

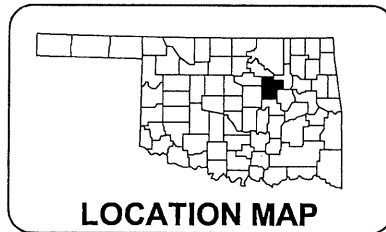
STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY

PROJ. NO. STP-219B(054)SS
BRIDGE AND APPROACHES
SH 48 OVER CIMARRON RIVER
CREEK COUNTY
STATE JOB NO. 27925(04)
CONTROL SECTION NO. 48-19-13

BRIDGE "A" LOCATION NO. 1913 1977X
EXISTING NBI NO. 15584 NEW NBI NO. 31951

SEE SURVEY DATA SHEETS FOR
SURVEY CONTROL DATA



DESIGN DATA

ADT 2017	2,500
ADT 2037	3,700
K	11%
D	60%
T(AADT)	10%
T(DHV)	8%
T3	5%
V	65 MPH
(20)FLEX ESAL'S	1.5M

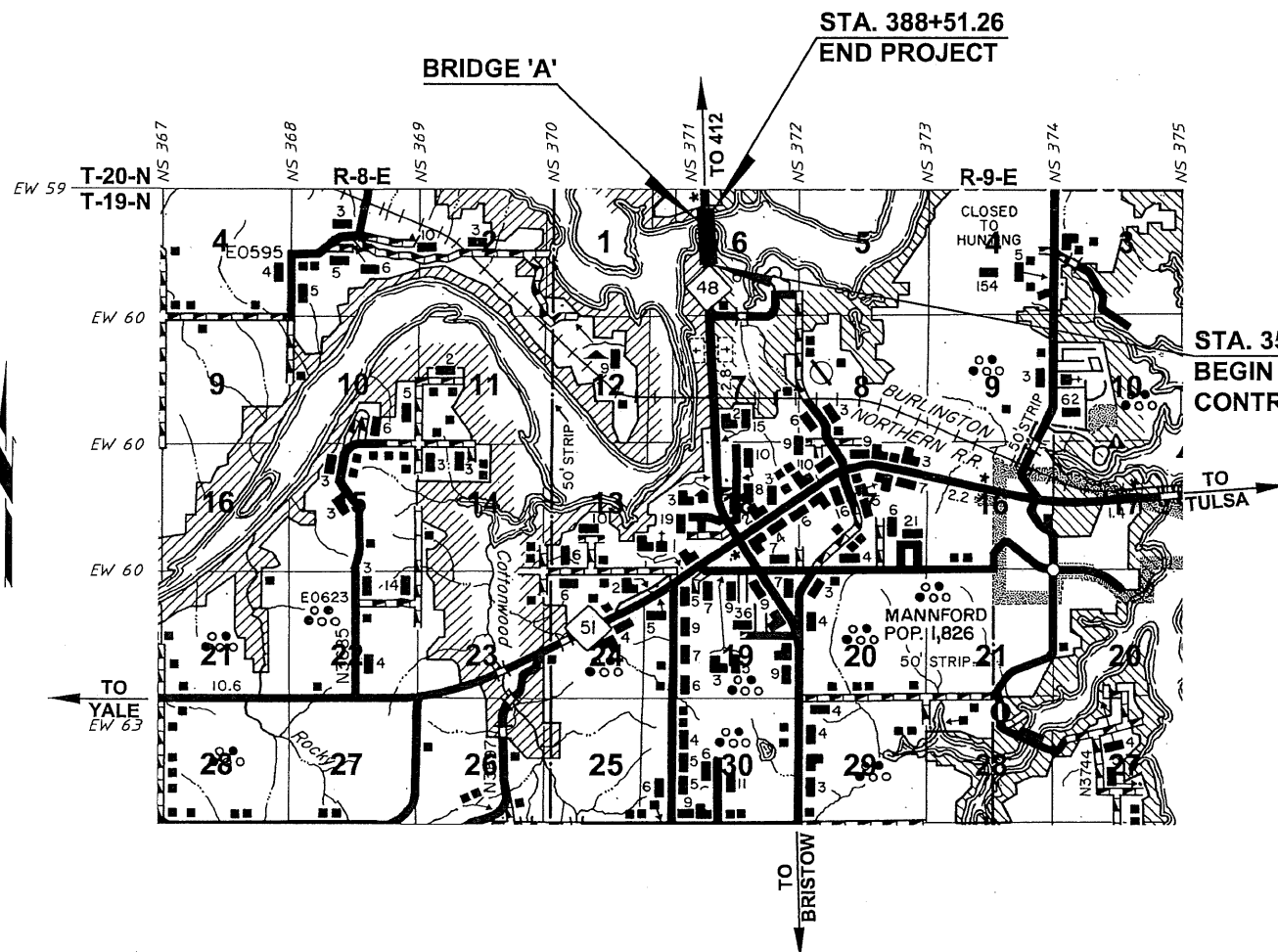
BRIDGE 'A'
BEGIN STA. 371+57.87
END STA. 379+59.54
LENGTH 801.67 FT.

SCALES

PLAN	1:50
PROFILE	1:10
HORIZONTAL	1:50
VERTICAL	1:5

LEGEND

	PROPOSED ROADS
	SECTION LINES
	QUARTER SECTION LINES
	FENCES (EXISTING)
	EXISTING GRADE
	EXISTING ROADS
	EXISTING INDEX CONTOURS
	EXISTING INTERMEDIATE CONTOURS
	BASE LINE
	PROPOSED GRADE
	UNDERGROUND TELEPHONE LINES (EXISTING)
	UNDERGROUND FIBER OPTIC CABLE (EXISTING)
	POWER LINES (EXISTING)
	GAS LINE (EXISTING)
	SANITARY SEWER LINES (EXISTING)
	WATER LINES (EXISTING)
	POWER LINES (PROPOSED)
	GAS LINE (PROPOSED)
	SANITARY SEWER LINES (PROPOSED)
	WATER LINES (PROPOSED)
	BUILDINGS (EXISTING)
	DRAINAGE STRUCTURES (EXISTING)
	DRAINAGE STRUCTURES (PROPOSED)
	RIGHT-OF-WAY LINES (EXISTING)
	RIGHT-OF-WAY LINES (PROPOSED)
	RIGHT-OF-WAY FENCE
	FLOWLINE (EXISTING)
	FLOWLINE (PROPOSED)
	TOE OF SLOPE (EXISTING)



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STANDARDS

THE FOLLOWING ODOT STANDARDS ARE
REQUIRED FOR THIS PROJECT:

TRAFFIC SIGNING	TRAFFIC CONTROL	TRAFFIC SAFETY	ROADWAY	BRIDGE
PM3-1-02	TCS1-1-01	THR1-1-02	SSS-1-1	EJ-SQ-04E
WSD3-1-00	TCS2-1-00	SKT-1-00	TSC2-3-2	EJ-DTL-02E
SBS2-1-00	TCS3-1-01	GA31-1-00	TSO-2-0	HP1-2-01E
SSP1-1-02	TCS4-1-01	GHW1-1-00	ASCD-5-2	LECS-4-1
SSA1-1-00	TCS5-1-00	GHW2-1-00	PSE-1-0	PUD-3-2
FGS2-1-01	TCS6-1-02		DC-3-2	TR4-2-00E
GMS1-1-00	TCS7-1-02			
	TCS8-1-00			
	TCS9-1-01			
	TCS11-1-01			

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

ROADWAY LENGTH _____ 2949.59 FT _____ 0.558 MI
BRIDGE LENGTH _____ 801.67 FT _____ 0.151 MI
TOTAL PROJECT LENGTH _____ 3751.26 FT _____ 0.709 MI

EXCEPTIONS _____ NONE
EQUATIONS _____ NONE

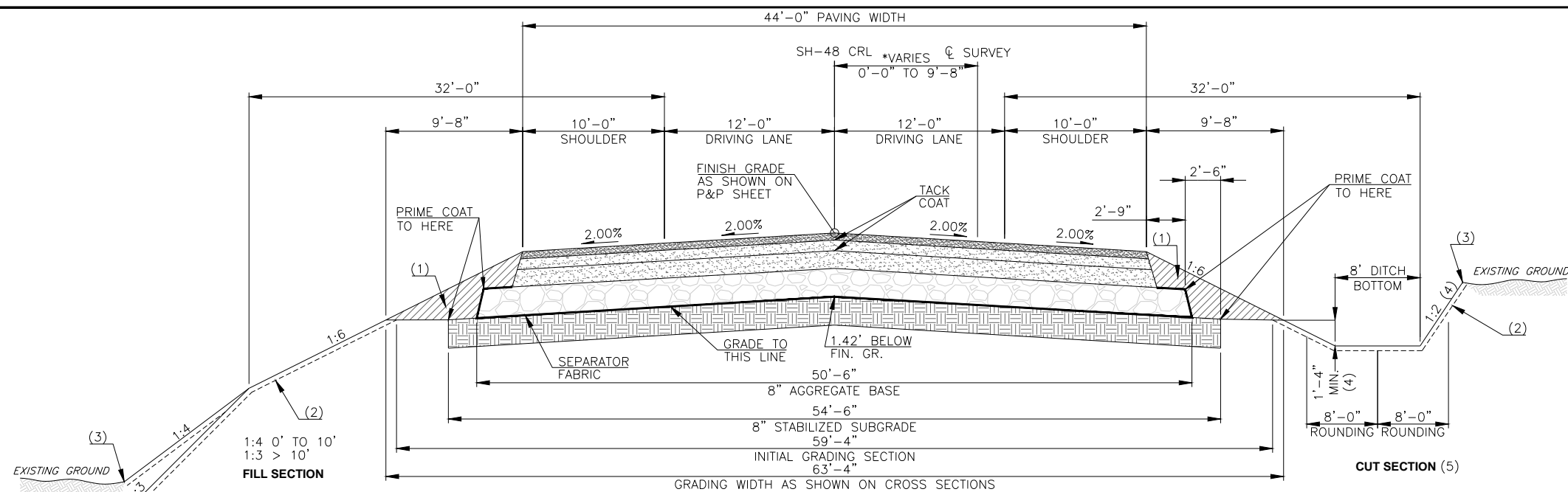
PREPARED BY:
CEC CORPORATION
4555 W. Memorial RD.
Oklahoma City, Oklahoma 73142
(405) 753-4200
C.A. #32 EXPIRES 06/30/18

Ben Knipstein 5-8-17
BENJAMIN J. KNIPSTEIN, P.E.
OKLA. REG. NO. 28081
SHEETS 5-6,25-60. DATE

Shannon N. Hanks 5-8-17
SHANNON N. HANKS, P.E.
OKLA. REG. NO. 21141
SHEETS 1-4,7-24. DATE

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____	DATE APPROVED _____
BY _____ CHIEF ENGINEER	BY _____ DIVISION ADMINISTRATOR
SWO NO. 4994(1)	PROJ. NO. STP-219B(054)SS SHEET NO. 1

DESCRIPTION	REVISIONS	DATE



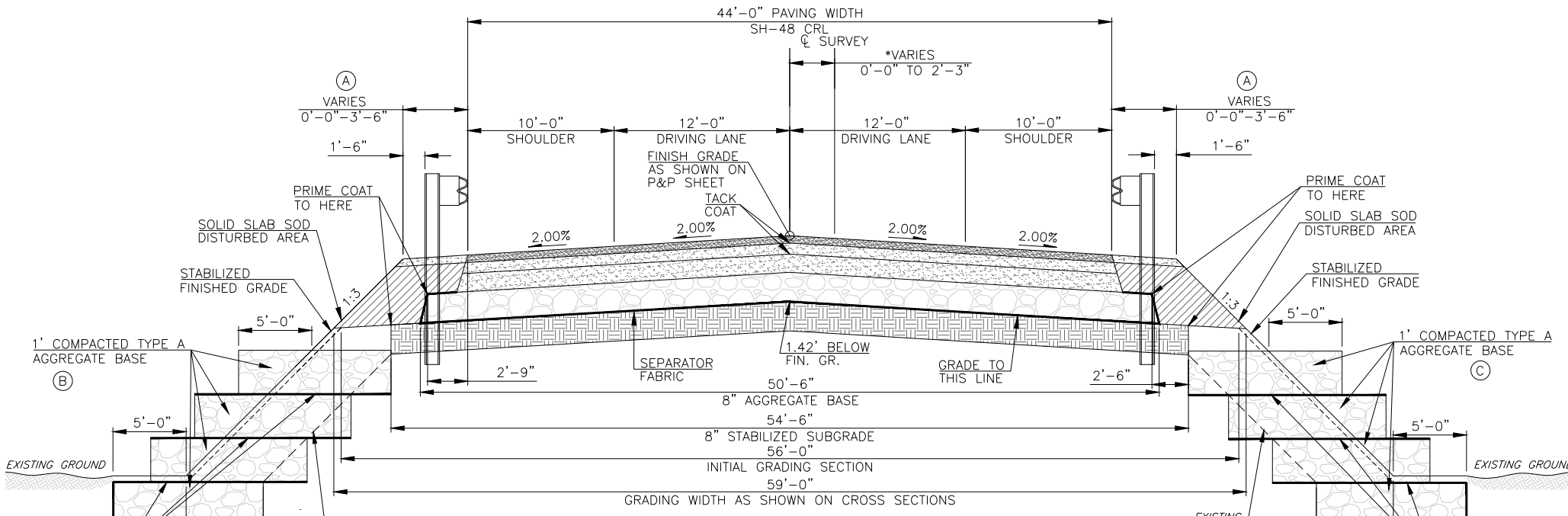
TYPICAL NO. 1

LEFT
 STA. 351+00.00 TO STA. 352+21.62
 STA. 383+20.36 TO STA. 388+51.26

RIGHT
 STA. 351+00.00 TO STA. 351+71.62
 STA. 382+71.13 TO STA. 388+51.26

*STA. 383+20.36 TO STA. 388+51.26 - TRANSITION 9'-8" TO 0'-0"

- (1) BACKFILL NOTE:
THIS AREA TO BE BACKFILLED AND COMPACTED AS A PART OF THE FINISHING OPERATIONS. QUANTITY IS MEASURED IN TBSC TYPE E.
- (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 STANDARD 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 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) SEE ROUNDING DETAIL.
- (4) UNLESS OTHERWISE NOTED ON CROSS SECTIONS.
- (5) TERMINATE THE BACK SLOPE OF THE CUT SECTION IF AND WHEN IT ENCOUNTERS SANDSTONE OUTCROPPINGS.



TYPICAL NO. 2

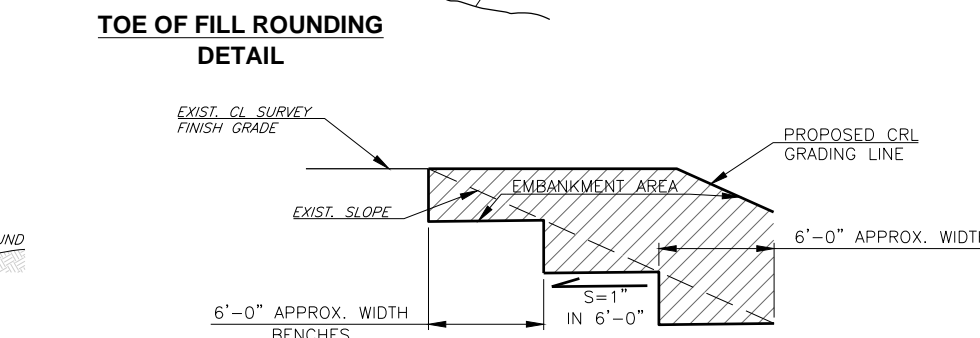
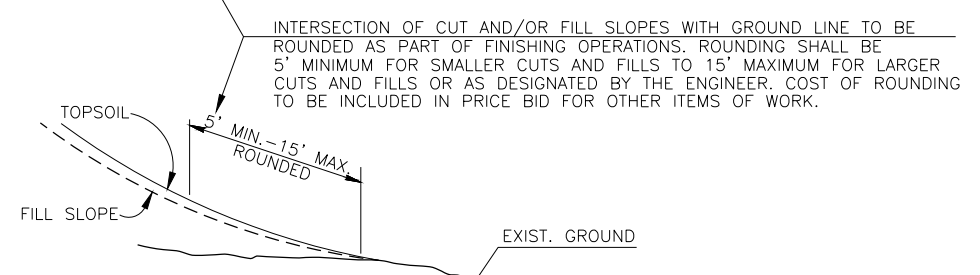
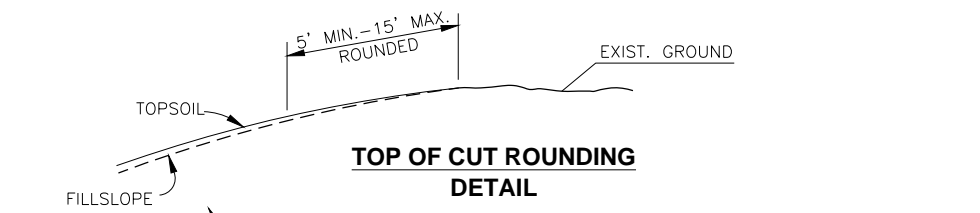
LEFT
 STA. 352+21.62 TO STA. 365+00.00

RIGHT
 STA. 351+71.62 TO STA. 365+00.00

(A) 0'-0" TO 3'-6" FROM STA. 352+21.62 TO STA. 352+71.62
 3'-6" FROM STA. 352+71.62 TO STA. 365+00.00

(A) 0'-0" TO 3'-6" FROM STA. 351+71.62 TO STA. 352+21.62
 3'-6" FROM STA. 352+21.62 TO STA. 365+00.00

*STA. 362+60.29 TO STA. 365+00.00 - TRANSITION 0'-0" TO 2'-3"



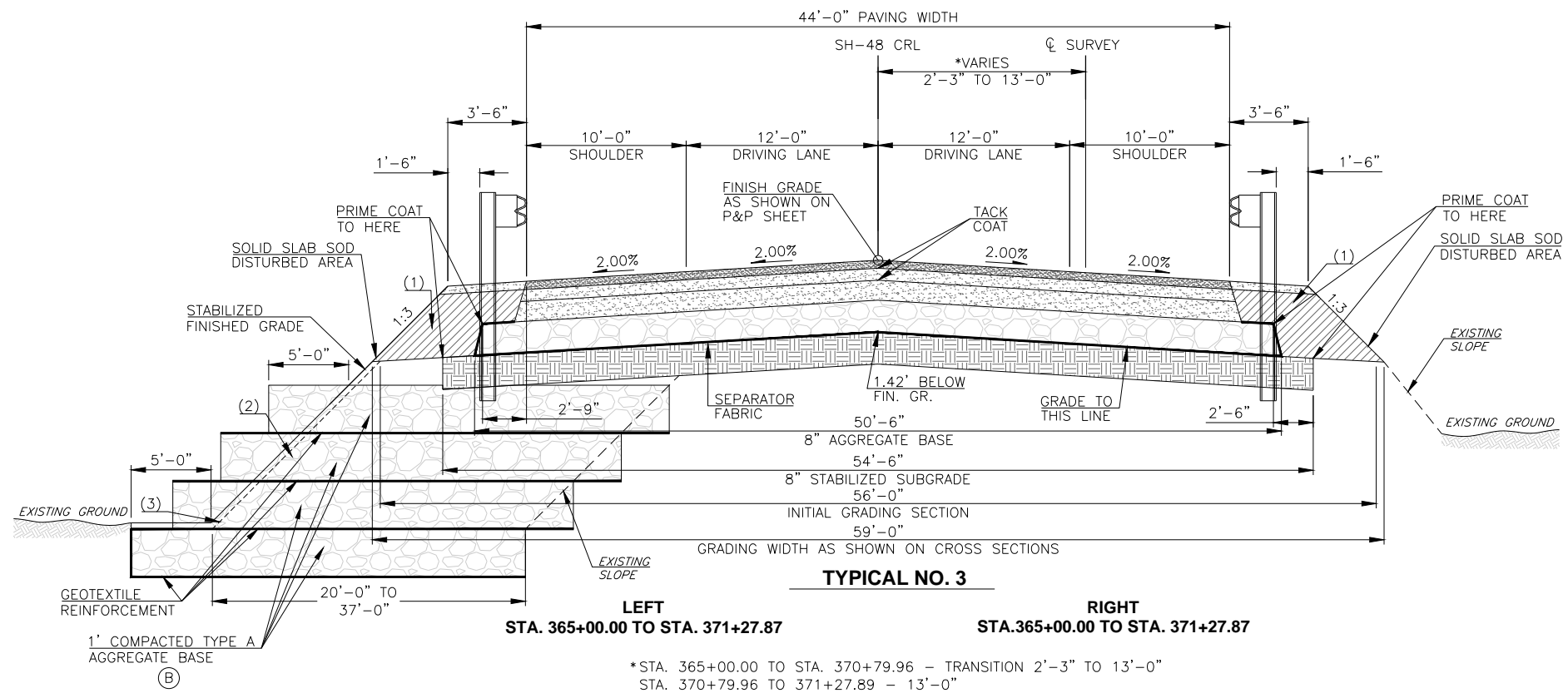
BENCHING DETAIL

EXISTING CL SURVEY SLOPE SHALL BE CONTINUOUSLY BENCHED. BEGINNING AT THE LOWER LIMITS OF THE SLOPE. WIDTH OF BENCH SHALL BE APPROX. 6'-0". BENCHING EXTENTS SHALL BE DETERMINED BY THE ENGINEER. SALVAGE TOPSOIL PRIOR TO BENCHING. BENCHING WILL BE INCLUDED IN OTHER ITEMS OF WORK.

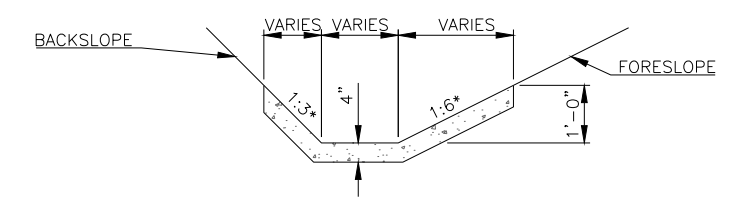
- (B) PLACE GEOTEXTILE AND AGGREGATE STA 359+25.00 TO STA 365+00.00 THROUGH EXTENTS OF SOFT SOIL. SEE PEDOLOGICAL SOIL SURVEY FOR MORE INFORMATION.
- (C) PLACE GEOTEXTILE AND AGGREGATE STA 359+25.00 TO STA 364+00.00 THROUGH EXTENTS OF SOFT SOIL. SEE PEDOLOGICAL SOIL SURVEY FOR MORE INFORMATION.

PAVEMENT REQUIREMENT			
9" PAVT. STRUCTURE	12'-0" DRIVING LANES	10'-0" PAVED SHOULDERS	3'-6" GUARDRAIL WIDENING SECTION
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 64-22 OK)	2" SUPERPAVE TYPE S4 (PG 64-22 OK)	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG 64-22 OK)	3" SUPERPAVE TYPE S3 (PG 64-22 OK)	
	4" SUPERPAVE TYPE S3 (PG 64-22 OK)	4" SUPERPAVE TYPE S3 (PG 64-22 OK)	

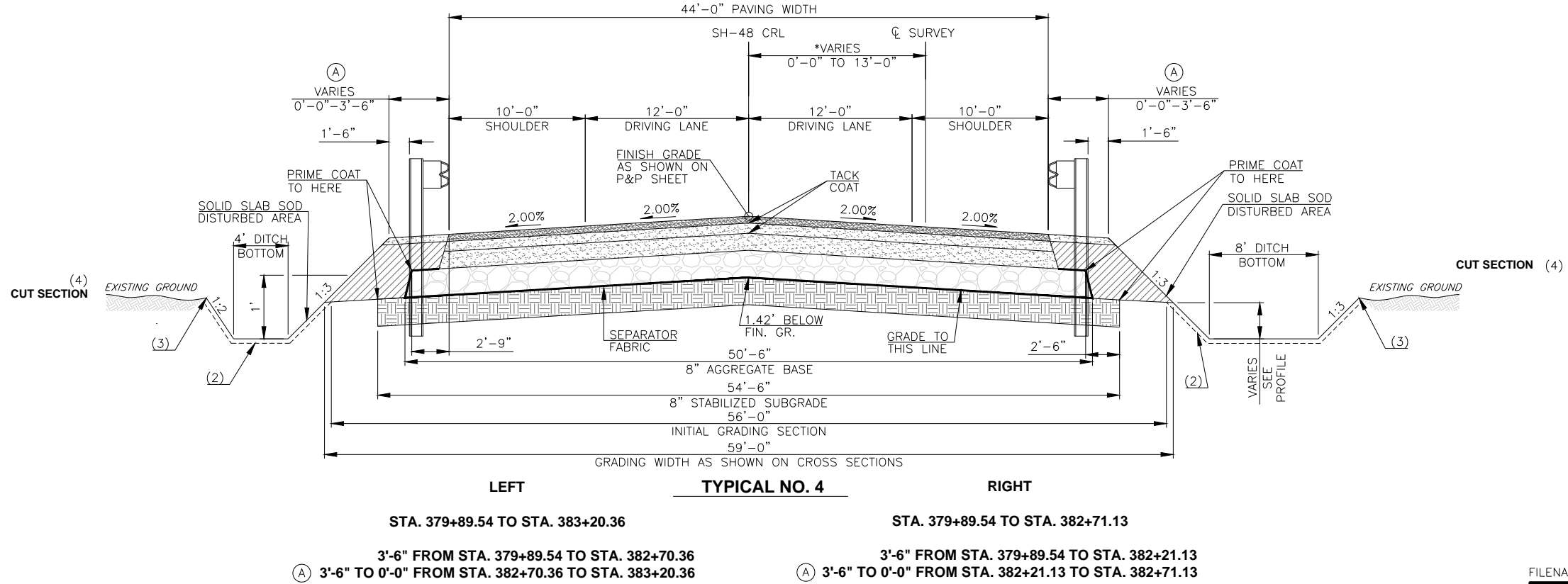
DESCRIPTION	REVISIONS	DATE



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- (3) SEE ROUNDING DETAIL.
- (4) TERMINATE THE BACK SLOPE OF THE CUT SECTION IF AND WHEN IT ENCOUNTERS SANDSTONE OUTCROPPINGS.



(B) PLACE GEOTEXTILE AND AGGREGATE STA 365+00.00 TO STA 371+35.00 THROUGH EXTENTS OF SOFT SOIL. SEE PEDOLOGICAL SOIL SURVEY FOR MORE INFORMATION. CONTINUE AGG BASE AND GEOTEXTILE TO BRIDGE ABUTMENT RIP RAP.



FILENAME: 2 TYPICAL SECTIONS (1 OF 2).DWG		
DESIGN	C.W.T.	SH 48 OVER CIMARRON RIVER CREEK COUNTY
DRAWN	C.W.T.	
CHECKED	S.N.H.	
CEC		
JOB PIECE NO. 27925(04)		SHEET NO. 3

TYPICAL SECTIONS (2 OF 2)

DESCRIPTION	REVISIONS	DATE
REVISED MITIGATION NOTES		9-14-17

JP 27925(04)					
PAY QUANTITIES					
0100 - ROADWAY					
SPEC. NO.	ITEM NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
201(A)	0102	CLEARING AND GRUBBING	R-1	LSUM	1
202(A)	0183	UNCLASSIFIED EXCAVATION	R-1	CY	98,563
202(D)	0184	UNCLASSIFIED BORROW	R-1	CY	25,302
205(A)	4229	TYPE A-SALVAGED TOPSOIL	R-5,R-7	LSUM	1
221(C)	2801	TEMPORARY SILT FENCE	(4)	LF	4,435
221(F)	0100	TEMPORARY SILT DIKE	(4)	LF	112
230(A)	2806	SOLID SLAB SODDING	R-7,R-8,(5)	SY	11,001
232(B)	2814	SEEDING METHOD B		AC	26.94
233(A)	2817	VEGETATIVE MULCHING	R-11	AC	53.88
303(A)	2100	AGGREGATE BASE TYPE A	(8)	CY	12,231
307(K)	4300	STABILIZED SUBGRADE	(6)	SY	17,498
325	5271	SEPARATOR FABRIC	(1)	SY	17,930
326(A)	0100	GEOTEXTILE REINFORCEMENT	(2)	SY	22,447
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	R-25	TON	2,039
407(B)	0250	TACK COAT	(3)	GAL	4,238
408	5774	PRIME COAT	(7)	GAL	10,690
411(B)	5945	SUPERPAVE, TYPE S3 (PG 64-22 OK)	R-32	TON	5,538
411(C)	5960	SUPERPAVE, TYPE S4 (PG 64-22 OK)	R-32	TON	1,773
601(A)	0297	TYPE I PLAIN RIPRAP		TON	662
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	R-49,R-50	SY	12,708
619(B)	4780	REMOVAL OF GUARDRAIL	R-49,R-50	LF	4,185
623(A)	0932	BEAM GUARDRAIL W-BEAM-SINGLE		LF	4,000
623(G)	8571	GUARDRAIL END TREATMENT (GET)		EA	4
623(I)	8700	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")		EA	4

PAY ITEM NOTES

- (R-1) PAYMENT FOR THIS ITEM WILL BE BASE ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.
- (R-5) AN ESTIMATED QUANTITY OF 3798 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 200 POUNDS PER 1,000 SQUARE YARDS.

FOR SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER ESTIMATED AT 200 POUNDS PER 1,000 SQUARE YARDS.
- (R-8) FOR SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQUARE YARD.
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 13.5 ACRES.
- (R-25) ESTIMATED AT 144 LBS. PER CU. FT.
- (R-32) ESTIMATED AT 112 LBS. PER SQ. YD PER 1" THICK.
- (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.
- (1) SHALL BE MIRAFI RS 380i, OR APPROVED EQUAL.
- (2) SHALL BE MIRAFI RS 580i, OR APPROVED EQUAL.
- (3) ESTIMATED AT 0.075 GAL/SY PRIOR TO DILUTION.
- (4) ESTIMATED QUANTITY FOR TEMPORARY EROSION CONTROL TO BE USED IN A MANNER APPROVED BY THE ENGINEER. PRICE BID TO INCLUDE THE COST OF NECESSARY MAINTENANCE, MAINTAINING IN AN UPRIGHT POSITION, REMOVAL OF DEVICE, AND SEDIMENT REMOVAL.
- (5) PLACE SLAB SOD ON NEW EMBANKMENTS IMMEDIATELY FOLLOWING CONSTRUCTION ACTIVITIES IN ORDER TO MINIMIZE POTENTIAL EROSION AND RUNOFF.
- (6) STABILIZED SUBGRADE SHALL INCLUDE THE COST OF THE CHEMICAL ADDITIVE TO ACHIEVE THE RATE SPECIFIED FOR THE APPROPRIATE SOIL CLASSIFICATION AS SPECIFIED IN THE MOST CURRENT ODOT MATERIALS DIVISION OHDL-50.
- (7) PRIME COAT SHALL USE EMULSIFIED ASPHALT RATHER THAN CUTBACK ASPHALT. APPLICATION RATE ESTIMATED AT 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL AMOUNT OF ASPHALT EMULSION 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.
- (8) 8627 CY OF AGG BASE TYPE A TO BE USED IN SLOPE STABILIZATION.

GENERAL CONSTRUCTION NOTES

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING SECTION LINE ROADS TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

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.

PRIME COAT SHALL BE APPLIED TO THE SUBGRADE IMMEDIATELY AFTER FINAL COMPACTION AND SHAPING TO RETAIN MOISTURE FOR PROPER CHEMICAL REACTION OF THE SOIL ADDITIVE.

THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

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.

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.

EROSION CONTROL AND CONSTRUCTION NOTES

SOLID SLAB SODDING SHALL BE PLACED ON ALL DISTURBED AREAS.

AT THE BEGINNING OF SODDING OPERATIONS, ANY AREA INCLUDED IN THE PLANNED QUANTITIES THAT HAS GROWN A SATISFACTORY TURF OF PERENNIAL GRASS, AS DETERMINED BY THE ENGINEER, SHALL NOT BE SODDED, WATERED OR FERTILIZED.

TEMPORARY EROSION CONTROL: IF THE DIRT WORK IS COMPLETED AFTER THE APPROVED PLANTING SEASON FOR SODDING HAS ENDED, DISTURBED AREAS WILL BE PLANTED WITH A TEMPORARY COVER CROP CONSISTING OF WHEAT OR OTHER SMALL GRAIN AT THE RATE OF 20 POUNDS/ACRE IN ACCORDANCE WITH SECTION 232 OF THE STANDARD SPECIFICATIONS. COST OF TEMPORARY COVER CROP TO BE INCLUDED IN THE PRICE BID FOR SOLID SLAB SODDING.

ENVIRONMENTAL MITIGATION NOTES

△ LOCATIONS OUTSIDE THE PROJECT AREA IN THE FOLLOWING AREA MUST NOT BE UTILIZED FOR BORROW, EQUIPMENT STAGING, HAUL ROAD, SPOIL DUMPS OR ANY OFF-SITE PROJECT-RELATED ACTIVITY.

- T19N R8E:
 - SECTION 1: SW¼ SE¼ SE¼
NW¼ SW¼ SE¼
SW¼ SE¼ NE¼
SE¼ SW¼ NE¼
NE¼ NW¼ SE¼
NW¼ NE¼ SE¼
NE¼ SE¼ NE¼
- T19N R9E:
 - SECTION 5: SW¼
NE¼ SW¼ NW¼
SW¼ NW¼ NW¼
NE¼ NE¼
NE¼ NW¼ NE¼
E¼ SE¼
NE¼ NE¼ SW¼
SW¼ NW¼ SW¼
 - SECTION 6: NE¼ SE¼ NW¼
 - SECTION 8:

△ 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-48 CIMARRON RIVER BRIDGE (NBI:15584) 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.

△ 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.

BALD EAGLE NOTE-
THE BALD EAGLE NESTING SEASON IN OKLAHOMA EXTENDS FROM SEPTEMBER 16TH, THROUGH MAY 31. A BALD EAGLE SURVEY WAS COMPLETED FOR THIS PROJECT IN DECEMBER 2016. NO NEST 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 1000 FOOT NO-WORK BUFFER SHALL BE PLACED AROUND THE NEST. IF THE BUFFER CANNOT BE MAINTAINED, PROJECT ACTIVITIES WITHIN 1000 FEET OF THE NEST, SHALL BE CONDUCTED BETWEEN JUNE 1 AND SEPTEMBER 15 (OUTSIDE THE NESTING SEASON).

△ THE CONTRACTOR WILL CONTACT THE USACE LAKE KEYSTONE LAKE MANAGER BEFORE ACCESSING THE MITIGATION PROPERTY. THE CONTACT INFORMATION FOR THE LAKE MANAGER IS:

TRAVIS MILLER
LAKE MANAGER
KEYSTONE, HEYBURN, ARCADIA LAKES
23115 W WEKIWA ROAD
SAND SPRINGS, OK 74063
918-865-2621 EXT 708

FILENAME: 4 PAY ITEMS & NOTES (ROADWAY).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	PAY ITEMS & NOTES (ROADWAY)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 4

DESCRIPTION	REVISIONS	DATE

BRIDGE 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.

VERIFICATION OF EXISTING CONDITIONS –
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY UNDERSTANDING THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED. ALL DIMENSIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO CONNECT THE NEW MATERIAL AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.

THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING BRIDGE AND ATTACHMENTS. ANY DAMAGE TO THE EXISTING BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

EXISTING PLANS –
 THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF F.A.S.P. NO. S806(2)S. PLANS OF THIS PROJECT ARE AVAILABLE FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TECHNOLOGY SERVICES PLANS SECTION, 200 N.E. 21ST STREET, OKLAHOMA CITY, OKLAHOMA, 73105.

PILE DRIVING AND CAPACITY –
 THE FACTORED PILE REACTION FOR EACH HP12X53 PILE AT ABUTMENT NO. 1 IS 95.8 TONS.

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

$$\text{AXIAL LOAD RESISTANCE} = \phi[(0.875 \sqrt{E} \log_{10} (10N)) - 50] \quad (\text{TONS})$$

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 AND 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 ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

CONCRETE –
 ALL PEDESTAL CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER. ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE SHALL HAVE A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.

EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.

BRIDGE GENERAL NOTES (CONT.)

STRUCTURAL STEEL –
 STRUCTURAL STEEL FOR ANCHOR PLATES, AND BUILT-UP CONTACT ANGLES SHALL CONFORM TO 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.

PROVIDE STRUCTURAL STEEL FOR DIAPHRAGM BOLTS AND PLATE WASHERS IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). THE CONTRACTOR MAY SUBSTITUTE A #10 REINFORCING BAR IN ACCORDANCE WITH AASHTO M31, GRADE 60, AND THREADED AT THE ENDS AS SHOWN FOR THE DIAPHRAGM BOLT AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE HEX NUTS IN ACCORDANCE WITH AASHTO M291 (ASTM A563).

