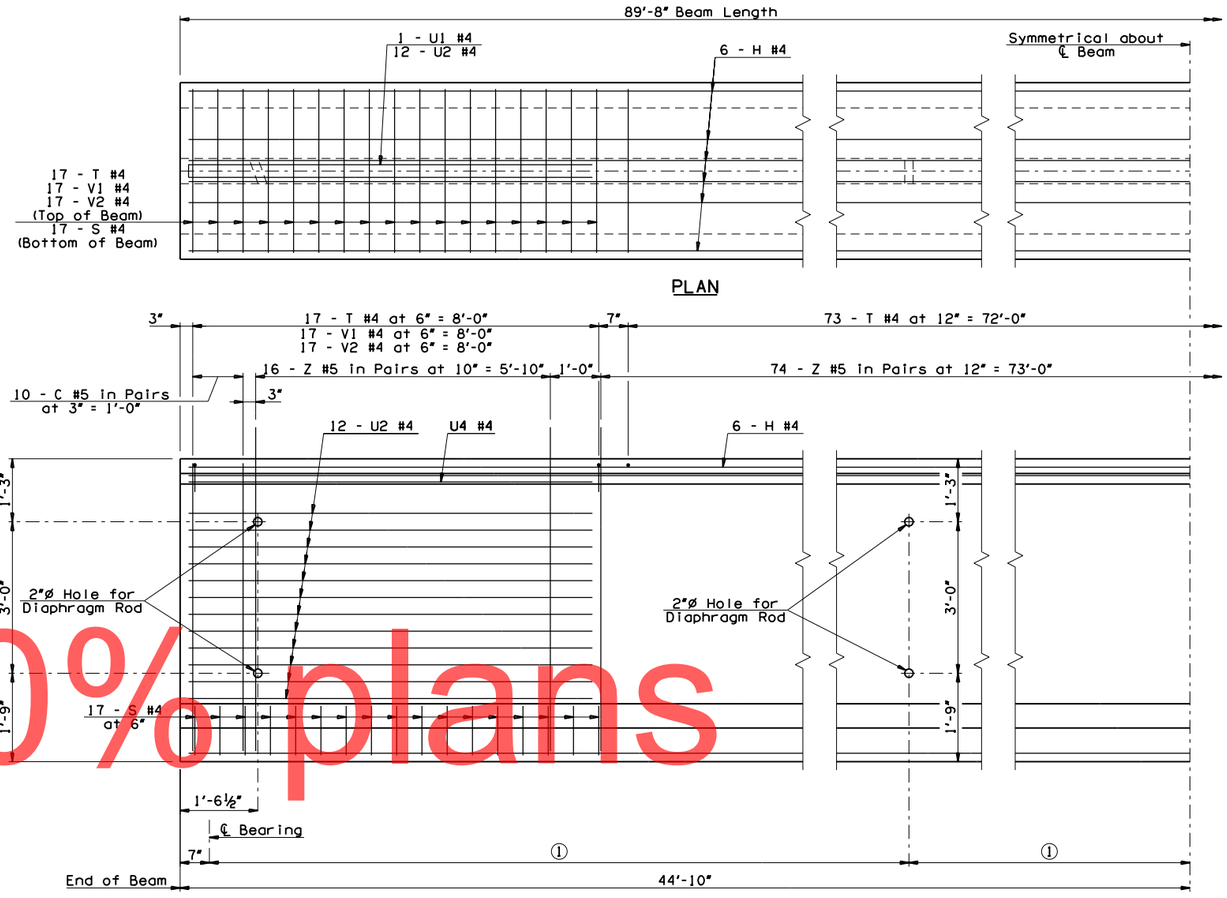
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS 55.2

LRFR OPERATING RATING - 1.96 (HL-93)
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.



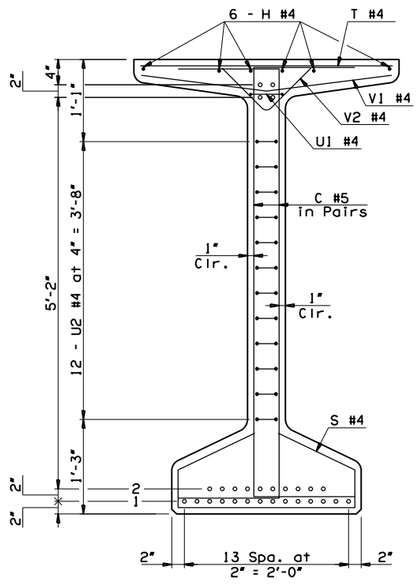
END VIEW
(Type J BT)



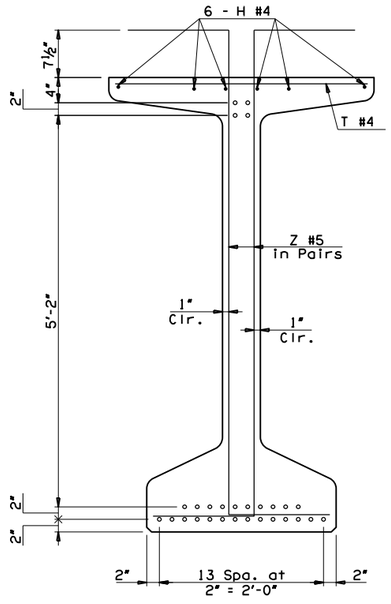
PLAN

ELEVATION

① See Framing Plan for Diaphragm Spacing.

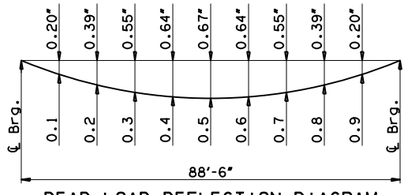


END SECTION



℄ SECTION

BEAM SECTIONS
(28 - 0.6" ø STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

NOTE:
For bar bend and embedded plate details, see Sheet No. BQ018.

For diaphragm skew angles, see Sheet No. BQ015.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

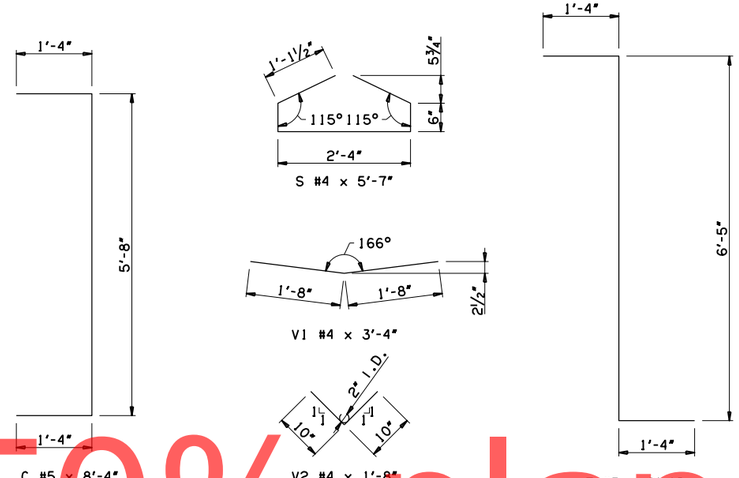
90'-0" BEAM DETAILS
(TYPE J BT)

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

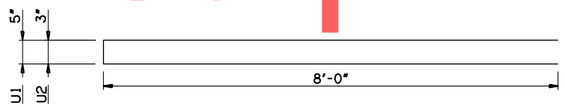
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ017

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

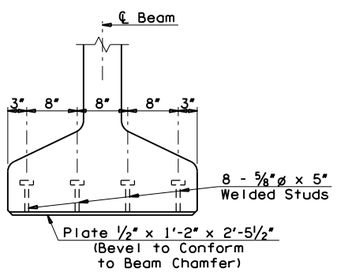
PROPOSED
R/W
10/23/2017



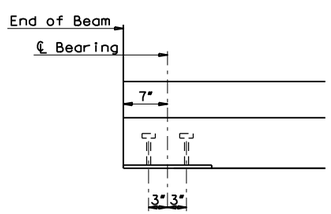
50% plans



U1 #4 x 16'-5"
U2 #4 x 16'-3"



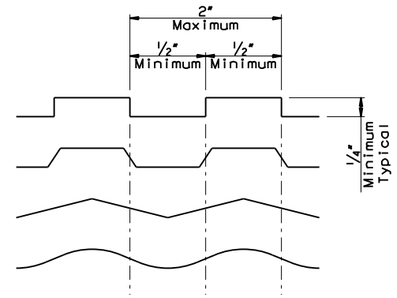
END VIEW



ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

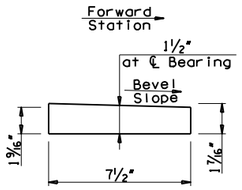
BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ018

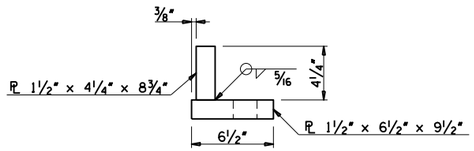
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

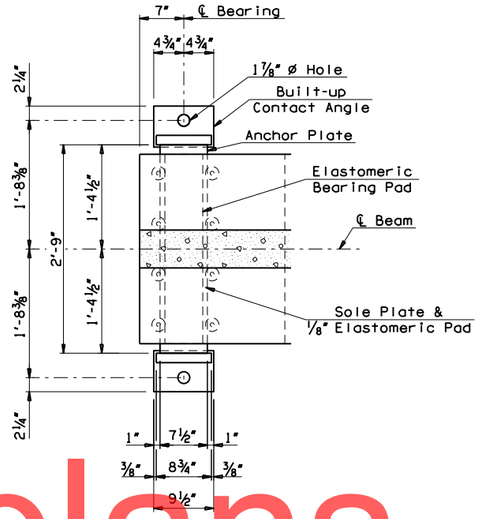


NOTE:
Paint thickest edge red.

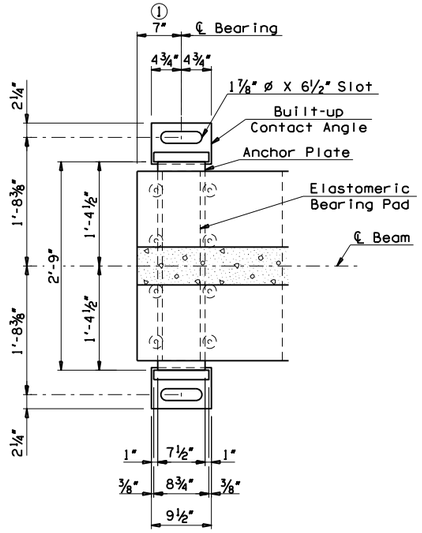
BEVELED ANCHOR PLATE DETAIL



BUILT-UP CONTACT ANGLE DETAIL



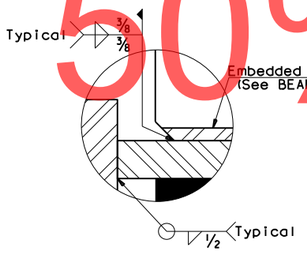
FIXED BEARING PLAN



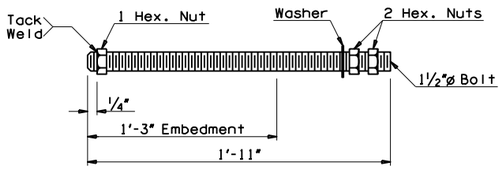
EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.

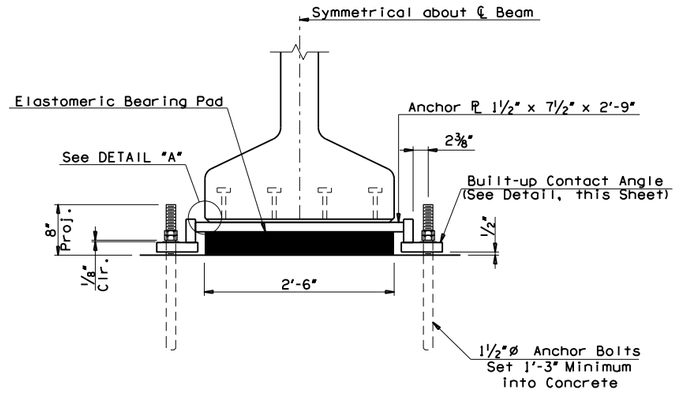
50% plans



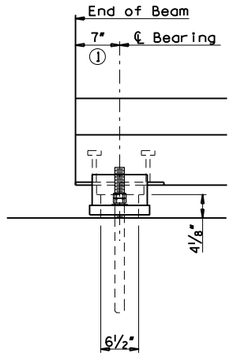
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



ELEVATION

BEARING ASSEMBLY NOTES:
Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required).

For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

BEARING DETAILS

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

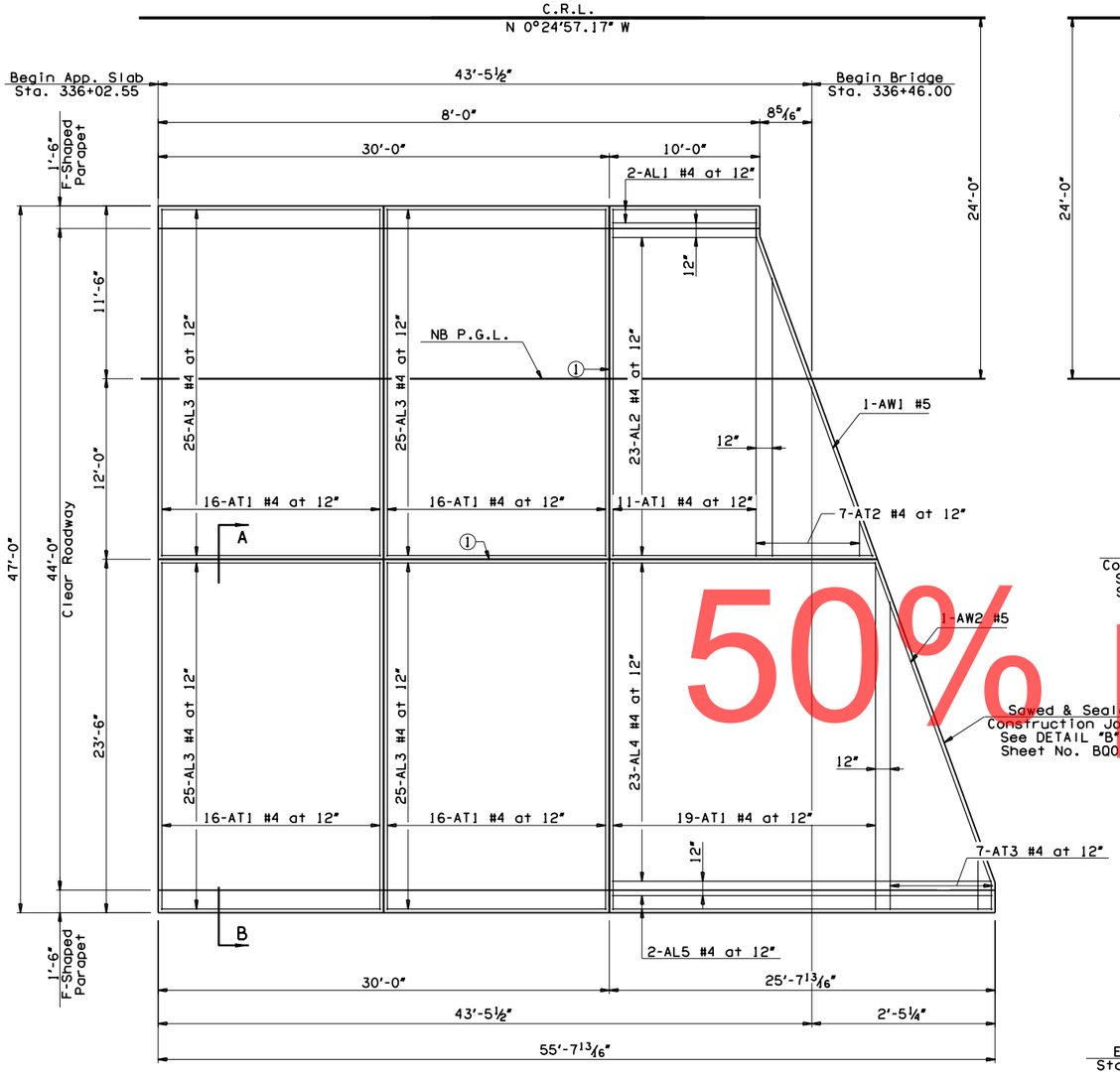
BEARING DETAILS
(TYPE J BT)

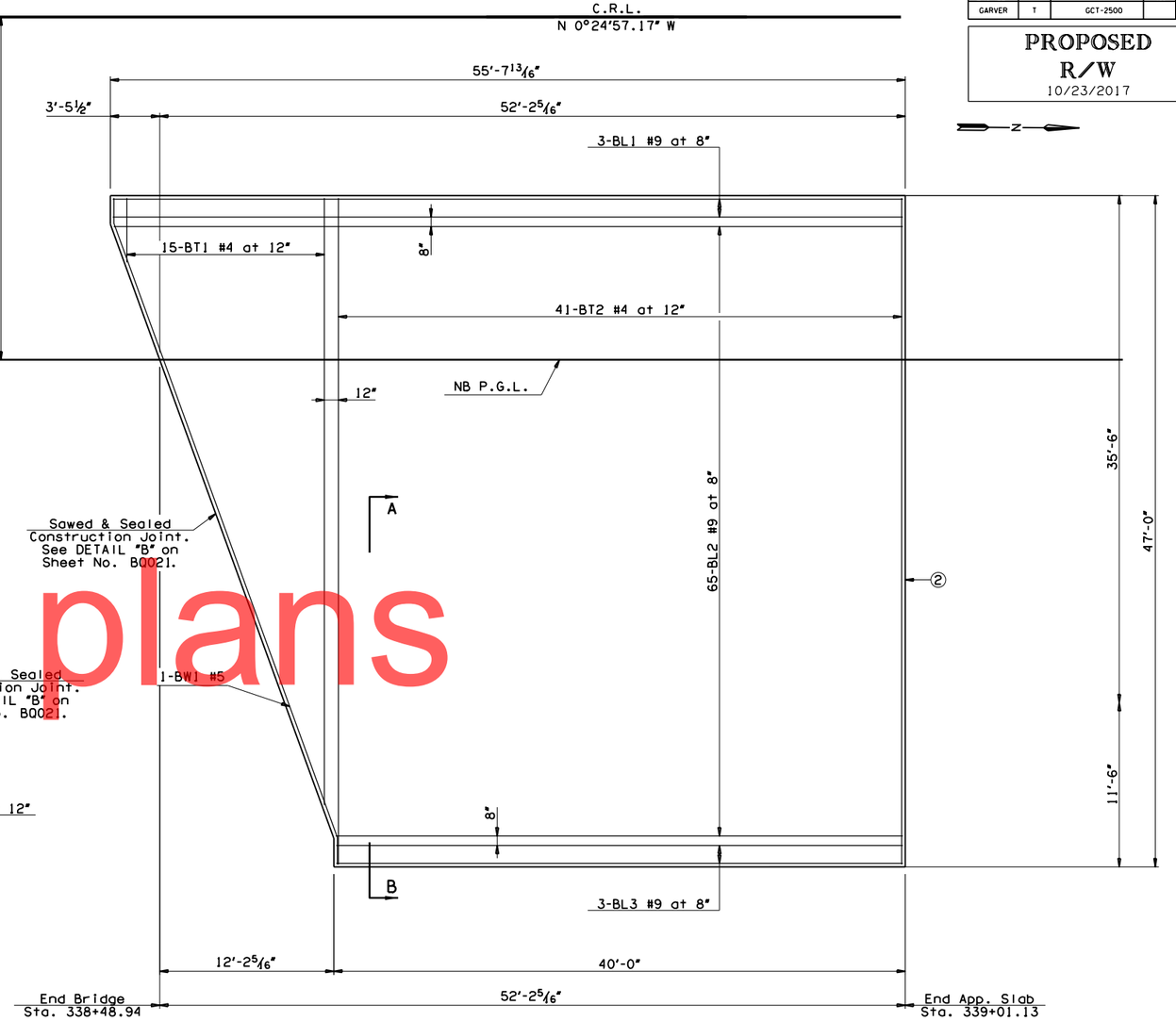
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ019

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

PROPOSED R/W
10/23/2017





50% plans

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

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

NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab. See DETAIL "A" on Sheet No. BQ021.

② Terminal Joint, see DETAIL "C" on Sheet No. BQ021.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

APPROACH SLAB DETAILS
(SHEET 1 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ020

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

PROPOSED R/W
10/23/2017

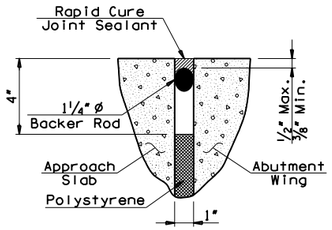
BAR LIST - APPROACH SLAB
(ONE SHOWN, TWO REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	2	STR.	9'-8"	-
AL2	#4	23	STR.	13'-6½" AVG.	9'-8" TO 17'-5"
AL3	#4	100	STR.	14'-8"	-
AL4	#4	23	STR.	21'-4½" AVG.	17'-7" TO 25'-3"
AL5	#4	2	STR.	25'-4"	-
AT1	#4	94	STR.	23'-2"	-
AT2	#4	7	STR.	10'-7½" AVG.	2'-8" TO 18'-7"
AT3	#4	7	STR.	12'-6" AVG.	4'-6" TO 20'-6"
AW1	#5	1	BENT	24'-7"	-
AW2	#5	1	BENT	24'-7"	-
BL1	#9	3	STR.	55'-4"	-
BL2	#9	65	STR.	47'-6" AVG.	39'-9" TO 55'-3"
BL3	#9	3	STR.	39'-8"	-
BT1	#4	15	STR.	23'-5½" AVG.	4'-6" TO 42'-5"
BT2	#4	41	STR.	46'-8"	-
BW1	#5	1	BENT	49'-6"	-

SUMMARY OF QUANTITIES - APPROACH SLAB
(ONE SHOWN, TWO REQUIRED)

	ITEM	UNIT	TOTAL
①	APPROACH SLAB	S.Y.	249.80
	SAW-CUT GROOVING	S.Y.	233.90
	42" F-SHAPED PARAPET	L.F.	95.70
	CLASS AA CONCRETE	C.Y.	90.2
	EPOXY COATED REINFORCING STEEL	LB.	16,211.34
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	319.00

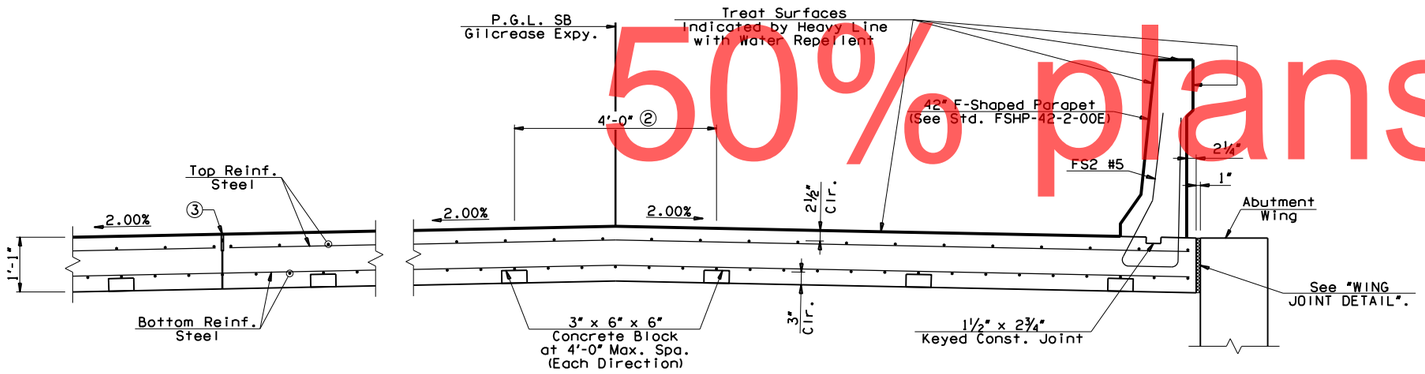
① The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.



WING JOINT DETAIL

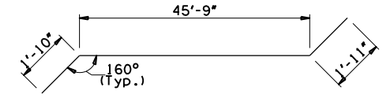
NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".

50% plans

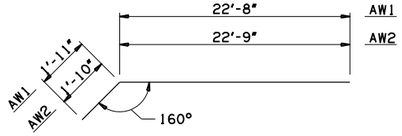


SECTION A THRU APPROACH SLAB

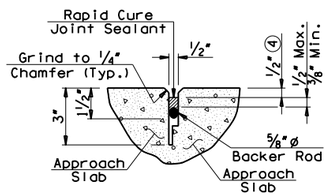
SECTION B



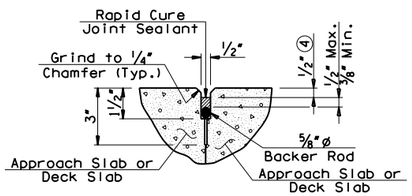
BW1 #5 x 49'-6"



AW1 #5 x 24'-7"
AW2 #5 x 24'-7"

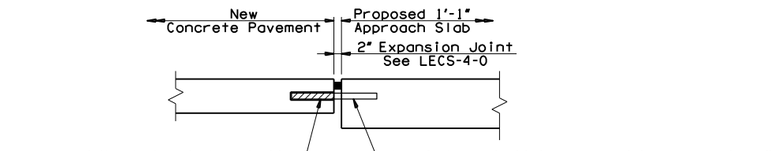


DETAIL "A"



DETAIL "B"

④ This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



DETAIL "C"

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.

② Round 2'-0" each side of crown to avoid sharp edges.

③ ½" Sawed and Sealed Construction Joint in the top of each Approach Slab (See DETAIL "A").

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. Q GILCREASE NB OVER KATY TR. & W. 4TH PL.

APPROACH SLAB DETAILS
(SHEET 2 OF 2)

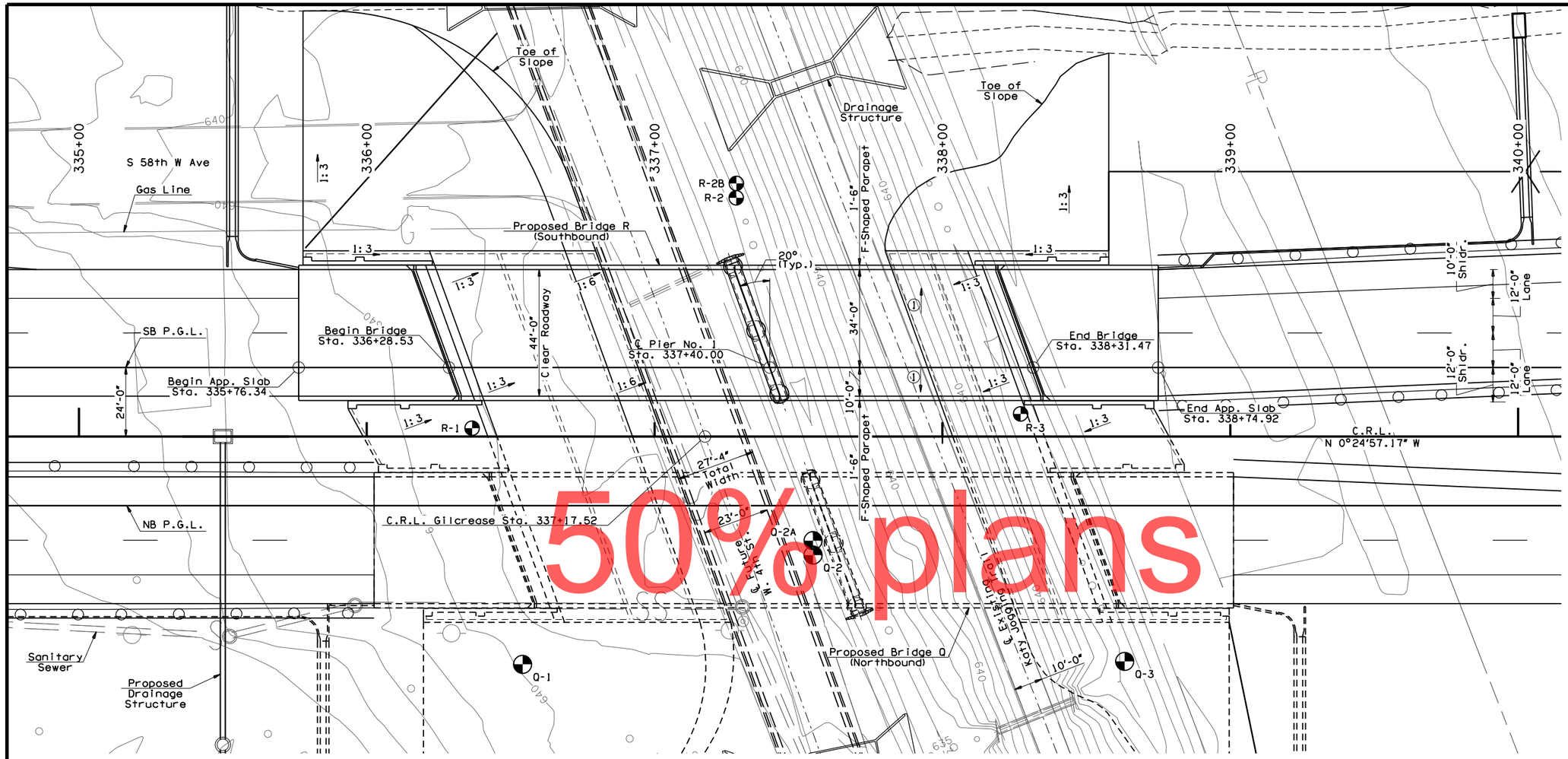
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BQ021

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

PROPOSED R/W
10/23/2017

0 20 40 60
Scale 1" = 20'



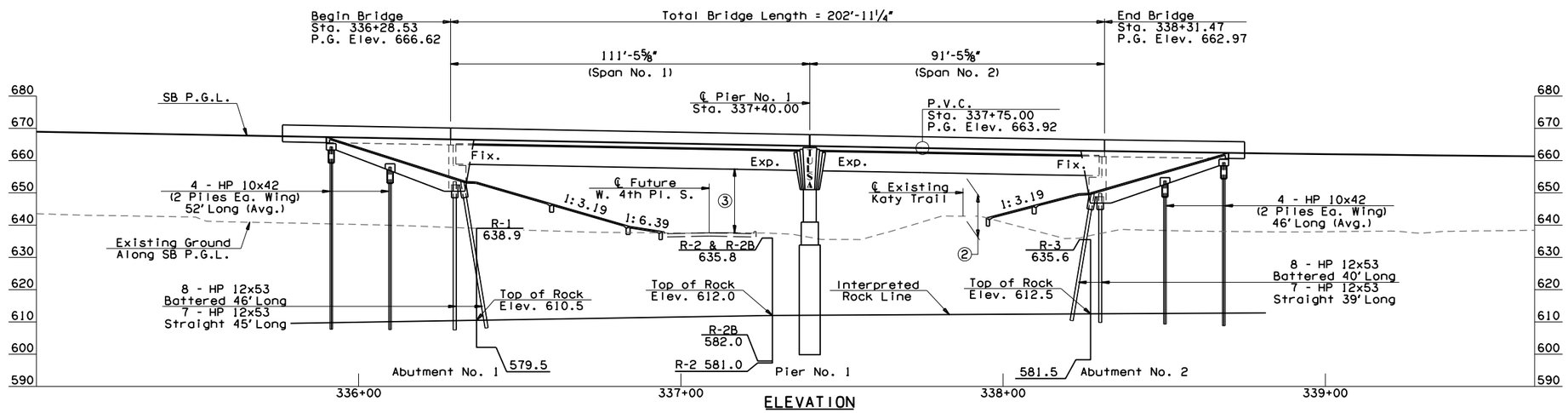
50% plans

PLAN

BENCHMARK NO. BM5-N
DESCRIPTION #6 REBAR
OFFSET 206.10' RT. STA. 336+91.50 EL. 642.00

For Foundation Report, See Sheet Nos. BQ003-BQ006.

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BR002.



ELEVATION

① 0.02 ft/ft
② 12'-5" Minimum Clearance
③ 19'-1" Minimum Clearance

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BR001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS 55.2
LRFR Operationg Rating: 1.96 (HL-93)

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BR001-BR002	General Plan and Elevation
BR003	Staking Diagram
BR004-BR006	Abutment Details
BR007	Substructure Excavation and Pipe Underdrain Assembly
BR008-BR009	Pier Details
BR010	Typical Section
BR011	Longitudinal Section
BR012-BR015	Superstructure Details
BR016	Framing Plan
BR017-BR019	Beam Details
BR020	Bearing Details
BR021-BR022	Slope Wall Details
BR023-BR024	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= 92.7 Tons	= 92.7 Tons
Pile Lengths	= 679.00 Ft.	= 594.00 Ft.

PIERS (78" DIAMETER DRILLED SHAFTS)

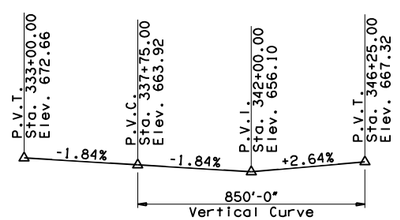
	Pier No. 1
Minimum Depth into Rock	= XX.X
Depth of Rock Neg'd for Friction	= XX.X
Unit Bearing Resistance	= XX.X
Bearing Resistance Factor	= XX.X
Factored Bearing Resistance	= XX.X
Unit Friction Resistance	= XX.X
Friction Resistance Factor	= XX.X
Factored Friction Resistance	= XX.X
Total Factored Resistance	= XX.X
Total Factored Reaction	= XX.X

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	C.Y.	386.00				386.00
CLSM BACKFILL	C.Y.	661.00				661.00
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.			996.70		996.70
APPROACH SLAB	S.Y.				499.60	499.60
SAW-CUT GROOVING	S.Y.			987.70	467.80	1,455.50
EXPANSION JOINT	L.F.			47.80		47.80
42" F-SHAPED PARAPET	L.F.			405.60	191.40	597.00
STRUCTURAL STEEL	LB.			3,064.00		3,064.00
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	10.00				10.00
(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.		10.00			10.00
(SP) SPECIAL CONCRETE FINISH	S.Y.	72.00	48.00			120.00
CLASS AA CONCRETE	C.Y.			328.90		328.90
CLASS A CONCRETE	C.Y.	265.80	196.40			462.20
SLOPE WALL (6")	S.Y.	939.70				939.70
REINFORCING STEEL	LB.		16,287.00			16,287.00
EPOXY COATED REINFORCING STEEL	LB.	27,922.51	23,104.40	87,055.26	32,320.66	170,402.83
PILES, FURNISHED (HP 10X42)	L.F.	389.00				389.00
PILES, FURNISHED (HP 12X53)	L.F.	1,273.00				1,273.00
PILES, DRIVEN (HP 10X42)	L.F.	389.00				389.00
PILES, DRIVEN (HP 12X53)	L.F.	1,273.00				1,273.00
PILE SPLICE (NON-BIDDABLE)	EA.		1.00			1.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	111.00	199.00	1,508.00	638.00	2,456.00
DRILLED SHAFTS 78" DIAMETER	L.F.		105.00			105.00
CROSSHOLE SONIC LOGGING	EA.		1.00			1.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	443.00				443.00
6" NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	350.00				350.00

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

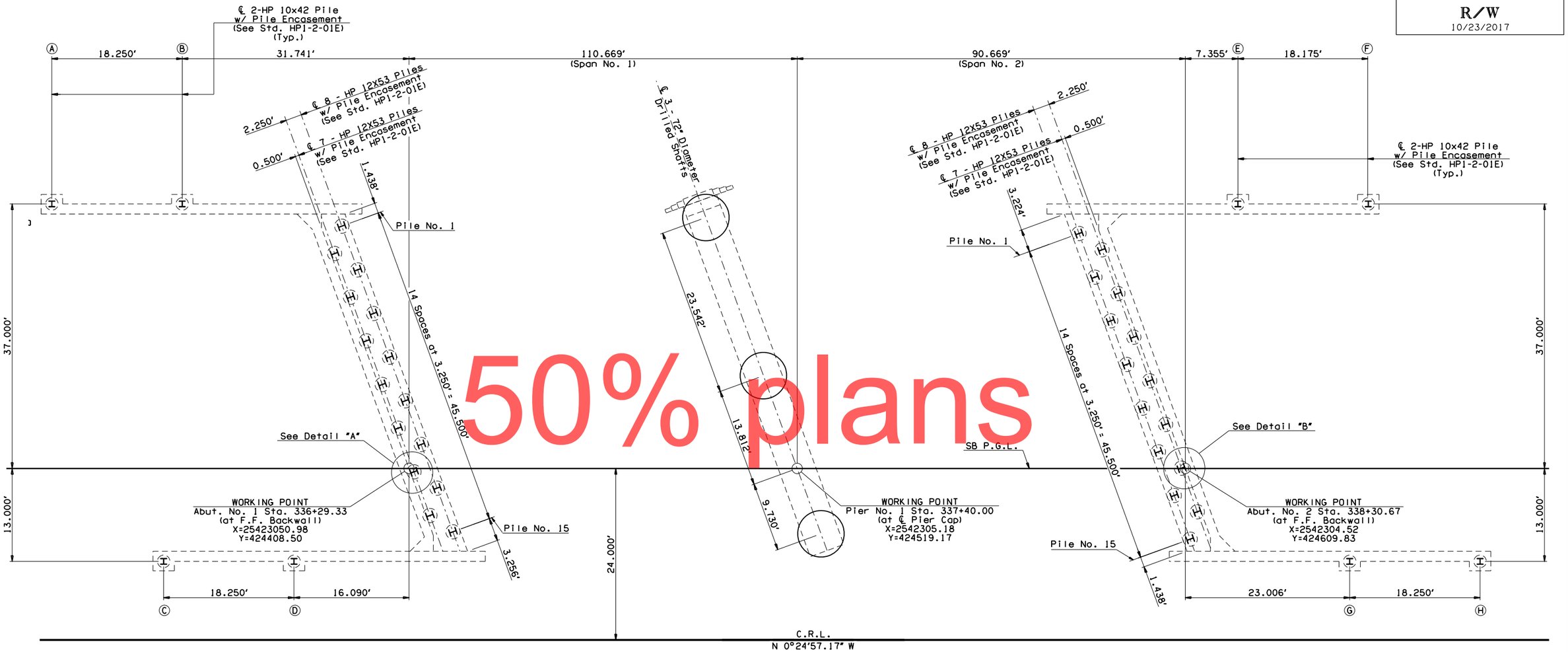
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BR002

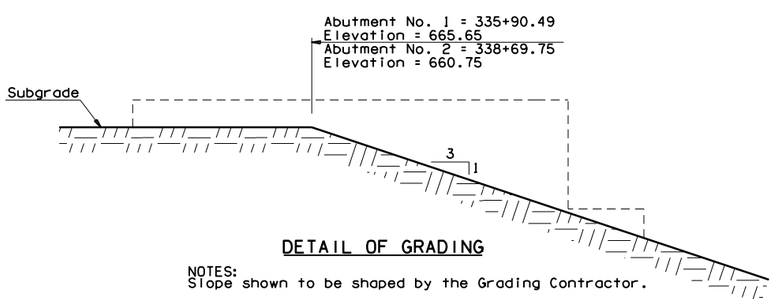
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



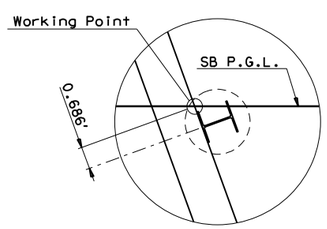
50% plans

SUBSTRUCTURE STAKING DIAGRAM

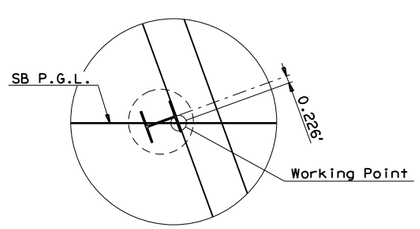


DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.



DETAIL "A"



DETAIL "B"

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	662.32
B	657.24
HP 12x53 (CAP)	653.38
C	662.38
D	657.30

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
E	653.70
F	658.78
HP 12x53 (CAP)	649.78
G	653.64
H	658.72

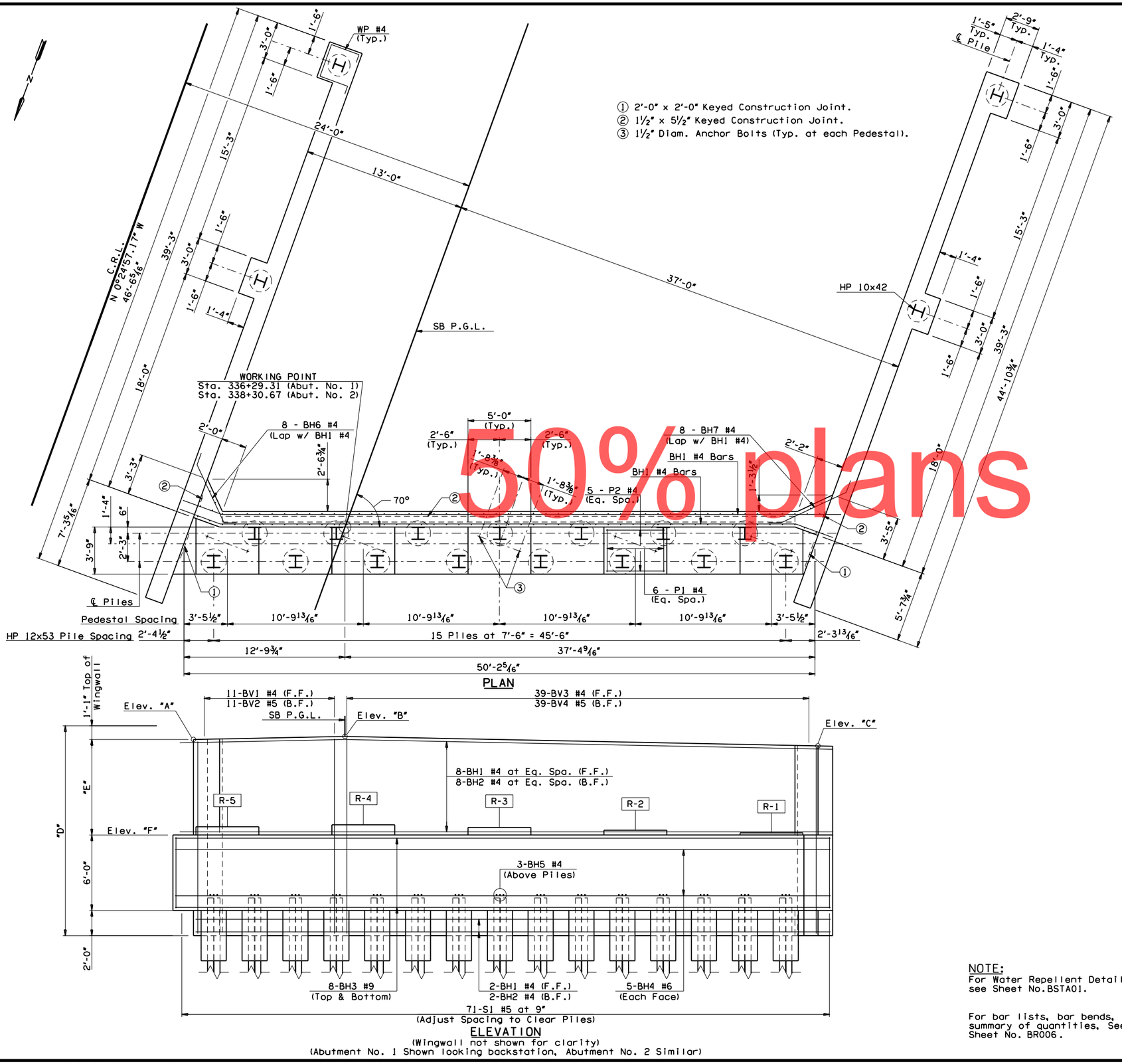
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

STAKING DIAGRAM

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

DESIGNED	RH	4/16	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR003



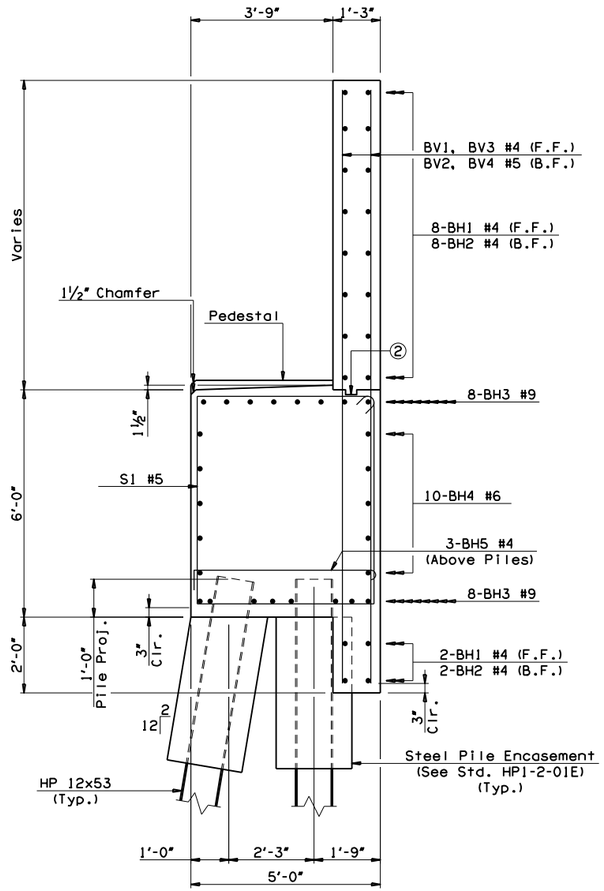
50% plans

TABLE OF VARIABLES		
ITEM	ABUT. NO. 1	ABUT. NO. 2
ELEV. "A"	665.22	661.61
ELEV. "B"	665.52	661.89
ELEV. "C"	665.03	661.37
LENGTH "D"	15'-11⅛"	15'-11"
LENGTH "E"	6'-10⅛"	6'-10"
ELEV. "F"	658.38	654.78

PEDESTAL ELEVATIONS		
PEDESTAL NO.	ABUT. NO. 1	ABUT. NO. 2
R-1	658.68	655.07
R-2	658.81	655.21
R-3	658.95	655.36
R-4	659.08	655.50
R-5	658.88	655.32

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

PROPOSED
R/W
10/23/2017



TYPICAL SECTION THRU ABUTMENT

NOTE:
For Water Repellent Details, see Sheet No.BSTA01.

For bar lists, bar bends, and summary of quantities, See Sheet No. BR006.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

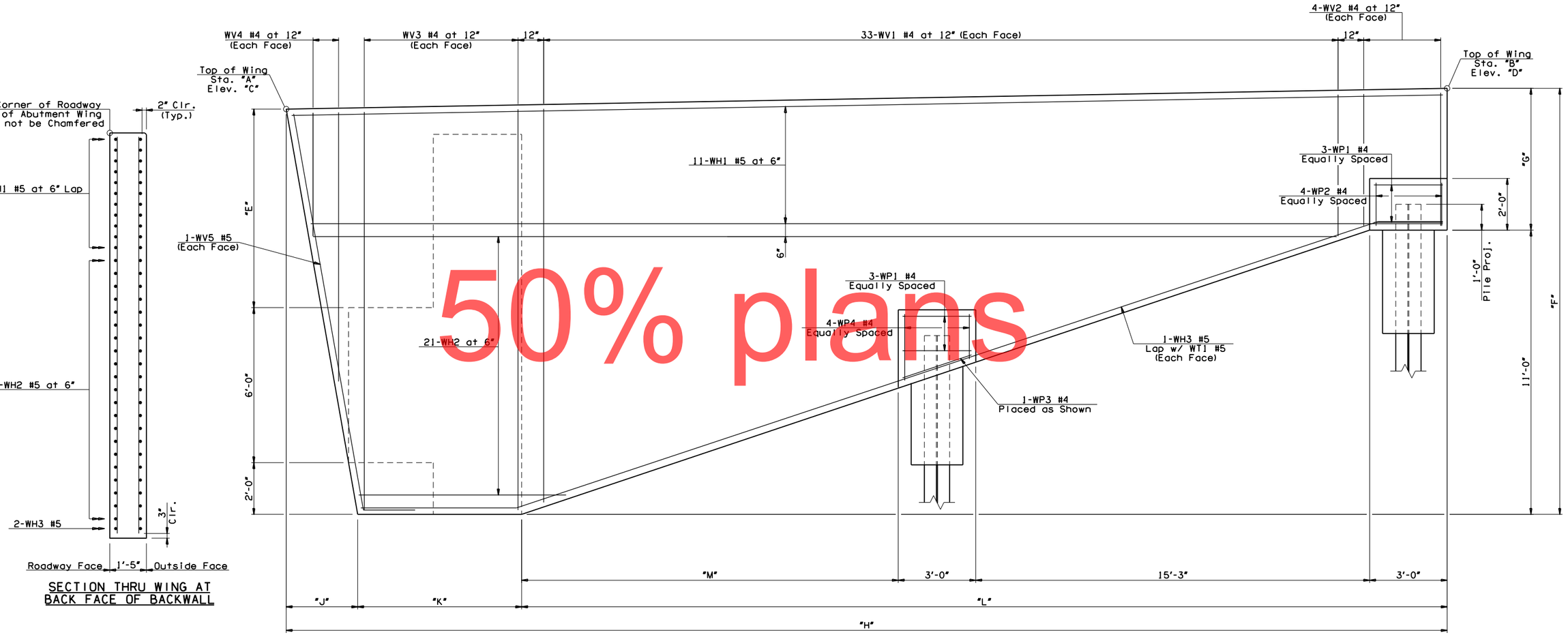
ABUTMENT DETAILS
(SHEET 1 OF 3)

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

DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17	DATE: 10/23/2017	SHEET NO. BR004
CHECKED	RH	9/17		

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

PROPOSED R/W
10/23/2017



SECTION THRU WING AT BACK FACE OF BACKWALL

ABUTMENT WING ELEVATION

50% plans

WING TABLE OF VARIABLES												
LOCATION	STA. "A"	STA. "B"	ELEV. "C"	ELEV. "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "H"	LENGTH "J"	LENGTH "K"	LENGTH "L"	LENGTH "M"
SW Wingwall	336+22.77	335+77.84	666.01	666.84	7'-7 9/16"	16'-5 1/2"	5'-5 1/2"	44'-11 3/16"	2'-9 1/16"	6'-4 3/16"	35'-9 15/16"	14'-6 15/16"
SE Wingwall	336+39.97	335+93.49	666.17	667.03	7'-9 1/2"	16'-7 3/4"	5'-7 3/4"	46'-5 3/4"	2'-9 1/16"	7'-8 1/4"	36'-0 1/16"	14'-9 1/16"
NW Wingwall	338+11.39	338+57.77	662.56	661.87	7'-9 3/8"	15'-1 1/16"	4'-1 1/16"	46'-5 3/4"	2'-9 3/8"	7'-8 1/4"	36'-0 1/16"	14'-9 1/16"
NE Wingwall	338+28.43	338+73.42	662.78	662.13	8'-0 1/8"	15'-4 3/8"	4'-4 3/8"	45'-0"	2'-9 3/8"	6'-4 3/16"	35'-9 15/16"	14'-6 15/16"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

ABUTMENT DETAILS
(SHEET 2 OF 3)

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

DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	RH	9/17	DATE: 10/23/2017	SHEET NO. BR005

SUMMARY OF QUANTITIES - ABUTMENTS				
ITEM	UNIT	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	C.Y.	193.00	193.00	386.00
CLSM BACKFILL	C.Y.	339.00	322.00	661.00
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	5.00	5.00	10.00
(SP) SPECIAL CONCRETE FINISH	S.Y.	36.00	36.00	72.00
CLASS A CONCRETE	C.Y.	134.20	131.60	265.80
SLOPE WALL (6")	S.Y.	588.20	351.50	939.70
EPOXY COATED REINFORCING STEEL	LB.	14,013.84	13,908.67	27,922.51
PILES, FURNISHED (HP 10X42)	L.F.	206.00	183.00	389.00
PILES, FURNISHED (HP 12X53)	L.F.	679.00	594.00	1,273.00
PILES, DRIVEN (HP 10X42)	L.F.	206.00	183.00	389.00
PILES, DRIVEN (HP 12X53)	L.F.	679.00	594.00	1,273.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	56.00	55.00	111.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	256.00	187.00	443.00
6" NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	200.00	150.00	350.00

ABUTMENT BAR LIST (ONE SHOWN, TWO REQUIRED)					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
① BH1	#4	10	BENT	55'-2"	-
① BH2	#4	10	BENT	55'-5"	-
② BH3	#9	16	STR.	58'-2"	-
③ BH4	#6	10	STR.	56'-2"	-
BH5	#4	45	BENT	6'-0"	-
BH6	#4	8	BENT	7'-1"	-
BH7	#4	8	BENT	7'-9"	-
BV1	#4	11	STR.	15'-4½" AVG.	15'-3" TO 15'-6"
BV2	#5	11	STR.	15'-4½" AVG.	15'-3" TO 15'-6"
BV3	#4	39	STR.	15'-1½" AVG.	14'-9" TO 15'-6"
BV4	#5	39	STR.	15'-1½" AVG.	14'-9" TO 15'-6"
P1	#4	30	BENT	6'-5"	-
P2	#4	25	BENT	7'-8"	-
S1	#5	71	BENT	21'-5"	-

① Includes One 2'-10" Lap Length.
② Includes One 6'-0" Lap Length.
③ Includes One 4'-0" Lap Length.

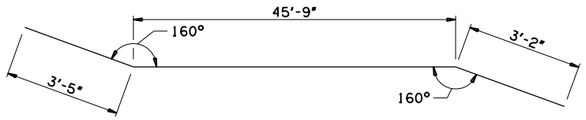
SE WING WALL BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ WH1	#5	22	STR.	45'-8½" AVG.	45'-4" TO 46'-1"
⑤ WH2	#5	42	STR.	25'-3½" AVG.	9'-5" TO 41'-2"
WH3	#5	2	BENT	45'-2"	-
WP1	#4	3	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	1	STR.	8'-10"	-
WP4	#4	4	STR.	2'-2" AVG.	1'-9" TO 2'-7"
⑥ WV1	#4	66	STR.	10'-4" AVG.	5'-6" TO 15'-2"
WV2	#4	8	STR.	5'-2"	-
WV3	#4	16	STR.	15'-6"	-
⑦ WV4	#4	6	STR.	7'-5½" AVG.	2'-1" TO 12'-10"
WV5	#4	2	BENT	17'-7"	-

NE WING WALL BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ WH1	#5	22	STR.	44'-2½" AVG.	43'-10" TO 44'-7"
⑤ WH2	#5	42	STR.	23'-8½" AVG.	7'-10" TO 39'-7"
WH3	#5	2	BENT	43'-8"	-
WP1	#4	3	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	1	STR.	8'-10"	-
WP4	#4	4	STR.	2'-2" AVG.	1'-9" TO 2'-7"
⑥ WV1	#4	66	STR.	9'-11½" AVG.	4'-7" TO 15'-4"
WV2	#4	8	STR.	4'-1"	-
WV3	#4	12	STR.	15'-6"	-
⑦ WV4	#4	6	STR.	8'-9" AVG.	3'-1" TO 14'-5"
WV5	#4	2	BENT	17'-10"	-

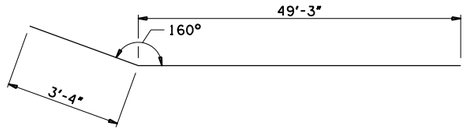
SW WING WALL BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ WH1	#5	22	STR.	44'-2½" AVG.	43'-10" TO 44'-7"
⑤ WH2	#5	42	STR.	23'-9½" AVG.	8'-0" TO 39'-7"
WH3	#5	2	BENT	43'-8"	-
WP1	#4	6	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	1	STR.	8'-10"	-
WP4	#4	4	STR.	2'-2" AVG.	1'-9" TO 2'-7"
⑥ WV1	#4	66	STR.	10'-4½" AVG.	5'-6" TO 15'-3"
WV2	#4	8	STR.	5'-2"	-
WV3	#4	14	STR.	15'-6"	-
⑧ WV4	#4	4	STR.	7'-7" AVG.	4'-9" TO 10'-5"
WV5	#4	2	BENT	17'-7"	-

NW WING WALL BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ WH1	#5	22	STR.	45'-7½" AVG.	45'-3" TO 46'-0"
⑤ WH2	#5	42	STR.	25'-2½" AVG.	9'-4" TO 41'-1"
WH3	#5	2	BENT	45'-1"	-
WP1	#4	3	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	1	STR.	8'-10"	-
WP4	#4	4	STR.	2'-2" AVG.	1'-9" TO 2'-7"
⑥ WV1	#4	66	STR.	9'-7½" AVG.	4'-3" TO 15'-0"
WV2	#4	8	STR.	3'-9"	-
WV3	#4	16	STR.	15'-4"	-
⑧ WV4	#4	4	STR.	8'-2" AVG.	5'-4" TO 10'-12"
WV5	#4	2	BENT	17'-7"	-

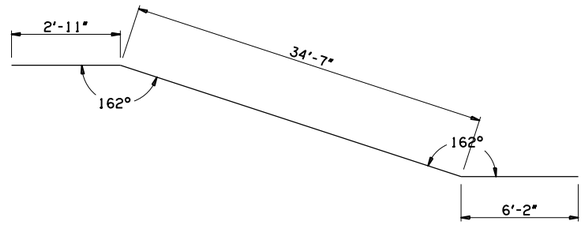
④ 2 Sets of 11
⑤ 2 Sets of 21
⑥ 2 Sets of 32
⑦ 2 Sets of 3
⑧ 2 Sets of 2



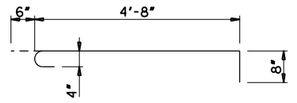
BH1 #4 x 52'-4"



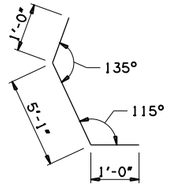
BH2 #4 x 52'-7"



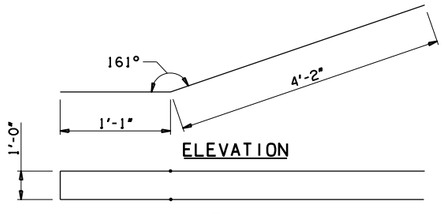
WH3 #5 x 43'-8"



BH5 #4 x 6'-0"



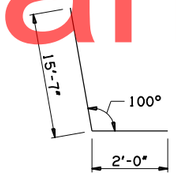
BH6 #4 x 7'-1"



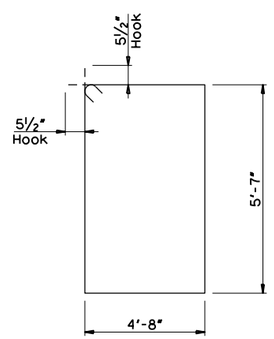
ELEVATION

PLAN

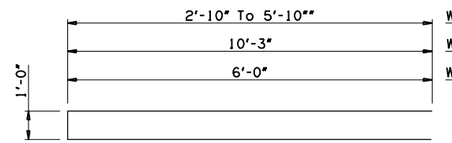
WT1 #5 x 7'-6"



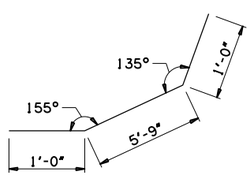
WV5 #4 x 17'-7"



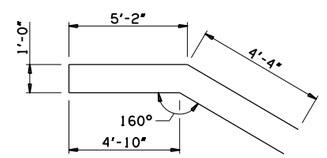
S1 #5 x 21'-5"



WT2 #5 x 9'-8" Avg.
WT4 #5 x 21'-6"
WT5 #5 x 13'-0"

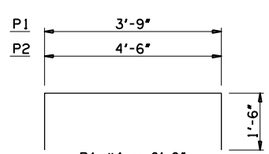


BH7 #4 x 7'-9"

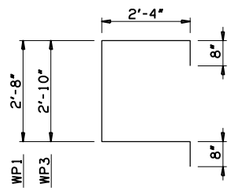


PLAN

WT3 #5 x 19'-8"



P1 #4 x 6'-9"
P2 #4 x 7'-6"



WP1 #4 x 8'-8"
WP3 #4 x 8'-10"

50% plans

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

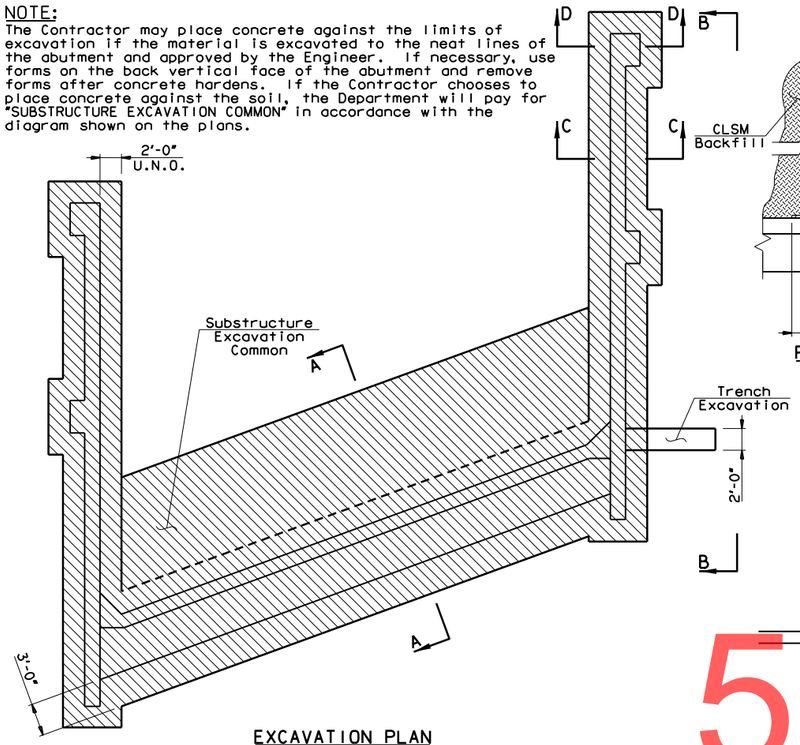
PROPOSED R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
ABUTMENT DETAILS
(SHEET 3 OF 3)

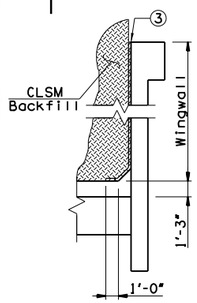
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	7/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	RH	9/17	DATE: 10/23/2017	SHEET NO. BR006

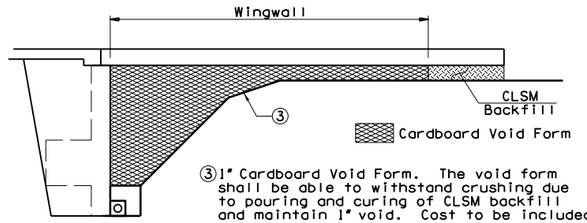
NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.



EXCAVATION PLAN



PLAN

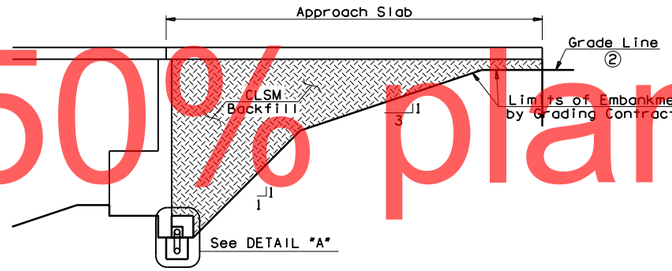


ELEVATION

VOID FORM DETAILS

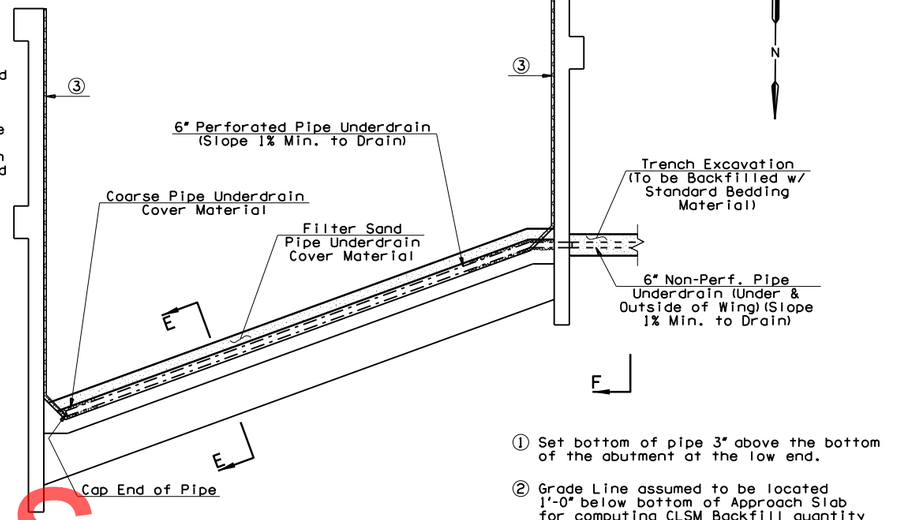
③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal.
Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.



SECTION E-E

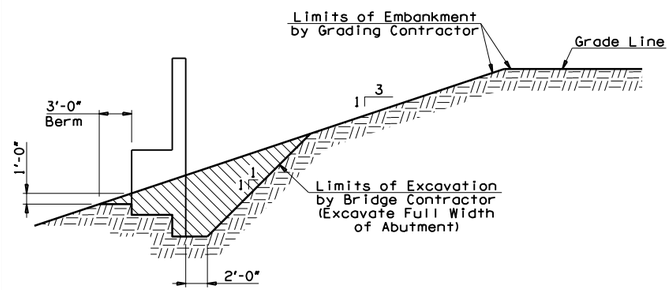
NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.



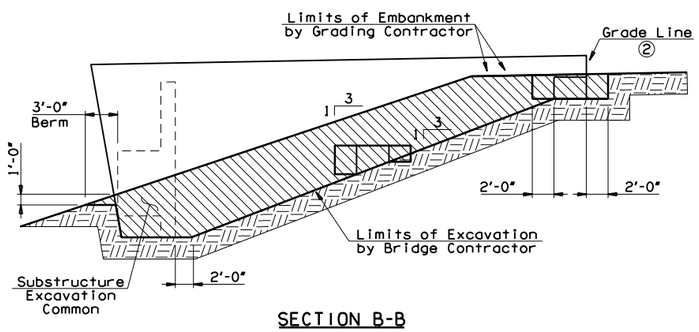
PIPE UNDERDRAIN PLAN

① Set bottom of pipe 3" above the bottom of the abutment at the low end.

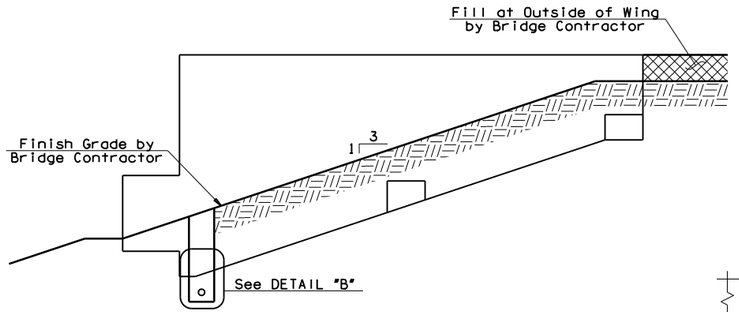
② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.



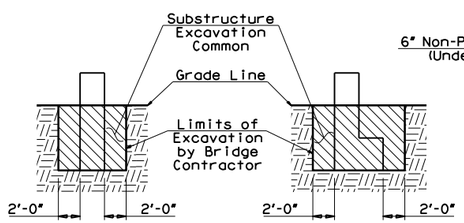
SECTION A-A



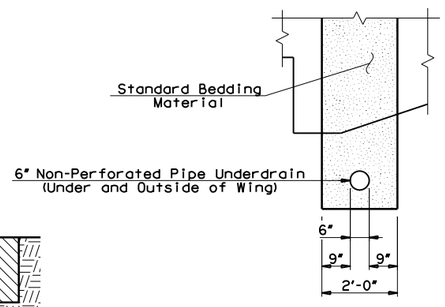
SECTION B-B



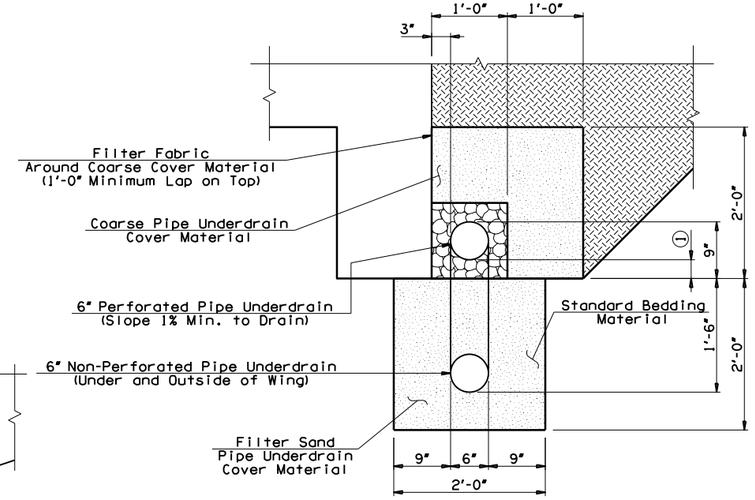
SECTION F-F



SECTION C-C SECTION D-D



DETAIL "B"



DETAIL "A"

NOTE:
There is an estimated 50.00 feet of Perforated Pipe and XX.00 cubic yards of Pipe Underdrain Cover Material for both abutments.

There is an estimated 50.00 feet of Non-perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.

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

PROPOSED
R/W
10/23/2017

N

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

SUBSTRUCTURE EXCAVATION AND
PIPE UNDERDRAIN ASSEMBLY DETAILS

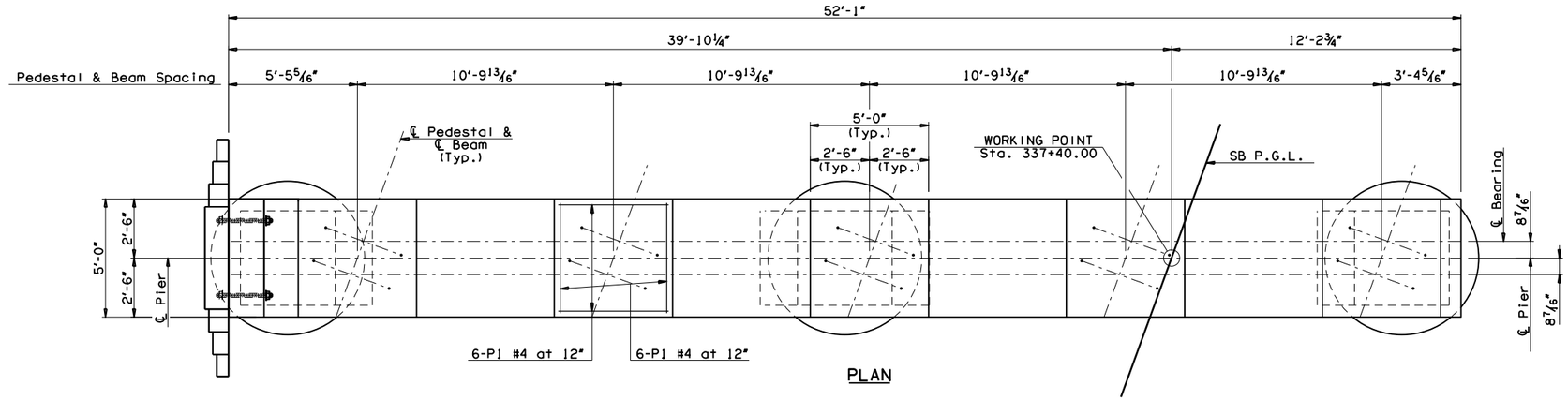
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

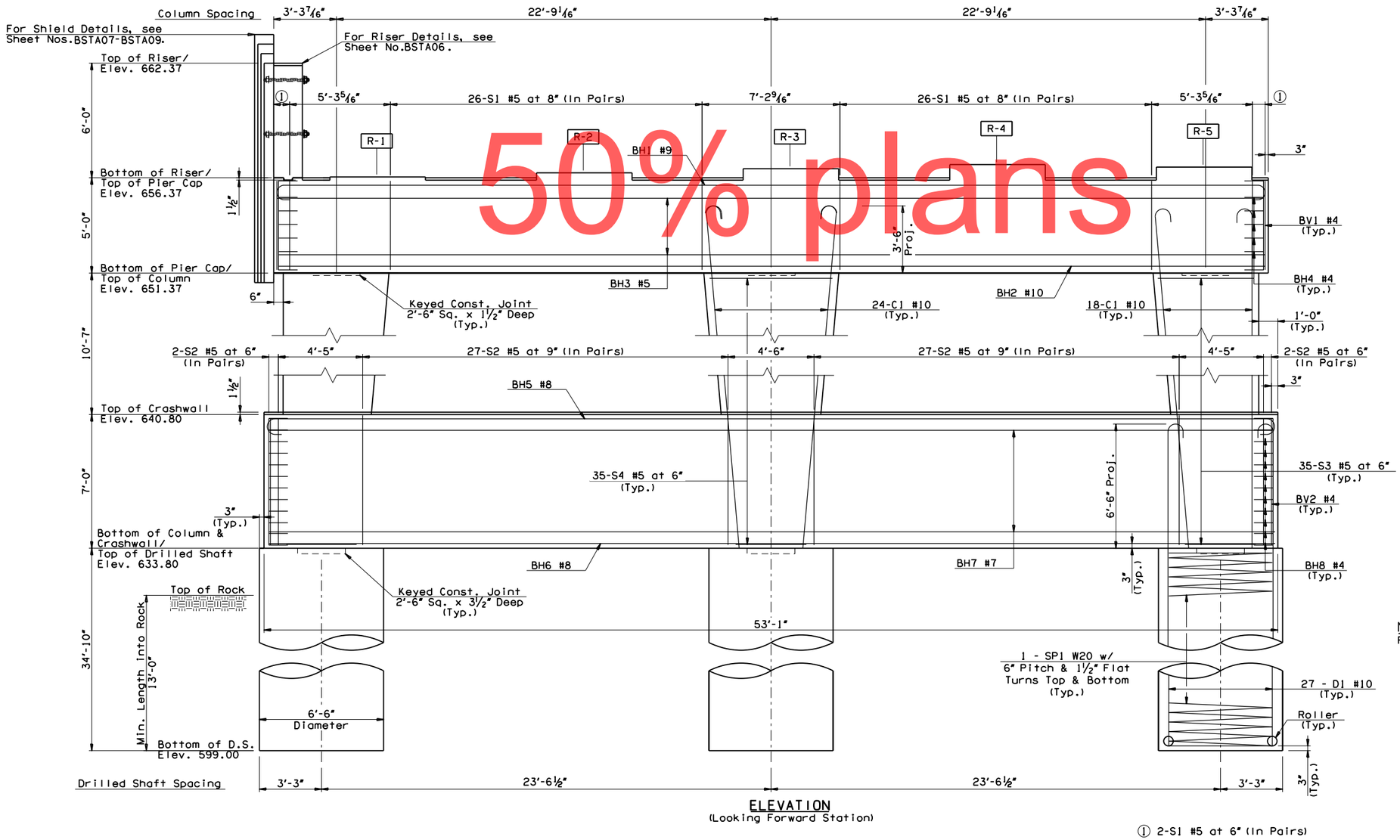
DESIGNED	RH	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR007

50% plans

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

PROPOSED R/W
10/23/2017





50% plans

PEDESTAL ELEVATIONS	
PEDESTAL NO.	ELEV.
R-1	656.67
R-2	656.80
R-3	656.94
R-4	657.07
R-5	656.87

BAR LIST - PIER				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1	#9	12	BENT	54'-11"
BH2	#10	12	STR.	51'-9"
BH3	#5	10	STR.	51'-9"
BH4	#4	10	BENT	6'-8"
BH5	#8	20	STR.	52'-9"
BH6	#7	20	STR.	52'-9"
BH7	#4	16	BENT	6'-8"
BV1	#4	8	BENT	6'-8"
BV2	#4	16	BENT	8'-8"
C1	#10	60	BENT	22'-11"
P1	#4	60	BENT	7'-8"
S1	#5	112	BENT	16'-5"
S2	#5	116	BENT	19'-1"
S3	#5	70	BENT	14'-9" AVG.
S4	#5	35	BENT	16'-4" AVG.
RH	#5	14	BENT	9'-1"
RV	#6	12	STR.	8'-5"

DRILLED SHAFTS - PIER (ONE SHOWN, THREE REQUIRED)				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#10	27	BENT	42'-11"
SP1	W20	1	SPIRAL	1244'-7"

NOTE:
For Water Repellent Details, see Sheet No. BSTA01.

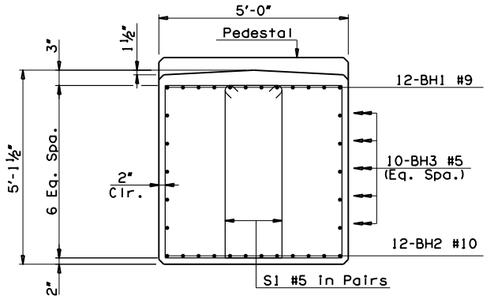
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
PIER DETAILS
(SHEET 1 OF 2)

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

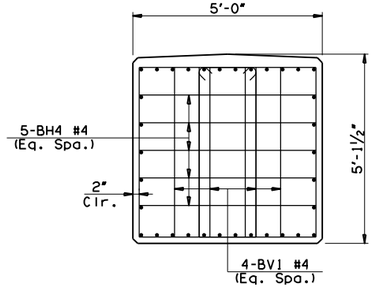
DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR008

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

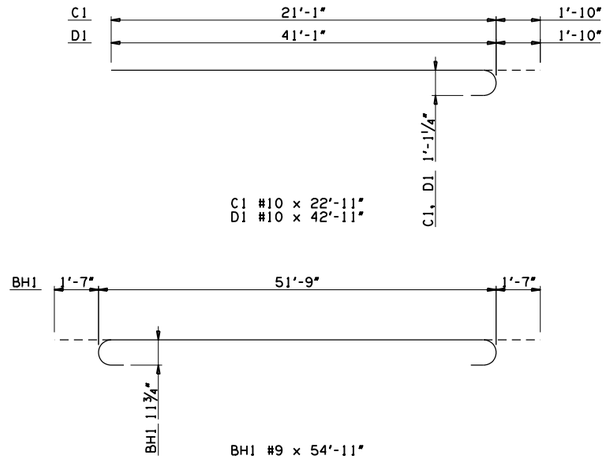
PROPOSED
R/W
10/23/2017

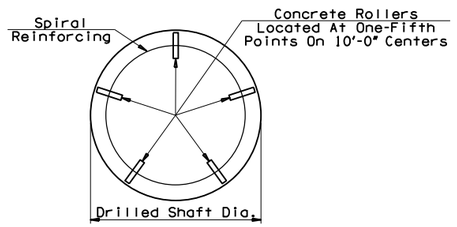


TYPICAL SECTION THRU CAP

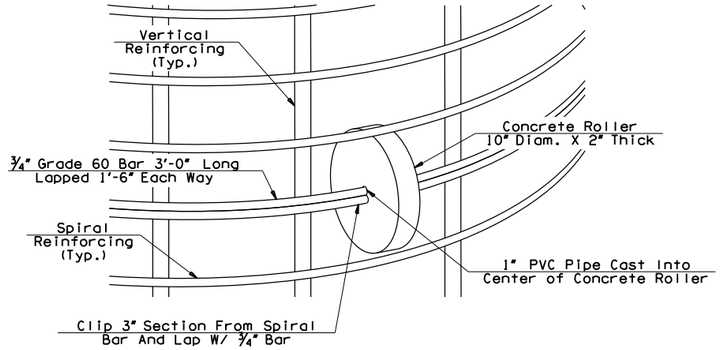


END OF PIER CAP REINFORCING



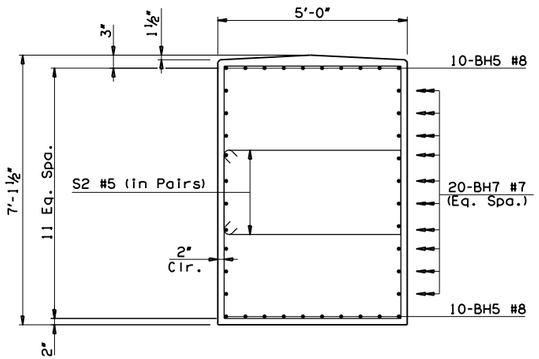


CONCRETE
ROLLER PLACEMENT

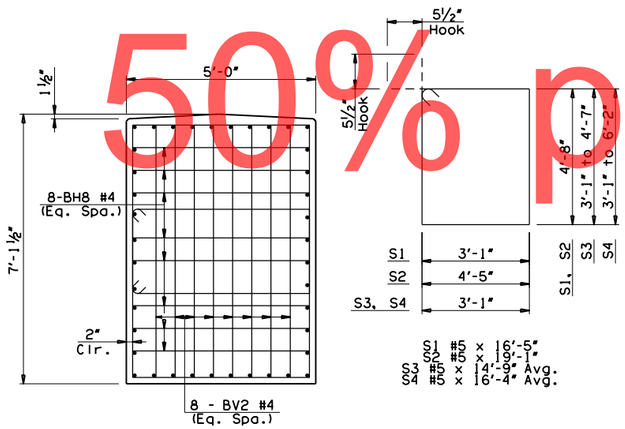


DETAILS OF CONCRETE ROLLER INSTALLATION

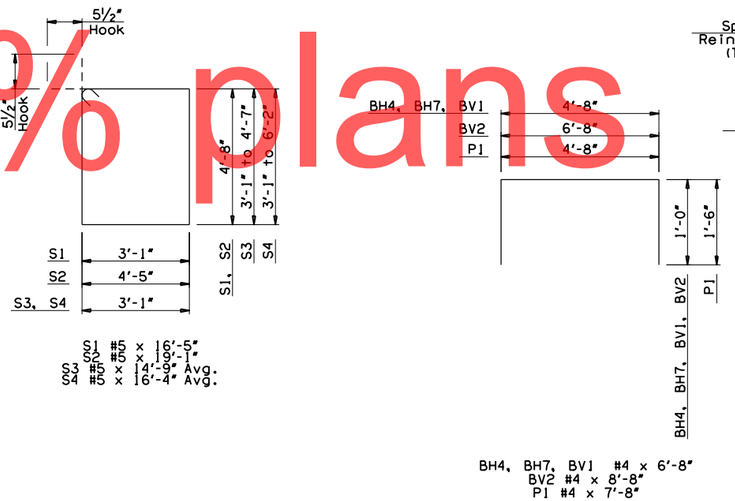
NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

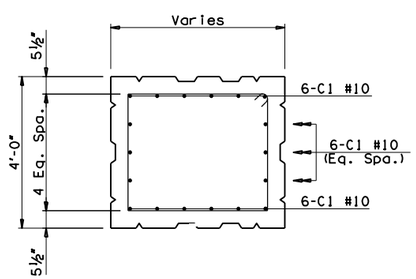


TYPICAL SECTION THRU
CRASHWALL

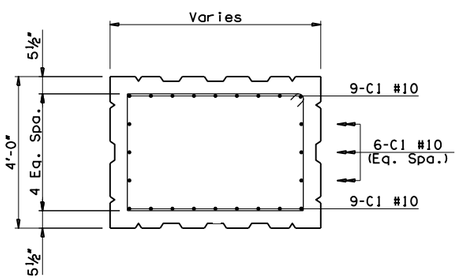


END OF CRASHWALL
REINFORCING

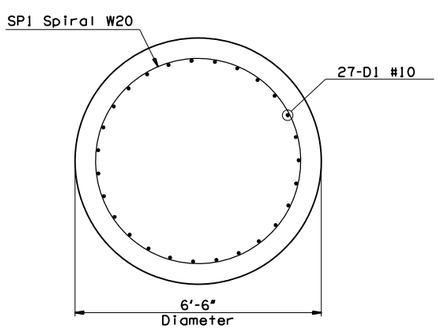




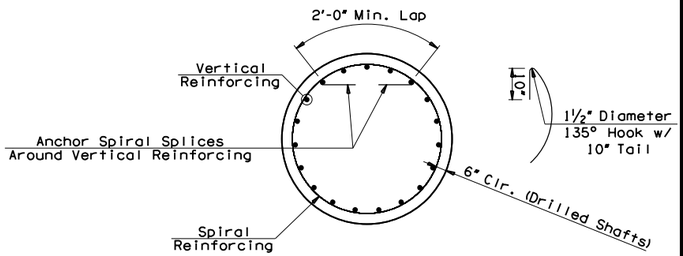
TYPICAL SECTION THRU
END COLUMNS



TYPICAL SECTION THRU
CENTER COLUMN



TYPICAL SECTION THRU
DRILLED SHAFTS



DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

PIER DETAILS
(SHEET 2 OF 2)

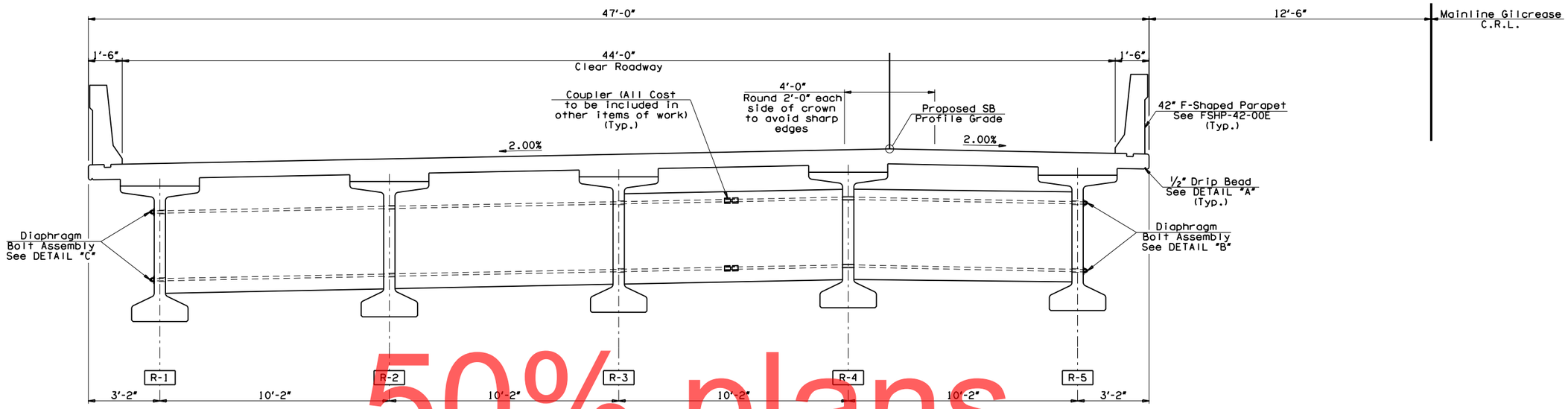
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR009

50% plans

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

PROPOSED R/W
10/23/2017



HALF SECTION AT END DIAPHRAGM — HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

50% plans

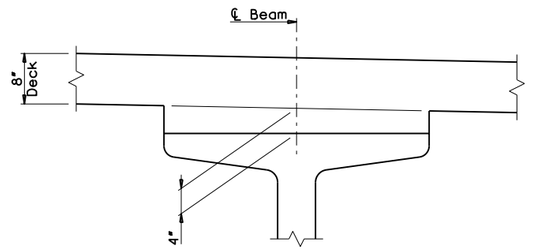
TYPICAL SECTION
(Looking Forward Station)

SUMMARY OF QUANTITIES - SUPERSTRUCTURE			
	ITEM	UNIT	TOTAL
	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	996.70
	SAW-CUT GROOVING	S.Y.	987.70
	SEALED EXPANSION JOINT	L.F.	47.80
	42" F-SHAPED PARAPET	L.F.	405.60
	STRUCTURAL STEEL	LB.	3,064.00
①	CLASS AA CONCRETE	C.Y.	328.90
	EPOXY COATED REINFORCING STEEL	LB.	87,055.26
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	1,508.00
	STAINLESS STEEL FIXED BEARING ASSEMBLY	E.A.	10
	STAINLESS STEEL EXP. BEARING ASSEMBLY	E.A.	10

① Includes 43.06 C.Y. in the Haunches

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar lists, see Sheet Nos. BR012 - BR015.

For Detail "A", Detail "B", Detail "C", and details of water repellent, 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.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

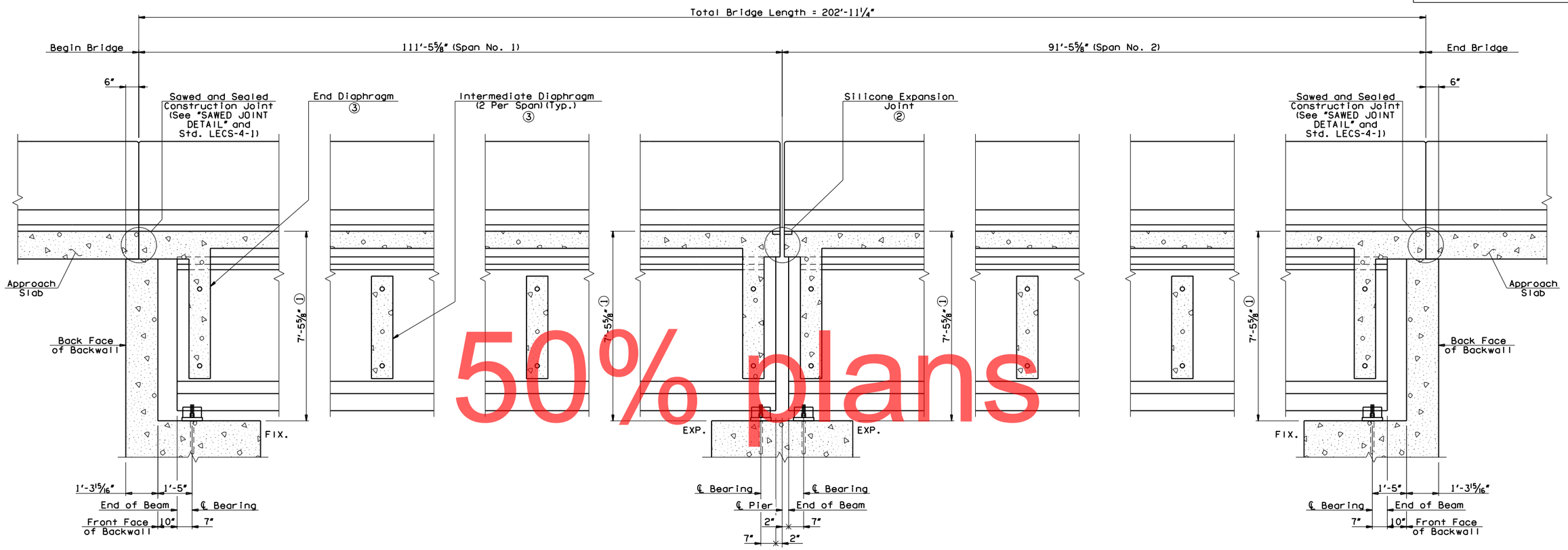
TYPICAL SECTION

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

DESIGNED	BRT	9/15	CONTRACT NO. GCT-2500	
DETAILED	RH	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR010

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

PROPOSED R/W
10/23/2017



ABUTMENT NO. 1 | PIER NO. 1 | ABUTMENT NO. 2

50% plans

LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② See Expansion Joint Opening Equations on Sheet No. BR013.

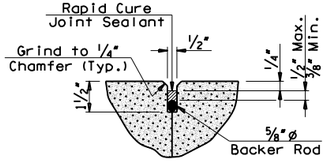
③ For Framing Plan, see Sheet No. BR016.
For Concrete Beam Diaphragm details, see Sheet No. BR014.
For Span Arrangement, see Sheet No. BR001.

NOTE:
Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

DECK SLAB NOTES:
Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

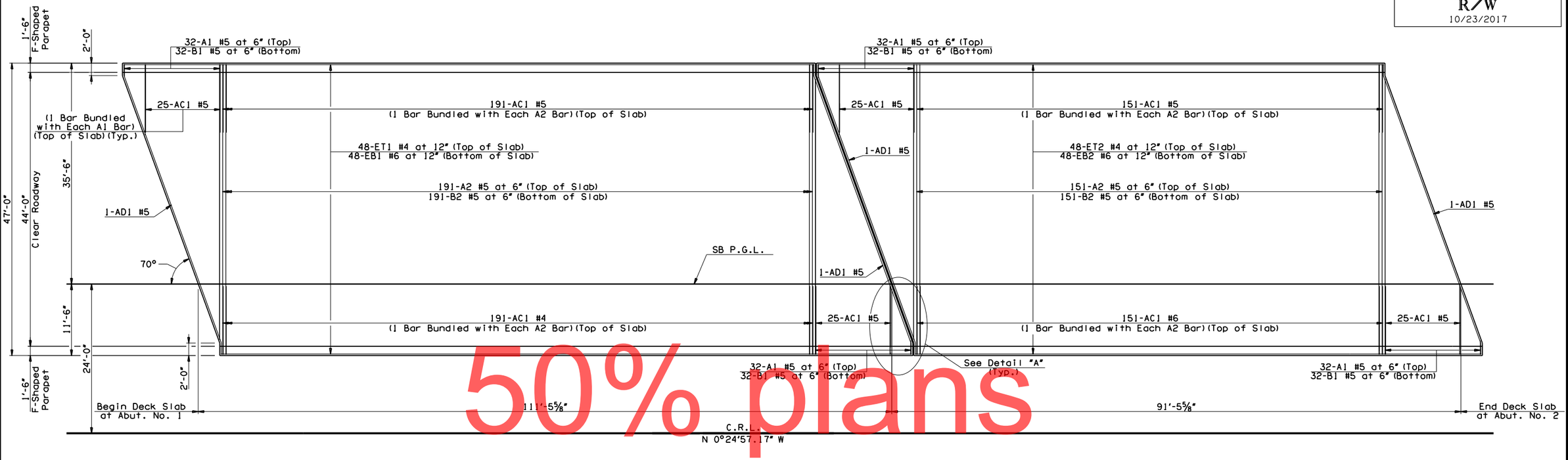
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
LONGITUDINAL SECTION

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

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	1/16		
CHECKED	JTR	9/17	DATE: 10/23/2017	SHEET NO. BR011

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

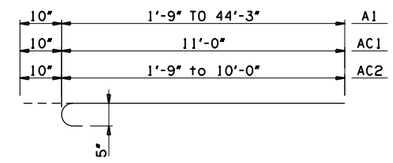
PROPOSED R/W
10/23/2017



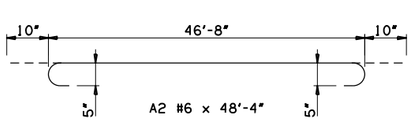
50% plans

SLAB PLAN
(Showing Top & Bottom of Slab Reinforcing Steel)

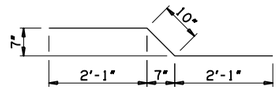
BAR LIST - SUPERSTRUCTURE					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
A1	#5	128	BENT	23'-10" AVG.	2'-7" TO 45'-1"
A2	#5	342	BENT	48'-4"	-
AC1	#5	784	BENT	11'-10"	-
AC2	#5	28	BENT	6'-8½" AVG.	2'-7" TO 10'-10"
AD1	#5	4	BENT	49'-5"	-
AS	#4	94	BENT	5'-0"	-
B1	#5	128	STR.	23'-0" AVG.	1'-9" TO 44'-3"
B2	#5	342	STR.	46'-8"	-
EB1	#6	48	STR.	111'-9½" AVG.	112'-7" TO 111'-0"
EB2	#6	48	STR.	160'-3" AVG.	229'-6" TO 91'-0"
ET1	#4	48	STR.	111'-9½" AVG.	112'-7" TO 111'-0"
ET2	#4	48	STR.	160'-3" AVG.	229'-6" TO 91'-0"
AH1	#4	20	BENT	3'-1"	-
AH2	#4	64	BENT	5'-7"	-
AT	#4	4	BENT	49'-7"	-
F	#6	32	STR.	7'-1"	-
EPH	#4	96	BENT	3'-1"	-
EPT	#4	2	BENT	49'-7"	-



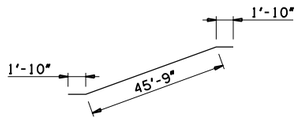
A1 #5 x 23'-10" Avg.
AC1 #5 x 11'-10"
AC2 #5 x 6'-8½"



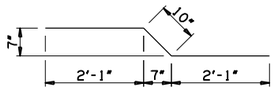
A2 #6 x 48'-4"



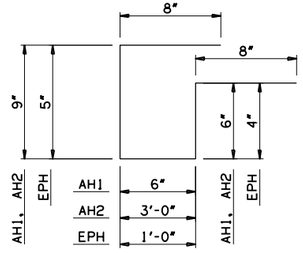
AS #4 x 5'-0"



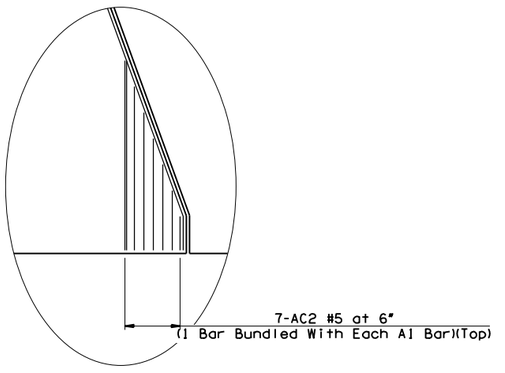
AD1 #5 x 49'-5"



AS #4 x 5'-0"



AH1 #4 x 3'-1"
AH2 #4 x 5'-7"
EPH #4 x 3'-1"



DETAIL "A"

NOTE:
Rotate hooks on A & AC Bars to maintain minimum clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 4)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR012

① 3-AH1 #4 at 12"
② Tie to Top Reinforcing of Deck Slab and Bottom Reinforcing of the Approach Slab (Place bottom leg of AS thru joint)

NOTE:
Deck slab reinforcing not shown for clarity.

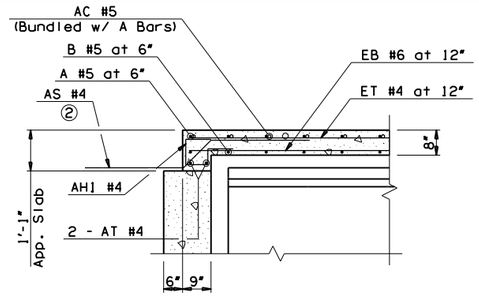
③ The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

2.5899 - (0.01372 x T)

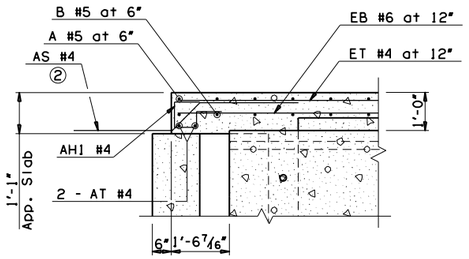
Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint Opening shall be measured perpendicular to the joint.

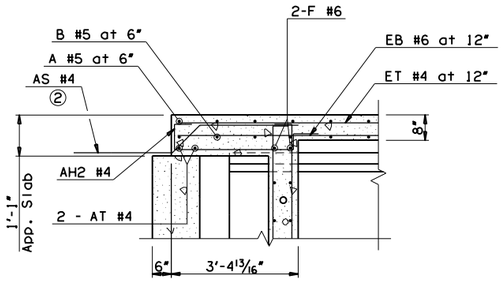
SILICONE JOINT SEALANT NOTE:
The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.



