SURVEY CONTROL DATA
SEE SURVEY DATA SHEETS

DESIGN DATA SH-28	
AADT 2015	= 700
AADT 2035	= 1000
K (DHV/ADT)	= 10%
D	= 55%
T (% DHV)	= 15%
T (% AADT)	= 20%
T_3	= 14%
V	= 65 MPH
20yr.Flex ESALS	= 1.3 M

SCALES 1"
PLAN 1" = 50'
PROFILE HOR. 1" = 50'
VER. 1" = 10'
LAYOUT MAP 1" = 2,640'

CONVENTIONAL SYMBOLS
- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES (+2% & -2%)
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OILWELL
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING (PRES. R/W)
- RIGHT-OF-WAY LINES - NEW (R/W)
- CONTROLLED ACCESS
- MAILBOX
- EXISTING CENTERLINE
- EXISTING SANITARY SEWERS (SS)
- EXISTING GAS LINES (G)
- EXISTING WATER LINES (W)
- EXISTING TELEPHONE CABLES UNDERGROUND (TUG)

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

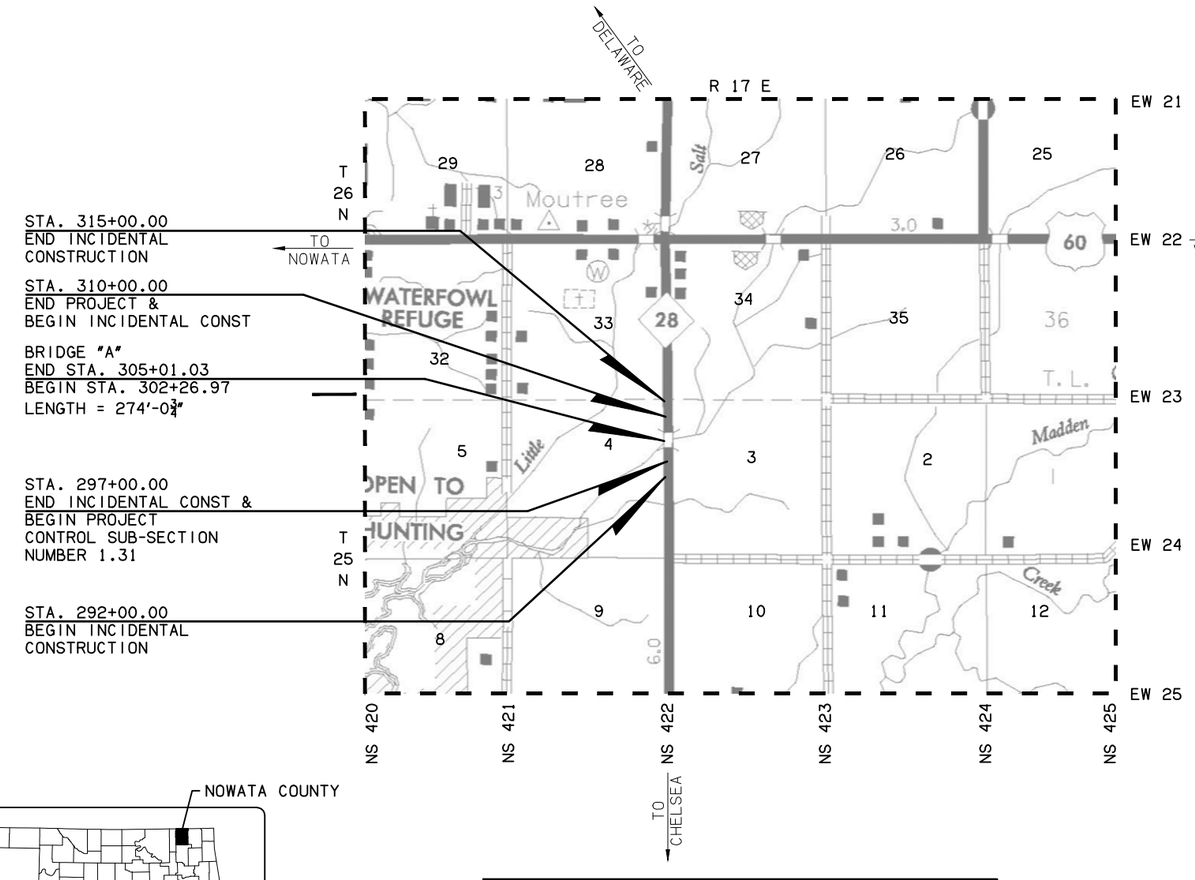
PLAN OF PROPOSED

STATE BRIDGE

FEDERAL AID PROJECT NO. STP-253C(041)SS
BRIDGE AND APPROACH PLANS FOR

NOWATA COUNTY

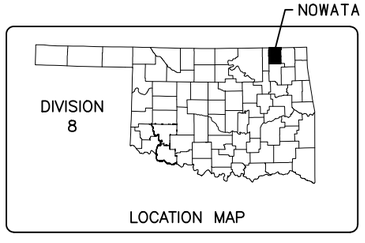
STATE HIGHWAY NO. 28
CONTROL SECTION NO. 28-53-17
STATE JOB NO. 28857(04)
BRIDGE "A" LOCATION NO. 5317 0128X
EXISTING NBI NO. 15168; NEW NBI NO. 31303



NOTE: PROJECT LENGTH BASED ON ℄ SURVEY STATIONING

ROADWAY LENGTH	1025.94 FT.	0.194 MI.
BRIDGE LENGTH	274.06 FT.	0.051 MI.
PROJECT LENGTH		0.245 MI.

EQUATIONS: NONE
EXCEPTIONS: NONE



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

INDEX OF SHEETS

REVISIONS DESCRIPTION	DATE

THE FOLLOWING ODOT STANDARD DRAWINGS ARE REQUIRED

BRIDGE	ROADWAY	TRAFFIC	TRAFFIC	TRAFFIC
EJ-DTL-02E	FHTMPP-1-0	TCS1-1-01	DU1-1-00	GHW1-1-00
EJ-SK-04E	LECS-4-1	TCS2-1-00	DU2-1-00	GHW2-1-00
HP1-2-01E	PUD-3-2	TCS4-1-01	GMS1-1-00	THR1-1-02
TR4-2-00E	SPB-1-4	TCS5-1-00	MSD1-1-00	SKT-1-00
	SPI-4-1	TCS6-1-02	MSD2-1-00	
	SSS-1-1	TCS7-1-02	MSD3-1-01	
	TRFD-1-2	TCS9-1-01	MSD4-1-00	
	TSC2-3-2	TCS10-1-00	MSD5-1-00	
	TSD-2-0	TCS14-1-00	PM3-1-02	
	RDI-3-1	TCS15-1-00	RSD1-1-00	
	RWF2-2-1		SBS1-1-00	
			SBS2-1-00	
			SSA1-1-00	
			SPA1-1-00	
			SSP1-1-02	
			WSD3-1-00	

SUBMITTED BY
GUY ENGINEERING SERVICES, INC.
Certificate of Authorization No. 1427
Renewal Date: June 30, 2018
MICHAEL B. SIMMONS, P.E. NO. 24576
(THIS SEAL COVERS SHEETS 4-5, 15-44)
LICENSED PROFESSIONAL ENGINEER — MICHAEL B. SIMMONS 24576 — OKLAHOMA
12/17/2015

SUBMITTED BY
GUY ENGINEERING SERVICES, INC.
Certificate of Authorization No. 1427
Renewal Date: June 30, 2018
JOHN R. WORMAN, P.E. NO. 15497
REGISTERED PROFESSIONAL ENGINEER — JOHN RUSSELL WORMAN 15497 — OKLAHOMA
12/17/2015

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

JOB 28857(04) PROJECT NO. STP-253C(041)SS
COUNTY NOWATA HIGHWAY/ROAD SH-28 SHEET NO. 001

Monday, July 31, 2017 3:27:48 PM
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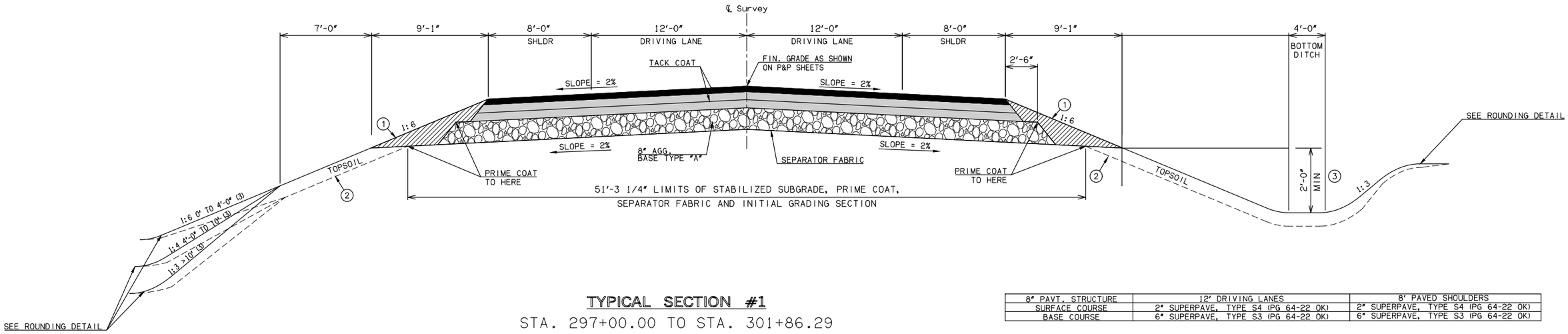
REVISIONS	
DESCRIPTION	DATE

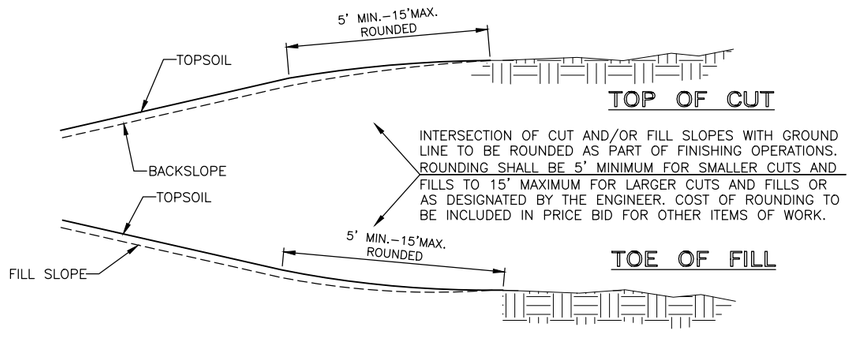


TYPICAL SECTION #1

STA. 297+00.00 TO STA. 301+86.29
STA. 305+41.71 TO STA. 310+00.00

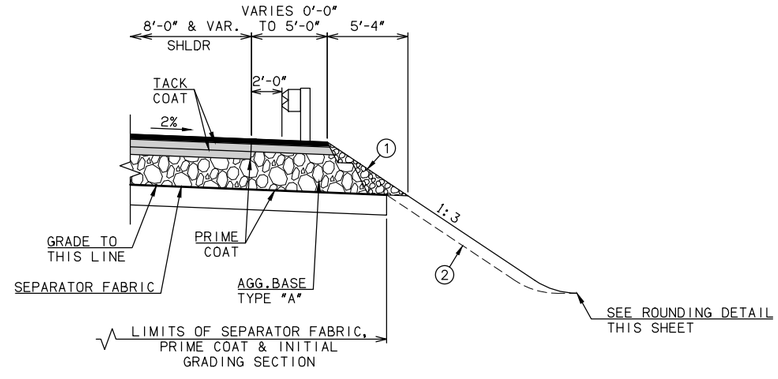
Not to Scale

8" PAVT. STRUCTURE	12' DRIVING LANES	8' PAVED SHOULDERS
SURFACE COURSE	2" SUPERPAVE, TYPE S4 (PG 64-22 OK)	2" SUPERPAVE, TYPE S4 (PG 64-22 OK)
BASE COURSE	6" SUPERPAVE, TYPE S3 (PG 64-22 OK)	6" SUPERPAVE, TYPE S3 (PG 64-22 OK)



ROUNDING DETAIL

Not To Scale



GUARDRAIL WIDENING

SEE SUMMARY OF GUARDRAIL FOR STATIONS

① BACKFILL NOTE:
THIS AREA TO BE BACKFILLED AND COMPACTED WITH TBSC, TYPE E AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.

② TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARDS SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATION SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.

THE GRADING LINE AS SHOWN ON THE TYPICAL IS TO THE TOP OF THE TOPSOIL. EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASSLINE BALANCE.

③ DISTANCE MEASURED VERTICALLY FROM EDGE OF SUBGRADE.

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

TYPICAL SECTIONS

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. 002

Monday, July 31, 2017 3:00:55 PM
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

GENERAL NOTES

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

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 AXIAL LOAD RESISTANCES WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03.A(2)(a).

ABUTMENT PILING CAPACITY:

THE FACTORED REACTION FOR EACH HP 12X53 PILE AT EACH ABUTMENT IS 83.1 TONS PER PILE. DRIVE ALL PILING UNTIL THE AXIAL LOAD RESISTANCE IS GREATER THAN THE FACTORED REACTION OF EACH PILE. THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN PILES:

$$\text{AXIAL LOAD RESISTANCE} = \Phi\,[(0.875\,\sqrt{E}\,\text{LOG}_{10}\,(10N)) - 50] \qquad \text{(TONS)}$$

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:

- THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & SINGLE ACTING HAMMERS ONLY).
- THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED.
- THE PENETRATION IS QUICK AND UNIFORM.
- THERE IS NO APPRECIABLE REBOUND OF THE HAMMER, AND
- 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 ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

CONCRETE INTERMEDIATE DIAPHRAGMS:

ONCE THE CONCRETE HAS BEEN PLACED FOR THE CONCRETE INTERMEDIATE DIAPHRAGMS, WAIT A MINIMUM OF TWENTY-FOUR HOURS BEFORE REMOVING THE SIDE FORMS. DO NOT REMOVE THE BOTTOM FORM FOR A MINIMUM OF THREE 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 TEN DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME MAY BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

PENETRATING WATER REPELLENT SURFACE TREATMENT:

A PENETRATING WATER REPELLENT SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES OF THE BRIDGE:

1. EDGES AND UNDERSIDE OF CANTILEVER PORTION OF THE BRIDGE DECK, AND THE OUTSIDE FACE AND BOTTOM OF EXTERIOR P.C. BEAMS.
2. THE ROADWAY FACE, TOP AND OPENINGS OF THE CONCRETE TRAFFIC RAILS.
3. THE EXPOSED FACES OF SEAT AND ABUTMENT BACKWALL, INCLUDING TOP OF SEAT AND PEDESTALS.
4. THE TOP OF THE PIER CAP, INCLUDING ALL SURFACES OF PEDESTALS, AND ALL VERTICAL FACES OF THE PIER CAP.

APPROACH SLABS:

CLASS AA CONCRETE SHALL BE USED IN THE APPROACH SLABS. THE QUANTITY GIVEN IS BASED ON THE ACTUAL SQUARE YARDS OF THE APPROACH SLABS.

ALL COSTS OF CONCRETE, REINFORCING STEEL, RAPID CURE JOINT SEALANT, EXCAVATION, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "APPROACH SLAB".

STAINLESS STEEL FIXED BEARING ASSEMBLIES:

PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS SHOWN ON THE PLANS. THERE IS AN ESTIMATED TOTAL OF 225 POUNDS OF STAINLESS/STRUCTURAL STEEL FOR EACH FIXED BEARING ASSEMBLY LOCATION.

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE FIXED BEARING ASSEMBLIES AS SHOWN ON THE PLANS, INCLUDING ANCHOR PLATES, CONTACT ANGLES, ANCHOR BOLTS, NUTS, WASHERS, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER EACH OF "STAINLESS STEEL FIXED BEARING ASSEMBLY".

STAINLESS STEEL EXPANSION BEARING ASSEMBLIES:

PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS SHOWN ON THE PLANS. THERE IS AN ESTIMATED TOTAL OF 225 POUNDS OF STAINLESS/STRUCTURAL STEEL FOR EACH EXPANSION BEARING ASSEMBLY LOCATION.

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE EXPANSION BEARING ASSEMBLIES AS SHOWN ON THE PLANS, INCLUDING ELASTOMERIC PADS, ANCHOR PLATES, CONTACT ANGLES, ANCHOR BOLTS, NUTS, WASHERS, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER EACH OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLY".

DECK HAUNCHES:

PLAN QUANTITY FOR CLASS AA CONCRETE INCLUDES 20.8 CUBIC YARDS FOR HAUNCHES OVER P.C. BEAMS BETWEEN THE END DIAPHRAGMS.

STAY-IN-PLACE FORMS:

STAY-IN-PLACE STEEL DECK FORMS SHALL NOT BE USED FOR THIS PROJECT.

PERFORATED PIPE UNDERDRAIN:

ITEM " 6" PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES 48 FEET OF PERFORATED PIPE AND 8 CUBIC YARDS OF PIPE UNDERDRAIN COVER MATERIAL FOR EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND PIPE UNDERDRAIN COVER MATERIAL SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3.

ALL COSTS OF THE PERFORATED PIPE UNDERDRAIN INSTALLATION, INCLUDING BACKFILLING, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF " 6" PERFORATED PIPE UNDERDRAIN - ROUND".

NON-PERFORATED PIPE UNDERDRAIN:

ITEM " 6" NON-PERFORATED PIPE UNDERDRAIN - ROUND" INCLUDES 30 FEET OF NON-PERFORATED PIPE, 8 CUBIC YARDS OF TRENCH EXCAVATION, AND 8 CUBIC YARDS OF STANDARD BEDDING MATERIAL FOR EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND PIPE UNDERDRAIN COVER MATERIAL SHALL BE AS SHOWN ON THE PLANS AND ON STANDARD PUD-3.

ALL COSTS OF THE NON-PERFORATED PIPE UNDERDRAIN INSTALLATION, INCLUDING BACKFILLING, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF " 6" NON-PERF. PIPE UNDERDRAIN - RND.".

DRAINS AT ENDS OF BRIDGE:

THE ASPHALT WIDENING FOR THE BRIDGE GUARD RAIL SHALL BE IN ACCORDANCE WITH STANDARDS THRI-1 AND GHW1-1 EXCEPT AS SHOWN IN THESE PLANS. ALL COSTS OF ASPHALT WIDENING SHALL BE INCLUDED IN ROADWAY PAY ITEMS.

THERE IS AN ESTIMATED 12.0 CUBIC YARDS OF CLASS C CONCRETE REQUIRED TO CONSTRUCT THE SLOPE DRAINS, SPLASH BASINS AND CONCRETE CURBS AT THE ENDS OF THE BRIDGE. ALL COSTS OF THE SLOPE DRAINS, SPLASH BASINS, AND CONCRETE CURBS, INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS SHALL BE INCLUDED IN THE PAY ITEM FOR "CLASS C CONCRETE".

RIPRAP:

A 24" THICK LAYER OF TYPE I-A PLAIN RIPRAP WITH A 6" THICK LAYER OF TYPE I-A FILTER BLANKET SHALL BE PLACED AT THE ABUTMENTS AS SHOWN ON THE PLANS. THE FILTER BLANKET SHALL BE PLACED IN ONE LAYER.

WORK ROADS:

WORK ROADS SHALL BE CONSTRUCTED TO THE SIZE AND SPECIFICATION AS SHOWN ON THE "TYPICAL SECTION THRU WORK ROAD" ON THE "GENERAL PLAN AND ELEVATION (SHEET NO. 2 OF 2)".

THE WORK ROAD SHALL BE COMPLETELY REMOVED UPON THE COMPLETION OF THE BRIDGE CONSTRUCTION.

REMOVAL OF EXISTING BRIDGE STRUCTURE:

ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF A BRIDGE WITH 3-68' I-BEAM SPANS, 0° SKEW, 28' CLEAR ROADWAY. THE REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 619.04.B(2) OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND IN A MANNER APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL REMOVE ALL STEEL BEAMS FROM THE EXISTING BRIDGE WITH CARE, AND PLACE THEM ON THE RIGHT-OF-WAY FOR REMOVAL BY THE COUNTY. THE CONTRACTOR SHALL ENSURE THAT ALL STEEL BEAMS ARE FREE OF CONSTRUCTION DEBRIS AND CONCRETE. THE REMAINING STRUCTURE AND MATERIALS REMOVED DURING THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ALL COSTS ASSOCIATED WITH THE REMOVAL OF THE EXISTING BRIDGE, AS DESCRIBED ABOVE AND AS DIRECTED BY THE ENGINEER, INCLUDING LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".

CROSSHOLE SONIC LOGGING (CSL) TUBES AND TESTING:

SEE SPECIAL PROVISION 516-3 FOR CROSSHOLE SONIC LOGGING (CSL) TUBES AND TESTING REQUIREMENTS.

(PL) PILOT HOLES:

PROVIDE PILOT HOLES FOR ALL PILES AT BOTH ABUTMENTS AS SHOWN ON THE "DETAIL OF PILOT HOLES" ON "GENERAL PLAN AND ELEVATION (SHEET NO. 2 OF 2)". ALL COSTS FOR DRILLING, EXCAVATION, CASING (IF NECESSARY), AND CLASS C CONCRETE WITHIN THE PILOT HOLE PAY LENGTH SHOWN IN THE DETAIL INCLUDING MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "(PL) PILOT HOLES".

HARD ROCK AT SITE:

DUE TO THE HARD ROCK ENCOUNTERED AT THIS SITE, THE EXCAVATION FOR THE FOUNDATIONS WILL REQUIRE HEAVY-DUTY DRILLING EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE FOR BEING FULLY AWARE OF THE FOUNDATION MATERIAL CONDITIONS AND THE DRILLING PROCESS PRIOR TO BEGINNING WORK.

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET NO. 1 OF 2)

STATE JOB PIECE NO. 28857(04) — SHEET NO. AB01

Monday, July 31, 2017 4:10:11 PM
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

28857(04)
0200 BRIDGE "A"

PAY QUANTITIES

SH–28 OVER SALT CREEK
85'–100'–85' TYPE IV P.C. BEAM SPANS, 30° R.F. SKEW
40'–0" CLEAR ROADWAY WITH CONCRETE TRAFFIC RAIL (TR4)

ITEM NO.		DESCRIPTION	UNIT	QUANTITY
501(B)	1307	SUBSTRUCTURE EXCAVATION COMMON (BR–1)	C.Y.	250.00
501(G)	6309	CLSM BACKFILL (BR–1)	C.Y.	288.00
503(A)	1313	PRESTRESSED CONCRETE BEAMS (TYPE IV) (BR–1)	L.F.	1,345.00
504(A)	1304	APPROACH SLAB (BR–1)	S.Y.	381.40
504(B)	1305	SAW–CUT GROOVING (BR–1)	S.Y.	1,579.90
504(C)	6250	SEALED EXPANSION JOINT (BR–1)	L.F.	48.90
504(D)	6245	CONCRETE RAIL (TR4) (BR–1)	L.F.	711.00
506(A)	1322	STRUCTURAL STEEL (BR–1)	LB.	1,575.00
507(A)	6170	STAINLESS STEEL FIXED BEARING ASSEMBLY (BR–1)	EA.	10.00
507(B)	6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY (BR–1)	EA.	20.00
509(A)	1326	CLASS AA CONCRETE (BR–1)	C.Y.	331.80
509(B)	1328	CLASS A CONCRETE (BR–1)	C.Y.	206.90
509(D)	1331	CLASS C CONCRETE	C.Y.	12.00
511(B)	6010	EPOXY COATED REINFORCING STEEL (BR–1)	LB.	124,270.00
514(A)	6010	PILES, FURNISHED (HP 10X42)	L.F.	84.00
514(A)	6011	PILES, FURNISHED (HP 12X53)	L.F.	378.00
514(B)	6292	PILES, DRIVEN (HP 10X42)	L.F.	84.00
514(B)	6294	PILES, DRIVEN (HP 12X53)	L.F.	378.00
514(K)	6260	(PL) PILOT HOLES	L.F.	330.00
514(L)	6220	PILE SPLICE, H–PILE (NON–BIDDABLE)	EA.	1.00
515(A)	6013	WATER REPELLENT (VISUALLY INSPECTED) (BR–1)	S.Y.	1,301.00
516(A)	6094	DRILLED SHAFTS 48" DIAMETER	L.F.	82.00
516(C)	6200	CROSSHOLE SONIC LOGGING	EA.	1.00
523(A)	6550	SEALER CRACK PREPARATION (BR–1)	L.F.	46.50
523(B)	6560	SEALER RESIN (BR–1)	GAL.	0.60
601(B)	1353	TYPE I–A PLAIN RIPRAP	TON	1,550.00
601(C)	1355	TYPE I–A FILTER BLANKET	TON	295.00
613(H)	6204	6" PERFORATED PIPE UNDERDRAIN ROUND (BR–1)	L.F.	96.00
613(I)	6207	6" NON–PERF. PIPE UNDERDRAIN RND.	L.F.	60.00
619(D)	1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM	1.00

(BR–1): PAYMENT FOR THIS ITEM WILL BE BASED ON THE PLAN QUANTITIES ONLY. SEE SECTION 109.01.B OF THE OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

28857(04)
0600 STAKING

PAY QUANTITIES

ITEM NO.		DESCRIPTION	UNIT	QUANTITY
642(B)	0096	CONSTRUCTION STAKING LEVEL II	L.SUM	1.00

28857(04)
0640 CONSTRUCTION

PAY QUANTITIES

ITEM NO.		DESCRIPTION	UNIT	QUANTITY
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	L.SUM	1.00
640(A)	1398	FIELD OFFICE	EA.	1.00
641	1399	MOBILIZATION	L.SUM	1.00

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET NO. 2 OF 2)

STATE JOB PIECE NO. 28857(04) — SHEET NO. AB02

Monday, July 31, 2017 4:10:45 PM
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28857(04)

PAY QUANTITIES

0100 ROADWAY ITEMS

ITEM		DESCRIPTION	PAY NOTES	UNIT	QUANTITY
201(A)	0102	CLEARING & GRUBBING		L. SUM	1
202(A)	0183	UNCLASSIFIED EXCAVATION	R-1	C.Y.	1,862
205(A)	4229	TYPE A - SALVAGED TOPSOIL	R-5,R-7	L. SUM	1
221(C)	2801	TEMPORARY SILT FENCE	3	L.F.	2,129
221(F)	0100	TEMPORARY SILT DIKE	3	L.F.	98
221(G)	0152	TEMPORARY ROCK FILTER DAM TYPE 3	6	C.Y.	200
230(A)	2806	SOLID SLAB SODDING	R-8, R-13	S.Y.	13,681
233(A)	2817	VEGETATIVE MULCHING	R-11	AC.	2.83
303(A)	2100	AGGREGATE BASE TYPE A		C.Y.	1,234
307(K)	4300	STABILIZED SUBGRADE		S.Y.	5,853
325	5271	SEPARATOR FABRIC		S.Y.	5,853
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	1	TON	313
408	5774	PRIME COAT	5	GAL.	3,483
411(B)	5945	SUPERPAVE, TYPE S3(PG 64-22 OK)	R-30, R-32	TON	1,691
411(C)	5960	SUPERPAVE, TYPE S4(PG 64-22 OK)	R-30, R-32	TON	556
509(D)	0325	CLASS C CONCRETE	R-41	C.Y.	10
613(B)	0689	18" CORR. GALV. STEEL PIPE		L.F.	67
613(M)	7196	TYPE A6 CULVERT END TREATMENT		EA.	2
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	R-48, R-49	L.SUM	1
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	R-49,R-50	S.Y.	4,140
619(B)	4780	REMOVAL OF GUARDRAIL	R-49	L.F.	547
619(C)	0924	SAWING PAVEMENT		L.F.	72
623(A)	0932	BEAM GUARD RAIL W-BEAM SINGLE		L.F.	962.0
623(G)	8590	GUARDRAIL END TREATMENT (31")	2	EA.	4
623(I)	8700	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")		EA.	4
624(C)	4458	FENCE-STYLE SWF (4 BARBED WIRE)	4,R-52	L.F.	600
624(C)	4459	FENCE-STYLE SWF (5 BARBED WIRE)	R-52	L.F.	380

GENERAL CONSTRUCTION NOTES

EXISTING ROAD SHALL BE CLOSED TO THROUGH TRAFFIC, THE CONTRACTOR SHALL MAINTAIN ACCESS FOR LOCAL LANDOWNERS. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVERS AND FIELD ENTRANCES DURING CONSTRUCTION.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST OF TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN 233.04B(I) OF THE STANDARD SPECIFICATIONS.

AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 18-46-0 FERTILIZER APPLIED, AT THE RATE OF 150 POUNDS PER ACRE, JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL.

AT THE BEGINNING OF TURFING OPERATIONS, ANY AREAS INCLUDED IN PLANNED QUANTITIES THAT HAVE GROWN A SATISFACTORY VOLUNTEER TURF OF PERENNIAL GRASS, AS DETERMINED BY THE ENGINEER, SHALL BE FERTILIZED AND WATERED AS CALLED FOR ON THE PLANS, BUT SHALL NOT BE SEEDED, SODDED, OR SPRIGGED.

SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

T.B.S.C. SURFACES SHALL BE SPRINKLED WITH WATER AND ROLLED WITH A PNEUMATIC ROLLER IN A MANNER APPROVED BY THE ENGINEER.

IN ACCORDANCE WITH OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING -TILLER METHOD", AS SPECIFIED IN 233.04B(2) OF THE STANDARD SPECIFICATIONS.

ROADWAY PAY QUANTITY NOTES

(R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS .

(R-5) AN ESTIMATED QUANTITY OF 1,232 C.Y. TOPSOIL TO BE RESERVED FOR REPLACEMENT OF APPROXIMATELY 5" ON COMPLETED FORESLOPES, DITCHES, AND BACKSLOPES. THIS QUANTITY IS INCLUDED IN THE EARTHWORK BALANCE. ANY ADDITIONAL EXCAVATION REQUIRED IN CUT SECTIONS TO ALLOW FOR PLACEMENT OF TOPSOIL TO FINAL GRADE, SHALL BE INCLUDED IN THE PRICE BID.

(R-7) FOR TYPE A SALVAGED TOPSOIL PRICE BID TO INCLUDE COST OF 18-46-0 FERTILIZER, ESTIMATED AT 150 POUNDS PER ACRE.

(R-8) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE THE COST OF WATERING, ESTIMATED AT 40 GALLONS PER S.Y.

(R-11) THE QUANTITY ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 2.83 ACRES.

(R-13) ESTIMATED AT 200 POUNDS OF 10-20-10 FERTILIZER PER 1,000 SQ. YDS. OF SODDING AND/OR SPRIGGING.

(R-30) PRICE BID TO INCLUDE COST OF 742 GALLONS OF TACK COAT, MEETING THE REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.

(R-32) ESTIMATED AT 112 LBS. PER. SQ. YD. PER 1" THICK.

(R-41) QUANTITY INCLUDES AN ESTIMATED 10 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.

(R-48) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT OF WAY.

(R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

(R-50) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

(R-52) INCLUDES 2% FOR GROUND MEASUREMENT

PAY ITEM NOTES

1) ESTIMATED AT 140 LBS. PER CU. FT

2) THIS PAY ITEM WILL INCLUDE THE SKT-SP-MSG OR APPROVED SUBSTITUTE. THE ET-PLUS WILL NOT BE ALLOWED.

3) COST TO INCLUDE TEMPORARY SEDIMENT REMOVAL. REMOVE SEDIMENT WHEN 50% FULL.

4) FOR TEMPORARY FENCE. TEMPORARY FENCE SHALL REMAIN IN PLACE.

5) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL EMULSIFIED ASPHALT PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.

6) TO BE USED AT THE DISCRETION OF THE PROJECT ENGINEER.

REVISIONS		
DESCRIPTION		DATE
UPDATED NOTES	⚠	10/10/2017

ENVIRONMENTAL NOTES

⚠ **AMERICAN BURYING BEETLE NOTE:**

THE AMERICAN BURYING BEETLE IS A LARGE CARRION BURYING BEETLE THAT OCCURS WITHIN THE ACTION AREA. NO ARTIFICIAL LIGHTING SHALL BE USED DURING CONSTRUCTION. CARCASSES AND ALL FOOD TRASH SHALL BE REMOVED FROM THE PERMANENT AND TEMPORARY RIGHT-OF-WAY THROUGHOUT PROJECT ACTIVITIES. FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE PLACED ON TOP OF ALL AREAS OF GROUND DISTURBANCE, PRIOR TO RE-VEGETATION.

⚠ **BAT TREE REMOVAL LIMITS NOTE:**

THE NORTHERN LONG-EARED BAT IS A LISTED BAT SPECIES THAT OCCURS WITHIN THE PROJECT'S ACTION AREA. IN ORDER TO AVOID AND MINIMIZE ADVERSE IMPACTS TO THE SPECIES, THE REMOVAL OF TREES AND SHRUBS SHALL BE RESTRICTED TO AREAS WITHIN THE ACTUAL LIMITS OF CONSTRUCTION (TOE OF SLOPE/TOP OF CUT). THE RESIDENT ENGINEER SHALL INSTALL BRIGHT-COLORED FLAGGING/FENCING TO INDICATE WHICH TREES ARE NOT TO BE REMOVED AND ENSURE LIMITS OF TREE REMOVAL ARE VISIBLY AND CLEARLY DEFINED FOR THE CONTRACTOR. THE RESIDENT ENGINEER SHALL ALSO PROVIDE BEFORE AND AFTER PHOTO-DOCUMENTATION OF EXTENT OF TREE CLEARING WITHIN THE PROJECT AREA TO THE ODOT BIOLOGIST.

⚠ **BAT BRIDGE SEASONAL RESTRICTION NOTE:**

THE NORTHERN LONG-EARED BAT IS A LISTED BAT SPECIES THAT OCCUR WITHIN THE PROJECT'S ACTION AREA. IN ORDER TO AVOID AND MINIMIZE ADVERSE IMPACTS TO LISTED BAT SPECIES, BRIDGE DEMOLITION SHALL BE RESTRICTED TO BETWEEN NOVEMBER 16, AND MARCH 31, OUTSIDE OF THE ACTIVE SEASON. IF BRIDGE DEMOLITION DURING THE ACTIVE SEASON (BETWEEN APRIL 1, AND NOVEMBER 15) CANNOT BE AVOIDED, THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST AT 405-521-2515 TO SCHEDULE A BAT BRIDGE INSPECTION, PRIOR TO ANY BRIDGE WORK. INSPECTION SURVEYS CAN ONLY BE CONDUCTED BETWEEN MAY 15, AND AUGUST 15. IF THE SURVEY FINDS LISTED BAT SPECIES WITHIN THE PROJECT'S ACTION AREA, BRIDGE DEMOLITION SHALL ONLY BE PERMITTED BETWEEN NOVEMBER 16, AND MARCH 31 (WHEN BATS ARE HIBERNATING IN CAVES).

⚠ **BAT LIGHTING NOTE:**

THE NORTHERN LONG-EARED BAT IS A LISTED BAT SPECIES THAT OCCURS WITHIN THE PROJECT'S ACTION AREA. IN ORDER TO AVOID AND MINIMIZE ADVERSE IMPACTS TO LISTED BAT SPECIES, IF ANY PERMANENT LIGHTING IS INSTALLED OR REPLACED, DOWNWARD-FACING FULL CUT-OFF LENS LIGHTS SHALL BE INSTALLED AND DIRECTED AWAY FROM WOODED AREAS AND STREAMS.

⚠ **BALD EAGLE NOTE:**

THE BALD EAGLE NESTING SEASON IN OKLAHOMA EXTENDS FROM SEPTEMBER 16, THROUGH MAY 31. A BALD EAGLE SURVEY WAS COMPLETED FOR THIS PROJECT IN DECEMBER 2016. NO NESTS WERE OBSERVED WITHIN THE EXPECTED IMPACT AREA. SURVEY RESULTS ARE VALID ONLY FOR THE NESTING SEASON IN WHICH THE SURVEY WAS PERFORMED. IF CONSTRUCTION ACTIVITIES HAVE BEGUN, BUT ARE NOT COMPLETED BY SEPTEMBER 16, 2017 THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST AT 405-521-2515. THE ODOT BIOLOGIST SHALL SCHEDULE ANY ADDITIONAL SURVEYS THAT MAY BE REQUIRED AS SOON AS LEAVES FALL OFF THE TREES (APPROXIMATELY NOVEMBER 1). BECAUSE NO NESTS WERE OBSERVED DURING THE INITIAL SURVEY, AND IT CAN TAKE A PAIR OF EAGLES ONE TO THREE MONTHS TO CONSTRUCT A NEW NEST, IF CONSTRUCTION ACTIVITIES HAVE BEGUN BEFORE OCTOBER 31, 2017 THEY MAY CONTINUE WHILE ADDITIONAL NEST SEARCH SURVEYS ARE CONDUCTED AFTER LEAF-OFF. IF CONSTRUCTION ACTIVITIES HAVE NOT BEGUN BY OCTOBER 31, 2017 A NEW NEST SURVEY SHALL BE COMPLETED BY THE ODOT BIOLOGIST BEFORE CONSTRUCTION ACTIVITIES CAN BEGIN. NEST SEARCH SURVEYS CAN ONLY BE CONDUCTED WHEN LEAVES ARE NOT ON THE TREES TYPICALLY BETWEEN DECEMBER 1ST AND FEBRUARY 28TH. IF NESTS ARE OBSERVED, A 1,000 FOOT NO-WORK BUFFER SHALL BE PLACED AROUND THE NEST. IF THE BUFFER CANNOT BE MAINTAINED, PROJECT ACTIVITIES WITHIN 1,000 FEET OF THE NEST, SHALL BE CONDUCTED BETWEEN JUNE 1 AND SEPTEMBER 15 (OUTSIDE THE NESTING SEASON).

⚠ **MIGRATORY BIRD NOTE:**

MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. MANY BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR MOST MIGRATORY BIRD SPECIES EXTENDS FROM APRIL 1 TO AUGUST 31. MIGRATORY BIRD NESTING USE OF THE SH-28 SALT CREEK BRIDGE (NBI:15168) WAS OBSERVED. DEMOLITION OF THE EXISTING BRIDGE SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND MARCH 31, WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED. IF DEMOLITION CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND MARCH 31, THE BRIDGE SHALL BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO APRIL 1, BY MEANS THAT DO NOT RESULT IN BIRD DEATH OR INJURY. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF WEATHER-RESISTANT POLYPROPYLENE NETTING WITH 0.25- INCH OR SMALLER OPENINGS, PRIOR TO APRIL 1. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST. ALTHOUGH NO NESTS WERE OBSERVED ON THE OTHER STRUCTURE ASSOCIATED WITH THIS PROJECT, THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST AT 405-521-2515 IF ANY BIRD USE OF THIS STRUCTURE IS OBSERVED. IF BIRDS ARE OBSERVED THEN EXTENSION OR DEMOLITION OF THE EXISTING BRIDGE AND CULVERT SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND MARCH 31 (WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED).

DESIGN	MZV	04/16
DRAWN	BSF	04/16
CHECKED	JRW	04/16
APPROVED	JRW	04/16
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

SUMMARY OF PAY QUANTITIES & NOTES (ROADWAY)

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. AR01

TRAFFIC SIGNING GENERAL CONSTRUCTION NOTES

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

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

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

ALL GREEN AND BLUE SIGNS ON CONVENTIONAL HIGHWAYS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956-(LATEST REVISION) FOR TYPE III SHEETING.

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

ALL BROKEN CONCRETE INCLUDING OLD SIGN FOOTINGS WITH STUBS, WASTE MATERIAL AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THE DISPOSAL OF THIS MATERIAL. ANY PIPE POST OR WIDE FLANGE POST ABOVE THE OLD SIGN FOOTINGS SHALL BE CUT AND HANDLED AS PROPERTY OF THE STATE AND SHALL BE NEATLY STACKED ON THE JOB SITE, AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE SITE.

NO SPLICES SHALL BE PERMITTED IN ANY PIPE OR WIDE FLANGE SIGN POSTS.

THE STATIONS AND LOCATIONS OF THE SIGN PLACEMENT, AS SHOWN ON THE PLAN SHEETS, ARE APPROXIMATE. EXACT STATIONS AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH DEPARTMENT STANDARDS AND THE MUTCD IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE, EXACT LENGTH SHALL BE DETERMINED BY FIELD SURVEY BY THE CONTRACTOR.

ALL REMOVED SIGNS, SIGN POSTS, BOLTS, MISCELLANEOUS HARDWARE, AND DELINEATORS SHALL REMAIN THE PROPERTY OF THE STATE. THE CONTRACTOR SHALL NEATLY STACK SUCH REMOVED MATERIAL AT A LOCATION ON THE JOB SITE AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

ALL SIGNS SHALL BE REMOVED FROM THE POSTS IN A SALVAGEABLE MANNER FOR REUSE. CARE SHALL BE TAKEN DURING REMOVAL AND TRANSPORTING TO ALLEVIATE DAMAGE OF MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED DURING REMOVAL OF SIGNS AND SIGN POSTS.

AFTER REMOVAL OF ANY SIGN FOOTINGS, THE HOLES SHALL BE FILLED WITH SOIL AND TAMPED AND SHAPED IN A MANNER APPROVED BY THE ENGINEER.

FOR NEW OR EXISTING GROUND MOUNTED SIGNS, MAXIMUM STUB POST PROJECTION ABOVE FOOTING/GROUND LINE SHALL BE 1-3/4" +/- 1/4". MAXIMUM FOOTING PROJECTION ABOVE GROUND LINE SHALL BE NO MORE THAN 2". SHOULD ADDITIONAL SOIL BE REQUIRED, THE ENGINEER WILL DESIGNATE AN AREA TO OBTAIN ADDITIONAL SOIL. ALL ASSOCIATED COSTS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:

THE "OKIE" NOTIFICATION CENTER (405) 840-5032 OR 1-800-522-6543.
THE LOCAL COUNTY CLERK'S OFFICE.

DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

TRAFFIC OPERATIONS GENERAL CONSTRUCTION NOTES

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET OKLAHOMA DEPARTMENT OF TRANSPORTATION'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES."

TRAFFIC SIGNING PAY QUANTITY NOTES

(TS-24) QUANTITY SHOWN INCLUDES 2,600 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 2,600 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

(TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1-(LATEST REVISION).

(TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.

(TS-41) "REMOVAL OF EXISTING SIGNS" SHALL INCLUDE THE REMOVAL OF A COMPLETE SIGN ASSEMBLY WHICH MAY INCLUDE MULTIPLE SIGNS, POSTS, FOOTINGS, AND ANY FOOTINGS ADJACENT TO THE SIGN ASSEMBLY. WHEN APPROVED BY THE ENGINEER, FOOTINGS MAY BE OBLITERATED TO A POINT BELOW GROUND LEVEL IN LIEU OF BEING COMPLETELY REMOVED. SEE GENERAL CONSTRUCTION NOTES FOR DISPOSAL OF OLD CONCRETE FOOTING MATERIAL.

TRAFFIC CONSTRUCTION PAY QUANTITY NOTES

(TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS A FINAL PAVEMENT MARKING.

(TC-23) QUANTITY SHOWN FOR THIS ITEM INCLUDES THOSE SIGNS WHICH COMPROMISE THE ROUTE MARKER ASSEMBLIES USED TO INDICATE THE DETOUR ROUTE.

(TC-26) CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

(TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION).

THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.

(TC-52) ANY CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-84) 120 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARD AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: HTTP://WWW.OKLADOT.STATE.OK.US/TRAFFIC/QPL/INDEX.PHP

(SP-2) THE CONTRACTOR SHALL PLACE THE CHANGEABLE MESSAGE SIGNS TWO WEEKS PRIOR TO CLOSING SH-22 TO INFORM THE PUBLIC OF THE UPCOMING ROAD CLOSURE. THE MESSAGE AND PLACEMENT SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF THE SIGNS.