PAINT EXPOSED DIAPHRAGM BOLT, PLATE WASHER, AND HEX NUT WITH TWO (2) COATS OF ZINC-RICH PAINT (6 MIL MINIMUM THICKNESS) AFTER ASSEMBLY. INCLUDE ALL COST OF DIAPHRAGM BOLT, PLATE WASHER, AND HEX NUT IN THE CONTRACT UNIT PRICE FOR STRUCTURAL STEEL.

DECK SLAB –
 EPOXY COAT OR GALVANIZE STEEL ITEMS USED TO FACILITATE CONSTRUCTION, SUCH AS DECK FORM HANGERS, TY-BAR CLIPS, INSERT WELD ANCHORS, OR OTHER APPURTENANCES, THAT WILL REMAIN IN PLACE IN THE DECK SLAB. EPOXY-COAT IN ACCORDANCE WITH AASHTO M284 OR GALVANIZE IN ACCORDANCE WITH AASHTO M111.

THE DECK SLAB SHALL BE Poured IN ACCORDANCE WITH THE DECK SLAB POURING SEQUENCE DIAGRAM. 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 FEET 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 THE 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 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.

STAY-IN-PLACE DECK FORMS –
 THE CONTRACTOR MAY NOT USE STAY-IN-PLACE STEEL DECK FORMS.

WATER REPELLENT TREATMENT –
 WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE BRIDGE IN A MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	BRIDGE GENERAL NOTES	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 5

BRIDGE PAY ITEM NOTES

- B1 PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.
- B2 CONCRETE MAY BE PLACED AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE SUBSTRUCTURE AND APPROVED BY THE ENGINEER. MEASUREMENT AND PAYMENT WILL BE AS SHOWN IN THE PLANS.
- B3 TEMPORARY RETAINING STRUCTURES TO FACILITATE THE PROPOSED SEQUENCE OF CONSTRUCTION SHOWN IN THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND HAVE NOT BEEN DESIGNED AND DETAILED. INCLUDE ALL COSTS FOR LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "TEMPORARY EARTH RETAINAGE."
- B4 THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL OF 56.7 C.Y. OF CLASS AA CONCRETE AND 10,980 LB. OF EPOXY COATED REINFORCING STEEL FOR PHASE I AND 56.7 C.Y. OF CLASS AA CONCRETE AND 10,980 LB. OF EPOXY COATED REINFORCING STEEL FOR PHASE II. INCLUDE ALL COSTS FOR CONSTRUCTING THE APPROACH SLABS, INCLUDING CONCRETE, REINFORCING STEEL (INCLUDING SLAB TO BRIDGE RAILING BARS), BACKER ROD, RAPID CURE JOINT SEALANT, POLYSTYRENE, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "APPROACH SLAB".
- B5 APPLY CIM1000, OR APPROVED EQUAL, TO THE ABUTMENTS AND PIERS AS DIRECTED IN THE PLANS. INCLUDE ALL COSTS FOR MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT PRICE BID FOR "SPECIAL CONCRETE FINISH".
- B6 PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE AND LOCATION AS DETAILED IN THE PLANS. THE FIXED BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 3,430 LB. OF STAINLESS STEEL FOR PHASE I AND 2,290 LB. OF STAINLESS STEEL FOR PHASE II. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS, ANCHOR PLATES, CONTACT ANGLES AND ANCHOR BOLTS, NUTS AND WASHERS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "STAINLESS STEEL FIXED BEARING ASSEMBLIES".
- B7 PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE AND LOCATION AS DETAILED IN THE PLANS. THE EXPANSION BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 6,060 LB. OF STAINLESS STEEL FOR PHASE I AND 4,040 LB. OF STAINLESS STEEL FOR PHASE II. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS, ANCHOR PLATES, CONTACT ANGLES AND ANCHOR BOLTS, NUTS AND WASHERS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLIES".
- B8 QUANTITY PROVIDED TO REPAIR AND MAINTAIN EXISTING BRIDGE DURING PHASE I CONSTRUCTION. THE ACTUAL LOCATIONS AND EXTENTS OF REPAIRS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS OF THE REPAIRS, INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "CLASS B BRIDGE DECK REPAIR".
- B9 QUANTITY PROVIDED TO REPAIR AND MAINTAIN EXISTING BRIDGE DURING PHASE I CONSTRUCTION. THE ACTUAL LOCATIONS AND EXTENTS OF REPAIRS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS OF THE REPAIRS, INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "CLASS C BRIDGE DECK REPAIR".
- B10 PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES UNLESS ADDITIONAL PILING LENGTH IS REQUIRED. ADDITIONAL PILES, FURNISHED, AS AUTHORIZED BY THE ENGINEER, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.
- B11 PREPARE SURFACE AND INSTALL HIGH MOLECULAR WEIGHT METHACRYLATE SEALER FOR DECK SLAB CONSTRUCTION JOINTS AT LOCATIONS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE COSTS FOR LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION".
- B12 PROVIDE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER FOR DECK SLAB CONSTRUCTION JOINTS AT LOCATIONS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COSTS OF THE SEALER RESIN MATERIAL IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". SEALER RESIN QUANTITY ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.
- B13 RIPRAP QUANTITY ESTIMATED AT 120 LBS. PER CUBIC FOOT.
- B14 FILTER BLANKET QUANTITY ESTIMATED AT 105 LBS. PER CUBIC FOOT.
- B15 INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE PERFORATED PIPE AND PIPE UNDERDRAIN COVER MATERIAL (BOTH FILTER SAND AND COARSE), INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "6" PERFORATED PIPE UNDERDRAIN ROUND". INSTALLATION SHALL BE AS SHOWN IN THE PLANS AND ON STD. PUD-3.
- B16 EXTENT, LOCATION AND DEPTH OF NON-PERFORATED PIPE UNDERDRAIN MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE NON-PERFORATED PIPE, AND STANDARD BEDDING MATERIAL, INCLUDING ALL TRENCH EXCAVATION, MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "6" NON-PERF. PIPE UNDERDRAIN RND". INSTALLATION SHALL BE AS SHOWN IN THE PLANS AND ON STD. PUD-3.

BRIDGE PAY ITEM NOTES CONT.

- B17 ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF SUPERSTRUCTURE AND SUBSTRUCTURE OF 5 X 120' SPAN CONTINUOUS PLATE GIRDER BRIDGE WITH 28' CLEAR ROADWAY IN ACCORDANCE WITH SUBSECTION 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. INCLUDE ALL COSTS FOR LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".

STAKING PAY ITEM NOTES

- S1 IN ADDITION TO THE RESPONSIBILITIES SHOWN IN THE SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND/OR REESTABLISHING THE SURVEY CONTROL POINTS SHOWN ON THE PLANS, STAKING THE CENTERLINE OF CONSTRUCTION AND REESTABLISHING RIGH-OF-WAY STAKES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING BENCH MARKS SHOWN ON THE PLANS AND FOR ESTABLISHING NEW BENCH MARKS AS NEEDED TO CONSTRUCT THE PROJECT.

J.P. NO. 27925(04) 0200 BRIDGE A			
PAY QUANTITIES			
SH-48 OVER CIMARRON RIVER NBI NO. 31951 2 X 100' TYPE IV AND 5 X 120' TYPE J SPANS, 0' SKEW 44' CLR. RDWY. WITH TR-4 PARAPETS @ STA. 375+58.71			
ITEM NO.	ITEM	UNIT	TOTAL
501(B) 1307	SUBSTRUCTURE EXCAVATION COMMON	B1,B2 C.Y.	215
501(G) 6309	CLSM BACKFILL	B1 C.Y.	328
502 1000	TEMPORARY EARTH RETAINAGE	B3 LSUM	1
503(A) 1313	PRESTRESSED CONCRETE BEAMS (TYPE IV)	B1 L.F.	996.7
503(A) 6290	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	B1 L.F.	2,991.7
504(A) 1304	APPROACH SLAB	B1,B4 S.Y.	307.6
504(B) 1305	SAW-CUT GROOVING	B1 S.Y.	4,212.4
504(C) 6250	SEALED EXPANSION JOINT	B1 L.F.	183.0
504(D) 6245	CONCRETE RAIL (TR4)	B1 L.F.	1,723.4
506(A) 1322	STRUCTURAL STEEL	B1 LB.	7,540
507(A) 6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	B1,B6 EA.	25
507(B) 6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	B1,B7 EA.	45
509 6152	SPECIAL CONCRETE FINISH	B5 S.Y.	235
509(A) 1326	CLASS AA CONCRETE	B1 C.Y.	1,162.2
509(B) 1328	CLASS A CONCRETE	B1 C.Y.	561.4
509(D) 1331	CLASS C CONCRETE	C.Y.	11.4
511 6306	MECHANICAL SPLICES	B1 EA.	148
511(A) 1332	REINFORCING STEEL	B1 LB.	17,660
511(B) 6010	EPOXY COATED REINFORCING STEEL	B1 LB.	428,480
513(B) 6019	CLASS B BRIDGE DECK REPAIR	B8 S.Y.	90
513(C) 6020	CLASS C BRIDGE DECK REPAIR	B9 S.Y.	90
514(A) 6010	PILES, FURNISHED (HP 10X42)	B10 L.F.	186
514(A) 6011	PILES, FURNISHED (HP 12X53)	B10 L.F.	815
514(B) 6292	PILES, DRIVEN (HP 10X42)	L.F.	186
514(B) 6294	PILES, DRIVEN (HP 12X53)	L.F.	815
514(L) 6220	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	B1 S.Y.	3,543.7
516(A) 6092	DRILLED SHAFT 36" DIAMETER	L.F.	47
516(A) 6100	DRILLED SHAFT 84" DIAMETER	L.F.	1,185
516(C) 6200	CROSSHOLE SONIC LOGGING	EA.	7
523(A) 6550	SEALER CRACK PREPARATION	B1,B11 L.F.	894
523(B) 6560	SEALER RESIN	B1,B12 GAL.	11
601(B) 1353	TYPE I-A PLAIN RIPRAP	B13 TON	1,290
601(C) 1355	TYPE I-A FILTER BLANKET	B14 TON	285
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	B1,B15 L.F.	92
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	B16 L.F.	48
619(D) 1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	B17 LSUM	1

J.P. NO. 27925(04) 0600 STAKING			
PAY QUANTITIES			
ITEM NO.	ITEM	UNIT	TOTAL
642(B) 0096	CONSTRUCTION STAKING LEVEL II	S1 LSUM	1

J.P. NO. 27925(04) 0640 CONSTRUCTION			
PAY QUANTITIES			
ITEM NO.	ITEM	UNIT	TOTAL
220 2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1
641 1399	MOBILIZATION	LSUM	1

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER CREEK COUNTY BRIDGE PAY ITEMS AND NOTES JOB PIECE NO. <u>27925(04)</u> SHEET NO. <u>6</u>
DRAWN	J.F.R.	
CHECKED	B.J.K.	
APPROV.	B.J.K.	
SQUAD	CEC	

DESCRIPTION	REVISIONS	DATE

JP 27925(04)					
PAY QUANTITIES					
D300 - TRAFFIC PERMANENT					
SPEC. NO.	ITEM NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
855(A)	8724	REMOVAL OF EXISTING SIGNS	(TS-41)	EA	2
850(A)	8110	5-EE" ALUMINUM SIGNS		SF	21.5
851(C)	8330	2 1/2" SQUARE TUBE POST	(TS-33)	LF	33
855(A)	8812	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	(TS-1)	LF	8,835

JP 27925(04)					
PAY QUANTITIES					
D301 - TRAFFIC TEMPORARY					
SPEC. NO.	ITEM NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
823	8476	(SP) PORTABLE TRAFFIC SIGNAL SYSTEM	(TC-26)(TC-80)(TC-84)	SD	840
857(A)	8839	CONSTRUCTION TRAFFIC STRIPE (PAINT) (4" WIDE)	(TC-1)(TC-22)(TC-29)(TC-33)	LF	15,005
971(B)	8705	(SP) CONST ZONE IMPACT ATTEN	(TC-26)(TC-32)(TC-84)	SD	840
871(C)	8707	RELOC OF CONST ZONE QUADGAURD MP ATTN	(TC-26)(TC-52)	EA	2
977(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER	(TC-1)(TC-2)	LF	3,883
977(C)	8486	RELOCATION OF PORT LONGITUDINAL BARRIER	(TC-1)	LF	3,883
890(B)	8818	CONSTRUCTION SIGNS 6 TO 6.25 SF	(TC-28)(TC-29)(TC-33)(TC-84)	SD	5,880
890(B)	8827	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF	(TC-26)(TC-29)(TC-33)(TC-84)	SD	2,520
890(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF	(TC-26)(TC-33)(TC-84)	SD	4,200
890(C)	8842	BARRICADES (TYPE III)	(TC-26)(TC-33)(TC-84)	SD	840
890(E)	8850	WARNING LIGHTS (TYPE A)	(TC-29)(TC-84)	SD	1,680
890(F)	8876	DRUMS	(TC-26)(TC-33)(TC-84)	SD	4,200
890(G)	8890	CHANNELLEDER COPIES	(TC-26)(TC-33)(TC-84)	SD	4,200
890(A)	8306	PORTABLE CHANGEABLE MESSAGE SIGNS	(TC-26)(TC-33)(TC-84)(TC-85)	SD	840

TRAFFIC PAY ITEM NOTES

(TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PORTABLE LONGITUDINAL BARRIER.

(TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES

(TC-17) INCLUDES AN ESTIMATED 15,005 L.F. (PAINT) (4" WIDE) WHITE 0 L.F. (PAINT)(4" WIDE) YELLOW STRIPE.

(TC-20) ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS. TEMPORARY PAVEMENT MARKINGS PLACED ON FINISHED PAVEMENT OR EXISTING PAVEMENT TO REMAIN IN PLACE SHALL USE ONE OF THE FOLLOWING METHODS:
 * REMOVABLE PAVEMENT MARKING TAPE
 * CLASS A PAVEMENT MARKERS

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

ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS. (NOTE FOR CONSULTANT OR DESIGNER: THIS NOTE SHALL BE USED WHEN TRAFFIC CONTROL IS A SIGN DAY PAY ITEM.)

(TC-28) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 0.00 S.F. AND 6.25 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-29) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 6.26 S.F. AND 15.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

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

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

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

(TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

(TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.

(TC-80) INCLUDED IN THIS ITEM SHALL BE ONE (1) ADDITIONAL UNIT TO BE USED AS A STAND-BY OR REPLACEMENT. THIS STAND-BY UNIT SHALL BE IMMEDIATELY ACCESSIBLE TO REPLACE A DAMAGED, STOLEN OR MALFUNCTIONING UNIT. THE AMOUNT OF TIME BETWEEN THE REMOVAL OF THE DAMAGED UNIT AND THE INSTALLATION OF THE STAND-BY UNIT SHALL BE NO MORE THAN TWENTY-FOUR (24) HOURS.

(TC-84) 420 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: <http://www.okladot.state.ok.us/traffic/qpl/index.php>

TRAFFIC SIGNING PAY ITEM NOTES

(TS-11) QUANTITY SHOWN INCLUDES 7,791 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND 1,044 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE. THIS STRIPE SHALL BE APPLIED AT A THICKNESS OF 70 MILS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND APPROVAL BY THE ENGINEER.

(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 SSP1-1-02.

(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 GENERAL CONSTRUCTION NOTES

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS. CONSTRUCTION TRAFFIC CONTROL WILL BE 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.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. SEE O.D.O.T. STANDARDS AND DETAIL DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

TRAFFIC SIGNING GENERAL CONSTRUCTION NOTES

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

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

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.

THE MANUFACTURER SHALL FURNISH A TYPE 'A' CERTIFICATION IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, LATEST EDITION, AND 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 JOB SITE.

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. THE COST OF REPLACEMENT OF MISSING OR DAMAGED EDGE STRIP ON EXISTING SIGNS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

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

FILENAME: 7 PAY ITEMS & NOTES (TRAFFIC).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	PAY ITEMS & NOTES (TRAFFIC)	
CHECKED	S.N.H.		
CEC			
		STATE JOB NO. <u>27925(04)</u>	SHEET NO. <u>7</u>

SUMMARY OF TRAFFIC CONTROL																			
SHEET NUMBER	SIGN DAYS	PORTABLE TRAFFIC SIGNAL SYSTEM 823		CONSTRUCTION TRAFFIC STRIPE (PAINT)(4") 857(A)	LONGITUDINAL BARRIER 877(B)	CONSTRUCTION SIGNS						CONSTRUCTION BARRICADES (TYPE III) 880(C)		WARNING LIGHTS (TYPE A) 880(E)		DRUMS 880(F)		CHANNELIZER CONES 880(G)	
		EA	SD	LF	LF	0 TO 6.25 S.F. 880(B)		6.26 TO 15.99 S.F. 880(B)		16.0 TO 32.99 S.F. 880(B)		EA	SD	EA	SD	EA	SD	EA	SD
						EA	SD	EA	SD	EA	SD								
18	210	1	210	3800	1966	7	1,470	3	630	5	1,050	1	210	2	420	5	1,050	5	1,050
19	210	1	210	3702	1917	7	1,470	3	630	5	1,050	1	210	2	420	5	1,050	5	1,050
20	210	1	210	3800	1966*	7	1,470	3	630	5	1,050	1	210	2	420	5	1,050	5	1,050
21	210	1	210	3702	1917*	7	1,470	3	630	5	1,050	1	210	2	420	5	1,050	5	1,050
TOTAL		4	840	15,004	3,883	28	5,880	12	2,520	20	4,200	4	840	8	1,680	20	4,200	20	4,200

*DUPLICATE QUANTITY

SUMMARY OF SURFACING									
STATION TO STATION	ALIGNMENT	AGGREGATE BASE TYPE A 303(A)	STABILIZED SUBGRADE 307(K)	TRAFFIC ROUND SURFACE COURSE TYPE E 402(E)	TACK COAT 407(B)	PRIME COAT 408	SUPERPAVE. TYPE 53 (PG 64-22 OK) 411(B)	SUPERPAVE. TYPE 54 (PG 64-22 OK) 411(C)	
		CY	SY	TON	GAL	GAL	TON	TON	
MAINLINE									
351+00.00 TO 371+27.87	CRL	2529	12,280	229	2,974	7,143	3,886	1,111	
379+89.54 TO 382+71.13	CRL	1075	5,218	229	1,264	3,035	1,652	472	
WIDENING FOR GUARDRAIL									
352+21.62 TO 371+27.87	CRL			680		220		82	
379+89.54 TO 382+71.13	CRL			118		36		13	
351+71.62 TO 371-27.87	CRL			698		226		83	
379+89.54 TO 382-71.13	CRL			85		30		12	
TOTAL		3,604	17,498	2,039	4,238	10,590	5,538	1,773	

SUMMARY OF REMOVALS			
SHEET NUMBER	ALIGNMENT	REMOVAL OF ASPHALT PAVEMENT 619(B)	REMOVAL OF GUARDRAIL 619(B)
		SY	LF
14	CRL	5,965	2,308
15	CRL	3,075	1,757
16	CRL	3,668	120
TOTAL		12,708	4,185

SUMMARY OF EARTHWORK				
STATION TO STATION	UNCLASSIFIED EXCAVATION 207(A)	EMBANKMENT +15%	EXCESS EXCAVATION	UNCLASSIFIED BORROW 207(D)
	CY	CY	CY	CY
PHASE 1	11,932	31,863		19,931
PHASE 2	7,017	7,079		62
Flood Storage	79,614			
TOTAL	98,563	38,942		19,993

SUMMARY OF SIGNS							
SHEET NUMBER	ALIGNMENT	STATION	OFFSET	SIGNS	TYPE OF SIGNS	SHEET ALUMINUM SIGNS 850(A)	2 1/2" SQUARE TUBE POST
						SF	LF
22	CRL	356+00	30' RT	W8-13	'BRIDGE ICES BEFORE ROAD'	6.25	8.33
22	CRL	371+15	30' RT	SPECIAL	"CIMARRON RIVER"	4.5	8.33
22	CRL	379+85	30' LT	SPECIAL	"CIMARRON RIVER"	4.5	8.33
23	CRL	387+57	30' LT	W8-13	'BRIDGE ICES BEFORE ROAD'	6.25	8.33
TOTAL						21.50	33

SUMMARY OF GUARDRAIL						
STATION TO STATION	LT.	RT.	TOTAL LENGTH INCLUDING ANCHOR UNITS	BEAM GUARDRAIL W-BEAM SINGLE 623(A)	GUARDRAIL END TREATMENT (31") 623(G)	GUARDRAIL BRIDGE CONN-THRIE BEAM (31") 623(I)
			LF	LF	EA	EA
352+21.62 TO 371+27.87		X	1,906.25	1,837.50	1	1
379+89.54 TO 382+21.13		X	231.25	162.50	1	1
352+71.62 TO 371+27.87	X		1,856.25	1,787.50	1	1
379+89.54 TO 382+70.36	X		281.25	212.50	1	1
TOTAL				4,000.00	4	4

SUMMARY OF RIPRAP		
SHEET NUMBER	ALIGNMENT	TYPE I PLAIN RIPRAP 601(A)
		TON
14	CRL	436
15	CRL	226
16	CRL	
TOTAL		662

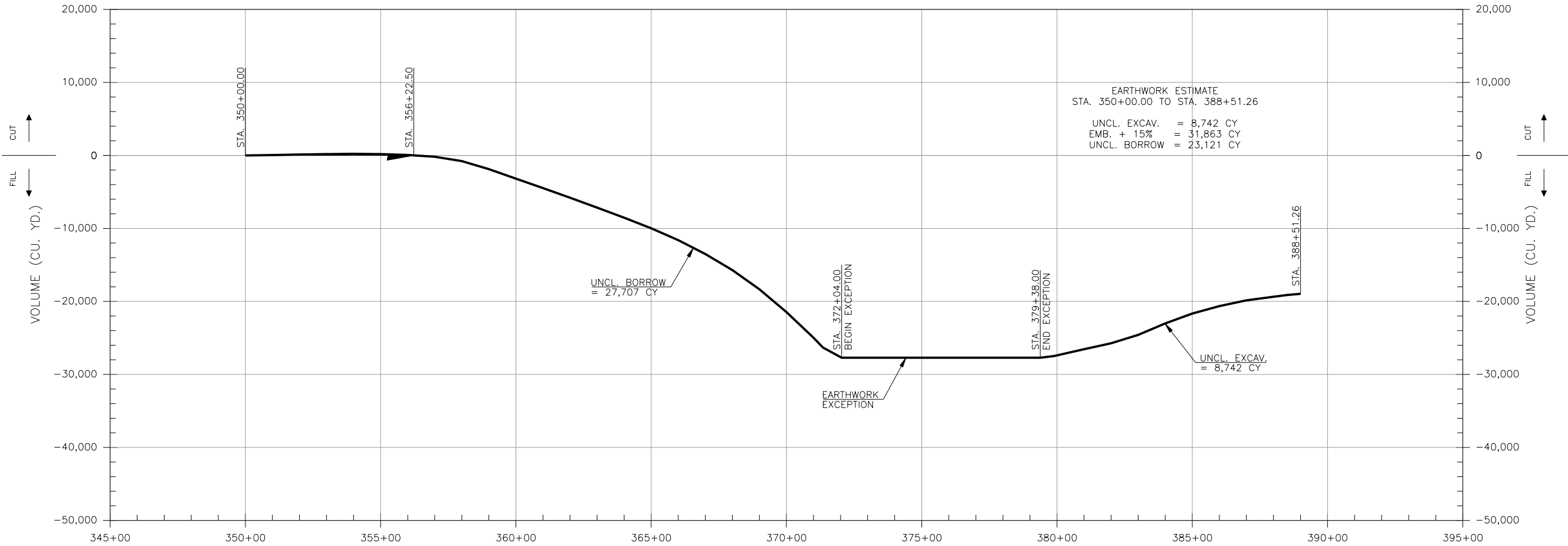
FILENAME: 8 SUMMARY TABLES.DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.		
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 8

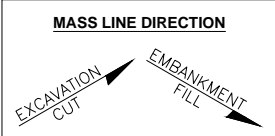
SUMMARY TABLES

DESCRIPTION	REVISIONS	DATE

MASS DIAGRAM SH-48 CRL PHASE 1



MASS DIAGRAM PROVIDED FOR BIDDING PURPOSES ONLY. ACTUAL BALANCE POINTS TO BE DETERMINED BY CONTRACTOR AND VOLUME OF MATERIAL ENCOUNTERED DURING GRADING OPERATIONS. WHENEVER POSSIBLE, THE CONTRACTOR SHALL SEQUENCE EARTHWORK OPERATIONS IN ORDER TO OBTAIN THE MATERIAL FROM THE CUT SECTION FOR USE AS FILL RATHER THAN OBTAINING UNCLASSIFIED BORROW. MATERIAL DEPICTED AS WASTE SHALL ONLY BE CONSIDERED WASTE ONCE ALL EARTHWORK OPERATIONS HAVE BEEN COMPLETED. THIS MATERIAL SHALL BE USED TO REDUCE THE NEED FOR UNCLASSIFIED BORROW AT ANY LOCATION AND TIME THROUGH THE DURATION OF THE PROJECT.



FILENAME: 10 MASS DIAGRAM (PHASE 2).DWG

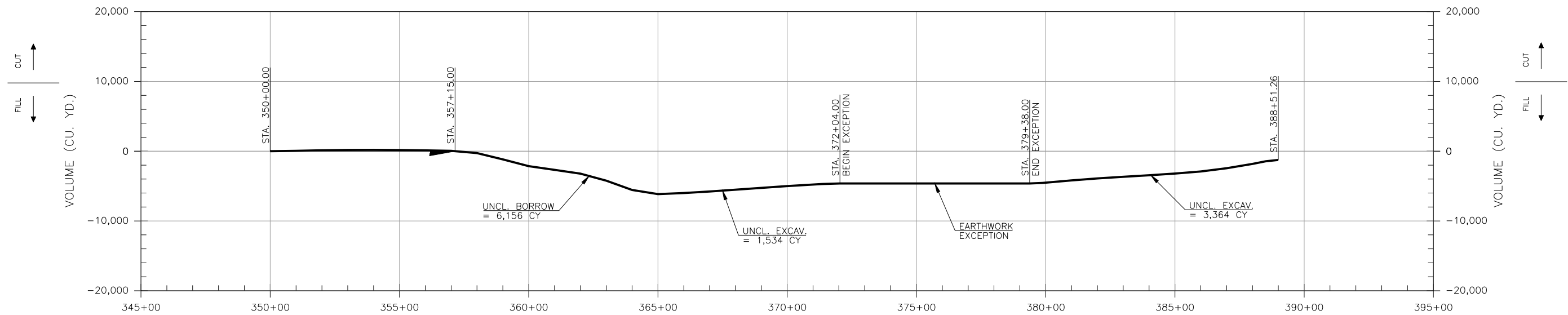
DESIGN	C.W.T.	SH 48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	MASS DIAGRAM (PHASE 1)	
CHECKED	S.N.H.		
CEC			
		JOB PIECE NO. <u>27925(04)</u>	SHEET NO. <u>9</u>

DESCRIPTION	REVISIONS	DATE

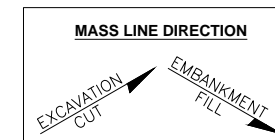
MASS DIAGRAM SH-48 CRL PHASE 2

EARTHWORK ESTIMATE
STA. 350+00.00 TO STA. 388+51.26

UNCL. EXCAV. = 4,898 CY
EMB. + 15% = 7,079 CY
UNCL. BORROW = 2,181 CY



MASS DIAGRAM PROVIDED FOR BIDDING PURPOSES ONLY. ACTUAL BALANCE POINTS TO BE DETERMINED BY CONTRACTOR AND VOLUME OF MATERIAL ENCOUNTERED DURING GRADING OPERATIONS. WHENEVER POSSIBLE, THE CONTRACTOR SHALL SEQUENCE EARTHWORK OPERATIONS IN ORDER TO OBTAIN THE MATERIAL FROM THE CUT SECTION FOR USE AS FILL RATHER THAN OBTAINING UNCLASSIFIED BORROW. MATERIAL DEPICTED AS WASTE SHALL ONLY BE CONSIDERED WASTE ONCE ALL EARTHWORK OPERATIONS HAVE BEEN COMPLETED. THIS MATERIAL SHALL BE USED TO REDUCE THE NEED FOR UNCLASSIFIED BORROW AT ANY LOCATION AND TIME THROUGH THE DURATION OF THE PROJECT.



FILENAME: 10 MASS DIAGRAM (PHASE 2).DWG

DESIGN	C.W.T.	SH 48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	MASS DIAGRAM (PHASE 2)	
CHECKED	S.N.H.		
CEC			
		JOB PIECE NO. <u>27925(04)</u>	SHEET NO. <u>10</u>

STORM WATER MANAGEMENT PLAN

DESCRIPTION	REVISIONS	DATE

SITE DESCRIPTION

EROSION AND SEDIMENT CONTROLS

PROJECT LIMITS: BEGINS 2.1 MILES NORTH OF SH-51 AND SH-48 INTERSECTION, CONTINUING NORTH 3,750 FEET NORTH ALONG SH-48.

PROJECT DESCRIPTION: RECONSTRUCT BRIDGE, ROADWAY APPROACHES, AND ROADWAY ALONG CAUSEWAY.

- SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:**
1. INSTALLATION OF EROSION CONTROL
 2. VEGETATIVE STRIPPING
 3. UNDERCUT & STOCKPILE EXISTING TOPSOIL, PRESERVE AS MUCH NATIVE VEGETATION AS POSSIBLE.
 4. REMOVE AND REPLACE EXISTING PAVEMENT AND BRIDGE
 5. SPREAD TOPSOIL
 6. INSTALL SOLID SLAB SOD

SOIL TYPE: ROCK AND VERY FINE SANDY LOAM

AREA TO BE DISTURBED: 26.94 ACRES (INCLUDES ROADWAY AND FLOOD STORAGE AREA)

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°9'34.29"N, 96°24'2.01"W

NAME OF RECEIVING WATERS: CIMARRON RIVER

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.

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 BERMS
- 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:

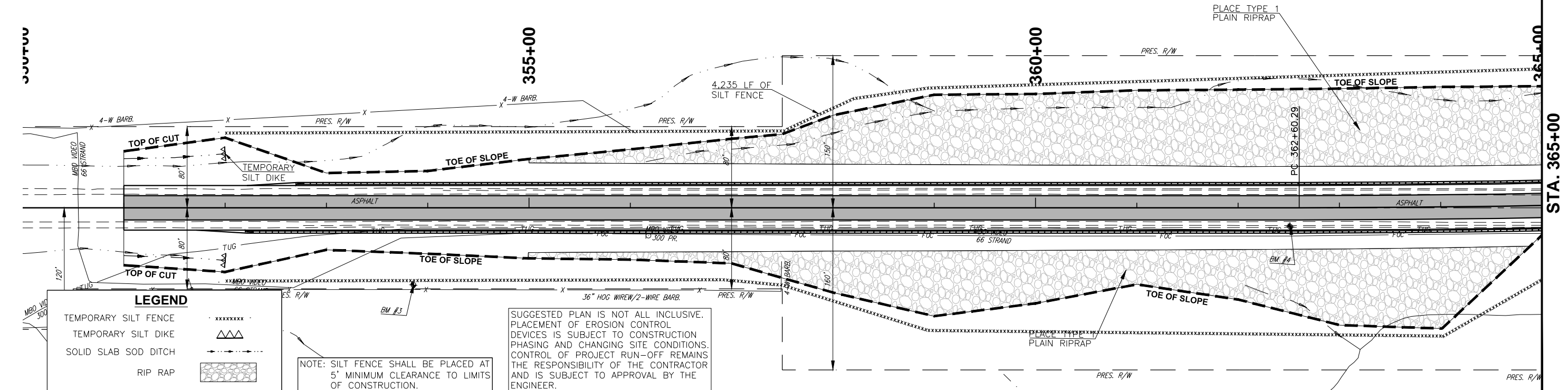
"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2012.

FILENAME: 11 STORM WATER MANAGEMENT PLAN.DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	<h3 style="margin: 0;">STORM WATER MANAGEMENT PLAN</h3>	
CHECKED	S.N.H.		
CEC		STATE JOB NO. <u>27925(04)</u>	SHEET NO. <u>11</u>

DESCRIPTION	REVISIONS	DATE

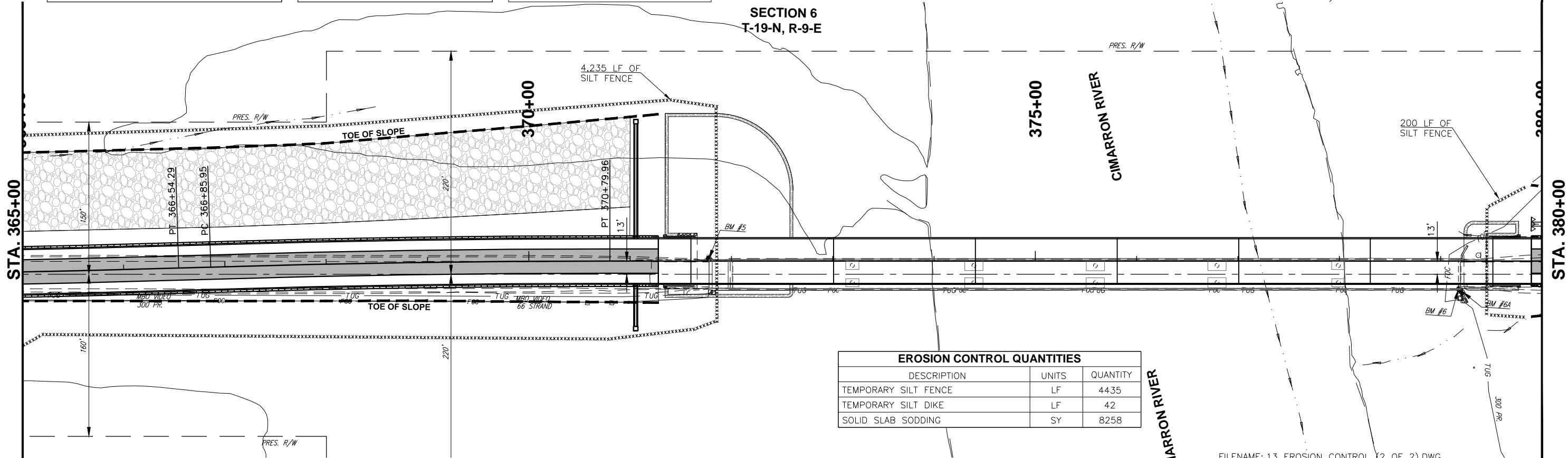
SECTION 6
T-19-N, R-9-E



SUGGESTED PLAN IS NOT ALL INCLUSIVE. PLACEMENT OF EROSION CONTROL DEVICES IS SUBJECT TO CONSTRUCTION PHASING AND CHANGING SITE CONDITIONS. CONTROL OF PROJECT RUN-OFF REMAINS THE RESPONSIBILITY OF THE CONTRACTOR AND IS SUBJECT TO APPROVAL BY THE ENGINEER.

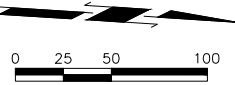
NOTE: SILT FENCE SHALL BE PLACED AT 5' MINIMUM CLEARANCE TO LIMITS OF CONSTRUCTION.

SECTION 6
T-19-N, R-9-E



EROSION CONTROL QUANTITIES		
DESCRIPTION	UNITS	QUANTITY
TEMPORARY SILT FENCE	LF	44.35
TEMPORARY SILT DIKE	LF	42
SOLID SLAB SODDING	SY	8258

CIMARRON RIVER



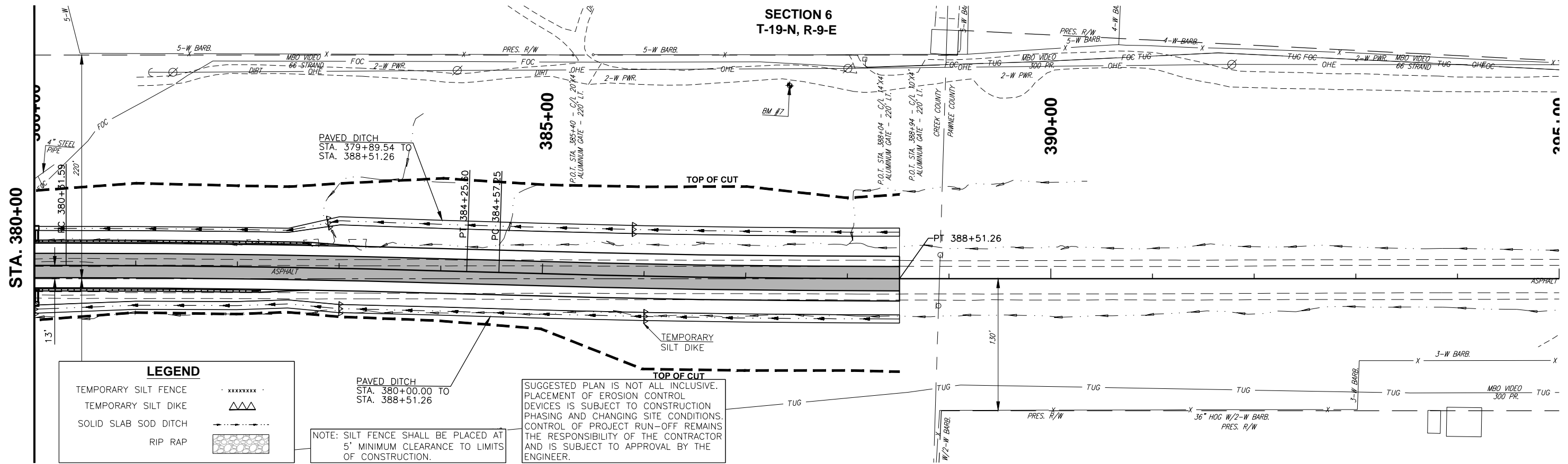
FILENAME: 13 EROSION CONTROL (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.		
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 12

EROSION CONTROL (1 OF 2)

DESCRIPTION	REVISIONS	DATE

**SECTION 6
T-19-N, R-9-E**



LEGEND

- TEMPORARY SILT FENCE ······
- TEMPORARY SILT DIKE ▲▲▲
- SOLID SLAB SOD DITCH ————
- RIP RAP [Pattern]

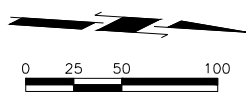
PAVED DITCH
STA. 380+00.00 TO
STA. 388+51.26

NOTE: SILT FENCE SHALL BE PLACED AT
5' MINIMUM CLEARANCE TO LIMITS
OF CONSTRUCTION.

