

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
COUNTY BRIDGE

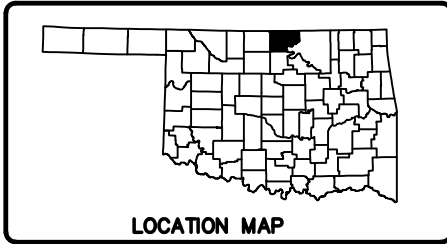
PROJECT NO. STP-236C(039)CI
BRIDGE REPLACEMENT PROJECT
BOIS D'ARC CREEK AND KILDARE CREEK
KAY COUNTY

STATE JOB PIECE NO. 28433(04)
BRIDGE 'A' LOCATION NO. 36E0180N3300006
BRIDGE 'B' LOCATION NO. 36E0180N3300009
BRIDGE A (EXISTING N.B.I. NO. 12208)
(NEW N.B.I. NO. 31766)
BRIDGE B (EXISTING N.B.I. NO. N/A)
(NEW N.B.I. NO. 31774)

INDEX OF SHEETS

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X001-X011	CROSS SECTIONS

MAINTENANCE	TRAFFIC CONTROL	ROADWAY	BRIDGE
GRH1-1-00	TCS1-1-01	SSS-1-1	CB26..32-C.I-SKO...30-GRAU-BC-00E
GRH2-1-00	TCS2-1-00	TSC2-3-2	CB26..32-C.I-SKO...30-PCB-DTL-1-01E
GRH3-1-00	TCS4-1-01	TSD-2-0	CB26..32-C.I-SKO...30-PCB-DTL-2-01E
GET-2-00	TCS5-1-00	ASCD-5-2	CB26...32-C-SKO-WING-PC2-01E
	TCS7-1-02	PSE-1-0	CB26...32-C-SKO-WING-PC3-01E
	TCS9-1-01	CET4S-3-2	CB26...32-C-SKO-ABUT-MISC-01E
	TCS14-1-00	SPI-4-1	CB32-C-SKO-ABUT-PC2-02E
	TCS15-1-00	FHTMPP-1-0	CB32-C-SKO-ABUT-PC3-02E
		RDI-3-1	CB32-C-SKO-DKSLB-BLIST-01E
			CB32-C-SKO-XSECT-PC234-01E
			CB32-C-SKO-LSECT-PCB-01E
			CB32-C-SKO-DIA-END-PC234-01E
			CB32-C-SKO-SPR-QUAN-PCB-1-01E
			CB32-C-SKO-SPR-QUAN-PCB-2-01E
			CB32-C-SKO..30-PCB-II-45-01E
			CB32-C-SKO..30-PCB-III-90-01E
			CB32-C-SKO..30-DIA-INT-PCB-01E
			CB32-C-SKO..30-BRG-PC2-01E
			CB32-C-SKO..30-BRG-PC3-01E
			EJ-SQ-04E
			EJ-DTL-02E
			HPI-2-01E
			TR3-2-01E



LOCATION MAP

SEE SURVEY DATA SHEETS
FOR SURVEY DATA CONTROL

DESIGN DATA

ADT 2017 = 2064
ADT 2037 = 3067
V = 45 MPH
FLEX ESALS = 3.34 M

SCALES
PLAN 1" = 50'

STA. 108+42.18 BEGIN BRIDGE 'A'
STA. 110+26.68 END BRIDGE 'A'
BRIDGE LENGTH 184'-6"
Lat. N36°45'12"
Long. W97°06'33"

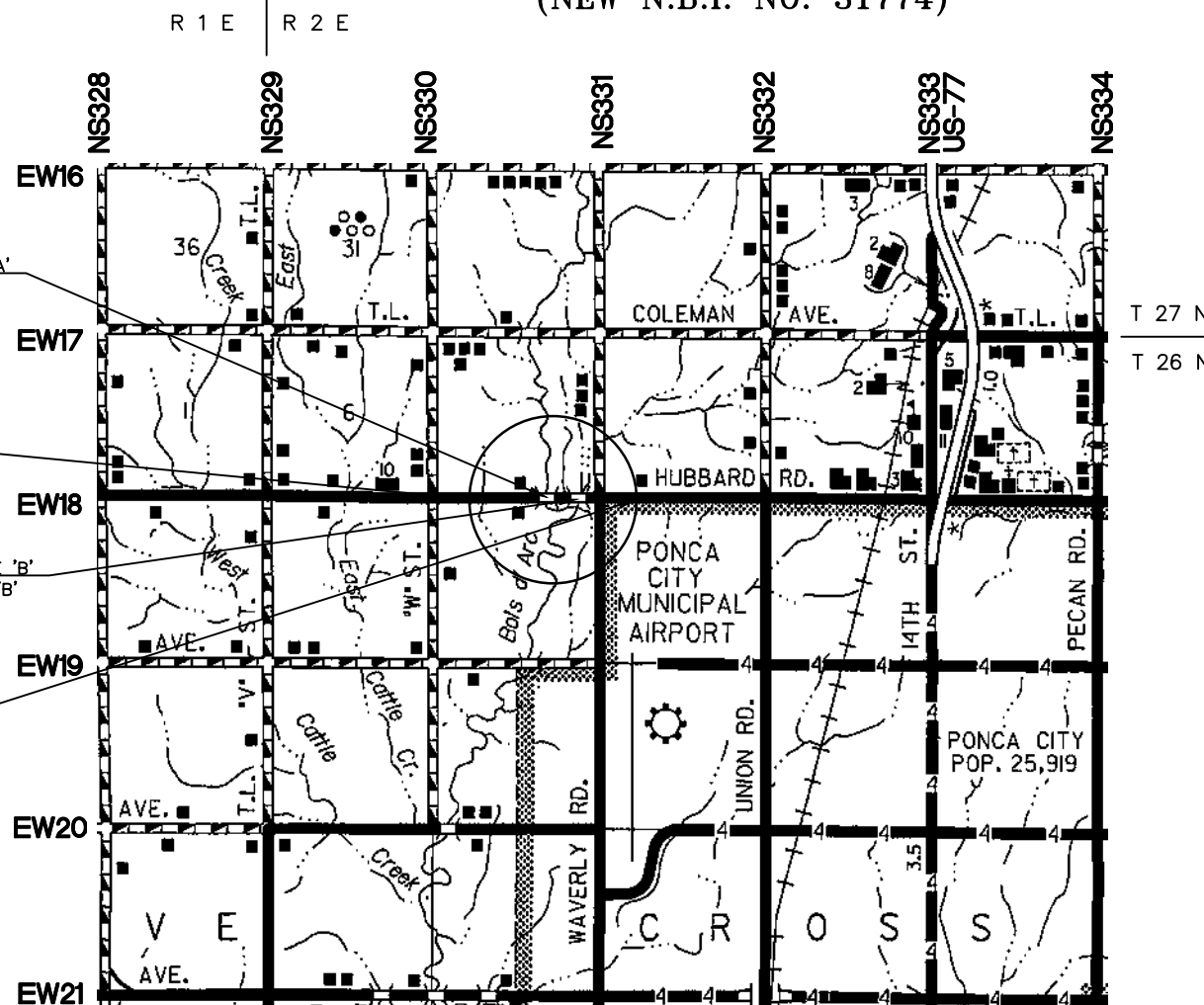
BEGIN PROJECT
STA. 103+50

STA. 119+79.34 BEGIN BRIDGE 'B'
STA. 120+72.51 END BRIDGE 'B'
BRIDGE LENGTH 93'-2"
Lat. N36°45'12"
Long. W97°06'19"

END PROJECT
STA. 124+75

CONVENTIONAL SYMBOLS

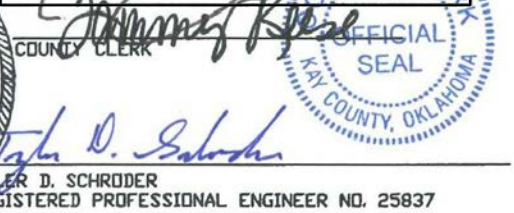
- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OIL WELL
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE
- FLOWLINE



ROADWAY LENGTH 1847.33 ft. 0.350 mi.
BRIDGE LENGTH A 184.50 ft. 0.035 mi.
BRIDGE LENGTH B 93.17 ft. 0.017 mi.
PROJECT LENGTH 2125 ft. 0.402 mi.
EQUATIONS : NONE
EXCEPTIONS : NONE



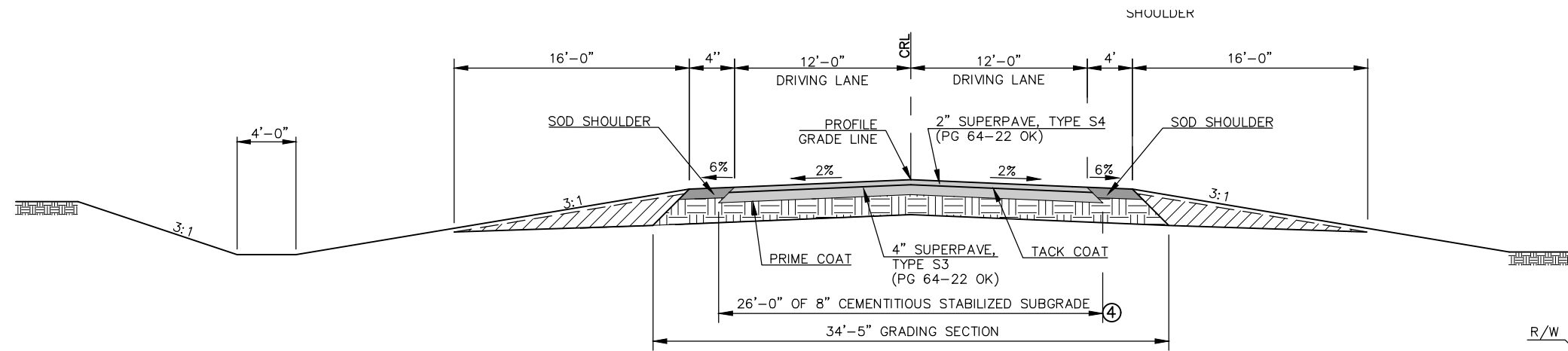
KAY COUNTY COMMISSIONERS
DATE 7-31-17
DIST. 1
DIST. 2
DIST. 3



CIRCUIT ENGINEERING DIST. 8
2901 N. VAN BUREN
ENID, OK 73703
(580) 237-4810

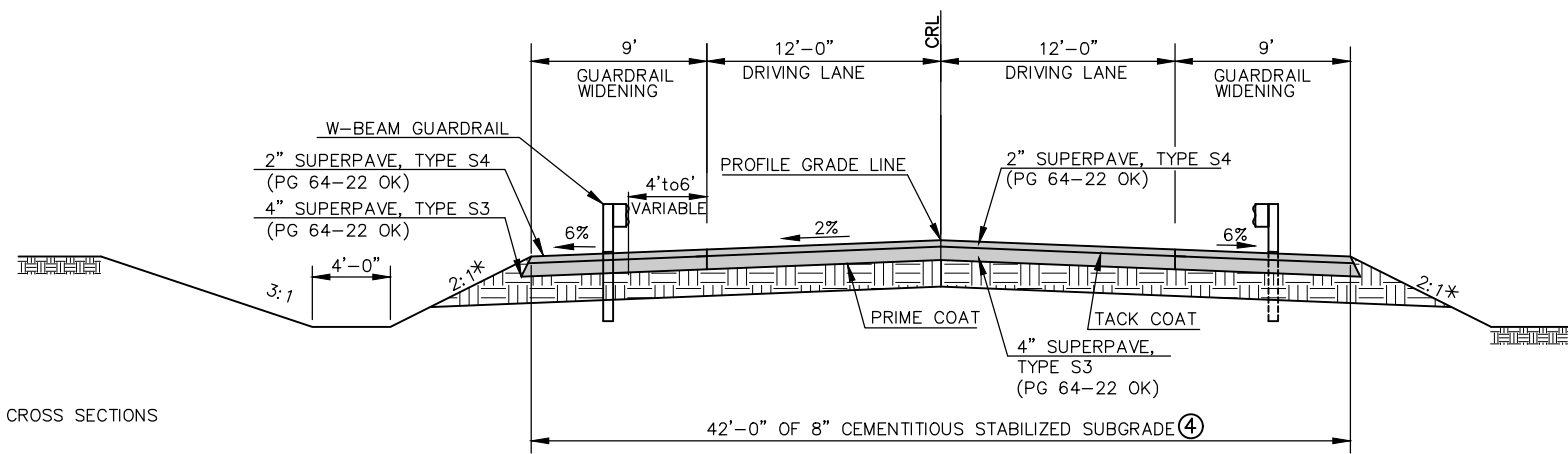
OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR
J/P NO. 28433(04)	STP-236C(039)CI
SHEET NO. 0001	

DESCRIPTION	REVISIONS	DATE



TYPICAL SECTION No.1

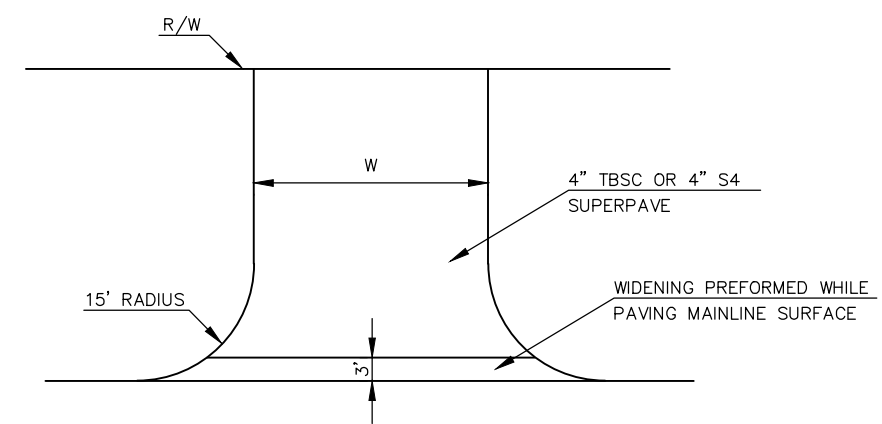
- ③ STA. 103+50.00 TO STA. 106+15.85
- STA. 112+53.01 TO STA. 117+51.59
- STA. 123+00.18 TO STA. 124+75.00 RT.
- STA. 124+75.18 TO STA. 124+75.00 LT.



TYPICAL SECTION No. 2

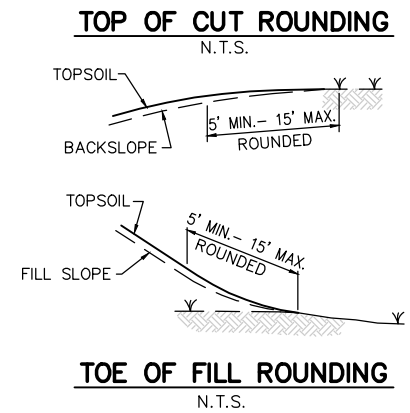
- ③ STA. 106+85.85 TO STA. 108+42.18 LT.&RT.
- STA. 110+26.68 TO STA. 111+83.01 LT.&RT.
- STA. 118+21.67 TO STA. 119+79.34 LT.&RT.
- STA. 120+72.51 TO STA. 122+30.18 RT.
- STA. 120+72.51 TO STA. 124+05.18 LT.

* SEE CROSS SECTIONS

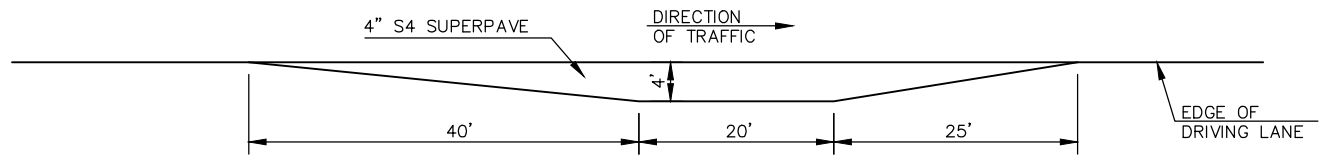


TYPICAL PRIVATE DRIVE OR FIELD ENTRANCE

- ① TOPSOIL NOTE:
RESERVED TOPSOIL SHALL BE SPREAD APPROX. 5 INCHES THICK FIRST ON COMPLETED FILL SLOPES OF FILL SECTIONS AND THE REMAINDER ON COMPLETED CUT SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER.
- ② SEE ROUNDING DETAIL ON THIS SHEET.
- ③ STA. 106+15.85 TO STA. 106+85.85 L.T. &R.T. FROM TYPICAL SECTION No.1 TO TYPICAL SECTION No.2.
STA. 111+83.01 TO STA. 112+53.01 L.T. &R.T. FROM TYPICAL SECTION No.2 TO TYPICAL SECTION No.1.
STA. 117+51.67 TO STA. 118+21.67 L.T. &R.T. FROM TYPICAL SECTION No.1 TO TYPICAL SECTION No.2.
STA. 122+30.18 TO STA. 123+00.18 R.T. FROM TYPICAL SECTION No.2 TO TYPICAL SECTION No.1.
STA. 124+05.18 TO STA. 124+75.18 L.T. FROM TYPICAL SECTION No.2 TO TYPICAL SECTION No.1.
- ④ ADD FLY ASH 8" DEEP AT 14%.



INTERSECTION OF CUT AND/OR FILL SLOPES WITH GROUND LINE TO BE ROUNDED AS PART OF FINISHING OPERATIONS. ROUNDING SHALL BE 5' MINIMUM FOR SMALLER CUTS AND FILLS TO 15' MAXIMUM FOR LARGER CUTS AND FILLS OR AS DESIGNATED BY THE ENGINEER. COST OF ROUNDING TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK.



MAILBOX TURNOUT

DESIGN	TDS	5/15	EW 18	TYPICAL SECTIONS	KAY CO.
DRAWN					
CHECKED					
APPROVED	TDS	5/17			
SQUAD					
				J/P-28433(04) SHEET NO. 0002	

DESCRIPTION	REVISIONS	DATE

BRIDGE NOTES

SPECIFICATIONS:

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

CONCRETE INTERMEDIATE DIAPHRAGMS:

ONCE THE CONCRETE HAS BEEN PLACED FOR THE CONCRETE INTERMEDIATE DIAPHRAGMS, WAIT A MINIMUM OF 24 HOURS BEFORE REMOVING THE SIDE FORMS. DO NOT REMOVE THE BOTTOM FORM FOR A MINIMUM OF 3 DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME CAN BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH. DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS OR DIAPHRAGMS UNTIL THE CONCRETE IN THE DIAPHRAGMS HAS BEEN IN PLACE FOR A MINIMUM OF 10 DAYS, OR AT THE DISCRETION OF THE ENGINEER. THIS TIME CAN BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

RIPRAP:

A 18" 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 IN THE PLANS. THE FILTER BLANKET SHALL BE PLACED IN ONE LAYER.

PILE DRIVING EQUIPMENT:

USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY SUFFICIENT TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE THE REQUIRED PILE CAPACITY WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03(A)2.

REMOVAL OF EXISTING BRIDGE STRUCTURE:

ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF A 51'-I BEAM SPAN x 24'...AT STA. 109+40 AND A 18' I-BEAM SPAN x 24'...AT STA. 120+30.00. THE CONTRACTOR SHALL SALVAGE THE BRIDGE RAILING, STEEL BEAMS AND STOCKPILE ON THE R/W TO BECOME PROPERTY OF THE COUNTY. THE REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 619.04(B)2 OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. THE STRUCTURE AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

BRIDGE PAY QUANTITY NOTES

(1) ALL PILES MAY BE EQUIPPED WITH CAST STEEL-DRIVING TIPS. ALL COSTS FOR FURNISHING AND INSTALLING CAST STEEL-DRIVING TIPS TO BE INCLUDED IN OTHER ITEMS OF WORK.

(2) 501(G) CLSM BACKFILL SHALL REPLACE GRANULAR BACKFILL ON STANDARD CB26..32-C-SKO-ABUT-MISC-01E. INCLUDES 12. C.Y. TO EXTEND CLSM TO THE TOP OF SUBGRADE.

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

(R-2) THE CONTRACTOR SHALL PROVIDE STRUCTURAL STEEL FOR THE STEEL PILING CONFORMING TO AASHTO M270, GRADE 50.

ABUTMENT PILING CAPACITY. BRIDGE A

THE MAXIMUM FACTORED PILE LOAD FOR EACH HP 12X53 PILE IS 68.4 TONS. ALL PILE SHALL BE AASHTO M270 GRADE 50.

THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES:

AXIAL LOAD RESISTANCE = $\phi [(0.875\sqrt{E} \text{ LOG}_{10} (10N)) - 50]$ 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.

ABUTMENT PILING CAPACITY. BRIDGE B

THE MAXIMUM FACTORED PILE LOAD FOR EACH HP 12X53 PILE IS 71.5 TONS. ALL PILE SHALL BE AASHTO M270 GRADE 50.

THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES:

AXIAL LOAD RESISTANCE = $\phi [(0.875\sqrt{E} \text{ LOG}_{10} (10N)) - 50]$ 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.

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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.

0200 PAY QUANTITIES BRIDGE A				
Item	Description	Units	Quantity	
501(B)	1307 Substructure Excavation Common (R-1)	C.Y.	200.00	
501(G)	6309 CLSM Backfill (R-1)(2)	C.Y.	92.00	
503(A)	1311 Prestressed Concrete Beams (Type II) (R-1)	L.F.	357.34	
503(A)	1312 Prestressed Concrete Beams (Type III) (R-1)	L.F.	358.67	
504(B)	1305 Saw-Cut Grooving (R-1)	S.Y.	564.80	
504(C)	6250 Sealed Expansion Joint	L.F.	70.34	
504(D)	6239 Concrete Rails (TR3) (R-1)	L.F.	418.80	
506(A)	1322 Structural Steel (R-1)(R-2)	LB.	1110.00	
507(A)	6172 Weathering Steel Fixed Bearing Assembly	E.A.	12.00	
507(B)	6176 Weathering Steel Exp. Bearing Assembly	E.A.	12.00	
509(A)	1326 Class AA Concrete (R-1)	C.Y.	175.00	
509(B)	1328 Class A Concrete (R-1)	C.Y.	124.20	
511(A)	1332 Reinforcing Steel	LB.	56480.00	
514(A)	6010 Piles, Furnished (HP 10x42) (1)	L.F.	130.00	
514(A)	6011 Piles, Furnished (HP 12x53) (1)	L.F.	295.00	
514(B)	6292 Piles, Driven (HP 10x42)	L.F.	130.00	
514(B)	6294 Piles, Driven (HP 12x53)	L.F.	295.00	
514(L)	6220 Pile Splice, H-Pile (Non-Biddable)	E.A.	1.00	
516(A)	6094 Drilled Shafts 48" Diameter	L.F.	106.00	
516(C)	6200 Crosshole Sonic Logging	E.A.	1.00	
601(B)	1353 Type 1-A Plain RipRap	Ton	1160.00	
601(C)	1355 Type 1-A Filter Blanket	Ton	387.00	
613(H)	6204 6" Perforated Pipe Underdrain, Round	L.F.	64.00	
613(I)	6207 6" Non-Perf. Pipe Underdrain Rnd	L.F.	30.00	
619(D)	1397 Removal of Existing Bridge Structure	L.Sum	1.00	
623(A)	1418 Beam Guardrail W-Beam Single	L.F.	200.00	
623(F)	5686 Guardrail Anchor Unit (Type D-BF)	E.A.	4.00	
623(G)	8571 Guardrail End Treatment (GET)	E.A.	4.00	

0201 PAY QUANTITIES BRIDGE B				
Item	Description	Units	Quantity	
501(B)	1307 Substructure Excavation Common (R-1)	C.Y.	210.00	
501(G)	6309 CLSM Backfill (R-1)(2)	C.Y.	104.00	
503(A)	1312 Prestressed Concrete Beams (Type III) (R-1)	L.F.	358.67	
504(B)	1305 Saw-Cut Grooving (R-1)	S.Y.	286.80	
504(D)	6239 Concrete Rails (TR3) (R-1)	L.F.	241.20	
506(A)	1322 Structural Steel (R-1)(R-2)	LB.	370.00	
507(A)	6172 Weathering Steel Fixed Bearing Assembly	E.A.	4.00	
507(B)	6176 Weathering Steel Exp. Bearing Assembly	E.A.	4.00	
509(A)	1326 Class AA Concrete (R-1)	C.Y.	87.80	
509(B)	1328 Class A Concrete (R-1)	C.Y.	76.20	
511(A)	1332 Reinforcing Steel	LB.	29090.00	
514(A)	6010 Piles, Furnished (HP 10x42) (1)	L.F.	174.00	
514(A)	6011 Piles, Furnished (HP 12x53) (1)	L.F.	553.00	
514(B)	6292 Piles, Driven (HP 10x42)	L.F.	174.00	
514(B)	6294 Piles, Driven (HP 12x53)	L.F.	553.00	
514(L)	6220 Pile Splice, H-Pile (Non-Biddable)	E.A.	1.00	
601(B)	1353 Type 1-A Plain RipRap	Ton	591.00	
601(C)	1355 Type 1-A Filter Blanket	Ton	197.00	
613(H)	6204 6" Perforated Pipe Underdrain, Round	L.F.	64.00	
613(I)	6207 6" Non-Perf. Pipe Underdrain Rnd	L.F.	30.00	
619(D)	1397 Removal of Existing Bridge Structure	L.Sum	1.00	
623(A)	1418 Beam Guardrail W-Beam Single	L.F.	375.00	
623(F)	5686 Guardrail Anchor Unit (Type D-BF)	E.A.	4.00	
623(G)	8571 Guardrail End Treatment (GET)	E.A.	4.00	

DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				
CHECKED				
APPROVED	TDS	5/17		
SQUAD				

SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE)

J/P-28433(04) SHEET NO. ABO1

0100 PAY QUANTITIES ROADWAY				
Item	Description	Units	Quantity	
202(H)	0185 Earthwork	(3) L.Sum	1.00	
221(C)	2801 Temporary Silt Fence	(R-16)(2)(5) L.F.	3,200.00	
221(F)	0100 Temporary Silt Dike	(R-16)(2)(5) L.F.	392.00	
230(A)	2806 Solid Slab Sodding	(R-7)(R-8) S.Y.	15,378.00	
233(A)	2817 Vegetative Mulching ¹	(R-11) AC.	3.18	
307(A)	4200 Fly Ash	(R-20) Ton	350.00	
307(E)	4240 Cementitious Stabilized Subgrade	S.Y.	6,603.00	
402(E)	0225 Traffic Bound Surface Course Type E	Ton	38.00	
407(B)	0250 Tack Coat	(1) Gal	347.00	
408	5774 Prime Coat	(R-28) Gal	2,401.00	
411(B)	5945 Superpave, Type S3 (PG 64-22 OK)	(R-32) Ton	1,521.00	
411(C)	5960 Superpave, Type S4 (PG 64-22 OK)	(R-32) Ton	770.00	
509(D)	0325 Class C Concrete	(R-41) C.Y.	10.00	
613(B)	0692 36" Corr. Galv. Steel Pipe	L.F.	140.00	
613(B)	4527 21" X 15" Corr. Galv. Steel Pipe Arch	L.F.	100.00	
613(M)	7186 Type A4 Culvert End Treatment	(6) EA.	4.00	
613(M)	7189 Type D4 Culvert End Treatment	(6) EA.	4.00	
619(A)	0920 Removal of Structures & Obstructions (R-49)(R-48)	L. Sum	1.00	
619(B)	4728 Removal of Asphalt Pavement	(R-49) S.Y.	4,994.00	
619(B)	6363 Removal of Existing Rip Rap	(7) L.Sum	1.00	
619(C)	0924 Sawing Pavement	L.F.	48.00	
856(A)	8530 Traffic Stripe (Multi-Polymer)(4" Wide)	L.F.	8,500.00	
880(J)	8905 Construction Traffic Control	L. Sum	1.00	
0640 Construction ¹				
220	2800 SWPPP Documentation and Management	L. Sum	1.00	
641	1552 Mobilization	L. Sum	1.00	
0600 Staking ¹				
642(B)	0096 Construction Staking Level II	(4) L. Sum	1.00	

PAY ITEM NOTES

- (R-7) PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1,000 S.Y. OF SODDING.
- (R-8) PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQ. YD. OF SODDING.
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 3.18 ACRES.
- (R-16) QUANTITY BASED ON TWO APPLICATIONS.
- (R-20) ESTIMATED AT 100.8 LBS. PER SQ. YD. (SOIL EST. AT 120 LBS. PER CU. FT.)
- (R-28) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. OF RESIDUAL ASPHALT PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. OF RESIDUAL ASPHALT PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUTBACK 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.
- (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.