REVISIONS	
DESCRIPTION	DATE

28857(04)

PAY QUANTITIES

0300 TRAFFIC ITEMS

ITEM		DESCRIPTION	PAY NOTES	UNIT	QUANTITY
805(A)	8724	(PL) REMOVAL OF EXISTING SIGNS	TS-41	EA.	4
850(A)	8110	SHEET ALUMINUM SIGNS	TS-34	S.F.	32
851(C)	8330	2 1/2" SQUARE TUBE POST	TS-33	L.F.	32
853	9069	GUARDRAIL DELINEATORS(TYPE 2, CODE 1)		EA.	24
856(A)	8530	TRAFFIC STRIPE (MULTI-POLYMER)(4" WIDE)	TC-14, TS-24	L.F.	5,200
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF	TC-23,TC-26,33,84	S.D.	8,640
880(B)	8821	CONSTRUCTION SIGNS 6.26 TO 15.99 S.F.	TC-23,TC-26,33,84	S.D.	2,160
880(C)	8842	CONSTRUCTION BARRICADES (TYPE III)	TC-26,84	S.D.	2,160
880(F)	8878	DRUMS	TC-26,84	S.D.	960
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN	TC-26,TC-52,TC-84,TC-85,SP-2	S.D.	120

CONSTRUCTION SIGN SUMMARY

PHASE	CONSTRUCTION SIGNS 0 TO 6.25 SF 880(B)		CONSTRUCTION SIGNS 6.25 SF TO 15.99 SF 880(B)		TYPE III BARRICADES 880(C)		DRUMS 880(F)	
	EA.	S.D.	EA.	S.D.	EA.	S.D.	EA.	S.D.
PHASE I	72	8,640	18	2,160	18	2,160	8	960
TOTALS =	72	8,640	18	2,160	18	2,160	8	960

TOTAL SIGN DAYS =120

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

SUMMARY OF PAY QUANTITIES & NOTES (TRAFFIC)

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. AT01

Monday, July 31, 2017 3:29:45 PM
V:\12-716E SH-28 Salt Creek JP 28857\CAD\PLANS\716-SUMMARY OF PAY QUANTITIES & NOTES (TRAFFIC).dwg

REVISIONS	
DESCRIPTION	DATE

SUMMARY OF DRIVES

STATION	TYPE	RETURN RADIUS	DRIVE WIDTH	LENGTH	TRAFFIC BOUND SURFACE COURSE TYPE E 403(E)
		FT.	FT.	L.F.	TONS
297+55 RT.	FIELD ENT.	15	12	56	12
				TOTALS =	12

DRAINAGE SUMMARY

STR. NO.	STATION	OFFSET	SIDE	DESCRIPTION	DESIGN	FLOWLINE IN	FLOWLINE OUT	C.G.M.P. - ROUND 18" 613(B)	C.E.T. TYPE A6 613(M)
		FT.						L.F.	EA.
1	297+55	41	RT.	CONSTR. 18" x 67' C.G.S.P. - ROUND W/CET	SPI-4 CET4S-3, RS-NG CET 6S, RS-NG FHTMP-5	672.82	672.40	67	2
							TOTAL =	67	2

SURFACING SUMMARY

STATION EXTENTS	AGGREGATE BASE TYPE A 303(A)	STABILIZED SUBGRADE 307(K)	SEPARATOR FABRIC 325	TRAFFIC BOUND SURFACE COURSE TYPE E 402(E)	TACK COAT 407	PRIME COAT 408	SUPERPAVE, TYPE S3 (PG 64-22 OK) 411(B)	SUPERPAVE, TYPE S4 (PG 64-22 OK) 411(C)
	C.Y.	S.Y.	S.Y.	TONS	GAL.	GAL.	TONS	TONS
SH-28								
297+00.00 TO 301+86.29	635	3,006	3,006	158	379	1,782	864	284
305+41.71 TO 310+00.00	599	2,847	2,847	143	363	1,701	827	272
TOTALS =	1,234	5,853	5,853	301	742	3,483	1,691	556

SUMMARY OF PAVEMENT MARKINGS (PERMANENT)

STATION EXTENTS	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE) WHITE 856(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE) YELLOW 856(A)
	L.F.	L.F.
297+00.00 TO 310+00.00	2,600	2,600
TOTALS =	2,600	2,600

EARTHWORK SUMMARY

STATION EXTENTS	UNCLASSIFIED EXCAVATION 202(A)	EMBANKMENT +15%	EXCESS EXCAVATION	WASTE
	C.Y.	C.Y.	C.Y.	C.Y.
297+00.00 TO 302+77.04	372	244	128	128
304+52.93 TO 310+00.00	1,490	180	1,310	1,310
TOTALS =	1,862	424	1,438	1,438

SIGN SUMMARY

SIGN NO.	DESCRIPTION	SIGN	(PL) REMOVAL OF EXISITNG SIGNS 805(D)	SHEET ALUMINUM SIGNS 850(A)	2" SQUARE TUBE POST 851(C) A	REMARKS
			EA.	S.F.	L.F.	
1	BRIDGE ICES BEFORE ROAD	W8-13 E	1	9.00	8	
2	BRIDGE ICES BEFORE ROAD	W8-13 E	1	9.00	8	
3	CREEK NAME	CUSTOM SIGN	1	7.00	8	SEE SHEET 13
4	CREEK NAME	CUSTOM SIGN	1	7.00	8	SEE SHEET 13
		TOTALS =	4	32.00	32	

SUMMARY OF TEMPORARY SEDIMENT CONTROL

CRL STATION TO STATION	LOCATION	TEMPORARY SILT FENCE 221(C)	TEMPORARY SILT DIKE 221(F)	VEGATATIVE MULCHING 233(A)
		L.F.	L.F.	AC.
297+00 TO 302+00	LT & RT OF CRL	1,108	70	
305+00 TO 310+00	LT & RT OF CRL	1,021	28	
	TOTALS =	2,129	98	2.83

SCHEDULE OF GUARDRAIL

STATION EXTENTS	BEAM GUARDRAIL W-BEAM SINGLE 623(A)	GUARDRAIL END TREATMENT (31") 623(G)	GUARDRAIL BRIDGE CONN-THRIE BEAM (31") 623(I)	GUARDRAIL DELINEATORS (TYPE 2, CODE 1) 853
	L.F.	EA.	EA.	EA.
298+74.42 TO 301+86.89 RT.	278	1	1	7
299+49.42 TO 301+86.89 LT.	203	1	1	5
305+41.11 TO 307+78.58 RT.	203	1	1	5
305+41.11 TO 308+53.58 LT.	278	1	1	7
TOTALS =	962	4	4	24

FENCE SUMMARY

STATION EXTENTS	FENCE-STYLE SWF (5 BARBED WIRE) 624(C)
	L.F.
301+90.00 TO 302+50.00 LT.	55
301+50.00 TO 302+50.00 RT.	125
304+90.00 TO 305+50.00 LT.	100
304+90.00 TO 305+50.00 RT.	100
TOTALS =	380

DESIGN	MZV	04/16
DRAWN	BSF	04/16
CHECKED	JRW	04/16
APPROVED	JRW	04/16
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

SUMMARY SHEET

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. AX01

Monday, July 31, 2017 3:28:55 PM
V:\12-716E SH-28 Salt Creek JP 28857\CAD\PLANS\716- SUMMARY SHEET.dwg

REVISIONS		
REV. NO.	DESCRIPTION	DATE

INDEX OF SHEETS

STANDARDS

TR4–2–00E
EJ–SK–03E
EJ–DTL–01E
HP1–2–00E
LECS–4–1
SPI–4–1
PUD–3–2

UTILITIES

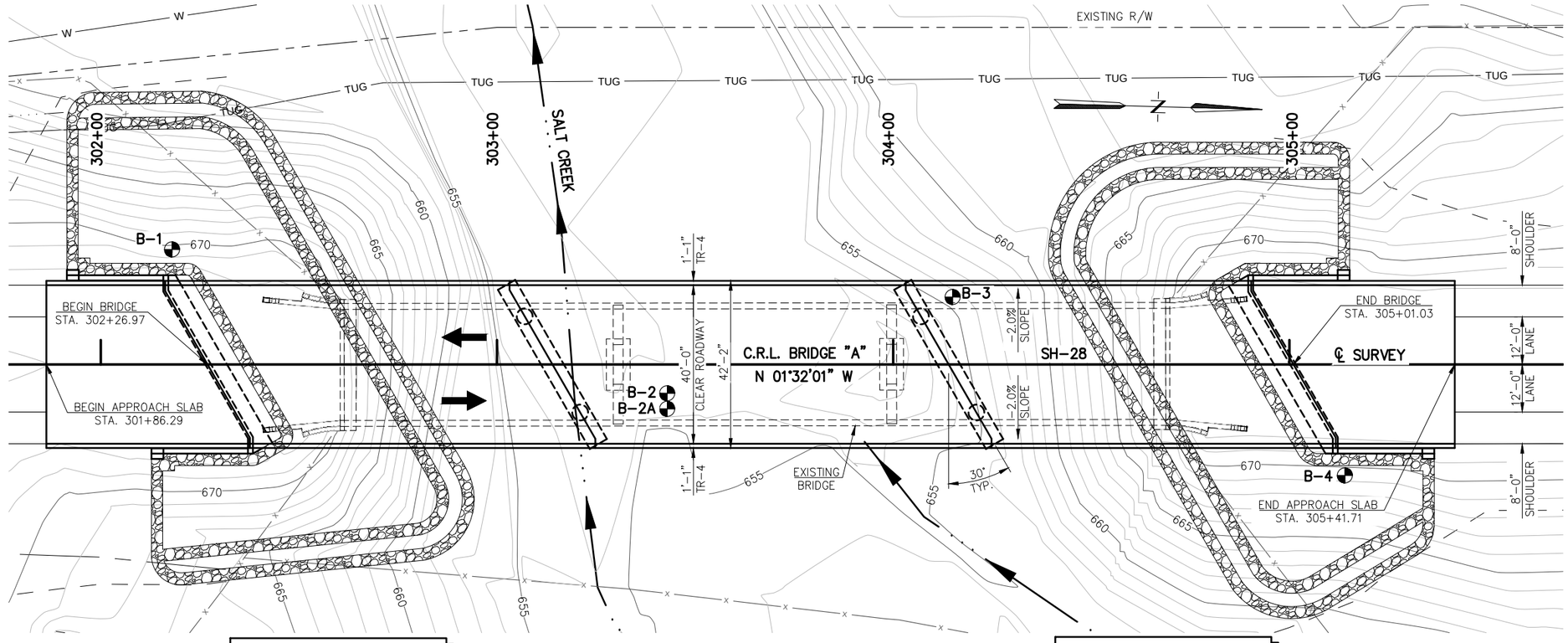
AEP–PSO DISTRIBUTION, TULSA, OK
AT&T, TULSA, OK
ELM BEND WATER DISTRICT INC., OCHELATA, OK

HYDRAULIC DATA

TOTAL D.A. = 26.81 SQ. MI.
CONTROLLED D.A. = 0.00 SQ. MI.
EFFECTIVE D.A. = 26.81 SQ. MI.

Q2	= 1,940 CFS	Q50	= 10,200 CFS
V2	= 4.47 FPS	V50	= 9.47 FPS
CHW2	= 659.23 FT	CHW50	= 664.51 FT
Q5	= 3,730 CFS	Q100	= 12,300 CFS
V5	= 5.98 FPS	V100	= 10.30 FPS
CHW5	= 660.72 FT	CHW100	= 665.43 FT
		PIER SCOUR DEPTH	= 10.14 FT (1)
Q10	= 5,390 CFS	CONTRACTION SCOUR DEPTH	= 8.72 FT (1)
V10	= 7.07 FPS	TOTAL SCOUR DEPTH	= 18.86 FT (1)
CHW10	= 661.92 FT		
		QOT > Q500	= 18,500 CFS
Q25	= 8,120 CFS	V500	= 12.35 FPS
V25	= 8.56 FPS	CHW500	= 667.75 FT
CHW25	= 663.50 FT	PIER SCOUR DEPTH	= 11.04 FT (1)
		CONTRACTION SCOUR DEPTH	= 12.01 FT (1)
		TOTAL SCOUR DEPTH	= 23.05 FT (1)

(1) NOT APPLICABLE DUE TO ROCK ELEVATIONS.



SEE "FOUNDATION REPORT" SHEETS FOR BORING DATA.

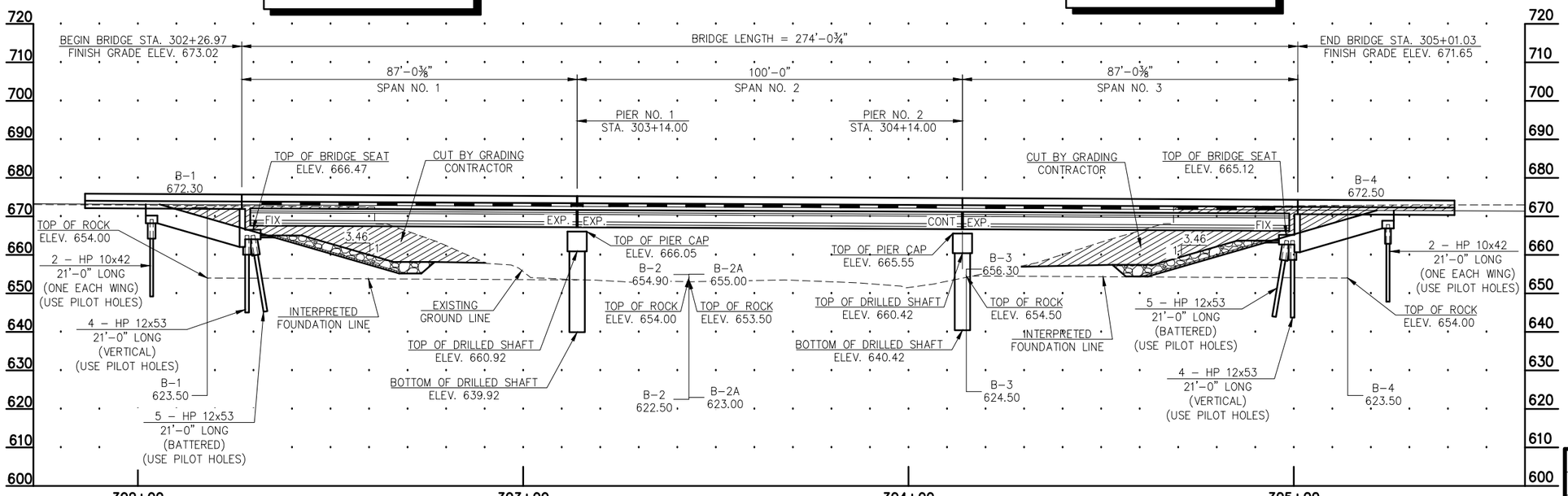
BM 6
60D IN HACKBERRY,
STA. 301+51.04, 65.10' LT.
ELEV. 666.28

BM 7
80D IN 24" LOCUST,
STA. 306+10.00, 125.89' RT.
ELEV. 662.86

SEE "DETAILS OF DRAINS AT ENDS OF BRIDGE" SHEET FOR DRAIN DATA.

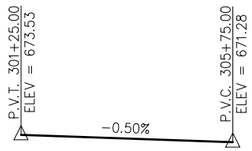
PLAN

NOTE: ALL STATIONING ALONG CONSTRUCTION REFERENCE LINE



ELEVATION

NOTE: ALL STATIONING AND ELEVATIONS ALONG CONSTRUCTION REFERENCE LINE



GRADE DATA

DESIGN	MBS	4/14
DETAIL	SLP	4/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

GENERAL PLAN AND ELEVATION (SHEET NO. 1 OF 2)

CONST. 85'–100'–85' TYPE IV P.C. BEAM SPANS x 40' CLR. RDWY. W/ CONC. TRAFFIC RAIL (TR4), SKEW 30° RF, ℄ STA. 303+64.00
STATE JOB PIECE NO. 28857(04) — SHEET NO. B001

Monday, July 31, 2017 4:11:09 PM
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

FOUNDATION DATA

ABUTMENTS (HP 12 X 53 PILING)

FACTORED PILE REACTION = 83.1 TONS/PILE

ALL ABUTMENT PILING SHALL BE DRIVEN THROUGH THE COMPACTED FILL. PILING SHALL BE DRIVEN TO POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF THE AXIAL LOAD RESISTANCE IS NOT OBTAINED AT THIS ELEVATION, DRIVING SHALL CONTINUE UNTIL THE AXIAL LOAD RESISTANCE IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

PIERS (48" DIAMETER DRILLED SHAFTS)

	PIER NO. 1	PIER NO. 2
FACTORED REACTION	= 615 TONS/SHAFT	= 615 TONS/SHAFT
NOMINAL UNIT BEARING RESISTANCE	= 34.21 TSF	= 34.21 TSF
BEARING RESISTANCE FACTOR	= 0.7	= 0.7
FACTORED BEARING RESISTANCE	= 301 TONS/SHAFT	= 301 TONS/SHAFT
NOMINAL UNIT FRICTION RESISTANCE	= 9.00 TSF	= 9.00 TSF
FRICTION RESISTANCE FACTOR	= 0.45	= 0.45
FACTORED FRICTION RESISTANCE	= 356 TONS/SHAFT	= 356 TONS/SHAFT
DEPTH OF ROCK NEGLECTED FOR FRICTION	= 6 FEET	= 6 FEET
TOTAL FACTORED RESISTANCE	= 657 TONS/SHAFT	= 657 TONS/SHAFT

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 (GRADE 50W)	fy = 50,000 p.s.i.
STAINLESS STEEL A240 (TYPE 316)	fy = 30,000 p.s.i.

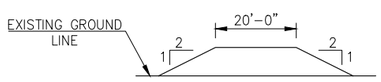
LOADING: HL-93 OR OKLAHOMA OVERLOAD TRUCK
20 P.S.F. FUTURE WEARING SURFACE

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
ANSI/AWS D1.6 STRUCTURAL WELDING CODE – STAINLESS STEEL

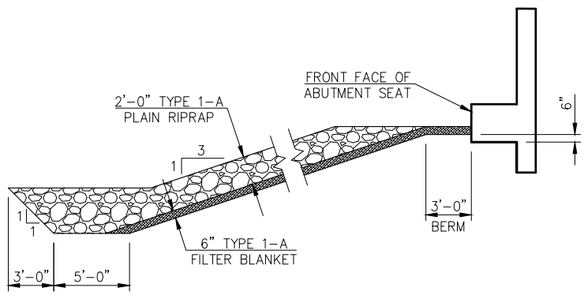
L.F.D. OPERATING RATING: HS 51.8

ITEMIZED QUANTITIES

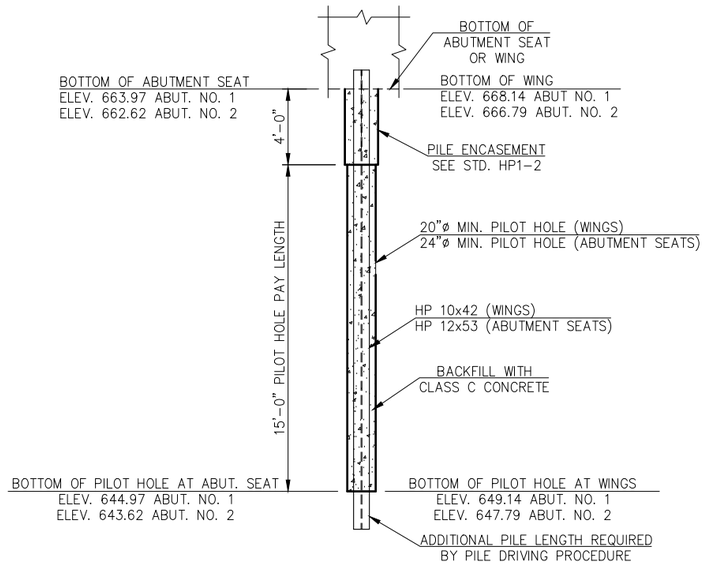
ITEM	UNIT	ABUTMENTS	PIERS	SUPERSTRUCTURE	APPROACH SLABS	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	250.00	–	–	–	250.00
CLSM BACKFILL	C.Y.	288.00	–	–	–	288.00
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	–	–	1,345.00	–	1,345.00
APPROACH SLAB	S.Y.	–	–	–	381.40	381.40
SAW-CUT GROOVING	S.Y.	–	–	1,218.10	361.80	1,579.90
SEALED EXPANSION JOINT	L.F.	–	–	48.90	–	48.90
CONCRETE RAIL (TR4)	L.F.	–	–	548.20	162.80	711.00
STRUCTURAL STEEL	LB.	–	–	1,575.00	–	1,575.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	–	–	10.00	–	10.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	–	–	20.00	–	20.00
CLASS AA CONCRETE	C.Y.	–	–	331.80	–	331.80
CLASS A CONCRETE	C.Y.	116.10	90.80	–	–	206.90
CLASS C CONCRETE	C.Y.	–	–	–	–	12.00
EPOXY COATED REINFORCING STEEL	LB.	16,600.00	18,020.00	89,650.00	–	124,270.00
PILES, FURNISHED (HP 10X42)	L.F.	84.00	–	–	–	84.00
PILES, FURNISHED (HP 12X53)	L.F.	378.00	–	–	–	378.00
PILES, DRIVEN (HP 10X42)	L.F.	84.00	–	–	–	84.00
PILES, DRIVEN (HP 12X53)	L.F.	378.00	–	–	–	378.00
(PL) PILOT HOLES	L.F.	330.00	–	–	–	330.00
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	–	–	–	–	1.00
WATER REPELLANT (VISUALLY INSPECTED)	S.Y.	132.00	178.00	915.00	76.00	1,301.00
DRILLED SHAFTS 48" DIAMETER	L.F.	–	82.00	–	–	82.00
CROSSHOLE SONIC LOGGING	EA.	–	1.00	–	–	1.00
SEALER CRACK PREPARATION	L.F.	–	–	46.50	–	46.50
SEALER RESIN	GAL.	–	–	0.60	–	0.60
TYPE I-A PLAIN RIPRAP	TON	–	–	–	–	1,550.00
TYPE I-A FILTER BLANKET	TON	–	–	–	–	295.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	96.00	–	–	–	96.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	60.00	–	–	–	60.00
REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM	–	–	–	–	1.00



TYPICAL SECTION THRU WORK ROAD
(MAXIMUM DIMENSION SHOWN)



SECTION THROUGH RIPRAP AT BRIDGE SEAT
(DIMENSIONS ARE NORMAL TO BRIDGE SEAT)



DETAIL OF PILOT HOLES
(ALL PILES AT BOTH ABUTMENTS)

PILOT HOLE NOTE:
ALL COSTS FOR DRILLING, EXCAVATION, CASING (IF NECESSARY), AND CLASS C CONCRETE WITHIN THE PILOT HOLE PAY LENGTH SHOWN INCLUDING MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "(PL) PILOT HOLES".

DESIGN	MBS	4/14
DETAIL	SLP	4/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH-28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

GENERAL PLAN AND ELEVATION
(SHEET NO. 2 OF 2)

CONST. 85'-100'-85' TYPE IV P.C. BEAM SPANS x 40' CLR. RDWY. W/ CONC. TRAFFIC RAIL (TR4), SKEW 30° RF, ℄ STA. 303+64.00
STATE JOB PIECE NO. 28857(04) SHEET NO. B002

Monday, July 31, 2017 4:11:25 PM
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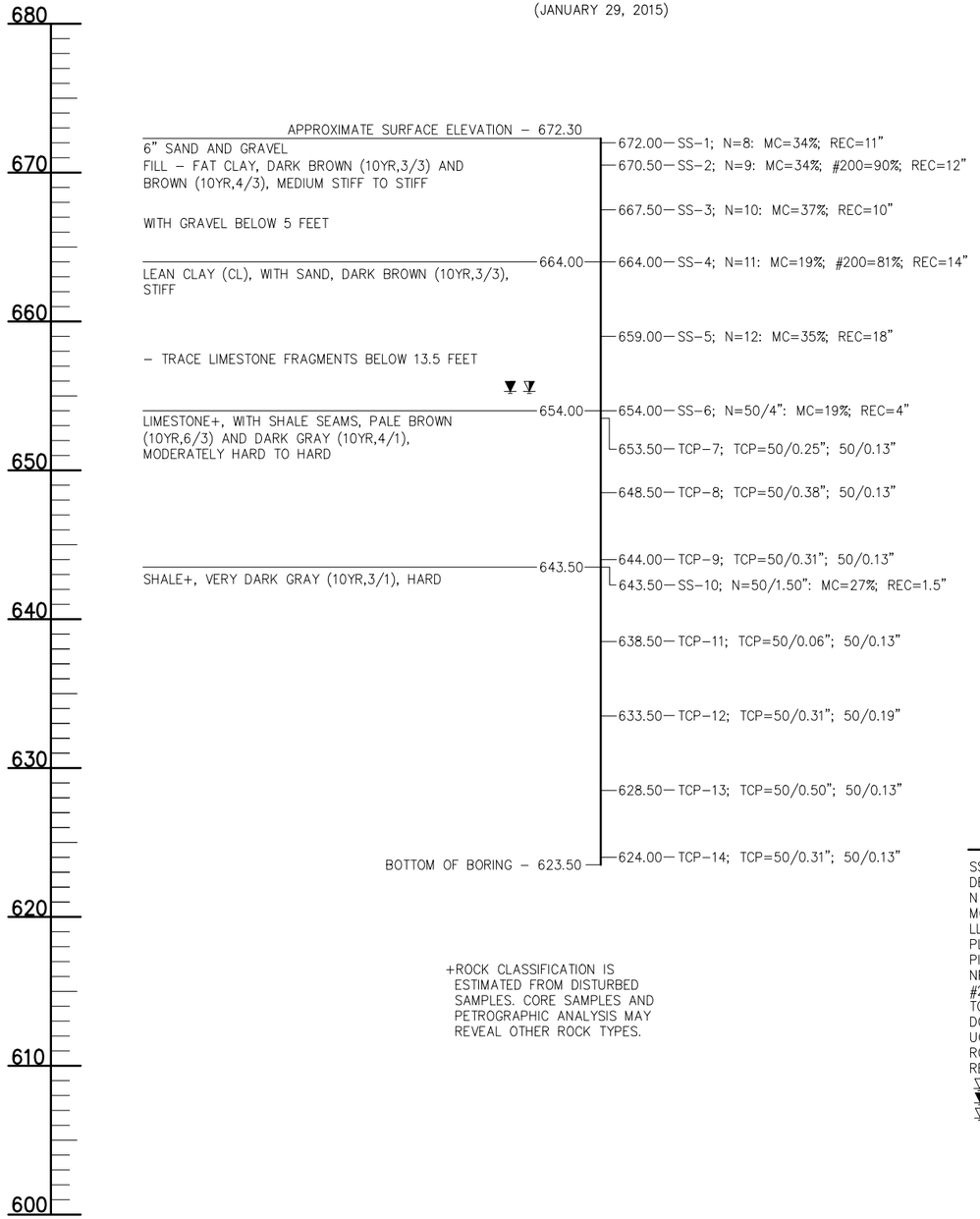
REVISIONS		
REV. NO.	DESCRIPTION	DATE

BORING NO. B-1

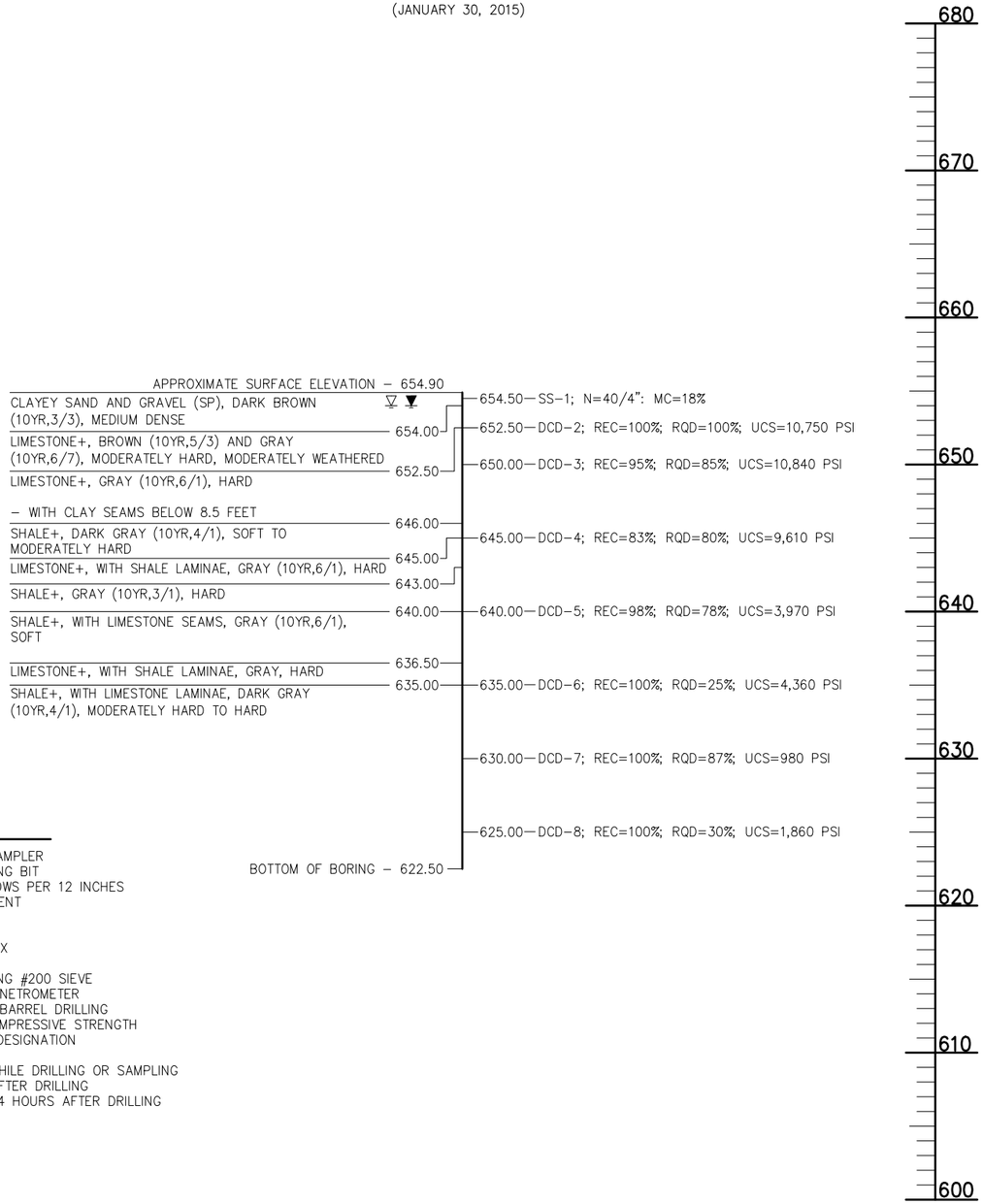
STA. 302+18, 29' LT. OF CRL SH-28
(JANUARY 29, 2015)



+ROCK CLASSIFICATION IS ESTIMATED FROM DISTURBED SAMPLES. CORE SAMPLES AND PETROGRAPHIC ANALYSIS MAY REVEAL OTHER ROCK TYPES.

BORING NO. B-2

STA. 303+43, 8' RT. OF CRL SH-28
(JANUARY 30, 2015)



LEGEND

SS	=	SPLIT SPOON SAMPLER
DB	=	DIAMOND DRILLING BIT
N	=	NUMBER OF BLOWS PER 12 INCHES
MC	=	MOISTURE CONTENT
LL	=	LIQUID LIMIT
PL	=	PLASTIC LIMIT
PI	=	PLASTICITY INDEX
NP	=	NON-PLASTIC
#200	=	PERCENT PASSING #200 SIEVE
TCP	=	TEXAS CONE PENETROMETER
DCD	=	DIAMOND CORE BARREL DRILLING
UCS	=	UNCONFINED COMPRESSIVE STRENGTH
RQD	=	ROCK QUALITY DESIGNATION
REC	=	RECOVERY
▽	=	WATER LEVEL WHILE DRILLING OR SAMPLING
▼	=	WATER LEVEL AFTER DRILLING
▼	=	WATER LEVEL 24 HOURS AFTER DRILLING

SITE GEOLOGY:

BASED ON THE RESULTS OF THE BORINGS AND INFORMATION PUBLISHED IN THE OKLAHOMA DEPARTMENT OF TRANSPORTATION MANUAL, "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS: DIVISION 8", THE PROJECT IS LOCATED WITHIN THE FORT SCOTT UNIT. THIS UNIT CONSISTS OF LIMESTONE AND SHALE.

TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE OFFICE ENGINEER DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2625.

DESIGN		
DETAIL		
CHECK		
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

FOUNDATION REPORT
(SHEET NO. 1 OF 3)

STATE JOB PIECE NO. 28857(04) SHEET NO. B003

Monday, July 31, 2017 4:11:52 PM
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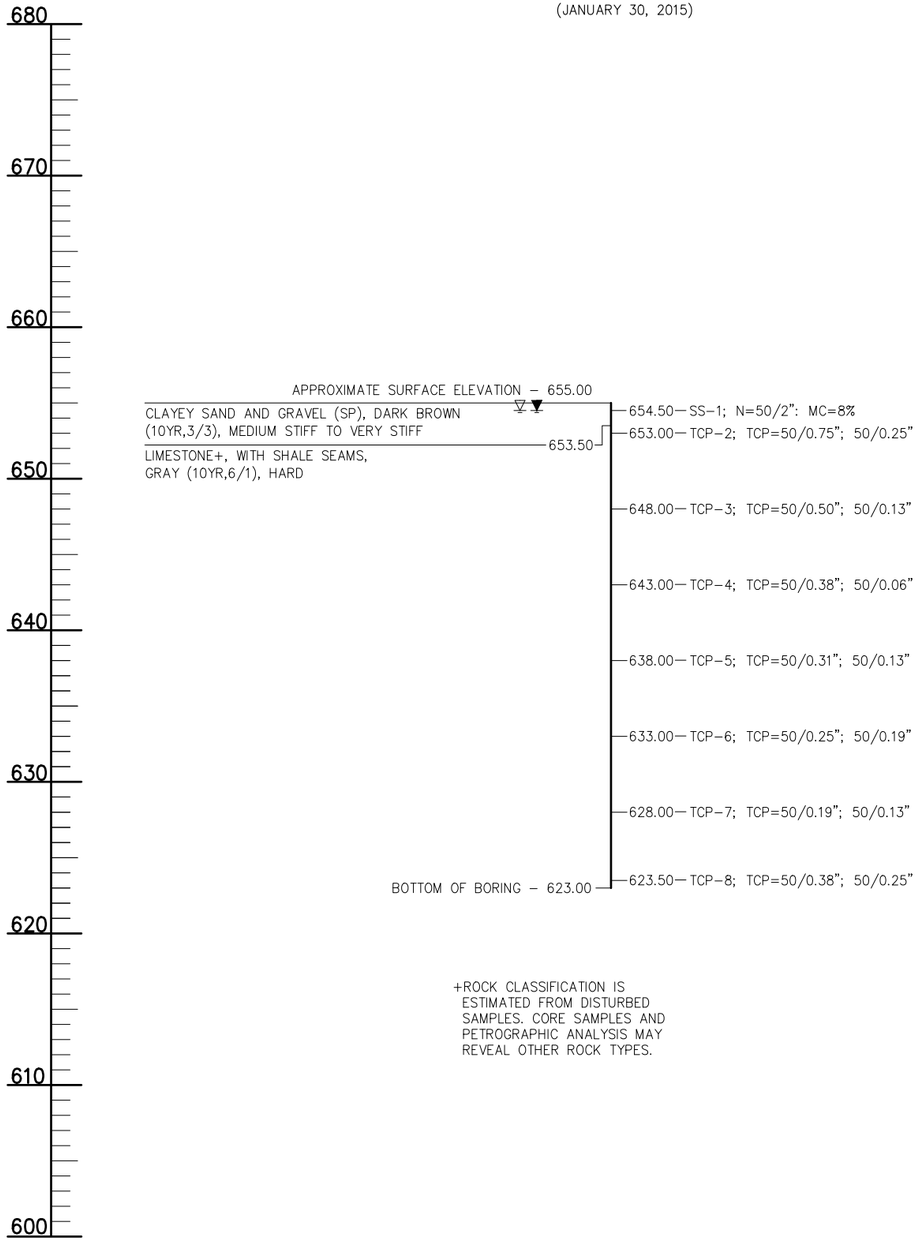
REVISIONS		
REV. NO.	DESCRIPTION	DATE

BORING NO. B-2A

STA. 303+43, 10' RT. OF CRL SH-28
(JANUARY 30, 2015)



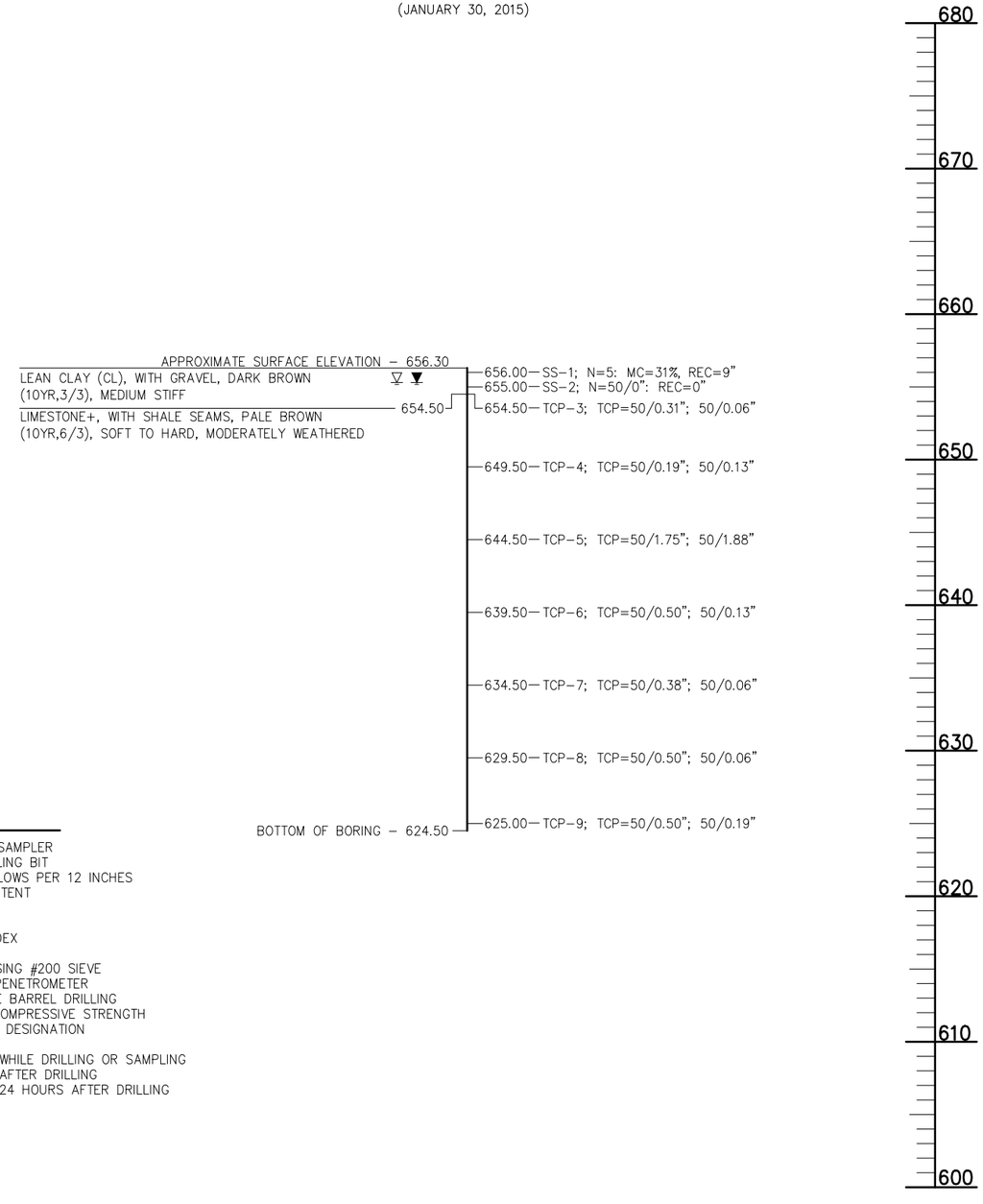
+ROCK CLASSIFICATION IS ESTIMATED FROM DISTURBED SAMPLES. CORE SAMPLES AND PETROGRAPHIC ANALYSIS MAY REVEAL OTHER ROCK TYPES.

LEGEND

SS	= SPLIT SPOON SAMPLER
DB	= DIAMOND DRILLING BIT
N	= NUMBER OF BLOWS PER 12 INCHES
MC	= MOISTURE CONTENT
LL	= LIQUID LIMIT
PL	= PLASTIC LIMIT
PI	= PLASTICITY INDEX
NP	= NON-PLASTIC
#200	= PERCENT PASSING #200 SIEVE
TCP	= TEXAS CONE PENETROMETER
DCD	= DIAMOND CORE BARREL DRILLING
UCS	= UNCONFINED COMPRESSIVE STRENGTH
RQD	= ROCK QUALITY DESIGNATION
REC	= RECOVERY
▽	= WATER LEVEL WHILE DRILLING OR SAMPLING
▼	= WATER LEVEL AFTER DRILLING
⧩	= WATER LEVEL 24 HOURS AFTER DRILLING

BORING NO. B-3

STA. 304+15, 17' LT. OF CRL SH-28
(JANUARY 30, 2015)



SITE GEOLOGY:
BASED ON THE RESULTS OF THE BORINGS AND INFORMATION PUBLISHED IN THE OKLAHOMA DEPARTMENT OF TRANSPORTATION MANUAL, "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS: DIVISION 8", THE PROJECT IS LOCATED WITHIN THE FORT SCOTT UNIT. THIS UNIT CONSISTS OF LIMESTONE AND SHALE.

TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE OFFICE ENGINEER DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2625.

DESIGN		SH-28 OVER SALT CREEK NOWATA COUNTY BRIDGE "A"
DETAIL		FOUNDATION REPORT (SHEET NO. 2 OF 3)
CHECK		
GUY ENGINEERING SERVICES, INC.		STATE JOB PIECE NO. 28857(04) SHEET NO. B004

Monday, July 31, 2017 4:12:03 PM
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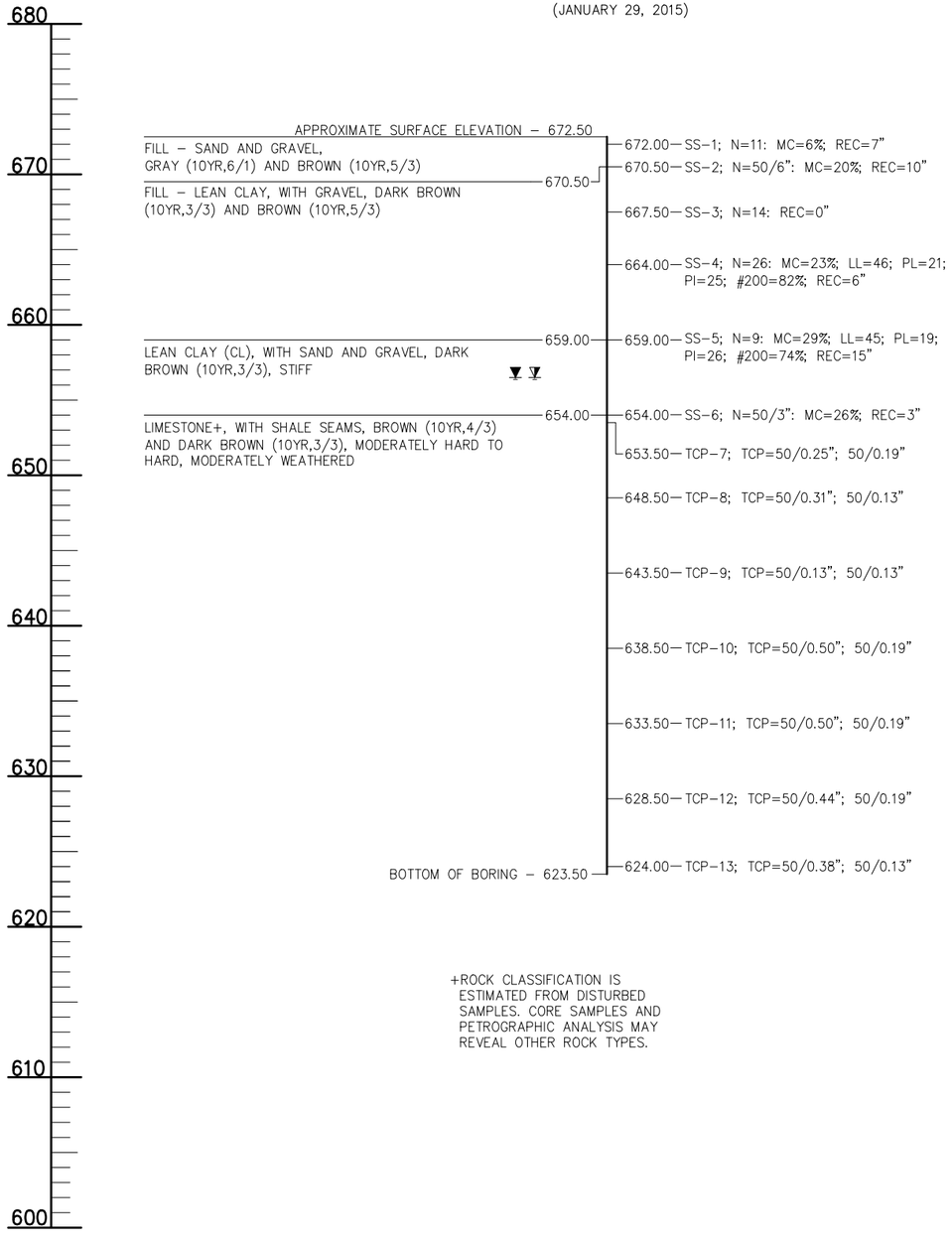
REVISIONS		
REV. NO.	DESCRIPTION	DATE

BORING NO. B-4

STA. 305+14, 28' RT. OF CRL SH-28
(JANUARY 29, 2015)



+ROCK CLASSIFICATION IS ESTIMATED FROM DISTURBED SAMPLES. CORE SAMPLES AND PETROGRAPHIC ANALYSIS MAY REVEAL OTHER ROCK TYPES.