SUGGESTED PLAN IS NOT ALL INCLUSIVE.
PLACEMENT OF EROSION CONTROL
DEVICES IS SUBJECT TO CONSTRUCTION
PHASING AND CHANGING SITE CONDITIONS.
CONTROL OF PROJECT RUN-OFF REMAINS
THE RESPONSIBILITY OF THE CONTRACTOR
AND IS SUBJECT TO APPROVAL BY THE
ENGINEER.

EROSION CONTROL QUANTITIES

DESCRIPTION	UNITS	QUANTITY
TEMPORARY SILT FENCE	LF	0
TEMPORARY SILT DIKE	LF	70
SOLID SLAB SODDING	SY	2743



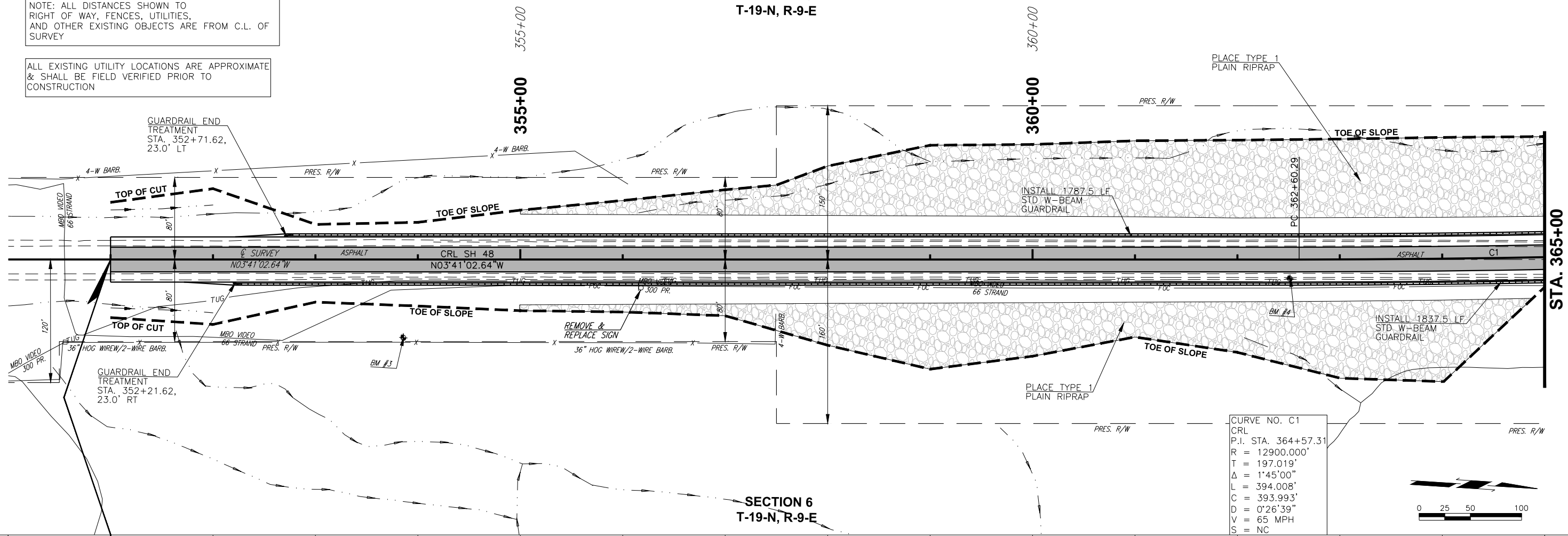
FILENAME: 13 EROSION CONTROL (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	EROSION CONTROL (2 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 13

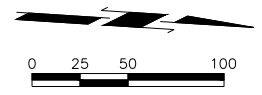
NOTE: ALL DISTANCES SHOWN TO RIGHT OF WAY, FENCES, UTILITIES, AND OTHER EXISTING OBJECTS ARE FROM C.L. OF SURVEY

ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE & SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION

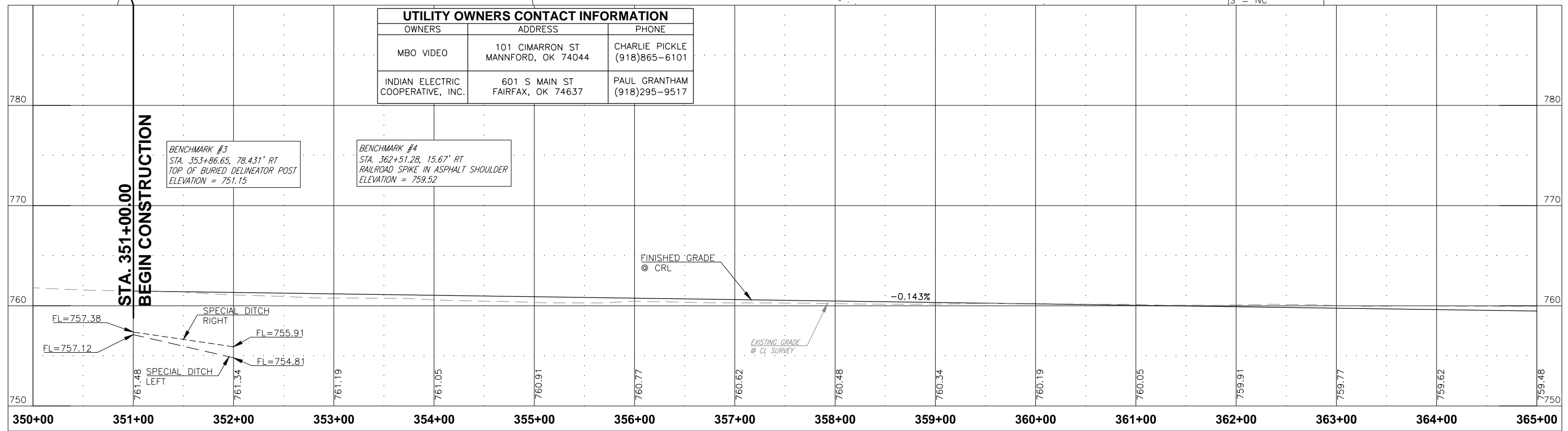
**SECTION 6
T-19-N, R-9-E**



CURVE NO. C1
 CRL
 P.I. STA. 364+57.31
 R = 12900.000'
 T = 197.019'
 Δ = 1°45'00\"/>



UTILITY OWNERS CONTACT INFORMATION		
OWNERS	ADDRESS	PHONE
MBO VIDEO	101 CIMARRON ST MANNFORD, OK 74044	CHARLIE PICKLE (918)865-6101
INDIAN ELECTRIC COOPERATIVE, INC.	601 S MAIN ST FAIRFAX, OK 74637	PAUL GRANTHAM (918)295-9517



**STA. 351+00.00
BEGIN CONSTRUCTION**

BENCHMARK #3
 STA. 353+86.65, 78.431' RT
 TOP OF BURIED DELINEATOR POST
 ELEVATION = 751.15

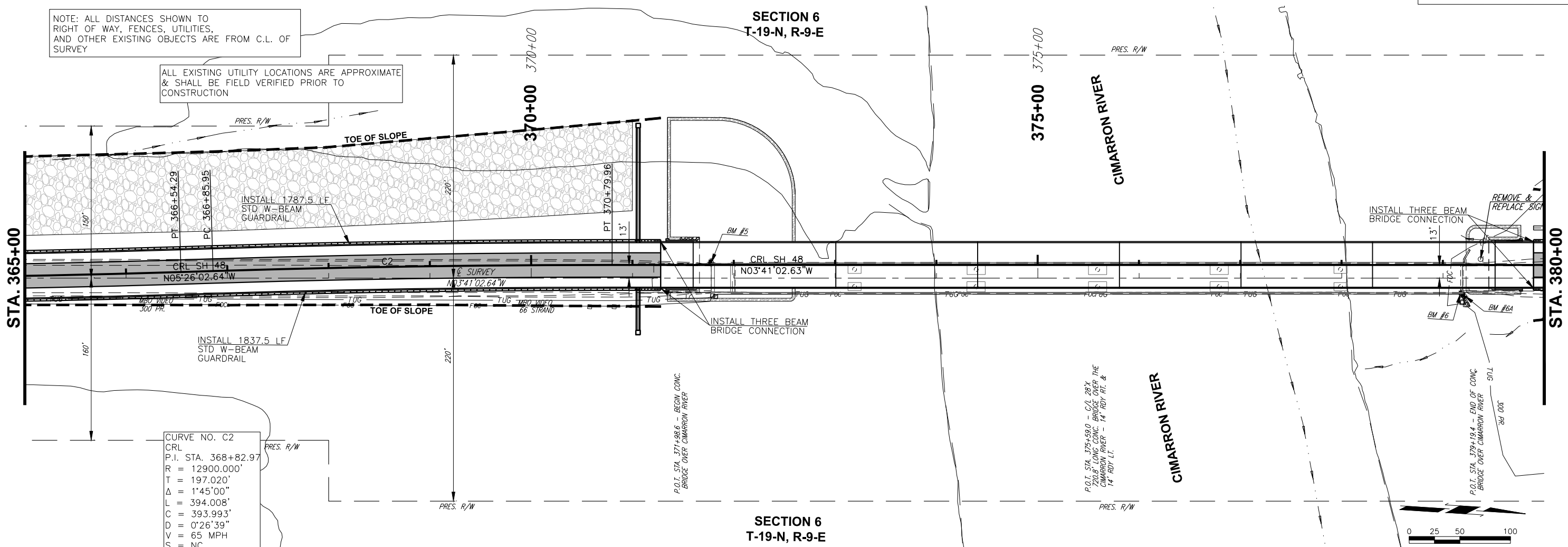
BENCHMARK #4
 STA. 362+51.28, 15.67' RT
 RAILROAD SPIKE IN ASPHALT SHOULDER
 ELEVATION = 759.52

PLOT DATE: May 8, 2017, DRAWING NAME: 16 P&P 3.DWG

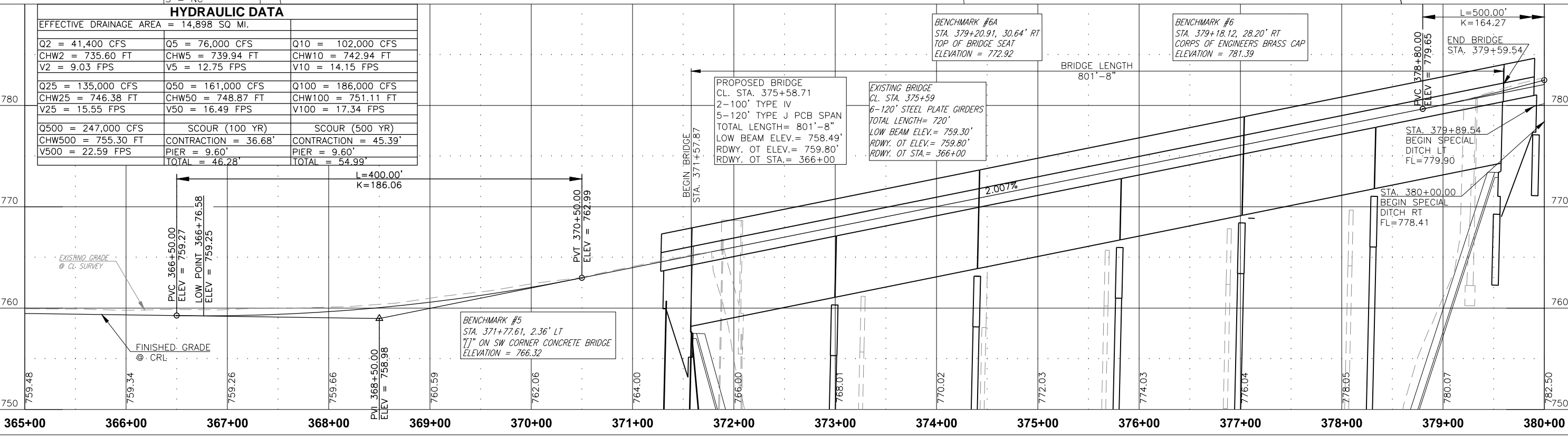
NOTE: ALL DISTANCES SHOWN TO RIGHT OF WAY, FENCES, UTILITIES, AND OTHER EXISTING OBJECTS ARE FROM C.L. OF SURVEY

ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE & SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION

SECTION 6
T-19-N, R-9-E



SECTION 6
T-19-N, R-9-E



HYDRAULIC DATA		
EFFECTIVE DRAINAGE AREA = 14,898 SQ MI.		
Q2 = 41,400 CFS	Q5 = 76,000 CFS	Q10 = 102,000 CFS
CHW2 = 735.60 FT	CHW5 = 739.94 FT	CHW10 = 742.94 FT
V2 = 9.03 FPS	V5 = 12.75 FPS	V10 = 14.15 FPS
Q25 = 135,000 CFS	Q50 = 161,000 CFS	Q100 = 186,000 CFS
CHW25 = 746.38 FT	CHW50 = 748.87 FT	CHW100 = 751.11 FT
V25 = 15.55 FPS	V50 = 16.49 FPS	V100 = 17.34 FPS
Q500 = 247,000 CFS	SCOUR (100 YR)	SCOUR (50 YR)
CHW500 = 755.30 FT	CONTRACTION = 36.68'	CONTRACTION = 45.39'
V500 = 22.59 FPS	PIER = 9.60'	PIER = 9.60'
	TOTAL = 46.28'	TOTAL = 54.99'

BENCHMARK #6A
STA. 379+20.91, 30.64' RT
TOP OF BRIDGE SEAT
ELEVATION = 772.92

BENCHMARK #6
STA. 379+18.12, 28.20' RT
CORPS OF ENGINEERS BRASS CAP
ELEVATION = 781.39

PROPOSED BRIDGE
CL. STA. 375+58.71
2-100' TYPE IV
5-120' TYPE J PCB SPAN
TOTAL LENGTH = 801'-8"
LOW BEAM ELEV. = 758.49'
RDWY. OT ELEV. = 759.80'
RDWY. OT STA. = 366+00

EXISTING BRIDGE
CL. STA. 375+59
6-120' STEEL PLATE GIRDERS
TOTAL LENGTH = 720'
LOW BEAM ELEV. = 759.30'
RDWY. OT ELEV. = 759.80'
RDWY. OT STA. = 366+00

BENCHMARK #5
STA. 371+77.61, 2.36' LT
["I"] ON SW CORNER CONCRETE BRIDGE
ELEVATION = 766.32

L=500.00'
K=164.27
END BRIDGE
STA. 379+59.54

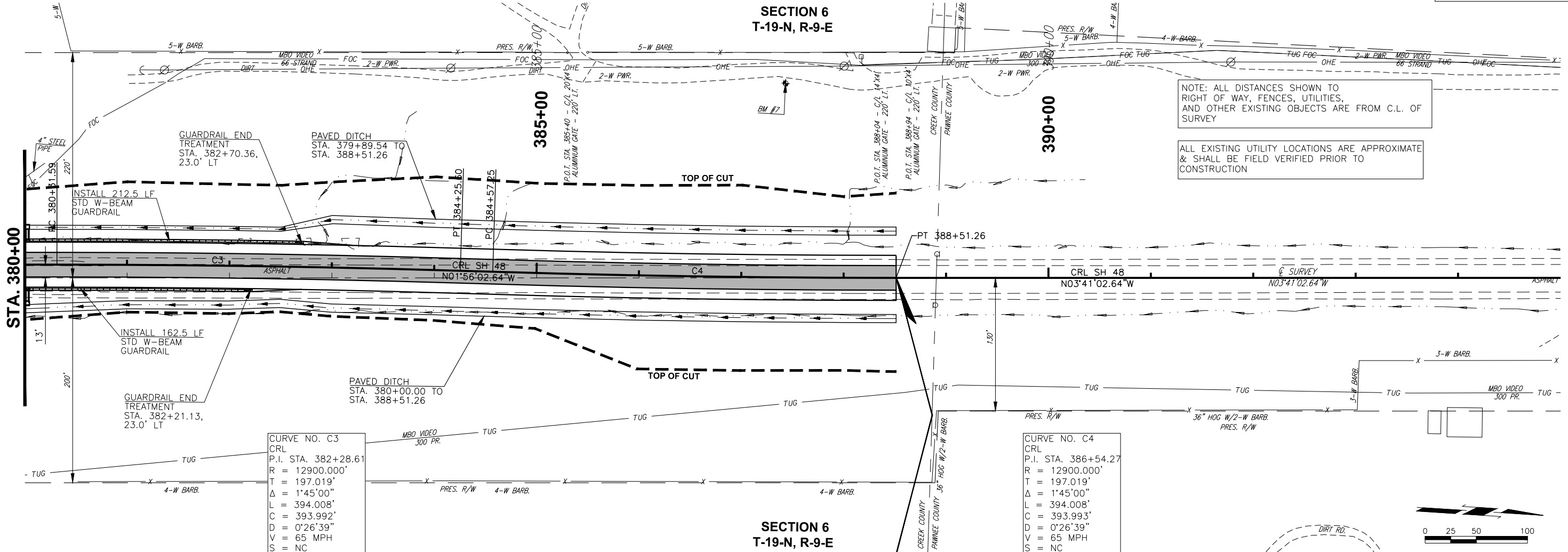
STA. 379+89.54
BEGIN SPECIAL
DITCH LT
FL=779.90

STA. 380+00.00
BEGIN SPECIAL
DITCH RT
FL=778.41

PLOT DATE: May 8, 2017, DRAWING NAME: 16_P&P_3.DWG

DESCRIPTION	REVISIONS	DATE

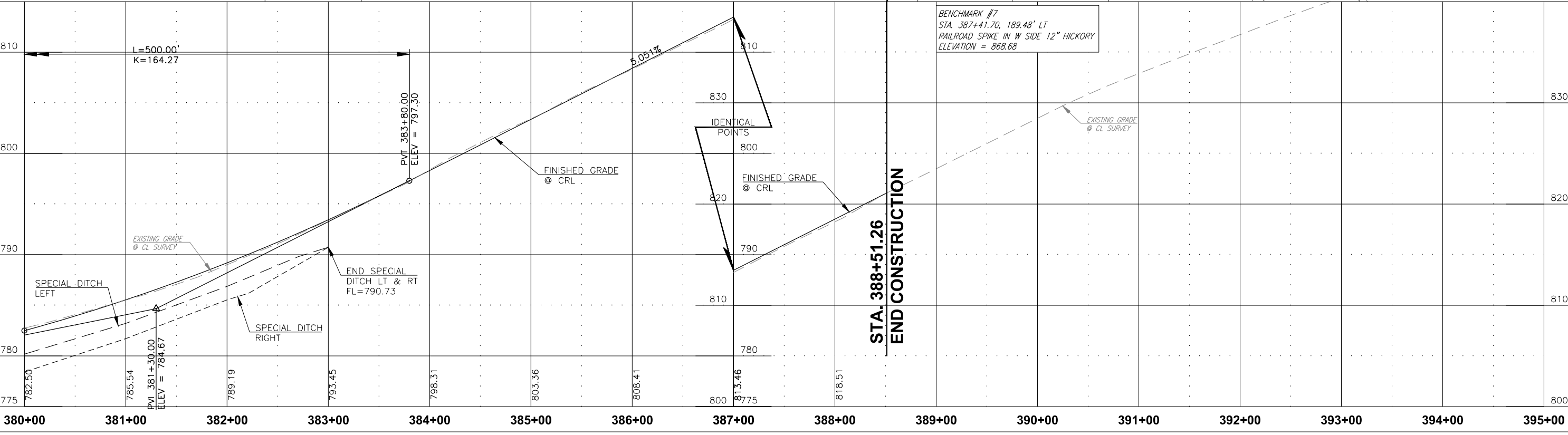
SECTION 6
T-19-N, R-9-E



CURVE NO. C3
CRL
P.I. STA. 382+28.61
R = 12900.000'
T = 197.019'
Δ = 1°45'00"
L = 394.008'
C = 393.992'
D = 0°26'39"
V = 65 MPH
S = NC

CURVE NO. C4
CRL
P.I. STA. 386+54.27
R = 12900.000'
T = 197.019'
Δ = 1°45'00"
L = 394.008'
C = 393.993'
D = 0°26'39"
V = 65 MPH
S = NC

SECTION 6
T-19-N, R-9-E

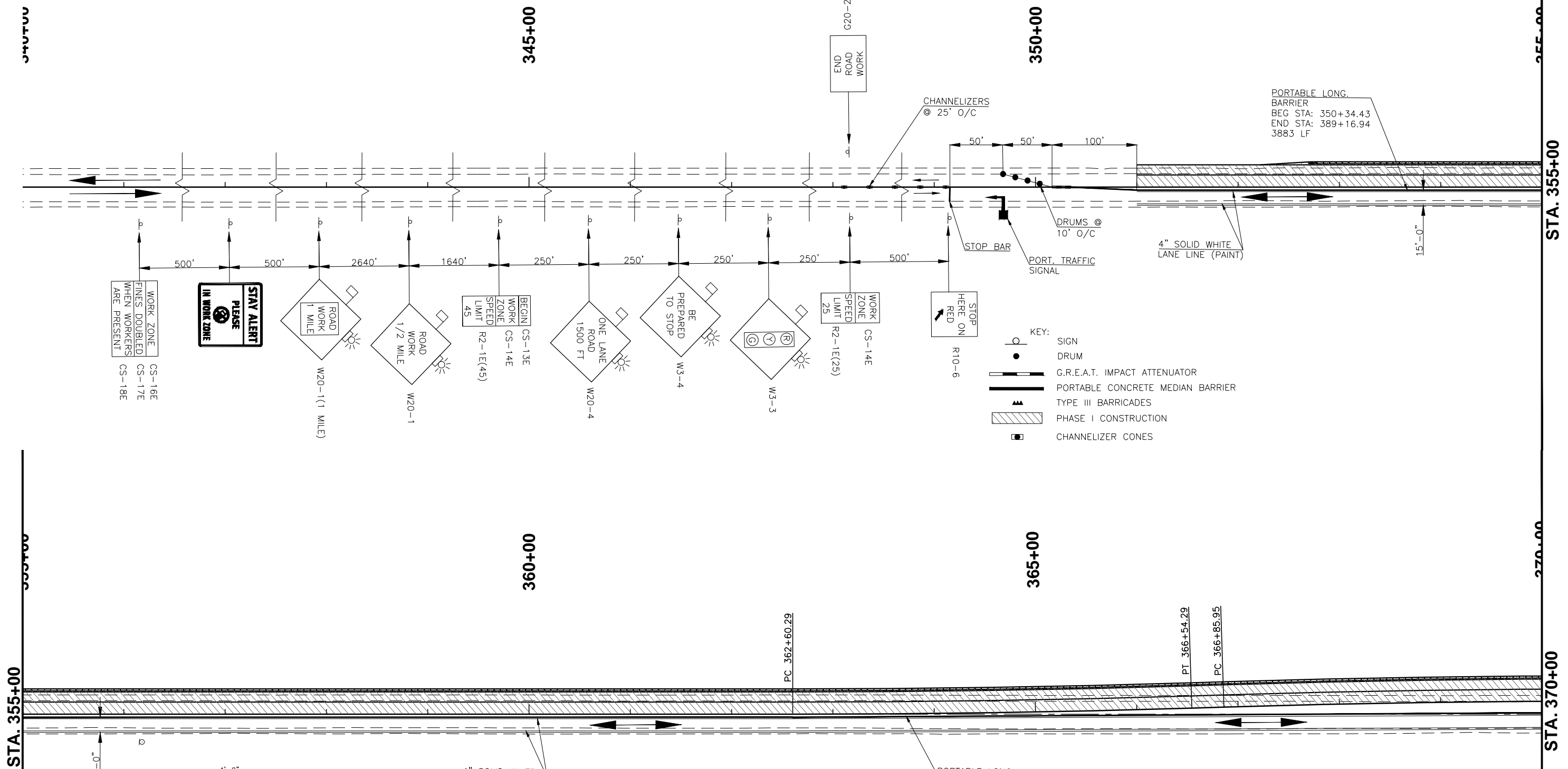


BENCHMARK #7
STA. 387+41.70, 189.48' LT
RAILROAD SPIKE IN W SIDE 12" HICKORY
ELEVATION = 868.68

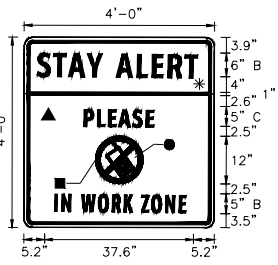
STA. 388+51.26
END CONSTRUCTION

PLOT DATE: May 8, 2017, DRAWING NAME: 16_P&P_3.DWG

DESCRIPTION	REVISIONS	DATE



- KEY:
- SIGN
 - DRUM
 - G.R.E.A.T. IMPACT ATTENUATOR
 - PORTABLE CONCRETE MEDIAN BARRIER
 - TYPE III BARRICADES
 - PHASE I CONSTRUCTION
 - CHANNELIZER CONES



- BORDER
R=1.5"
TH=0.75"
IN=0.75"
- COLOR:
LEGEND, SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
RED (TRANSPARENT REFLECTORIZED)
BACKGROUND:
▲ FLUORESCENT ORANGE (REFLECTORIZED)
* FLUORESCENT YELLOW (REFLECTORIZED)
● WHITE (REFLECTORIZED)

Dimensions are in inches.tenths Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE		
S	T	A	Y	A	L	E	R	T					42.0	
3.0	7.3	11.1	16.0	23.4	28.3	32.1	36.2	41.1						
P	L	E	A	S	E								21.3	
13.1	17.0	20.2	23.6	27.7	31.2									
I	N	W	O	R	K	Z	O	N	E				38.8	
4.6	6.6	12.5	17.2	21.1	24.5	29.8	32.5	36.4	40.3					

SPECIAL SIGN NO. 2

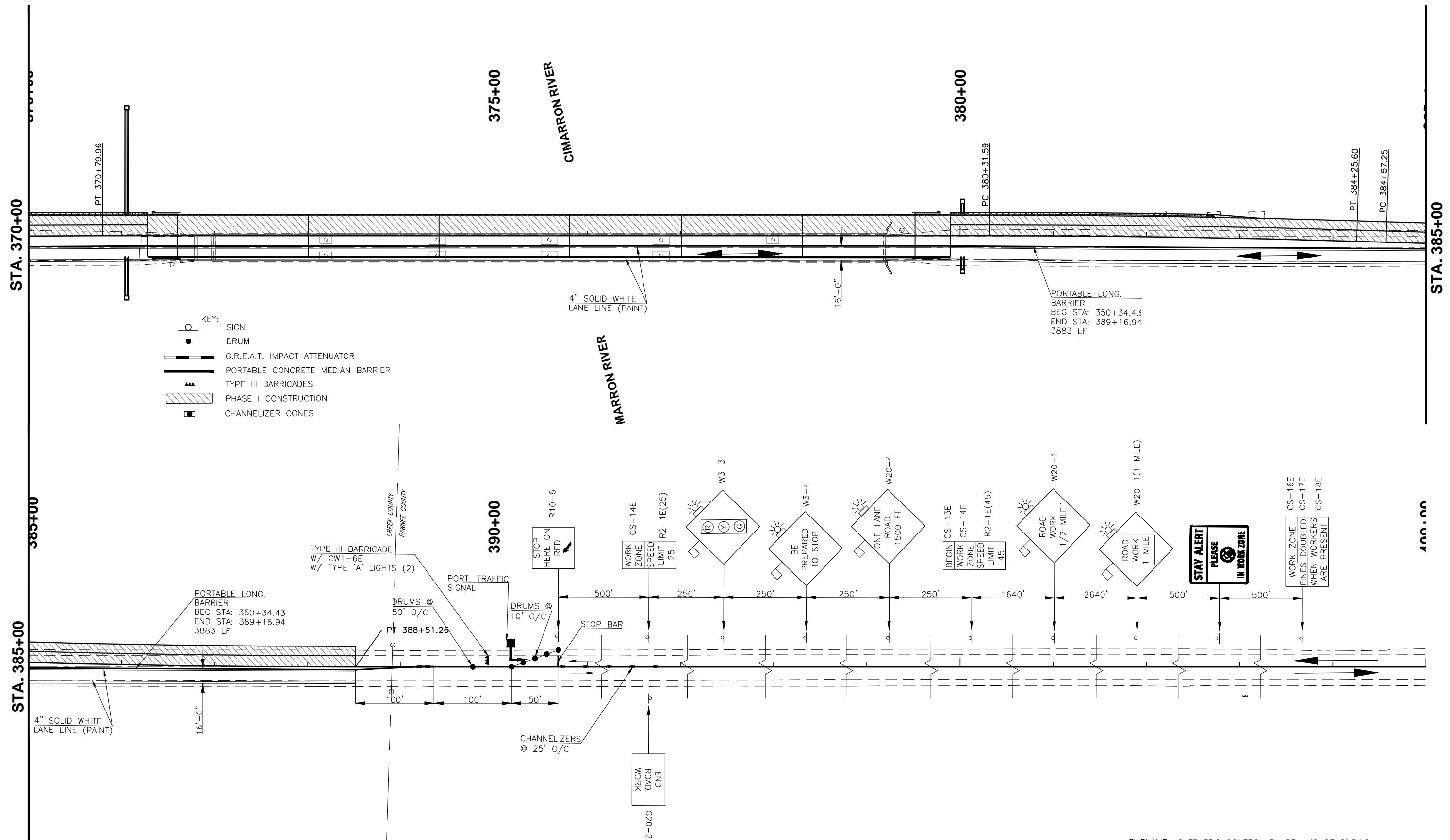
SIGN NUMBER	SPECIAL SIGN NO. 2
WIDTH x HIGHT.	4'-0" x 4'-0"
BORDER WIDTH	1.50"
CORNER RADIUS	2.25"
MOUNTING	Metal Post

SYMBOL	ROT	X	Y	WID	HT
	23.4	24.0	17.1	12.0	12.0

FILENAME: 18 TRAFFIC CONTROL PHASE I (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	TRAFFIC CONTROL PHASE I (1 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 17

DESCRIPTION	REVISIONS	DATE

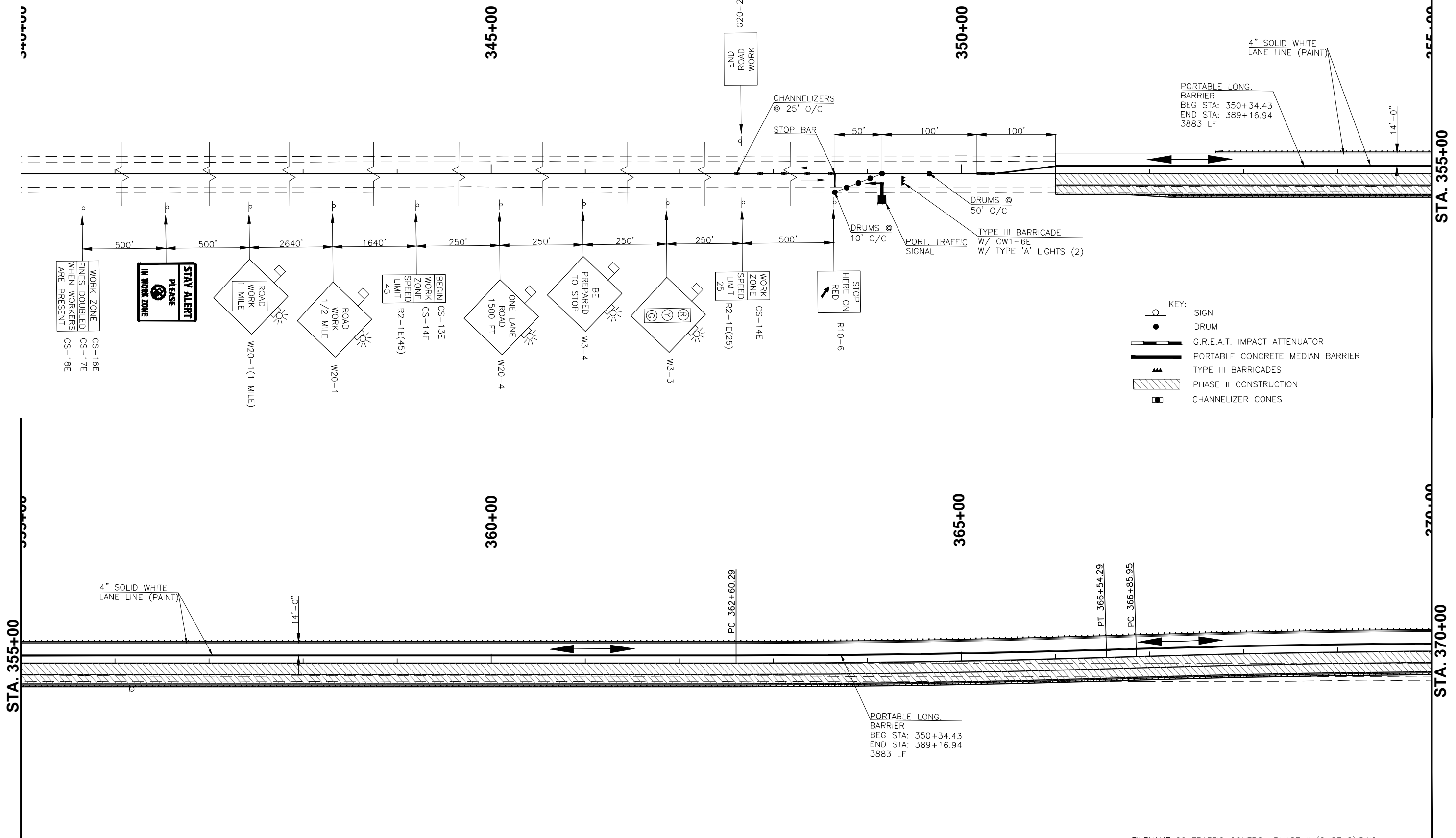


- KEY:
- SIGN
 - DRUM
 - G.R.E.A.T. IMPACT ATTENUATOR
 - PORTABLE CONCRETE MEDIAN BARRIER
 - TYPE III BARRICADES
 - PHASE I CONSTRUCTION
 - CHANNELIZER CONES

FILENAME: 18 TRAFFIC CONTROL PHASE I (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	TRAFFIC CONTROL PHASE I (2 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 18