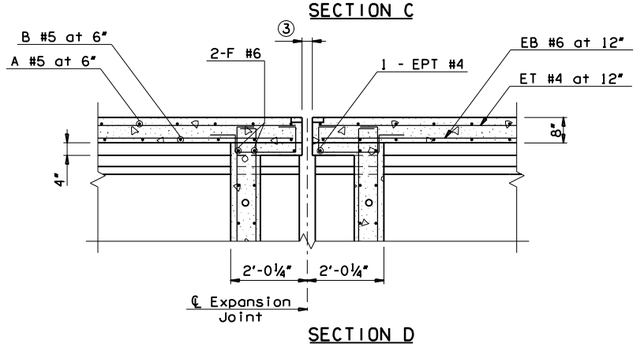
SECTION A



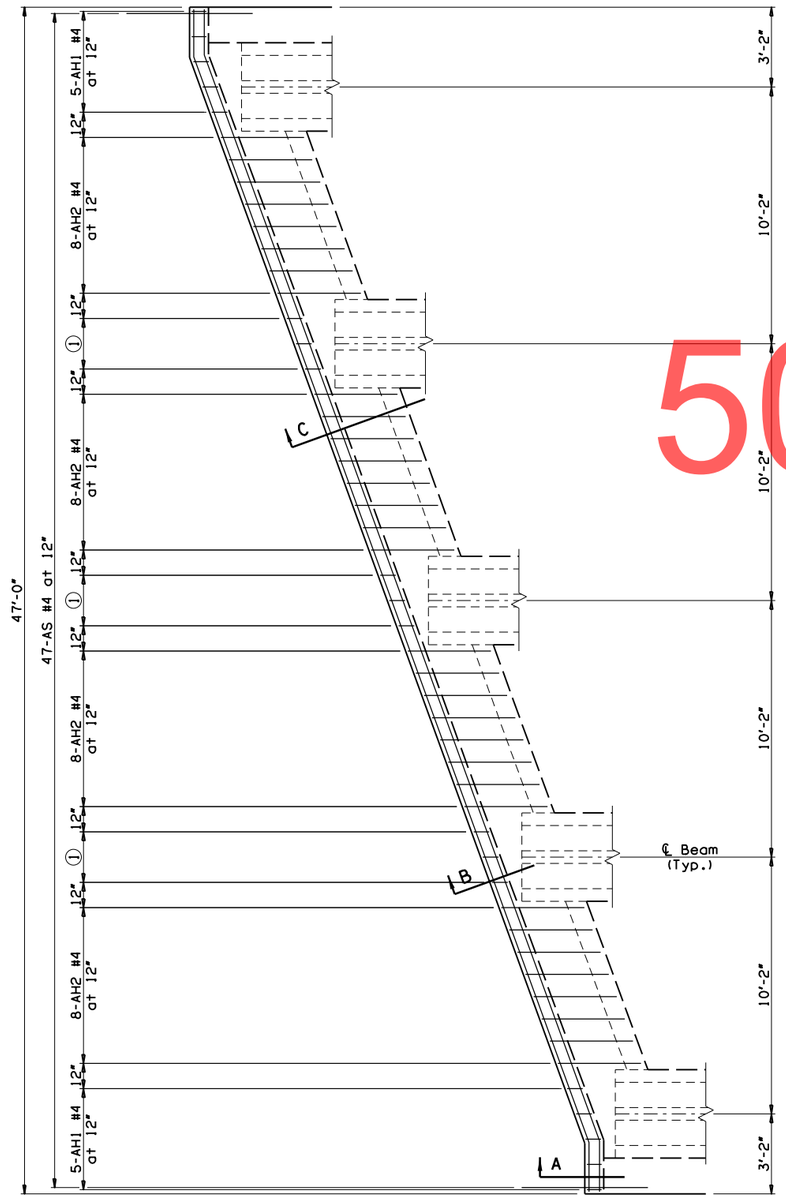
SECTION B



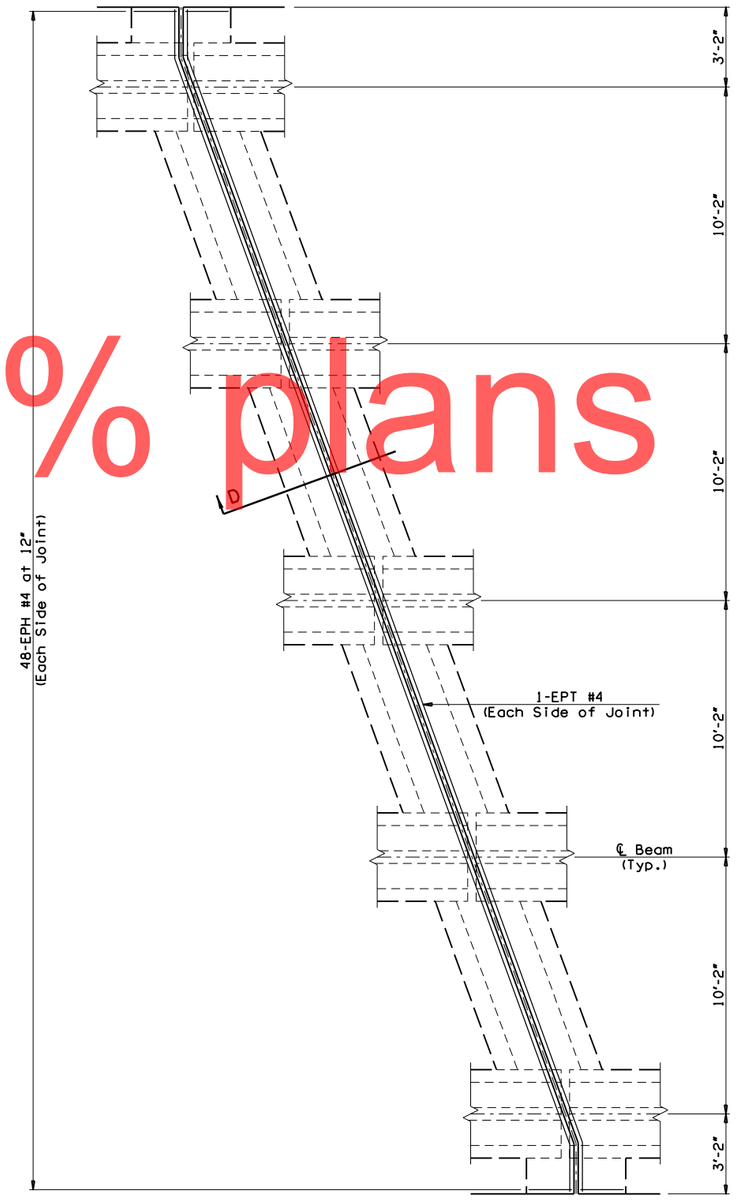
SECTION C



SECTION D



ABUTMENTS



EXPANSION PIER

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 4)

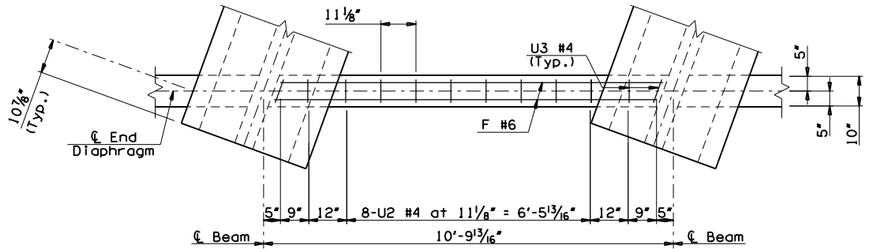
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMQ	1/16	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17	DATE: 10/23/2017	SHEET NO. BR013
CHECKED	MJY	9/17		

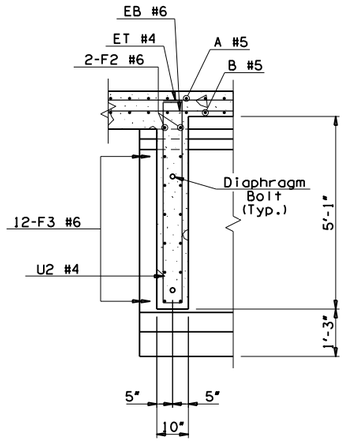
50% plans

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

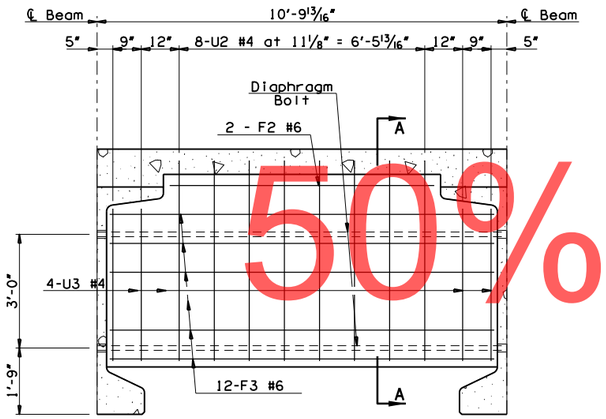
PROPOSED R/W
10/23/2017



PLAN

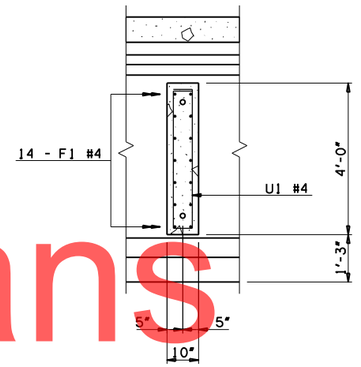


SECTION A-A

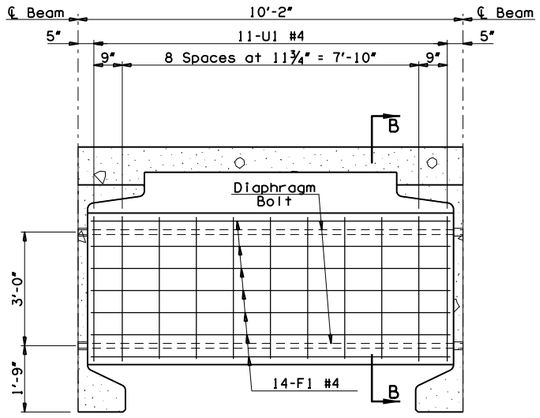


ELEVATION

END DIAPHRAGM



SECTION B-B

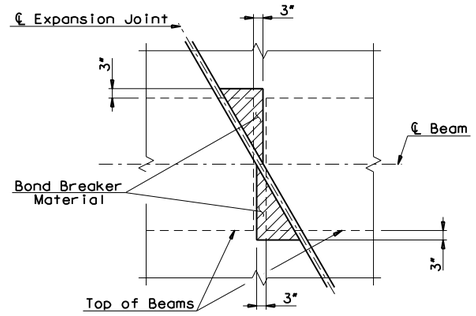


ELEVATION

INTERMEDIATE DIAPHRAGM
(2 Intermediate Diaphragms per Span)

U1 #4 x 8'-10"
U2 #4 x 12'-2"
U3 #4 x 9'-6"

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	224	STR.	9'-4"	-
F2	#6	32	STR.	7'-0"	-
F3	#6	192	STR.	10'-0"	-
U1	#4	176	BENT	8'-10"	-
U2	#4	128	BENT	12'-2"	-
U3	#4	64	BENT	9'-6"	-



DETAIL OF BOND BREAKER AT BEAM CORNERS

NOTE:
Where the top corner of the beam projects under the slab of the adjacent span, a minimum of 1" clearance between the top of the beam and the bottom of the slab shall be provided in the hatched areas shown above. 1" thick Expansion Material shall be used as a bond breaker.

50% plans

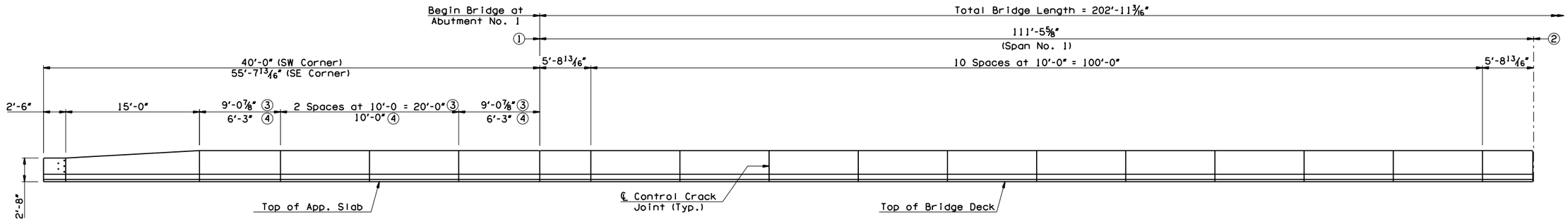
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 4)

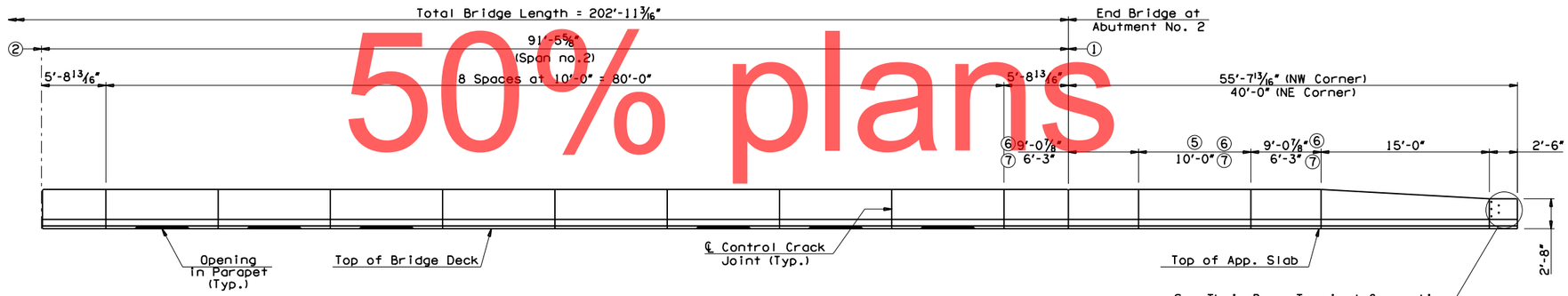
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR014

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

PROPOSED R/W
10/23/2017





42" F-SHAPED PARAPET LAYOUT
(West Parapet Shown, East Parapet Similar)

50% plans

① Construction Joint. End horizontal reinforcing steel 2" either side of joint.
② ℄ Expansion Joint. Expansion Joint opening shall match slab opening.
③ SE Corner
④ SW Corner
⑤ 2 Spaces at 10'-0 = 20'-0"
⑥ NW Corner
⑦ NE Corner

NOTES:
For details showing the reinforcement layout and bar bend details for 42" F-Shaped Traffic Rails, see Std. FSHP-42-2-00E

Provide blockouts for Sealed Expansion Joints.

All dimensions shown are measured along the inside face of the traffic rail.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

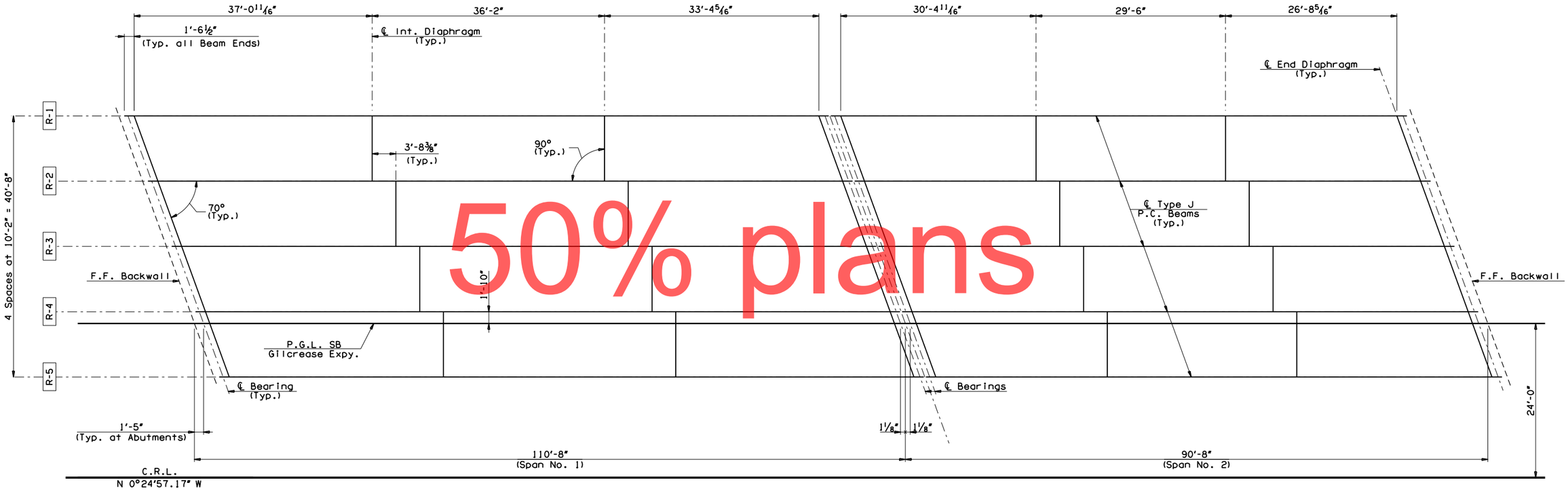
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 4)

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

DESIGNED	BRT	9/15	CONTRACT NO. GCT-2500	
DETAILED	RH	9/17		
CHECKED	JCL	9/15	DATE: 10/23/2017	SHEET NO. BR015

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

PROPOSED
R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 & 2

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

FRAMING PLAN

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

DESIGNED	JMH	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR016

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

PROPOSED R/W
10/23/2017

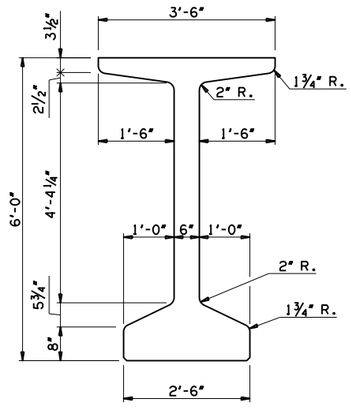
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 6,000 p.s.i. at transfer of prestress and 8,000 p.s.i. at 28 days.

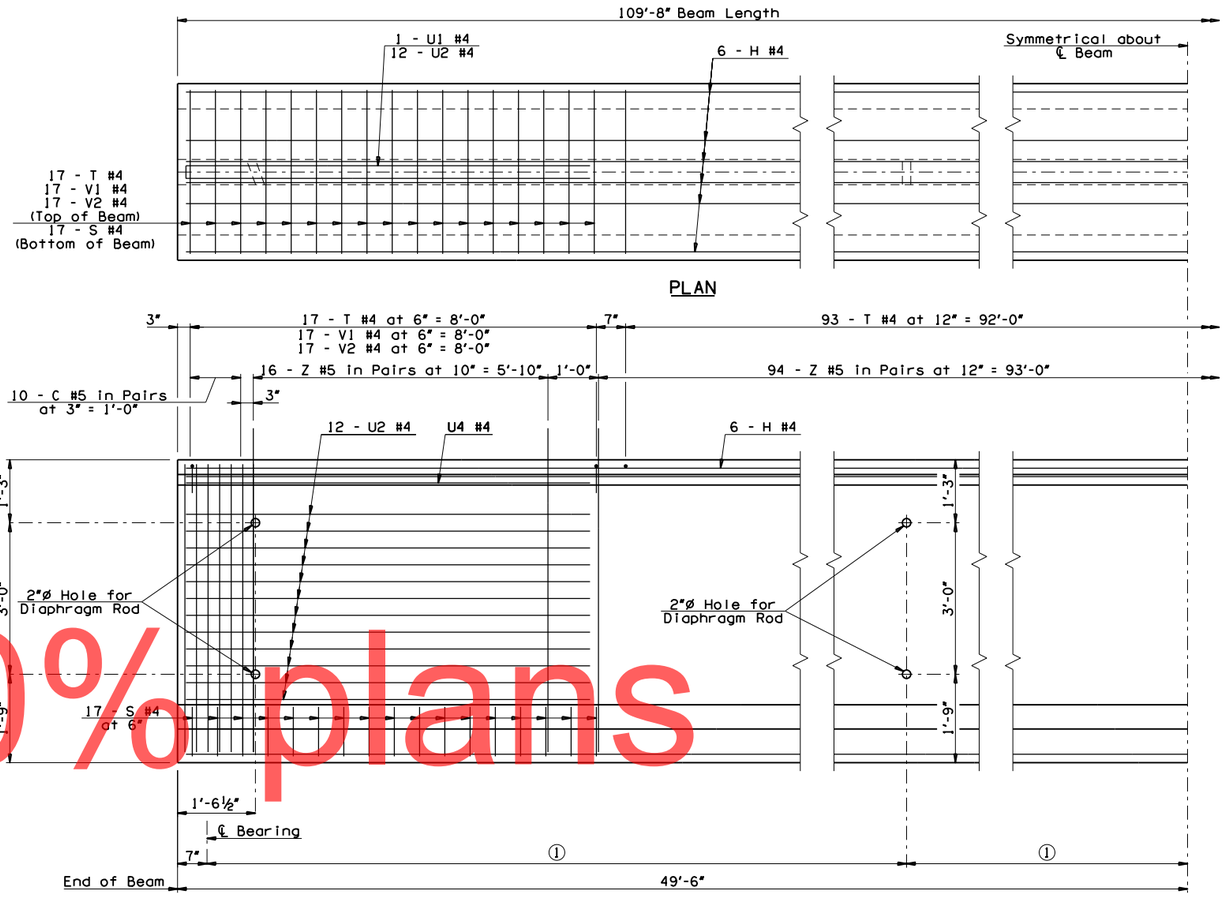
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS 56.8

LRFR OPERATING RATING - 2.40 (HL-93)
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.



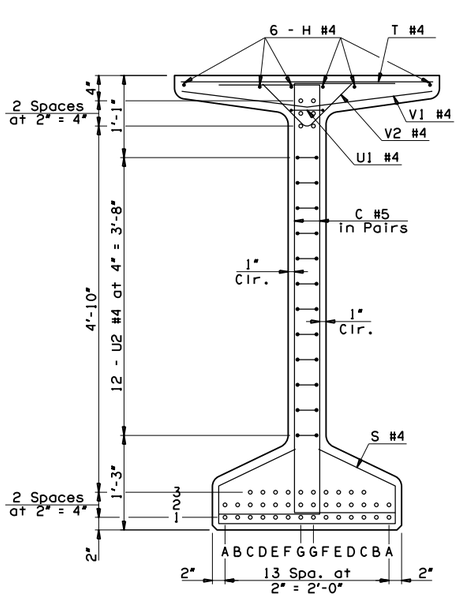
END VIEW
(Type J BT)



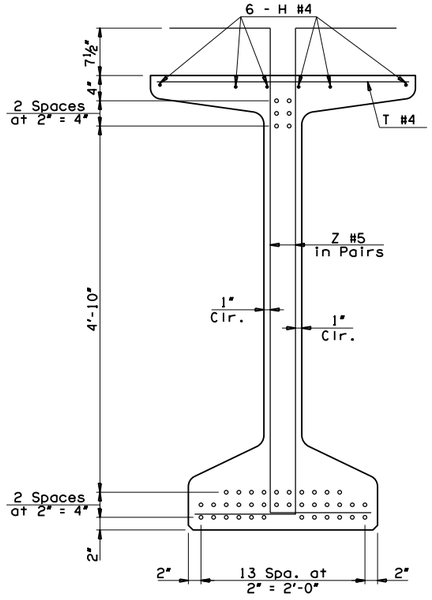
PLAN

ELEVATION

① See Framing Plan for Diaphragm Spacing.



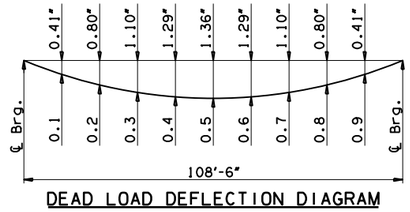
END SECTION



℄ SECTION

BEAM SECTIONS
(44 - 0.6" ø STRANDS)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
D1	12'-0"



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

NOTE:
For bar bend and embedded plate details, see Sheet No. BR019.

For diaphragm skew angles, see Sheet No. BR016.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

110'-0" BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR017

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

PROPOSED
R/W
10/23/2017

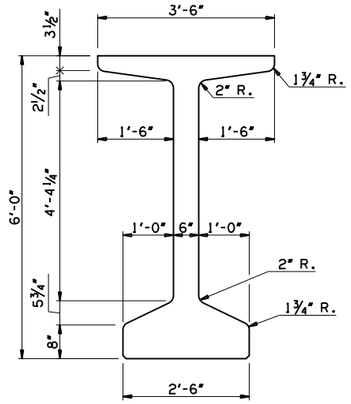
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

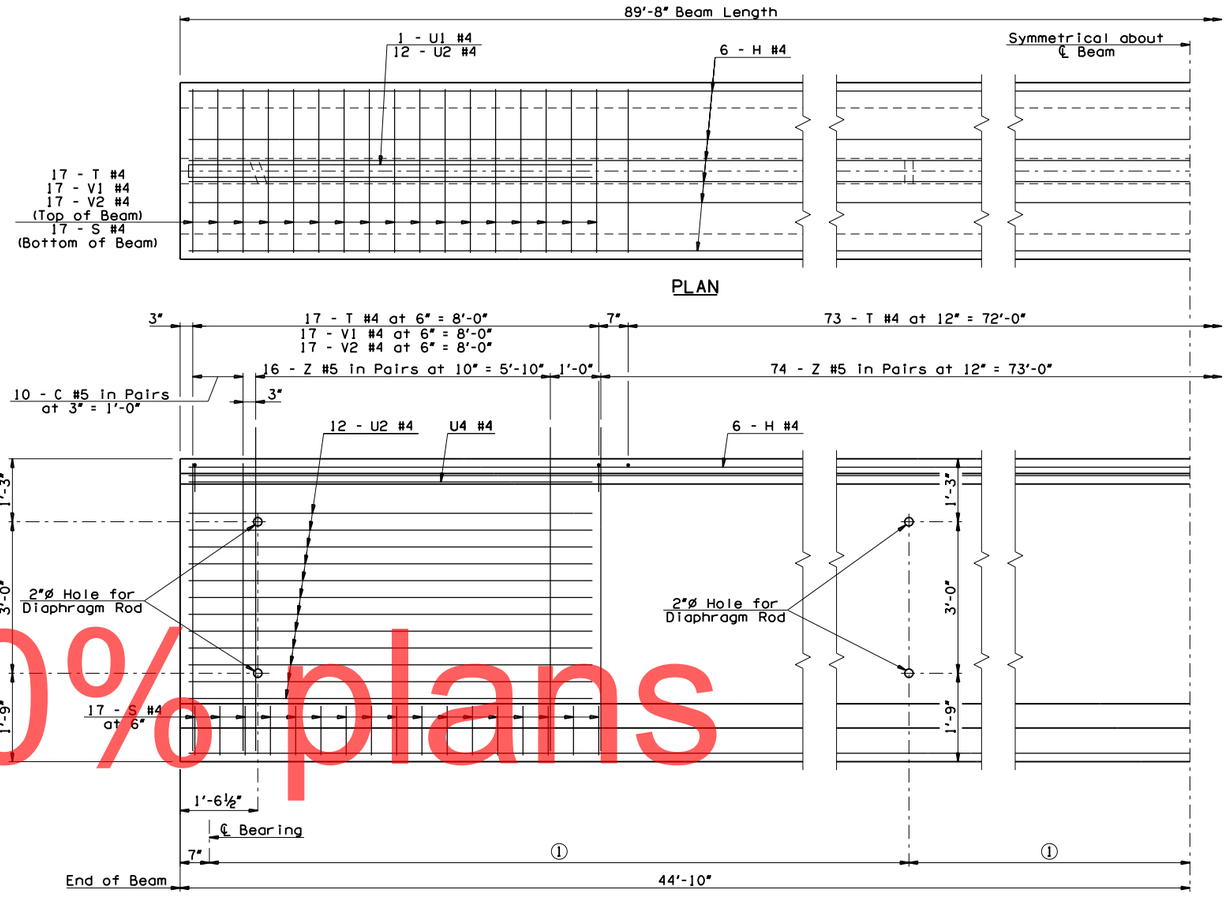
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LFR OPERATING RATING - HS 55.2

LRFR OPERATING RATING - 1.96 (HL-93)
The Operating Ratings shown are based on a nominal concrete strength, and include partially bonded strands in strength computations.



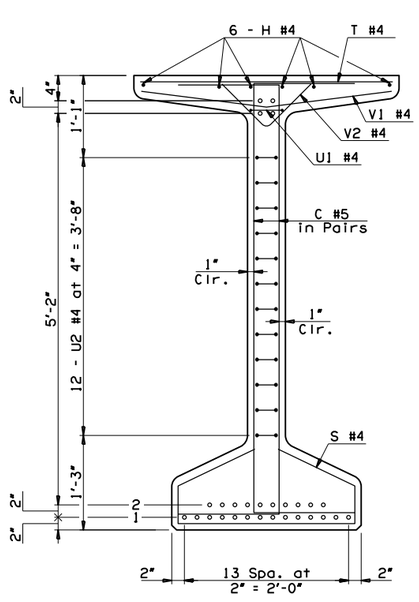
END VIEW
(Type J BT)



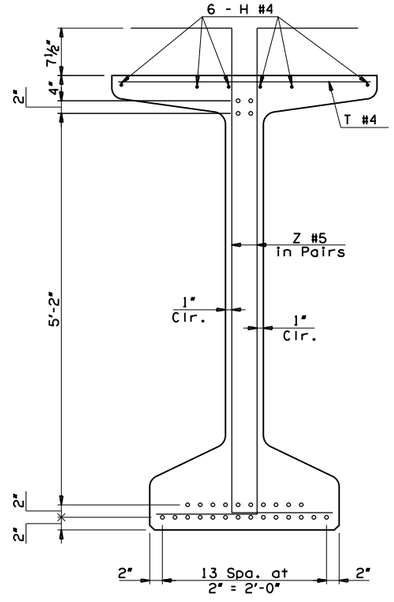
PLAN

ELEVATION

① See Framing Plan for Diaphragm Spacing.

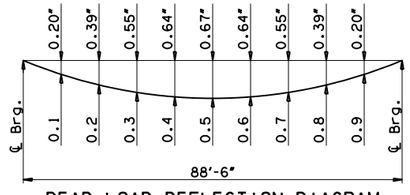


END SECTION



℄ SECTION

BEAM SECTIONS
(28 - 0.6" ø STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + S.I.P. Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

NOTE:
For bar bend and embedded plate details, see Sheet No. BR019.

For diaphragm skew angles, see Sheet No. BR016.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

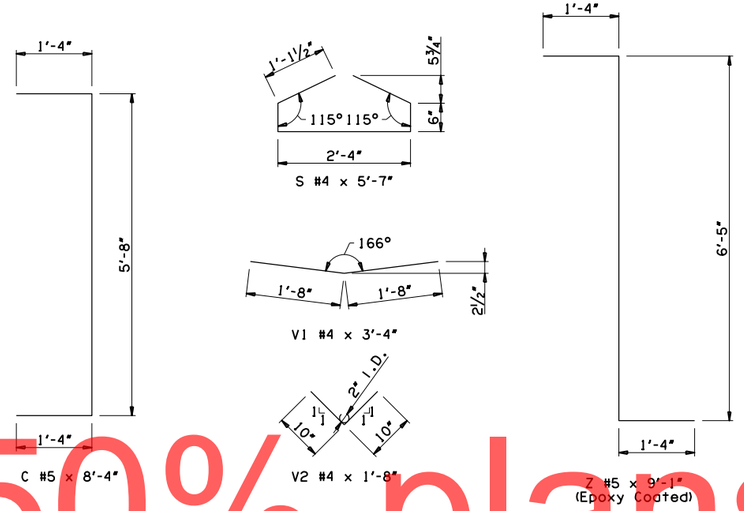
90'-0" BEAM DETAILS
(TYPE J BT)

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

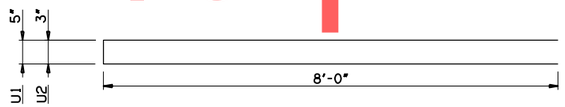
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR018

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

PROPOSED
R/W
10/23/2017



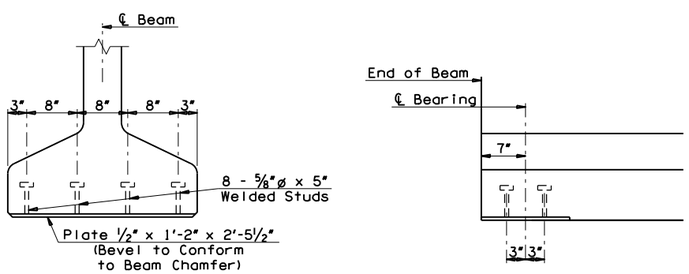
50% plans



U1 #4 x 16'-5"
U2 #4 x 16'-3"

INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

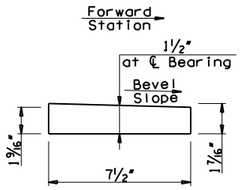
BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR019

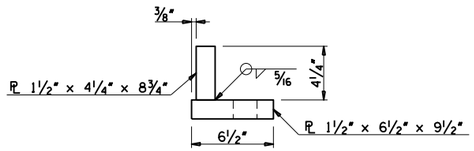
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

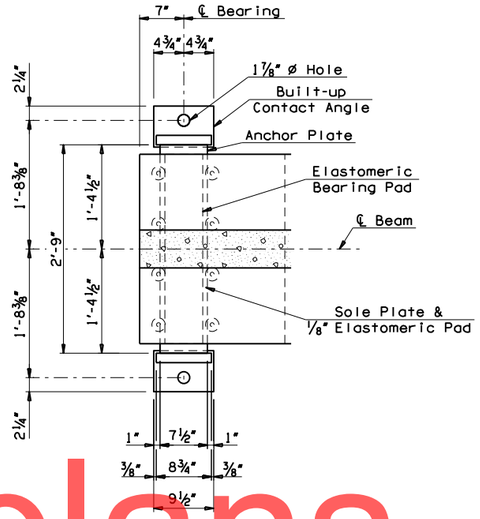


NOTE:
Paint thickest edge red.

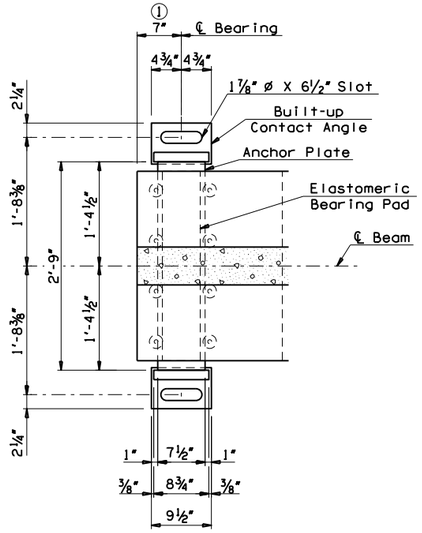
BEVELED ANCHOR PLATE DETAIL



BUILT-UP CONTACT ANGLE DETAIL

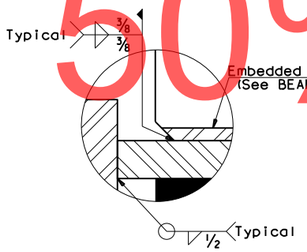


FIXED BEARING PLAN

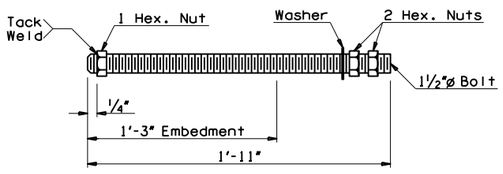


EXPANSION BEARING PLAN

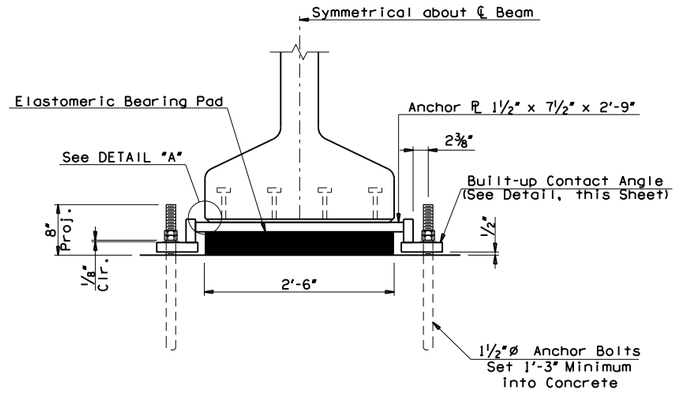
① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.



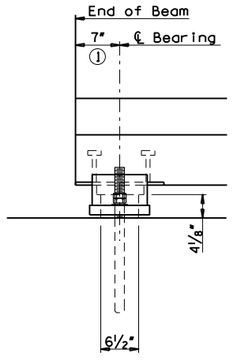
DETAIL "A"



ANCHOR BOLT DETAIL



END VIEW



ELEVATION

BEARING ASSEMBLY NOTES:
Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required).

For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

BEARING DETAILS

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

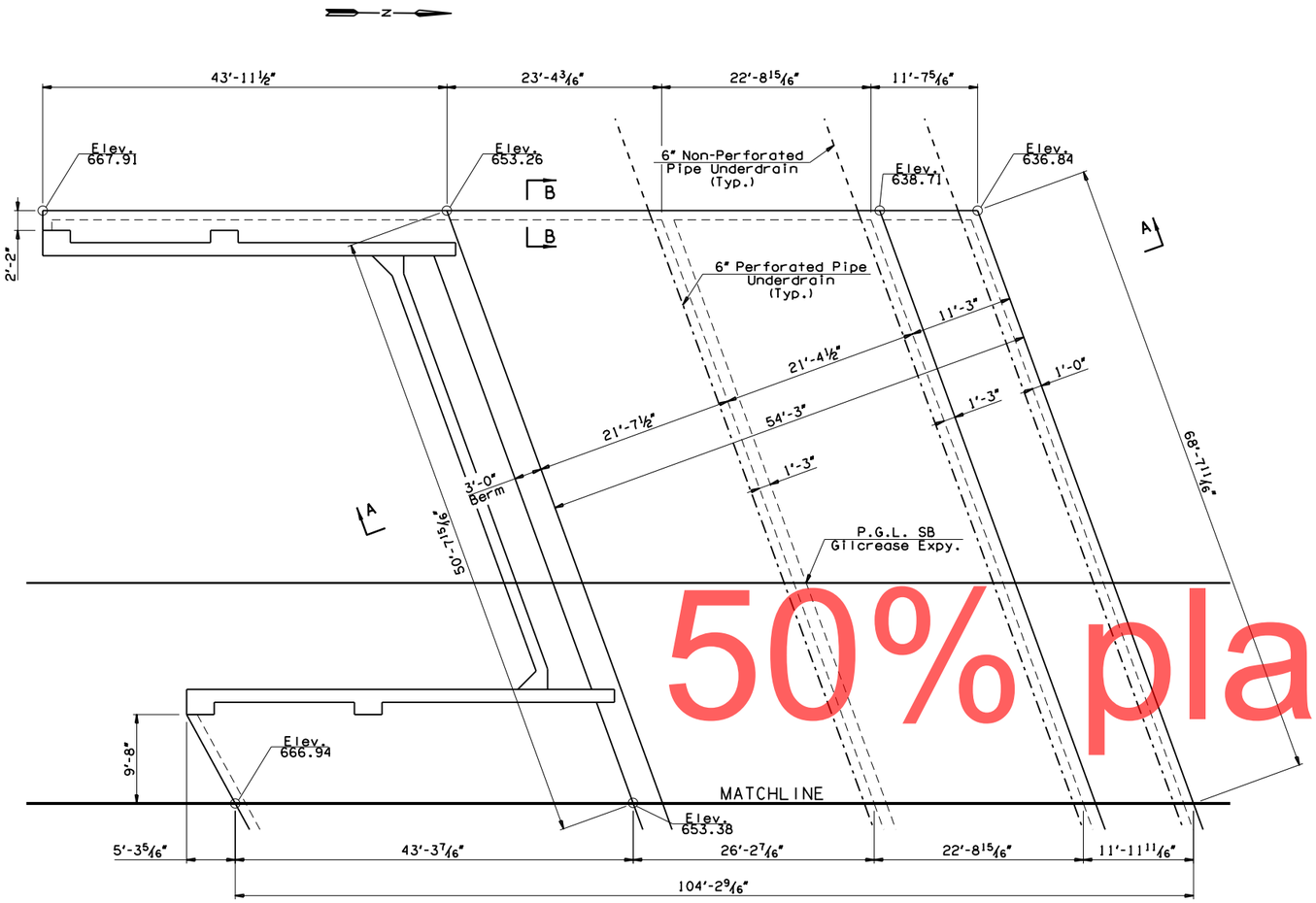
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	RH	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR020

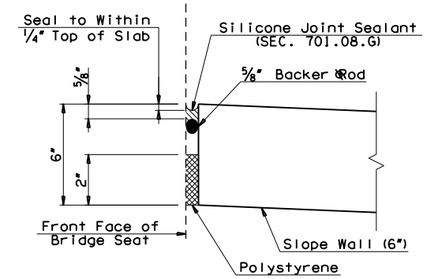
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

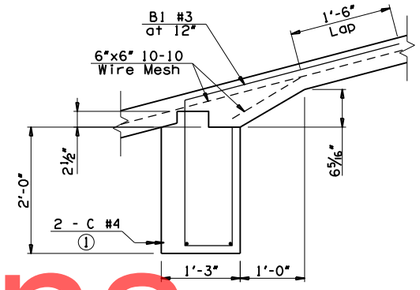


SLOPE WALL PLAN

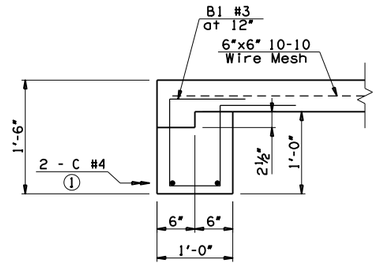
(Showing Slope Wall at Abut. No. 1)



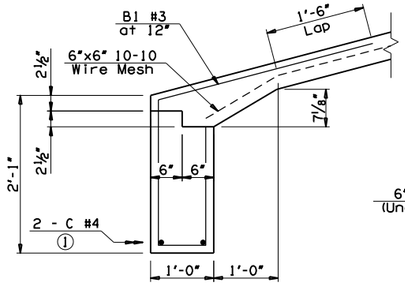
DETAIL "A"



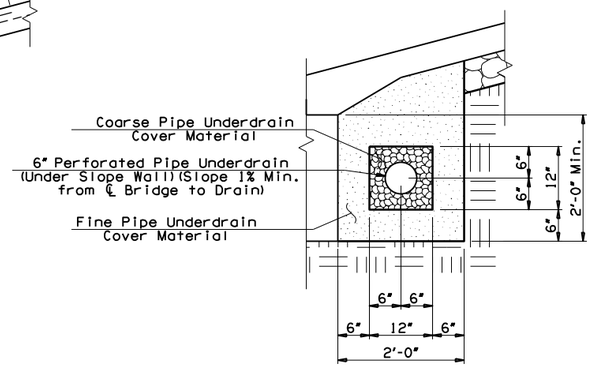
DETAIL "B"



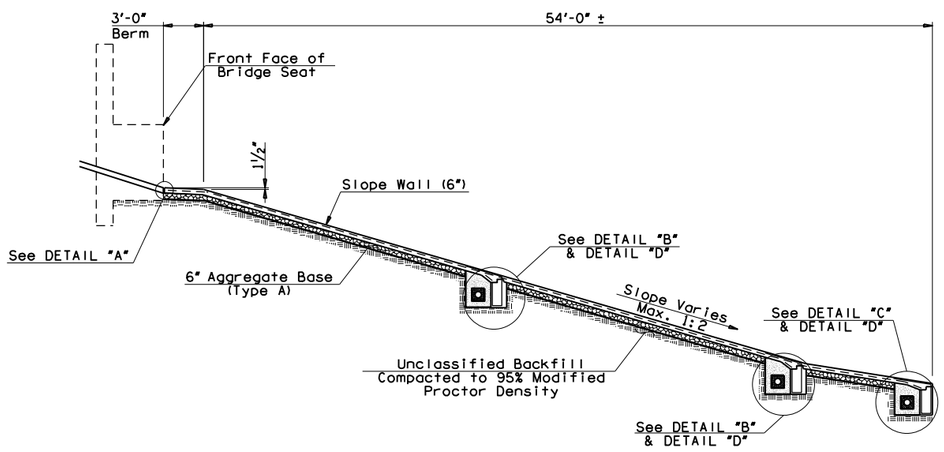
SECTION B-B



DETAIL "C"



DETAIL "D"



SECTION A-A

① Continuous with 1'-6" Laps as needed.

SUMMARY OF QUANTITIES - SLOPE WALL		
ITEM	UNIT	TOTAL
② SLOPE WALL (6")	S.Y.	588.20
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	206.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	150.00

② All costs of the "SLOPE WALL (6")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, 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 (6")".

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

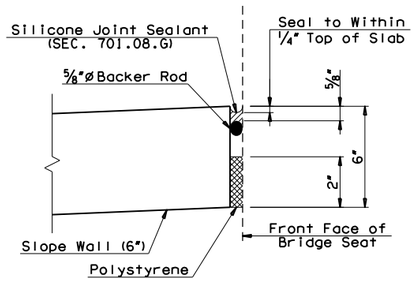
SLOPE WALL DETAILS
(SHEET 1 OF 2)

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

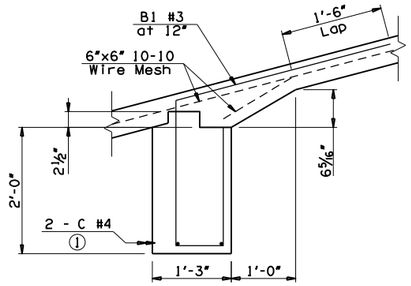
DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR021

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

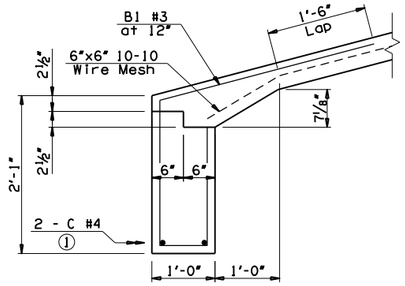
PROPOSED R/W
10/23/2017



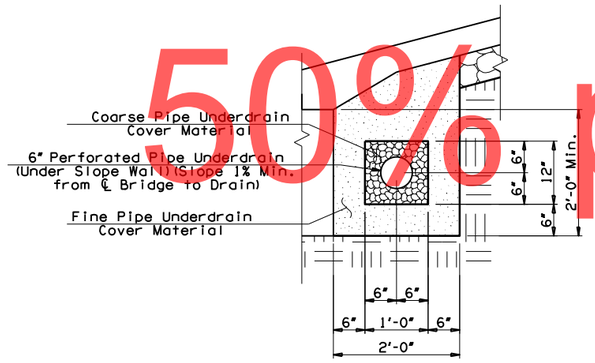
DETAIL "A"



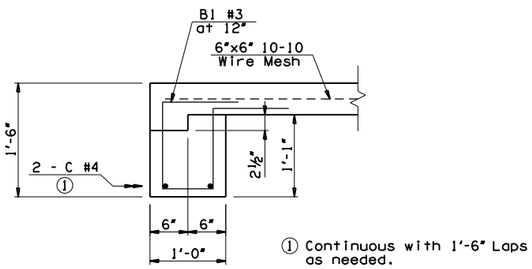
DETAIL "B"



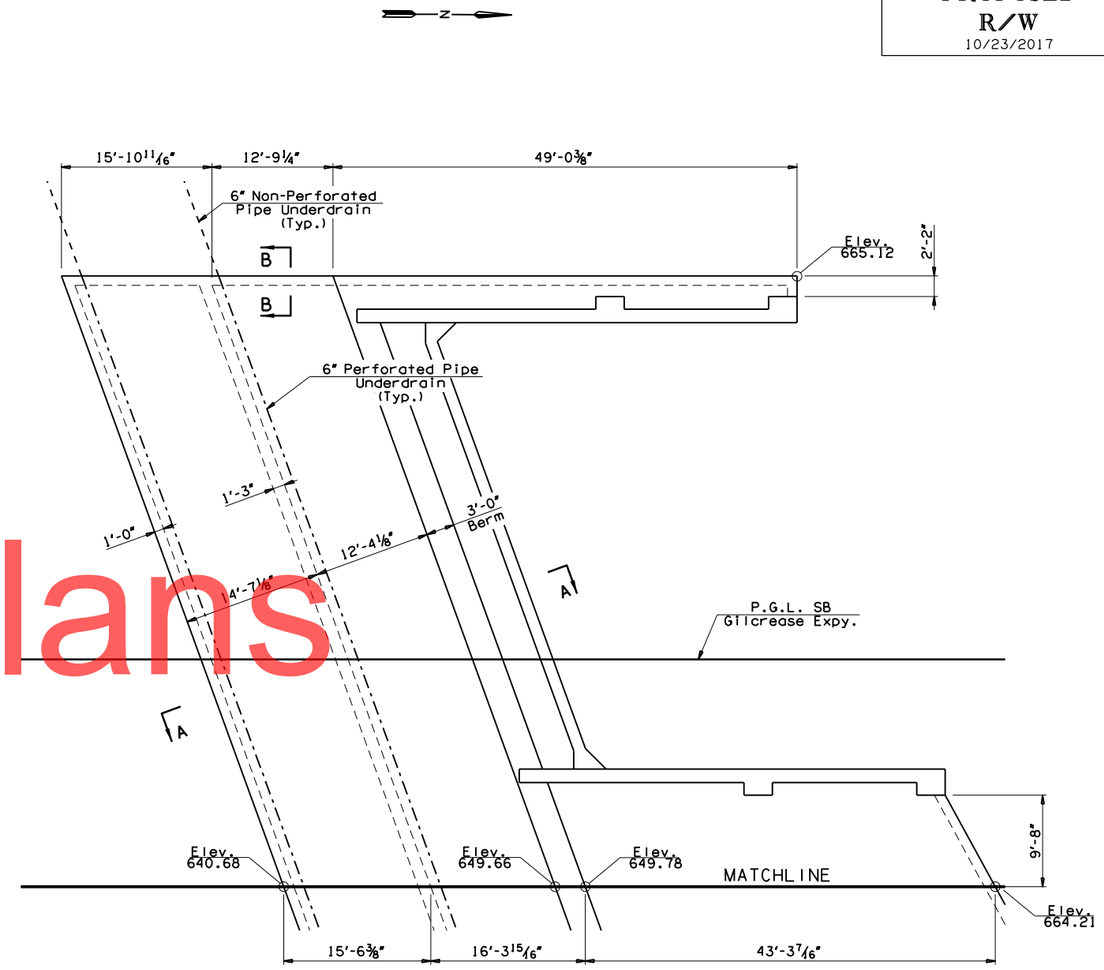
DETAIL "C"



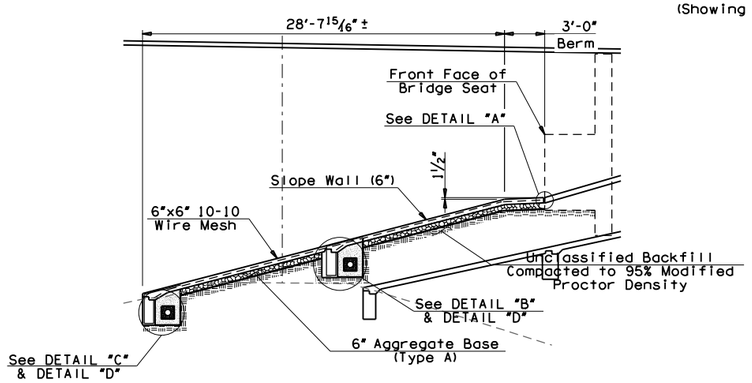
DETAIL "D"



SECTION B-B



SLOPE WALL PLAN
(Showing Slope Wall at Abutment No. 2)



SECTION A-A

SUMMARY OF QUANTITIES - SLOPE WALL		
ITEM	UNIT	TOTAL
② SLOPE WALL (6")	S.Y.	351.50
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	137.30
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	100.00

② All costs of the "SLOPE WALL (6")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, 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 (6")".

50% plans

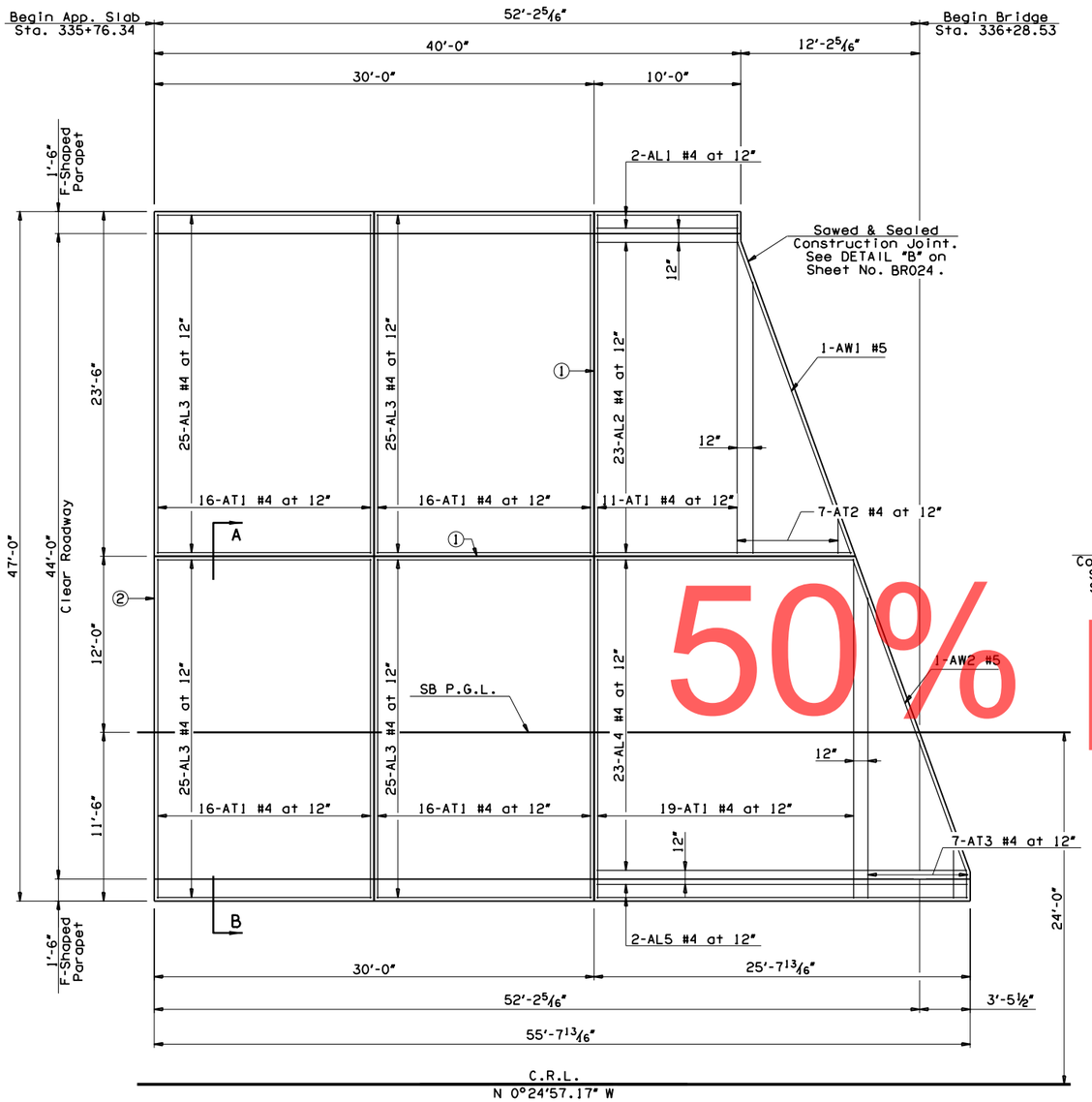
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.
SLOPE WALL DETAILS
(SHEET 2 OF 2)

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

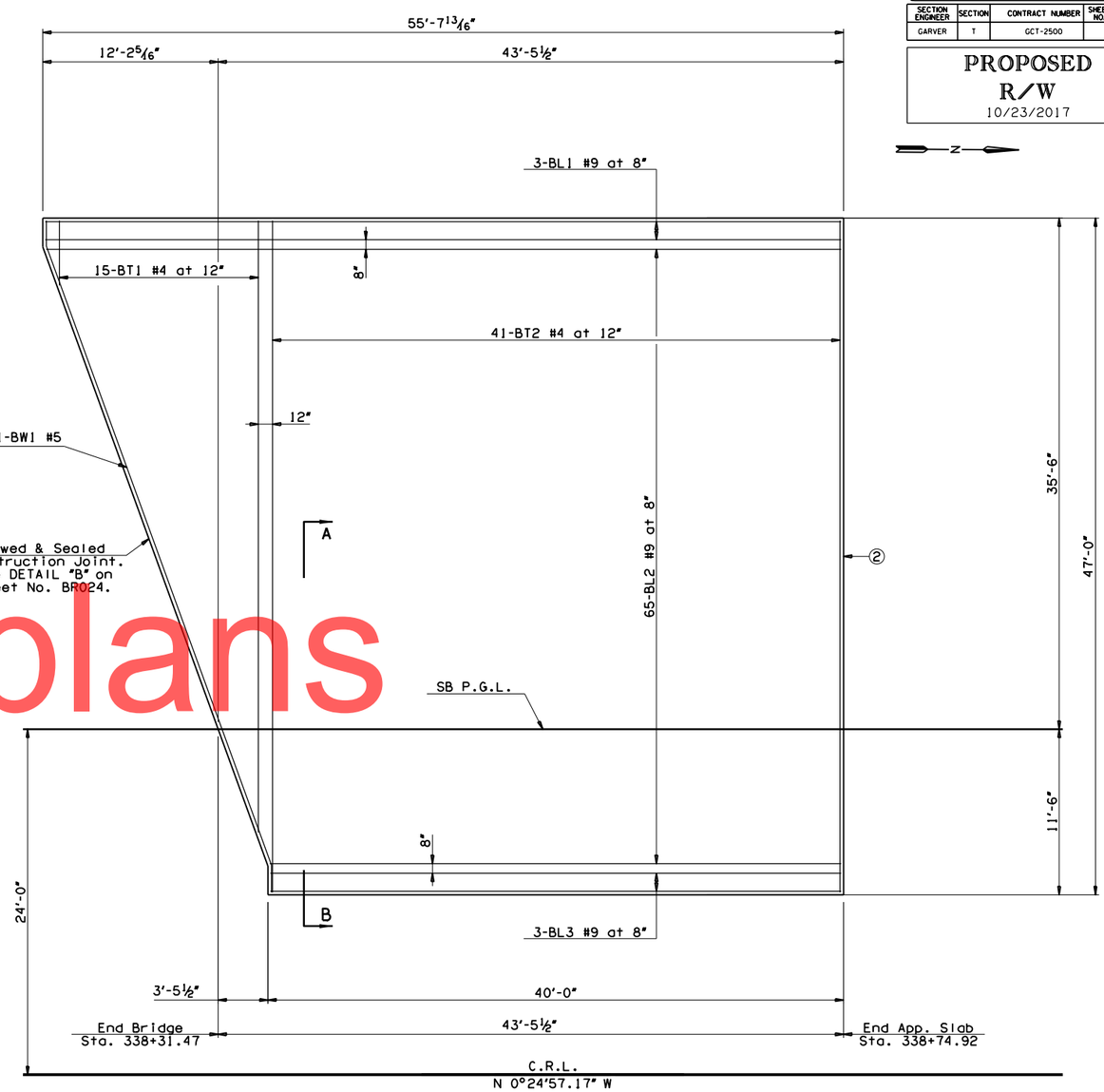
DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR022

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

PROPOSED R/W
10/23/2017



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



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

50% plans

NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab. See DETAIL "A" on Sheet No. BR024.

② Terminal Joint, see DETAIL "C" on Sheet No. BR024.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

APPROACH SLAB DETAILS
(SHEET 1 OF 2)

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

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR023

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

PROPOSED R/W
10/23/2017

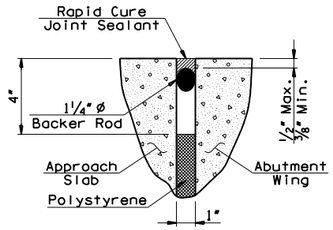
BAR LIST - APPROACH SLAB
(ONE SHOWN, TWO REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	2	STR.	9'-8"	-
AL2	#4	23	STR.	13'-6½" AVG.	9'-8" TO 17'-5"
AL3	#4	100	STR.	14'-8"	-
AL4	#4	23	STR.	21'-4½" AVG.	17'-7" TO 25'-3"
AL5	#4	2	STR.	25'-4"	-
AT1	#4	94	STR.	23'-2"	-
AT2	#4	7	STR.	10'-7½" AVG.	2'-8" TO 18'-7"
AT3	#4	7	STR.	12'-6" AVG.	4'-6" TO 20'-6"
AW1	#5	1	BENT	24'-7"	-
AW2	#5	1	BENT	24'-7"	-
BL1	#9	3	STR.	55'-4"	-
BL2	#9	65	STR.	47'-6" AVG.	39'-9" TO 55'-3"
BL3	#9	3	STR.	39'-8"	-
BT1	#4	15	STR.	23'-5½" AVG.	4'-6" TO 42'-5"
BT2	#4	41	STR.	46'-8"	-
BW1	#5	1	BENT	49'-6"	-

SUMMARY OF QUANTITIES - APPROACH SLAB
(ONE SHOWN, TWO REQUIRED)

	ITEM	UNIT	TOTAL
①	APPROACH SLAB	S.Y.	249.80
	SAW-CUT GROOVING	S.Y.	233.90
	42" F-SHAPED PARAPET	L.F.	95.70
	CLASS AA CONCRETE	C.Y.	90.2
	EPOXY COATED REINFORCING STEEL	LB.	16,211.34
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	319.00

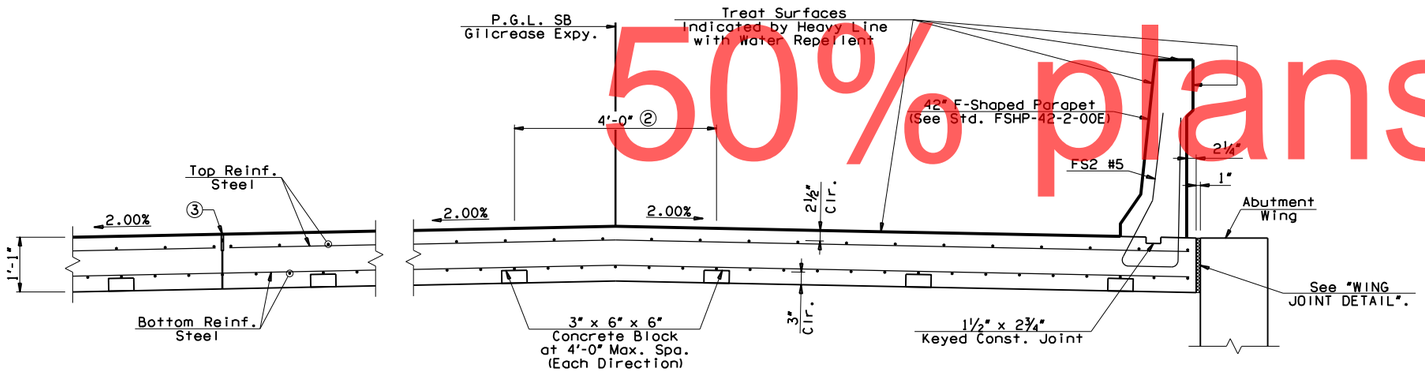
① The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.



WING JOINT DETAIL

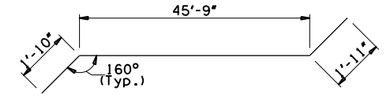
NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".

50% plans

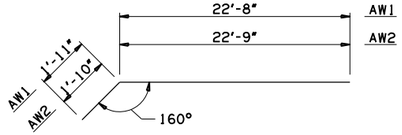


SECTION A THRU APPROACH SLAB

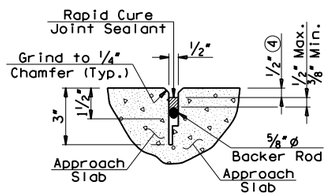
SECTION B



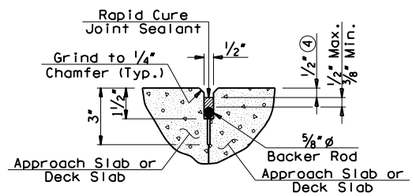
BW1 #5 x 49'-6"



AW1 #5 x 24'-7"
AW2 #5 x 24'-7"

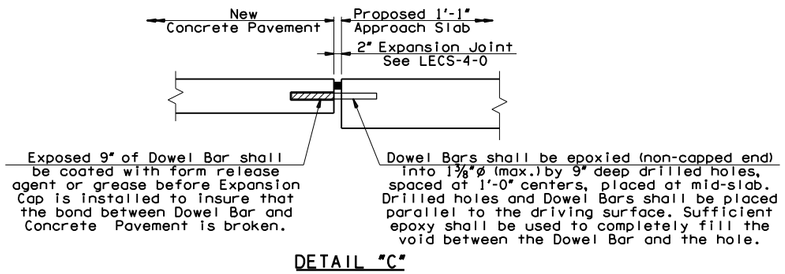


DETAIL "A"



DETAIL "B"

④ This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



DETAIL "C"

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.

② Round 2'-0" each side of crown to avoid sharp edges.

③ ½" Sawed and Sealed Construction Joint in the top of each Approach Slab (See DETAIL "A").

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. R GILCREASE SB OVER KATY TR. & W. 4TH PL.

APPROACH SLAB DETAILS
(SHEET 2 OF 2)

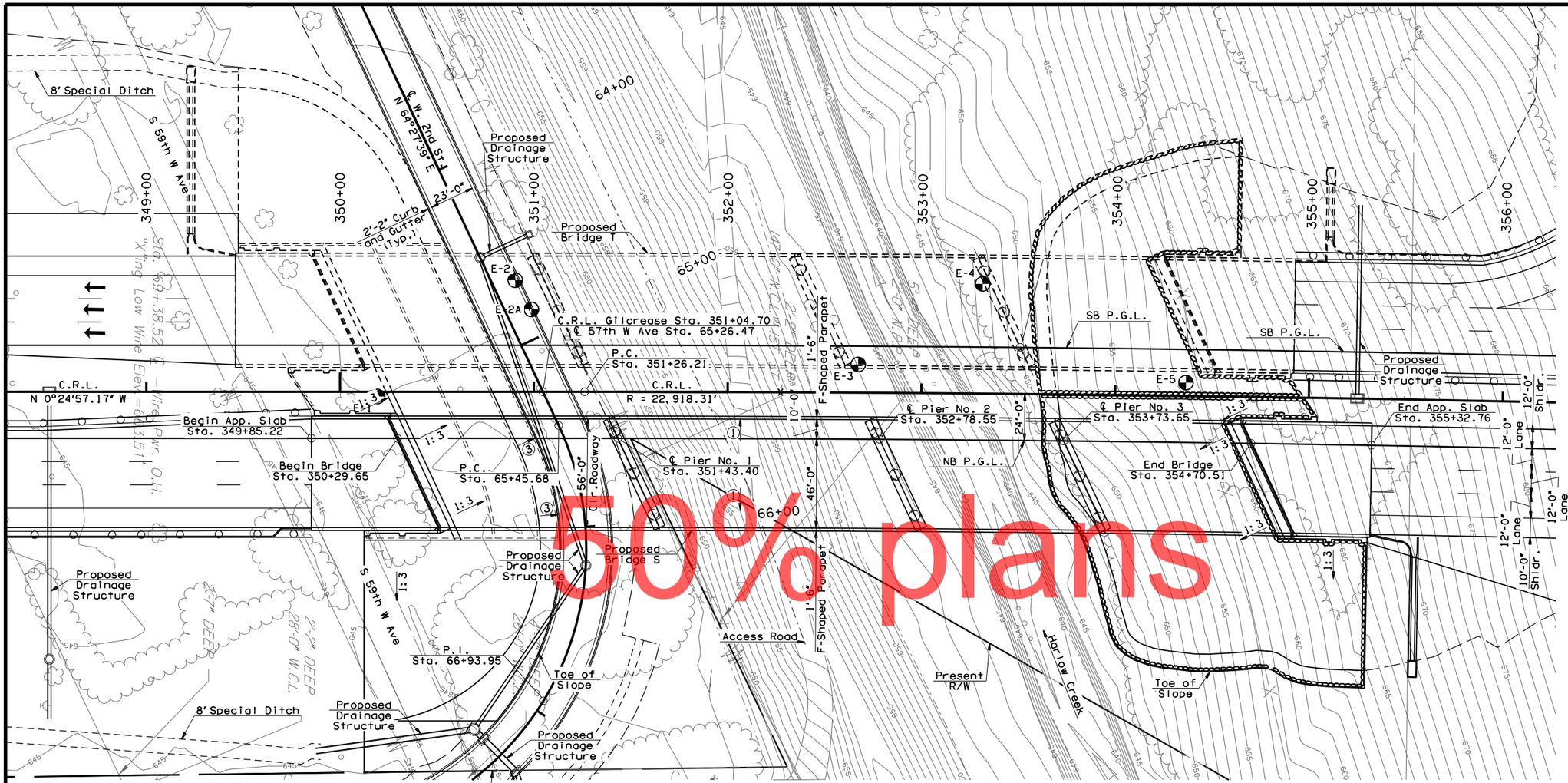
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	8/17	CONTRACT NO. GCT-2500	
DETAILED	RH	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BR024

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

PROPOSED R/W
10/23/2017

0 30 60 90
Scale 1" = 30'

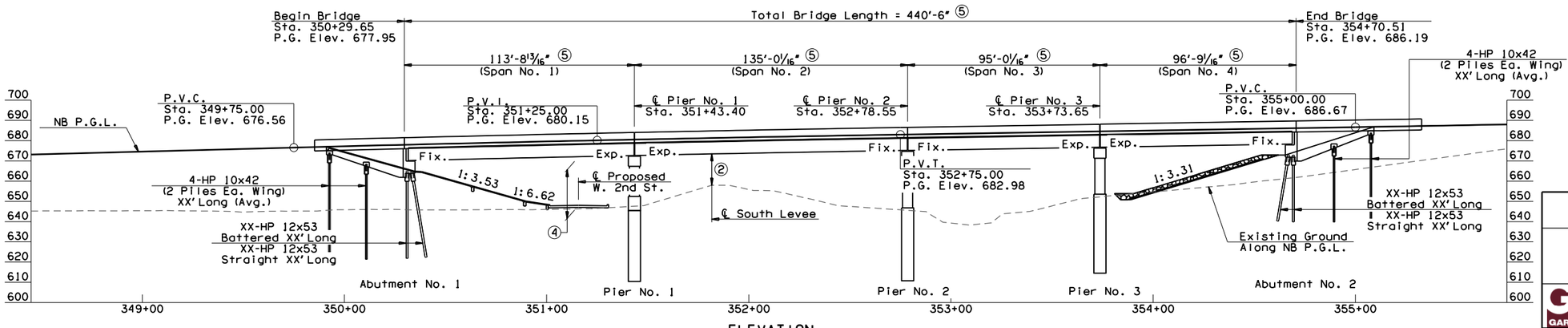


50% plans

PLAN

BENCHMARK NO. BM7-N
DESCRIPTION #6 REBAR
OFFSET 201.50' RT. STA. 351+93.00 EL. 646.15

For Foundation Report, See Sheet Nos. BS003-BS005.



ELEVATION

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BS002.

① 0.02 ft/ft
② 16'-1" Minimum Clearance
③ 1:6 Slope
④ 24'-7" Minimum Clearance
⑤ Stations measured along C.R.L. Dimensions measured along P.G.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK

GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BS001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: (HL93 and 20 p.s.f. Future Wearing Surface or Oklahoma Overload Truck), 20 p.s.f. Future Wearing Surface, and 5 p.s.f. Stay-in-Place Forms.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LRFR Operating Rating: 2.24 (HL-93)
LFR Operating Rating: HS 53.6

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BS001-BS002	General Plan and Elevation
BS003-BS005	Foundation Report
BS006-BS008	Pier Details
BS009	Typical Section
BS010	Longitudinal Section
BS011-BS014	Beam Details
BSTA01-BSTA09	Bridge Standard Details

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 4.8 sq. mi
Controlled Drainage Area = 0.0 sq. mi.
Effective Drainage Area = 4.8 sq. mi.

Q0T > Q500	= 4,866 cfs	Q25	= 3,800 cfs
V500	= 4.61 fps	V25	= 6.24 fps
Q500 HW	= 657.57	Q25 HW	= 652.50
Q2	= 557 cfs	Q50	= 4,612 cfs
V2	= 3.26 fps	V50	= 6.50 fps
Q2 HW	= 645.41	Q50 HW	= 653.80
Q5	= 1,725 cfs	Q100	= 4,969 cfs
V5	= 4.80 fps	V100	= 6.22 fps
Q5 HW	= 648.86	Q100 HW	= 654.83
Q10	= 2,723 cfs		
V10	= 5.56 fps	Max. Scour Q100	= 9.13
Q10 HW	= 650.79	Contr. Scour Q100	= 0.00
		Pier Scour Q100	= 9.13
		Max. Scour Q500	= 8.24
		Contr. Scour Q500	= 0.00
		Pier Scour Q500	= 8.24

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

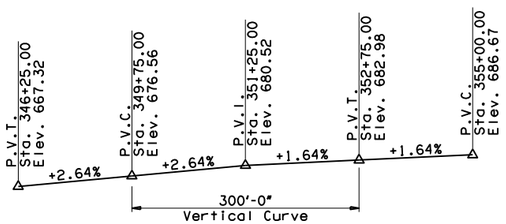
	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BS002

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

PROPOSED R/W
10/23/2017

BORING NO. E-1
Sta. 350+19.31, 2.43' Rt.
Total Depth = 54.5 ft.

650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0

SS-1; N=9; R=14"; MC=16.0%; LL=28; PL=19; PI=9; #200=87.0% --- 645.0
SS-2; N=8; R=15"; MC=19.0% --- 643.5
SS-3; N=10; R=18"; MC=21.0%; LL=37; PL=16; PI=21; #200=91.0% --- 640.5
SS-4; N=11; R=18"; MC=13.0% --- 637.0
Water Level After Boring --- 632.5
SS-5; N=10; R=11"; MC=10.0%; LL=NP; PL=NP; PI=NP; #200=69.0% --- 632.0
Water Level at 24 hrs. --- 631.5
SS-6; N=19; R=8"; MC=24.0% --- 627.0
SS-7; N=50/6.00"; R=6"; MC=13.0% --- 622.0
TCP-8; N=50/0.38", 50/0.13" --- 621.5
TCP-9; N=50/0.75", 50/0.13" --- 616.5
TCP-10; N=50/0.63", 50/0.13" --- 611.5
TCP-11; N=50/0.56", 50/0.13" --- 607.0
SS-12; N=50/3.00"; R=3"; MC=13.0% --- 606.5
TCP-13; N=50/0.56", 50/0.13" --- 601.5
TCP-14; N=50/0.38", 50/0.13" --- 596.5
TCP-15; N=50/0.63", 50/0.13" --- 592.0
SS-16; N=50/3.00"; R=3"; MC=12.0% --- 591.5

645.5 (5" topsoil)

LEAN CLAY
trace sand, dark brown, stiff

636.0

SANDY SILT
dark brown, stiff

627.0

SAND
light brown, medium dense

622.0

606.5

SHALE
dark gray, soft to moderately hard

591.0

SHALE
with sandstone seams, dark gray, moderately hard

BORING NO. E-2
Sta. 350+90.40, 57.55' Lt.
Total Depth = 55.0' ft.

650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0

SS-1; N=13; R=16"; MC=14.0%; LL=30; PL=22; PI=8; #200=94.0% --- 646.0
SS-2; N=13; R=15"; MC=18.0% --- 644.5
SS-3; N=5; R=18"; MC=21.0% --- 641.5
SS-4; N=9; R=18"; MC=17.0%; LL=28; PL=14; PI=14; #200=64.0% --- 638.0
SS-5; N=21; R=16"; MC=23.0% --- 633.0
Water Level at 24 hrs. --- 632.5
Water Level While Boring --- 630.5
SS-6; N=1; R=18"; MC=25.0%; LL=NP; PL=NP; PI=NP; #200=6.0% --- 628.0
SS-7; N=50/4.00"; R=16"; MC=17.0% --- 623.0
Water Level After Boring --- 621.5
DB-8; R=82%; RQD=14%
UC=170 psi at 25.5 ft. --- 621.5
DB-9; R=100%; RQD=48%
UC=150 psi at 30.0 ft. --- 616.5
DB-10; R=100%; RQD=49%
UC=150 psi at 35.0 ft. --- 611.5
DB-11; R=100%; RQD=30%
at 40.0 ft. --- 606.5
DB-12; R=100%; RQD=28%
UC=870 psi at 45.0 ft. --- 601.5
DB-13; R=100%; RQD=31%
UC=610 psi at 50.0 ft. --- 596.5

646.5 (6" topsoil)

638.0

LEAN CLAY
dark brown to brown, medium stiff to stiff

633.0

SANDY LEAN CLAY
brown to light brown, stiff

622.0

POORLY GRADED SAND WITH SILT
light brown, medium dense

601.5

WEATHERED SHALE
trace sandstone seams, dark gray, soft to moderately hard

591.5

SHALE
very dark gray, moderately hard

50% plans

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK
FOUNDATION REPORT
(SHEET 1 OF 3)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS003

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

PROPOSED
R/W
10/23/2017

BORING NO. E-2A

Sta. 350+98.74, 42.49' Lt.
Total Depth = 55.5 ft.

650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0
585.0
580.0
575.0

646.5 (6" topsoil)

LEAN CLAY
dark brown to brown, medium stiff to stiff

638.0

SANDY LEAN CLAY
brown to light brown, stiff

633.0

Water Level at 24 hrs. --- 632.5
Water Level After Boring --- 632.0

POORLY GRADED SAND WITH SILT
light brown, medium dense

SS-1; N=50/4.00"; R=4"; MC=18.0% --- 622.0

622.0

TCP-2; N=50/0.56", 50/0.50" --- 621.5

TCP-3; N=50/0.56", 50/0.50" --- 616.5

TCP-4; N=50/0.50", 50/0.06" --- 611.5

TCP-5; N=50/0.63", 50/0.19" --- 607.0

SS-6; N=50/3.00"; R=3"; MC=25.0% --- 606.5

SHALE
with sandstone seams, dark gray, moderately hard

TCP-7; N=50/0.50", 50/0.13" --- 601.5

TCP-8; N=50/0.38", 50/0.06" --- 596.5

TCP-9; N=50/0.63", 50/0.25" --- 592.0

SS-10; N=50/3.00"; R=3"; MC=19.0% --- 591.5

591.0

BORING NO. E-3

Sta. 352+67.32, 14.52' Lt.
Total Depth = 53.0' ft.

646.0 (3" topsoil)

SANDY SILTY CLAY
dark brown, stiff

SS-1; N=10; R=18"; MC=17.0%; LL=24; PL=18; PI=6; #200=61.0% --- 645.5

SS-2; N=8; R=18"; MC=23.0% --- 644.0

643.0

SS-3; N=8; R=18"; MC=22.0% --- 641.0

LEAN CLAY
dark brown, stiff

SS-4; N=9; R=18"; MC=21.0%; LL=32; PL=16; PI=16; #200=94.0% --- 637.5

Water Level at 24 hrs. --- 633.0

SS-5; N=11; R=9"; MC=22.0% --- 632.5

632.5

POORLY GRADED SAND WITH SILT
light brown, medium dense

SS-6; N=20; R=12"; MC=24.0%; LL=NP; PL=NP; PI=NP; #200=6.0% --- 627.5

SS-7; N=50/5.00"; R=5"; MC=12.0% --- 624.0

624.0

TCP-8; N=50/0.50", 50/0.06" --- 623.5

TCP-9; N=50/0.75", 50/0.19" --- 618.5

TCP-10; N=50/1.38", 50/0.63" --- 613.5

TCP-11; N=50/0.56", 50/0.06" --- 609.0

SS-12; N=50/4.00"; R=4"; MC=11.0% --- 608.5

SHALE
dark gray, soft to moderately hard

TCP-13; N=50/0.75", 50/0.06" --- 603.5

TCP-14; N=50/0.31", 50/0.06" --- 598.5

TCP-15; N=50/0.88", 50/0.06" --- 594.0

SS-16; N=50/4.00"; R=4"; MC=16.0% --- 593.5

593.0

645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0
595.0
590.0

50% plans

NOTES:

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Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

TESTING & DRILLING LEGEND:

DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

SAMPLING LEGEND:

R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK

FOUNDATION REPORT
(SHEET 2 OF 3)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS004

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

PROPOSED R/W
10/23/2017

BORING NO. E-4
Sta. 353+31.12, 56.60' Lt.
Total Depth = 55.0 ft.

650.0
- SS-1; N=4; R=18"; MC=11.0%; LL=NP; PL=NP; PI=NP; #200=33.0% --- 649.5
- SS-2; N=5; R=13"; MC=6.0% --- 648.0

645.0
- SS-3; N=14; R=16"; MC=7.0%; LL=NP; PL=NP; PI=NP; #200=44.0% --- 645.0

640.0
- SS-4; N=9; R=16"; MC=8.0% --- 641.5

635.0
- SS-5; N=4; R=18"; MC=21.0%; LL=28; PL=17; PI=11; #200=84.0% --- 636.5
- Water Level at 24 hrs. --- 636.5

630.0
- SS-6; N=4; R=18"; MC=23.0% --- 631.5
- Water Level After Boring --- 630.5

625.0
- SS-7; N=50/3.00"; MC=13.0% --- 626.5
- Water Level While Boring --- 626.5
- TCP-8; N=50/0.44"; N=50/0.13" --- 625.5

620.0
- TCP-9; N=50/0.75"; N=50/0.31" --- 620.5

615.0
- TCP-10; N=50/0.19"; N=50/0.06" --- 615.5

610.0
- TCP-11; N=50/1.00"; N=50/0.44" --- 611.0
- SS-12; N=50/3.00"; R=3"; MC=16.0% --- 610.5

605.0
- TCP-13; N=50/0.50"; N=50/0.00" --- 605.5

600.0
- TCP-14; N=50/0.44"; N=50/0.06" --- 600.5

595.0
- TCP-15; N=50/0.38"; N=50/0.03" --- 596.0
- SS-12; N=50/3.00"; MC=23.0% --- 595.5

590.0

650.0 — **SILTY SAND**
dark brown, loose to medium dense

(yellowish-red, and strong brown below 2 feet)

636.5 — **LEAN CLAY**
with sand, yellowish-red, soft to medium stiff

626.0

595.0 — **SHALE**
very dark gray, moderately hard

50% plans

BORING NO. E-5
Sta. 354+36.46, 6.8' Lt.
Total Depth = 59.5' ft.

658.5
- SS-1; N=4; R=18" MC=3.0% --- 658.0
- SS-2; N=6; R=13"; MC=5.0%; LL=NP; PL=NP; PI=NP; #200=27.0% --- 656.5

653.5
- SS-3; N=6; R=14"; MC=10.0% --- 653.5

650.0
- SS-4; N=7; R=14"; MC=17.0%; LL=23; PL-16; PI=7; #200=74.0% --- 650.0

645.0
- SS-5; N=24; R=15" MC=15.0% --- 645.0
- Water Level After Boring --- 641.5
- Water Level at 24 hrs. --- 640.5

640.0
- SS-6; N=22; R=9" MC=25.0%; LL=NP; PL=NP PI=NP; #200=31.0% --- 640.0
- Water Level While Boring --- 639.5

635.0
- SS-7; N=31; R=18" MC=19.0% --- 635.0

633.5

630.0
- SS-8; N=50/3.00"; R=3"; MC=12.0% --- 630.0
- TCP-9; N=50/0.31"; N=50/0.06" --- 629.5

625.0
- TCP-10; N=50/0.31"; N=50/0.03" --- 624.5

620.0
- TCP-11; N=50/1.75"; N=50/0.69" --- 619.5

615.0
- TCP-12; N=50/0.31"; N=50/0.13" --- 615.0
- SS-13; N=50/3.00"; MC=17.0% --- 614.5

610.0
- TCP-14; N=50/0.31"; N=50/0.06" --- 609.5

605.0
- TCP-15; N=50/0.31"; N=50/0.06" --- 604.5

600.0
- TCP-16; N=50/0.38"; N=50/1.63" --- 600.0
- SS-17; N=50/2.00"; MC=15.0% --- 599.5

599.0

660.0

655.0 — **SILTY SAND**
yellowish-red, loose

650.0

645.0 — **SILTY CLAY**
with sand, yellowish-brown to yellowish-red, medium stiff to very stiff

640.0 — **SILTY SAND**
yellowish-red, medium dense to dense

(coarse grained below 23.5 feet)

635.0

630.0 — **HIGHLY WEATHERED SHALE**
dark yellowish-brown, soft

625.0

620.0

615.0 — **SHALE**
very dark gray, moderately hard

610.0

605.0

600.0

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK

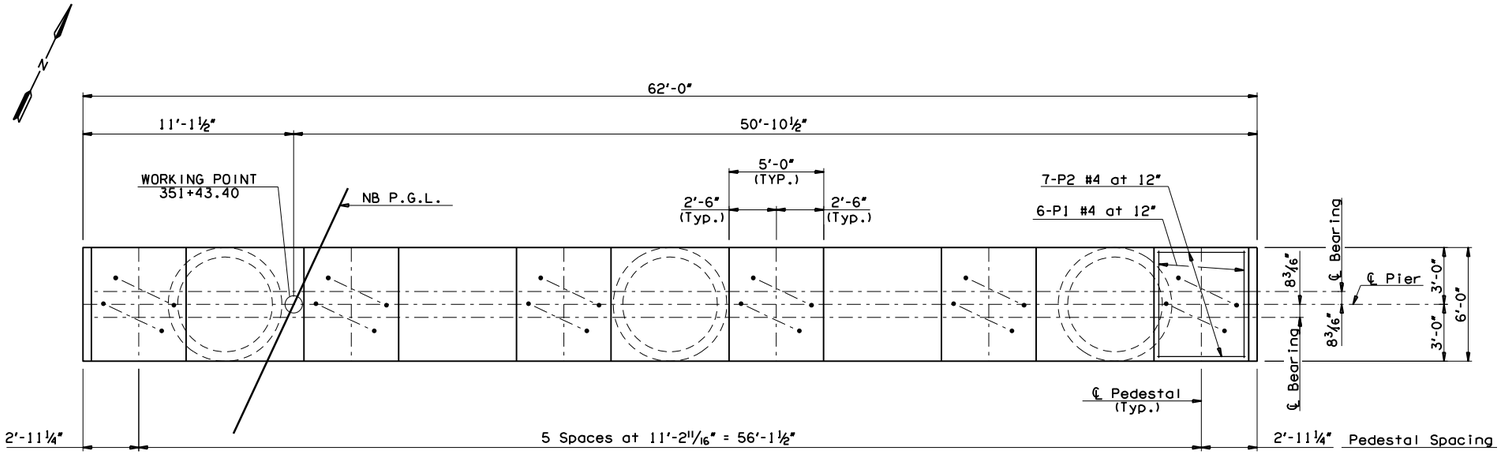
FOUNDATION REPORT
(SHEET 3 OF 3)

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

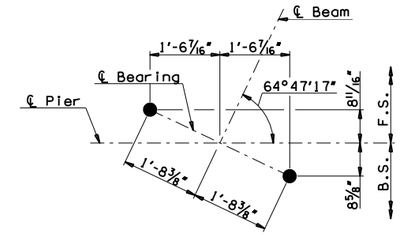
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS005

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

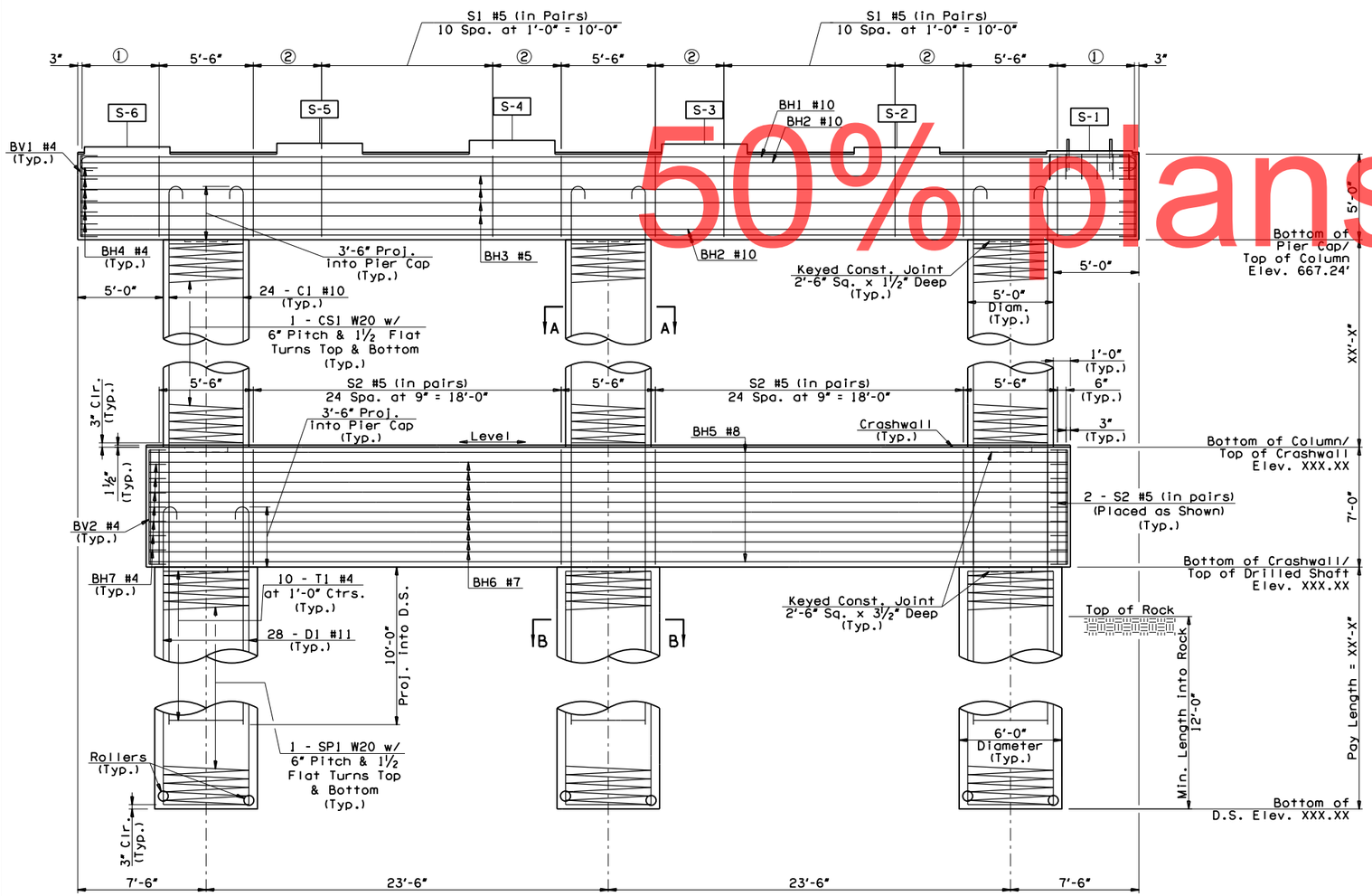
PROPOSED R/W
10/23/2017



PLAN



DETAIL "A"



ELEVATION
(Looking Forward Station)

PIER NO. 1

50% plans

① SI #5 (In Pairs) 9 Spa. at 6" = 4'-6"
② SI #5 (In Pairs) 8 Spa. at 6" = 4'-0"

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	S-1	S-2	S-3	S-4	S-5	S-6
1	672.76	672.95	672.85	672.74	672.64	672.53

BAR LIST - PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
REINFORCING STEEL				

③ 3 DRILLED SHAFTS - PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				

③ Included in the price bid per linear foot of "DRILLED SHAFT 72" DIAMETER."

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.

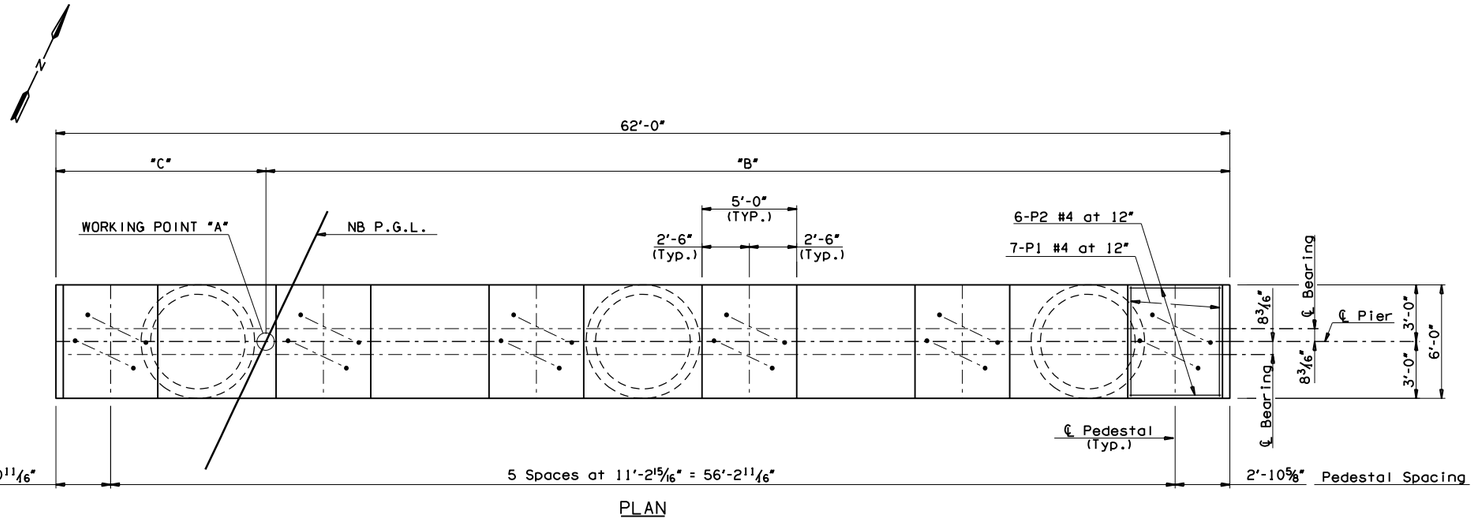
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK
PIER DETAILS
(SHEET 1 OF 3)

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

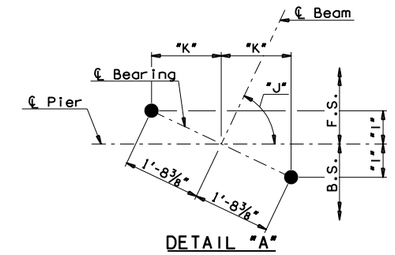
DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS006

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

PROPOSED R/W
10/23/2017



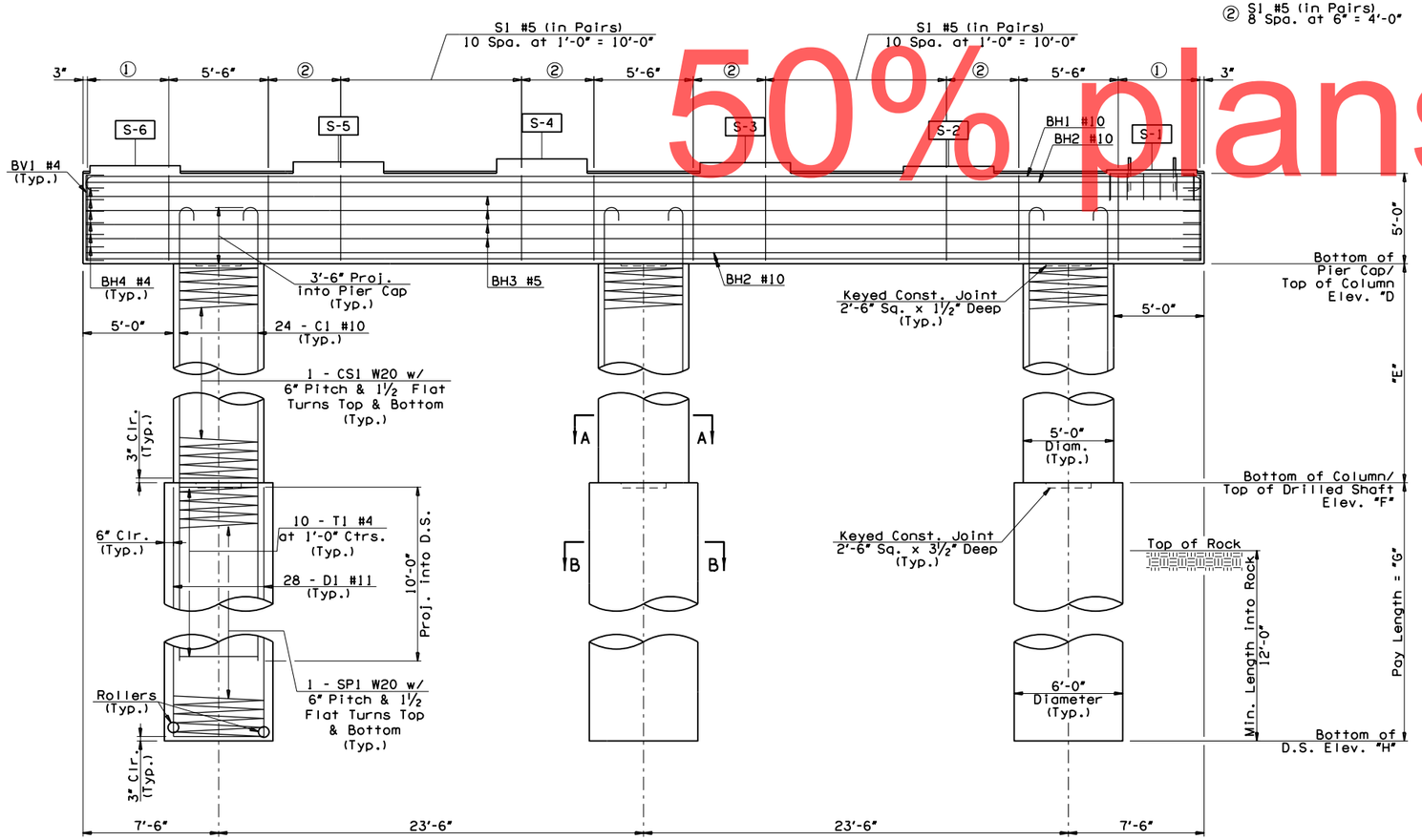
PLAN



DETAIL "A"

BEAM TABLE OF VARIABLES SPAN NOS. 2 - 4				
LOCATION		"J"	"I"	"K"
PIER NO. 2	B.S.	64°47'17"	8 11/16"	1'-6 7/16"
	F.S.	64°30'01"	8 3/4"	1'-6 3/8"
PIER NO. 3	B.S.	64°30'01"	8 3/4"	1'-6 3/8"
	F.S.	64°15'45"	8 7/8"	1'-6 3/8"

① Sl #5 (in Pairs) 9 Spa. at 6" = 4'-6"
② Sl #5 (in Pairs) 8 Spa. at 6" = 4'-0"



ELEVATION
(Looking Forward Station)

PIER NOS. 2 & 3

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	S-1	S-2	S-3	S-4	S-5	S-6
2	675.28	675.45	675.33	675.20	675.08	674.96
3	676.84	677.01	676.89	676.77	676.64	676.52

TABLE OF VARIABLES					
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	LENGTH "E"	LENGTH "G"
2	352+78.55	50'-11"	11'-1"	XX'-X"	XX'-X"
3	353+73.65	50'-11 9/16"	11'-0 7/16"	XX'-X"	XX'-X"

TABLE OF ELEVATIONS			
PIER NO.	"D"	"F"	"H"
2	669.67	XXX.XX	XXX.XX
3	671.23	XXX.XX	XXX.XX

BAR LIST - PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
REINFORCING STEEL				

BAR LIST - PIER NO. 3				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
REINFORCING STEEL				

③ 3 DRILLED SHAFTS - PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				

③ 3 DRILLED SHAFTS - PIER NO. 3				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				

③ Included in the price bid per linear foot of "DRILLED SHAFTS 72" DIAMETER."

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK
PIER DETAILS
(SHEET 2 OF 3)

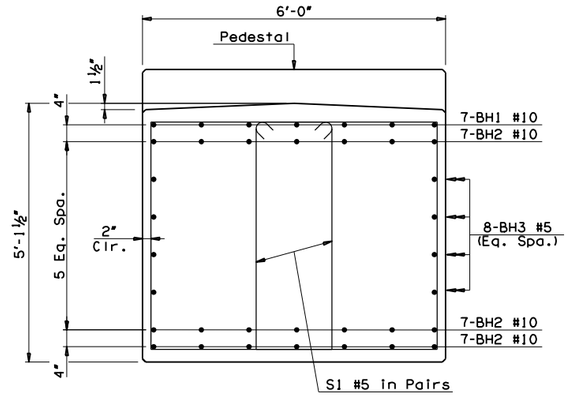
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS007

50% plans

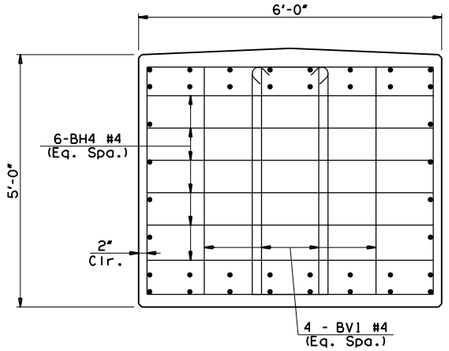
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

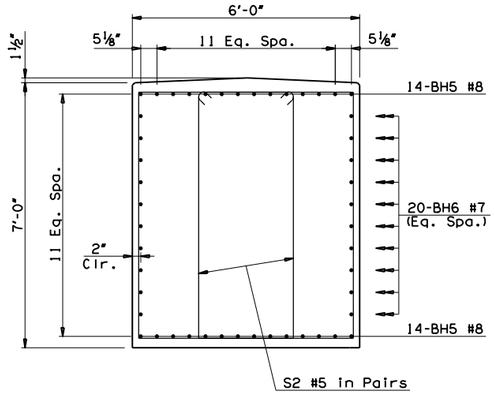


TYPICAL SECTION THRU CAP

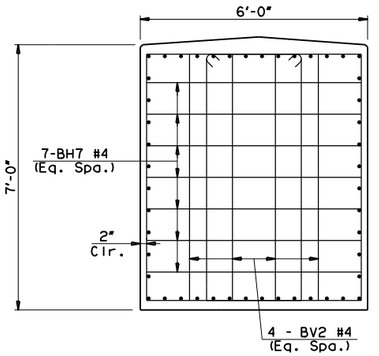
NOTE:
Pier cap and crashwall shall have ¾" chamfers on all edges unless noted otherwise.