LEGEND

SS	= SPLIT SPOON SAMPLER
DB	= DIAMOND DRILLING BIT
N	= NUMBER OF BLOWS PER 12 INCHES
MC	= MOISTURE CONTENT
LL	= LIQUID LIMIT
PL	= PLASTIC LIMIT
PI	= PLASTICITY INDEX
NP	= NON-PLASTIC
#200	= PERCENT PASSING #200 SIEVE
TCP	= TEXAS CONE PENETROMETER
DCD	= DIAMOND CORE BARREL DRILLING
UCS	= UNCONFINED COMPRESSIVE STRENGTH
RQD	= ROCK QUALITY DESIGNATION
REC	= RECOVERY
▽	= WATER LEVEL WHILE DRILLING OR SAMPLING
▼	= WATER LEVEL AFTER DRILLING
▼	= WATER LEVEL 24 HOURS AFTER DRILLING

SITE GEOLOGY:
BASED ON THE RESULTS OF THE BORINGS AND INFORMATION PUBLISHED IN THE OKLAHOMA DEPARTMENT OF TRANSPORTATION MANUAL, "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS: DIVISION 8", THE PROJECT IS LOCATED WITHIN THE FORT SCOTT UNIT. THIS UNIT CONSISTS OF LIMESTONE AND SHALE.

TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE OFFICE ENGINEER DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2625.

DESIGN		
DETAIL		
CHECK		
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

FOUNDATION REPORT
(SHEET NO. 3 OF 3)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B005

Monday, July 31, 2017 4:12:15 PM
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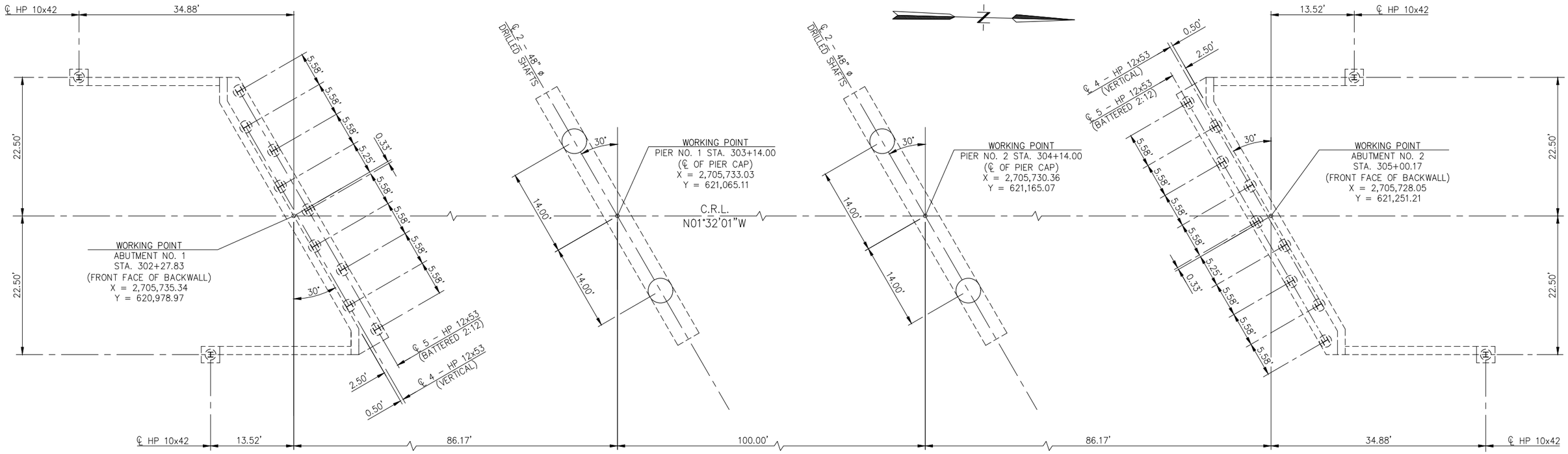
REVISIONS		
REV. NO.	DESCRIPTION	DATE



SUBSTRUCTURE STAKING DIAGRAM

TOP OF PILE ELEVATIONS ABUTMENT NO. 1	
PILE	ELEVATION
BRIDGE SEAT	664.97
WINGS	669.14

TOP OF PILE ELEVATIONS ABUTMENT NO. 2	
PILE	ELEVATION
BRIDGE SEAT	663.62
WINGS	667.79

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

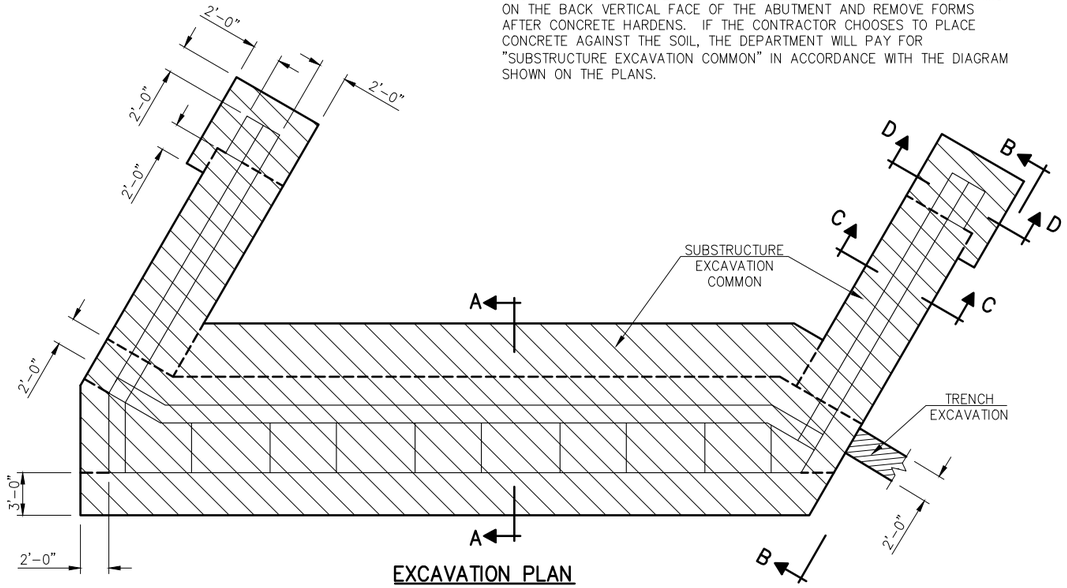
SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

SUBSTRUCTURE STAKING DIAGRAM

STATE JOB PIECE NO. 28857(04) — SHEET NO. B006

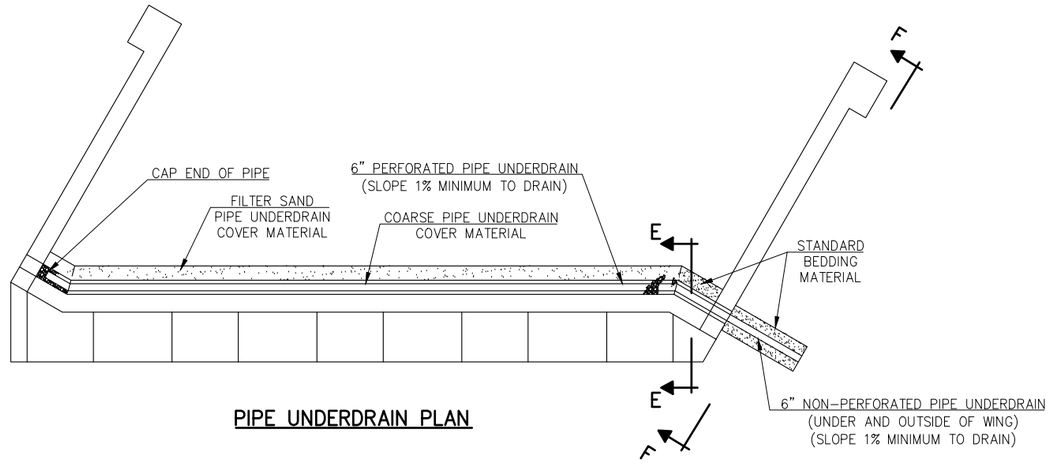
Monday, July 31, 2017 4:12:39 PM
V:\12-716E SH-28 Salt Creek JP 28857\STRUCTURAL\DWG\Salt Creek – STAKING.dwg

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.



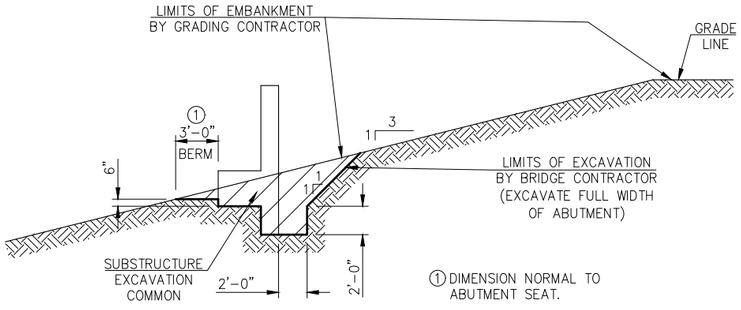
EXCAVATION PLAN

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.



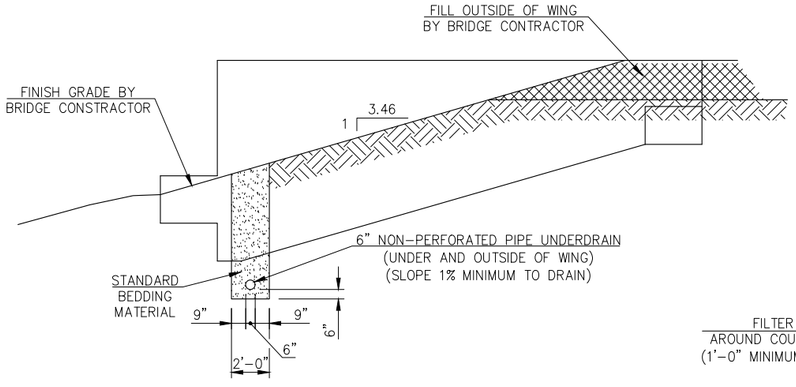
PIPE UNDERDRAIN PLAN

REVISIONS		
REV. NO.	DESCRIPTION	DATE

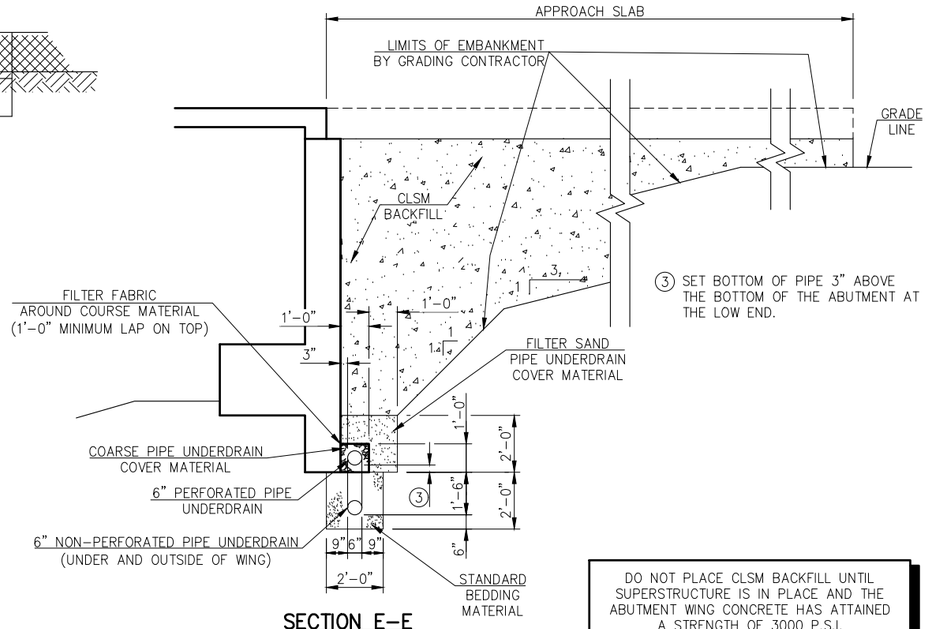


① DIMENSION NORMAL TO ABUTMENT SEAT.

SECTION A-A



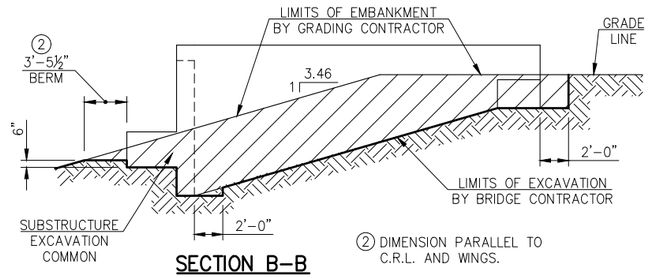
SECTION F-F



③ SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT THE LOW END.

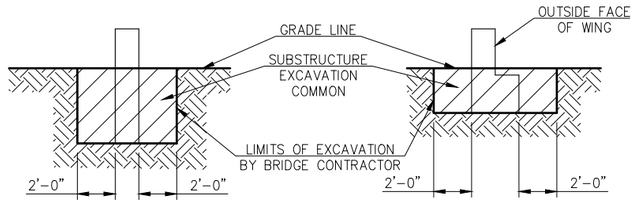
SECTION E-E

DO NOT PLACE CLSM BACKFILL UNTIL SUPERSTRUCTURE IS IN PLACE AND THE ABUTMENT WING CONCRETE HAS ATTAINED A STRENGTH OF 3000 P.S.I.



② DIMENSION PARALLEL TO C.R.L. AND WINGS.

SECTION B-B



SECTION C-C

SECTION D-D

DESIGN	MBS	5/14	SH-28 OVER SALT CREEK NOWATA COUNTY
DETAIL	SLP	5/14	BRIDGE "A"
CHECK	MBS	3/15	SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY DETAILS
GUY ENGINEERING SERVICES, INC.			STATE JOB PIECE NO. 28857(04) SHEET NO. B007

Monday, July 31, 2017 4:13:46 PM
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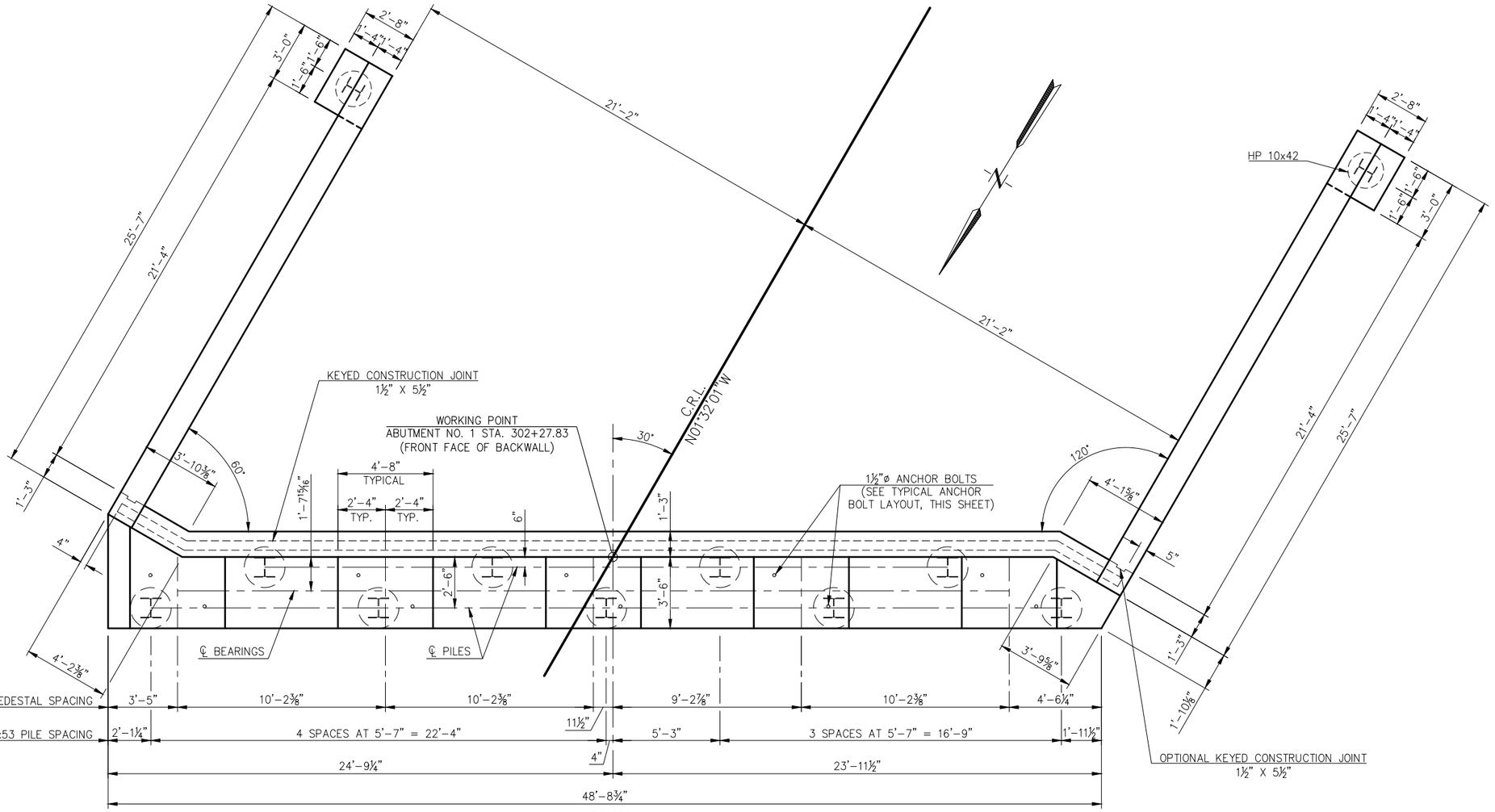
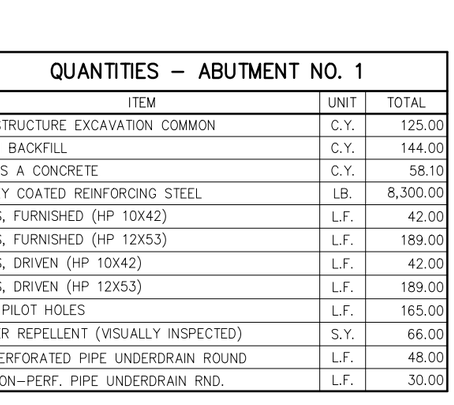
REVISIONS		
REV. NO.	DESCRIPTION	DATE

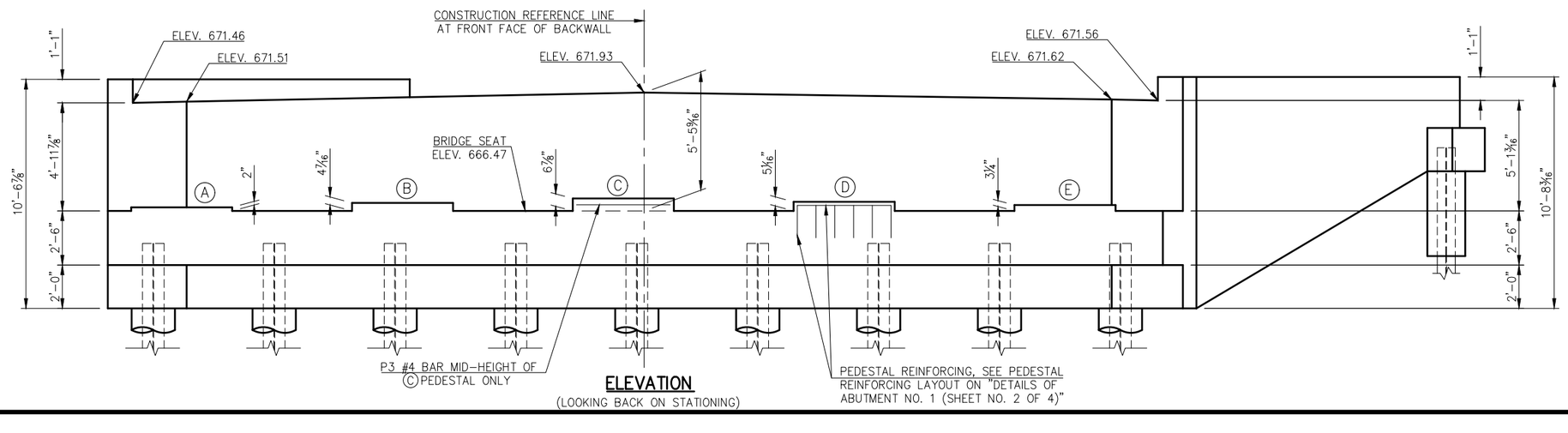


PLAN



TYPICAL ANCHOR BOLT LAYOUT

PEDESTAL ELEVATIONS	
PEDESTAL	ELEVATION
Ⓐ	666.63
Ⓑ	666.84
Ⓒ	667.04
Ⓓ	666.89
Ⓔ	666.74



ELEVATION

(LOOKING BACK ON STATIONING)

QUANTITIES – ABUTMENT NO. 1		
ITEM	UNIT	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	125.00
CLSM BACKFILL	C.Y.	144.00
CLASS A CONCRETE	C.Y.	58.10
EPOXY COATED REINFORCING STEEL	LB.	8,300.00
PILES, FURNISHED (HP 10X42)	L.F.	42.00
PILES, FURNISHED (HP 12X53)	L.F.	189.00
PILES, DRIVEN (HP 10X42)	L.F.	42.00
PILES, DRIVEN (HP 12X53)	L.F.	189.00
(PL) PILOT HOLES	L.F.	165.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	66.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	48.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	30.00

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 1 (SHEET NO. 1 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B008

Monday, July 31, 2017 4:14:12 PM
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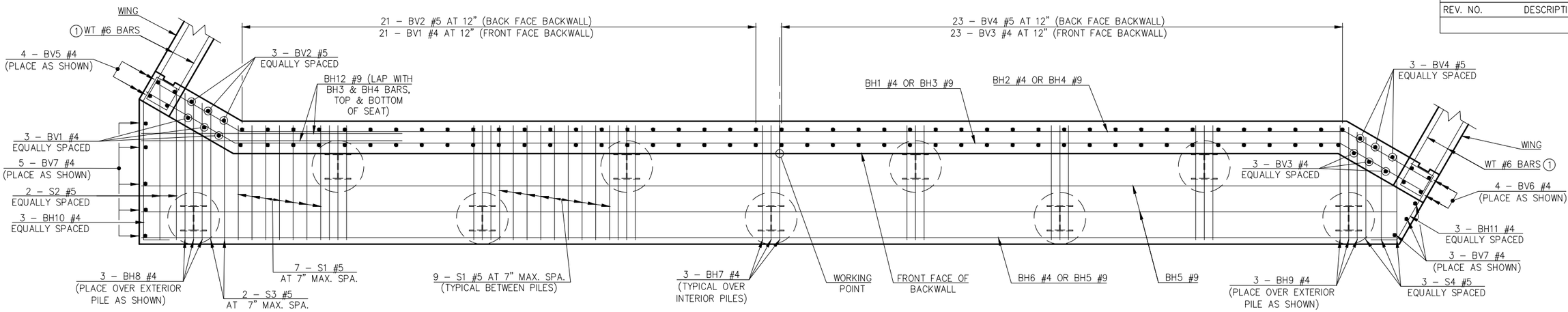
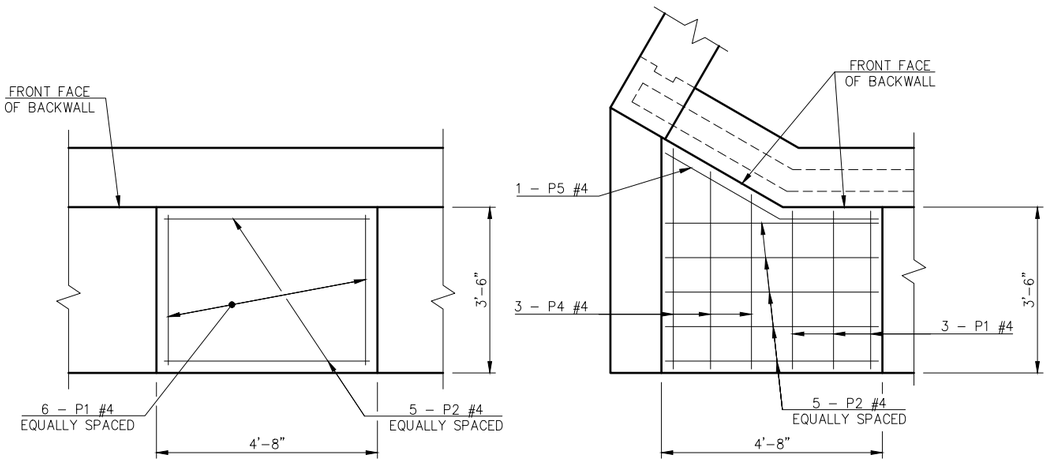
REVISIONS		
REV. NO.	DESCRIPTION	DATE

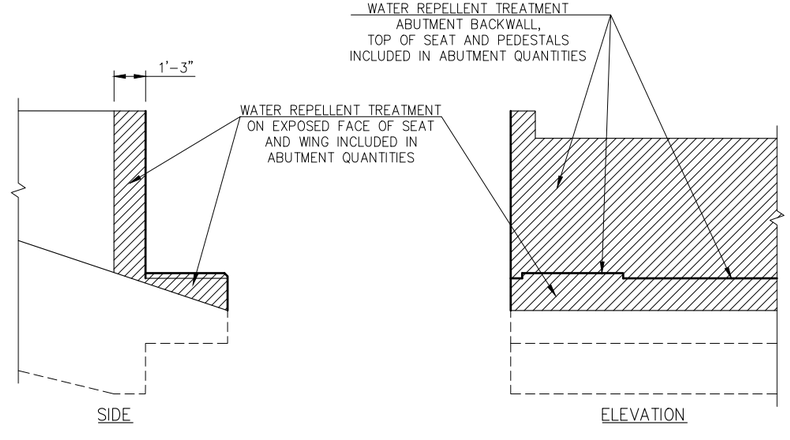


LAYOUT OF ABUTMENT REINFORCING STEEL

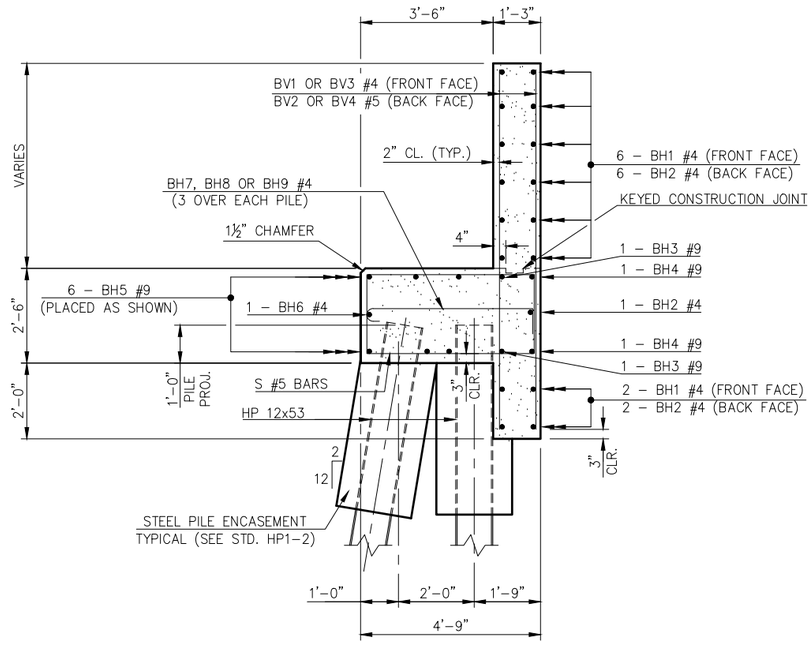
(1) SEE "DETAILS OF ABUTMENT NO. 1 (SHEET NO. 4 OF 4) FOR LOCATIONS OF WT BARS.



PEDESTAL REINFORCING LAYOUT



WATER REPELLENT TREATMENT DETAILS



TYPICAL SECTION THRU SEAT

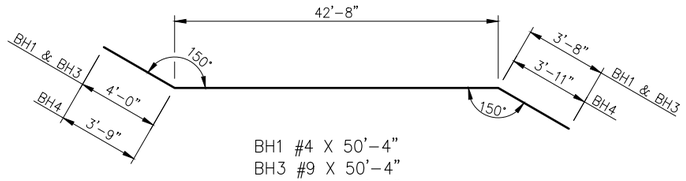
DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

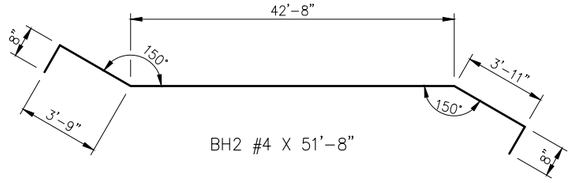
DETAILS OF ABUTMENT NO. 1 (SHEET NO. 2 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B009

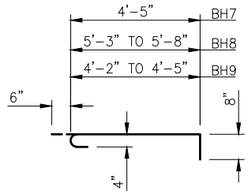
REVISIONS		
REV. NO.	DESCRIPTION	DATE



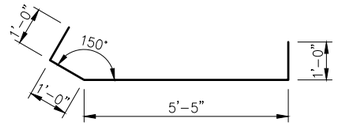
BH1 #4 X 50'-4"
BH3 #9 X 50'-4"
BH4 #9 X 50'-4"



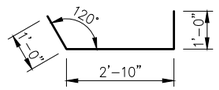
BH2 #4 X 51'-8"



BH7 #4 X 5'-7"
BH8 #4 X 6'-7½" AVG
BH9 #4 X 5'-5½" AVG.

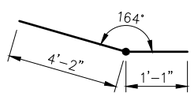


BH10 #4 X 8'-5"



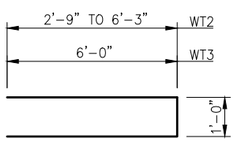
BH11 #4 X 4'-10"

PLAN

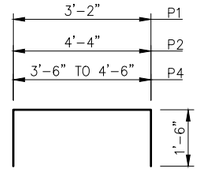


ELEVATION

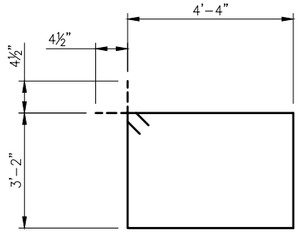
WT1 #6 X 11'-6"



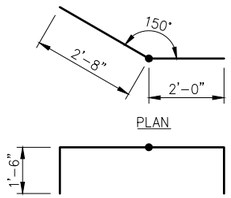
WT2 #6 X 10'-0" AVG.
WT3 #6 X 13'-0"



P1 #4 X 6'-2"
P2 #4 X 7'-4"
P4 #4 X 7'-0" AVG.



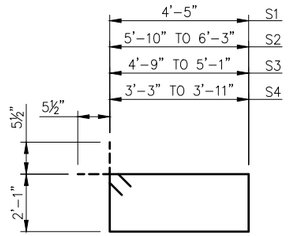
P3 #4 X 15'-9"



PLAN

ELEVATION

P5 #4 X 7'-8"



S1 #5 X 13'-11"
S2 #5 X 17'-2" AVG.
S3 #5 X 14'-11" AVG.
S4 #5 X 12'-3" AVG.

BAR LIST – ABUTMENT NO. 1
(EXCLUDES WINGS) (1)

MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
EPOXY COATED REINFORCING					
BH1	#4	8	BNT.	50'-4"	
BH2	#4	9	BNT.	51'-8"	
BH3	#9	2	BNT.	50'-4"	
BH4	#9	2	BNT.	50'-4"	
BH5	#9	6	STR.	48'-5"	
BH6	#4	1	STR.	48'-5"	
BH7	#4	21	BNT.	5'-7"	
BH8	#4	3	BNT.	6'-7½" AVG.	6'-5" TO 6'-10"
BH9	#4	3	BNT.	5'-5½" AVG.	5'-4" TO 5'-7"
BH10	#4	3	BNT.	8'-5"	
BH11	#4	3	BNT.	4'-10"	
BH12	#9	4	STR.	10'-0"	
BV1	#4	24	STR.	9'-3½" AVG.	9'-1" TO 9'-6"
BV2	#5	24	STR.	9'-3½" AVG.	9'-1" TO 9'-6"
BV3	#4	26	STR.	9'-4" AVG.	9'-2" TO 9'-6"
BV4	#5	26	STR.	9'-4" AVG.	9'-2" TO 9'-6"
BV5	#4	4	STR.	10'-2"	
BV6	#4	4	STR.	10'-3"	
BV7	#4	8	STR.	2'-1"	
P1	#4	27	BNT.	6'-2"	
P2	#4	25	BNT.	7'-4"	
P3	#4	1	BNT.	15'-9"	
P4	#4	3	BNT.	7'-0" AVG.	6'-6" TO 7'-6"
P5	#4	1	BNT.	7'-8"	
S1	#5	70	BNT.	13'-11"	
S2	#5	2	BNT.	17'-2" AVG.	16'-9" TO 17'-7"
S3	#5	2	BNT.	14'-11" AVG.	14'-7" TO 15'-3"
S4	#5	3	BNT.	12'-3" AVG.	11'-7" TO 12'-11"
WT1	#6	2	BNT.	11'-6"	
(2) WT2	#6	6	BNT.	10'-0" AVG.	6'-6" TO 13'-6"
WT3	#6	36	BNT.	13'-0"	

(1) SEE "DETAILS OF ABUTMENT NO. 1 (SHEET NO. 4 OF 4)" FOR WING BAR LISTS AND BEND DIAGRAMS.

(2) 2 SETS OF 3 BARS

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 1 (SHEET NO. 3 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B010

Monday, July 31, 2017 4:14:39 PM
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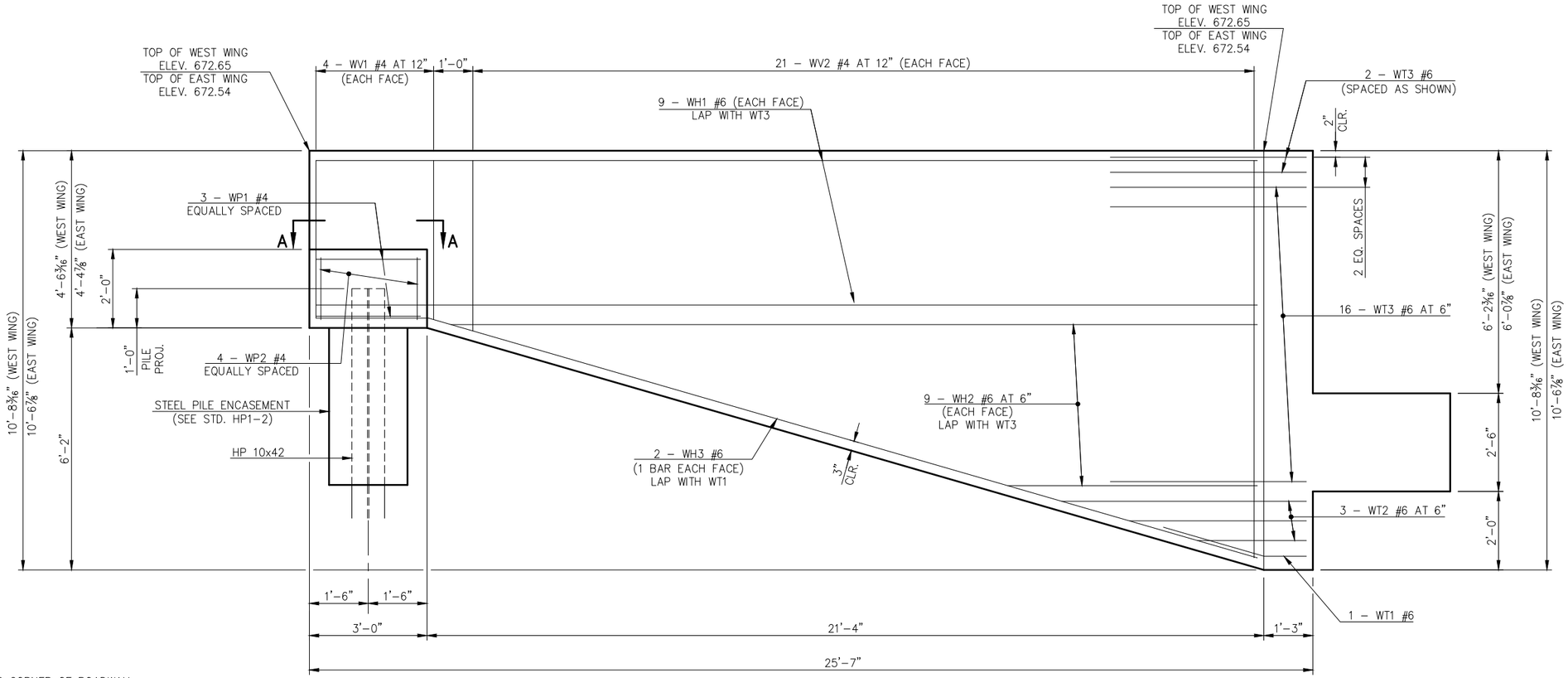
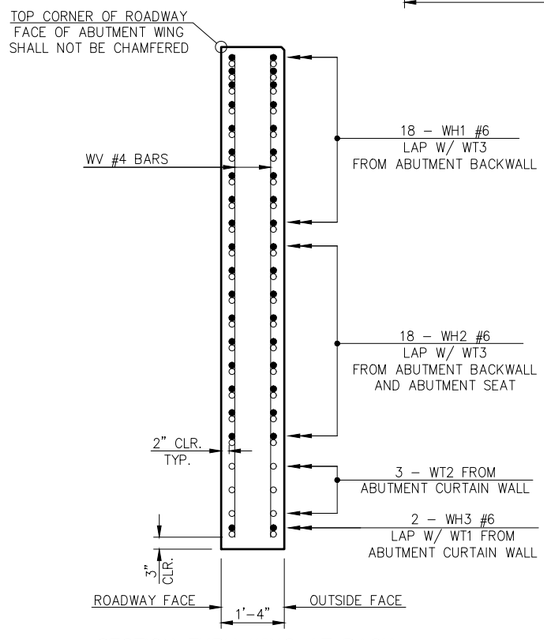
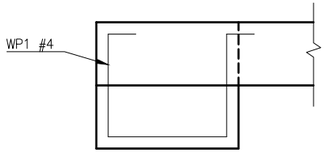
REVISIONS		
REV. NO.	DESCRIPTION	DATE



WING ELEVATION

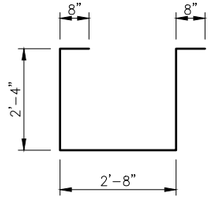


SECTION THRU WING AT BACK FACE OF ABUTMENT SEAT (NORTH WING)

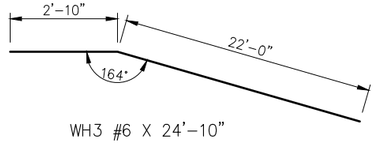


SECTION A–A

(ALL OTHER REINFORCING NOT SHOWN FOR CLARITY)



WP1 #4 X 8'–8"



WH3 #6 X 24'–10"

BAR LIST – WEST WING

	MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
	EPOXY COATED REINFORCING					
	WH1	#6	18	STR	24'–0"	
①	WH2	#6	18	STR	13'–7" AVG.	6'–8" TO 20'–6"
	WH3	#6	2	BNT	24'–10"	
	WP1	#4	3	BNT	8'–8"	
	WP2	#4	4	STR	1'–7"	
	WV1	#4	8	STR	4'–1"	
②	WV2	#4	42	STR	7'–3½" AVG.	4'–5" TO 10'–2"

① 2 SETS OF 9 BARS
② 2 SETS OF 21 BARS

BAR LIST – EAST WING

	MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
	EPOXY COATED REINFORCING					
	WH1	#6	18	STR	24'–0"	
①	WH2	#6	18	STR	13'–7" AVG.	6'–8" TO 20'–6"
	WH3	#6	2	BNT	24'–10"	
	WP1	#4	3	BNT	8'–8"	
	WP2	#4	4	STR	1'–7"	
	WV1	#4	8	STR	3'–11"	
②	WV2	#4	42	STR	7'–2" AVG.	4'–3" TO 10'–1"

① 2 SETS OF 9 BARS
② 2 SETS OF 21 BARS

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 1 (SHEET NO. 4 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B011