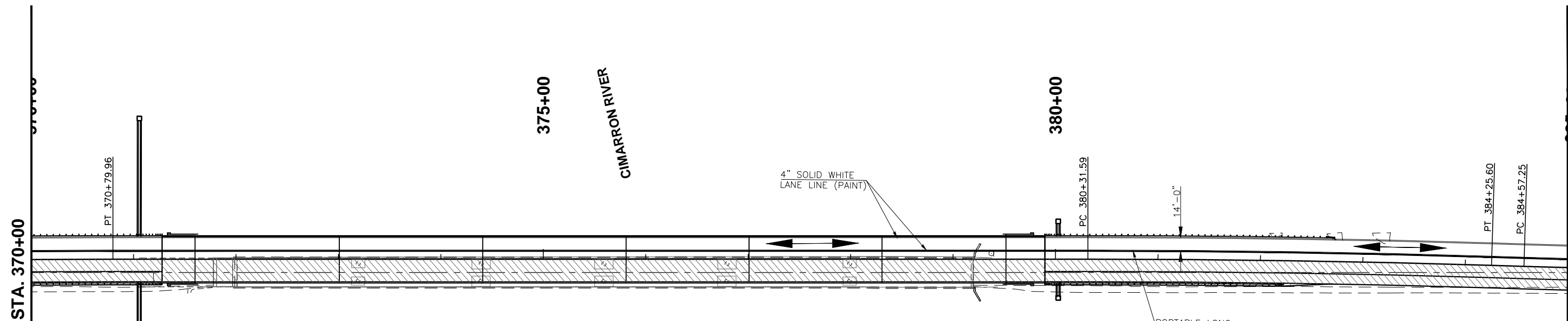
DESCRIPTION	REVISIONS	DATE



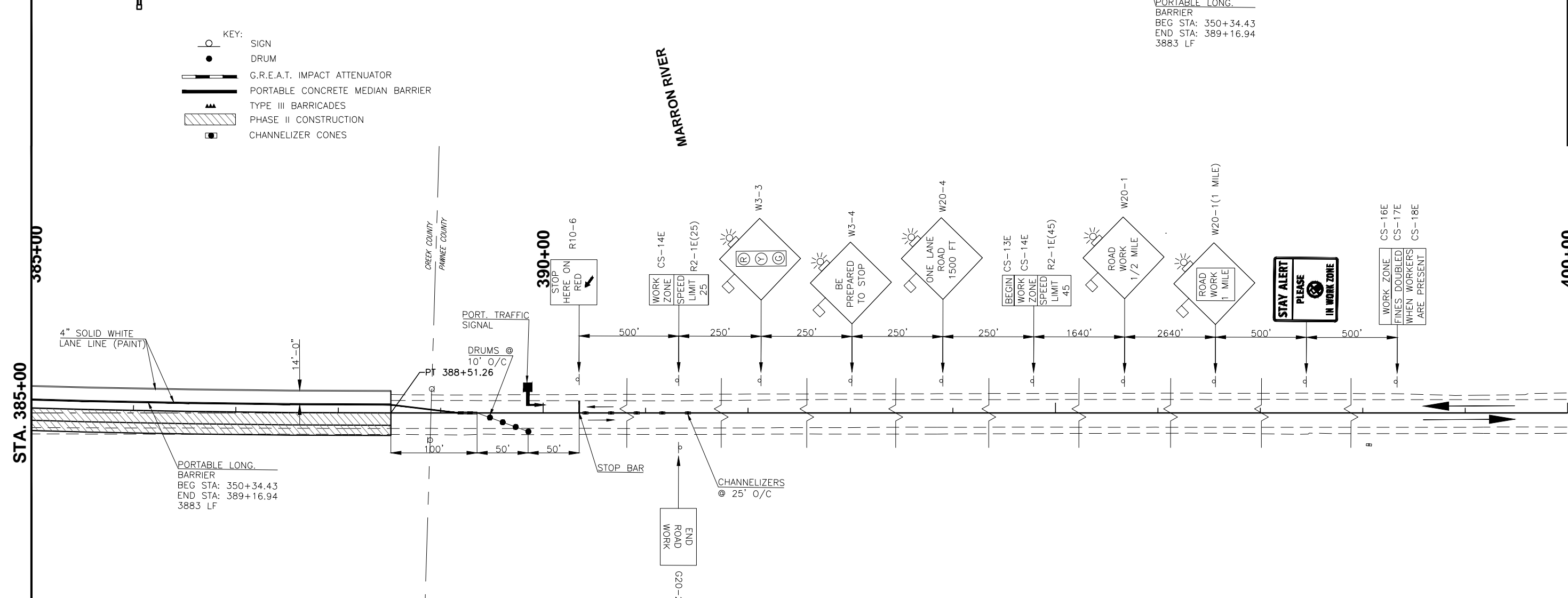
FILENAME: 20 TRAFFIC CONTROL PHASE II (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	TRAFFIC CONTROL PHASE II (1 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 19

DESCRIPTION	REVISIONS	DATE



- KEY:
- SIGN
 - DRUM
 - G.R.E.A.T. IMPACT ATTENUATOR
 - PORTABLE CONCRETE MEDIAN BARRIER
 - TYPE III BARRICADES
 - PHASE II CONSTRUCTION
 - CHANNELIZER CONES



FILENAME: 20 TRAFFIC CONTROL PHASE II (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	TRAFFIC CONTROL PHASE II (2 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 20

DESCRIPTION	REVISIONS	DATE

UUUUU

355+00

360+00

365+00

STA. 365+00

2800 LF
4" SOLID WHITE

372 LF
4" DASHED YELLOW

PC 362+60.29
BM #4

364+57.29

BM #3

STA 356+00 30' RT CRL
PLACE 'W8-13' SIGN

370+00

375+00

STA. 380+00

STA. 365+00

3000 LF
4" SOLID WHITE

408 LF
4" DASHED YELLOW

PT 366+54.29

PC 366+85.95

368+82.95

PT 370+79.96

STA 371+15 30' RT CRL
PLACE 'CIMARRON RIVER' SIGN

BM #5

STA 379+85 30' LT CRL
PLACE 'CIMARRON RIVER' SIGN

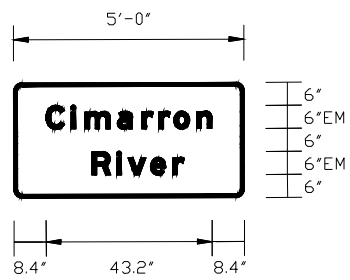
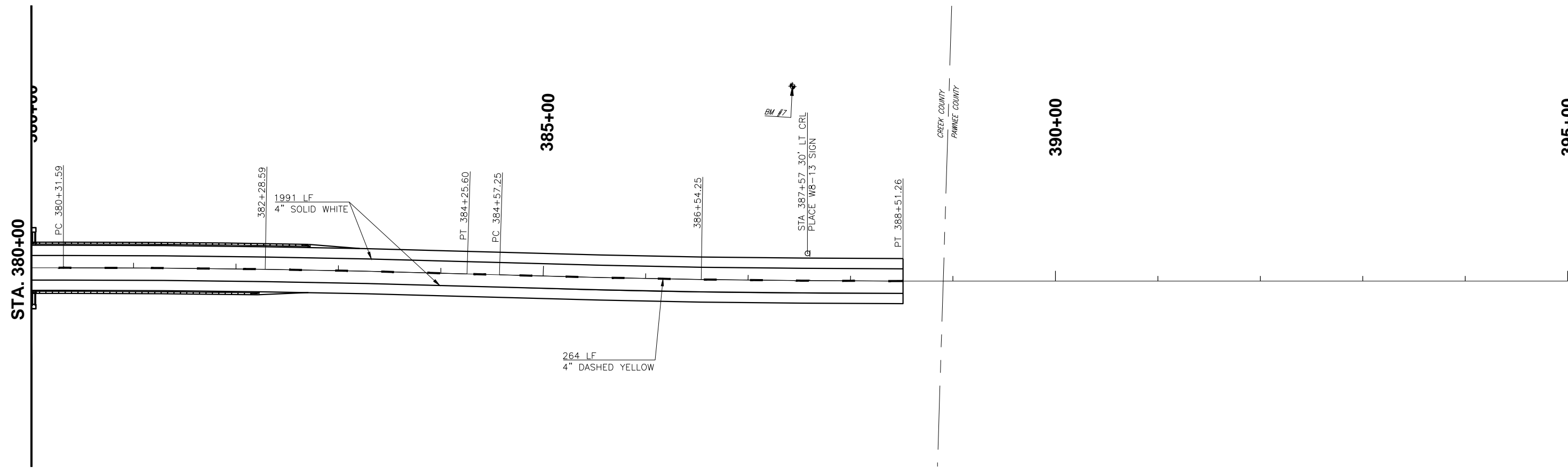
BM #6

BM #6A

FILENAME: 22 SIGNING & STRIPING (2 OF 2).DWG

DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	SIGNING & STRIPING (1 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 21

DESCRIPTION	REVISIONS	DATE



BACKGROUND
TYPE=REFLECTIVE
COLOR=GREEN

BORDER
R=2.25"
TH=1"
TYPE=REFLECTIVE
COLOR=WHITE

SPECIAL SIGN NO. 1

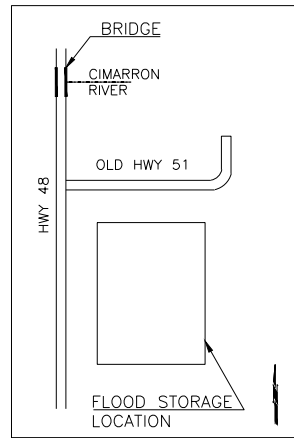
Dimensions are in inches.tenths Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)								LENGTH	SERIES/SIZE
C	i	m	a	r	r	o	n		EM 2000
8.4	14.9	18.5	27	33.4	37.8	41.7	47.6	43.2	6/4.5
R	i	v	e	r					EM 2000
20.3	26.8	29.8	35.6	41.4				24.1	6/4.5

FILENAME: 22 SIGNING & STRIPING (2 OF 2).DWG

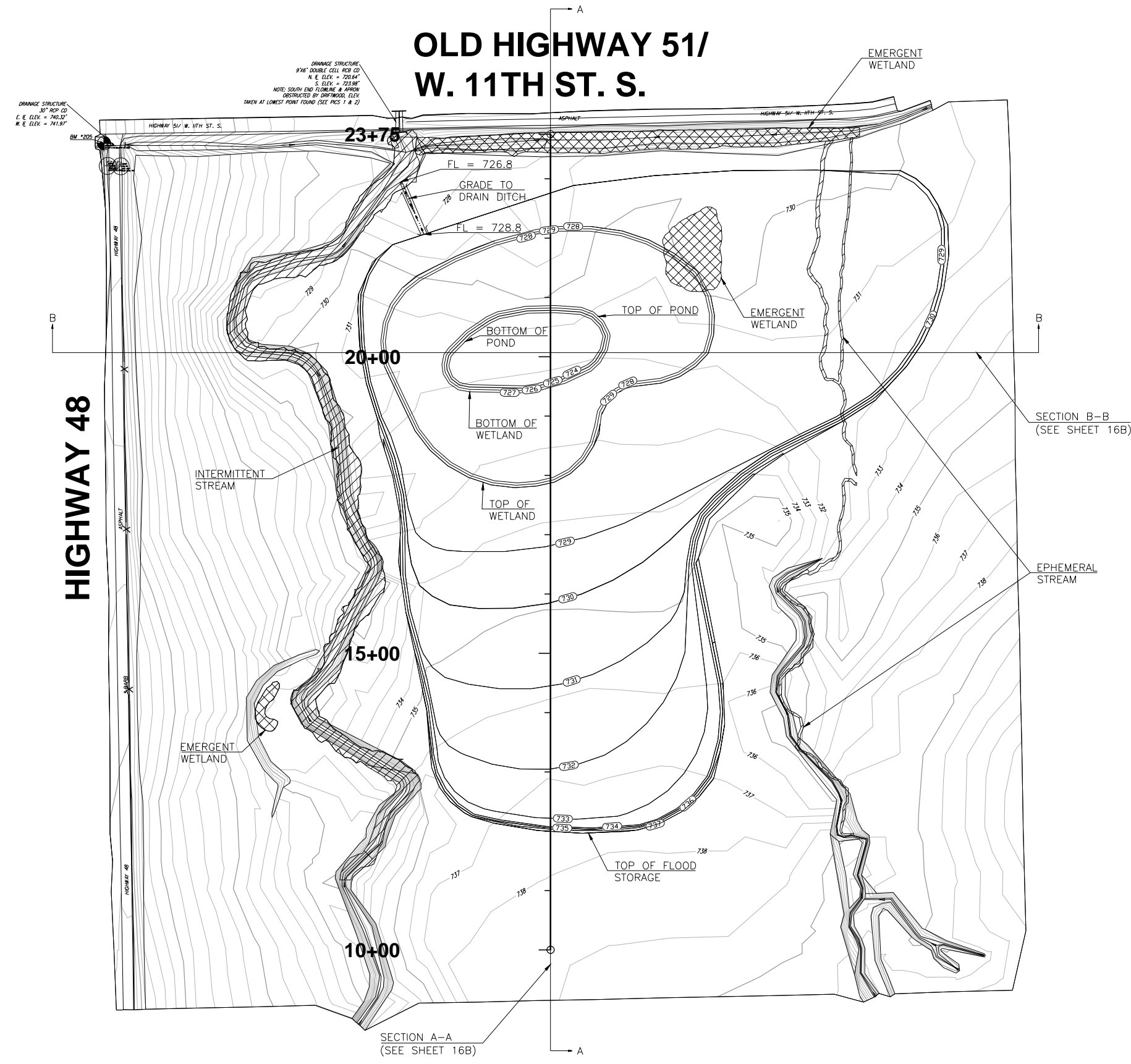
DESIGN	C.W.T.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	SIGNING & STRIPING (2 OF 2)	
CHECKED	S.N.H.		
CEC		STATE JOB NO. 27925(04)	SHEET NO. 22

DESCRIPTION	REVISIONS	DATE



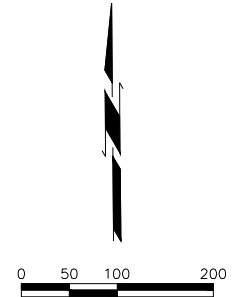
LOCATION MAP
(N.T.S.)

OLD HIGHWAY 51/ W. 11TH ST. S.



EXCAVATION VOLUME	
FLOOD STORAGE	= 58,328.59 CY
WETLAND	= 12,654.38 CY
POND	= 8,630.92 CY
TOTAL	= 79,613.89 CY

NOTE: ALL WASTE MATERIAL SHALL BE PLACED ABOVE ELEVATION = 754 FT



FILENAME: 24 CROSS SECTION.DWG			
DESIGN	C.W.T.	SH 48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	C.W.T.	FLOOD STORAGE GRADING PLAN	
CHECKED	S.N.H.		
CEC		JOB PIECE NO. 27925(04)	SHEET NO. 23

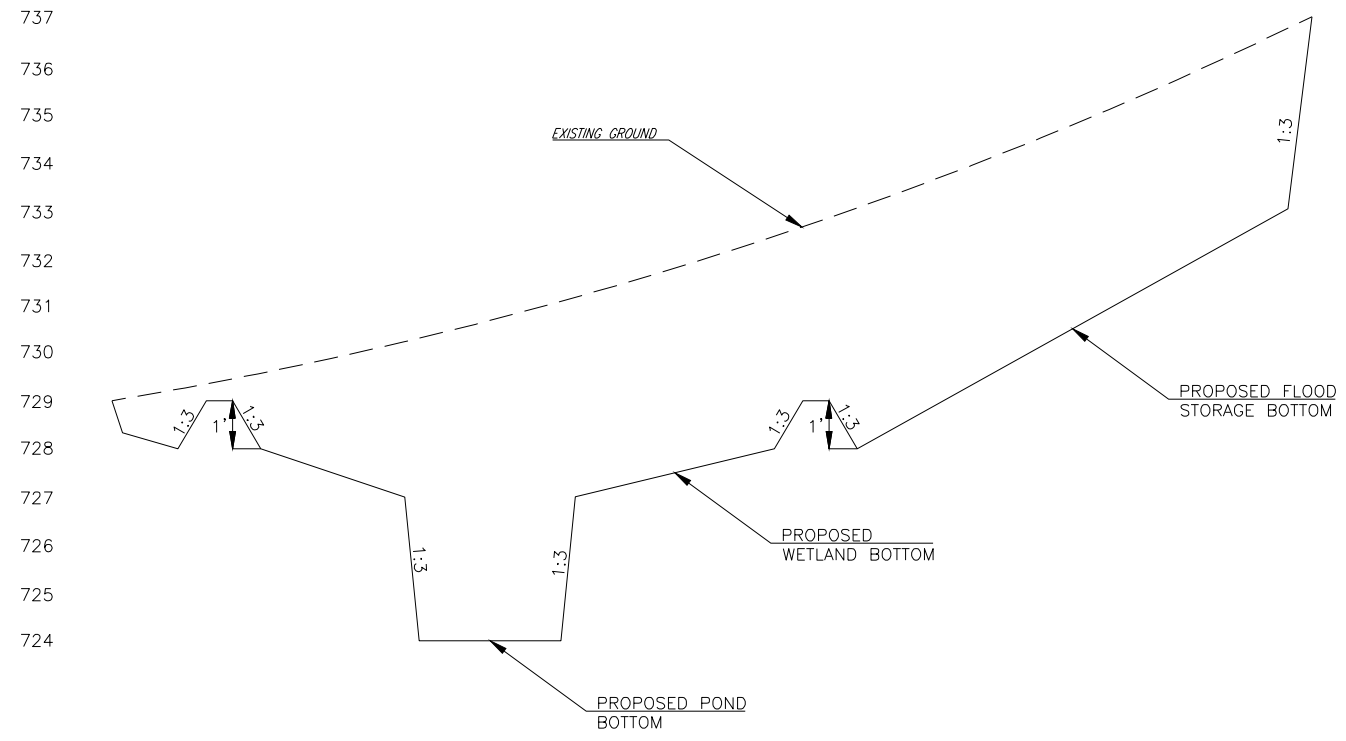
BRIDGE STRUCTURE:
30" RCP CD
E. E. ELEV. = 740.32"
W. E. ELEV. = 741.97"

BRIDGE STRUCTURE:
8"X8" DOUBLE CELL RCP CD
N. E. ELEV. = 720.64"
S. ELEV. = 723.88"
NOTE: SOUTH END FLOWING & APRON
OBSTRUCTED BY DRIFTWOOD. ELEV.
TAKEN AT LOWEST POINT FOUND (SEE PICS 1 & 2)

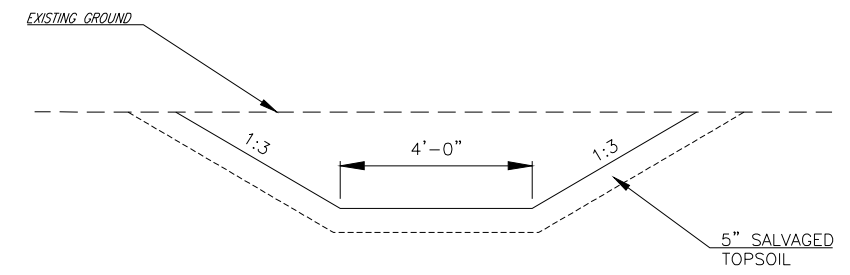
SECTION A-A
(SEE SHEET 16B)

SECTION B-B
(SEE SHEET 16B)

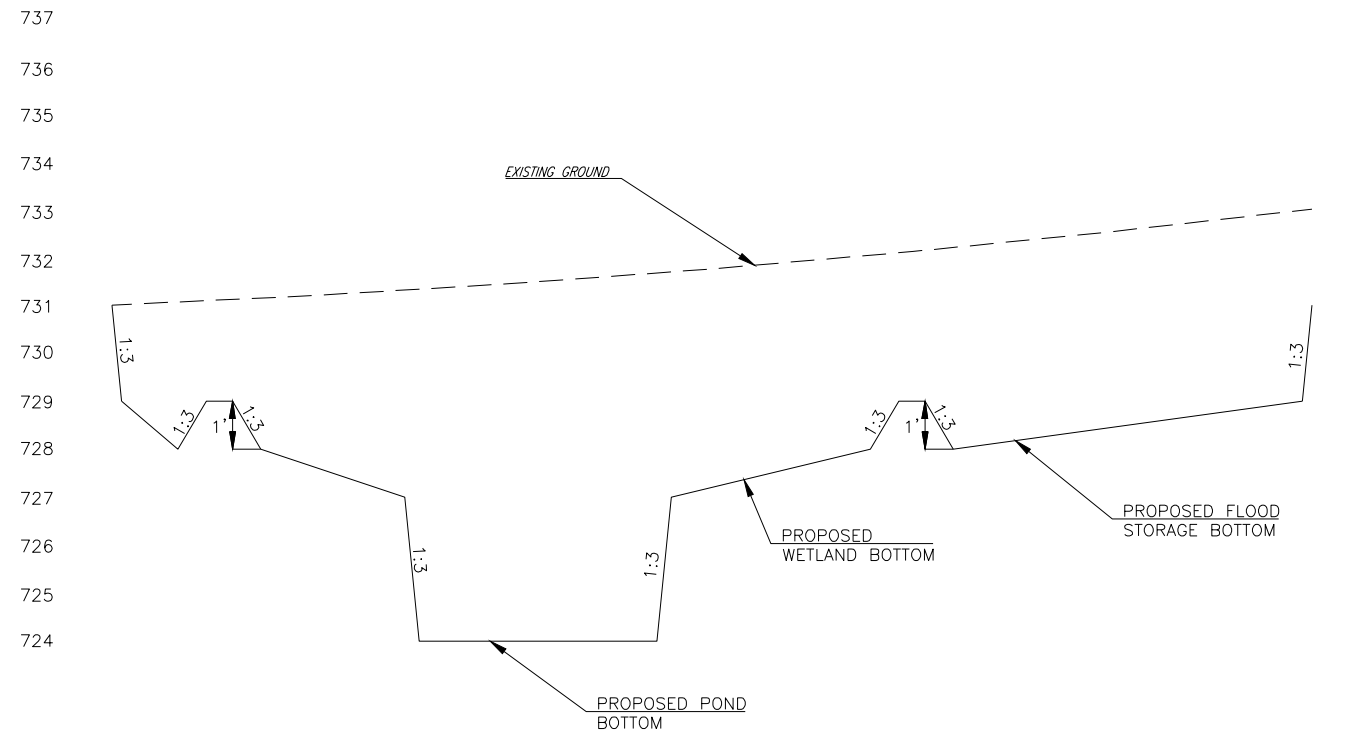
DESCRIPTION	REVISIONS	DATE



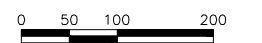
GENERAL BORROW PIT CROSS SECTION (A-A)
NOT TO SCALE



GENERAL OUTFLOW DITCH
NOT TO SCALE



GENERAL BORROW PIT CROSS SECTION (B-B)
NOT TO SCALE



FILENAME: 24 CROSS SECTION.DWG		SH 48 OVER CIMARRON RIVER		CREEK COUNTY
DESIGN	C.W.T.			
DRAWN	C.W.T.			
CHECKED	S.N.H.			
CEC		JOB PIECE NO. 27925(04)		SHEET NO. 24

**FLOOD STORAGE
GRADING PLAN**

DESCRIPTION	REVISIONS	DATE

DESIGN DATA

CONCRETE CLASS A $f'_c = 3$ K.S.I.
 CONCRETE CLASS AA $f'_c = 4$ K.S.I.
 REINFORCING STEEL (GRADE 60) $f_y = 60$ K.S.I.
 STRUCTURAL STEEL M 270 (GRADE 50W) $F_y = 50$ K.S.I.
 STAINLESS STEEL A240 (TYPE 316) $F_y = 30$ K.S.I.

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

DESIGN:
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION.
 ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
 ANSI/AASHTO/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

LFD OPERATING RATING: HS 47.2

HYDRAULIC DATA

TOTAL DRAINAGE AREA = 18,973 SQ. MI.
 CONTROLLED DRAINAGE AREA = 4,075 SQ. MI.
 EFFECTIVE DRAINAGE AREA = 14,898 SQ. MI.

Q2 = 41,400 CFS	Q5 = 76,000 CFS
CHW2 = 735.60 FT	CHW5 = 739.94 FT
V2 = 9.03 FPS	V5 = 12.75 FPS
Q10 = 102,000 CFS	Q25 = 135,000 CFS
CHW10 = 742.94 FT	CHW25 = 746.38 FT
V10 = 14.15 FPS	V25 = 15.55 FPS
Q50 = 161,000 CFS	Q100 = 186,000 CFS
CHW50 = 748.87 FT	CHW100 = 751.11 FT
V50 = 16.49 FPS	V100 = 17.34 FPS
Q500 = 247,000 CFS	
CHW500 = 755.30 FT	
V500 = 22.59 FPS	

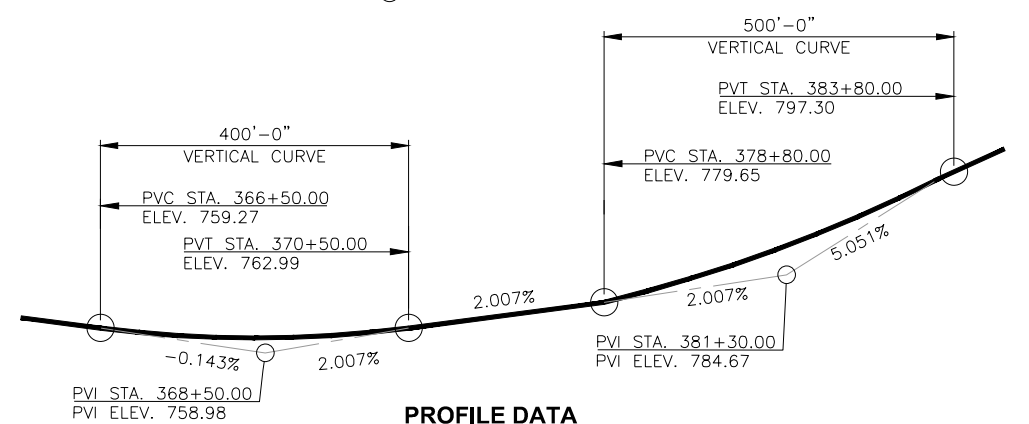
SCOUR (100YR)		SCOUR (500YR)	
① CONTRACTION = 36.68'		① CONTRACTION = 45.39'	
PIER = 9.60'		PIER = 9.60'	
TOTAL = 46.28'		TOTAL = 54.99'	

QOT > Q500

NOTE:
 FOR SHEET INDEX AND LIST OF STANDARDS SEE SHEET 27.

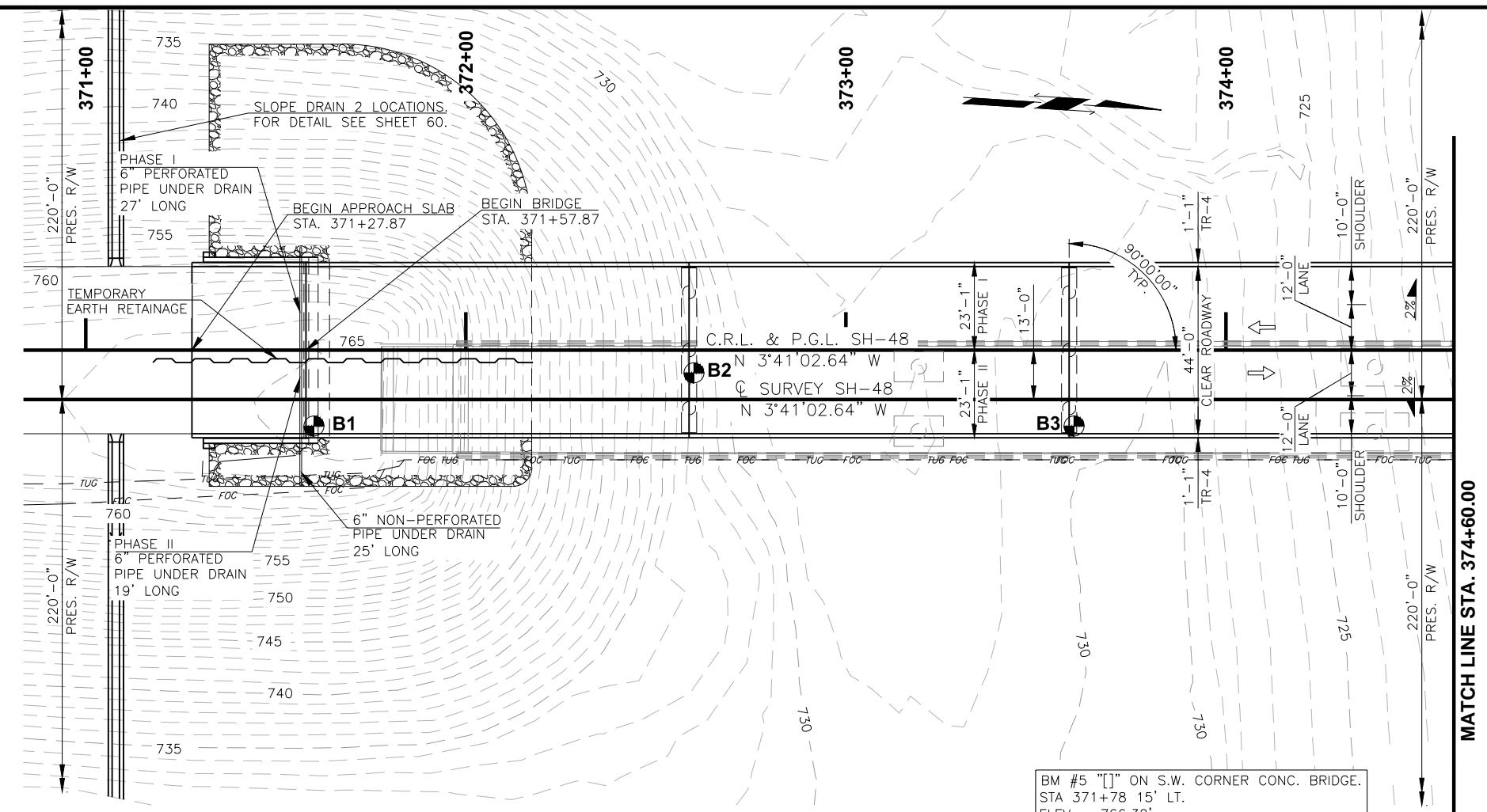
NOTE:
 FOR FOUNDATION DATA AND SUMMARY OF BRIDGE QUANTITIES SEE SHEET 27.

SCOUR NOT APPLICABLE FOR FOUNDATION DESIGN DUE TO ROCK ELEVATION.



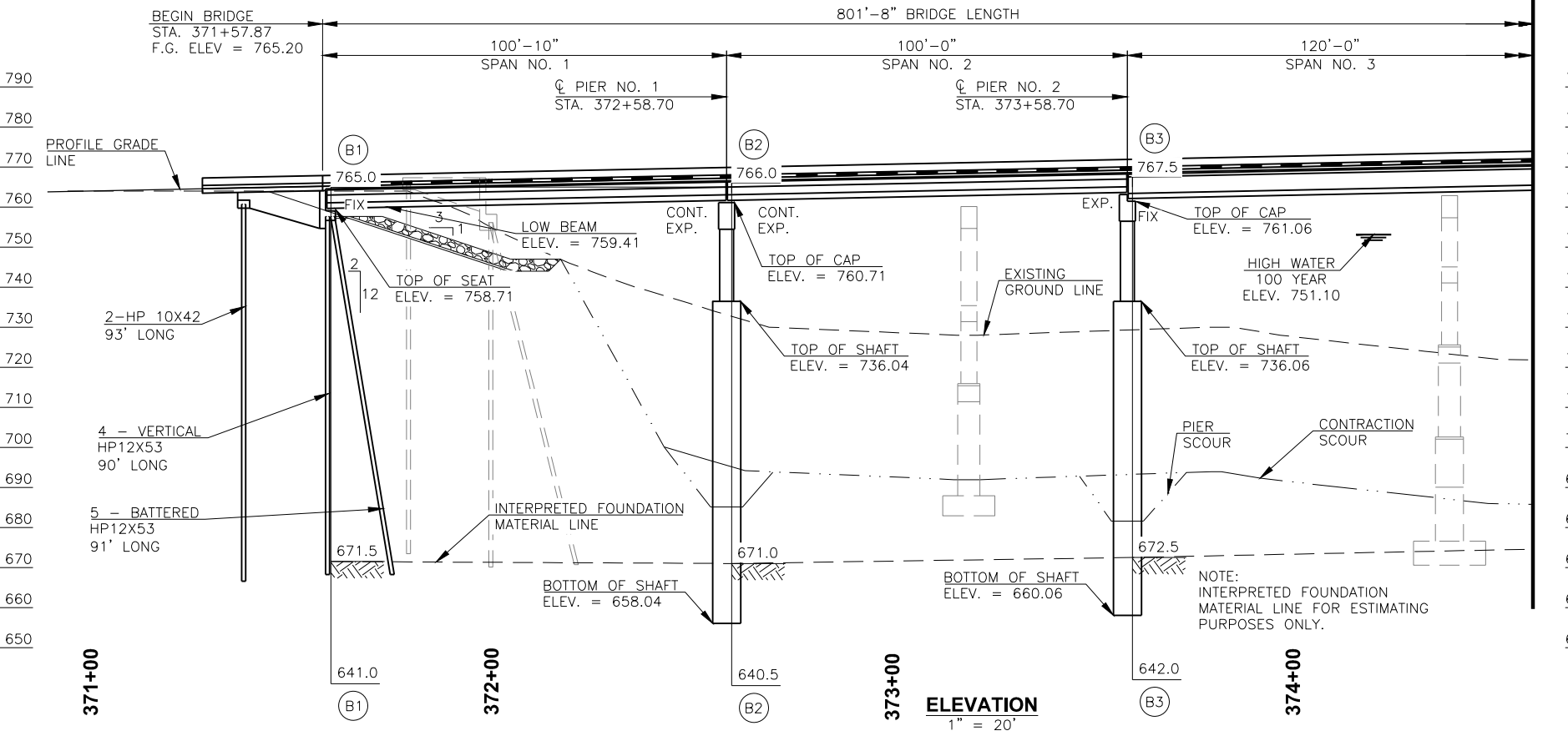
PROFILE DATA
 P.G.L. SH-48

NOTE:
 PROFILE DATA IS 1/2" BELOW TOP OF BRIDGE DECK.
 BEGIN AND END BRIDGE FINISHED GRADE
 ELEVATIONS SHOWN ARE 1/2" ABOVE THE PROFILE
 GRADE LINE TO ALLOW FOR GRINDING SMOOTH
 BRIDGE DECK PHASE LINE AS APPROVED BY THE
 ENGINEER.



PLAN
 1" = 20'

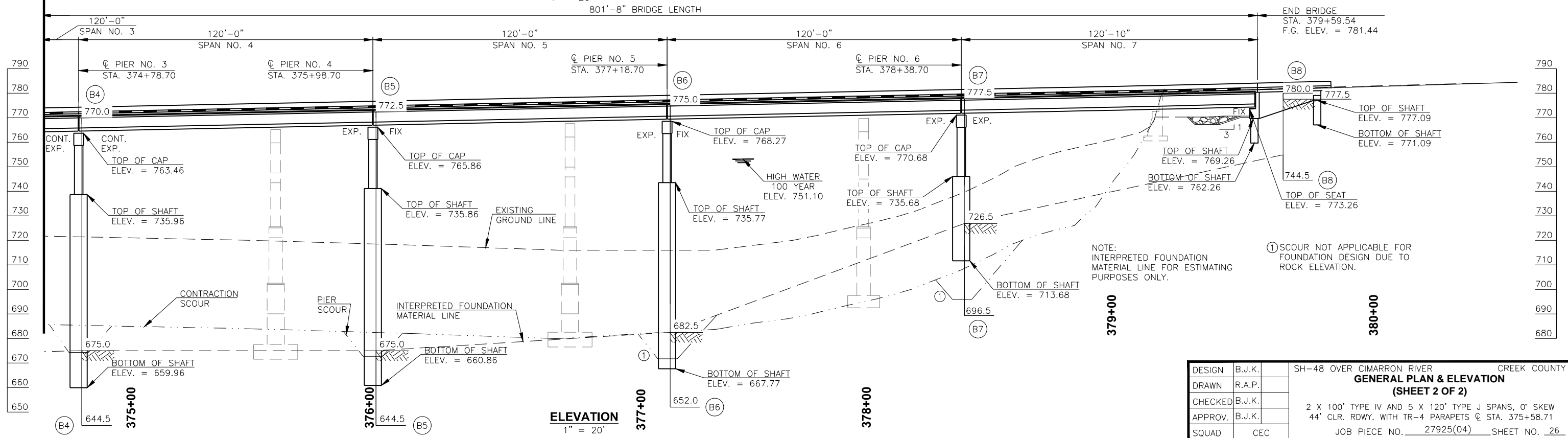
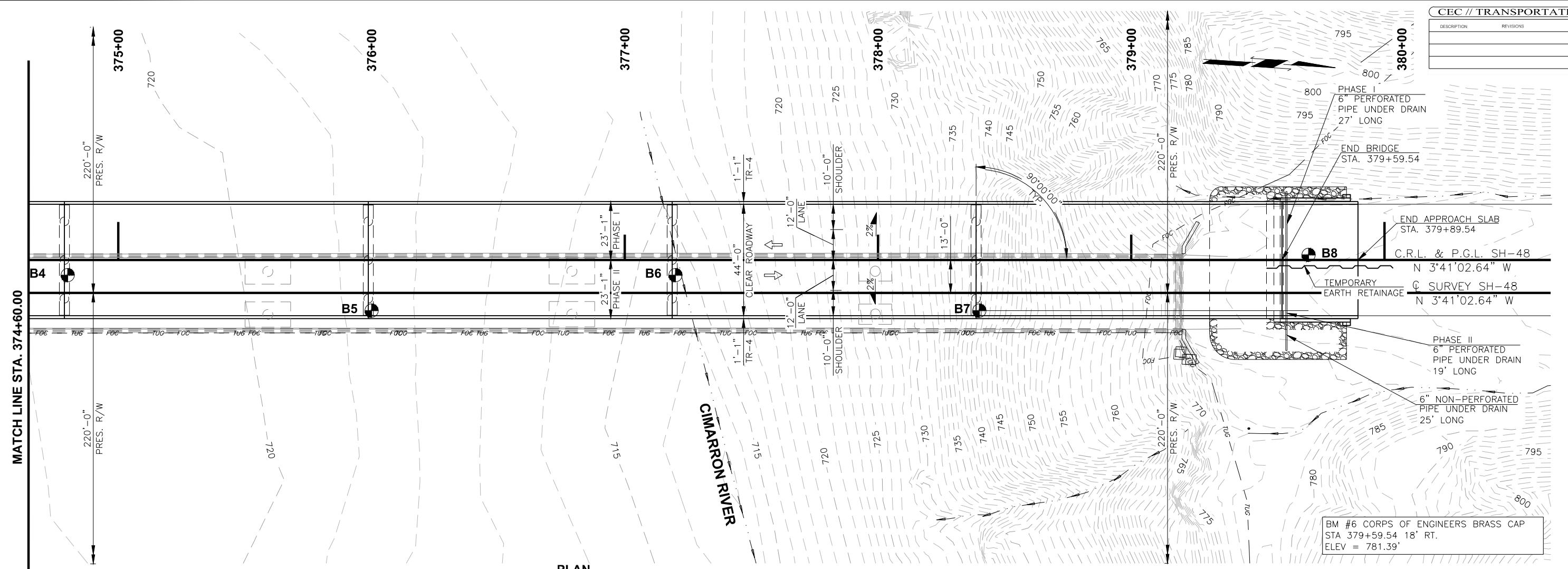
BM #5 "[]" ON S.W. CORNER CONC. BRIDGE.
 STA 371+78 15' LT.
 ELEV = 766.32'



ELEVATION
 1" = 20'

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	R.A.P.	GENERAL PLAN & ELEVATION (SHEET 1 OF 2)	
CHECKED	B.J.K.		
APPROV.	B.J.K.	2 X 100' TYPE IV AND 5 X 120' TYPE J SPANS, 0' SKEW 44' CLR. RDWY. WITH TR-4 PARAPETS @ STA. 375+58.71	
SQUAD	CEC	JOB PIECE NO. 27925(04)	SHEET NO. 25

DESCRIPTION	REVISIONS	DATE



NOTE:
INTERPRETED FOUNDATION
MATERIAL LINE FOR ESTIMATING
PURPOSES ONLY.