PAY ITEM NOTES CONT.

- (1) ESTIMATED AT 0.05 GAL./S.Y..
- (2) PRICE BID INCLUDES COST OF TEMPORARY SEDIMENT REMOVAL AS DIRECTED BY THE ENGINEER.
- (3) THIS PAY ITEM TO INCLUDE ROADWAY EXCAVATION, CHANNEL EXCAVATION, UNCLASSIFIED BORROW, CLEARING AND GRUBBING, AND CONSTRUCTION OF ROADWAY EMBANKMENT. INCLUDES ALL COST TO REMOVE, STOCKPILE AND REPLACE THE TOP SOIL ON THE FINISHED GRADING SLOPES IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. PRICE BID ALSO INCLUDES COST OF 18-46-0 FERTILIZER ESTIMATED AT 150 LBS. PER ACRE. ANY MATERIAL NOT SUITABLE FOR ROADWAY EMBANKMENT TO BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.
- (4) CONSTRUCTION STAKING SHALL INCLUDE ESTABLISH AND RE-ESTABLISH STAKING OF CENTERLINE, BENCHMARKS, AND RIGHT OF WAY. INCLUDES SLOPE STAKING, STRUCTURE ITEM AND BRIDGE STAKING, ROADWAY STAKING (DRIVEWAYS INCLUDED), BLUETOPPING, AND CHECKING ALIGNMENTS AND ELEVATIONS AS REQUIRED.
- (5) ESTIMATED QUANTITY ONLY. LOCATION AND ACTUAL QUANTITY REQUIRED TO BE DETERMINED BY THE ENGINEER.
- (6) CULVERT END TREATMENTS ARE TO BE NON-GRATED.
- (7) PRICE BID INCLUDES THE COST TO REMOVE, STOCKPILE, AND PLACE THE EXISTING RIP RAP ON THE FINISHED SLOPES AROUND THE BRIDGES.

COUNTY ROAD GENERAL CONSTRUCTION NOTES

EXISTING ROAD SHALL BE CLOSED TO THROUGH TRAFFIC. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNS, BARRICADES, LIGHTS, ETC. IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", CURRENT EDITION, AND AS SHOWN ON TCD STANDARD DRAWINGS. COST OF CONTRACTORS SIGNING WILL BE INCLUDED IN PRICE BID FOR "CONSTRUCTION TRAFFIC CONTROL".

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 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.

THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION PHASING AND TRAFFIC MANAGEMENT PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION OPERATIONS BEGIN. THE TRAFFIC MANAGEMENT PLAN SHALL CONFORM TO ODOT'S LATEST STANDARDS AND MUTCD GUIDELINES.

THE CONTRACTOR SHALL MAKE EVERY EFFORT TO LOCATE AND PROTECT ALL UTILITIES AND STRUCTURES, WHETHER SHOWN OR NOT, PRIOR TO ANY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CARRY ON CONSTRUCTION SUCH AS NOT TO DAMAGE ANY UTILITIES OR STRUCTURES REMAINING IN PLACE. THE CONTRACTOR SHALL CONTACT OKIE BEFORE PERFORMING ANY EXCAVATIONS.

THE CONTRACTOR SHALL GIVE NOTICE TO THE COUNTY, AND CED8 AND ODOT DIV. 4 IN WRITING, FOURTEEN CALENDAR DAYS BEFORE WORK BEGINS ON THIS PROJECT.

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

COUNTY RESPONSIBILITIES

- 1.) ACQUIRING ALL REQUIRED R/W.
- 2.) REMOVAL AND RESETTING ALL FENCES ON RIGHT-OF-WAY LINE.
- 3.) RELOCATING ALL UTILITIES.
- 4.) DETOUR SIGNING IF NECESSARY.
- 5.) REPLACE OR RELOCATE MAIL BOXES.

OKLAHOMA DEPARTMENT OF TRANSPORTATION		
DESCRIPTION	REVISIONS	DATE
PAY QUANTITY CORRECTION		9/28/17
UPDATED ENVIRONMENTAL NOTE		10/16/17

ENVIRONMENTAL MITIGATION NOTES

Locations outside the project area in the following area must not be utilized for borrow, equipment staging, haul roads, spoil dumps or any off-site project-related activity.

T26N R2E:

- Section 5: NE1/4 SE1/4
- SW1/4 NE1/4
- N1/2 SE1/4 SE1/4
- SW1/4 NW1/4 SE1/4
- W1/2 SW1/4 SE1/4
- Section 8: NW1/4 SE1/4
- NE1/4 NE1/4
- S1/2 SE1/4 SW1/4
- NW1/4 NE1/4 NE1/4
- NE1/4 NW1/4 NE1/4
- S1/2 NW1/4 NE1/4
- N1/2 SW1/4 NE1/4
- Section 9: SE1/4 NW1/4 SW1/4
- Section 17: N1/2 NW1/4

² 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 bird species extends from March 1 to August 31. The project was surveyed for migratory bird nests in 2012. Although no nests were observed, the survey is valid only until the 2012 nesting season. The Resident Engineer shall contact the ODOT Biologist at 405-521-2515 if any bird use of the existing structures is observed. If birds are observed then painting, repair, retrofit, rehabilitation or demolition of the existing bridge/structures shall be conducted between September 1, and February 28, when migratory bird nests are not occupied. The bridge may be protected from new nest establishment prior to March 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 March 1. Methods other than netting must be pre-approved by the ODOT Biologist.

DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				
CHECKED				
APPROVED	TDS	5/17		
SQUAD				

SUMMARY OF PAY QUANTITIES AND NOTES (ROADWAY)

J/P-28433(04) SHEET NO. AR01

0100 PAY QUANTITIES ROADWAY				
Item	Description	Units	Quantity	
202(H)	0185 Earthwork	(3) L.Sum	1.00	
221(C)	2801 Temporary Silt Fence	(R-16)(2)(5) L.F.	3,200.00	
221(F)	0100 Temporary Silt Dike	(R-16)(2)(5) L.F.	392.00	
230(A)	2806 Solid Slab Sodding	(R-7)(R-8) S.Y.	15,378.00	
233(A)	2817 Vegetative Mulch	(R-11) AC.	3.18	
307(A)	4200 Fly Ash	(R-20) Ton	350.00	
307(E)	4240 Cementitious Stabilized Subgrade	S.Y.	6,603.00	
402(E)	0225 Traffic Bound Surface Course Type E	Ton	38.00	
407(B)	0250 Tack Coat	(1) Gal	347.00	
408	5774 Prime Coat	(R-28) Gal	2,401.00	
411(B)	5945 Superpave, Type S3 (PG 64-22 OK)	(R-32) Ton	1,521.00	
411(C)	5960 Superpave, Type S4 (PG 64-22 OK)	(R-32) Ton	770.00	
509(D)	0325 Class C Concrete	(R-41) C.Y.	10.00	
613(B)	0692 36" Corr. Galv. Steel Pipe	L.F.	140.00	
613(B)	4527 21" X 15" Corr. Galv. Steel Pipe Arch	L.F.	100.00	
613(M)	7186 Type A4 Culvert End Treatment	(6) EA.	4.00	
613(M)	7189 Type D4 Culvert End Treatment	(6) EA.	4.00	
619(A)	0920 Removal of Structures & Obstructions (R-49)(R-48)	L. Sum	1.00	
619(B)	4728 Removal of Asphalt Pavement	(R-49) S.Y.	4,994.00	
619(B)	6363 Removal of Existing Rip Rap	(7) L.Sum	1.00	
619(C)	0924 Sawing Pavement	L.F.	48.00	
856(A)	8530 Traffic Stripe (Multi-Polymer)(4" Wide)	L.F.	8,500.00	
880(J)	8905 Construction Traffic Control	L. Sum	1.00	
220	2800 SWPPP Documentation and Management	L. Sum	1.00	
641	1552 Mobilization	L. Sum	1.00	
642(B)	0096 Construction Staking Level II	(4) L. Sum	1.00	

PAY ITEM NOTES

- (R-7) PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1,000 S.Y. OF SODDING.
- (R-8) PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQ. YD. OF SODDING.
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 3.18 ACRES.
- (R-16) QUANTITY BASED ON TWO APPLICATIONS.
- (R-20) ESTIMATED AT 100.8 LBS. PER SQ. YD. (SOIL EST. AT 120 LBS. PER CU. FT.)
- (R-28) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. OF RESIDUAL ASPHALT PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. OF RESIDUAL ASPHALT PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUTBACK 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.
- (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.
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- 3.) RELOCATING ALL UTILITIES.
- 4.) DETOUR SIGNING IF NECESSARY.
- 5.) REPLACE OR RELOCATE MAIL BOXES.

ENVIRONMENTAL MITIGATION NOTES

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 - SW1/4 NE1/4
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 - NE1/4 NE1/4
 - S1/2 SE1/4 SW1/4
 - NW1/4 NE1/4 NE1/4
 - NE1/4 NW1/4 NE1/4
 - S1/2 NW1/4 NE1/4
 - N1/2 SW1/4 NE1/4
 - Section 9: SE1/4 NW1/4 SW1/4
 - Section 17: N1/2 NW1/4

Cliff Swallows and Barn Swallows are small colonial nesting birds protected by the federal Migratory Bird Treaty Act. These species commonly use bridges and culverts for nesting. The nesting season for the swallows runs from April 1 to August 31. Any activities which would destroy active nests or harm eggs or birds would violate the Migratory Bird Treaty Act. Swallow use of all the bridges within the project was not observed during the initial surveys conducted as part of the biological studies in March 2012. Swallows may occupy the bridge in the future nesting seasons. The Resident Engineer will evaluate the contractor's proposed work methods and conclude whether the proposed work would pose disruption to any nesting birds before work near the structure is authorized. If the proposed work will harm any nesting birds, the bridge may be netted prior to April 1 or the work delayed until the nesting season is complete. Methods other than netting must be pre-approved by the ODOT Biologist

DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				
CHECKED				
APPROVED	TDS	5/17	SUMMARY OF PAY QUANTITIES AND NOTES (ROADWAY) STATE JOB NO. STP-236C(039)CI J/P-28433(04) SHEET NO. AR01	
SQUAD				

SUMMARY OF TRAFFIC STRIPE						
Station to Station	4" Solid Yellow Line		4" Solid White Line		Traffic Stripe (Multi-Poly) (4" Wide) 856(A)	
	Left	Right	Left	Right	LF	
103+50.00 to 124+75.00	2,125.00	2,125.00	2,125.00	2,125.00	8,500.00	
TOTAL					8,500.00	

SUMMARY OF GUARDRAIL				
Station Extent	Location	Guardrail Anchor Unit (Type D-BF)	Guardrail End Treatment (GET)	Beam Guardrail, W-Beam Single
		EA.	EA.	L.F.
107+05.85 TO 108+30.85	LT & RT	2.00	2.00	100.00
110+38.01 TO 111+63.01	LT & RT	2.00	2.00	100.00
118+41.67 TO 119+66.67	LT & RT	2.00	2.00	100.00
120+85.18 TO 122+10.18	RT	1.00	1.00	50.00
120+85.18 TO 123+85.18	LT	1.00	1.00	225.00
Total		8.00	8.00	575.00

SUMMARY OF MAINLINE SURFACING QUANTITIES							
Station Extent	Length	Superpave Type S3 (PG 64-22 OK)	Superpave Type S4 (PG 64-22 OK)	Cementitious Stabilized Subgrade	Fly Ash	Prime Coat	Tack Coat
		Tons	Tons	S.Y.	Ton	Gal.	Gal.
103+50.00 TO 108+42.18	492.18	258.00	126.00	1,163.00	72.00	498.00	70.00
110+26.68 TO 119+79.34	952.66	603.00	292.00	2,753.00	139.00	964.00	132.00
120+72.51 TO 124+75.00	402.49	252.00	122.00	1,163.00	59.00	407.00	55.00
TOTAL		1,113.00	540.00	5,079.00	270.00	1,869.00	257.00

Includes Quantities for the widenings at drives.

SUMMARY OF SHOULDER WIDENING QUANTITIES										
Station Extent	Location	Type	Length	Width	4" Superpave Type S3 (PG 64-22 OK)	2" Superpave Type S4 (PG 64-22 OK)	Cementitious Stabilized Subgrade	Fly Ash	Prime Coat	Tack Coat
			L.F.	L.F.	Tons	Tons	S.Y.	Ton	Gal.	Gal.
106+15.85 TO 108+42.18	LT & RT	Guardrail	226.33	9.00	92.00	44.00	341.00	18.00	119.00	20.00
110+26.68 TO 112+53.01	LT & RT	Guardrail	226.33	9.00	92.00	44.00	341.00	18.00	119.00	20.00
117+51.67 TO 119+79.34	LT & RT	Guardrail	227.67	9.00	92.00	44.00	343.00	18.00	120.00	20.00
120+72.51 TO 123+00.18	RT	Guardrail	227.67	9.00	49.00	23.00	172.00	9.00	60.00	11.00
120+72.51 TO 124+75.18	LT	Guardrail	402.67	9.00	83.00	42.00	327.00	17.00	114.00	19.00
TOTAL					408.00	197.00	1,524.00	80.00	532.00	90.00

SUMMARY OF DRAINAGE STRUCTURES							
STR. NO.	STATION	DESCRIPTION	DESIGN	CORRUGATED GALVANIZED STEEL PIPE		CULVERT END TREATMENT (NON-GRATED)	
				ROUND	ARCH		
				613(B)	613(B)	613(M)	613(M)
				36"	21" x 15"	A4	D4
				L.F.	L.F.	EA	EA
1	104+16.17	CONST. 21" X 15" X 50' LG CGSPA W/ CET, SIDE DRAIN 24' RT.	SPI-4, SPB-1, FHTMPP-1, CET4S-3		50.00	2.00	
2	105+92.16	CONST. 21" X 15" X 50' LG CGSPA W/ CET, SIDE DRAIN 31' RT.	SPI-4, SPB-1, FHTMPP-1, CET4S-3		50.00	2.00	
3	112+50.00	CONST. 36" X 70' LG CGSP W/ CET, SIDE DRAIN 35' LT.	SPI-4, SPB-1, FHTMPP-1, CET4S-3	70.00			2.00
4	112+50.00	CONST. 36" X 70' LG CGSP W/ CET, SIDE DRAIN 35' RT.	SPI-4, SPB-1, FHTMPP-1, CET4S-3	70.00			2.00
SHEET TOTAL				140.00	100.00	4.00	4.00

SUMMARY OF DRIVES					
Station	Location	Style	Width	4" S4 Superpave	4" T.B.S.C.
			FT.	TONS	TONS
104+14.27	Rt.	Private	14	11.00	
105+90.05	Rt.	Private	12	16.00	
112+50.00	Lt.	Field	16		21.00
112+50.00	Rt.	Field	16		17.00
TOTAL				27.00	38.00

SUMMARY OF EARTHWORK		
ITEM	UNIT	TOTAL
Unclassified Excavation	C.Y.	3064.00
Embankment +20%	C.Y.	12,227.00
Misc. Embankment	C.Y.	132.00
Channel Excavation	C.Y.	3064.00
Borrow	C.Y.	6989.00

SUMMARY OF MAILBOX TURNOUTS		
Station	Location	4" Superpave Type S4
		Tons
105+77.00	Rt.	6.00
TOTAL		6.00

DESIGN	TDS	5/15	EW 18	SUMMARIES	KAY CO.
DRAWN					
CHECKED					
APPROVED	TDS	5/17			
SQUAD					
J/P-28433(04) SHEET NO. AX01					

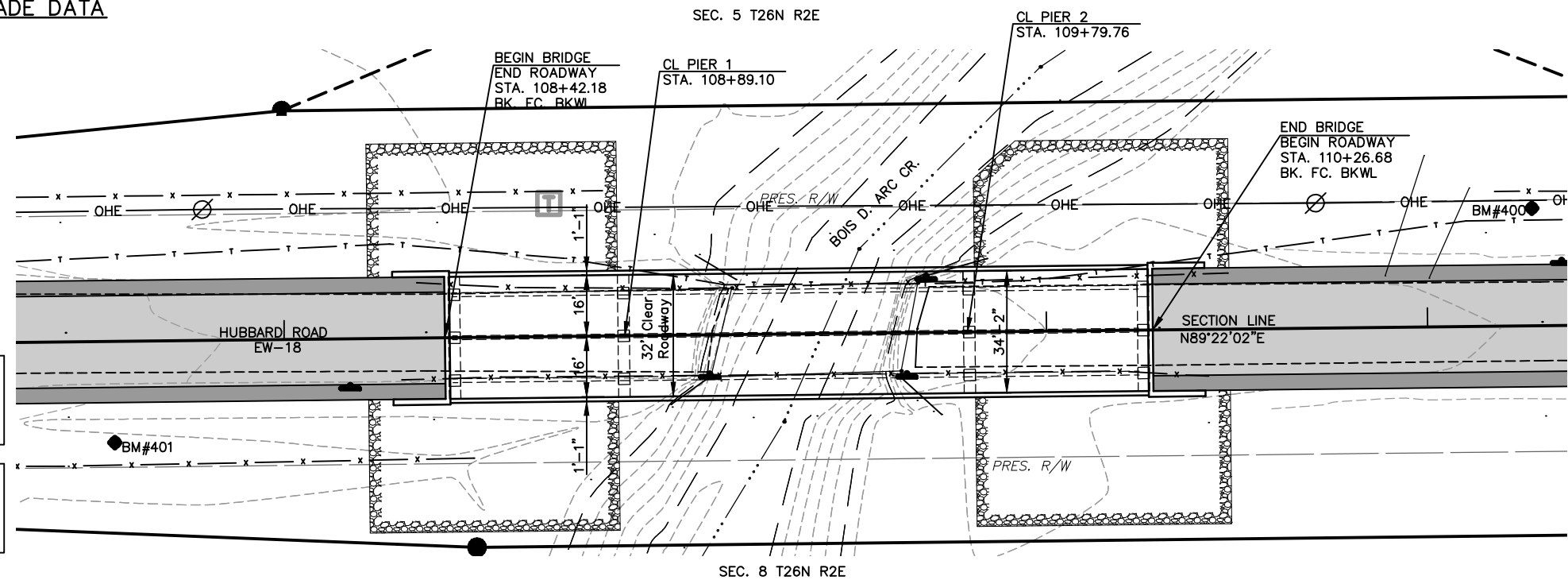
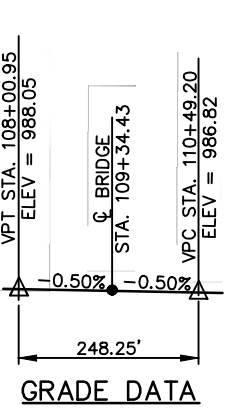
REVISED PROPOSED R/W		
REV. NO.	DESCRIPTION	DATE

BRIDGE STANDARDS

- CB26..32-C.I-SKO...30-GRAU-BC-00E
- CB26..32-C.I-SKO...30-PCB-DTL-1-01E
- CB26..32-C.I-SKO...30-PCB-DTL-2-01E
- CB26...32-C-SKO-WING-PC2-01E
- CB26...32-C-SKO-ABUT-MISC-01E
- CB32-C-SKO-ABUT-PC2-02E
- CB32-C-SKO-XSECT-PC234-01E
- CB32-C-SKO-LSECT-PCB-01E
- CB32-C-SKO-DIA-END-PC234-01E
- CB32-C-SKO-DKSLB-BLIST-01E
- CB32-C-SKO-SPR-QUAN-PCB-1-01E
- CB32-C-SKO-SPR-QUAN-PCB-2-01E
- CB32-C-SKO..30-PCB-II-45-01E
- CB32-C-SKO..30-PCB-III-90-01E
- CB32-C-SKO..30-DIA-INT-PCB-01E
- CB32-C-SKO..30-BRG-PC2-01E
- CB32-C-SKO..30-BRG-PC3-01E
- EJ-SQ-03E
- EJ-DTL-01E
- HPI-2-00E
- TR3-2-01E

HYDRAULIC DATA

- DRAINAGE AREA = 57.20 SQ. MI.
- CONTROLLED AREA = 0 SQ. MI.
- UNCONTROLLED AREA = 57.20 SQ. MI.
- Q2 = 2340 C.F.S.
- V2 = 1.75 FPS
- CHW2 = 980.30
- Q5 = 4670 C.F.S.
- V5 = 2.79 FPS
- CHW5 = 983.80
- Q10 = 6880 C.F.S.
- V10 = 4.11 FPS
- CHW10 = 985.22
- Q25 = 10500 C.F.S.
- V25 = 6.27 FPS
- CHW25 = 987.17
- Q50 = 13600 C.F.S.
- V50 = 7.11 FPS
- CHW50 = 988.65
- Q100 = 16600 C.F.S.
- V100 = 6.05 FPS
- CHW100 = 989.51
- CONTRACTION SCOUR = 1.04'
- PIER SCOUR = 7.58'
- TOTAL = 8.62'
- Q500 = 25800 C.F.S.
- V500 = 5.23 FPS
- CHW500 = 992.53
- TOTAL SCOUR = 8.15'
- QOT = Q(25.17) = 10521 C.F.S.