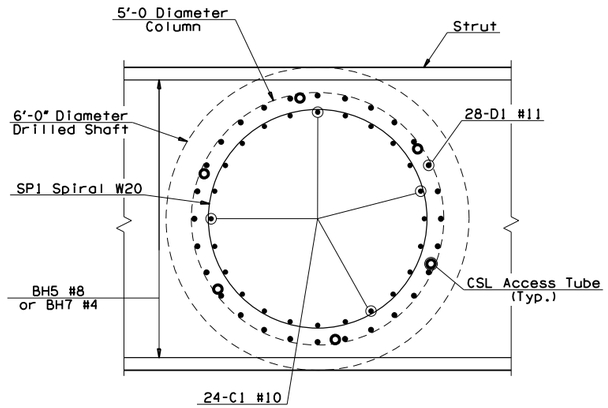
END OF PIER CAP REINFORCING



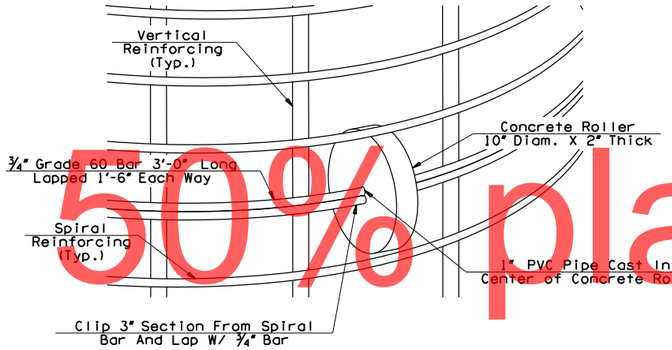
TYPICAL SECTION THRU CRASHWALL



END OF CRASHWALL REINFORCING



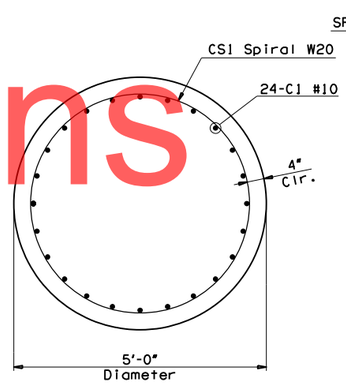
SECTION D-D



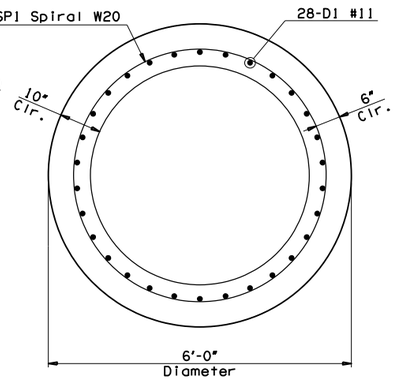
DETAILS OF CONCRETE ROLLER INSTALLATION

NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

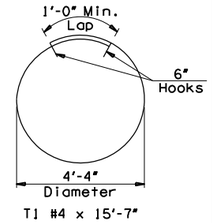
50% plans



SECTION A-A

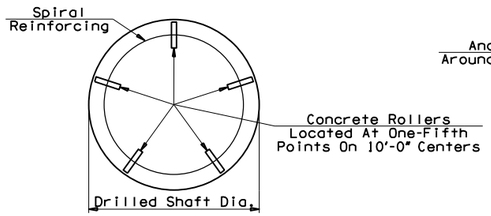


SECTION B-B

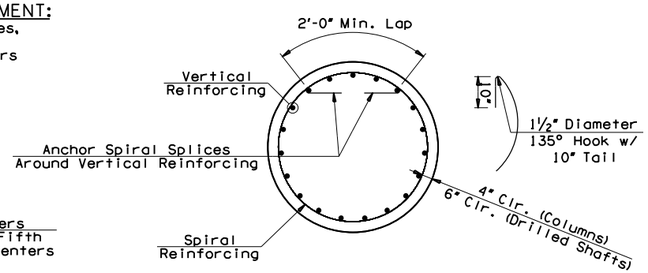


T1 #4 x 15'-7"

SUGGESTED ORDER OF PLACEMENT:
D1 #11 Bars, SP1, CSL Access Tubes, S #5 Bars, C #10 Bars, BH Bars. Adjust spacing of reinforcing bars as required.

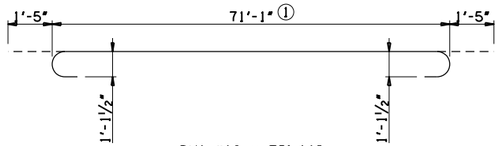


CONCRETE ROLLER PLACEMENT

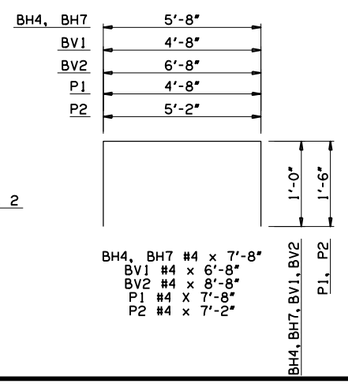


DETAIL OF SPIRAL REINFORCING STEEL

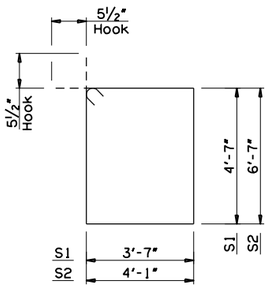
NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



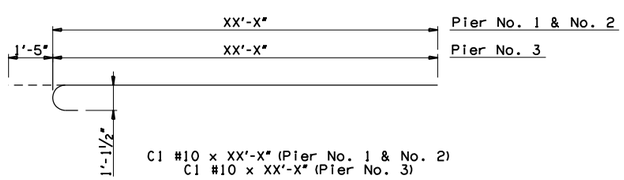
BH1 #10 x 73'-11"
① Includes one 9'-5" Lap Length.



BH4, BH7 #4 x 7'-8"
BV1 #4 x 6'-8"
BV2 #4 x 8'-8"
P1 #4 X 7'-8"
P2 #4 x 7'-2"



S1 #5 x 17'-3"
S2 #5 x 22'-3"



C1 #10 x XX'-X" (Pier No. 1 & No. 2)
C1 #10 x XX'-X" (Pier No. 3)

SUMMARY OF QUANTITIES

ITEM	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	TOTAL
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	—	—	—	—
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	—	—	—	—
SPECIAL CONCRETE FINISH	S.Y.	—	—	—	—
CLASS A CONCRETE	C.Y.	—	—	—	—
EPOXY COATED REINFORCING STEEL	LB.	—	—	—	—
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	—	—	—	—
DRILLED SHAFTS 72" DIAMETER	L.F.	—	—	—	—
CROSSHOLE SONIC LOGGING	EA.	—	—	—	—

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK

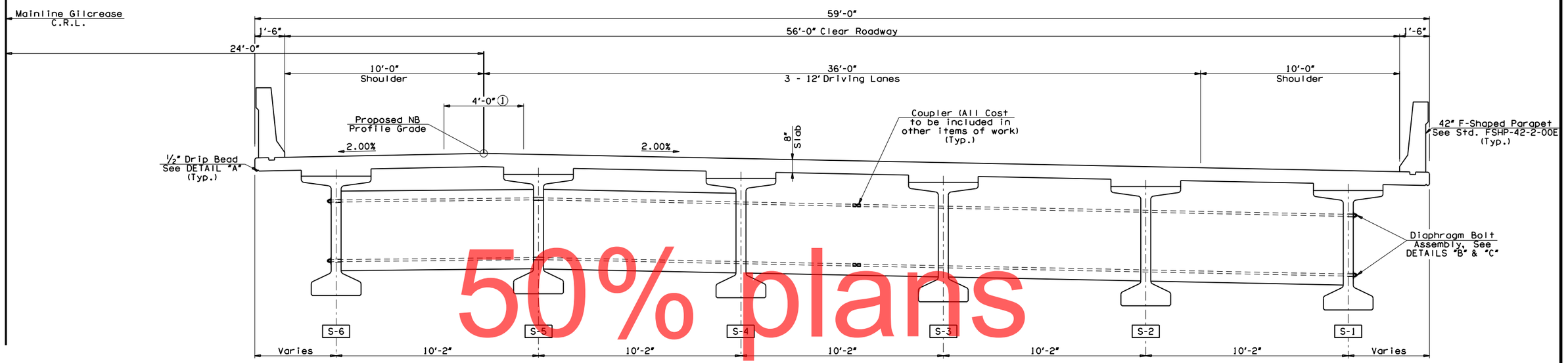
PIER DETAILS
(SHEET 3 OF 3)

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

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS008

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

PROPOSED R/W
10/23/2017



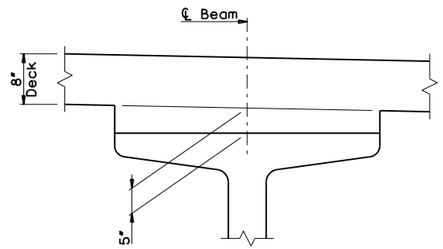
50% plans

HALF SECTION AT INTERMEDIATE DIAPHRAGM

HALF SECTION AT END DIAPHRAGM

TYPICAL SECTION
(Looking Foward Station)

① Round 2'-0" each side of P.G.L. to avoid sharp edges.



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.

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
①		

① Includes a calculated XX.X0 C.Y. of Class AA Concrete in the Haunches.

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".

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

For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK

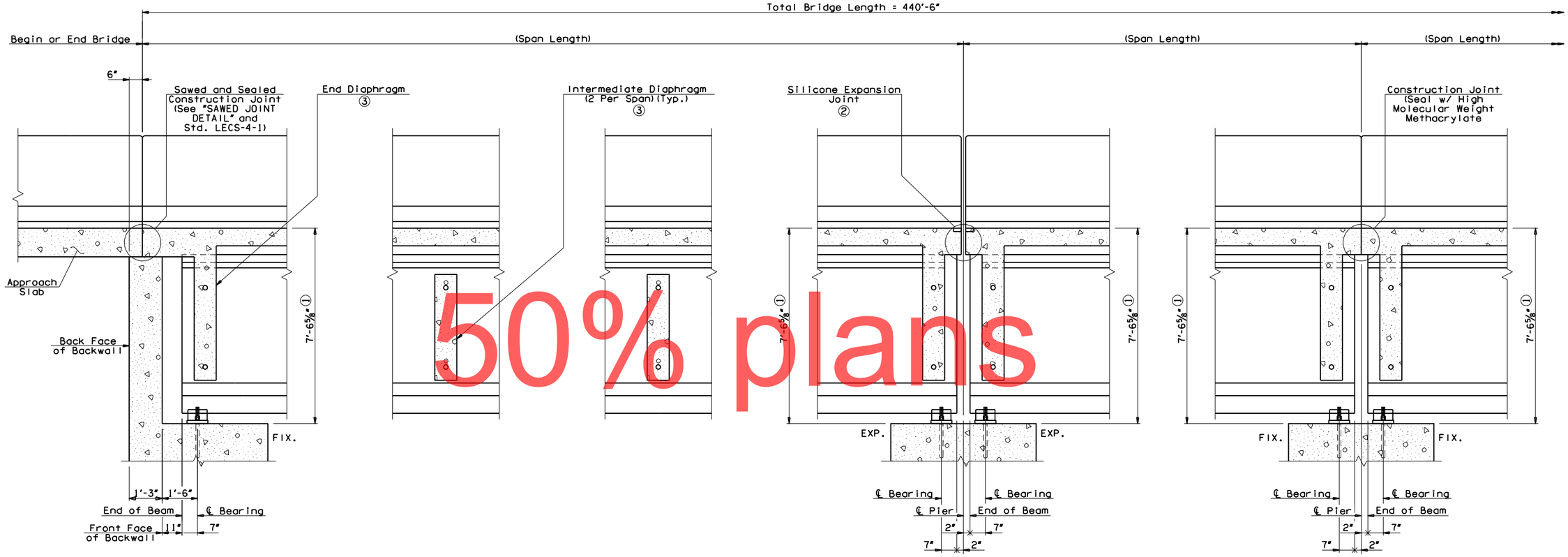
TYPICAL SECTION

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS009

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

PROPOSED R/W
10/23/2017



ABUTMENTS

EXPANSION PIERS
(Typ. at Pier Nos. 1 & 3)

FIXED PIERS
(Typ. at Pier No. 2)

50% plans

LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② For Sealed Expansion Joint Details, see Sheet No. BSTA03.
For Expansion Joint Opening Equations, see Sheet No. XXXXX.

③ For Framing Plan, see Sheet No.XXXXX.
For Concrete Beam Diaphragm details, see Sheet No. XXXXX.
For Span Arrangement, see Sheet No. BS001.

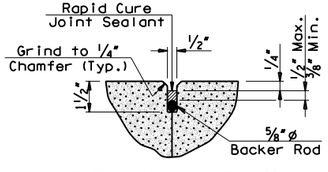
NOTE:
Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK

LONGITUDINAL SECTION

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

DESIGNED	JMH	5/17
DETAILED	JLD	7/17
CHECKED	MJY	10/17

CONTRACT NO. GCT-2500
DATE: 10/23/2017
SHEET NO. BS010

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

PROPOSED
R/W
10/23/2017

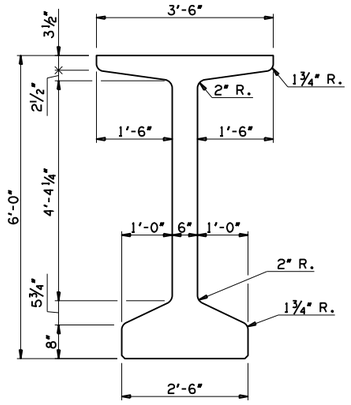
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 6,000 p.s.i. at transfer of prestress and 8,000 p.s.i. at 28 days.

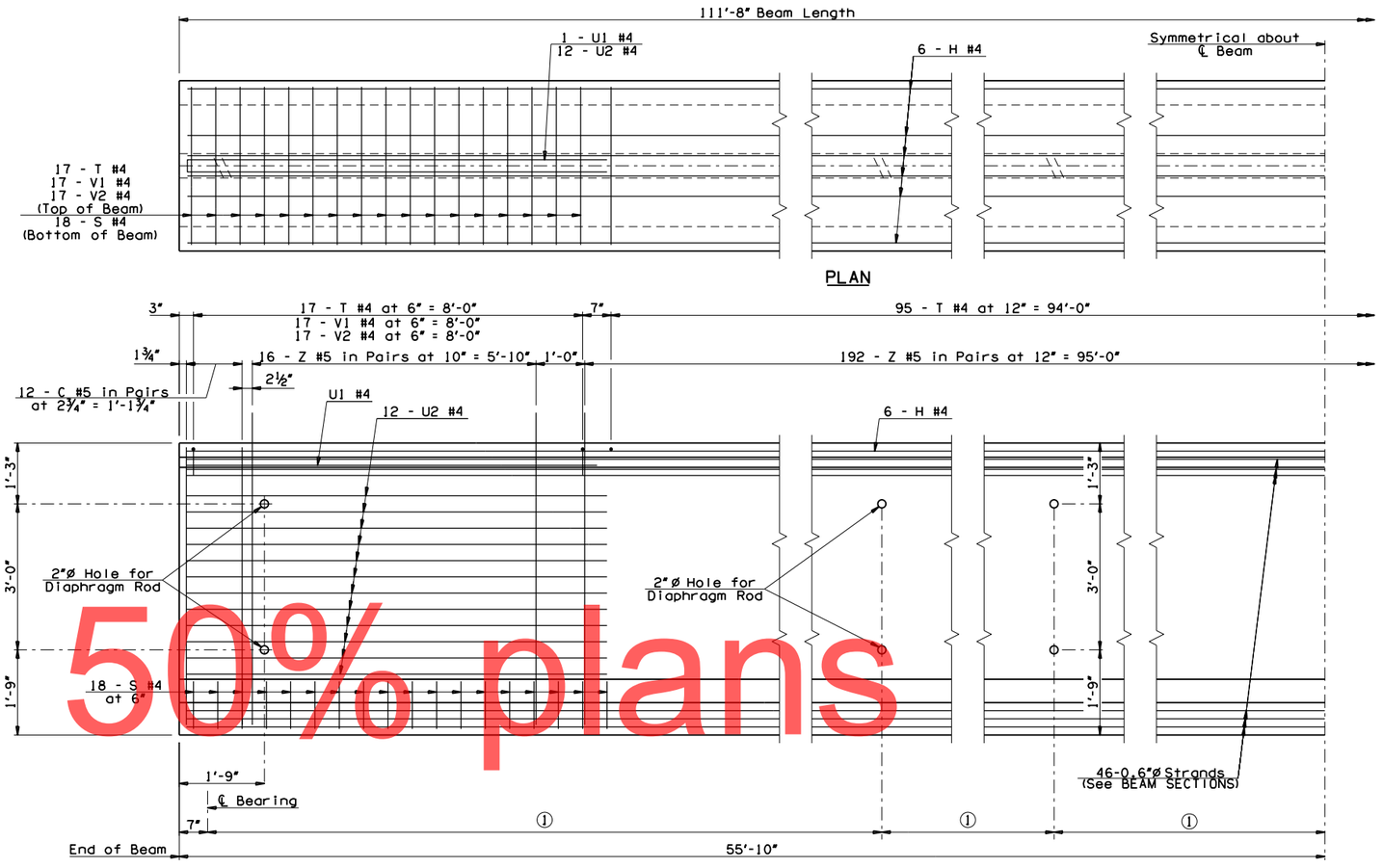
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.47 (HL-93)

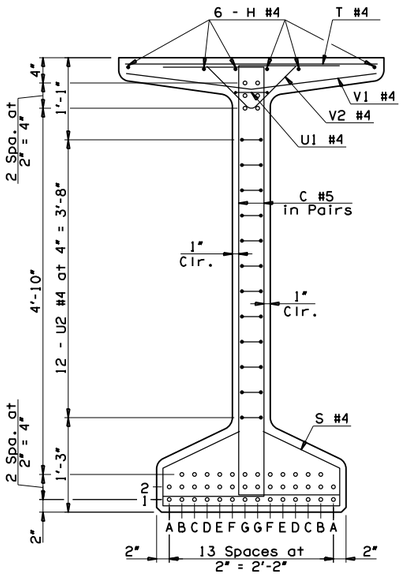
LFR OPERATING RATING - HS 55.4
The Operating Rating shown is based on a nominal strength using all strands within the beam.



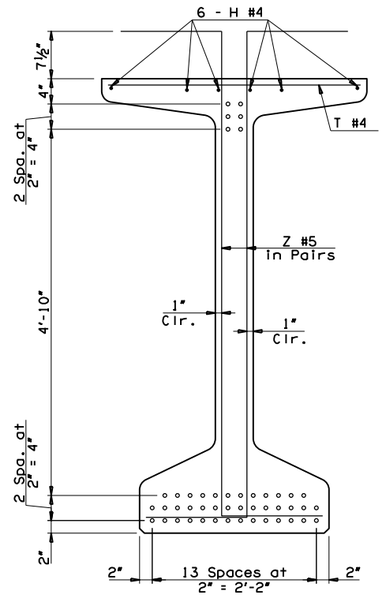
END VIEW
(Type J BT)



50% plans

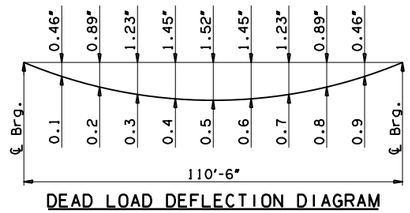


END SECTION



℄ SECTION

BEAM SECTIONS
(46 - 0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + Concrete Traffic Rail. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"

NOTES:
For bar bend and embedded plate details, see Sheet No. BS014.

For diaphragm skew angles, see Sheet No. XXXXX.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK
112'-0" BEAM DETAILS
(TYPE J BT)
(SHEET 1 OF 4)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS011

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

PROPOSED R/W
10/23/2017

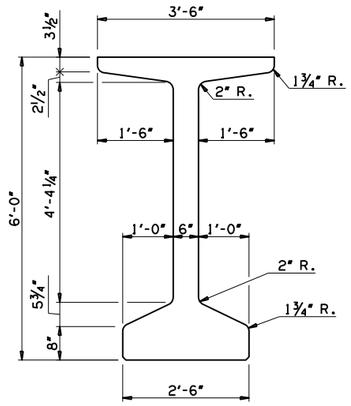
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 8,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.

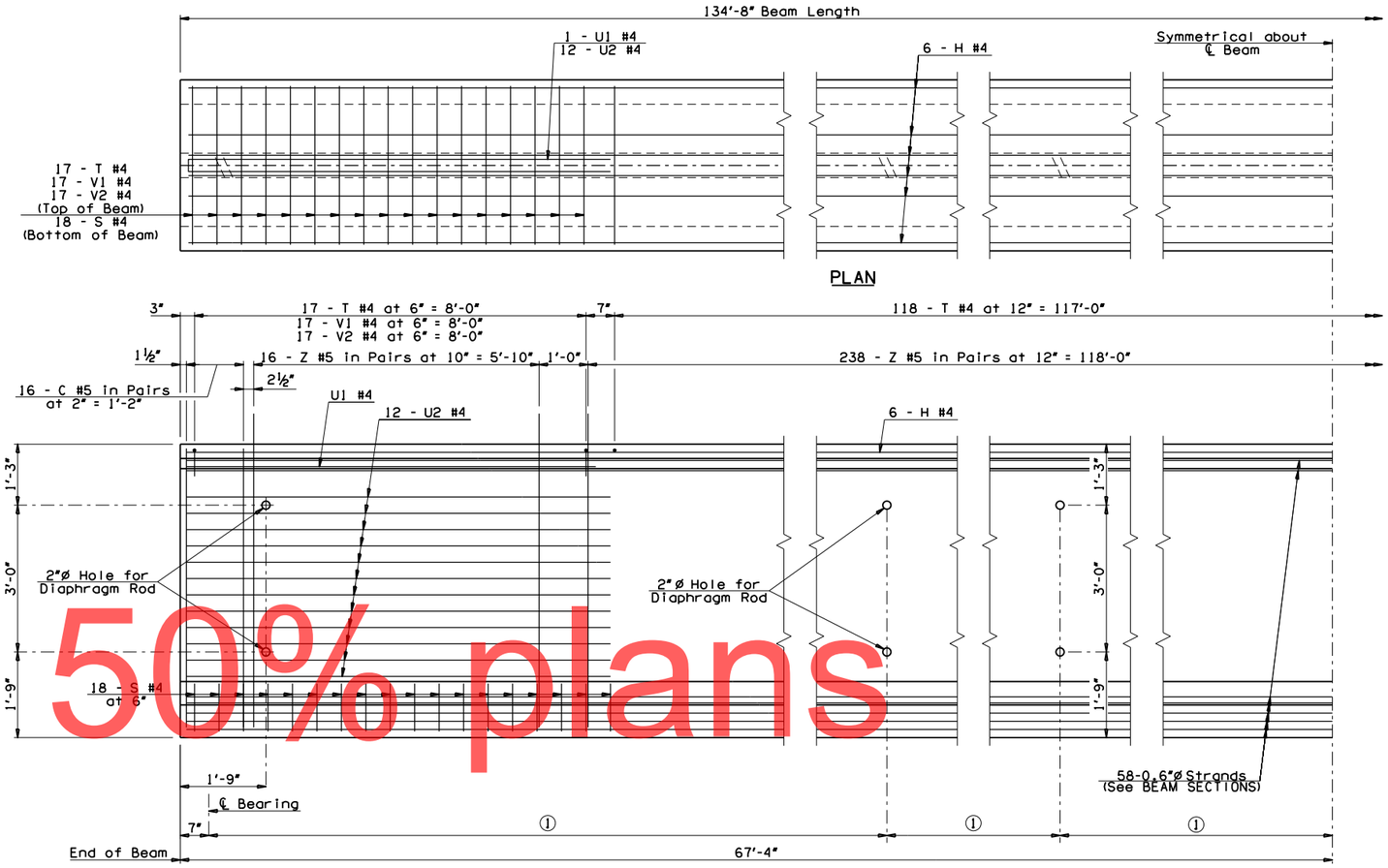
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.25 (HL-93)

LFR OPERATING RATING - HS 55.4
The Operating Rating shown is based on a nominal strength using all strands within the beam.

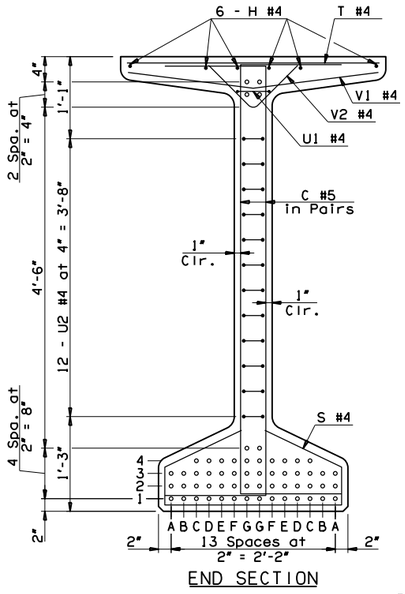


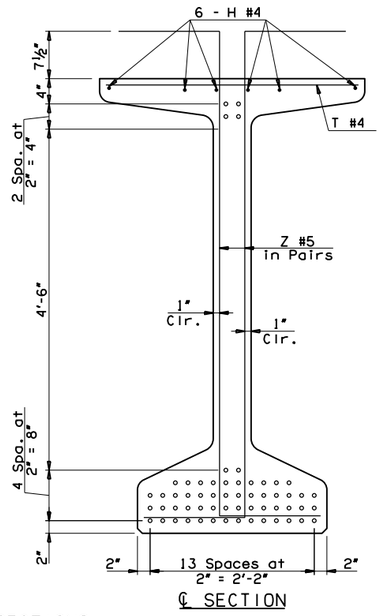
END VIEW
(Type J BT)



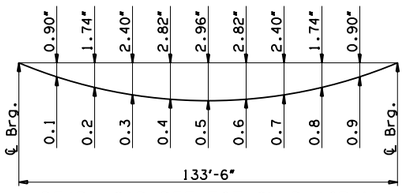
① See Framing Plan for Diaphragm Spacing.

50% plans





BEAM SECTIONS
(58 - 0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + Concrete Traffic Rail. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

NOTES:
For bar bend and embedded plate details, see Sheet No. BS014.

For diaphragm skew angles, see Sheet No. XXXXX.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK
135'-0" BEAM DETAILS
(TYPE J BT)
(SHEET 2 OF 4)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS012

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

PROPOSED R/W
10/23/2017

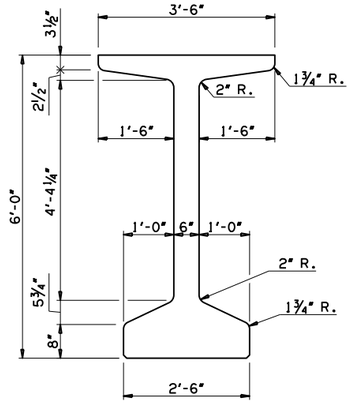
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

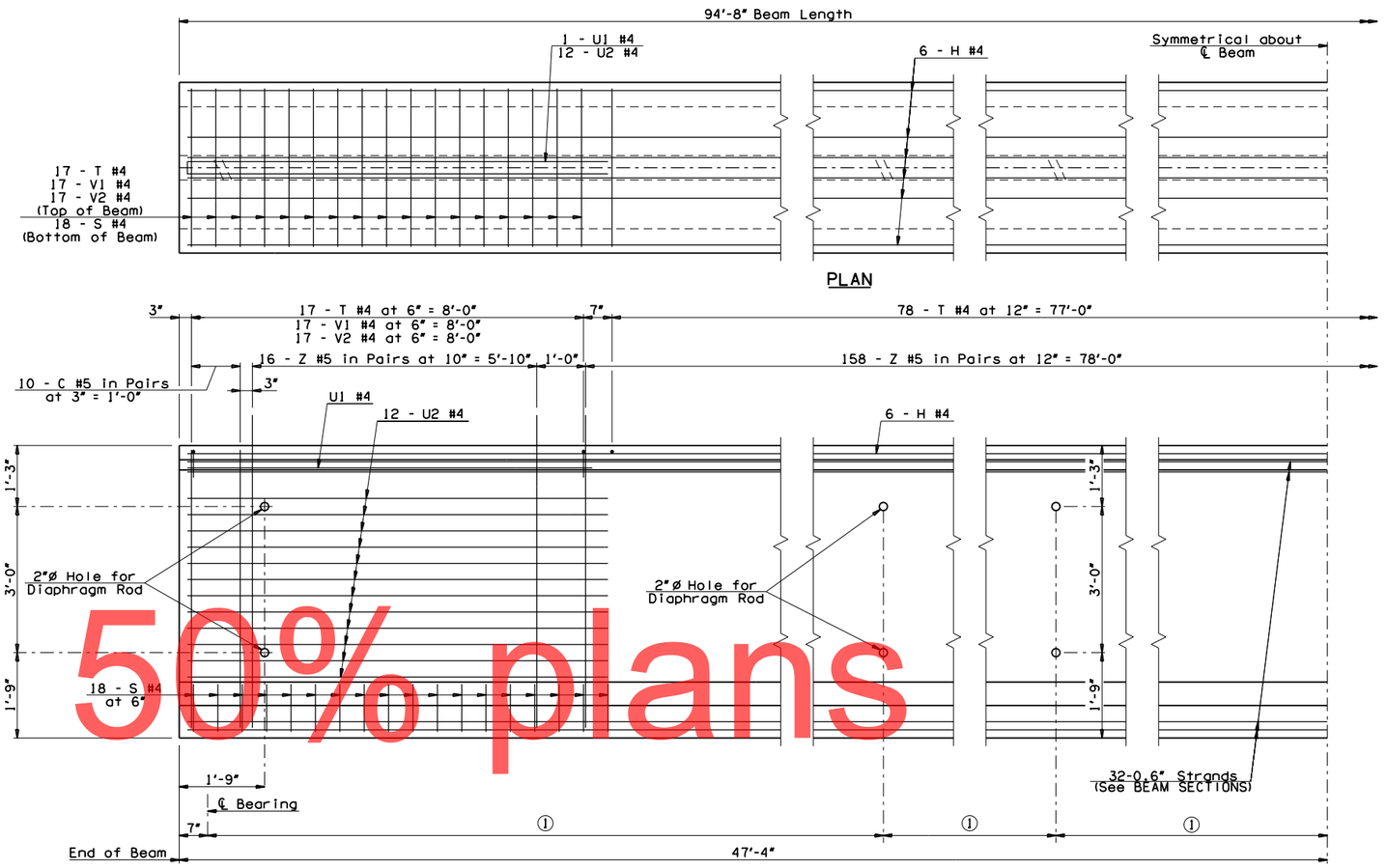
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.24 (HL-93)

LFR OPERATING RATING - HS 53.6
The Operating Rating shown is based on a nominal strength using all strands within the beam.

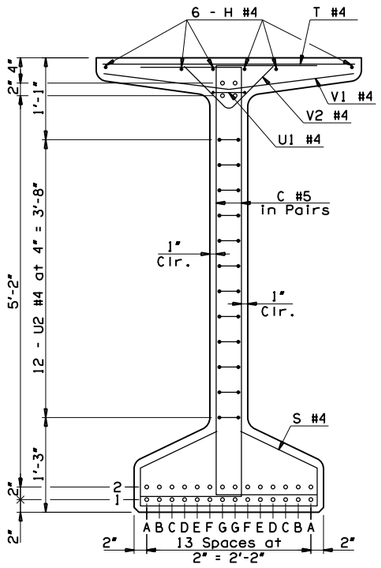


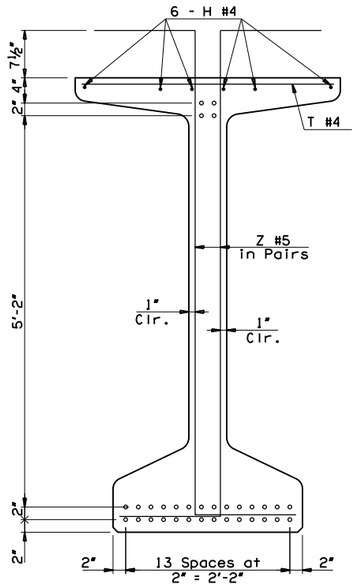
END VIEW
(Type J BT)



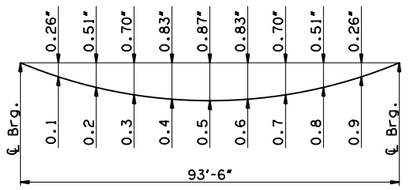
50% plans

①See Framing Plan for Diaphragm Spacing.





BEAM SECTIONS
(32 - 0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + Concrete Traffic Rail. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
D1	6'-0"

NOTES:
For bar bend and embedded plate details, see Sheet No. BS014.

For diaphragm skew angles, see Sheet No. XXXXX.

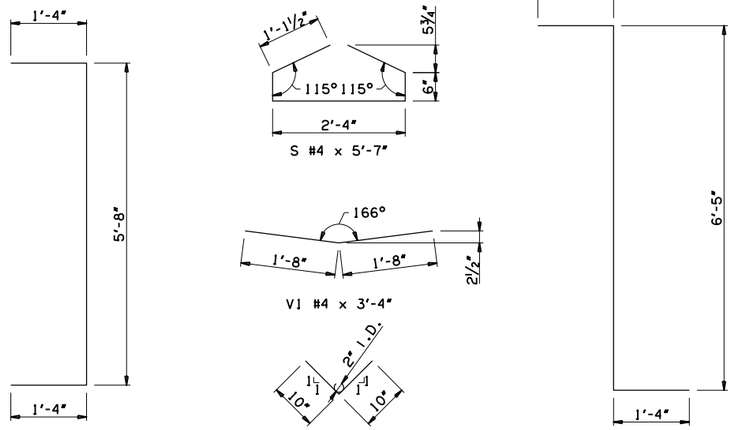
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. S GILCREASE NB OVER HARLOW CREEK
95'-0" BEAM DETAILS
(TYPE J BT)
(SHEET 3 OF 4)

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

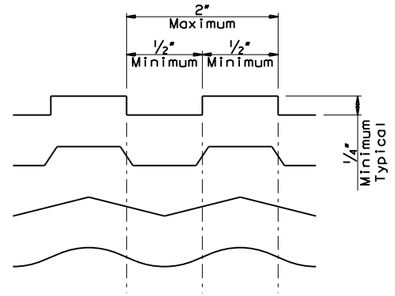
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS013

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

PROPOSED R/W
10/23/2017

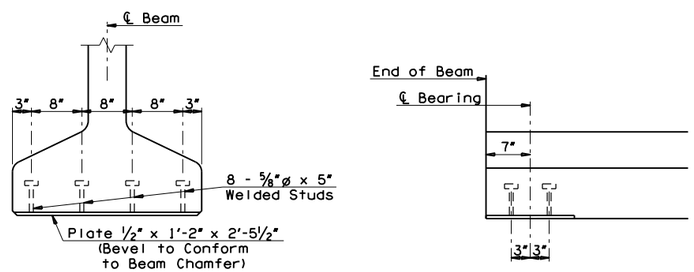


50% plans



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. S GILCREASE NB OVER HARLOW CREEK
BEAM DETAILS
(TYPE J BT)
(SHEET 4 OF 4)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BS014

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

PROPOSED R/W
10/23/2017

0 30 60 90
Scale 1" = 30'

50% plans

PLAN

For Foundation Report, See Sheet Nos. BS003-BS005.

BENCHMARK NO. BM7-N
DESCRIPTION #6 REBAR
OFFSET 201.50' RT. STA. 351+93.00 EL. 646.15

ELEVATION

NOTE:
For Index of Sheets, Foundation Data, Hydraulic Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BT002.

① 0.02 ft/ft
② 15'-2" Minimum Clearance
③ 1:6 Slope
④ 22'-2" Minimum Clearance
⑤ Stations measured along C.R.L. Dimensions measured along P.G.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BT001

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

PROPOSED
R/W
10/23/2017

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BT001-BT002	General Plan and Elevation
BT003-BT004	Staking Diagram
BT005-BT012	Abutment Details
BT013	Substructure Excavation and Pipe Underdrain Assembly
BT014-BT016	Pier Details
BT017	Typical Section
BT018	Longitudinal Section
BT019-BT025	Superstructure Details
BT026	Framing Plan
BT027-BT030	Beam Details
BT031	Bearing Details
BT032	Slope Wall Details
BT033-BT035	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: (HL93 and 20 p.s.f. Future Wearing Surface or Oklahoma Overload Truck), 20 p.s.f. Future Wearing Surface, and 5 p.s.f. Stay-in-Place Forms.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LRFD Operating Rating: 2.24 (HL-93)
LFR Operating Rating: HS 53.6

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 4.8 sq. mi
Controlled Drainage Area = 0.0 sq. mi.
Effective Drainage Area = 4.8 sq. mi.

Q0T > Q500	= 4,866 cfs	Q25	= 3,800 cfs
V500	= 4.61 fps	V25	= 6.24 fps
Q500 HW	= 657.57	Q25 HW	= 652.50
Q2	= 557 cfs	Q50	= 4,612 cfs
V2	= 3.26 fps	V50	= 6.50 fps
Q2 HW	= 645.41	Q50 HW	= 653.80
Q5	= 1,725 cfs	Q100	= 4,969 cfs
V5	= 4.80 fps	V100	= 6.22 fps
Q5 HW	= 648.86	Q100 HW	= 654.83
Q10	= 2,723 cfs		
V10	= 5.56 fps	Max. Scour Q100	= 9.13
Q10 HW	= 650.79	Contr. Scour Q100	= 0.00
		Pier Scour Q100	= 9.13
		Max. Scour Q500	= 8.24
		Contr. Scour Q500	= 0.00
		Pier Scour Q500	= 8.24

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

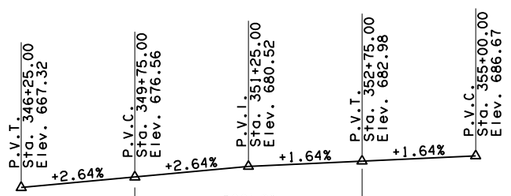
	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	TOTAL

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

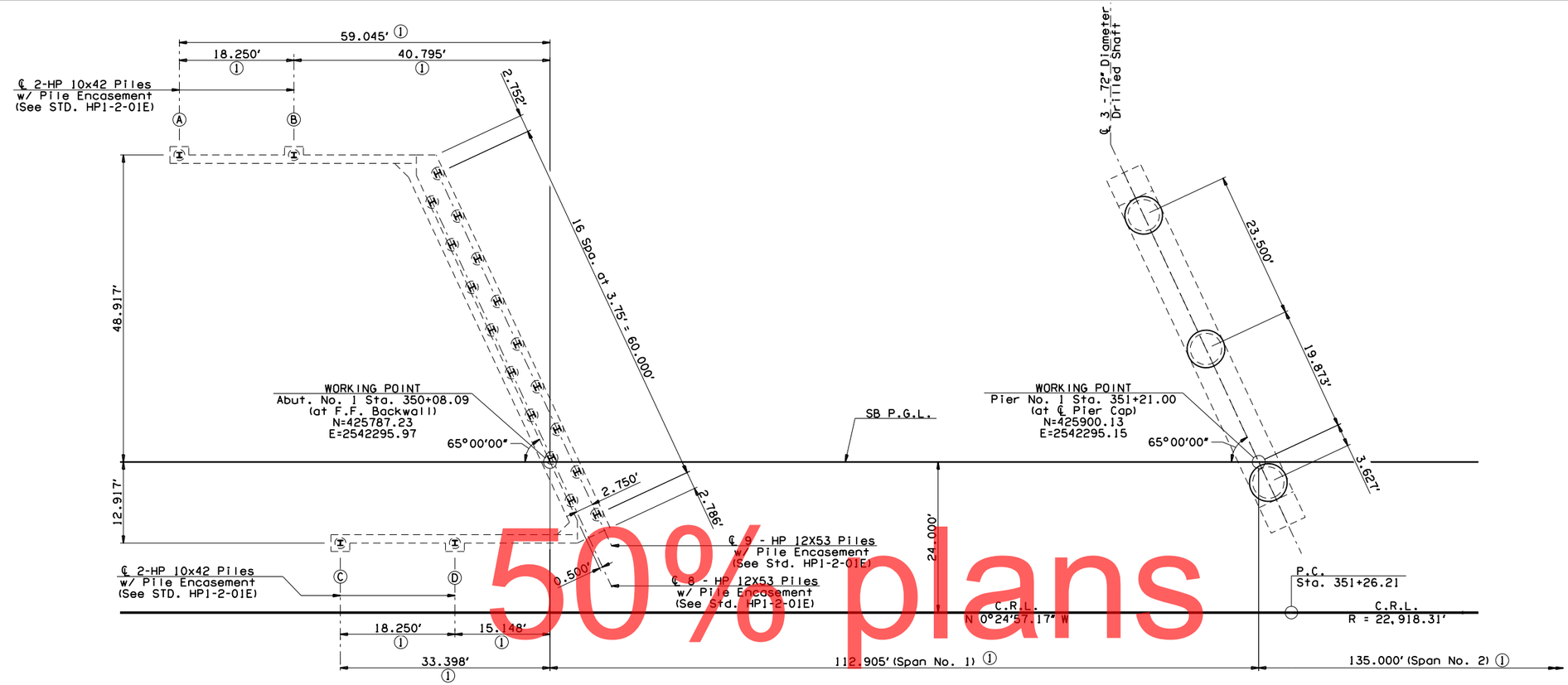
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	5/17		
CHECKED	BRT	5/17	DATE: 10/23/2017	SHEET NO. BT002

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

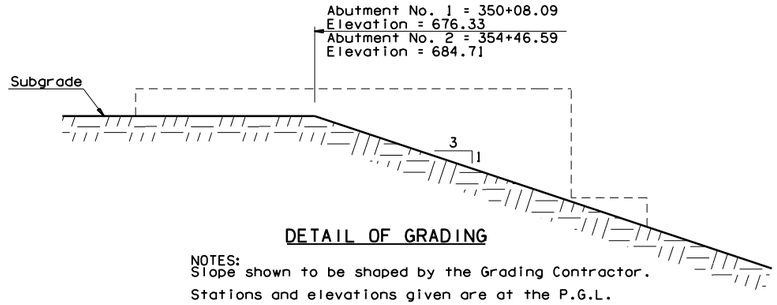
PROPOSED R/W
10/23/2017



50% plans

SUBSTRUCTURE STAKING DIAGRAM

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
A	673.62
B	668.32
HP 12x53 (CAP)	663.79
C	672.45
D	667.15



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

① Measured along SB P.G.L.

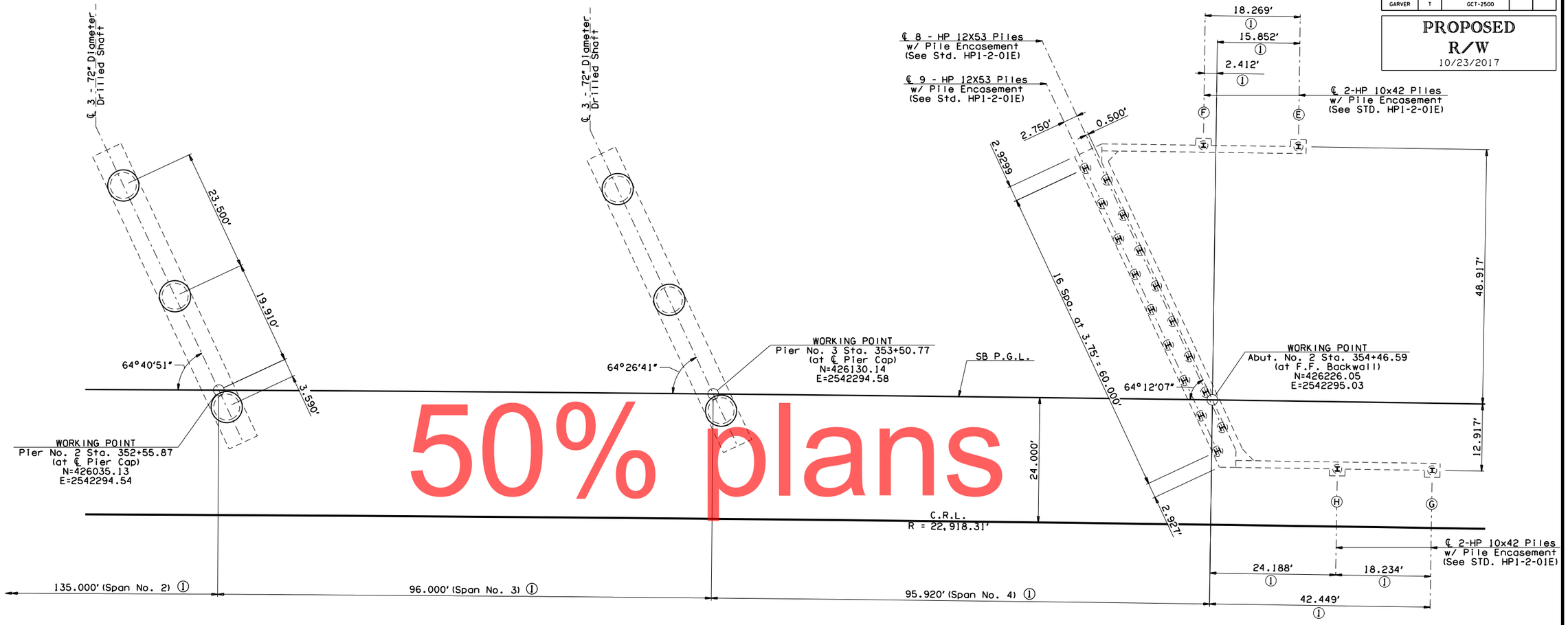
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
STAKING DIAGRAM
(SHEET 1 OF 2)

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

DESIGNED	JMH	8/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT003

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

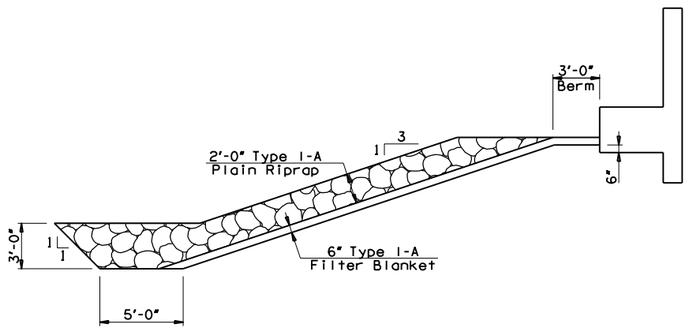
PROPOSED R/W
10/23/2017



50% plans

SUBSTRUCTURE STAKING DIAGRAM

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
E	681.93
F	676.29
HP 12x53 (CAP)	672.23
G	683.09
H	677.45



TYPICAL SECTION THRU RIPRAP AT BRIDGE SEAT
(Dimensions Are Normal to Bridge Seat)

① Measured along SB P.G.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
STAKING DIAGRAM
(SHEET 2 OF 2)

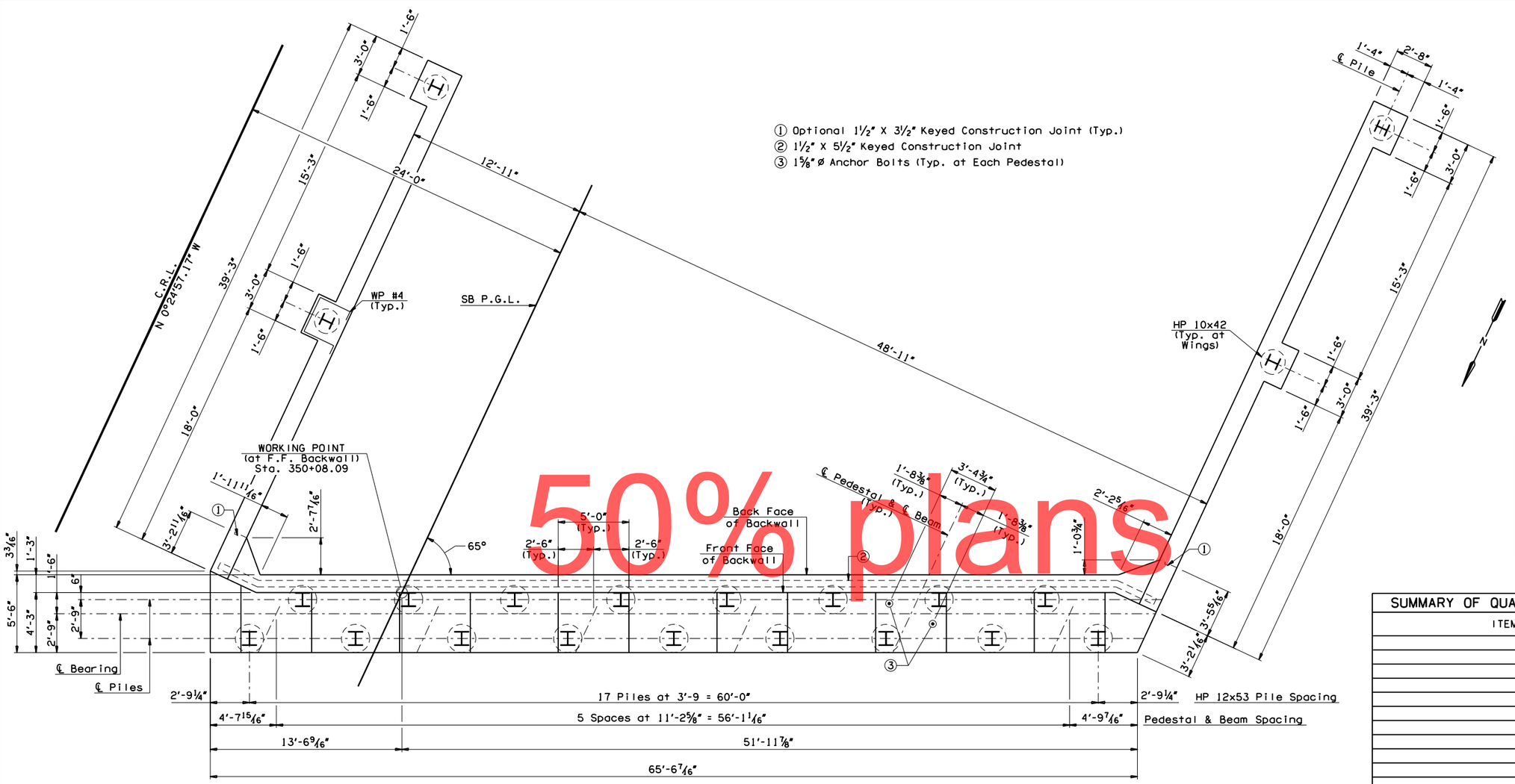
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMH	8/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT004

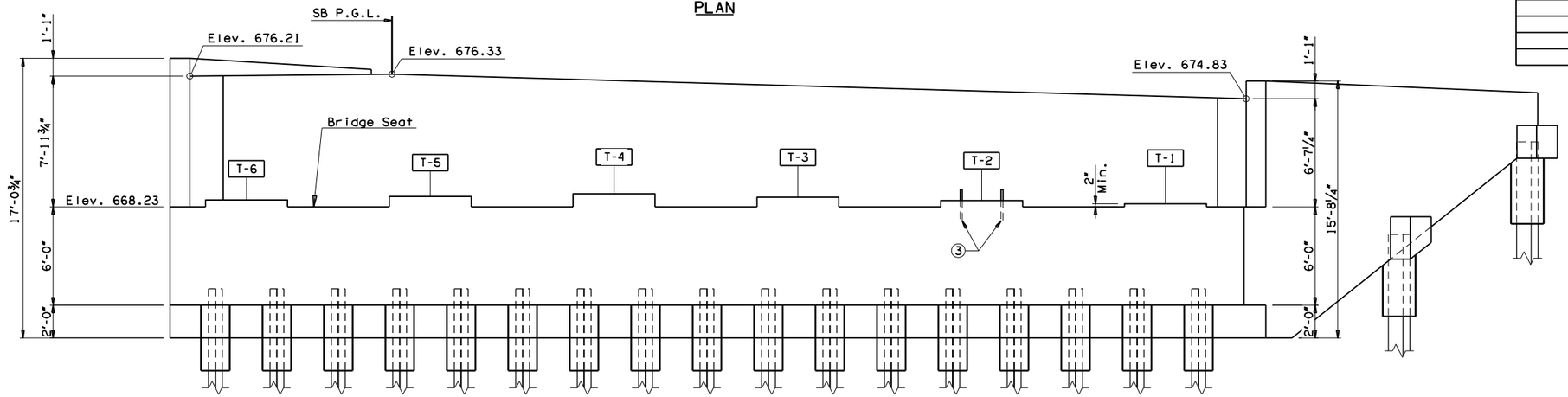
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

① Optional 1½" X 3½" Keyed Construction Joint (Typ.)
② 1½" X 5½" Keyed Construction Joint
③ 1⅝" ø Anchor Bolts (Typ. at Each Pedestal)



PLAN



ELEVATION
(Looking Back Station at Abutment No. 1)

ABUTMENT NO. 1 PEDESTAL ELEVATIONS	
PEDESTAL	ELEVATION
T-1	668.52
T-2	668.84
T-3	669.17
T-4	669.49
T-5	669.82
T-6	669.84

SUMMARY OF QUANTITIES - ABUTMENT NO. 1		
ITEM	UNIT	TOTAL

NOTES:
For reinforcing details, see Sheet No. BT006.
For wing wall details , see Sheet No. BT007.
For Water Repellent Details, see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
ABUTMENT DETAILS
(SHEET 1 OF 8)

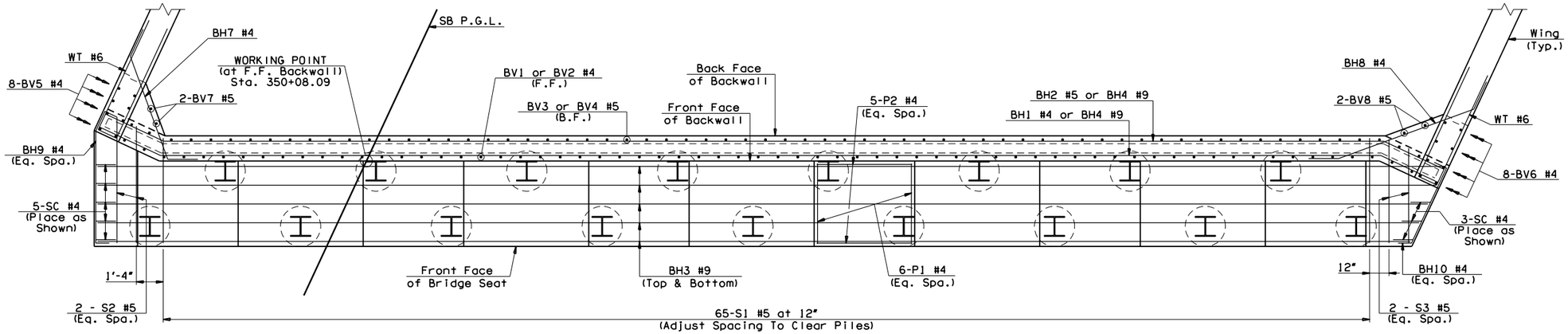
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT005

50% plans

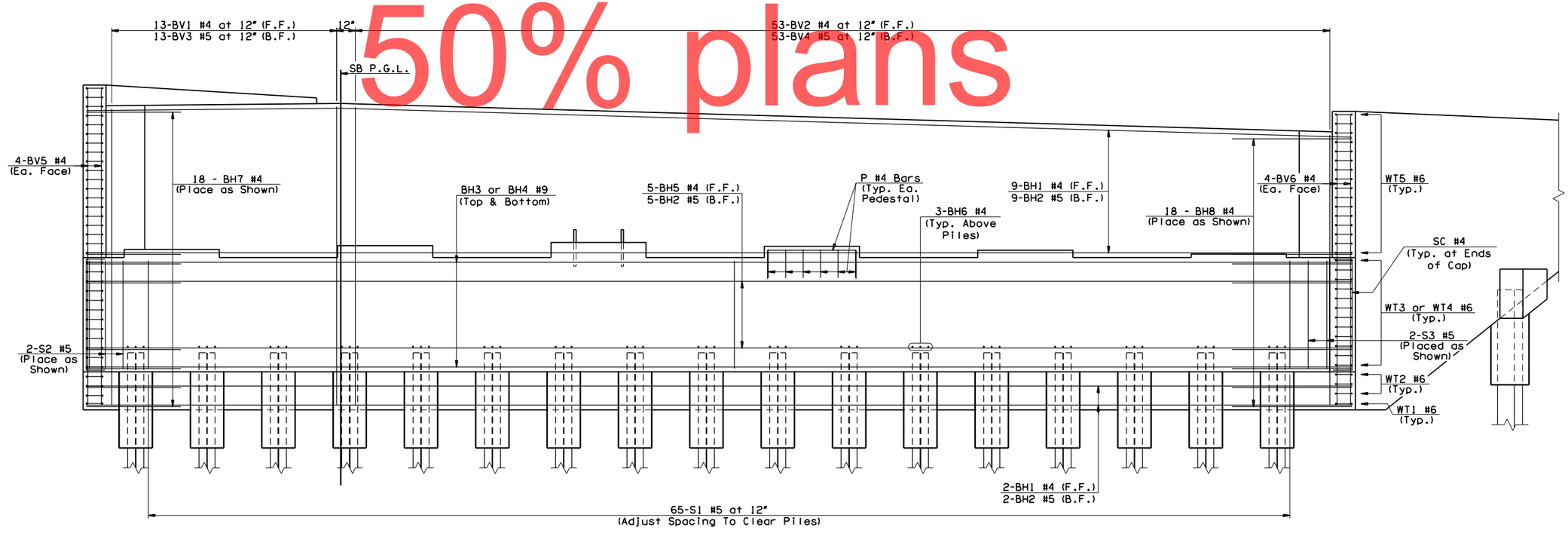
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



LAYOUT OF ABUTMENT REINFORCING STEEL

50% plans



ELEVATION
(Looking Back Station)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

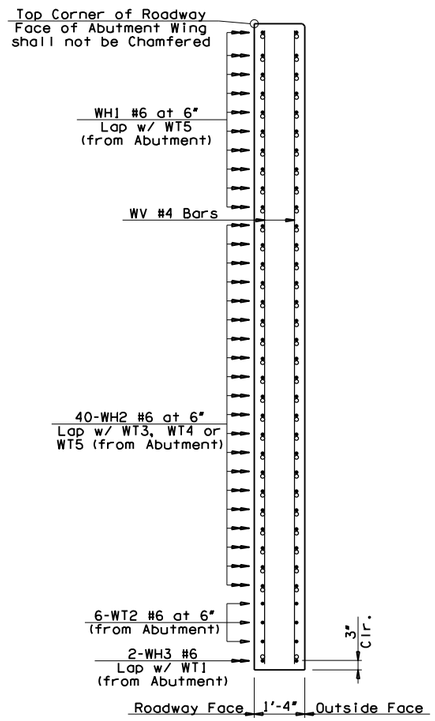
ABUTMENT DETAILS
(SHEET 2 OF 8)

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

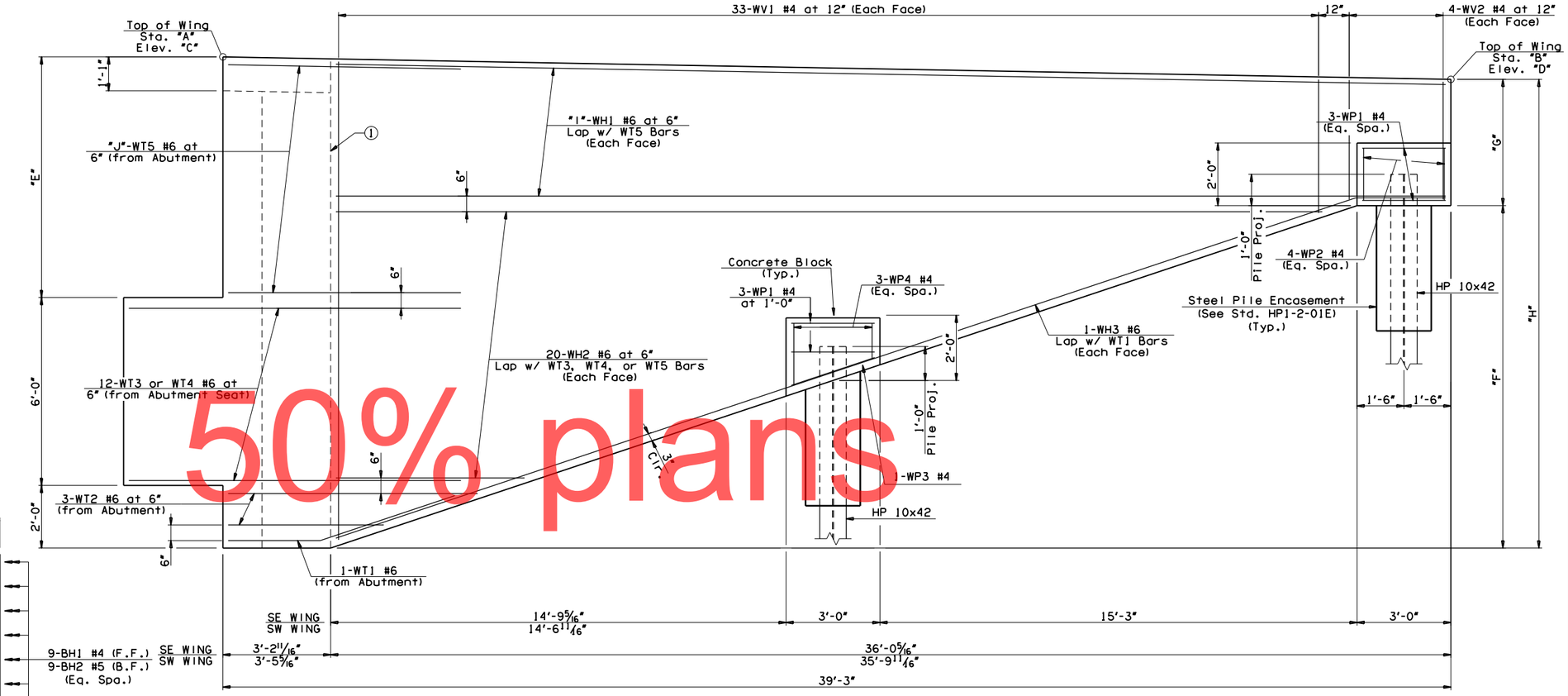
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT006

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

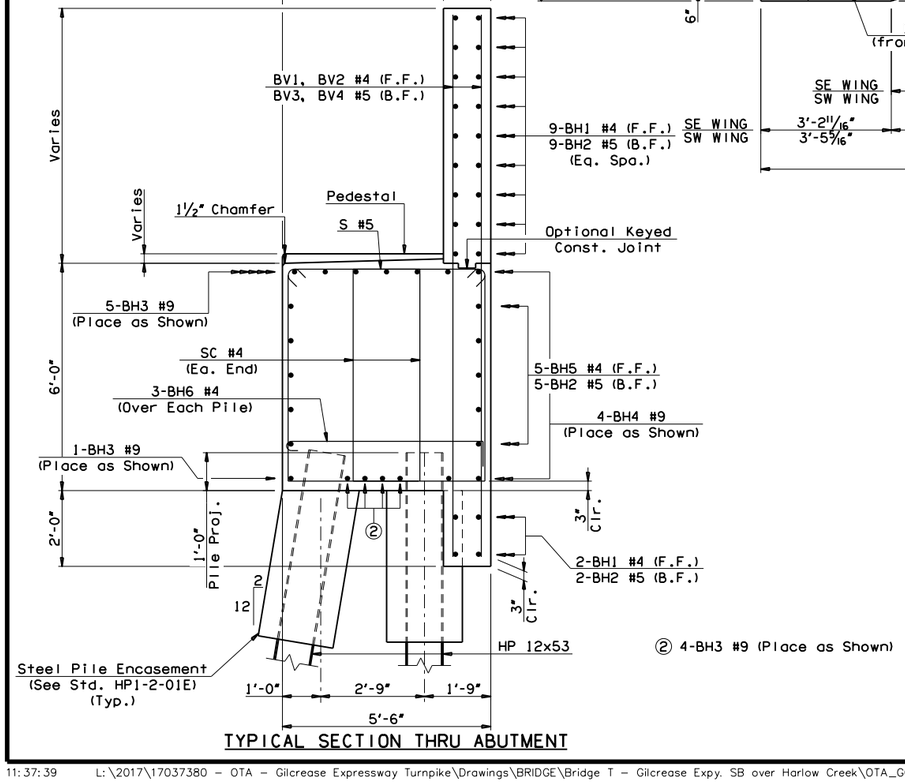
PROPOSED R/W
10/23/2017



SECTION THRU WING AT BACK FACE OF BACKWALL



ABUTMENT WING ELEVATION



② 4-BH3 #9 (Place as Shown)

TYPICAL SECTION THRU ABUTMENT

ABUTMENT NO. 1 WING TABLE OF VARIABLES

LOCATION	STA. "A"	STA. "B"	ELEV. "C"	ELEV. "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "H"	"I"	"J"	"K"
SW WING	349+86.80	349+47.55	675.92	674.88	7'-8¼"	10'-11¼"	3'-8⅜"	14'-7 13/16"	7	15	14
SE WING	350+12.45	349+73.20	677.29	676.28	9'-0¾"	11'-0⅛"	5'-0½"	16'-0⅝"	10	18	20

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
ABUTMENT DETAILS
(SHEET 3 OF 8)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT007

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

PROPOSED
R/W
10/23/2017

BAR LIST - ABUTMENT NO. 1

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	EPOXY COATED REINFORCING STEEL					
①	BH1	#4	11	BENT	70'-0"	-
②	BH2	#5	16	BENT	71'-2"	-
③	BH3	#9	10	STR.	72'-2" AVG.	71'-3" TO 73'-1"
①	BH4	#9	4	BENT	73'-2"	-
	BH5	#5	5	STR.	69'-3"	-
	BH6	#4	51	BENT	6'-4"	-
	BH7	#4	18	BENT	8'-1"	-
	BH8	#4	18	BENT	9'-8"	-
	BH9	#4	7	BENT	7'-11"	-
	BH10	#4	7	BENT	5'-5"	-
	BV1	#4	13	STR.	15'-7½" AVG.	15'-7" TO 15'-8"
	BV2	#4	53	STR.	14'-11" AVG.	14'-2" TO 15'-8"
	BV3	#5	13	STR.	15'-7½" AVG.	15'-7" TO 15'-8"
	BV4	#5	53	STR.	14'-11" AVG.	14'-2" TO 15'-8"
	BV5	#4	8	STR.	16'-8"	-
	BV6	#4	8	STR.	15'-3"	-
	BV7	#4	2	STR.	15'-7"	-
	BV8	#5	2	STR.	14'-2"	-
	P1	#4	36	BENT	6'-11"	-
	P2	#4	30	BENT	7'-8"	-
	S1	#5	65	BENT	22'-5"	-
	S2	#5	2	BENT	24'-1" AVG.	23'-7" TO 24'-7"
	S3	#5	2	BENT	21'-8" AVG.	21'-3" TO 22'-1"
	SC	#4	8	BENT	7'-6"	-
	WT1	#6	2	BENT	15'-6"	-
	WT2	#6	6	BENT	13'-0" AVG.	10'-0" TO 16'-0"
	WT3	#6	12	BENT	22'-0"	-
	WT4	#6	12	BENT	26'-4"	-
	WT5	#6	33	BENT	15'-8"	-

① Includes One 2'-10" Lap Length.
② Includes One 4'-0" Lap Length.
③ Includes One 6'-0" Lap Length.

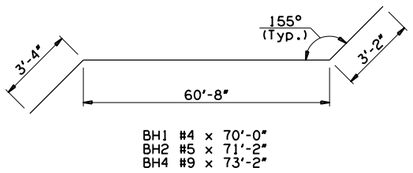
BAR LIST - ABUTMENT NO. 1 WEST WING

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
WH1	#6	14	STR.	35'-6"	-
WH2	#6	40	STR.	18'-9½" AVG.	5'-7" TO 32'-0"
WH3	#6	2	BENT	37'-2"	-
WP1	#4	6	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	3	BENT	8'-10"	-
WP4	#4	3	STR.	1'-7" AVG.	1'-2" TO 2'-0"
WV1	#4	66	STR.	9'-5" AVG.	3'-9" TO 15'-1"
WV2	#4	8	STR.	3'-4"	-

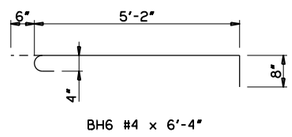
BAR LIST - ABUTMENT NO. 1 EAST WING

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
WH1	#6	20	STR.	35'-8"	-
WH2	#6	40	STR.	18'-6" AVG.	5'-3" TO 31'-9"
WH3	#6	2	BENT	37'-7"	-
WP1	#4	6	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	3	BENT	8'-10"	-
WP4	#4	3	STR.	1'-7" AVG.	1'-2" TO 2'-0"
WV1	#4	66	STR.	10'-9" AVG.	5'-1" TO 16'-5"
WV2	#4	8	STR.	4'-8"	-

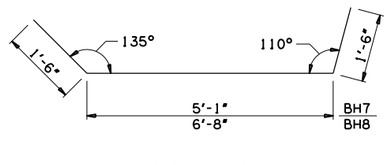
50% plans



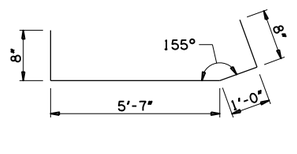
BH1 #4 x 70'-0"
BH2 #5 x 71'-2"
BH4 #9 x 73'-2"



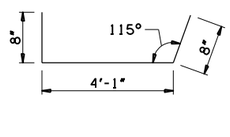
BH6 #4 x 6'-4"



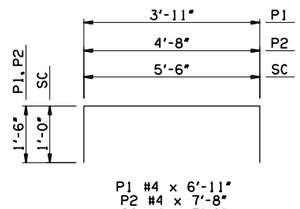
BH7 #4 x 8'-1"
BH8 #4 x 9'-8"



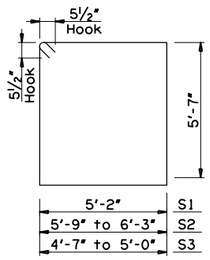
BH9 #4 x 7'-11"



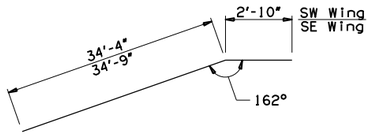
BH10 #4 x 5'-5"



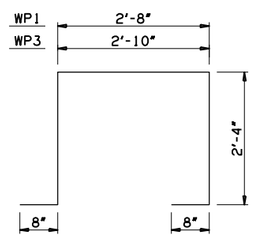
P1 #4 x 6'-11"
P2 #4 x 7'-8"
SC #4 x 7'-6"



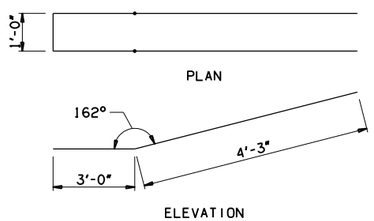
S1 #5 x 22'-5"
S2 #5 x 24'-1" Avg.
S3 #5 x 21'-8" Avg.



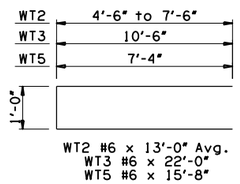
WH3 #6 x 37'-2" (SW Wing)
WH3 #6 x 37'-7" (SE Wing)



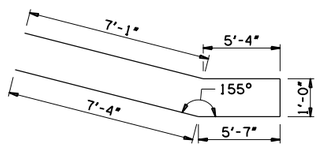
WP1 #4 x 8'-8"
WP3 #4 x 8'-10"



ELEVATION
WT1 #6 x 15'-6"



WT2 #6 x 13'-0" Avg.
WT3 #6 x 22'-0"
WT5 #6 x 15'-8"



WT4 #5 x 26'-4"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

ABUTMENT DETAILS
(SHEET 4 OF 8)

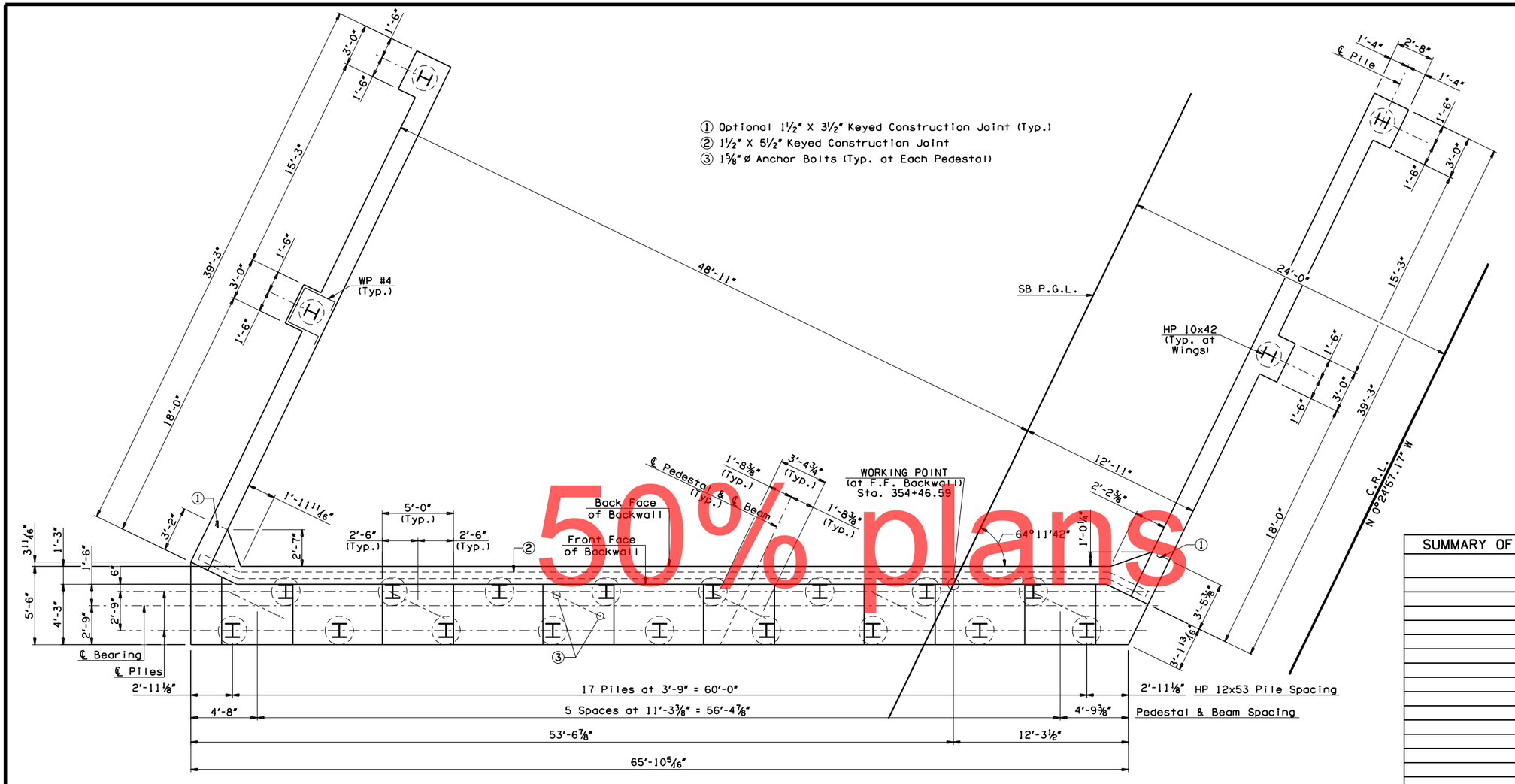
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	10/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT008

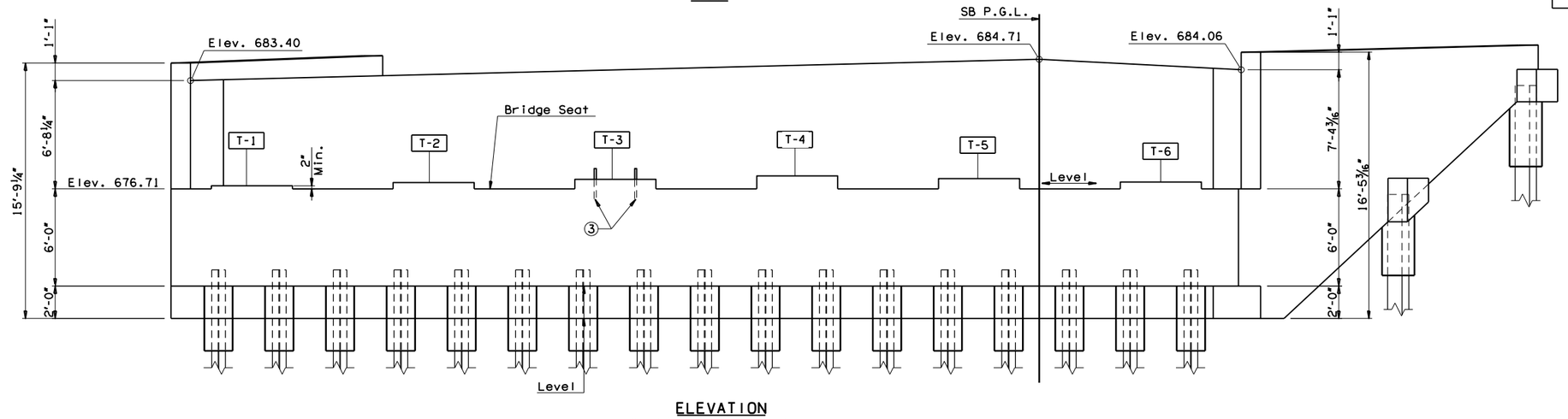
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

① Optional 1½" X 3½" Keyed Construction Joint (Typ.)
② 1½" X 5½" Keyed Construction Joint
③ 1⅝" ø Anchor Bolts (Typ. at Each Pedestal)



PLAN



ELEVATION
(Looking Forward Station at Abutment No. 2)

ABUTMENT NO. 2 PEDESTAL ELEVATIONS

PEDESTAL	ELEVATION
T-1	677.00
T-2	677.29
T-3	677.57
T-4	677.85
T-5	678.14
T-6	678.13

SUMMARY OF QUANTITIES - ABUTMENT NO. 1

ITEM	UNIT	TOTAL

NOTES:
For reinforcing details, see Sheet No. BT010.
For wing wall details, see Sheet No. BT011.
For Water Repellent Details, see Sheet No. BSTA01.

50% plans

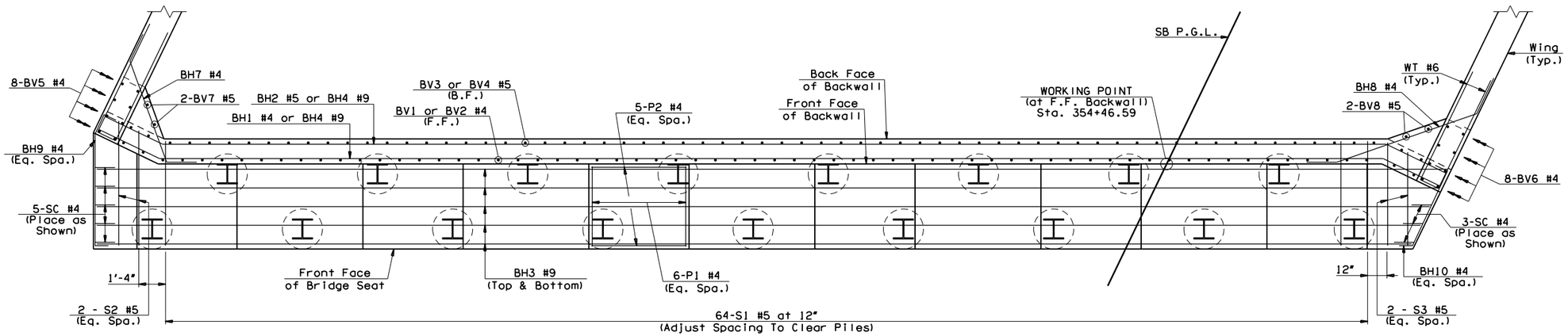
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
ABUTMENT DETAILS
(SHEET 5 OF 8)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT009

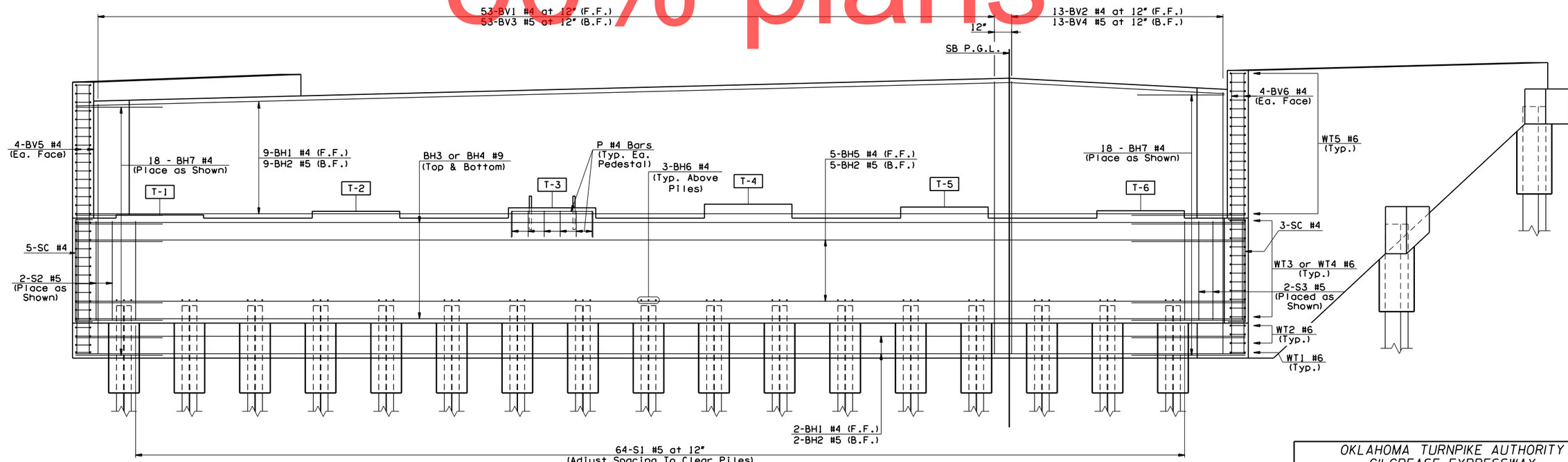
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



LAYOUT OF ABUTMENT REINFORCING STEEL

50% plans



ELEVATION
(Looking Forward Station)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

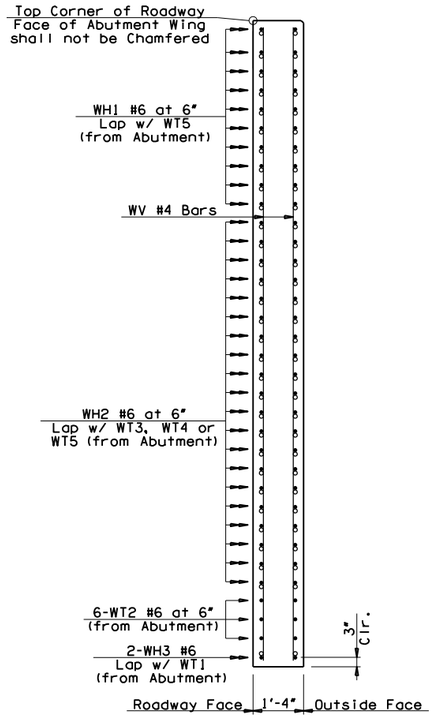
ABUTMENT DETAILS
(SHEET 6 OF 8)

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

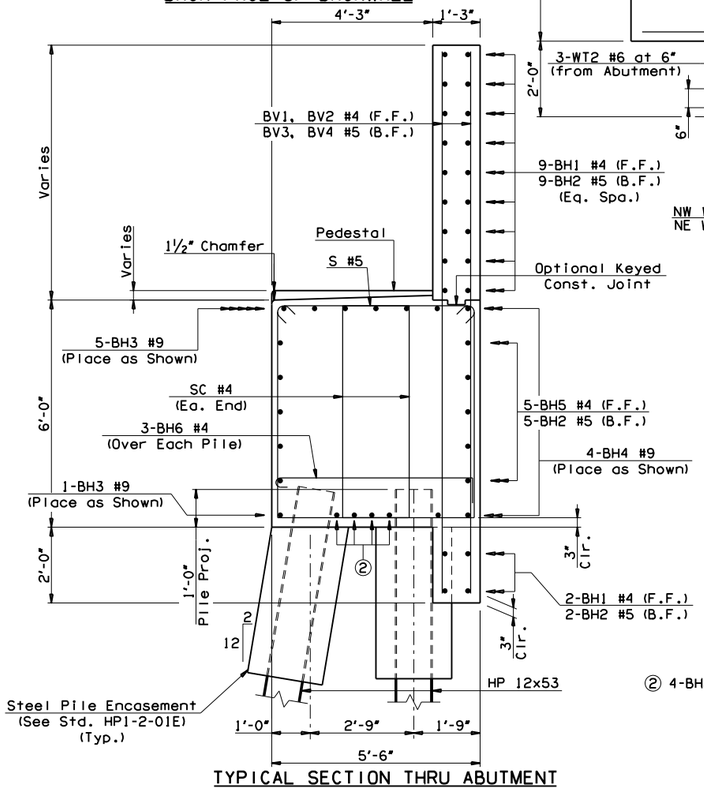
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT010

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

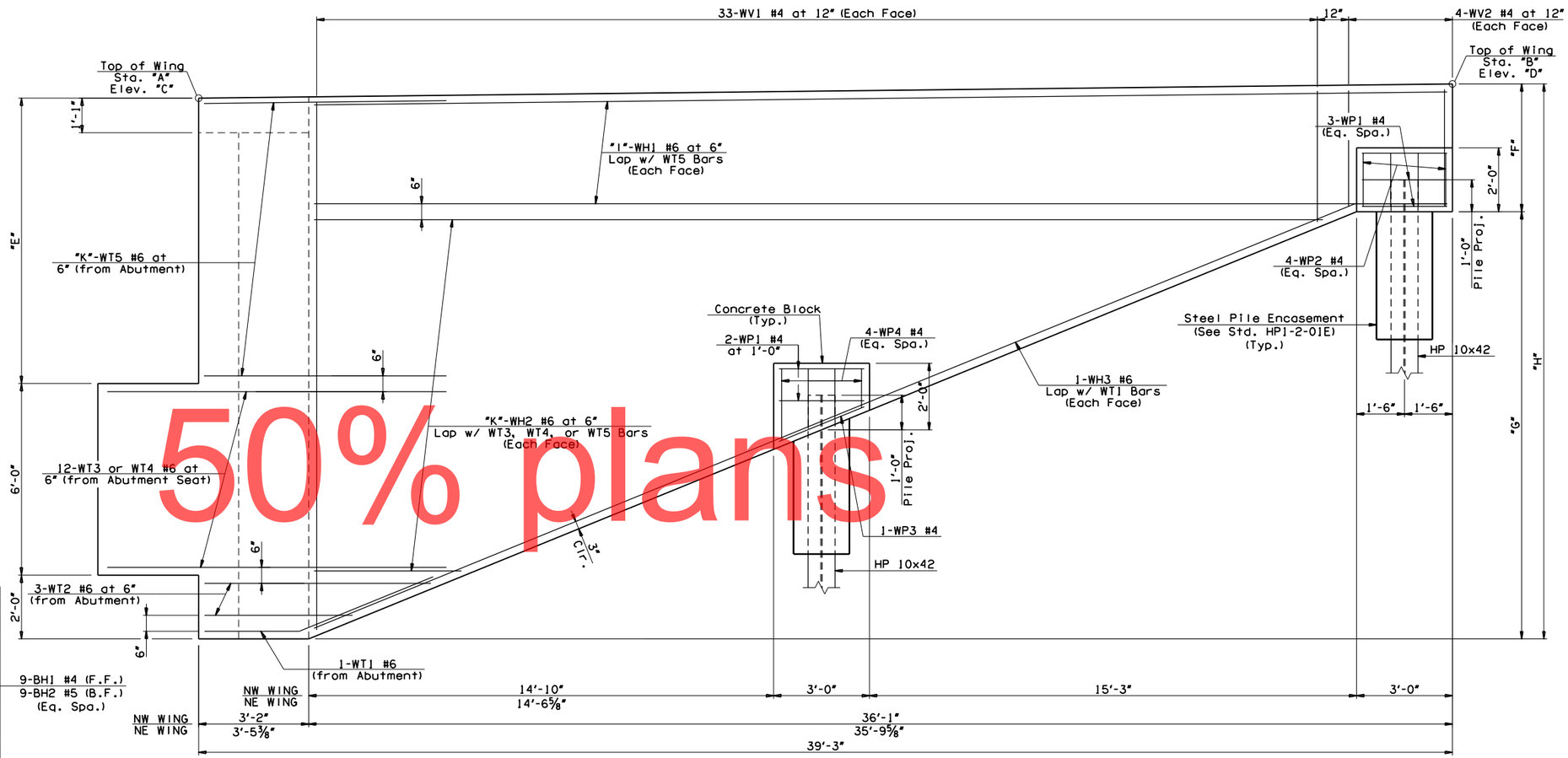
PROPOSED R/W
10/23/2017



SECTION THRU WING AT BACK FACE OF BACKWALL



TYPICAL SECTION THRU ABUTMENT



ABUTMENT WING ELEVATION

ABUTMENT NO. 2 WING TABLE OF VARIABLES											
LOCATION	STA. "A"	STA. "B"	ELEV. "C"	ELEV. "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "H"	"I"	"J"	"K"
NW WING	354+24.75	354+63.88	684.48	685.13	7'-9¼"	5'-4⅝"	11'-0⅝16"	16'-5"	10	15	18
NE WING	354+51.26	354+90.49	685.15	686.28	8'-5⅜16"	6'-1⅝16"	10'-11⅜16"	17'-1⅜16"	12	17	17

① Typical at 13 locations (above Piles).

② 4-BH3 #9 (Place as Shown)

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
ABUTMENT DETAILS
(SHEET 7 OF 8)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT011

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

PROPOSED
R/W
10/23/2017

BAR LIST - ABUTMENT NO. 2

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	EPOXY COATED REINFORCING STEEL					
①	BH1	#4	11	BENT	70'-5"	-
②	BH2	#5	16	BENT	71'-7"	-
③	BH3	#9	10	STR.	72'-6" AVG.	71'-7" TO 73'-5"
①	BH4	#9	4	BENT	73'-2"	-
	BH5	#5	5	STR.	69'-3"	-
	BH6	#4	51	BENT	6'-4"	-
	BH7	#4	18	BENT	8'-1"	-
	BH8	#4	18	BENT	9'-8"	-
	BH9	#4	7	BENT	7'-11"	-
	BH10	#4	7	BENT	5'-5"	-
	BV1	#4	13	STR.	14'-11" AVG.	14'-3" TO 15'-7"
	BV2	#4	53	STR.	15'-3" AVG.	14'-11" TO 15'-7"
	BV3	#5	13	STR.	14'-11" AVG.	14'-3" TO 15'-7"
	BV4	#5	53	STR.	15'-3" AVG.	14'-11" TO 15'-7"
	BV5	#4	8	STR.	15'-4"	-
	BV6	#4	8	STR.	16'-0"	-
	BV7	#4	2	STR.	14'-3"	-
	BV8	#5	2	STR.	14'-11"	-
	P1	#4	36	BENT	6'-11"	-
	P2	#4	30	BENT	7'-8"	-
	S1	#5	65	BENT	22'-5"	-
	S2	#5	2	BENT	24'-1" AVG.	23'-7" TO 24'-7"
	S3	#5	2	BENT	21'-8" AVG.	21'-3" TO 22'-1"
	SC	#4	8	BENT	7'-6"	-
	WT1	#6	2	BENT	15'-6"	-
	WT2	#6	6	BENT	13'-0" AVG.	10'-0" TO 16'-0"
	WT3	#6	12	BENT	22'-0"	-
	WT4	#6	12	BENT	26'-4"	-
	WT5	#6	32	BENT	15'-8"	-

① Includes One 2'-10" Lap Length.
② Includes One 4'-0" Lap Length.
③ Includes One 6'-0" Lap Length.

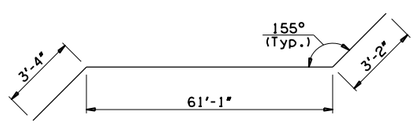
BAR LIST - ABUTMENT NO. 2 WEST WING

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
WH1	#6	20	STR.	35'-9"	-
WH2	#6	36	STR.	18'-11" AVG.	5'-6" TO 32'-4"
WH3	#6	2	BENT	37'-6"	-
WP1	#4	6	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	3	BENT	8'-10"	-
WP4	#4	3	STR.	1'-7" AVG.	1'-2" TO 2'-0"
WV1	#4	66	STR.	10'-3½" AVG.	5'-3" TO 15'-4"
WV2	#4	8	STR.	4'-11"	-

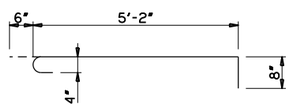
BAR LIST - ABUTMENT NO. 2 EAST WING

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
WH1	#6	24	STR.	35'-6"	-
WH2	#6	34	STR.	18'-9" AVG.	6'-2" TO 31'-4"
WH3	#6	2	BENT	37'-2"	-
WP1	#4	6	BENT	8'-8"	-
WP2	#4	4	STR.	1'-7"	-
WP3	#4	3	BENT	8'-10"	-
WP4	#4	3	STR.	1'-7" AVG.	1'-2" TO 2'-0"
WV1	#4	66	STR.	11'-0" AVG.	6'-0" TO 16'-0"
WV2	#4	8	STR.	5'-8"	-

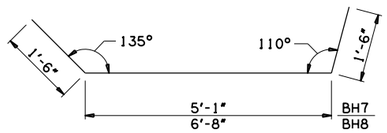
50% plans



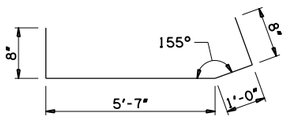
BH1 #4 x 70'-5"
BH2 #5 x 71'-7"
BH4 #9 x 73'-7"



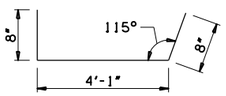
BH6 #4 x 6'-4"



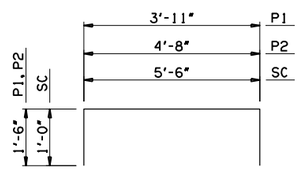
BH7 #4 x 8'-1"
BH8 #4 x 9'-8"



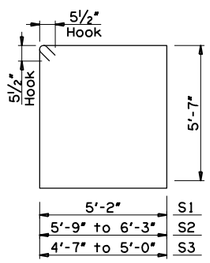
BH9 #4 x 7'-11"



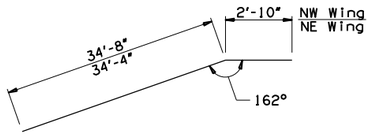
BH10 #4 x 5'-5"



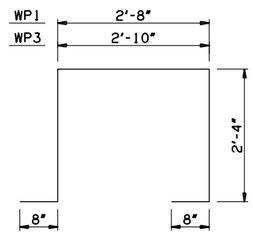
P1 #4 x 6'-11"
P2 #4 x 7'-8"
SC #4 x 7'-6"



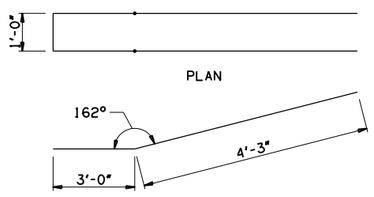
S1 #5 x 22'-5"
S2 #5 x 24'-1" Avg.
S3 #5 x 21'-8" Avg.



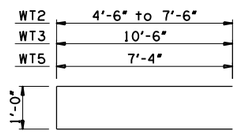
WH3 #6 x 37'-6" (NW Wing)
WH3 #6 x 37'-2" (NE Wing)



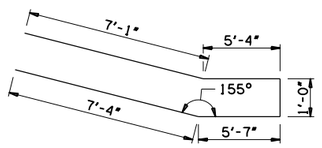
WP1 #4 x 8'-8"
WP3 #4 x 8'-10"



ELEVATION
WT1 #6 x 15'-6"



WT2 #6 x 13'-0" Avg.
WT3 #6 x 22'-0"
WT5 #6 x 15'-8"



WT4 #5 x 26'-4"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

ABUTMENT DETAILS
(SHEET 8 OF 8)

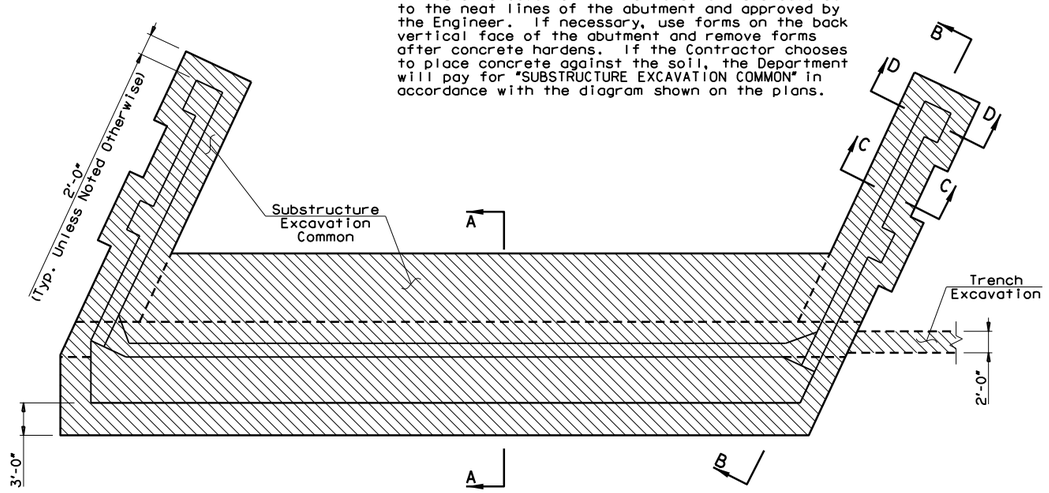
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT012

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

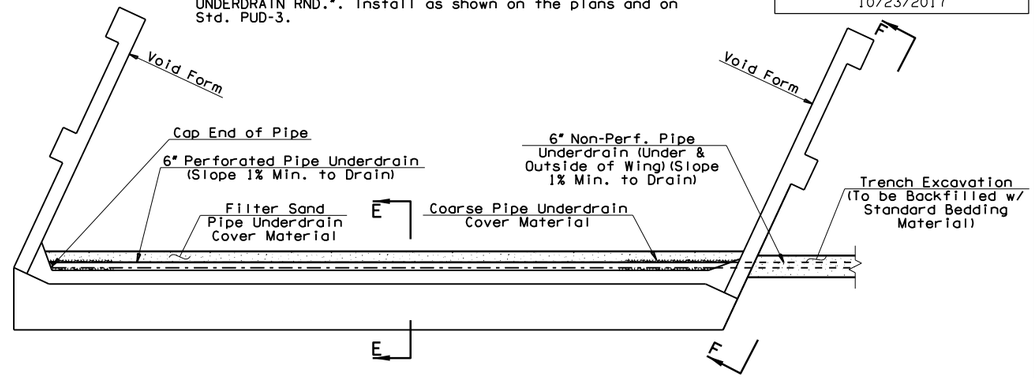
PROPOSED R/W
10/23/2017

NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.



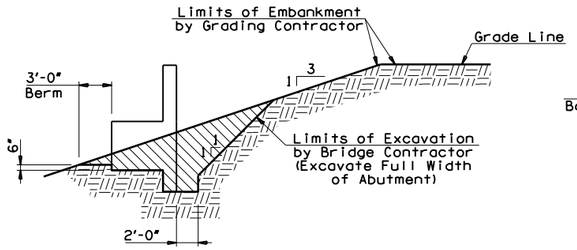
EXCAVATION PLAN

NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.

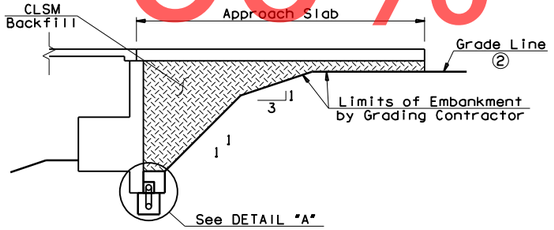


PIPE UNDERDRAIN PLAN

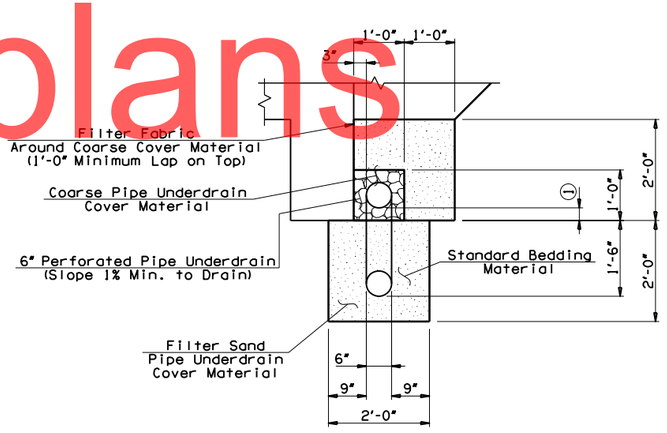
50% plans



SECTION A-A



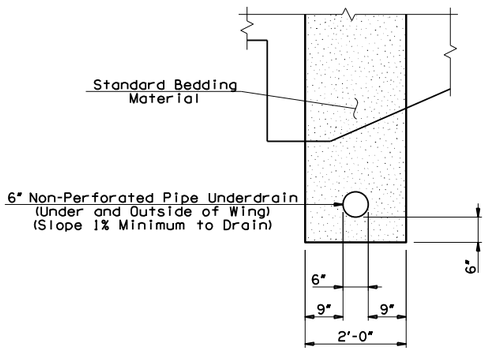
SECTION E-E



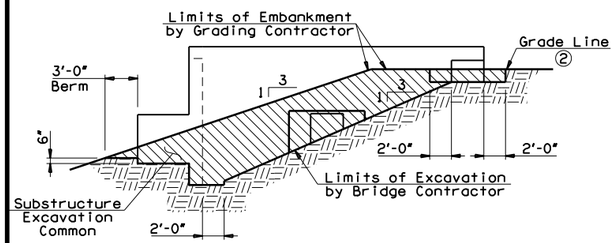
DETAIL "A"

① Set bottom of pipe 3" above the bottom of the abutment at the low end.

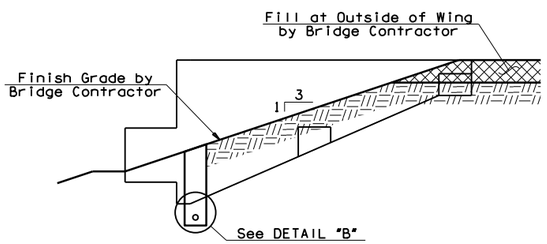
② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.



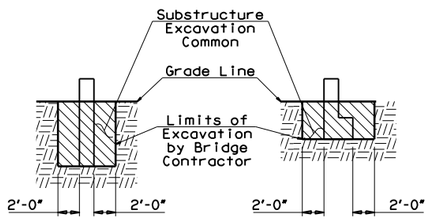
DETAIL "B"



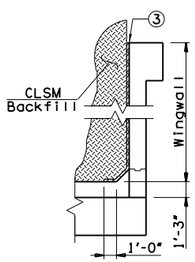
SECTION B-B



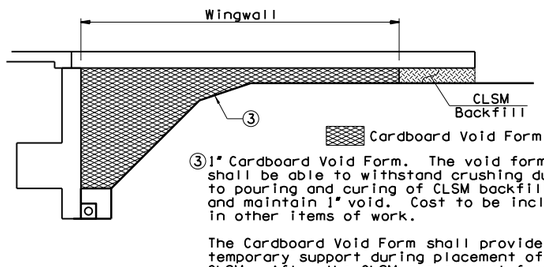
SECTION F-F



SECTION C-C SECTION D-D



PLAN



ELEVATION

③ 1" Cardboard Void Form. The void form shall be able to withstand crushing due to pouring and curing of CLSM backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the void form shall lose strength and create a 1" space in place of the void form such as separator void as manufactured by surevoid products or an approved equal. Product information for separator void can be obtained from Surevoid Products of Englewood, Colorado, Phone Number 800-458-5444.