Monday, July 31, 2017 4:14:54 PM
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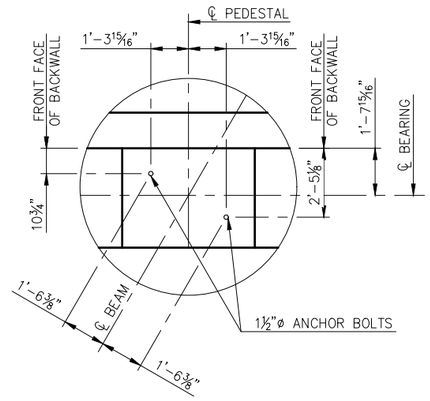
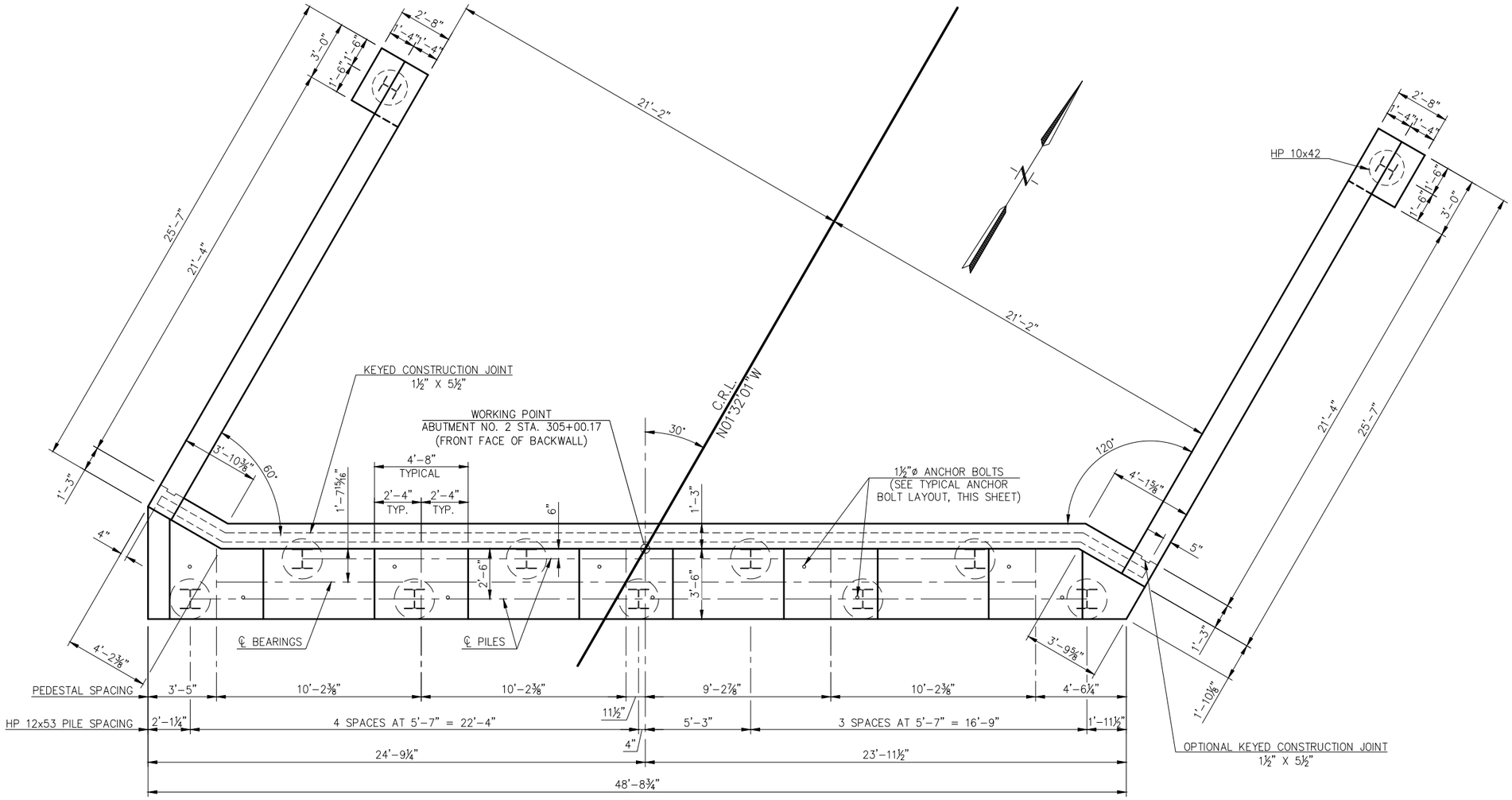
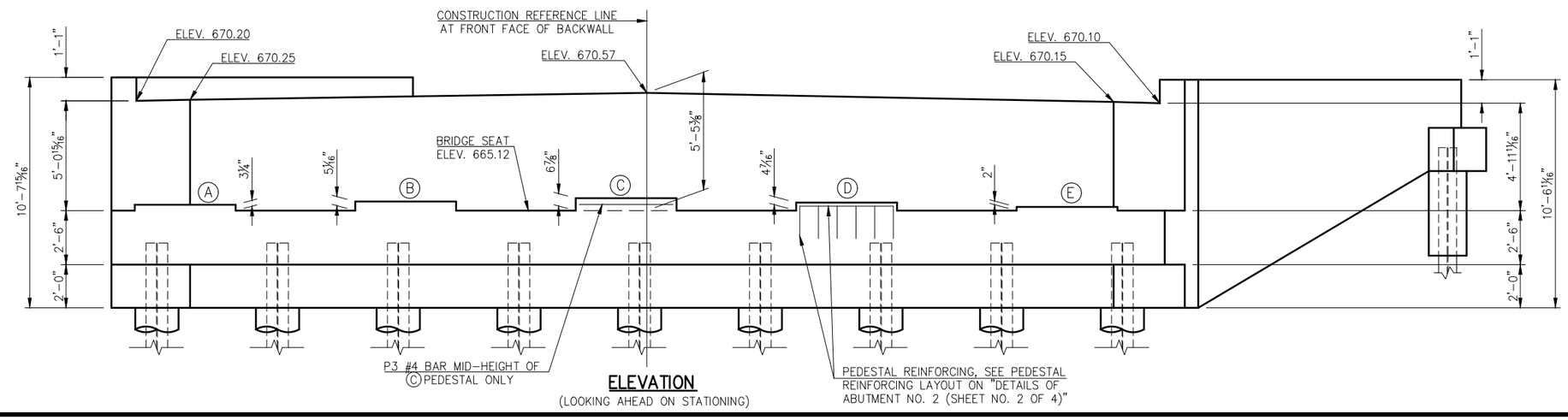
REVISIONS		
REV. NO.	DESCRIPTION	DATE



TYPICAL ANCHOR BOLT LAYOUT



PLAN



ELEVATION

(LOOKING AHEAD ON STATIONING)

PEDESTAL ELEVATIONS	
PEDESTAL	ELEVATION
Ⓐ	665.39
Ⓑ	665.54
Ⓒ	665.70
Ⓓ	665.49
Ⓔ	665.29

QUANTITIES – ABUTMENT NO. 2		
ITEM	UNIT	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	125.00
CLSM BACKFILL	C.Y.	144.00
CLASS A CONCRETE	C.Y.	58.00
EPOXY COATED REINFORCING STEEL	LB.	8,300.00
PILES, FURNISHED (HP 10X42)	L.F.	42.00
PILES, FURNISHED (HP 12X53)	L.F.	189.00
PILES, DRIVEN (HP 10X42)	L.F.	42.00
PILES, DRIVEN (HP 12X53)	L.F.	189.00
(PL) PILOT HOLES	L.F.	165.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	66.00
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	48.00
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	30.00

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 2 (SHEET NO. 1 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B012

Monday, July 31, 2017 4:15:08 PM
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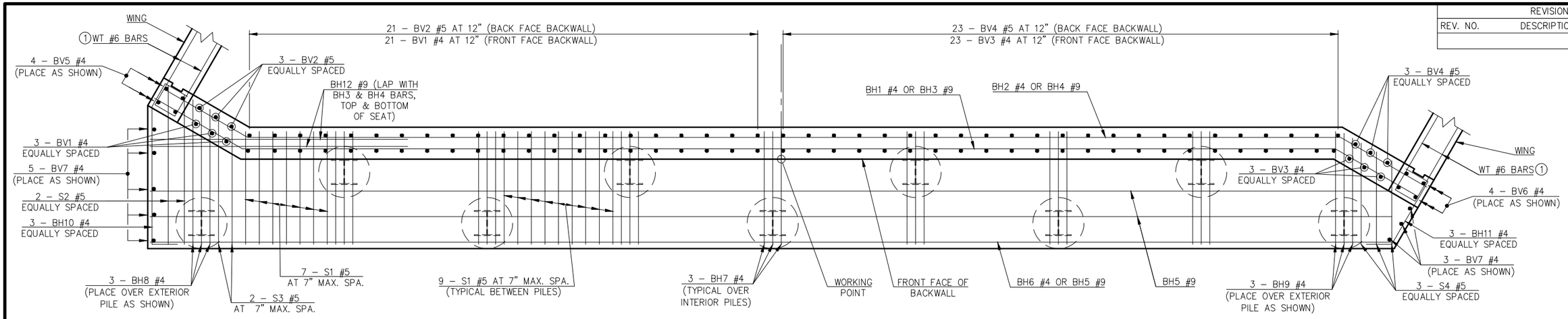
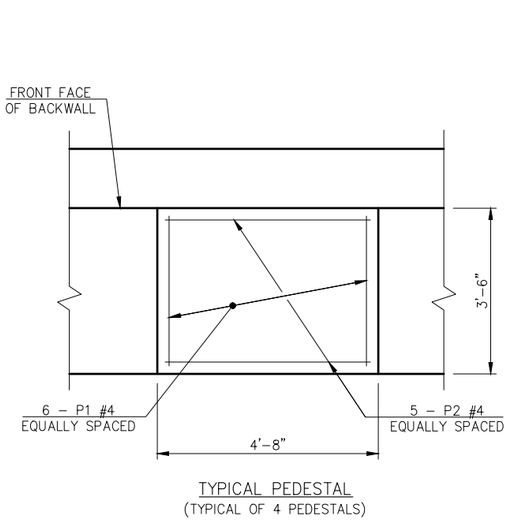
REVISIONS		
REV. NO.	DESCRIPTION	DATE

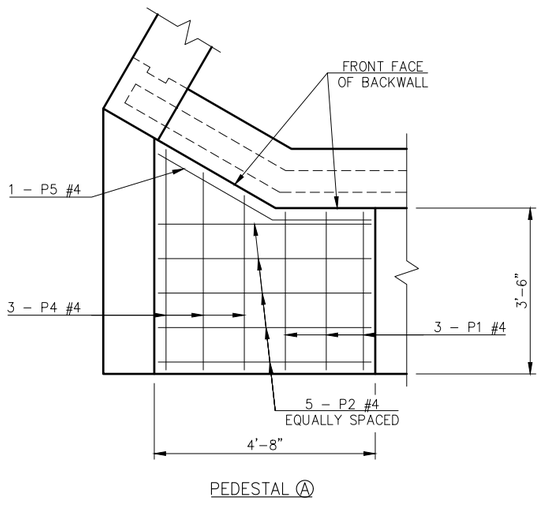


LAYOUT OF ABUTMENT REINFORCING STEEL

(1) SEE "DETAILS OF ABUTMENT NO. 1 (SHEET NO. 4 OF 4) FOR LOCATIONS OF WT BARS.

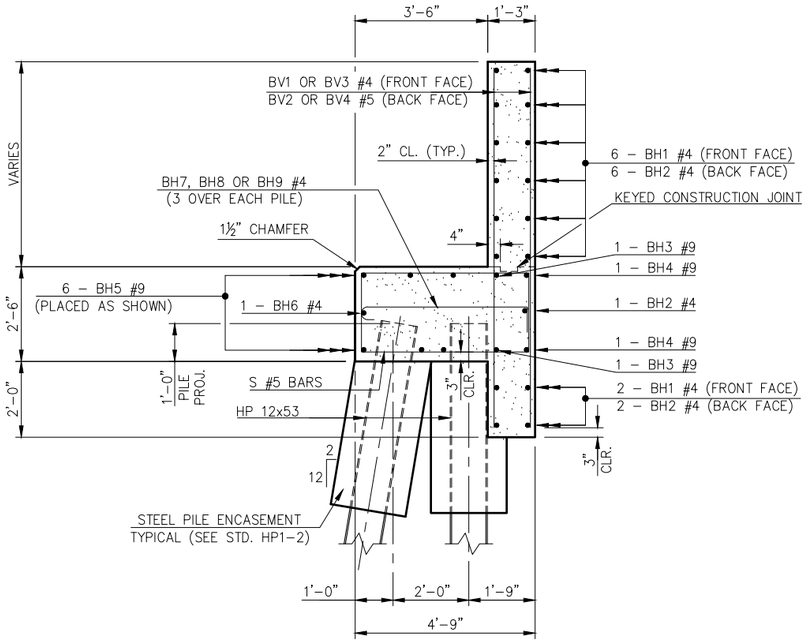


TYPICAL PEDESTAL
(TYPICAL OF 4 PEDESTALS)

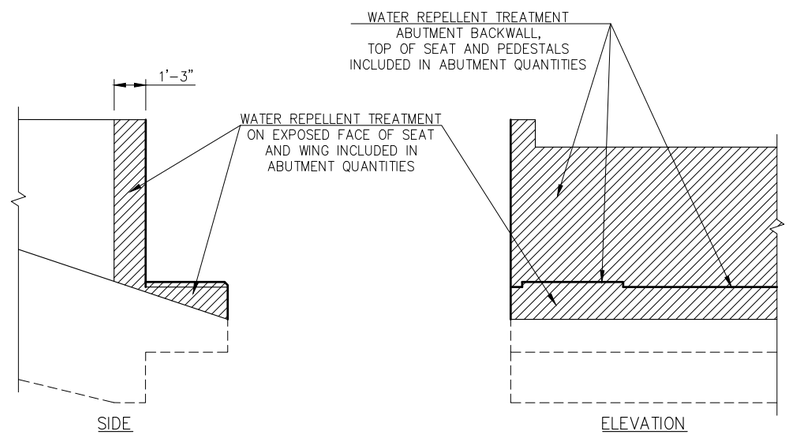


PEDESTAL (A)

PEDESTAL REINFORCING LAYOUT



TYPICAL SECTION THRU SEAT



WATER REPELLENT TREATMENT DETAILS

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 2 (SHEET NO. 2 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B013

Monday, July 31, 2017 4:15:24 PM
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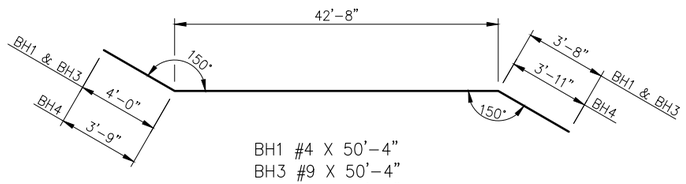
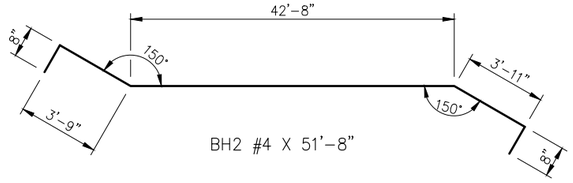
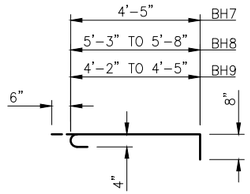
REVISIONS		
REV. NO.	DESCRIPTION	DATE



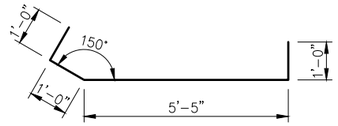
BH1 #4 X 50'-4"
BH3 #9 X 50'-4"
BH4 #9 X 50'-4"



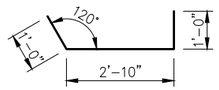
BH2 #4 X 51'-8"



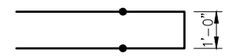
BH7 #4 X 5'-7"
BH8 #4 X 6'-7½" AVG
BH9 #4 X 5'-5½" AVG.



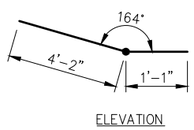
BH10 #4 X 8'-5"



BH11 #4 X 4'-10"

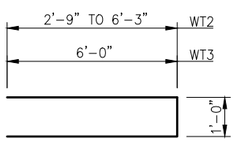


PLAN

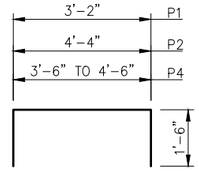


ELEVATION

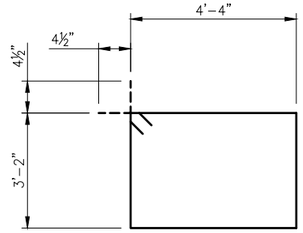
WT1 #6 X 11'-6"



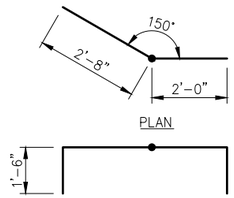
WT2 #6 X 10'-0" AVG.
WT3 #6 X 13'-0"



P1 #4 X 6'-2"
P2 #4 X 7'-4"
P4 #4 X 7'-0" AVG.



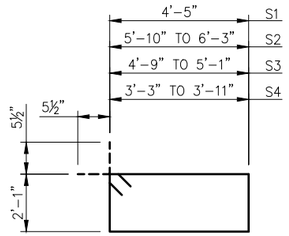
P3 #4 X 15'-9"



PLAN

ELEVATION

P5 #4 X 7'-8"



S1 #5 X 13'-11"
S2 #5 X 17'-2" AVG.
S3 #5 X 14'-11" AVG.
S4 #5 X 12'-3" AVG.

BAR LIST – ABUTMENT NO. 2
(EXCLUDES WINGS) (1)

MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
EPOXY COATED REINFORCING					
BH1	#4	8	BNT.	50'-4"	
BH2	#4	9	BNT.	51'-8"	
BH3	#9	2	BNT.	50'-4"	
BH4	#9	2	BNT.	50'-4"	
BH5	#9	6	STR.	48'-5"	
BH6	#4	1	STR.	48'-5"	
BH7	#4	21	BNT.	5'-7"	
BH8	#4	3	BNT.	6'-7½" AVG.	6'-5" TO 6'-10"
BH9	#4	3	BNT.	5'-5½" AVG.	5'-4" TO 5'-7"
BH10	#4	3	BNT.	8'-5"	
BH11	#4	3	BNT.	4'-10"	
BH12	#9	4	STR.	10'-0"	
BV1	#4	24	STR.	9'-4" AVG.	9'-2" TO 9'-6"
BV2	#5	24	STR.	9'-4" AVG.	9'-2" TO 9'-6"
BV3	#4	26	STR.	9'-3" AVG.	9'-0" TO 9'-6"
BV4	#5	26	STR.	9'-3" AVG.	9'-0" TO 9'-6"
BV5	#4	4	STR.	10'-3"	
BV6	#4	4	STR.	10'-1"	
BV7	#4	8	STR.	2'-1"	
P1	#4	27	BNT.	6'-2"	
P2	#4	25	BNT.	7'-4"	
P3	#4	1	BNT.	15'-9"	
P4	#4	3	BNT.	7'-0" AVG.	6'-6" TO 7'-6"
P5	#4	1	BNT.	7'-8"	
S1	#5	70	BNT.	13'-11"	
S2	#5	2	BNT.	17'-2" AVG.	16'-9" TO 17'-7"
S3	#5	2	BNT.	14'-11" AVG.	14'-7" TO 15'-3"
S4	#5	3	BNT.	12'-3" AVG.	11'-7" TO 12'-11"
WT1	#6	2	BNT.	11'-6"	
(2) WT2	#6	6	BNT.	10'-0" AVG.	6'-6" TO 13'-6"
WT3	#6	36	BNT.	13'-0"	

(1) SEE "DETAILS OF ABUTMENT NO. 2 (SHEET NO. 4 OF 4)" FOR WING BAR LISTS AND BEND DIAGRAMS.

(2) 2 SETS OF 3 BARS

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 2 (SHEET NO. 3 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B014

Monday, July 31, 2017 4:15:38 PM
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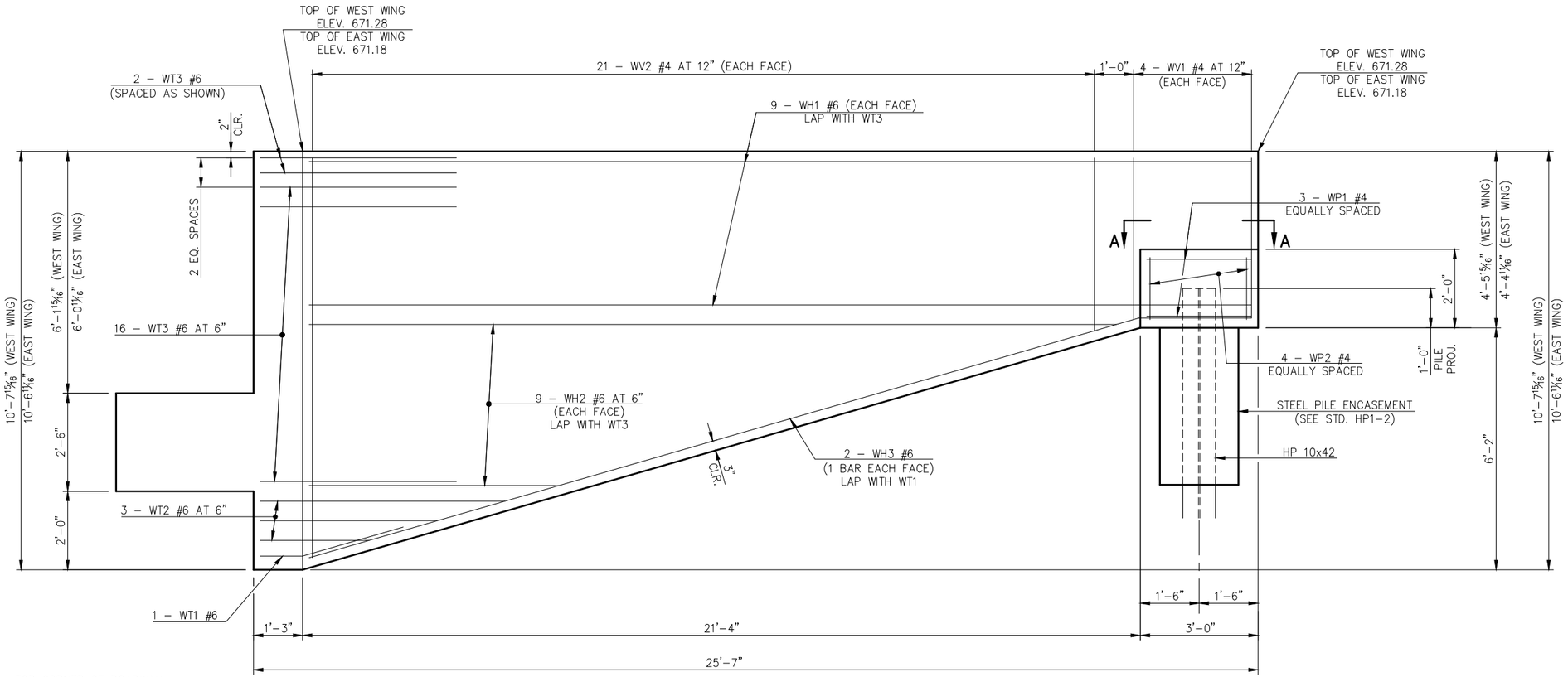
REVISIONS		
REV. NO.	DESCRIPTION	DATE



WING ELEVATION

BAR LIST – WEST WING

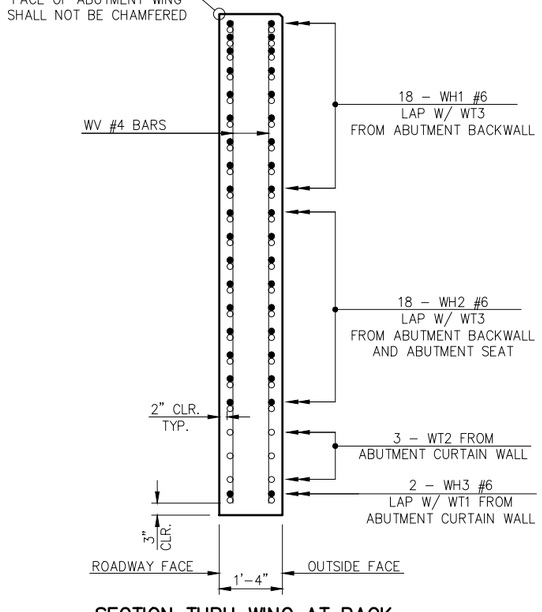
	MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
	EPOXY COATED REINFORCING					
	WH1	#6	18	STR	24'–0"	
①	WH2	#6	18	STR	13'–7" AVG.	6'–8" TO 20'–6"
	WH3	#6	2	BNT	24'–10"	
	WP1	#4	3	BNT	8'–8"	
	WP2	#4	4	STR	1'–7"	
	WV1	#4	8	STR	4'–1"	
②	WV2	#4	42	STR	7'–3½" AVG.	4'–5" TO 10'–2"

① 2 SETS OF 9 BARS
② 2 SETS OF 21 BARS

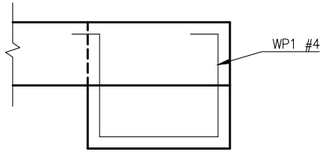
BAR LIST – EAST WING

	MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
	EPOXY COATED REINFORCING					
	WH1	#6	18	STR	24'–0"	
①	WH2	#6	18	STR	13'–7" AVG.	6'–8" TO 20'–6"
	WH3	#6	2	BNT	24'–10"	
	WP1	#4	3	BNT	8'–8"	
	WP2	#4	4	STR	1'–7"	
	WV1	#4	8	STR	3'–11"	
②	WV2	#4	42	STR	7'–2" AVG.	4'–3" TO 10'–1"

① 2 SETS OF 9 BARS
② 2 SETS OF 21 BARS

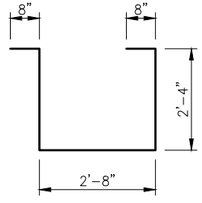


SECTION THRU WING AT BACK FACE OF ABUTMENT SEAT (NORTH WING)

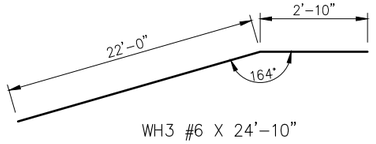


SECTION A–A

(ALL OTHER REINFORCING NOT SHOWN FOR CLARITY)



WP1 #4 X 8'–8"



WH3 #6 X 24'–10"

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF ABUTMENT NO. 2 (SHEET NO. 4 OF 4)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B015

Monday, July 31, 2017 4:15:54 PM
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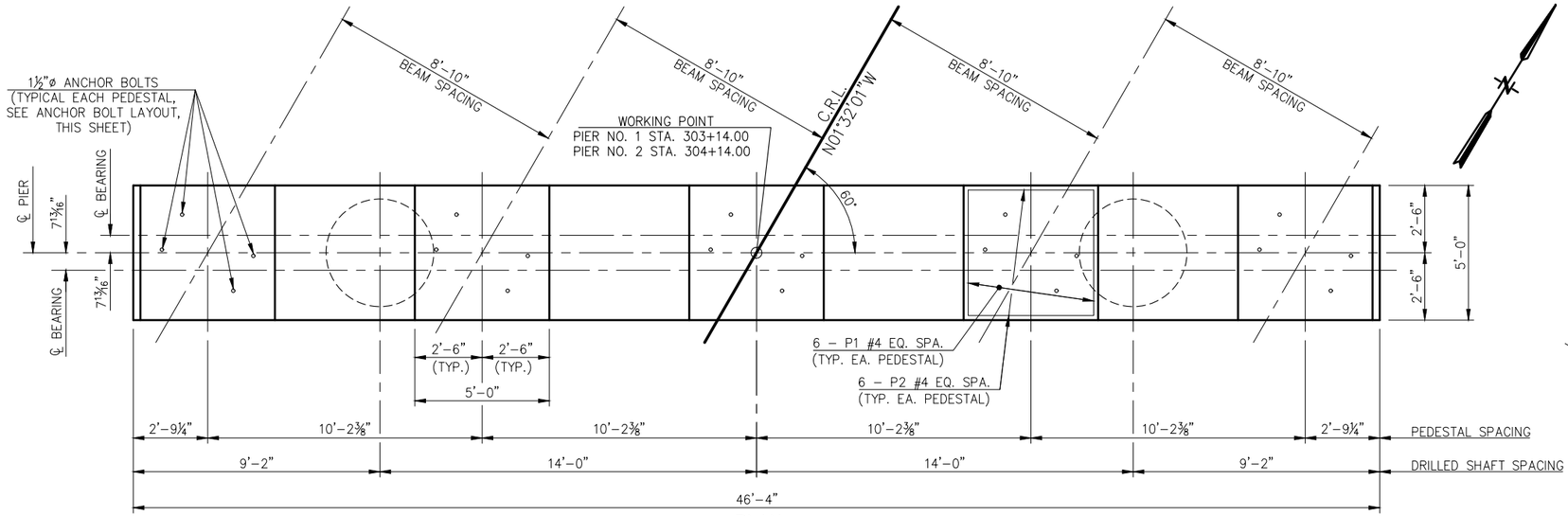
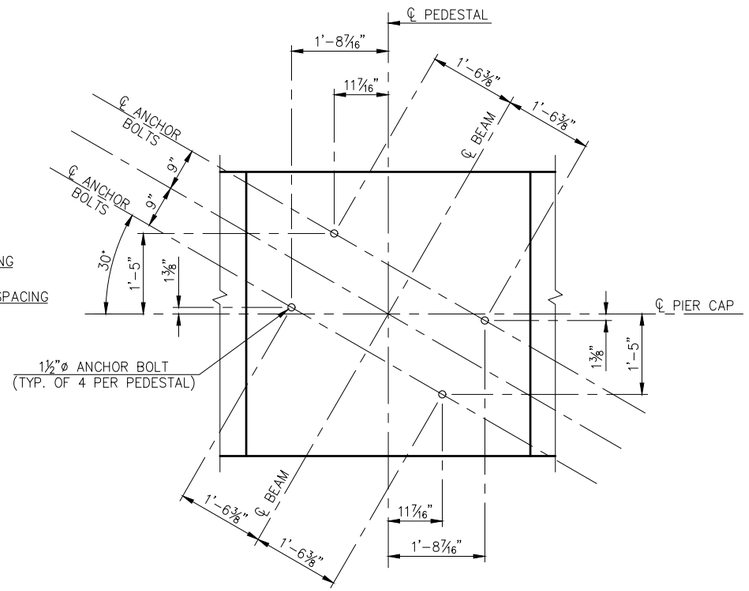
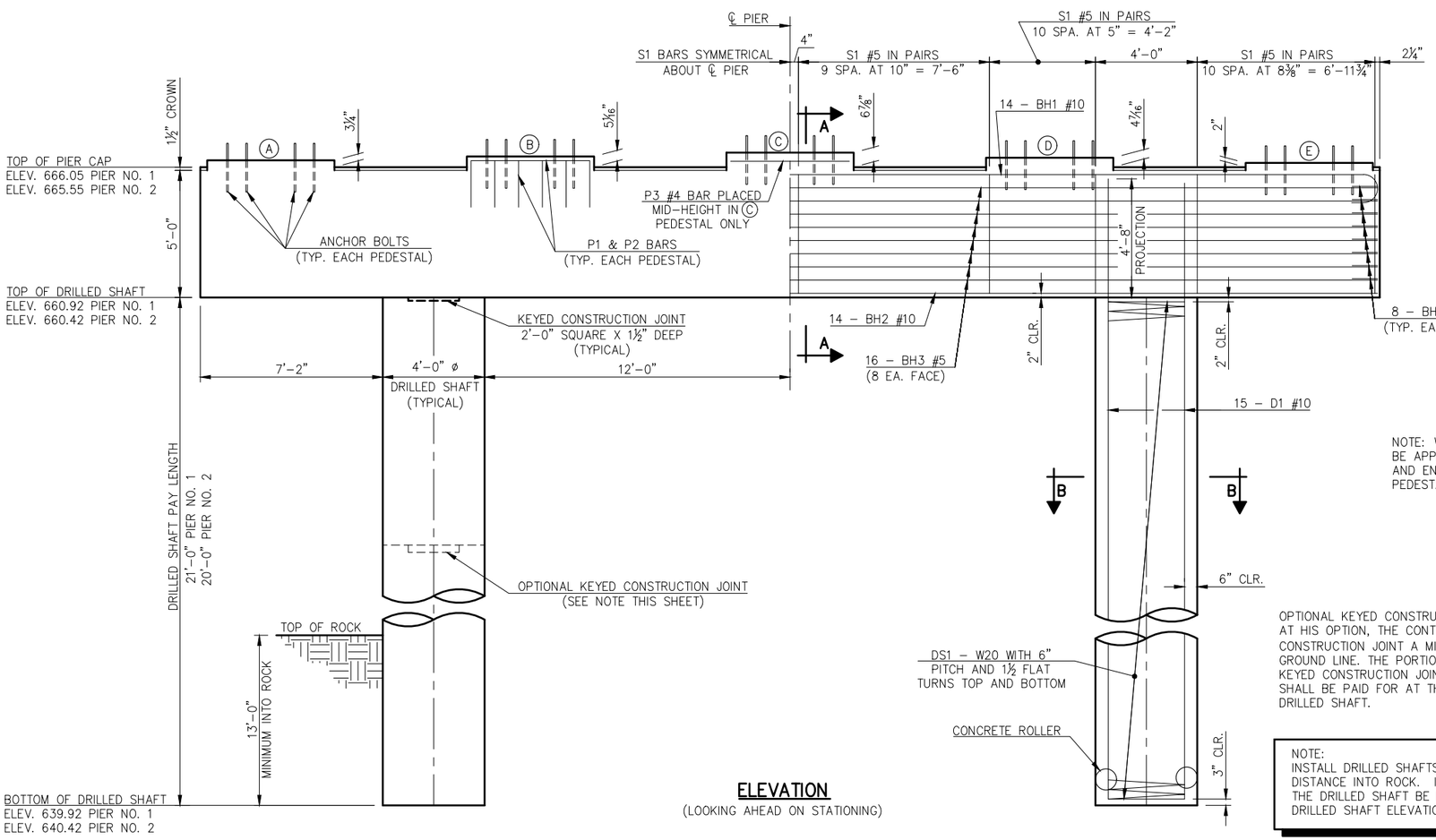
REVISIONS		
REV. NO.	DESCRIPTION	DATE



PLAN



ANCHOR BOLT LAYOUT



ELEVATION

(LOOKING AHEAD ON STATIONING)

PEDESTAL ELEVATIONS					
PIER NO.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
1	666.31	666.47	666.62	666.41	666.21
2	665.81	665.97	666.12	665.91	665.71

NOTE: WATER REPELLENT SHALL BE APPLIED TO THE TOP, SIDES AND ENDS OF THE PIER CAP AND PEDESTALS.

PIER QUANTITIES				
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
CLASS A CONCRETE	C.Y.	45.40	45.40	90.80
EPOXY COATED REINFORCING STEEL	LB.	9,010.00	9,010.00	18,020.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	89.00	89.00	178.00
DRILLED SHAFTS 48" DIAMETER	L.F.	42.00	40.00	82.00
CROSSHOLE SONIC LOGGING	EA.	–	–	1.00

OPTIONAL KEYED CONSTRUCTION JOINT:
AT HIS OPTION, THE CONTRACTOR MAY ELECT TO FORM A KEYED CONSTRUCTION JOINT A MINIMUM OF 1' ABOVE THE NATURAL GROUND LINE. THE PORTION OF SHAFT ABOVE THE OPTIONAL KEYED CONSTRUCTION JOINT SHALL BE FORMED AND POURED AND SHALL BE PAID FOR AT THE UNIT PRICE PER LINEAR FOOT OF DRILLED SHAFT.

NOTE:
INSTALL DRILLED SHAFTS AT LEAST THE SPECIFIED MINIMUM DISTANCE INTO ROCK. IN NO CASE SHALL THE BOTTOM OF THE DRILLED SHAFT BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN IN THE PLANS.

DESIGN	MBS	2/15
DETAIL	SLP	2/15
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

DETAILS OF PIERS (SHEET NO. 1 OF 2)

STATE JOB PIECE NO. 28857(04) SHEET NO. B016

Monday, July 31, 2017 4:16:15 PM
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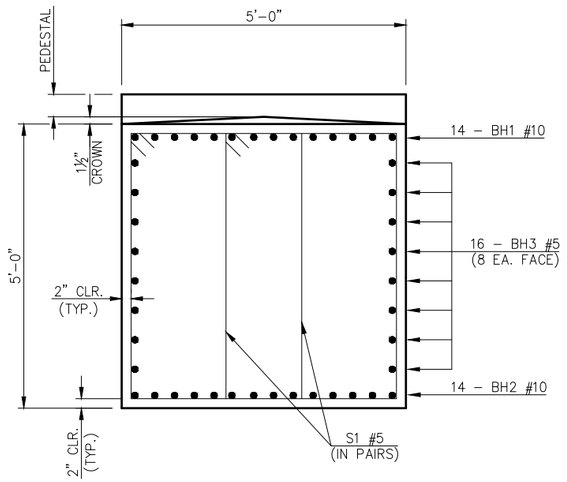
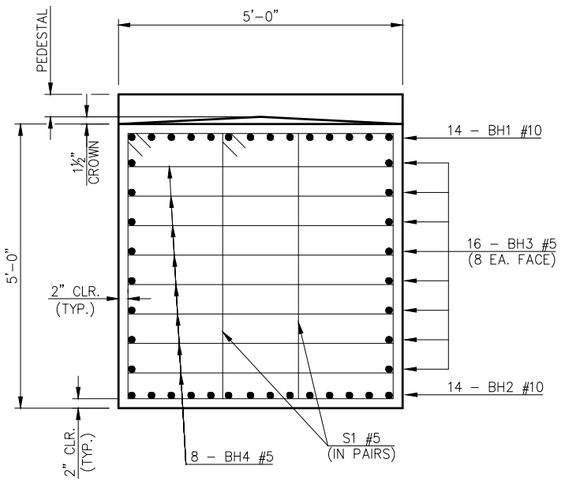
REVISIONS		
REV. NO.	DESCRIPTION	DATE



SECTION A-A



END SECTION
(TYPICAL EACH END)

BAR LIST - PIER NO. 1

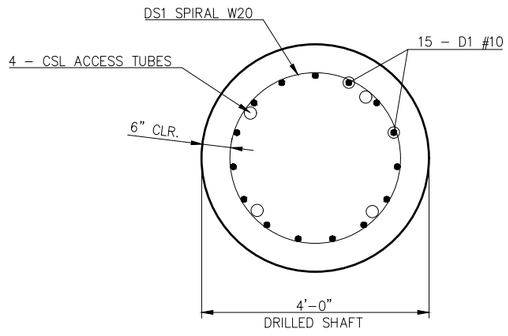
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
BH1	#10	14	BNT.	48'-10"
BH2	#10	14	STR.	46'-0"
BH3	#5	16	STR.	46'-0"
BH4	#5	16	BNT.	6'-8"
P1	#4	30	BNT.	8'-0"
P2	#4	30	BNT.	8'-0"
P3	#4	1	BNT.	19'-5"
S1	#5	124	BNT.	16'-1"
TWO DRILLED SHAFTS ①				
EPOXY COATED REINFORCING				
D1	#10	30	STR.	25'-5"
NON-EPOXY COATED REINFORCING				
DS1	W20	2	SPIRAL	416'-10"

① INCLUDED IN PRICE BID PER LINEAR FOOT OF DRILLED SHAFT

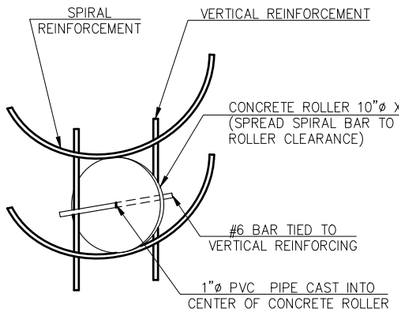
BAR LIST - PIER NO. 2

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
BH1	#10	14	BNT.	48'-10"
BH2	#10	14	STR.	46'-0"
BH3	#5	16	STR.	46'-0"
BH4	#5	16	BNT.	6'-8"
P1	#4	30	BNT.	8'-0"
P2	#4	30	BNT.	8'-0"
P3	#4	1	BNT.	19'-5"
S1	#5	124	BNT.	16'-1"
TWO DRILLED SHAFTS ①				
EPOXY COATED REINFORCING				
D1	#10	30	STR.	24'-5"
NON-EPOXY COATED REINFORCING				
DS1	W20	2	SPIRAL	398'-0"

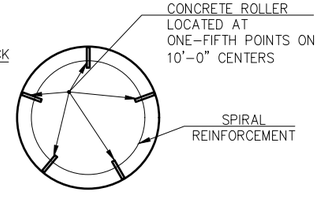
① INCLUDED IN PRICE BID PER LINEAR FOOT OF DRILLED SHAFT



SECTION B-B



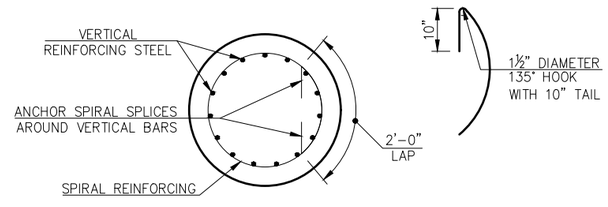
ROLLER INSTALLATION



ROLLER PLACEMENT

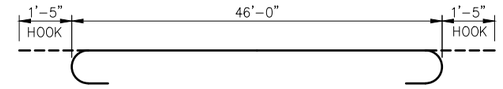
DETAIL OF CONCRETE ROLLER

NOTE: CONCRETE USED IN THE CONCRETE ROLLERS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. SLAB BOLSTERS, HIGH CHAIRS AND PLASTIC ROLLERS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.

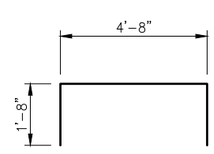


DETAIL OF SPIRAL REINFORCING SPLICE

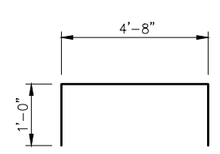
NOTE: SPIRAL BARS SHALL CONFORM TO AASHTO M-32. SPIRAL BAR LENGTH DOES NOT INCLUDE LAP. IF LAP IS REQUIRED, THE LENGTH OF THE LAP SHALL BE AS SHOWN.



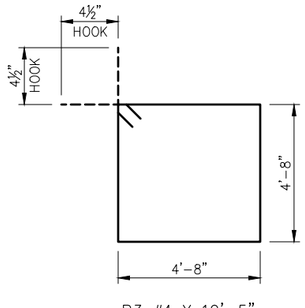
BH1 #10 X 48-10"



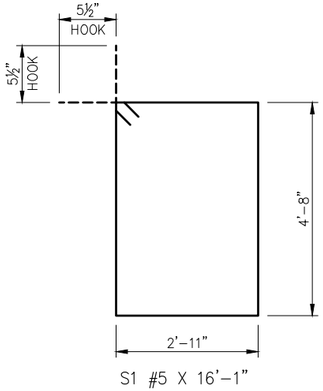
P1 #4 X 8'-0"
P2 #4 X 8'-0"



BH4 #5 X 6'-8"



P3 #4 X 19'-5"



S1 #5 X 16'-1"

DESIGN	MBS	2/15
DETAIL	SLP	2/15
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

DETAILS OF PIERS (SHEET NO. 2 OF 2)

STATE JOB PIECE NO. 28857(04) SHEET NO. B017

Monday, July 31, 2017 4:16:29 PM
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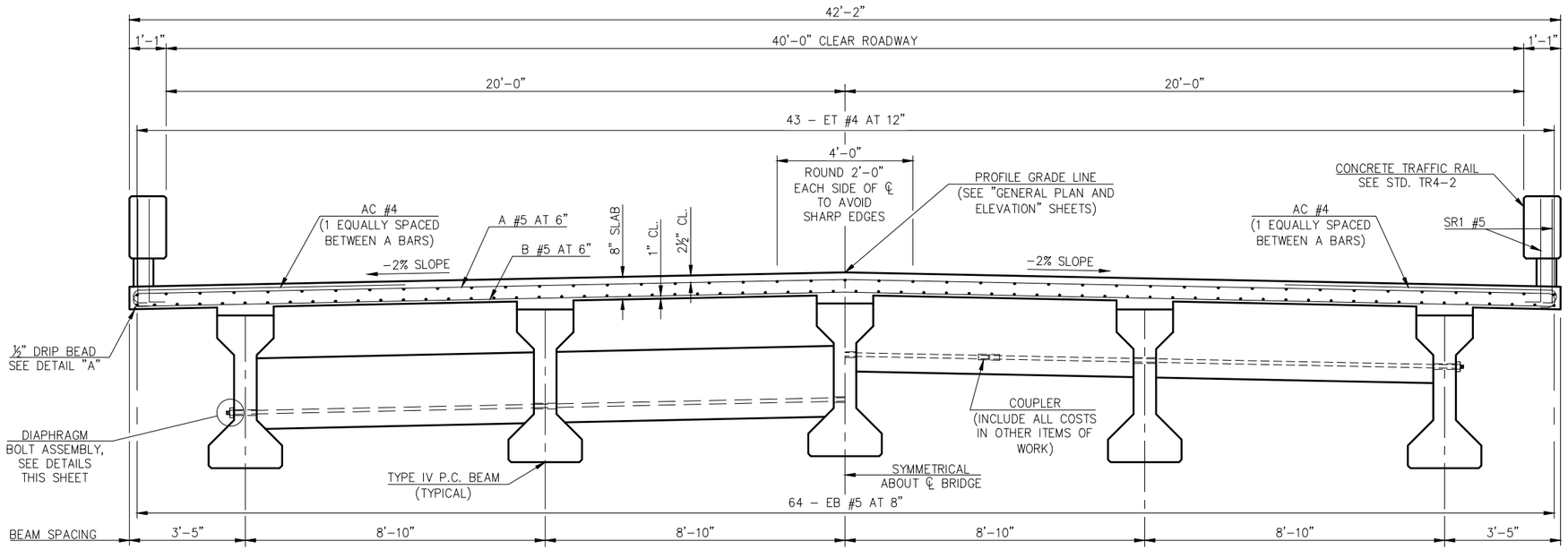
REVISIONS		
REV. NO.	DESCRIPTION	DATE

SUPERSTRUCTURE QUANTITIES

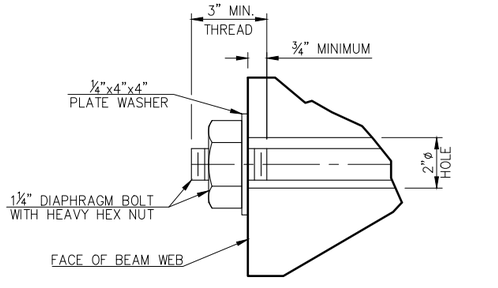
ITEM	UNIT	TOTAL
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	1,345.00
SAW-CUT GROOVING	S.Y.	1,218.10
SEALED EXPANSION JOINT	L.F.	48.90
CONCRETE RAIL (TR4)	L.F.	548.20
STRUCTURAL STEEL	LB.	1,575.00
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	10.00
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	20.00
CLASS AA CONCRETE	C.Y.	331.80
EPOXY COATED REINFORCING STEEL	LB.	89,650.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	915.00
SEALER CRACK PREPARATION	L.F.	46.50
SEALER RESIN	GAL.	0.60



HALF SECTION AT INTERMEDIATE DIAPHRAGM

HALF SECTION AT END DIAPHRAGM

TYPICAL CROSS SECTION

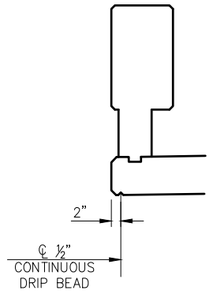


INTERMEDIATE DIAPHRAGM BOLT ASSEMBLY DETAIL

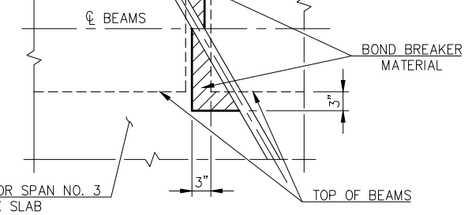
DIAPHRAGM BOLT NOTES:

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, BEVELED SPACER, 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, BEVELED SPACER, AND HEX NUT TO BE INCLUDED IN CONTRACT UNIT PRICE FOR "STRUCTURAL STEEL".