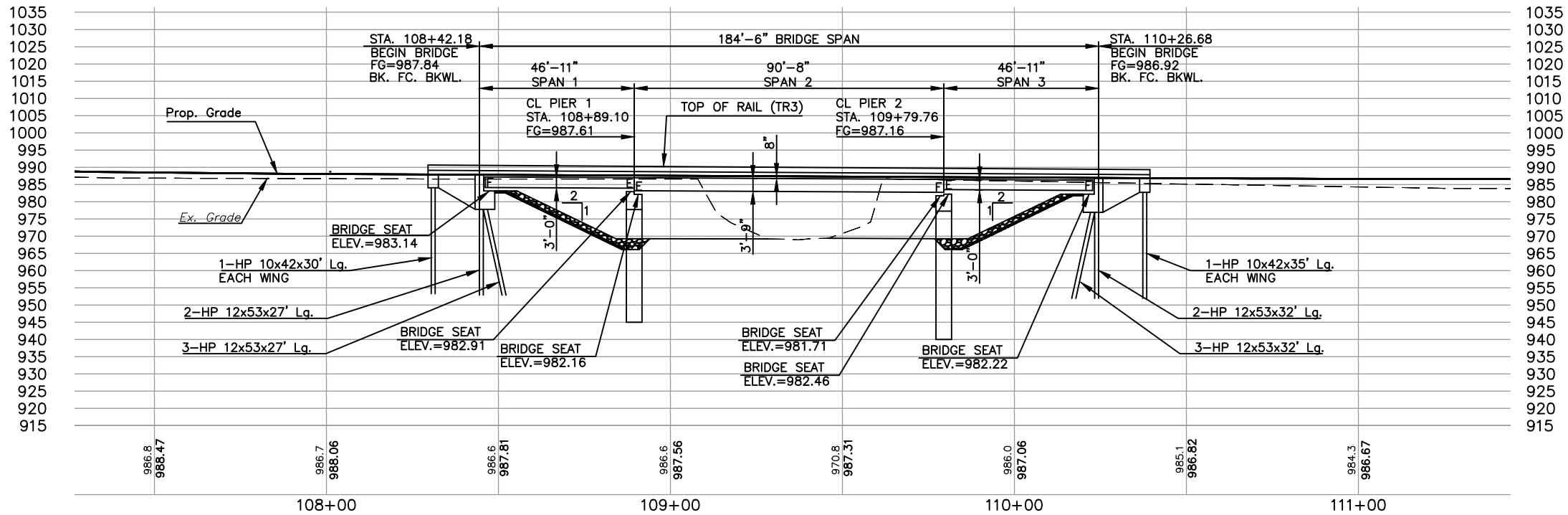


Benchmark #400
Set 1/2" Iron Pin W/ Control Cap
N=639453.6000
E=2229710.9630
Elevation=983.349

Benchmark #401
Set 1/2" Iron Pin W/ Control Cap
N=639392.1540
E=2229339.1530
Elevation=983.983

DESIGN DATA

- CLASS AA CONCRETE F'C=4 KSI
- CLASS A CONCRETE F'C=3 KSI
- REINFORCING STEEL FY=60KSI
- STRUCTURAL STEEL M270 (GRADE 50W) FY=50KSI
- LOADING: HL-93 OR OKLAHOMA OVERLOAD TRUCK
- 20 P.S.F. FUTURE WEARING SURFACE
- 5 P.S.F. STAY-IN-PLACE FORMS
- DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION WITH INTERIMS THROUGH 2010 INTERIMS, EXCEPT AS MODIFIED BY CURRENT ODOT BRIDGE DIVISION DESIGN POLICIES.
- ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
- LFD OPERATING RATING: HS 32.9



Stacy Loeffler

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
STACY A. LOEFFLER
NUMBER E-29929
8/11

HYDROLOGY AND HYDRAULICS DESIGN
STACY LOEFFLER
REGISTERED PROFESSIONAL ENGINEER No. E-29929

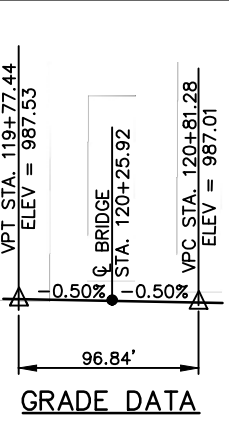
EW-18	KAY COUNTY	Design	.	.
		Detail	.	.
GENERAL PLAN & ELEVATION CONSTRUCT 3 SPAN 45'-90'-45', TYPE II-III-II P.C. BEAM SPANS, 32' CLR. RDY. W/ CONCRETE TRAFFIC RAIL (TR3), CL STA. 109+34.43		Check	.	.
		Squad: Engr.	.	.
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		SHEET NO. B001
JOB PIECE NO. 28433(04)				

REVISED PROPOSED R/W		
REV. NO.	DESCRIPTION	DATE

HYDRAULIC DATA

DRAINAGE AREA = 5.34 SQ. MI.
 CONTROLLED AREA = 0 SQ. MI.
 UNCONTROLLED AREA = 5.34 SQ. MI.

Q2	= 534 C.F.S.
V2	= 1.35 FPS
CHW2	= 978.76
Q5	= 1110 C.F.S.
V5	= 2.31 FPS
CHW5	= 980.14
Q10	= 1680 C.F.S.
V10	= 3.30 FPS
CHW10	= 980.57
Q25	= 2620 C.F.S.
V25	= 4.90 FPS
CHW25	= 981.03
Q50	= 3340 C.F.S.
V50	= 6.09 FPS
CHW50	= 981.36
Q100	= 4200 C.F.S.
V100	= 7.59 FPS
CHW100	= 981.68
CONTRACTION SCOUR	= .30'
TOTAL	= .30'
Q500	= 6620 C.F.S.
V500	= 12.47 FPS
CHW500	= 983.35
TOTAL SCOUR	= 5.40'
QOT > Q500	



- BRIDGE**
- CB26..32-C..I-SKO...30-GRAU-BC-00E
 - CB26..32-C..I-SKO...30-PCB-DTL-1-01E
 - CB26..32-C..I-SKO...30-PCB-DTL-2-01E
 - CB26...32-C-SKO-WING-PC3-01E
 - CB26...32-C-SKO-ABUT-MISC-01E
 - CB32-C-SKO-ABUT-PC3-02E
 - CB32-C-SKO-XSECT-PC234-01E
 - CB32-C-SKO-LSECT-PCB-01E
 - CB32-C-SKO-DIA-END-PC234-01E
 - CB32-C-SKO-DKSLB-BLIST-01E
 - CB32-C-SKO-SPR-QUAN-PCB-1-01E
 - CB32-C-SKO..30-PCB-III-90-01E
 - CB32-C-SKO..30-DIA-INT-PCB-01E
 - CB32-C-SKO..30-BRG-PC3-01E
 - HPI-2-00E
 - TR3-2-01E

DESIGN DATA

CLASS AA CONCRETE F'C=4 KSI
 CLASS A CONCRETE F'C=3 KSI
 REINFORCING STEEL FY=60KSI
 STRUCTURAL STEEL M270 (GRADE 50W) FY=50KSI

LOADING: HL-93 OR OKLAHOMA OVERLOAD TRUCK
 20 P.S.F. FUTURE WEARING SURFACE
 5 P.S.F. STAY-IN-PLACE FORMS

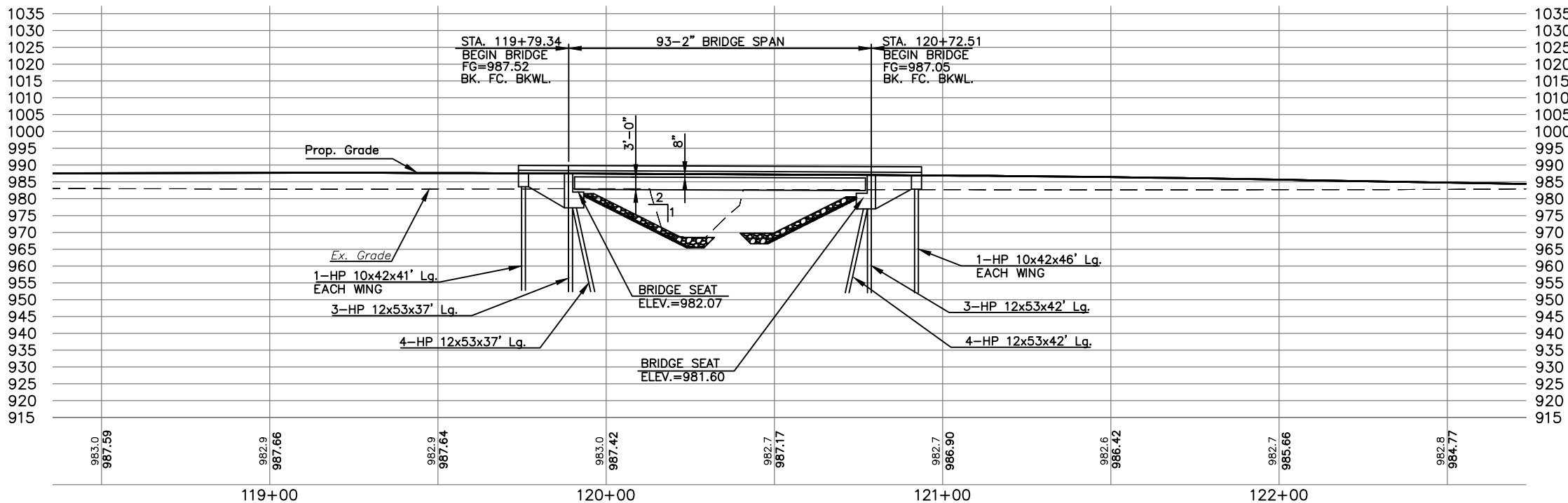
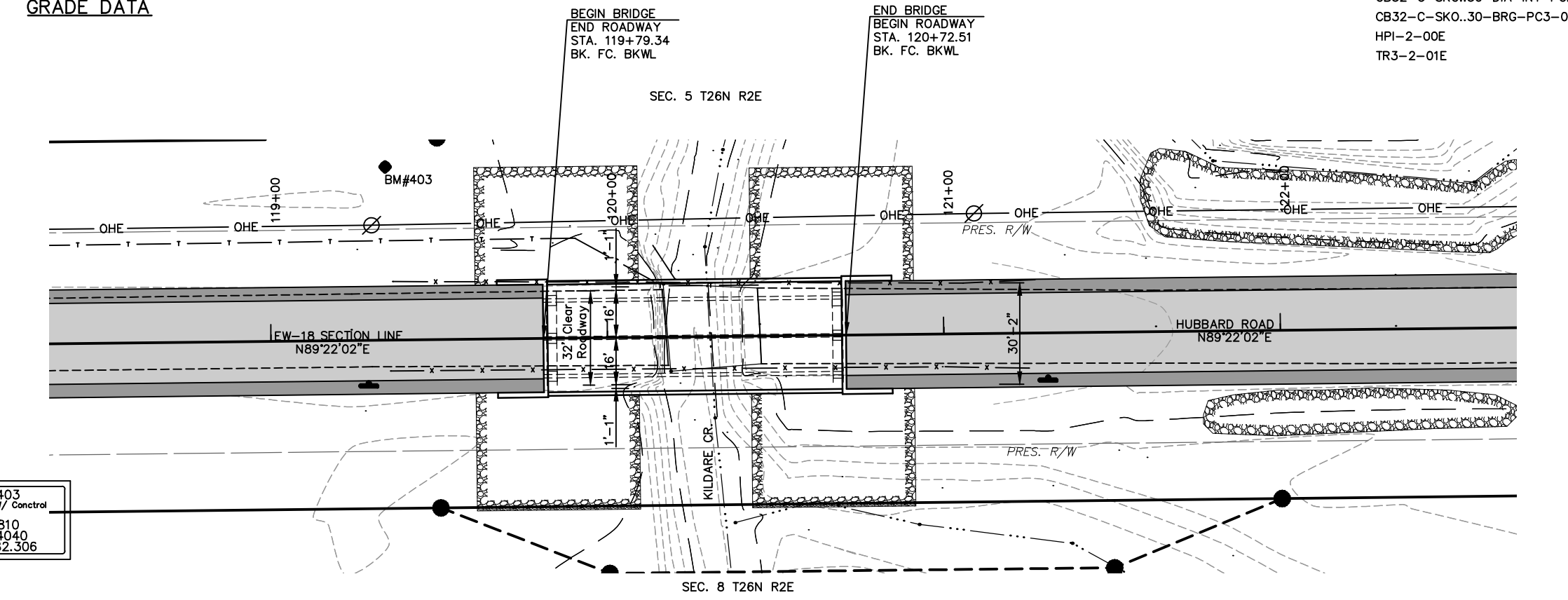
DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION WITH INTERIMS THROUGH 2010 INTERIMS, EXCEPT AS MODIFIED BY CURRENT ODOT BRIDGE DIVISION DESIGN POLICIES.
 ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

LFD OPERATING RATING: HS 46.3

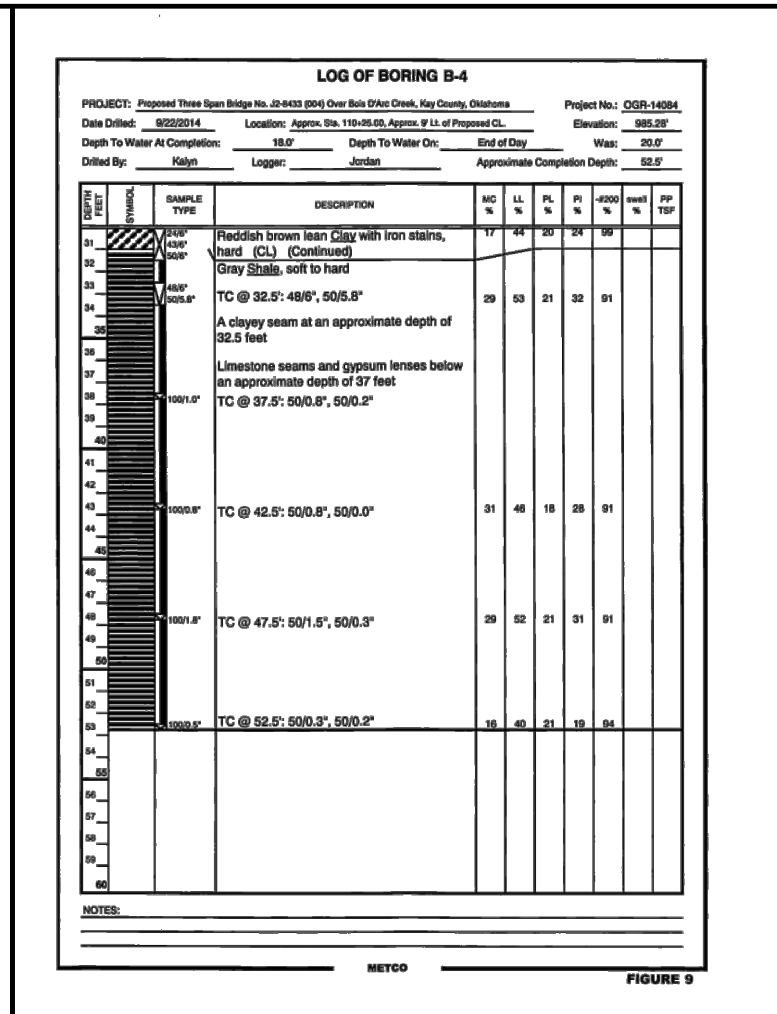
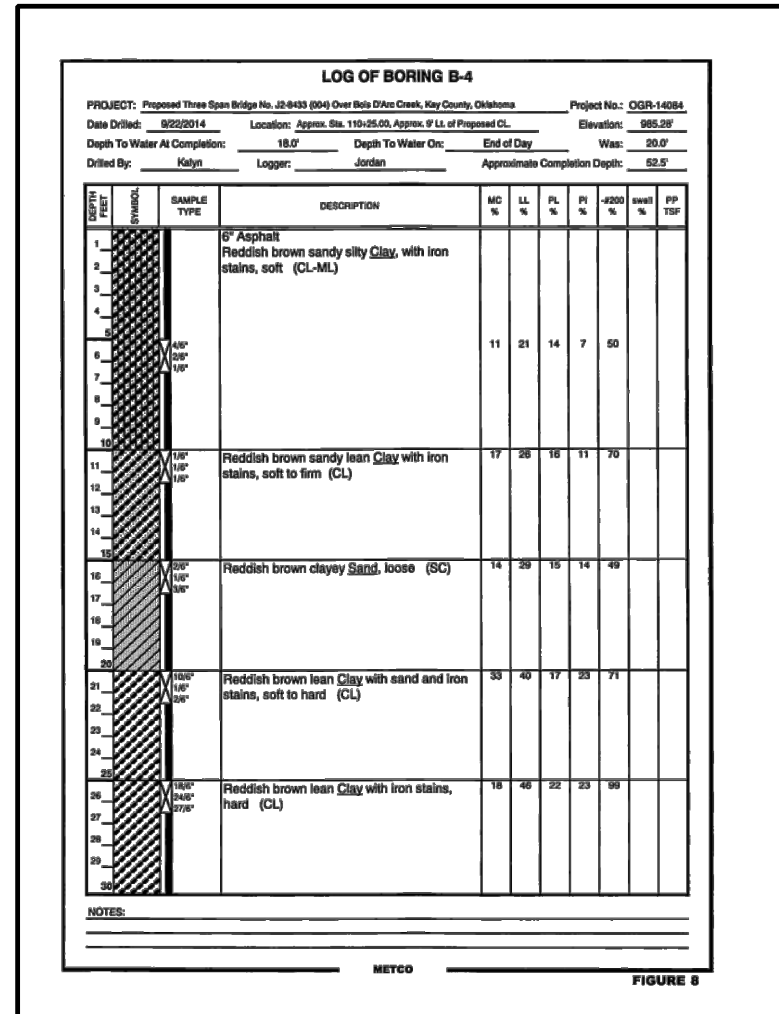
Stacy Loeffler

HYDROLOGY AND HYDRAULICS DESIGN
 STACY LOEFFLER
 REGISTERED PROFESSIONAL ENGINEER No. E-29929

Benchmark #403
 Set 1/2" Iron Pin W/ Concret Cap
 N=639483.1810
 E=2230517.4040
 Elevation=982.306



EW-18	KAY COUNTY	Design	.	.
GENERAL PLAN & ELEVATION CONSTRUCT 90' TY. III P.C. BEAM SPAN, 32 CLR. RDY. W/ CONCRETE TRAFFIC RAIL (TR3), @ STA. 120+25.92		Detail	.	.
		Check	.	.
STATE OF OKLAHOMA		Squadt:		
DEPARTMENT OF TRANSPORTATION		Engr.		
JOB PIECE NO. 28433(04)		SHEET NO. B002		



DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				BORE LOGS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P-28433(04) SHEET NO. B004