① SCOUR NOT APPLICABLE FOR
FOUNDATION DESIGN DUE TO
ROCK ELEVATION.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	R.A.P.	GENERAL PLAN & ELEVATION (SHEET 2 OF 2)	
CHECKED	B.J.K.		
APPROV.	B.J.K.	2 X 100' TYPE IV AND 5 X 120' TYPE J SPANS, 0' SKEW 44' CLR. RDWY. WITH TR-4 PARAPETS @ STA. 375+58.71	
SQUAD	CEC	JOB PIECE NO. 27925(04) SHEET NO. 26	

DESCRIPTION	REVISIONS	DATE

**SH-48 OVER THE CIMARRON RIVER
CONSTRUCTION SEQUENCE NOTES**

MAINTAIN ONE ALTERNATING LANE OF TRAFFIC FOR SH-48 AT ALL TIMES.

PHASE I

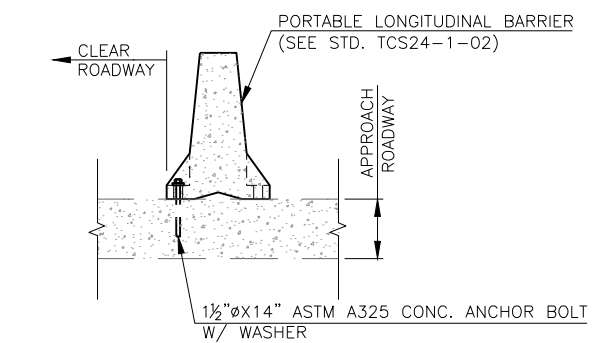
1. PLACE PORTABLE LONGITUDINAL BARRIER ON EAST SIDE OF EXISTING STRUCTURE AND MOVE TRAFFIC.
2. REMOVE WEST SIDE OF EXISTING STRUCTURE INCLUDING PIER CAP 6" FROM WEST PIER COLUMN.
3. CONSTRUCT ONE HALF OF NEW BRIDGE.

PHASE II

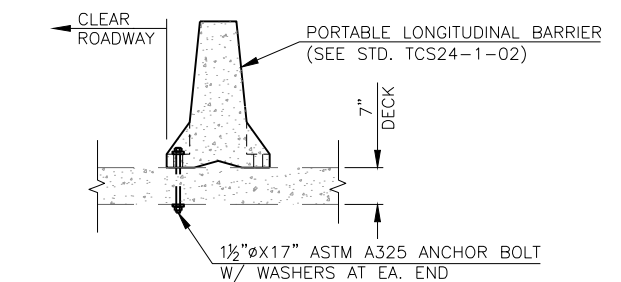
1. REPLACE PORTABLE LONGITUDINAL BARRIER ON NEW SIDE OF BRIDGE AND MOVE TRAFFIC.
2. REMOVE REMAINING SIDE OF EXISTING STRUCTURE.
3. CONSTRUCT REMAINDER OF THE NEW BRIDGE.
4. REMOVE ALL PORTABLE LONGITUDINAL BARRIERS AND MOVE TRAFFIC TO FINAL LANE CONFIGURATION.

NOTE:
PORTABLE LONGITUDINAL BARRIER SHALL BE ANCHORED TO THE DECK AND APPROACH SLABS.

NOTE:
PHASE I EXISTING AND NEW SUBSTRUCTURES DO NOT CONFLICT. REFERENCE GENERAL PLAN & ELEVATION.



AT APPROACH SLAB

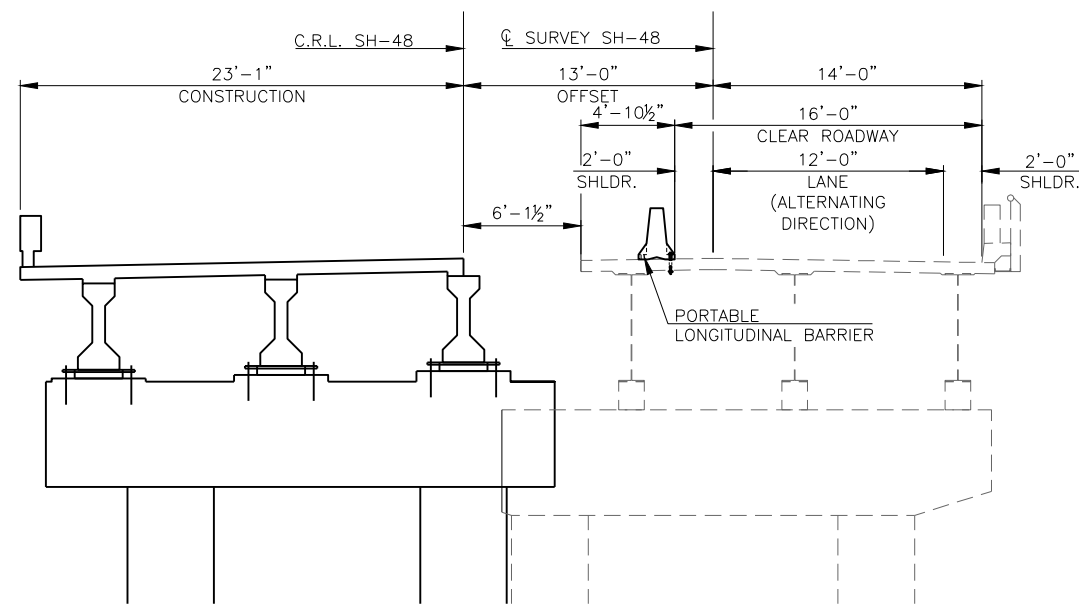


AT BRIDGE DECK

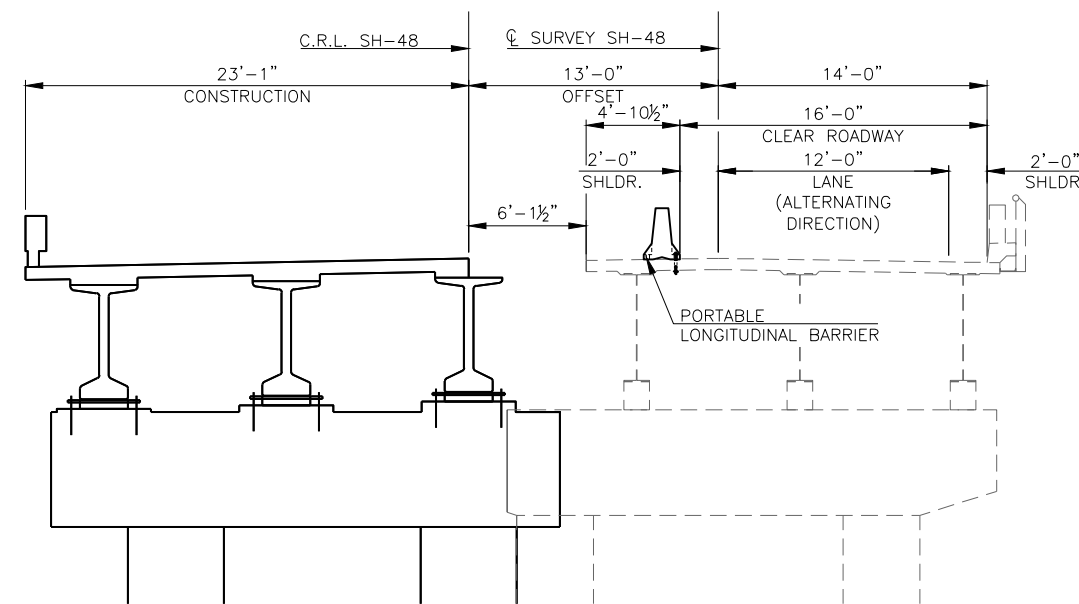
TEMPORARY BARRIER DETAILS

NOTE:
PORTABLE LONGITUDINAL BARRIER SHALL NOT BE ANCHORED TO THE NEW BRIDGE DECK OR APPROACH SLAB.

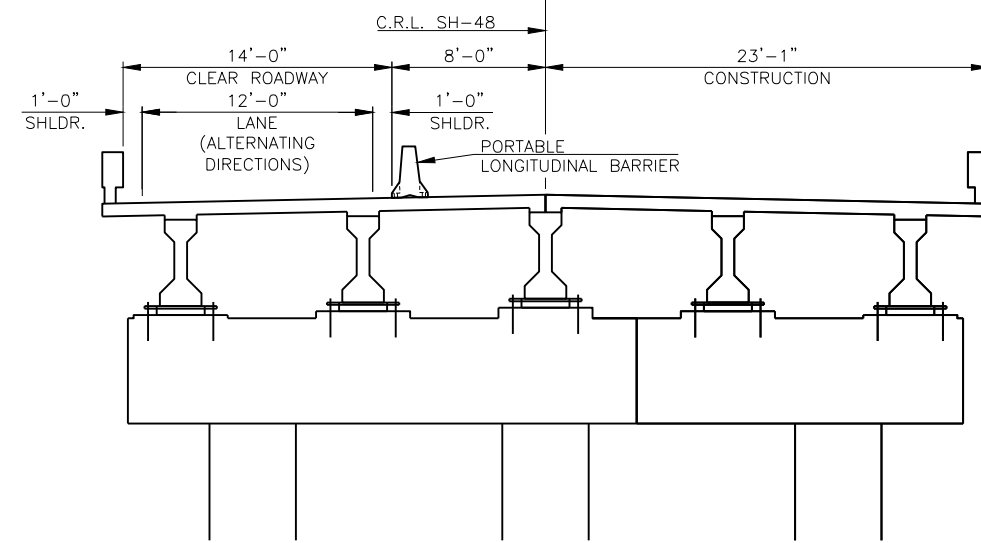
PROVIDE PORTABLE LONGITUDINAL BARRIER ANCHORS AS DETAILED TO ANCHOR TO THE EXISTING BRIDGE DECK AND APPROACH. ALL COST OF BOLTS WITH WASHERS AND NUTS, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID FOR "PORTABLE LONGITUDINAL BARRIER".



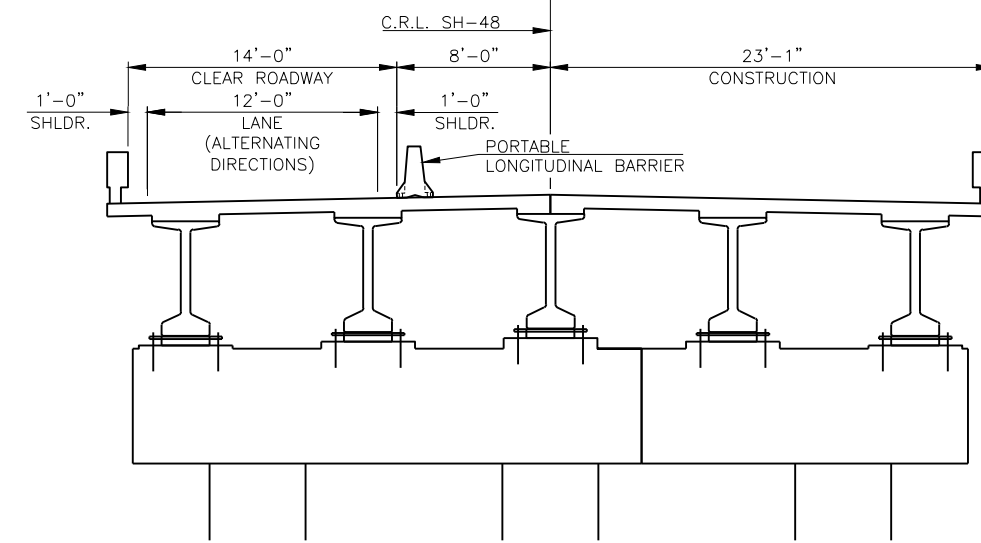
**PHASE I
SPANS 1 & 2**



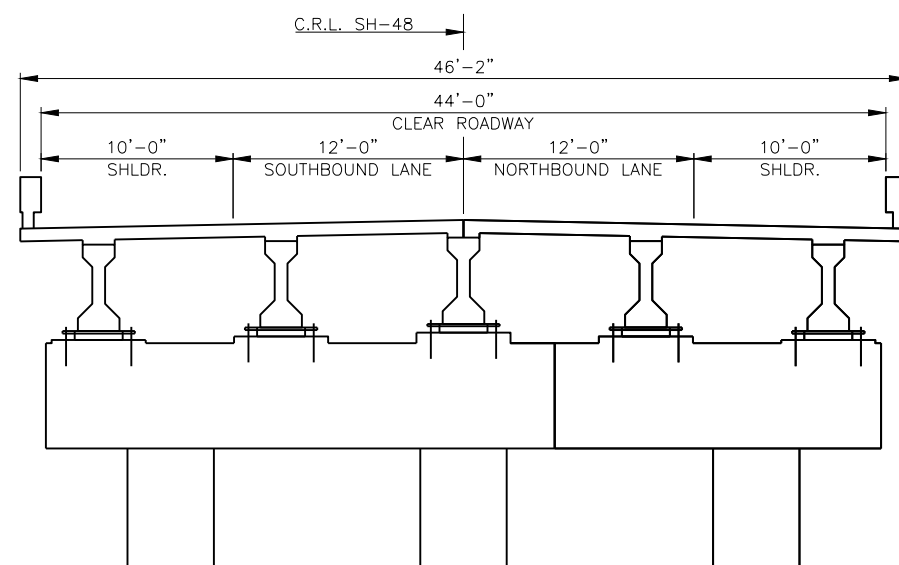
**PHASE I
SPANS 3-7**



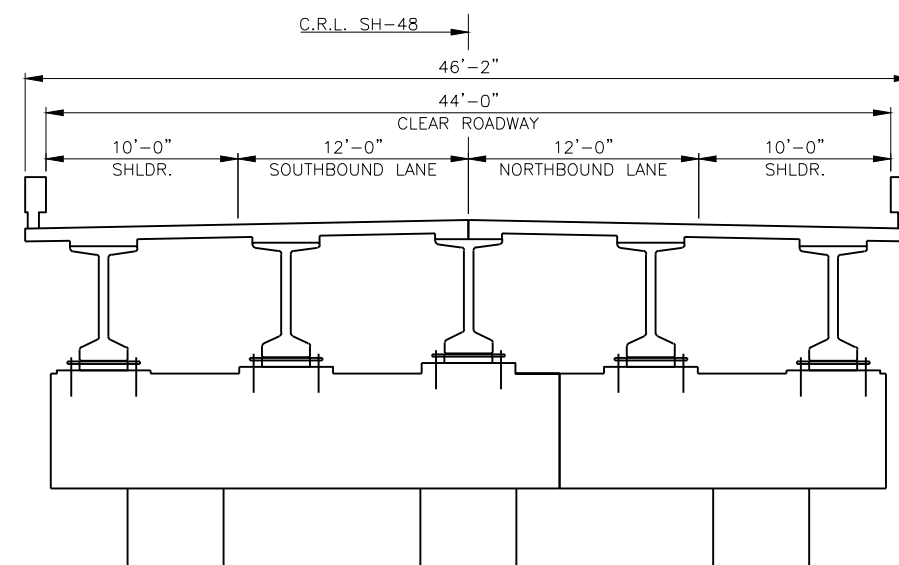
**PHASE II
SPANS 1 & 2**



**PHASE II
SPANS 3-7**



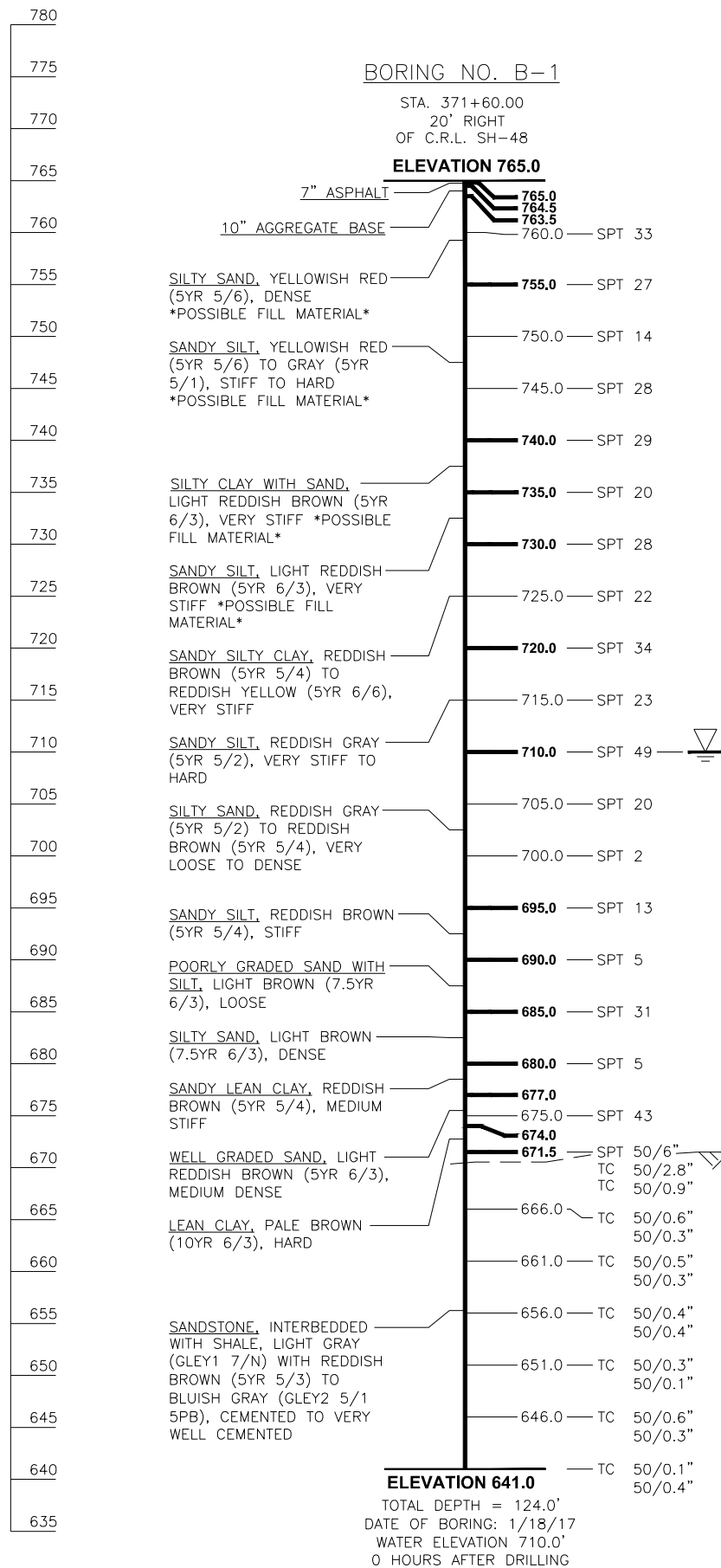
**FINAL CONSTRUCTION
SPANS 1 & 2**



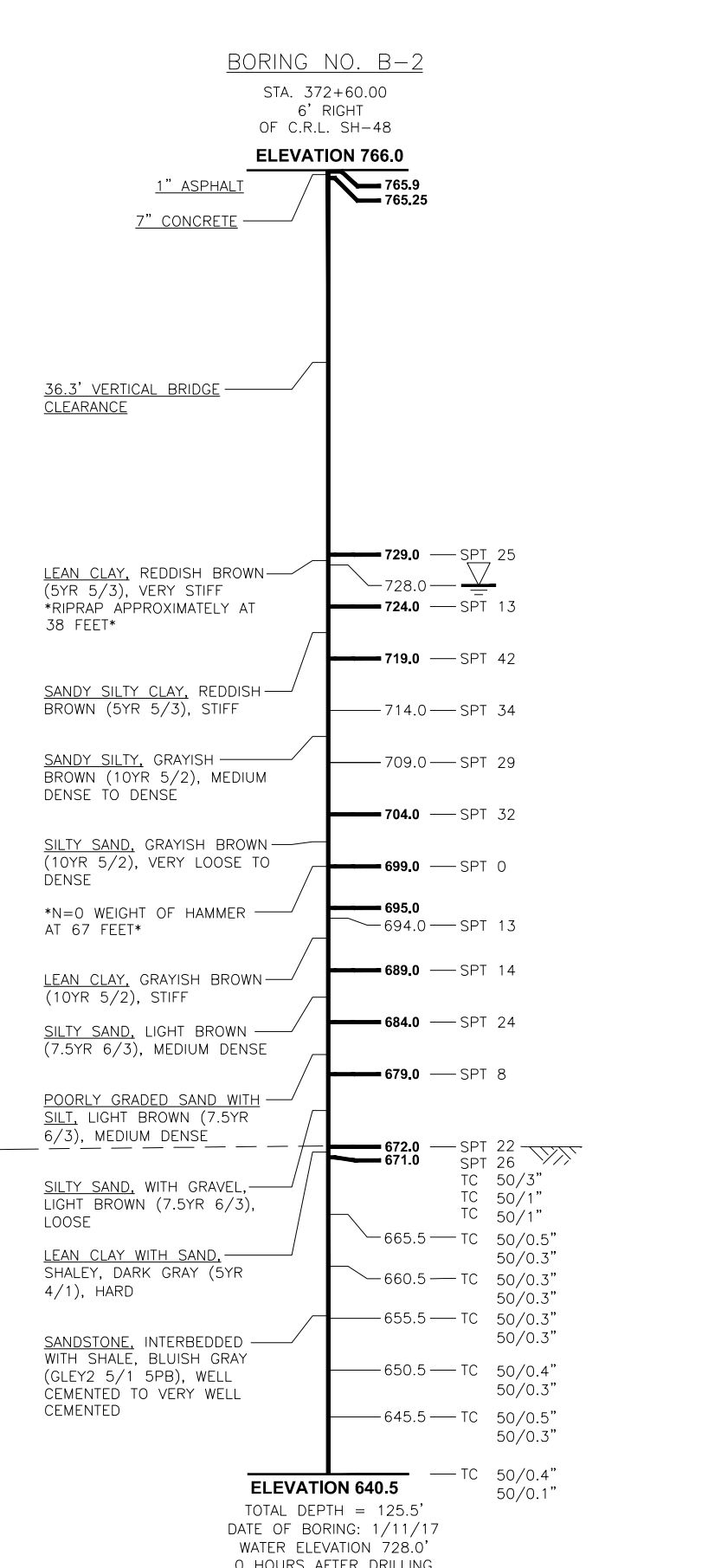
**FINAL CONSTRUCTION
SPANS 3-7**

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.J.K.	CONSTRUCTION SEQUENCE	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 28

DESCRIPTION	REVISIONS	DATE



INTERPRETED FOUNDATION MATERIAL LINE



- NOTES:
- SPT DENOTES STANDARD PENETRATION TESTS
 - TCP DENOTES TEXAS CONE PENETRATION TESTS
 - ▽ DENOTES WATER ELEVATION DURING DRILLING
 - ▽ DENOTES WATER ELEVATION AT NOTED TIME
 - ▽ DENOTES CAVE IN DEPTH
 - /// DENOTES ROCK ELEVATION

NOTE:
 INTERPRETED FOUNDATION MATERIAL LINE FOR ESTIMATING PURPOSES ONLY.

NOTE:
 ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA. TO OBTAIN A COPY OF THE COMPLETE REPORT, CONTACT THE ODOT OFFICE ENGINEER AT (405) 521-2625. THE CONTRACTOR SHOULD BE FULLY AWARE OF THE SITE CONDITIONS PRIOR TO BEGINNING WORK. ANY ADDITIONAL GEOTECHNICAL INFORMATION WHICH MAY BE DESIRED IS THE RESPONSIBILITY OF THE CONTRACTOR.

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

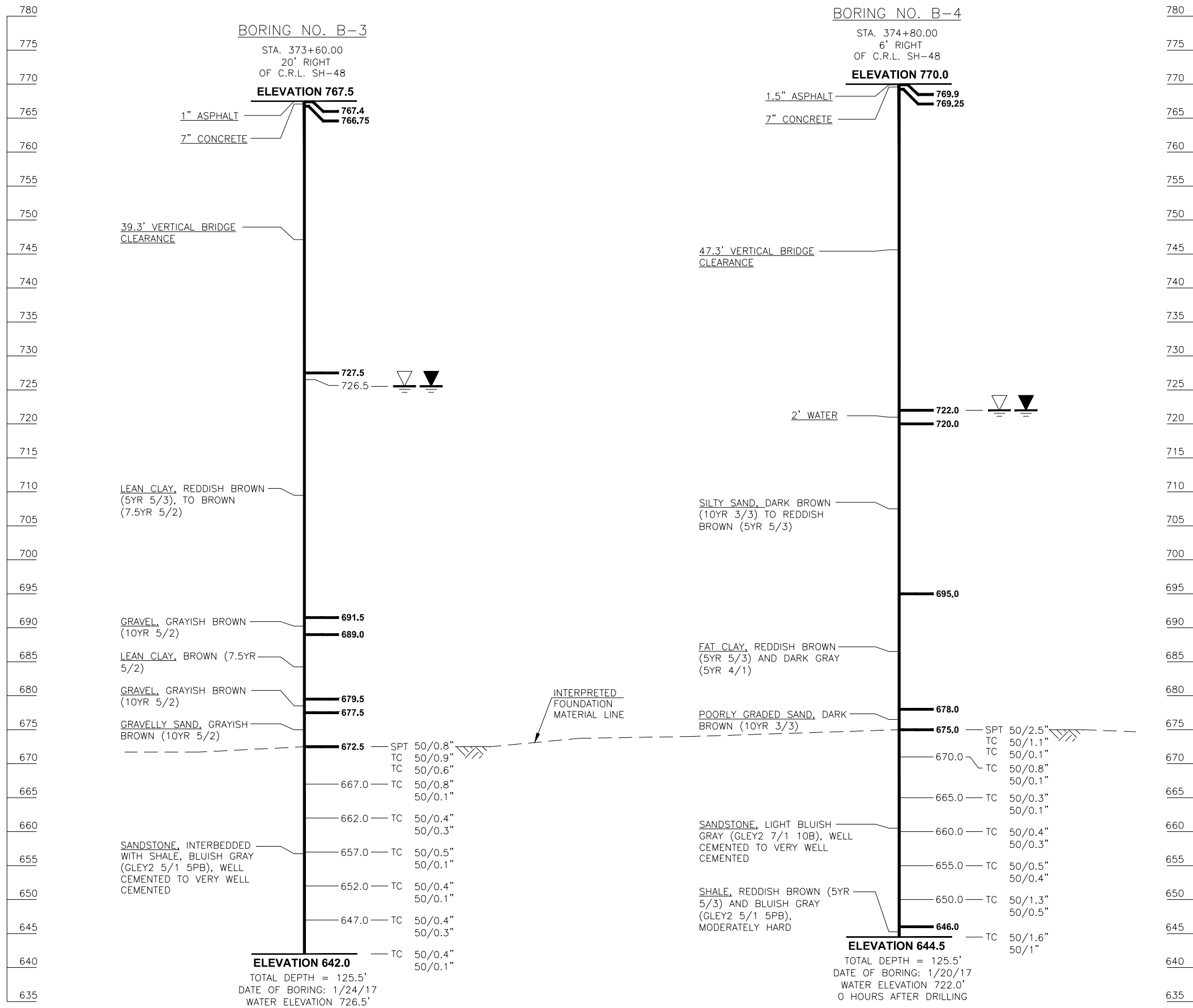
GEOLOGICAL STATEMENT

"DIVISION EIGHT ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) INDICATES THE PROJECT SITE IS UNDERLAIN BY TALLANT UNIT (PCC).

THE TALLANT UNIT (PTA) CONSISTS OF A MASSIVE, BROWNISH SANDSTONE, SOME GRAYISH SHALES, AND A MINOR AMOUNT OF THIN-BEDDED LIMESTONE.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	FOUNDATION REPORT (SHEET 1 OF 4)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 29

DESCRIPTION	REVISIONS	DATE



- NOTES:
- SPT DENOTES STANDARD PENETRATION TESTS
 - TCP DENOTES TEXAS CONE PENETRATION TESTS
 - ▽ DENOTES WATER ELEVATION DURING DRILLING
 - ▼ DENOTES WATER ELEVATION AT NOTED TIME
 - ▽ DENOTES CAVE IN DEPTH
 - ▨ DENOTES ROCK ELEVATION

NOTE:
 INTERPRETED FOUNDATION MATERIAL LINE FOR ESTIMATING PURPOSES ONLY.

NOTE:
 ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA. TO OBTAIN A COPY OF THE COMPLETE REPORT, CONTACT THE ODOT OFFICE ENGINEER AT (405) 521-2625. THE CONTRACTOR SHOULD BE FULLY AWARE OF THE SITE CONDITIONS PRIOR TO BEGINNING WORK. ANY ADDITIONAL GEOTECHNICAL INFORMATION WHICH MAY BE DESIRED IS THE RESPONSIBILITY OF THE CONTRACTOR.

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

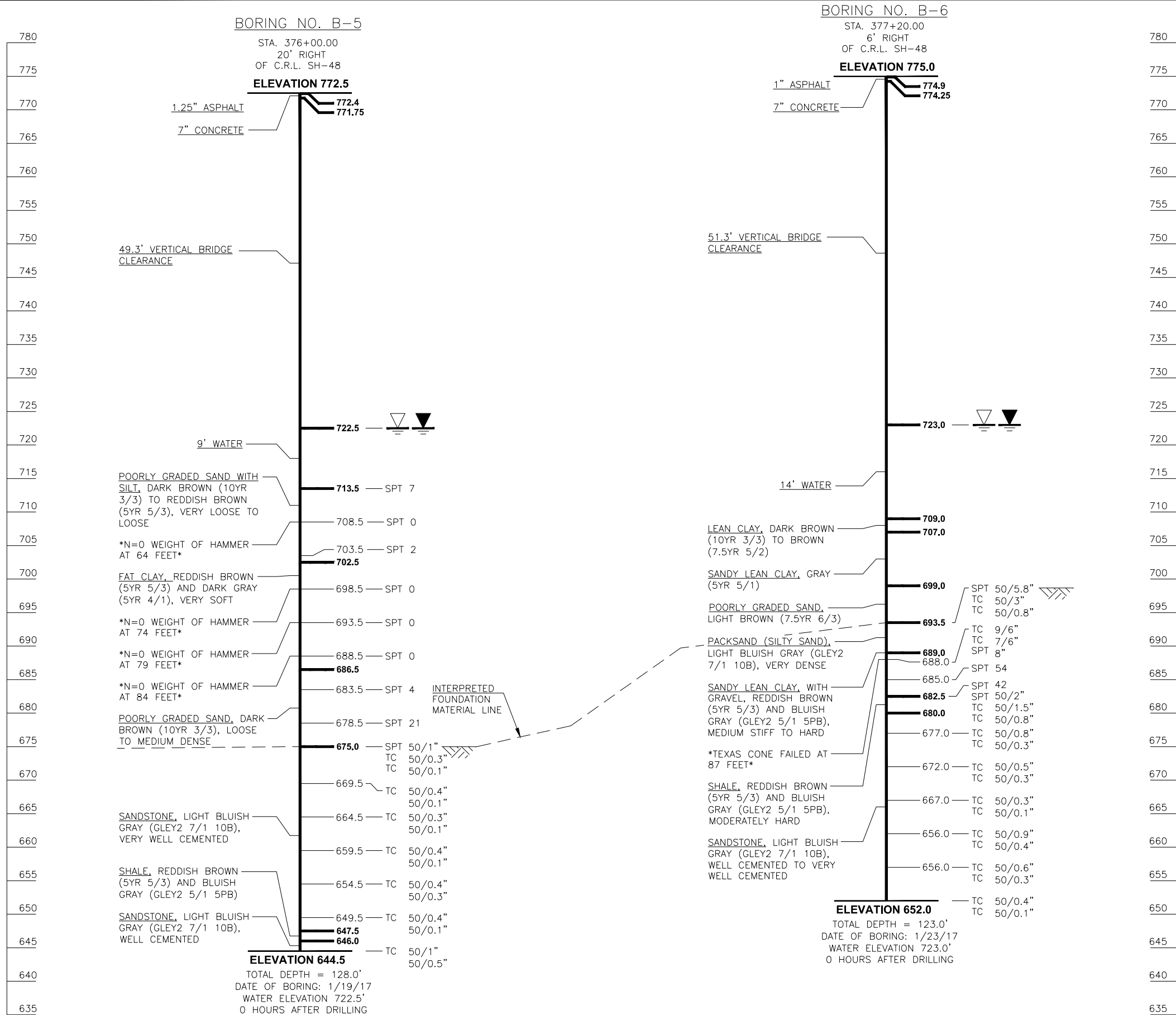
GEOLOGICAL STATEMENT

"DIVISION EIGHT ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) INDICATES THE PROJECT SITE IS UNDERLAIN BY TALLANT UNIT (PCC).

THE TALLANT UNIT (PTA) CONSISTS OF A MASSIVE, BROWNISH SANDSTONE, SOME GRAYISH SHALES, AND A MINOR AMOUNT OF THIN-BEDDED LIMESTONE.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	FOUNDATION REPORT (SHEET 2 OF 4)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 30

DESCRIPTION	REVISIONS	DATE



- NOTES:
- SPT DENOTES STANDARD PENETRATION TESTS
 - TCP DENOTES TEXAS CONE PENETRATION TESTS
 - ▽ DENOTES WATER ELEVATION DURING DRILLING
 - ▼ DENOTES WATER ELEVATION AT NOTED TIME
 - ▽ DENOTES CAVE IN DEPTH
 - ▨ DENOTES ROCK ELEVATION

NOTE:
 INTERPRETED FOUNDATION MATERIAL LINE FOR ESTIMATING PURPOSES ONLY.

NOTE:
 ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA. TO OBTAIN A COPY OF THE COMPLETE REPORT, CONTACT THE ODOT OFFICE ENGINEER AT (405) 521-2625. THE CONTRACTOR SHOULD BE FULLY AWARE OF THE SITE CONDITIONS PRIOR TO BEGINNING WORK. ANY ADDITIONAL GEOTECHNICAL INFORMATION WHICH MAY BE DESIRED IS THE RESPONSIBILITY OF THE CONTRACTOR.

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

GEOLOGICAL STATEMENT

"DIVISION EIGHT ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) INDICATES THE PROJECT SITE IS UNDERLAIN BY TALLANT UNIT (PCC).