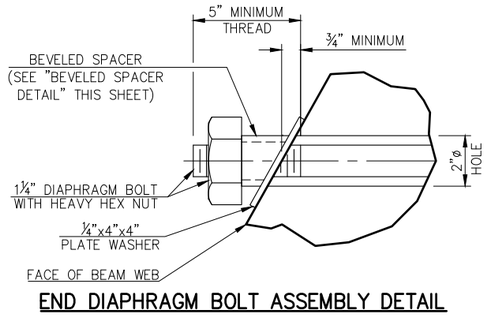
DETAIL "A"



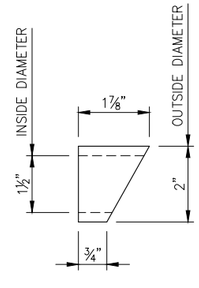
DETAIL OF BOND BREAK AT BEAM CORNER

NOTE:
WHERE THE TOP CORNERS OF BEAMS PROJECT UNDER THE SLAB OF THE ADJACENT SPAN, A MINIMUM OF 1" CLEARANCE BETWEEN THE TOP OF THE BEAM AND THE BOTTOM OF SLAB SHALL BE PROVIDED IN THE HATCHED AREAS SHOWN ABOVE. 1" THICK EXPANSION MATERIAL SHALL BE USED AS A BOND BREAKER.

STAY-IN-PLACE STEEL DECK FORMS SHALL NOT BE USED FOR THIS PROJECT.

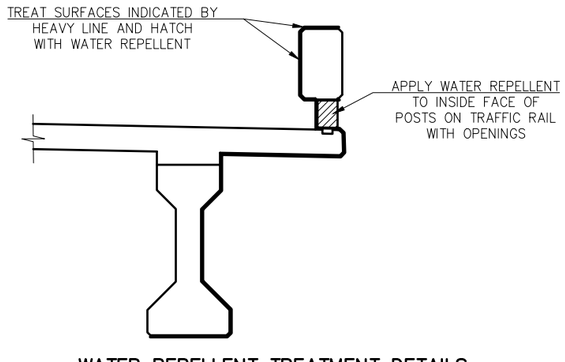


END DIAPHRAGM BOLT ASSEMBLY DETAIL

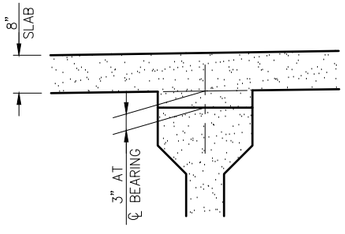


BEVELED SPACER DETAIL

(1½"ø EXTRA STRONG PIPE SLEEVE)



WATER REPELLENT TREATMENT DETAILS



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.

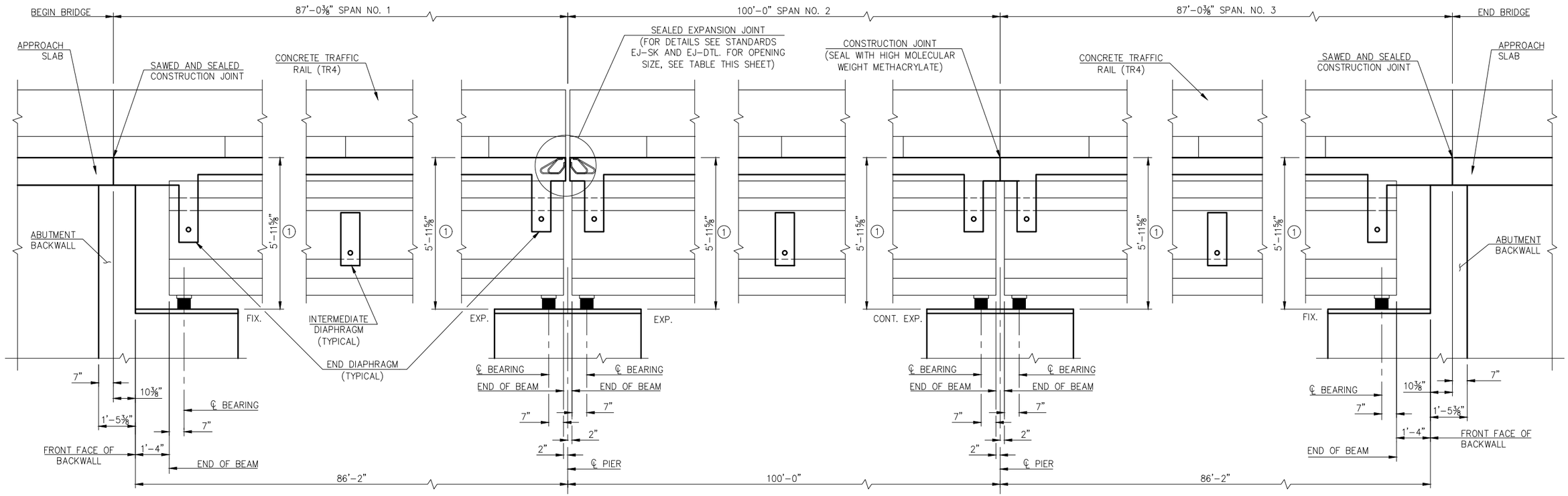
DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE (SHEET NO. 1 OF 7)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B018

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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

① DIMENSION IS FROM TOP OF SLAB TO BOTTOM OF BEARING ASSEMBLY AT ℄ BEARING.

LONGITUDINAL SECTION

NOTE: ALL DIMENSIONS ARE ALONG THE ℄ BEAM.

DECK SLAB NOTES:

EPOXY-COAT OR GALVANIZE STEEL ITEMS USED TO FACILITATE CONSTRUCTION, SUCH AS 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.

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 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.

EXPANSION JOINT OPENING AT PIER NO. 1

JOINT OPENING	AMBIENT AIR TEMP (°F)
½"	120
⅝"	114
¾"	107
⅞"	101
1"	94
1⅛"	88
1¼"	82
1⅜"	75
1½"	69
1⅝"	62
1¾"	56
1⅞"	49
2"	43
2⅛"	37
2¼"	30
2⅜"	24
2½"	17
2⅝"	11
2¾"	4

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

SH-28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE (SHEET NO. 2 OF 7)

STATE JOB PIECE NO. 28857(04) SHEET NO. B019

Monday, July 31, 2017 4:17:06 PM
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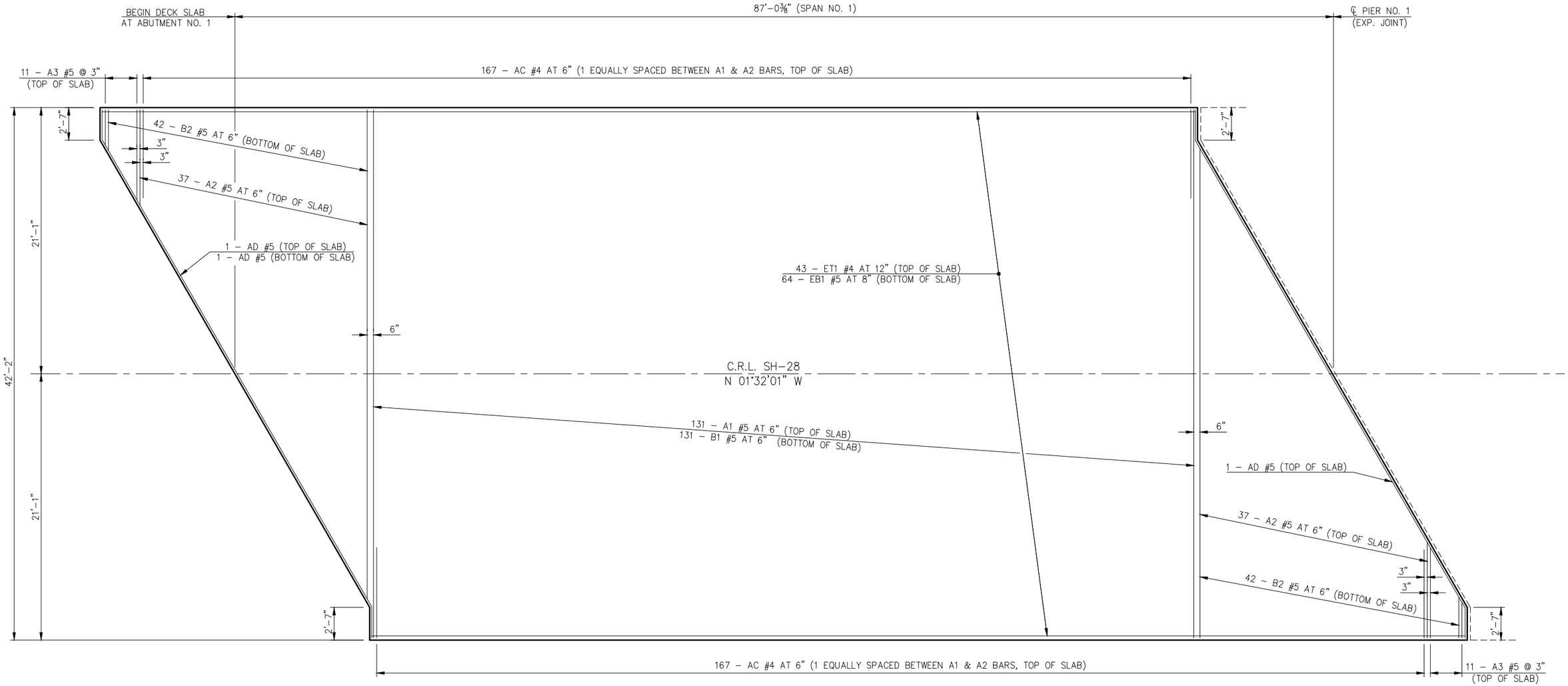
REVISIONS		
REV. NO.	DESCRIPTION	DATE



SLAB REINFORCING LAYOUT
SPAN NO. 1

NOTES:

SR1 BARS FOR CONCRETE RAIL ARE NOT SHOWN FOR CLARITY. SEE TRAFFIC RAIL LAYOUT ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 6 OF 7)" AND STANDARD TR4-2 FOR LOCATIONS OF SR1 BARS.

SEE ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 5 OF 7") FOR ADDITIONAL REINFORCING IN THE SLABS NOT SHOWN ABOVE FOR CLARITY.

SEE "DETAILS OF SUPERSTRUCTURE (SHEET NO. 7 OF 7)" FOR END AND INTERMEDIATE DIAPHRAGM REINFORCING.

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE
(SHEET NO. 3 OF 7)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B020

Monday, July 31, 2017 4:17:17 PM
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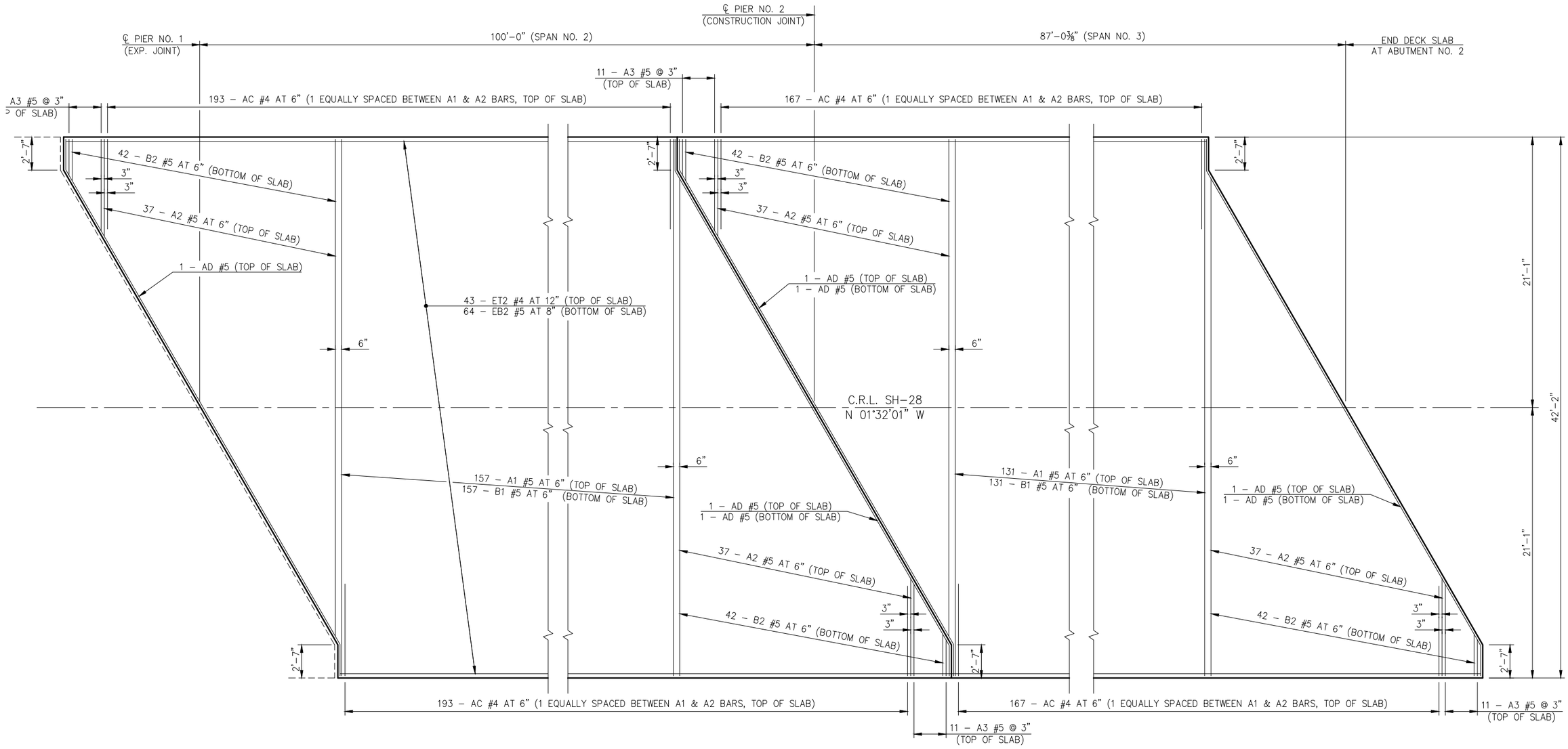
REVISIONS		
REV. NO.	DESCRIPTION	DATE



SLAB REINFORCING LAYOUT
SPAN NOS. 2 & 3

NOTES:

SR1 BARS FOR CONCRETE RAIL ARE NOT SHOWN FOR CLARITY. SEE TRAFFIC RAIL LAYOUT ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 6 OF 7)" AND STANDARD TR4-2 FOR LOCATIONS OF SR1 BARS.

SEE ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 5 OF 7") FOR ADDITIONAL REINFORCING IN THE SLABS NOT SHOWN ABOVE FOR CLARITY.

SEE "DETAILS OF SUPERSTRUCTURE (SHEET NO. 7 OF 7)" FOR END AND INTERMEDIATE DIAPHRAGM REINFORCING.

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE
(SHEET NO. 4 OF 7)

STATE JOB PIECE NO. 28857(04) SHEET NO. B021

Monday, July 31, 2017 4:17:32 PM
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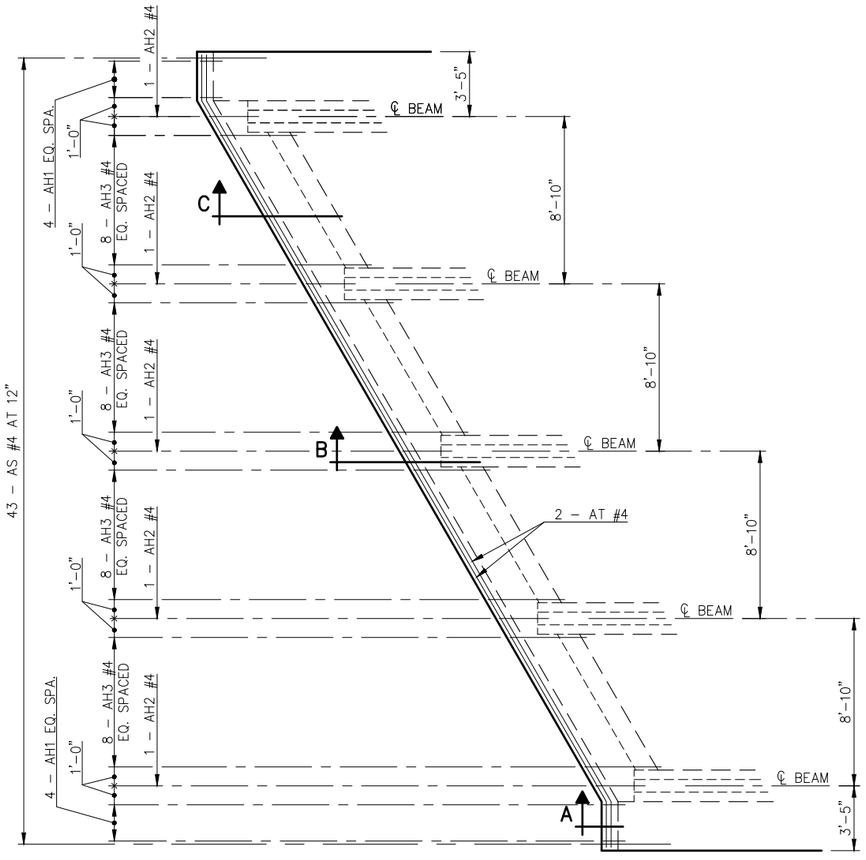
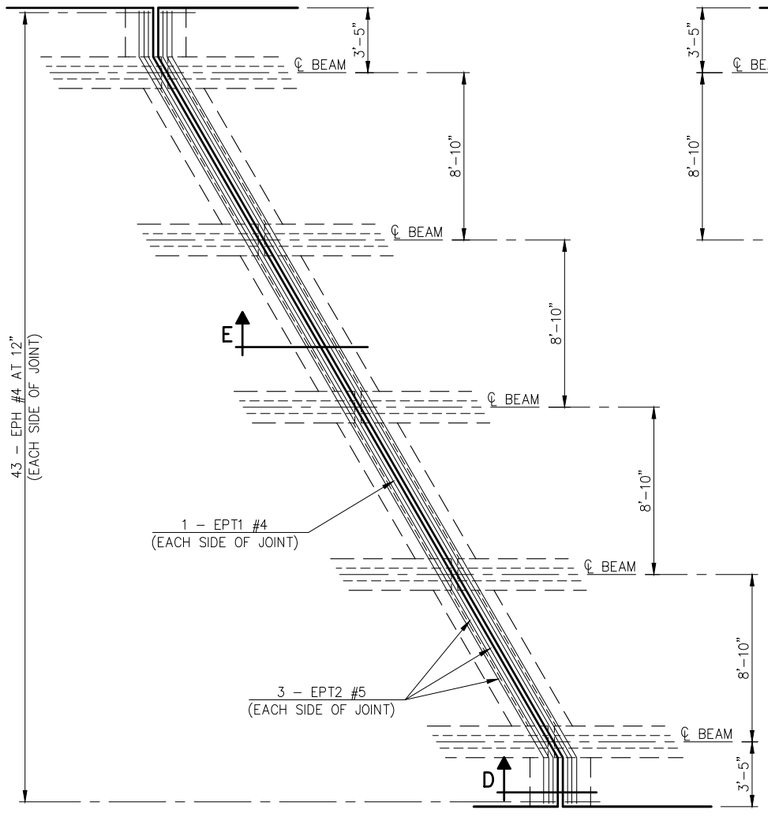
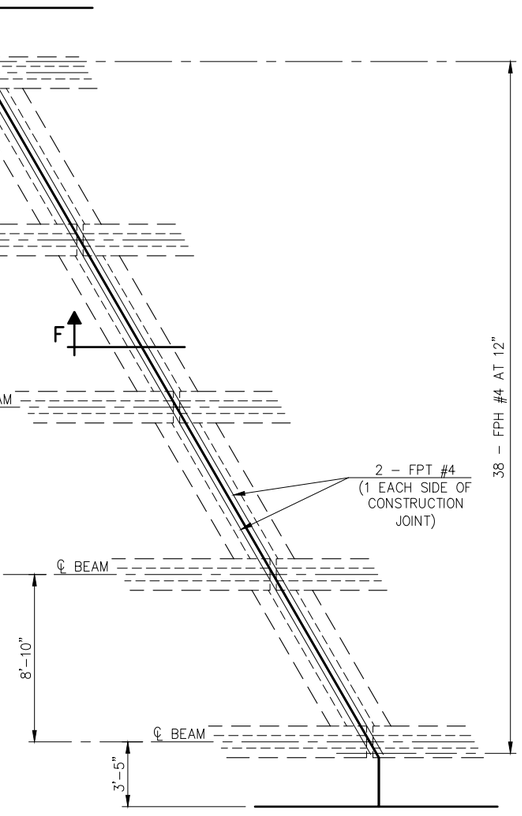
REVISIONS		
REV. NO.	DESCRIPTION	DATE



ABUTMENT
(TYPICAL AT ABUTMENT NOS. 1 & 2)

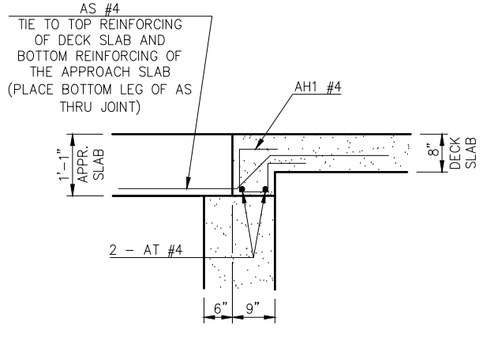


EXPANSION PIER
(PIER NO. 1)

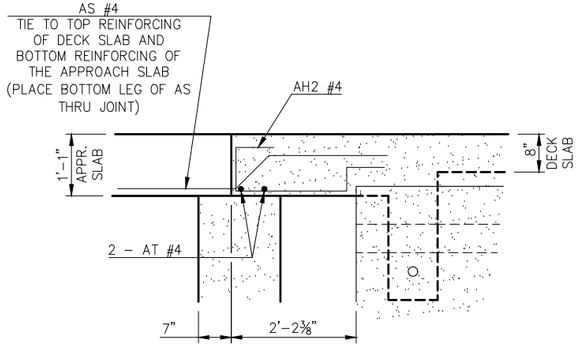


CONTINUOUS EXPANSION PIER
(PIER NO. 2)

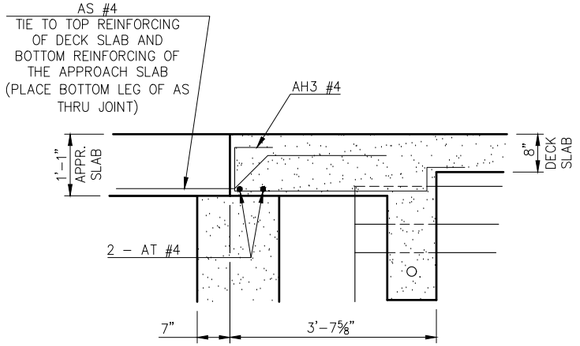
ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLANS



SECTION A
(TYPICAL AT OVERHANGS)
ADDITIONAL REINFORCING AT JOINT SHOWN. MAIN DECK SLAB AND APPROACH SLAB REINFORCING OMITTED FOR CLARITY.



SECTION B
(TYPICAL AT BEAMS)
ADDITIONAL REINFORCING AT JOINT SHOWN. MAIN DECK SLAB AND APPROACH SLAB REINFORCING OMITTED FOR CLARITY.



SECTION C
(TYPICAL BETWEEN BEAMS)
ADDITIONAL REINFORCING AT JOINT SHOWN. MAIN DECK SLAB AND APPROACH SLAB REINFORCING OMITTED FOR CLARITY.

NOTE:
SEE "DETAILS OF SUPERSTRUCTURE (SHEET NO. 6 OF 7)" FOR SECTIONS D, E AND F.

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH–28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE (SHEET NO. 5 OF 7)

STATE JOB PIECE NO. 28857(04) SHEET NO. B022

Monday, July 31, 2017 4:17:44 PM
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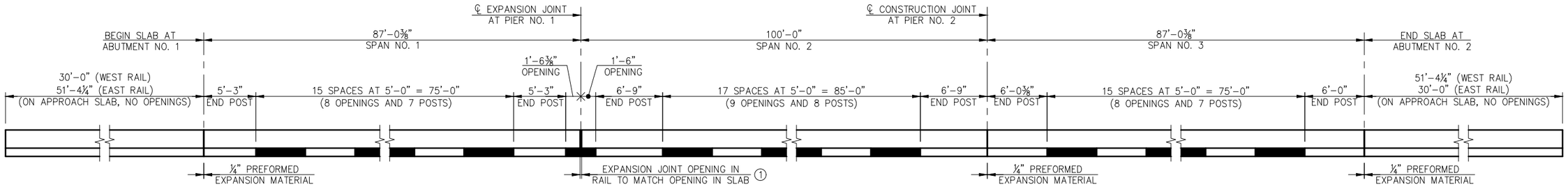
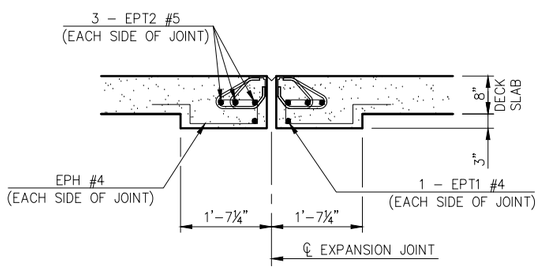
REVISIONS		
REV. NO.	DESCRIPTION	DATE



TRAFFIC RAIL LAYOUT

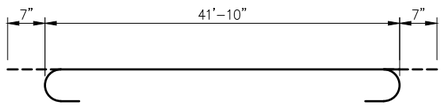
(FOR TRAFFIC RAIL DETAILS NOT SHOWN, SEE STD. TR4-2)

① FOR EXPANSION JOINT OPENING IN DECK SLAB AND CONCRETE TRAFFIC RAIL (TR4), SEE TABLE ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 2 OF 7).

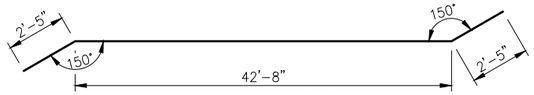


SECTION D

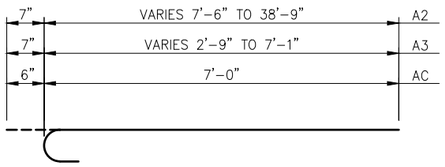
(TYPICAL AT OVERHANGS)
ADDITIONAL REINFORCING AT JOINT SHOWN. MAIN DECK SLAB REINFORCING OMITTED FOR CLARITY.



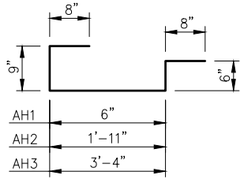
A1 #5 X 43'-0"



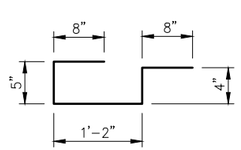
AD #5 X 47'-6"
AT #4 X 47'-6"
EPT1 #4 X 47'-6"
EPT2 #5 X 47'-6"



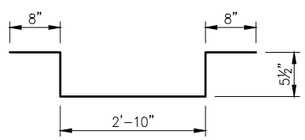
A2 #5 X 23'-8½" AVG.
A3 #5 X 5'-6" AVG.
AC #4 X 7'-6"



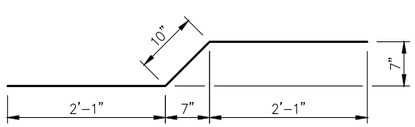
AH1 #4 X 3'-1"
AH2 #4 X 4'-6"
AH3 #4 X 5'-11"



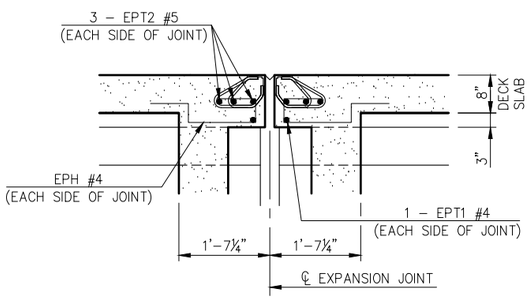
EPH #4 X 3'-3"



FPH #4 X 5'-1"

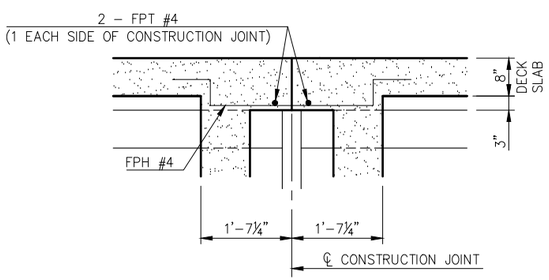


AS #4 x 5'-0"



SECTION E

(TYPICAL BETWEEN BEAMS)
ADDITIONAL REINFORCING AT JOINT SHOWN. MAIN DECK SLAB REINFORCING OMITTED FOR CLARITY.



SECTION F

(TYPICAL BETWEEN BEAMS)
ADDITIONAL REINFORCING AT JOINT SHOWN. MAIN DECK SLAB REINFORCING OMITTED FOR CLARITY.

SUPERSTRUCTURE BAR LIST

(EXCLUDING END & INTERMEDIATE DIAPHRAGM REINFORCING) ⑩

	MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
	EPOXY COATED REINFORCING					
	A1	#5	419	BNT.	43'-0"	–
②	A2	#5	222	BNT.	23'-8½" AVG.	8'-1" TO 39'-4"
③	A3	#5	66	BNT.	5'-6" AVG.	3'-4" TO 7'-8"
	AC	#4	1,054	BNT.	7'-6"	–
	AD	#5	10	BNT.	47'-6"	–
	AH1	#4	16	BNT.	3'-1"	–
	AH2	#4	10	BNT.	4'-6"	–
	AH3	#4	64	BNT.	5'-11"	–
	AS	#4	86	BNT.	5'-0"	–
	AT	#4	4	BNT.	47'-6"	–
	B1	#5	419	STR.	41'-10"	–
④	B2	#5	252	STR.	20'-11½" AVG.	3'-2" TO 38'-9"
⑤	EB1	#5	64	STR.	89'-1"	–
⑥	EB2	#5	64	STR.	194'-1"	–
	EPH	#4	86	BNT.	3'-3"	–
	EPT1	#4	2	BNT.	47'-6"	–
	EPT2	#5	6	BNT.	47'-6"	–
⑦	ET1	#4	43	STR.	88'-7"	–
⑧	ET2	#4	43	STR.	192'-7"	–
	FPH	#4	38	BNT.	5'-1"	–
	FPT	#4	2	STR.	42'-4"	–
⑨	SR1	#5	1,060	BNT.	4'-1"	–

② 6 SETS OF 37 BARS
③ 6 SETS OF 11 BARS
④ 6 SETS OF 42 BARS
⑤ LENGTH INCLUDES ONE 2'-6" LAP, STAGGER LAPS
⑥ LENGTH INCLUDES THREE 2'-6" LAPS, STAGGER LAPS
⑦ LENGTH INCLUDES ONE 2'-0" LAP, STAGGER LAPS
⑧ LENGTH INCLUDES THREE 2'-0" LAPS, STAGGER LAPS
⑨ SEE STD. TR4-2 FOR SR1 BAR BEND DIAGRAM
⑩ SEE "DETAILS OF SUPERSTRUCTURE (SHEET NO. 7 OF 7)" FOR END AND INTERMEDIATE DIAPHRAGM REINFORCING.

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

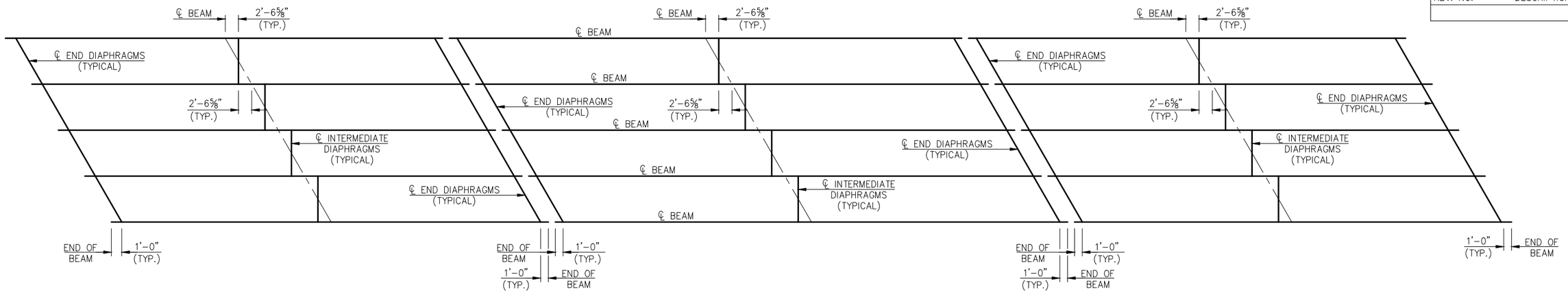
SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE (SHEET NO. 6 OF 7)

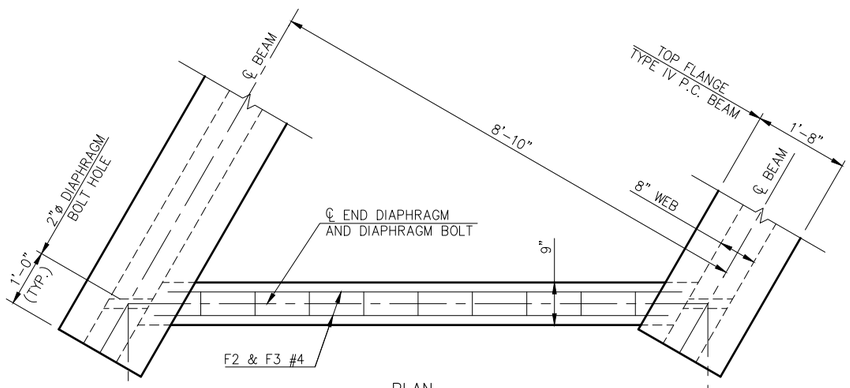
STATE JOB PIECE NO. 28857(04) — SHEET NO. B023

Monday, July 31, 2017 4:17:59 PM
V:\12-716E SH-28 Salt Creek JP 28857\STRUCTURAL\DWG\Salt Creek - SUPERSTRUCTURE.dwg

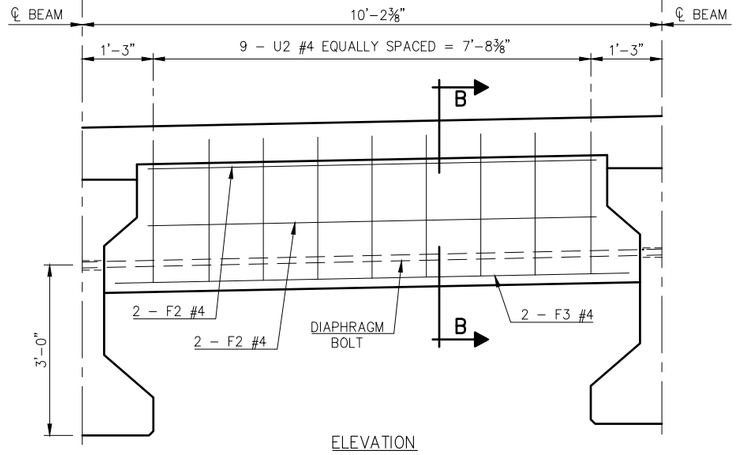
REVISIONS		
REV. NO.	DESCRIPTION	DATE



DIAPHRAGM LAYOUT – PLAN



PLAN

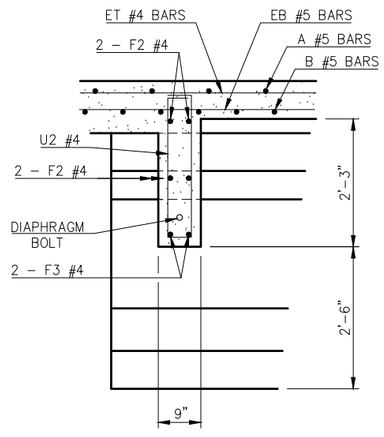


ELEVATION

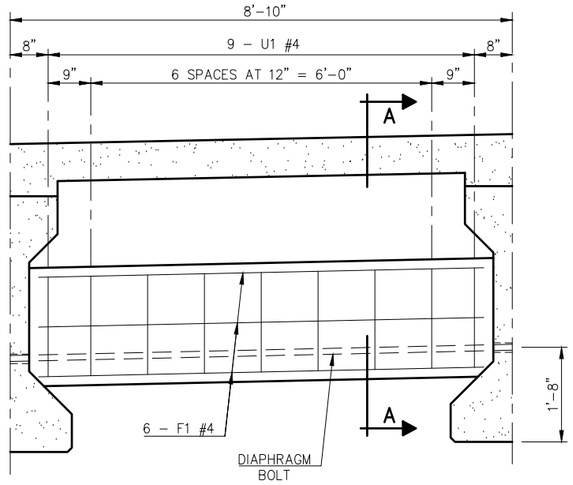
END DIAPHRAGM DETAILS

END DIAPHRAGM BAR LIST
(ONE DIAPHRAGM SHOWN, SIX REQUIRED)

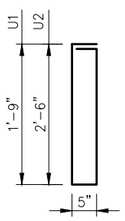
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
F2	#4	16	STR.	7'-11"
F3	#4	8	STR.	9'-0"
U2	#4	36	BNT.	6'-3"



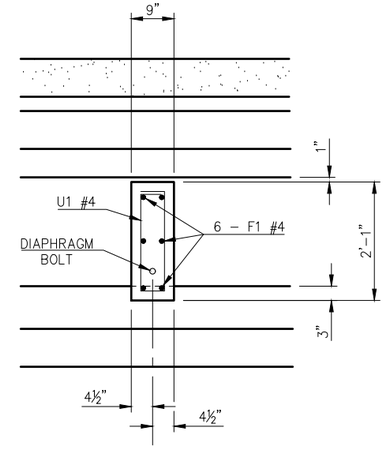
SECTION B–B



INTERMEDIATE DIAPHRAGM DETAIL
(ONE INTERMEDIATE DIAPHRAGM PER SPAN)



U1 #4 X 4'-9"
U2 #4 X 6'-3"



SECTION A–A

INTERMEDIATE DIAPHRAGM BAR LIST
(ONE DIAPHRAGM SHOWN, THREE REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
F1	#4	24	STR.	7'-10"
U1	#4	36	BNT.	4'-9"

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

GUY ENGINEERING SERVICES, INC.

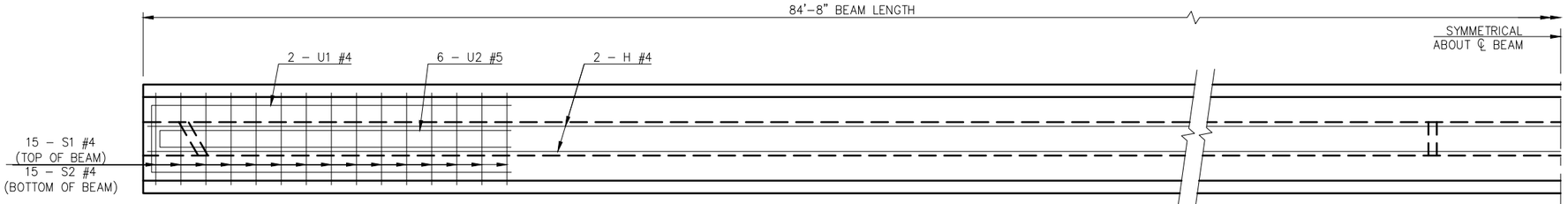
SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF SUPERSTRUCTURE (SHEET NO. 7 OF 7)

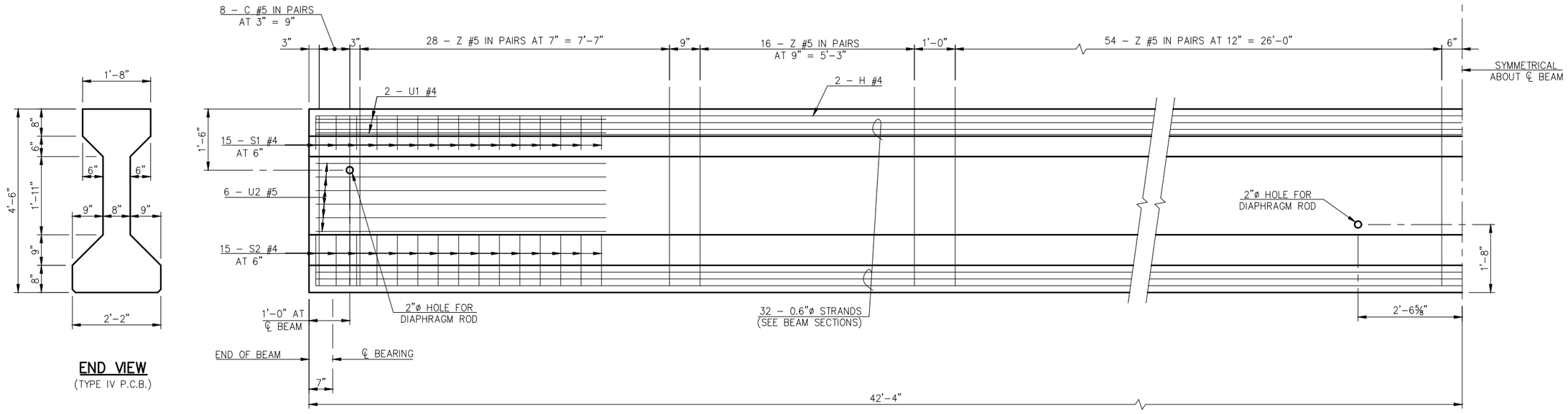
STATE JOB PIECE NO. 28857(04) — SHEET NO. B024

Monday, July 31, 2017 4:18:16 PM
V:\12-716E SH-28 Salt Creek JP 28857\STRUCTURAL\DWG\Salt Creek – SUPERSTRUCTURE.dwg

REVISIONS		
REV. NO.	DESCRIPTION	DATE



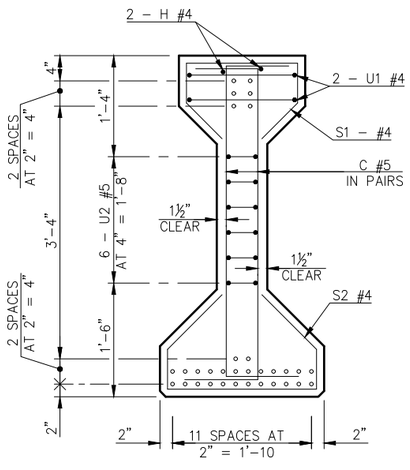
PLAN



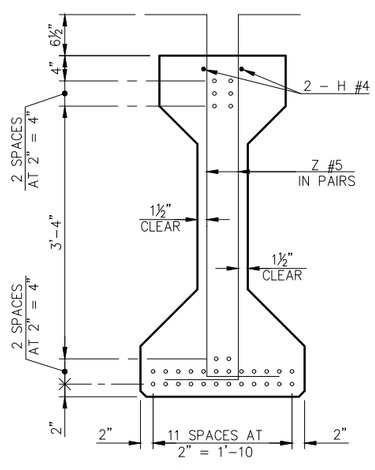
END VIEW
(TYPE IV P.C.B.)

ELEVATION

NOTE:
EXTERIOR BEAMS HAVE ONLY ONE 2"ø HOLE FOR THE INTERMEDIATE DIAPHRAGM ROD. SEE DIAPHRAGM LAYOUT ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 7 OF 7)".