VOID FORM DETAILS

NOTE:
There is an estimated XX.00 feet of Perforated Pipe and XX.00 cubic yards of Pipe Underdrain Cover Material for both abutments.

There is an estimated XX.00 feet of Non-perforated Pipe, XX.00 cubic yards of Trench Excavation, and XX.00 cubic yards of Standard Bedding Material for both abutments.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

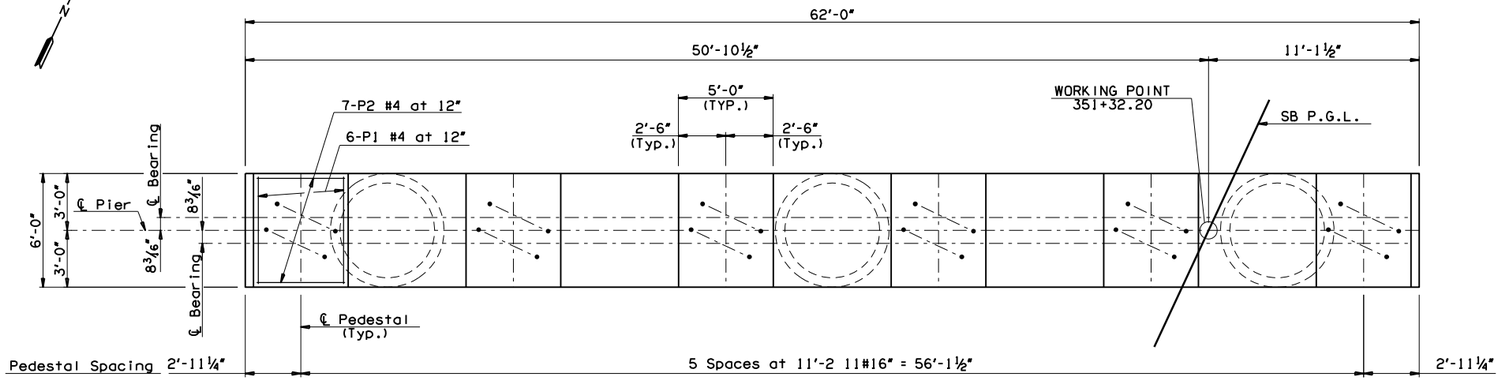
SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN PLAN

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

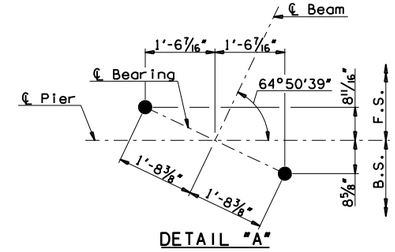
DESIGNED	JMH	8/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT013

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

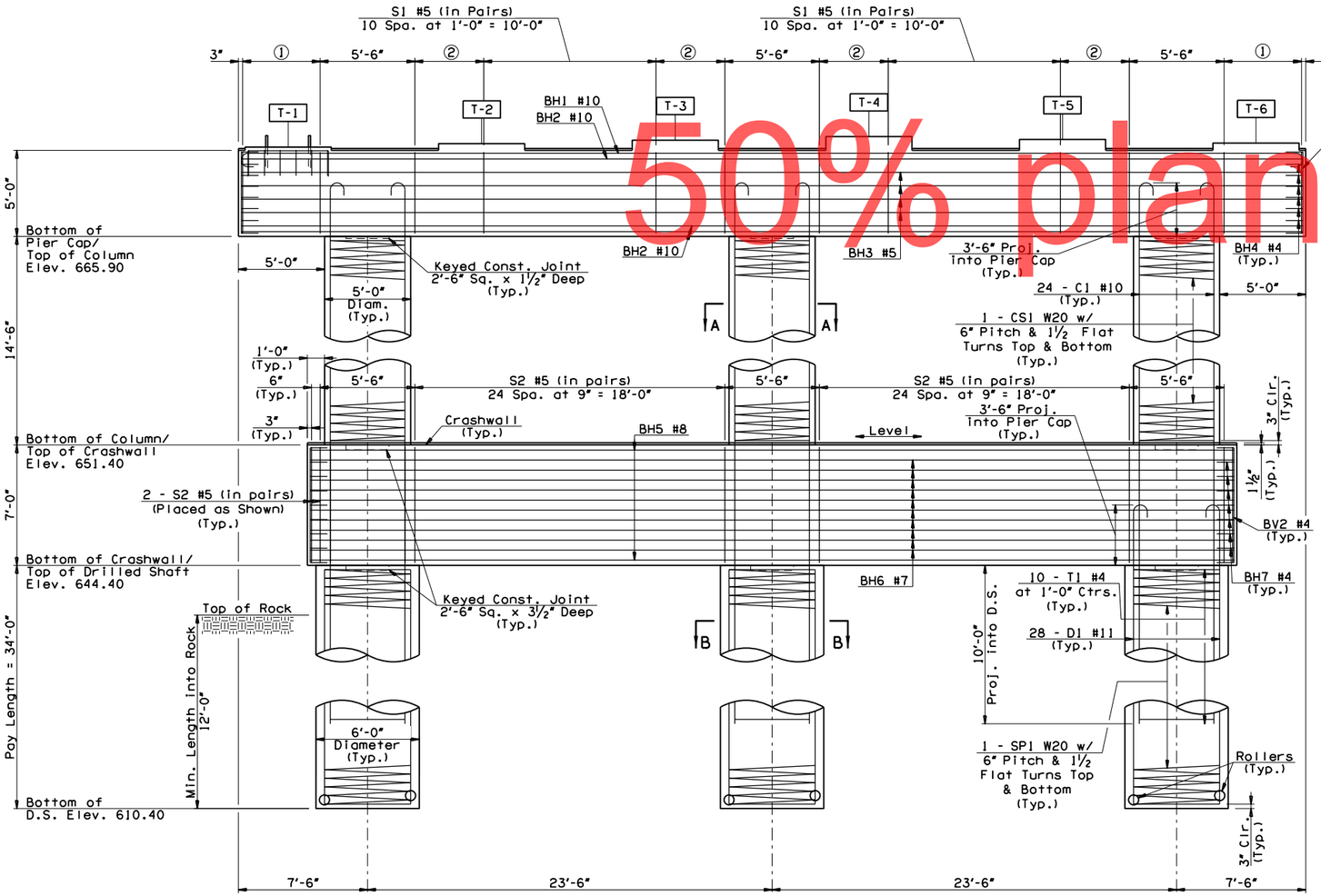
PROPOSED R/W
10/23/2017



PLAN



DETAIL "A"



ELEVATION
(Looking Forward Station)

PIER NO. 1

① S1 #5 (in Pairs) 9 Spa. at 6" = 4'-6"
② S1 #5 (in Pairs) 8 Spa. at 6" = 4'-0"

50% plans

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	T-1	T-2	T-3	T-4	T-5	T-6
1	671.20	671.50	671.81	672.12	672.42	672.43

BAR LIST - PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1	#10	7	BENT	73'-11"
BH2	#10	21	STR.	61'-8"
BH3	#5	8	STR.	61'-8"
BH4	#4	6	BENT	7'-8"
BH5	#8	14	STR.	53'-8"
BH6	#7	20	STR.	53'-8"
BH7	#4	7	BENT	7'-8"
BV1	#4	4	BENT	6'-8"
BV2	#4	4	BENT	8'-8"
P1	#4	6	BENT	8'-8"
P2	#4	7	BENT	7'-8"
S1	#5	156	BENT	17'-3"
S2	#5	108	BENT	22'-3"
C1	#10	72	BENT	36'-5"
REINFORCING STEEL				
CS1	W20	3	SPIRAL	389'-10"

③ DRILLED SHAFTS - PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
SP1	W20	3	SPIRAL	1,100'-1"
D1	#11	84	BENT	38'-10"
T1	#4	30	BENT	15'-7"

③ Included in the price bid per linear foot of "DRILLED SHAFT 72" DIAMETER."

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.

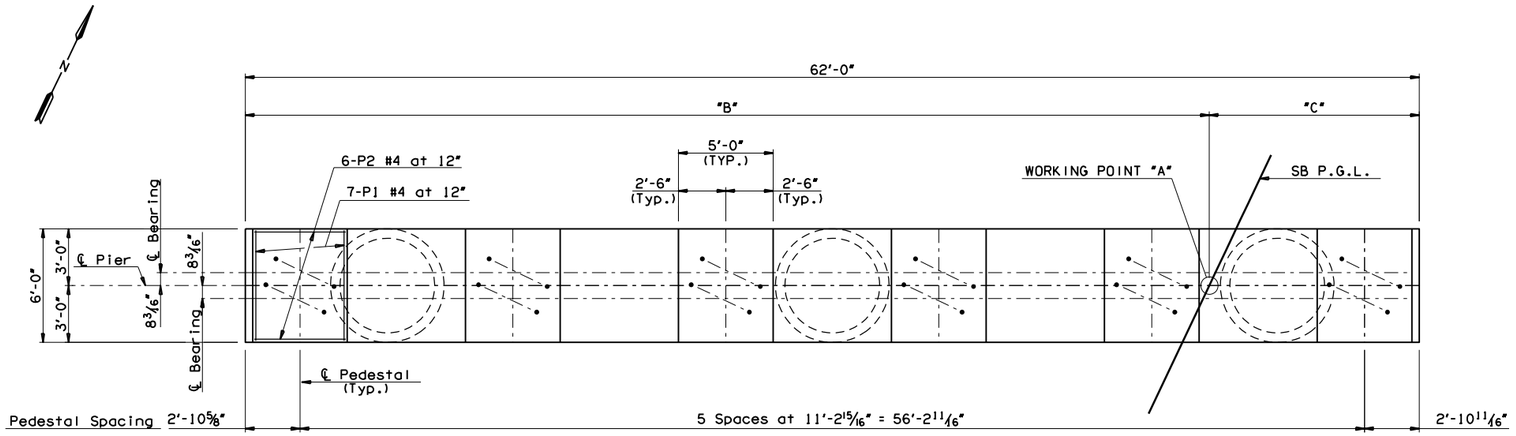
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
PIER DETAILS
(SHEET 1 OF 3)

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

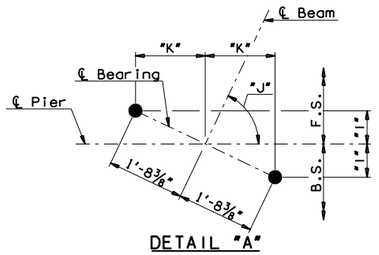
DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT014

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

PROPOSED R/W
10/23/2017

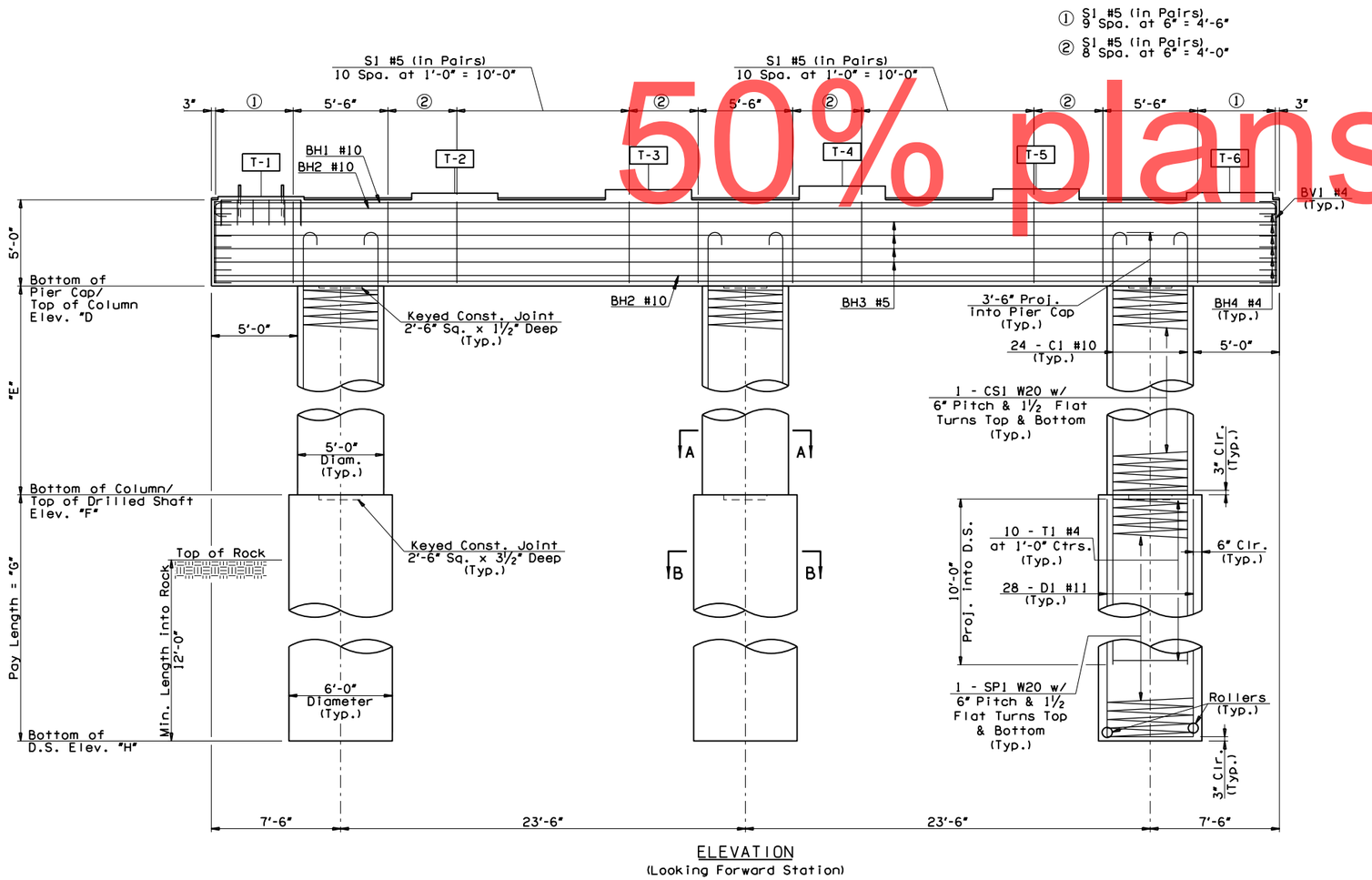


PLAN



DETAIL "A"

BEAM TABLE OF VARIABLES SPAN NOS. 2 - 4				
LOCATION		"J"	"I"	"K"
PIER NO. 2	B.S.	64°50'39"	8 11/16"	1'-6 7/16"
	F.S.	64°33'26"	8 3/4"	1'-6 3/8"
PIER NO. 3	B.S.	64°33'26"	8 3/4"	1'-6 3/8"
	F.S.	64°19'12"	8 13/16"	1'-6 3/8"



ELEVATION
(Looking Forward Station)

PIER NOS. 2 & 3

50% plans

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	T-1	T-2	T-3	T-4	T-5	T-6
2	673.88	674.17	674.46	674.75	675.03	675.02
3	675.46	675.75	676.03	676.31	676.59	676.58

TABLE OF VARIABLES					
PIER NO.	STATION "A"	LENGTH "B"	LENGTH "C"	LENGTH "E"	LENGTH "G"
2	352+55.87	50'-10 15/16"	11'-1 1/16"	21'-6"	36'-0"
3	353+50.77	50'-11 7/16"	11'-0 9/16"	22'-6"	35'-0"

TABLE OF ELEVATIONS			
PIER NO.	"D"	"F"	"H"
2	668.59	647.09	611.09
3	670.17	647.67	612.67

BAR LIST - PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1	#10	7	BENT	73'-11"
BH2	#10	21	STR.	61'-8"
BH3	#5	8	STR.	61'-8"
BH4	#4	6	BENT	7'-8"
BV1	#4	4	BENT	6'-8"
P1	#4	6	BENT	8'-8"
P2	#4	7	BENT	7'-8"
S1	#5	156	BENT	17'-3"
C1	#10	72	BENT	36'-5"
REINFORCING STEEL				
CS1	W20	3	SPIRAL	565'-11"

BAR LIST - PIER NO. 3				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
BH1	#10	7	BENT	73'-11"
BH2	#10	21	STR.	61'-8"
BH3	#5	8	STR.	61'-8"
BH4	#4	6	BENT	7'-8"
BV1	#4	4	BENT	6'-8"
P1	#4	6	BENT	8'-8"
P2	#4	7	BENT	7'-8"
S1	#5	156	BENT	17'-3"
C1	#10	72	BENT	37'-5"
REINFORCING STEEL				
CS1	W20	3	SPIRAL	591'-1"

③ 3 DRILLED SHAFTS - PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
SP1	W20	3	SPIRAL	1,162'-11"
D1	#11	84	STR.	35'-6"
T1	#4	30	BENT	15'-7"

③ 3 DRILLED SHAFTS - PIER NO. 3				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
SP1	W20	3	SPIRAL	1,131'-6"
D1	#11	84	STR.	34'-6"
T1	#4	30	BENT	15'-7"

③ Included in the price bid per linear foot of "DRILLED SHAFTS 72" DIAMETER."

NOTES:
For Water Repellent Details, see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

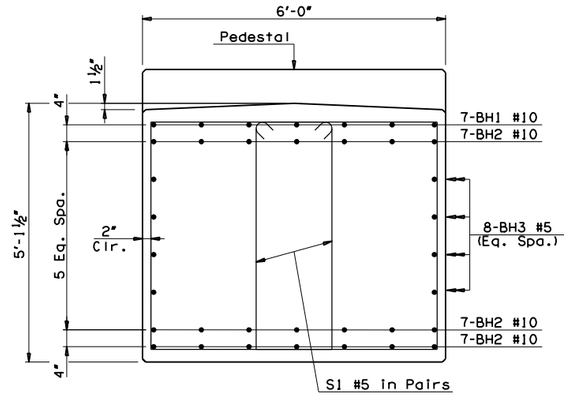
PIER DETAILS
(SHEET 2 OF 3)

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

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT015

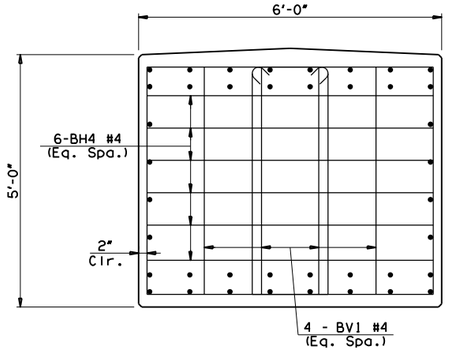
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

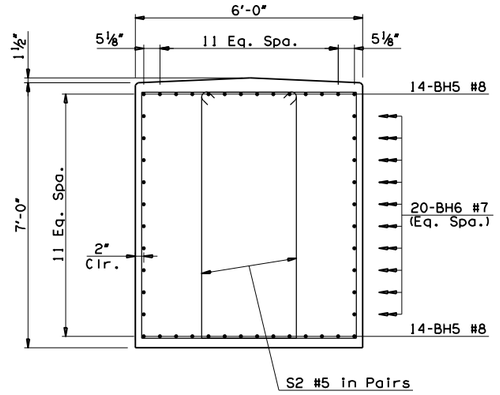


TYPICAL SECTION THRU CAP

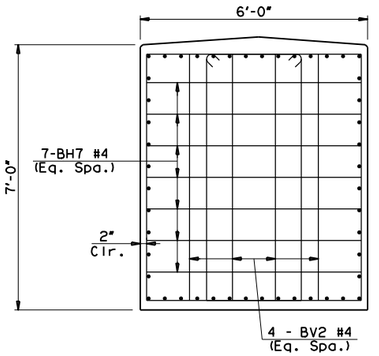
NOTE:
Pier cap and crashwall shall have ¾" chamfers on all edges unless noted otherwise.



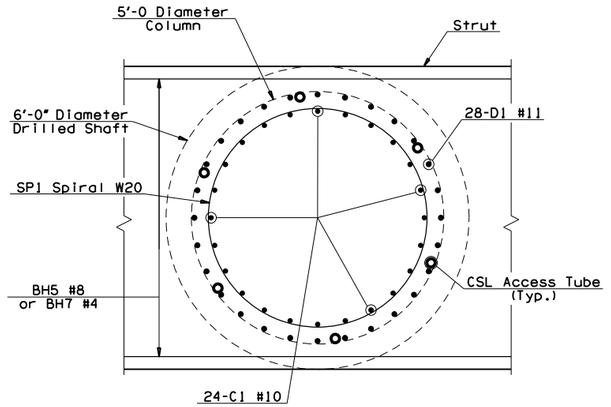
END OF PIER CAP REINFORCING



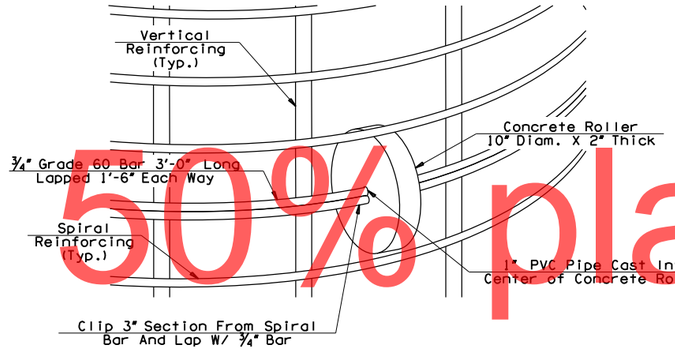
TYPICAL SECTION THRU CRASHWALL



END OF CRASHWALL REINFORCING

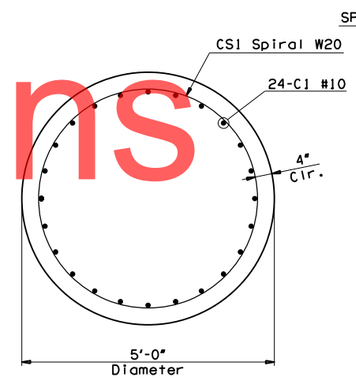


SECTION D-D

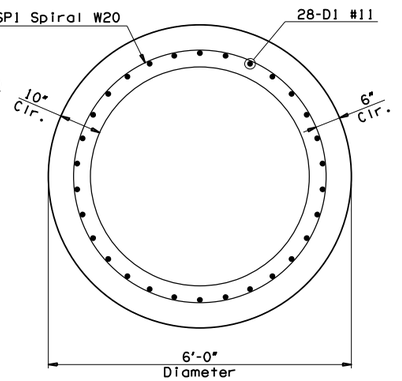


DETAILS OF CONCRETE ROLLER INSTALLATION

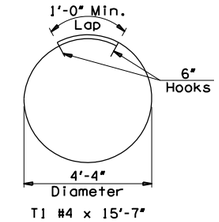
NOTE:
Concrete used in the concrete rollers shall have a minimum 28 day compressive strength of 4,000 psi. Slab bolsters, high chairs and plastic rollers shall not be substituted for the concrete rollers.

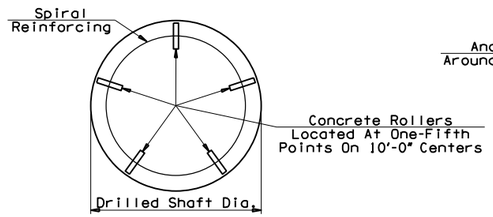


SECTION A-A



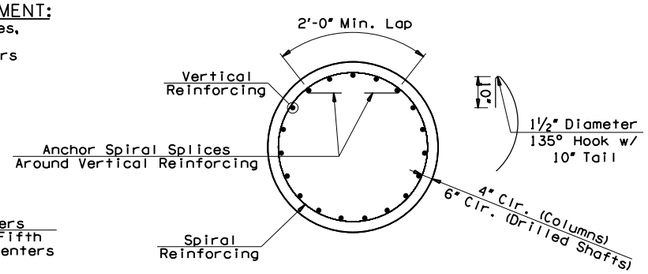
SECTION B-B





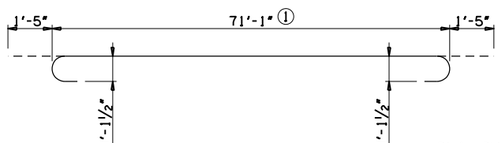
CONCRETE ROLLER PLACEMENT

SUGGESTED ORDER OF PLACEMENT:
D1 #11 Bars, SP1, CSL Access Tubes, S #5 Bars, C #10 Bars, BH Bars. Adjust spacing of reinforcing bars as required.

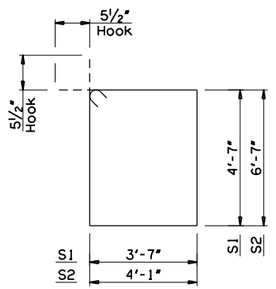


DETAIL OF SPIRAL REINFORCING STEEL

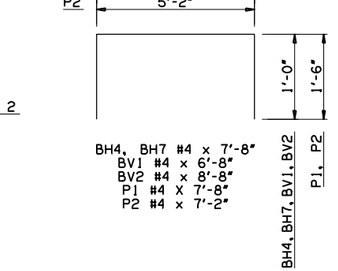
NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



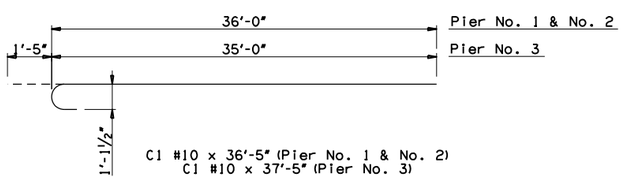
BH1 #10 x 73'-11"
① Includes one 9'-5" Lap Length.



S1 #5 x 17'-3"
S2 #5 x 22'-3"



BH4, BH7 #4 x 7'-8"
BV1 #4 x 6'-8"
BV2 #4 x 8'-8"
P1 #4 x 7'-8"
P2 #4 x 7'-2"



C1 #10 x 36'-5" (Pier No. 1 & No. 2)
C1 #10 x 37'-5" (Pier No. 3)

SUMMARY OF QUANTITIES

ITEM	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	TOTAL
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	—	—	—	—
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	—	—	—	—
SPECIAL CONCRETE FINISH	S.Y.	—	—	—	—
CLASS A CONCRETE	C.Y.	—	—	—	—
EPOXY COATED REINFORCING STEEL	LB.	—	—	—	—
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	—	—	—	—
DRILLED SHAFTS 72" DIAMETER	L.F.	—	—	—	—
CROSSHOLE SONIC LOGGING	EA.	—	—	—	—

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

PIER DETAILS
(SHEET 3 OF 3)

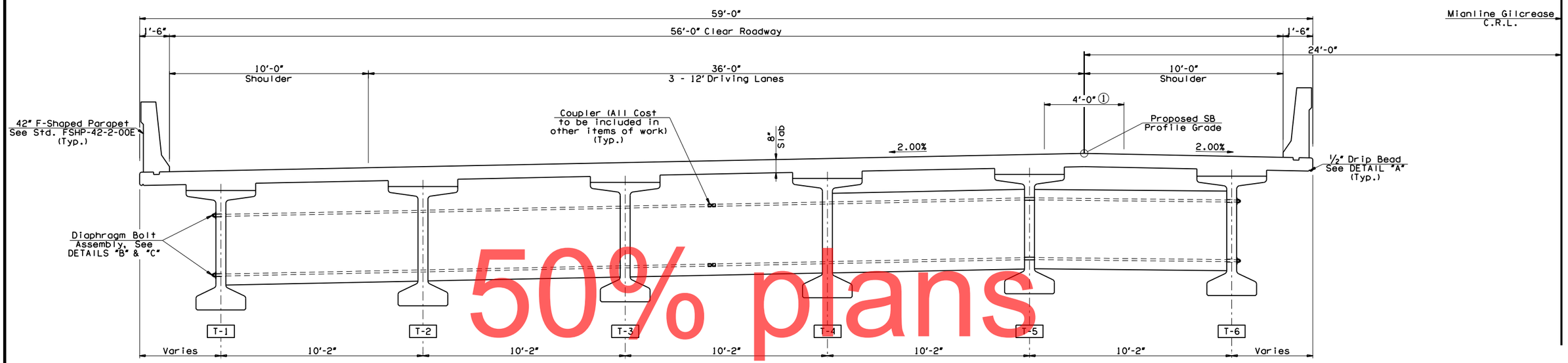
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT016

50% plans

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

PROPOSED R/W
10/23/2017



HALF SECTION AT END DIAPHRAGM

HALF SECTION AT INTERMEDIATE DIAPHRAGM

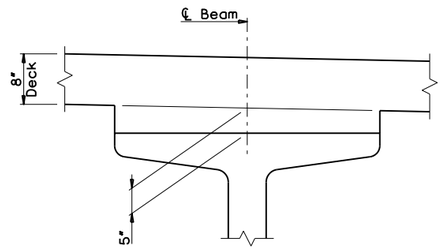
TYPICAL SECTION
(Looking Foward Station)

① Round 2'-0" each side of P.G.L. to avoid sharp edges.

50% plans

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
①		

① Includes a calculated XX.X0 C.Y. of Class AA Concrete in the Haunches.



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.

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".

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar lists, see Sheet Nos. BT019 & BT020 .

For Water Repellent Details, DETAIL "A", DETAIL "B", & DETAIL "C", see Sheet No. BSTA01.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

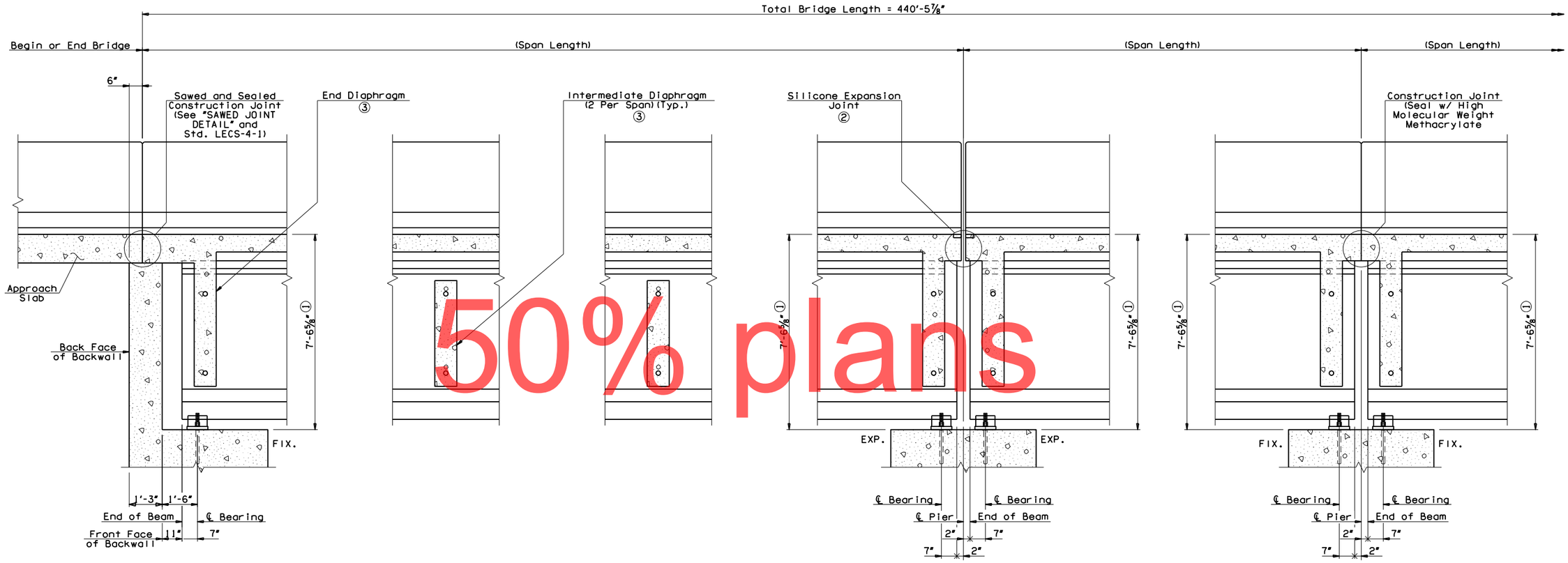
TYPICAL SECTION

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

DESIGNED	BRT	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT017

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

PROPOSED
R/W
10/23/2017



ABUTMENTS

EXPANSION PIERS
(Typ. at Pier Nos. 1 & 3)

FIXED PIERS
(Typ. at Pier No. 2)

50% plans

LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② For Sealed Expansion Joint Details, see Sheet No. BSTA03.
For Expansion Joint Opening Equations, see Sheet No. BT021.

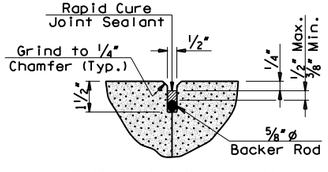
③ For Framing Plan, see Sheet No BT026.
For Concrete Beam Diaphragm details, see Sheet Nos. BT024.
For Span Arrangement, see Sheet Nos. BT001.

NOTE:
Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

DECK SLAB NOTES:
Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



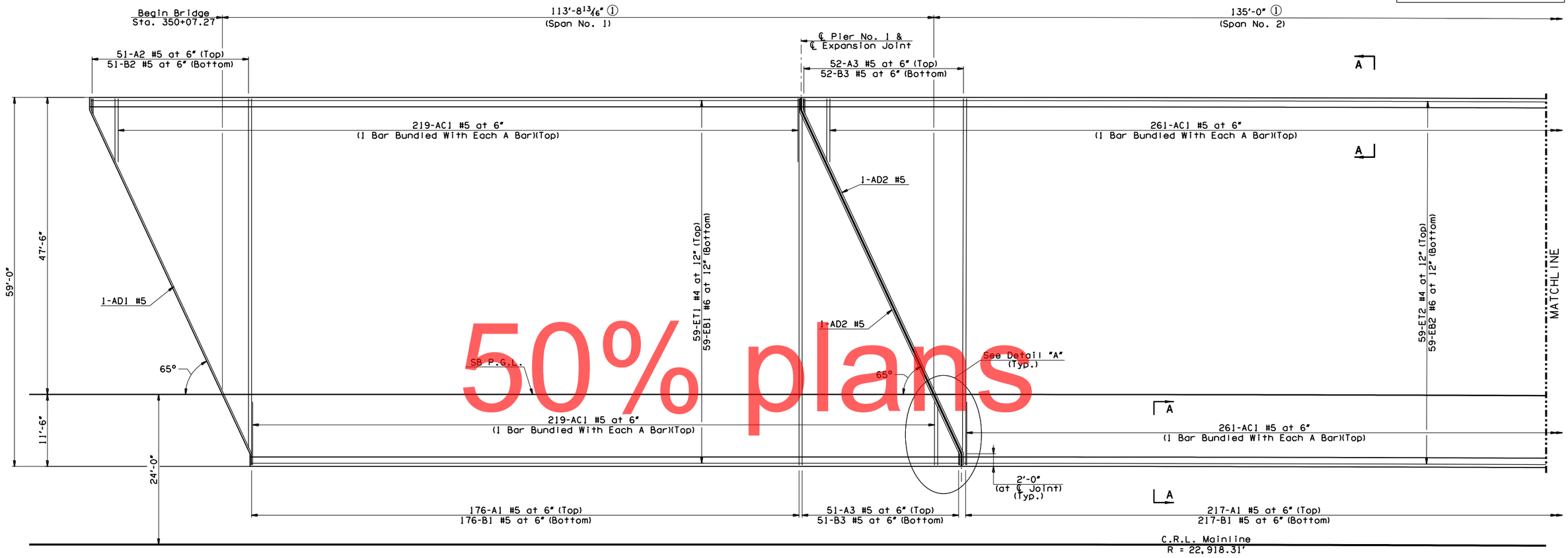
SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY GILCREASE EXPRESSWAY			
BR. T GILCREASE SB OVER HARLOW CREEK			
LONGITUDINAL SECTION			
GARVER 6450 SOUTH LEWIS, SUITE 300 TULSA, OKLAHOMA 74136 (918) 250-5922 (V) (918) 858-0107 (F)			
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500
DETAILED	JLD	7/17	
CHECKED	MJY	10/17	DATE: 10/23/2017 SHEET NO. BT018

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

PROPOSED
R/W
10/23/2017

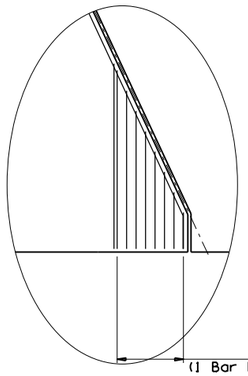
① Typical at outside edges of slab and along P.G.L. between Working Points



50% plans

SLAB PLAN SPAN NOS. 1 & 2

(Showing Top & Bottom Mat of Reinforcing Steel)



DETAIL "A"

NOTES:
Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BT022 for additional details.

All lap lengths shall be staggered.

For SECTION A-A, Tables, and additional details, see Sheet No. BT023.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BT021 for details and Expansion Joint Opening Equations.

For deck skew angles, see Sheet Nos. BT003 & BT004.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

SUPERSTRUCTURE DETAILS
(SHEET 1 OF 7)

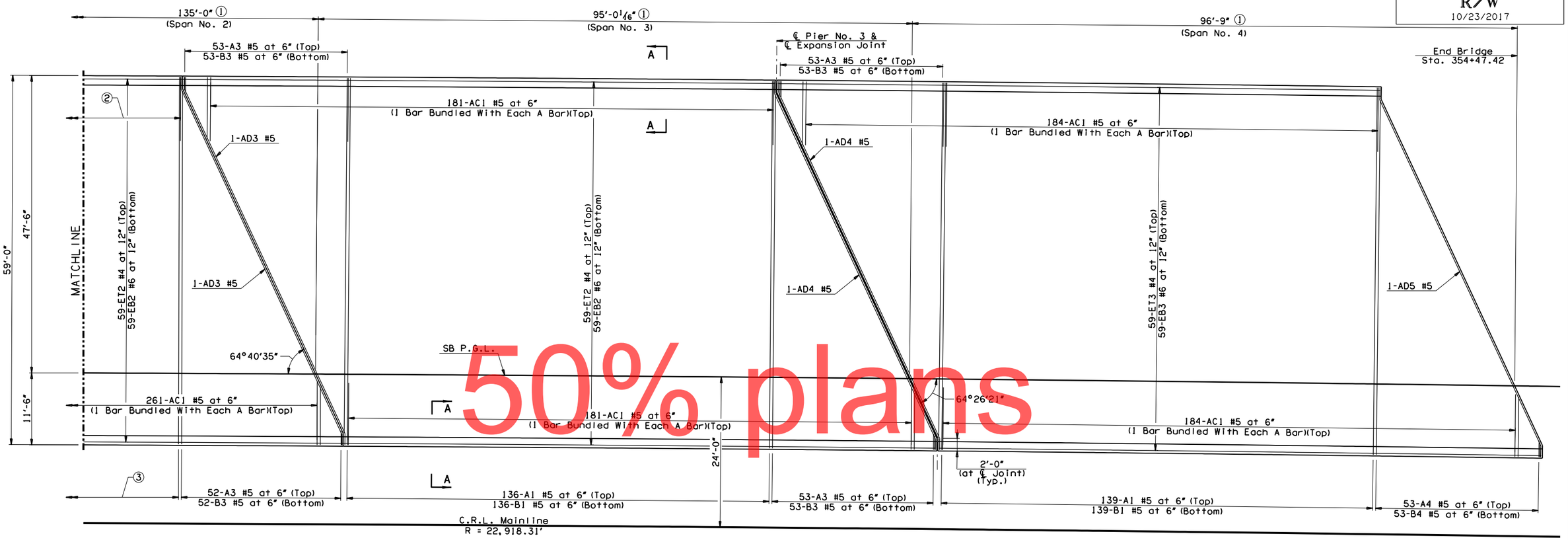
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT019

① Typical at outisde edges of slab and along P.G.L. between Working Points
② 261-AC1 #5 at 6" (1 Bar Bundled With Each A Bar)(Top)
③ 217-A1 #5 at 6" (Top)
217-B1 #5 at 6" (Bottom)

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

PROPOSED
R/W
10/23/2017



50% plans

SLAB PLAN SPAN NOS. 3 & 4
(Showing Top & Bottom Mat of Reinforcing Steel)

NOTES:

Rotate hooks on A & AC Bars to maintain minimum clearance.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. BT022 for additional details.

All lap lengths shall be staggered.

For SECTION A-A, Tables, and additional details, see Sheet No. BT023.

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BT021 for details and Expansion Joint Opening Equations.

For deck skew angles, see Sheet Nos. BT003 & BT004.

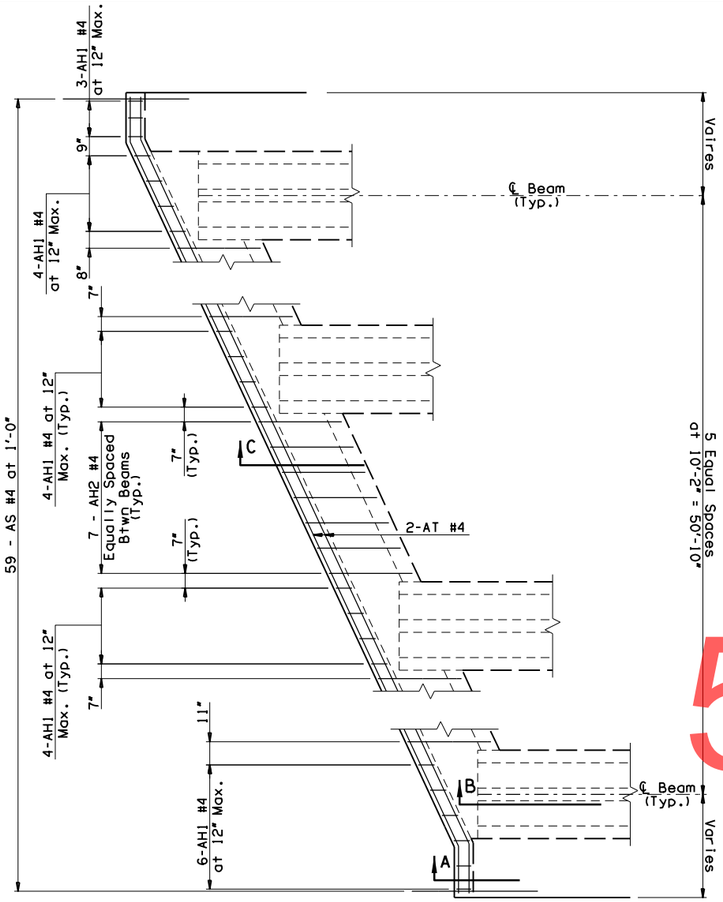
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
SUPERSTRUCTURE DETAILS
(SHEET 2 OF 7)

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

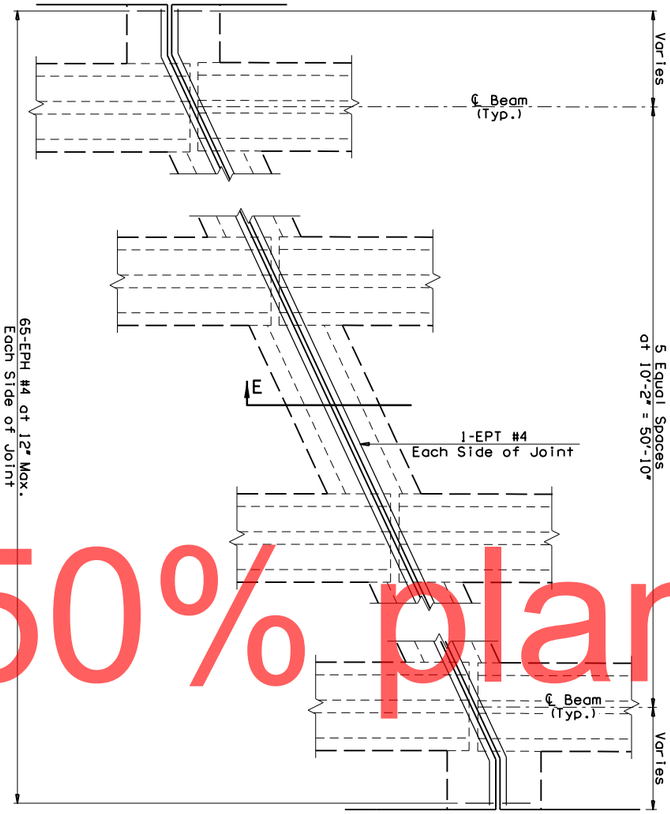
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT020

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

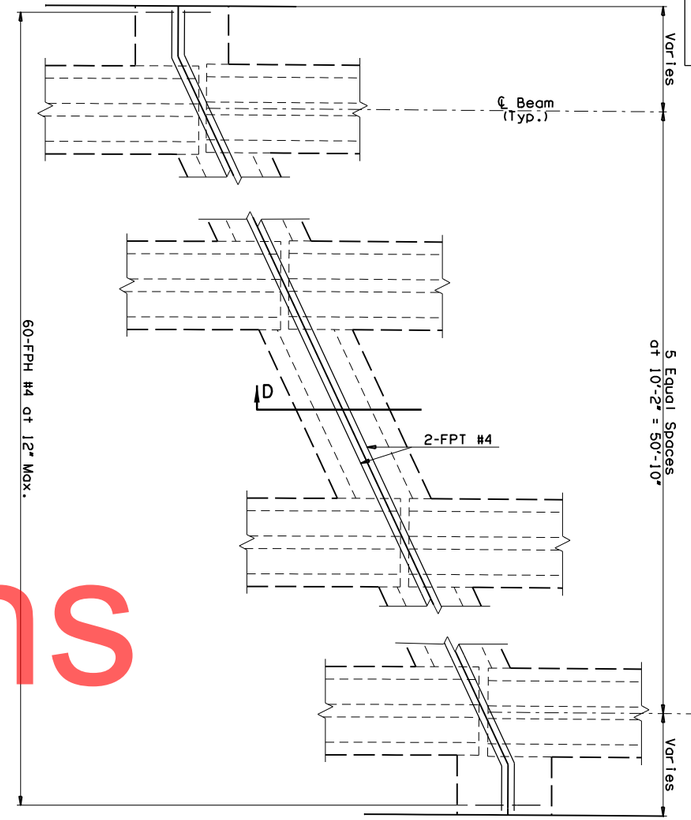
PROPOSED R/W
10/23/2017



ABUTMENTS



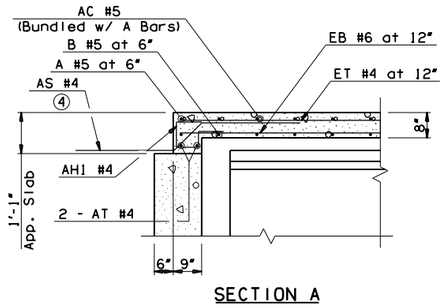
EXPANSION PIERS



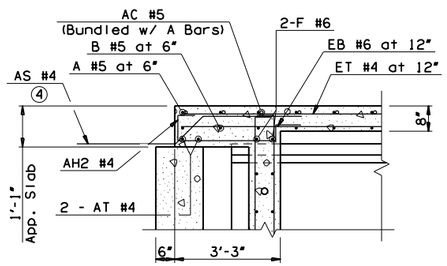
FIXED PIERS

50% plans

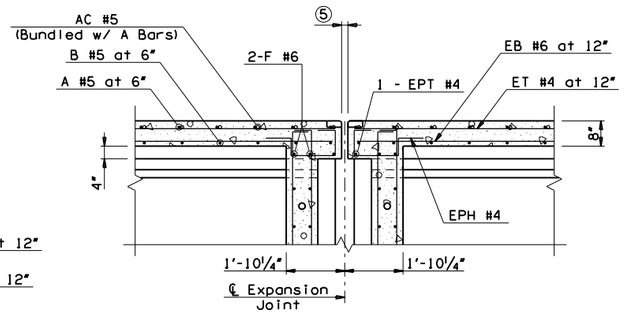
ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS



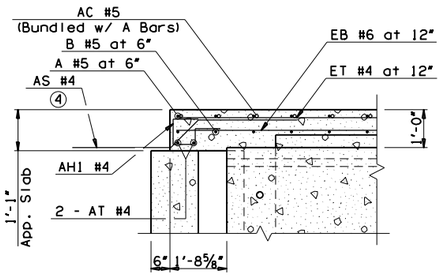
SECTION A



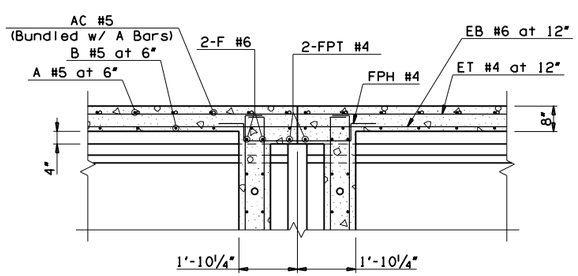
SECTION C



SECTION E



SECTION B



SECTION D

④ Tie to Top Reinforcing of Deck Slab and extend mid-depth of Approach Slab (Place bottom leg of AS through joint).

⑤ The Expansion Joint Opening shall be set at the time the Deck Slab Concrete is poured. The width of the opening, calculated in inches, shall be as follows:

X.XXXXX - (0.XXXXX x T)

Where "T" equals the Ambient Air Temperature in degrees Fahrenheit at the time the Deck Slab Concrete is poured. See Section 509.04.B.1 of the Standard Specifications for temperature limitations.

The Expansion Joint Opening shall be measured perpendicular to the joint.

SILICONE JOINT SEALANT NOTE:

The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

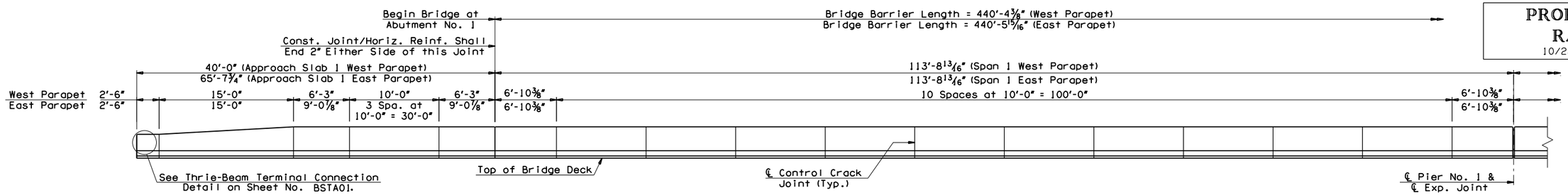
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 7)

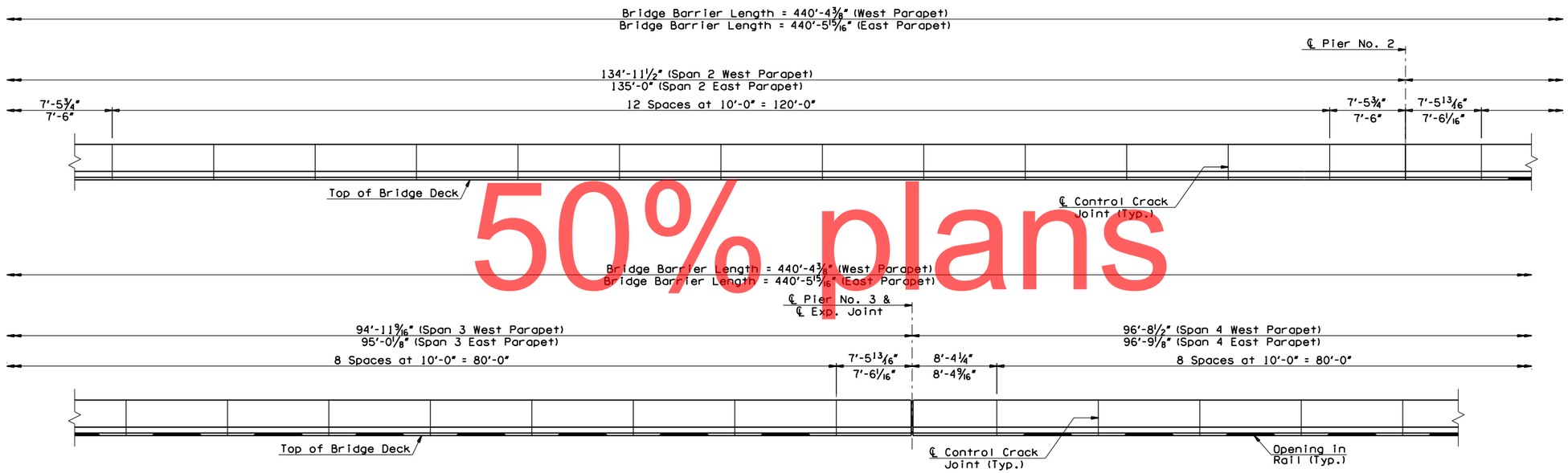
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT021

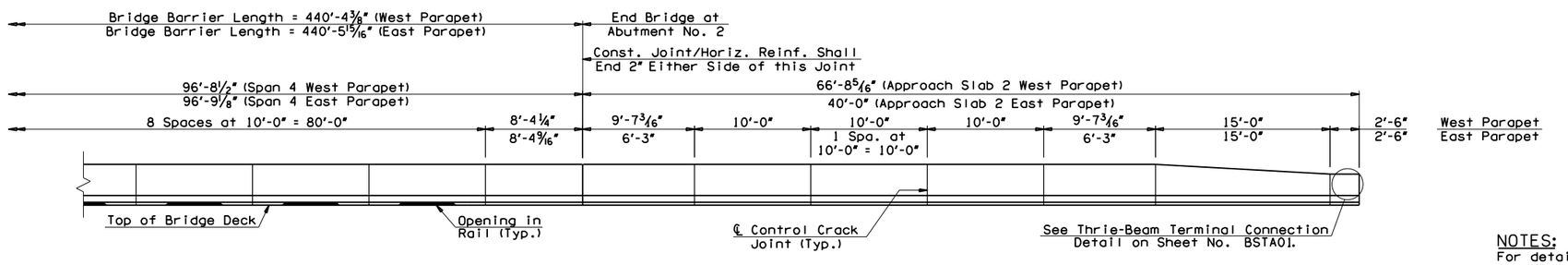
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017





50% plans



42" F-SHAPED PARAPET LAYOUT - WITHOUT OPENINGS
(West Parapet Shown, East Parapet Similar)

NOTES:
For details showing the Parapet reinforcement layout, see bar bends and Std. FSHP-42-2-00E.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

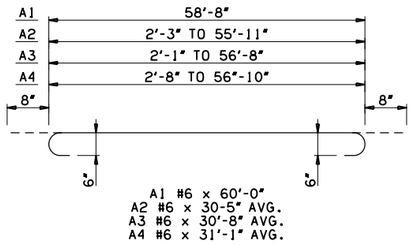
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 7)

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

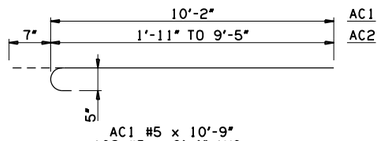
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT022

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

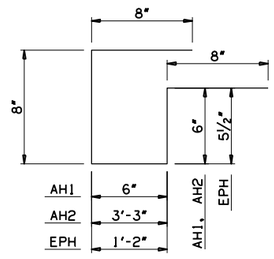
PROPOSED
R/W
10/23/2017



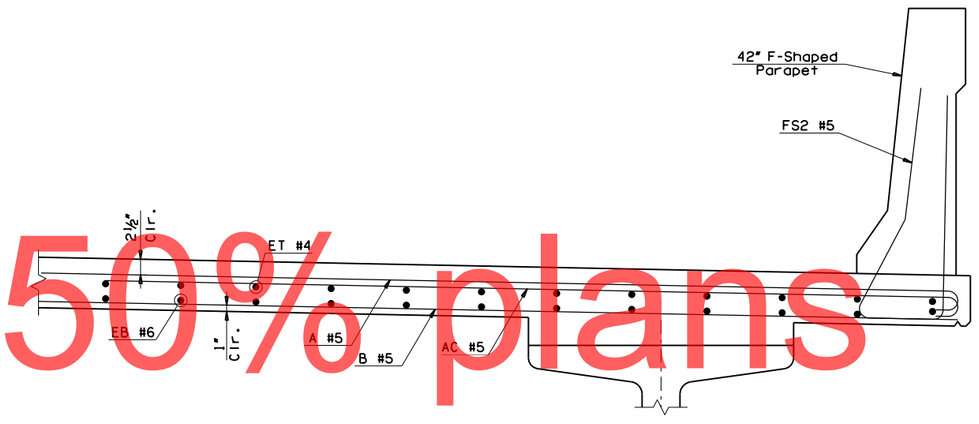
A1 #6 x 60'-0"
A2 #6 x 30-5" AVG.
A3 #6 x 30'-8" AVG.
A4 #6 x 31'-1" AVG.



AC1 #5 x 10'-9"
AC2 #5 x 6'-4" AVG.



AH1 #4 x 3'-0"
AH2 #4 x 5'-9"
EPH #4 x 3'-7½"



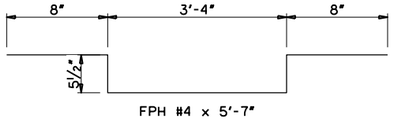
SECTION A-A

50% plans

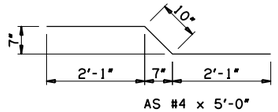
BAR LIST - SUPERSTRUCTURE

	MARK	SIZE	NO.	FORM	LENGTH	VARIATION
	EPOXY COATED REINFORCING STEEL					
	A1	#5	722	BENT	60'-0"	-
	A2	#5	51	BENT	30'-5" AVG.	57'-3" TO 3'-7"
	A3	#5	314	BENT	30'-8½" AVG.	58'-0" TO 3'-5"
	A4	#5	53	BENT	31'-1" AVG.	58'-2" TO 4'-0"
	AC1	#5	1690	BENT	10'-9"	-
	AC2	#5	64	BENT	6'-4" AVG.	10'-2" TO 2'-6"
	AD1	#5	1	BENT	64'-5"	-
	AD2	#5	1	BENT	64'-4"	-
	AD3	#5	1	BENT	64'-7"	-
	AD4	#5	1	BENT	64'-8"	-
	AD5	#5	1	BENT	64'-10"	-
	AH1	#5	21	BENT	3'-0"	-
	AH2	#5	21	BENT	5'-9"	-
	AS	#4	59	BENT	5'-0"	-
	AT1	#4	2	BENT	64'-5"	-
	AT2	#4	2	BENT	64'-10"	-
	B1	#5	722	STR.	58'-8"	-
	B2	#5	51	STR.	29'-1" AVG.	55'-11" TO 2'-3"
	B3	#5	314	STR.	29'-4½" AVG.	56'-8" TO 2'-1"
	B4	#5	53	STR.	29'-9" AVG.	56'-10" TO 2'-8"
④	EB1	#6	59	STR.	117'-5"	-
⑥	EB2	#6	59	STR.	241'-8"	-
⑧	EB3	#6	59	STR.	100'-5"	-
	EPH	#4	130	BENT	3'-8"	-
	EPT1	#4	2	BENT	64'-4"	-
	EPT2	#4	2	BENT	64'-8"	-
③	ET1	#4	59	STR.	116'-2"	-
⑤	ET2	#4	59	STR.	237'-11"	-
⑦	ET3	#4	59	STR.	99'-2"	-
	FPH	#4	60	BENT	5'-7"	-
	FPT	#4	2	BENT	64'-7"	-
	FS2	#5	1533	BENT	7'-5"	-
	FS6	#5	20	BENT	7'-7"	-

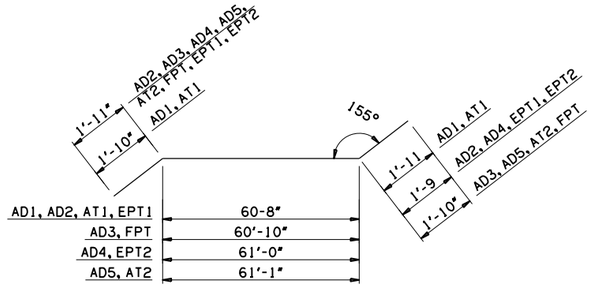
③ Includes One 2'-10" Lap Length.
④ Includes One 4'-1" Lap Length.
⑤ Includes Three 2'-10" Lap Length.
⑥ Includes Three 4'-1" Lap Length.
⑦ Includes One 2'-10" Lap Length.
⑧ Includes One 4'-1" Lap Length.



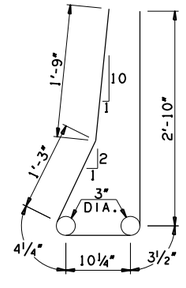
FPH #4 x 5'-7"



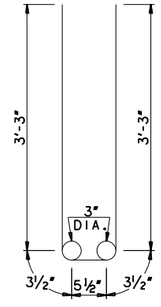
AS #4 x 5'-0"



AD1 #5 x 64'-5"
AD2 #5 x 64'-4"
AD3 #5 x 64'-7"
AD4 #5 x 64'-8"
AD5 #5 x 64'-10"
AT1 #4 x 64'-5"
AT2 #4 x 64'-10"
FPT #4 x 64'-7"
EPT1 #4 x 64'-4"
EPT2 #4 x 64'-8"



FS2 #5 x 7'-4"



FS6 #5 x 7'-6½"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

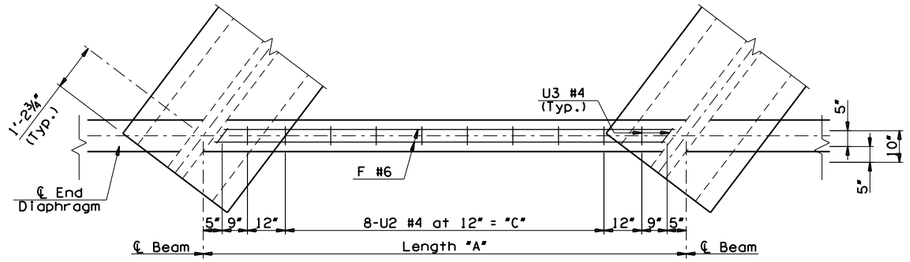
SUPERSTRUCTURE DETAILS
(SHEET 5 OF 7)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT023

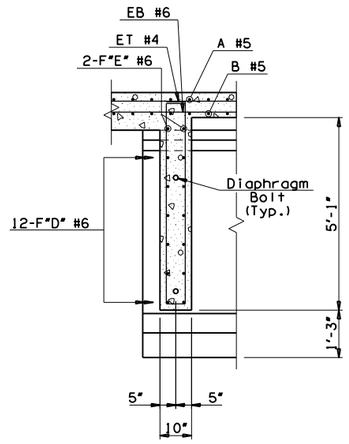
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

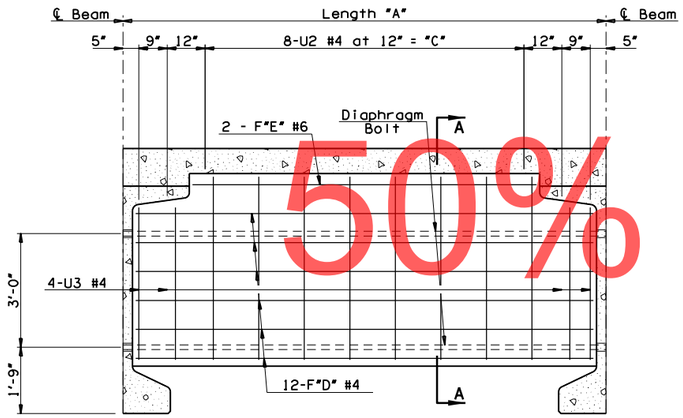


PLAN

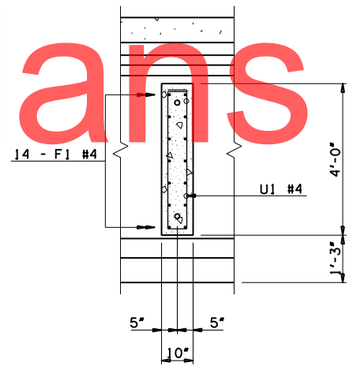
DIAPHRAGM TABLE OF VARIABLES				
SPAN	LENGTH "A"	LENGTH "C"	"D"	"E"
1	11'-2⅝"	6'-10⅝"	2	5
2	11'-2¹³⁄₁₆"	6'-10¹³⁄₁₆"	3	6
3 & 4	11'-3⅛"	6'-11⅛"	4	7



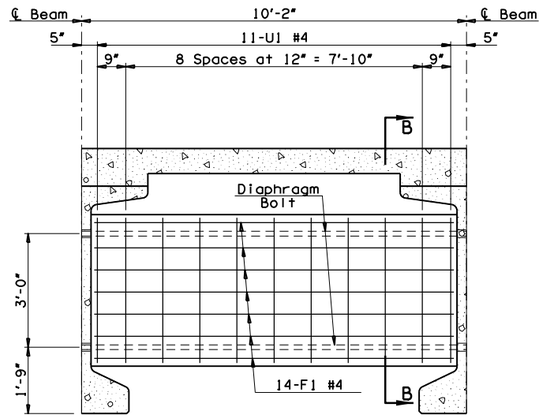
SECTION A-A



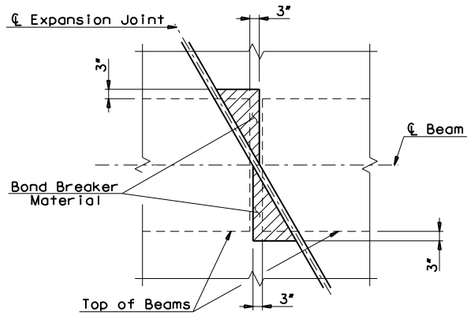
END DIAPHRAGM ELEVATION



SECTION B-B

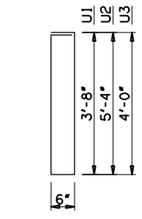


INTERMEDIATE DIAPHRAGM ELEVATION
(2 Intermediate Diaphragms Per Span)



DETAIL OF BOND BREAKER AT BEAM CORNERS

NOTE:
Where the top corner of the beam projects under the slab of the adjacent span, a minimum of 1" clearance between the top of the beam and the bottom of the slab shall be provided in the hatched areas shown above. 1" thick Expansion Material shall be used as a bond breaker.



U1 #4 x 8'-10"
U2 #4 x 12'-2"
U3 #4 x 9'-6"

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	560	STR.	9'-4"	-
F2	#6	480	STR.	10'-5"	-
F3	#6	480	STR.	10'-5"	-
F4	#6	480	STR.	10'-5"	-
F5	#6	80	STR.	7'-5"	-
F6	#6	80	STR.	7'-5"	-
F7	#6	80	STR.	7'-5"	-
U1	#4	440	BENT	8'-10"	-
U2	#4	320	BENT	12'-2"	-
U3	#4	160	BENT	9'-6"	-

50% plans

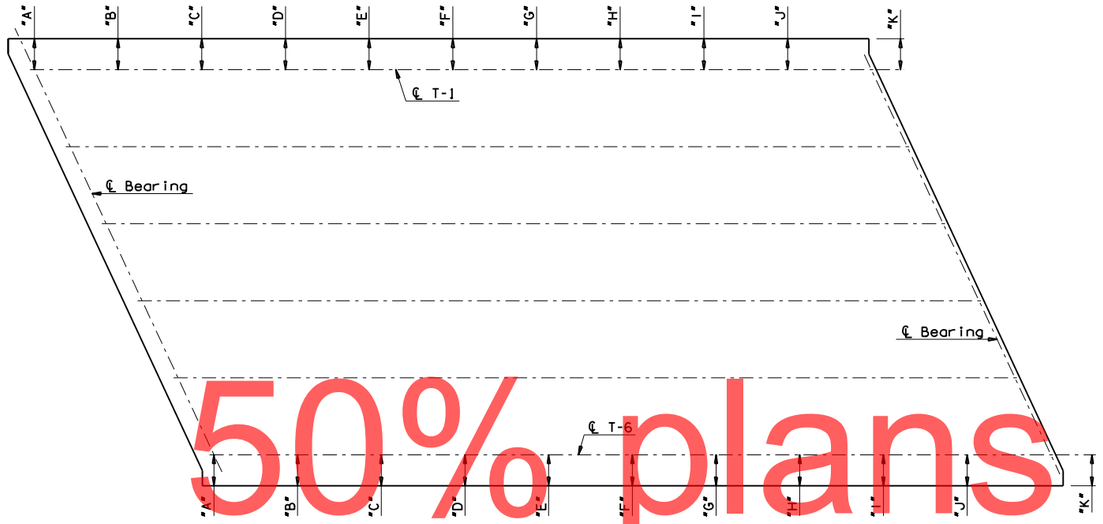
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
SUPERSTRUCTURE DETAILS
(SHEET 6 OF 7)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT024

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

PROPOSED
R/W
10/23/2017



50% plans

SPAN NO. 1 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	T-1	T-6
"A"	4'-1"	4'-1"
"B"	4'-1"	4'-1"
"C"	4'-1"	4'-1"
"D"	4'-1"	4'-1"
"E"	4'-1"	4'-1"
"F"	4'-1"	4'-1"
"G"	4'-1"	4'-1"
"H"	4'-1"	4'-1"
"I"	4'-1"	4'-1"
"J"	4'-1"	4'-1"
"K"	4'-1"	4'-1"

SPAN NO. 2 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	T-1	T-6
"A"	4'-0 5/16"	4'-0 7/8"
"B"	4'-0 3/4"	4'-0 1/2"
"C"	4'-1 3/16"	4'-0 3/16"
"D"	4'-1 9/16"	4'-0"
"E"	4'-1 7/8"	3'-11 7/8"
"F"	4'-2 1/16"	3'-11 13/16"
"G"	4'-2 1/8"	3'-11 15/16"
"H"	4'-2 1/8"	4'-0 1/16"
"I"	4'-2 1/16"	4'-0 5/16"
"J"	4'-1 7/8"	4'-0 11/16"
"K"	4'-1 5/8"	4'-1 1/8"

SPAN NO. 3 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	T-1	T-6
"A"	4'-0 3/8"	4'-0 15/16"
"B"	4'-0 11/16"	4'-0 3/4"
"C"	4'-0 15/16"	4'-0 9/16"
"D"	4'-1 3/16"	4'-0 1/2"
"E"	4'-1 5/16"	4'-0 7/16"
"F"	1'-1 7/16"	4'-0 7/16"
"G"	4'-1 9/16"	4'-0 1/2"
"H"	4'-1 9/16"	4'-0 9/16"
"I"	4'-1 9/16"	4'-0 11/16"
"J"	4'-1 1/2"	4'-0 7/8"
"K"	4'-1 3/8"	4'-1 1/16"

SPAN NO. 4 CANTILEVER DIMENSIONS		
10TH. PTS.	EXTERIOR BEAM NO.	
	T-1	T-6
"A"	4'-0 3/8"	4'-0 15/16"
"B"	4'-0 11/16"	4'-0 3/4"
"C"	4'-0 15/16"	4'-0 9/16"
"D"	4'-1 3/16"	4'-0 1/2"
"E"	4'-1 5/16"	4'-0 7/16"
"F"	4'-1 7/16"	4'-0 7/16"
"G"	4'-1 9/16"	4'-0 1/2"
"H"	4'-1 9/16"	4'-0 9/16"
"I"	4'-1 9/16"	4'-0 11/16"
"J"	4'-1 1/2"	4'-0 7/8"
"K"	4'-1 3/8"	4'-1 1/16"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

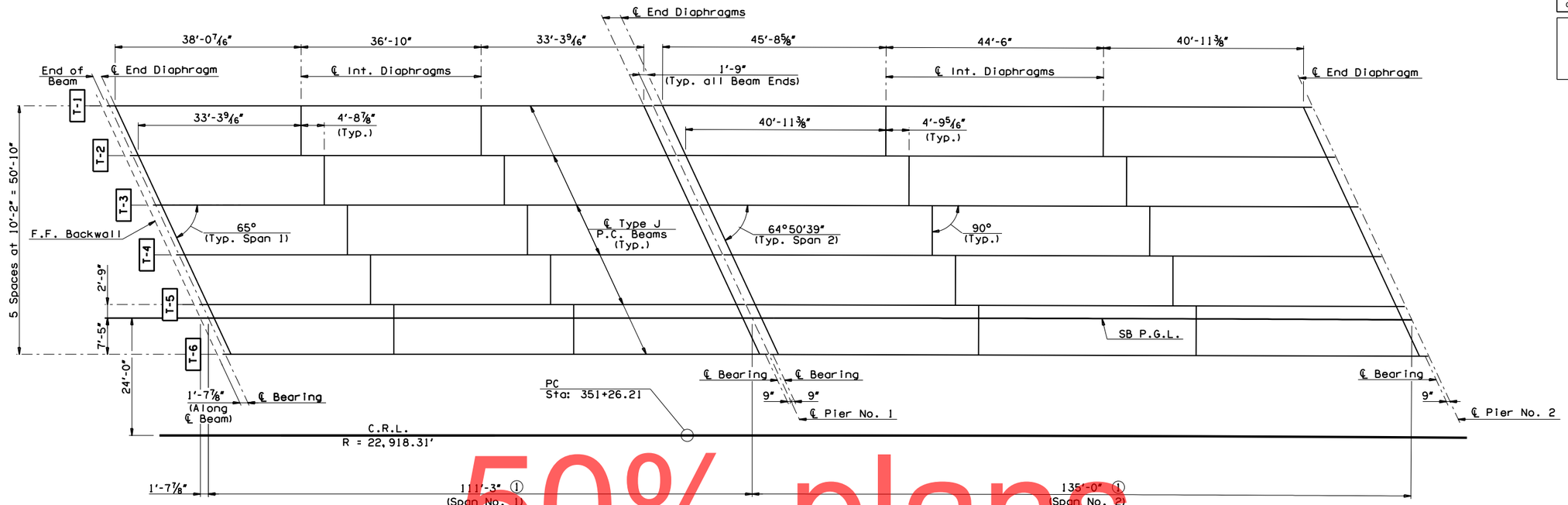
SUPERSTRUCTURE DETAILS
(SHEET 7 OF 7)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT025

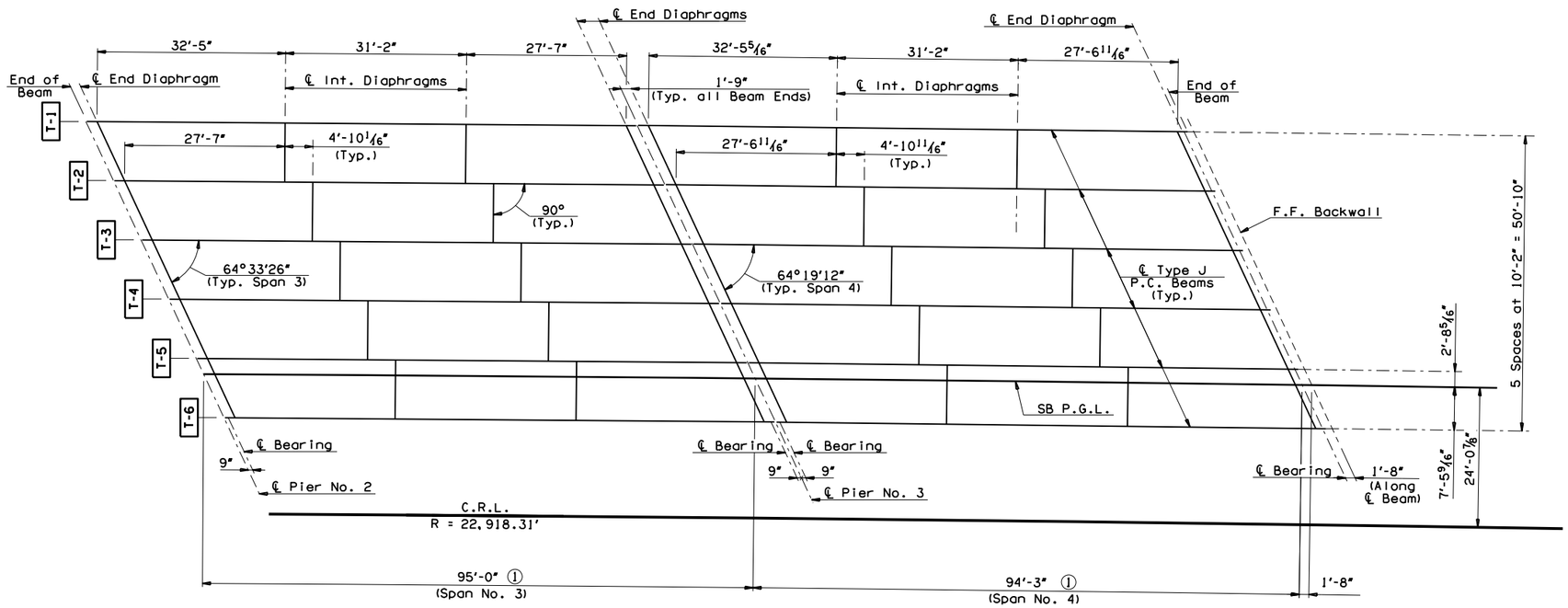
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

FRAMING PLAN - SPAN NOS. 1 & 2



FRAMING PLAN - SPAN NOS. 3 & 4

① Measured along Proposed S.B. C.R.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
FRAMING PLAN

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

DESIGNED	JMH	6/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT026

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

PROPOSED R/W
10/23/2017

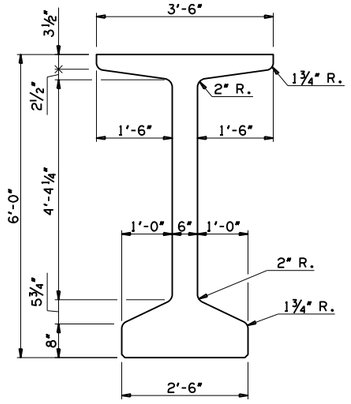
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 6,000 p.s.i. at transfer of prestress and 8,000 p.s.i. at 28 days.

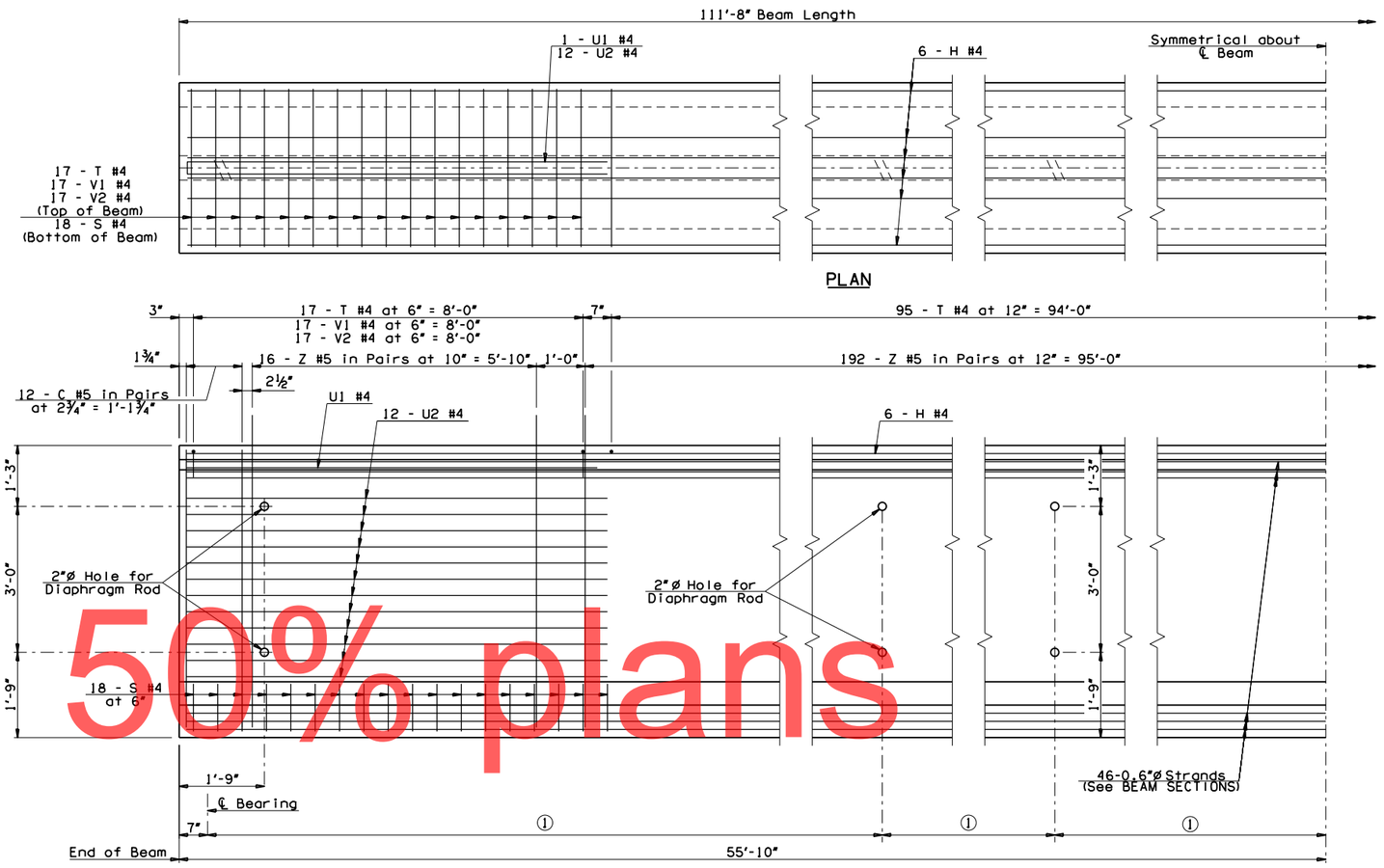
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.47 (HL-93)

LFR OPERATING RATING - HS 55.4
The Operating Rating shown is based on a nominal strength using all strands within the beam.

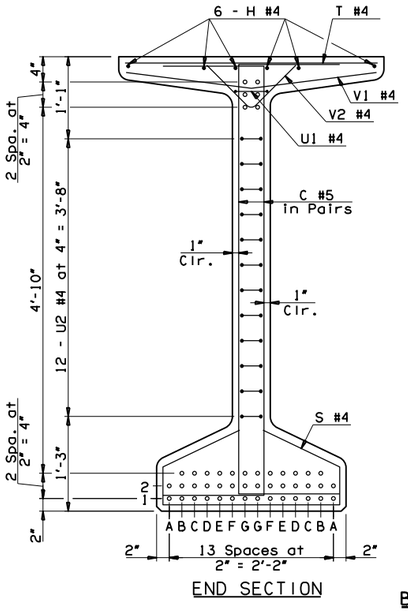


END VIEW
(Type J BT)

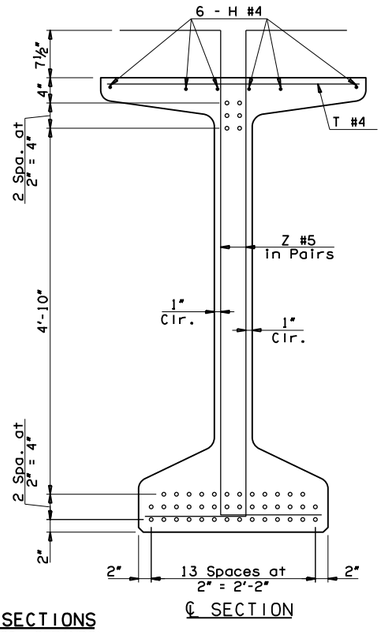


50% plans

ⓘ See Framing Plan for Diaphragm Spacing.

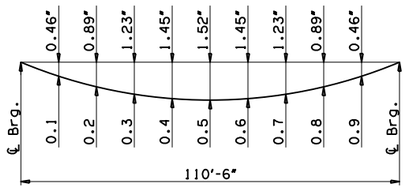


END SECTION



℄ SECTION

BEAM SECTIONS
(46 - 0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + Concrete Traffic Rail. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"

NOTES:
For bar bend and embedded plate details, see Sheet No. BT030.

For diaphragm skew angles, see Sheet No. BT026.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
112'-0" BEAM DETAILS
(TYPE J BT)
(SHEET 1 OF 4)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT027

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

PROPOSED
R/W
10/23/2017

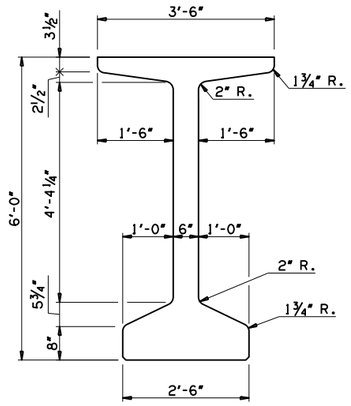
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 8,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.

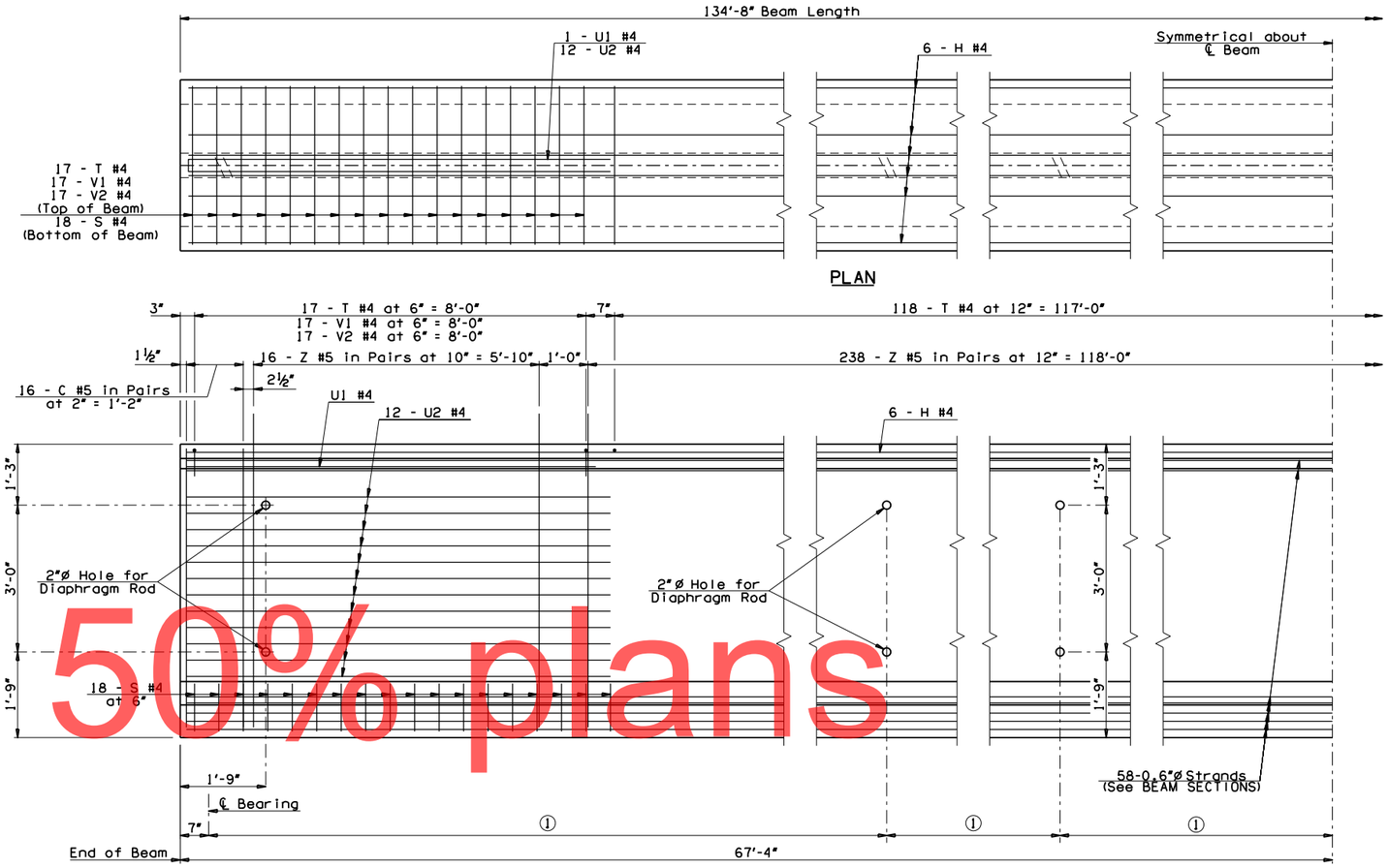
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.25 (HL-93)

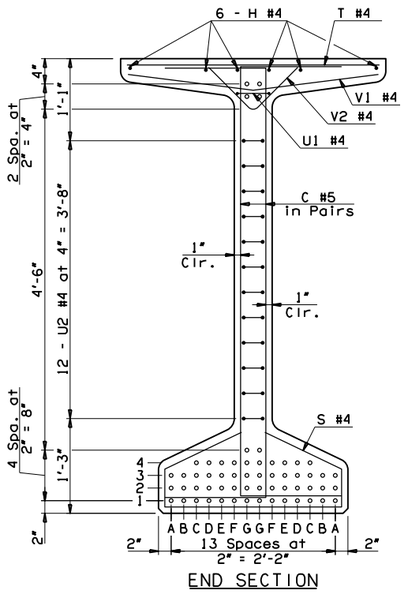
LFR OPERATING RATING - HS 55.4
The Operating Rating shown is based on a nominal strength using all strands within the beam.



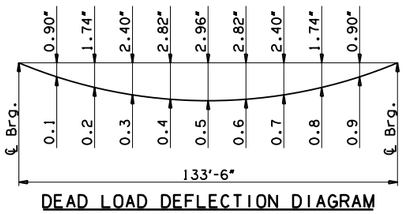
END VIEW
(Type J BT)



50% plans



BEAM SECTIONS
(58 - 0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + Concrete Traffic Rail. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	12'-0"
C2	6'-0"

NOTES:
For bar bend and embedded plate details, see Sheet No. BT030.

For diaphragm skew angles, see Sheet No. BT026.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
135'-0" BEAM DETAILS
(TYPE J BT)
(SHEET 2 OF 4)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT028

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

PROPOSED
R/W
10/23/2017

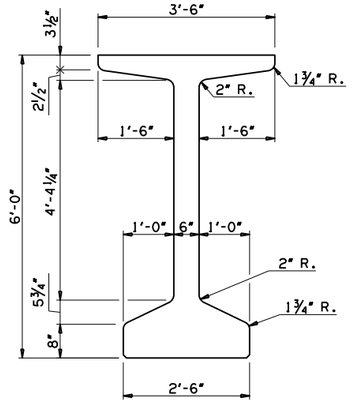
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

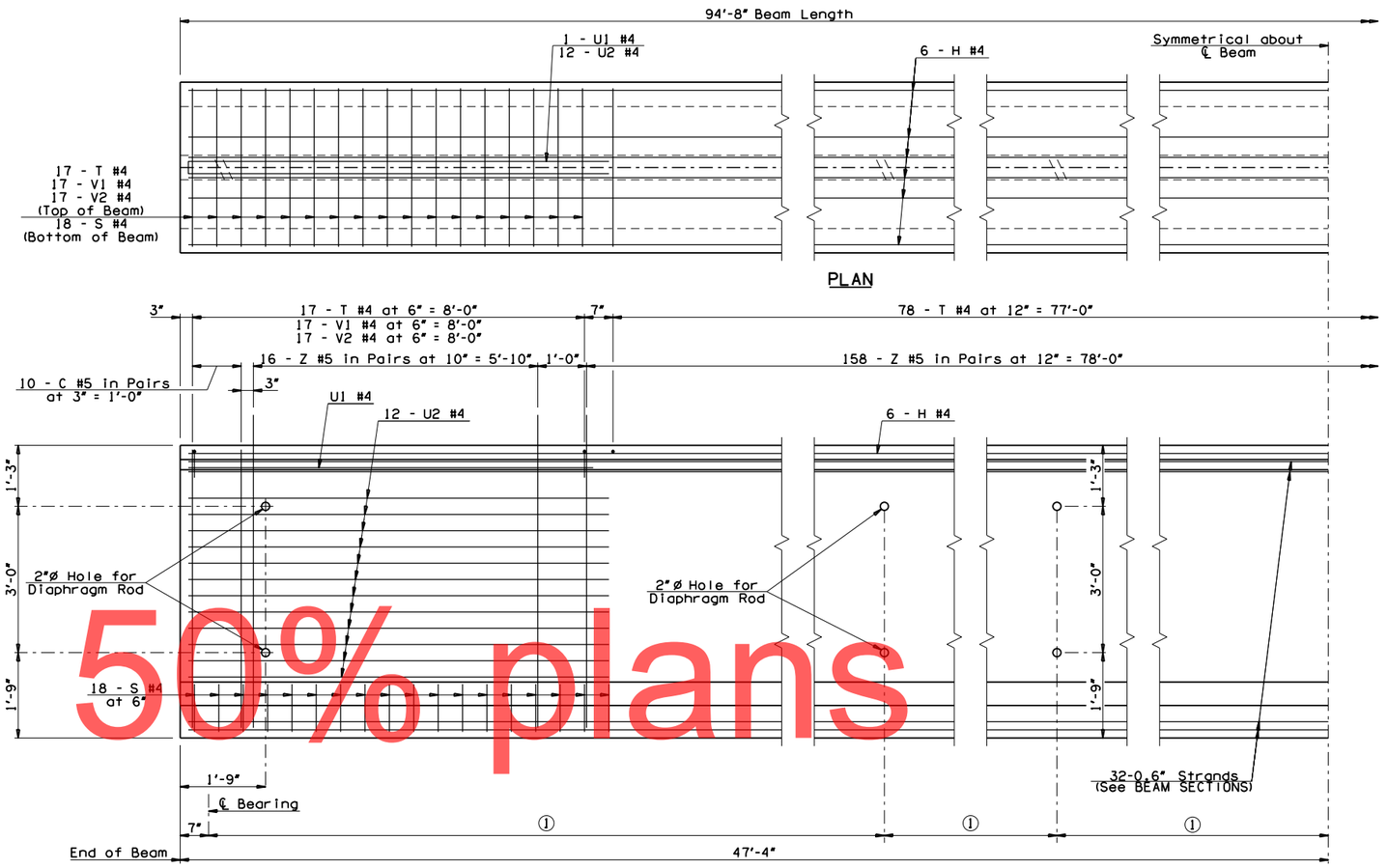
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.24 (HL-93)

LFR OPERATING RATING - HS 53.6
The Operating Rating shown is based on a nominal strength using all strands within the beam.

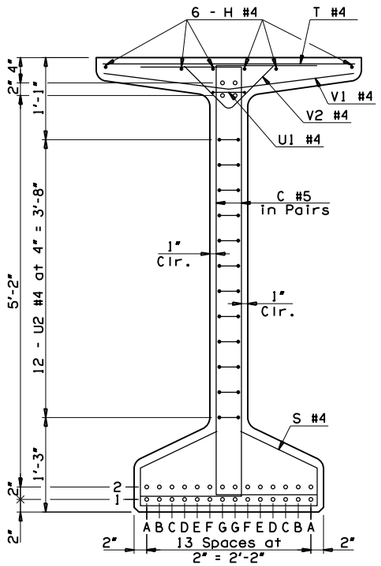


END VIEW
(Type J BT)

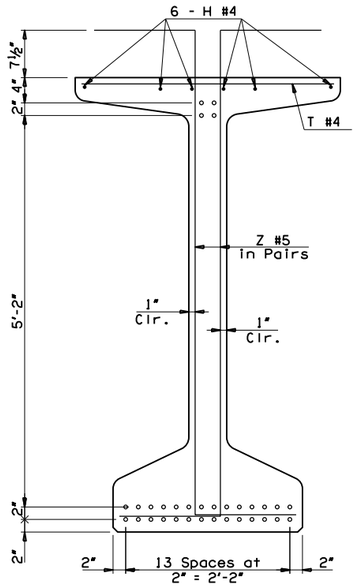


50% plans

①See Framing Plan for Diaphragm Spacing.

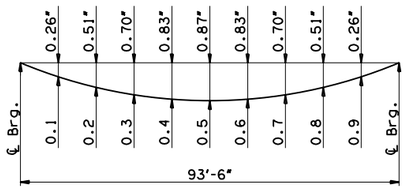


END SECTION



℄ SECTION

BEAM SECTIONS
(32 - 0.6" STRANDS)



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + Concrete Traffic Rail. It does not include the Beam weight or Future Wearing Surface.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
D1	6'-0"

NOTES:
For bar bend and embedded plate details, see Sheet No. BT030.

For diaphragm skew angles, see Sheet No. BT026.

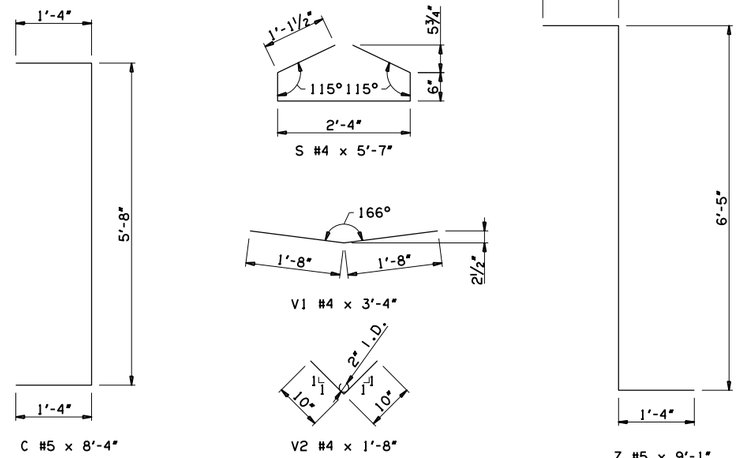
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
95'-0" BEAM DETAILS
(TYPE J BT)
(SHEET 3 OF 4)

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

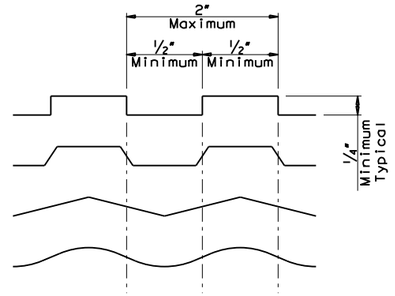
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT029

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

PROPOSED R/W
10/23/2017

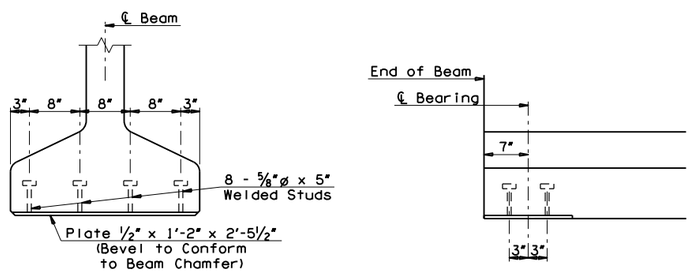


50% plans



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

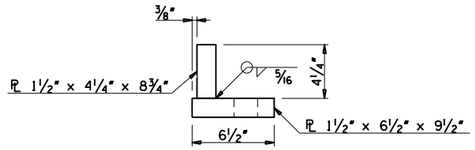
BR. T GILCREASE SB OVER HARLOW CREEK
BEAM DETAILS
(TYPE J BT)
(SHEET 4 OF 4)

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

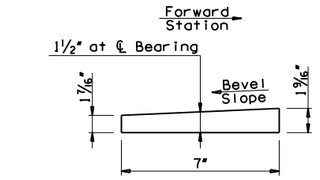
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT030

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

PROPOSED R/W
10/23/2017

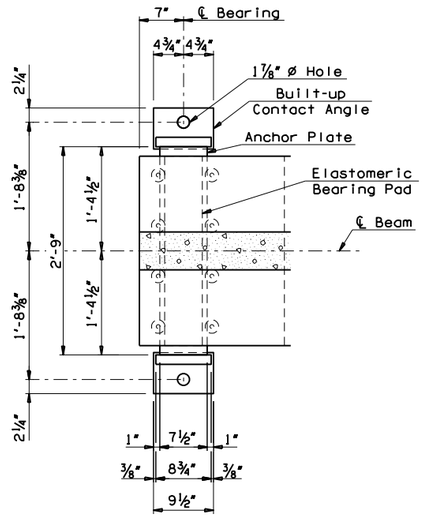


BUILT-UP CONTACT ANGLE DETAIL

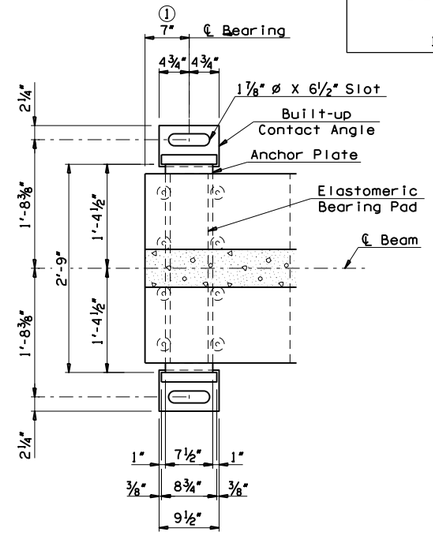


NOTE:
Paint thickest edge red.

BEVELED ANCHOR PLATE DETAIL
(Span 1, Span 2, Span 3 Start, Span 4 Start)

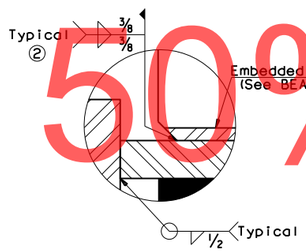


FIXED BEARING PLAN



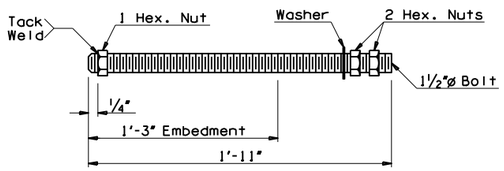
EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.

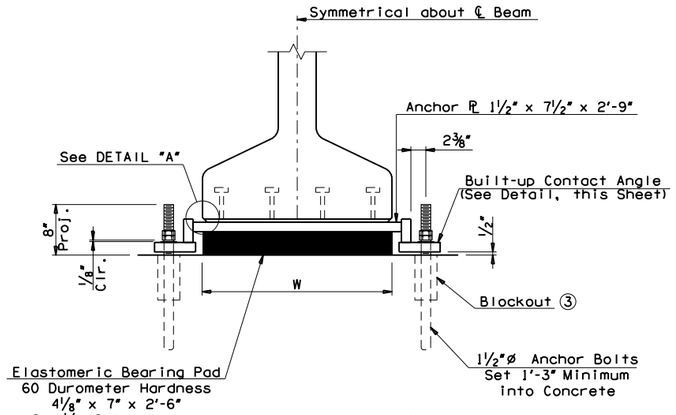


DETAIL "A"

② Refer to "SEQUENCE OF CONSTRUCTION" sheets prior to welding embeded sole plate to anchor plate.