DESCRIPTION	REVISIONS	DATE

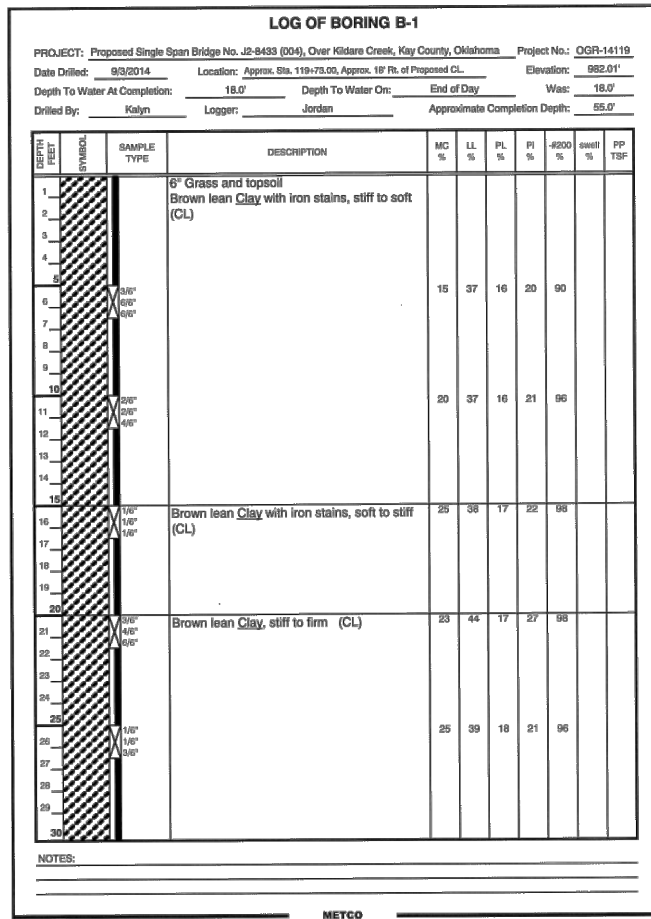


FIGURE 2

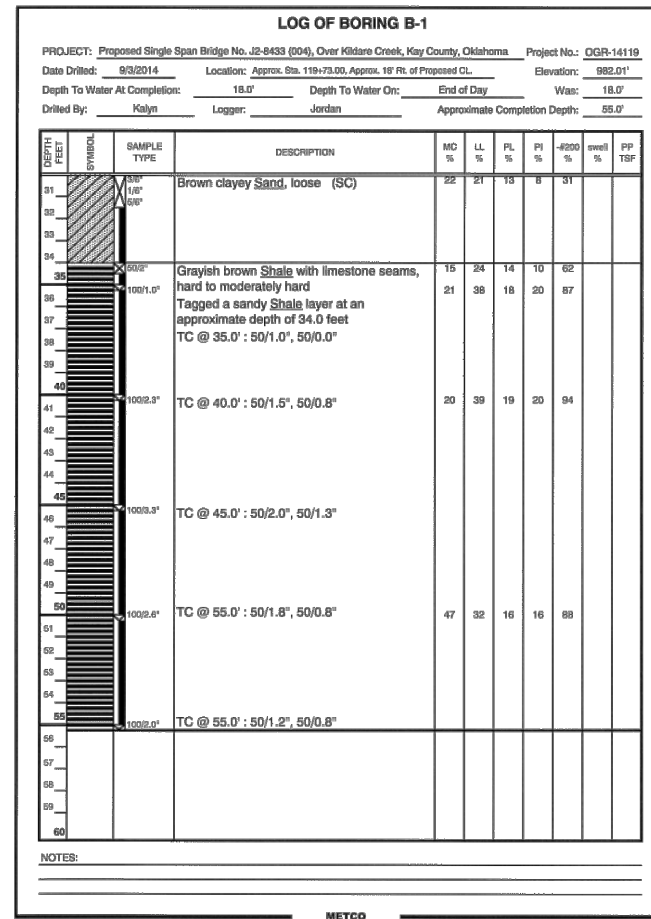


FIGURE 3

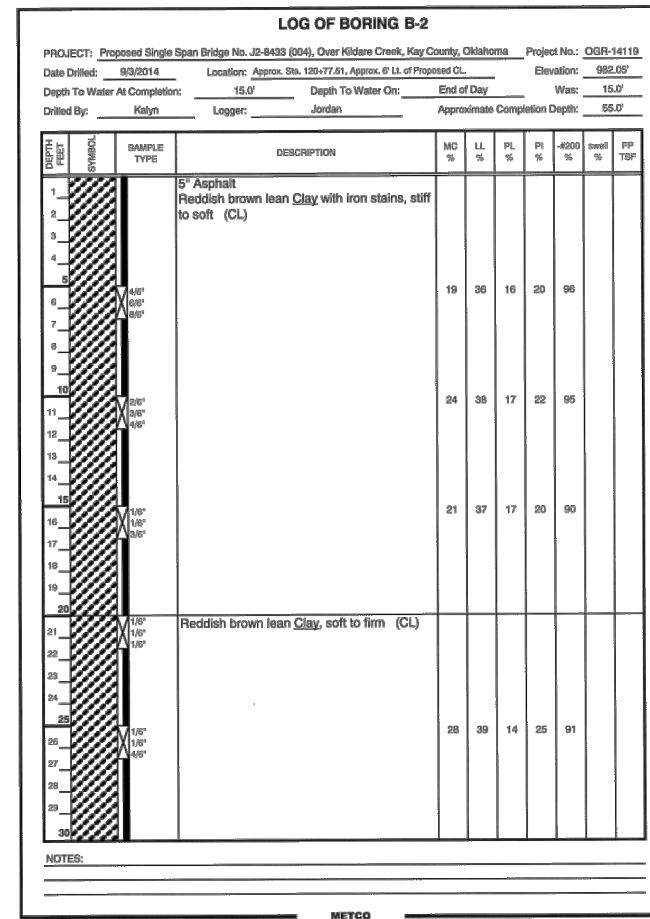


FIGURE 4

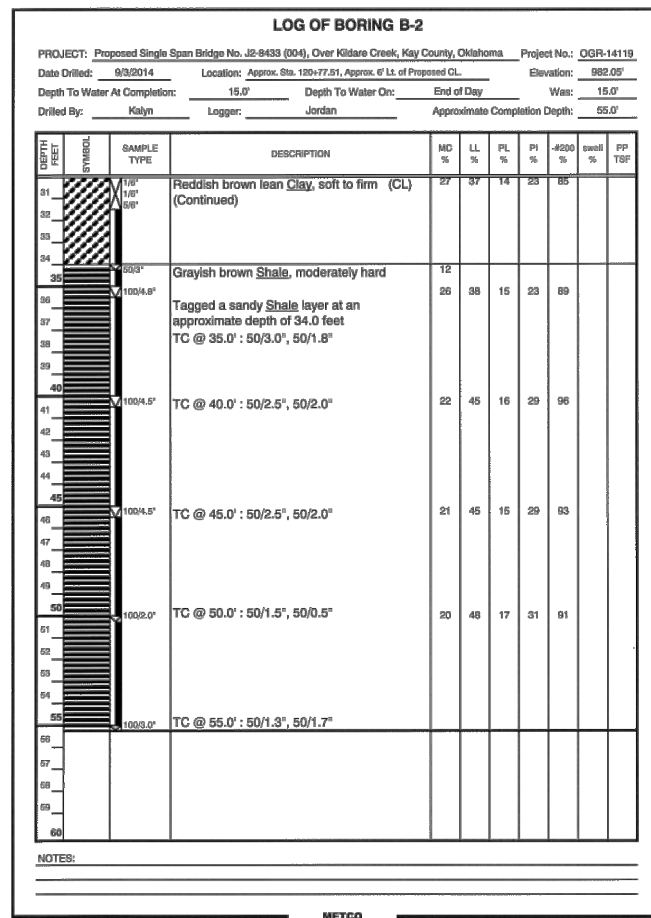
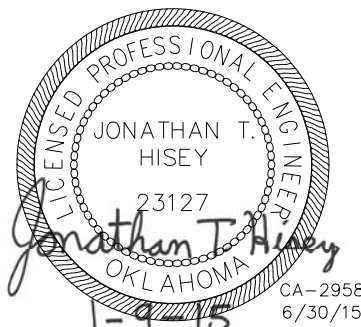
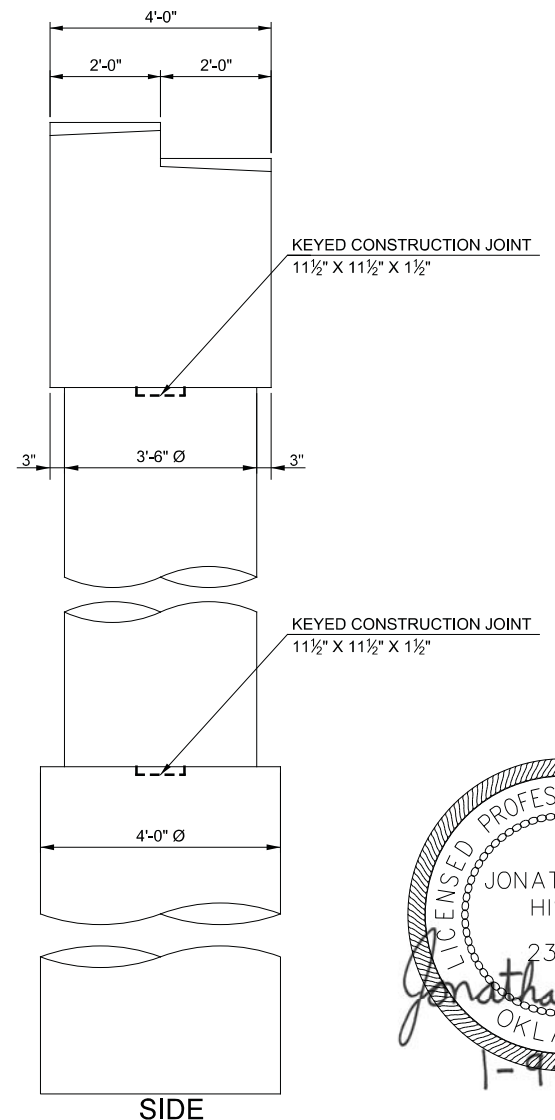
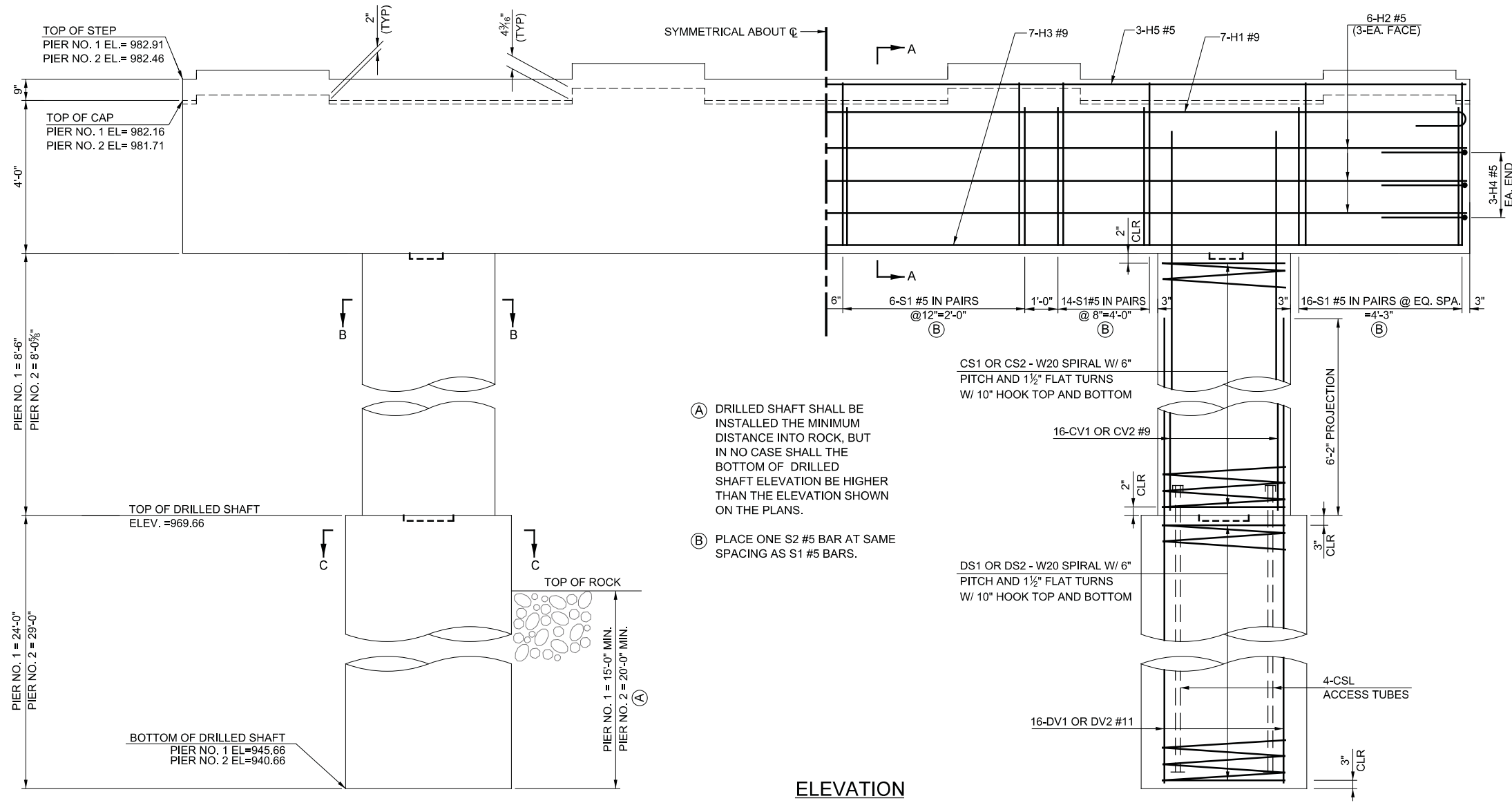
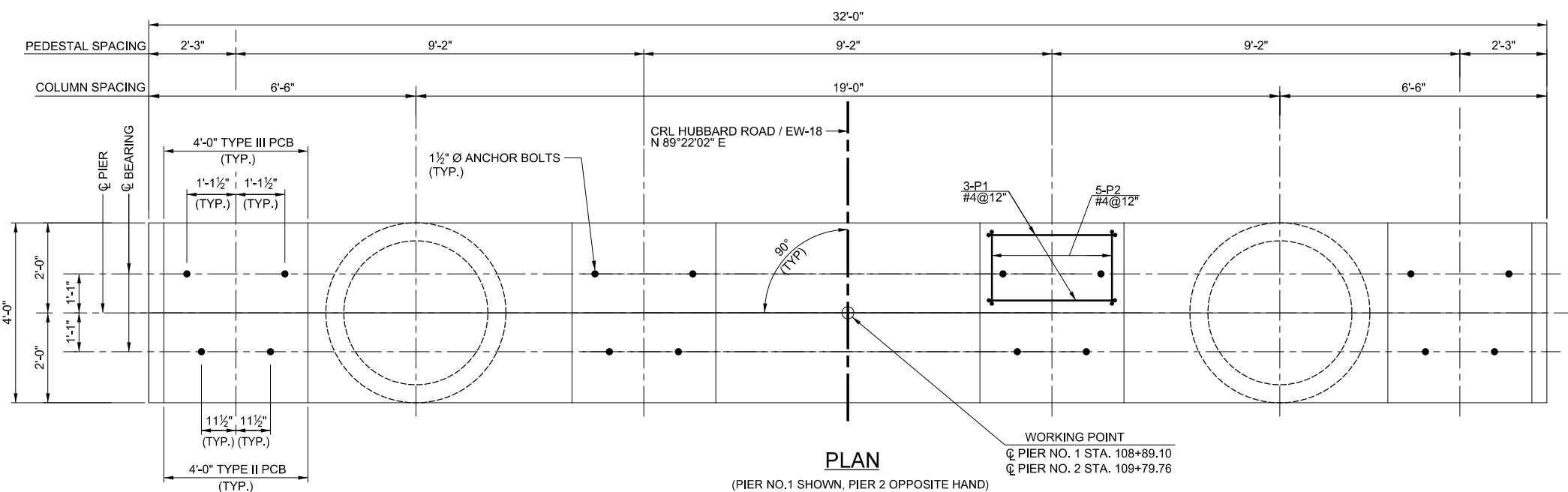


FIGURE 5

DESIGN 18	TDS	5/15	EW 18	KAY CO.
DRAWN				BORE LOGS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P-28433(04) SHEET NO. B005

PRINT DATE: 5/10/2017 G:\projects\2014\1403010766-CE08 Pler Design Kay County\Civil\CAD\Structural\14766-PIER DETAIL LS-01.dgn

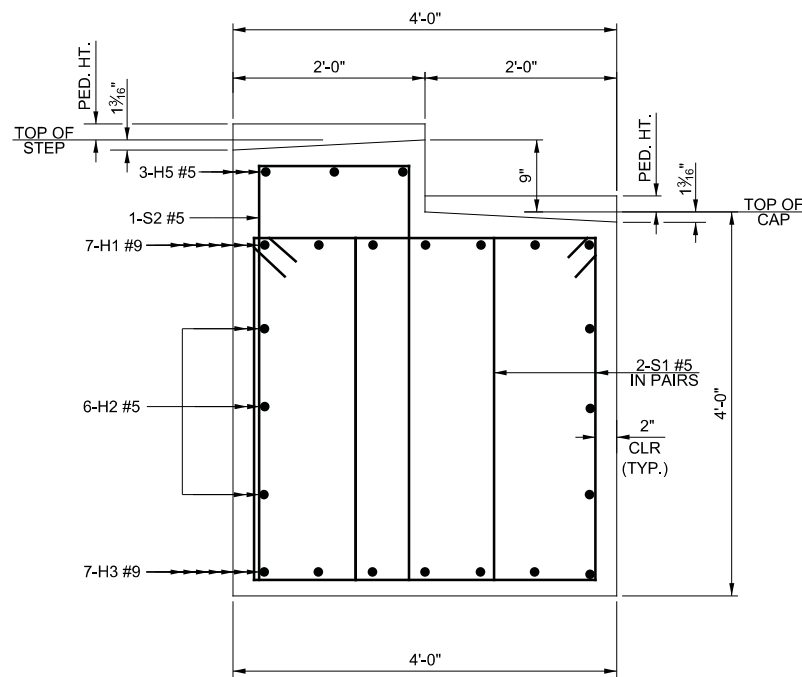


DESIGN	JTH		OKLAHOMA DEPARTMENT OF TRANSPORTATION PIER DETAILS (1 OF 2) STATE JOB NO. 28433(04)
DRAWN	HWL		
CHECKED	JTH		
APPROVED			
SQUAD	CE08 / MKEC		

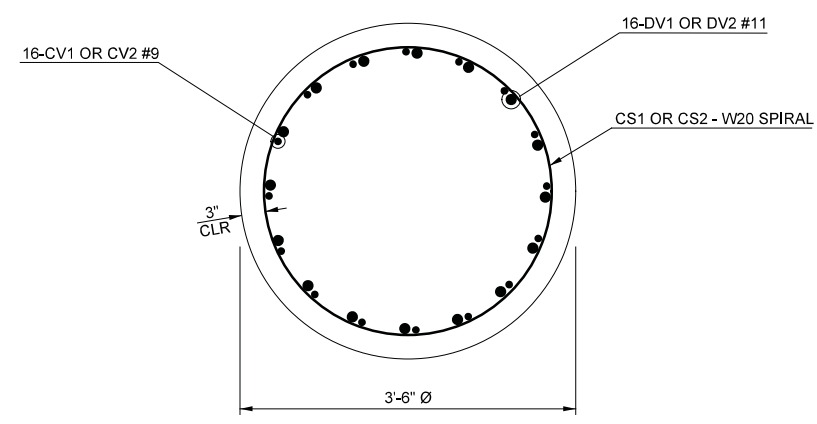
EW-18 OVER BOIS D' ARC CREEK KAY CO.
 SHEET NO. B006

G:\projects\2014\1403010766-CE08 Pler Design Kay County\Civil\CAD\Structural\14766-PIER DETAIL.S42.dgn

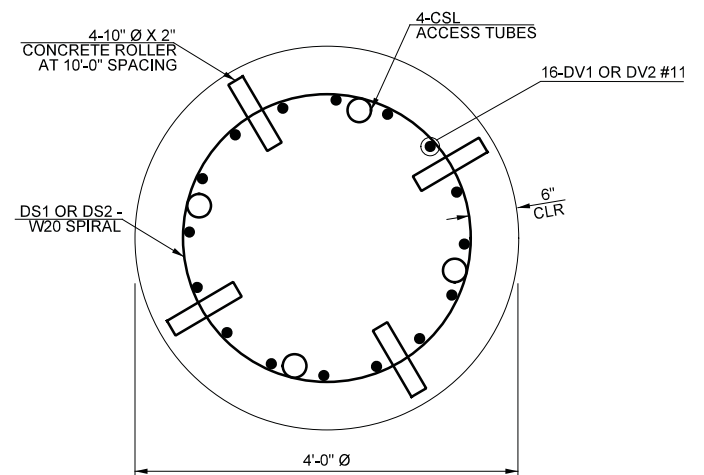
PRINT DATE: 5/10/2017



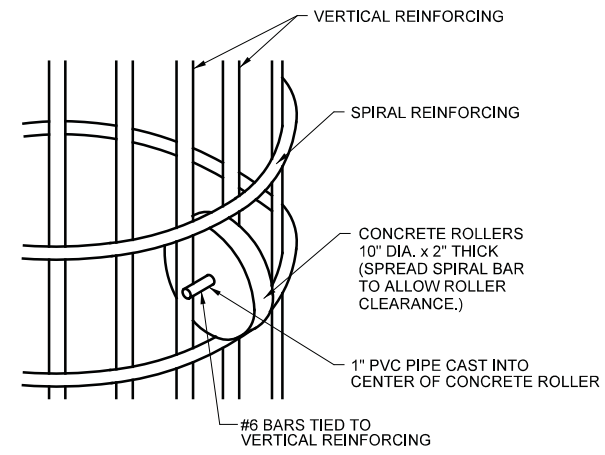
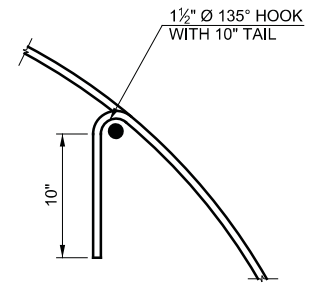
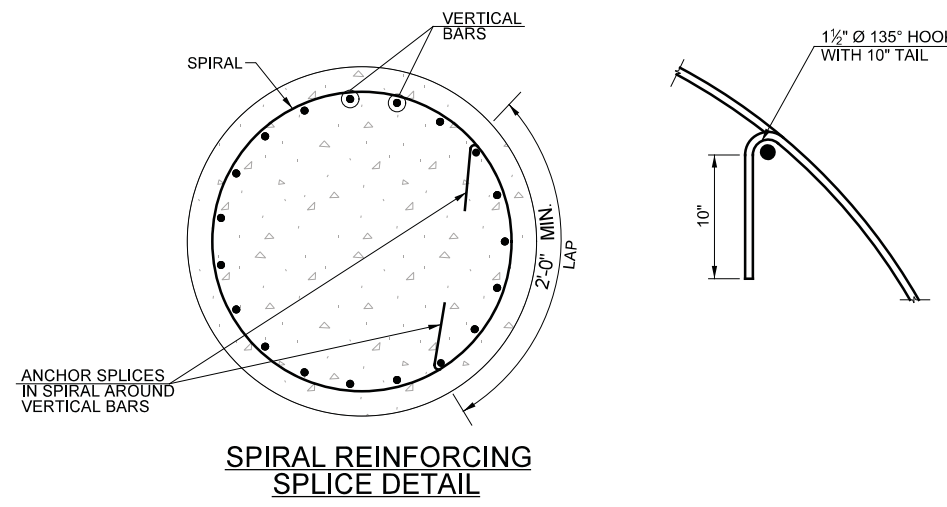
SECTION A-A



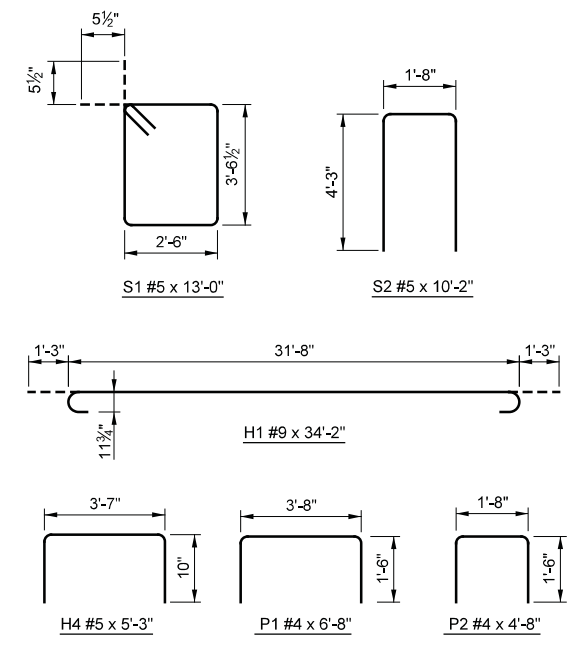
SECTION B-B



SECTION C-C



DETAIL OF ROLLER INSTALLATION



PIER QUANTITIES				
ITEM	UNIT	PIER NO.1	PIER NO.2	TOTAL
CLASS A CONCRETE	CY	27.5	27.1	54.6
REINFORCING STEEL	LB	5050	4990	10,040
DRILLED SHAFT 48" DIAMETER	LF	48	58	106
CROSSHOLE SONIC LOGGING	EA			1

PIER NO. 1 BAR LIST				
PLAIN REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
H1	#9	7	BENT	34'-2"
H2	#5	6	STR.	31'-8"
H3	#9	7	STR.	31'-8"
H4	#5	6	BENT	5'-3"
H5	#5	3	STR.	31'-8"
P1	#4	24	BENT	6'-8"
P2	#4	40	BENT	4'-8"
S1	#5	72	BENT	13'-0"
S2	#5	36	BENT	10'-2"
CV1	#9	32	STR.	12'-1"
CS1	W20	2	BENT	181'-6"
DRILLED SHAFT				
DV1	#11	32	STR.	30'-1"
DS1	W20	2	BENT	466'-11"

PIER NO. 2 BAR LIST				
PLAIN REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
H1	#9	7	BENT	34'-2"
H2	#5	6	STR.	31'-8"
H3	#9	7	STR.	31'-8"
H4	#5	6	BENT	5'-3"
H5	#5	3	STR.	31'-8"
P1	#4	24	BENT	6'-8"
P2	#4	40	BENT	4'-8"
S1	#5	72	BENT	13'-0"
S2	#5	36	BENT	10'-2"
CV2	#9	32	STR.	11'-8"
CS2	W20	2	BENT	173'-2"
DRILLED SHAFT				
DV2	#11	32	STR.	35'-1"
DS2	W20	2	BENT	560'-0"

① INCLUDED IN THE CONTRACT UNIT PRICE OF DRILLED SHAFT

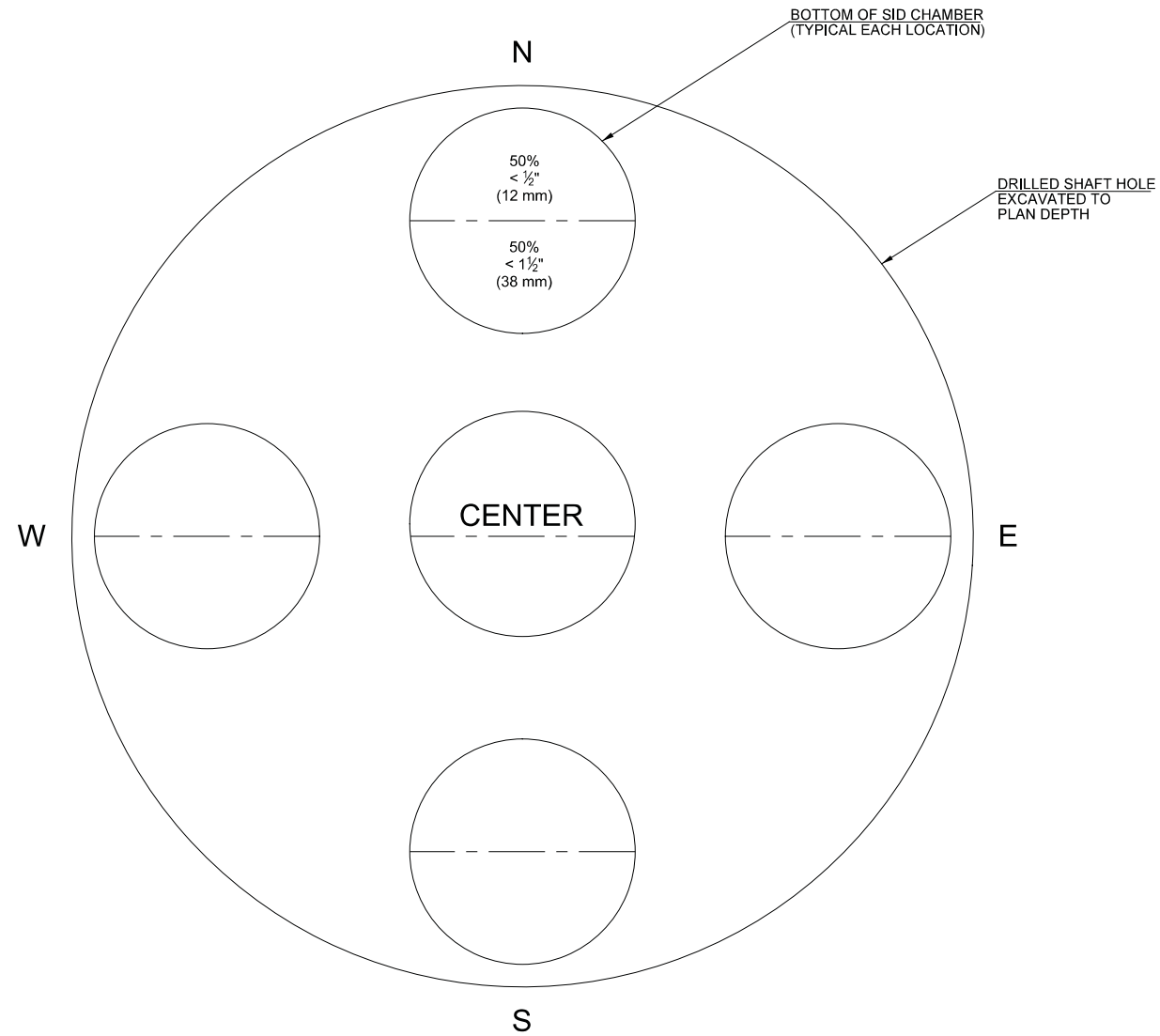
NOTES:

- SPIRAL BARS SHALL CONFORM TO AASHTO SPECIFICATIONS. W20 SPIRAL BAR LENGTHS SHALL INCLUDE LAP.
- ALL EDGES OF PIER CAP SHALL HAVE A 1/2" CHAMFER. ALL PEDESTAL EDGES SHALL HAVE A 3/8" CHAMFER.
- ALL BAR BEND DIMENSIONS ARE OUT TO OUT.
- REINFORCING BARS PROJECTING FROM DRILLED SHAFT SHALL NOT BE CONSIDERED ADDITIONAL PAY LENGTH FOR DRILLED SHAFT.
- CONCRETE USED IN THE CONCRETE ROLLERS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
- ALL CLEARANCES ARE 2" UNLESS OTHERWISE SPECIFIED.



DESIGN	JTH		OKLAHOMA DEPARTMENT OF TRANSPORTATION PIER DETAILS (2 OF 2) STATE JOB NO. 28433(04) SHEET NO. B007
DRAWN	HWL		
CHECKED	JTH		
APPROVED			
SQUAD	CE08 / MKEC		

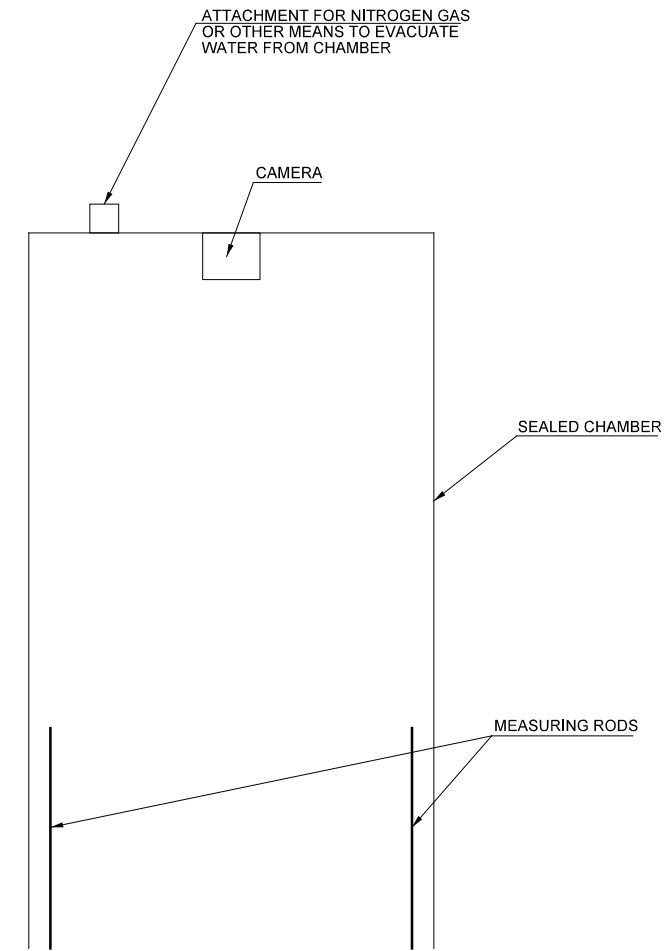
EW-18 OVER BOIS D' ARC CREEK KAY CO.



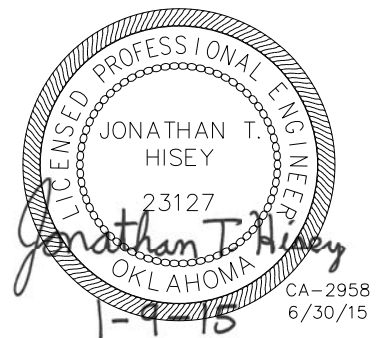
NOTES:

USE FIVE (5) DROP LOCATIONS, AS NOTED, TO VERIFY BOTTOM OF HOLE HAS BEEN PROPERLY CLEANED. ADDITIONAL DROPS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER TO VERIFY PROPER CLEANING AND ACCEPTANCE.

SHAFT INSPECTION DEVICE (SID) INSPECTION LOCATIONS



SHAFT INSPECTION DEVICE (SID)



EW-18 OVER BOIS D' ARC CREEK KAY CO.