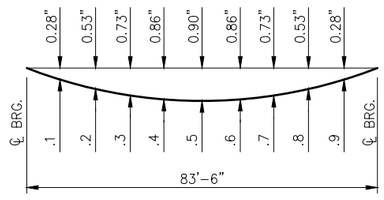


END SECTION



℄ SECTION

BEAM SECTIONS
(32 – 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 + CONCRETE TRAFFIC RAIL. IT DOES NOT INCLUDE THE BEAM WEIGHT OR FUTURE WEARING SURFACE.

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.

LFD OPERATING RATING – HS 59.0
THE OPERATING RATING SHOWN IS BASED ON A NOMINAL STRENGTH USING ONLY STRANDS THAT ARE BONDED FOR THE FULL LENGTH OF THE BEAM. ALL PARTIALLY BONDED STRANDS ARE NEGLECTED IN STRENGTH COMPUTATIONS.

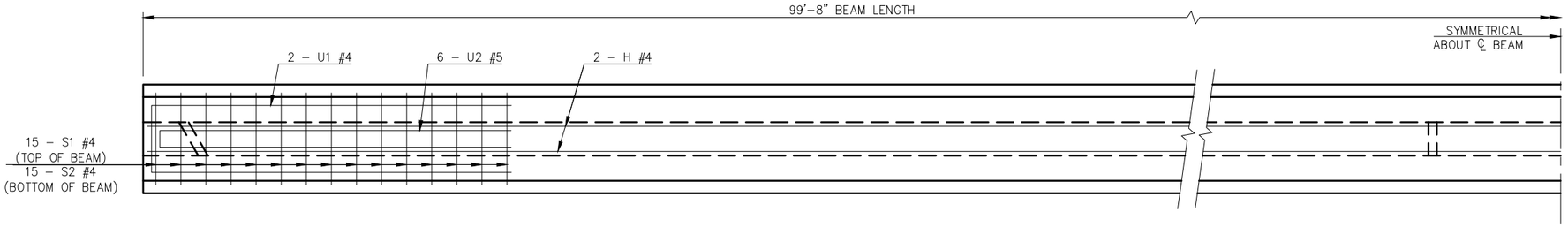
DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

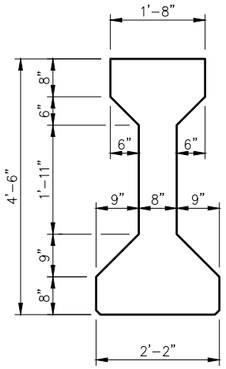
DETAILS OF TYPE IV P.C. BEAMS (85' SPAN)

STATE JOB PIECE NO. 28857(04) — SHEET NO. B025

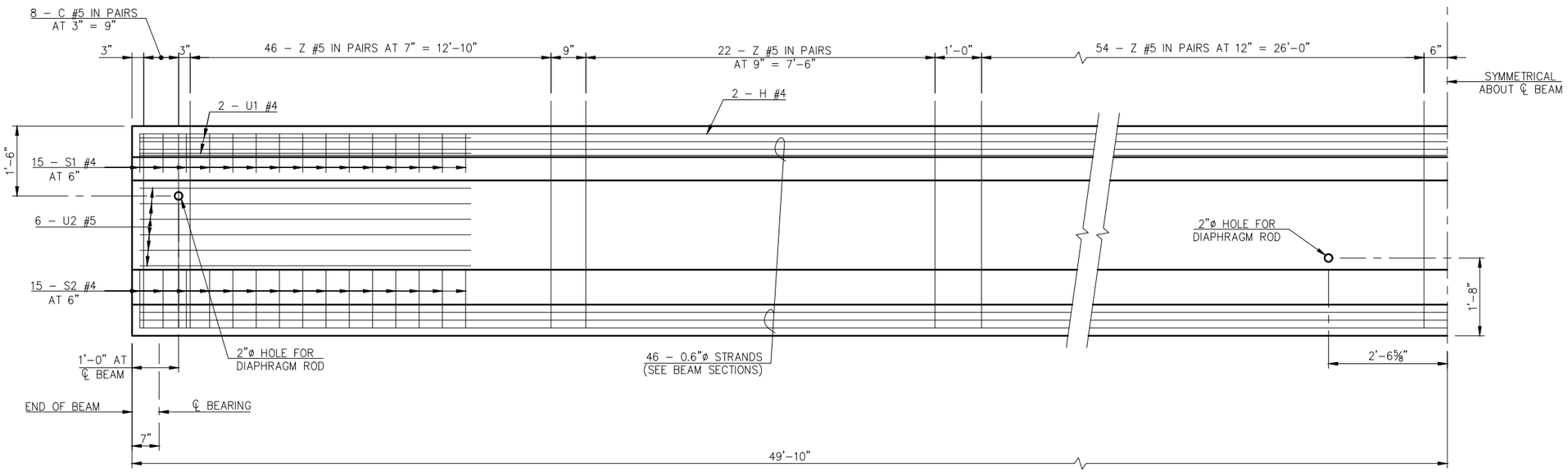
REVISIONS		
REV. NO.	DESCRIPTION	DATE



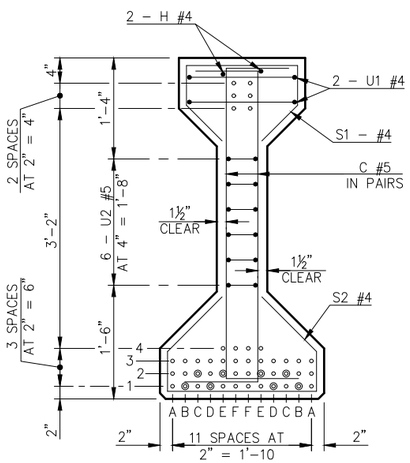
PLAN



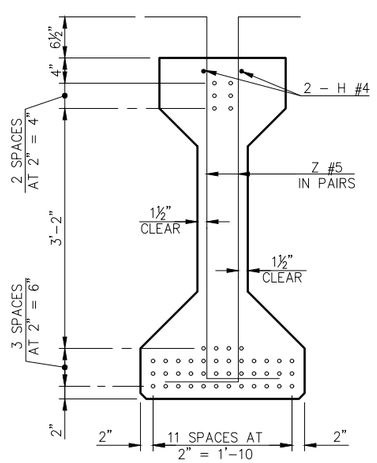
END VIEW
(TYPE IV P.C.B.)



ELEVATION



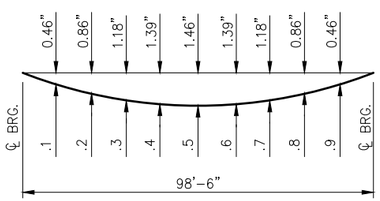
END SECTION



℄ SECTION

BEAM SECTIONS
(46 – 0.6"ø STRANDS)

NOTE:
EXTERIOR BEAMS HAVE ONLY ONE 2"ø HOLE FOR THE INTERMEDIATE DIAPHRAGM ROD. SEE DIAPHRAGM LAYOUT ON "DETAILS OF SUPERSTRUCTURE (SHEET NO. 7 OF 7)".



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	16'-0"
D1	8'-0"
C2 & E2	4'-0"

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.

LFD OPERATING RATING – HS 51.8
THE OPERATING RATING SHOWN IS BASED ON A NOMINAL STRENGTH USING ONLY STRANDS THAT ARE BONDED FOR THE FULL LENGTH OF THE BEAM. ALL PARTIALLY BONDED STRANDS ARE NEGLECTED IN STRENGTH COMPUTATIONS.

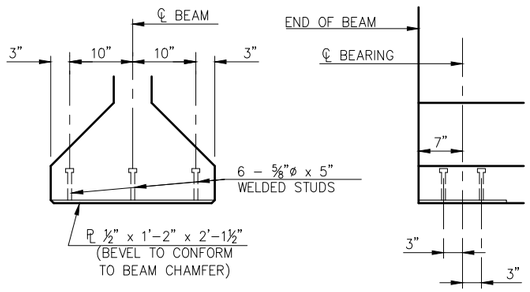
DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF TYPE IV P.C. BEAMS (100' SPAN)

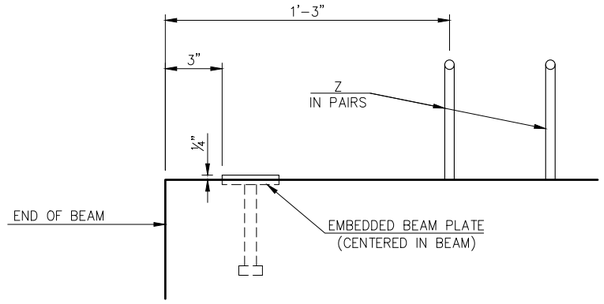
STATE JOB PIECE NO. 28857(04) — SHEET NO. B026

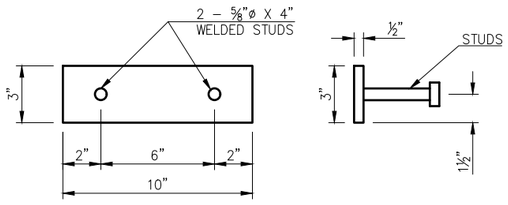
REVISIONS		
REV. NO.	DESCRIPTION	DATE



EMBEDDED SOLE PLATE DETAILS

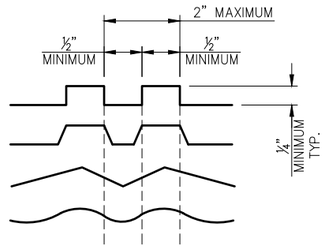
NOTE:
PROVIDE AN EMBEDDED SOLE PLATE AT EACH END OF THE BEAM.





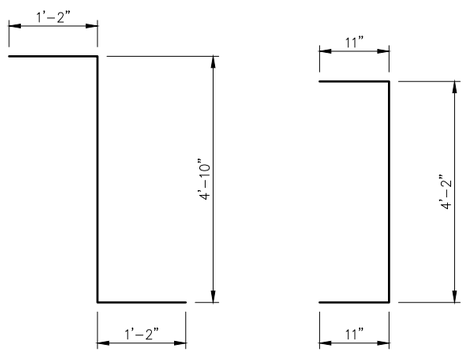
EMBEDDED BEAM PLATE DETAILS

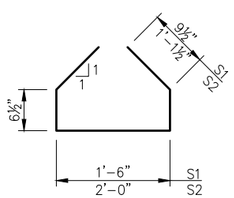
NOTE:
PROVIDE AN EMBEDDED BEAM PLATE AT EXPANSION ENDS ONLY.

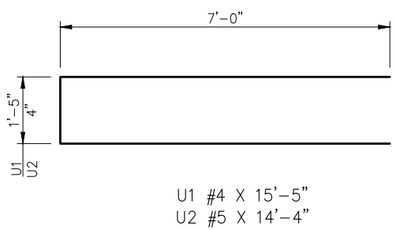


INTENTIONALLY ROUGHENED SURFACE DETAILS

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.







DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15

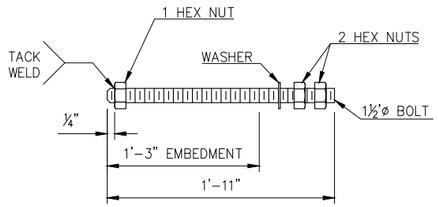
GUY ENGINEERING SERVICES, INC.

SH–28 OVER SALT CREEK NOWATA COUNTY
BRIDGE "A"

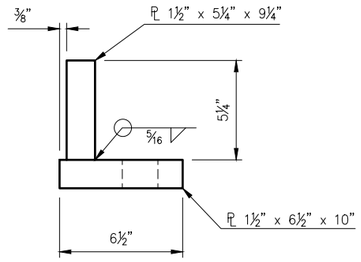
DETAILS OF TYPE IV P.C. BEAMS

STATE JOB PIECE NO. 28857(04) SHEET NO. B027

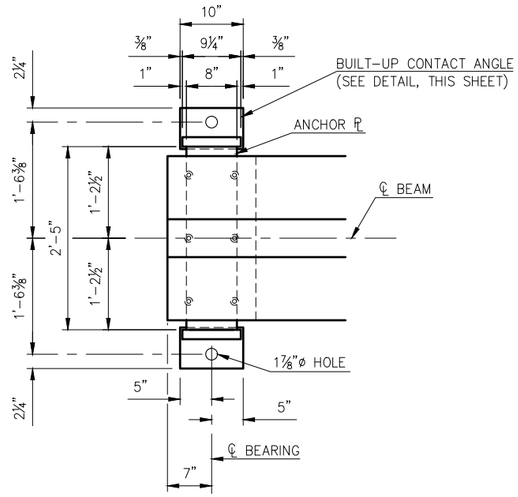
REVISIONS		
REV. NO.	DESCRIPTION	DATE



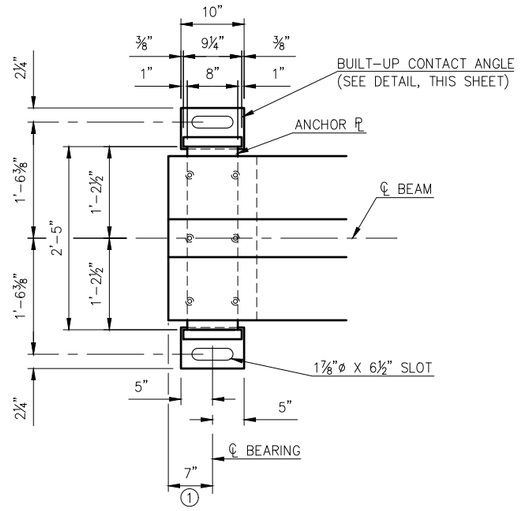
ANCHOR BOLT DETAIL



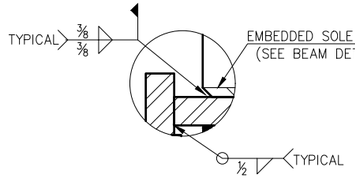
BUILT–UP CONTACT ANGLE DETAIL



FIXED BEARING PLAN

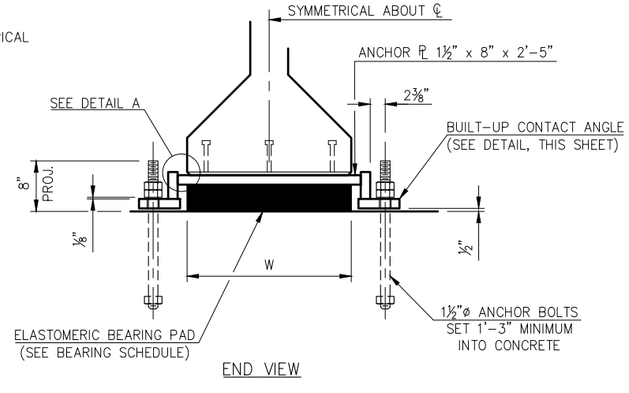


EXPANSION BEARING PLAN

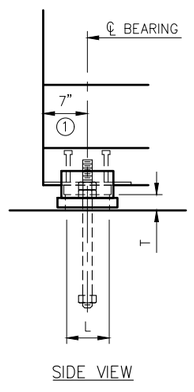


DETAIL A

1 CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF BEAMS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF BEAM SETTING.



END VIEW



SIDE VIEW

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.

BEARING SCHEDULE

SPAN	60 DUROMETER ELASTOMERIC BEARING PAD			
	SIZE (T x L x W)	COVER LAYER	INNER LAYER	LAMINATE PLATE
85' & 100'	5⅛" x 7½" x 2'–2"	2 – ¼"	9 – ⅜"	10 – ⅛"

DESIGN	MBS	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF BEARING ASSEMBLIES

STATE JOB PIECE NO. 28857(04) — SHEET NO. B028

Monday, July 31, 2017 4:19:41 PM
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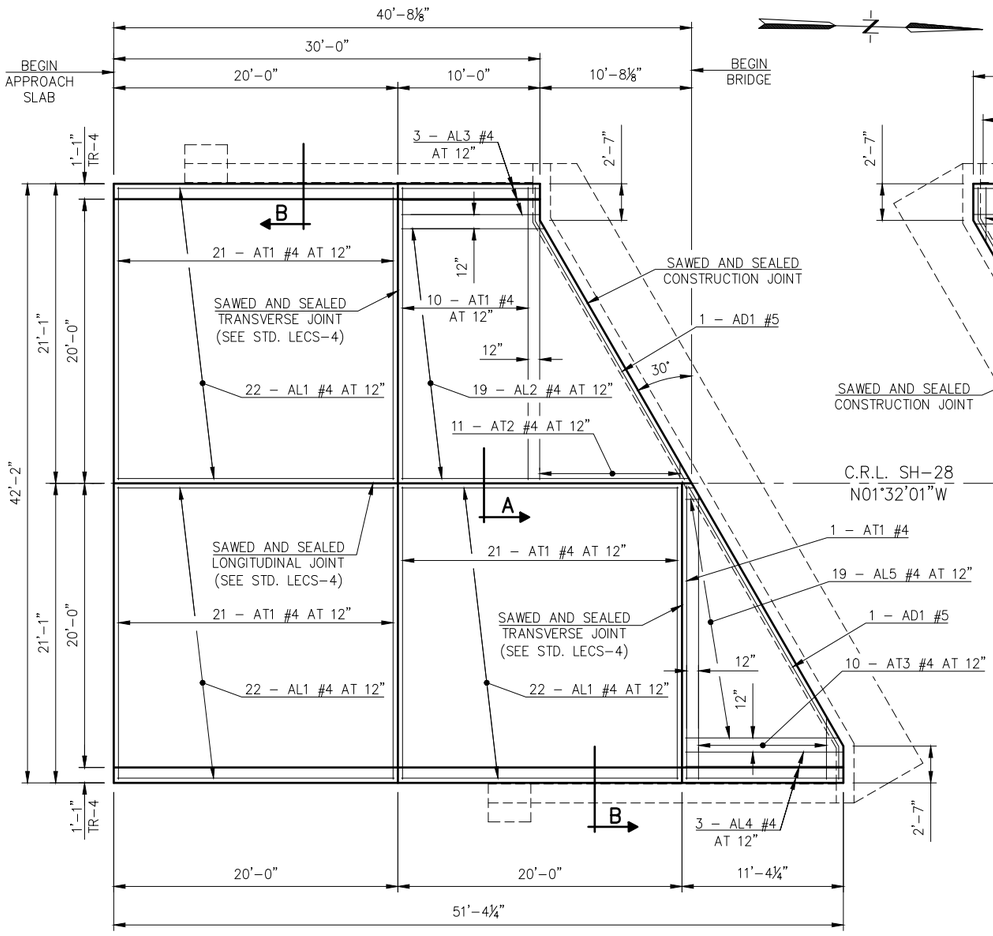
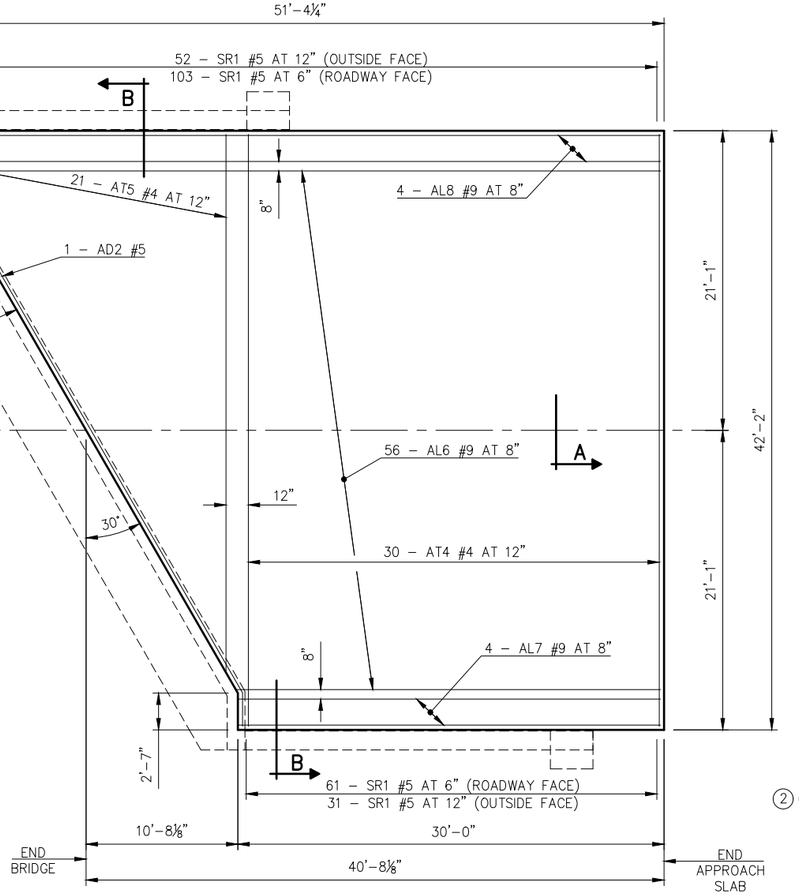
REVISIONS		
REV. NO.	DESCRIPTION	DATE



TOP REINFORCING MAT DETAIL
(SIMILAR FOR EACH APPROACH SLAB)

APPROACH SLAB NO. 1

NOTE:
FOR ADDITIONAL DETAILS OF APPROACH SLAB AT ABUTMENT, SEE "DETAILS OF SUPERSTRUCTURE (SHEET NO. 5 OF 7)".



BOTTOM REINFORCING MAT DETAIL
(SIMILAR FOR EACH APPROACH SLAB)

APPROACH SLAB NO. 2

APPROACH SLAB BAR LIST
(ONE SHOWN, TWO REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH	VARIANCE
EPOXY COATED REINFORCING					
AD1	#5	2	BNT.	23'-7"	-
AD2	#5	1	BNT.	47'-6"	-
AL1	#4	66	STR.	19'-8"	-
AL2	#4	19	STR.	15'-3½" AVG.	10'-2" TO 20'-5"
AL3	#4	3	STR.	9'-10"	-
AL4	#4	3	STR.	11'-2"	-
AL5	#4	19	STR.	5'-8½" AVG.	0'-7" TO 10'-10"
AL6	#9	56	STR.	40'-5½" AVG.	29'-11" TO 51'-0"
AL7	#9	4	STR.	29'-10"	-
AL8	#9	4	STR.	51'-2"	-
AT1	#4	74	STR.	20'-9"	-
AT2	#4	11	STR.	9'-4½" AVG.	0'-9" TO 18'-0"
AT3	#4	10	STR.	12'-3" AVG.	4'-5" TO 20'-1"
AT4	#4	30	STR.	41'-10"	-
AT5	#4	21	STR.	21'-9" AVG.	4'-5" TO 39'-1"
SR1	#5	247	BNT.	4'-1"	-

NOTE: FOR SR1 BAR BEND, SEE STD. TR4-2.

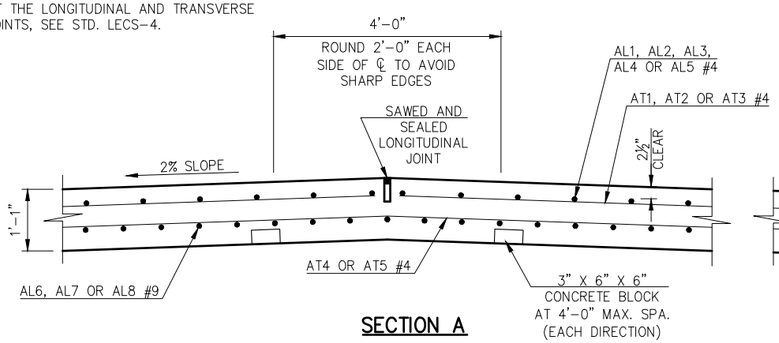
APPROACH SLAB QUANTITIES
(ONE SHOWN, TWO REQUIRED)

	ITEM	UNIT	TOTAL
(2) (1)	APPROACH SLAB	S.Y.	190.70
	SAW-CUT GROOVING	S.Y.	180.90
	CONCRETE RAIL (TR4)	L.F.	81.40
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	38.00

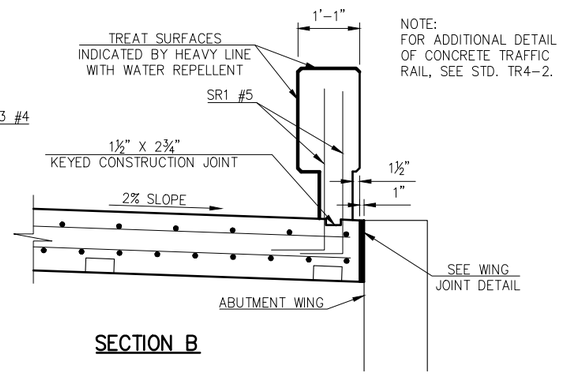
(1) THE DEPARTMENT CONSIDERS THE COST OF CONCRETE, REINFORCING STEEL (INCLUDING SR1 BARS), BACKER ROD, RAPID CURE JOINT SEALANT, POLYSTYRENE, AND POLYETHYLENE SHEETING TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF "APPROACH SLAB".

(2) THERE IS AN ESTIMATED 68.9 C.Y. OF CLASS AA CONCRETE AND AN ESTIMATED 13,460 LB. OF EPOXY COATED REINFORCING STEEL IN EACH APPROACH SLAB.

NOTE:
PLACE REINFORCING IN THE TOP OF THE APPROACH SLAB 2" FROM EITHER SIDE OF THE SAWED AND SEALED LONGITUDINAL AND TRANSVERSE JOINTS. FOR ADDITIONAL DETAILS OF THE LONGITUDINAL AND TRANSVERSE JOINTS, SEE STD. LECS-4.

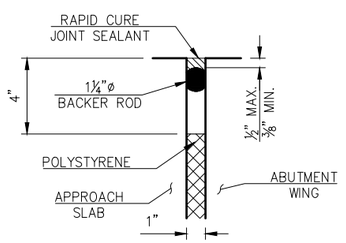


SECTION A

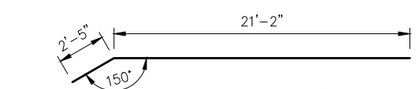


SECTION B

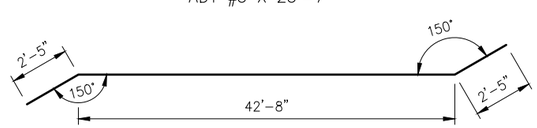
NOTE:
FOR ADDITIONAL DETAIL OF CONCRETE TRAFFIC RAIL, SEE STD. TR4-2.



WING JOINT DETAIL



AD1 #5 X 23'-7"



AD2 #5 X 47'-6"

DESIGN	MBS	5/14	
DETAIL	SLP	5/14	
CHECK	MBS	3/15	
GUY ENGINEERING SERVICES, INC.			

SH-28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF APPROACH SLABS

STATE JOB PIECE NO. 28857(04) — SHEET NO. B029

Monday, July 31, 2017 4:20:00 PM
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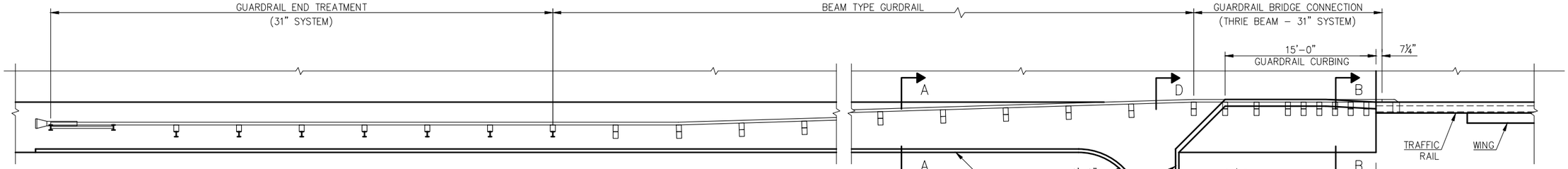
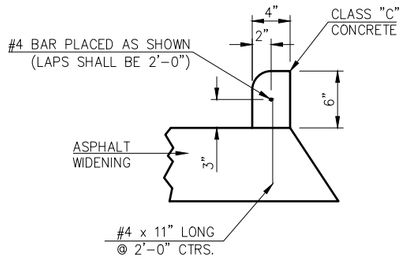
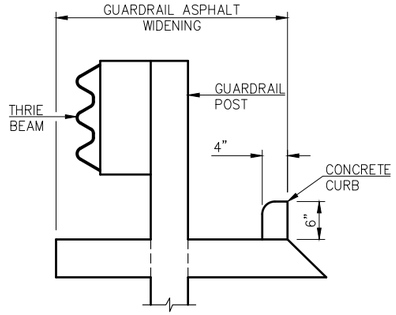
REVISIONS		
REV. NO.	DESCRIPTION	DATE



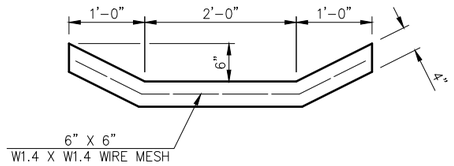
ABUTMENT NO. 1
SOUTH END OF BRIDGE – BOTH SIDES OF ROADWAY



DETAIL OF CONCRETE CURB



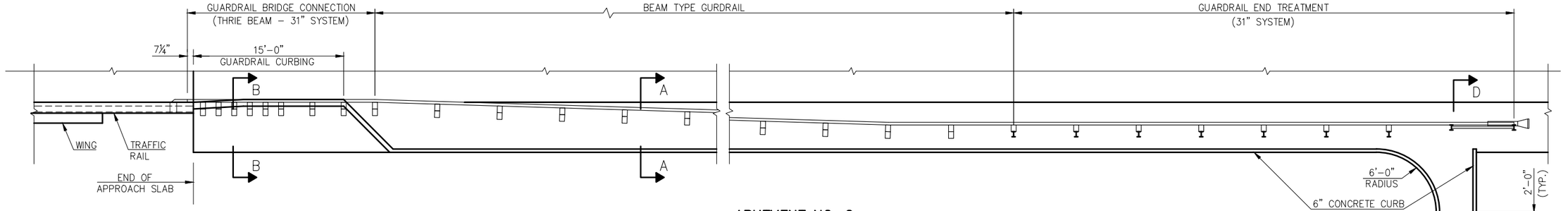
SECTION A–A



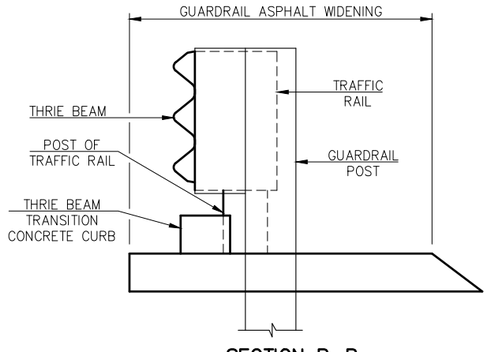
SECTION C–C

NOTE:
ASPHALT WIDENING SHALL BE IN ACCORDANCE WITH STANDARDS THRI–1, AND GHW1–1 EXCEPT AS SHOWN ON THIS SHEET. ALL COSTS OF ASPHALT WIDENING SHALL BE INCLUDED IN ROADWAY PAY ITEMS.

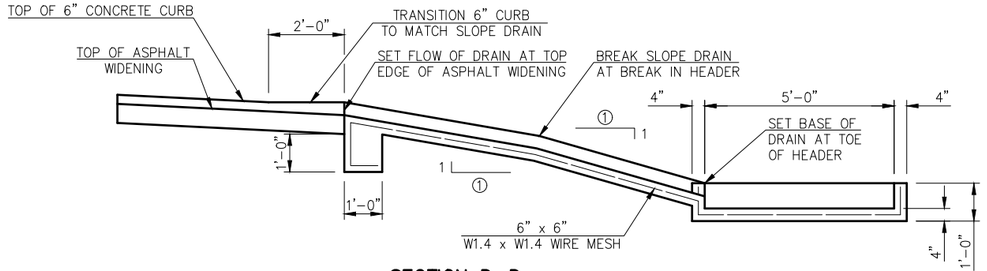
SLOPE DRAINS, SPLASH BASINS AND CONCRETE CURBS SHALL BE CONSTRUCTED USING CLASS "C" CONCRETE AS SHOWN ON THIS SHEET. ALL COSTS OF THE SLOPE DRAINS, SPLASH BASINS AND CONCRETE CURBS, INCLUDING CONCRETE, REINFORCING STEEL AND WIRE MESH SHALL BE INCLUDED IN THE PAY ITEMS FOR "CLASS "C" CONCRETE".



ABUTMENT NO. 2
NORTH END OF BRIDGE – BOTH SIDES OF ROADWAY



SECTION B–B



SECTION D–D

① SLOPE TO MATCH SLOPE OF HEADER

DESIGN	SLP	5/14
DETAIL	SLP	5/14
CHECK	MBS	3/15
GUY ENGINEERING SERVICES, INC.		

SH–28 OVER SALT CREEK — NOWATA COUNTY
BRIDGE "A"

DETAILS OF DRAINS AT ENDS OF BRIDGE

STATE JOB PIECE NO. 28857(04) — SHEET NO. B030

Monday, July 31, 2017 4:20:25 PM
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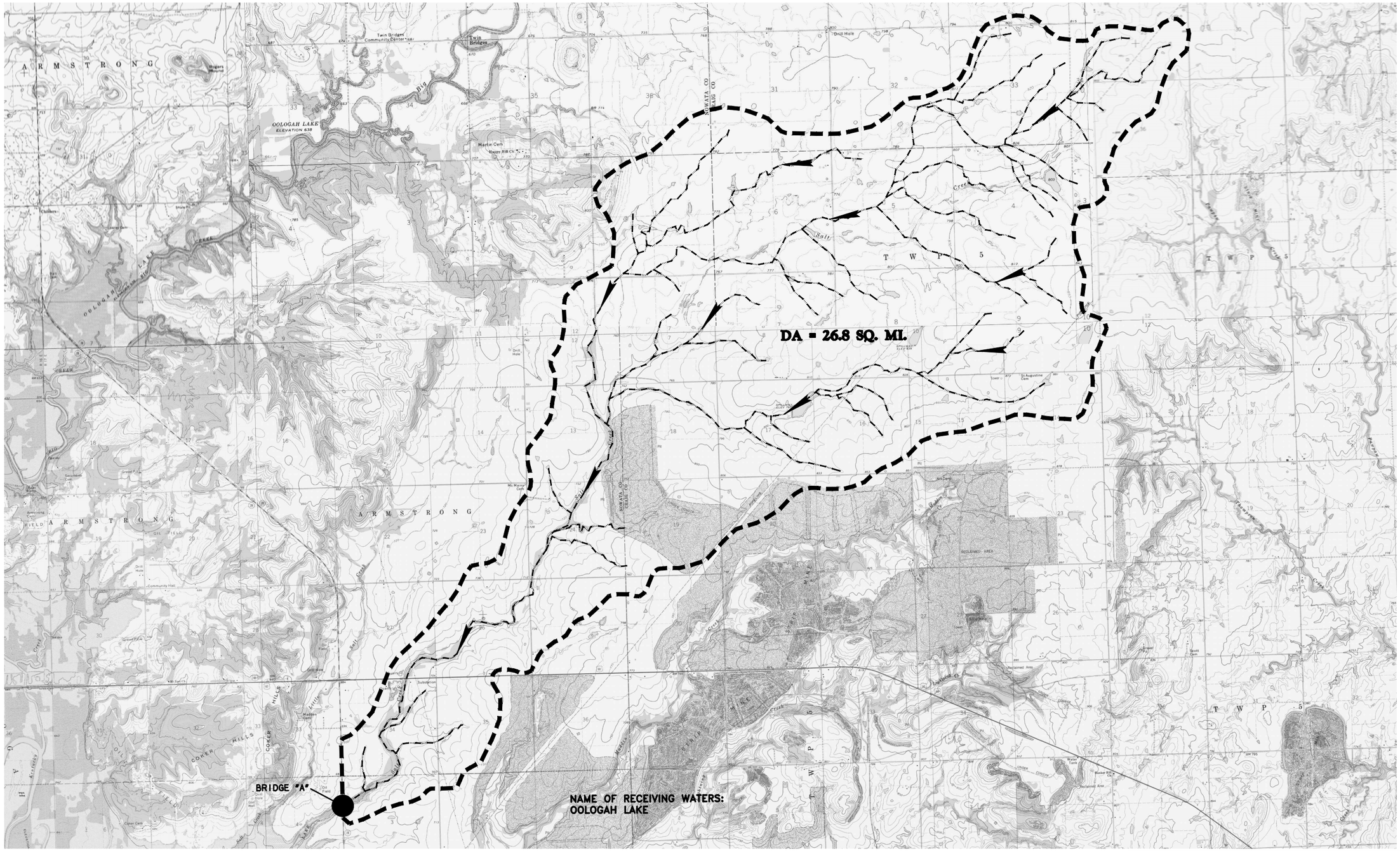
REVISIONS	
DESCRIPTION	DATE



GRAPHIC SCALE
2000 0 2000 4000
(IN FEET)
1 INCH = 2000 FEET

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

DRAINAGE MAP

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. R001

Monday, July 31, 2017 3:30:45 PM
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STORMWATER MANAGEMENT PLAN

REVISIONS

DESCRIPTION	DATE

SITE DESCRIPTION

PROJECT LIMITS: SH-28 OVER SALT CREEK APPROXIMATELY 1.3 MILES SOUTH OF US HWY-60. APPROXIMATELY 500' NORTH AND SOUTH OF THE BRIDGE.

PROJECT DESCRIPTION: BRIDGE AND APPROACH ROADWAY PLANS FOR SH-28 OVER SALT CREEK. PROJECT CONSISTS OF A 85'-100'-85' TYPE IV PC BEAM BRIDGE AND 1025.94 FT OF ASPHALT ROADWAY.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL INSTALL ALL PERIMETER TEMPORARY SEDIMENT CONTROLS SPECIFIED. STRIP, STOCKPILE AND STABILIZE TOPSOIL. CLEAR AND GRUB ONLY IN NECESSARY AREAS, PRESERVING AS MUCH NATIVE VEGETATION AS POSSIBLE. INSTALL, MAINTAIN AND/OR MOVE TEMPORARY SEDIMENT ITEMS WITH CONSTRUCTION OPERATIONS AS PRACTICAL. IF DIRECTED BY THE ENGINEER, PLANT TEMPORARY SEEDING. REPLACE SALVAGED TOPSOIL AND DEVICES WHEN AN ACCEPTABLE VEGETATIVE COVER (AT LEAST 70%) HAS BEEN ATTAINED. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF MAJOR SOIL DISTURBANCE ACTIVITIES, AND ALSO THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: SHIDLER- KITI- ROCK OUTCROP COMPLEX

AREA TO BE DISTURBED: 2.83 ACRES (123132.38 SF)

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: (FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°40'48"N, 95°29'08"W

NAME OF RECEIVING WATERS: SALT CREEK

SENSITIVE WATERS OR WATERSHEDS: ☐ YES ☒ NO

303(d) IMPAIRED WATERS: ☐ YES ☒ NO

NOTE:
THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- ____ TEMPORARY SEEDING
- _X_ PERMANENT SODDING, SPRIGGING OR SEEDING
- _X_ VEGETATIVE MULCHING
- ____ SOIL RETENTION BLANKET
- _X_ PRESERVATION OF EXISTING VEGETATION

NOTE:
TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- ____ STABILIZED CONSTRUCTION EXIT
- _X_ TEMPORARY SILT FENCE
- _X_ TEMPORARY SILT DIKES
- ____ TEMPORARY FIBER LOG
- ____ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- ____ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- ____ ROCK FILTER DAMS
- ____ TEMPORARY SLOPE DRAIN
- ____ PAVED DITCH W/ DITCH LINER PROTECTION
- ____ TEMPORARY DIVERSION CHANNELS
- ____ TEMPORARY SEDIMENT BASINS
- ____ TEMPORARY SEDIMENT TRAPS
- ____ TEMPORARY SEDIMENT FILTERS
- _X_ TEMPORARY SEDIMENT REMOVAL
- _X_ RIP RAP
- ____ INLET SEDIMENT FILTER
- ____ TEMPORARY BRUSH SEDIMENT BARRIERS
- ____ SANDBAG BERMS
- ____ TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- _X_ HAUL ROADS DAMPENED FOR DUST CONTROL
- _X_ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- ____ EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:
ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:
PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:
A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

103.05	BONDING REQUIREMENTS
104.10	FINAL CLEANING UP
104.12	CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13	ENVIRONMENTAL PROTECTION
106.08	STORAGE AND HANDLING OF MATERIAL
107.01	LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20	STORM WATER MANAGEMENT
220	MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221	TEMPORARY SEDIMENT CONTROL

IN ADDITION:
"ODEQ GENERAL PERMIT (OKR10) FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2012.

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

STORM WATER MANAGEMENT PLAN

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. R002

Monday, July 31, 2017 3:31:49 PM
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STORM WATER MANAGEMENT PLAN ⚠

REVISIONS		
DESCRIPTION		DATE
UPDATED SHEET	⚠	08/22/2017

SITE DESCRIPTION

PROJECT LIMITS: SH-28 OVER SALT CREEK APPROXIMATELY 1.3 MILES SOUTH OF US HWY-60. APPROXIMATELY 500' NORTH AND SOUTH OF THE BRIDGE.

PROJECT DESCRIPTION: BRIDGE AND APPROACH ROADWAY PLANS FOR SH-28 OVER SALT CREEK. PROJECT CONSISTS OF A 85'-100'-85' TYPE IV PC BEAM BRIDGE AND 1025.94 FT OF ASPHALT ROADWAY.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL INSTALL ALL PERIMETER TEMPORARY SEDIMENT CONTROLS SPECIFIED. STRIP, STOCKPILE AND STABILIZE TOPSOIL. CLEAR AND GRUB ONLY IN NECESSARY AREAS, PRESERVING AS MUCH NATIVE VEGETATION AS POSSIBLE. INSTALL, MAINTAIN AND/OR MOVE TEMPORARY SEDIMENT ITEMS WITH CONSTRUCTION OPERATIONS AS PRACTICAL. IF DIRECTED BY THE ENGINEER, PLANT TEMPORARY SEEDING. REPLACE SALVAGED TOPSOIL AND DEVICES WHEN AN ACCEPTABLE VEGETATIVE COVER (AT LEAST 70%) HAS BEEN ATTAINED. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF MAJOR SOIL DISTURBANCE ACTIVITIES, AND ALSO THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: SHIDLER- KITI- ROCK OUTCROP COMPLEX

TOTAL AREA OF THE CONSTRUCTION SITE: 2.83 ACRES (123,132.38 SF)

ESTIMATED AREA TO BE DISTURBED:

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 1.02 ACRES (44,235.64 SF)

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 1.36 ACRES (59,357.20 SF)

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.59

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 36°40'48"N, 95°29'08"W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: SALT CREEK

SENSITIVE WATERS OR WATERSHEDS: YES [ ] NO [X]

303(D) IMPAIRED WATERS: YES [ ] NO [X]

IF YES, LIST IMPAIRMENT:

LOCATED IN A TMDL: YES [ ] NO [X]

LAKE THUNDERBIRD TMDL: YES [ ] NO [X]

MS4 ENTITY YES [ ] NO [X]

IF YES, LOCATION:

NOTE:
THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

_____ TEMPORARY SEEDING
__X__ PERMANENT SODDING, SPRIGGING OR SEEDING
__X__ VEGETATIVE MULCHING
_____ SOIL RETENTION BLANKET
__X__ PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

_____ STABILIZED CONSTRUCTION EXIT
_____ TEMPORARY SILT FENCE
__X__ TEMPORARY SILT DIKES
__X__ TEMPORARY FIBER LOG
_____ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
_____ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
__X__ ROCK FILTER DAMS
_____ TEMPORARY SLOPE DRAIN
_____ PAVED DITCH W/ DITCH LINER PROTECTION
_____ TEMPORARY DIVERSION CHANNELS
_____ TEMPORARY SEDIMENT BASINS
_____ TEMPORARY SEDIMENT TRAPS
_____ TEMPORARY SEDIMENT FILTERS
__X__ TEMPORARY SEDIMENT REMOVAL
__X__ RIP RAP
_____ INLET SEDIMENT FILTER
_____ TEMPORARY BRUSH SEDIMENT BARRIERS
_____ SANDBAG BERMS
_____ TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

__X__ HAUL ROADS DAMPENED FOR DUST CONTROL
__X__ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
_____ EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

103.05	BONDING REQUIREMENTS
104.10	FINAL CLEANING UP
104.12	CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13	ENVIRONMENTAL PROTECTION
106.08	STORAGE AND HANDLING OF MATERIAL
107.01	LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20	STORM WATER MANAGEMENT
220	MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221	TEMPORARY SEDIMENT CONTROL

IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2017.