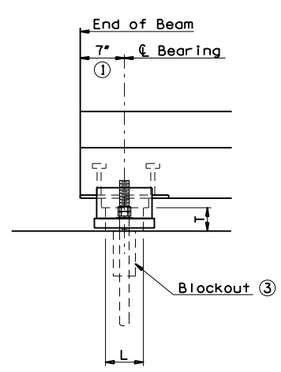


ANCHOR BOLT DETAIL



END VIEW

③ Provide blockouts at all bearing locations to prevent damage to reinforcing steel during installation of anchor bolts.



ELEVATION

BEARING DETAILS

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Grade L7 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

Contractor shall post install the anchor bolts in accordance with section 509.04.D(3) of the standard specification with a Type H epoxy. Fully remove blocking material prior to installing epoxy. If the epoxy manufacturer requires a longer embedment length, increase the length of the anchor bolt to provide an 8" minimum projection above the top of the cap. Include the depth of the blocked out section in the embedment length.

50% plans

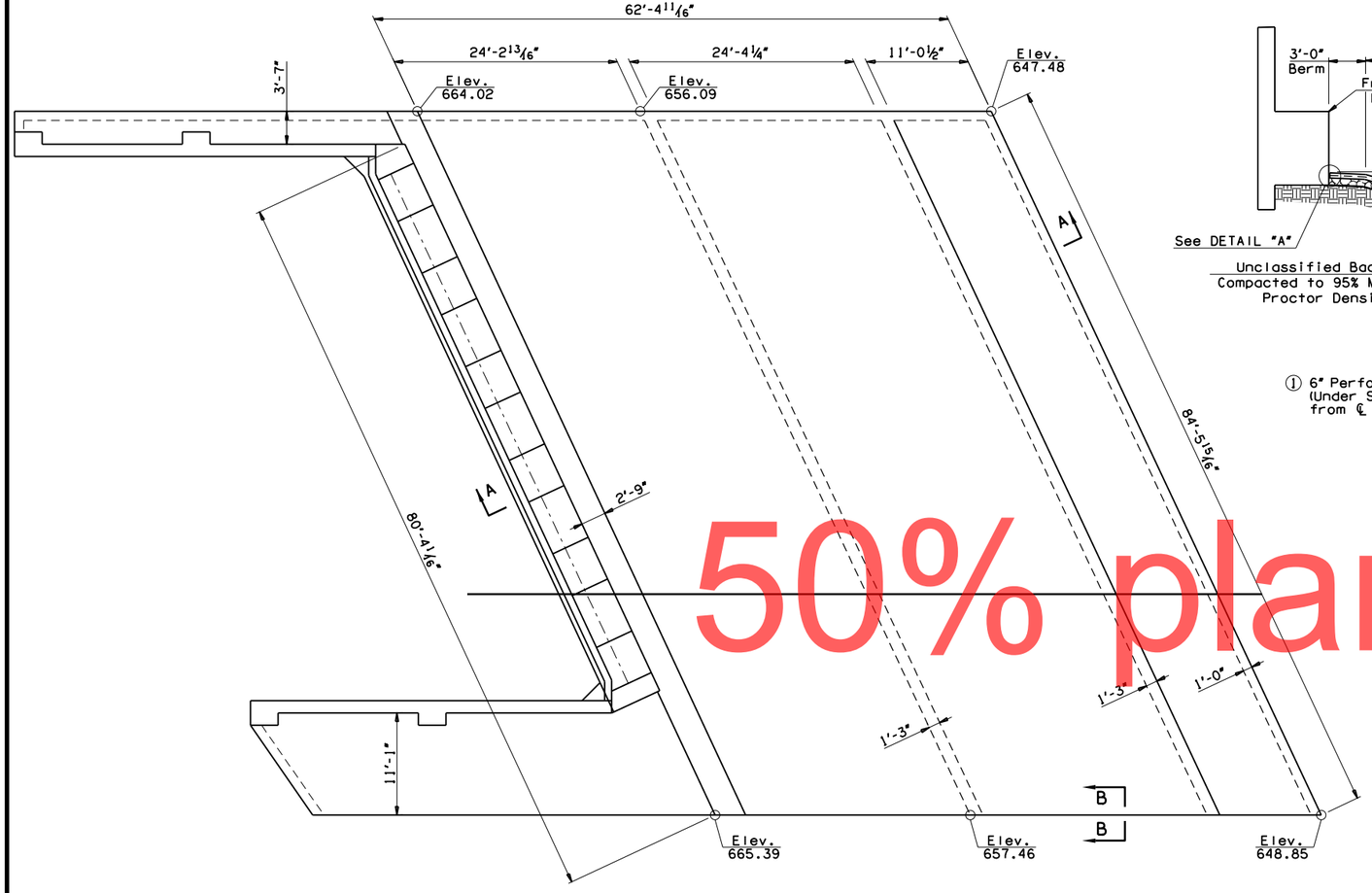
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
BEARING DETAILS
(TYPE J BT)

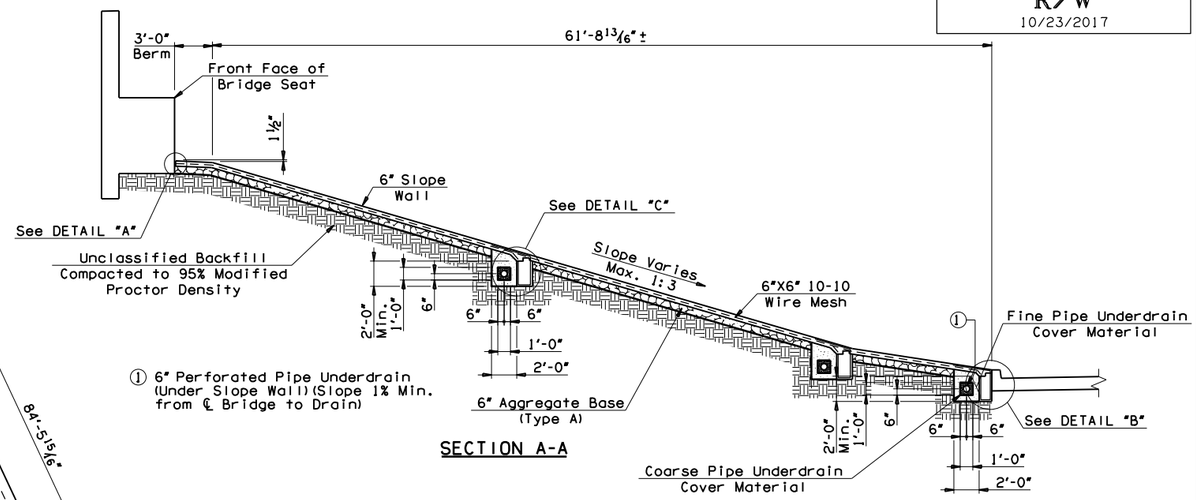
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT031

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

PROPOSED R/W
10/23/2017

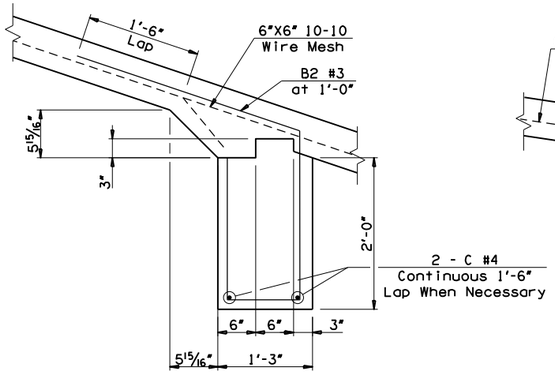




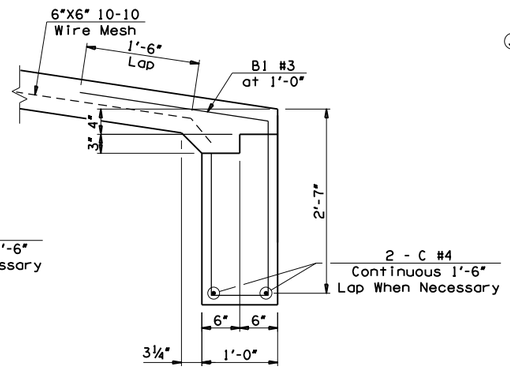
50% plans

SUMMARY OF QUANTITIES - SLOPE WALL		
ITEM	UNIT	TOTAL
② SLOPE WALL (6")	S.Y.	XXX.XX
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	XXX.XX
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	XXX.XX

② All costs of the "SLOPE WALL (6")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, 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 (6")".

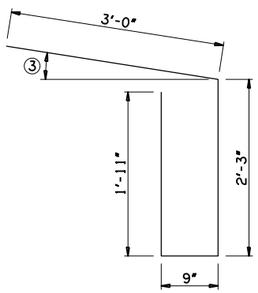


DETAIL "C"

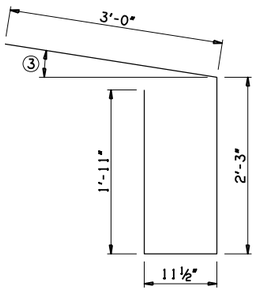


DETAIL "B"

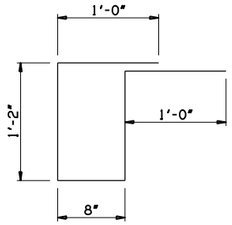
③ Match Slope of Slope Wall.



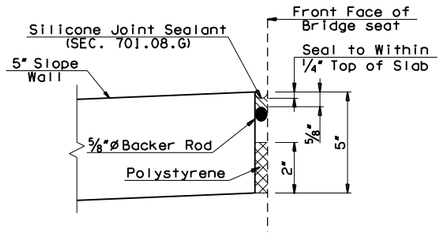
B1 #3 X 7'-11"



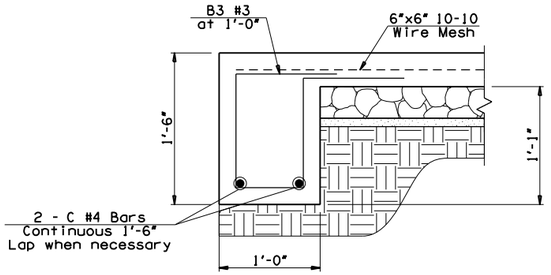
B2 #3 X 8'-1 1/2"



B3 #3 X 5'-0"



DETAIL "A"



SECTION B-B

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. T GILCREASE SB OVER HARLOW CREEK

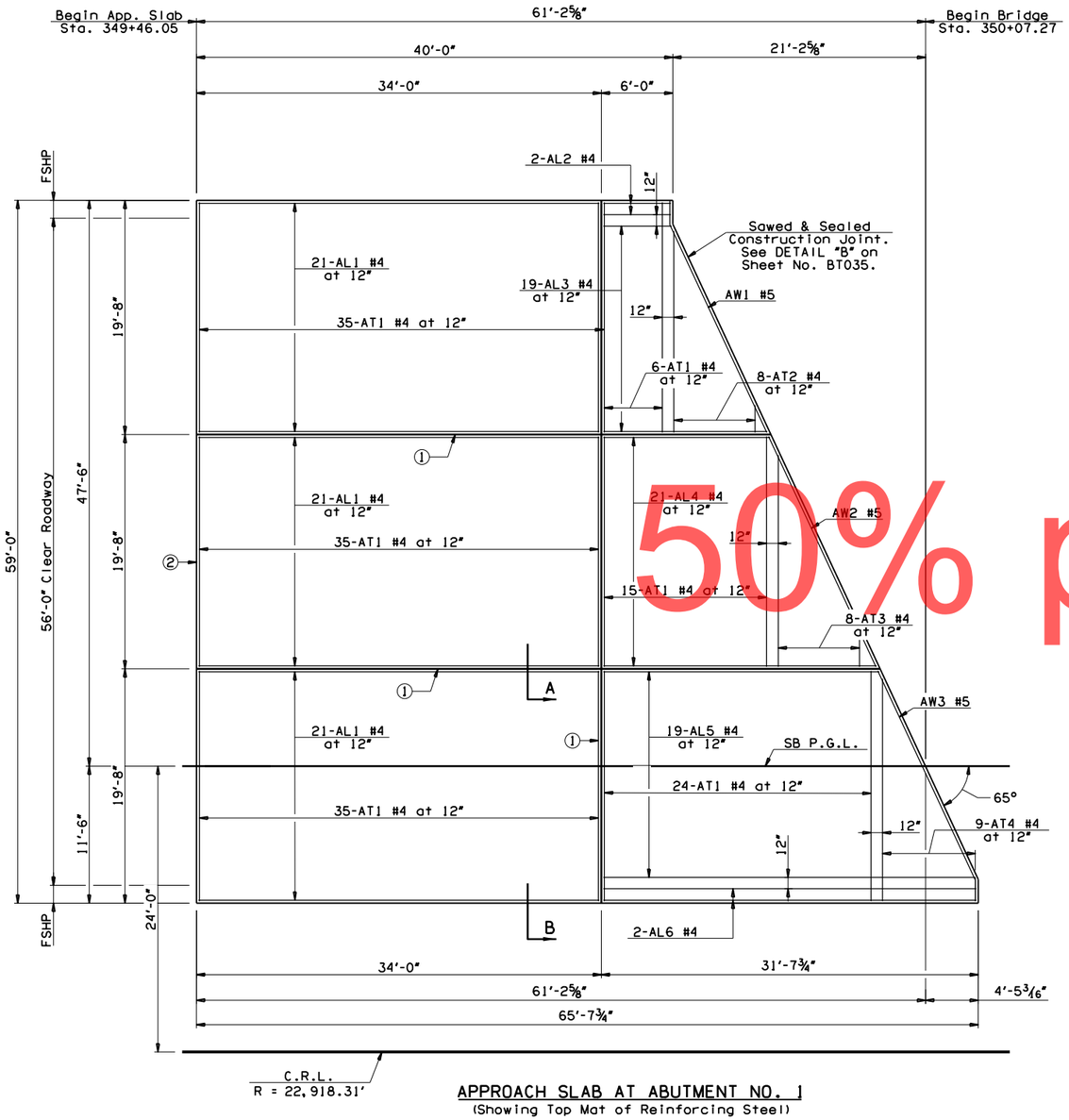
SLOPE WALL DETAILS

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

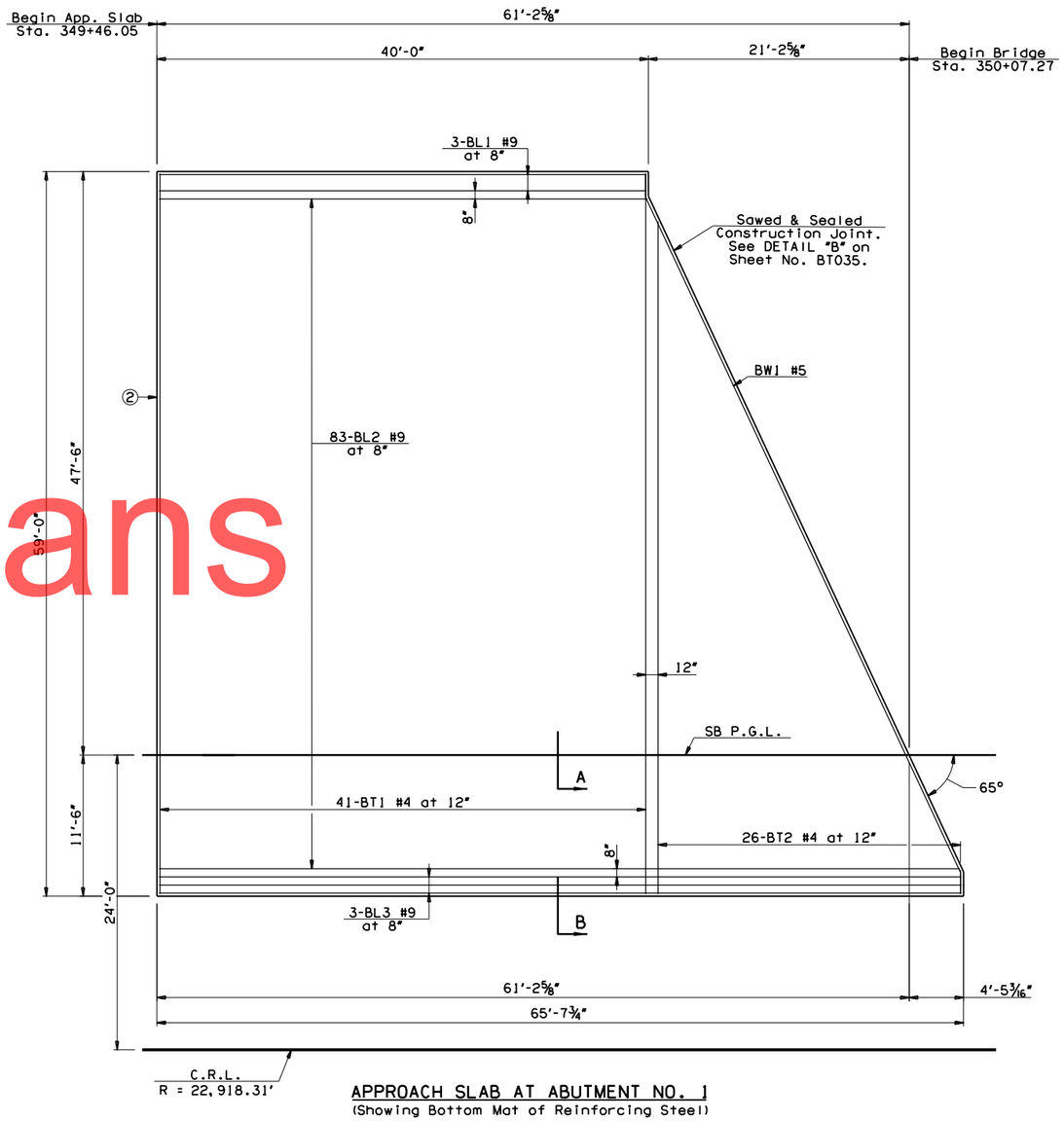
DESIGNED	BRT	4/17	CONTRACT NO. GCT-2500	
DETAILED	JMH	9/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT032

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

PROPOSED R/W
10/23/2017



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



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

50% plans

NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BT035.

② Type III Terminal Joint. See DETAIL "C" on Sheet No. BT035. All costs of installation of Terminal Joints shall be included in "Dowel Jointed PC Concrete Pavement (Placement)".

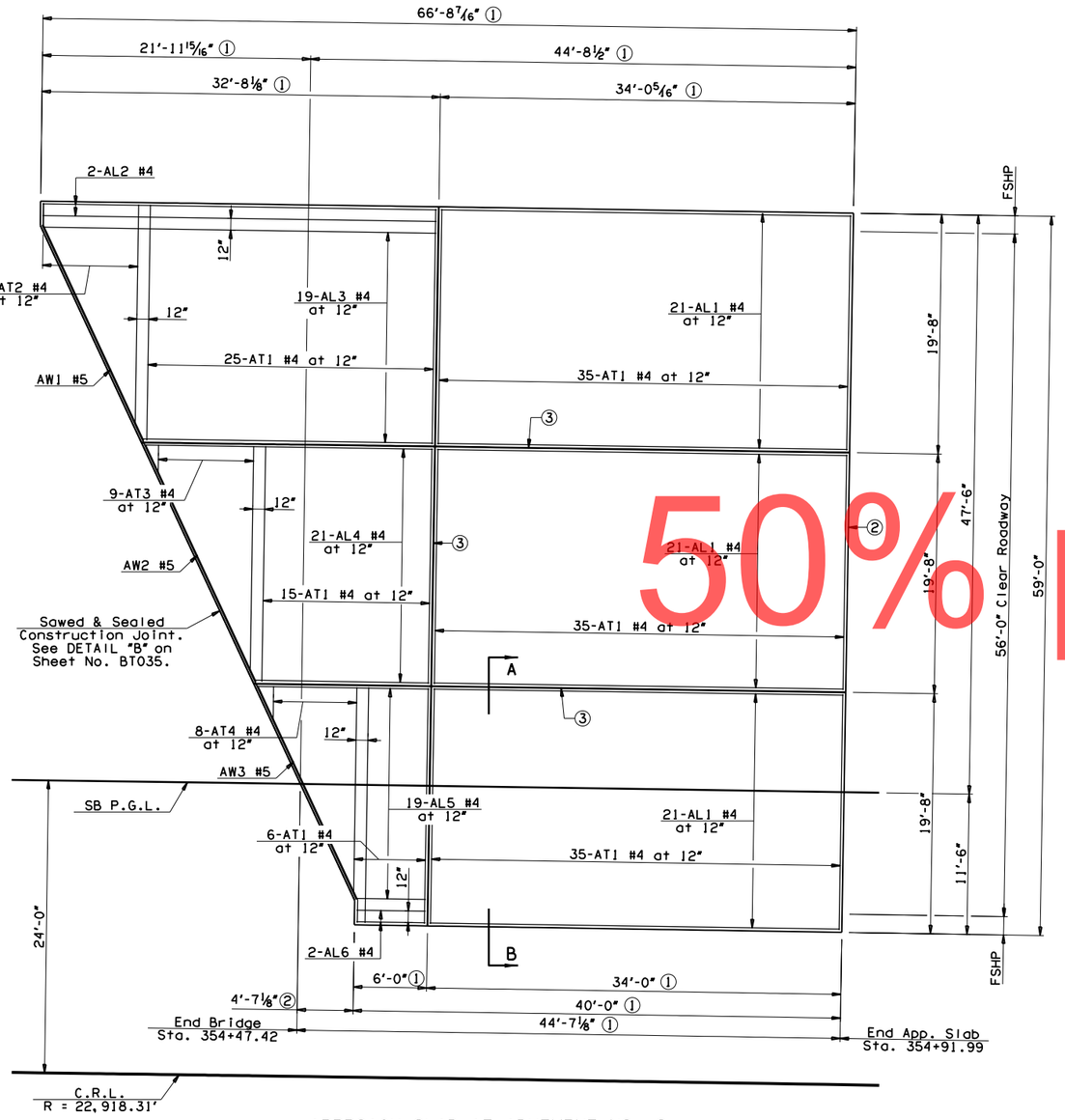
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
APPROACH SLAB DETAILS
(SHEET 1 OF 3)

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

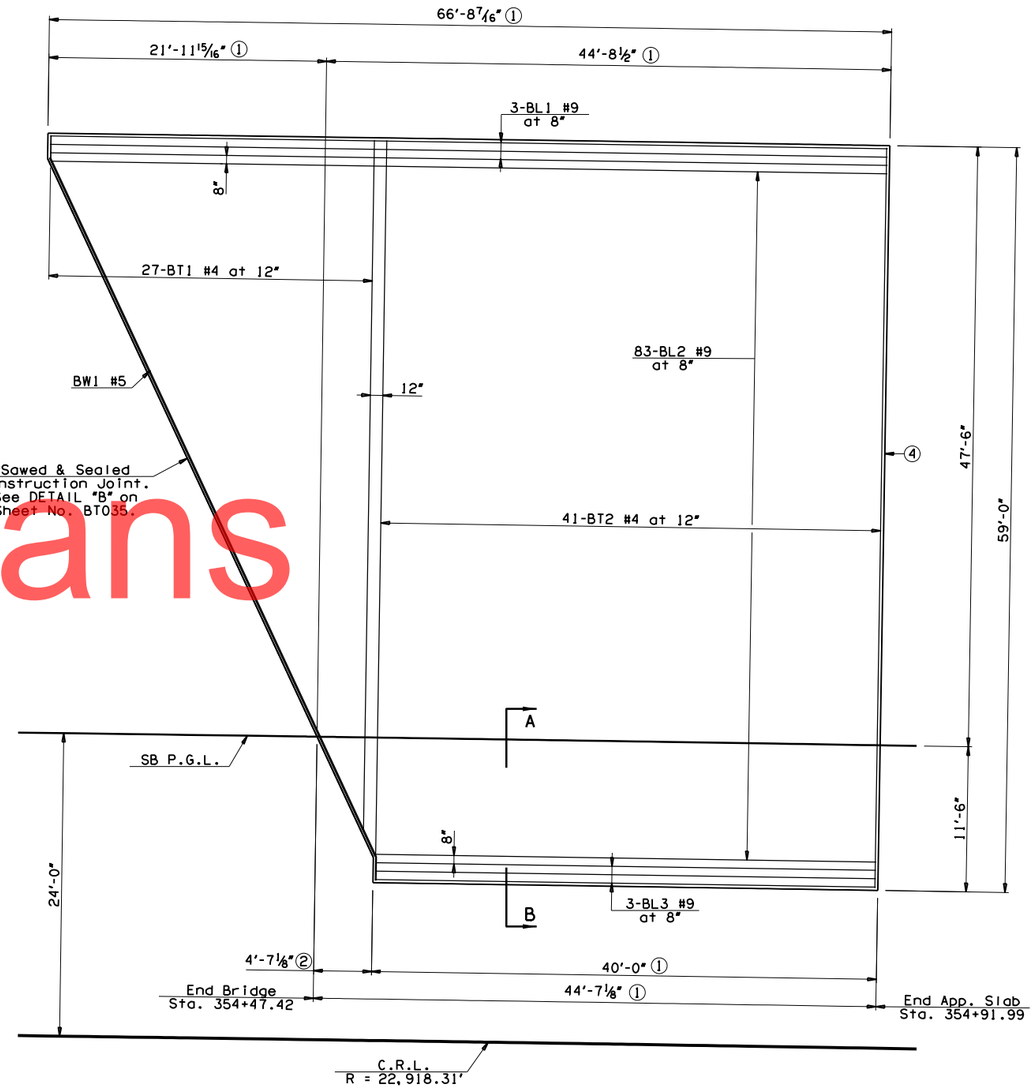
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT033

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

PROPOSED R/W
10/23/2017



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



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

50% plans

NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.

① Measured Along Outside Edge of Slab
② Measured Along P.G.L.
③ ½" Sawed and Sealed Construction Joint in the top of each Approach Slab. See DETAIL "A" on Sheet No. BT035.
④ Type III Terminal Joint. See DETAIL "C" on Sheet No. BT035. All costs of installation of Terminal Joints shall be included in "Dowel Jointed PC Concrete Pavement (Placement)".

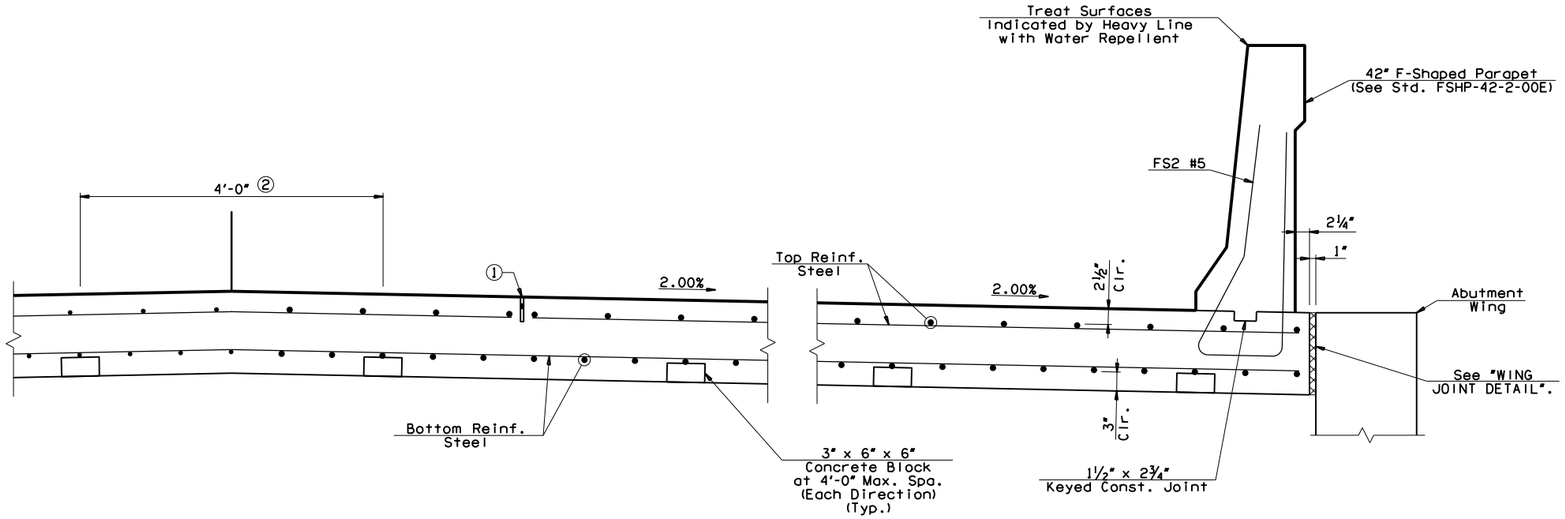
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
APPROACH SLAB DETAILS
(SHEET 2 OF 3)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	7/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT034

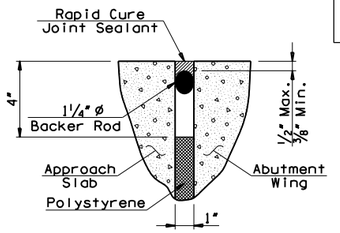
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



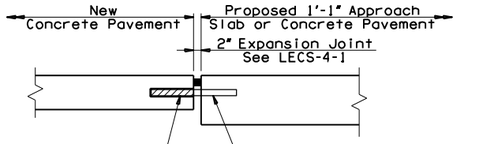
SECTION A THRU APPROACH SLAB

SECTION B



WING JOINT DETAIL

NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".



DETAIL "C"

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab (See DETAIL "A").

② Round 2'-0" each side of crown to avoid sharp edges.

50% plans

BAR LIST - APPROACH SLAB NO. 1

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	63	STR.	33'-8"	-
AL2	#4	2	STR.	5'-8"	-
AL3	#4	19	STR.	9'-9" AVG.	5'-9" TO 13'-9"
AL4	#4	21	STR.	18'-5½" AVG.	14'-0" TO 22'-11"
AL5	#4	19	STR.	27'-2½" AVG.	23'-2" TO 31'-3"
AL6	#4	2	STR.	31'-4"	-
AT1	#4	150	STR.	19'-4"	-
AT2	#4	8	STR.	9'-7½" AVG.	2'-4" TO 16'-11"
AT3	#4	8	STR.	10'-6" AVG.	3'-2" TO 17'-10"
AT4	#4	9	STR.	10'-4" AVG.	2'-0" TO 18'-8"
AW1	#5	1	BENT	21'-1"	-
AW2	#5	1	STR.	21'-4"	-
AW3	#5	1	BENT	21'-2"	-
BL1	#9	3	STR.	39'-8"	-
BL2	#9	83	STR.	52'-5½" AVG.	39'-9" TO 65'-2"
BL3	#9	3	STR.	65'-4"	-
BT1	#4	41	STR.	58'-8"	-
BT2	#4	26	STR.	28'-4½" AVG.	2'-0" TO 54'-9"
BW1	#5	1	BENT	64'-4"	-

BAR LIST - APPROACH SLAB NO. 2

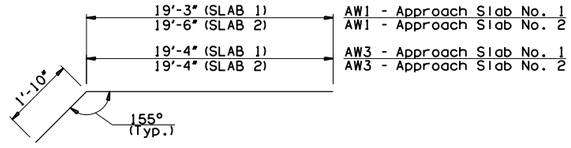
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	63	STR.	33'-9"	-
AL2	#4	2	STR.	32'-4"	-
AL3	#4	19	STR.	28'-1" AVG.	23'-11" TO 32'-3"
AL4	#4	21	STR.	19'-0" AVG.	14'-4" TO 23'-8"
AL5	#4	19	STR.	9'-11½" AVG.	5'-9" TO 14'-2"
AL6	#4	2	STR.	5'-8"	-
AT1	#4	151	STR.	19'-4"	-
AT2	#4	9	STR.	10'-0½" AVG.	2'-0" TO 18'-1"
AT3	#4	9	STR.	10'-5½" AVG.	2'-5" TO 18'-6"
AT4	#4	8	STR.	9'-10½" AVG.	2'-10" TO 16'-11"
AW1	#5	1	BENT	21'-4"	-
AW2	#5	1	STR.	21'-6"	-
AW3	#5	1	BENT	21'-2"	-
BL1	#9	3	STR.	66'-4"	-
BL2	#9	83	STR.	53'-0" AVG.	39'-9" TO 66'-3"
BL3	#9	3	STR.	39'-8"	-
BT1	#4	27	STR.	28'-4" AVG.	1'-11" TO 54'-9"
BT2	#4	41	STR.	58'-8"	-
BW1	#5	1	BENT	64'-9"	-

SUMMARY OF QUANTITIES - APPROACH SLAB NOS. 1 & 2

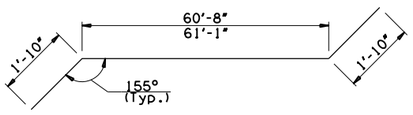
③④ ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL

③ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 bars), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

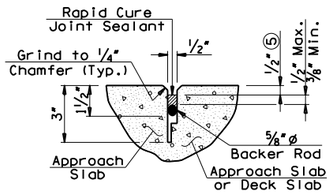
④ There is an estimated XX.XX C.Y. of Class AA Concrete and an estimated XXXX.XX LB. of Epoxy Coated Reinforcing Steel in Approach Slab No. 1. There is an estimated XX.XX C.Y. of Class AA Concrete and an estimated XXXX.XX LB. of Epoxy Coated Reinforcing Steel in Approach Slab No.2.



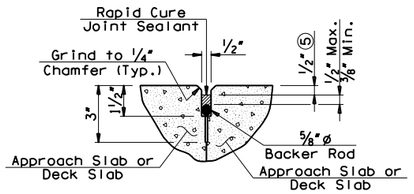
AW1 - #5 x 21'-1" (Slab 1)
AW3 - #5 x 21'-2" (Slab 1)
AW1 - #5 x 21'-4" (Slab 2)
AW3 - #5 x 21'-2" (Slab 2)



BW1 SLAB 1 #5 x 64'-4"
BW1 SLAB 2 #5 x 64'-9"



DETAIL "A"



DETAIL "B"

⑤ This dimension shall taper from ½" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. T GILCREASE SB OVER HARLOW CREEK
APPROACH SLAB DETAILS
(SHEET 3 OF 3)

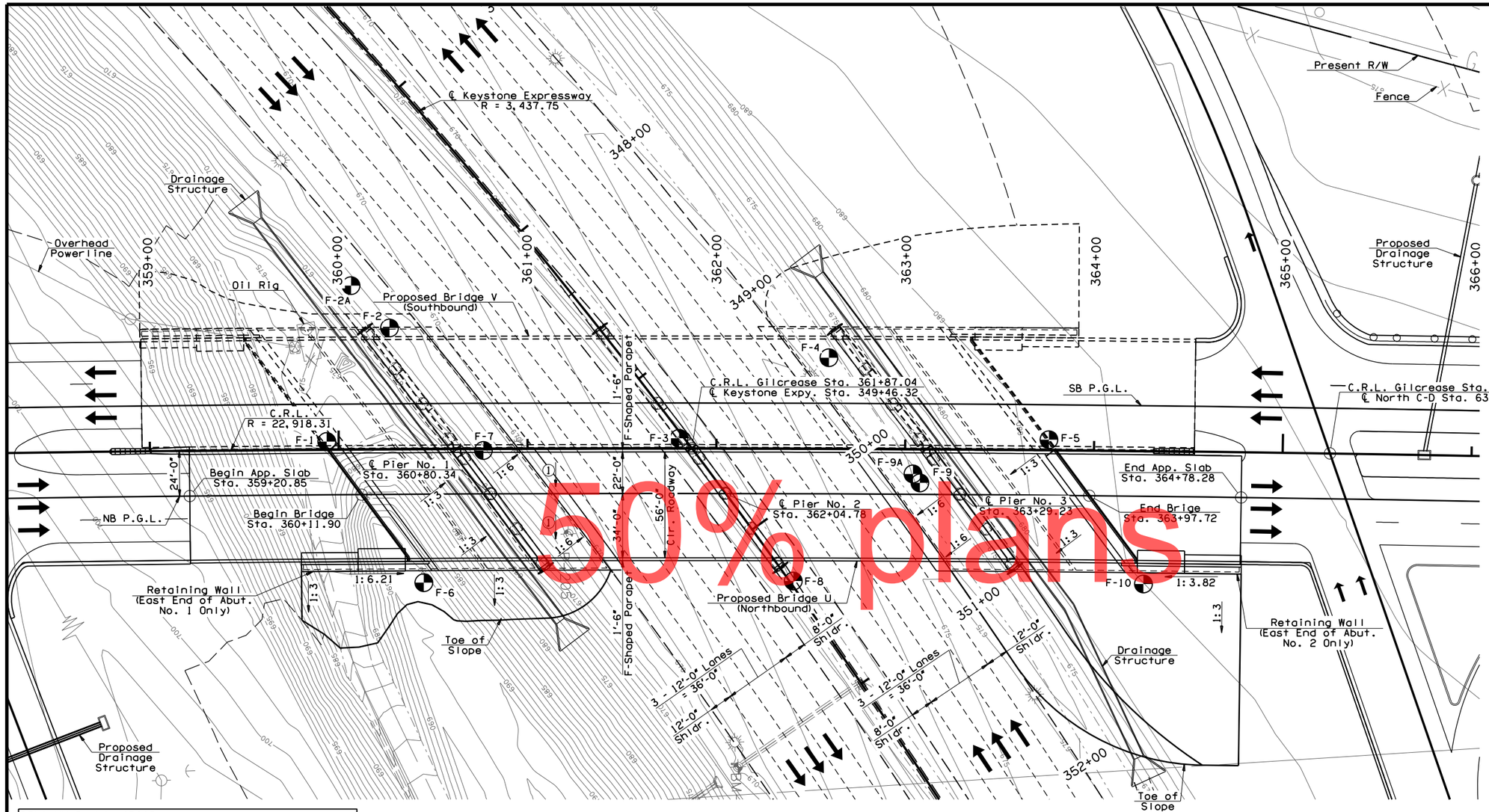
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	8/17		
CHECKED	MJY	10/17	DATE: 10/23/2017	SHEET NO. BT035

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

PROPOSED R/W
10/23/2017

SCALE 1" = 30'

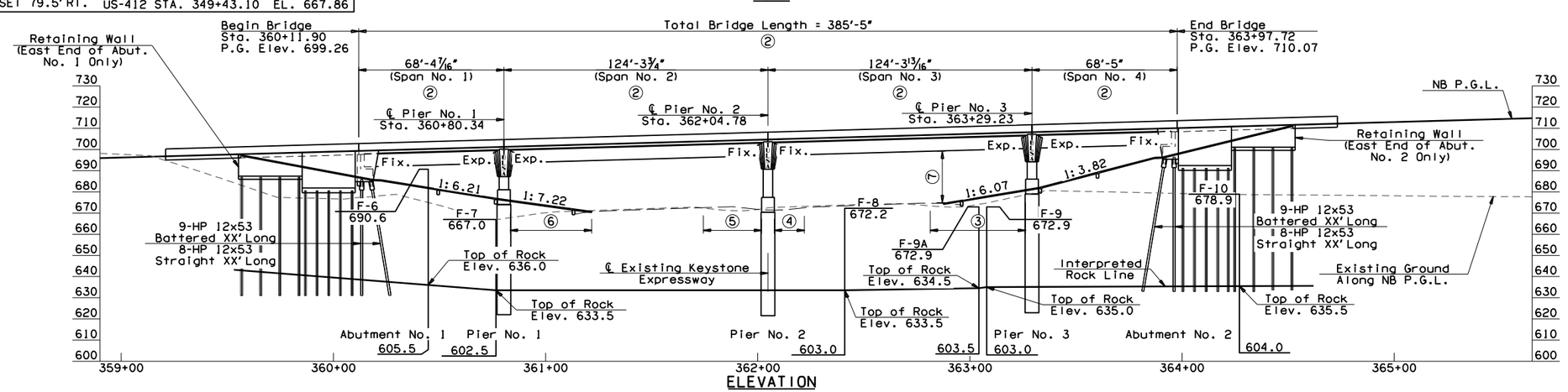


50% plans

For Foundation Report, See Sheet Nos. BU003 - BU005.

BENCHMARK NO. CP205
DESCRIPTION 1/2" REBAR
OFFSET 79.5' RT. US-412 STA. 349+43.10 EL. 667.86

PLAN



ELEVATION

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BU002.

① 0.02 ft./ft.
② Stations measured along C.R.L. Dimensions measured along P.G.L.
③ 38'-7" Min. from Crashwall to Edge of Existing WB Travel Lane
④ 17'-3" Min. from Crashwall to Edge of Existing WB Travel Lane
⑤ 16'-2" Min. from Crashwall to Edge of Existing EB Travel Lane
⑥ 29'-0" Min. from Crashwall to Edge of Existing EB Travel Lane
⑦ 24'-0" Min. Clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)

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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BU001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling)(M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS 43.8
LRFR Operationg Rating: 1.70

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BU001-BU002	General Plan and Elevation
BU003-BU005	Foundation Report
BU006-BU007	Staking Diagram
BU008-BU009	Pier Details
BU010	Typical Section
BU011-BU013	Beam Details
BU014	Bearing Details
BU015-BU018	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

50% plans

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

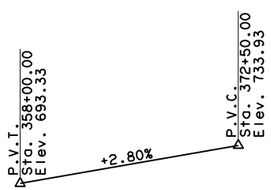
	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BU002

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. F-1
Sta. 289+77.00, 18.00' Lt.
Total Depth = 67.5 ft.

680.0
675.0
670.0
665.0
660.0
655.0
650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0

SS-1; N=12; R=10"; MC=11.0%; LL=NP; PL=NP; PI=NP; #200=44.0% --- 676.5
SS-2; N=16; R=8"; MC=16.0% --- 675.0
SS-3; N=11; R=15"; MC=13.0% --- 672.0
SS-4; N=9; R=18"; MC=16.0%; LL=31; PL=18; PI=13; #200=86.0% --- 668.5
SS-5; N=12; R=8"; MC=16.0% --- 663.5
SS-6; N=8; R=13"; MC=17.0% --- 658.5
SS-7; N=13; R=17"; MC=16.0%; LL=25; PL=12; PI=13; #200=68.0% --- 653.5
Water Level 24hrs. After Boring --- 651.0
SS-8; N=6; R=6"; MC=23.0% --- 648.5
SS-9; N=12; R=14"; MC=26.0% --- 643.5
SS-10; N=24; R=10"; MC=16.0% --- 638.5
SS-11; N=50/1.00"; MC=21.0% --- 633.5
TCP-12; N=50/0.50", 50/0.13" --- 633.0
TCP-13; N=50/2.00", 50/0.50" --- 628.0
TCP-14; N=50/0.63", 50/0.13" --- 623.0
TCP-15; N=50/0.13", 50/0.13" --- 618.0
SS-17; N=50/1.00"; MC=14.0% --- 617.5
TCP-18; N=50/0.25", 50/0.13" --- 613.0
TCP-19; N=50/0.25", 50/0.13" --- 608.0
TCP-20; N=50/0.50", 50/0.13" --- 603.5
SS-21; N=50/2.00"; MC=19.0% --- 603.0

677.0 — 676.8
3" Topsoil

SILTY SAND
dark brown, medium dense

668.5

LEAN CLAY
dark yellowish-brown to brown, stiff

653.5

SANDY LEAN CLAY
brown, stiff

648.5

CLAYEY SAND
brown, stiff

643.5

SAND
strong brown, medium dense

638.5

SAND
coarse-grained, reddish-yellow, medium dense

633.5

SHALE
dark gray, moderately hard

602.5

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. F-2
Sta. 290+24.00, 91.00' Lt.
Total Depth = 67.0' ft.

SS-1; N=6; R=12"; MC=18.0% --- 666.0
SS-2; N=7; R=9"; MC=18.0% --- 664.5
SS-3; N=4; R=18"; MC=21.0%; LL=26; PL=17; PI=9; #200=86.0% --- 661.5
SS-4; N=15; R=4"; MC=21.0% --- 658.0
Water Level 24hrs. After Boring --- 655.5
SS-5; N=6; R=12"; MC=19.0% --- 653.0
SS-6; N=10; R=12"; MC=22.0%; LL=NP; PL=NP; PI=NP; #200=43.0% --- 648.0
SS-9; N=15; R=9"; MC=22.0% --- 643.0
SS-10; N=27; R=12"; MC=20.0% --- 638.0
SS-11; N=50/3.00"; MC=11.0% --- 633.0
DB-12; R=93%; RQD=25%
UC=730 psi at 34.0 ft. --- 632.5
DB-13; R=93%; RQD=75%
UC=578 psi at 39.0 ft. --- 627.5
DB-14; R=53%; RQD=30%
UC=670 psi at 44.0 ft. --- 622.5
DB-15; R=100%; RQD=32%
UC=520 psi at 49.0 ft. --- 617.5
DB-16; R=88%; RQD=0%
at 54.0 ft. --- 612.5
DB-17; R=38%; RQD=0%
at 59.0 ft. --- 607.5

666.5 — 676.2
4" Topsoil

SILTY LEAN CLAY
dark brown, medium stiff

661.5

LEAN CLAY
strong brown to yellowish-brown, medium stiff

648.0

SILTY SAND
strong brown to reddish-yellow, medium dense

(becoming brownish-yellow at 28.5 feet)

633.0

SHALE
dark gray, moderately hard

602.5

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

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

PROPOSED
R/W
10/23/2017

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
FOUNDATION REPORT
(SHEET 1 OF 3)

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

DESIGNED	NBK	2/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	2/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BU003

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. F-2A
Sta. 289+77.00, 18.00' Lt.
Total Depth = 67.5 ft.

675.0
670.0
665.0
660.0
655.0
650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0

666.5
676.2 — 4" Topsoil

SILTY LEAN CLAY
dark brown, medium stiff

661.5

LEAN CLAY
strong brown to yellowish-brown, medium stiff

Water Level 24hrs. After Boring --- 654.5

648.0

SILTY SAND
strong brown to reddish-yellow, medium dense

SS-1; N=50/3.00"; MC=13.0% --- 633.0
633.0
TCP-2; N=50/0.38", 50/0.13" --- 632.5
TCP-3; N=50/0.25", 50/0.13" --- 627.5
TCP-4; N=50/0.25", 50/0.13" --- 622.5

SHALE
dark gray, moderately hard

TCP-5; N=50/0.25", 50/0.25" --- 617.5
SS-6; N=50/2.00"; MC=13.0% --- 617.0
TCP-7; N=50/0.25", 50/0.13" --- 612.5
TCP-8; N=50/0.13", 50/0.25" --- 607.5
TCP-9; N=50/0.50", 50/0.13" --- 603.0
SS-10; N=50/1.00"; MC=12.0% --- 602.5
602.0

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

BORING NO. F-3
Sta. 290+24.00, 91.00' Lt.
Total Depth = 67.0' ft.

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

OKLAHOMA TURNPIKE AUTHORITY

SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

SS-1; N=15; R=18"; MC=15.0% --- 671.0
SS-2; N=11; R=12"; MC=18.0% --- 669.5
SS-3; N=6; R=18"; MC=21.0% --- 666.5
SS-4; N=8; R=18"; MC=18.0% --- 663.0
Water Level 24hrs. After Boring --- 659.5
SS-5; N=13; R=18"; MC=20.0%; LL=23; PL=17; PI=6; #200=67.0% --- 658.0
SS-6; N=9; R=18"; MC=19.0% --- 653.0
SS-7; N=5; R=18"; MC=23.0% --- 648.0
SS-8; N=11; R=16"; MC=31.0% --- 643.0
SS-9; N=34; R=11"; MC=24.0%; LL=NP; PL=NP; PI=NP; #200=10.0% --- 638.0
SS-10; N=50/1.00"; MC=16.0% --- 633.0
TCP-11; N=50/0.25", 50/0.19" --- 632.5
TCP-12; N=50/0.19", 50/0.13" --- 627.5
TCP-13; N=50/1.75", 50/0.50" --- 622.5
TCP-14; N=50/0.31", 50/0.19" --- 617.5
SS-15; N=50/2.00"; MC=12.0% --- 617.0
TCP-16; N=50/0.38", 50/0.19" --- 612.5
TCP-17; N=50/0.63", 50/0.19" --- 607.5
TCP-18; N=50/0.25", 50/0.19" --- 603.0
SS-19; N=50/1.00"; MC=8.0% --- 602.5

671.5
671.3 — 3" Topsoil

(trace sand, brown below 5 feet)

LEAN CLAY
trace silt, dark brown, medium stiff to stiff

658.0

SANDY SILTY CLAY
yellowish-brown and brown, medium stiff to stiff

638.0

POORLY GRADED SAND WITH SILT
coarse-grained, yellowish-brown, dense

633.0

SHALE
with sandstone seams, dark gray and gray, moderately hard

602.0

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
FOUNDATION REPORT
(SHEET 2 OF 3)

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

DESIGNED	NBK	2/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	2/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BU004

TESTING & DRILLING LEGEND:
DB = Diamond Bit Coring
SS = Split Spoon
TCP = Texas Cone Penetrometer

BORING NO. F-4
Sta. 289+77.00, 18.00' Lt.
Total Depth = 67.5 ft.

675.0
670.0
665.0
660.0
655.0
650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0

SS-1; N=10; R=13"; MC=17.0% --- 672.0
SS-2; N=8; R=12"; MC=22.0%; LL=29; PL=17; PI=12; #200=90.0% --- 670.5
SS-3; N=7; R=18"; MC=20.0% --- 667.5
SS-4; N=7; R=16"; MC=21.0% --- 664.0
SS-5; N=7; R=15"; MC=19.0% --- 659.0
SS-6; N=8; R=16"; MC=23.0% --- 654.0
SS-7; N=7; R=18"; MC=28.0%; LL=26; PL=16; PI=10; #200=85.0% --- 649.0
Water Level 24hrs. After Boring --- 645.5
SS-8; N=7; R=15"; MC=19.0% --- 644.0
SS-9; N=27; R=11"; MC=20.0%; LL=NP; PL=NP; PI=NP; #200=7.0% --- 639.0
SS-10; N=21-50/5.00"; MC=12.0% --- 634.0
TCP-11; N=50/3.13", 50/0.88" --- 632.5
TCP-12; N=50/0.25", 50/0.13" --- 627.5
TCP-13; N=50/5.06", 50/0.13" --- 622.5
TCP-14; N=50/0.19", 50/0.13" --- 617.5
SS-15; N=50/2.00"; MC=17.0% --- 617.0
TCP-16; N=50/0.25", 50/0.13" --- 612.5
TCP-17; N=50/0.50", 50/0.13" --- 607.5
TCP-18; N=50/0.38", 50/0.13" --- 603.0
SS-19; N=50/1.00"; MC=14.0% --- 602.5

672.5 3" Topsoil
672.2
LEAN CLAY
trace sand, reddish-brown, medium stiff to stiff
670.5
(becoming reddish-brown and dark brown below 5 feet)
639.0
LEAN CLAY
trace sand, reddish-brown, medium stiff to stiff
633.5
POORLY GRADED SAND WITH SILT
yellowish-brown, medium dense
627.5
SHALE
dark gray, soft to moderately hard
602.0
SHALE
with sandstone seams, dark gray and gray, moderately hard

NOTES:
The Geotechnical Boring Logs shown were provided by Terracon and are presented at the request of ODOT. This information was obtained solely for the use of the Engineer in design of this project. The accuracy and sufficiency of the information shown is not guaranteed. ODOT requires that bidders make their determinations as to all subsurface conditions and limits.

Water Level Elevations shown were obtained at the time the borings were drilled and may fluctuate throughout the year.

SAMPLING LEGEND:
R = Recovery
N = Standard Penetration Number
MC = Moisture Content
UC = Unconfined Compression
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
RQD = Rock Quality Designation

50% plans

BORING NO. F-5
Sta. 290+24.00, 91.00' Lt.
Total Depth = 67.0' ft.

679.0
675.0
670.0
665.0
660.0
655.0
650.0
645.0
640.0
635.0
630.0
625.0
620.0
615.0
610.0
605.0
600.0

SS-1; N=10; R=16"; MC=15.0% --- 679.0
SS-2; N=7; R=17"; MC=17.0% --- 677.5
SS-3; N=5; R=14"; MC=18.0%; LL=26; PL=19; PI=7; #200=70.0% --- 674.5
SS-4; N=25; R=18"; MC=18.0% --- 671.0
SS-5; N=5; R=17"; MC=23.0% --- 666.0
SS-6; N=6; R=18"; MC=22.0%; LL=28; PL=15; PI=13; #200=90.0% --- 661.0
SS-7; N=8; R=18"; MC=24.0% --- 656.0
Water Level 24hrs. After Boring --- 652.5
SS-8; N=6; R=18"; MC=22.0% --- 651.0
SS-9; N=6; R=18"; MC=24.0% --- 646.0
SS-10; N=26; R=18"; MC=26.0% --- 641.0
SS-11; N=56; R=18"; MC=19.0% --- 636.0
SS-12; N=50/3.00"; MC=15.0% --- 631.0
TCP-13; N=50/0.31", 50/0.13" --- 630.5
TCP-14; N=50/0.19", 50/0.13" --- 625.5
TCP-14; N=50/0.50", 50/0.19" --- 620.5
TCP-15; N=50/0.19", 50/0.13" --- 615.5
SS-16; N=50/1.00"; R=1"; MC=10.0% --- 615.0
TCP-17; N=50/0.25", 50/0.13" --- 610.5
TCP-18; N=50/0.25", 50/0.06" --- 605.5
TCP-19; N=50/0.13", 50/0.06" --- 601.0
SS-20; N=50/1.00"; R=1"; MC=17.0% --- 600.5

679.5 3" Topsoil
672.2
LEAN CLAY
trace sand, dark brown, medium stiff to stiff
674.5
SILTY CLAY WITH SAND
reddish-brown, medium stiff to very stiff
661.0
LEAN CLAY
reddish-brown to yellowish-brown, medium stiff to stiff
(becoming yellowish-brown and reddish-brown at 28.5
640.5
CLAYEY SAND
yellowish-brown, medium dense
636.0
SAND
yellowish-brown, medium dense
631.0
SHALE
with sandstone seams, dark gray and gray, moderately hard
600.0

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

PROPOSED R/W
10/23/2017

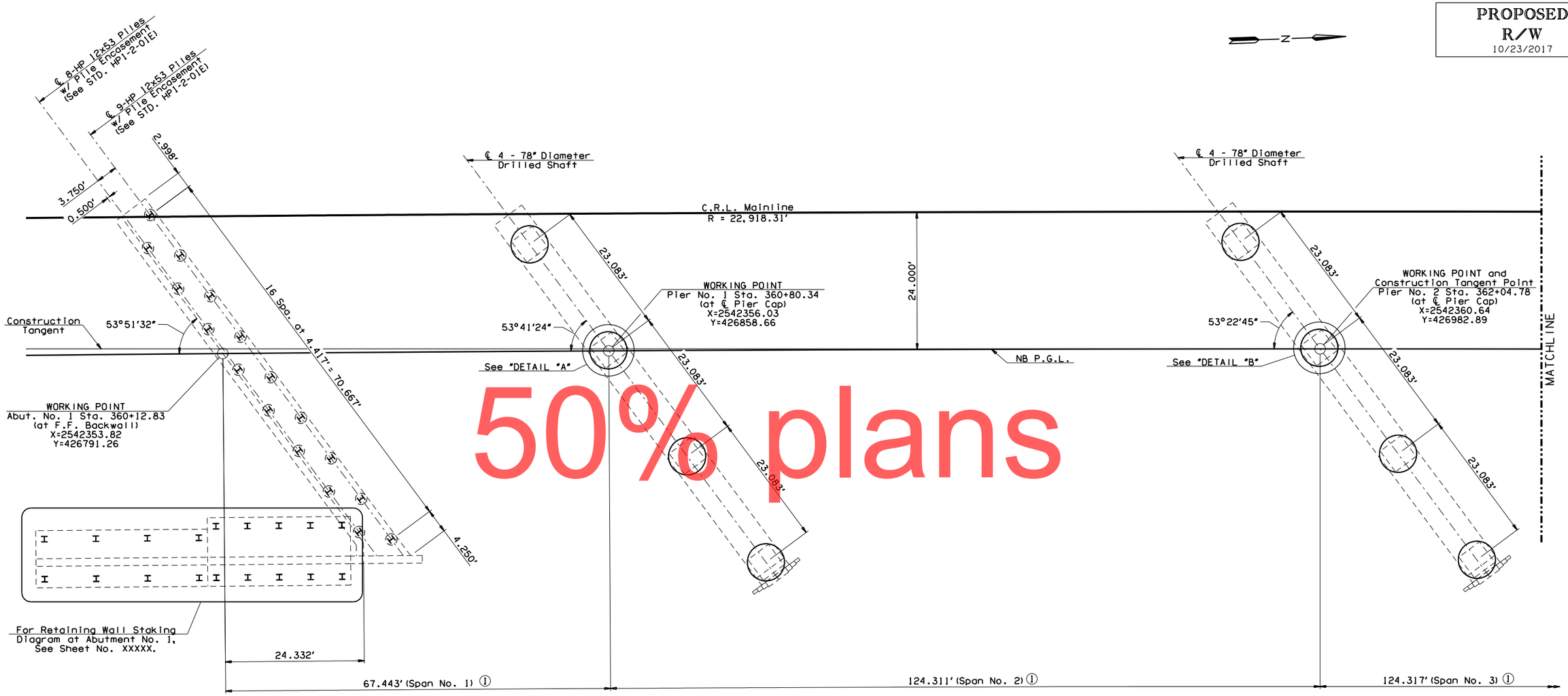
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
FOUNDATION REPORT
(SHEET 3 OF 3)

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

DESIGNED	NBK	2/16	CONTRACT NO. GCT-2500	
DETAILED	SJL	2/16		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BU005

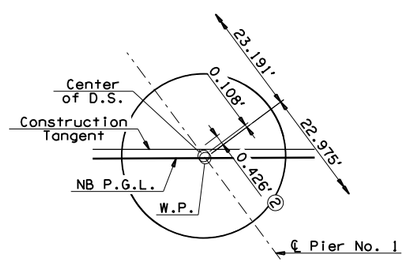
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

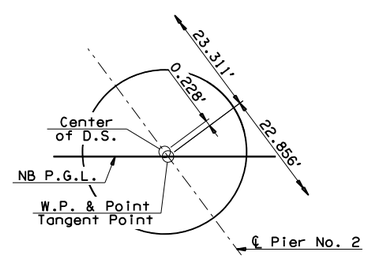


50% plans

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
CAP	686.27



DETAIL "A"



DETAIL "B"

NOTE:
Stations measured along C.R.L.
Dimensions measured along P.G.L.

① Measured Working Point to Working Point along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

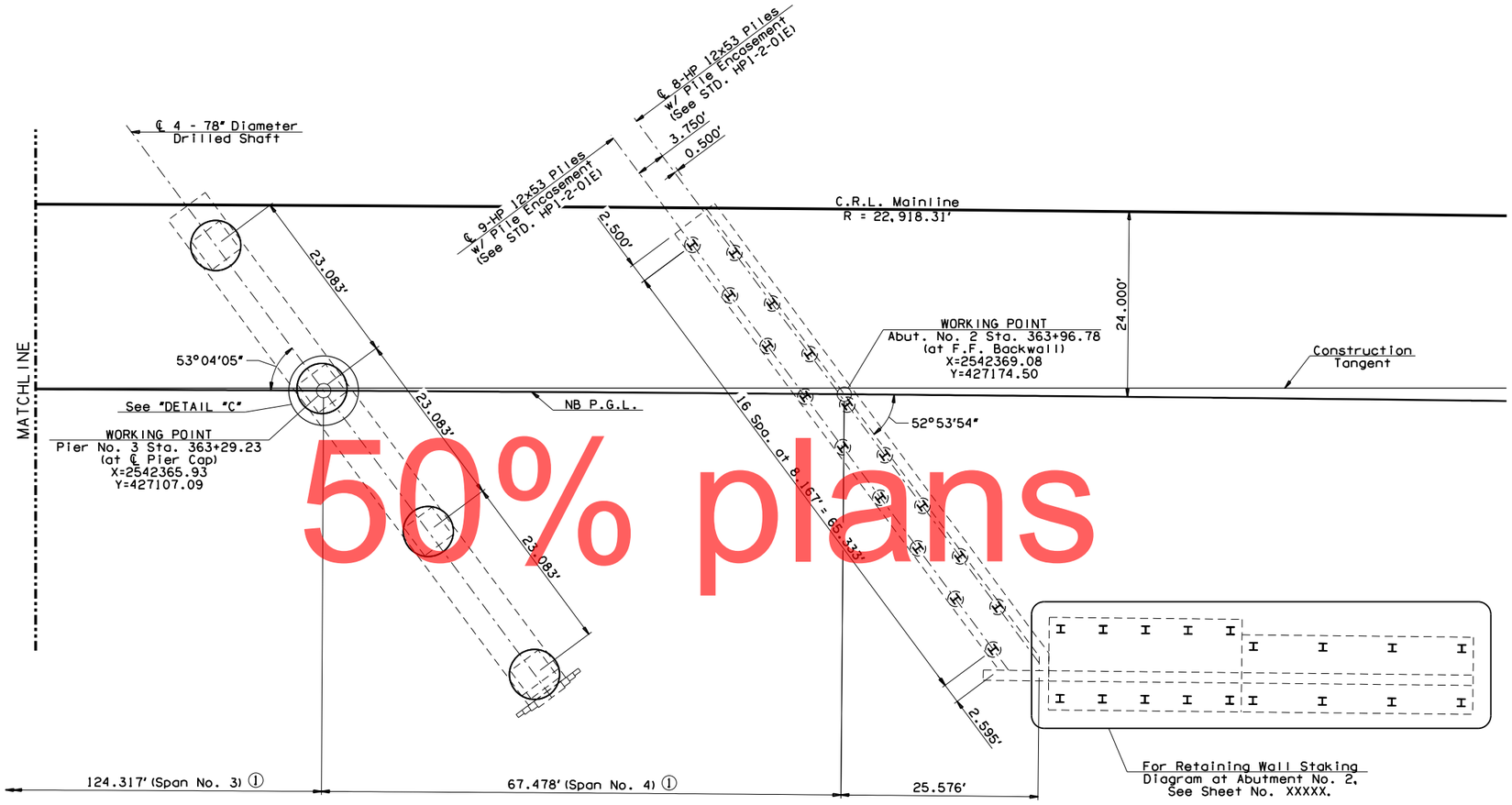
STAKING DIAGRAM
(SHEET 1 OF 2)

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

DESIGNED	RH	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU006

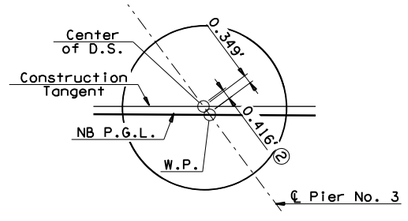
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

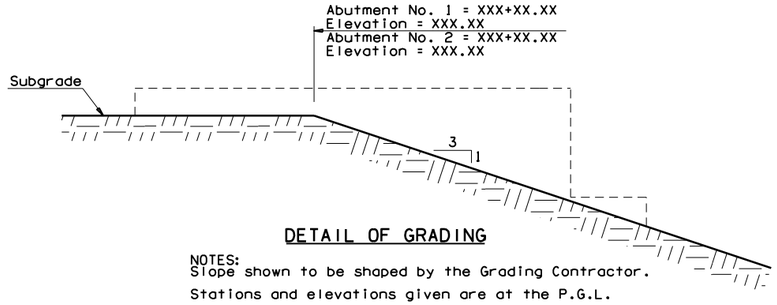


50% plans

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
CAP	696.42



DETAIL "C"



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

NOTE:
Stations measured along C.R.L.
Dimensions measured along P.G.L.

① Measured Working Point to Working Point along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

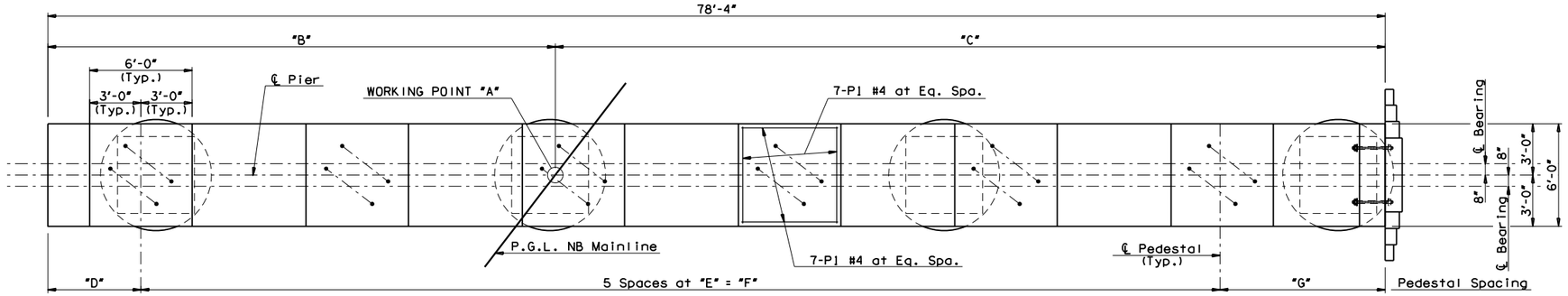
STAKING DIAGRAM
(SHEET 2 OF 2)

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

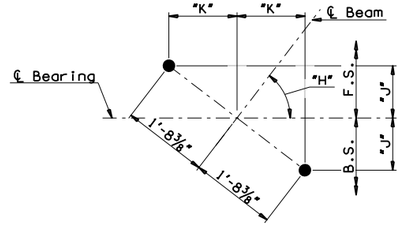
DESIGNED	RH	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU007

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

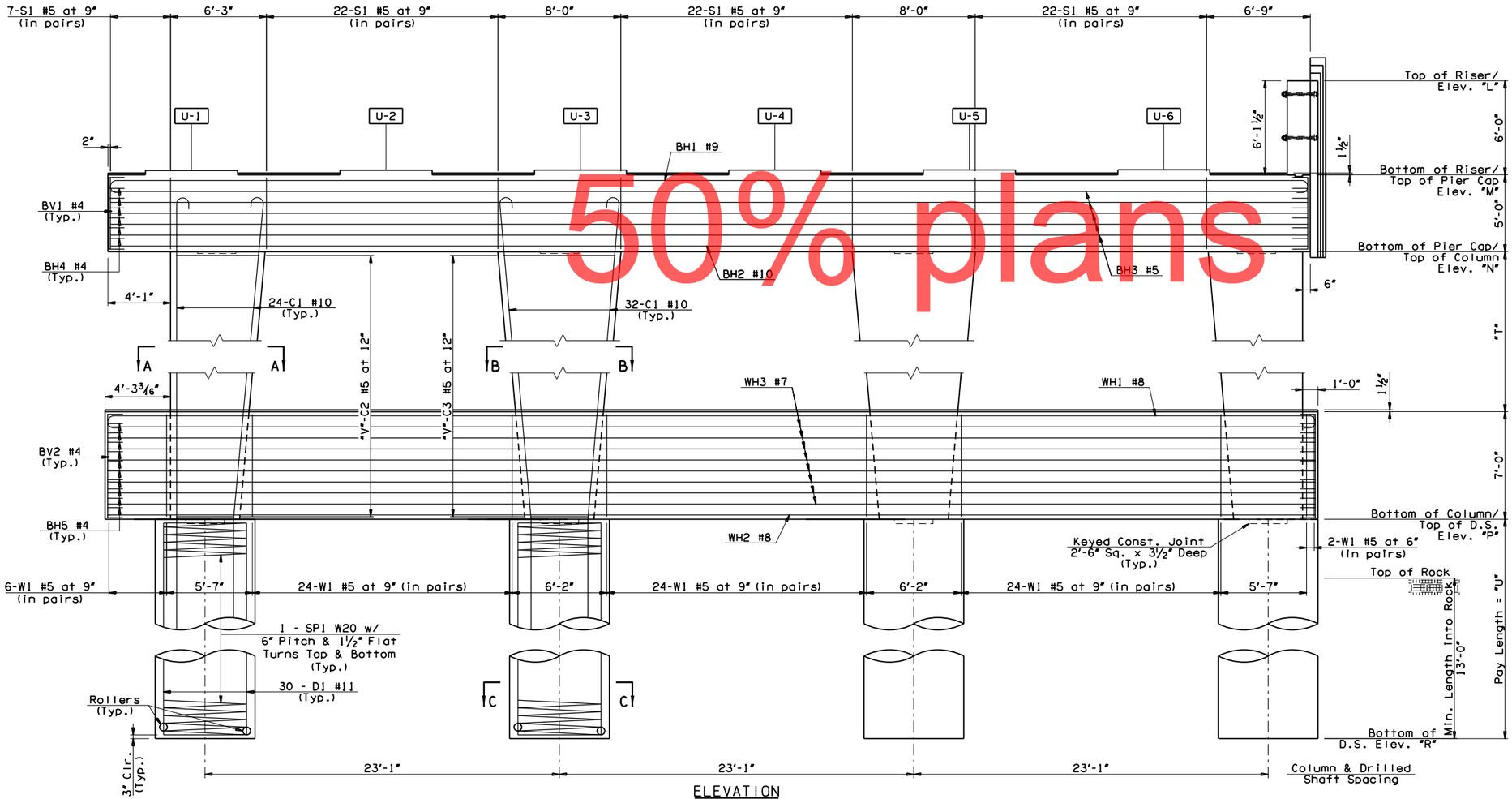
PROPOSED R/W
10/23/2017



PLAN



DETAIL "A"



ELEVATION
(Looking Forward Station)

PIER NOS. 1 - 3

50% plans

BEAM TABLE OF VARIABLES				
LOCATION		"H"	"J"	"K"
PIER NO. 1	B.S.	53°45'07"	1'-0 1/16"	1'-4 7/16"
	F.S.	53°32'04"	1'-0 1/8"	1'-4 3/8"
PIER NO. 2	B.S.	53°32'04"	1'-0 1/8"	1'-4 3/8"
	F.S.	53°13'24"	1'-0 3/16"	1'-4 5/16"
PIER NO. 3	B.S.	53°13'24"	1'-0 3/16"	1'-4 5/16"
	F.S.	52°59'06"	1'-0 1/4"	1'-4 1/4"

TABLE OF ELEVATIONS					
PIER NO.	"L"	"M"	"N"	"P"	"R"
1	699.51	693.38	688.38	674.00	620.00
2	702.99	696.86	691.86	670.41	620.41
3	706.47	700.34	695.34	678.96	620.96

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	U-1	U-2	U-3	U-4	U-5	U-6
1	693.68	693.68	693.69	693.69	693.70	693.71
2	697.16	697.16	697.17	697.18	697.19	697.20
3	700.64	700.65	700.66	700.67	700.68	700.69

TABLE OF VARIABLES										
PIER NO.	WORKING POINT "A"	LENGTH "B"	LENGTH "C"	LENGTH "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "T"	LENGTH "U"	NUMBER "V"
1	360+80.34	29'-6 5/16"	48'-9 11/16"	5'-5"	12'-7½"	63'-1 7/16"	9'-9 9/16"	16'-4 3/16"	54'-0"	24
2	362+04.78	29'-7¾"	48'-8¼"	5'-5 7/16"	12'-8"	63'-4"	9'-6 9/16"	14'-7 11/16"	50'-0"	23
3	363+29.23	29'-9 9/16"	48'-6 13/16"	5'-5 13/16"	12'-8 9/16"	63'-6¾"	9'-3 3/8"	17'-5 5/8"	58'-0"	25

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

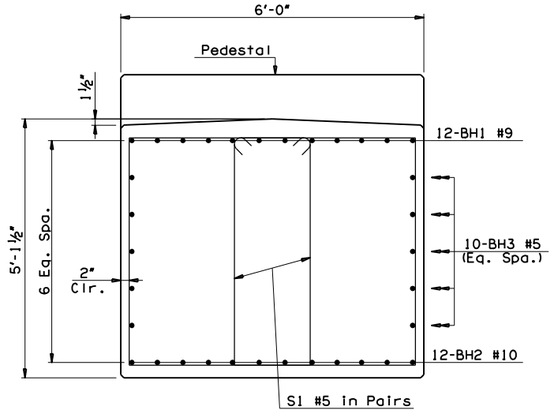
PIER DETAILS
(SHEET 1 OF 2)

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

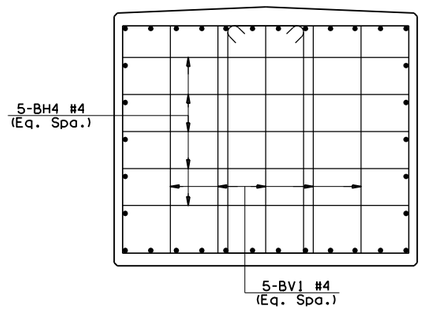
DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BU008

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

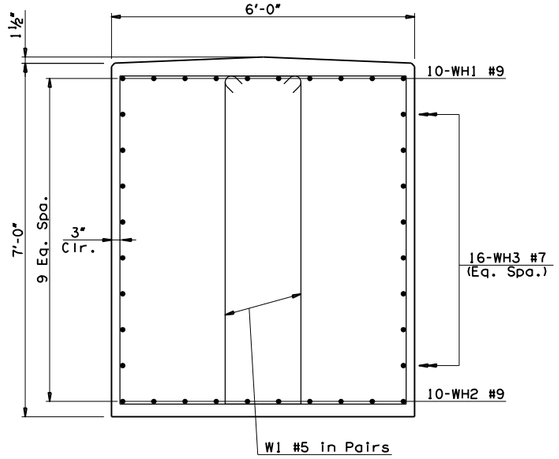
PROPOSED R/W
10/23/2017



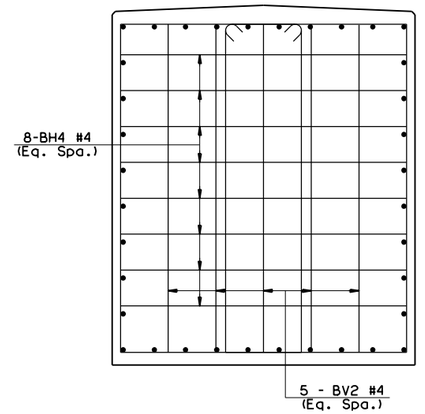
TYPICAL SECTION THRU CAP



TYPICAL SECTION END OF CAP

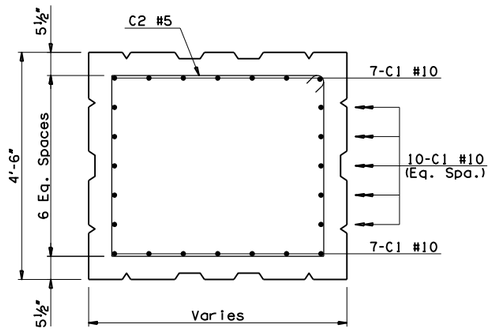


TYPICAL SECTION THRU CRASHWALL

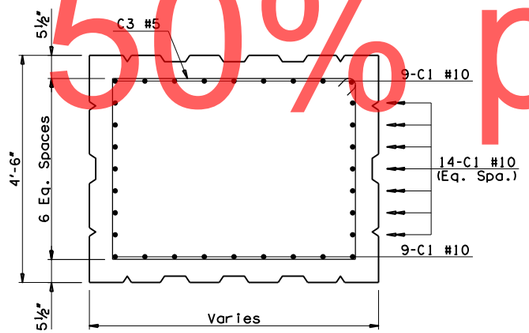


END OF CRASHWALL REINFORCING

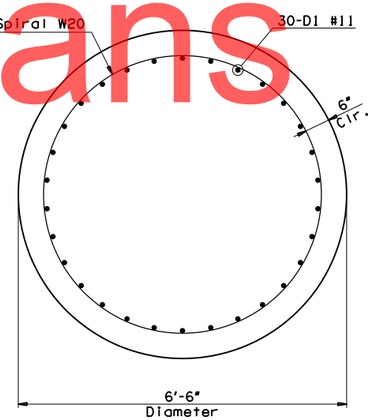
50% plans



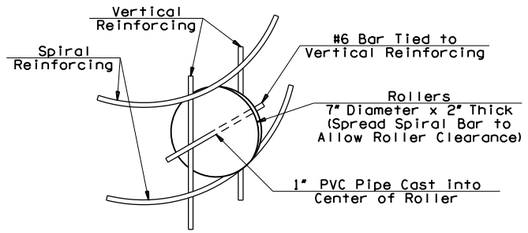
SECTION A-A



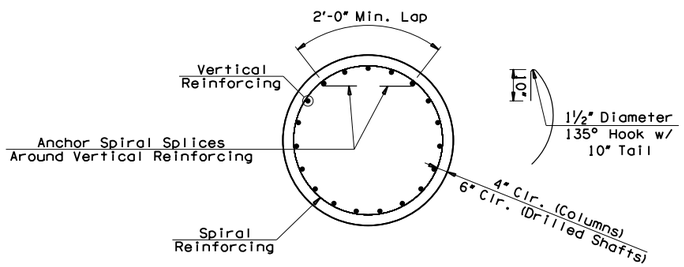
SECTION B-B



SECTION C-C

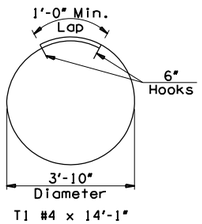


DETAILS OF ROLLER INSTALLATION

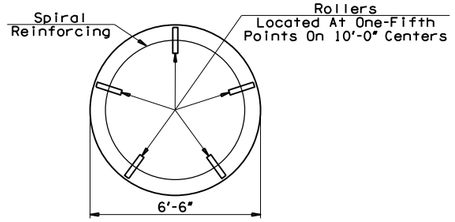


DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



T1 #4 x 14'-1"



ROLLER PLACEMENT

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

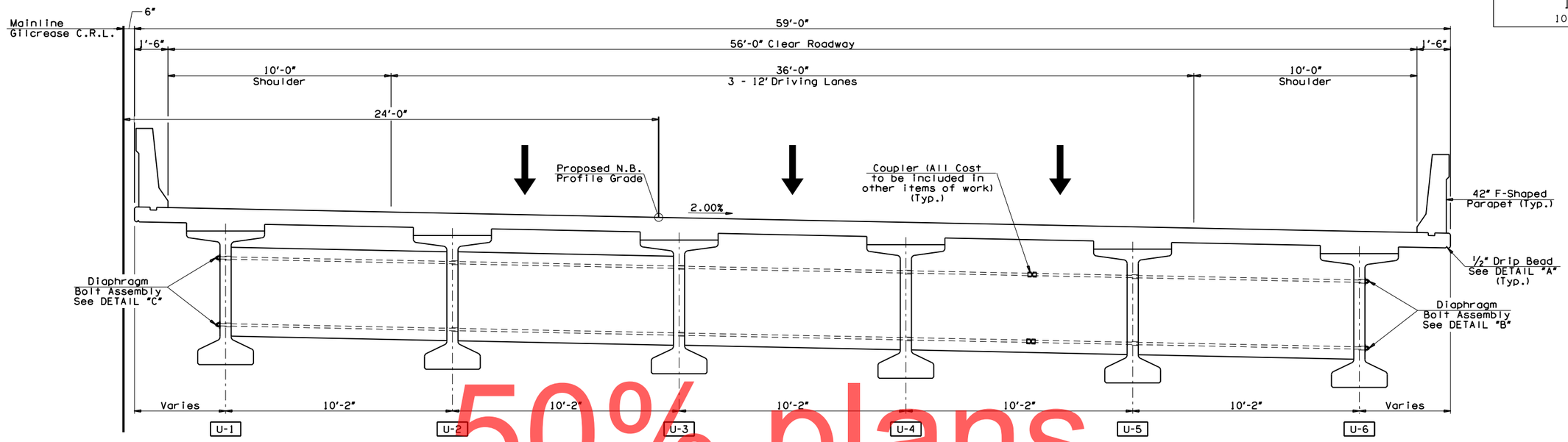
PIER DETAILS
(SHEET 2 OF 2)

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

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BU009

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

PROPOSED R/W
10/23/2017

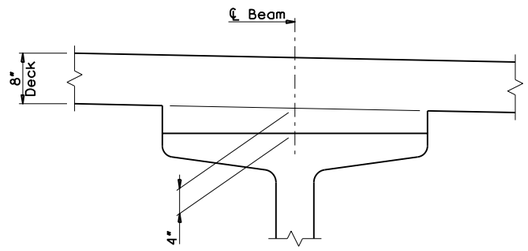


SECTION AT INTERMEDIATE DIAPHRAGM

SECTION AT END DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

50% plans



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.

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

For Detail "A", Detail "B", Detail "C", and details of water repellent, see Sheet No. BSTA01.

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
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
TYPICAL SECTION

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

DESIGNED	BRT	9/15	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BU010

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

PROPOSED
R/W
10/23/2017

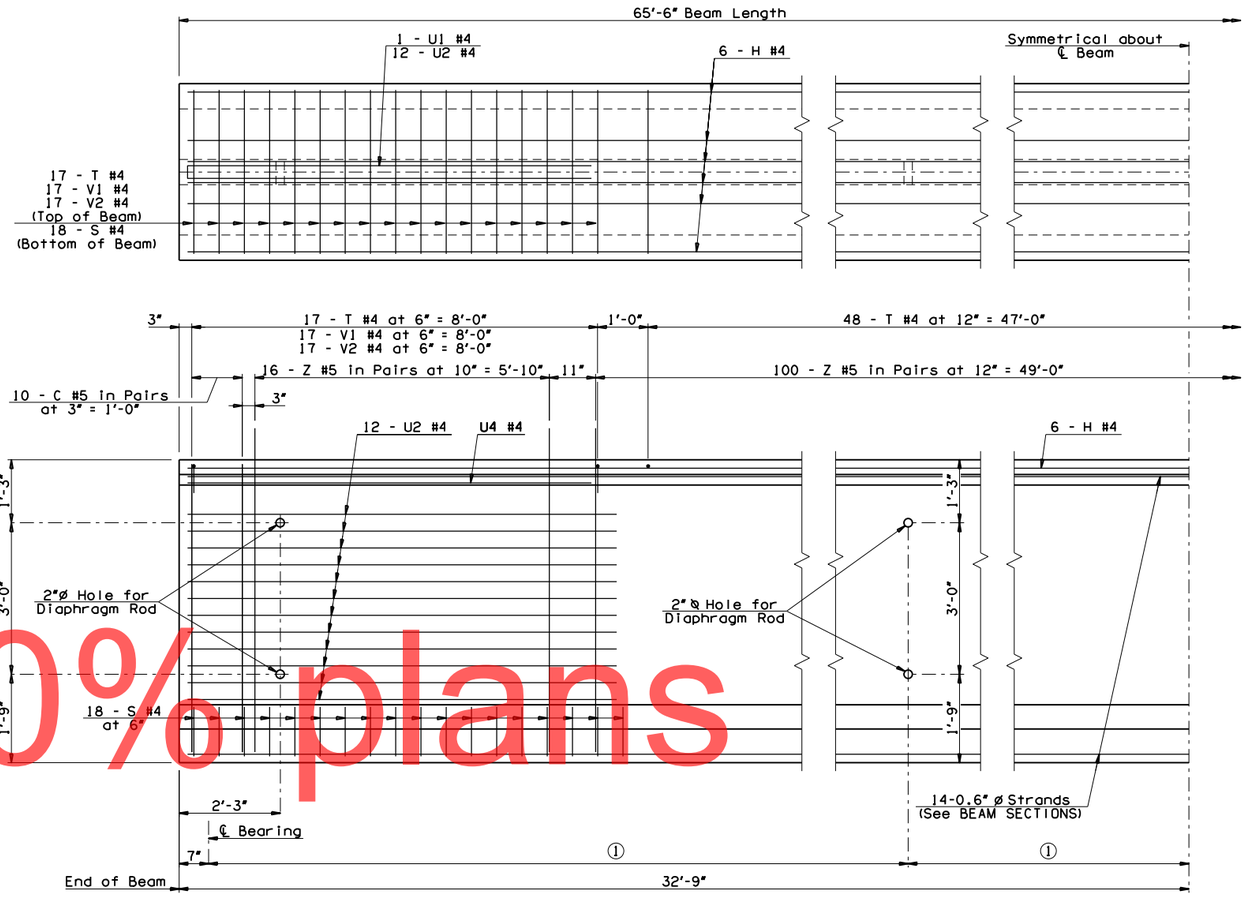
PRESTRESSED CONCRETE BEAM NOTES

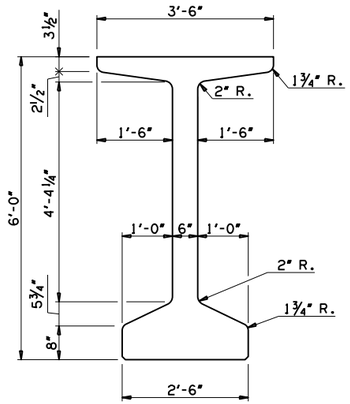
COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

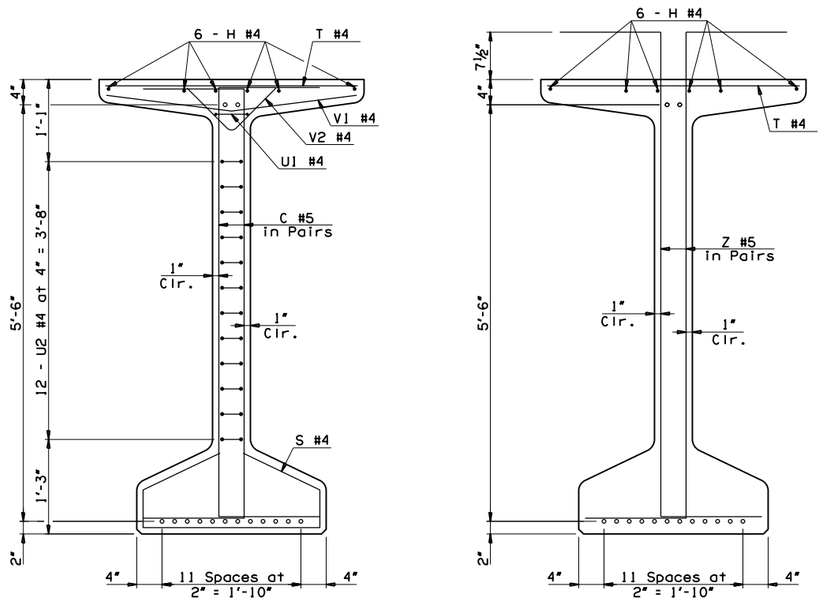
LRFR OPERATING RATING - 1.70 (HL-93)

LFR OPERATING RATING - HS 43.8
The Operating Ratings shown are based on nominal concrete strength, and include partially bonded strands in strength computations.





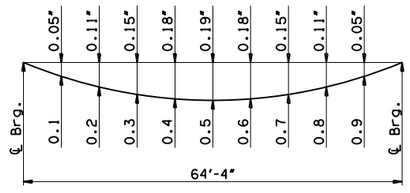
(Type J BT)



END SECTION

℄ SECTION

BEAM SECTIONS
(26 - 0.6" ø STRANDS)



NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + SIP Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

NOTES:
For bar bend and embedded plate details, see Sheet No. BU013.

① For diaphragm spacing and skew angles, see Sheet No. XX .

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
65'-0" BEAM DETAILS
(TYPE J BT)

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

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU011

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

PROPOSED R/W
10/23/2017

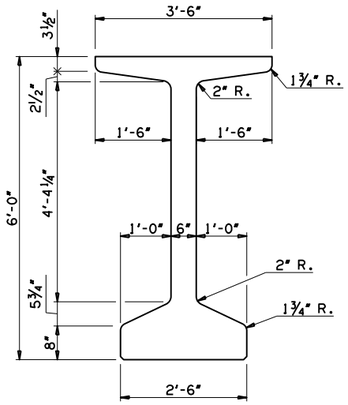
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 7,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.

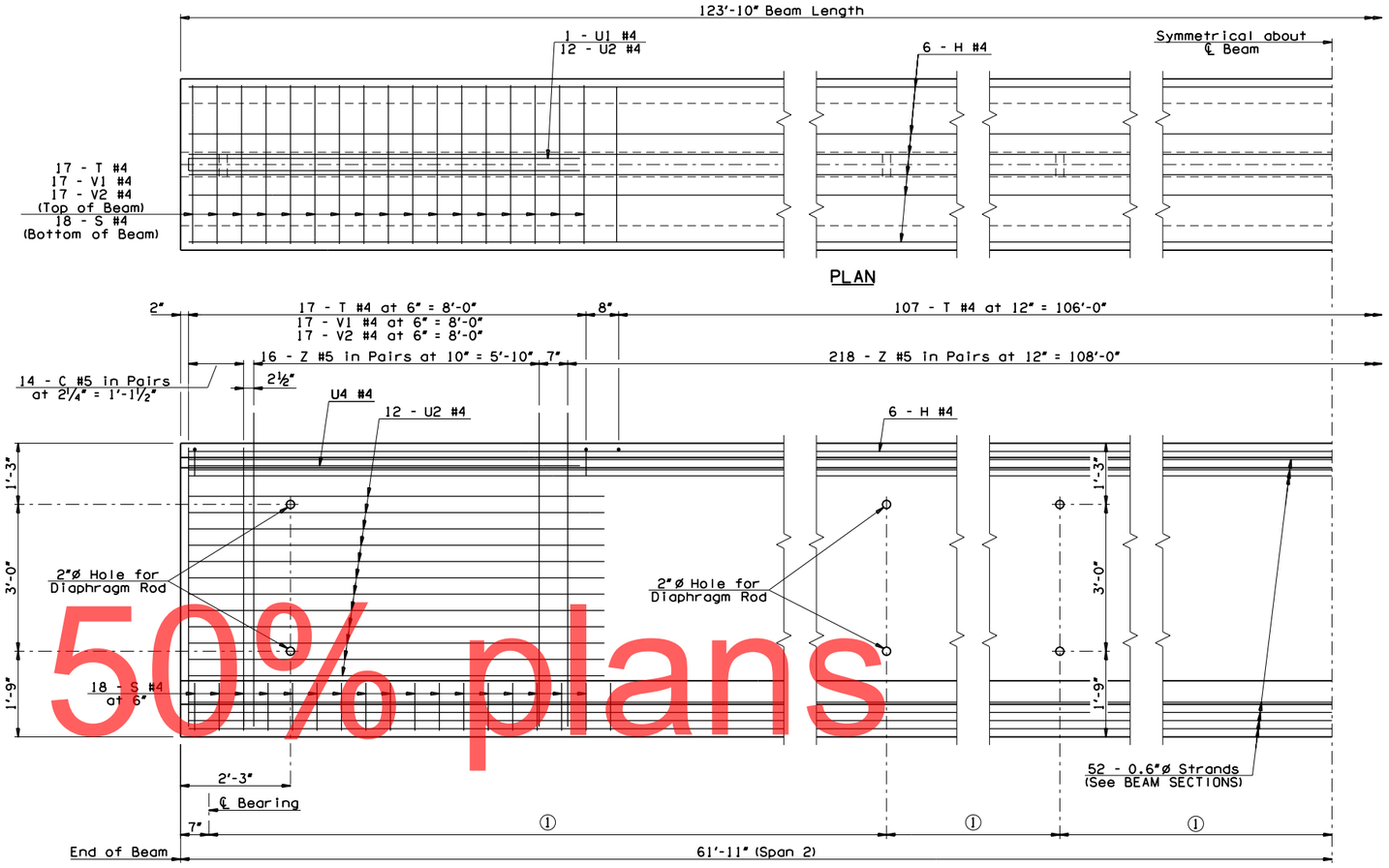
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.38 (HL-93)

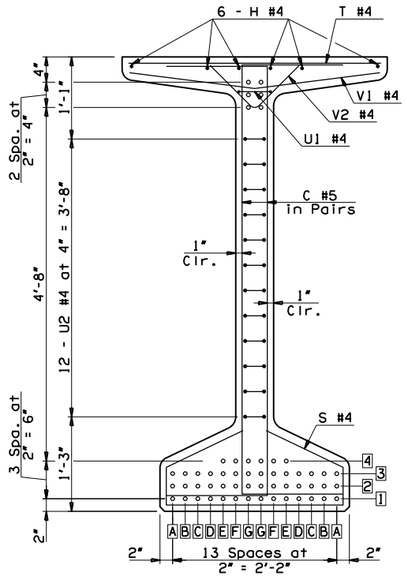
LFR OPERATING RATING - HS 56.0
The Operating Ratings shown are base on a nominal concrete strength, and include partially bonded strands in strength computations.



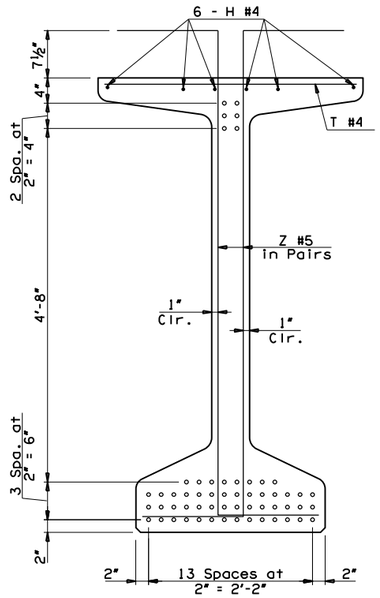
END VIEW
(Type J BT)



50% plans



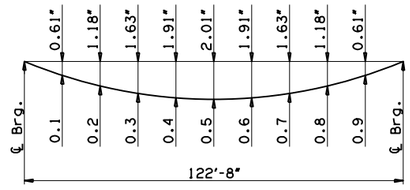
END SECTION



℄ SECTION

BEAM SECTIONS
(52 - 0.6"ø STRANDS)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	18'-0"
C1	12'-0"
E2	12'-0"



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + SIP Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

NOTES:
For bar bend and embedded plate details, see Sheet No. BU013.

① For diaphragm spacing and skew angles, see Sheet No. XX .

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

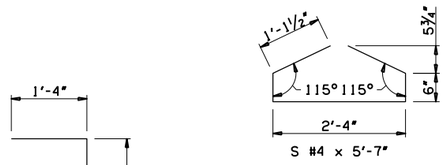
125'-0" BEAM DETAILS
(TYPE J BT)

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

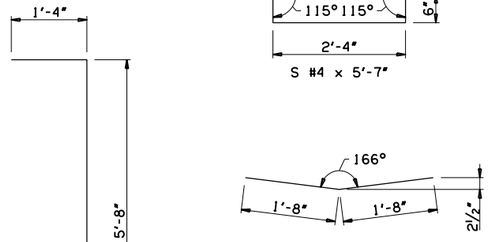
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU012

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

PROPOSED R/W
10/23/2017

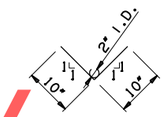


S #4 x 5'-7"

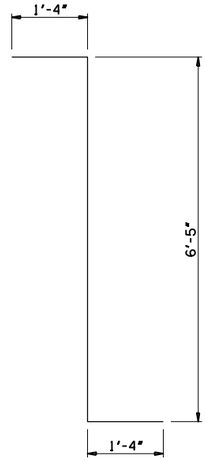


C #5 x 8'-4"

V1 #4 x 3'-4"



V2 #4 x 1'-8"

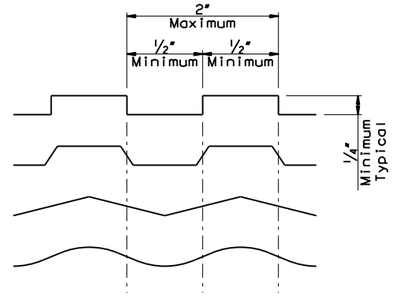


Z #5 x 9'-1" (Exterior Beam)
Z #5 x 9'-4" (Interior Beam)
(Epoxy Coated)

50% plans

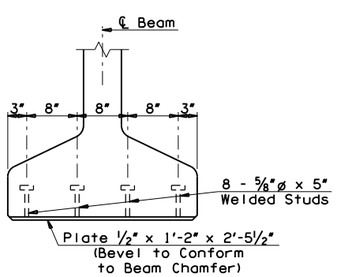


U1 #4 x 16'-5"
U2 #4 x 16'-3"

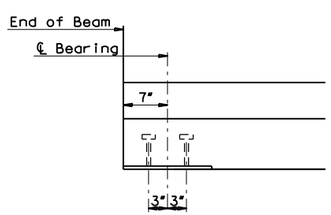


INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW



ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

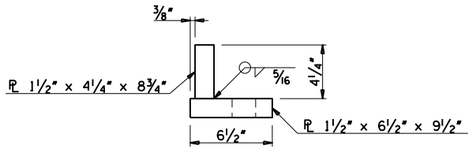
BEAM DETAILS
(TYPE J BT)

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

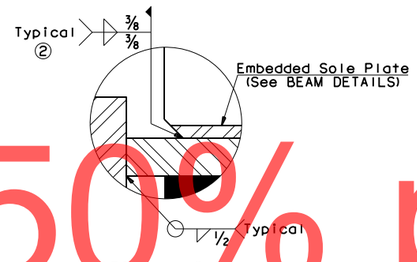
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU013

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

PROPOSED R/W
10/23/2017

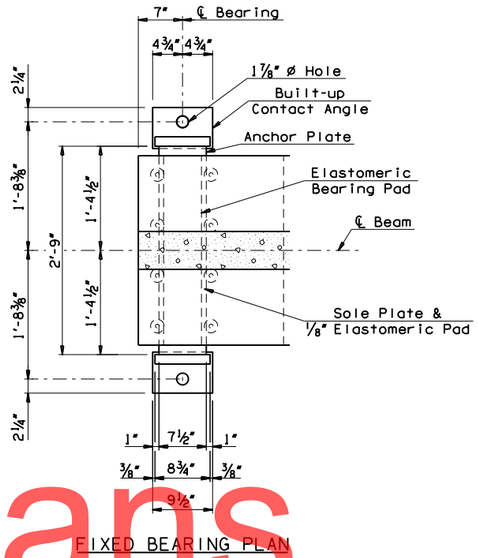


BUILT-UP CONTACT ANGLE DETAIL

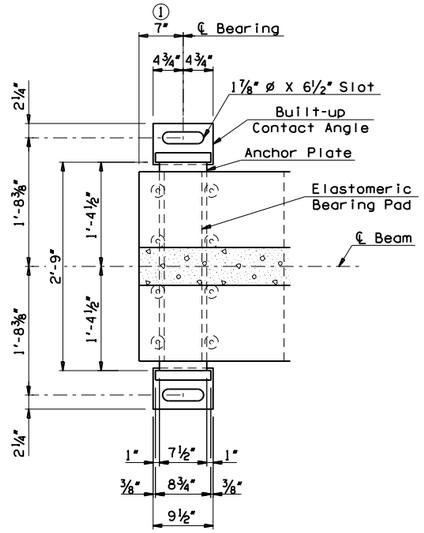


DETAIL "A"

② Refer to "SEQUENCE OF CONSTRUCTION" sheets prior to welding embeded sole plate to anchor plate.

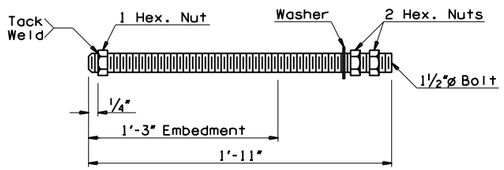


FIXED BEARING PLAN

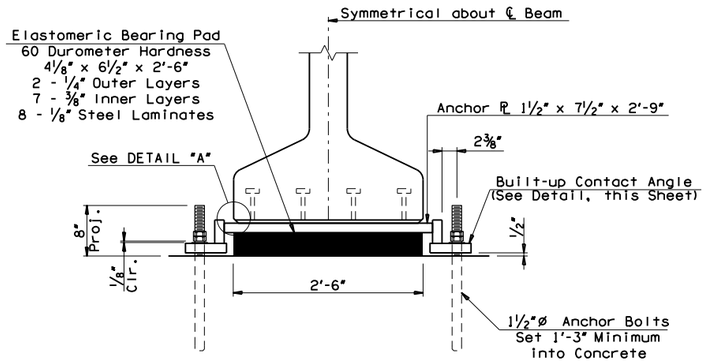


EXPANSION BEARING PLAN

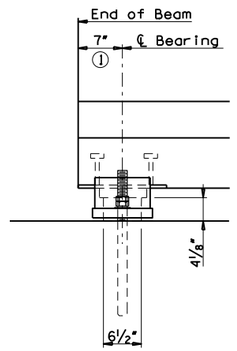
① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.



ANCHOR BOLT DETAIL



END VIEW



ELEVATION

BEARING DETAILS

BEARING ASSEMBLY NOTES:

Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

Contractor shall post install the anchor bolts in accordance with section 509.04.D(3) of the standard specification with a Type H epoxy. Fully remove blocking material prior to installing epoxy. If the epoxy manufacturer requires a longer embedment length, increase the length of the anchor bolt to provide an 8" minimum projection above the top of the cap. Include the depth of the blocked out section in the embedment length.