DESIGN	JTH		OKLAHOMA DEPARTMENT OF TRANSPORTATION
DRAWN	HWL		
CHECKED	JTH		
APPROVED			
SQUAD	CED8 / MKEC		
			SHAFT INSPECTION DEVICE (SID) LOCATIONS
			STATE JOB NO. 28433(04) SHEET NO. B008

STORM WATER MANAGEMENT PLAN

REVISIONS	
DESCRIPTION	DATE

SITE DESCRIPTION

PROJECT LIMITS: EW-18. REFER TO THE TITLE SHEET AND SHEETS 7-9 FOR PROJECT LIMITS.

PROJECT DESCRIPTION: BRIDGES AND APPROACHES OVER BOIS D'ARC CREEK AND KILDAIRE CREEK

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. INSTALL TEMPORARY SEDIMENT CONTROL DEVICES IN CONJUNCTION WITH GRADING OPERATIONS. COMPLETE MAINLINE CONSTRUCTION WHILE MAINTAINING TEMPORARY SLOPES AND SEDIMENT CONTROL. ONCE MAINLINE CONSTRUCTION IS COMPLETE, REMOVE DETOUR. REPLACE SALVAGED TOPSOIL AND PLACE SOD. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF TEMPORARY SEDIMENT CONTROL PRACTICES TO IMPROVE EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF MAJOR SOIL DISTURBING ACTIVITIES AND INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: PORT SILTY CLAY LOAM

TOTAL AREA OF THE CONSTRUCTION SITE: 5.19 ACRES

ESTIMATED AREA TO BE DISTURBED: NOT APPLICABLE

OFFSITE AREA TO BE DISTURBED: _____
 (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 1.50 ACRES

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 1.51 ACRES

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.40

LATITUDE & LONGITUDE OF CENTER OF PROJECT: LAT. N 36°45'12", LONG. W97°06'27"

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: BOIS D'ARC CREEK & KILDAIRE CREEK

SENSITIVE WATERS OR WATERSHEDS: YES NO

303(d) IMPAIRED WATERS: YES NO

IF YES, LIST IMPAIRMENT: _____

LOCATED IN A TMDL: YES NO

LAKE THUNDERBIRD TMDL: NO

MS4 ENTITY YES NO

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
- PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING
- SOIL RETENTION BLANKET
- 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
- 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
- TEMPORARY SEDIMENT REMOVAL
- RIP RAP
- INLET SEDIMENT FILTER
- TEMPORARY BRUSH SEDIMENT BARRIERS
- SANDBAG BERMES
- TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- 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

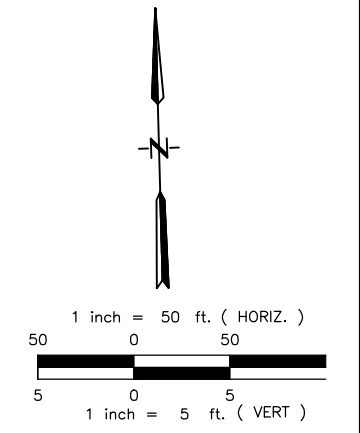
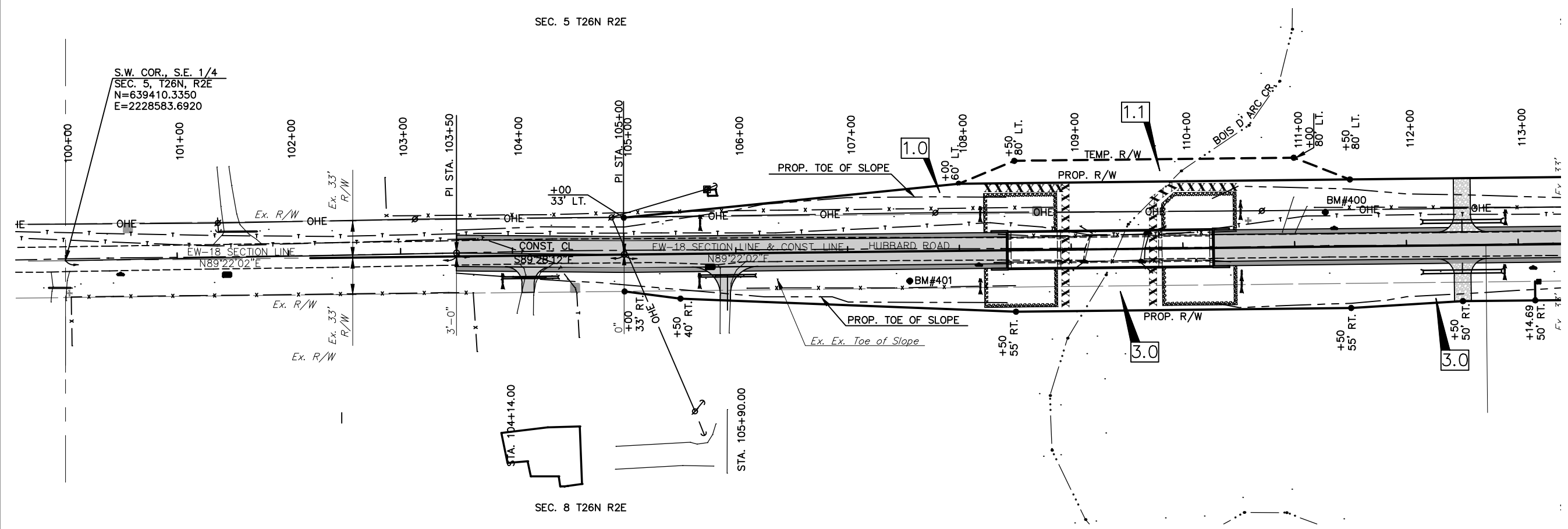
IN ADDITION:

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

DESIGN				OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION	
DRAWN				STORM WATER MANAGEMENT PLAN	
CHECKED					
APPROVED					
SQUAD					
COUNTY <u>KAY COUNTY</u> HIGHWAY <u>EW-18</u> STATE JOB NO. <u>JP-28433(04)</u> SHEET NO. <u>R001</u>					

SEC. 5 T26N R2E

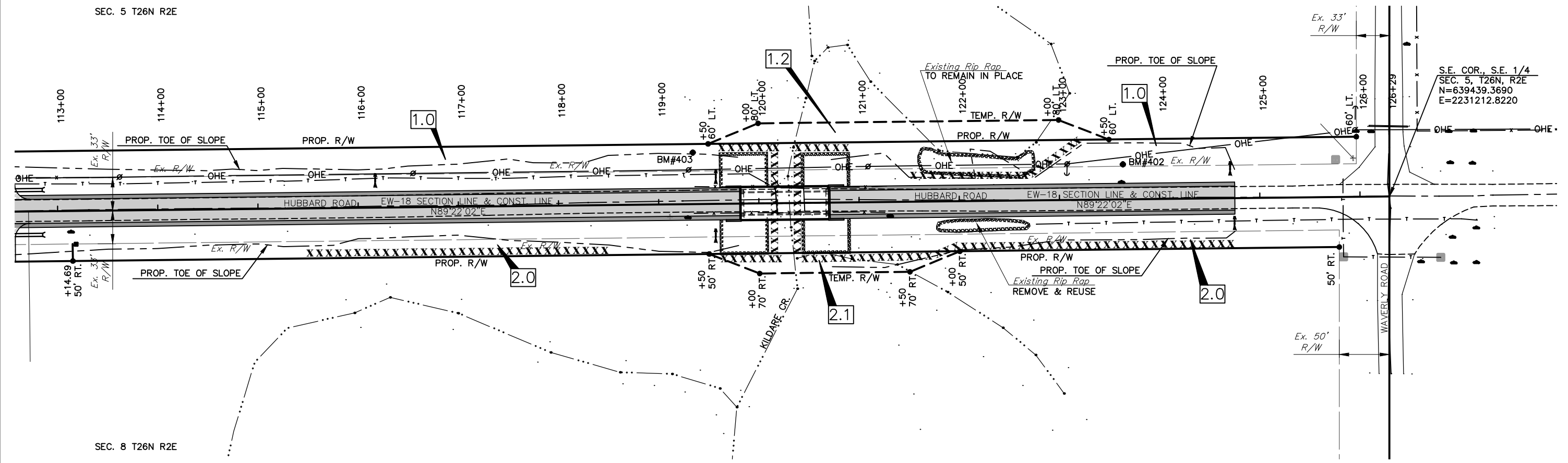
S.W. COR., S.E. 1/4
 SEC. 5, T26N, R2E
 N=639410.3350
 E=2228583.6920



- LEGEND**
- ▭ PROPOSED ASPHALT PAVEMENT
 - ▭ PROPOSED ASPHALT SHOULDER
 - ▭ PROPOSED T.B.S.C.
 - SILT DIKE
 - XXXXXXX SILT FENCE

SEC. 8 T26N R2E

SEC. 5 T26N R2E



S.E. COR., S.E. 1/4
 SEC. 5, T26N, R2E
 N=639439.3690
 E=2231212.8220

SEC. 8 T26N R2E

DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				
CHECKED				
APPROVED	TDS	5/17		
SQUAD				

EROSION CONTROL SHEET

J/P-28433(04) SHEET NO. R002

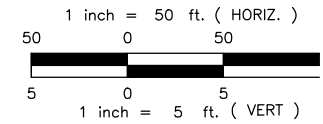
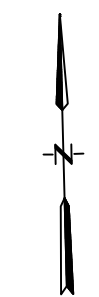
UTILITIES

AT&T - Rod Cline, (405) 743-6180
 Cable One - Dennis Anderson, (918) 440-2957
 Kay Electric - Chad Shepherd, (580) 789-1088

SEC. 5 T26N R2E

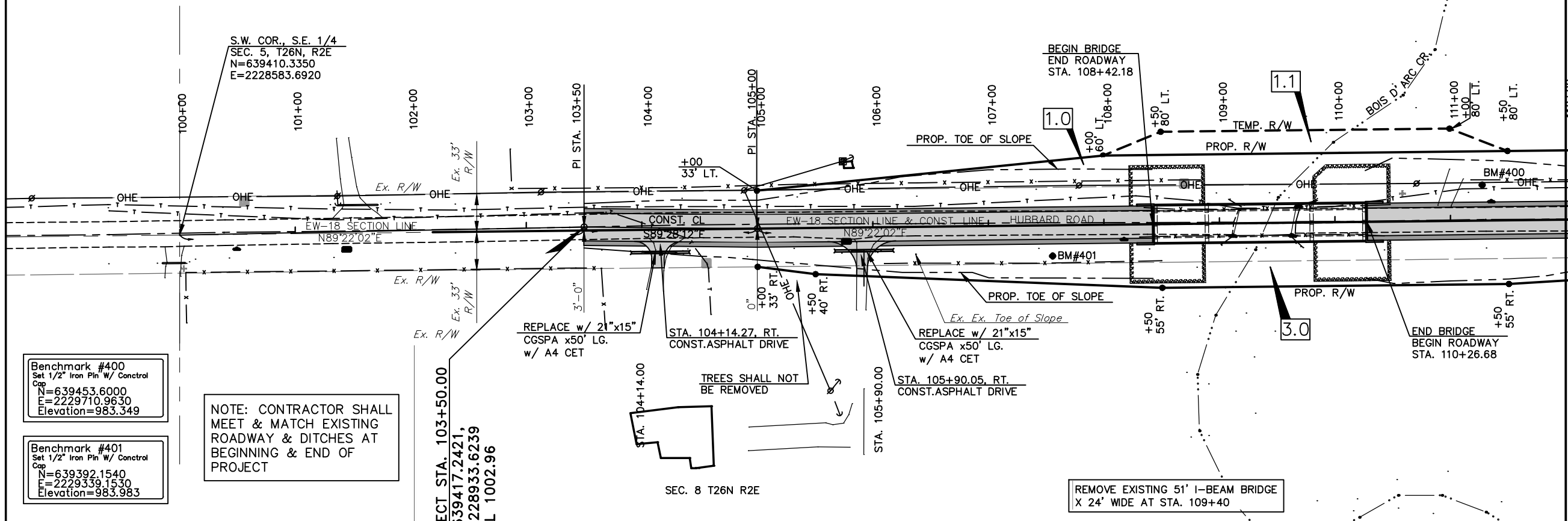
OKLAHOMA DEPARTMENT OF TRANSPORTATION

DESCRIPTION	REVISIONS	DATE



LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED ASPHALT SHOULDER
- PROPOSED T.B.S.C.



Benchmark #400
 Set 1/2" Iron Pin W/ Control Cap
 N=639453.6000
 E=2229710.9630
 Elevation=983.349

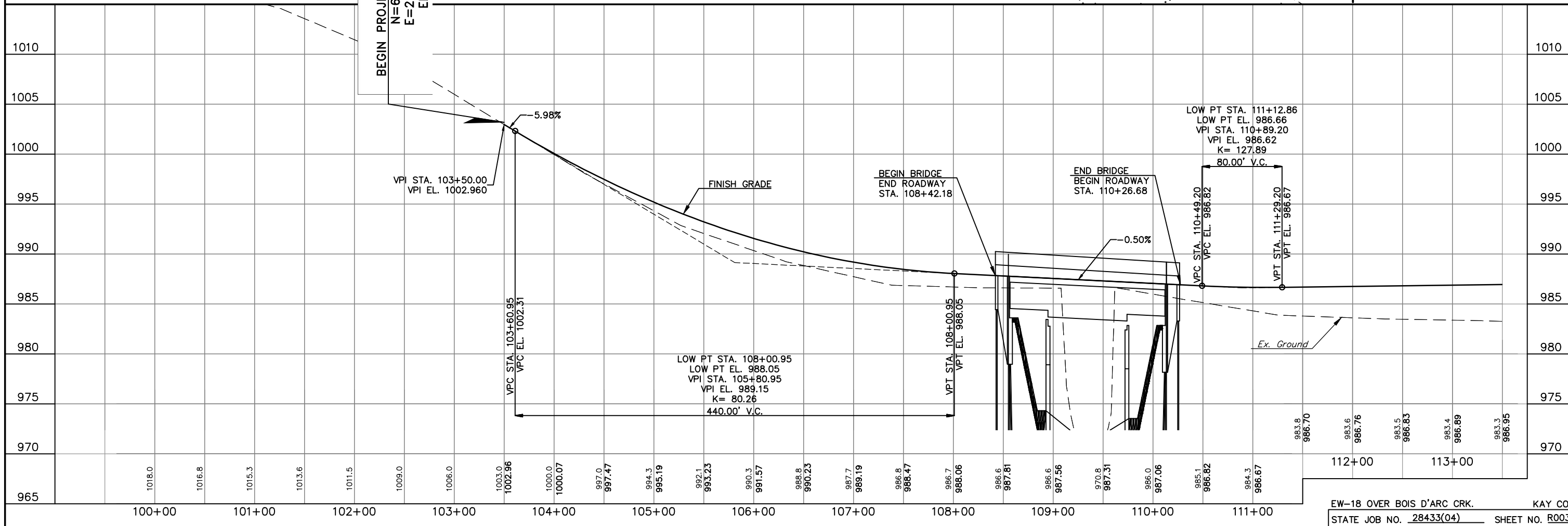
Benchmark #401
 Set 1/2" Iron Pin W/ Control Cap
 N=639392.1540
 E=2229339.1530
 Elevation=983.983

NOTE: CONTRACTOR SHALL MEET & MATCH EXISTING ROADWAY & DITCHES AT BEGINNING & END OF PROJECT

BEGIN PROJECT STA. 103+50.00
 N=639417.2421
 E=2228933.6239
 EL 1002.96

SEC. 8 T26N R2E

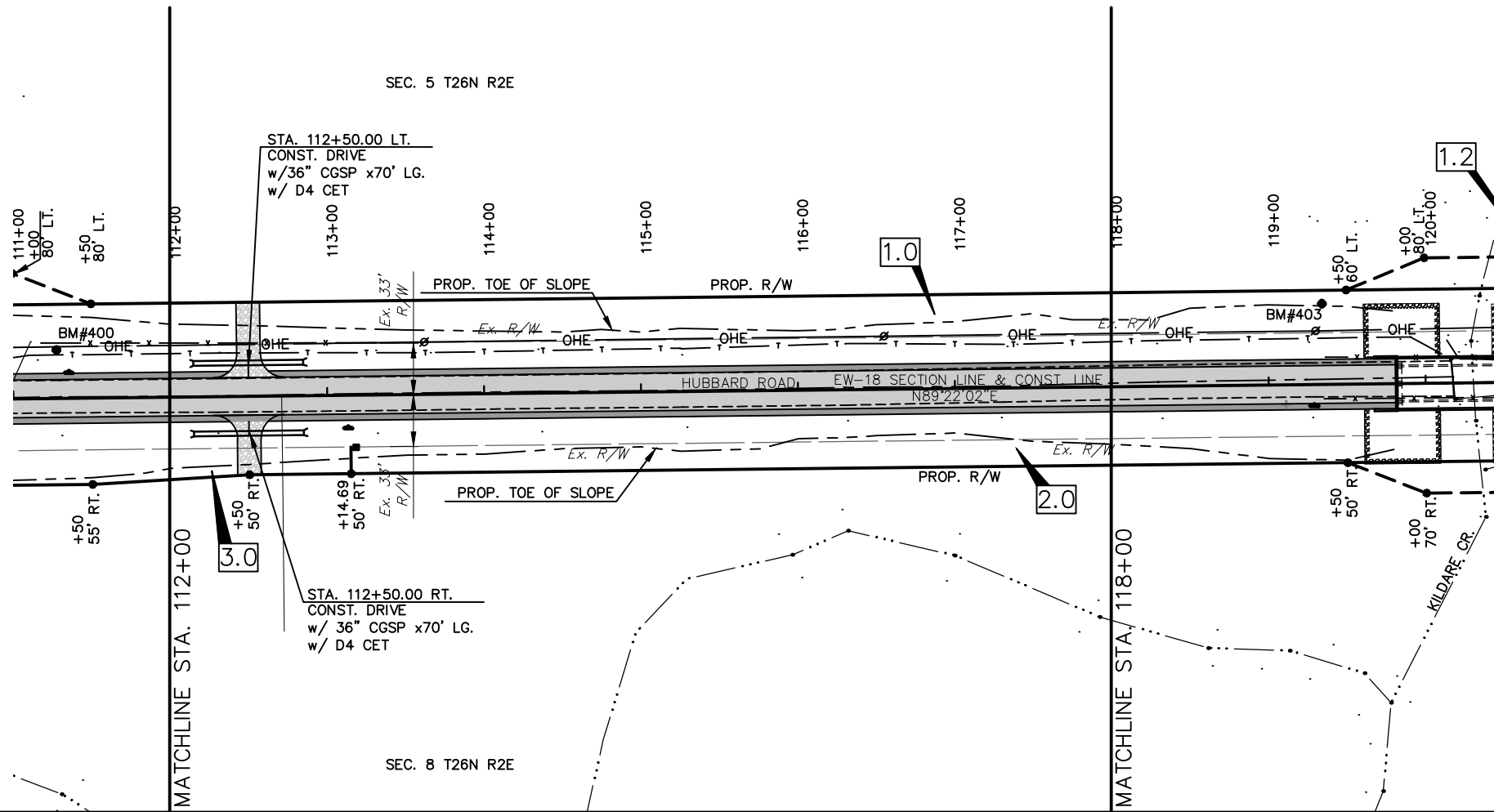
MATCHLINE STA. 112+00



UTILITIES

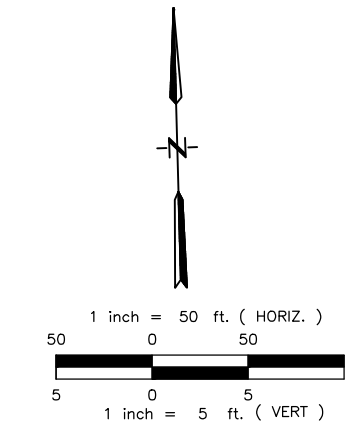
AT&T - Rod Cline, (405) 743-6180
 Cable One - Dennis Anderson, (918) 440-2957
 Kay Electric - Chad Shepherd, (580) 789-1088

DESCRIPTION	REVISIONS	DATE

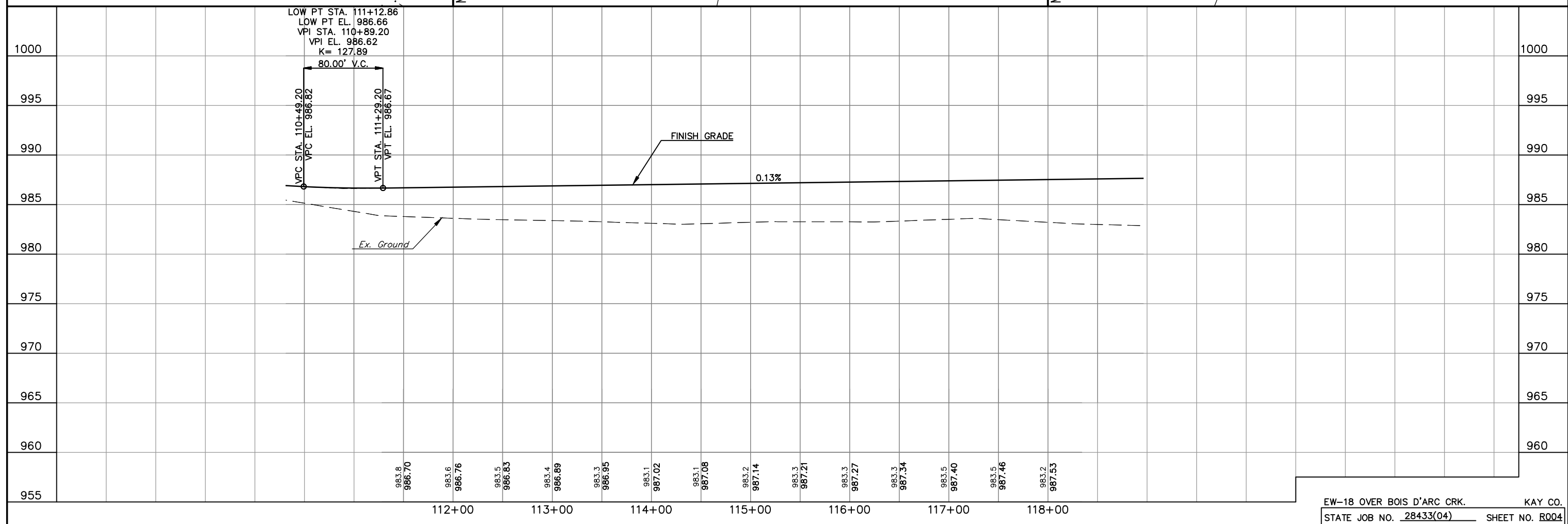


Benchmark #400
 Set 1/2" Iron Pin W/ Conctrol Cap
 N=639453.6000
 E=2229710.9630
 Elevation=983.349

Benchmark #403
 Set 1/2" Iron Pin W/ Conctrol Cap
 N=639483.1810
 E=2230517.4040
 Elevation=982.306

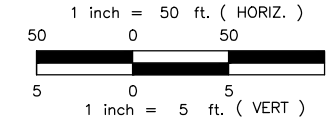


- LEGEND**
- PROPOSED ASPHALT PAVEMENT
 - PROPOSED ASPHALT SHOULDER
 - PROPOSED T.B.S.C.

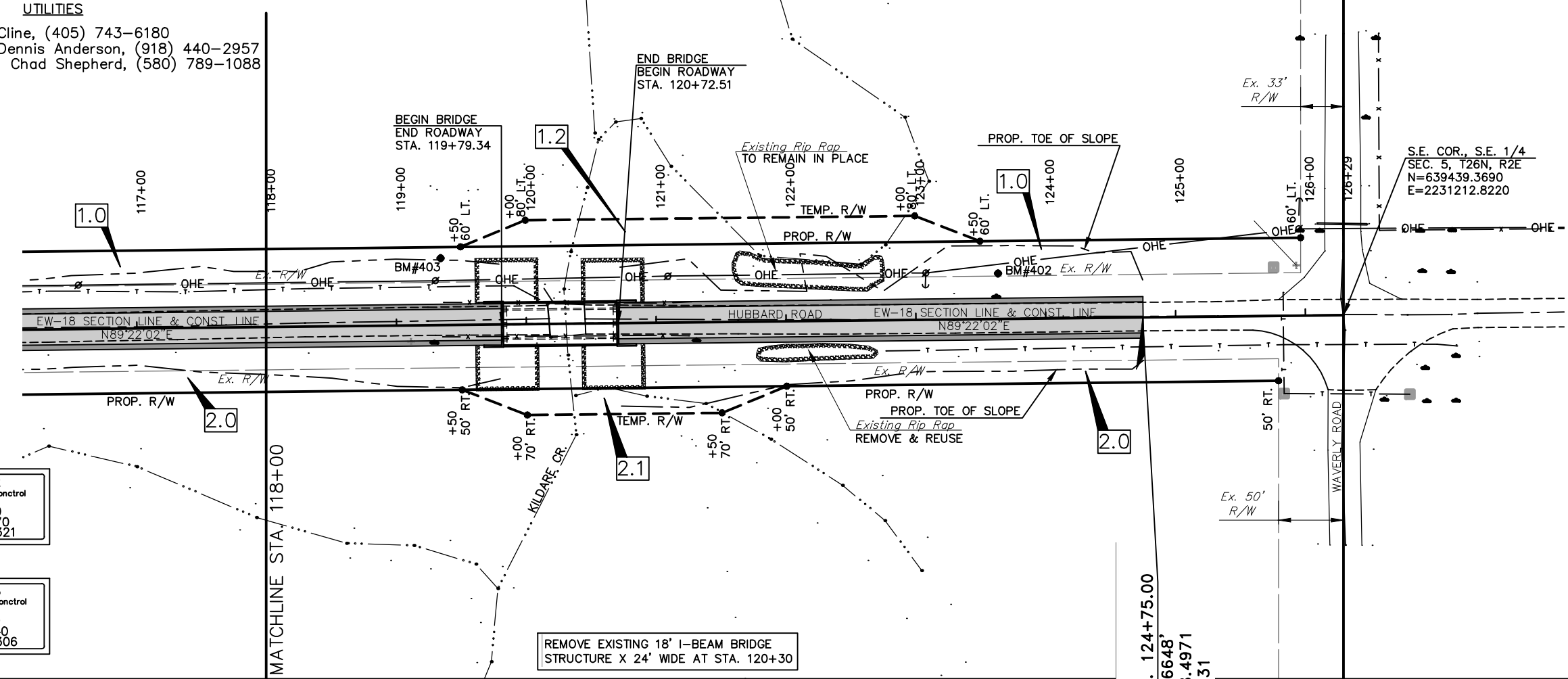


UTILITIES
 AT&T - Rod Cline, (405) 743-6180
 Cable One - Dennis Anderson, (918) 440-2957
 Kay Electric - Chad Shepherd, (580) 789-1088

DESCRIPTION	REVISIONS	DATE



- LEGEND**
- PROPOSED ASPHALT PAVEMENT
 - PROPOSED ASPHALT SHOULDER
 - PROPOSED T.B.S.C.