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION

STORM WATER MANAGEMENT PLAN

COUNTY NOWATA HIGHWAY SH-28 STATE JOB NO. 28857(04) SHEET NO. R002

Tuesday, August 22, 2017 2:00:49 PM
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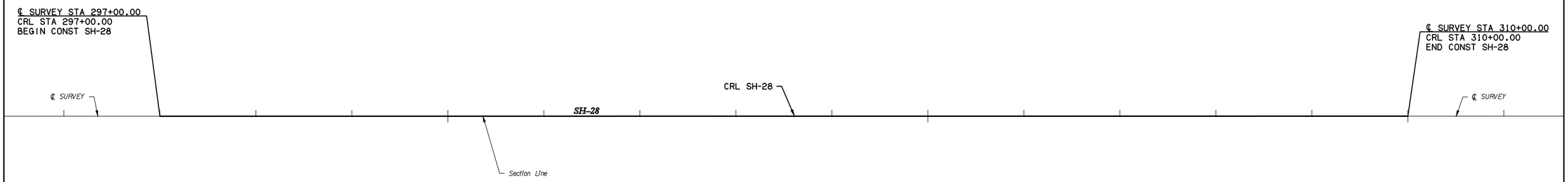
REVISED 07 / 13 / 2017

REVISIONS	
DESCRIPTION	DATE

SECTION 4
T-25-N, R-17-E



SECTION 3
T-25-N, R-17-E

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

CRL ALIGNMENT TABLE (SH-28)					
ALIGNMENT PT.	STATION	BEARING	DISTANCE	NORTHING	EASTING
B.O.P.	297+00.00	N 01°32'01" W	1300.00	620451.3276	2705749.4664
E.O.P.	310+00.00			621750.8619	2705714.6757

BEARING TABLE OF PRESENT SH-28 (CL SURVEY)					
ALIGNMENT PT.	*STATION*	*BEARING*		*NORTHING*	*EASTING*
P.O.T.	*280+00.00*	*N 01°3200.74" W*	*4022.17*	*618752.0526*	*2705799.0737*
P.O.E.	*320+22.17*			*622772.6640*	*2705687.3204*

DESIGN	MZV	12/15	OKLAHOMA DEPARTMENT OF TRANSPORTATION GUY ENGINEERING SERVICES, INC.
DRAWN	BSF	12/15	
CHECKED	JRW	12/15	GEOMETRIC DATA
APPROVED	JRW	12/15	
SQUAD			

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. R003

Monday, July 31, 2017 3:32:33 PM
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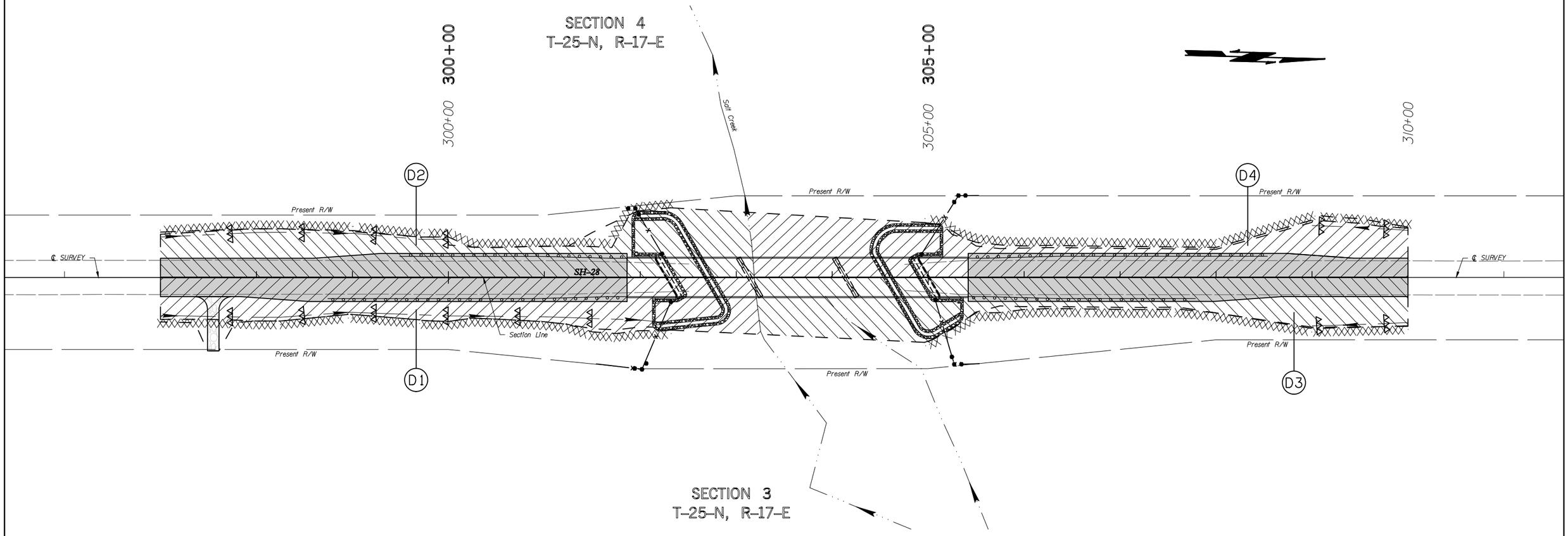
REVISIONS		
DESCRIPTION		DATE

SECTION 4
T-25-N, R-17-E

300+00

305+00

310+00



SECTION 3
T-25-N, R-17-E

LEGEND

SILT DIKE

SILT FENCE

DISTURBED AREA

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'

SUMMARY OF DISTURBED AREAS

DRAINAGE AREA NUMBER	OUTFALL STATION	AREA CHANNEL FLOW ACRE	OUTFALL TREATMENT
D1	SALT CREEK	0.67	SILT DIKE & SILT FENCE
D2	SALT CREEK	0.68	SILT DIKE & SILT FENCE
D3	SALT CREEK	0.74	SILT DIKE & SILT FENCE
D4	SALT CREEK	0.74	SILT DIKE & SILT FENCE
TOTALS =		2.83	

DESIGN	MZV	12/15
DRAWN	CRC	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

EROSION CONTROL

STATE JOB NO. 28857(04) SHEET NO. R004

NOWATA COUNTY SH-28 OVER SALT CREEK

Monday, July 31, 2017 3:33:03 PM
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REVISIONS	
DESCRIPTION	DATE

SECTION 4
T-25-N, R-17-E

WARNING!!!
Overhead Electric Crossing

REMOVE Sta. 301+65.56 41'-11" Rt. Metal Pipe S.D. 63.0° Rt. ft. Elev. 668.37 S. & 667.46 N.

REMOVE Br. Floor Elev: 672.44 Sta. 302+61.16 Beg. Br.

REMOVE Sta. 303+65.11 28.0'x209.33' Conc. Br. 3-68' I-beam spans (Salt Creek) Dgr. xx.xxx Ac.

REMOVE Br. Floor Elev: 672.38 Sta. 304+69.06 End Br.

Sta. 309+42.01 x-Wire OHE Low Wire Elev: 699.38

300+00 | 305+00

BEGIN APPROACH SLAB STA. 301+86.29

BEGIN BRIDGE STA. 302+26.97

PIER 1 STA. 303+14.00

PIER 2 STA. 304+14.00

END BRIDGE STA. 305+01.03

Salt Creek

CRL SH-28

Vent Pipe
Underground Tel. Marker
5-Straned B/W
Present R/W
TOP OF CUT
TOE OF FILL
℄ Survey
Section Line
Asphalt S.H. 28
N01° 32' 01"W 1300'
Guardrail
Gravel
Sign - Bridge Ices Before Road
Sign - Salt Creek
3-Strand B/W
4-Wire OHE
R/W Marker
Gate Post
CONSTR SWF 5 BW (TYP)
CRL STA 297+55.00 CONST 12' TBSC FIELD ENT W/ SD RT
W.M.
PP
Underground Tel. Marker
5-Strand B/W
Present R/W
Guardrail
TOE OF FILL
END APPROACH SLAB STA. 305+41.71
Asphalt S.H. 28
Guy Wire
Capped Oil Well
Water Pump Station
PP w/ XFMR
W.V.
W.V. (x2)
PP w/ Meter
Underground Tel. Marker
22" Twin Cottonwood
Sign - Bridge Ices Before Road
TOP OF CUT

SECTION 3
T-25-N, R-17-E

GRAPHIC SCALE
(HORIZ.)
1 inch = 50' ft.
50' 0 50' 100'
50' 0 50' 100'
(VERT)
1 inch = 50' ft.

BM#5 60d IN 10" LOCUST, STA. 295+78.13, 121.33' LT. Elev. 675.36

BM#6 60d IN HACKBERRY, STA. 301+51.04, 65.10' LT. Elev. 666.28

BM#7 80d IN 24" LOCUST, STA. 306+10.00, 125.89' RT. Elev. 662.86

BM#8 80d IN POWER POLE, STA. 310+31.75, 103.69' LT. Elev. 676.75

STR. # 1
STA. 297+55, CONSTR. 18" x 67' C.G.S.P. - ROUND W/CET, 41' RT.
FL NORTH = 672.40 FL SOUTH = 672.82

VPI 300+00.00
ELEV = 674.15
L = 250.00
K = 714.29

VPI 307+00.00
ELEV = 670.65
L = 250.00
K = 177.40

BRIDGE LENGTH = 274'-0¾"

VPC 298+75.00 ELEV. = 675.22
VPT 301+25.00 ELEV. = 673.53
STA. 302+26.97 BEGIN BRIDGE F.G. = 673.02
STA. 303+14.00 PIER NO. 1
STA. 304+14.00 PIER NO. 2
STA. 305+01.03 END BRIDGE F.G. = 671.65
VPC 305+75.00 ELEV. = 671.28
L.P. 306+63.70 ELEV. 671.06
VPT 308+25.00 ELEV. = 671.79

SP DITCH LT
-0.85%
+0.50%
0.91%
SP DITCH RT
Existing ℄ Survey
PROPOSED FINISH GRADE
LOW CHORD ELEV.=666.23
fl-651.45

STA. 297+00.00 BEGIN PROJECT
STA. 310+00.00 END PROJECT

BRIDGE 'A' HYDRAULIC DATA
TOTAL D.A. = 26.81 SQ. MI.
CONTROLLED D.A. = 0.00 SQ. MI.
EFFECTIVE D.A. = 26.81 SQ. MI.

Q50 = 10,200	CFS
V50 = 9.47	FPS
CHW50 = 664.51	FT
Q100 = 12,300	CFS
V100 = 10.30	FPS
CHW100 = 665.43	FT
CONT. SCOUR DEPTH = 8.72	FT
PIER SCOUR DEPTH = 10.14	FT
TOTAL SCOUR DEPTH = 18.86	FT
QOT > Q500 = 18,500	CFS
V500 = 12.35	FPS
CHW500 = 667.75	FT
CONT. SCOUR DEPTH = 11.04	FT
PIER SCOUR DEPTH = 12.01	FT
TOTAL SCOUR DEPTH = 23.05	FT

Q2 = 1,940 CFS
V2 = 4.47 FPS
CHW2 = 659.23 FT
Q5 = 3,730 CFS
V5 = 5.98 FPS
CHW5 = 660.72 FT
Q10 = 5,390 CFS
V10 = 7.07 FPS
CHW10 = 661.92 FT
Q25 = 8,120 CFS
V25 = 8.56 FPS
CHW25 = 663.50 FT

Elm Bend Water District, Inc.
PO Box 420 Ochelata, OK 74051
Ph 918-535-2302 Contact David Anderson

AEP-PSO Distribution
5223 S Garnett Road Tulsa OK, 74147
Ph 918-250-6257 Contact Mike Bibby

AT&T
5305 East 71st Tulsa, OK 74136
Ph 918-596-4237 Contact Alford Nichols Jr.

BRIDGE "A" CRL STA. 303+64.00 CONSTRUCT 85'-100'-85' TYPE IV PC BEAM BRIDGE SK 30 RF, 40'-0" CLEAR ROADWAY, W/TR-4 CONCRETE RAILS AND APPROACH SLABS. LOW BEAM ELEV. = 666.23

Ex. Bridge Data: CL Sta. 303+64
3-68' I-Beam spans
28' Clear Roadway
Low Beam Elev. = 668.2

677.44 677.07 676.70 676.28 675.85 675.43 675.01 674.62 674.26 673.94 673.66 673.40 673.15 672.90 672.65 672.40 672.15 671.90 671.65 671.40 671.17 671.06 671.09 671.27 671.58 672.02 672.47 672.93 673.38 673.82 674.43

296+00 297+00 298+00 299+00 300+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00 309+00 310+00 311+00

710 700 690 680 670 660 650 640 630 620

Monday, July 31, 2017 3:36:19 PM
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STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

SURVEY OF
S.H. 28

SWO 4851(1)
STATE JOB NO. 28857(04)

NOWATA COUNTY, OKLAHOMA

BRIDGE OVER SALT CREEK
1.3 MILES SOUTH OF U.S. 60

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SWO 4851(1) J/P 28857(04) ; NOWATA CO.

HORIZONTAL CONTROL:

- ☐ Oklahoma Coordinate System of 1927 _____ Zone.
- ☑ Oklahoma Coordinate System of 1983 NORTH Zone.
- ☐ Oklahoma Dept. of Transportation Plane Coordinate System of 1927 _____ Zone.
- ☐ Oklahoma Dept. of Transportation Plane Coordinate System of 1983 _____ Zone.
- ☐ Arbitrary Coordinate System

HORIZONTAL PLANE DATUM DEFINITION:

Oklahoma Department of Transportation coordinates were derived by multiplying the Oklahoma Coordinate Systems of 1927 or 1983 by the combined adjustment factor of 1.00010. The ODOT Coordinate System is 2350 feet above sea level.

1. SWO4851(1) adjusted to OKMU, OKTU (HARN - E-17 & PIERRE; CORS - ARFY, MOCA,) 3rd Order
   Stations UTILIZING CONTROL NETWORK & RTK MEASUREMENT
   A) Closure before adjustment X _____; Y _____ Angles _____
   Trav. Length _____ No. Angles _____ ; 1: _____
   B) _____; is _____ Order before adjustment.
   C) Method of Distance Measurement:
   ☐ Electronic ☑ GPS ☐ Triangulation ☐ Chained
   D) Instrument used for angles TRIMBLE R8 & CARLSON GNSS GPS RECEIVERS
2. CENTERLINE adjusted to GPS PRIMARY 3rd Order
   Stations HARN E-17 & PIERRE CORS ARFY, MOCA, OKMU, OKTU
   A) Closure before adjustment X _____; Y _____ Angles _____
   B) _____; is _____ Order; Tied to _____
   C) Method of Distance Measurement:
   ☐ Electronic ☑ GPS ☐ Triangulation ☐ Chained
   D) Instrument used for angles _____

VERTICAL CONTROL IS 3rd order. Level Line taken from GPS PRIMARY
3rd order and tied to GPS PRIMARY 3rd order.
☐ NGVD 29 datum
☑ NAVD 88 datum

ACCURACY DEFINITION:

(1) HORIZONTAL: (3rd Order = Class I = 1 : 10,000')
(3rd Order = Class II = 1 : 5,000')
(2) VERTICAL: (1st Order = 0.017 Ft. x sqrt. of Mi.) (2nd Order = 0.035 Ft. x sqrt. of Mi.)
(3rd Order = 0.050 Ft. x sqrt. of Mi.)

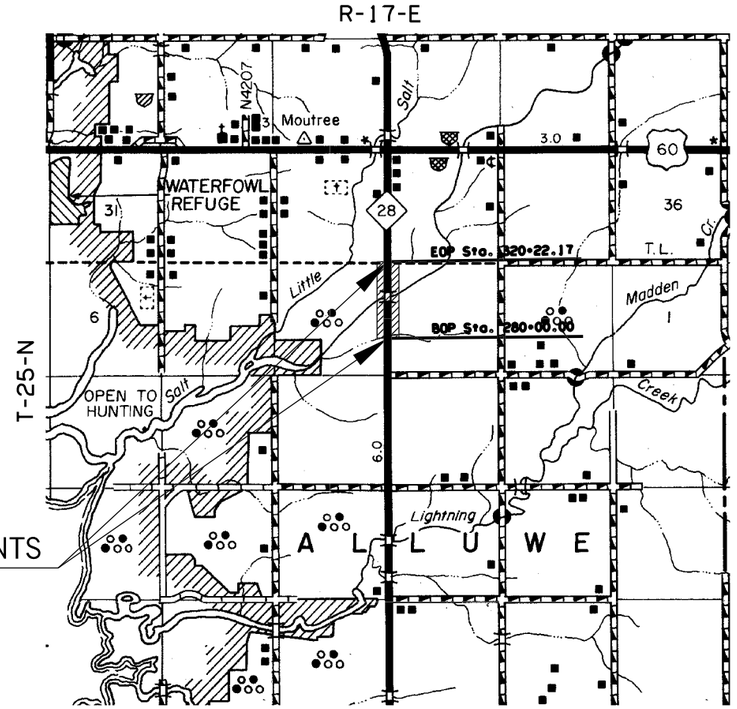
Distribution:
Copy w/survey reports
Copy in each Alignment and level book

(FORM SD #20)
Rev. 11/03

Dustin M. McNally
Professional Land Surveyor

01/25/13
Date

R-17-E



PROJECT EXTENTS

PROJECT LENGTH 4022.17 FT. .76 MI.

BEGINNING STATION : 280+00.00
ENDING STATION : 320+22.17

Utilities

Utility	Phone Number
Water Lines:	
Consolidated Rural Water District #1	1-918-475-2383
Telephone Lines:	
USIC/AT&T	1-800-778-9140
Electrical Lines:	
AEP-PSO	1-888-216-3523

THIS SURVEY MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, MAY 11, 2010.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED JANUARY 1, 2011 GOVERN.

Electronic File Transfer Disclaimer:

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SDS 1 OF 10

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA.				

REVISIONS

DESCRIPTION	DATE

INDEX OF SHEETS

SURVEY BEGAN: 09/27/12
SURVEY COMPLETED: 01/07/13

PERSONNEL:	TITLE:
DUSTIN McNALLY	PROF. LAND SURVEYOR
CHRIS CAUTHON	PROF. LAND SURVEYOR
RYAN HARRISON	SURVEY TECHNICIAN
JASON LILLY	SURVEY TECHNICIAN
TIM DeARMON	SURVEY TECHNICIAN
JASON MOCK	SURVEY TECHNICIAN
STEVEN MILLER	SURVEY TECHNICIAN

EQUIPMENT:	SERIAL NO.
TRIMBLE S6 ROBOTIC TOTAL STATION	92810853; 92721064
TRIMBLE GPS RECEIVER	4629119076; 4629119071
CARLSON GPS RECEIVER	NAE10403001; NAE10443001
SOKKIA B21 & 300	101384; 353373

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

SWO 4851(1) Job/Piece 28857(04) Engr. Contract No. 1394

LAND SURVEYOR'S CERTIFICATION

I hereby certify that all land and property sub-division distances, angles, corners, and monumentation made or used in conjunction with this survey and depicted or recorded herein or hereon were recovered, established or re-established in substantial conformity with:

- Applicable instructions contained in the U.S. Government Bureau of Land Management publication **"Manual of Survey Instruction"**,
- Its supplement, **"Restoration of Lost or Obliterated Corners and Sub-division of Sections"**;
- **"Oklahoma Minimum Standards for the Practice of Land Surveying"** as adopted by the State Board of Licensure for Professional Engineers and Land Surveyors; **and**
- Sound land surveying practices;

including a thorough search, study, analysis and consideration of all existing records and field evidence.

I further certify that all survey monuments depicted exist and that all land survey work was done by me or under my direct supervision.

Dated this 29 day of January , 2013 .

Land Surveyor Dustin M. McNally (seal)
Signature

Dustin M. McNally
Printed Name

Oklahoma Licensed Land Surveyor No. 1636

Certificate of Authorization No. 1427

OKLAHOMA PROFESSIONAL LAND SURVEYOR Dustin M. McNally 1636 OKLAHOMA

BEFORE YOU DIG CALL OKIE

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S001

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

REVISIONS	
DESCRIPTION	DATE

State of Oklahoma

Department of Transportation

Guy Engineering Services, Inc.

Dustin M. McNally, PLS 1636

10759 East Admiral Place Tulsa, Oklahoma 74116

Phone (918) 437-0282 Fax (918) 437-0455 C.A. 1427, Expires 6/2014

To: Mr. Larry Reser, Chief of Surveys

From: Dustin M. McNally, Professional Land Surveyor

Subject: SWO 4851(1), J/P No. 28857(04), S.H. 28, Bridge over Salt Creek, 1.3 Miles south of U.S. 60.

NOWATA COUNTY

Historical Letter and Written Report

1. General:

Survey began: September 27, 2012

Survey completed: January 07, 2013

Personnel on this survey:

Dustin M. McNally, PLS

Chris A. Cauthon, PLS

Jason Mock, Survey Technician

Jason Lilly, Survey Technician

Ryan Harrison, LSIT

Tim DeArmon, Survey Technician

Stevfen Miller, Survey Technician

Previous Surveys and Plans relevant to this project:

FAS No. S-57 (2) Plans

2. Assignment:

Assignment of this survey originated by ODOT Project Management Division Task Order No. EC-1394 dated April 2, 2012 from Mr. Larry Reser, PLS, Chief of Surveys. This survey was assigned to me under Engineering Contract No. EC-1394, J/P No. 28857(04).

The Assignment of the survey included:

SWO 4851(1) Survey Special Provisions

Attachment No. 1- Location Map

Attachment No. 2-Land Surveyor's Certification Form

Attachment No. 3-SD Form #7

Attachment No. 4-Specifications for surveys for Primary and Secondary Highways dated January 2011.

Attachment No. 5-Suggested sequence of survey

Attachment No. 6-Project Completion Percentages

Attachment No. 7-Standard CADD files, issued March 5, 2004

3. Purpose:

The purpose of this survey is to furnish sufficient data to develop plans to construct a new bridge over Salt Creek southeast of Nowata.

4. Survey Limits:

This survey begins at Station 280+00.00 and extends north to P.I. Station 320+22.80 (EW-23 Section Line) as shown FAS No. S-57 (2) plans (approximate centerline length= 0.76 mile).

5. Alignment:

A001 – Centerline of S.H. 28

The Centerline of Survey for this project is along and identical to the centerline of present S.H. 28 as shown on FAS No. S-57 (2) plans.

6. Stationing:

Stationing for this survey is taken from FAS S-57 (2) plans.

7. Horizontal Control:

Horizontal control for this survey is N.G.S. Oklahoma State Plane Coordinate System NAD 83 Lambert Projection North Zone (Zone 3501). The distances, coordinates, and elevations shown in this survey are U.S. Survey Feet. All angles and bearings are shown are in degrees, minutes, and seconds.

8. Vertical Control:

A. Datum:

Level datum for this survey is N.G.S. N.A.V.D. 88.

B. Source:

Level datum for this survey was taken from G.P.S. network solution using CORS Stations OKMU, OKTU, ARFY, and MOCA and HARN stations E17 and PIERRE. The resulting elevations were applied to control points on each end of the project.

C. Method:

A double line of differential levels was run through the site using Sokkia model 300 and B21 automatic levels.

D. Accuracy:

These benchmarks exceed the requirements for N.G.S. 3rd order leveling.

E. Results:

The results of these level runs have been placed in a list in the project design file showing the BM number, elevation, run 1 and run 2 differences, description of each benchmark, and position by station and offset from the CLS.

9. Measurement Units:

The distances, coordinates, and elevations shown on this survey are in US SURVEY FEET. All angles and bearings shown are in degrees, minutes, and seconds.

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S002

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

REVISIONS	
DESCRIPTION	DATE

10. Topography/Digital Terrain Model:

Topography on this project was obtained from conventional field level topography using Trimble S-6 Robotic Total Stations, Trimble R8 GPS receivers with Trimble TSC-2 data collectors, and using Carlson RTK GPS receivers with Carlson Surveyor+ data collectors. All paving, structures, and finished floor elevations were obtained with the total stations. GPS RTK surveying was used for land ties and miscellaneous topography. As a minimum, the coverage bandwidths for topographic and/or surface features data obtained on this survey are as follows:

- 200 feet right and left of the Centerline of Survey from the Beginning of Survey to Station 299+00, thence;
- 500 feet right and left of Centerline of Survey from 299+00 to Station 309+00. thence;
- 200 feet right and left of the Centerline of Survey from Station 309+00 to the End of Survey.

11. Land Ties:

Complete land tie information was obtained by a combination of conventional field methods and real-time kinematic (RTK) GPS as needed to purchase new right-of-way, including the bounding out of all sections through which the survey centerline passes.

West Quarter Corner of Section 3, T-25-N, R-17-E, I.M.

I set a magnetic nail with a shiner stamped "CA-1427" at a position established by using ties to the section corners north and south of the position recorded in plans FAS No. S-57(2) for the north/south position. In this plan set it depicts the section line running through the center of the bridge over Salt Creek roughly 1000 ft. north of the 1/4 corner position. The east/west position was established by the intersection of a line running due west of the north/south position and a line running south from the section corner north of the position and through the midpoint of the bridge.

West Quarter Corner of Section 4, T-25-N, R-17-E, I.M.

I set a 3/8" iron pin with a cap stamped "CA-1427" at a position established by using record distances from a section breakdown in the Plat of Boundary Survey for the Oologah Reservoir by W.R. Meeks on December 23rd, 1964.

12. Right-of-Way:

The existing rights-of-way shown on this survey are established by the direct relationship between field observation and the right-of-way depicted on FAS No. S-57 (2) plans. A thorough search for documents to support this depiction was performed at the Nowata County Clerk's Office along with a search performed at Oklahoma Department of Transportation – Right-of-Way Division. No documents were recovered in these efforts.

This includes, as a minimum, the complete mathematical bounding of all parcels that fall partially or completely within the survey coverage limits. "Property division" includes present rights-of-way. The present rights-of-way have been tied to the centerline of survey and shown on the submitted survey notes.

13. Utilities:

Note: All utilities are shown as flagged by the utilities contacted or their representatives. All utilities serving the project area were contacted through OKIE One-Call. All utility locations are approximate, and depths and types are unknown. The utility locations shown on this survey are based on the flagged locations as performed by the utility owners or their contractors. Any inaccuracies or omissions are the responsibility of the utility owners and/or their contractors, and Guy Engineering Services accepts no responsibility for their failure to respond to the OKIE survey requests. Contact CALL OKIE at 1-800-522-OKIE.

14. Drainage:

Drainage areas for all drains crossing the Survey Centerline were taken from USGS quad maps scanned into a Microstation Design File.

15. Data Submitted:

Computer files:

1. SWO4851_1_v1.dgn -Survey Data Sheets
2. SWO4851_1_v1_TOPO.dgn -Topographic/Planimetric Data
3. SWO4851_1_v1_sff.dgn -Surface Feature File
4. SWO4851_1_v1_TRI.dgn -DTM Triangle Drawing
5. SWO4851_1_v1_dra.dgn -Drainage Area Map
6. SWO4851.txt -Cogo Points
7. PDF versions of all hard copied documents.

SDS 3 OF 10

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S003

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

REVISIONS	
DESCRIPTION	DATE

CHECK LEVELS

BENCH MARK LIST

SWO 4851(1)

NAVD 88 DATUM

BM NO.	RUN 1	RUN 2	MEAN DIFF.	UNADJ. ELEV.		ADJ. ELEV.	PUBLISHED ELEV.	BENCHMARK DESCRIPTION
							BM 1	60d NAIL IN 12" LOCUST,
BM 1				681.660		681.66		
	-1.890	-1.890	-1.890		0.0000		CP 7400	3/8" IRON PIN WITH ORANGE CAP,
7400				679.767		679.77	679.77	
	-1.570	-1.570	-1.570		0.0000		CP 7401	1/2" IRON PIN WITH ALUMINUM CAP,
7401				678.200		678.20	678.20	STA. 280+37.68, 61.44' LT.
	1.340	1.340	1.340		0.0029		BM 2	TOP OF RIGHT-OF-WAY MARKER,
BM 2				679.540		679.54		STA. 280+00.86, 64.58' LT.
	-2.880	-2.880	-2.880		0.0029		BM 3	CHISELED "BOX" ON NE CORNER OF HEADWALL,
BM 3				676.660		676.67		STA. 285+10.21, 25.10' LT.
	-2.050	-2.050	-2.050		0.0029		CP 7402	3/8" IRON PIN WITH ORANGE CAP,
7402				674.610		674.62		285+45.10, 48.09' LT.
	4.270	4.270	4.270		0.0029		BM 4	60d IN POWER POLE,
BM 4				678.880		678.89		STA. 289+61.38, 75.97' LT.
	-0.410	-0.410	-0.410		0.0029		CP 7403	3/8" IRON PIN WITH ORANGE CAP,
7403				678.470		678.48		STA. 290+49.04, 73.37' LT.
	-2.190	-2.190	-2.190		0.0029		CP 7404	3/8" IRON PIN WITH ORANGE CAP,
7404				676.280		676.30		STA. 295+52.54, 62.58' LT.
	-0.940	-0.940	-0.940		0.0029		BM 5	60d IN 10" LOCUST,
BM 5				675.340		675.36		STA. 295+78.13, 121.33' LT.
	-3.040	-3.040	-3.040		0.0029		CP 7405	3/8" IRON PIN WITH ORANGE CAP,
7405				672.300		672.32		STA. 302+38.49, 21.85' LT.
	-6.050	-6.050	-6.050		0.0029		BM 6	60d IN HACKBERRY,
BM 6				666.250		666.28		STA. 301+51.04, 65.10' LT.
	6.000	6.000	6.000		0.0029		CP 7406	3/8" IRON PIN WITH ORANGE CAP,
7406				672.250		672.28		STA. 305+02.08, 22.66' RT.
	-9.420	-9.420	-9.420		0.0029		BM 7	80d IN 24" LOCUST,
BM 7				662.830		662.86		STA. 306+10.00, 125.89' RT.
	7.120	7.120	7.120		0.0029		CP 7407	3/8" IRON PIN WITH ORANGE CAP,
7407				669.950		669.99		STA. 310+16.73, 61.23' RT.
	6.760	6.760	6.760		0.0029		BM 8	80d IN POWER POLE,
BM 8				676.710		676.75		STA. 310+31.75, 103.69' LT.
	4.850	4.850	4.850		0.0029		CP 7408	3/8" IRON PIN WITH ORANGE CAP,
7408				681.560		681.60		STA. 315+27.33, 62.24' RT.
	1.150	1.150	1.150		0.0029		BM 9	80d IN POWER POLE,
BM 9				682.710		682.75		STA. 315+27.03, 71.80' RT.
	3.810	3.810	3.810		0.0029		BM 10	80d IN LOCUST,
BM 10				686.520		686.57		STA. 320+05.69, 104.08' RT.
	-0.520	-0.520	-0.520		0.0029		CP 7409	1/2" IRON PIN WITH ALUMINUM CAP,
7409				686.000		686.05	686.05	STA. 319+95.62, 41.94' RT.
	6.040	6.040	6.040		0.0200		CP 7410	3/8" IRON PIN WITH ORANGE CAP,
7410				692.040		692.11	692.11	
	1.220	1.220	1.220		0.0000		BM 11	80d IN POWER POLE,
BM 11				693.260		693.33		

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S004

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

REVISIONS	
DESCRIPTION	DATE

COORDINATE POINT LIST

SWO 4851(1) JOB PIECE 28857(04)

PT. NO.	NORTHING	EASTING	PT. NO.	NORTHING	EASTING
1	618474.518630000	2705631.185060000	7612	618753.985044400	2705864.044949800
2	618750.993990000	2705734.500920000	7613	619153.808238200	2705852.153200500
3	619261.287530000	2705758.812190000	7614	619254.061330400	2705859.175843000
4	619710.753550000	2705694.555560000	7615	620139.236924900	2705832.848490000
5	620326.250020000	2705631.446030000	7616	620753.227269800	2705816.410936500
6	620900.467940000	2705672.316880000	7617	620953.690877800	2705831.051354690
7	621364.372760000	2705850.956690000	7618	621253.583427200	2705823.022727100
8	621779.820930000	2705610.174930000	7619	621552.673113700	2705785.004844600
9	622279.628220000	2705772.345210000	7620	622757.767108100	2705752.742452800
10	622758.976320000	2705791.802870000	7621	622821.082051000	2708328.507607200
11	623258.666660000	2705742.774440000	7623	621456.089697400	2705637.536800400
1000	618752.052635100	2705799.073680800	7624	621459.931571900	2705796.793405700
1001	619451.743224300	2705778.263119400	8000	618689.084159600	2700521.772205100
1002	620137.118490300	2705757.878331800	8001	618738.793717300	2702499.110869500
1003	620962.306582900	2705735.786659600	8002	617421.321225000	2702532.983390000
1004	621270.094847100	2705727.546650400	9000	622650.279600000	2700433.325250000
1005	622050.754493300	2705706.647079600	9001	622682.202785000	2701742.649560000
1006	622772.663950000	2705687.320350000	9002	622714.125970000	2703051.974670000
7400	618464.969600000	2705750.569000000	9003	622743.394960000	2704369.647510000
7401	618787.887200000	2705736.536400000	9004	622805.119725000	2707007.679345000
7402	619295.480020000	2705734.801990000	9005	622837.575500000	2708328.038340000
7403	619798.446630000	2705694.549840000	9006	622870.119295000	2709648.284985000
7404	620302.249000000	2705690.855810000	9007	622902.663090000	2710968.531630000
7405	620989.036670000	2705713.214700000	9008	621325.098242200	2700462.914362100
7406	621253.729230000	2705750.653750000	9009	621359.019360700	2701775.178225600
7407	621769.227710000	2705775.433080000	9010	621392.940268300	2703087.433927500
7408	622279.671760000	2705762.778580000	9011	621425.567108900	2704404.972363200
7409	622747.242500000	2705729.959000000	9012	621458.193952600	2705722.510921200
7410	623264.295700000	2705736.475100000	9013	621489.106692000	2707044.017312000
7600	618750.120225900	2705734.102411800	9014	621520.019463900	2708365.525091700
7601	619149.943419700	2705722.210662500	9015	621550.943613000	2709685.573683500
7602	619249.601924400	2705709.242145300	9016	621581.867755000	2711005.621970000
7603	619949.292513500	2705688.431583900	9017	620007.820469100	2700492.327000300
7604	620049.545605700	2705695.454226400	9018	620072.414789800	2703122.875465400
7605	620135.282513600	2705692.904194700	9019	620199.161373800	2708403.105792600
7606	620849.444760000	2705673.784871000	9020	620261.072420000	2711042.712310000
7607	621048.837884400	2705648.439615900	9021	617370.347850000	2700551.217410000
7608	622148.443898600	2705619.001314700	9022	617438.312350000	2703193.572050000
7609	622348.907506600	2705633.641732900	9023	617506.233550000	2705836.127480000
7610	622754.726208200	2705622.777284200	9024	617566.134450000	2708478.019970000
7611	622697.631733200	2703052.417358300	9025	617625.854280000	2711106.137300000

Page 1 of 1

Alignment Report

Project Name: SWO4851_1_V1
Description: Salt Creek
Horizontal Alignment Name: A001
Description: Centerline of Survey
Style: Centerline

		STATION	NORTHING	EASTING
Element: Linear				
	POB ( )	280+00.00	618752.05	2705799.07
	PI ( )	293+85.68	620137.12	2705757.88
	Tangent Direction:	N 1°42'13" W		
	Tangent Length:	1385.68		
Element: Linear				
	PI ( )	293+85.68	620137.12	2705757.88
	POE ( )	320+22.17	622772.66	2705687.32
	Tangent Direction:	N 1°32'01" W		
	Tangent Length:	2636.49		

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

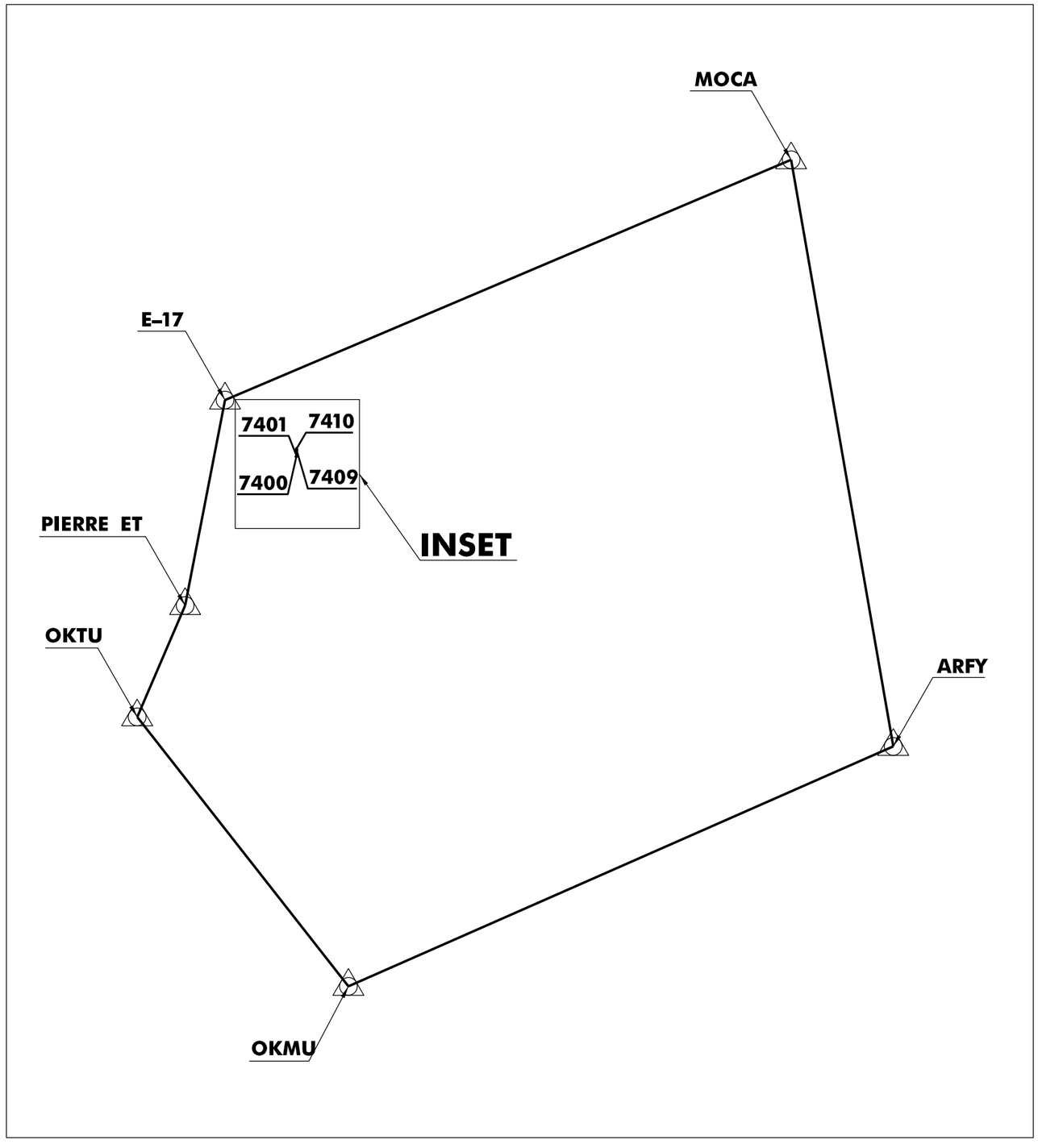
OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

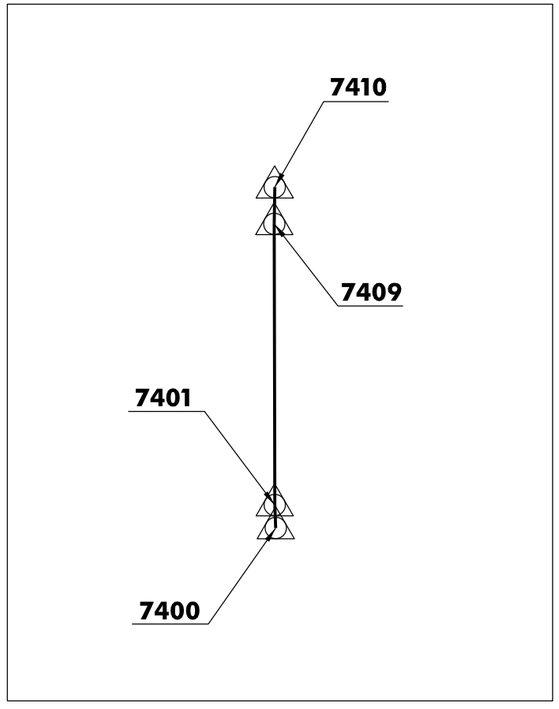
SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S005

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

REVISIONS	
DESCRIPTION	DATE



INSET



NTS

Note: Control Network adjustment utilizing HARN – "E–17", "PIERRE ET", CORS – "ARFY", "MOCA", "OKMU" and "OKTU".