Bond Elastomeric bearing pad to anchor and sole plates in accordance with Section 733.06 of the Standard Specifications.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

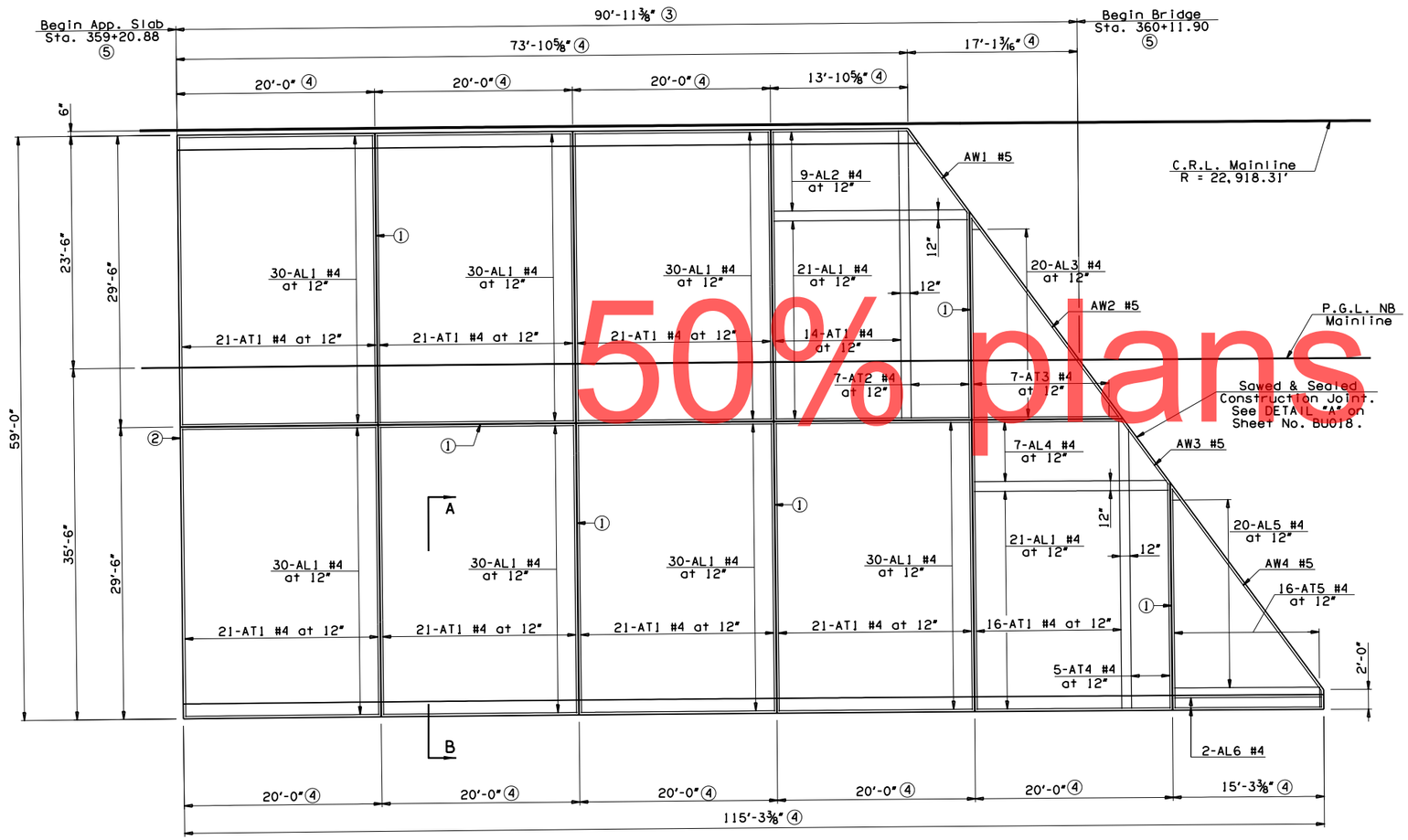
BEARING DETAILS
(TYPE J BT)

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

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	4/16		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU014

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

PROPOSED R/W
10/23/2017



50% plans

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

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BU018.

② Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BU018.

③ Terminal Joint, see DETAIL "C" on Sheet No. BU018.

④ Measured along outside edge of slab.

⑤ Stations shown are along C.R.L.

NOTES:
Do not groove within 6" of any joint.

All longitudinal reinforcement shall be oriented along as curve concentric with the P.G.L.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. XXXXX for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BU018.

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

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

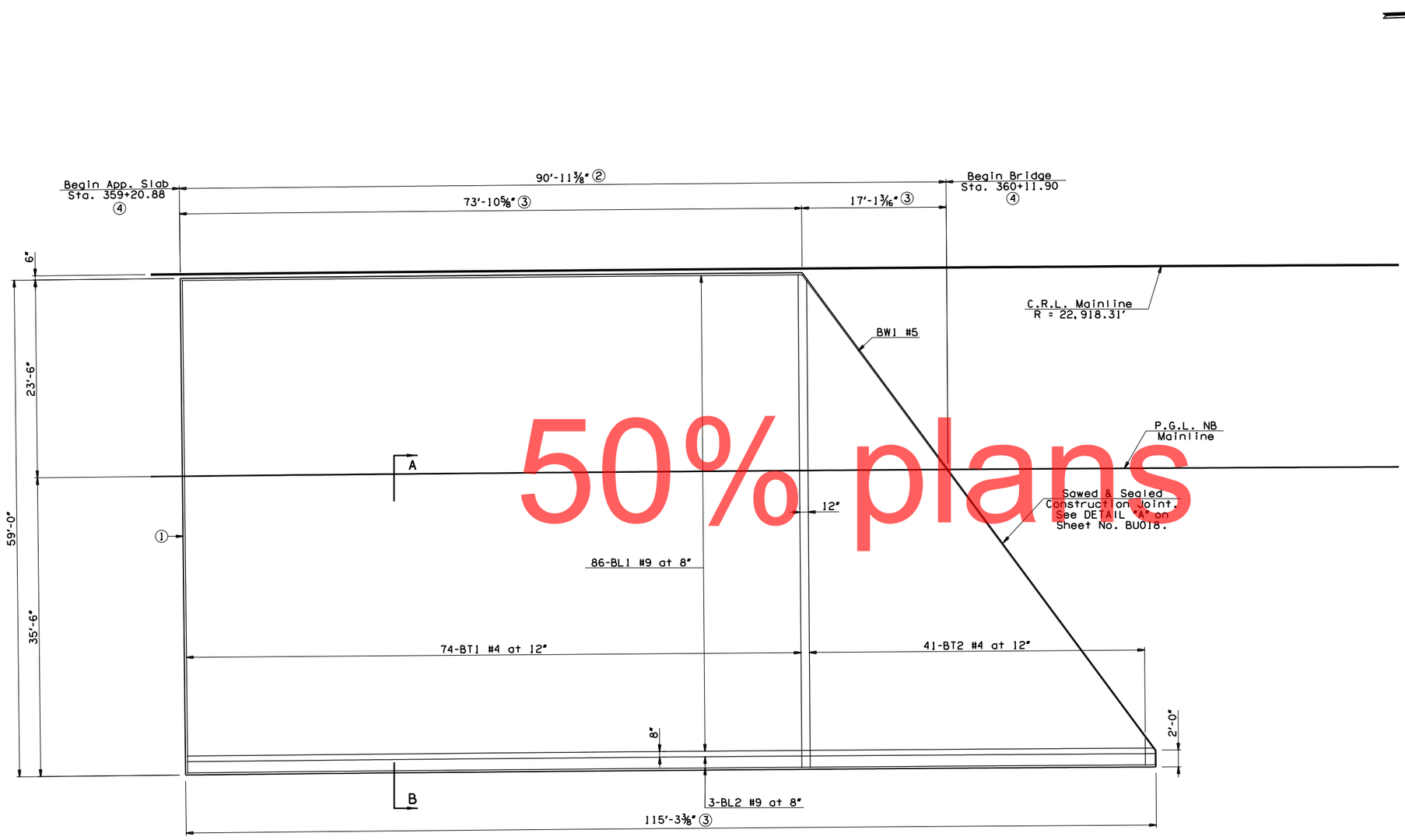
APPROACH SLAB DETAILS
(SHEET 1 OF 4)

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

DESIGNED	NBK	9/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU015

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

PROPOSED R/W
10/23/2017



50% plans

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

① Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BU018.
② Terminal Joint, see DETAIL "C" on Sheet No. BU018.
③ Measured along outside edge of slab.
④ Stations shown are along C.R.L.

NOTES:
Do not groove within 6" of any joint.

All longitudinal reinforcement shall be oriented along as curve concentric with the P.G.L.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. XXXXX for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BU018.

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

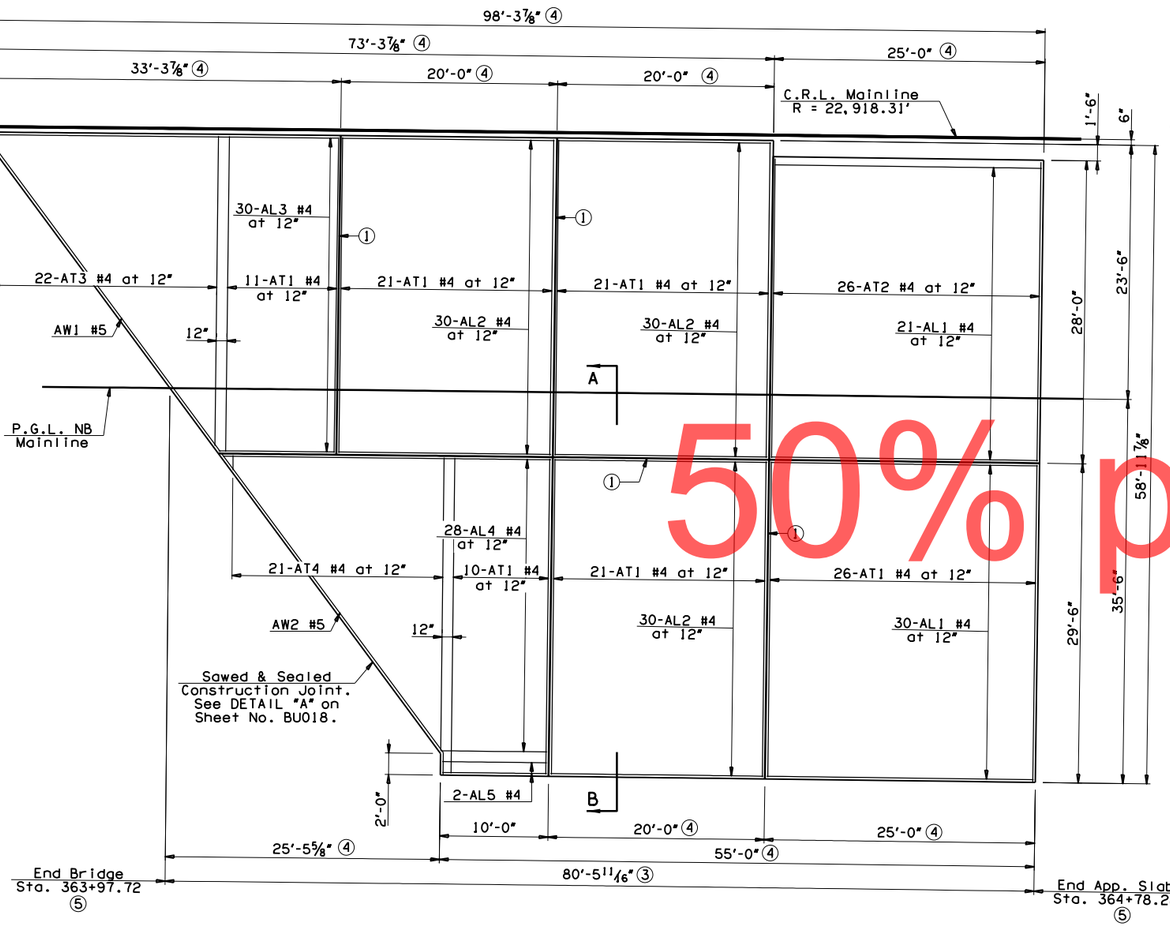
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. U GILCREASE NB OVER KEYSTONE EXPY.
APPROACH SLAB DETAILS
(SHEET 2 OF 4)

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

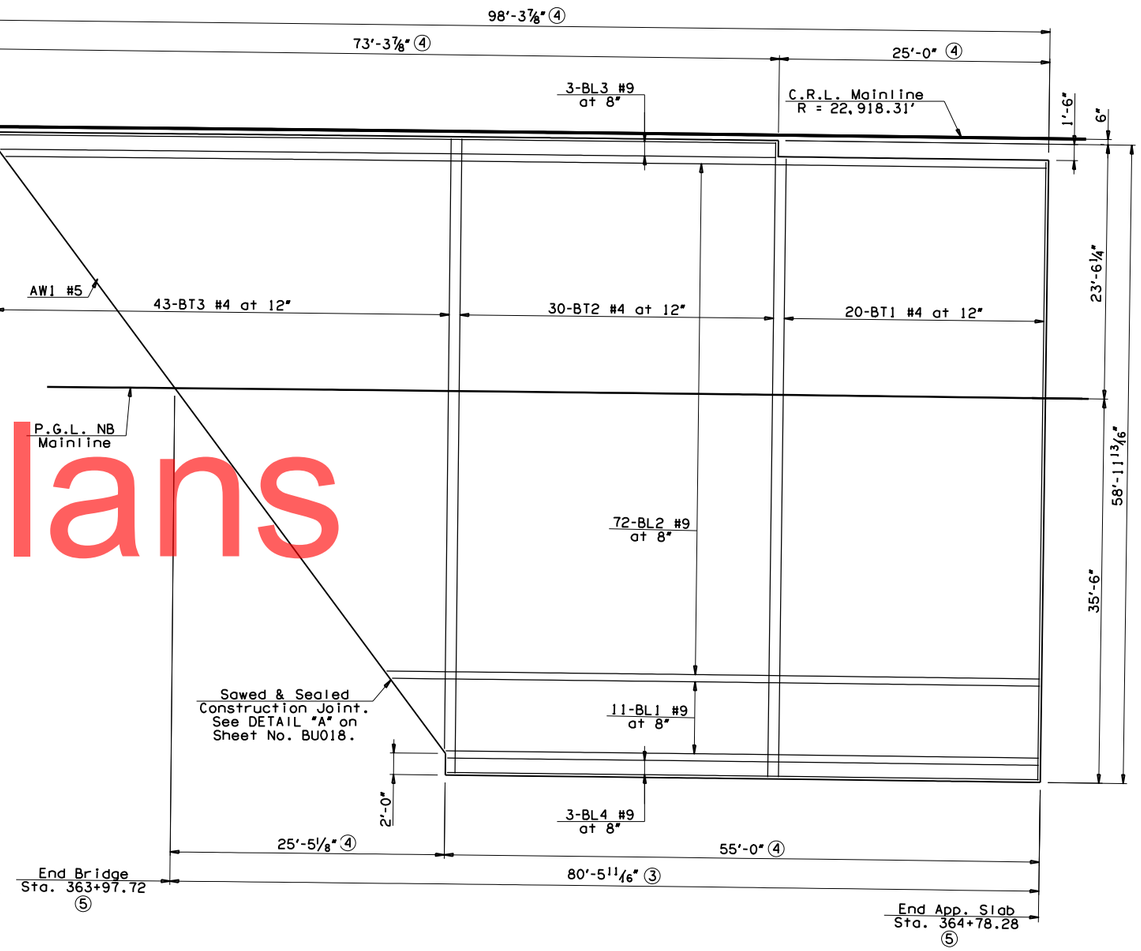
DESIGNED	NBK	9/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU016

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

PROPOSED R/W
10/23/2017



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



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

50% plans

① ½" Sawed and Sealed Construction Joint in the top of Approach Slab. See DETAIL "A" on Sheet No. BU018.

② Sawed & Sealed Construction Joint. See DETAIL "B" on Sheet No. BU018.

③ Terminal Joint, see DETAIL "C" on Sheet No. BU018.

④ Measured along outside edge of slab.

⑤ Stations shown are along C.R.L.

NOTES:
Do not groove within 6" of any joint.

All longitudinal reinforcement shall be oriented along as curve concentric with the P.G.L.

Parapet reinforcment omitted for clarity, see Std. FSHP-42-2-00E and Sheet No. XXXXX for additional details.

For Summary of Quantities and Sections A, & B see Sheet No. BU018.

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

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

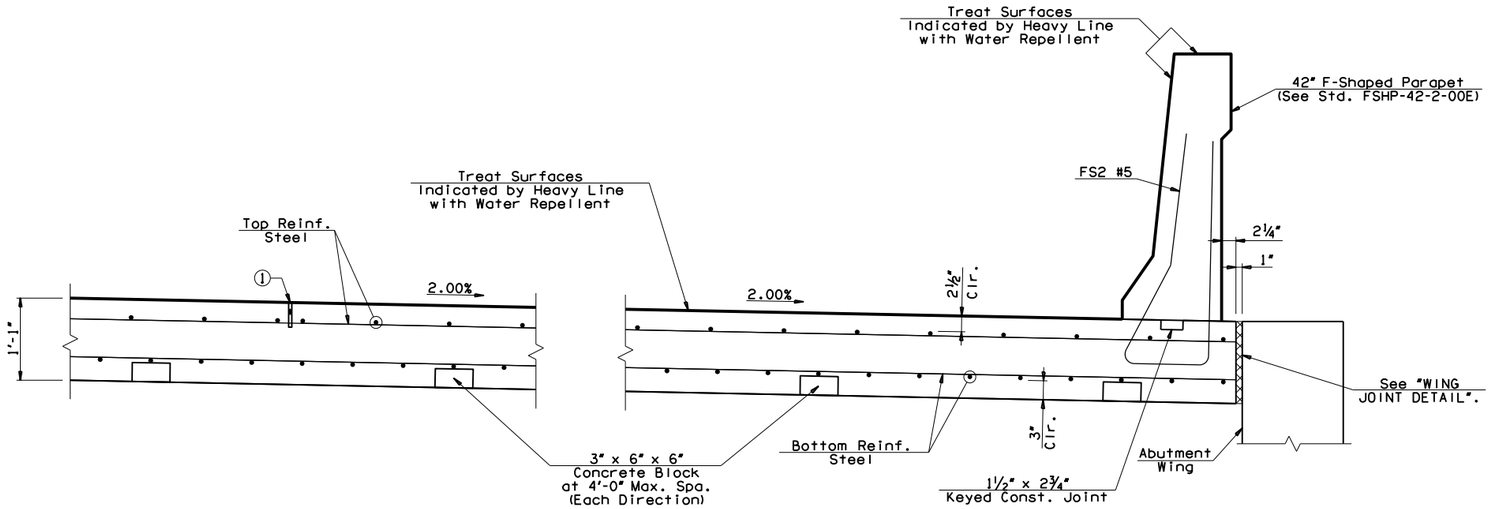
APPROACH SLAB DETAILS
(SHEET 3 OF 4)

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

DESIGNED	NBK	9/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU017

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

PROPOSED R/W
10/23/2017



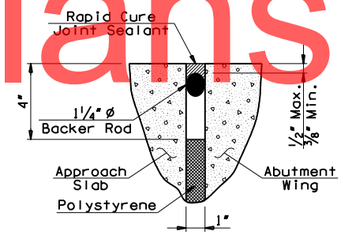
SECTION A THRU APPROACH SLAB

SECTION B ②

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab (See DETAIL "B").

② East Parapet shown, West Parapet similar.

50% plans

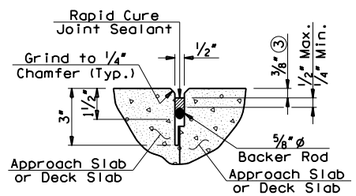


WING JOINT DETAIL

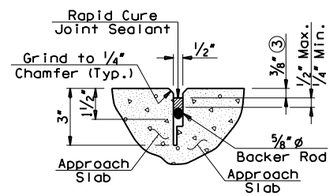
NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".

AW2 #5 x 23'-6" (Approach Slab No. 1)
BW1 #5 x 75'-3" (Approach Slab No. 1)

AW2 #5 x 23'-9" (Approach Slab No. 2)
BW1 #5 x 76'-1" (Approach Slab No. 2)

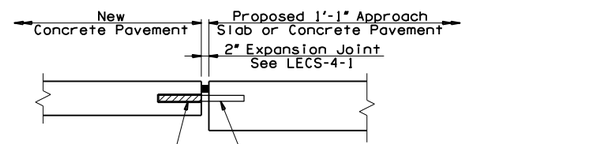


DETAIL "A"



DETAIL "B"

③ This dimension shall taper from ⅜" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



DETAIL "C"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. U GILCREASE NB OVER KEYSTONE EXPY.

APPROACH SLAB DETAILS
(SHEET 4 OF 4)

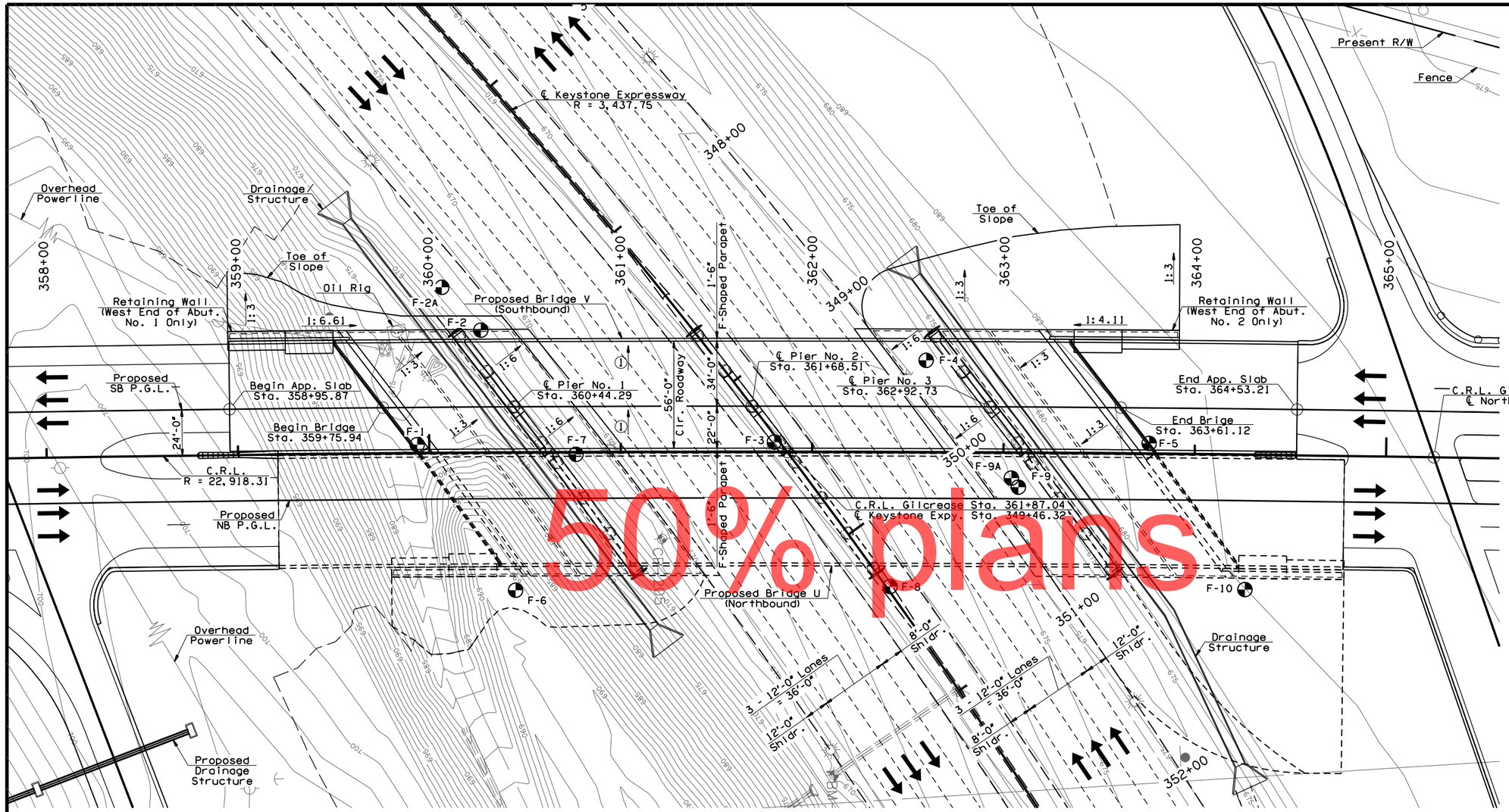
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	JTR	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BU018

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

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'

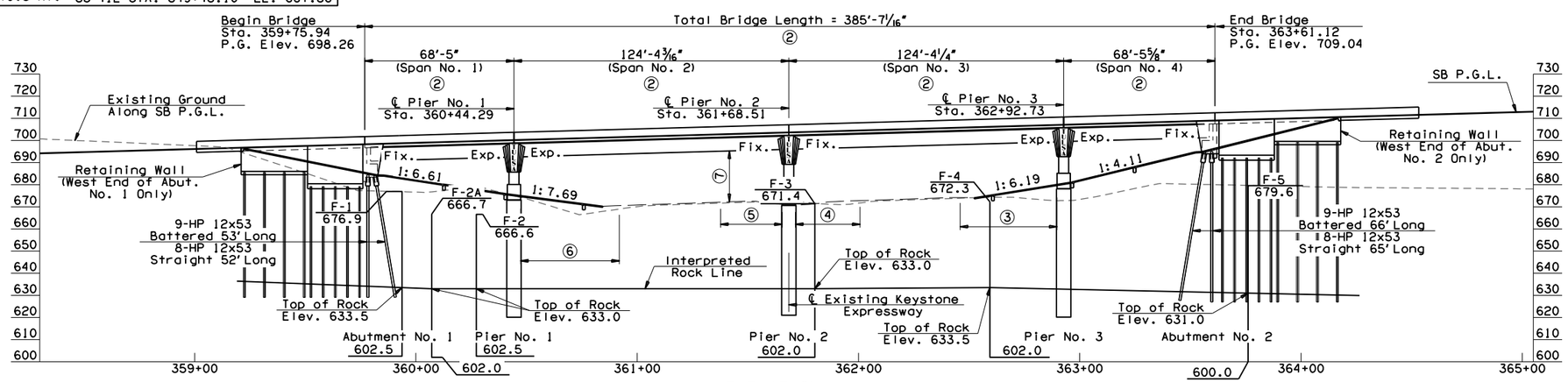


50% plans

For Foundation Report, See Sheet Nos. BU003 - BU005.

BENCHMARK NO. CP205
DESCRIPTION ½" REBAR
OFFSET 79.5' RT. US-412 STA. 349+43.10 EL. 667.86

PLAN



ELEVATION

NOTE:
For Index of Sheets, Foundation Data, LRFD Design Data, and Additional Geotechnical Information, see Sheet No. BV002.

① 0.02 ft./ft.
② Stations measured along C.R.L. Dimensions measured along P.G.L.
③ 37'-2" Min. from Crashwall to Edge of Existing WB Travel Lane
④ 17'-3" Min. from Crashwall to Edge of Existing WB Travel Lane
⑤ 16'-2" Min. from Crashwall to Edge of Existing EB Travel Lane
⑥ 36'-2" Min. from Crashwall to Edge of Existing EB Travel Lane
⑦ 22'-7" Min. Clearance.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

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	JCL	6/17	DATE: 10/23/2017	SHEET NO. BV001

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

PROPOSED
R/W
10/23/2017

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)	fy = 60,000 p.s.i.
Structural Steel (M270, Gr. 50W)	fy = 50,000 p.s.i.
Structural Steel (Piling) (M270, Gr. 50)	fy = 50,000 p.s.i.
Stainless Steel A240 (Type 316)	fy = 30,000 p.s.i.

Loading: HL93 or Oklahoma Overload Truck, 5.0 p.s.f. Stay-in-Place Form Allowance, and 20 p.s.f. Future Wearing Surface.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition with current interims.

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

LFR Operating Rating: HS 43.8
LRFR Operationg Rating: 1.70

FOUNDATION DATA

ABUTMENT CAP (HP 12X53 PILING)

	Abut. No. 1	Abut. No. 2
Factored Pile Reaction	= XX.X Tons	= XX.X Tons
Pile Lengths	= XX.XX Ft.	= XX.XX Ft.

PIERS (72" DIAMETER DRILLED SHAFTS)

	Pier No. 1	Pier No. 2	Pier No. 3
Minimum Depth into Rock	= XX.X	= XX.X	= XX.X
Depth of Rock Neg'd for Friction	= XX.X	= XX.X	= XX.X
Unit Bearing Resistance	= XX.X	= XX.X	= XX.X
Bearing Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Bearing Resistance	= XX.X	= XX.X	= XX.X
Unit Friction Resistance	= XX.X	= XX.X	= XX.X
Friction Resistance Factor	= XX.X	= XX.X	= XX.X
Factored Friction Resistance	= XX.X	= XX.X	= XX.X
Total Factored Resistance	= XX.X	= XX.X	= XX.X
Total Factored Reaction	= XX.X	= XX.X	= XX.X

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BV001-BV002	General Plan and Elevation
BV003-BV004	Staking Diagram
BV005-BV011	Abutment Details
BV012	Substructure Excavation and Pipe Underdrain Assembly
BV013-BV014	Retaining Wall Details
BV015-BV017	Pier Details
BV018	Typical Section
BV019	Longitudinal Section
BV020-BV025	Superstructure Details
BV026	Framing Plan
BV027-BV029	Beam Details
BV030	Bearing Details
BV031-BV032	Slope Wall Details
BV033-BV036	Approach Slab Details
BSTA01-BSTA09	Bridge Standard Details

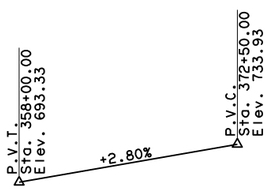
50% plans

SUMMARY OF QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	APPROACH SLABS	RETAINING WALLS	AESTHETIC SHIELDS	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	C.Y.	251.00	-	-	-	779.00	-	1,030.00
CLSM BACKFILL	C.Y.	1,071.00	-	-	-	502.00	-	1,573.00
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	-	-	2,272.00	-	-	-	2,272.00
APPROACH SLAB	S.Y.	-	-	-	1,127.00	-	-	1,127.00
SAW-CUT GROOVING	S.Y.	-	-	2,322.60	981.00	-	-	3,303.60
EXPANSION JOINT	L.F.	-	142.80	-	-	-	-	142.80
42" F-SHAPED PARAPET	L.F.	-	-	384.20	320.10	-	-	704.30
STRUCTURAL STEEL	LB.	-	-	7,272.00	-	-	-	7,272.00
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	12.00	12.00	-	-	-	-	24.00
(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	-	24.00	-	-	-	-	24.00
(SP) SPECIAL CONCRETE FINISH	S.Y.	150.00	87.00	-	-	-	-	237.00
CLASS AA CONCRETE	C.Y.	-	-	3,019.80	-	-	-	3,019.80
CLASS A CONCRETE	C.Y.	315.30	880.90	-	-	1,869.40	-	3,065.60
CLASS P CONCRETE	C.Y.	-	-	-	-	-	9.30	9.30
SLOPE WALL (6")	S.Y.	1,633.08	-	-	-	-	-	1,633.08
REINFORCING STEEL	LB.	-	105,108.00	-	-	-	-	105,108.00
EPOXY COATED REINFORCING STEEL	LB.	25,765.00	120,684.00	174,313.00	-	15,203.00	1,083.00	337,048.00
PILES, FURNISHED (HP 12X53)	L.F.	2,011.00	-	-	-	2,130.00	-	4,141.00
PILES, DRIVEN (HP 12X53)	L.F.	1,552.00	-	-	-	2,007.00	-	3,559.00
PILE SPLICE (NON-BIDDABLE)	EA.	-	-	-	-	-	-	1.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	194.00	603.00	4,050.31	1,329.00	-	81.00	6,257.31
DRILLED SHAFTS 78" DIAMETER	L.F.	-	426.00	-	-	-	-	426.00
CROSSHOLE SONIC LOGGING	EA.	-	3.00	-	-	-	-	3.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	150.00	-	-	-	122.00	-	272.00
6" NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	60.00	-	-	-	-	-	60.00

STANDARDS

FSHP-42-2-00E
HP1-2-01E



VERTICAL GRADE DATA

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

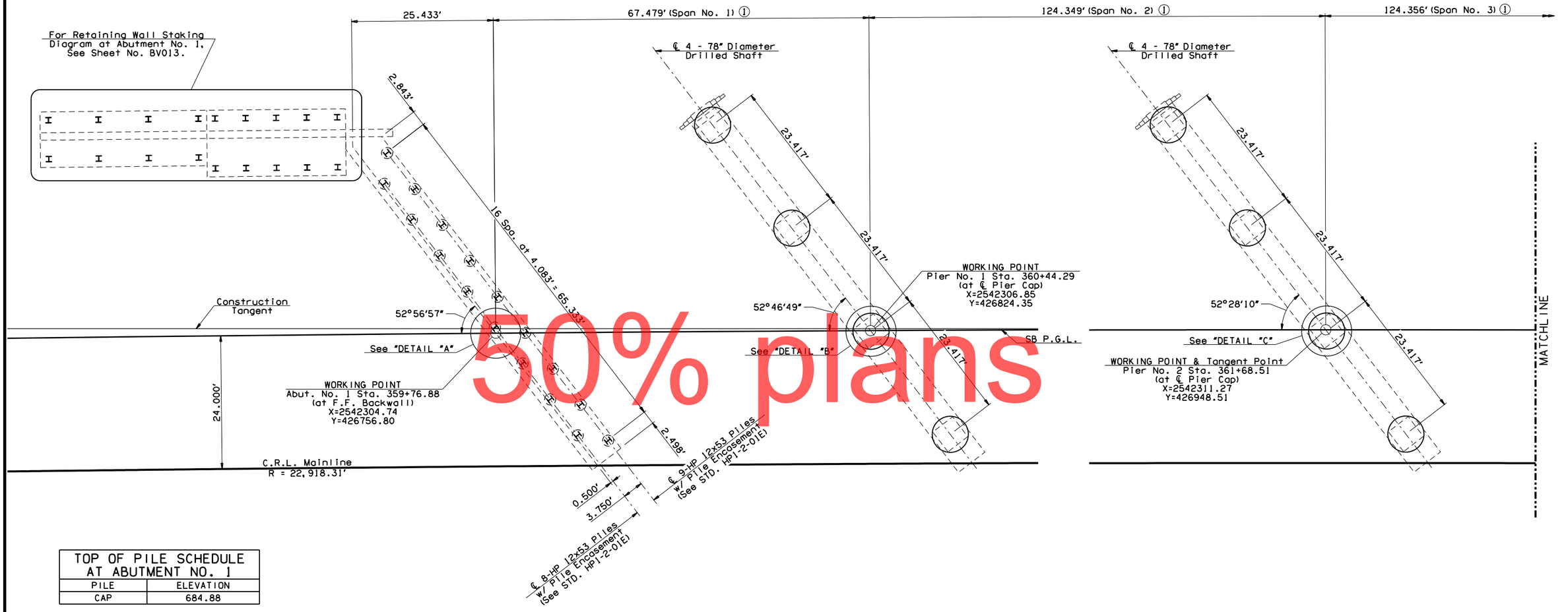
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

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	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV002

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

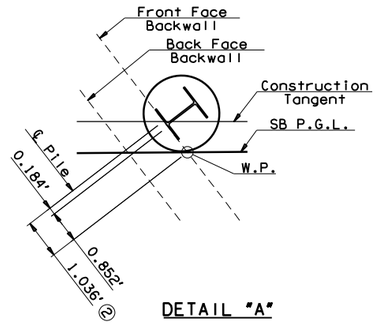
PROPOSED R/W
10/23/2017



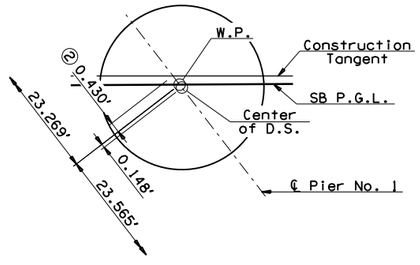
50% plans

TOP OF PILE SCHEDULE AT ABUTMENT NO. 1	
PILE	ELEVATION
CAP	684.88

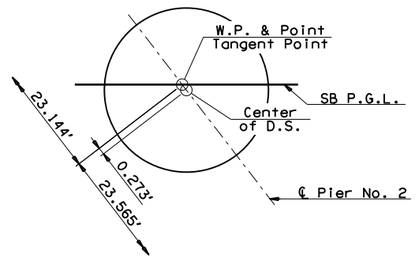
SUBSTRUCTURE STAKING DIAGRAM



DETAIL "A"



DETAIL "B"



DETAIL "C"

NOTE:
Stations measured along C.R.L.
Dimensions measured along P.G.L.

① Measured Working Point to Working Point along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

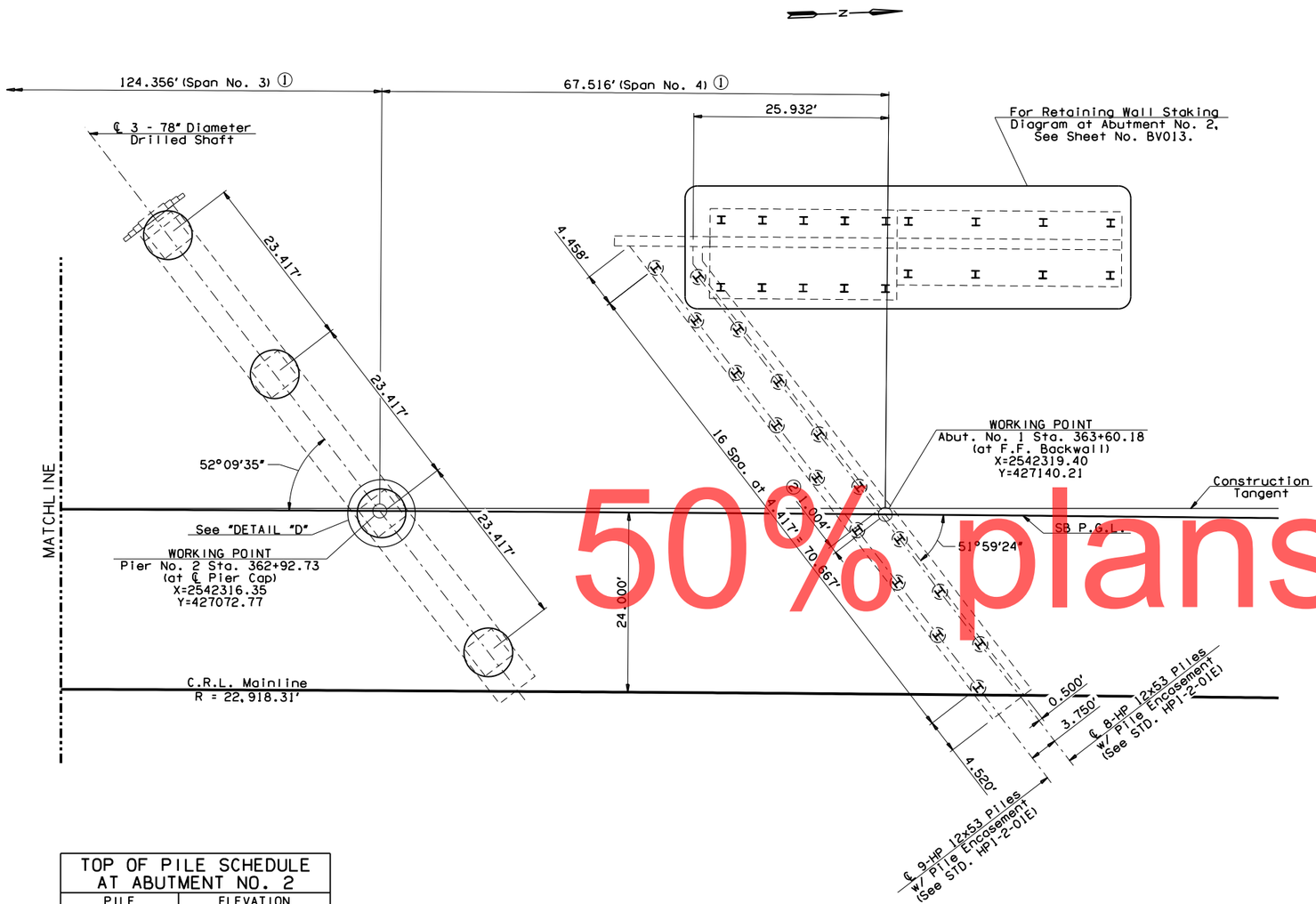
STAKING DIAGRAM
(SHEET 1 OF 2)

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

DESIGNED	NBK	9/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV003

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

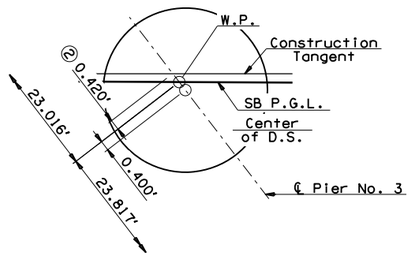
PROPOSED R/W
10/23/2017



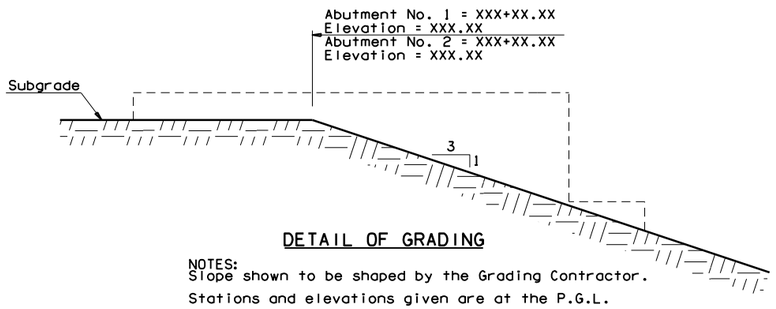
50% plans

SUBSTRUCTURE STAKING DIAGRAM

TOP OF PILE SCHEDULE AT ABUTMENT NO. 2	
PILE	ELEVATION
CAP	695.00



DETAIL "D"



DETAIL OF GRADING

NOTES:
Slope shown to be shaped by the Grading Contractor.
Stations and elevations given are at the P.G.L.

NOTE:
Stations measured along C.R.L.
Dimensions measured along P.G.L.

① Measured Working Point to Working Point along P.G.L.

② Measured between Working Point & Construction Tangent.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

STAKING DIAGRAM
(SHEET 2 OF 2)

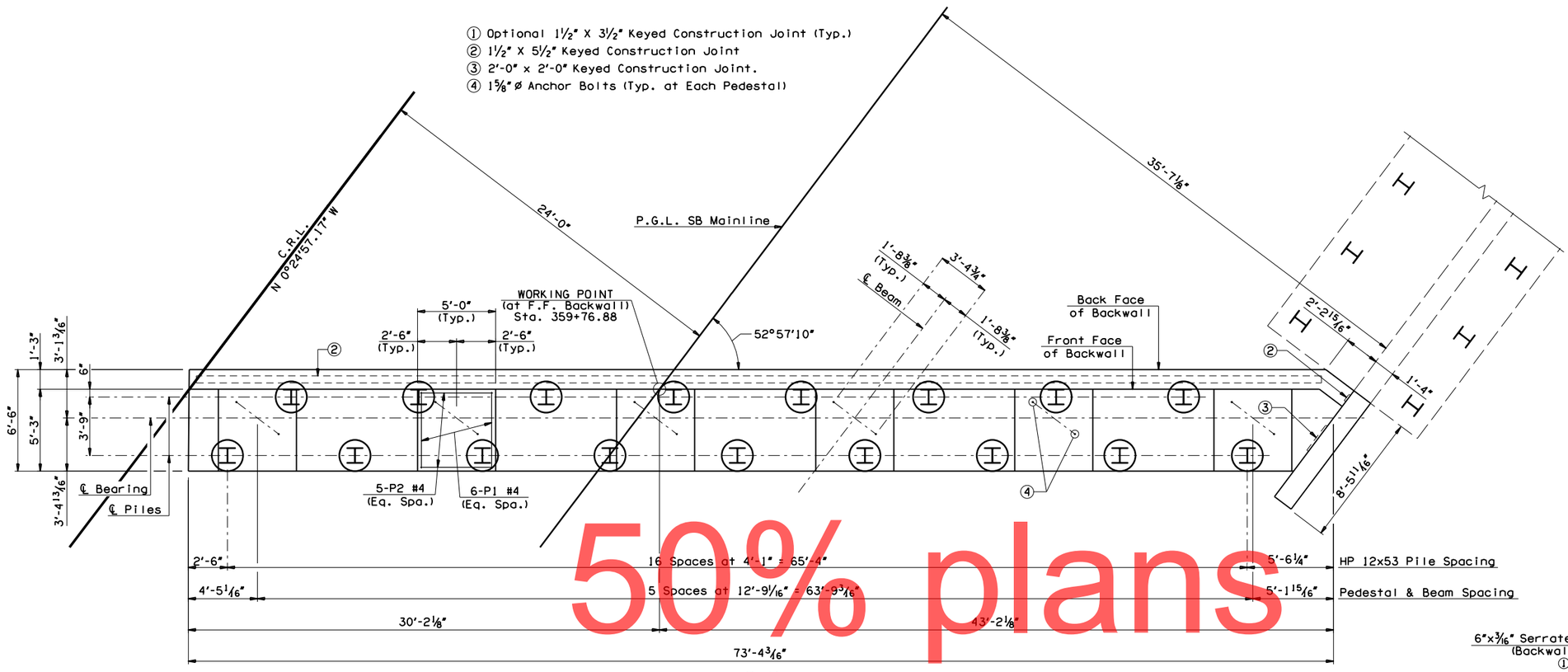
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	NBK	9/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV004

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

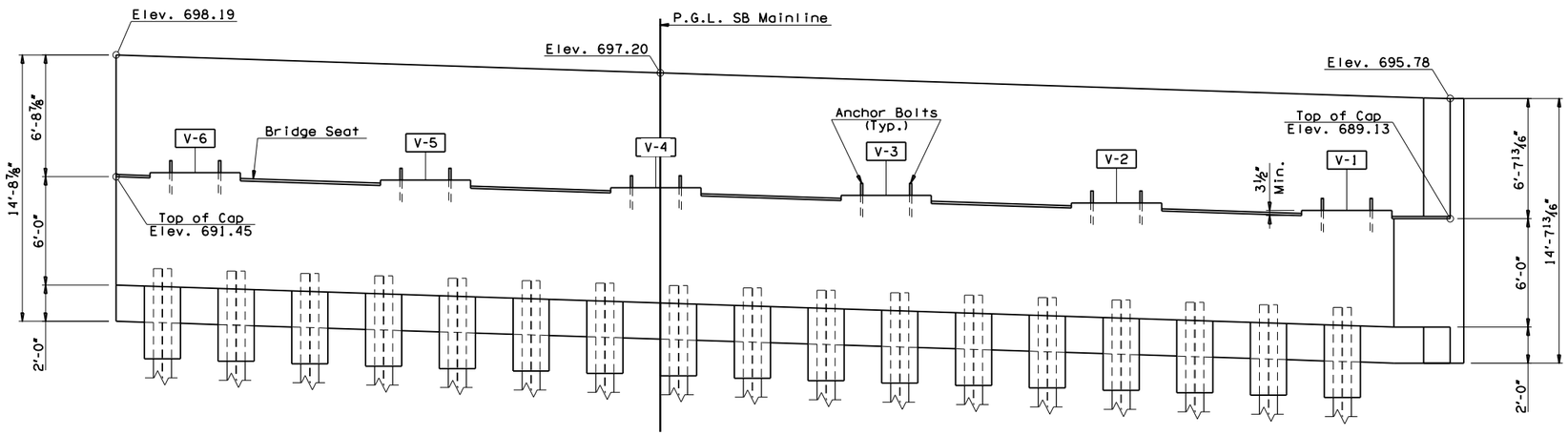
① Optional 1½" X 3½" Keyed Construction Joint (Typ.)
② 1½" X 5½" Keyed Construction Joint
③ 2'-0" x 2'-0" Keyed Construction Joint.
④ 1⅝" ø Anchor Bolts (Typ. at Each Pedestal)



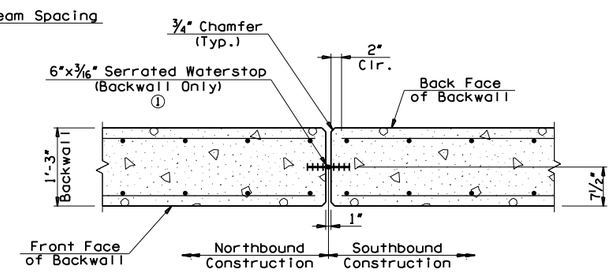
PLAN

50% plans

ABUTMENT NO. 1 PEDESTAL ELEVATIONS	
PEDESTAL	ELEVATION
V-1	689.59
V-2	690.00
V-3	690.42
V-4	690.84
V-5	691.26
V-6	691.68



ELEVATION
(Looking Back Station at Abutment No. 1)
(Wingwall Not Shown for Clarity)



WATERSTOP DETAIL

① Waterstop shall be ribbed with a centerbulb such as Sika Greenstreak 705, RCB-638BR as manufactured by BoMetals Inc., or an approved equal.

Waterstop shall be capable of accomodating ½" Lateral, Transverse and Shear Differential movement.

All costs associated with the serrated waterstop shall be included in other items of work.

NOTE:
See Sheet No. BSTA01 for Water Repellent Treatment Details at the Abutments.

① Optional Keyed Const. Joint 1½" x 5½"

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

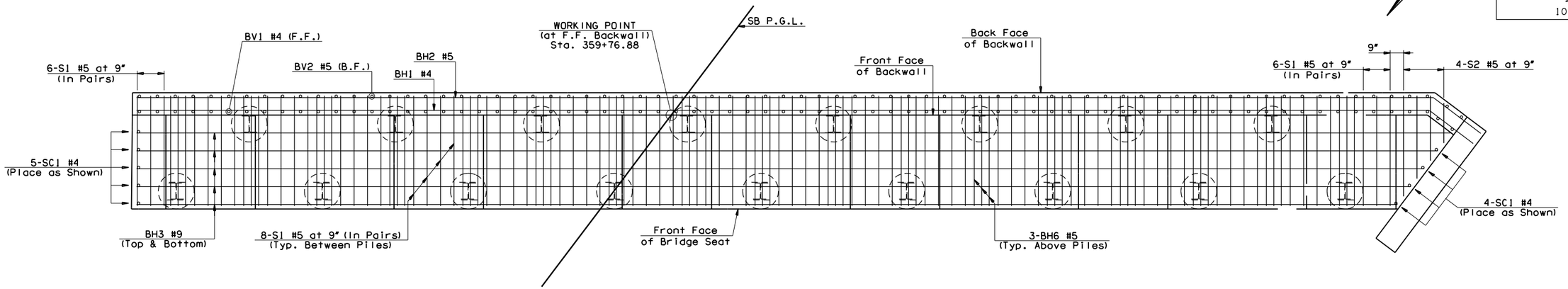
ABUTMENT DETAILS
(SHEET 1 OF 7)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV005

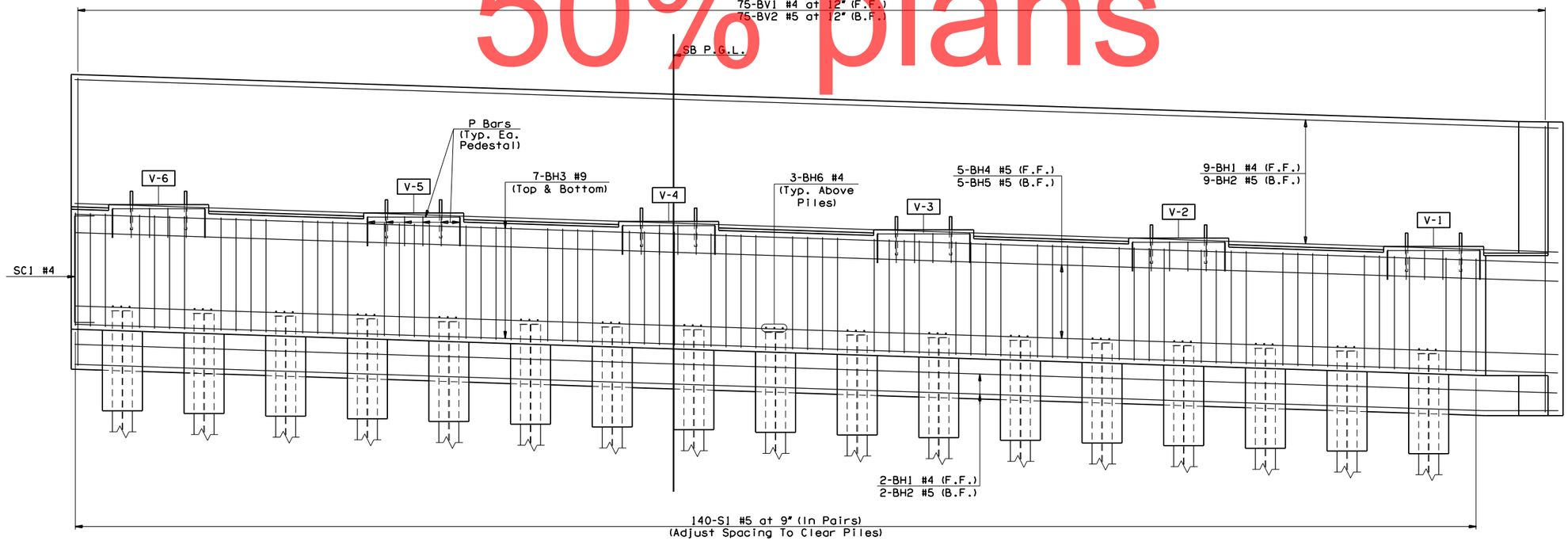
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



LAYOUT OF ABUTMENT REINFORCING STEEL

50% plans



ELEVATION
(Looking Back Station at Abutment No. 1)
(Wingwall Not Shown for Clarity)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

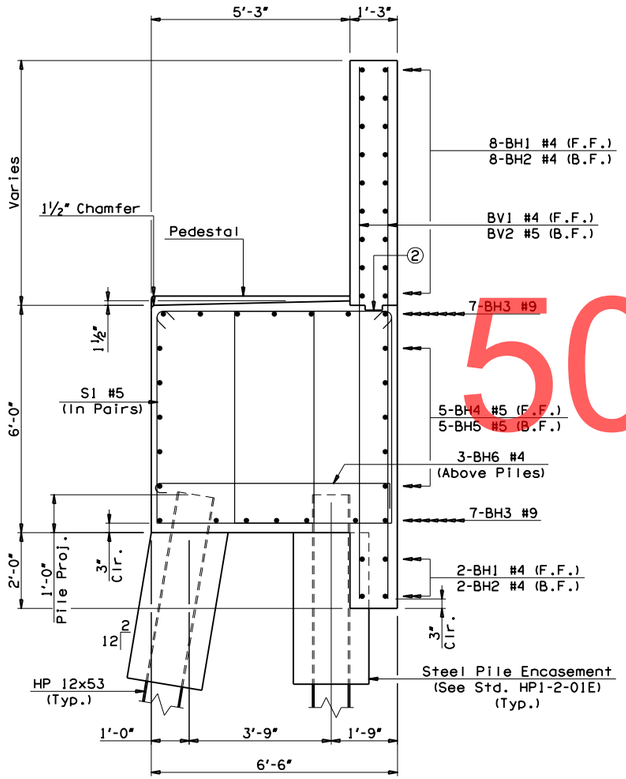
ABUTMENT DETAILS
(SHEET 2 OF 7)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

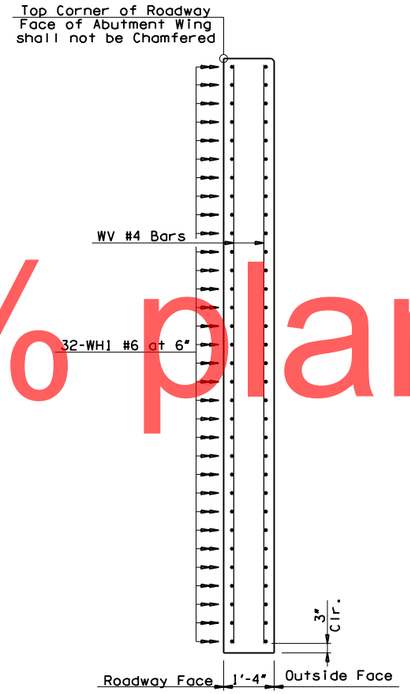
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV006

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

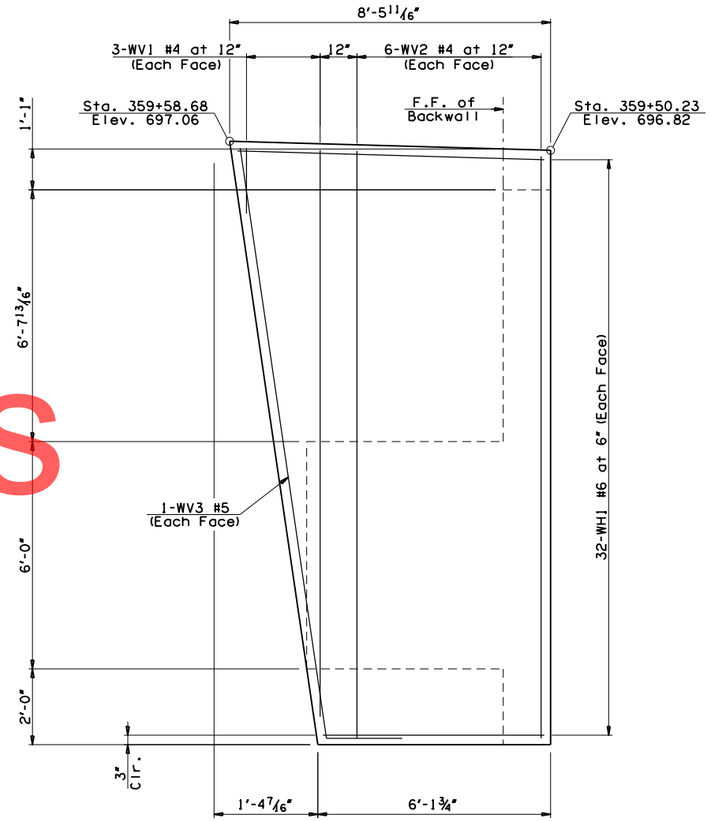
PROPOSED R/W
10/23/2017



TYPICAL SECTION THRU ABUTMENT



SECTION THRU WING AT BACK FACE OF BACKWALL



ABUTMENT WING ELEVATION

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

ABUTMENT DETAILS
(SHEET 3 OF 7)

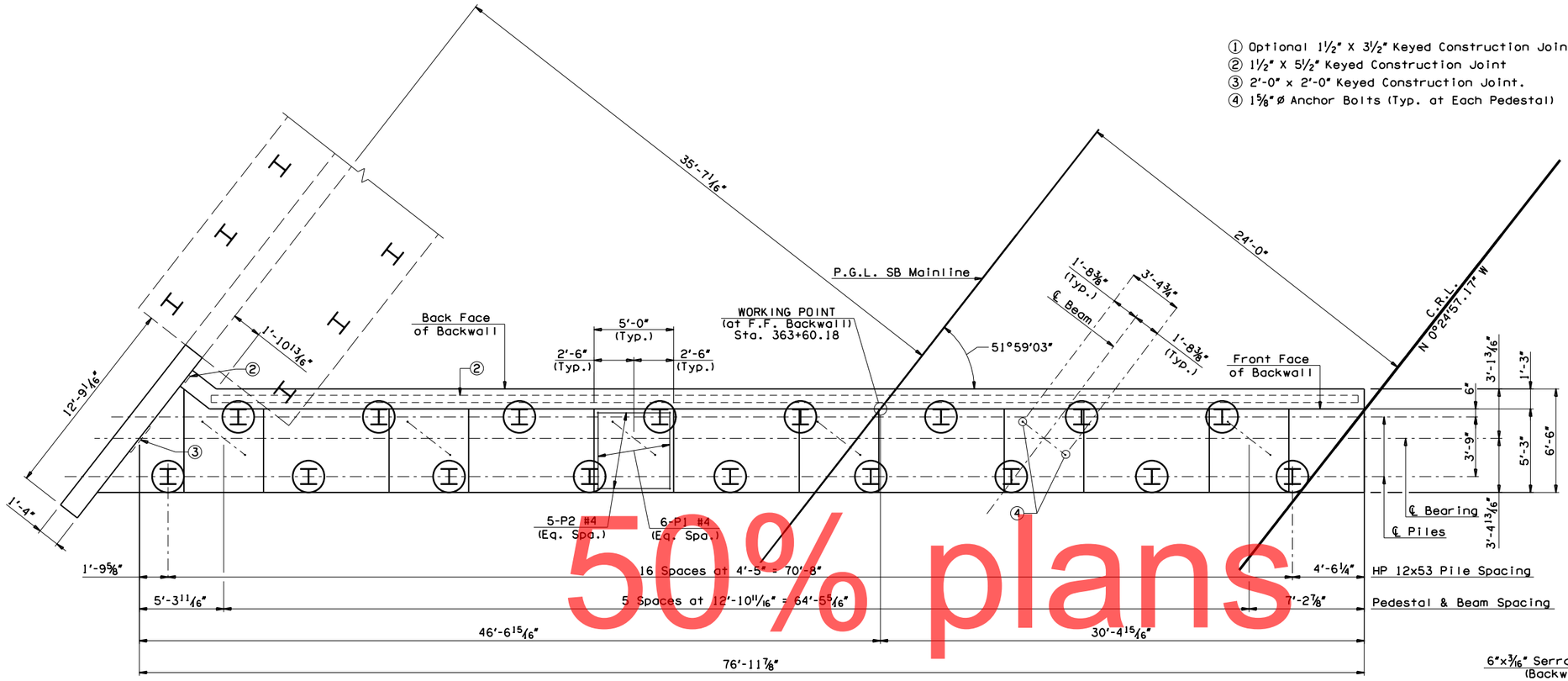
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV007

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

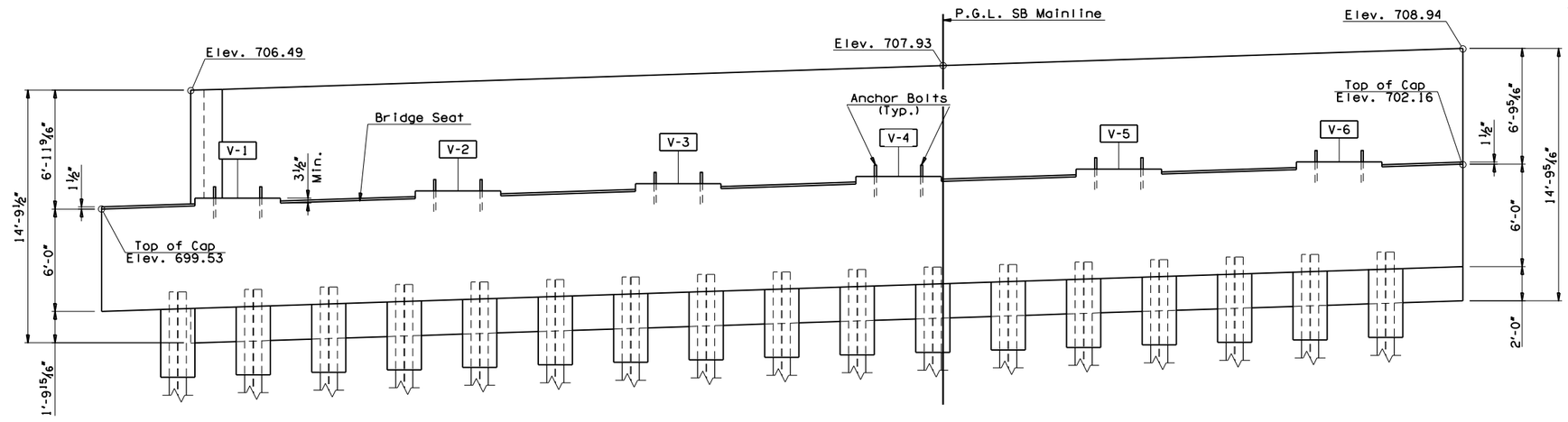
① Optional 1½" X 3½" Keyed Construction Joint (Typ.)
② 1½" X 5½" Keyed Construction Joint
③ 2'-0" x 2'-0" Keyed Construction Joint.
④ 1⅝" Ø Anchor Bolts (Typ. at Each Pedestal)



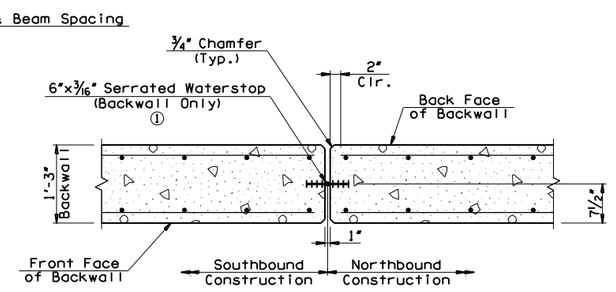
PLAN

ABUTMENT NO. 2 PEDESTAL ELEVATIONS	
PEDESTAL	ELEVATION
V-1	700.17
V-2	700.59
V-3	701.02
V-4	701.44
V-5	701.87
V-6	702.29

50% plans



ELEVATION
(Looking Forward Station at Abutment No. 2)
(Wingwall Not Shown for Clarity)



WATERSTOP DETAIL

① Waterstop shall be ribbed with a centerbulb such as Sika Greenstreak 705, RCB-638BR as manufactured by BoMetals Inc., or an approved equal.

Waterstop shall be capable of accomodating ½" Lateral, Transverse and Shear Differential movement.

All costs associated with the serrated waterstop shall be included in other items of work.

NOTE:
See Sheet No. BSTA01 for Water Repellent Treatment Details at the Abutments.

① Optional Keyed Const. Joint 1½" x 5½"

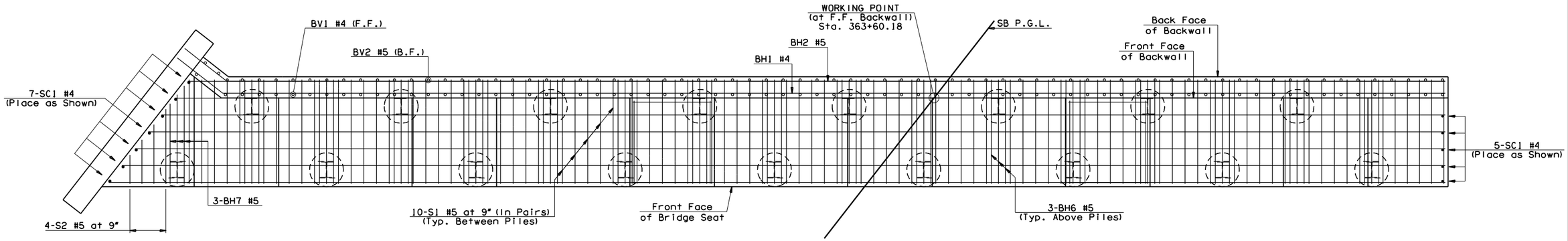
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
ABUTMENT DETAILS
(SHEET 4 of 7)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17	DATE: 10/23/2017	SHEET NO. BV008
CHECKED	NBK	9/17		

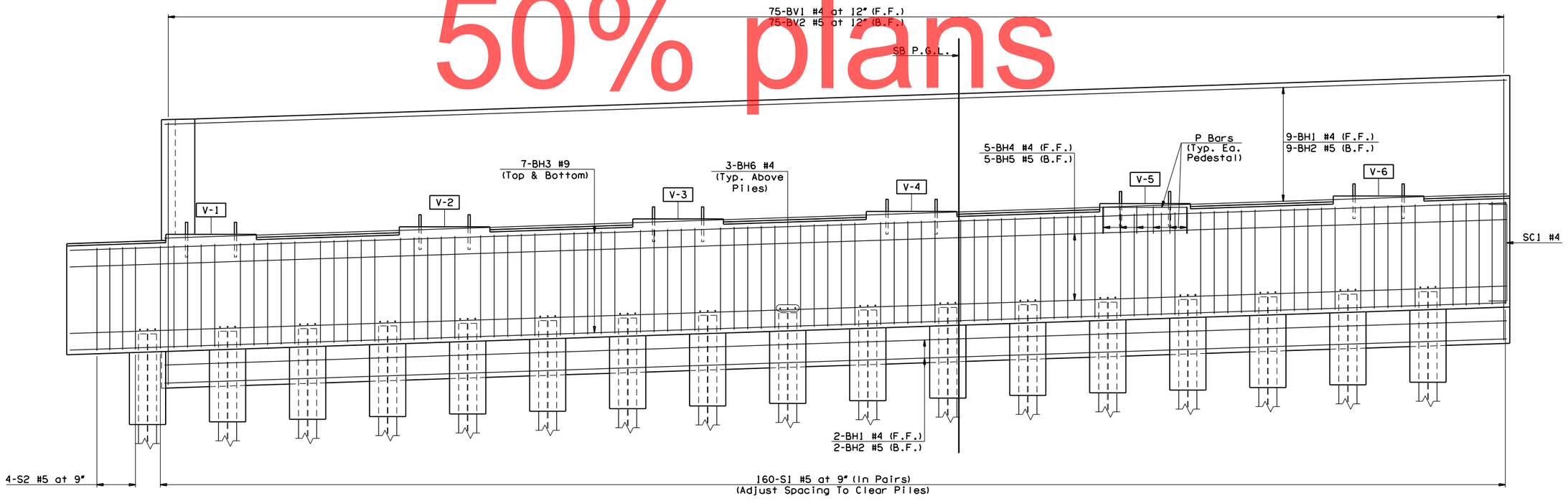
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



LAYOUT OF ABUTMENT REINFORCING STEEL

50% plans



ELEVATION

(Looking Forward Station at Abutment No. 2)
(Wingwall Not Shown for Clarity)

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

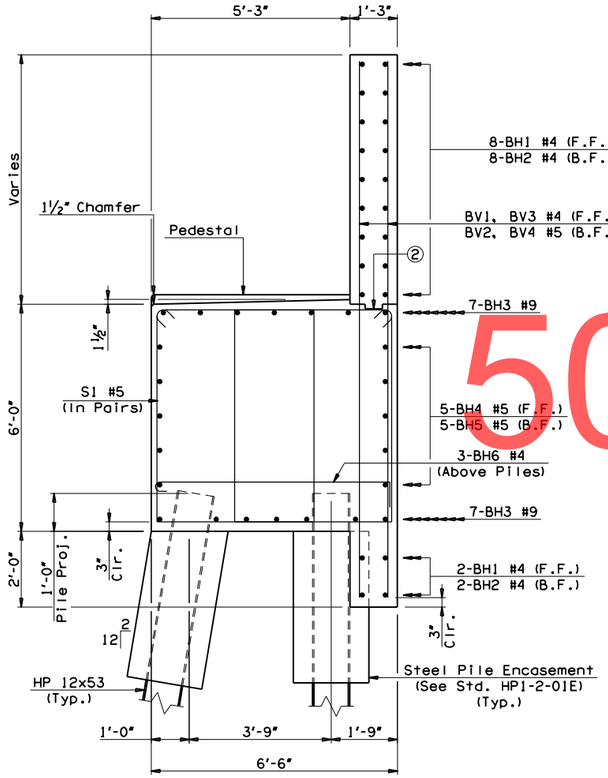
ABUTMENT DETAILS
(SHEET 5 OF 7)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

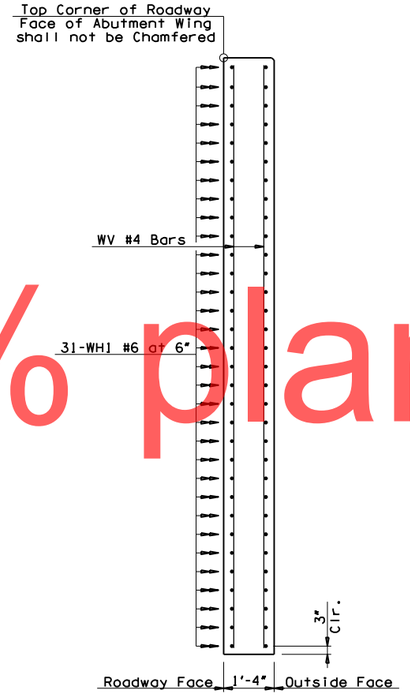
DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV009

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

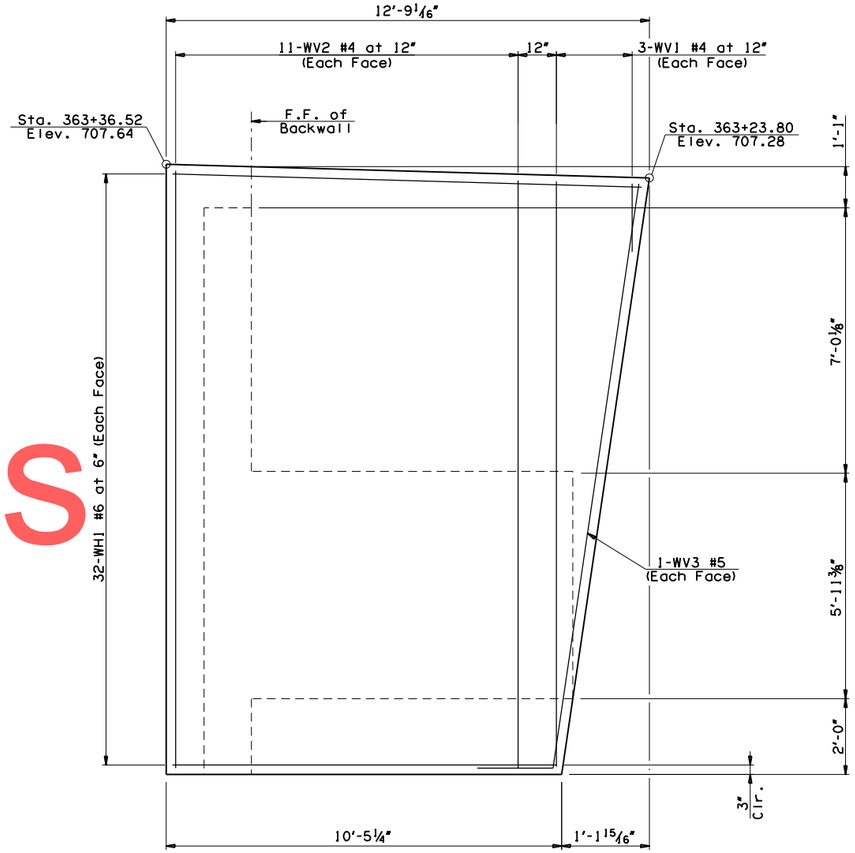
PROPOSED R/W
10/23/2017



TYPICAL SECTION THRU ABUTMENT



SECTION THRU WING AT BACK FACE OF BACKWALL



ABUTMENT WING ELEVATION

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

ABUTMENT DETAILS
(SHEET 6 OF 7)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV010

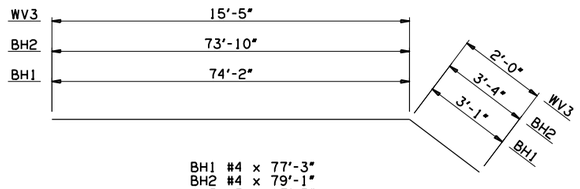
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

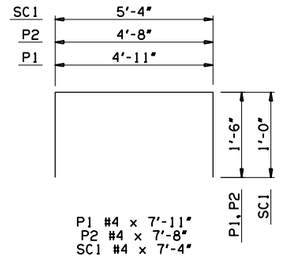
BAR LIST - ABUTMENT NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
① BH1	#4	10	BENT	77′-3″	-
① BH2	#4	10	BENT	79′-1″	-
③ BH3	#9	14	STR.	77′-7″ AVG.	75′-10″ TO 79′-4″
② BH4	#5	5	STR.	72′-11″	-
② BH5	#5	5	STR.	76′-5″	-
BH6	#4	51	BENT	7′-4″	-
BV1	#4	75	STR.	15′-4″ AVG.	14′-2″ TO 16′-6″
BV2	#5	75	STR.	15′-4″ AVG.	14′-2″ TO 16′-6″
P1	#4	36	BENT	7′-11″	-
P2	#4	30	BENT	7′-8″	-
S1	#5	140	BENT	20′-5″	-
S2	#5	4	BENT	19′-11″ AVG.	16′-7″ TO 23′-3″
SC1	#4	9	BENT	7′-4″	-
WH1	#6	62	STR.	7′-1½″ AVG.	5′-10″ TO 8′-5″
WV1	#4	6	STR.	6′-10″ AVG.	1′-9″ TO 11′-11″
WV2	#4	14	STR.	15′-2″	-
WV3	#5	2	BENT	17′-5″	-

BAR LIST - ABUTMENT NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
① BH1	#4	11	BENT	77′-8″	-
① BH2	#4	11	BENT	77′-2″	-
③ BH3	#9	14	STR.	82′-0½″ AVG.	79′-8″ TO 84′-5″
② BH4	#5	5	STR.	81′-6″	-
② BH5	#5	5	STR.	76′-9″	-
BH6	#4	48	BENT	7′-4″	-
BH7	#4	3	BENT	6′-5″ AVG.	5′-11″ TO 6′-11″
BV1	#4	75	STR.	15′-5½″ AVG.	14′-3″ TO 16′-8″
BV2	#5	75	STR.	15′-5½″ AVG.	14′-3″ TO 16′-8″
P1	#4	36	BENT	7′-11″	-
P2	#4	30	BENT	7′-8″	-
S1	#5	160	BENT	20′-5″	-
S2	#5	4	BENT	18′-2″ AVG.	15′-5″ TO 20′-11″
SC1	#4	12	BENT	7′-4″	-
WH1	#6	62	STR.	15′-3″	-
WV1	#4	6	STR.	7′-2½″ AVG.	1′-10″ TO 12′-7″
WV2	#4	22	STR.	15′-3″	-
WV3	#5	2	BENT	17′-7″	-

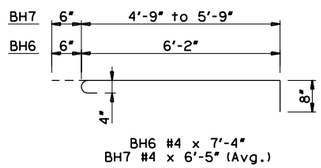
① Includes One 1′-11″ Lap Length.
② Includes One 2′-5″ Lap Length.
③ Includes One 5′-4″ Lap Length.



BH1 #4 x 77′-3″
BH2 #4 x 79′-1″
WV3 #5 x 17′-5″
(Located at Abutment No. 1)

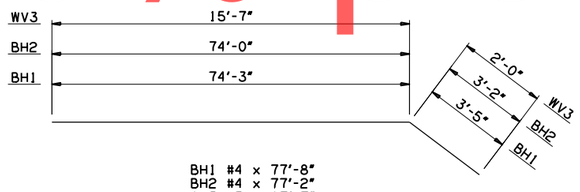


P1 #4 x 7′-11″
P2 #4 x 7′-8″
SC1 #4 x 7′-4″

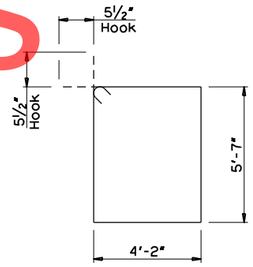


BH6 #4 x 7′-4″
BH7 #4 x 6′-5″ (Avg.)

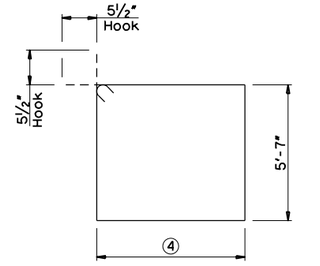
50% plans



BH1 #4 x 77′-8″
BH2 #4 x 77′-2″
WV3 #5 x 17′-7″
(Located at Abutment No. 2)



S1 #5 x 20′-5″



S2 #5 x 19′-11″ (Avg.)(Abut. No. 1)
S2 #5 x 18′-2″ (Avg.)(Abut. No. 2)

④ 2′-3″ to 5′-7″ (Abut. No. 1)
1′-8″ to 4′-5″ (Abut. No. 2)

SUMMARY OF QUANTITIES - ABUTMENT NOS. 1 & 2				
ITEM	UNIT	ABUTMENT NO. 1	ABUTMENT NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	C.Y.	124.00	127.00	251.00
CLSM BACKFILL	C.Y.	501.00	570.00	1,071.00
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	6.00	6.00	12.00
(SP) SPECIAL CONCRETE FINISH	S.Y.	73.00	77.00	150.00
CLASS A CONCRETE	C.Y.	153.30	162.00	315.30
SLOPE WALL (6″)	S.Y.	746.80	886.28	1,633.08
EPOXY COATED REINFORCING STEEL	LB.	12,062.00	13,703.00	25,765.00
PILES, FURNISHED (HP 12X53)	L.F.	897.00	1,114.00	2,011.00
PILES, DRIVEN (HP 12X53)	L.F.	897.00	655.00	1,552.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	94.00	100.00	194.00
6″ PERFORATED PIPE UNDERDRAIN ROUND	L.F.	75.00	75.00	150.00
6″ NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	30.00	30.00	60.00

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

ABUTMENT DETAILS
(SHEET 7 OF 7)

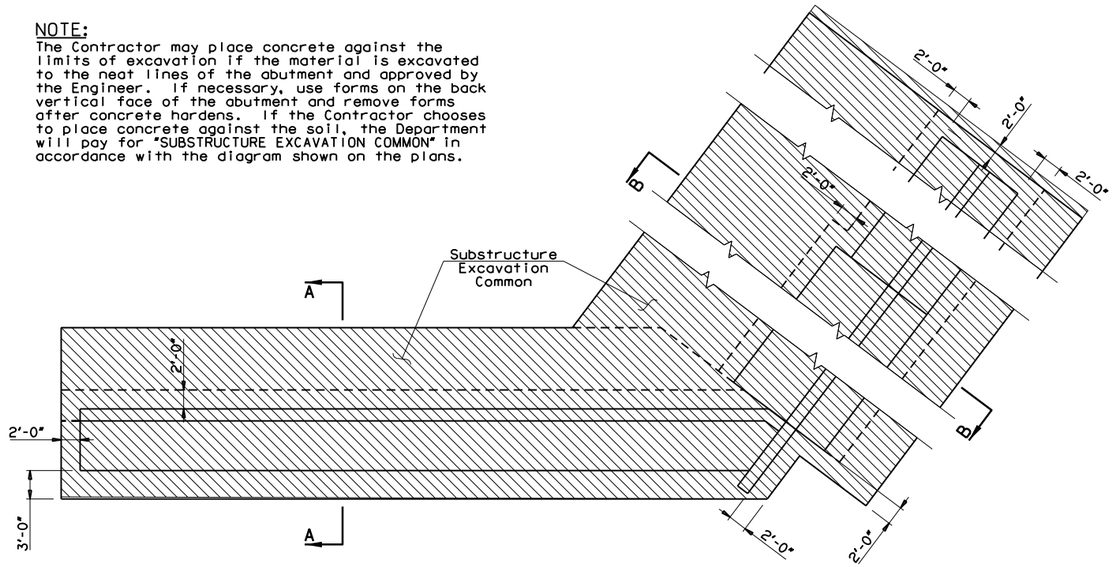
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	JLD	9/17		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV011

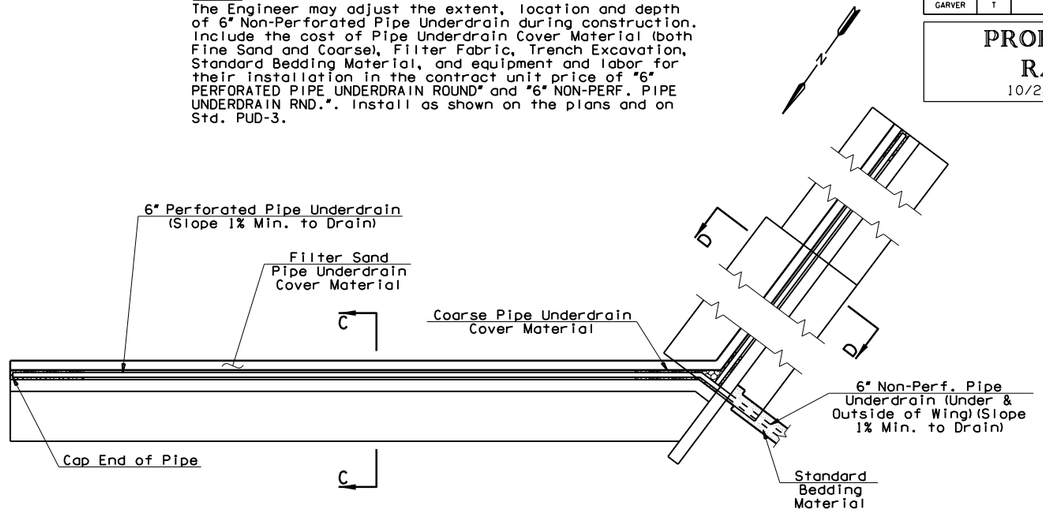
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

NOTE:
The Contractor may place concrete against the limits of excavation if the material is excavated to the neat lines of the abutment and approved by the Engineer. If necessary, use forms on the back vertical face of the abutment and remove forms after concrete hardens. If the Contractor chooses to place concrete against the soil, the Department will pay for "SUBSTRUCTURE EXCAVATION COMMON" in accordance with the diagram shown on the plans.



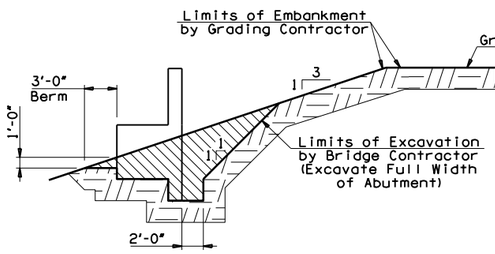
NOTE:
The Engineer may adjust the extent, location and depth of 6" Non-Perforated Pipe Underdrain during construction. Include the cost of Pipe Underdrain Cover Material (both Fine Sand and Coarse), Filter Fabric, Trench Excavation, Standard Bedding Material, and equipment and labor for their installation in the contract unit price of "6" PERFORATED PIPE UNDERDRAIN ROUND" and "6" NON-PERF. PIPE UNDERDRAIN RND.". Install as shown on the plans and on Std. PUD-3.



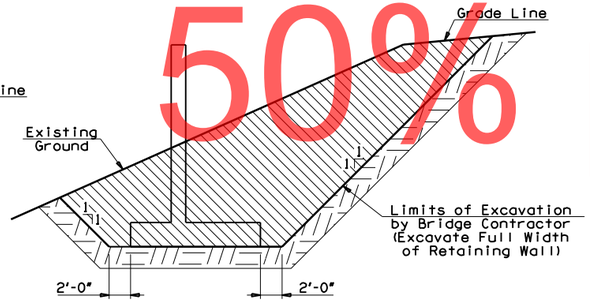
EXCAVATION PLAN - ABUTMENT NO. 1
(Abutment No. 2 Similar but Opposite))

PIPE UNDERDRAIN PLAN - ABUTMENT NO. 1
(Abutment No. 2 Similar but Opposite)

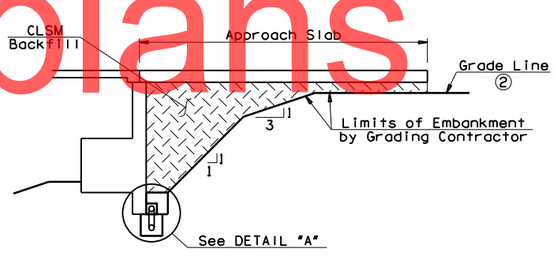
50% plans



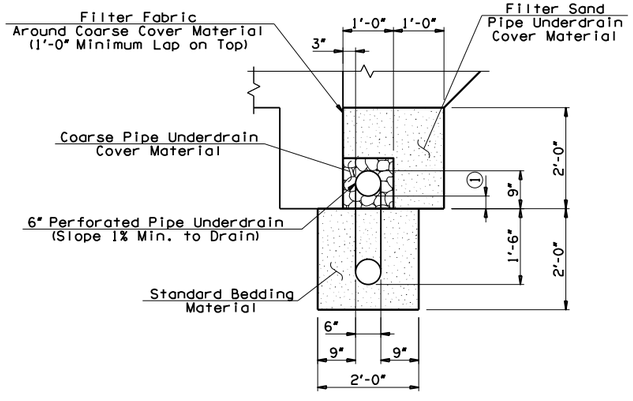
SECTION A-A



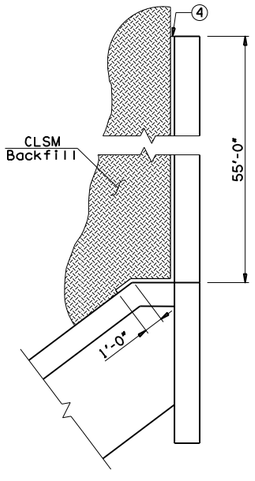
SECTION B-B



SECTION C-C



DETAIL "A"

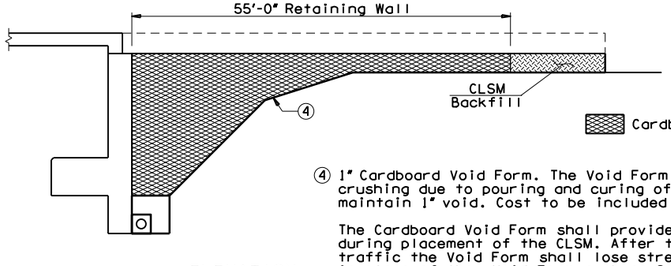


PLAN

① Set bottom of pipe 3" above the bottom of the abutment at the low end.

② Grade Line assumed to be located 1'-0" below bottom of Approach Slab for computing CLSM Backfill quantity shown on the plans. The Department will pay for CLSM Backfill in accordance with the plan quantity and no adjustment will be made for actual location of Grade Line.

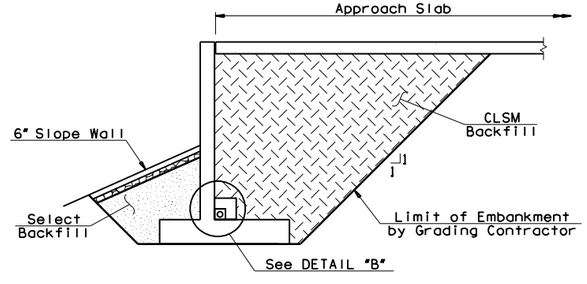
③ Set bottom of pipe 3" above the top of the retaining wall footing at the low end.



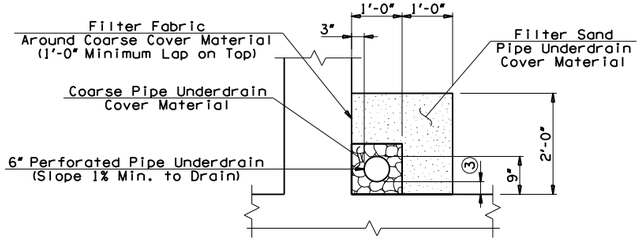
ELEVATION

Cardboard Void Form

VOID FORM DETAILS



SECTION D-D



DETAIL "B"

④ 1" Cardboard Void Form. The Void Form shall be able to withstand crushing due to pouring and curing of CLSM Backfill and maintain 1" void. Cost to be included in other items of work.

The Cardboard Void Form shall provide a temporary support during placement of the CLSM. After the CLSM can support foot traffic the Void Form shall lose strength and create a 1" space in place of the Void Form such as Separator Void as manufactured by SureVoid Products or an approved equal. Product information for Separator Void can be obtained from SureVoid Products of Englewood, Colorado, phone number 800-458-5444.

NOTE:
There is an estimated 75.00 feet of Perforated Pipe and 11.11 cubic yards of Pipe Underdrain Cover Material for both abutments.

There is an estimated 61.00 feet of Perforated Pipe and 9.04 cubic yards of Pipe Underdrain Cover Material for both retaining walls.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

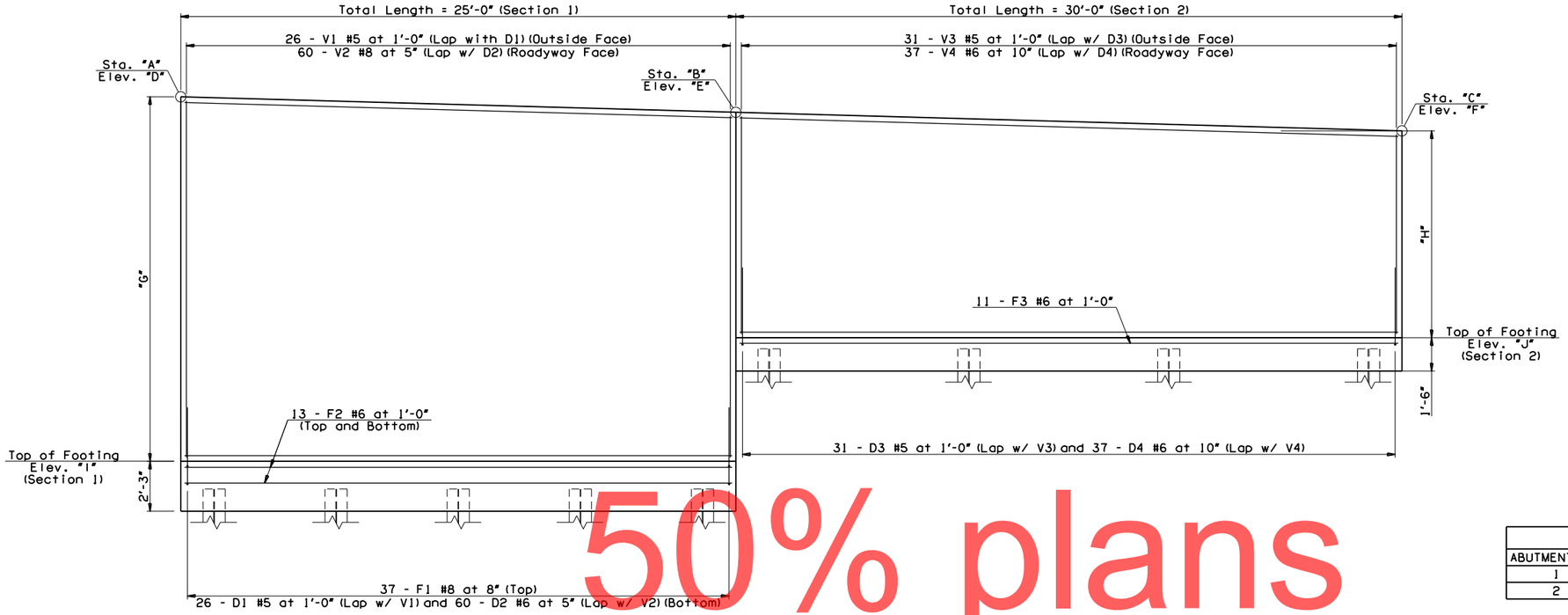
SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY

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	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV012
CHECKED	MJY	9/17		

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

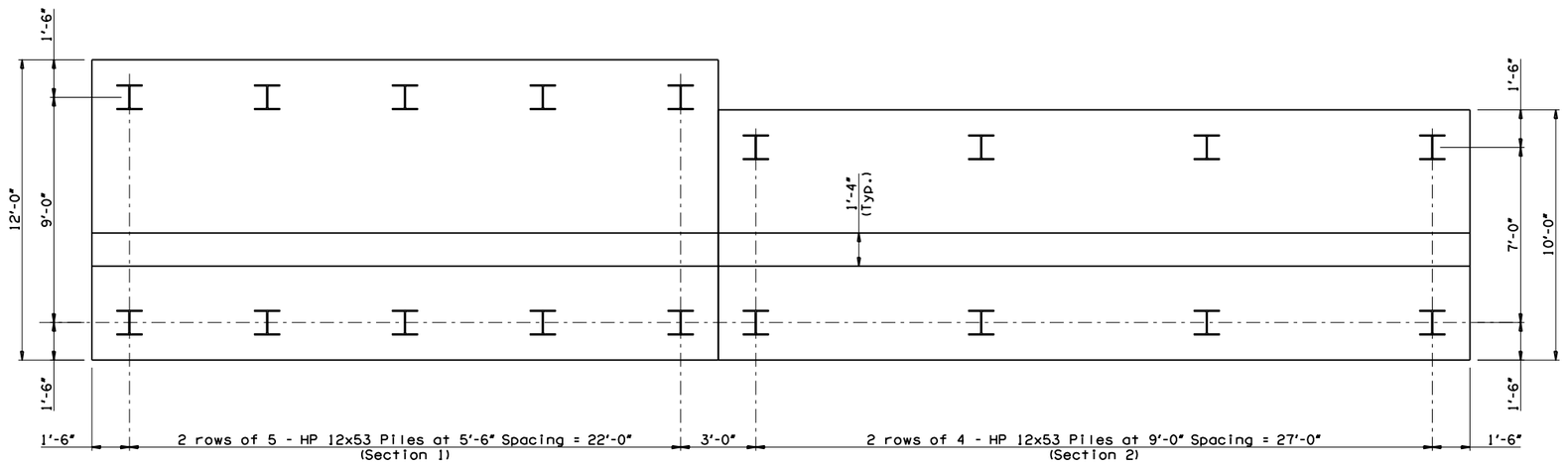


ELEVATION

50% plans

TABLE OF ELEVATIONS					
ABUTMENT NO.	"D"	"E"	"F"	"I"	"J"
1	696.82	696.13	695.29	680.45	686.00
2	707.64	708.34	709.18	693.38	699.60

TABLE OF VARIABLES					
ABUTMENT NO.	STATION "A"	STATION "B"	STATION "C"	LENGTH "G"	LENGTH "H"
1	359+50.23	359+25.29	358+95.37	16'-4 9/16"	9'-3 1/2"
2	363+36.52	363+61.45	363+91.35	14'-3 3/4"	9'-6 7/8"



PLAN

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

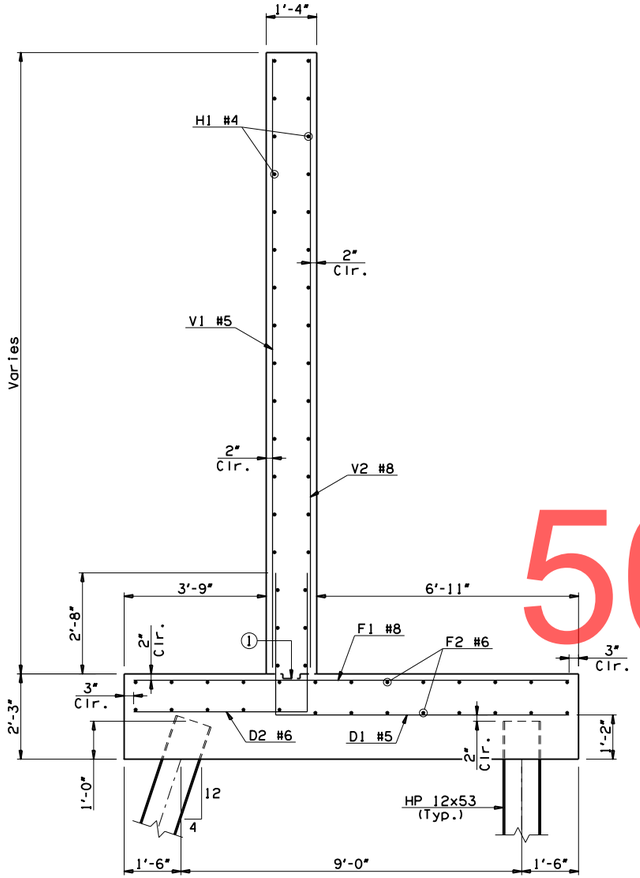
RETAINING WALL DETAILS
(SHEET 1 of 2)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

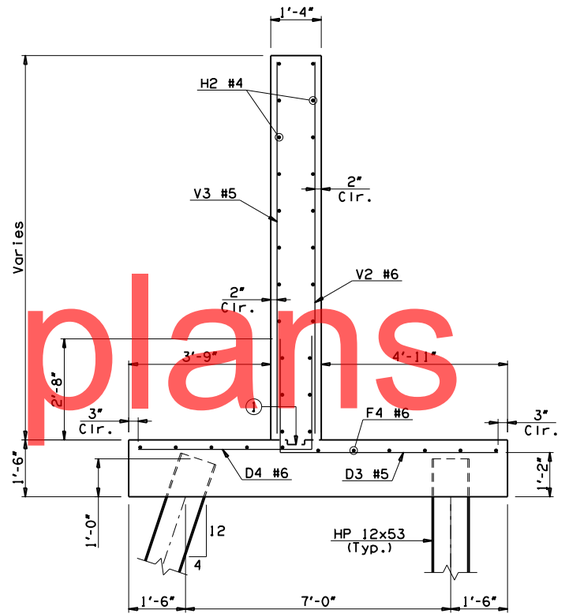
DESIGNED	NBK	7/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV013

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



SECTION 1



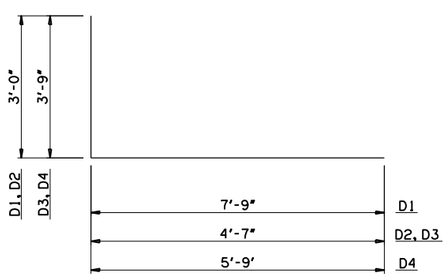
SECTION 2

50% plans

SW RETAINING WALL BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
D1	#5	26	BENT	10'-9"	-
D2	#6	60	BENT	7'-7"	-
D3	#5	31	BENT	8'-4"	-
D4	#6	37	BENT	9'-6"	-
F1	#8	37	STR.	11'-8"	-
F2	#6	13	STR.	24'-8"	-
F3	#6	13	STR.	29'-8"	-
V1	#5	26	STR.	15'-8½" AVG.	15'-4" TO 16'-1"
V2	#8	60	STR.	15'-8½" AVG.	15'-4" TO 16'-1"
V3	#5	31	STR.	9'-5" AVG.	9'-0" TO 9'-10"
V4	#6	37	STR.	9'-5" AVG.	9'-0" TO 9'-10"

NW RETAINING WALL BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
D1	#5	26	BENT	10'-9"	-
D2	#6	60	BENT	7'-7"	-
D3	#5	31	BENT	8'-4"	-
D4	#6	37	BENT	9'-6"	-
F1	#8	37	STR.	11'-8"	-
F2	#6	13	STR.	24'-8"	-
F3	#6	13	STR.	29'-8"	-
V1	#5	26	STR.	14'-3" AVG.	13'-11" TO 14'-7"
V2	#8	60	STR.	14'-3" AVG.	13'-11" TO 14'-7"
V3	#5	31	STR.	8'-10" AVG.	8'-5" TO 9'-3"
V4	#6	37	STR.	8'-10" AVG.	8'-5" TO 9'-3"

TYPICAL SECTION



D1 #5 x 11'-6"
D2 #6 x 8'-4"

SUMMARY OF QUANTITIES - SW & NW RETAINING WALLS				
ITEM	UNIT	SW RETAINING WALL	NW RETAINING WALL	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	C.Y.	416.00	363.00	779.00
CLSM BACKFILL	C.Y.	268.00	234.00	502.00
CLASS A CONCRETE	C.Y.	969.70	899.70	1,869.40
EPOXY COATED REINFORCING STEEL	LB.	7,764.00	7,439.00	15,203.00
PILES, FURNISHED (HP 12X53)	L.F.	924.00	1,206.00	2,130.00
PILES, DRIVEN (HP 12X53)	L.F.	870.00	1,137.00	2,007.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	61.00	61.00	122.00

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

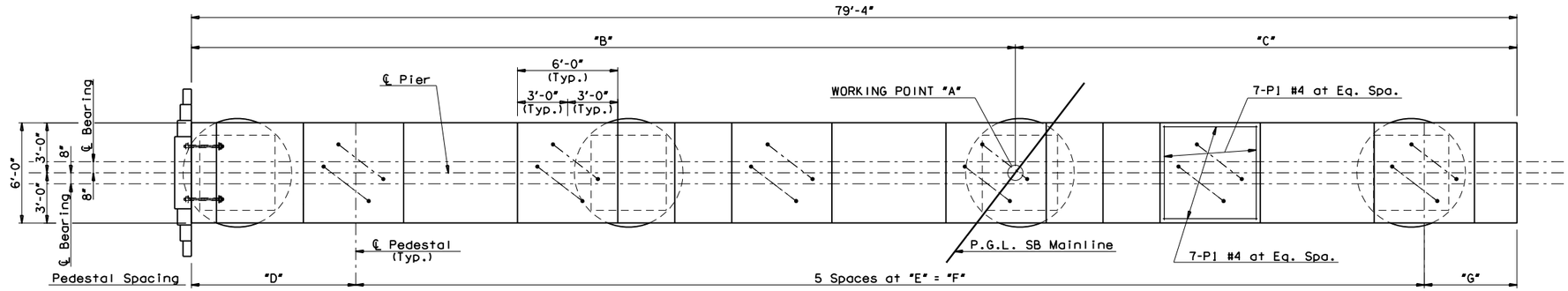
RETAINING WALL DETAILS
(SHEET 2 of 2)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

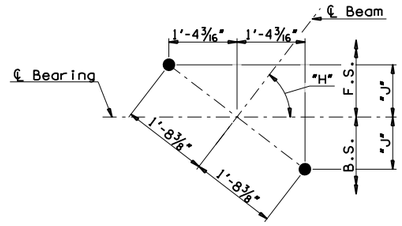
DESIGNED	NBK	7/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV014

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

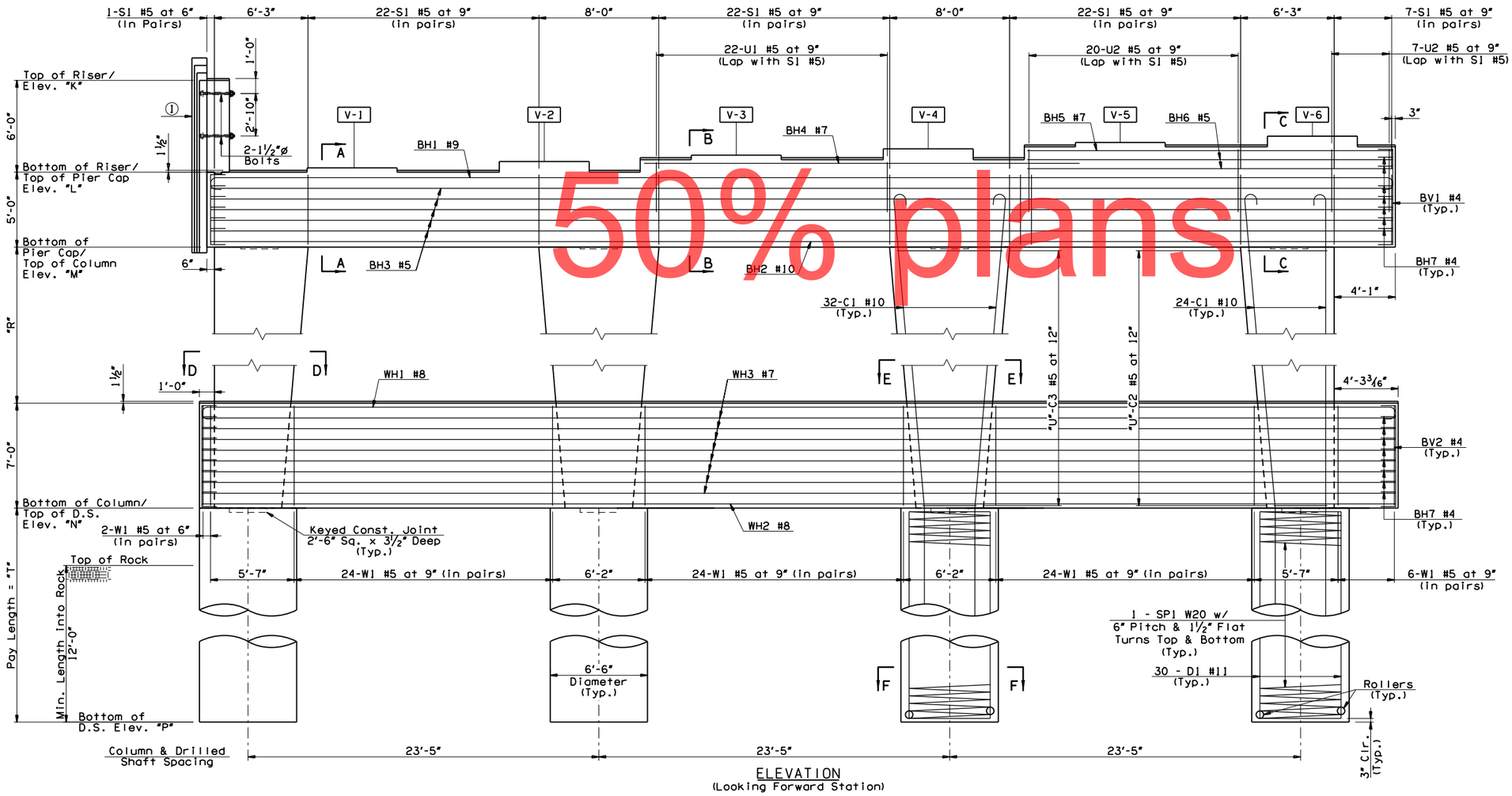
PROPOSED R/W
10/23/2017



PLAN



DETAIL "A"



ELEVATION
(Looking Forward Station)

PIER NOS. 1 - 3

50% plans

BEAM TABLE OF VARIABLES			
LOCATION		"H"	"J"
PIER NO. 1	B.S.	52°50'33"	1'-0 5/16"
	F.S.	52°28'03"	1'-0 7/16"
PIER NO. 2	B.S.	52°28'03"	1'-0 7/16"
	F.S.	52°28'03"	1'-0 7/16"
PIER NO. 3	B.S.	52°28'03"	1'-0 7/16"
	F.S.	52°04'26"	1'-0½"

TABLE OF ELEVATIONS					
PIER NO.	"K"	"L"	"M"	"N"	"P"
1	697.09	691.09	686.09	664.60	621.00
2	700.56	694.56	689.56	669.40	621.00
3	704.03	698.03	693.03	670.30	621.50

NOTE:
For Water Repellent Details, see Sheet No. BSTA01.