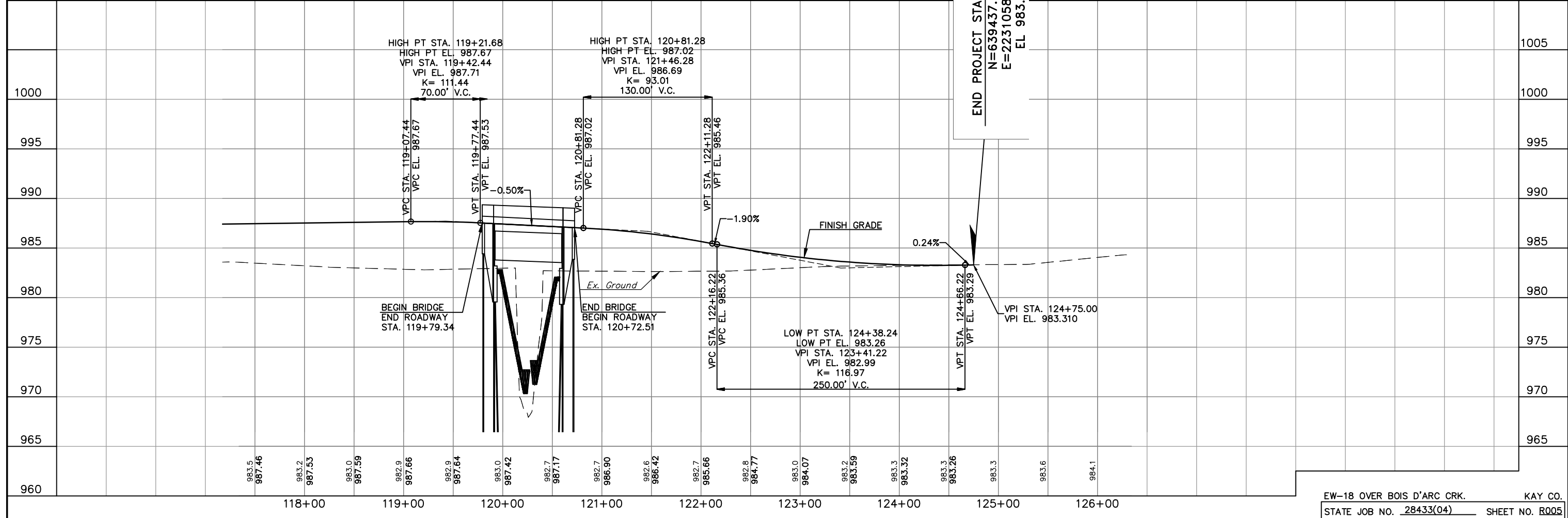


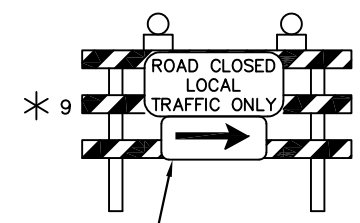
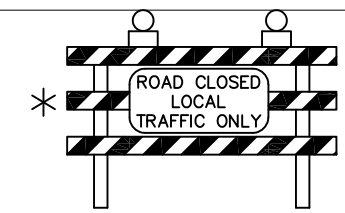
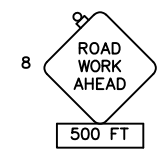
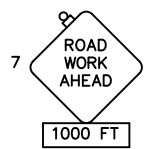
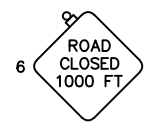
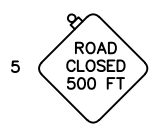
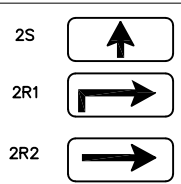
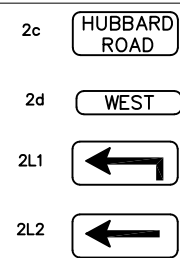
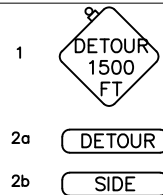
Benchmark #402
 Set 1/2" Iron Pin W/ Control Cap
 N=639471.4240
 E=2230946.7070
 Elevation=983.321

Benchmark #403
 Set 1/2" Iron Pin W/ Control Cap
 N=639483.1810
 E=2230517.4040
 Elevation=982.306

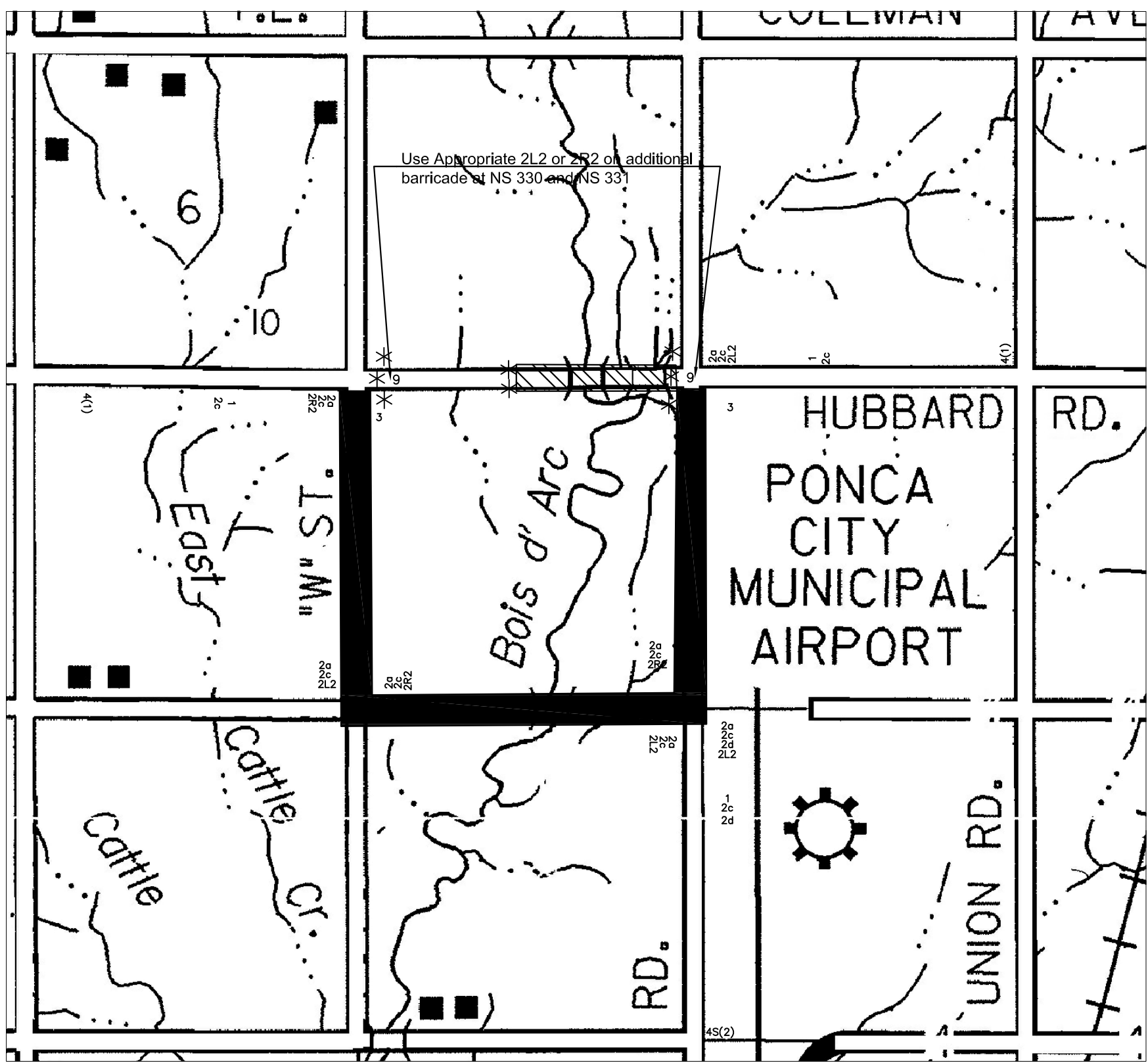
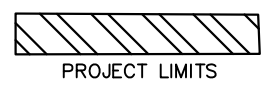
REMOVE EXISTING 18' I-BEAM BRIDGE
 STRUCTURE X 24' WIDE AT STA. 120+30

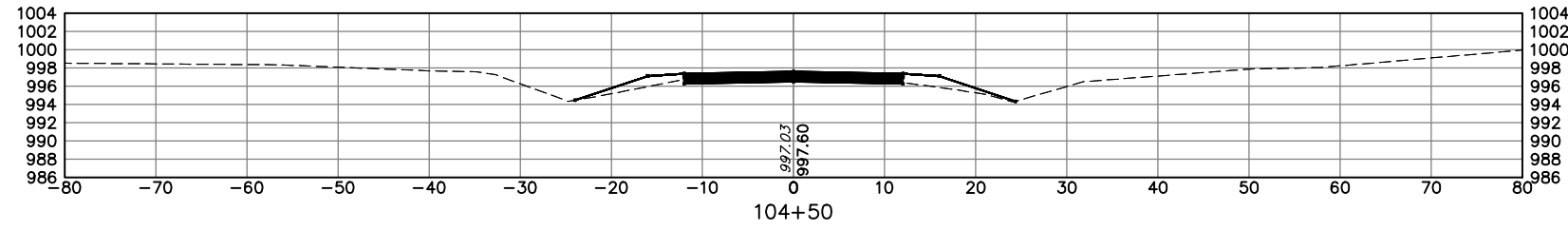
END PROJECT STA. 124+75.00
 N=639437.6648
 E=2231058.4971
 EL 983.31



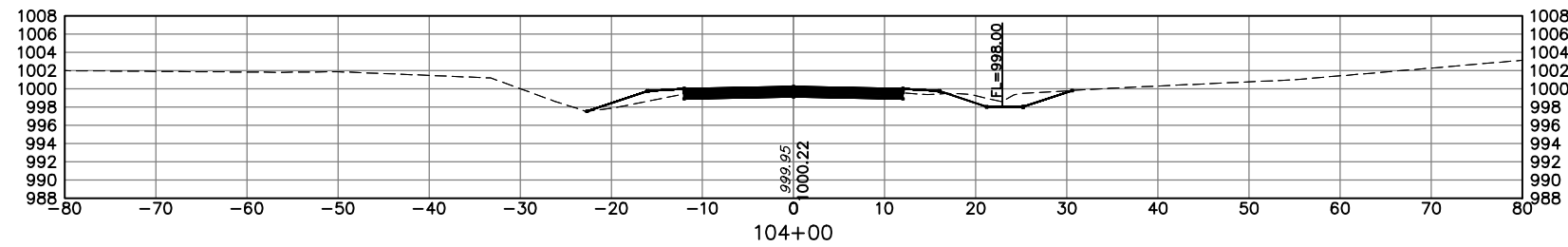


Use Appropriate 2L2 or 2R2 on additional barricade at NS 330 and NS 331

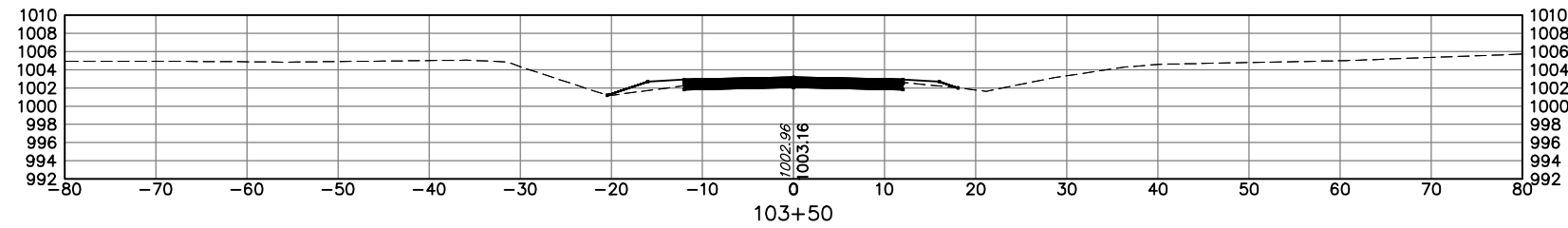




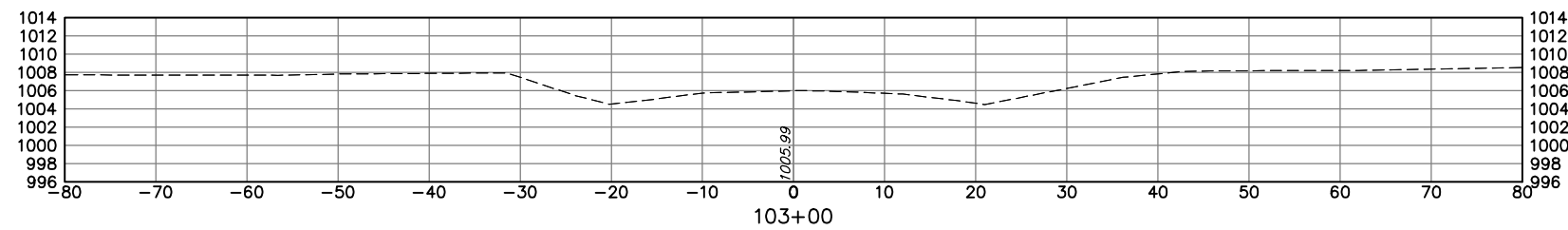
Total Volume at Station 104+50.00	
Cut Area	16.91
Fill Area	32.72
Cut Vol	25.32
Fill Vol	51.64



Total Volume at Station 104+00.00	
Cut Area	10.44
Fill Area	23.04
Cut Vol	9.66
Fill Vol	34.05

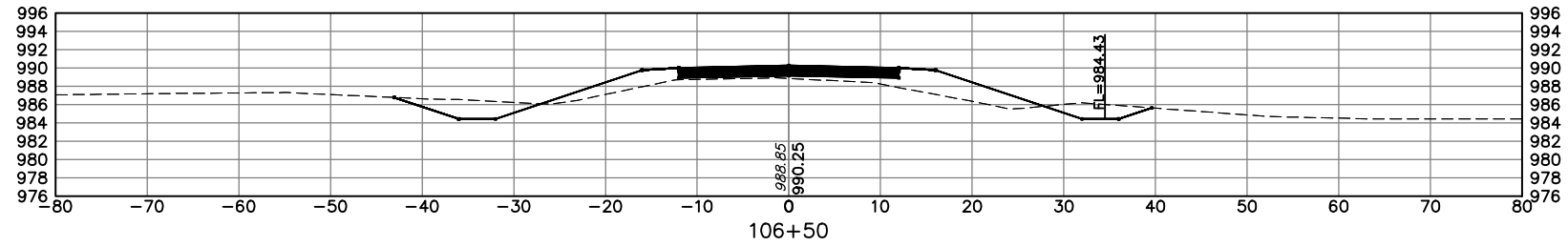


Total Volume at Station 103+50.00	
Cut Area	0.00
Fill Area	13.73
Cut Vol	0.00
Fill Vol	12.72

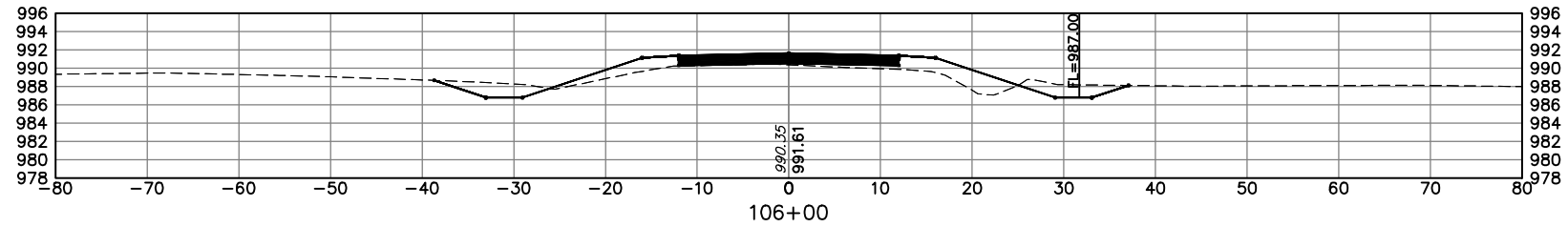


Total Volume at Station 103+00.00	
Cut Area	0.00
Fill Area	0.00
Cut Vol	0.00
Fill Vol	0.00

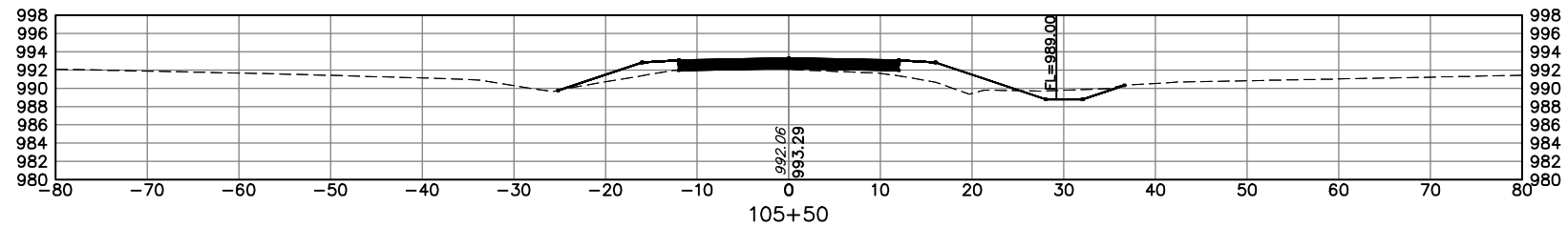
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X001



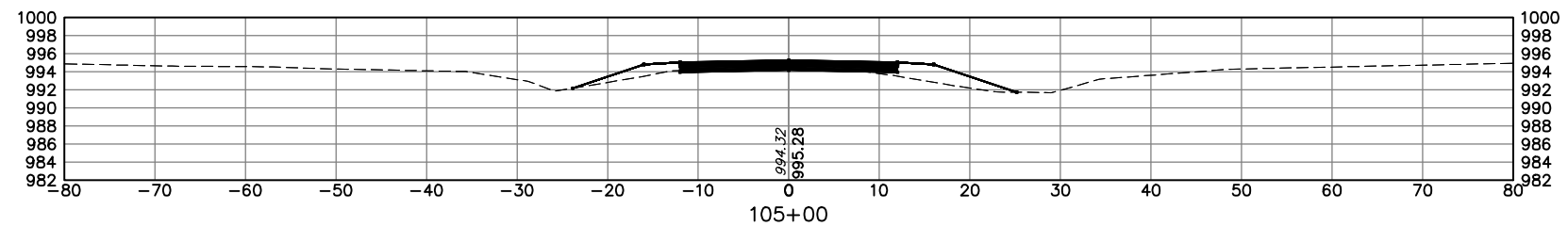
Total Volume at Station 106+50.00	
Cut Area	32.79
Fill Area	82.67
Cut Vol	54.73
Fill Vol	136.96



Total Volume at Station 106+00.00	
Cut Area	26.32
Fill Area	65.24
Cut Vol	35.23
Fill Vol	118.21



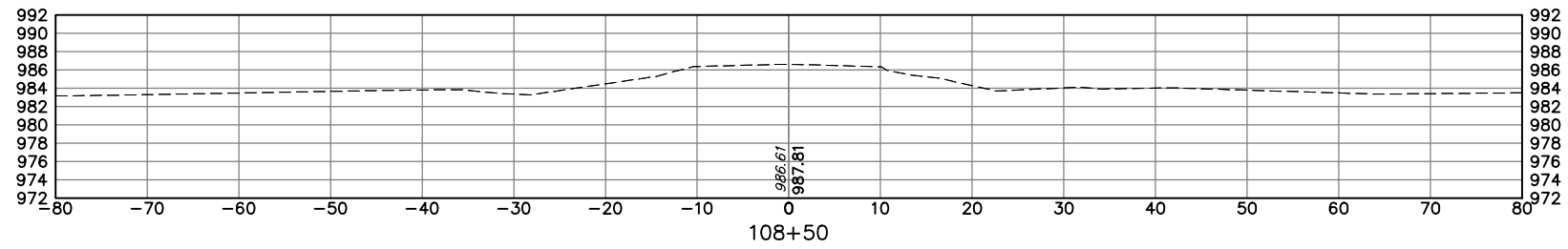
Total Volume at Station 105+50.00	
Cut Area	11.73
Fill Area	62.43
Cut Vol	18.07
Fill Vol	106.47



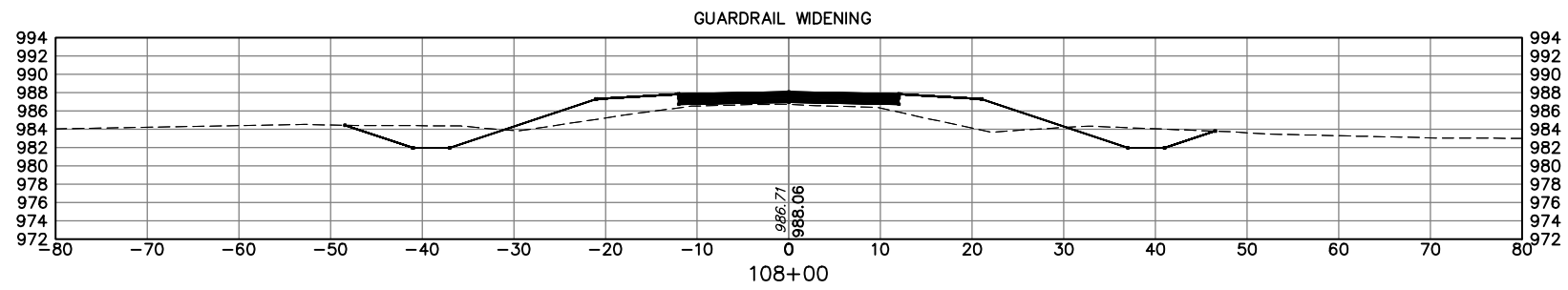
Total Volume at Station 105+00.00	
Cut Area	7.79
Fill Area	52.55
Cut Vol	22.87
Fill Vol	78.96

DESIGN	TDS	5/15	EW 18	CROSS SECTIONS	KAY CO.
DRAWN					
CHECKED					
APPROVED	TDS	5/17			
SQUAD					

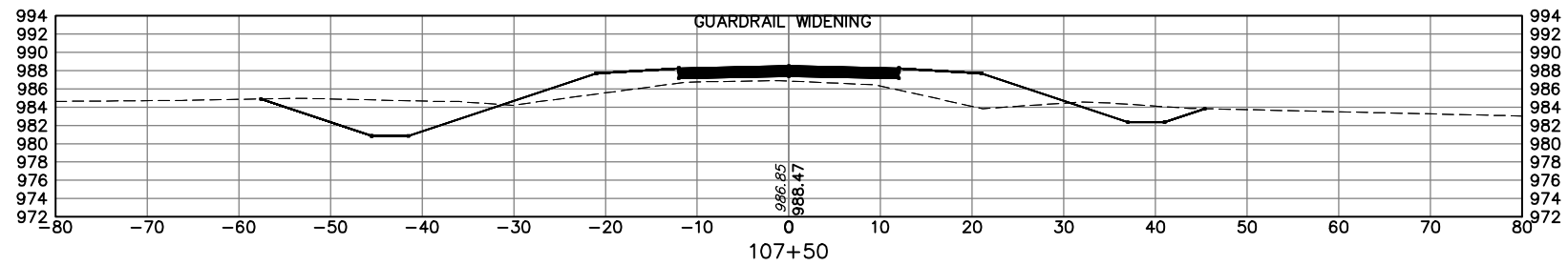
J/P 28433(04) SHEET NO. X002



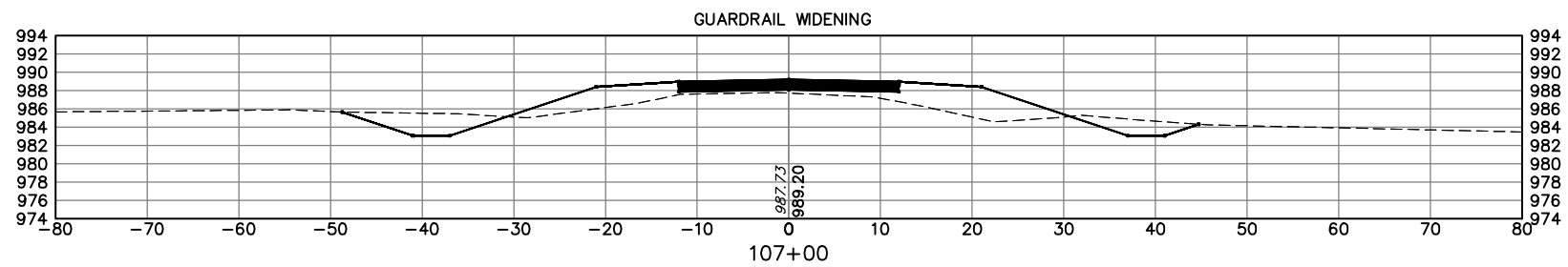
Total Volume at Station 108+50.00	
Cut Area	45.34
Fill Area	104.22
Cut Vol	86.58
Fill Vol	192.74