THE TALLANT UNIT (PTA) CONSISTS OF A MASSIVE, BROWNISH SANDSTONE, SOME GRAYISH SHALES, AND A MINOR AMOUNT OF THIN-BEDDED LIMESTONE.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	FOUNDATION REPORT (SHEET 3 OF 4)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 31

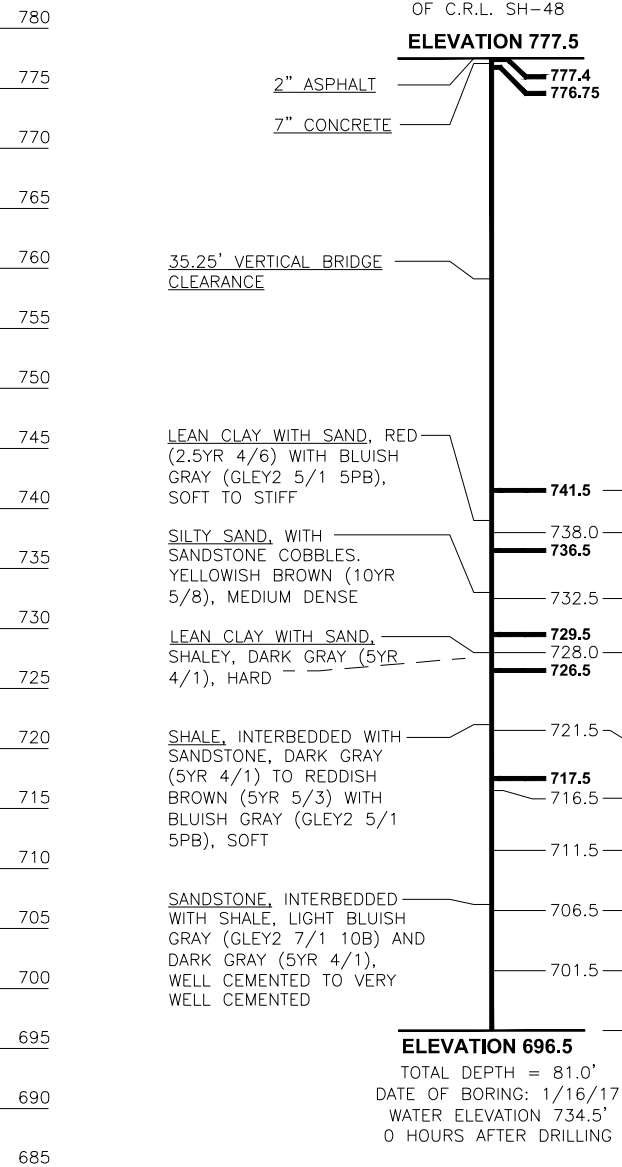
DESCRIPTION	REVISIONS	DATE

BORING NO. B-7

STA. 378+40.00
20' RIGHT
OF C.R.L. SH-48

ELEVATION 777.5

2" ASPHALT
7" CONCRETE

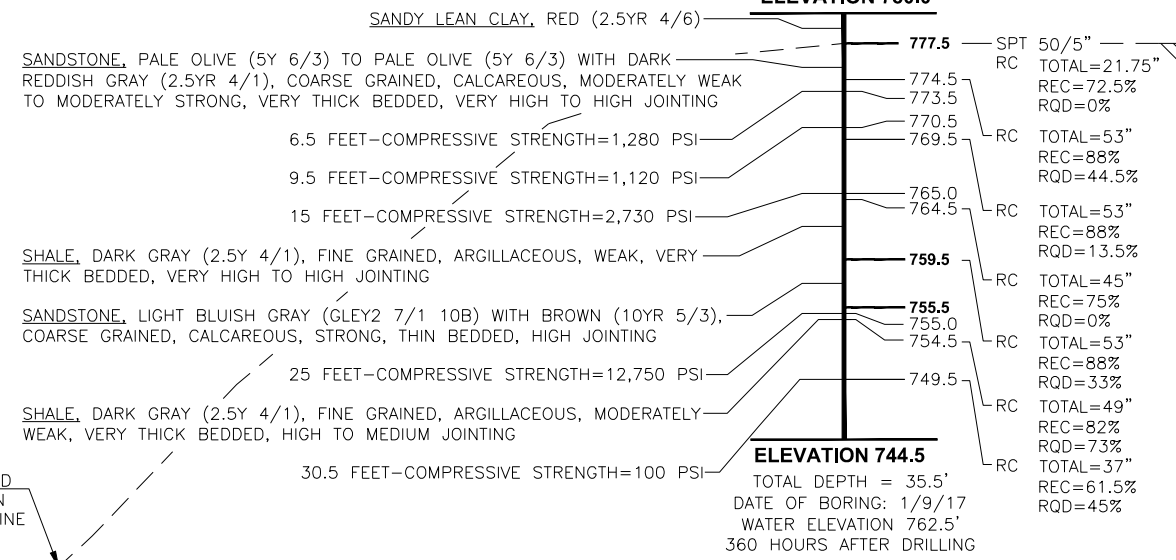


- NOTES:
- SPT DENOTES STANDARD PENETRATION TESTS
 - TCP DENOTES TEXAS CONE PENETRATION TESTS
 - RC DENOTES ROCK CORE
 - REC DENOTES RECOVERY
 - RQD DENOTES ROCK QUALITY DESIGNATION
 - DENOTES WATER ELEVATION DURING DRILLING
 - DENOTES WATER ELEVATION AT NOTED TIME
 - DENOTES CAVE IN DEPTH
 - DENOTES ROCK ELEVATION

BORING NO. B-8A

STA. 379+70.00
2' LEFT
OF C.R.L. SH-48

ELEVATION 780.0



GEOLOGICAL STATEMENT

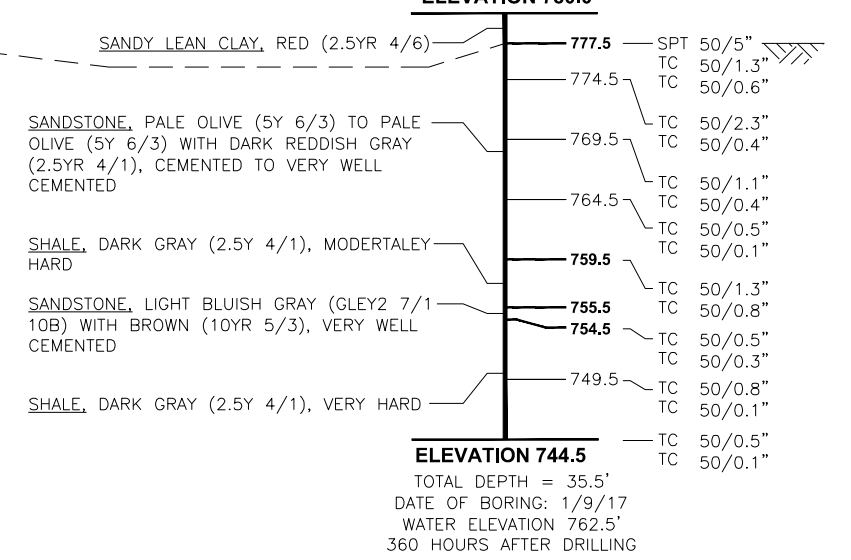
"DIVISION EIGHT ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) INDICATES THE PROJECT SITE IS UNDERLAIN BY TALLANT UNIT (PCC).

THE TALLANT UNIT (PTA) CONSISTS OF A MASSIVE, BROWNISH SANDSTONE, SOME GRAYISH SHALES, AND A MINOR AMOUNT OF THIN-BEDDED LIMESTONE.

BORING NO. B-8B

STA. 379+70.00
2' LEFT
OF C.R.L. SH-48

ELEVATION 780.0



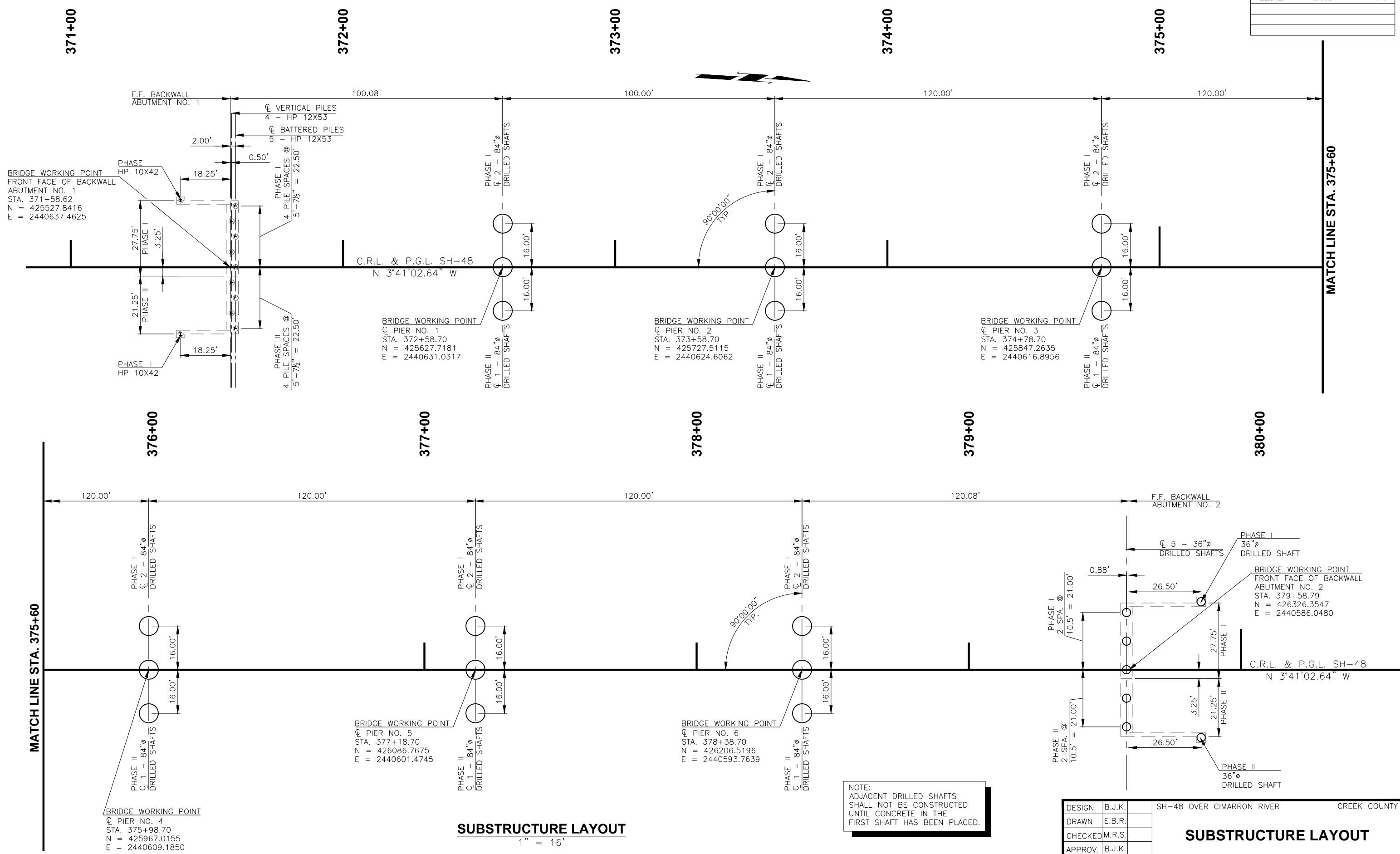
NOTE:
INTERPRETED FOUNDATION MATERIAL LINE FOR ESTIMATING PURPOSES ONLY.

NOTE:
ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA. TO OBTAIN A COPY OF THE COMPLETE REPORT, CONTACT THE ODOT OFFICE ENGINEER AT (405) 521-2625. THE CONTRACTOR SHOULD BE FULLY AWARE OF THE SITE CONDITIONS PRIOR TO BEGINNING WORK. ANY ADDITIONAL GEOTECHNICAL INFORMATION WHICH MAY BE DESIRED IS THE RESPONSIBILITY OF THE CONTRACTOR.

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	FOUNDATION REPORT (SHEET 4 OF 4)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 32

DESCRIPTION	REVISIONS	DATE

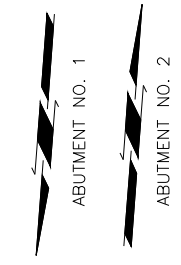
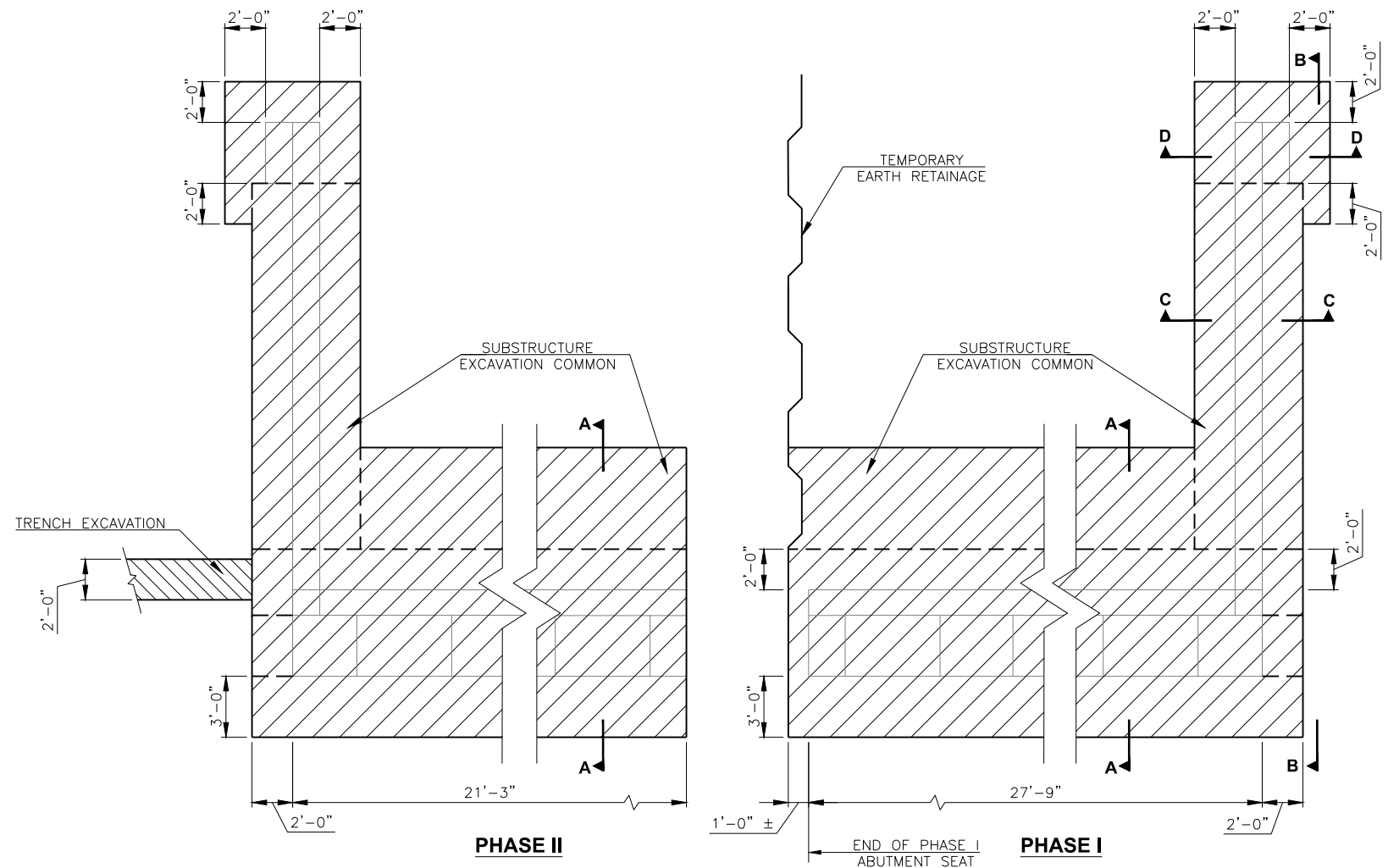


SUBSTRUCTURE LAYOUT
1" = 16'

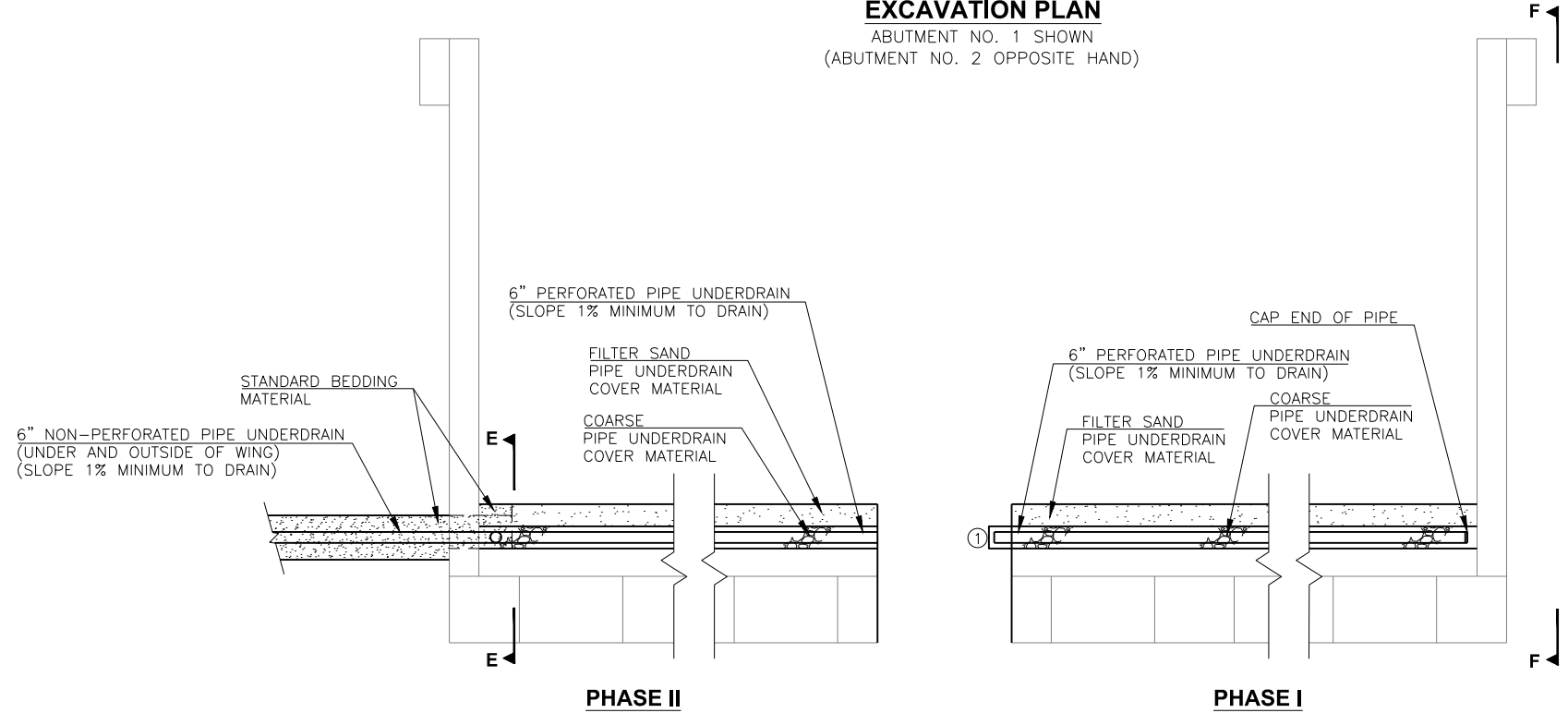
NOTE:
ADJACENT DRILLED SHAFTS
SHALL NOT BE CONSTRUCTED
UNTIL CONCRETE IN THE
FIRST SHAFT HAS BEEN PLACED.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.	SUBSTRUCTURE LAYOUT	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 33

DESCRIPTION	REVISIONS	DATE



EXCAVATION PLAN
 ABUTMENT NO. 1 SHOWN
 (ABUTMENT NO. 2 OPPOSITE HAND)



PIPE UNDERDRAIN PLAN
 ABUTMENT NO. 1 SHOWN
 (ABUTMENT NO. 2 OPPOSITE HAND)

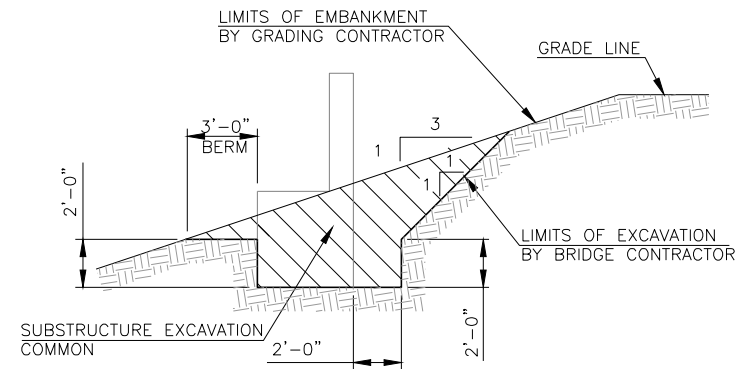
NOTE:
 FOR ABUTMENT NO. 1 SECTIONS A-A,
 B-B, C-C, D-D, E-E, F-F SEE STD.
 B40-C-ABUT-MISC-01E.

NOTE:
 FOR ABUTMENT NO. 2 SECTIONS A-A,
 B-B, E-E AND F-F SEE SHEET 35. FOR
 ABUTMENT NO. 2 SECTIONS C-C AND
 D-D SEE STD. B40-C-ABUT-MISC-01E.

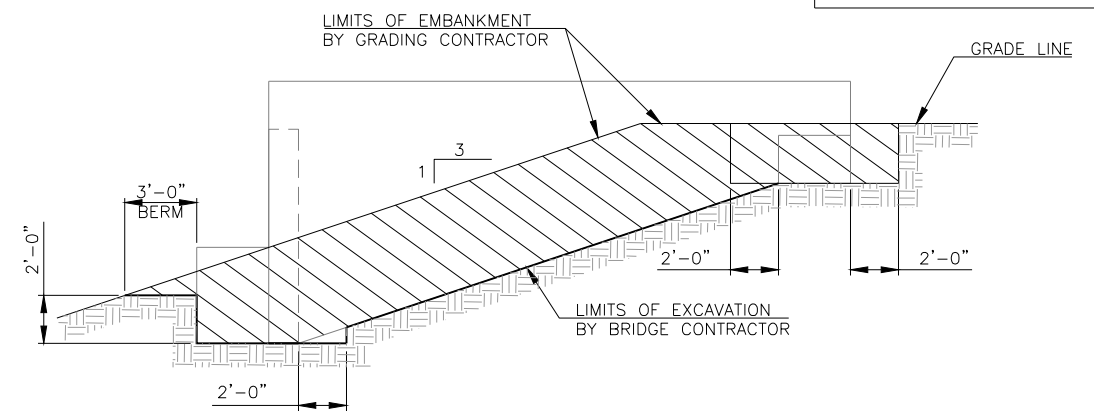
① COUPLE PHASE I UNDERDRAIN
 TO PHASE II UNDERDRAIN.
 ALL COST INCLUDED IN OTHER
 ITEMS OF WORK.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.	SUBSTRUCTURE EXCAVATION (SHEET 1 OF 2)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 34

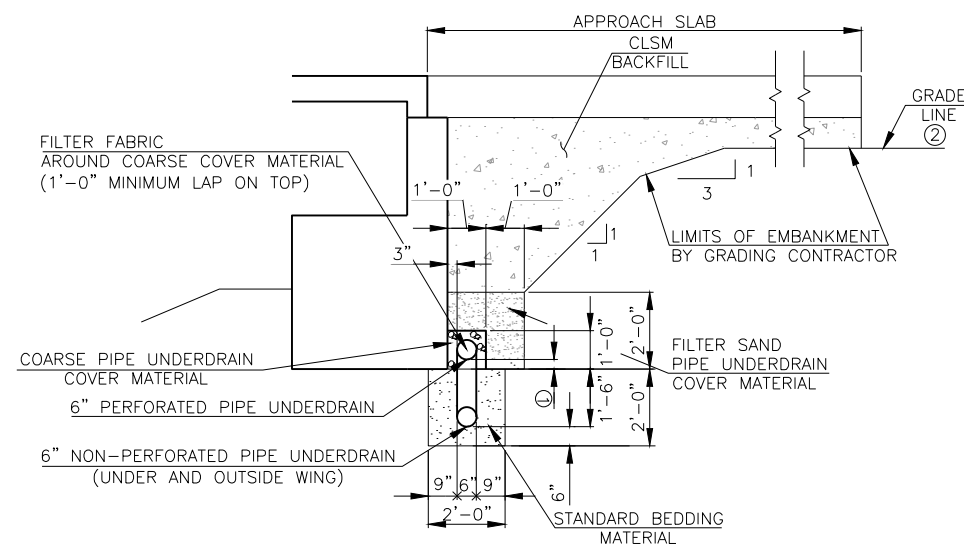
DESCRIPTION	REVISIONS	DATE



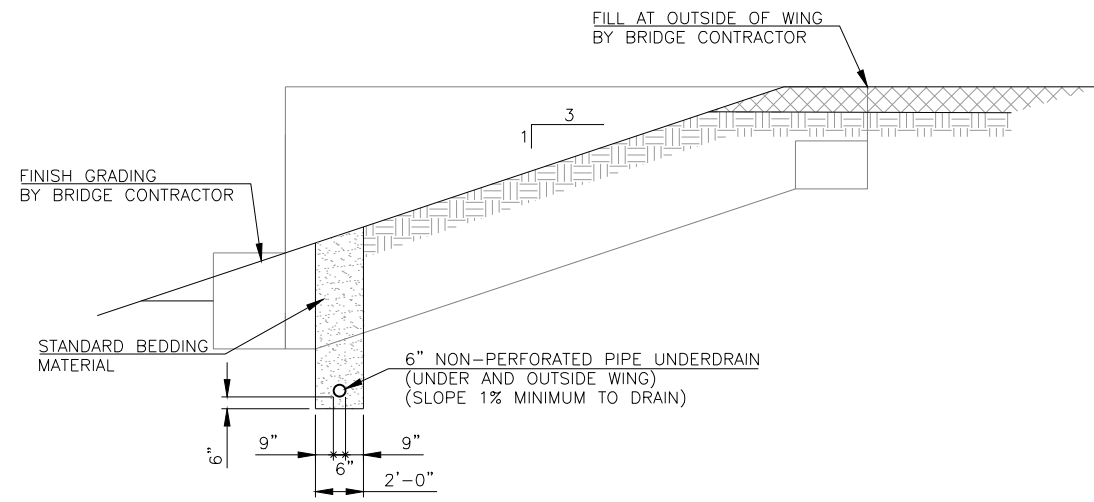
ABUTMENT NO. 2
SECTION A-A



ABUTMENT NO. 2
SECTION B-B



ABUTMENT NO. 2
SECTION E-E



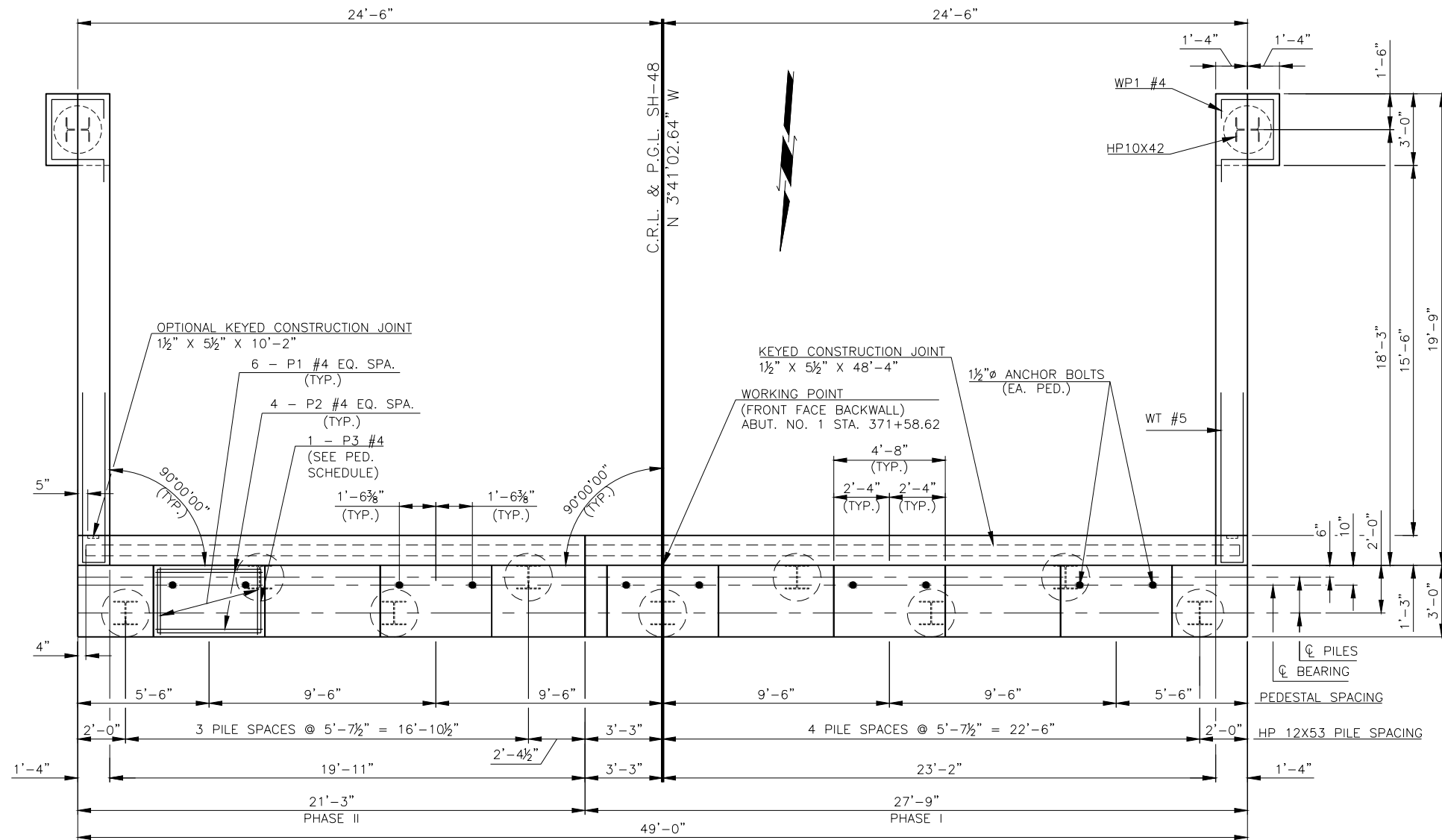
ABUTMENT NO. 2
SECTION F-F

DO NOT PLACE CLSM BACKFILL UNTIL THE SUPERSTRUCTURE IS IN PLACE AND THE ABUTMENT WINGS HAVE ATTAINED A STRENGTH OF 3000 PSI.

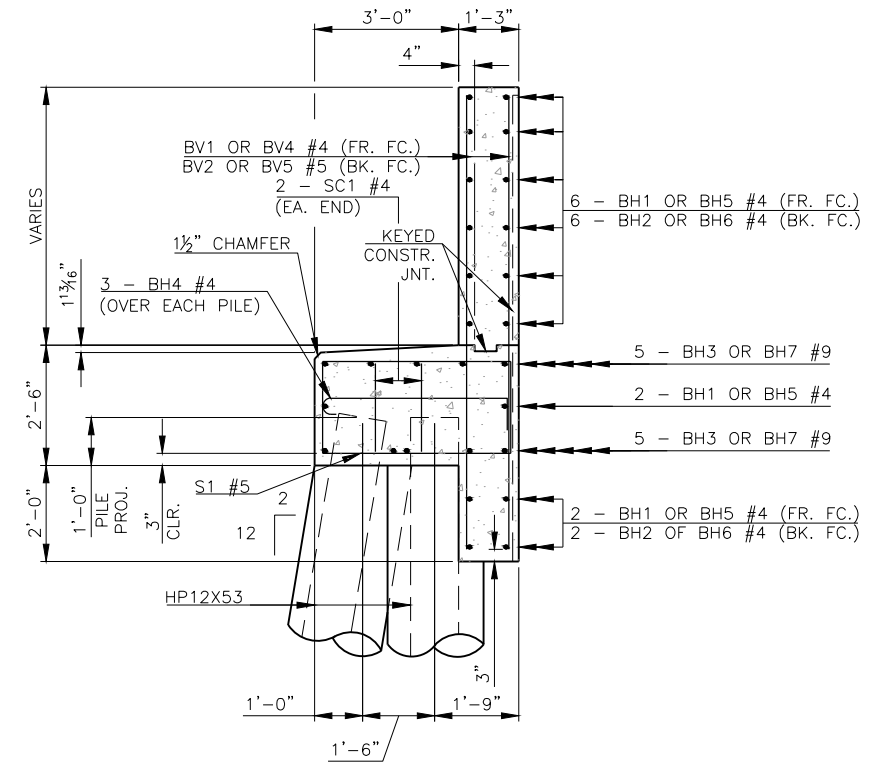
- ① SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT LOW END.
- ② GRADE LINE ASSUMED TO BE LOCATED 12" BELOW BOTTOM OF APPROACH SLAB FOR COMPUTING CLSM BACKFILL QUANTITY SHOWN ON PLANS. THE DEPARTMENT WILL PAY FOR CLSM BACKFILL IN ACCORDANCE WITH THE PLAN QUANTITY AND NO ADJUSTMENT WILL BE MADE FOR ACTUAL LOCATION OF GRADE LINE.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.	SUBSTRUCTURE EXCAVATION (SHEET 2 OF 2)	
CHECKED	B.J.K.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 35

DESCRIPTION	REVISIONS	DATE



ABUTMENT NO. 1 PLAN



SECTION THROUGH SEAT

PEDESTAL SCHEDULE

PEDESTAL HEIGHT	# OF P3 BARS
2" TO 4 1/4"	0
6 9/16"	1

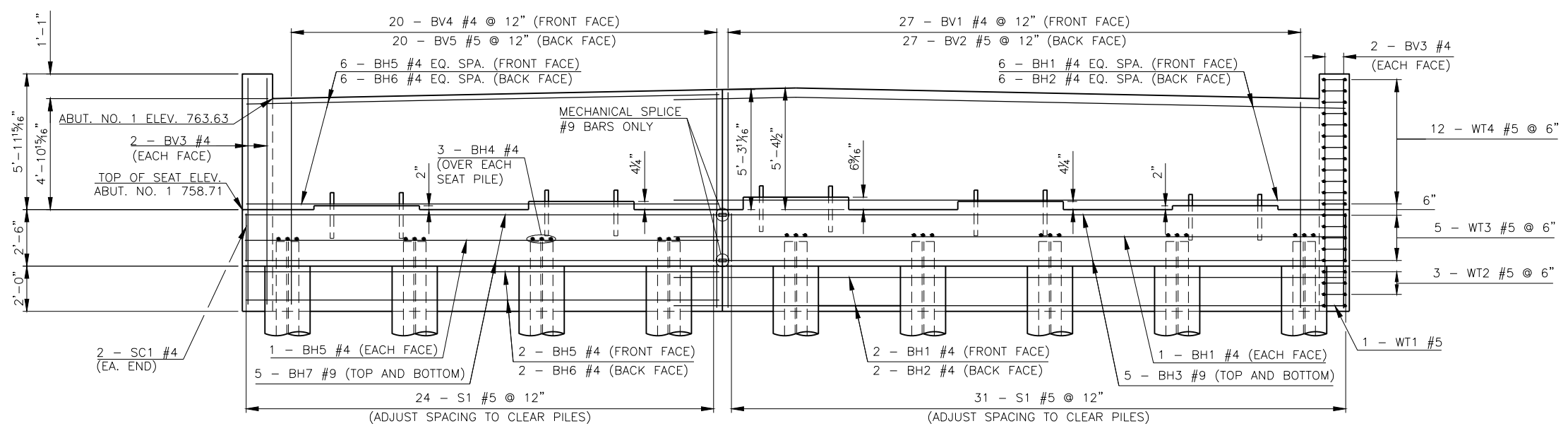
NOTE:
FOR EXTENT OF WATER REPELLENT TREATMENT, SEE SHEET 48.

NOTE:
FOR WING DETAILS, SEE SHEET 37.

NOTE:
FOR BAR BENDS AND BAR LIST, SEE SHEET 40.

NOTE:
FOR SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN DETAILS, SEE STD. B40-C-ABUT-MISC-01E.