SDS 6 OF 10

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

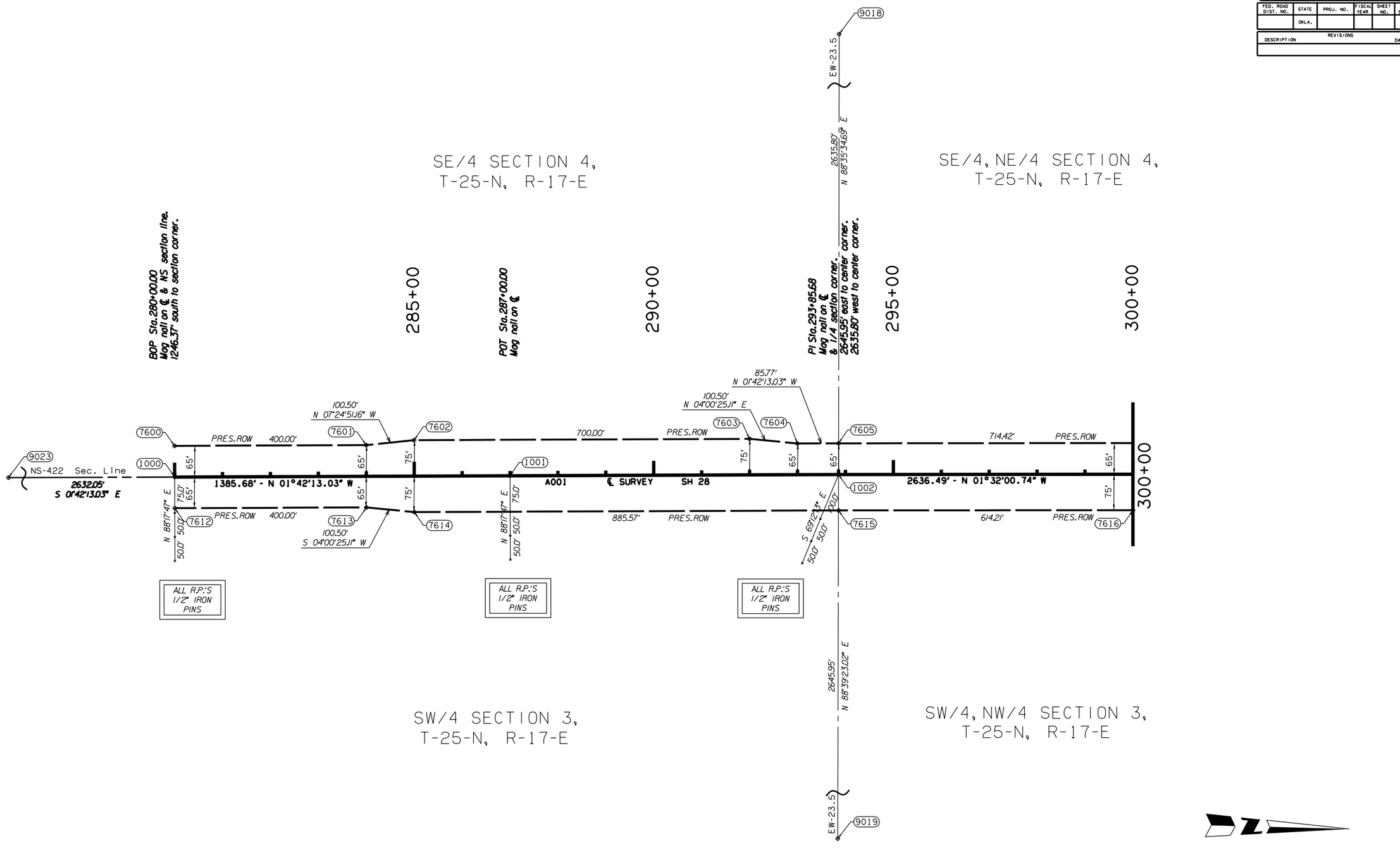
OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S006

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

REVISIONS	
DESCRIPTION	DATE



Scale: 1" = 100'

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

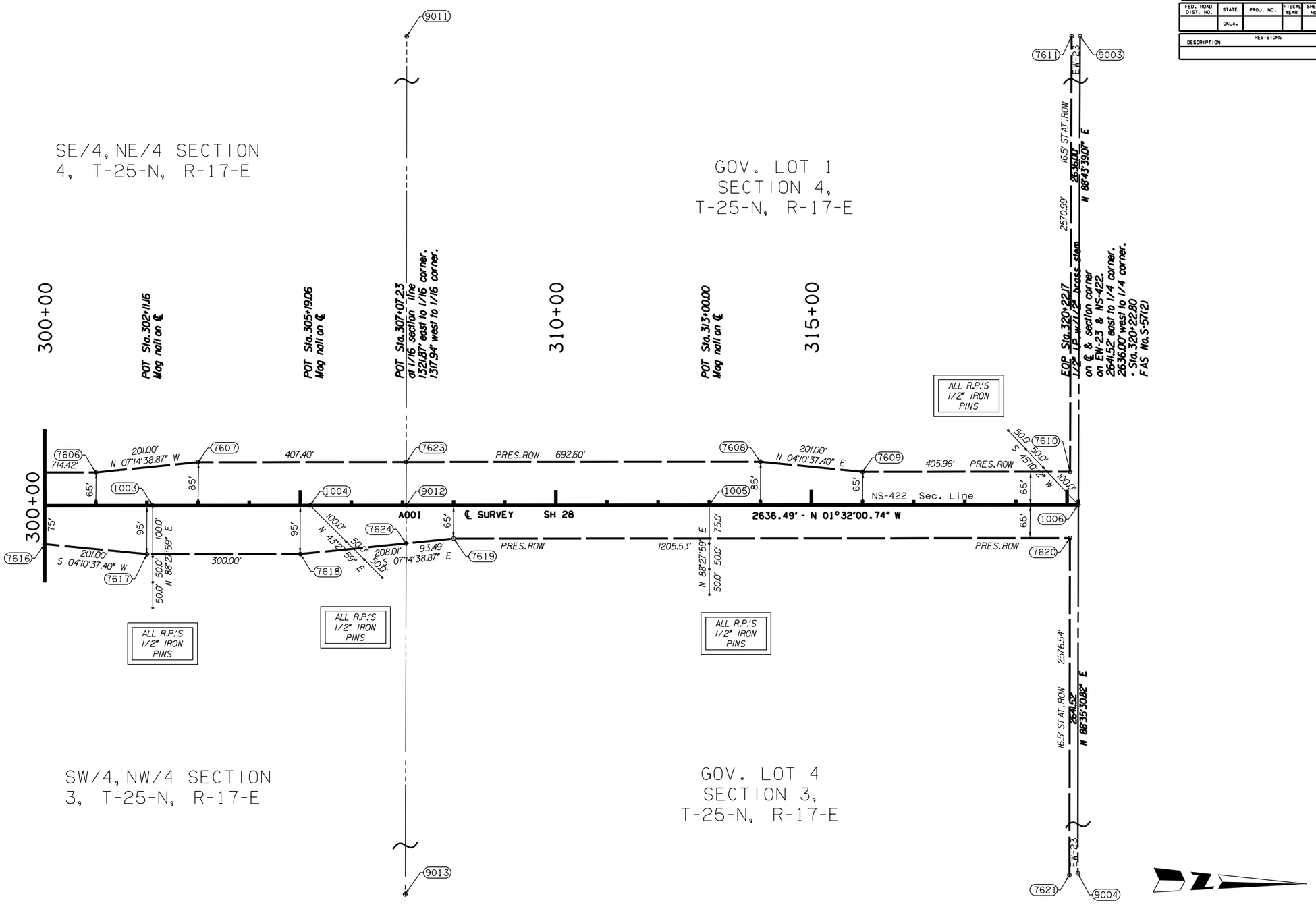
SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S007

SDS 7 OF 10

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

REVISIONS	
DESCRIPTION	DATE



Scale:
1" = 100'

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S008

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

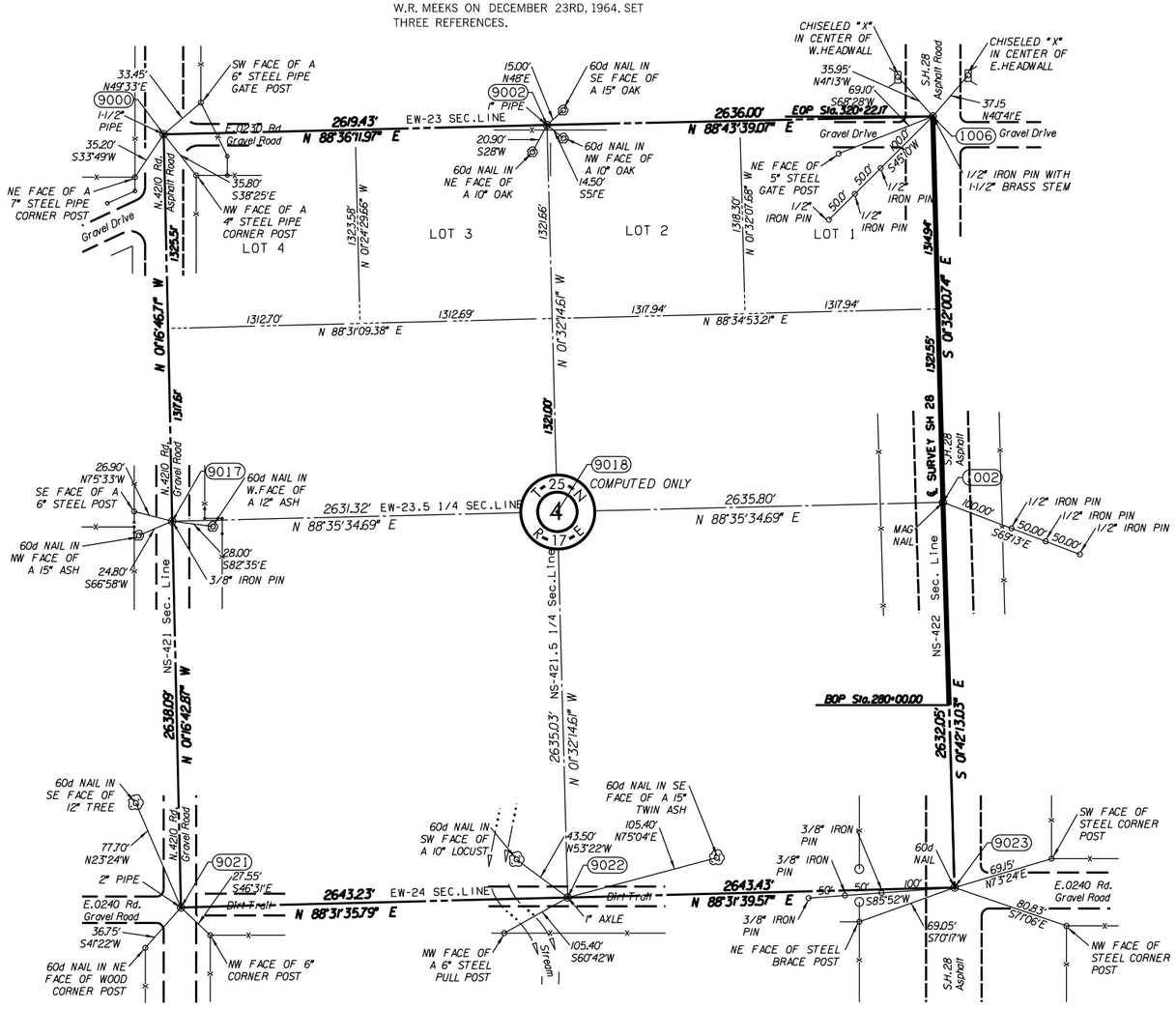
NORTHWEST CORNER OF SECTION 4, T–25–N, R–17–E, I.M. FOUND A 1–1/2" PIPE AS CALLED FOR IN THE PLAT OF BOUNDARY SURVEY FOR THE OOLOGAH RESERVOIR BY W.R. MEEKS ON DECEMBER 23RD, 1964. SET THREE REFERENCES.

NORTH QUARTER CORNER OF SECTION 4, T–25–N, R–17–E, I.M. FOUND A 1" PIPE AS CALLED FOR IN THE PLAT OF BOUNDARY SURVEY FOR THE OOLOGAH RESERVOIR BY W.R. MEEKS ON DECEMBER 23RD, 1964. SET THREE REFERENCES.

NORTHEAST CORNER OF SECTION 4, T–25–N, R–17–E, I.M. FOUND A 1/2" IRON PIN WITH A 1–1/2" BRASS STEM SET BY PERSONS UNKNOWN. SET SIX REFERENCES.

WEST QUARTER CORNER OF SECTION 4, T–25–N, R–17–E, I.M. SET A 3/8" IRON PIN W/CAP STAMPED "CA–1427" AND THREE REFERENCES. THIS POSITION WAS ESTABLISHED BY USING RECORD DISTANCES FROM A SECTION BREAKDOWN IN THE PLAT OF BOUNDARY SURVEY FOR THE OOLOGAH RESERVOIR BY W.R. MEEKS ON DECEMBER 23RD, 1964.

EAST QUARTER CORNER OF SECTION 4, T–25–N, R–17–E, I.M. SET A MAG NAIL W/SHINER STAMPED "CA–1427" AND THREE REFERENCES. THIS POSITION WAS ESTABLISHED USING A COMBINATION OF RECORD PLANS AND LOCAL EVIDENCE. USING TIES TO THE SECTION CORNERS NORTH AND SOUTH OF THE POSITION RECORDED IN PLANS FAS NO. S–57(2) THE NORTH-SOUTH POSITION WAS ESTABLISHED. IN THIS PLAN SET IT DEPICTS THE SECTION RUNNING THROUGH THE CENTER OF THE BRIDGE OVER SALT CREEK ROUGHLY 1000 FT. NORTH OF THE 1/4 POSITION. THE EAST/WEST POSITION IS ESTABLISHED BY INTERSECTION OF A LINE RUNNING DUE WEST OF THE NORTH-SOUTH POSITION AND A LINE RUNNING SOUTH FROM THE SECTION CORNER NORTH AND THE MIDPOINT OF THE BRIDGE.



SOUTHWEST CORNER OF SECTION 4, T–25–N, R–17–E, I.M. FOUND 2" PIPE AS CALLED FOR IN THE PLAT OF BOUNDARY SURVEY FOR THE OOLOGAH RESERVOIR BY W.R. MEEKS ON DECEMBER 23RD, 1964. SET THREE REFERENCES.

SOUTH QUARTER CORNER OF SECTION 4, T–25–N, R–17–E, I.M. FOUND A 1" AXLE AS CALLED FOR IN THE PLAT OF BOUNDARY SURVEY FOR THE OOLOGAH RESERVOIR BY W.R. MEEKS ON DECEMBER 23RD, 1964. SET THREE REFERENCES.

SOUTHEAST CORNER OF SECTION 4, T–25–N, R–17–E, I.M. FOUND A 60d NAIL SET BY PERSONS UNKNOWN. SET SIX REFERENCES.

N

SCALE: 1" = 500'

NOTE: REFERENCES SHOWN ARE NOT TO SCALE

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S009

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

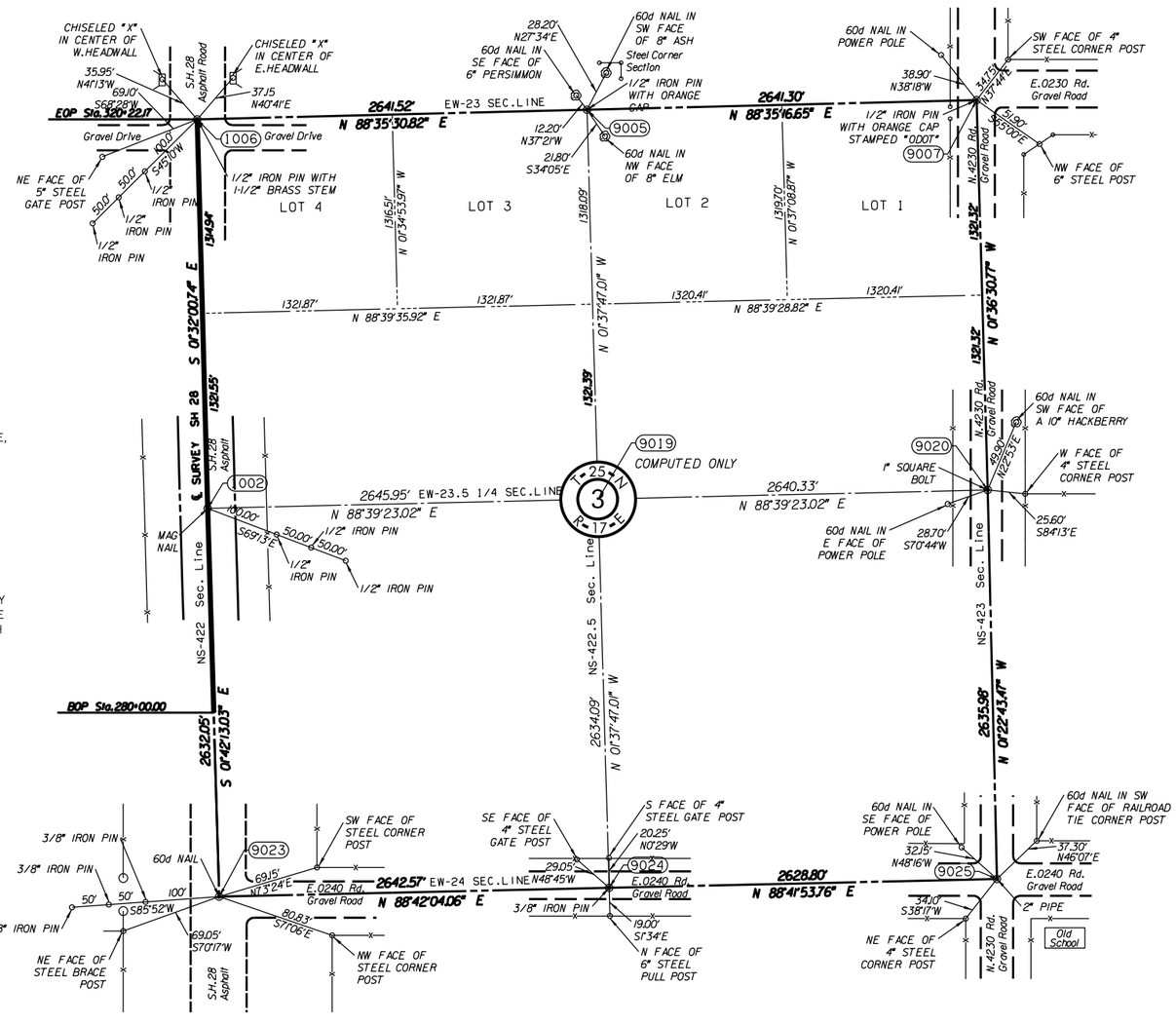
NORTH QUARTER CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND 1/2" IRON PIN W/ CAP STAMPED "ODOT". SET THREE REFERENCES.

NORTHWEST CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND A 1/2" IRON PIN WITH A 1–1/2" BRASS STEM SET BY PERSONS UNKNOWN. SET SIX REFERENCES.

NORTHEAST CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND A 1/2" IRON PIN WITH ORANGE CAP STAMPED "ODOT". SET THREE REFERENCES.

EAST QUARTER CORNER OF SECTION 4, T–25–N, R–17–E, I.M. SET A MAG NAIL W/SHINER STAMPED "CA–1427" AND THREE REFERENCES. THIS POSITION WAS ESTABLISHED USING A COMBINATION OF RECORD PLANS AND LOCAL EVIDENCE. USING TIES TO THE SECTION CORNERS NORTH AND SOUTH OF THE POSITION RECORDED IN PLANS FAS NO. S–57(2) THE NORTH/SOUTH POSITION WAS ESTABLISHED. IN THIS PLAN SET IT DEPICTS THE SECTION RUNNING THROUGH THE CENTER OF THE BRIDGE OVER SALT CREEK ROUGHLY 1000 FT. NORTH OF THE 1/4 POSITION. THE EAST/WEST POSITION IS ESTABLISHED BY INTERSECTION OF A LINE RUNNING DUE WEST OF THE NORTH/SOUTH POSITION AND A LINE RUNNING SOUTH FROM THE SECTION CORNER NORTH AND THE MIDPOINT OF THE BRIDGE.

EAST QUARTER CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND AND ACCEPTED A 1" SQUARE BOLT SET BY PERSONS UNKNOWN. SET THREE REFERENCES.



SOUTHWEST CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND A 60d NAIL SET BY PERSONS UNKNOWN. SET SIX REFERENCES.

SOUTH QUARTER CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND 3/8" IRON PIN SET BY PERSONS UNKNOWN. SET THREE REFERENCES.

SOUTHEAST CORNER OF SECTION 3, T–25–N, R–17–E, I.M. FOUND A 2" PIPE SET BY PERSONS UNKNOWN. SET THREE REFERENCES.

N

SCALE: 1" = 500'

NOTE: REFERENCES SHOWN ARE NOT TO SCALE

PLS	DMM	
DRAWN	VKM	
CHECKED	CAC	
APPROVED	DMM	
CREW	GES, INC.	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SURVEY DATA SHEET

SWO 4851(1) PROJECT NO. 28857(04) SHEET NO. S010

SDS 10 OF 10

REVISIONS		
DESCRIPTION		DATE

R11-3a
ROAD CLOSED
0.7 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a
ROAD CLOSED
1.2 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-2
ROAD CLOSED

R5-1
DO NOT ENTER

R11-2
BRIDGE OUT

R5-1
DO NOT ENTER

R11-2
ROAD CLOSED

R11-3a
ROAD CLOSED
12.5 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a
ROAD CLOSED
12.0 MILES AHEAD
LOCAL TRAFFIC ONLY

PROJECT LOCATION

LEGEND

- SIGN
- TYPE III BARRICADE
- DETOUR ROUTE
- COUNTY LINE

NS424 NS426 NS428 NS431 NS433 NS435

EW23 EW25 EW27 EW29 EW32 EW34

1.2 mi
12.5 mi
15.1 mi
13.0 Miles

Salt Creek
Lake Oolagah
CHELSEA

NOWATA CO.
CRAIG CO.
ROGERS CO.

28 60 66 69 44

A1 A3 A5 A7 B1 B2 B3 B4 B5 B7

SIGN SCHEDULE

	A	B
	DETOUR M4-8 NORTH M3-2 28 M1-6(3)	DETOUR M4-8 SOUTH M3-4 28 M1-6(3)
1	M6-3	M6-3
2	M5-1(R)	M5-1(R)
3	M5-1(L)	M5-1(L)
4	M6-1(R)	M6-1(R)
5	M6-1(L)	M6-1(L)
6	M5-2(L)	M5-2(R)
7	END M4-6	END M4-6

DRAWING NOT TO SCALE

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

DETOUR PLAN

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. T001

Monday, July 31, 2017 3:36:44 PM
V:\12-716E SH-28 Salt Creek JP 28857\CAD\PLANS\716-DETOUR MAP.dwg

REVISIONS		
DESCRIPTION		DATE

SECTION 4
T-25-N, R-17-E

300+00

300+00

305+00

305+00

310+00

Salt Creek

SALT CREEK

BRIDGE ICES BEFORE ROAD

℄ SURVEY STA 297+00.00
CRL STA 297+00.00
BEGIN CONST SH-28

℄ SURVEY STA 310+00.00
CRL STA 310+00.00
END CONST SH-28

SEE DETAIL 'A' ③
STA. 305+54

④ W8-13E
STA. 310+00

Present R/W

4" SOLID YELLOW

4" WHITE EDGE LINE

CRL SH-28

SH-28

℄ SURVEY

MATCH EXISTING

4" DASHED YELLOW

Section Line

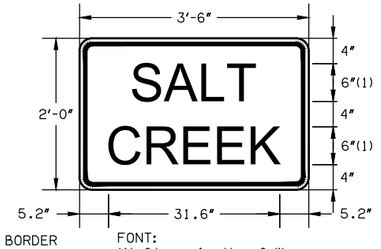
① W8-13E
STA. 297+19

② SEE DETAIL 'A'
STA. 301+74

SALT CREEK

BRIDGE ICES BEFORE ROAD

SECTION 3
T-25-N, R-17-E



BORDER
R=1.5"
TH=0.63"
IN=0.38"

FONT:
(1) ClearviewHwy-6-W

PANEL STYLE: BOUNDARY 2 LN.ssl
M.U.T.C.D: 2009 EDITION

DETAIL 'A'

DESIGN	MZV	12/15
DRAWN	BSF	12/15
CHECKED	JRW	12/15
APPROVED	JRW	12/15
SQUAD		

OKLAHOMA DEPARTMENT OF TRANSPORTATION
GUY ENGINEERING SERVICES, INC.

SIGNING AND STRIPING PLAN

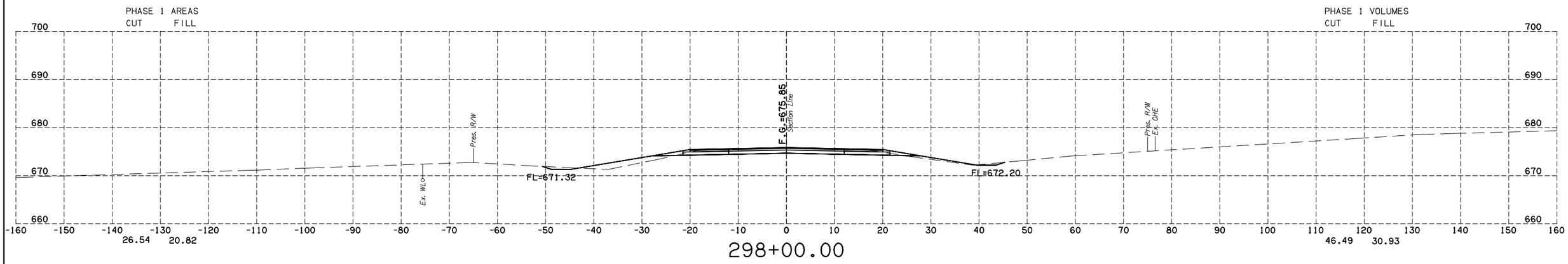
COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. T002

Monday, July 31, 2017 3:37:51 PM
V:\12-716E SH-28 Salt Creek JP 28857\CAD\PLANS\716-SIGNING AND STRIPING PLAN.dwg

REVISIONS	
DESCRIPTION	DATE

PHASE 1 AREAS
CUT FILL

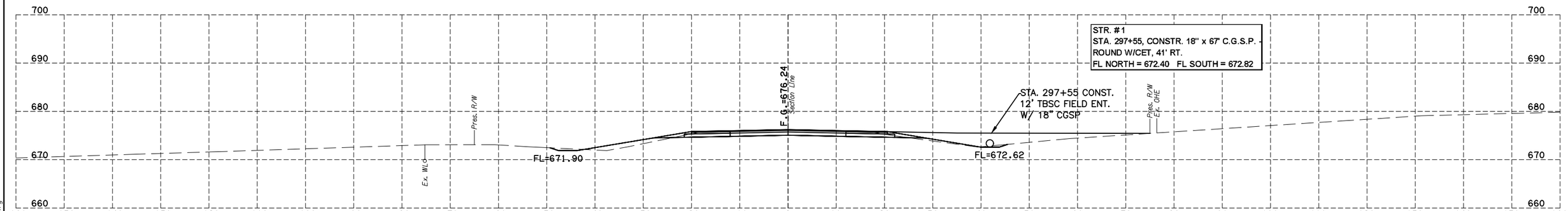
PHASE 1 VOLUMES
CUT FILL



26.54 20.82 46.49 30.93

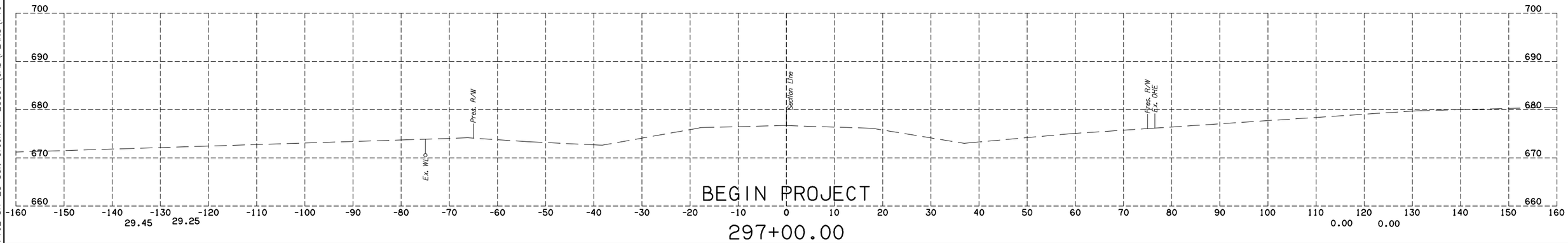
298+00.00

STR. #1
STA. 297+55, CONSTR. 18" x 67' C.G.S.P. -
ROUND W/CET, 41' RT.
FL NORTH = 672.40 FL SOUTH = 672.82



29.25 16.29 59.79 30.01

297+55.00



29.45 29.25 0.00 0.00

297+00.00

COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. X001

Monday, July 31, 2017 3:38:31 PM
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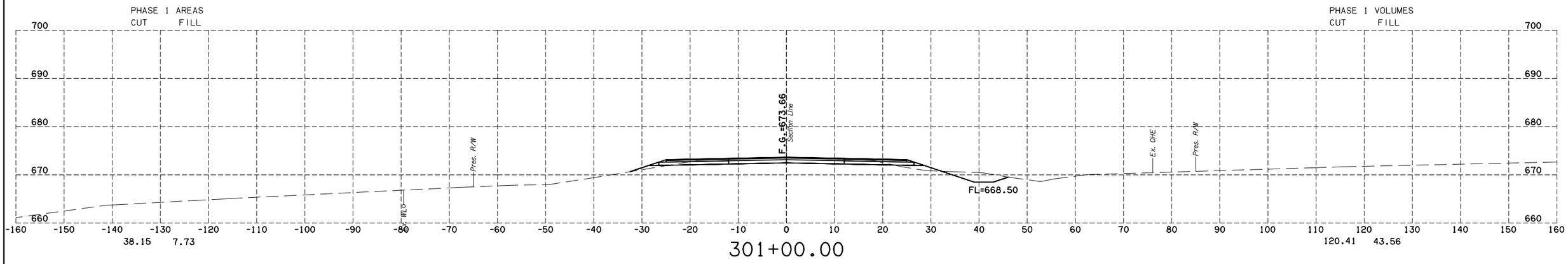
REVISIONS	
DESCRIPTION	DATE

PHASE 1 AREAS
CUT FILL

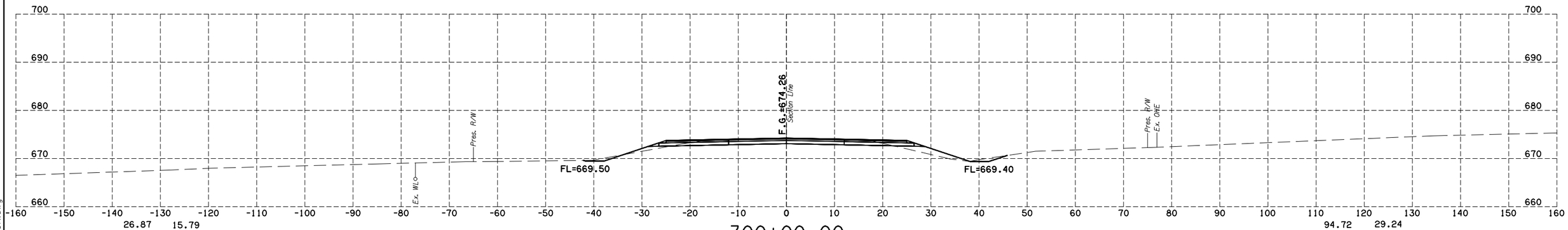
PHASE 1 VOLUMES
CUT FILL



38.15 7.73

120.41 43.56

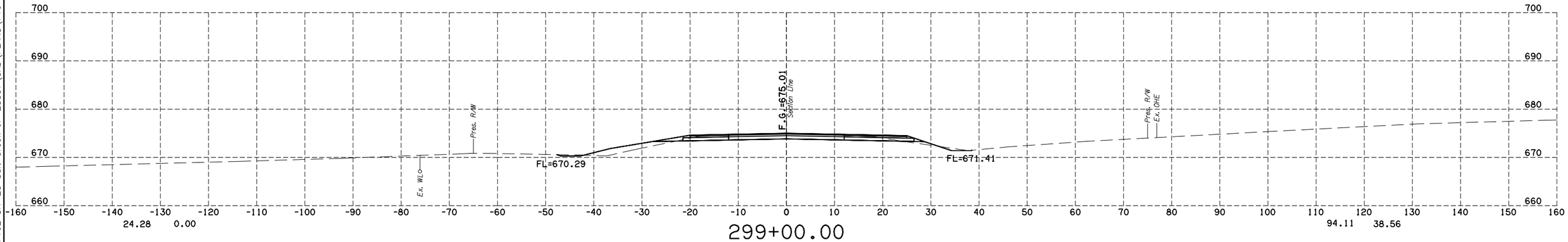
301+00.00



26.87 15.79

94.72 29.24

300+00.00



24.28 0.00

94.11 38.56

299+00.00

Monday, July 31, 2017 3:38:51 PM
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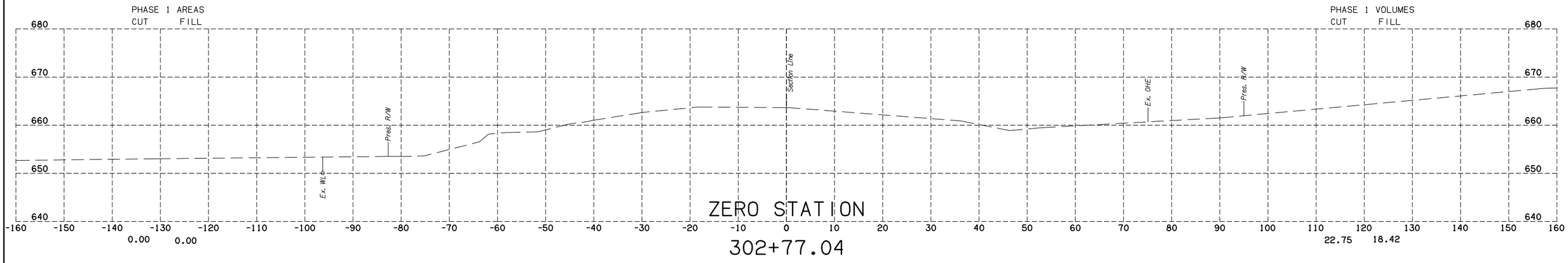
COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. X002

REVISIONS	
DESCRIPTION	DATE

PHASE 1 AREAS
CUT FILL

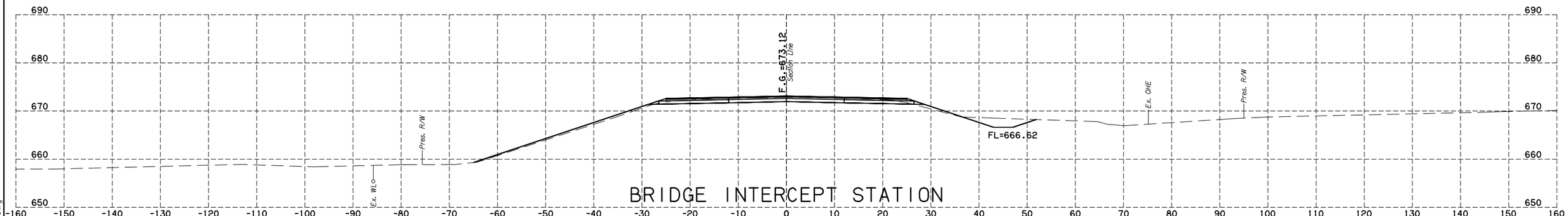
PHASE 1 VOLUMES
CUT FILL



0.00 0.00

ZERO STATION
302+77.04

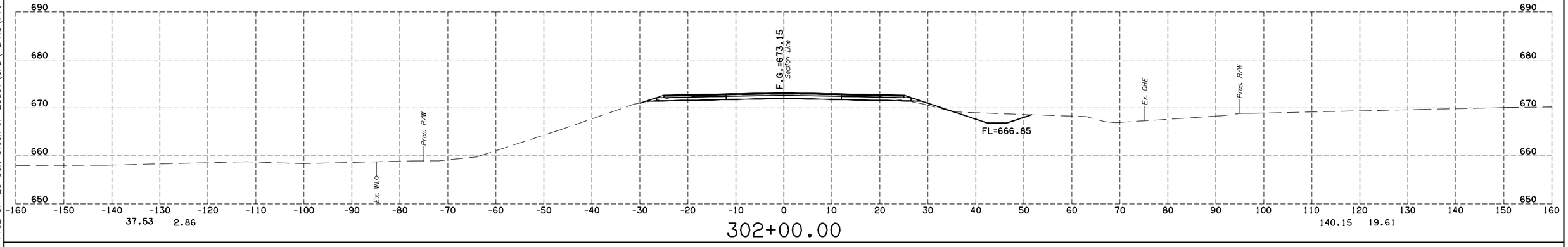
22.75 18.42



17.33 14.03

BRIDGE INTERCEPT STATION
302+06.15

6.25 1.92



37.53 2.86

302+00.00

140.15 19.61

Monday, July 31, 2017 3:39:08 PM
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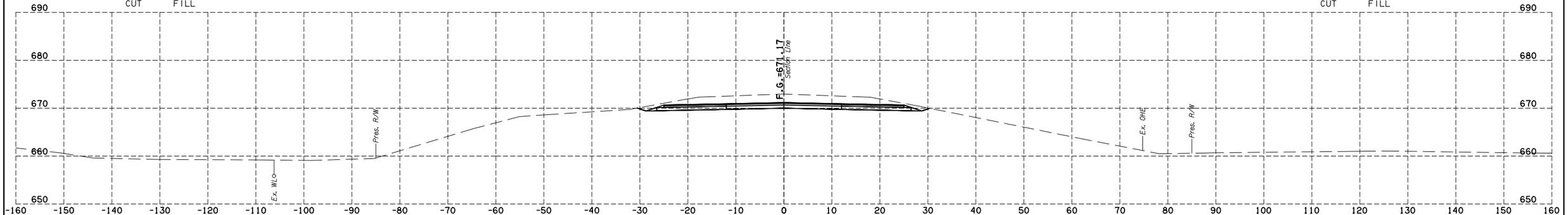
COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. X003

REVISIONS	
DESCRIPTION	DATE

PHASE 1 AREAS
CUT FILL

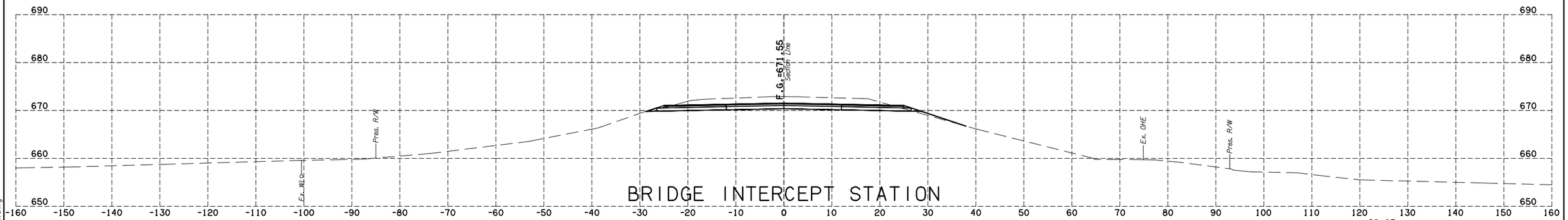
PHASE 1 VOLUMES
CUT FILL



117.34 0.00

300.05 33.59

306+00.00

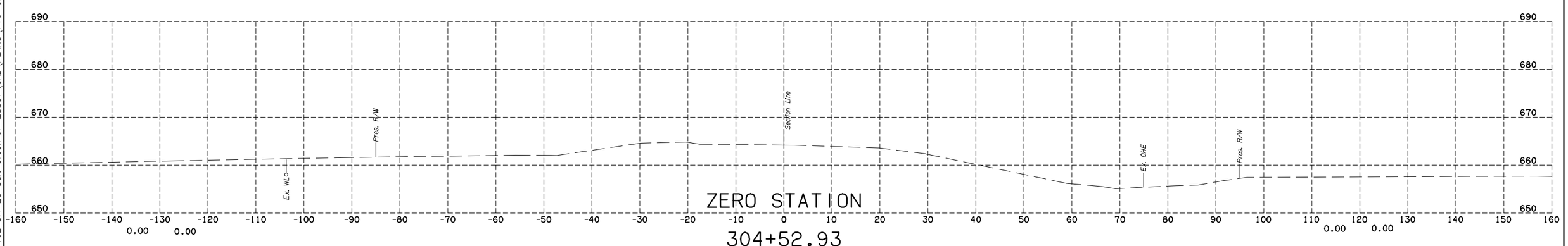


BRIDGE INTERCEPT STATION

88.12 23.00

111.31 29.05

305+21.14



ZERO STATION

0.00 0.00

0.00 0.00

304+52.93

Monday, July 31, 2017 3:39:26 PM
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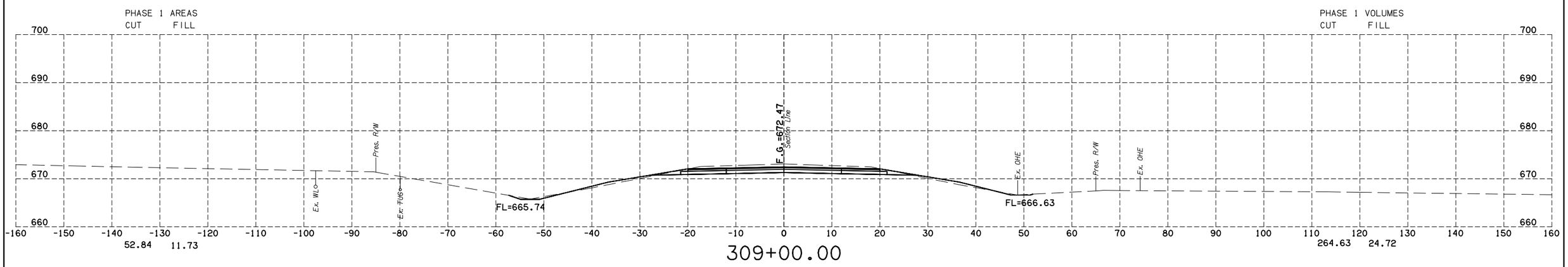
COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. X004

REVISIONS	
DESCRIPTION	DATE

PHASE 1 AREAS
CUT FILL
52.84 11.73

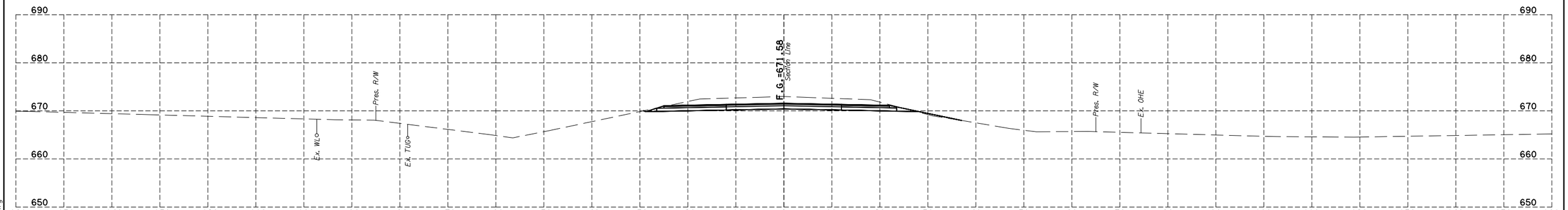
PHASE 1 VOLUMES
CUT FILL
264.63 24.72



309+00.00

90.06 1.62

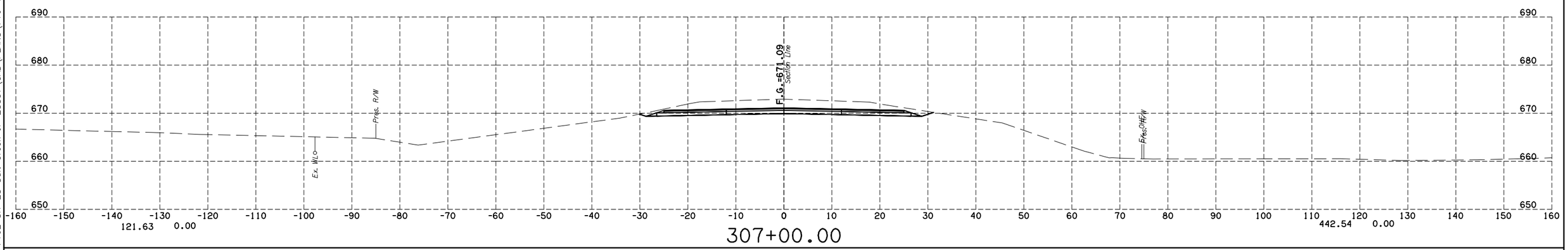
392.02 3.00



308+00.00

121.63 0.00

442.54 0.00



307+00.00

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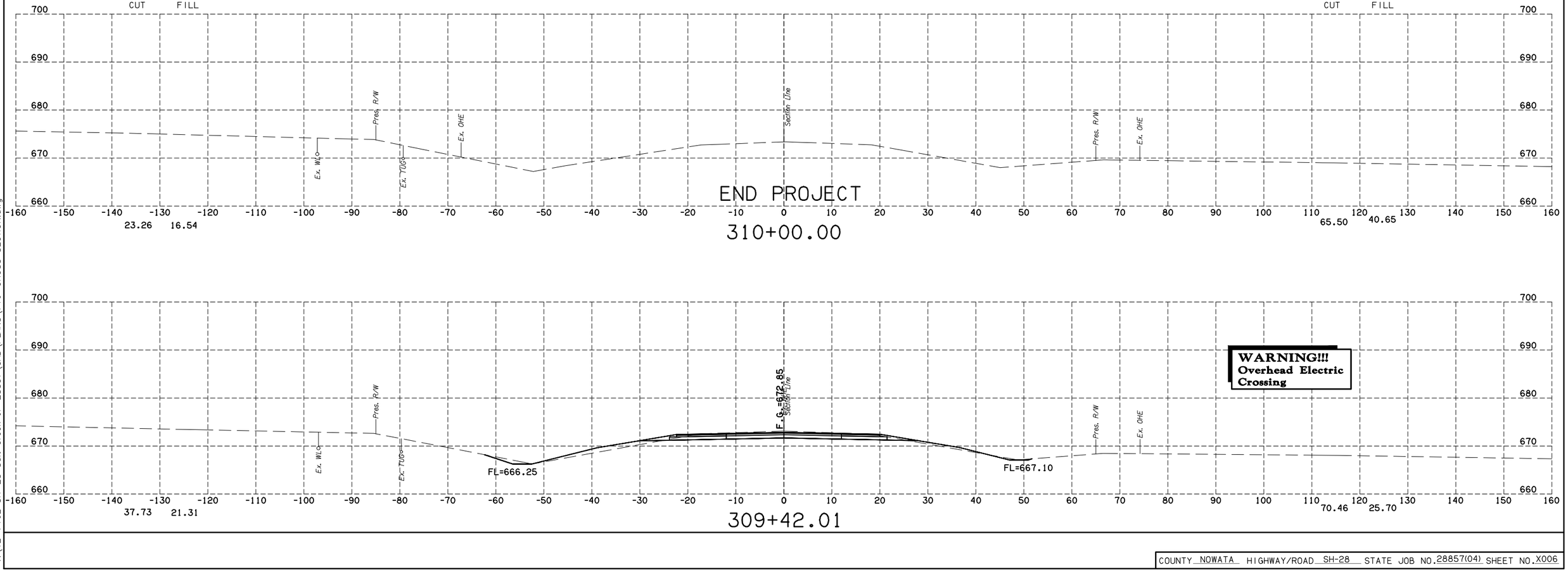
COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. X005

REVISIONS	
DESCRIPTION	DATE

PHASE 1 AREAS
CUT FILL

PHASE 1 VOLUMES
CUT FILL



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COUNTY NOWATA HIGHWAY/ROAD SH-28 STATE JOB NO. 28857(04) SHEET NO. X006