① For Shield Details, see Sheet Nos. BSTA07 - BSTA09.

PEDESTAL ELEVATIONS						
PIER NO.	PEDESTAL NO.					
	V-1	V-2	V-3	V-4	V-5	V-6
1	691.38	691.80	692.22	692.64	693.06	693.48
2	694.85	695.27	695.70	696.12	696.54	696.96
3	698.33	698.76	699.18	699.61	700.03	700.45

TABLE OF VARIABLES										
PIER NO.	WORKING POINT "A"	LENGTH "B"	LENGTH "C"	LENGTH "D"	LENGTH "E"	LENGTH "F"	LENGTH "G"	LENGTH "R"	LENGTH "T"	NUMBER "U"
1	360+44.29	49'-5¼"	29'-10¾"	9'-11⅝"	12'-9¼"	63'-10⅜"	5'-6"	14'-5⅞"	44'-0"	23
2	361+68.51	49'-3¾"	30'-0¼"	9'-8⅜"	12'-9 13/16"	64'-1 1/16"	5'-6½"	13'-1⅞"	49'-0"	22
3	362+92.73	49'-2 3/16"	30'-1 13/16"	9'-5 1/16"	12'-10⅜"	64'-3¼"	5'-7"	15'-8¾"	49'-0"	24

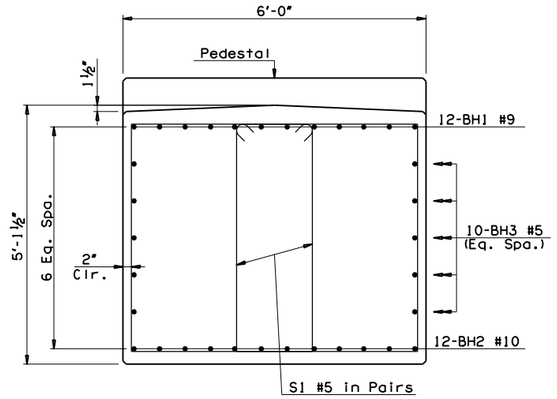
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
PIER DETAILS
(SHEET 1 of 3)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

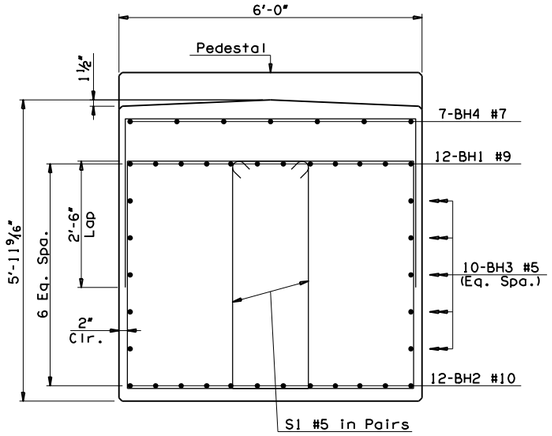
DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV015

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

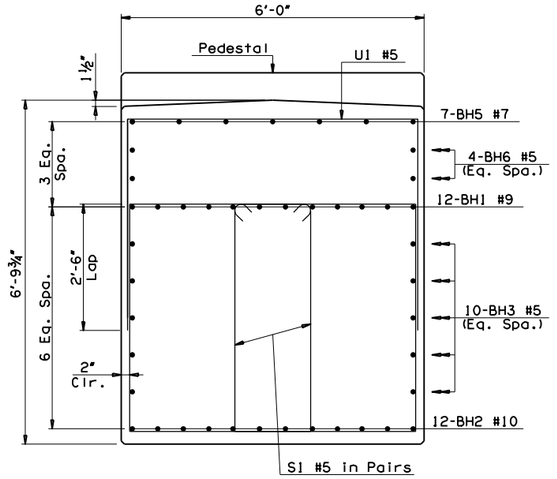
PROPOSED R/W
10/23/2017



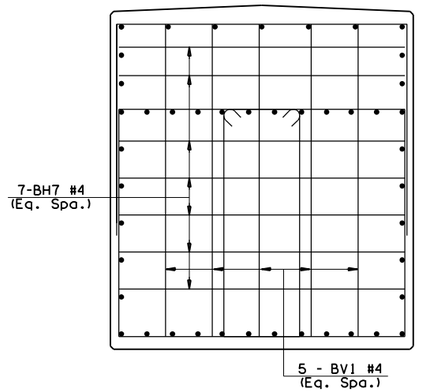
SECTION A-A



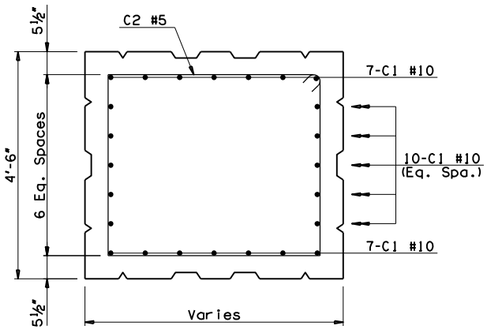
SECTION B-B



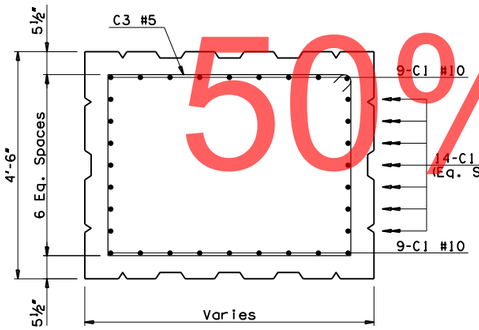
SECTION C-C



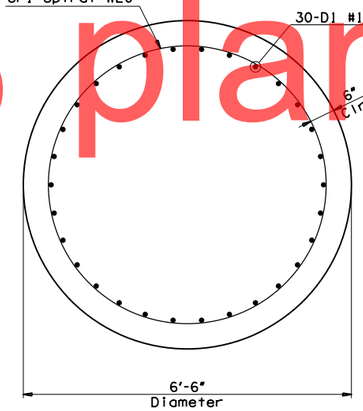
PIER CAP REINFORCING (EAST END)



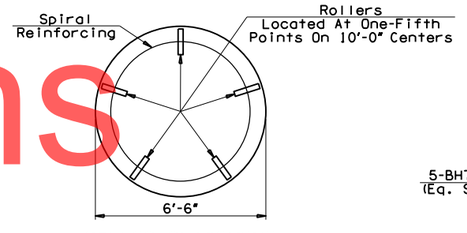
SECTION D-D



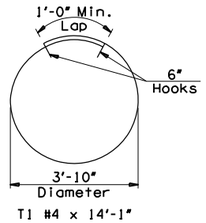
SECTION E-E

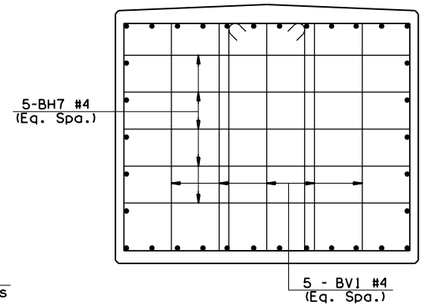


SECTION F-F

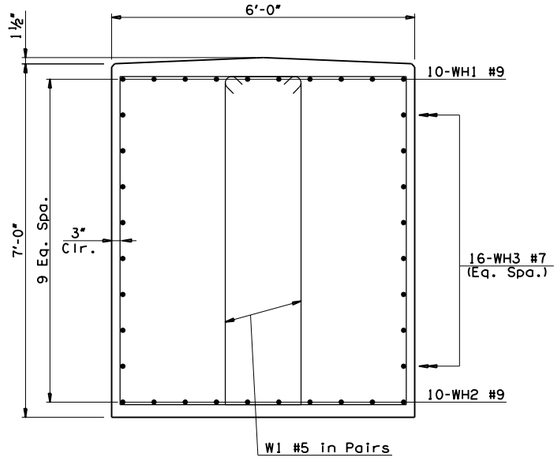


ROLLER PLACEMENT

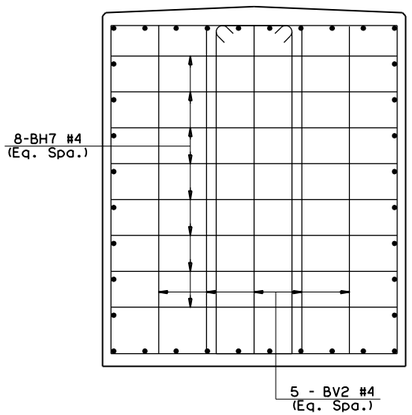




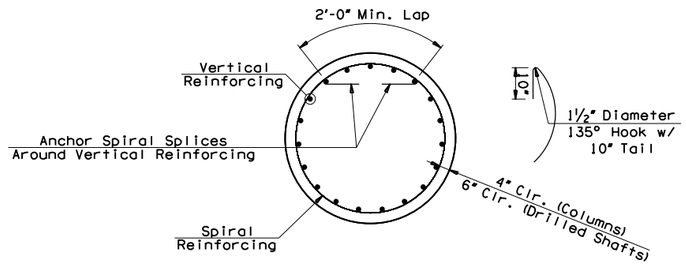
PIER CAP REINFORCING (WEST END)



TYPICAL SECTION THRU CRASHWALL

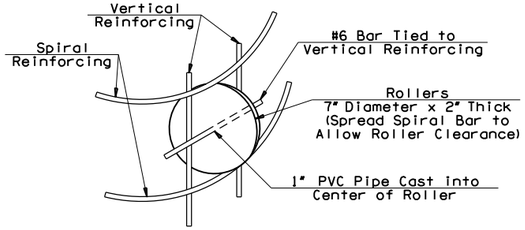


END OF CRASHWALL REINFORCING



DETAIL OF SPIRAL REINFORCING STEEL

NOTE:
Spiral bars shall conform to AASHTO M32. Spiral bar length does not include lap. If lap is required, the length of the lap shall be as shown.



DETAILS OF ROLLER INSTALLATION

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

PIER DETAILS
(SHEET 2 of 3)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV016

50% plans

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

4 DRILLED SHAFTS - PIER 1				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	120	STR.	44'-6"
SP1	W20	4	SPIRAL	1,555'-9"

4 DRILLED SHAFTS - PIER 2				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	120	STR.	49'-6"
SP1	W20	4	SPIRAL	1,728'-7"

4 DRILLED SHAFTS - PIER 3				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING STEEL				
D1	#11	120	STR.	49'-6"
SP1	W20	4	SPIRAL	1,728'-7"

BAR LIST - PIER NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ BH1	#9	12	BENT	86'-8"	-
⑤ BH2	#10	12	STR.	85'-2"	-
① BH3	#5	10	STR.	81'-3"	-
BH4	#7	7	STR.	29'-1"	-
BH5	#7	7	STR.	24'-5"	-
BH6	#5	4	STR.	24'-5"	-
BH7	#4	28	BENT	7'-8"	-
BV1	#4	10	BENT	6'-8"	-
BV2	#4	10	BENT	8'-6"	-
C1	#10	112	BENT	26'-6"	-
C2	#5	46	BENT	17'-1" AVG.	15'-3" TO 18'-11"
C3	#5	46	BENT	18'-11" AVG.	15'-3" TO 22'-7"
P1	#4	84	BENT	8'-8"	-
RH	#5	14	BENT	9'-1"	-
RV	#6	12	STR.	8'-5"	-
S1	#5	146	BENT	17'-1"	-
U1	#5	22	BENT	12'-4"	-
U2	#5	27	BENT	14'-0"	-
W1	#5	160	BENT	21'-1"	-
③ WH1	#8	12	BENT	86'-3"	-
③ WH2	#8	12	STR.	84'-5"	-
② WH3	#7	16	STR.	83'-10"	-

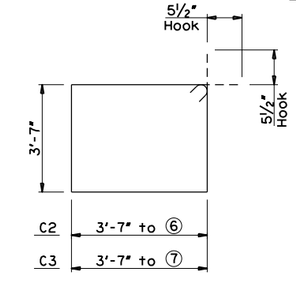
BAR LIST - PIER NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ BH1	#9	12	BENT	86'-8"	-
⑤ BH2	#10	12	STR.	85'-2"	-
① BH3	#5	10	STR.	81'-3"	-
BH4	#7	7	STR.	29'-1"	-
BH5	#7	7	STR.	24'-5"	-
BH6	#5	4	STR.	24'-5"	-
BH7	#4	28	BENT	7'-8"	-
BV1	#4	10	BENT	6'-8"	-
BV2	#4	10	BENT	8'-6"	-
C1	#10	112	BENT	25'-2"	-
C2	#5	44	BENT	17'-4" AVG.	15'-11" TO 18'-9"
C3	#5	44	BENT	19'-1" AVG.	15'-11" TO 22'-3"
P1	#4	84	BENT	8'-8"	-
RH	#5	14	BENT	9'-1"	-
RV	#6	12	STR.	8'-5"	-
S1	#5	146	BENT	17'-1"	-
U1	#5	22	BENT	12'-4"	-
U2	#5	27	BENT	14'-0"	-
W1	#5	160	BENT	21'-1"	-
③ WH1	#8	12	BENT	86'-3"	-
③ WH2	#8	12	STR.	84'-5"	-
② WH3	#7	16	STR.	83'-10"	-

BAR LIST - PIER NO. 3					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
④ BH1	#9	12	BENT	86'-8"	-
⑤ BH2	#10	12	STR.	85'-2"	-
① BH3	#5	10	STR.	81'-3"	-
BH4	#7	7	STR.	29'-1"	-
BH5	#7	7	STR.	24'-5"	-
BH6	#5	4	STR.	24'-5"	-
BH7	#4	28	BENT	7'-8"	-
BV1	#4	10	BENT	6'-8"	-
BV2	#4	10	BENT	8'-6"	-
C1	#10	112	BENT	27'-9"	-
C2	#5	48	BENT	17'-6" AVG.	15'-11" TO 19'-1"
C3	#5	48	BENT	19'-6" AVG.	15'-11" TO 23'-1"
P1	#4	84	BENT	8'-8"	-
RH	#5	14	BENT	9'-1"	-
RV	#6	12	STR.	8'-5"	-
S1	#5	146	BENT	17'-1"	-
U1	#5	22	BENT	12'-4"	-
U2	#5	27	BENT	14'-0"	-
W1	#5	160	BENT	21'-1"	-
③ WH1	#8	12	BENT	86'-3"	-
③ WH2	#8	12	STR.	84'-5"	-
② WH3	#7	16	STR.	83'-10"	-

① Includes one 2'-5" Lap Length.
② Includes one 4'-2" Lap Length.
③ Includes one 4'-9" Lap Length.
④ Includes one 5'-4" Lap Length.
⑤ Includes one 6'-4" Lap Length.

50% plans

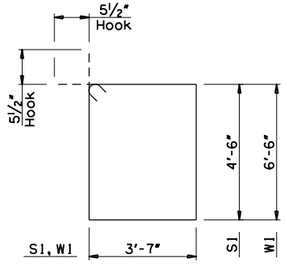
SUMMARY OF QUANTITIES - PIER NOS. 1 - 3					
ITEM	UNIT	PIER NO. 1	PIER NO.2	PIER NO.3	TOTAL
EXPANSION JOINT	L.F.	71.10	-	71.70	142.80
(SP) STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	-	12.00	-	12.00
(SP) STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	12.00	-	12.00	24.00
(SP) SPECIAL CONCRETE FINISH	S.Y.	29.00	29.00	29.00	87.00
CLASS A CONCRETE	C.Y.	293.70	287.20	300.00	880.90
REINFORCING STEEL	LB.	32,598.00	36,255.00	36,255.00	105,108.00
EPOXY COATED REINFORCING STEEL	LB.	40,218.00	39,519.00	40,947.00	120,684.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	201.00	201.00	201.00	603.00
DRILLED SHAFTS 78" DIAMETER	L.F.	132.00	147.00	147.00	426.00
CROSSHOLE SONIC LOGGING	EA.	1.00	1.00	1.00	3.00



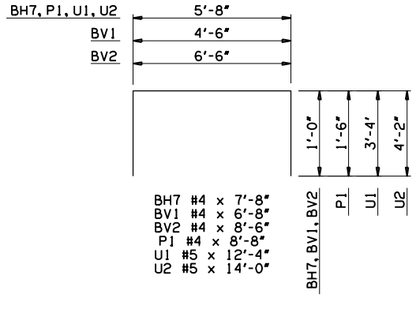
C2 #5 x 17'-1" (Avg.)(Pier No. 1)
C2 #5 x 17'-4" (Avg.)(Pier No. 2)
C2 #5 x 17'-6" (Avg.)(Pier No. 3)
C3 #5 x 18'-11" (Avg.)(Pier No. 1)
C3 #5 x 19'-1" (Avg.)(Pier No. 2)
C3 #5 x 19'-6" (Avg.)(Pier No. 3)

⑥ 5'-5" (Pier No. 1)
5'-4" (Pier No. 2)
5'-6" (Pier No. 3)

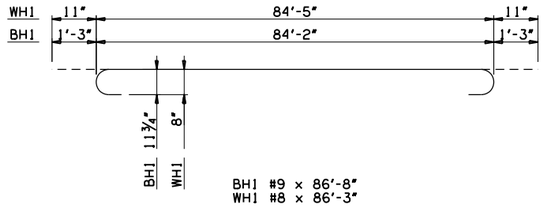
⑦ 7'-3" (Pier No. 1)
7'-1" (Pier No. 2)
7'-6" (Pier No. 3)



S1 #5 x 17'-1"
W1 #5 x 21'-1"



BH7 #4 x 7'-8"
BV1 #4 x 6'-8"
BV2 #4 x 8'-6"
P1 #4 x 8'-8"
U1 #5 x 12'-4"
U2 #5 x 14'-0"



BH1 #9 x 86'-8"
WH1 #8 x 86'-3"

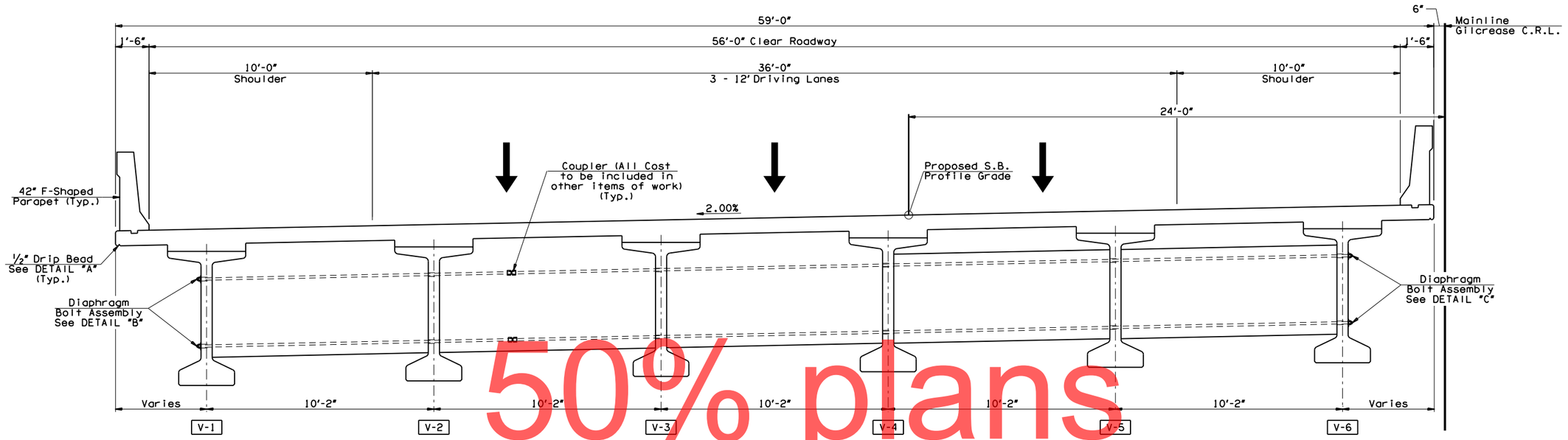
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
PIER DETAILS
(SHEET 3 OF 3)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	6/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV017

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

SECTION AT END DIAPHRAGM

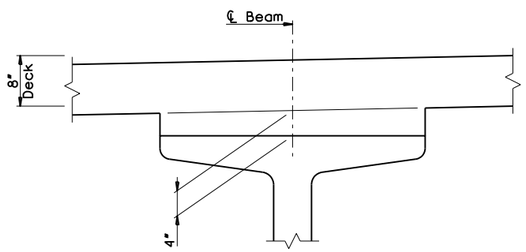
SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION
(Looking Forward Station)

SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	2,272.00
SAW-CUT GROOVING	S.Y.	2,322.60
42" F-SHAPED PARAPET	L.F.	384.20
STRUCTURAL STEEL	LB.	7,272.00
CLASS AA CONCRETE	C.Y.	3,019.80
EPOXY COATED REINFORCING STEEL	LB.	174,313.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	4,050.31

NOTE:
For the layout of the reinforcement in the top and bottom of the slab, bar bends and bar lists, see Sheet Nos. BV020 & BV021.

For Detail "A", Detail "B", Detail "C", and Water Repellent Details, 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.

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
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

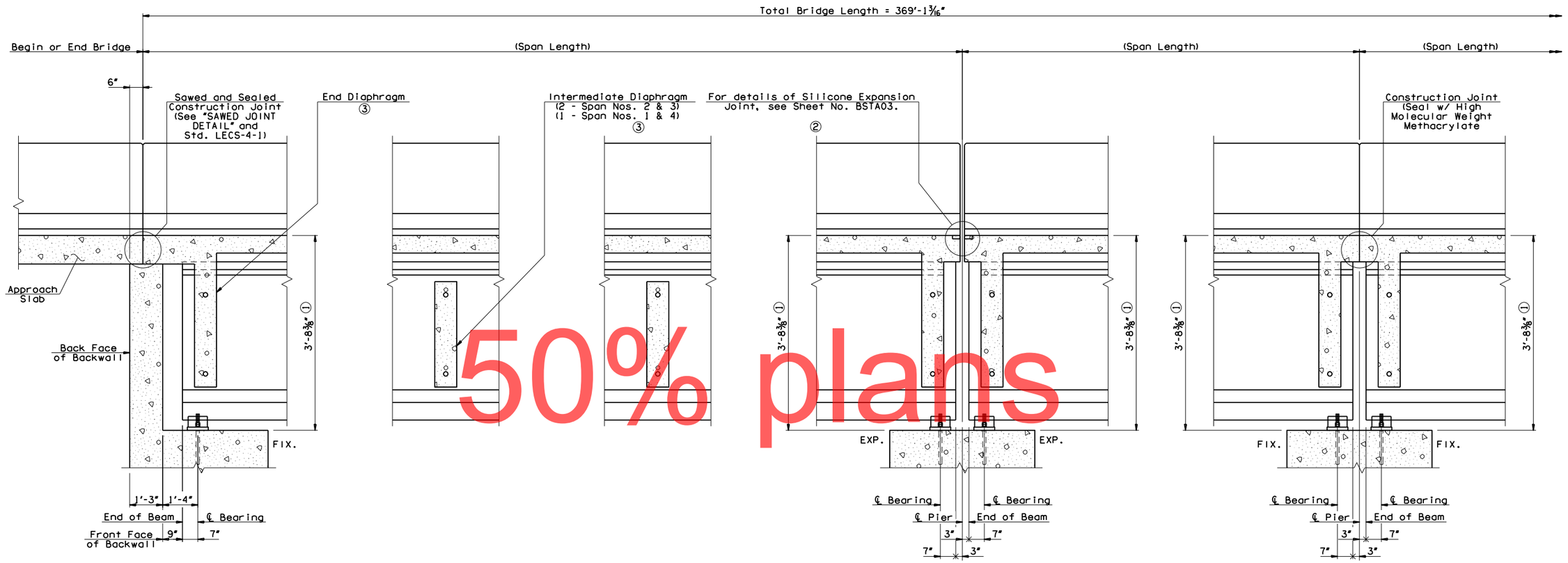
TYPICAL SECTION

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	9/15	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV018

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



ABUTMENTS

EXPANSION PIERS
(Typ. at Pier Nos. 1 & 3)

FIXED PIERS
(Typ. at Pier No. 2)

50% plans

LONGITUDINAL SECTION
(All dimensions shown are along ℄ Beam)
(Do not Groove within 6" of any Construction Joints)

① Dimension is from top of Deck Slab to bottom of Bearing Assembly at ℄ Bearing.

② See Expansion Joint Opening Equations on Sheet No. BV022.

③ For Framing Plan, see Sheet No. BV026.
For Concrete Beam Diaphragm details, see Sheet No. BV024.
For Span Arrangement, see Sheet No. BV001.

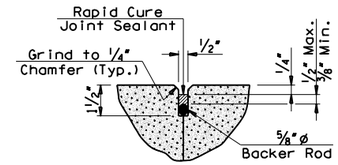
NOTE:
Do not place the concrete for the Deck Slab or apply other massive loads to the Concrete Beams or Diaphragms until the concrete in the Diaphragms has been in place a minimum of 10 days or at the discretion of the Engineer. The Engineer may approve shortened time if the Beam and Diaphragm concrete has attained 80% of the specified compressive strength.

DECK SLAB NOTES:

Epoxy-coat or galvanize steel items used to facilitate construction, such as Deck Form Hangers, Ty-Bar Clips, Insert Weld Anchors, or other appurtenances that will remain in place in the Deck Slab. Epoxy-coat in accordance with AASHTO M284 or galvanize in accordance with AASHTO M111.

In the event of an emergency, halt the placement of concrete by forming a Construction Joint made perpendicular to the direction of traffic or as directed by the Engineer. Do not place any heavy equipment on the finished Deck Slab within 5' of any Construction Joint until concrete is in place on both sides of the respective joint and at least 48 hours has elapsed since concrete placement.

Seal all Deck Slab Construction Joints with High Molecular Weight Methacrylate in accordance with Section 523 of the Specifications. Include all cost of equipment and labor for the installation of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER CRACK PREPARATION". Include all cost of the High Molecular Weight Methacrylate Sealer in the contract unit price of "SEALER RESIN". The Department will not measure the preparation and sealer of emergency construction joints for payment.



SAWED JOINT DETAIL

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

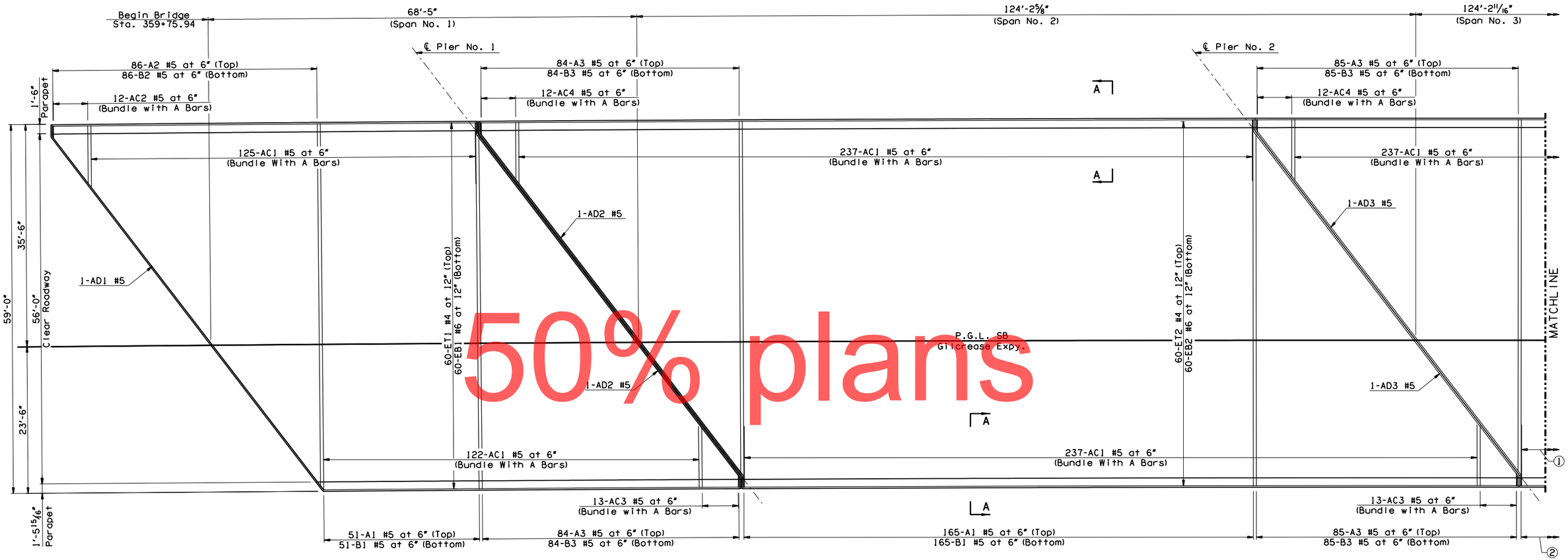
LONGITUDINAL SECTION

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	8/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV019

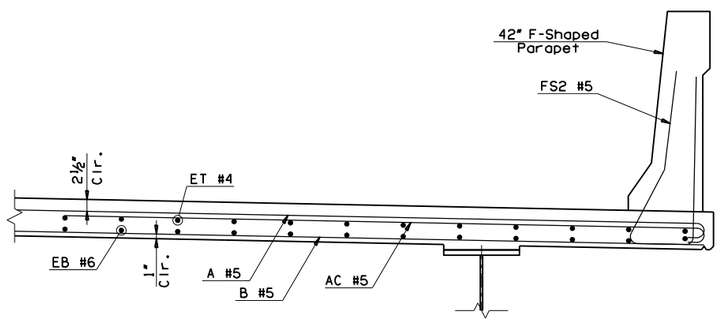
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

SLAB PLAN - SPAN NOS. 1 & 2
(Showing Top & Bottom Mat of Reinforcing Steel)



SECTION A-A

NOTES:
① 237-AC1 #5 at 6" (Bundle With A Bars)

② 164-A1 #5 at 6" (Top); 164-B1 #5 at 6" (Bottom)

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BV022 for details.

See Sheet No. BV022 for Expansion Joint Opening Equations.

42" F-Shaped Parapet reinforcing not shown for clarity. See Sheet No. BV025 and Std. FSHP-42-2-00E for details.

Rotate hooks on A and AC Bars to maintain minimum clearance.

All lap lengths shall be staggered.

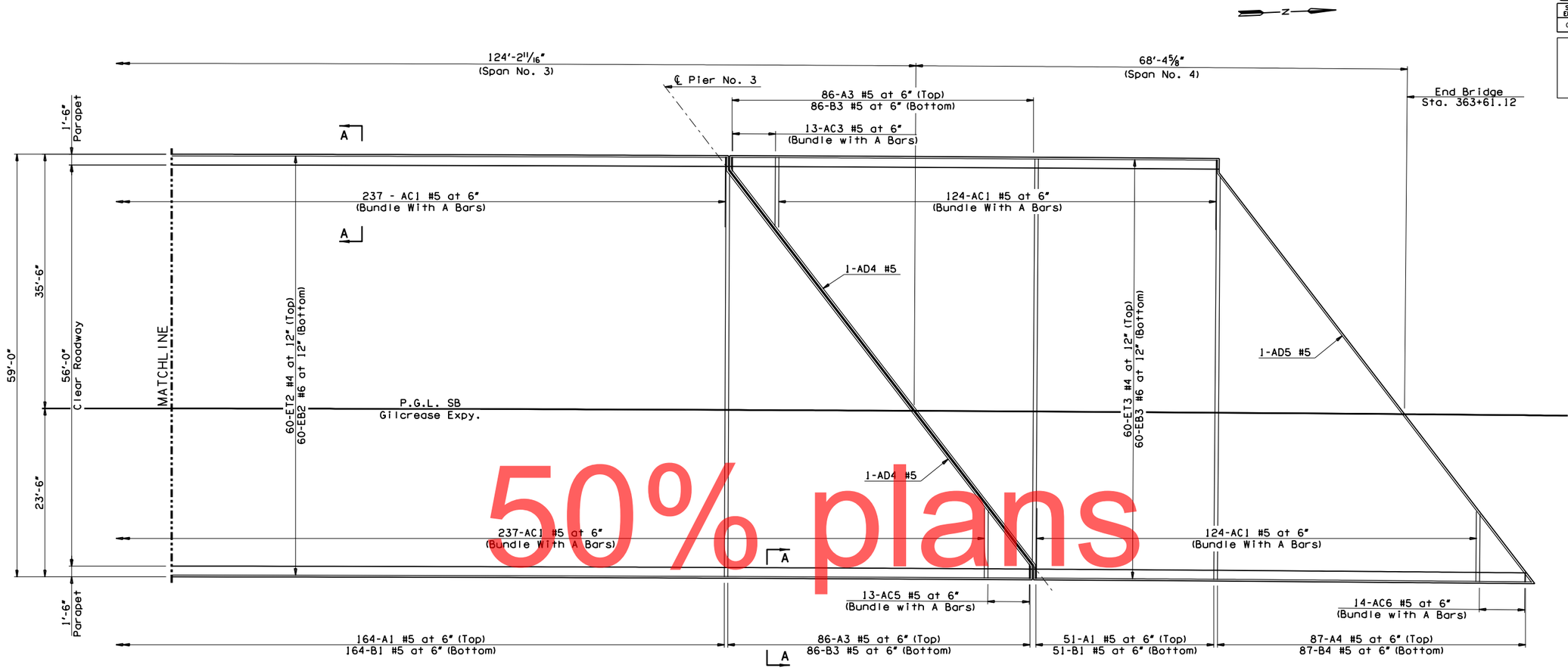
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
SUPERSTRUCTURE DETAILS
(SHEET 1 OF 6)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV020

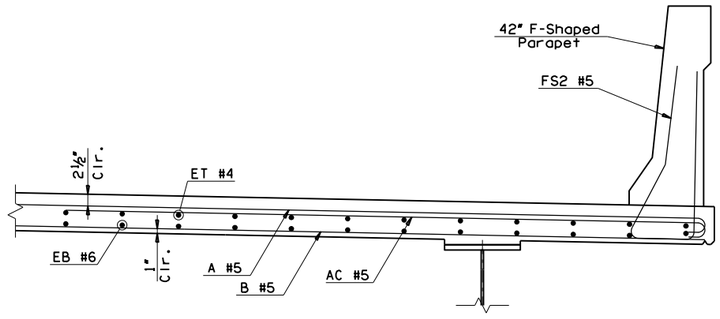
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

SLAB PLAN - SPAN NOS. 3 & 4
(Showing Top & Bottom Mat of Reinforcing Steel)



SECTION A-A

NOTES:

Additional reinforcement at turndowns not shown for clarity. See Sheet No. BV022 for details.

See Sheet No. BV022 for Expansion Joint Opening Equations.

42" F-Shaped Parapet reinforcing not shown for clarity. See Sheet No. BV025 and Std. FSHP-42-2-00E for details.

Rotate hooks on A and AC Bars to maintain minimum clearance.

All lap lengths shall be staggered.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

SUPERSTRUCTURE DETAILS
(SHEET 2 OF 6)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV021

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

50% plans

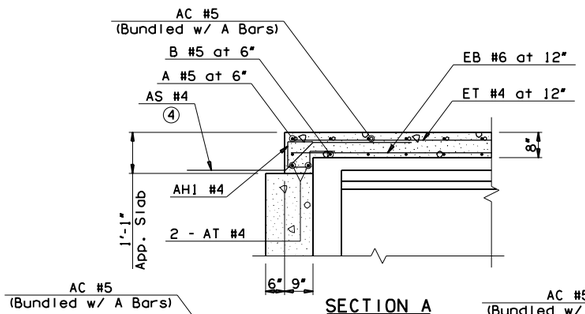


ABUTMENTS

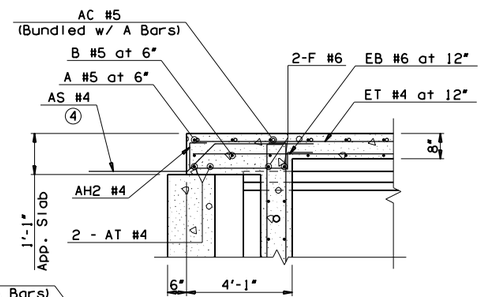
EXPANSION PIERS

FIXED PIERS

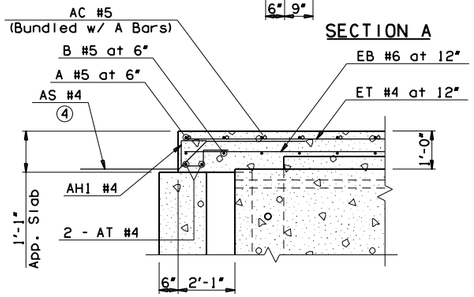
ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS



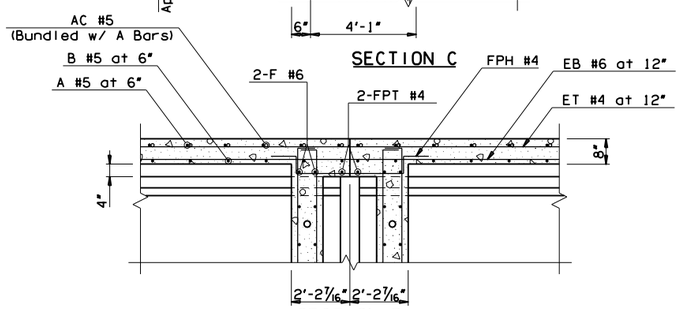
SECTION A



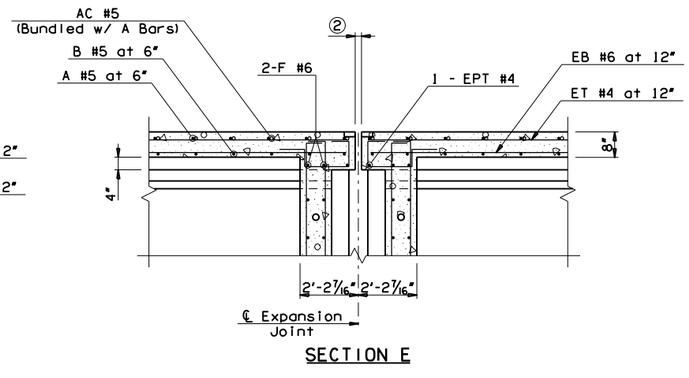
SECTION C



SECTION B



SECTION D



SECTION E

① Tie to Top Reinforcing of Deck Slab and extend mid-depth of Approach Slab (Place bottom leg of AS through joint).

② The Expansion Joint Opening 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 = XX.XXX - (X.XXXXX x T)
At Pier No. 3 = XX.XXX - (X.XXXXX x T)

Where "T" equals the Ambient Air Temperature in degress Fahrenheit at the time the Deck Slab Concrete is poured (10°F<T<80°F).

The Silicone Joint Sealant shall be placed when the Ambient Air Temperature at the time of placement is between XX°F and XX°F.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

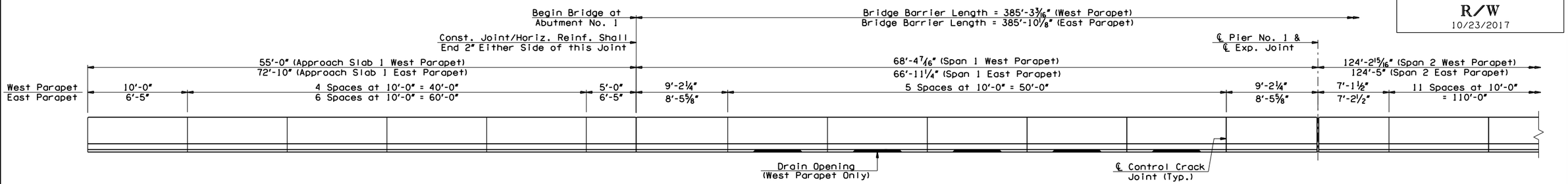
SUPERSTRUCTURE DETAILS
(SHEET 3 OF 6)

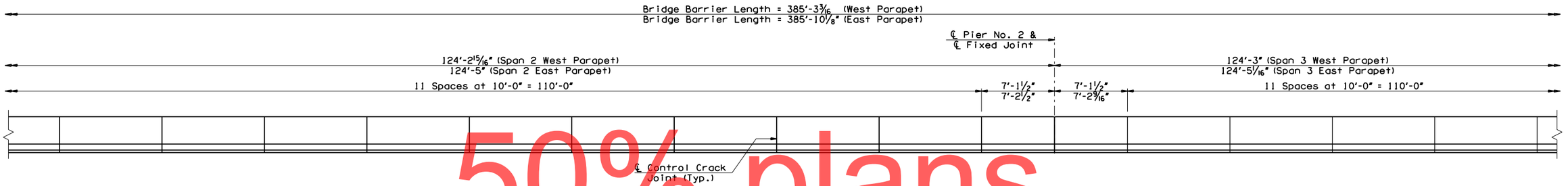
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV022

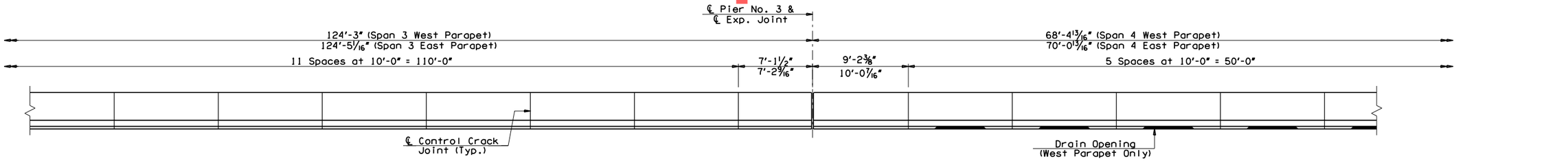
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

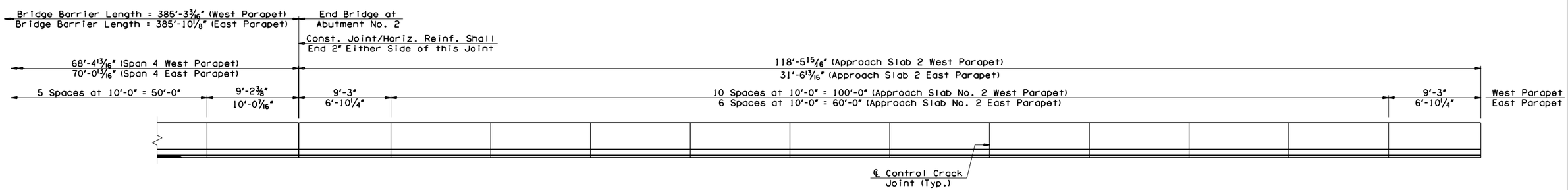
PROPOSED
R/W
10/23/2017





50% plans





42" F-SHAPED PARAPET LAYOUT - WITHOUT OPENINGS

(West Parapet Shown, East Parapet Similar)

NOTES:
For details showing the Parapet reinforcement layout, see bar bends and Std. FSHP-42-2-00E.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

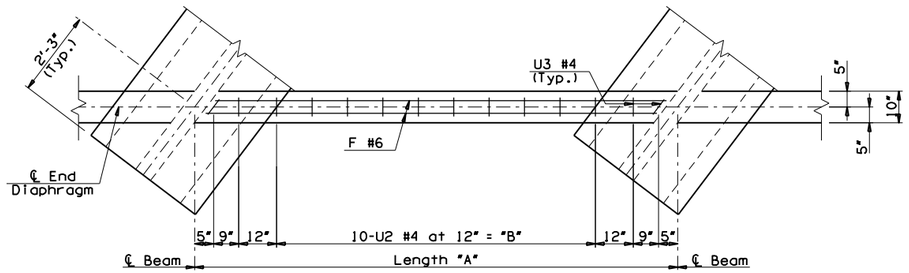
SUPERSTRUCTURE DETAILS
(SHEET 4 OF 6)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV023

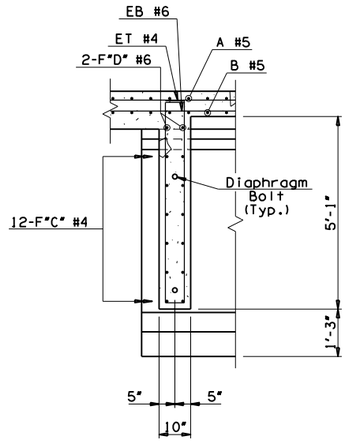
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

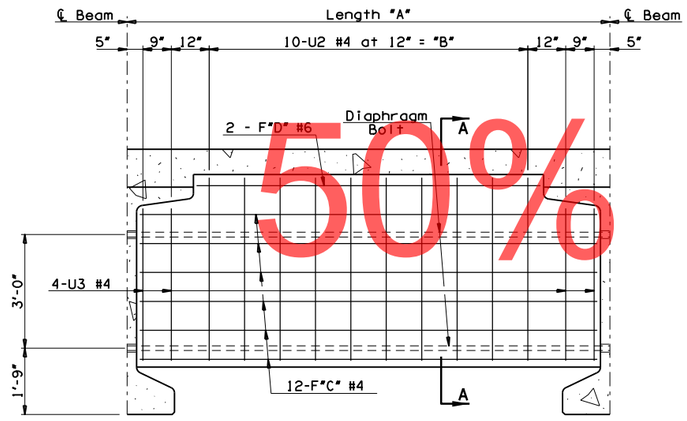


PLAN

DIAPHRAGM TABLE OF VARIABLES				
SPAN	LENGTH "A"	LENGTH "B"	"C"	"D"
1	12'-9 1/16"	8'-5 1/16"	2	5
2 & 3	12'-9 1/8"	8'-5 1/8"	3	6
4	12'-10 11/16"	8'-6 11/16"	4	7

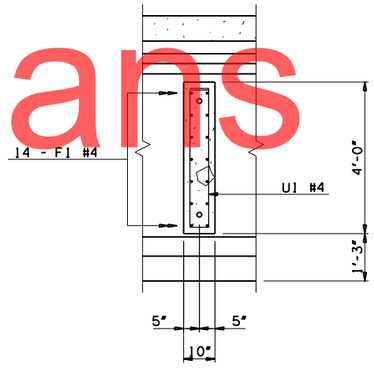


SECTION A-A

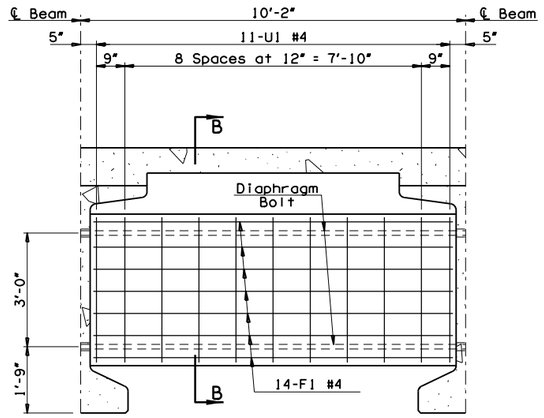


ELEVATION

END DIAPHRAGM



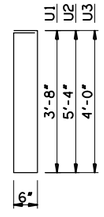
SECTION B-B



ELEVATION

INTERMEDIATE DIAPHRAGM

(1 Intermediate Diaphragm (Span Nos. 1 & 4);
2 Intermediate Diaphragms (Span Nos. 2 & 3))



U1 #4 x 8'-10"
U2 #4 x 12'-2"
U3 #4 x 9'-6"

INTERMEDIATE & END DIAPHRAGM BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
F1	#4	420	STR.	9'-6"	-
F2	#4	120	STR.	11'-11"	-
F3	#4	240	STR.	12'-0"	-
F4	#4	120	STR.	12'-1"	-
F5	#6	20	STR.	8'-2"	-
F6	#6	40	STR.	8'-3"	-
F7	#6	20	STR.	8'-4"	-
U1	#4	330	BENT	8'-10"	-
U2	#4	80	BENT	12'-2"	-
U3	#4	400	BENT	9'-6"	-

50% plans

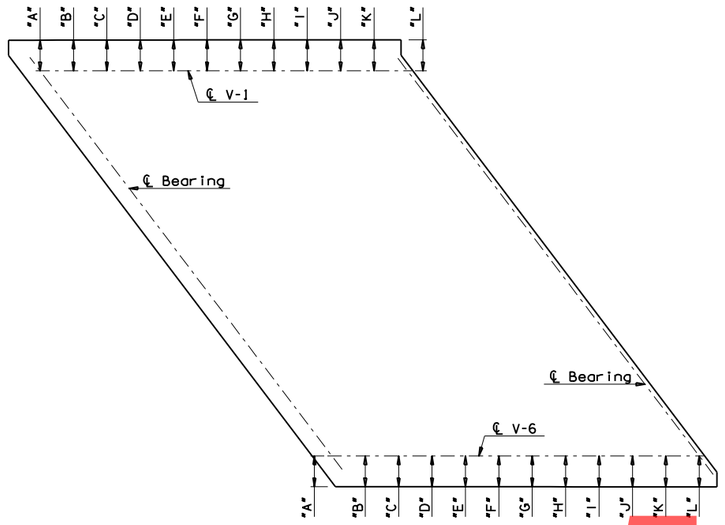
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
SUPERSTRUCTURE DETAILS
(SHEET 5 OF 6)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV024

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



BAR LIST - SUPERSTRUCTURE					
MARK	SIZE	NO.	FORM	LENGTH	VARIATION
EPOXY COATED REINFORCING STEEL					
A1	#5	431	BENT	59'-10"	-
A2	#5	86	BENT	30'-7½" AVG.	2'-7" TO 58'-8"
A3	#5	510	BENT	29'-9" AVG.	2'-7" TO 56'-11"
A4	#5	87	BENT	29'-4½" AVG.	1'-10" TO 56'-11"
AC1	#5	1443	BENT	10'-7"	-
AC2	#5	12	BENT	6'-3½" AVG.	2'-8" TO 9'-11"
AC3	#5	39	BENT	6'-5½" AVG.	2'-8" TO 10'-3"
AC4	#5	12	BENT	6'-3" AVG.	2'-8" TO 9'-10"
AC5	#5	13	BENT	6'-4½" AVG.	2'-8" TO 10'-1"
AC6	#5	14	BENT	5'-11½" AVG.	1'-11" TO 10'-0"
AD1	#5	1	BENT	76'-2"	-
④ AD2	#5	2	BENT	75'-10"	-
④ AD3	#5	2	BENT	76'-1"	-
④ AD4	#5	2	BENT	76'-4"	-
④ AD5	#5	1	BENT	77'-0"	-
④ AH1	#4	58	BENT	3'-1"	-
AH2	#4	70	BENT	4'-7"	-
AS	#4	118	BENT	5'-0"	-
AT	#4	4	BENT	75'-10"	-
① B1	#5	398	STR.	58'-8"	-
B2	#5	86	STR.	30'-0½" AVG.	2'-0" TO 58'-1"
B3	#5	83	STR.	29'-2" AVG.	2'-0" TO 56'-4"
B4	#5	84	STR.	28'-9½" AVG.	1'-3" TO 56'-4"
⑤ EB1	#6	60	STR.	66'-8"	-
⑥ EB2	#6	60	STR.	267'-6" AVG.	267'-4" TO 267'-8"
⑤ EB3	#6	60	STR.	72'-9"	-
EPH	#4	240	STR.	3'-1"	-
① EPT	#4	4	STR.	76'-4"	-
② ET1	#4	60	STR.	66'-8"	-
③ ET2	#4	60	STR.	258'-2" AVG.	258'-0" TO 258'-4"
② ET3	#4	60	STR.	70'-5"	-
FPH	#4	66	BENT	4'-9"	-
① FPT	#4	2	STR.	68'-1"	-
FS2	#5	1034	BENT	9'-0"	-

① Includes One 2'-5" Lap Length.
② Includes One 2'-6" Lap Length.
③ Includes Four 2'-6" Lap Lengths.
④ Includes One 3'-1" Lap Length.
⑤ Includes One 4'-10" Lap Length.
⑥ Includes Four 4'-10" Lap Lengths.

SPAN NO. 1 CANTILEVER DIMENSIONS

10TH. PTS.	EXTERIOR BEAM NO. V-1	EXTERIOR BEAM NO. V-6
"A"	4'-0 7/16"	4'-0 13/16"
"B"	4'-0 5/8"	4'-0 3/4"
"C"	4'-0 3/4"	4'-0 3/4"
"D"	4'-0 7/8"	4'-0 3/4"
"E"	4'-1"	4'-0 3/4"
"F"	4'-1 1/16"	4'-0 3/4"
"G"	4'-1 3/16"	4'-0 13/16"
"H"	4'-1 3/16"	4'-0 7/8"
"I"	4'-1 1/4"	4'-0 15/16"
"J"	4'-1 1/4"	4'-1 1/16"
"K"	4'-1 1/4"	4'-1 3/16"
"L"	4'-1 1/4"	4'-1 5/16"

SPAN NO. 2 CANTILEVER DIMENSIONS

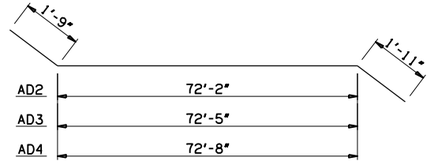
10TH. PTS.	EXTERIOR BEAM NO. V-1	EXTERIOR BEAM NO. V-6
"A"	3'-11 15/16"	4'-0 1/16"
"B"	4'-0 1/8"	3'-11 1/2"
"C"	4'-0 15/16"	3'-10 15/16"
"D"	4'-1 5/8"	3'-10 7/16"
"E"	4'-2 1/4"	3'-10 1/16"
"F"	4'-2 13/16"	3'-9 11/16"
"G"	4'-3 3/8"	3'-9 7/16"
"H"	4'-3 13/16"	3'-9 3/16"
"I"	4'-4 3/16"	3'-9 1/16"
"J"	4'-4 1/2"	3'-9"
"K"	4'-4 11/16"	3'-8 15/16"
"L"	4'-4 7/8"	3'-9"

SPAN NO. 3 CANTILEVER DIMENSIONS

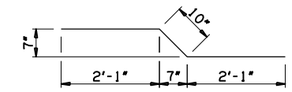
10TH. PTS.	EXTERIOR BEAM NO. V-1	EXTERIOR BEAM NO. V-6
"A"	4'-4 7/8"	3'-9"
"B"	4'-5"	3'-9 1/8"
"C"	4'-5 1/16"	3'-9 5/16"
"D"	4'-5"	3'-9 9/16"
"E"	4'-4 15/16"	3'-9 15/16"
"F"	4'-4 3/4"	3'-10 5/16"
"G"	4'-4 9/16"	3'-10 3/4"
"H"	4'-4 1/4"	3'-11 1/4"
"I"	4'-3 7/8"	3'-11 7/8"
"J"	4'-3 7/16"	4'-0 1/2"
"K"	4'-3"	4'-1 1/4"
"L"	4'-2 7/16"	4'-2 1/16"

SPAN NO. 4 CANTILEVER DIMENSIONS

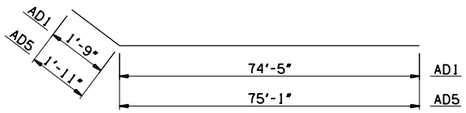
10TH. PTS.	EXTERIOR BEAM NO. V-1	EXTERIOR BEAM NO. V-6
"A"	4'-0 7/16"	4'-0 13/16"
"B"	4'-0 5/8"	4'-0 3/4"
"C"	4'-0 3/4"	4'-0 3/4"
"D"	4'-0 7/8"	4'-0 3/4"
"E"	4'-1"	4'-0 3/4"
"F"	4'-1 1/16"	4'-0 3/4"
"G"	4'-1 1/8"	4'-0 13/16"
"H"	4'-1 3/16"	4'-0 7/8"
"I"	4'-1 1/4"	4'-0 15/16"
"J"	4'-1 1/4"	4'-1 1/16"
"K"	4'-1 1/4"	4'-1 3/16"
"L"	4'-1 1/4"	4'-1 5/16"



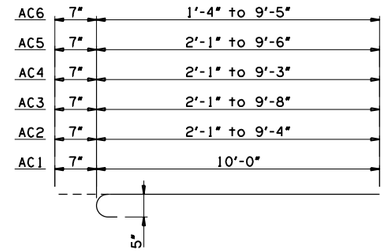
AD2 #5 x 75'-10"
AD3 #5 x 76'-1"
AD4 #5 x 76'-4"



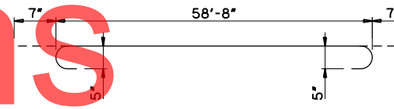
AS #4 x 5'-0"



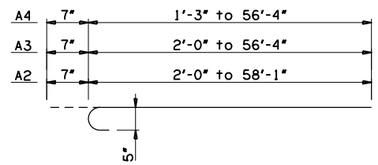
AD1 #5 x 76'-2"
AD5 #5 x 77'-0"



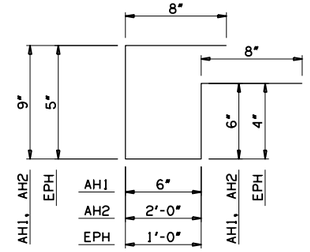
AC1 #5 x 10'-7"
AC2 #5 x 6'-3½" (Avg.)
AC3 #5 x 6'-5½" (Avg.)
AC4 #5 x 6'-3" (Avg.)
AC5 #5 x 6'-4½" (Avg.)
AC6 #5 x 5'-11½" (Avg.)



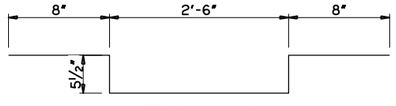
A1 #5 x 59'-10"



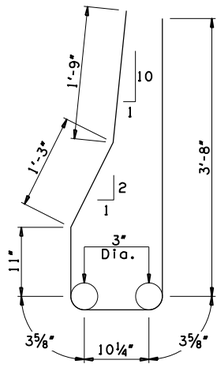
A2 #5 x 30'-7½" (Avg.)
A3 #5 x 29'-9" (Avg.)
A4 #5 x 29'-4½" (Avg.)



AH1 #4 x 3'-1"
AH2 #4 x 4'-7"
EPH #4 x 3'-1"



FPH #4 x 4'-9"



FS2 #5 x 9'-0"

50% plans

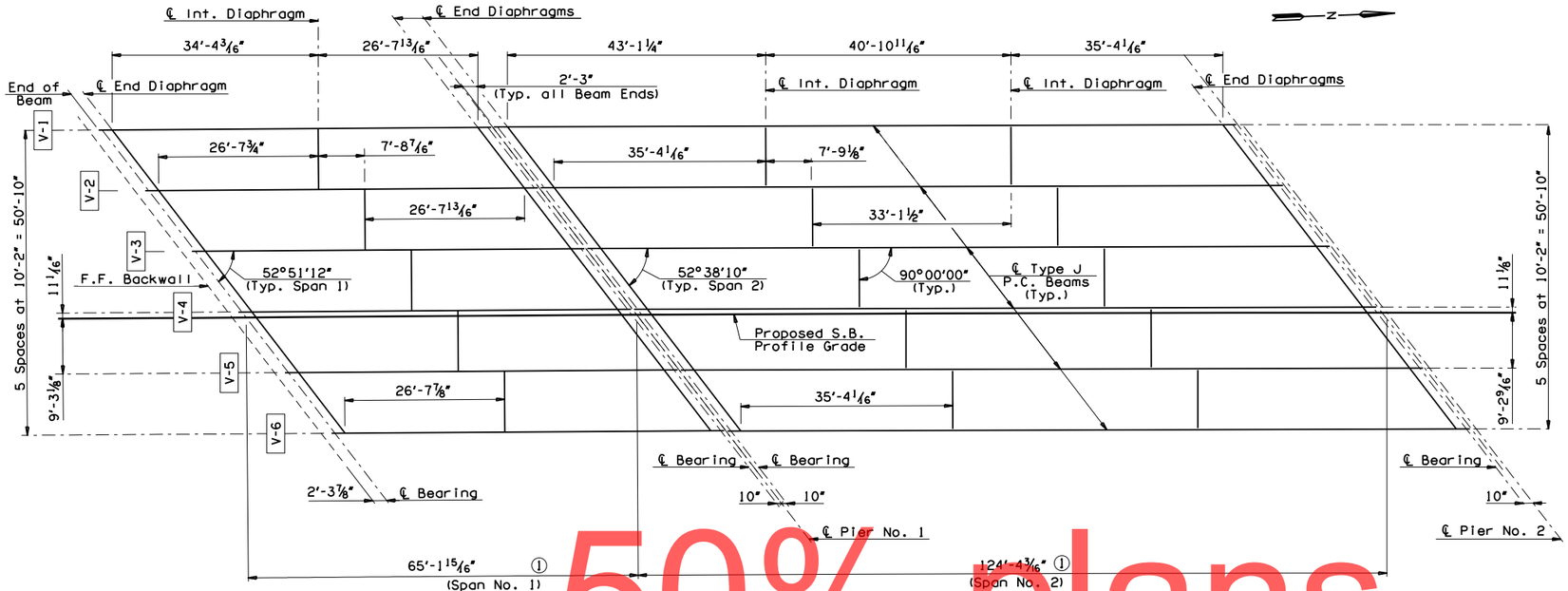
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
SUPERSTRUCTURE DETAILS
(SHEET 6 OF 6)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV025

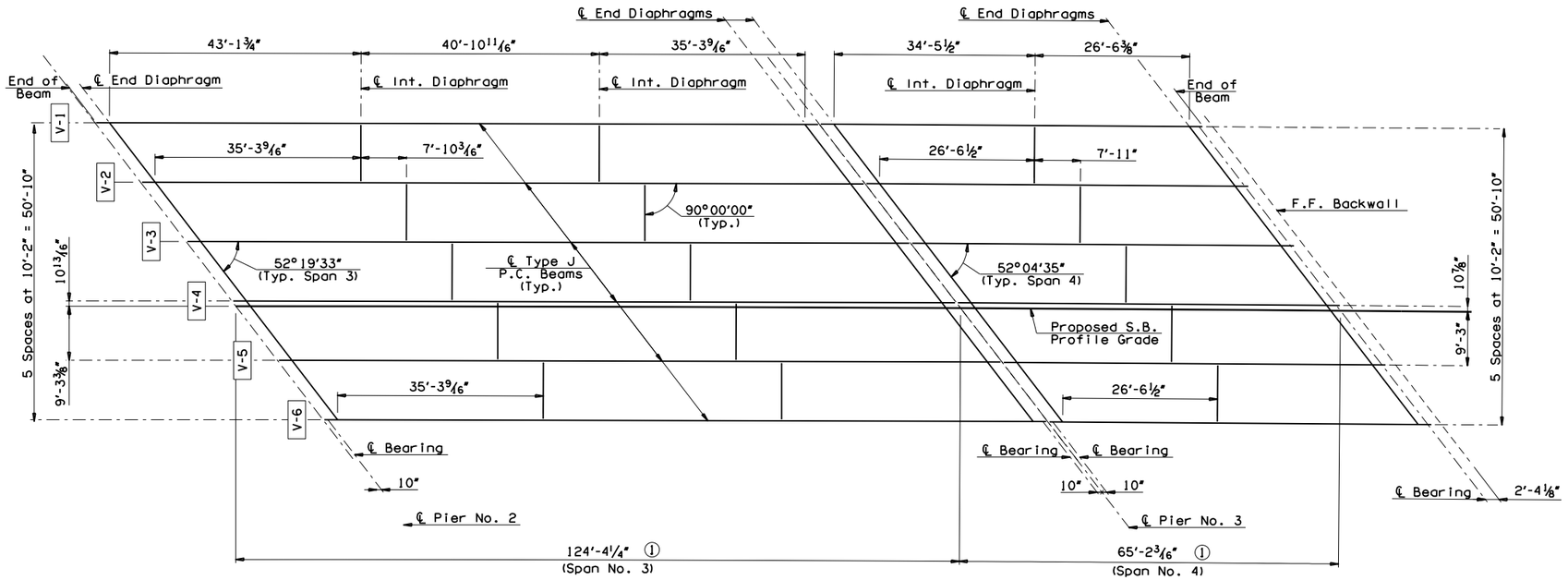
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



FRAMING PLAN - SPAN NOS. 1 & 2

50% plans



FRAMING PLAN - SPAN NOS. 3 & 4

① Measured along P.G.L.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
FRAMING PLAN

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	8/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV026

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

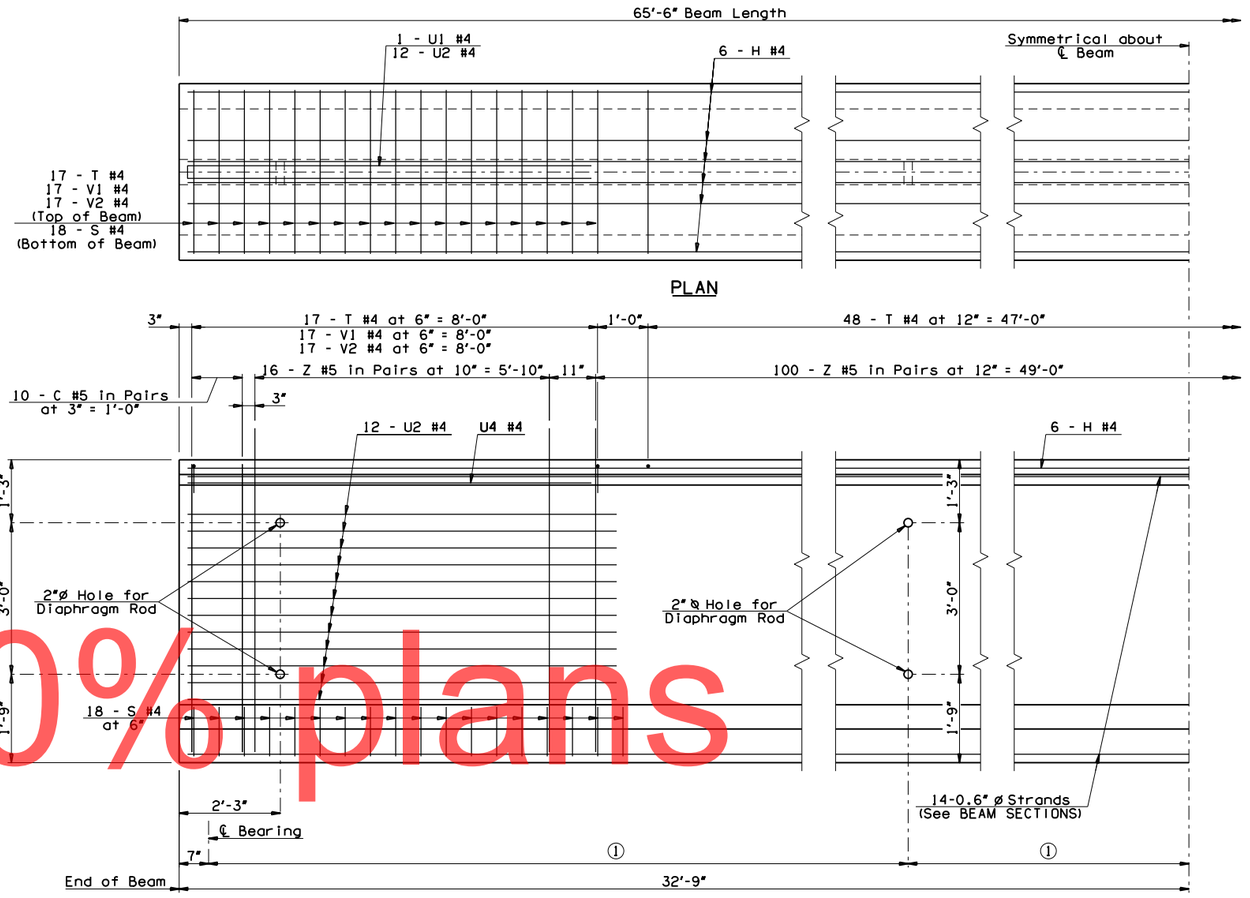
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 4,500 p.s.i. at transfer of prestress and 6,000 p.s.i. at 28 days.

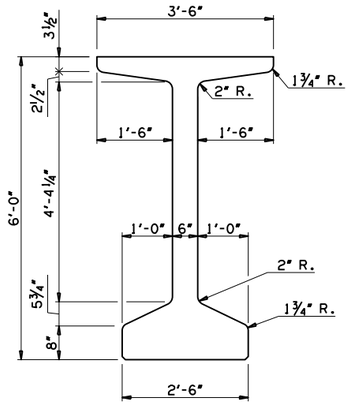
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 1.70 (HL-93)

LFR OPERATING RATING - HS 43.8
The Operating Ratings shown are based on nominal concrete strength, and include partially bonded strands in strength computations.



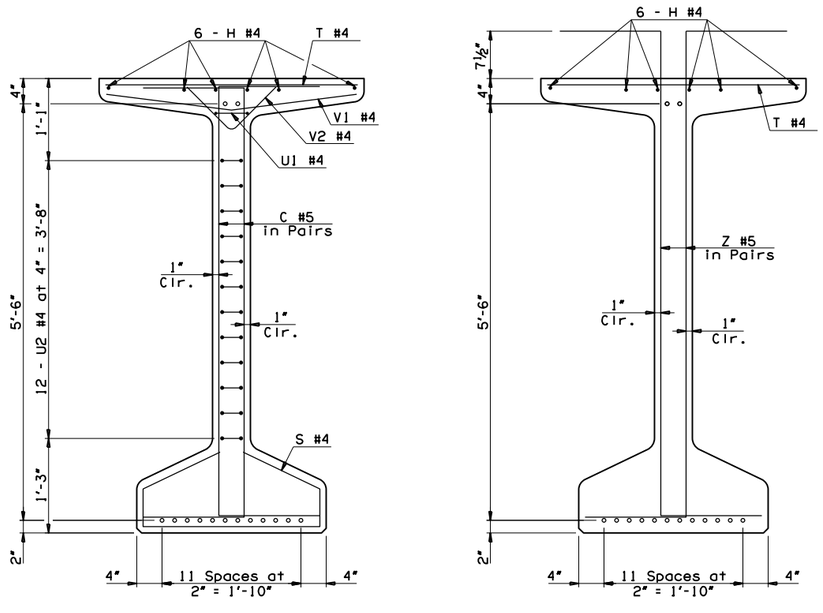
PLAN



END VIEW
(Type J BT)

DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + SIP Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.



END SECTION

℄ SECTION

BEAM SECTIONS
(14 - 0.6"ø STRANDS)

NOTES:
For bar bend and embedded plate details, see Sheet No. BV029.

① For diaphragm spacing and skew angles, see Sheet No. BV026.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
65'-0" BEAM DETAILS
(TYPE J BT)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV027

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

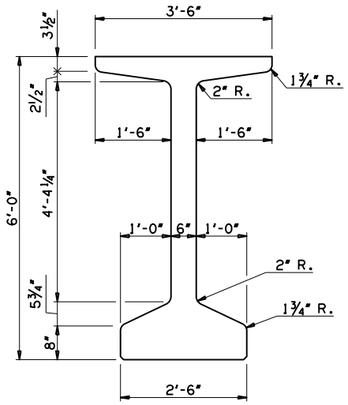
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
Provide concrete with a compressive strength of 7,000 p.s.i. at transfer of prestress and 10,000 p.s.i. at 28 days.

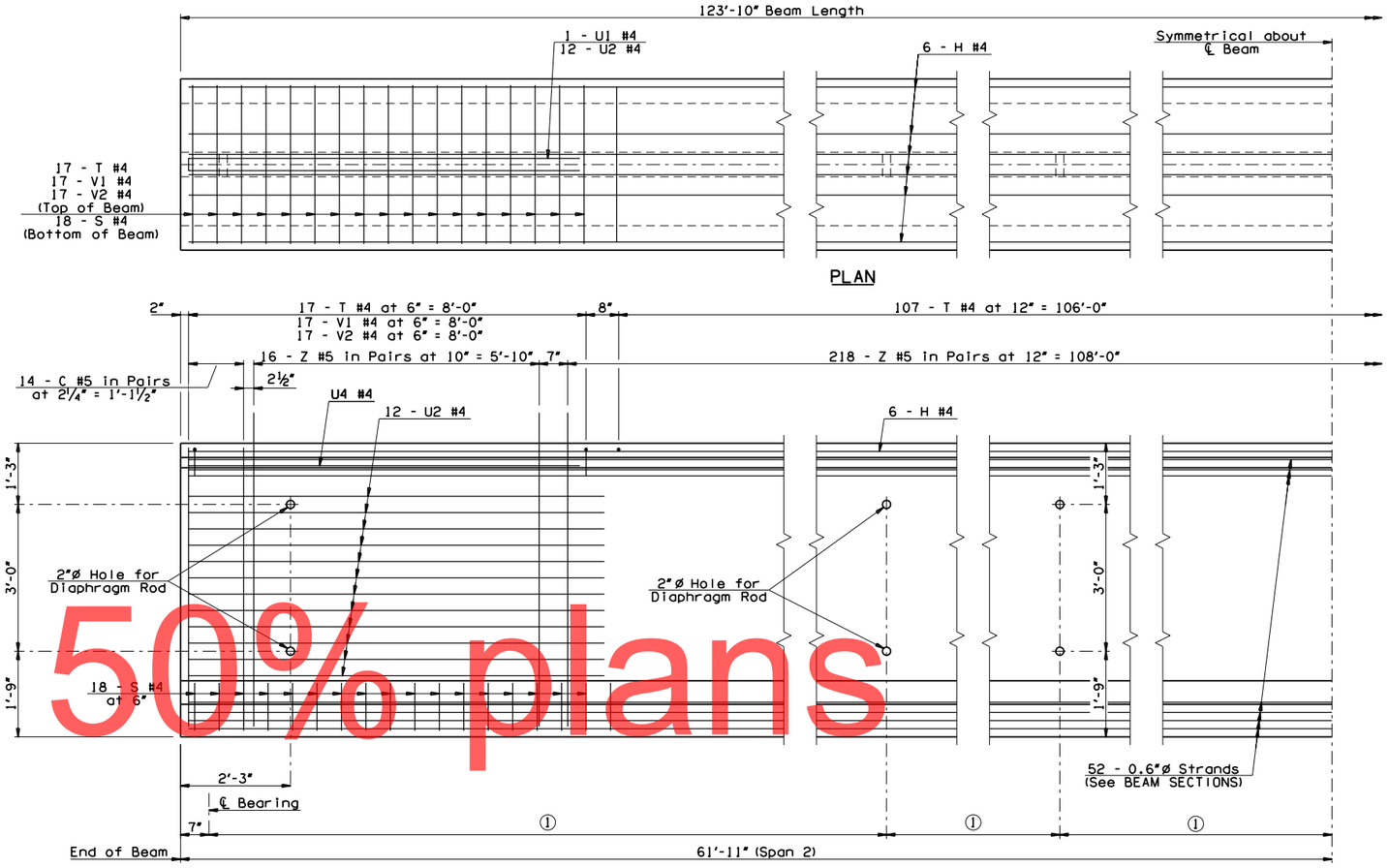
STRAND TYPE
Provide low-relaxation strands having a nominal diameter of 0.6" with ultimate tensile strength of 270 k.s.i.

LRFR OPERATING RATING - 2.38 (HL-93)

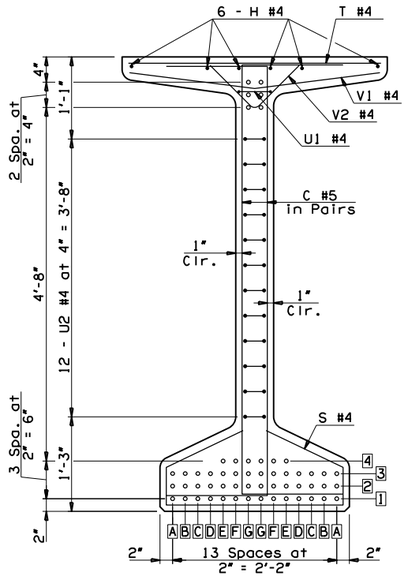
LFR OPERATING RATING - HS 56.0
The Operating Ratings shown are base on a nominal concrete strength, and include partially bonded strands in strength computations.



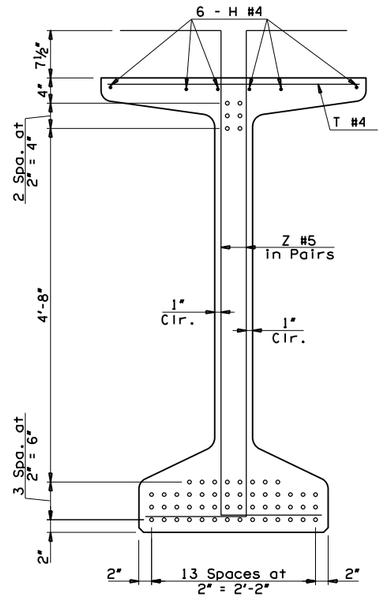
END VIEW
(Type J BT)



50% plans



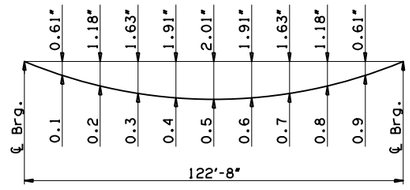
END SECTION



℄ SECTION

BEAM SECTIONS
(52 - 0.6"ø STRANDS)

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	18'-0"
D1	18'-0"
C1	12'-0"
E2	12'-0"



DEAD LOAD DEFLECTION DIAGRAM

NOTE:
The Dead Load Deflection shown above at the tenth points are the initial deflections due to Deck Slab + Diaphragms + Haunch + SIP Steel Deck Form Allowance + Parapets. It does not include the Beam weight or Future Wearing Surface.

NOTES:
For bar bend and embedded plate details, see Sheet No. BV029.

① For diaphragm spacing and skew angles, see Sheet No. BV026.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

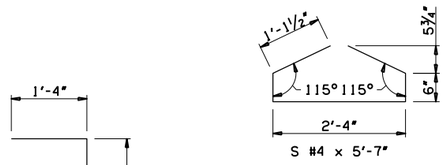
125'-0" BEAM DETAILS
(TYPE J BT)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

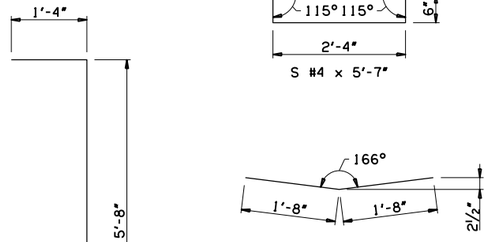
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV028

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

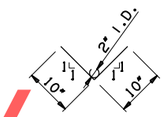


S #4 x 5'-7"

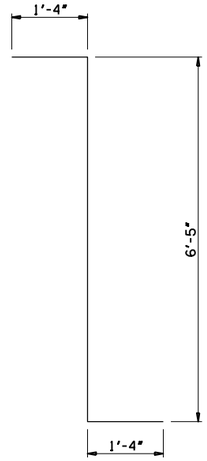


C #5 x 8'-4"

V1 #4 x 3'-4"



V2 #4 x 1'-8"

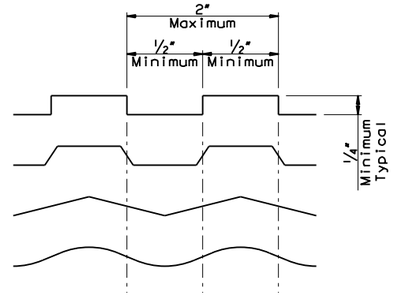


Z #5 x 9'-1" (Exterior Beam)
Z #5 x 9'-4" (Interior Beam)
(Epoxy Coated)

50% plans

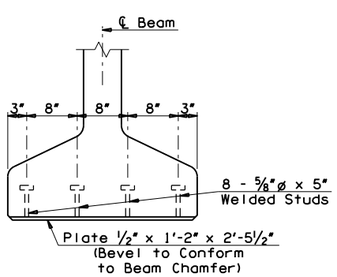


U1 #4 x 16'-5"
U2 #4 x 16'-3"

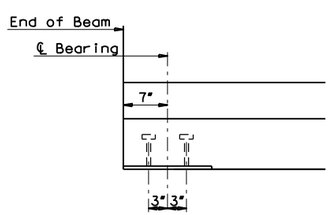


INTENTIONALLY ROUGHENED SURFACE EXAMPLES

Intentionally roughen the entire top surface of P.C. Beam to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the beam. Provide a crest and trough associated with the height of not less than ½". Produce the roughened surface by using a special trowel to form one of the surfaces shown in the details by cleaning the concrete surface with a stiff wire brush (or blasting) to expose the aggregate to a height of ¼", or by using another approved method. Submit the method to be used for approval by the Engineer. Repair any damage to reinforcement's epoxy coating before placement of deck concrete.



END VIEW



ELEVATION

EMBEDDED SOLE PLATE DETAILS

NOTE:
Provide an Embedded Sole Plate located at each end of Beam.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

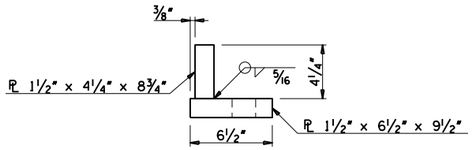
BEAM DETAILS
(TYPE J BT)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

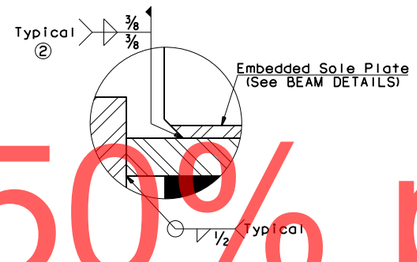
DESIGNED	JMH	5/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV029

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

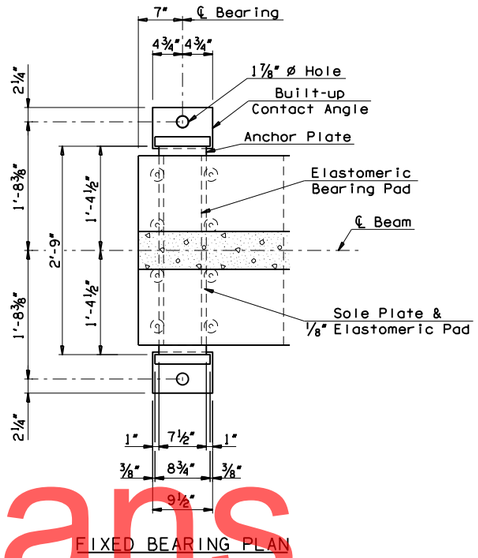


BUILT-UP CONTACT ANGLE DETAIL

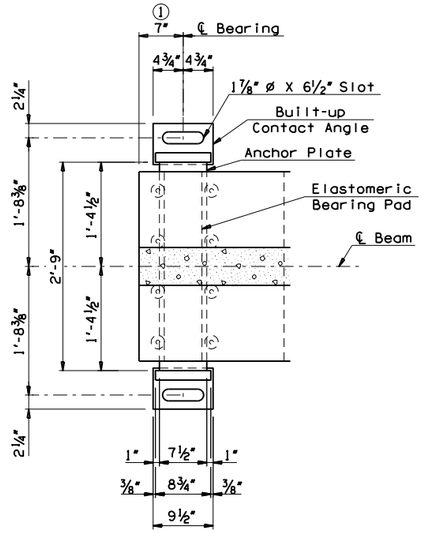


DETAIL "A"

② Refer to "SEQUENCE OF CONSTRUCTION" sheets prior to welding embeded sole plate to anchor plate.

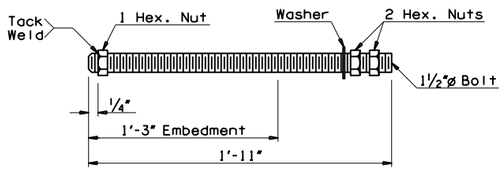


FIXED BEARING PLAN



EXPANSION BEARING PLAN

① Anchor Bolts shall be centered in slots during setting of superstructure. Dimension may vary depending on temperature at the time of superstructure setting.



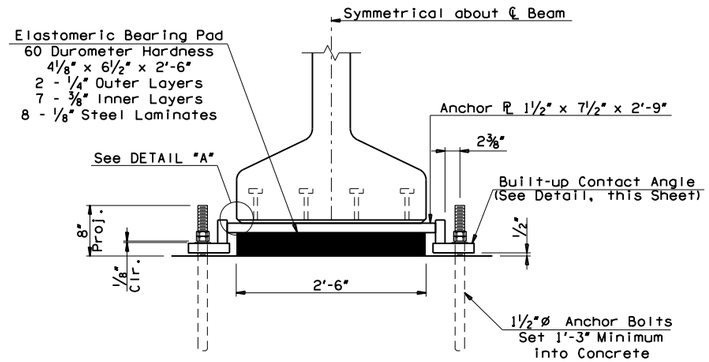
ANCHOR BOLT DETAIL

BEARING ASSEMBLY NOTES:

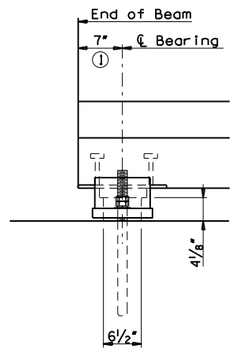
Provide structural steel for Anchor Plates and Built-up Contact Angles in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). For Anchor Bolts, provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M, and ASTM A320, respectively. Perform all welding consistent with procedures for stainless steel.

Contractor shall post install the anchor bolts in accordance with section 509.04.D(3) of the standard specification with a Type H epoxy. Fully remove blocking material prior to installing epoxy. If the epoxy manufacturer requires a longer embedment length, increase the length of the anchor bolt to provide an 8" minimum projection above the top of the cap. Include the depth of the blocked out section in the embedment length.

Bond Elastomeric bearing pad to anchor and sole plates in accordance with Section 733.06 of the Standard Specifications.



END VIEW



ELEVATION

BEARING DETAILS

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

BEARING DETAILS
(TYPE J BT)

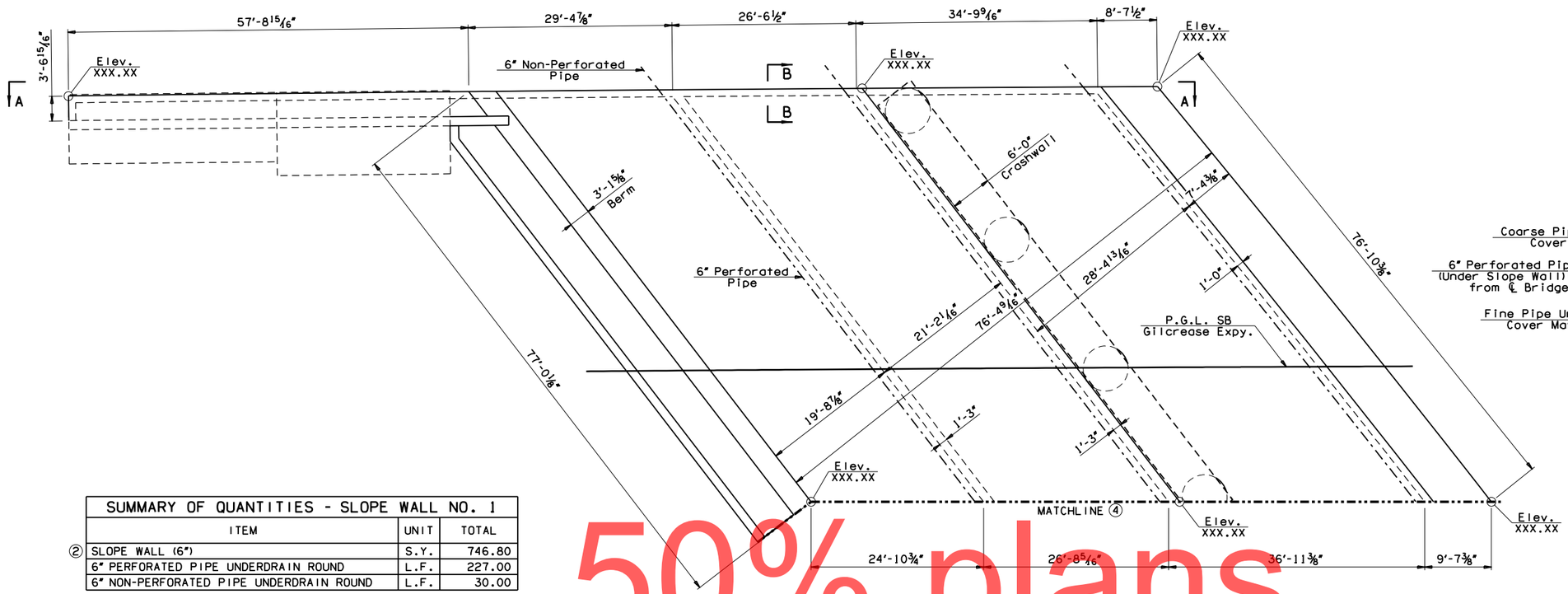
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	RH	5/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	4/16		
CHECKED	NBK	9/17	DATE: 10/23/2017	SHEET NO. BV030

50% plans

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



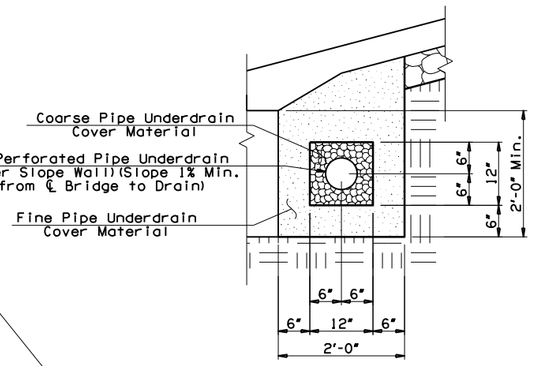
SUMMARY OF QUANTITIES - SLOPE WALL NO. 1		
ITEM	UNIT	TOTAL
② SLOPE WALL (6")	S.Y.	746.80
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	227.00
6" NON-PERFORATED PIPE UNDERDRAIN ROUND	L.F.	30.00

② All costs of the "SLOPE WALL (6")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, 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 (6")".

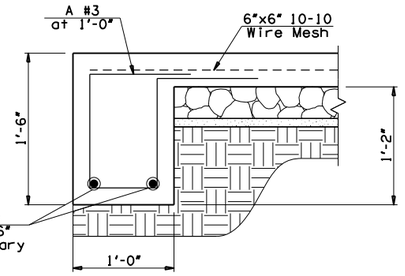
④For Matchline see Sheet No. BV032.

SLOPE WALL AT ABUTMENT NO. 1

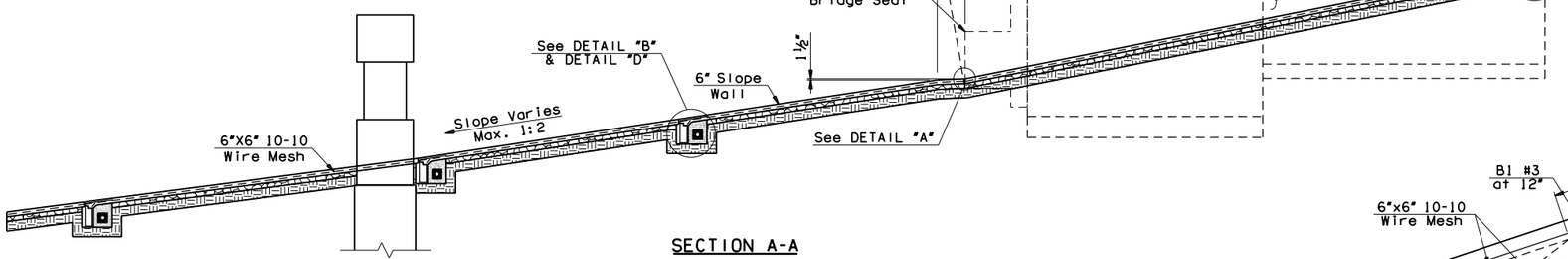
50% plans



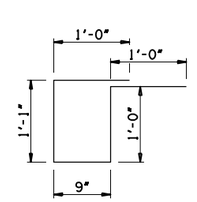
DETAIL "D"



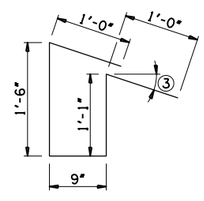
SECTION B-B



SECTION A-A

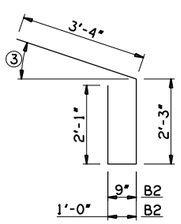


A1 #4 x 4'-10"

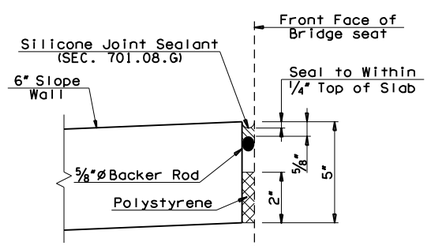


A2 #4 x 4'-10"

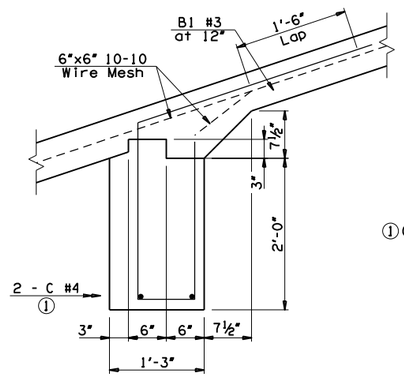
③Match slope of Slope Wall



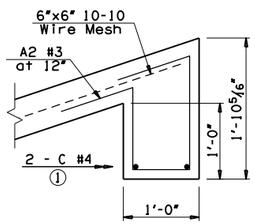
B1 #4 x 8'-5"
B1 #4 x 8'-8"



DETAIL "A"



DETAIL "B"



DETAIL "C"

①Continuous 1'-6" lap when necessary

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

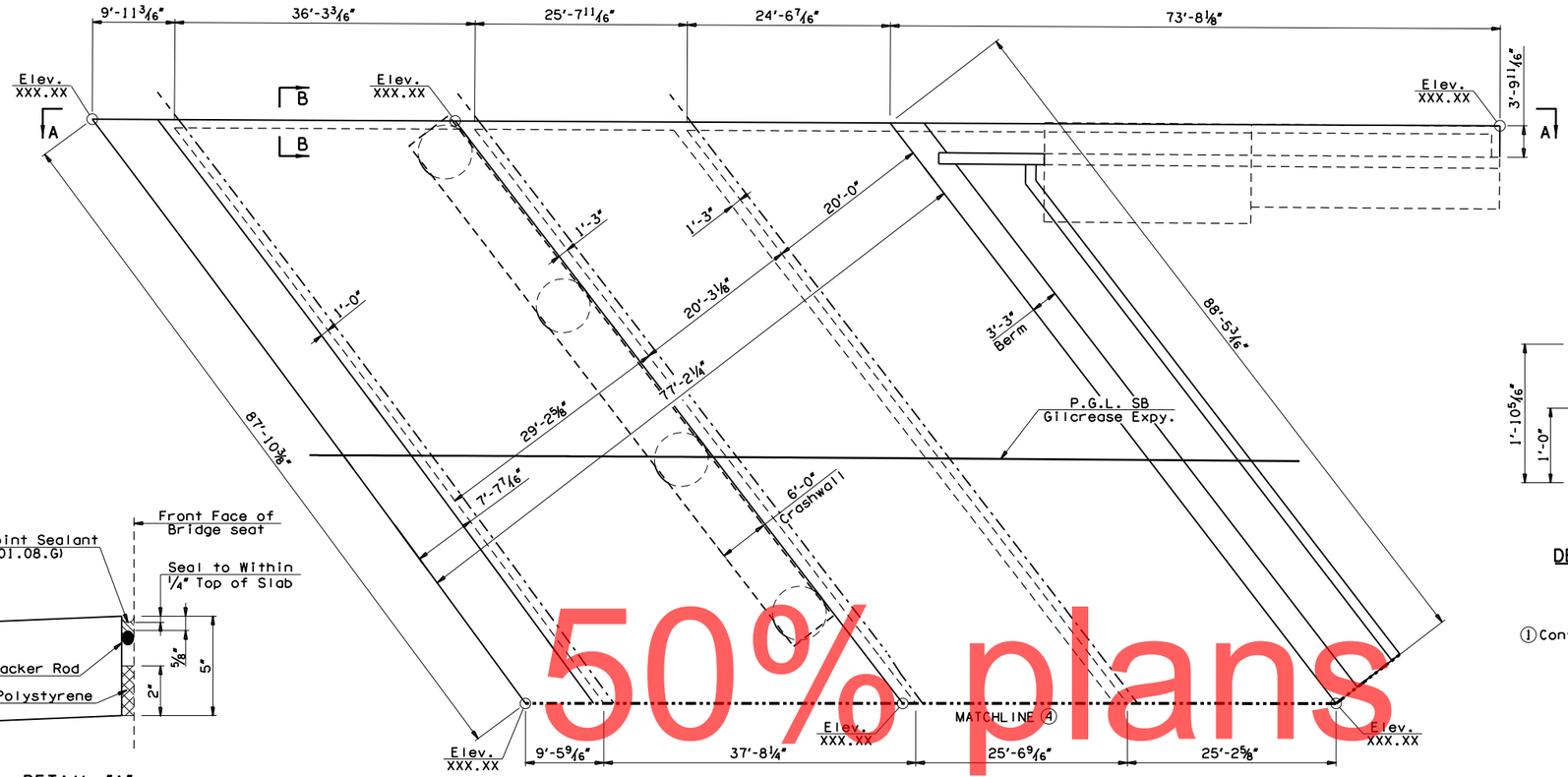
SLOPE WALL DETAILS
(SHEET 1 OF 2)

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	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV031

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

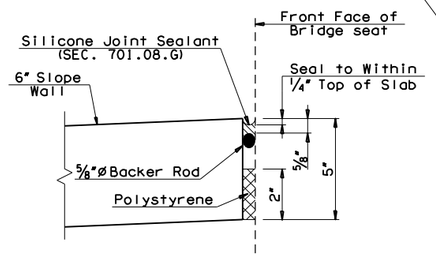
PROPOSED R/W
10/23/2017



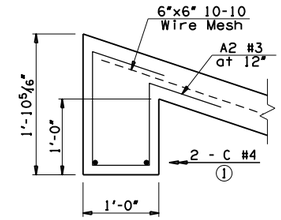
50% plans

SLOPE WALL AT ABUTMENT NO. 2

(4) For Matchline see Sheet No. XX .