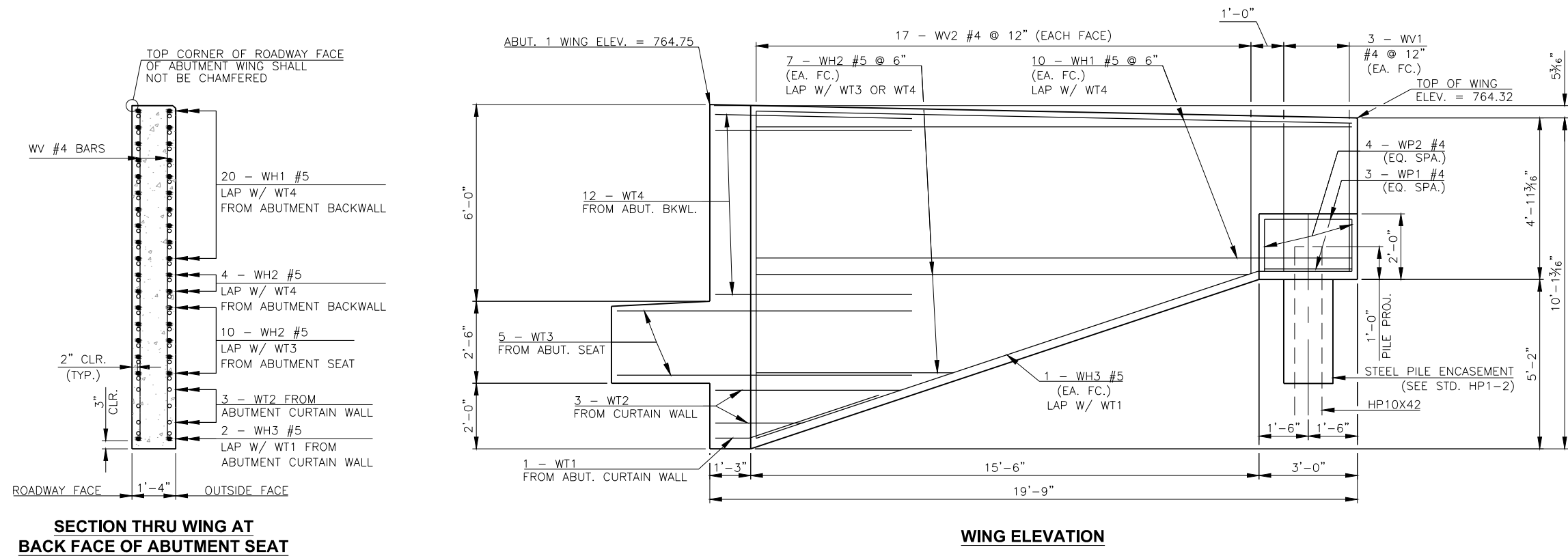
PLACE ALL WT WING REINFORCING TIED TO ABUTMENT SEAT AND BACKWALL REINFORCING PRIOR TO PLACING ABUTMENT SEAT AND BACKWALL CONCRETE.



ABUTMENT NO.1 ELEVATION

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	ABUTMENT NO. 1 DETAILS	
CHECKED	B.J.K.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 36

DESCRIPTION	REVISIONS	DATE



**SECTION THRU WING AT
BACK FACE OF ABUTMENT SEAT**

WING ELEVATION

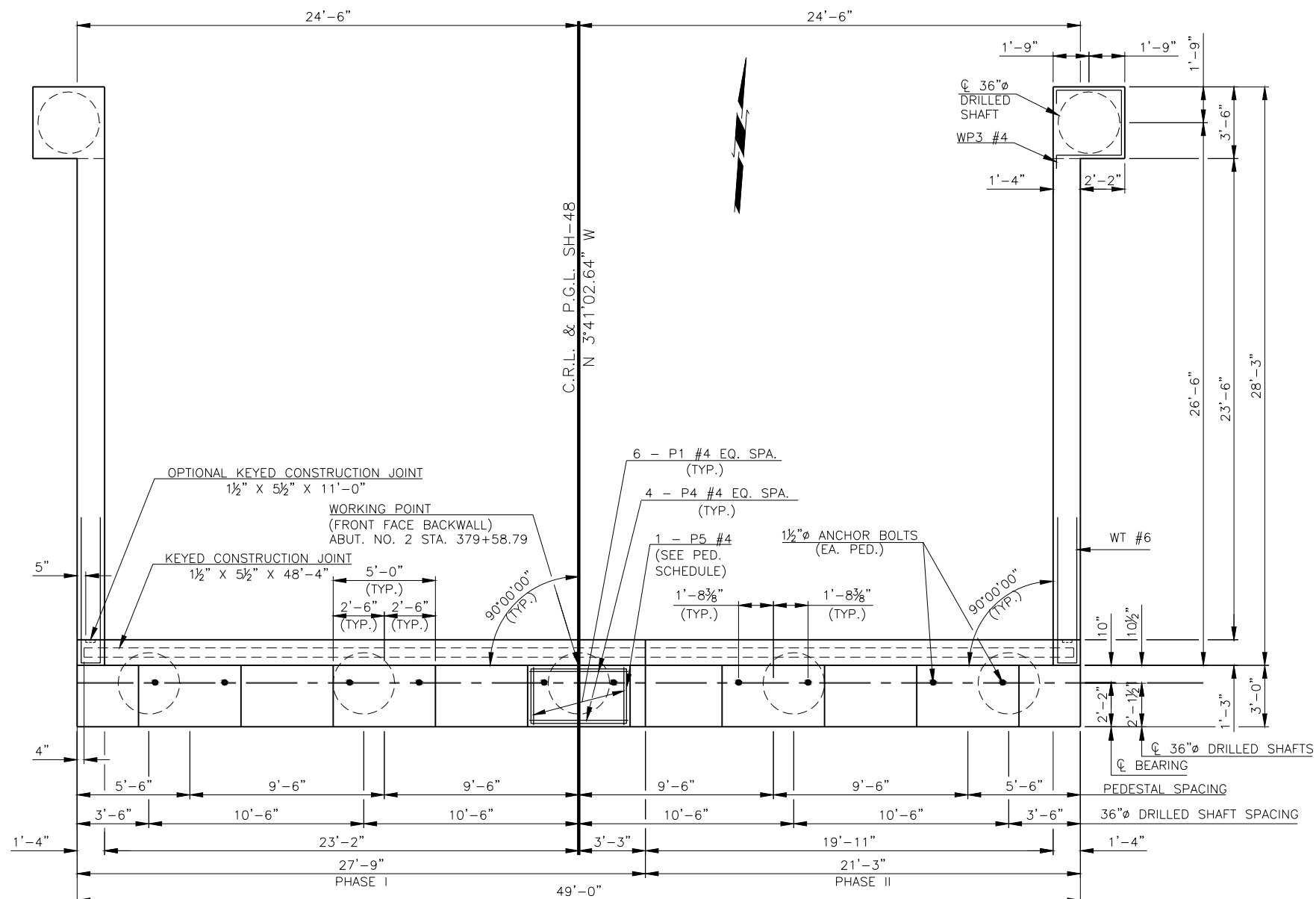
ABUTMENT QUANTITIES

ITEM	UNIT	PHASE I			PHASE II		
		ABUT. NO. 1	ABUT. NO. 2	TOTAL	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	55	60	115	45	55	100
CLSM BACKFILL	C.Y.	78	109	187	59	82	141
TEMPORARY EARTH RETAINAGE	LSUM			1			
SPECIAL CONCRETE FINISH	S.Y.	12	12	24	9	9	18
CLASS A CONCRETE	C.Y.	27.5	37.3	64.8	22.5	30.8	53.3
MECHANICAL SPLICES	EA.			10		10	20
EPOXY COATED REINFORCING STEEL	LB.	3,430	4,330	7,760	2,800	3,730	6,530
PILES, FURNISHED (HP10X42)	L.F.	93		93	93		93
PILES, FURNISHED (HP12X53)	L.F.	453		453	362		362
PILES, DRIVEN (HP10X42)	L.F.	93		93	93		93
PILES, DRIVEN (HP12X53)	L.F.	453		453	362		362
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.			1			
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	18.5	24.0	42.5	14.6	18.8	33.4
DRILLED SHAFTS 36" DIAMETER	L.F.		27	27		20	20
CROSSHOLE SONIC LOGGING	EA.		1	1			
TYPE I-A PLAIN RIPRAP	TON				1,005	285	1,290
TYPE I-A FILTER BLANKET	TON				220	65	285
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	27	27	54	19	19	38
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.				25	23	48

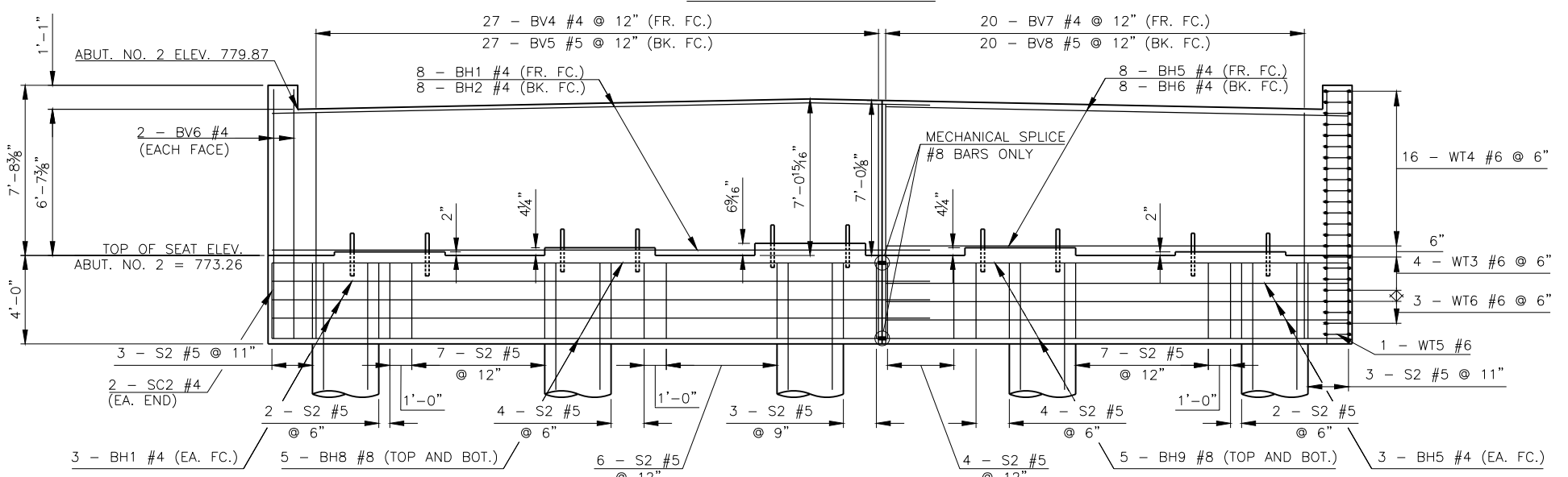
(A) QUANTITY PROVIDED FOR THE APPLICATION OF CIM 1000 OR APPROVED EQUAL.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.		
CHECKED	B.J.K.	ABUTMENT NO. 1 WING DETAILS	
APPROV.	B.J.K.		
SQUAD	CEC	JOB PIECE NO. 27925(04)	SHEET NO. 37

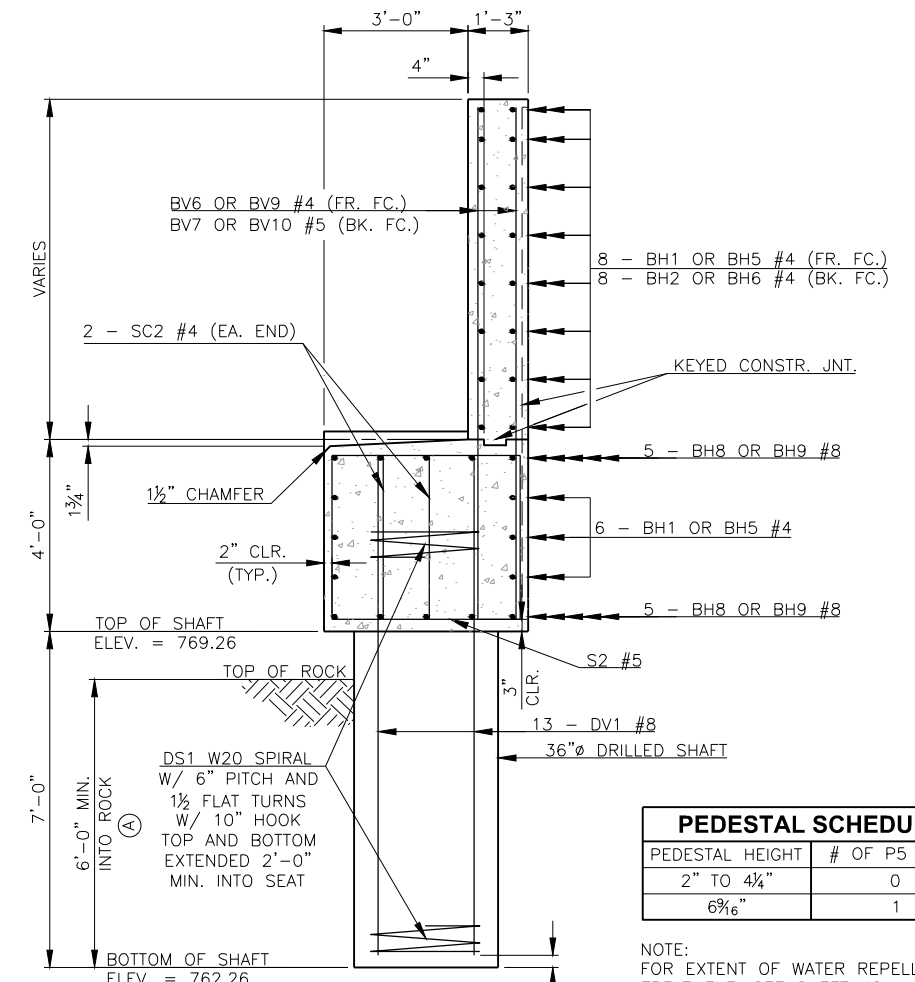
DESCRIPTION	REVISIONS	DATE



ABUTMENT NO. 2 PLAN



ABUTMENT NO. 2 ELEVATION



SECTION THROUGH SEAT

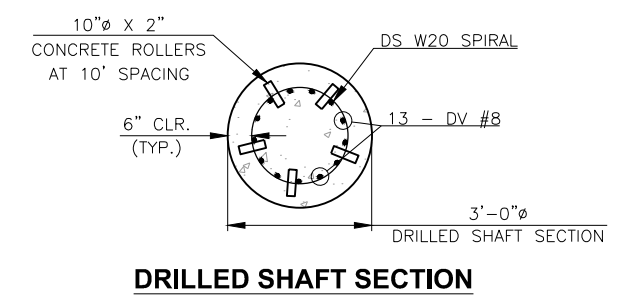
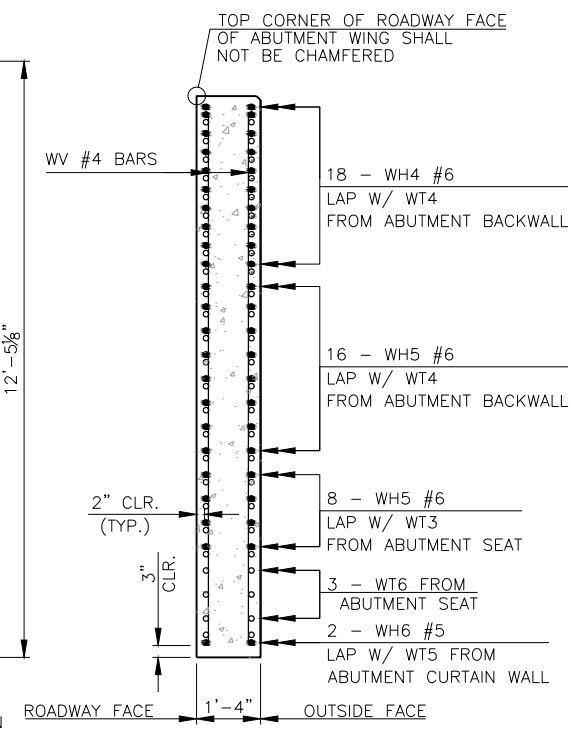
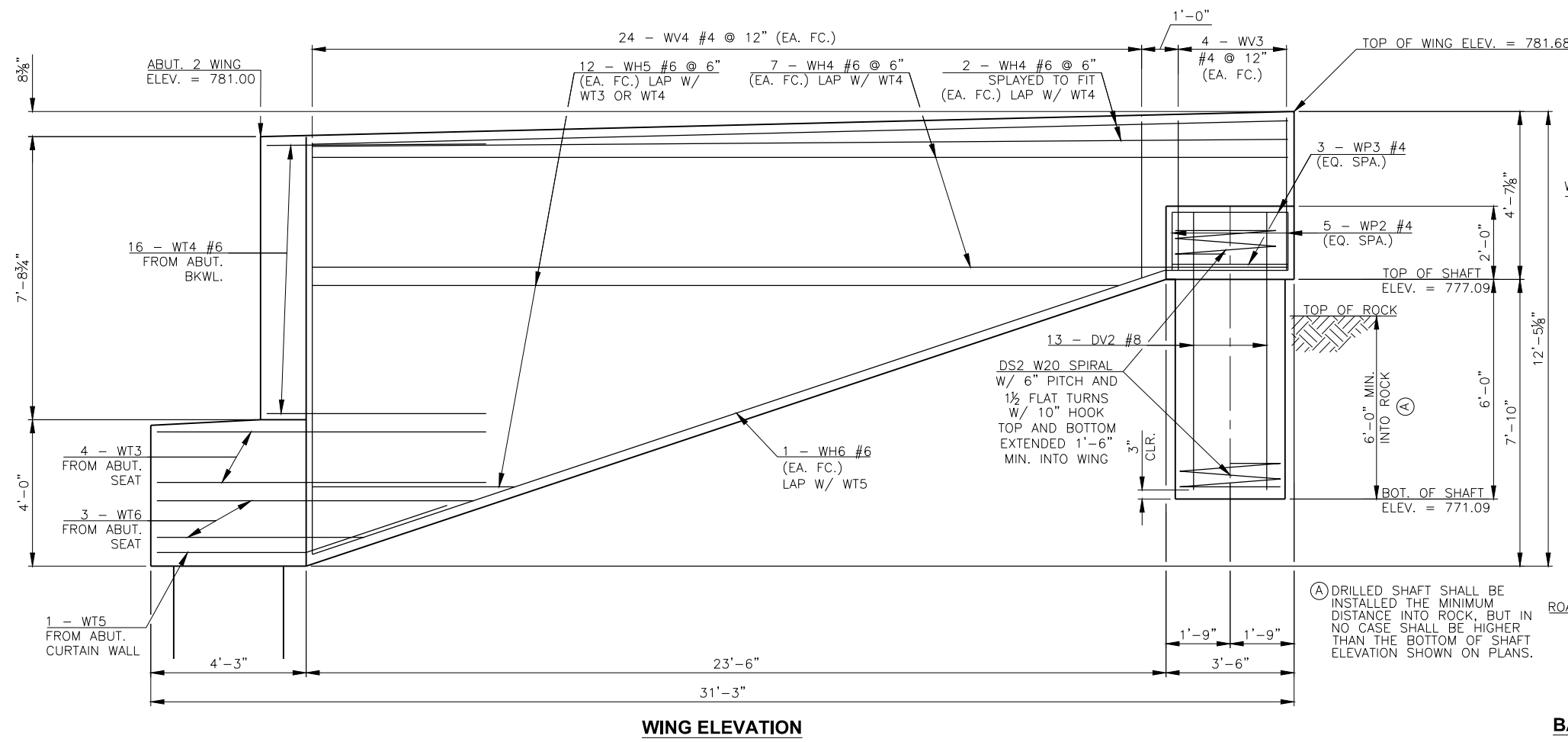
PEDESTAL SCHEDULE	
PEDESTAL HEIGHT	# OF P5 BARS
2" TO 4 1/4"	0
6 3/16"	1

- NOTE: FOR EXTENT OF WATER REPELLENT TREATMENT, SEE SHEET 48.
- NOTE: FOR WING DETAILS AND DRILLED SHAFT SECTION, SEE SHEET 39.
- NOTE: FOR BAR BENDS AND BAR LIST, SEE SHEET 40.
- NOTE: FOR SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN DETAILS, SEE SHEETS 34-35.
- Ⓐ DRILLED SHAFT SHALL BE INSTALLED THE MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL BE HIGHER THAN THE BOTTOM OF SHAFT ELEVATION SHOWN ON PLANS.

PLACE ALL WT WING REINFORCING TIED TO ABUTMENT SEAT AND BACKWALL REINFORCING PRIOR TO PLACING ABUTMENT SEAT AND BACKWALL CONCRETE.

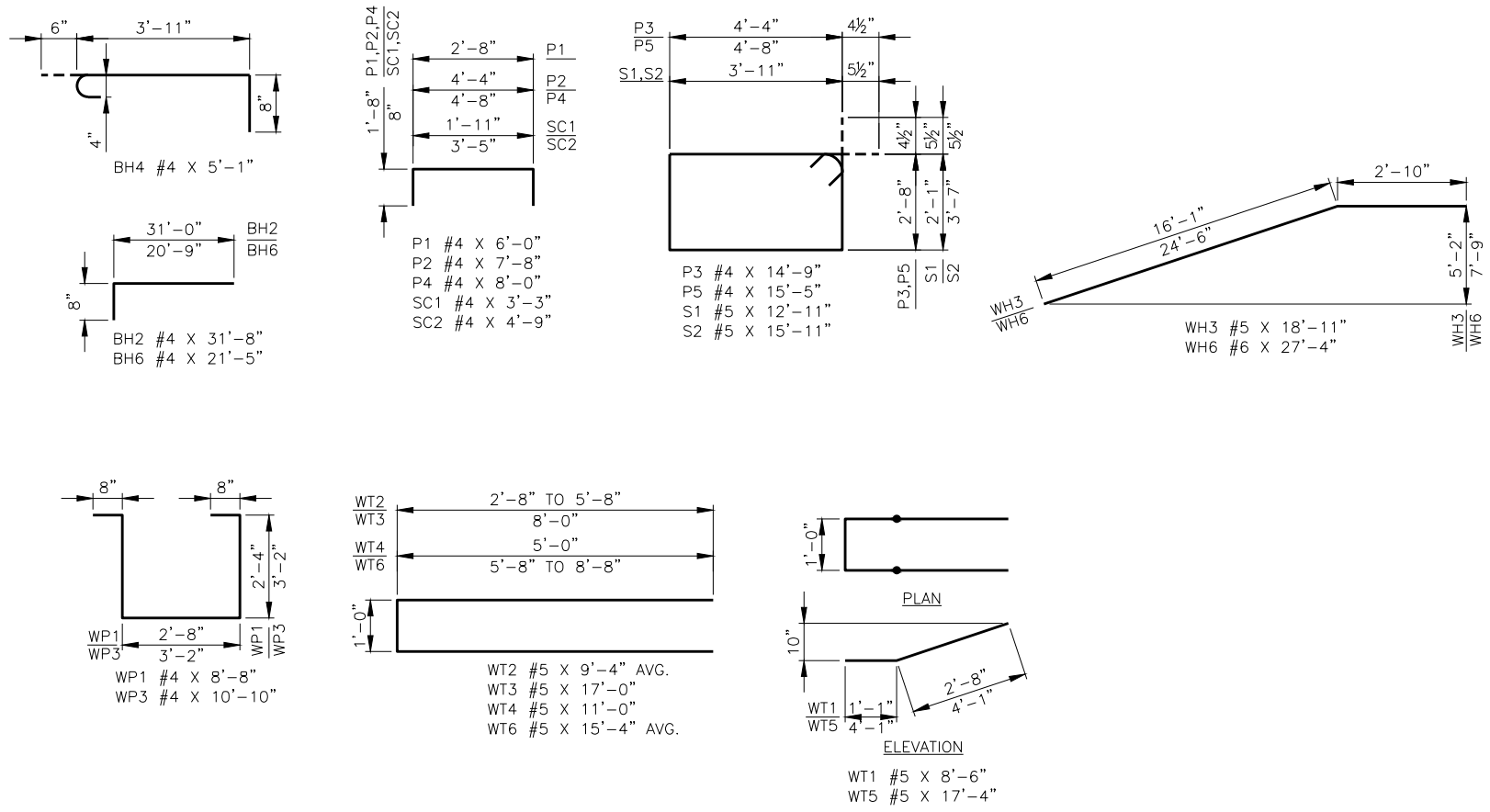
DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.	ABUTMENT NO. 2 DETAILS	
CHECKED	B.J.K.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 38

DESCRIPTION	REVISIONS	DATE



DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.	ABUTMENT NO. 2 WING DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 39

DESCRIPTION	REVISIONS	DATE

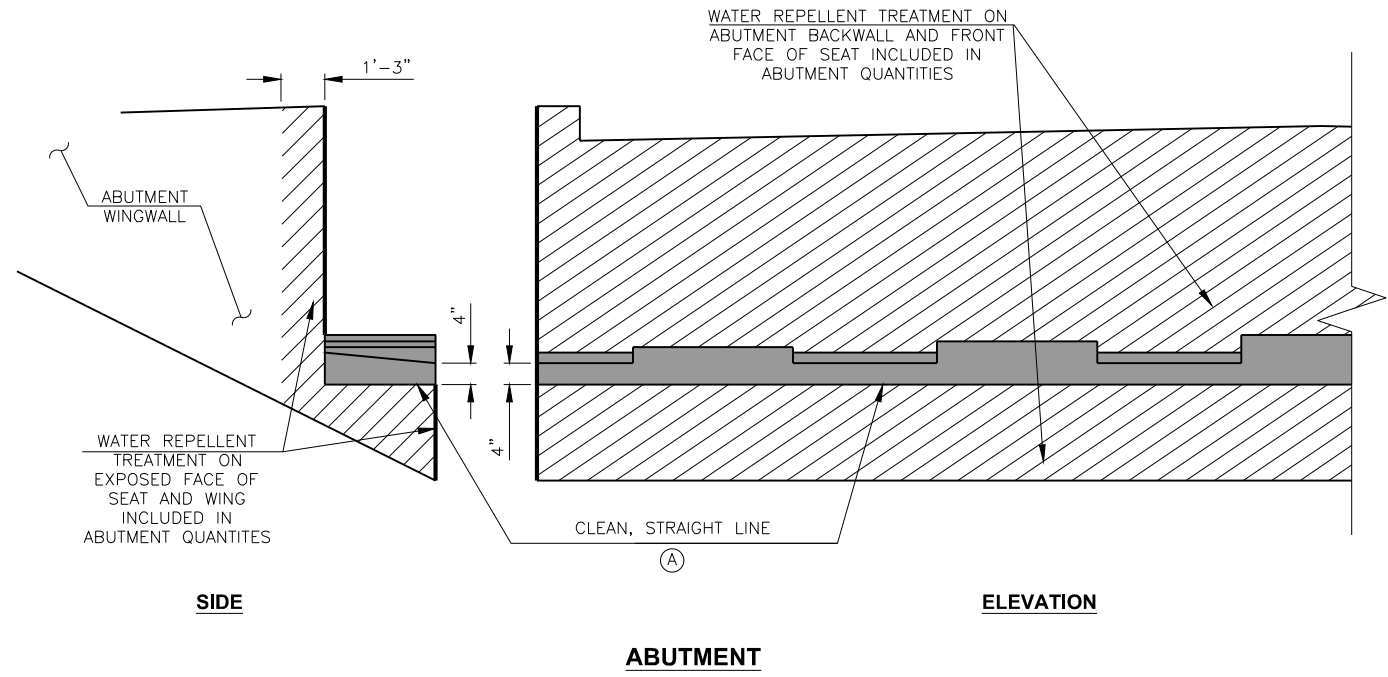


ABUTMENT NO. 1					
PHASE I					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
BH1	#4	10	STR.	31'-0"	
BH2	#4	8	BNT.	31'-8"	
BH3	#9	10	STR.	27'-9"	
BH4	#4	15	BNT.	5'-1"	
BV1	#4	27	STR.	9'-3" AVG.	9'-0" TO 9'-5"
BV2	#5	27	STR.	9'-3" AVG.	9'-0" TO 9'-5"
BV3	#4	2	STR.	10'-1"	
P1	#4	18	BNT.	6'-0"	
P2	#4	12	BNT.	7'-8"	
P3	#4	1	BNT.	14'-9"	
S1	#5	31	BNT.	12'-11"	
SC1	#4	2	BNT.	3'-3"	
WH1	#5	20	STR.	18'-2"	
WH2	#5	14	STR.	10'-7" AVG.	6'-1" TO 15'-1"
WH3	#5	2	BNT.	18'-11"	
WP1	#4	3	BNT.	8'-8"	
WP2	#4	4	STR.	1'-8"	
WT1	#5	1	BNT.	8'-6"	
WT2	#5	3	BNT.	9'-4" AVG.	6'-4" TO 12'-4"
WT3	#5	5	BNT.	17'-0"	
WT4	#5	12	BNT.	11'-0"	
WV1	#4	6	STR.	4'-4"	
WV2	#4	34	STR.	7'-8" AVG.	4'-5" TO 10'-11"

ABUTMENT NO. 1					
PHASE II					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
BH4	#4	12	BNT.	5'-1"	
BH5	#4	10	STR.	20'-9"	
BH6	#4	8	BNT.	21'-5"	
BH7	#9	10	STR.	20'-9"	
BV1	#4	20	STR.	9'-3" AVG.	9'-0" TO 9'-6"
BV2	#5	20	STR.	9'-3" AVG.	9'-0" TO 9'-6"
BV3	#4	2	STR.	10'-1"	
P1	#4	12	BNT.	6'-0"	
P2	#4	8	BNT.	7'-8"	
S1	#5	24	BNT.	12'-11"	
SC1	#4	2	BNT.	3'-3"	
WH1	#5	20	STR.	18'-2"	
WH2	#5	14	STR.	10'-7" AVG.	6'-1" TO 15'-1"
WH3	#5	2	BNT.	18'-11"	
WP1	#4	3	BNT.	8'-8"	
WP2	#4	4	STR.	1'-8"	
WT1	#5	1	BNT.	8'-6"	
WT2	#5	3	BNT.	9'-4" AVG.	6'-4" TO 12'-4"
WT3	#5	5	BNT.	17'-0"	
WT4	#5	12	BNT.	11'-0"	
WV1	#4	6	STR.	4'-4"	
WV2	#4	34	STR.	7'-8" AVG.	4'-5" TO 10'-11"

ABUTMENT NO. 2					
PHASE I					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
BH1	#4	14	STR.	31'-0"	
BH2	#4	8	BNT.	31'-8"	
BH8	#8	10	STR.	27'-9"	
BV4	#4	27	STR.	10'-5" AVG.	10'-2" TO 10'-8"
BV5	#5	27	STR.	10'-5" AVG.	10'-2" TO 10'-8"
BV6	#4	2	STR.	11'-3"	
DV1	#8	39	STR.	10'-6"	
DV2	#8	13	STR.	7'-6"	
P1	#4	18	BNT.	6'-0"	
P4	#4	12	BNT.	8'-0"	
P5	#4	1	BNT.	15'-5"	
S2	#5	25	BNT.	15'-11"	
SC2	#4	2	BNT.	4'-9"	
WH4	#6	18	STR.	26'-8"	
WH5	#6	24	STR.	13'-11" AVG.	5'-8" TO 22'-2"
WH6	#6	2	BNT.	27'-4"	
WP2	#4	5	STR.	1'-8"	
WP3	#4	3	BNT.	10'-10"	
WT3	#6	4	BNT.	17'-0"	
WT4	#6	16	BNT.	11'-0"	
WT5	#6	1	BNT.	17'-4"	
WT6	#6	3	BNT.	15'-4" AVG.	12'-4" TO 18'-4"
WV3	#4	8	STR.	4'-2"	
WV4	#4	48	STR.	7'-9" AVG.	4'-3" TO 11'-3"
PLAIN REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
DS1	W20	3	BNT.	128'-2"	
DS2	W20	1	BNT.	109'-8"	

ABUTMENT NO. 2					
PHASE II					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
BH5	#4	14	STR.	20'-9"	
BH6	#4	8	BNT.	21'-5"	
BH9	#8	10	STR.	20'-9"	
BV6	#4	2	STR.	11'-3"	
BV7	#4	20	STR.	10'-5" AVG.	10'-2" TO 10'-8"
BV8	#5	20	STR.	10'-5" AVG.	10'-2" TO 10'-8"
DV1	#8	26	STR.	10'-6"	
DV2	#8	13	STR.	7'-6"	
P1	#4	12	BNT.	6'-0"	
P4	#4	8	BNT.	8'-0"	
S2	#5	20	BNT.	15'-11"	
SC2	#4	2	BNT.	4'-9"	
WH4	#6	18	STR.	26'-8"	
WH5	#6	24	STR.	13'-11" AVG.	5'-8" TO 22'-2"
WH6	#6	2	BNT.	27'-4"	
WP2	#4	5	STR.	1'-8"	
WP3	#4	3	BNT.	10'-10"	
WT3	#6	4	BNT.	17'-0"	
WT4	#6	16	BNT.	11'-0"	
WT5	#6	1	BNT.	17'-4"	
WT6	#6	3	BNT.	15'-4" AVG.	12'-4" TO 18'-4"
WV3	#4	8	STR.	4'-2"	
WV4	#4	48	STR.	7'-9" AVG.	4'-3" TO 11'-3"
PLAIN REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
DS1	W20	2	BNT.	128'-2"	
DS2	W20	1	BNT.	109'-8"	



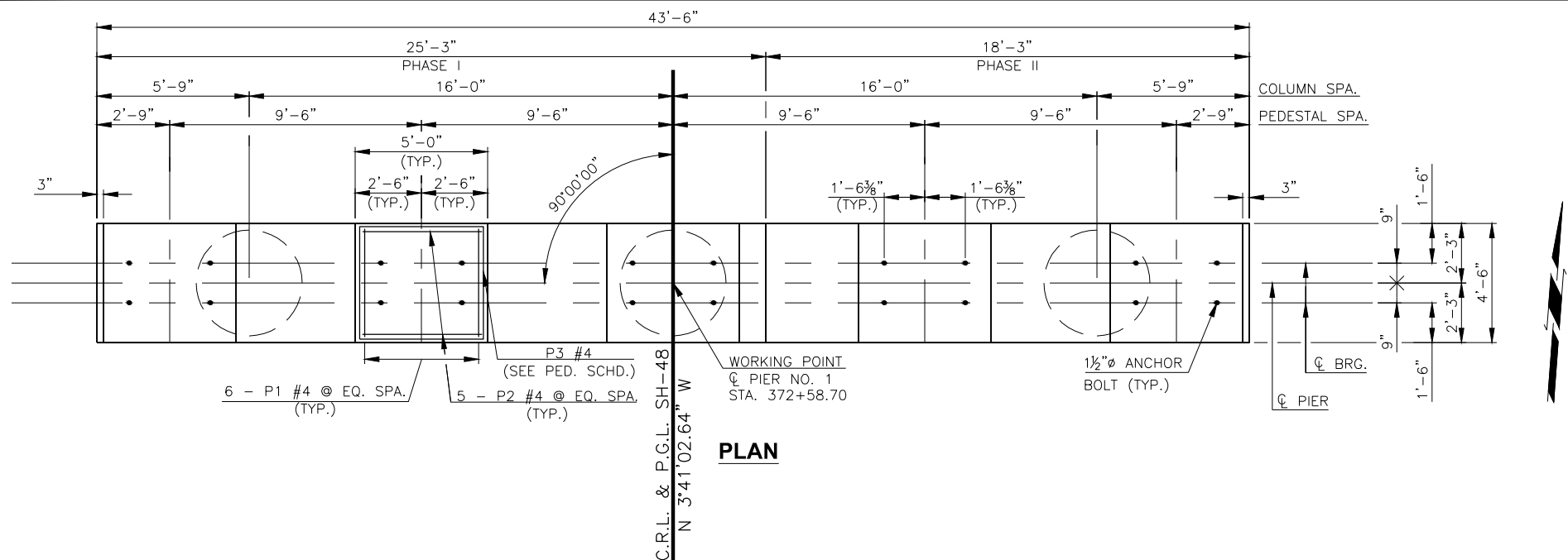
WATER REPELLENT AND CIM 1000 TREATMENT DETAILS

(A) APPLY CIM 1000, OR APPROVED EQUAL, TO TOP AND SIDES OF PEDESTALS, TOP OF ABUTMENT SEAT, AND TO AN ELEVATION 4" DOWN FROM THE LOW EDGE OF ABUTMENT SEAT. EDGES OF THE COATING SHALL BE MASKED WITH TAPE PRIOR TO APPLICATION TO ENSURE CLEAN, STRAIGHT LINES ARE OBTAINED. REMOVE COATING FROM ANY SURFACE OUTSIDE OF THE AREAS INDICATED IN THE PLANS. DO NOT APPLY WATER REPELLENT ON SURFACES PRIOR TO APPLICATION OF CIM 1000. THE DEPARTMENT WILL NOT PAY FOR WATER REPELLENT ON SURFACES TREATED WITH CIM 1000. INCLUDE ALL COSTS FOR MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "SPECIAL CONCRETE FINISH" INCLUDED IN THE ABUTMENT QUANTITIES.