Total Volume at Station 108+00.00	
Cut Area	48.17
Fill Area	103.94
Cut Vol	116.56
Fill Vol	204.70

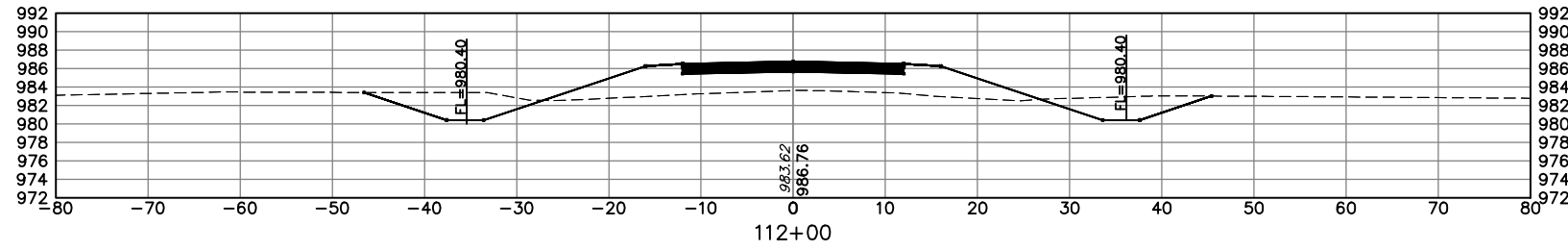


Total Volume at Station 107+50.00	
Cut Area	77.72
Fill Area	117.13
Cut Vol	111.19
Fill Vol	212.47

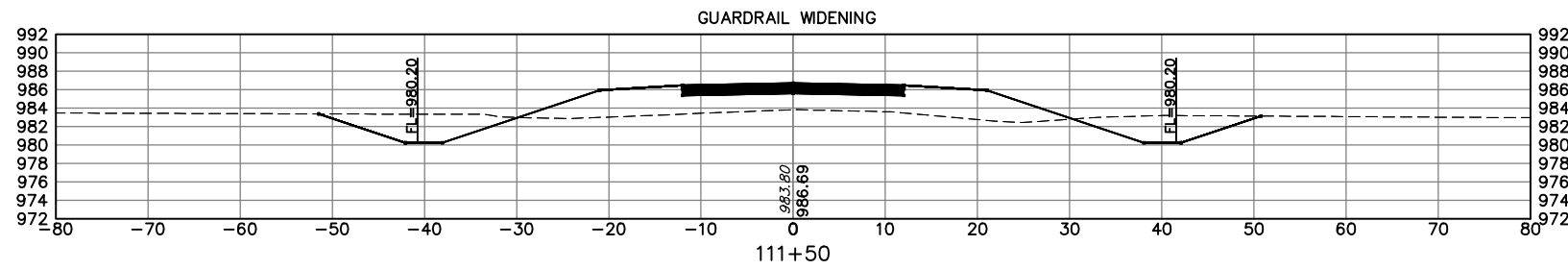


Total Volume at Station 107+00.00	
Cut Area	42.37
Fill Area	112.34
Cut Vol	69.59
Fill Vol	180.57

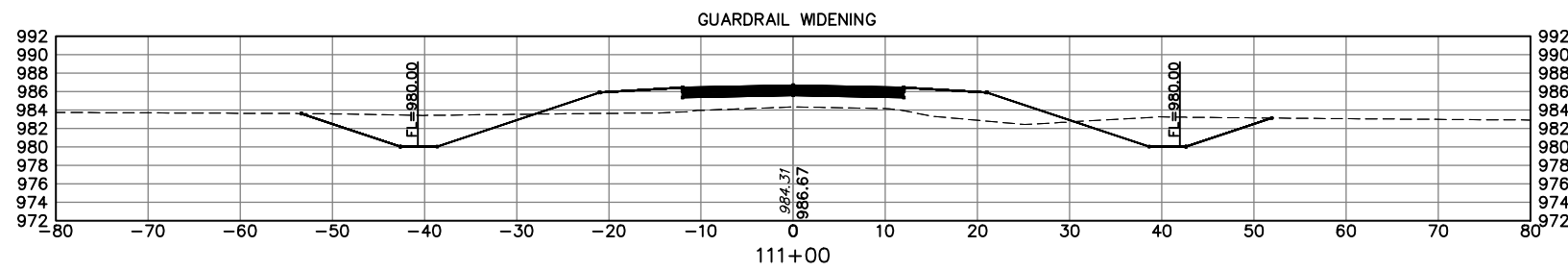
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X003



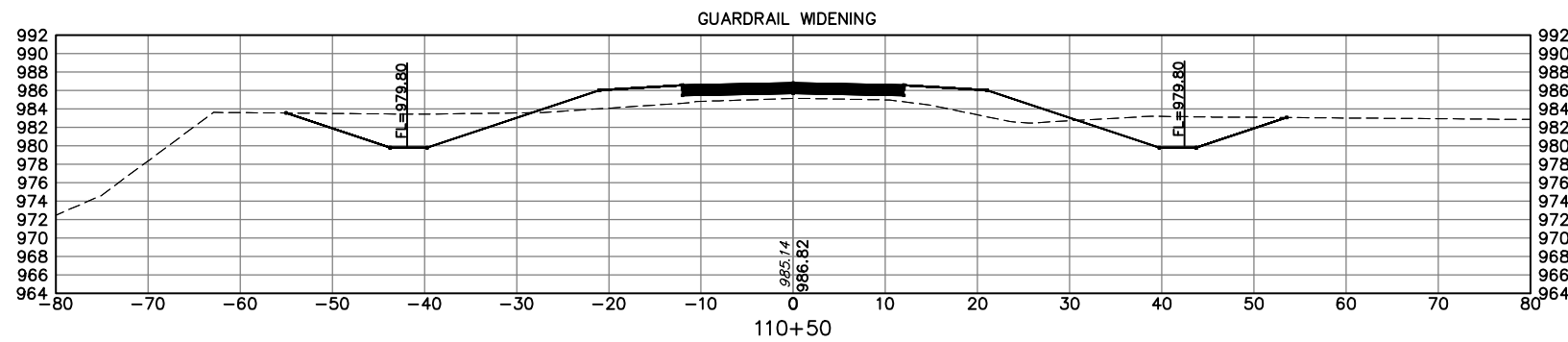
Total Volume at Station 112+00.00	
Cut Area	62.93
Fill Area	140.80
Cut Vol	129.01
Fill Vol	275.04



Total Volume at Station 111+50.00	
Cut Area	76.40
Fill Area	156.24
Cut Vol	154.58
Fill Vol	265.65

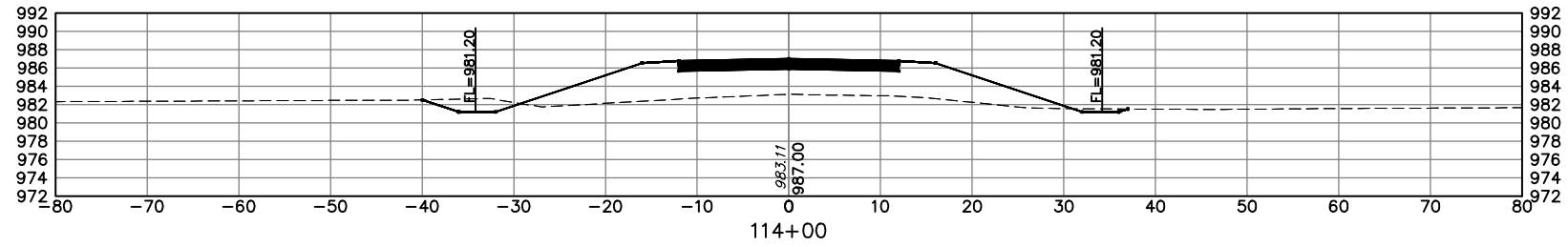


Total Volume at Station 111+00.00	
Cut Area	90.55
Fill Area	130.66
Cut Vol	160.18
Fill Vol	216.64

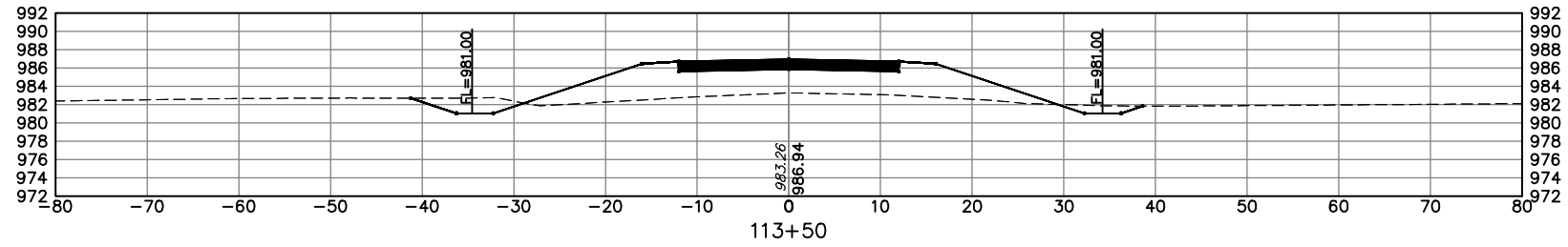


Total Volume at Station 110+50.00	
Cut Area	82.45
Fill Area	103.31
Cut Vol	122.41
Fill Vol	272.45

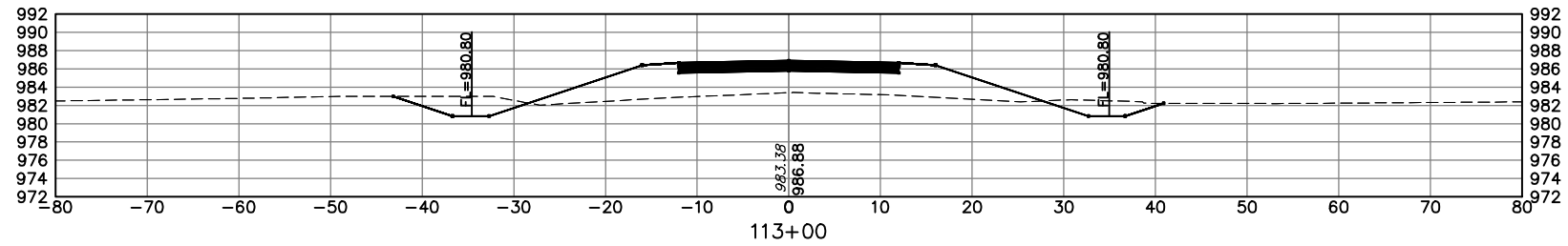
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X004



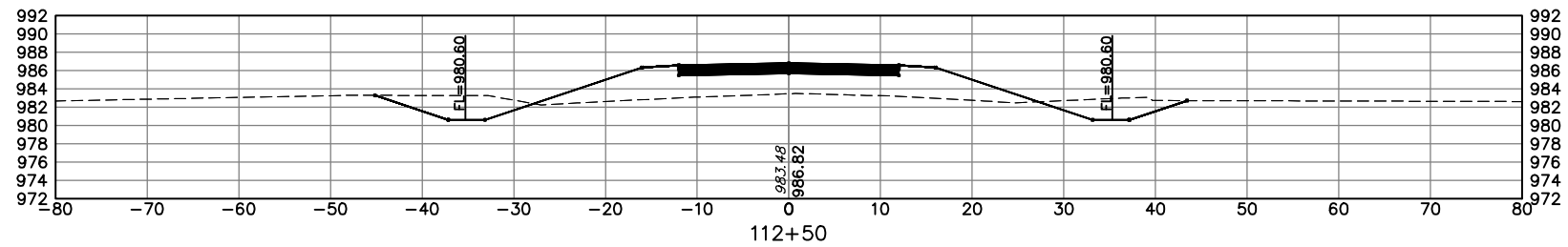
Total Volume at Station 114+00.00	
Cut Area	12.24
Fill Area	187.66
Cut Vol	29.23
Fill Vol	333.83



Total Volume at Station 113+50.00	
Cut Area	19.33
Fill Area	172.87
Cut Vol	50.10
Fill Vol	309.18



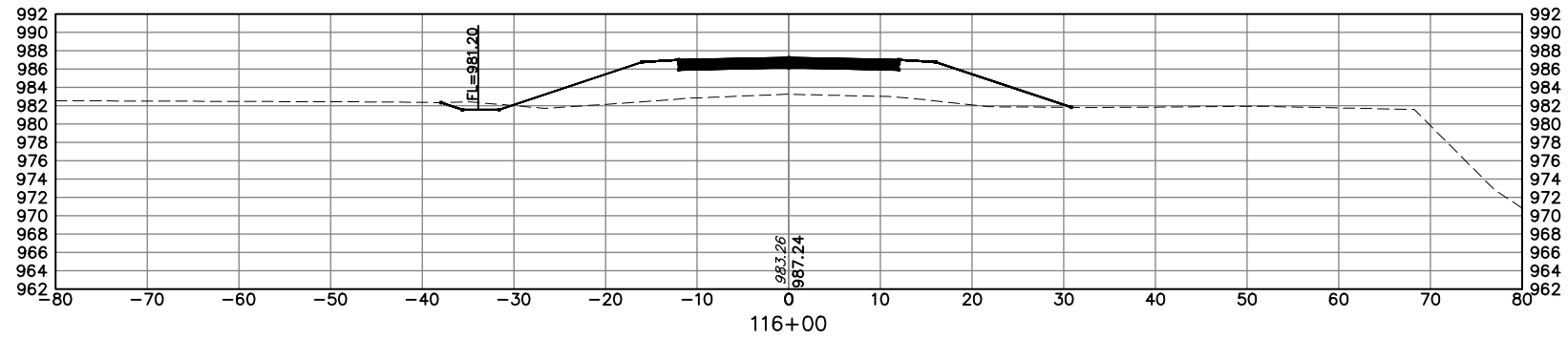
Total Volume at Station 113+00.00	
Cut Area	34.78
Fill Area	161.04
Cut Vol	80.20
Fill Vol	288.68



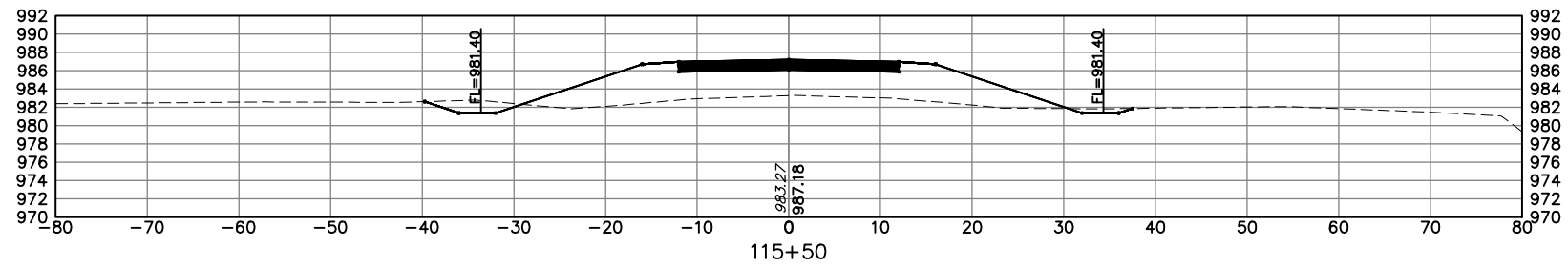
Total Volume at Station 112+50.00	
Cut Area	51.84
Fill Area	150.74
Cut Vol	106.27
Fill Vol	269.94

DESIGN	TDS	5/15	EW 18
DRAWN			
CHECKED			
APPROVED	TDS	5/17	
SQUAD			

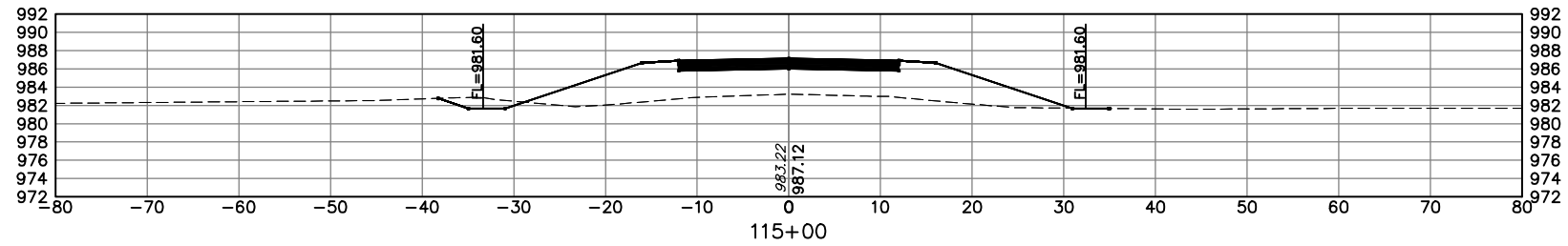
DESCRIPTION	REVISIONS	DATE



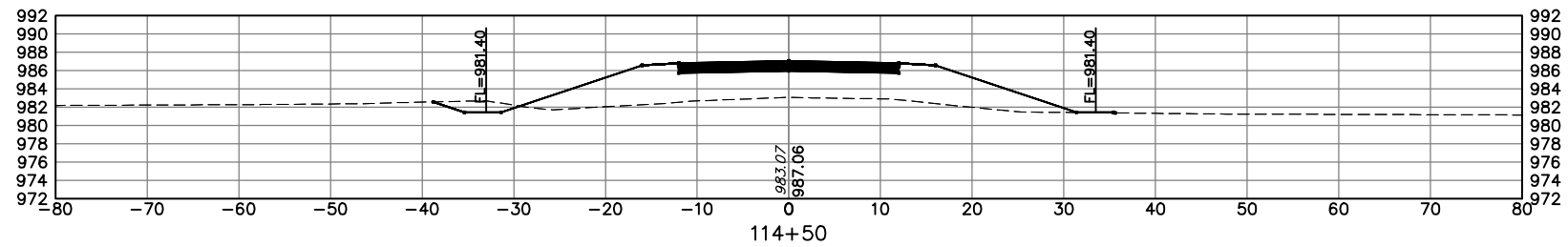
Total Volume at Station 116+00.00	
Cut Area	4.39
Fill Area	199.41
Cut Vol	15.31
Fill Vol	362.88



Total Volume at Station 115+50.00	
Cut Area	12.15
Fill Area	192.51
Cut Vol	18.08
Fill Vol	355.92

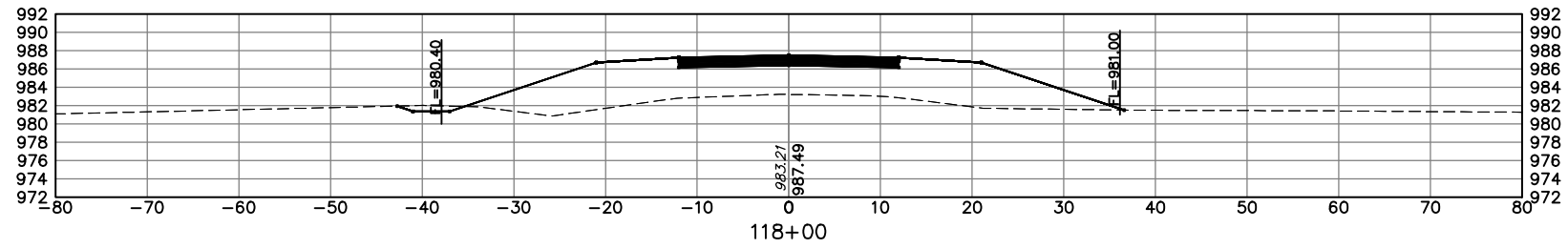


Total Volume at Station 115+00.00	
Cut Area	7.38
Fill Area	191.89
Cut Vol	14.04
Fill Vol	360.51

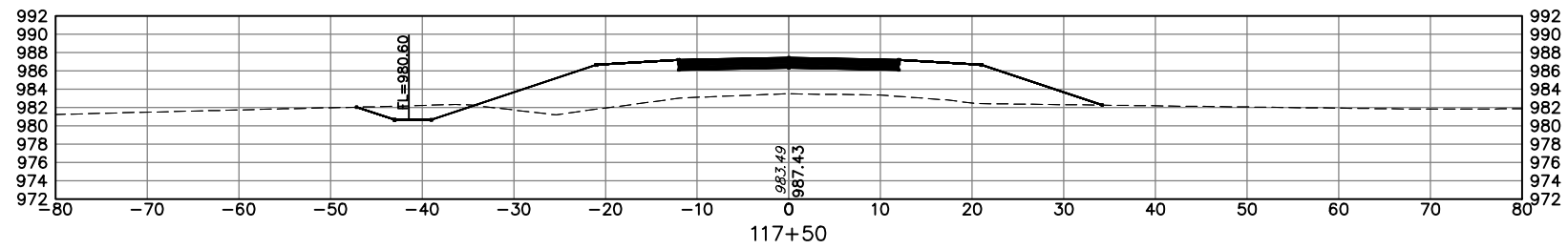


Total Volume at Station 114+50.00	
Cut Area	7.79
Fill Area	197.47
Cut Vol	18.55
Fill Vol	356.60

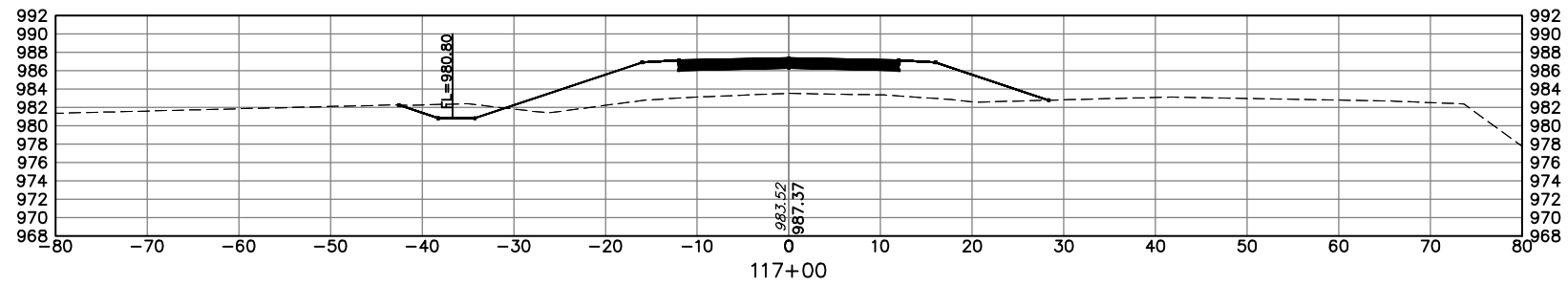
DESIGN	TDS	5/15	EW 18
DRAWN			
CHECKED			
APPROVED	TDS	5/17	
SQUAD			



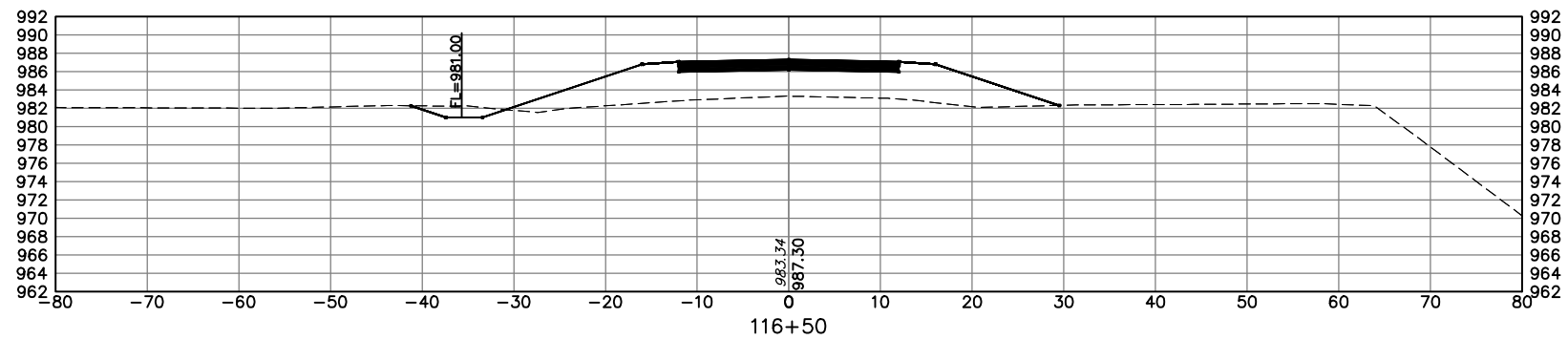
Total Volume at Station 118+00.00	
Cut Area	3.44
Fill Area	269.62
Cut Vol	15.44
Fill Vol	469.94



Total Volume at Station 117+50.00	
Cut Area	13.23
Fill Area	237.92
Cut Vol	23.41
Fill Vol	395.23

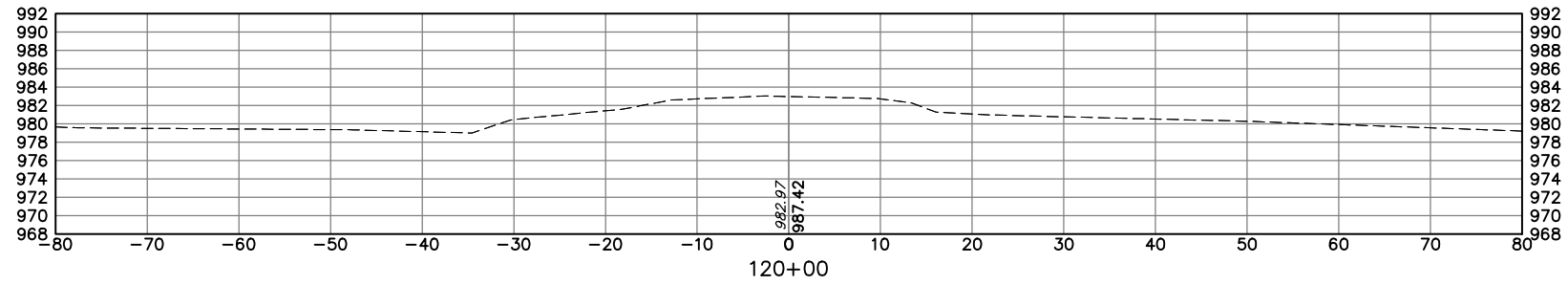


Total Volume at Station 117+00.00	
Cut Area	12.05
Fill Area	188.93
Cut Vol	19.03
Fill Vol	356.35