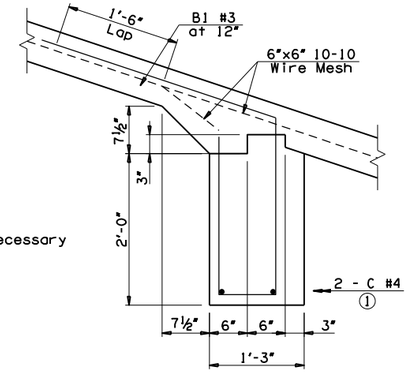


DETAIL "A"

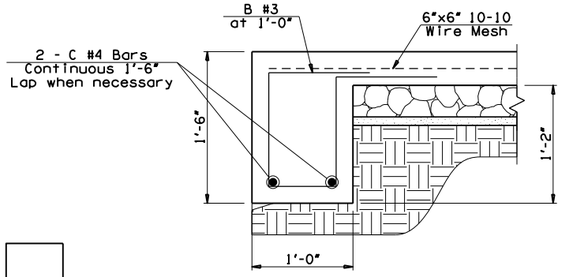


DETAIL "C"

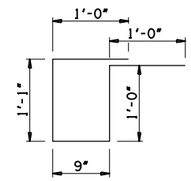
(1) Continuous 1'-6" lap when necessary



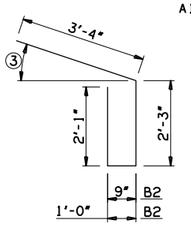
DETAIL "B"



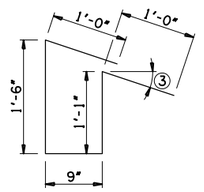
SECTION B-B



A1 #4 x 4'-10"

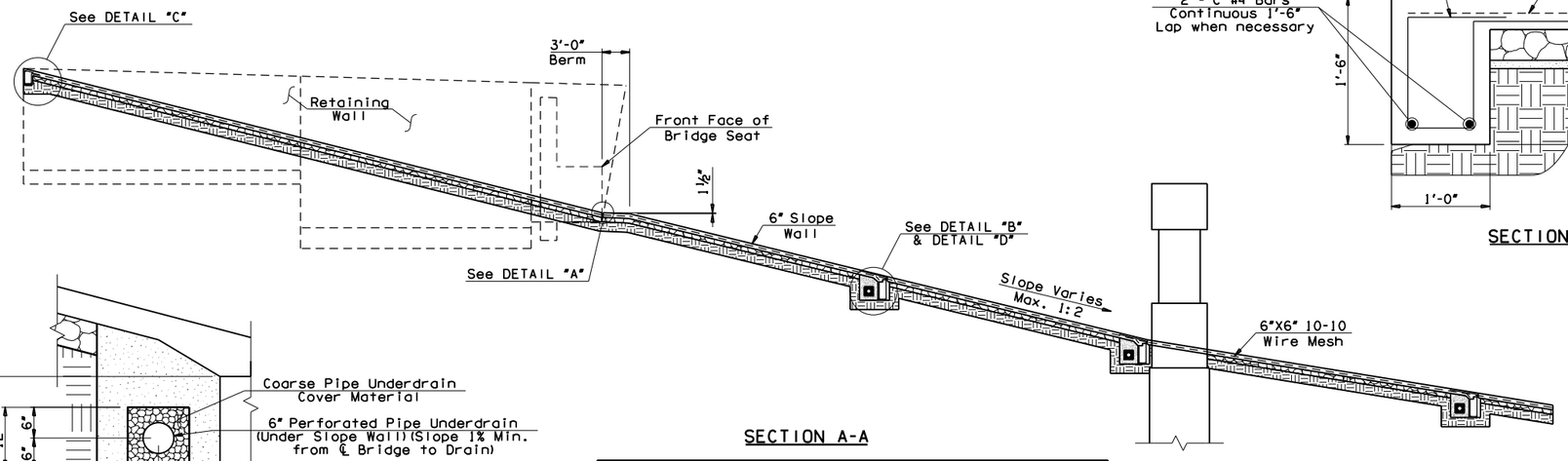


B1 #4 x 8'-5"
B1 #4 x 8'-8"

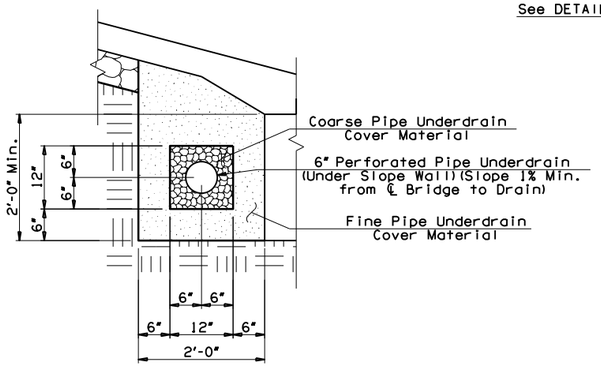


A2 #4 x 4'-10"

(3) Match slope of Slope Wall



SECTION A-A



DETAIL "D"

SUMMARY OF QUANTITIES - SLOPE WALL NO. 2		
ITEM	UNIT	TOTAL
(2) SLOPE WALL (6")	S.Y.	886.28
6" PERFORATED PIPE UNDRAIN ROUND	L.F.	266.00
6" NON-PERFORATED PIPE UNDRAIN ROUND	L.F.	30.00

(2) All costs of the "SLOPE WALL (6")" installation including Class A concrete, reinforcing steel, lap splices, backer rod, silicone joint sealant, preformed joint filler, polystyrene, 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 (6")".

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
SLOPE WALL DETAILS
(SHEET 2 OF 2)

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	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV032

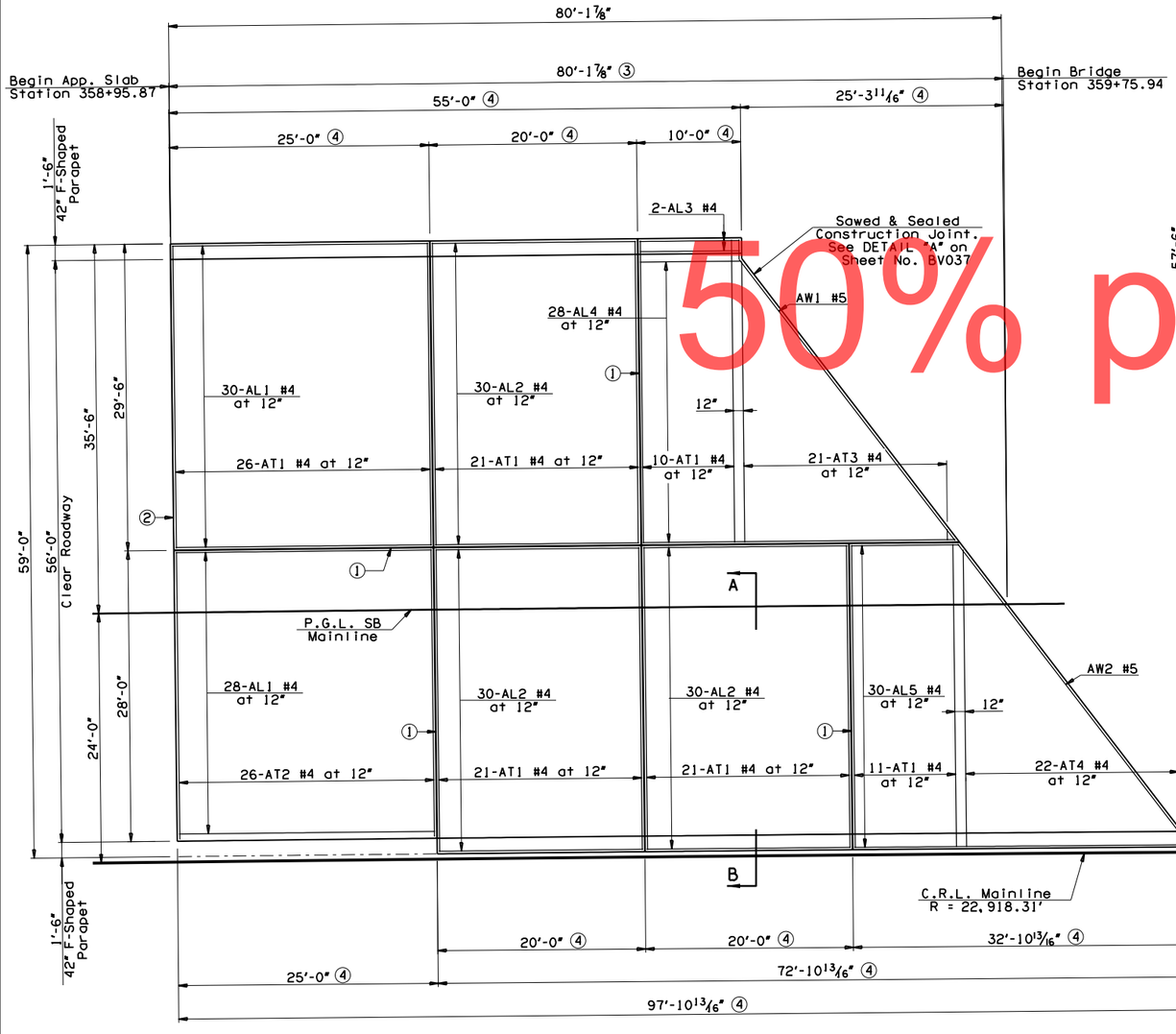
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

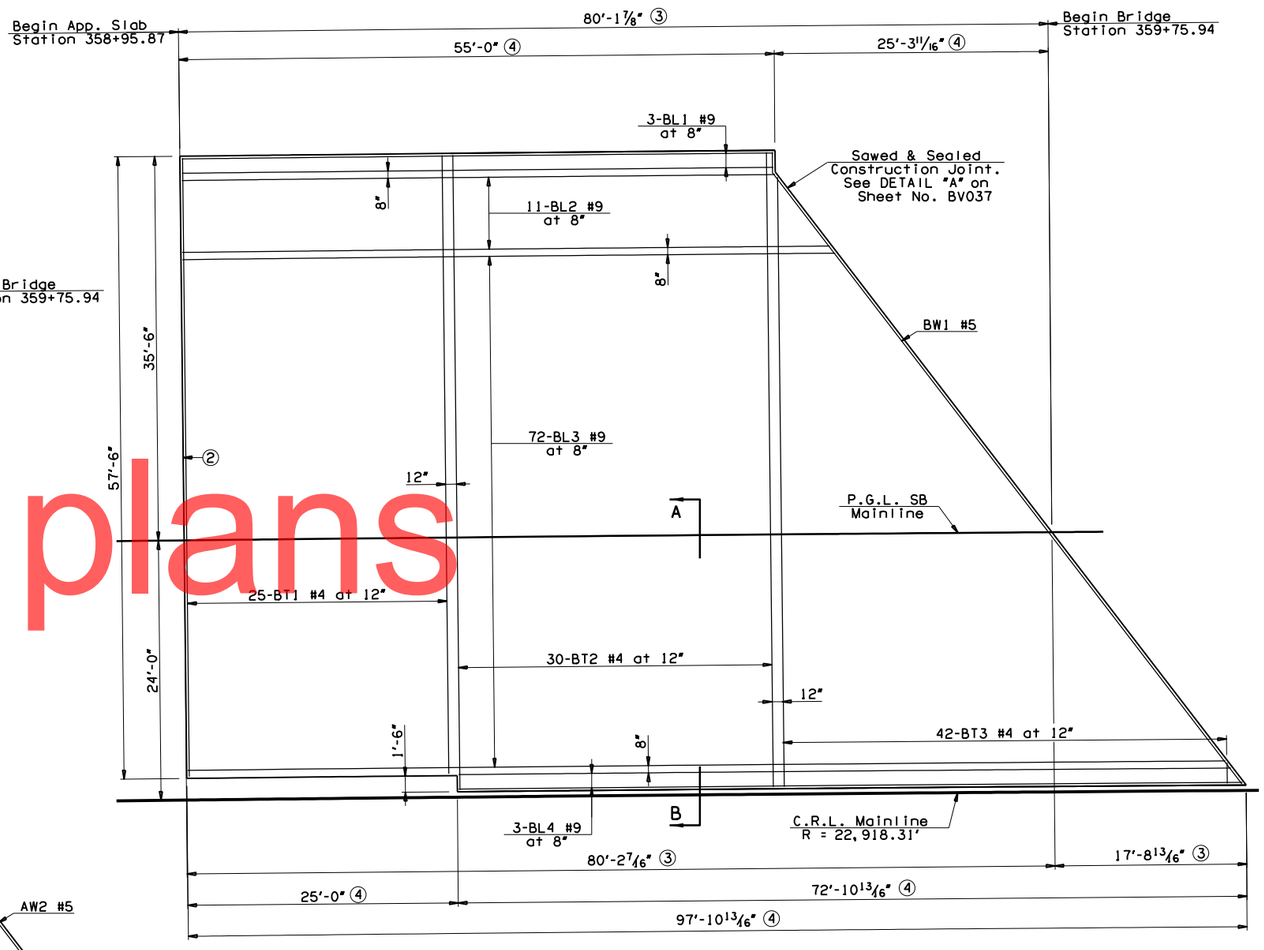
NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.



APPROACH SLAB AT ABUTMENT NO. 1
(Showing Top Mat of Reinforcing Steel)



APPROACH SLAB AT ABUTMENT NO. 1
(Showing Bottom Mat of Reinforcing Steel)

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab. See DETAIL "B" on Sheet No. BV037.

② Type III Terminal Joint. See DETAIL "C" on Sheet No. BV037. All costs of installation of Terminal Joints shall be included in "Dowel Jointed PC Concrete Pavement (Placement)".

③ Measured along P.G.L.

④ Measured along Outside Edge.

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
APPROACH SLAB DETAILS
(SHEET 1 OF 4)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV034

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

APPROACH SLAB AT ABUTMENT NO. 2
(Showing Top Mat of Reinforcing Steel)

NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab. See DETAIL "B" on Sheet No. BV036.

② Type III Terminal Joint. See DETAIL "C" on Sheet No. BV036. All costs of installation of Terminal Joints shall be included in "Dowel Jointed PC Concrete Pavement (Placement)".

③ Measured along P.G.L.

④ Measured along Outside Edge.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. V GILCREASE SB OVER KEYSTONE EXPY.

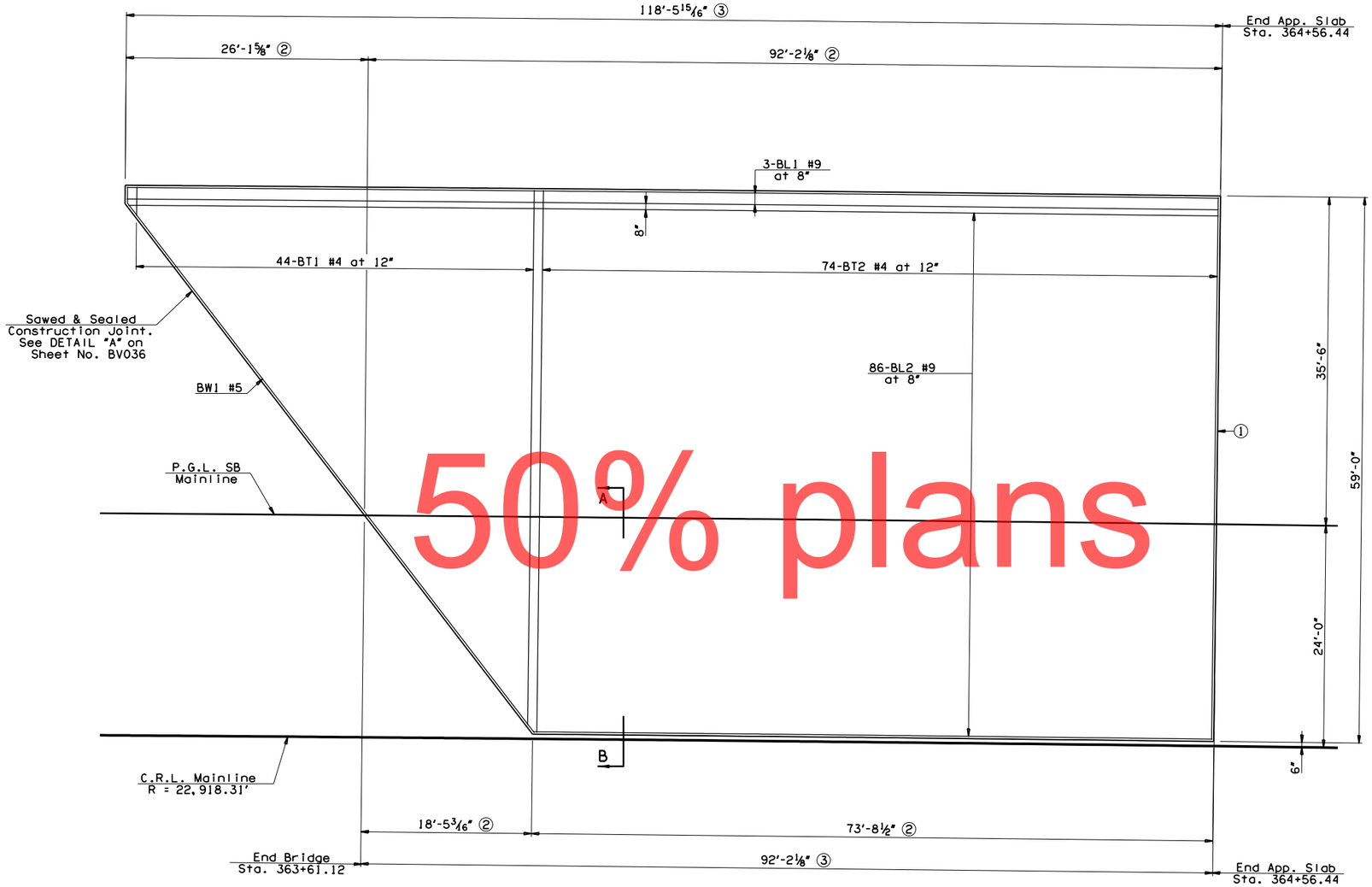
APPROACH SLAB DETAILS
(SHEET 2 OF 4)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV034

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017



50% plans

APPROACH SLAB AT ABUTMENT NO. 2
(Showing Bottom Mat of Reinforcing Steel)

NOTES:
Do not groove within 6" of any joint.

Parapet and Concrete Barrier reinforcement not shown for clarity. See Std. FSHP-42-2-00E for details.

Field trim reinforcing steel (if required) to meet clear cover requirements.

① Type III Terminal Joint. See DETAIL "C" on Sheet No. BV036. All costs of installation of Terminal Joints shall be included in "Dowel Jointed PC Concrete Pavement (Placement)".

② Measured along P.G.L.

③ Measured along Outside Edge.

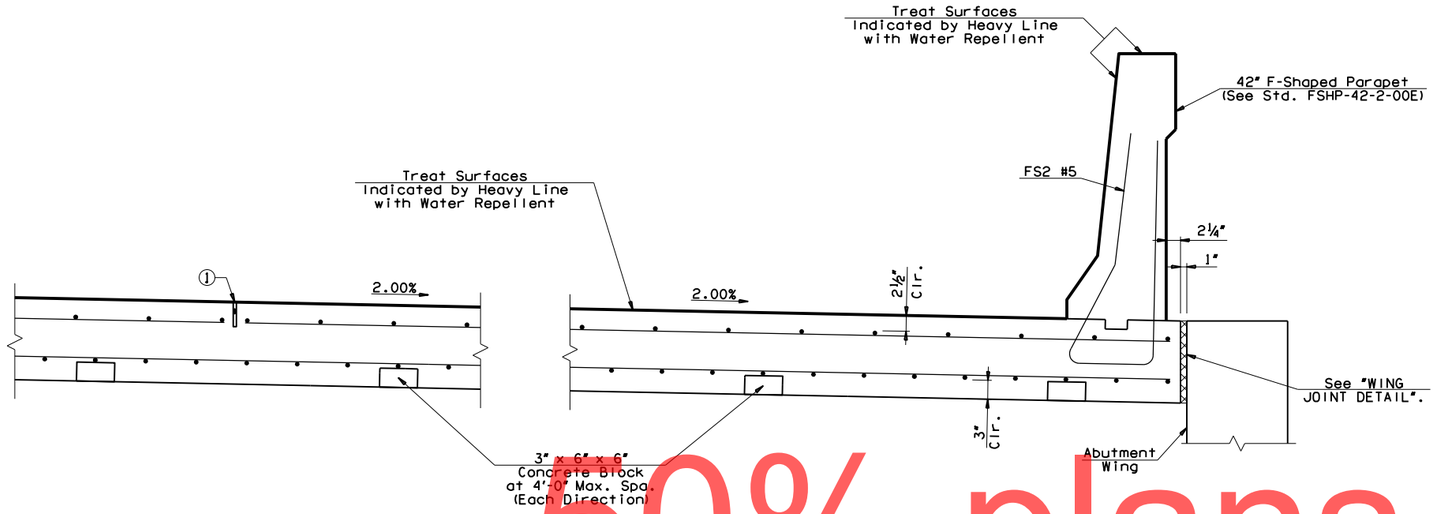
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
APPROACH SLAB DETAILS
(SHEET 3 OF 4)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV035

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

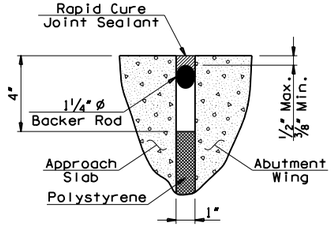
PROPOSED R/W
10/23/2017



SECTION A THRU APPROACH SLAB

SECTION B

50% plans



WING JOINT DETAIL

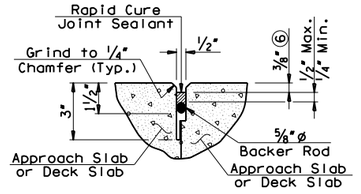
NOTE:
All costs associated with the Wing Joint Detail including materials, Rapid Cure Joint Sealant, Backer, Rod, Polystyrene, labor, equipment, and other incidentals necessary to complete the work as specified are included in the contract unit price for "APPROACH SLAB".

① ½" Sawed and Sealed Construction Joint in the top of each Approach Slab (See DETAIL "B").

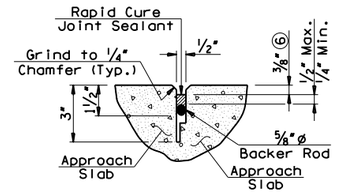
BAR LIST - APPROACH SLAB NO. 1					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	58	STR.	24'-8"	-
AL2	#4	90	STR.	19'-8"	-
AL3	#4	2	STR.	9'-8"	-
AL4	#4	28	STR.	19'-11" AVG.	9'-9" TO 30'-1"
AL5	#4	30	STR.	21'-4½" AVG.	10'-5" TO 32'-4"
AT1	#4	110	STR.	29'-2"	-
AT2	#4	52	STR.	27'-8"	-
AT3	#4	21	STR.	14'-0½" AVG.	1'-1" TO 27'-0"
AT4	#4	22	STR.	14'-10" AVG.	1'-1" TO 28'-7"
AW1	#5	1	BENT	36'-1"	-
AW2	#5	1	STR.	36'-6"	-
BL1	#9	3	STR.	54'-8"	-
BL2	#9	11	STR.	57'-3½" AVG.	54'-9" TO 59'-10"
③ BL3	#9	72	STR.	83'-5" AVG.	65'-8" TO 101'-2"
③ BL4	#9	3	STR.	77'-2½" AVG.	76'-8" TO 77'-9"
BT1	#4	25	STR.	57'-2"	-
BT2	#4	30	STR.	58'-8"	-
BT3	#4	42	STR.	29'-1½" AVG.	1'-11" TO 56'-4"
② BW1	#5	1	BENT	76'-1"	-

BAR LIST - APPROACH SLAB NO. 2					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
AL1	#4	258	STR.	19'-8"	-
AL2	#4	2	STR.	18'-2"	-
AL3	#4	22	STR.	9'-8" AVG.	1'-5" TO 17'-11"
AL4	#4	4	STR.	17'-10½" AVG.	16'-8" TO 19'-1"
AL5	#4	20	STR.	8'-10½" AVG.	1'-5" TO 16'-4"
AL6	#4	8	STR.	16'-3½" AVG.	13'-6" TO 19'-1"
AT1	#4	179	STR.	29'-2"	-
AT2	#4	19	STR.	13'-7" AVG.	2'-5" TO 24'-9"
AT3	#4	3	STR.	26'-8" AVG.	25'-5" TO 27'-11"
AT4	#4	16	STR.	11'-5" AVG.	2'-1" TO 20'-9"
AT5	#4	7	STR.	25'-1" AVG.	21'-4" TO 28'-10"
AW1	#5	1	BENT	36'-6"	-
AW2	#5	1	STR.	5'-1"	-
AW3	#5	1	STR.	37'-0"	-
③ BL1	#9	3	STR.	123'-6"	-
③ BL2	#9	86	STR.	101'-0½" AVG.	78'-9" TO 123'-4"
BT1	#4	44	STR.	30'-6" AVG.	3'-2" TO 57'-10"
BT2	#4	74	STR.	58'-8"	-
② BW1	#5	1	BENT	77'-0"	-

② Includes One 3'-0" Lap Length.
③ Includes One 5'-4" Lap Length.

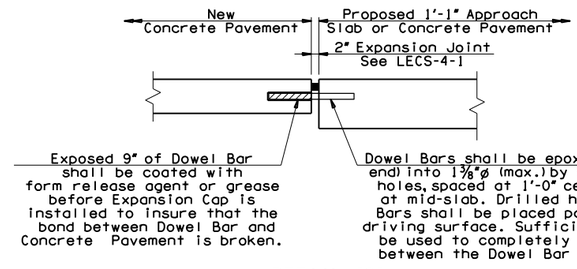


DETAIL "A"



DETAIL "B"

⑥ This dimension shall taper from ⅜" at edge of driving lane/shoulder to ⅛" at rail for Transverse Joints only.



DETAIL "C"

SUMMARY OF QUANTITIES - APPROACH SLAB NOS. 1 & 2				
ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
⑤ APPROACH SLAB	S.Y.	492.00	635.00	1,127.00
SAW-CUT GROOVING	S.Y.	432.20	548.80	981.00
42" F-SHAPED PARAPET	L.F.	127.30	192.80	320.10
⑤ WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	554.00	775.00	1,329.00

④ The contract unit price for "APPROACH SLAB" shall be full compensation for Concrete, Epoxy Coated Reinforcing Steel (including FS2 and FS6), Backer Rod, Rapid Cure Joint Sealant, Polystyrene, labor, equipment and other incidentals necessary to complete the work as specified in the plans.

⑤ Costs included in the contract unit price for "APPROACH SLAB". Quantities given are estimated ammounts.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. V GILCREASE SB OVER KEYSTONE EXPY.
APPROACH SLAB DETAILS
(SHEET 4 OF 4)

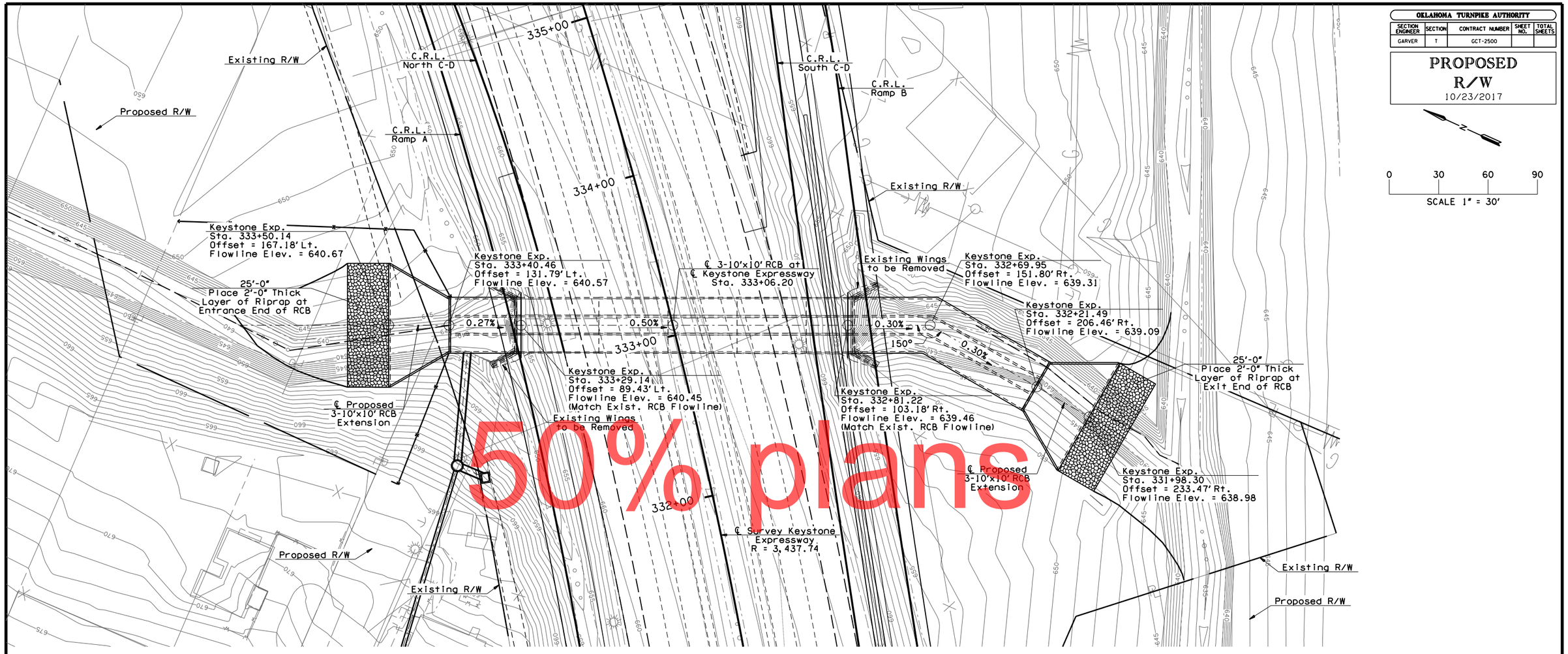
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	NBK	9/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BV036

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

0 30 60 90
SCALE 1" = 30'



50% plans

PLAN

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = XXX sq. mi
Controlled Drainage Area = XXX sq. mi.
Effective Drainage Area = XXX sq. mi.

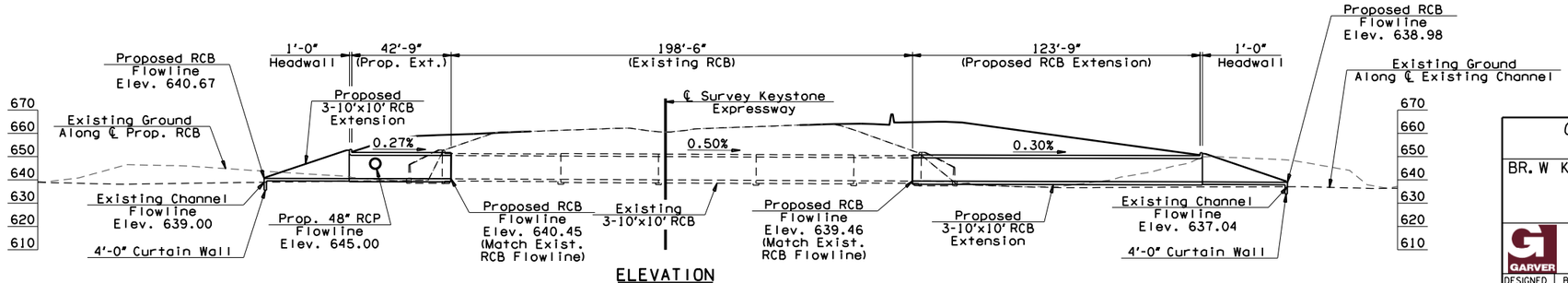
Q0T > Q500	= XXX cfs	Q25	= XXX cfs
V500	= XXX fps	V25	= XXX fps
Q500 HW	= XXX	Q25 HW	= XXX
Q2	= XXX cfs	Q50	= XXX cfs
V2	= XXX fps	V50	= XXX fps
Q2 HW	= XXX	Q50 HW	= XXX
Q5	= XXX cfs	Q100	= XXX cfs
V5	= XXX fps	V100	= XXX fps
Q5 HW	= XXX	Q100 HW	= XXX
Q10	= XXX cfs		
V10	= XXX fps		
Q10 HW	= XXX		

STANDARDS

RCB-C3-10(12-20)-01E
RCB-E3-H10-0-1-01E
RCB-E3-H10-0-2-01E
RCB-CW3-D4-0-01E

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BW001	General Plan and Elevation



ELEVATION

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

BR. W KEYSTONE EXPY. OVER HARLOW CREEK TRIB.

GENERAL PLAN AND ELEVATION

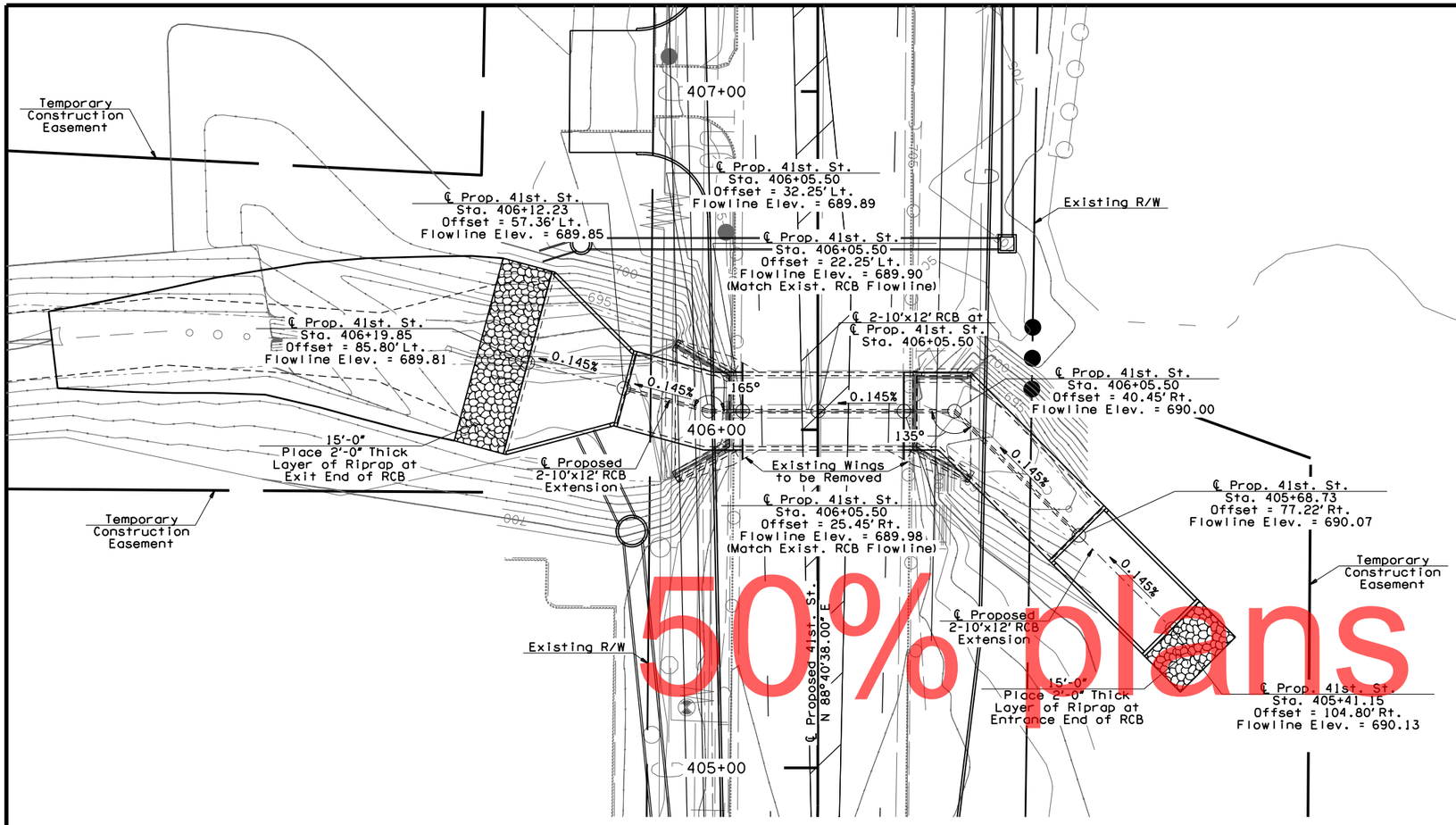
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	7/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	9/17		
CHECKED	BRT	9/17	DATE: 10/23/2017	SHEET NO. BW001

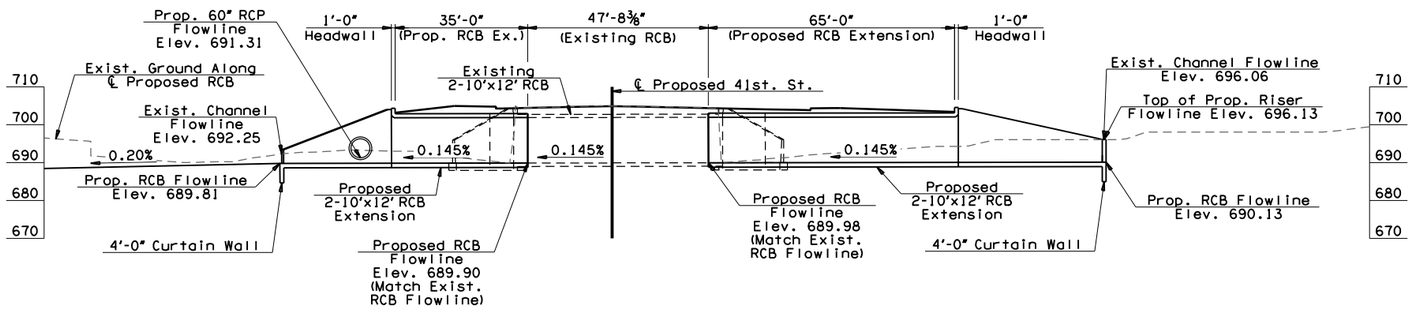
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

0 20 40 60
SCALE 1" = 20'



PLAN



ELEVATION

INDEX OF SHEETS

SHEET NO.	TITLE
AB01-AB07	General Notes (Bridge)
BX001	General Plan and Elevation

HYDRAULIC DATA

(Ultimate Condition)
Drainage Area = 1.07 sq. mi

Q0T > Q500	= 5,084 cfs	Q25	= 1,762 cfs
V500	= 12.61 fps	V25	= 14.16 fps
Q500 HW	= 706.71	Q25 HW	= 703.78
Q2	= 772 cfs	Q50	= 2,467 cfs
V2	= 10.75 fps	V50	= 15.84 fps
Q2 HW	= 701.91	Q50 HW	= 704.31
Q5	= 1,038 cfs	Q100	= 3,157 cfs
V5	= 11.87 fps	V100	= 16.57 fps
Q5 HW	= 702.88	Q100 HW	= 704.59
Q10	= 1,278 cfs		
V10	= 12.72 fps		
Q10 HW	= 703.32		

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
BR. X 41ST ST. OVER UNNAMED CREEK

GENERAL PLAN AND ELEVATION

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	BRT	9/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	10/17		
CHECKED	BRT	10/17	DATE: 10/23/2017	SHEET NO. BX001

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED
R/W
10/23/2017

BM 11
#6 REBAR
394' LT OF STA. 210+68 EL = 676.47

BM 12
#6 REBAR
382' LT OF STA. 203+60 EL = 684.06

PROPOSED
RIGHT-OF-WAY

INLET ℄
ELEV. 677.91

186'-3 9/16"

141'-5 9/16"

RCB LENGTH = 328'-0"

45°

END BRIDGE STA.
207+04.09

℄ BRIDGE STA.
206+85.00

BEGIN BRIDGE STA.
206+65.91

2-12'x10'x328'
RDY RCB

OUTLET ℄
ELEV. 674.95

P.G.L
SOUTHBOUND

MAINLINE GILCREASE C.R.L.
N 0° 00' 00" W

P.G.L
NORTHBOUND

10'-0" SHLDR
24'-0" LANES
4'-0" SHLDR
4'-0" SHLDR
24'-0" LANES
10'-0" SHLDR

190'-0"
233'-8"

205+00 206+00 207+00 208+00 209+00
675 680 685

PROPOSED
R/W

PLAN
SCALE 1"=40'

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE

BR. "AA" GILCREASE EXPRESSWAY OVER UNNAMED CREEK

GENERAL PLAN
(SHEET 1 OF 2)

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500	
DETAILED	LRJ	10/17		
CHECKED	JKJ	10/17	DATE: 10/23/2017	SHEET NO. BAA01

TULSA COUNTY

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OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
CP&Y	T	GCT-2500		

PROPOSED
R/W
10/23/2017

LOAD AND RESISTANCE FACTOR DESIGN DATA

CLASS AA CONCRETE f'c= 4 KSI
REINFORCING STEEL fy= 60 KSI

LOADING:
HL 93 LOADING OR OKLAHOMA OVERLOAD TRUCK

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,
7TH EDITION WITH CURRENT INTERIMS

LRFR OPERATING RATING FACTOR = X.XX (HL-93)
LFR OPERATING RATING = HS XX.X

HYDRAULIC DATA

TOTAL DRAINAGE AREA = 0.54 SQ MILES

Q2 = 417 CFS		Q50 = 1,365 CFS	
V2 = 4.45 FPS		V50 = 16.73 FPS	
CHW2 = 682.63 FT		CHW50 = 685.96 FT	
Q5 = 565 CFS		Q100 = 1,781 CFS	
V5 = 4.37 FPS		V100 = 17.94 FPS	
CHW5 = 683.23 FT		CHW100 = 686.69 FT	
Q10 = 667 CFS		Q500 = 2,951 CFS	
V10 = 5.14 FPS		V500 = 20.34 FPS	
CHW10 = 683.60 FT		CHW500 = 690.84 FT	
Q25 = 961 CFS			
V25 = 6.93 FPS			
CHW25 = 684.54 FT			

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
AB01 – AB07	GENERAL NOTES (BRIDGE)
BAA01 – BAA02	GENERAL PLAN

50% plans

RCB QUANTITIES					
ITEM	UNIT	BARREL	①END SECTION	②CURTAIN WALL	TOTAL
CLASS AA CONCRETE	CY				
REINFORCING STEEL	LB				

① QUANTITY IS FOR ONE END SECTION (TWO WINGS, ONE APRON, ONE HEADWALL).

② QUANTITY IS FOR ONE 4' CURTAIN WALL FROM STD. RCB-CW2-D4-0-01E.

BRIDGE STANDARDS:

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY TURNPIKE

BR. "AA" GILCREASE EXPRESSWAY OVER UNNAMED CREEK

GENERAL PLAN
(SHEET 2 OF 2)

CP&Y
2000 N. CLASSEN BOULEVARD, SUITE 1400
OKLAHOMA CITY, OKLAHOMA 73106
(405) 835-2346

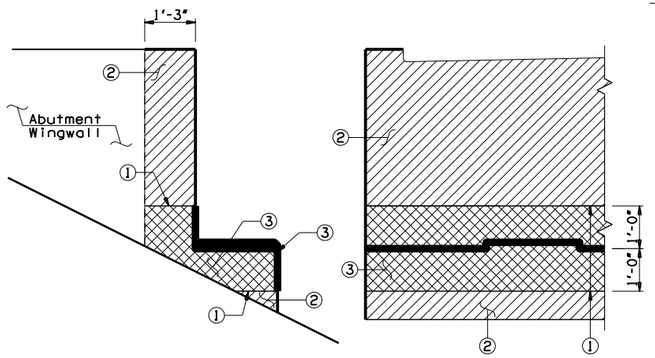
DESIGNED	JKJ	10/17	CONTRACT NO. GCT-2500	
DETAILED	LRJ	10/17	DATE: 10/23/2017	SHEET NO. BAA02
CHECKED	JKJ	10/17		

TULSA COUNTY

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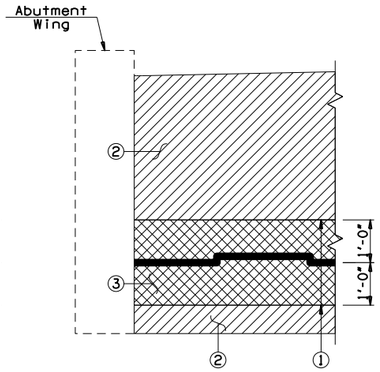
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED R/W
10/23/2017

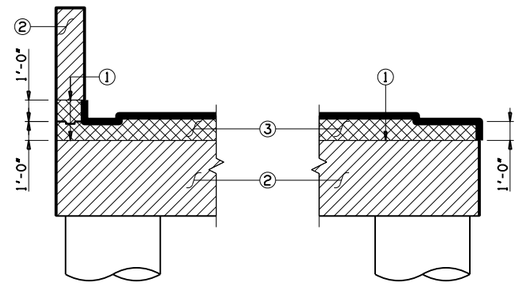


WING ELEVATION

NON-AESTHETIC ABUTMENTS



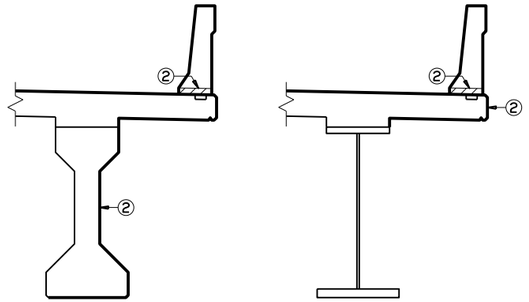
AESTHETIC ABUTMENTS



NOTE:
Do not place Special Concrete Finish on riser or pier cap face where the Shield will abut.

WITH SHIELD WITHOUT SHIELD

PIERS



CONCRETE STEEL

PARAPET, SLAB, AND BEAM

LEGEND

Special Concrete Finish (Hatching and Heavy Line)

Water Repellent (Hatching and Heavy Line)

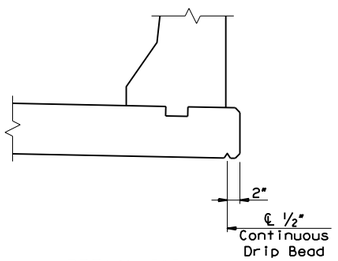
WATER REPELLENT TREATMENT AND SPECIAL CONCRETE FINISH DETAILS

① Mask sides and ends of Abutment 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. AB02 for Special Concrete Finish Specifications. For sloped Abutments, the edge of the Special Concrete Finish on the cap and backwall shall be parallel with the top of the cap. For Pier Caps, the edge of Special Concrete Finish is to be 1'-0" below the top of the cap at the low end, and run level along the length of the cap.

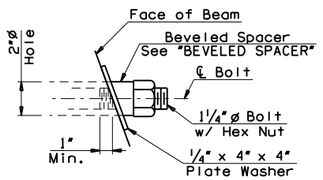
② Water Repellent on the Abutment faces to be paid for in Abutment Quantities. Water Repellent on the Pier to be paid for in Pier Quantities. Water Repellent on the Concrete Rail, Cantilever, and outside face of Exterior Beam to be paid for in Superstructure quantities.

③ Apply Special Concrete Finish to the surfaces indicated by crosshatch and heavy lines, including pedestals, cap steps, backwall, & ends of cap. Special Concrete Finish on the Abutment faces to be paid for in Abutment Quantities. Special Concrete Finish on the Pier to be paid for in Pier Quantities.

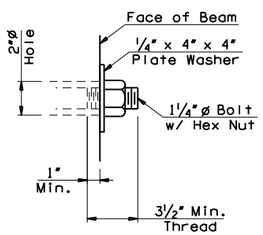
50% plans



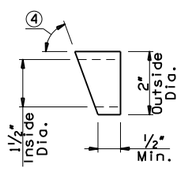
DETAIL "A"



DETAIL "C"



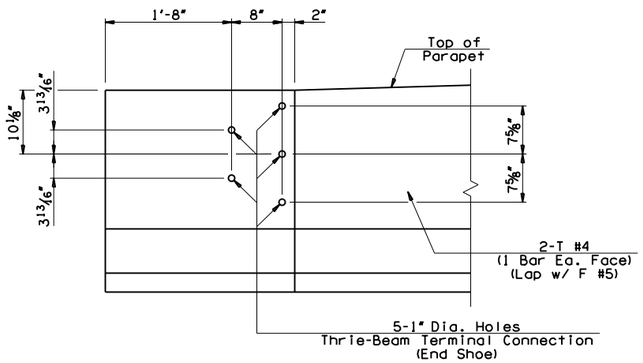
DETAIL "B"



BEVELED SPACER

NOTE:
Extra Strong Pipe Sleeve.

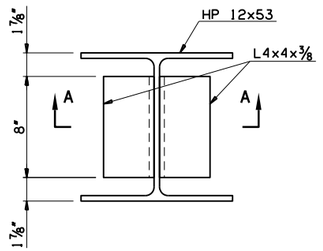
④ Angle varies. Match Angle of Beams. See FRAMING PLAN.



THRIE-BEAM TERMINAL CONNECTION DETAIL

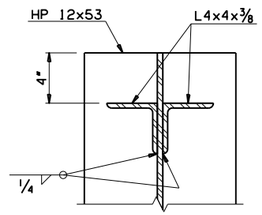
NOTES:
Modifies ELEVATION OF GUARDRAIL CONNECTION HOLES of Std. FSHP-42-2-00E.

Reinforcement omitted for clarity, See ELEVATION OF GUARDRAIL CONNECTION HOLES on Std. FSHP-45-2-00E.



PILE ANCHORAGE DETAIL

NOTE:
See plans for piles requireing anchorage.



SECTION A-A

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE BRIDGE STANDARD DETAILS

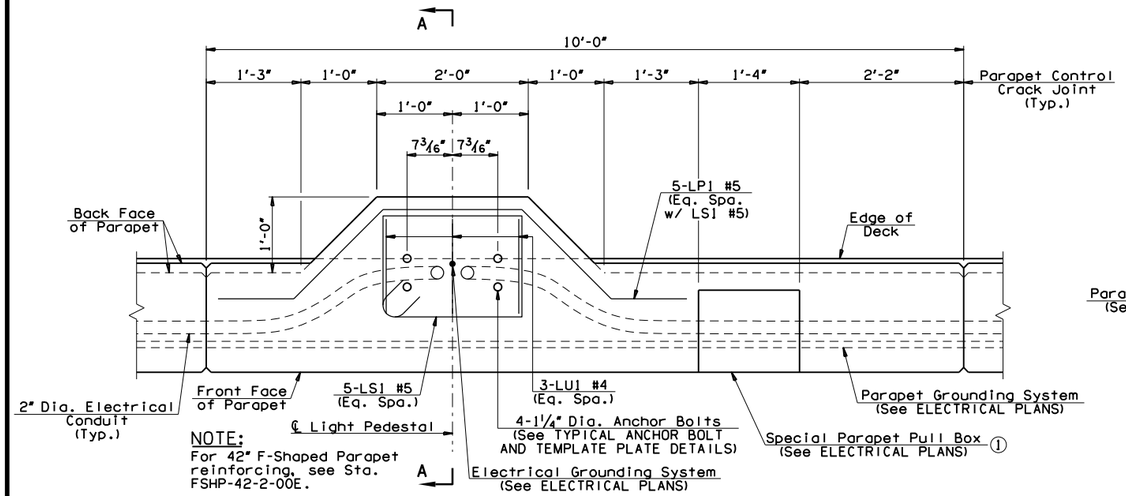
TYPICAL STANDARD DETAILS

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		
CHECKED	DPE	8/17	DATE: 10/23/2017	SHEET NO. BSTA01

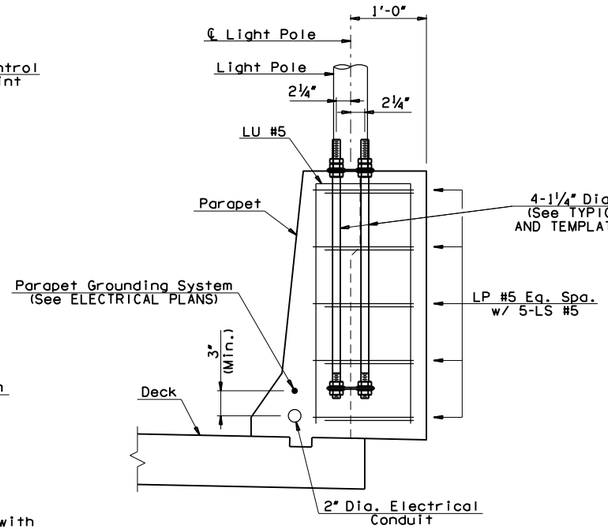
OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017



NOTE:
For 42" F-Shaped Parapet reinforcing, see Sta. FSHP-42-2-00E.

LIGHT PEDESTAL PLAN
(42" F-Shaped Parapet)



SECTION A-A
(42" F-Shaped Parapet shown, Concrete Parapet similar)

① Reinforcing steel that conflicts with the pull box shall be cut to clear by 1".

BAR LIST - 42" F-SHAPED PARAPET

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
LP1	#5	5	BENT	7'-2"
LS1	#5	5	BENT	7'-3"
LU1	#4	3	BENT	7'-5"

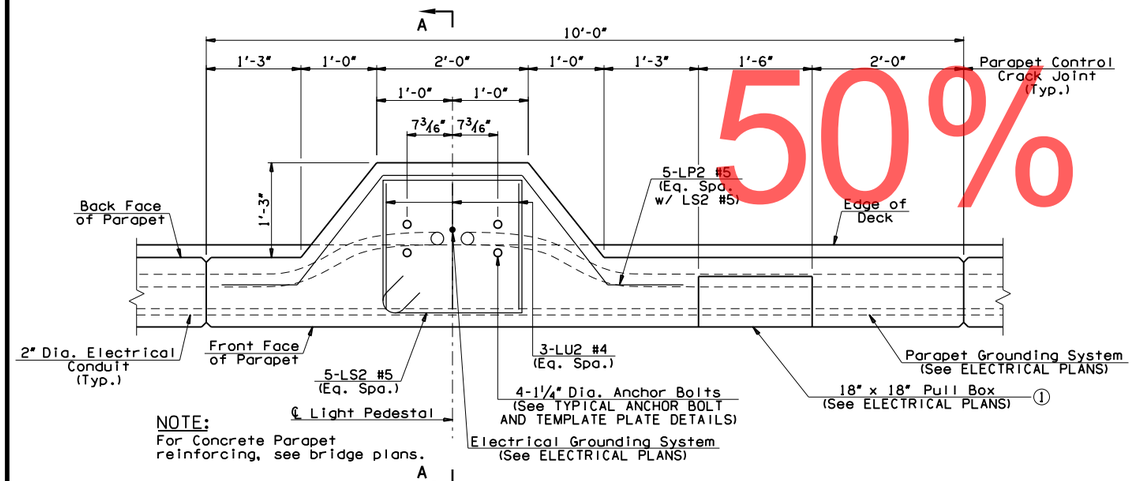
BAR LIST - CONCRETE PARAPET

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING STEEL				
LP2	#5	5	BENT	7'-6"
LS2	#5	5	BENT	8'-1"
LU2	#4	3	BENT	6'-3"

② SUMMARY OF QUANTITIES - LIGHT PEDESTALS

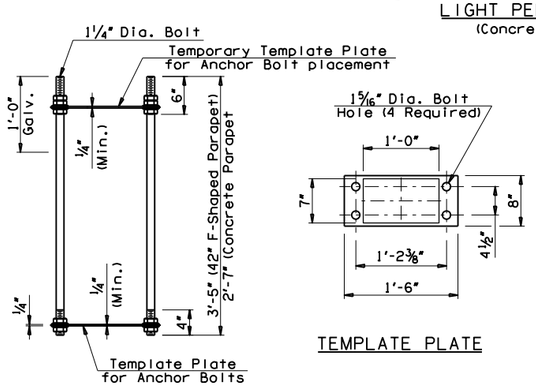
ITEM	UNIT	42" F-SHAPED PARAPET	CONCRETE PARAPET
STRUCTURAL STEEL	LB.	84	70
CLASS AA CONCRETE	C.Y.	0.4	0.5
EPOXY COATED REINFORCING STEEL	LB.	91	94

① All costs for the installation of the Class AA Concrete, Reinforcing Steel, & Anchor Bolts including materials, equipment, labor and any incidentals necessary shall be included in the price bid per Linear Foot of "42" F-SHAPED PARAPET" or in the price bid per Linear Foot of "CONCRETE PARAPET".



NOTE:
For Concrete Parapet reinforcing, see bridge plans.

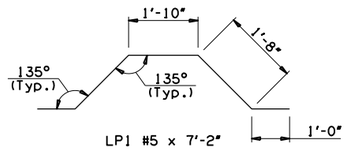
LIGHT PEDESTAL PLAN
(Concrete Parapet)



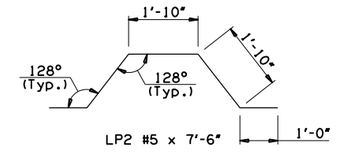
Each Anchor Bolt furnished with (5) Hex Nuts. (2) Flat Washers. Top end of Anchor Bolt shall be galvanized a minimum of 12".

TYPICAL ANCHOR BOLT AND TEMPLATE PLATE DETAILS
2 Template Plates Required Per Light Pole
Exact Template to be Determined by Supplier

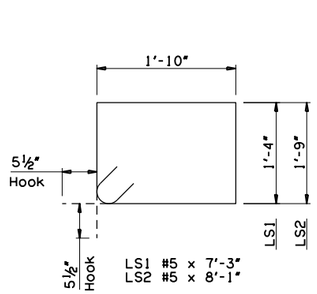
TEMPLATE PLATE



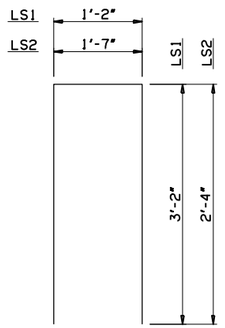
LP1 #5 x 7'-2"



LP2 #5 x 7'-6"



LS1 #5 x 7'-3"
LS2 #5 x 8'-1"



LU1 #4 x 7'-5"
LU2 #4 x 6'-3"

GENERAL NOTES

ANCHOR BOLTS ASSEMBLY:
The Contractor shall verify the adequacy of the anchor bolt assembly shown with the provided light pole. The Contractor shall submit any alternatives for approval prior to fabrication. Any alternate must be signed and sealed by a Professional Engineer licensed in the State of Oklahoma.

A template shall be provided to fix the location of the anchor bolts and conduits that project out of the concrete footing.

The Contractor shall protect the anchor bolt threads from accumulations of concrete and shall prevent the entry of concrete into the conduit system.

If the Contractor elects to use double nut leveling, the anchor bolt projection shall be increased, 4 additional hex nuts and flat washers will be required, and the void below the installed base plate shall be filled with a non-shrink grout. All materials, labor, equipment and incidentals shall be at the Contractor's expense.

All bolts, nuts and washers shall be galvanized in accordance with ASTM A-153 (AASHTO M-232).

Anchor Bolts shall meet the strength requirements of ASTM-F1554 Grade 55. Top end of Anchor Bolts shall be galvanized a minimum of 12".

Hex Nuts shall meet the requirements of ASTM-A563 Grade A.

Galvanized washers shall conform to AASHTO M270 - Grade 36.

Anchor bolt space plates shall be AASHTO M-183 (ASTM A-36), minimum plate thickness of 0.0598" (16 gauge).

ELECTRICAL:
All conduit and conduit fittings within parapets shall be rigid galvanized steel in accordance with Section 709 of the Standard Specifications. Conduit clamps shall be galvanized malleable iron. Galvanizing shall be in accordance with Section 724.06 of the Standard Specifications.

See LIGHTING PLANS for conduit size and additional specifications. All costs for the installation of these conduits, including materials, equipment, labor and any incidentals necessary shall be included in the price bid per Linear Foot of "GALV. STEEL ELECT. COND. EXPOSED".

50% plans

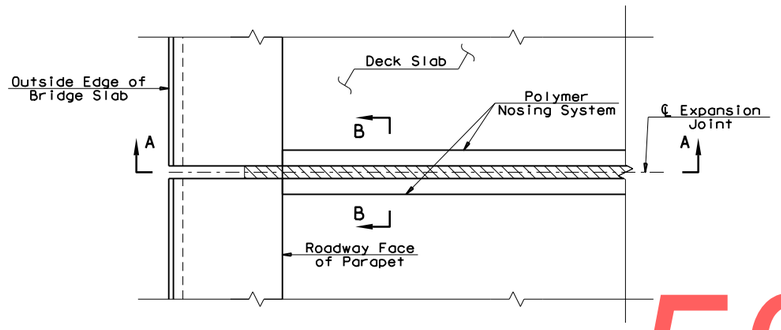
OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
GILCREASE BRIDGE STANDARD DETAILS
LIGHT PEDESTAL DETAIL

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

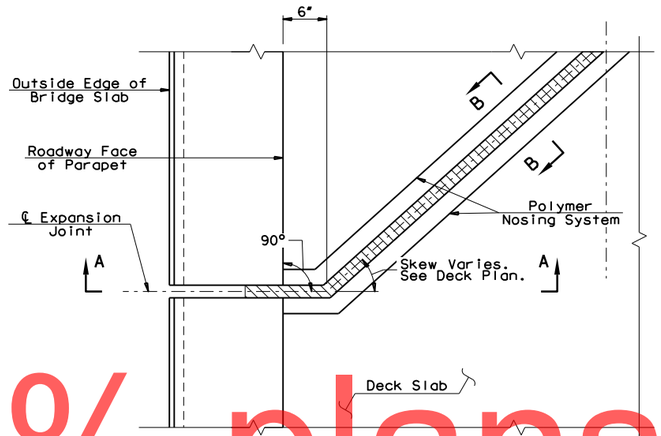
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DETAILED	DPE	8/17		
CHECKED	MJY	9/17	DATE: 10/23/2017	SHEET NO. BSTA02

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

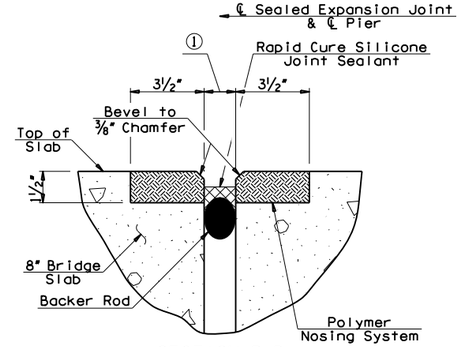
PROPOSED R/W
10/23/2017



PLAN AT SQUARE EXPANSION JOINT



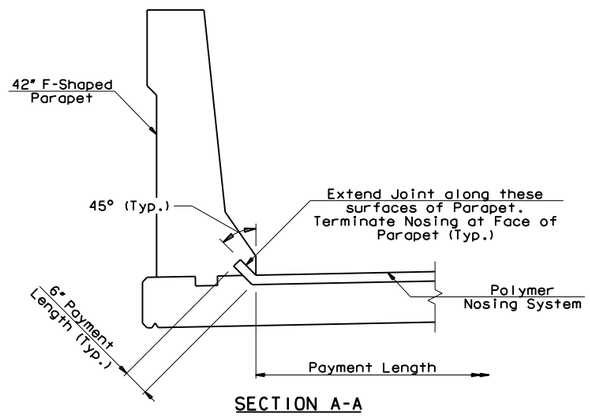
PLAN AT SKEWED EXPANSION JOINT



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.

50% plans



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

GILCREASE BRIDGE STANDARD DETAILS

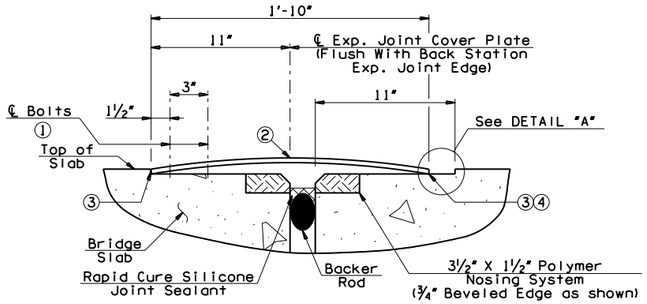
STANDARD EXPANSION JOINT DETAILS
(SHEET 1 OF 2)

GARVER
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TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

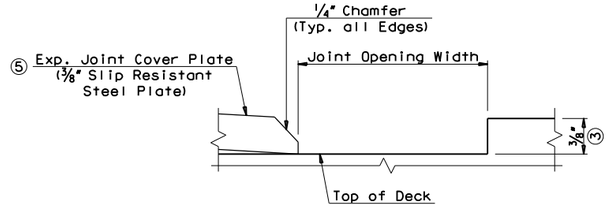
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DETAILED	SJL	8/17		
CHECKED	DPE	8/17	DATE: 10/23/2017	SHEET NO. BSTA03

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
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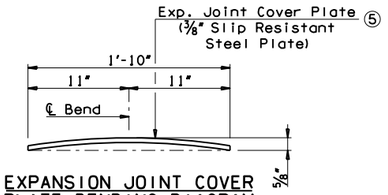
PROPOSED
R/W
10/23/2017



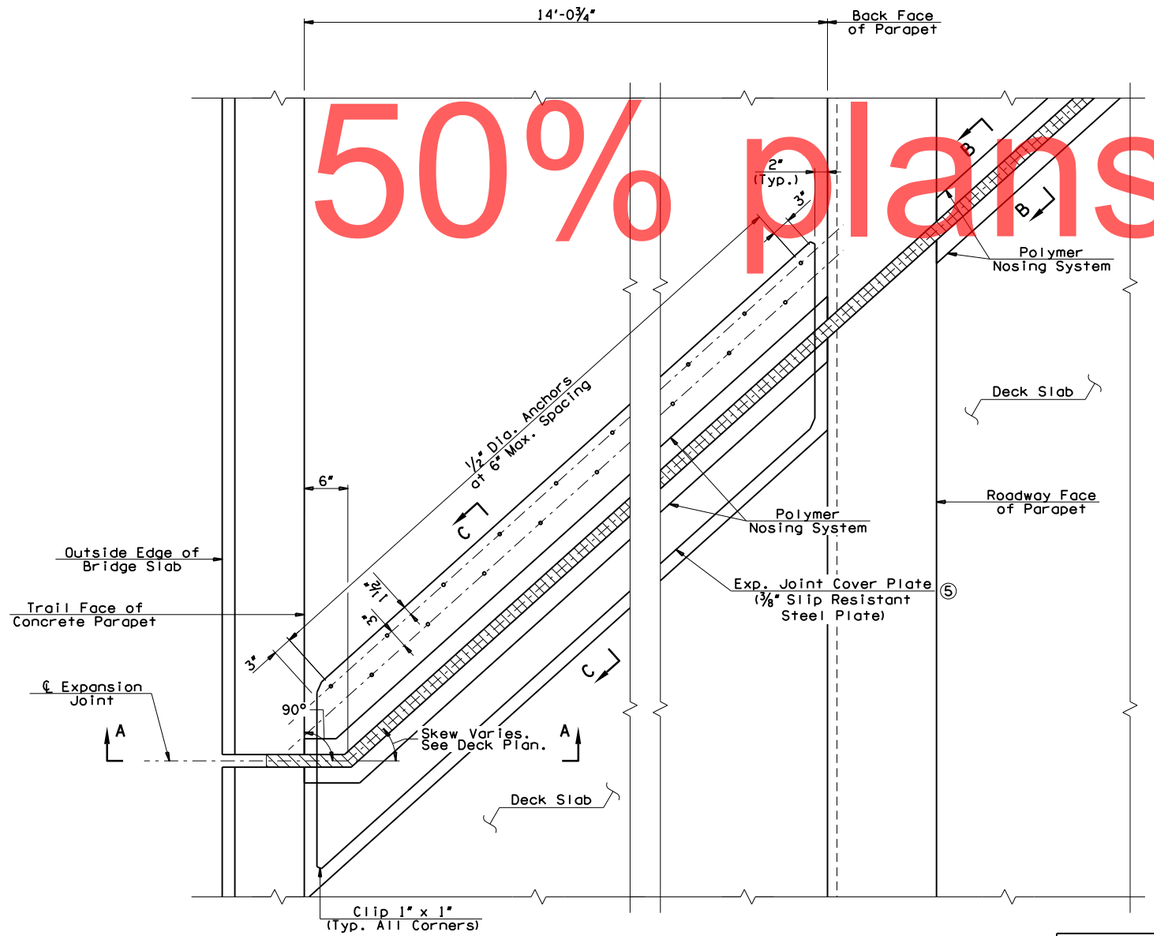
SECTION C-C
(Backer Rod shall be 25%
larger than the opening width)



DETAIL "A"



EXPANSION JOINT COVER
PLATE BENDING DIAGRAM



PLAN AT EXPANSION JOINT WITH TRAIL
(Bridges N and L)

50% plans

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" flat head sleeve anchors. Stainless steel, countersunk flat head sleeve anchors in ⅜" 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 M111 after fabrication and shall receive a powder coating process after Galvanizing. Galvanizing shall not interfere with the powder coating process. Galvanized surfaces shall be prepared in accordance with the Standard Specifications and the Powder Coating Manufacturer's recommendations before application of the Powder Coating process. 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.

The Contractor shall submit a paint color sample prior to fabrication for Owner's approval.

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

GILCREASE BRIDGE STANDARD DETAILS

STANDARD EXPANSION JOINT DETAILS
(SHEET 2 OF 2)

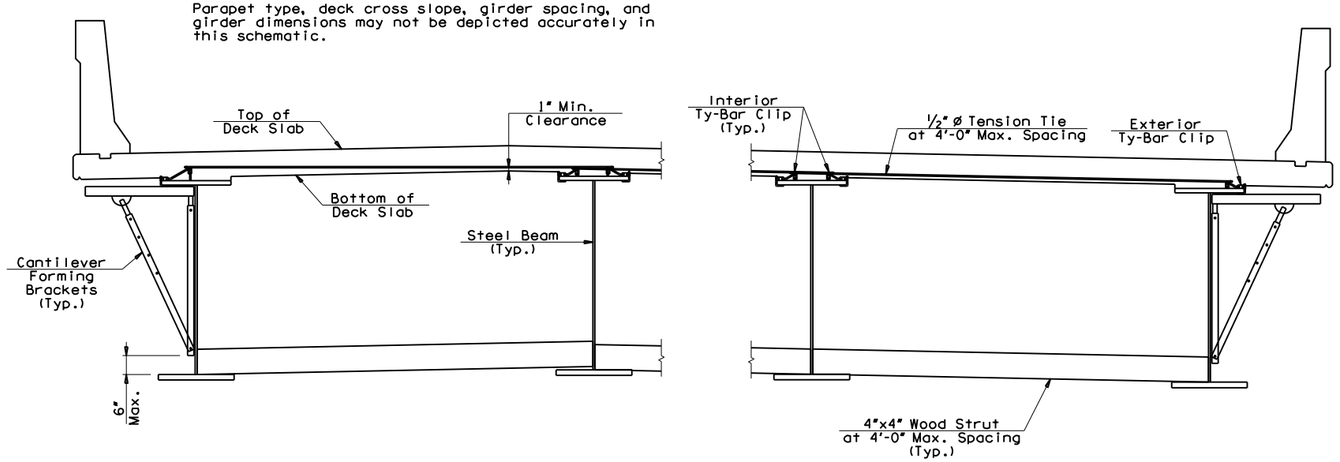
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500	
DETAILED	DPE	8/17		
CHECKED	MJY	8/17	DATE: 10/23/2017	SHEET NO. BSTA04

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

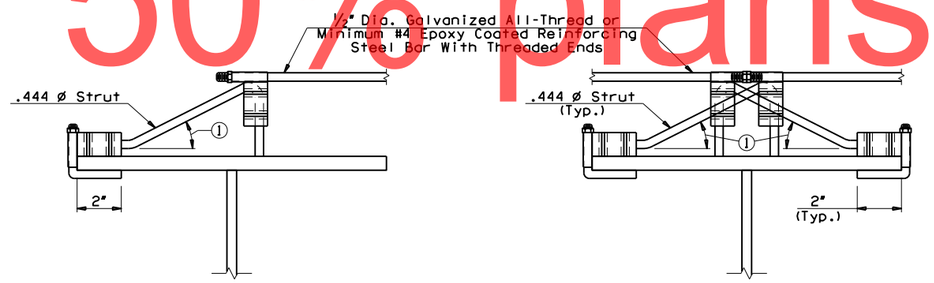
PROPOSED
R/W
10/23/2017

NOTE:
Parapet type, deck cross slope, girder spacing, and girder dimensions may not be depicted accurately in this schematic.



BEAM BRACING FOR DECK SLAB PLACEMENT

50% plans

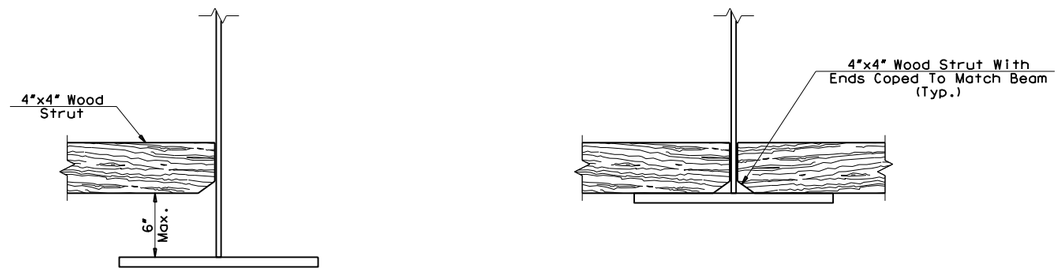


EXTERIOR BEAM

INTERIOR BEAM

TY-BAR CLIP DETAIL
(Epoxy Coated)

① Set Angle To Accommodate Cross-Slope Of Deck.



EXTERIOR BEAM

INTERIOR BEAM

HARDWOOD STRUT DETAIL

NOTE:
Bracing shown is applicable to steel girder spans only.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE BRIDGE STANDARD DETAILS

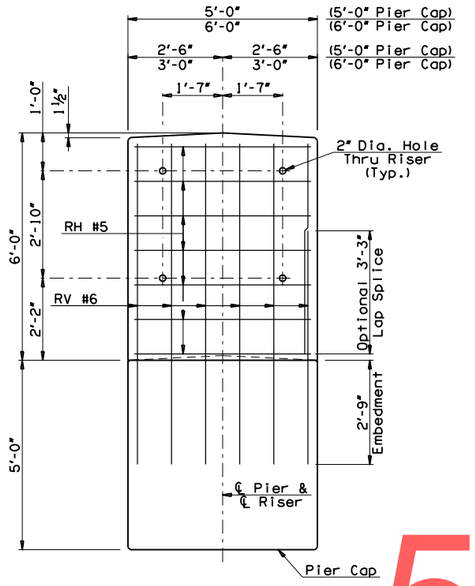
BRIDGE DECK FORMWORK
BRACING DETAILS

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

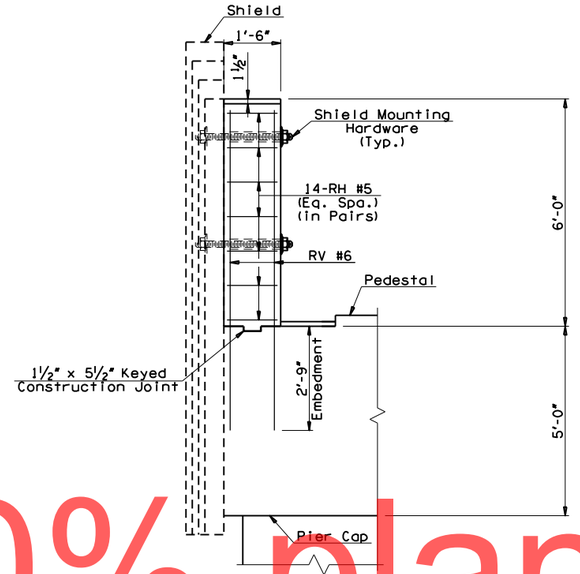
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DETAILED	SJL	9/17		
CHECKED	DPE	9/17	DATE: 10/23/2017	SHEET NO. BSTA05

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

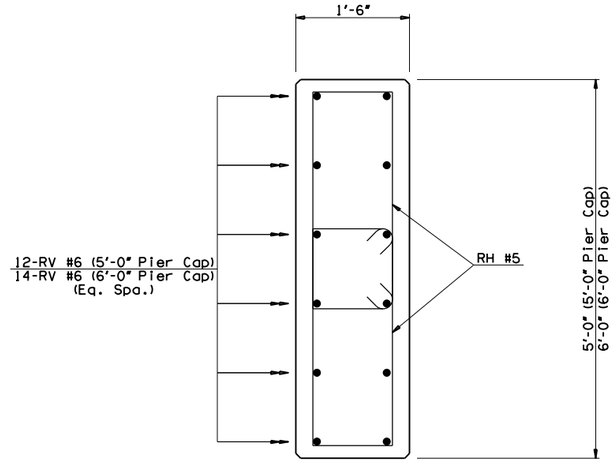
PROPOSED R/W
10/23/2017



RISER ELEVATION

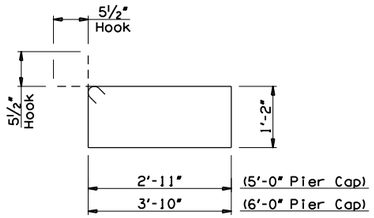


RISER SIDE VIEW



SECTION THRU RISER

50% plans



RH #5 x 9'-1" (5'-0" Pier Cap)
RH #5 x 10'-11" (6'-0" Pier Cap)

NOTES:
Modify location of RH and RV bars to maintain 2" clearance from Shield Mounting Holes.

Concrete for Risers shall be placed after deck is poured and overhang brackets are removed.

Contractor may add a lap to RV bars as shown at no additional cost to the Authority to allow for placement of overhang brackets, screed rail, and walkway.

All quantities are included in pier quantities.

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
GILCREASE BRIDGE STANDARD DETAILS

PIER RISER DETAILS

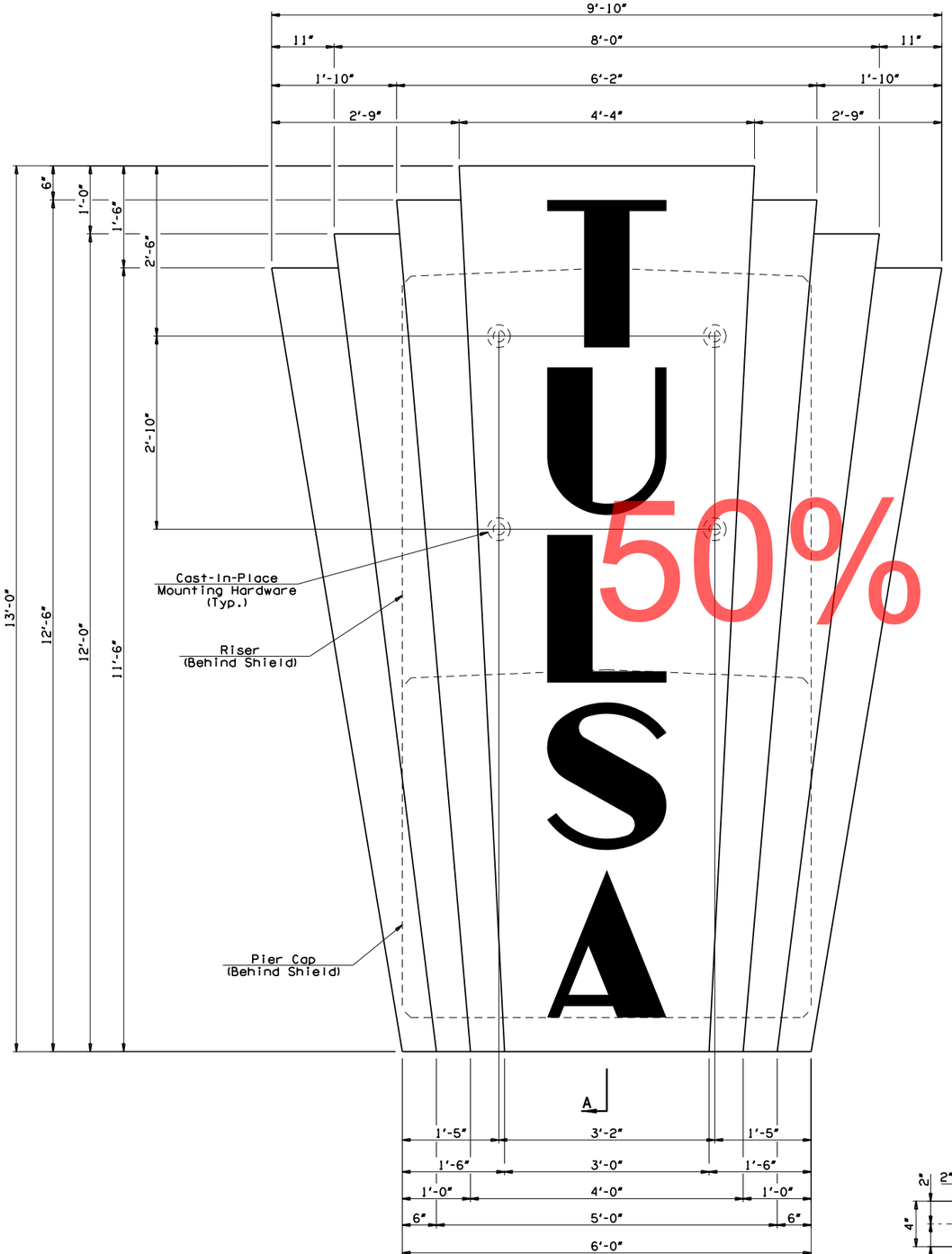
GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500	
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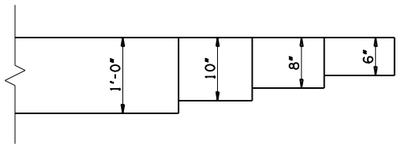
NOTE:
For Shield Notes, see Sheet No. BSTA09.

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

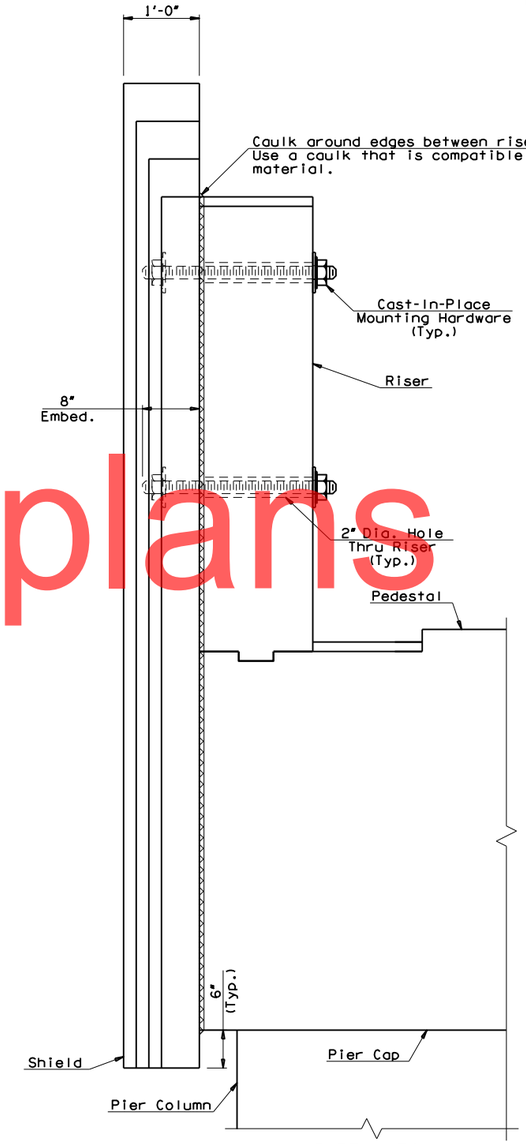
PROPOSED R/W
10/23/2017



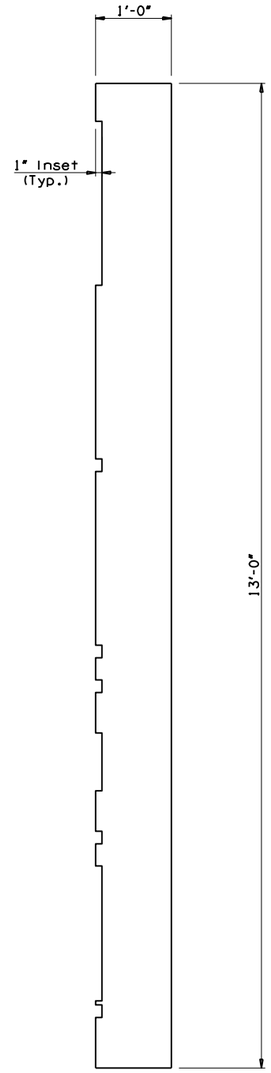
ELEVATION



HALF PLAN



SIDE VIEW



SECTION A-A

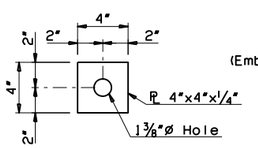
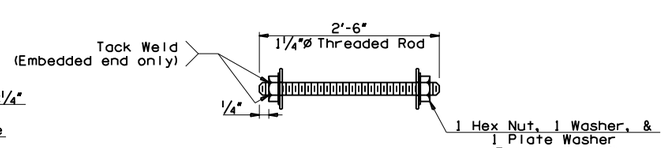


PLATE WASHER DETAIL



CAST-IN-PLACE MOUNTING HARDWARE DETAIL

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE BRIDGE STANDARD DETAILS

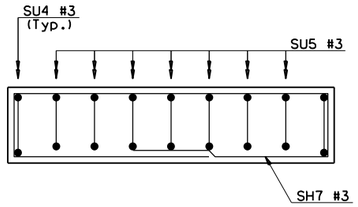
PIER SHIELD DETAILS
(SHEET 1 OF 3)

GARVER
6450 SOUTH LEWIS, SUITE 300
TULSA, OKLAHOMA 74136
(918) 250-5922 (V) (918) 858-0107 (F)

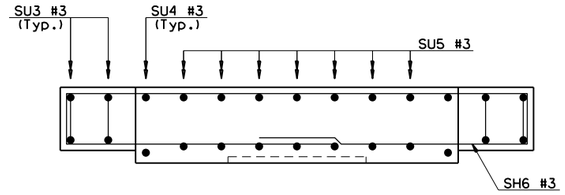
DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JMQ	8/17	DATE: 10/23/2017	SHEET NO. BSTA07

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

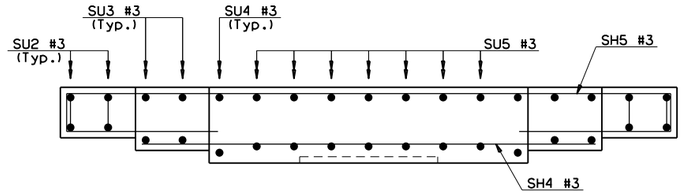
PROPOSED R/W
10/23/2017



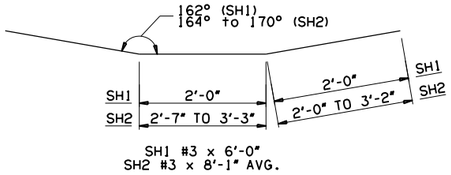
SECTION A-A



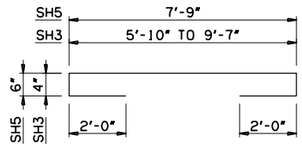
SECTION B-B



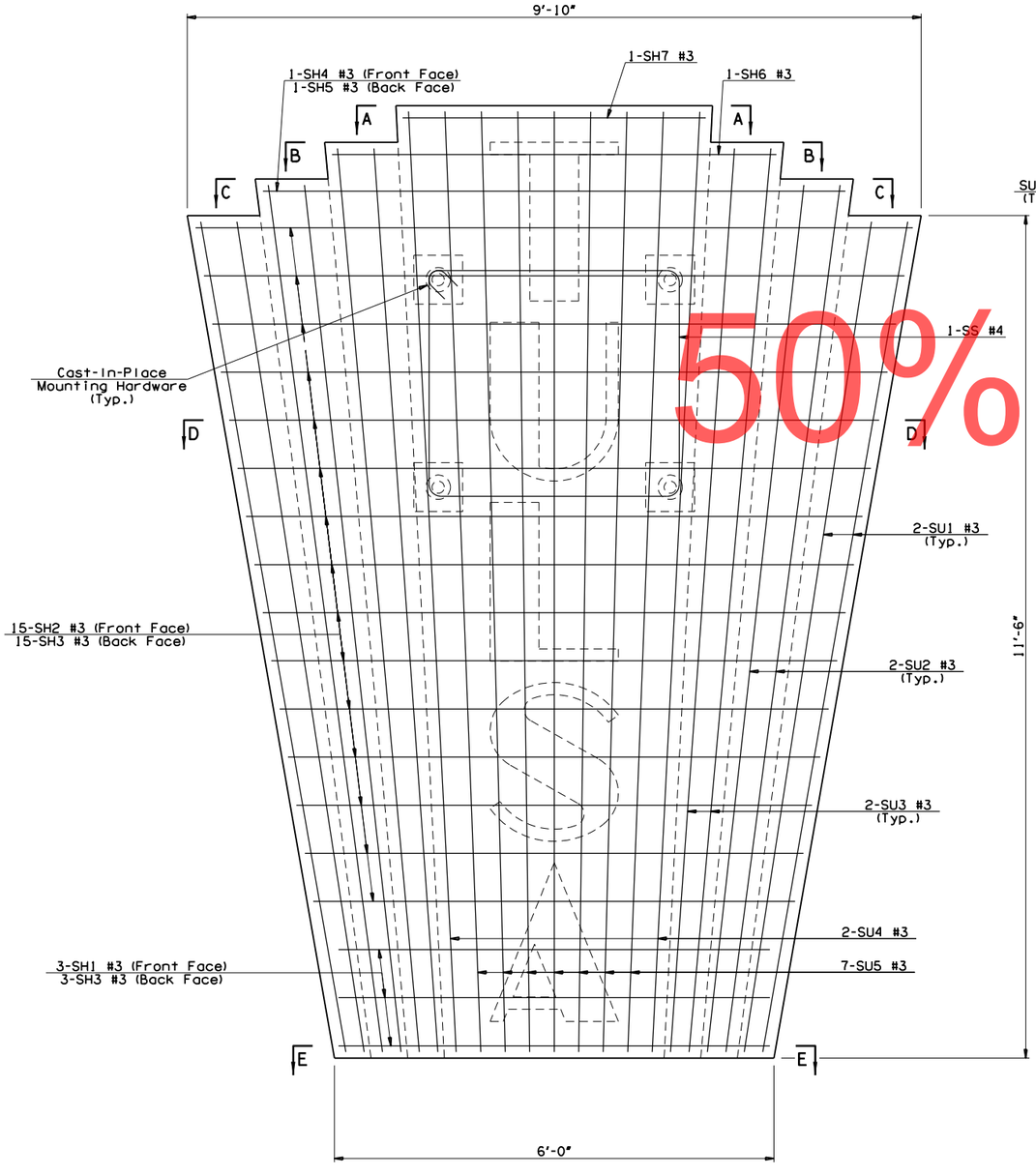
SECTION C-C



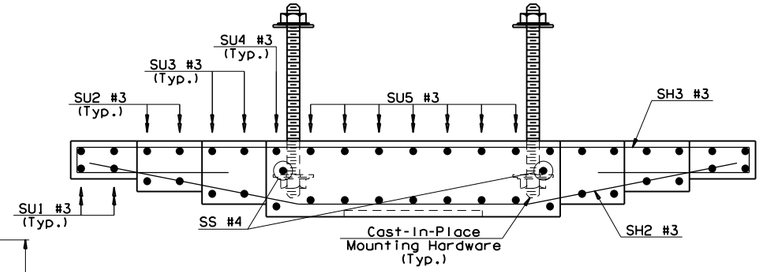
SH1 #3 x 6'-0"
SH2 #3 x 8'-1" AVG.



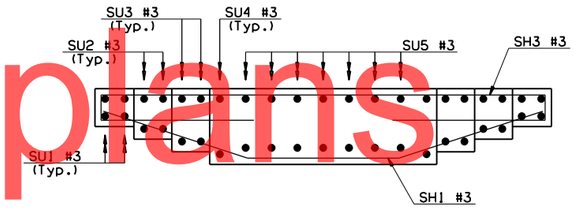
SH3 #3 x 12'-4½" AVG.
SH5 #3 x 12'-9"



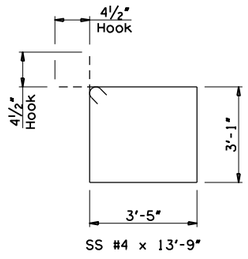
ELEVATION OF SHIELD



SECTION D-D

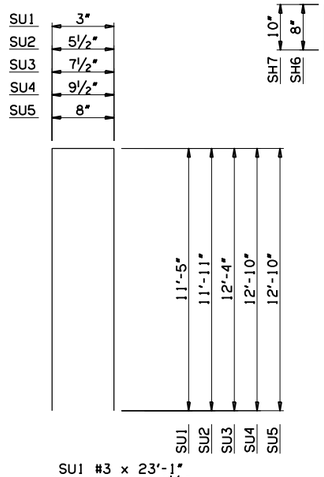


SECTION E-E



SS #4 x 13'-9"

SH6 #3 x 14'-3"
SH7 #3 x 10'-11"



SU1 #3 x 23'-1"
SU2 #3 x 24'-3½"
SU3 #3 x 25'-3½"
SU4 #3 x 26'-5½"
SU5 #3 x 26'-4"

BAR LIST

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING STEEL					
SH1	#3	3	BENT	6'-0"	-
SH2	#3	15	BENT	8'-1" AVG.	6'-7" TO 9'-7"
SH3	#3	18	BENT	12'-4½" AVG.	10'-6" TO 14'-3"
SH4	#3	1	STR.	5'-10"	-
SH5	#3	1	BENT	12'-9"	-
SH6	#3	1	BENT	14'-3"	-
SH7	#3	1	BENT	10'-11"	-
SS	#4	1	BENT	13'-9"	-
SU1	#3	4	BENT	23'-1"	-
SU2	#3	4	BENT	24'-3½"	-
SU3	#3	4	BENT	25'-3½"	-
SU4	#3	2	BENT	26'-5½"	-
SU5	#3	7	BENT	26'-4"	-

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY

GILCREASE BRIDGE STANDARD DETAILS

PIER SHIELD DETAILS
(SHEET 2 OF 3)

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		
CHECKED	JMQ	8/17	DATE: 10/23/2017	SHEET NO. BSTA08

OKLAHOMA TURNPIKE AUTHORITY				
SECTION ENGINEER	SECTION	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
GARVER	T	GCT-2500		

PROPOSED
R/W
10/23/2017

SHIELD GENERAL NOTES

CONCRETE:
All concrete shall be Class P, f'c = 5,000 p.s.i. minimum strength at 28 days.

All exposed edges shall have a ¼" chamfer. All Class "P" Concrete shall be air-entrained and use Course Aggregate Gradation No. 67 from Table 701:12 of the Standard Specifications.

REINFORCING:
All reinforcing steel shall have 1" 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.

Welding of crossing reinforcing bars shall not be permitted. Tack welding of reinforcing bars shall be prohibited in all cases.

ANCHORING HARDWARE:
Provide continuously threaded bars in accordance with ASTM A320, Class 2, Grade B8M (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required) for bolts. Use austenitic stainless steel nuts and washers conforming to ASTM A194, Grade 8M and ASTM A320, respectively. Provide structural steel for Plate Washers in accordance with ASTM A240 (Austenitic Stainless Steel, Type 316, Charpy V-Notch testing not required). Perform all welding consistent with procedures for stainless steel.

LETTERING:
The letters shall be recessed 1" and all edges shall have a ¼" chamfer.

INSTALLATION:
Shields shall be installed after construction has finished on the deck and parapet and after 30 days after the riser concrete has been poured.

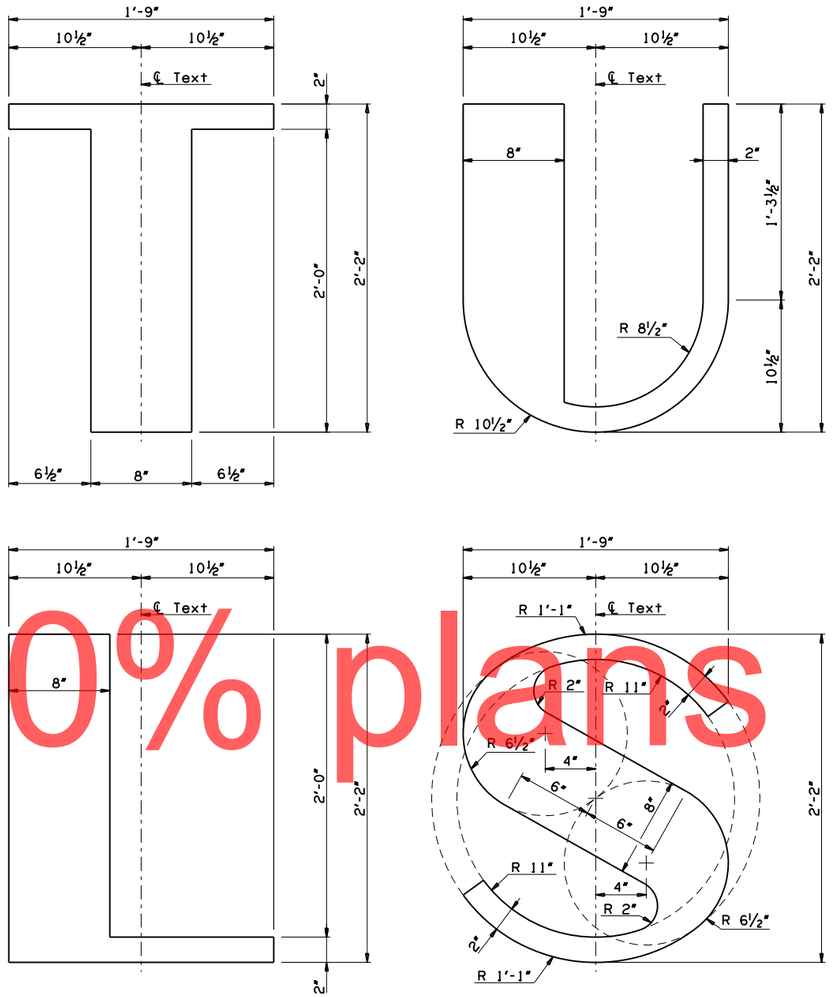
The Contractor install the Shield in such a way that the Shield is not dammaged. Any dammage shall be repaired, and the Shield may be rejected by the Engineer if the damage is too great or noticible after repairs and staining are complete. Any repair or replacement of a Shield shall be at the Contractors expense.

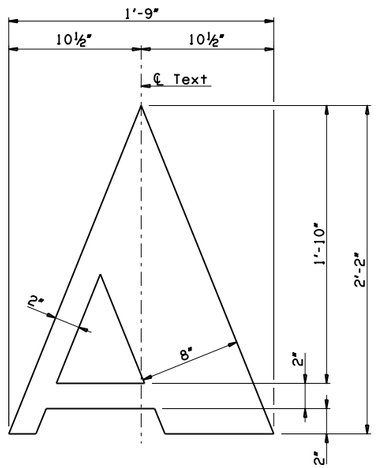
The Contractor shall place the Shield, with all bolts tightened, to within 0.1% of level. Once level, loosen one nut at a time and inject a non-shrink grout into the holes to fully fill the bolt hole around the bolt and replace and tighten the nut. After each nut is replaced, recheck the leveiness of the Shield. If out of level by more thatn 0.1% re-establish leveiness, refill holes if grout is allowed to spill out, then continue filling holes.

Caulk around edges between riser and shield, useing a caulk that is compatible with coating material.

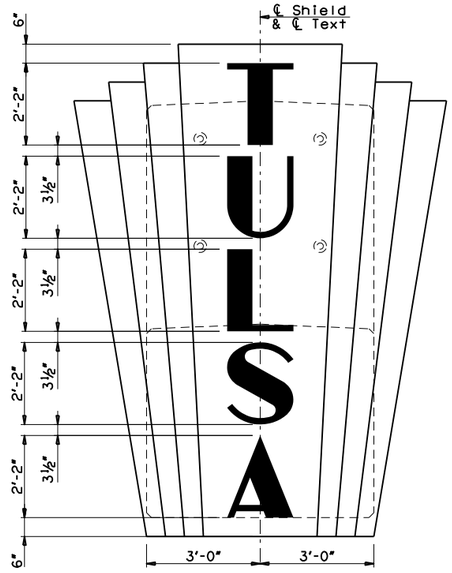
METHOD OF MEASUREMENT AND BASIS OF PAYMENT:
Each Shield will be paid for per C.Y. of "CLASS P CONCRETE", per LB. of "EPOXY COATED REINFORCING STEEL", and per C.Y. of "WATER REPELLENT (VISUALLY INSPECTED)". Any additional cost for aesthetic treatments, structural steel, development of shop drawings, working 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 considered subsidiary to the items bid on.

There is an estimate 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 Water Repellent. The Shield quantities are included in the quantities of each pier.





TEXT DETAILS



TEXT LAYOUT

50% plans

OKLAHOMA TURNPIKE AUTHORITY
GILCREASE EXPRESSWAY
GILCREASE BRIDGE STANDARD DETAILS
PIER SHIELD DETAILS
(SHEET 3 OF 3)

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DESIGNED	DPE	8/17	CONTRACT NO. GCT-2500	
DETAILED	SJL	8/17		
CHECKED	JMO	8/17	DATE: 10/23/2017	SHEET NO. BSTA09