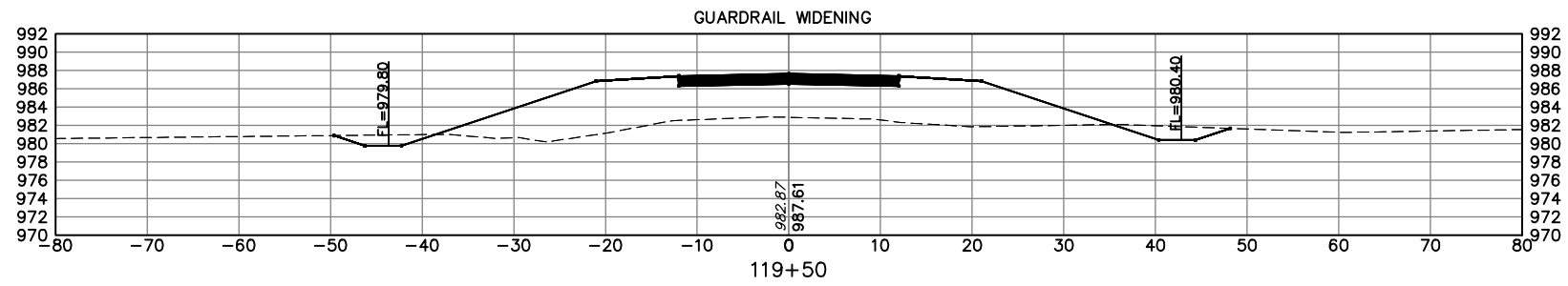


Total Volume at Station 116+50.00	
Cut Area	8.50
Fill Area	195.93
Cut Vol	11.93
Fill Vol	366.06

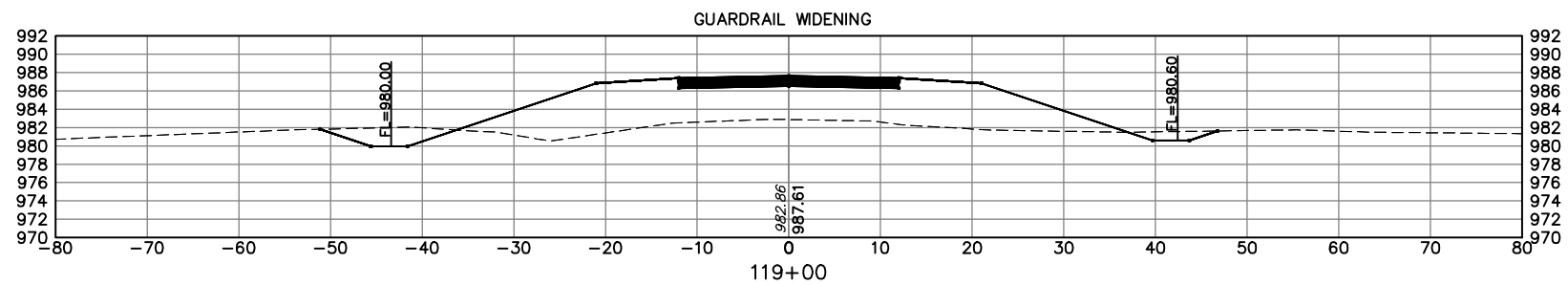
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X007



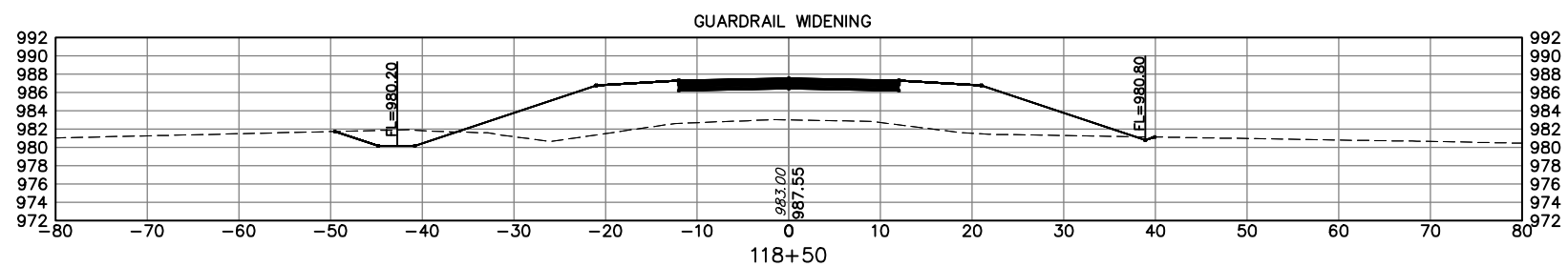
Total Volume at Station 120+00.00	
Cut Area	17.09
Fill Area	333.06
Cut Vol	35.79
Fill Vol	586.67



Total Volume at Station 119+50.00	
Cut Area	21.56
Fill Area	300.54
Cut Vol	43.74
Fill Vol	551.69

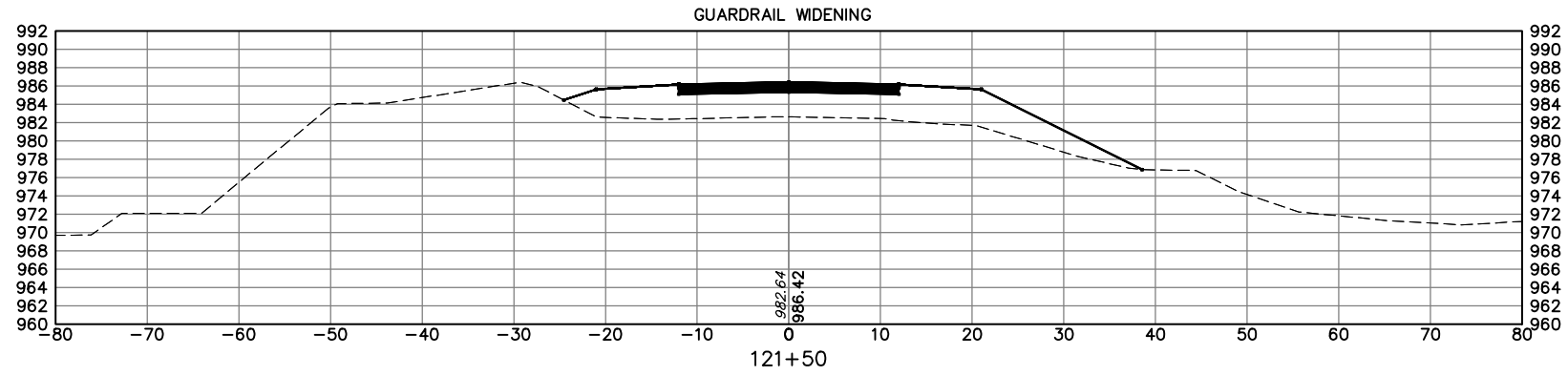


Total Volume at Station 119+00.00	
Cut Area	25.68
Fill Area	295.29
Cut Vol	37.79
Fill Vol	543.36

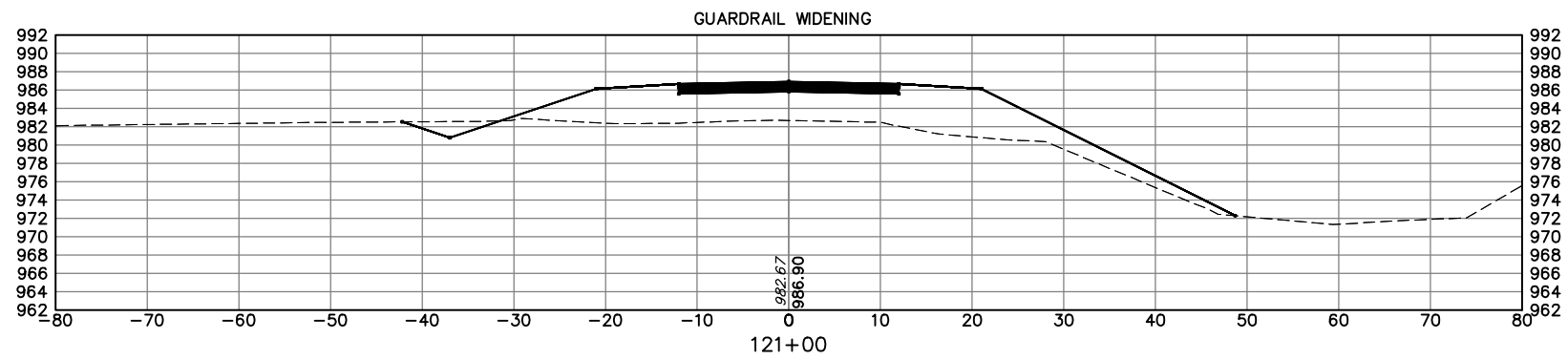


Total Volume at Station 118+50.00	
Cut Area	15.13
Fill Area	291.54
Cut Vol	17.20
Fill Vol	519.59

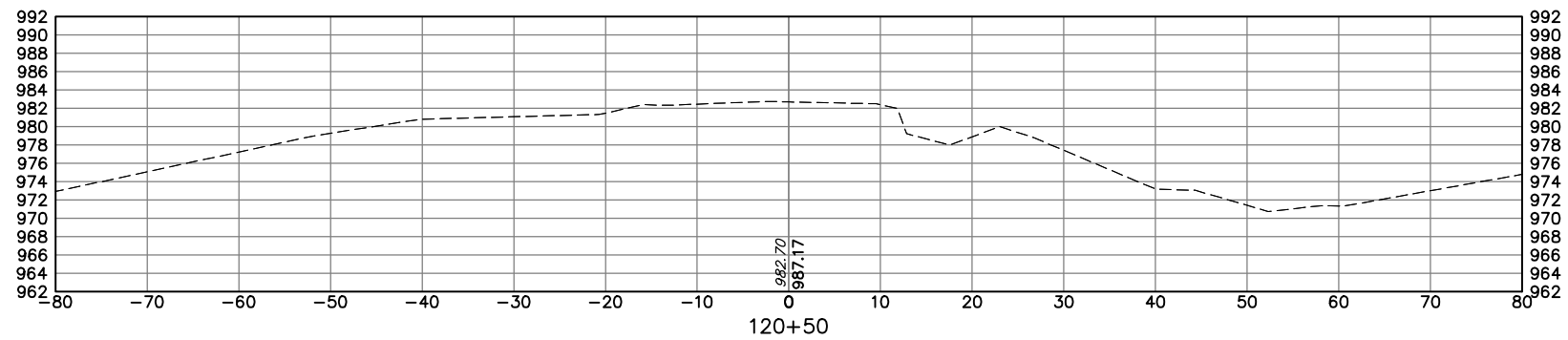
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X008



Total Volume at Station 121+50.00	
Cut Area	110.10
Fill Area	224.25
Cut Vol	110.61
Fill Vol	449.33

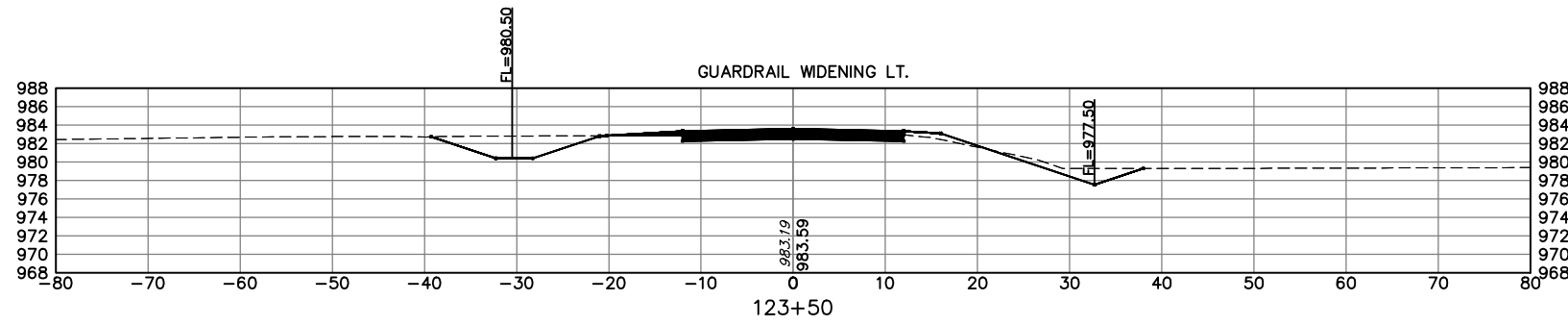


Total Volume at Station 121+00.00	
Cut Area	9.35
Fill Area	261.03
Cut Vol	8.66
Fill Vol	698.23

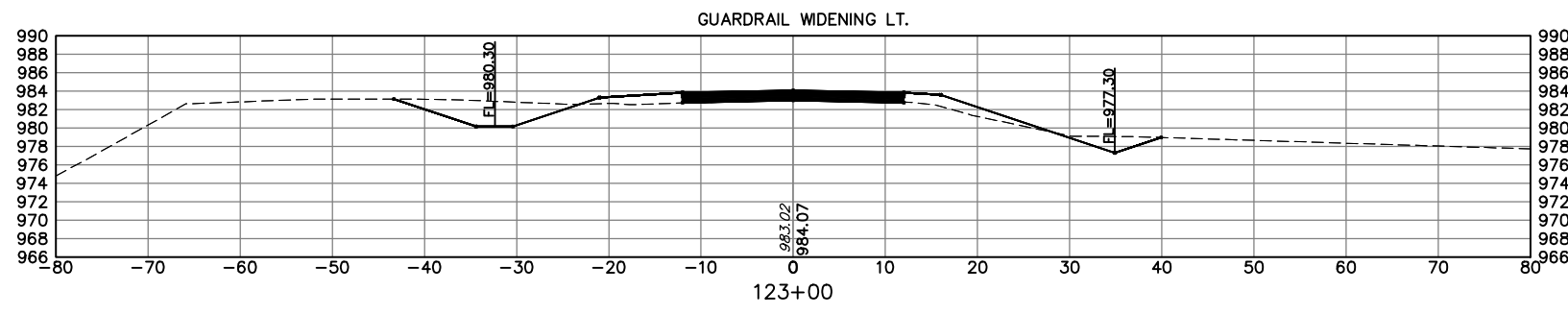


Total Volume at Station 120+50.00	
Cut Area	0.00
Fill Area	493.06
Cut Vol	15.83
Fill Vol	764.92

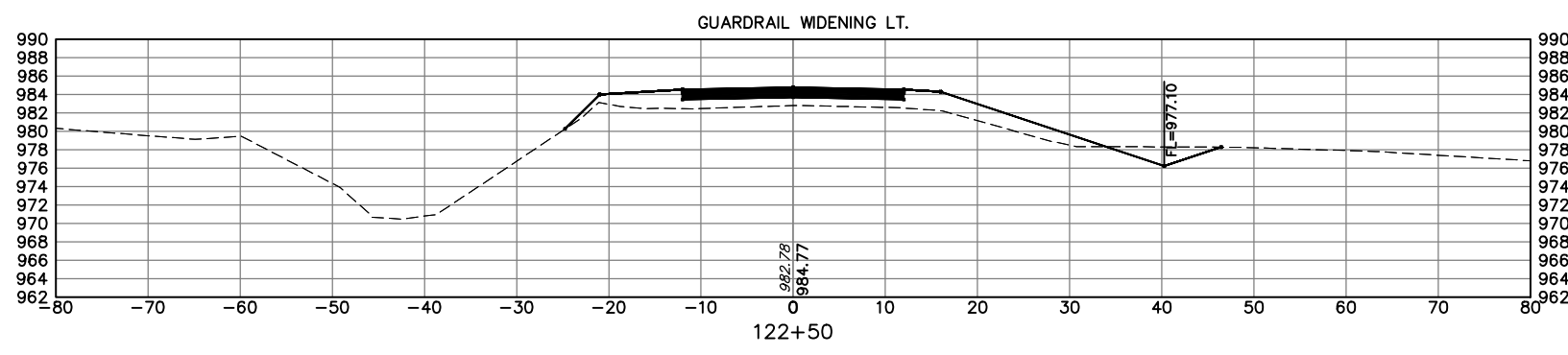
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X009



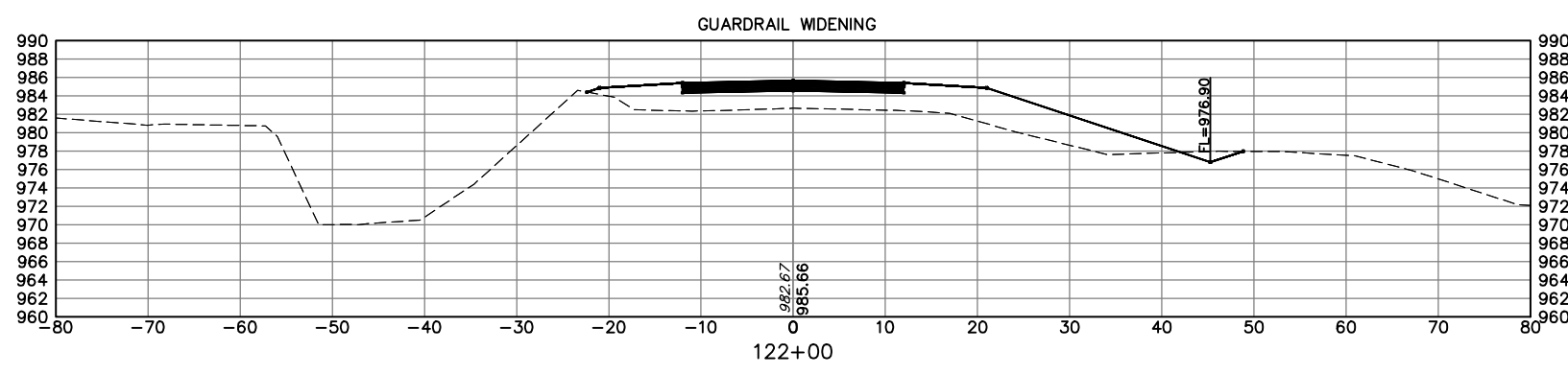
Total Volume at Station 123+50.00	
Cut Area	40.42
Fill Area	15.09
Cut Vol	123.94
Fill Vol	57.97



Total Volume at Station 123+00.00	
Cut Area	93.44
Fill Area	47.52
Cut Vol	165.94
Fill Vol	157.32



Total Volume at Station 122+50.00	
Cut Area	85.78
Fill Area	122.39
Cut Vol	140.51
Fill Vol	413.42

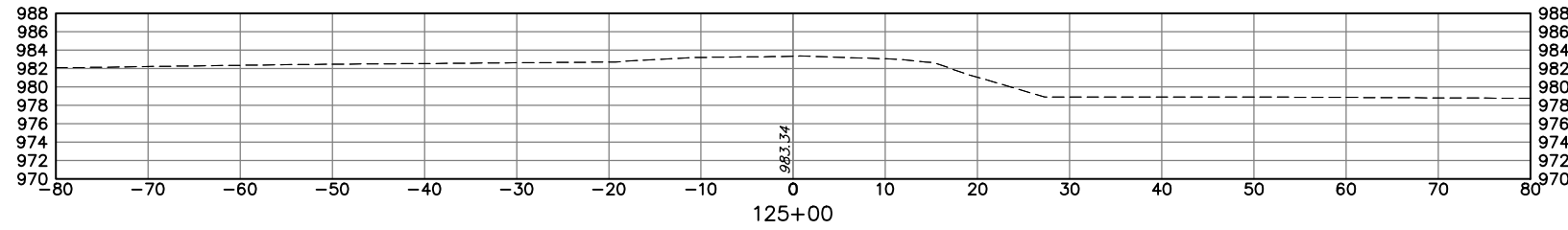


Total Volume at Station 122+00.00	
Cut Area	65.97
Fill Area	324.10
Cut Vol	163.04
Fill Vol	507.73

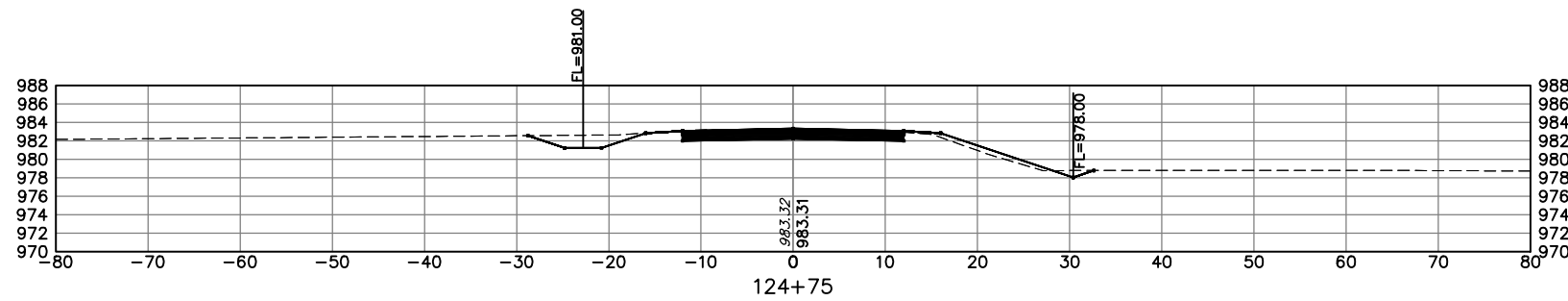
DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				
CHECKED				
APPROVED	TDS	5/17		
SQUAD				

CROSS SECTIONS

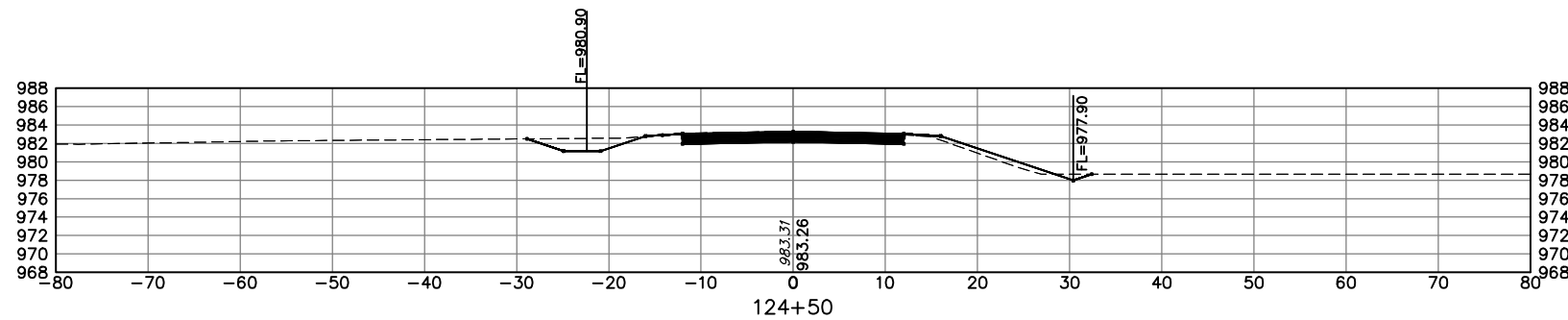
J/P 28433(04) SHEET NO. X010



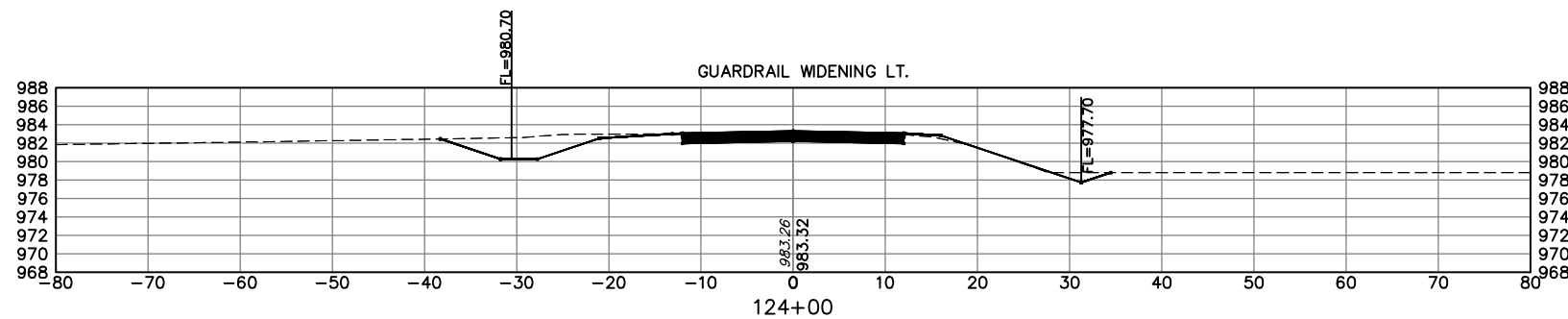
Total Volume at Station 125+00.00	
Cut Area	0.00
Fill Area	0.00
Cut Vol	6.27
Fill Vol	3.18



Total Volume at Station 124+75.00	
Cut Area	13.54
Fill Area	6.87
Cut Vol	13.06
Fill Vol	6.39



Total Volume at Station 124+50.00	
Cut Area	14.68
Fill Area	6.93
Cut Vol	43.38
Fill Vol	9.57



Total Volume at Station 124+00.00	
Cut Area	32.17
Fill Area	3.41
Cut Vol	67.21
Fill Vol	17.12

DESIGN	TDS	5/15	EW 18	KAY CO.
DRAWN				CROSS SECTIONS
CHECKED				
APPROVED	TDS	5/17		
SQUAD				
				J/P 28433(04) SHEET NO. X011