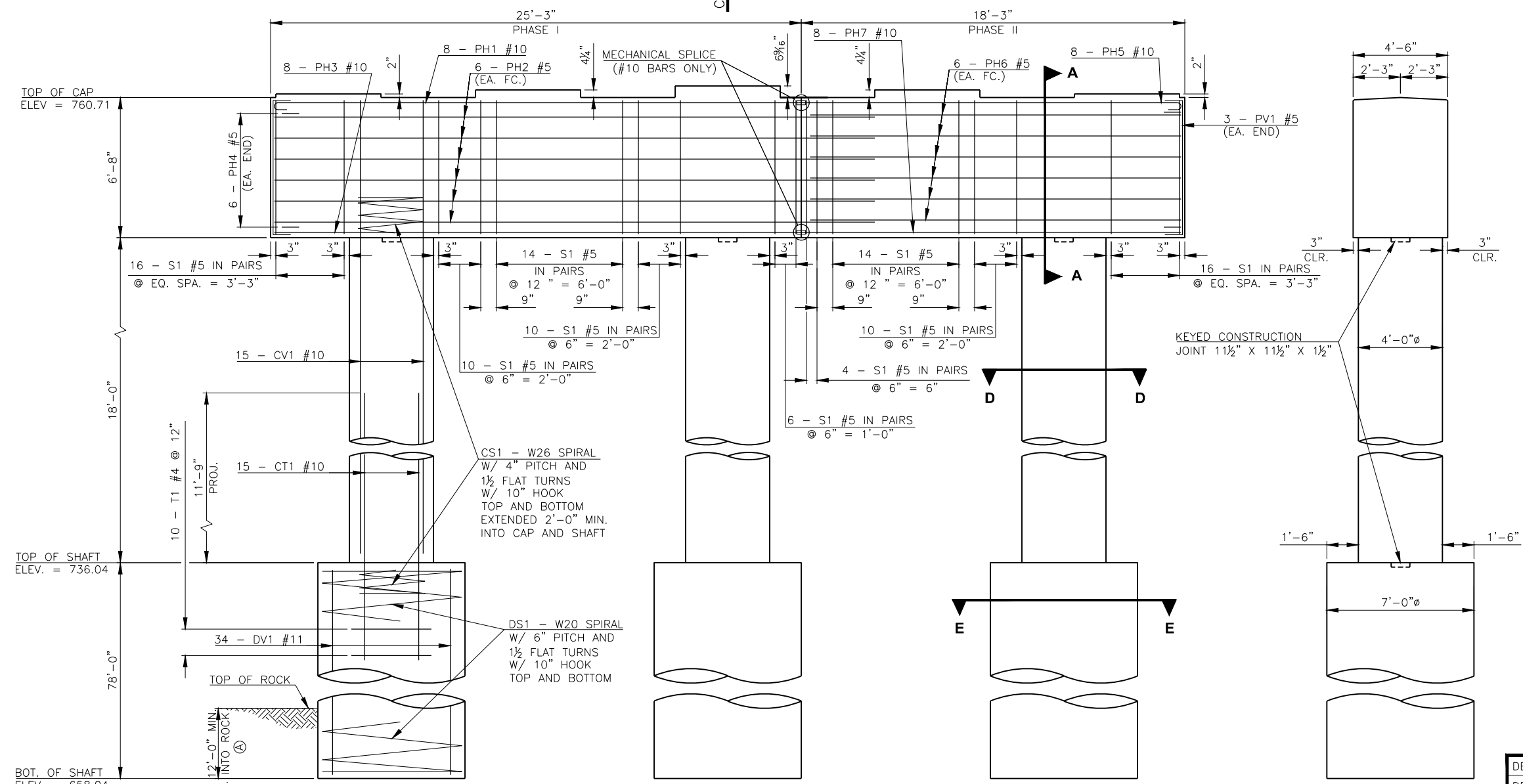
(1) BAR LENGTH DOES NOT ACCOUNT FOR MECHANICAL COUPLER.
 (2) INCLUDED IN THE CONTRACT PRICE FOR DRILLED SHAFT.
 (3) LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.	ABUTMENT BAR LIST	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 40

DESCRIPTION	REVISIONS	DATE



PLAN



ELEVATION

SIDE

PEDESTAL SCHEDULE	
PEDESTAL HEIGHT	# OF P3 BARS
2" TO 4 1/2"	0
6 3/16"	1

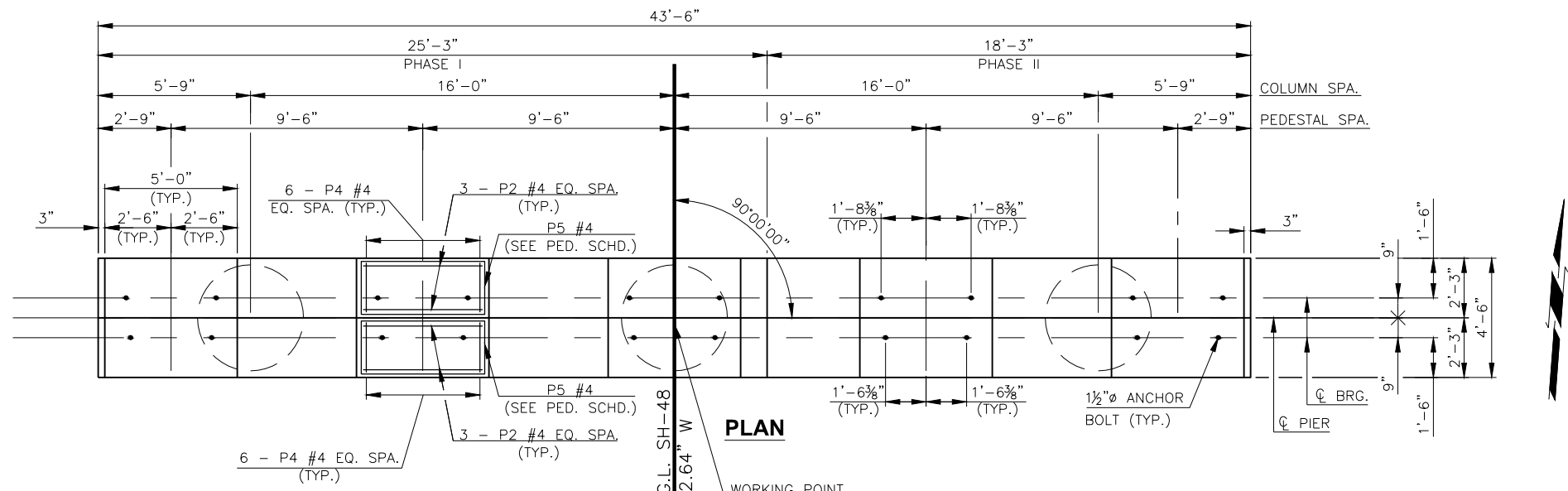
NOTE:
FOR BAR BENDS AND BAR LIST, SEE SHEET 45.

NOTE:
FOR SECTIONS A-A, D-D, AND E-E SEE SHEET 44.

(A) DRILLED SHAFT SHALL BE INSTALLED THE MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN ON PLANS.

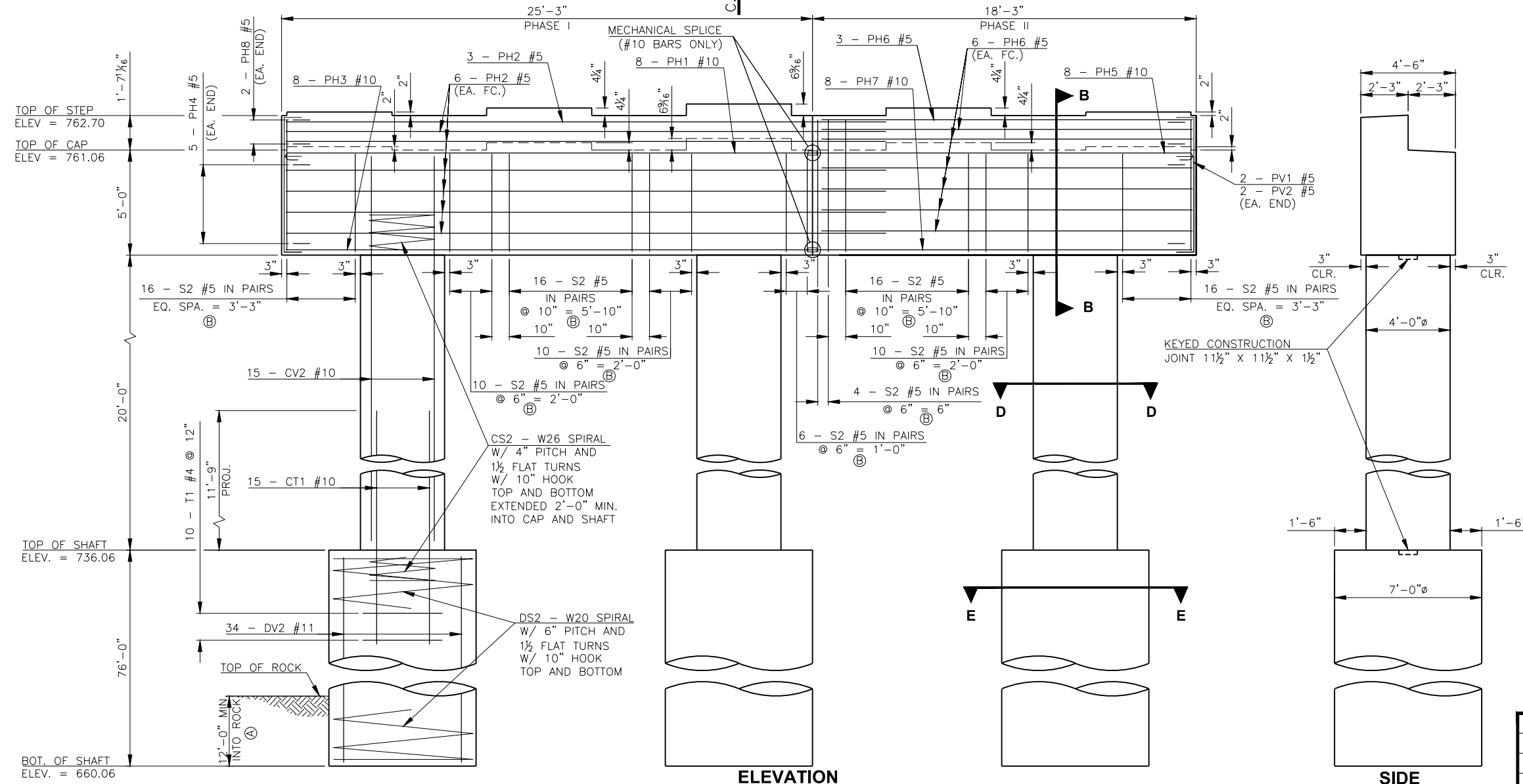
DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	PIER NO. 1 DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
JOB PIECE NO. 27925(04)		SHEET NO. 41	

DESCRIPTION	REVISIONS	DATE



PLAN

WORKING POINT
 PIER NO. 2
 STA. 373+58.70



ELEVATION

SIDE

PEDESTAL SCHEDULE	
PEDESTAL HEIGHT	# OF P5 BARS
2" TO 4 1/4"	0
6 1/8"	1

NOTE:
 FOR BAR BENDS AND BAR LIST, SEE SHEET 45.

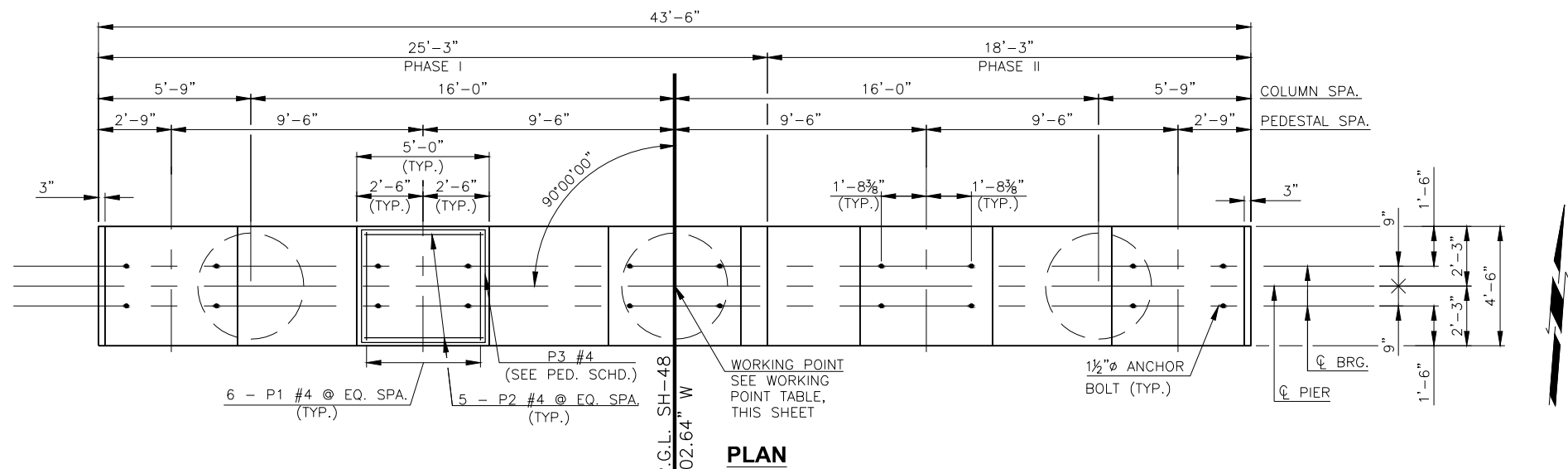
NOTE:
 FOR SECTIONS A-A, D-D, AND E-E, SEE SHEET 44.

(A) DRILLED SHAFT SHALL BE INSTALLED THE MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN ON PLANS.

(B) LAP ONE S3 BAR WITH EACH EACH PAIR OF S2 BARS.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	PIER NO. 2 DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
JOB PIECE NO. 27925(04)		SHEET NO. 42	

DESCRIPTION	REVISIONS	DATE



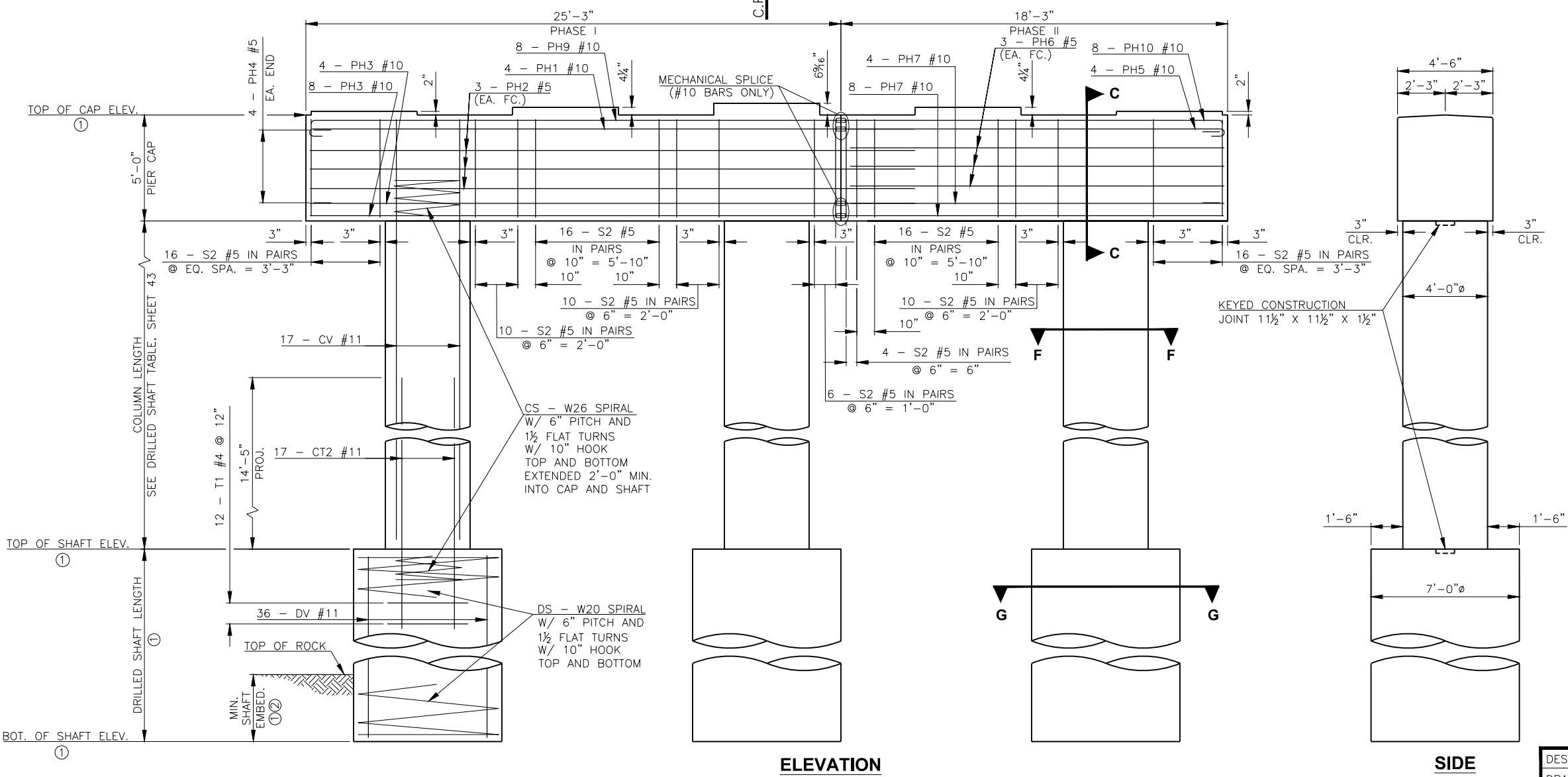
PLAN

WORKING POINTS

PIER NO.	STATION
3	374+78.70
4	375+98.70
5	377+18.70
6	378+38.70

PEDESTAL SCHEDULE

PEDESTAL HEIGHT	# OF P3 BARS
2" TO 4' 1/4"	0
6 5/16"	1



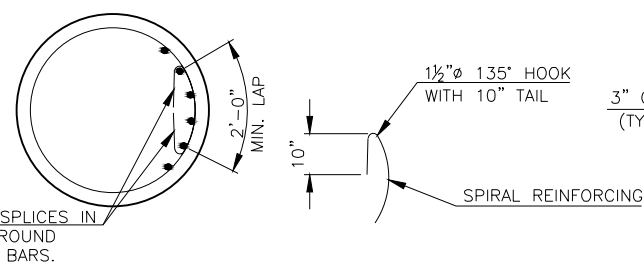
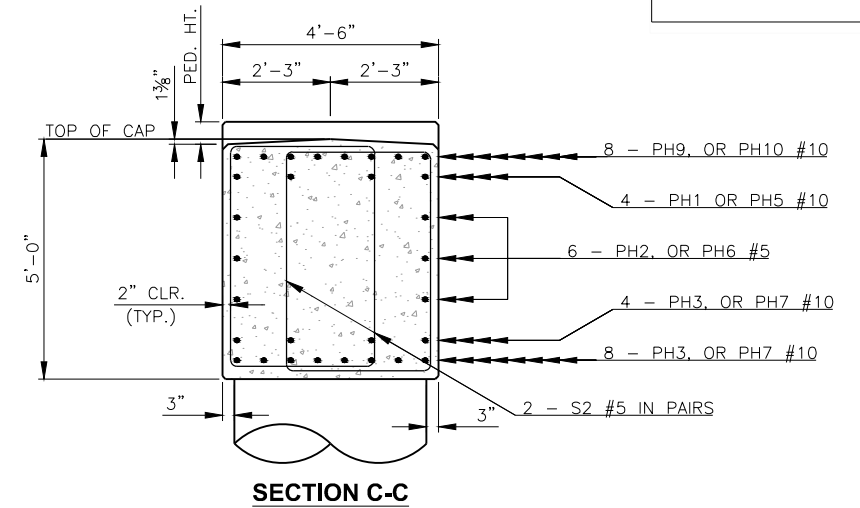
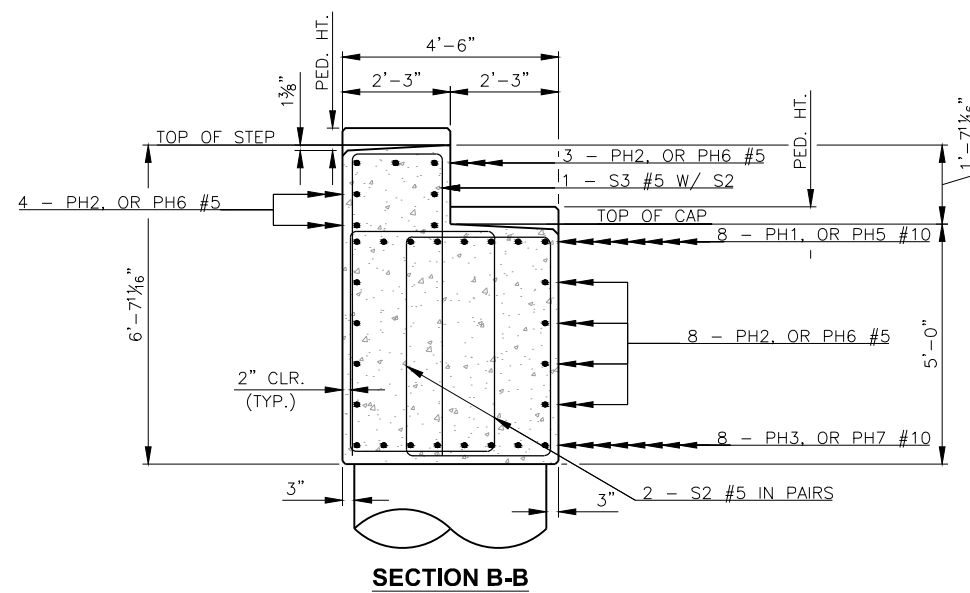
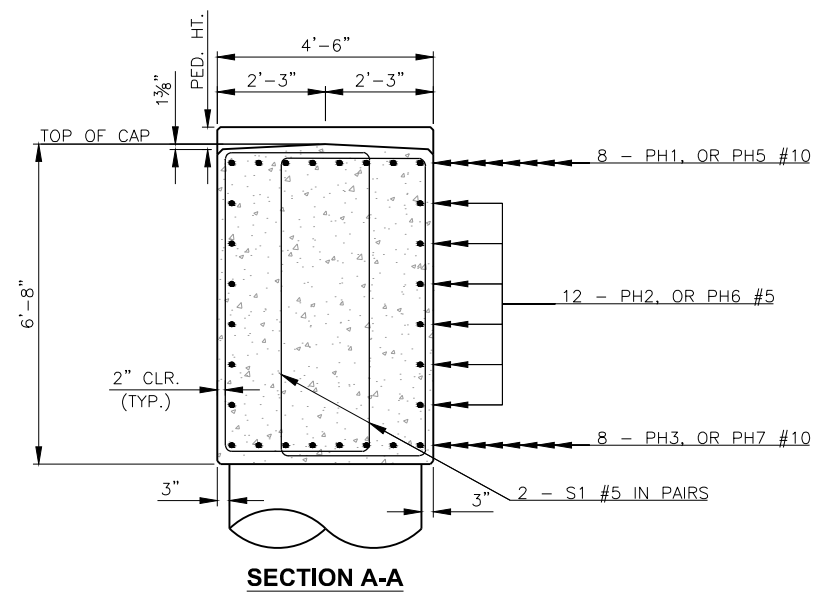
ELEVATION

SIDE

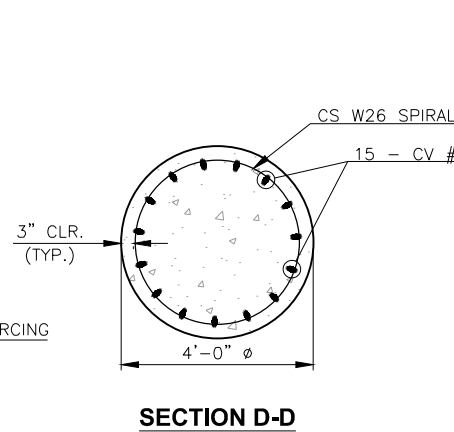
- NOTE:
FOR BAR BENDS AND BAR LIST, SEE SHEET 45.
- NOTE:
FOR SECTIONS C-C, F-F, G-G, SEE SHEET 44.
- ① FOR TOP OF CAP ELEVATIONS, TOP OF SHAFT ELEVATIONS, BOTTOM OF SHAFT ELEVATIONS, DRILLED SHAFT LENGTHS, AND MINIMUM SHAFT EMBED LENGTH, SEE DRILLED SHAFT TABLE, SHEET 44.
- ② DRILLED SHAFT SHALL BE INSTALLED THE MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN ON PLANS.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	PIER NO. 3 - NO. 6 DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 43

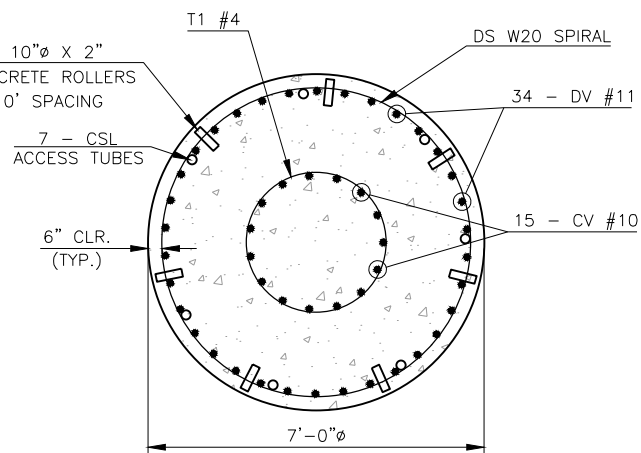
DESCRIPTION	REVISIONS	DATE



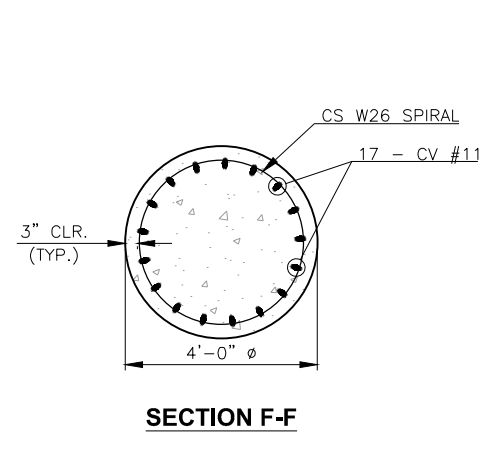
SPIRAL REINFORCING SPLICE DETAIL



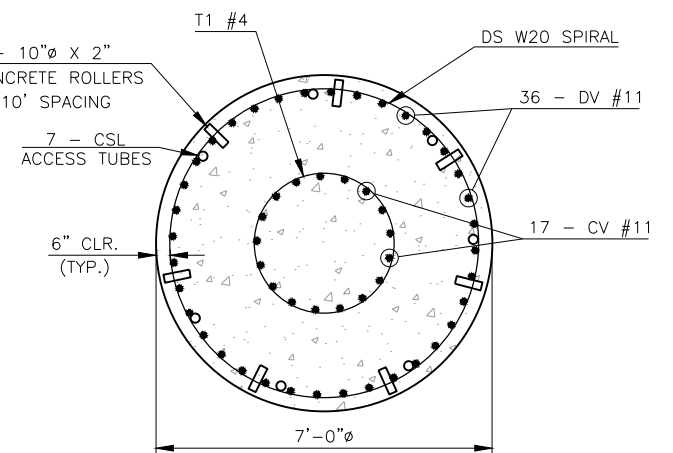
SECTION D-D



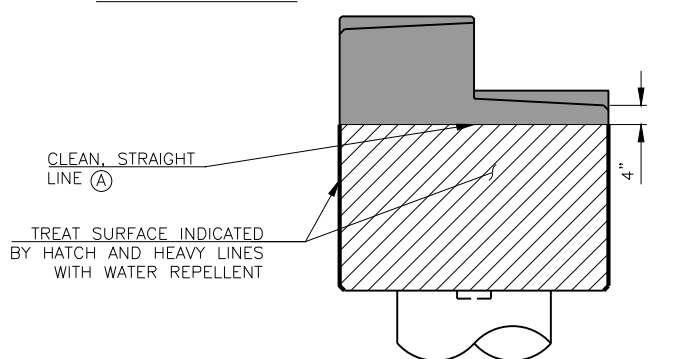
SECTION E-E



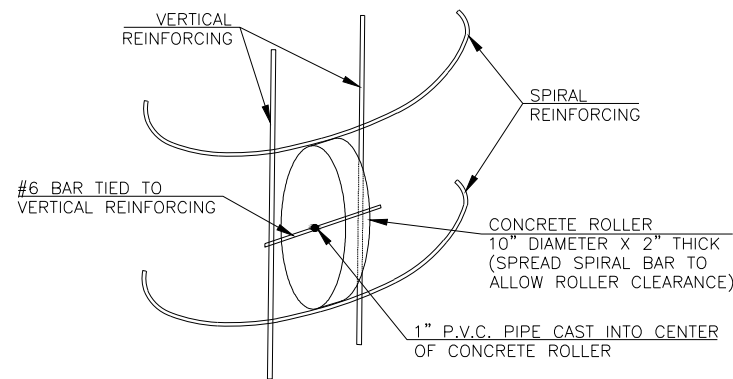
SECTION F-F



SECTION G-G



WATER REPELLENT AND CIM 1000 TREATMENT DETAIL



DRILLED SHAFT ROLLER DETAIL

NOTE:
CONCRETE USED IN THE CONCRETE ROLLER SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. SLAB BOLSTERS, HIGH CHAIRS, OR PLASTIC ROLLERS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.

(A) APPLY CIM 1000, OR APPROVED EQUAL, TO TOP AND SIDES OF PEDESTALS AND STEPS, TOP OF PIER CAP, AND TO AN ELEVATION 4" DOWN FROM THE LOW EDGE OF PIER CAP. EDGES OF THE COATING SHALL BE MASKED WITH TAPE PRIOR TO APPLICATION TO ENSURE CLEAN, STRAIGHT LINES ARE OBTAINED. REMOVE COATING FROM ANY SURFACE OUTSIDE OF THE AREAS INDICATED IN THE PLANS. DO NOT APPLY WATER REPELLENT ON SURFACES PRIOR TO APPLICATION OF CIM 1000. THE DEPARTMENT WILL NOT PAY FOR WATER REPELLENT ON SURFACES TREATED WITH CIM 1000. INCLUDE ALL COSTS FOR MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "SPECIAL CONCRETE FINISH".

PIERS 3-6 COLUMN AND DRILLED SHAFT TABLE						
PIER	TOP OF CAP ELEV.	TOP OF SHAFT ELEV.	BOTTOM OF SHAFT ELEV.	DRILLED SHAFT LENGTH	COLUMN LENGTH	MIN. SHAFT EMBED.
3	763.46	735.96	659.96	76'-0"	22'-6"	14'-0"
4	765.86	735.86	660.86	75'-0"	25'-0"	14'-0"
5	768.27	735.77	667.77	68'-0"	27'-6"	14'-0"
6	770.68	735.68	713.68	22'-0"	30'-0"	12'-0"

PIER QUANTITIES - PHASE I								
	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6	TOTAL
(B) SPECIAL CONCRETE FINISH	S.Y.	17	28	17	17	17	17	113
CLASS A CONCRETE	C.Y.	45.7	44.0	42.8	45.2	47.5	49.8	275.0
MECHANICAL SPLICES	EA.							
REINFORCING STEEL	LB.	1,570	1,700	1,870	2,040	2,210	2,380	11,770
EPOXY COATED REINFORCING STEEL	LB.	9,650	10,110	14,200	14,650	15,100	15,200	78,910
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	38.7	28.5	28.5	28.5	28.5	28.5	181.2
DRILLED SHAFTS 84" DIAMETER	L.F.	156	152	152	150	136	44	790
CROSSHOLE SONIC LOGGING	EA.	1	1	1	1	1	1	6

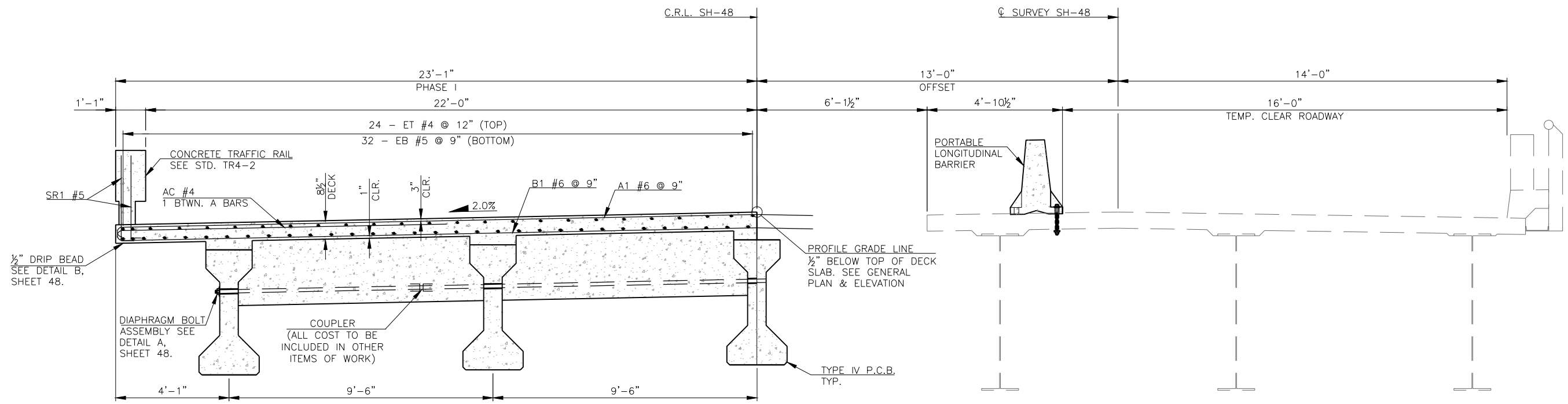
PIER QUANTITIES - PHASE II								
	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6	TOTAL
(B) SPECIAL CONCRETE FINISH	S.Y.	12	20	12	12	12	12	80
CLASS A CONCRETE	C.Y.	29.1	27.4	26.2	27.4	28.5	29.7	168.3
MECHANICAL SPLICES	EA.	16	16	24	24	24	24	128
REINFORCING STEEL	LB.	780	850	940	1,020	1,110	1,190	5,890
EPOXY COATED REINFORCING STEEL	LB.	5,650	5,990	8,100	8,320	8,550	8,600	45,210
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	28.9	21.3	21.3	21.3	21.3	21.3	135.4
DRILLED SHAFTS 84" DIAMETER	L.F.	78	76	76	75	68	22	395
CROSSHOLE SONIC LOGGING	EA.							

(B) QUANTITY PROVIDED FOR THE APPLICATION OF CIM 1000 OR APPROVED EQUAL.

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	E.B.R.		
CHECKED	B.J.K.		
APPROV.	B.J.K.		
SQUAD	CEC		

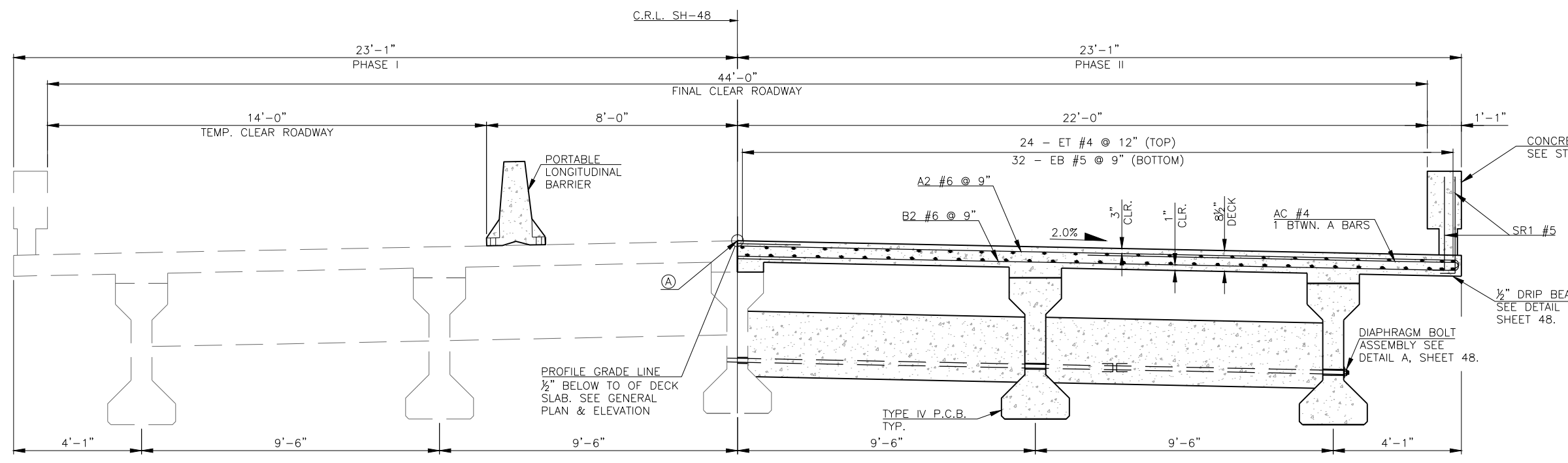
PIER SECTIONS

DESCRIPTION	REVISIONS	DATE



HALF SECTION AT END DIAPHRAGM

TYPICAL CROSS SECTION
PHASE I (SPANS 1-2)



HALF SECTION AT INTERMEDIATE DIAPHRAGM

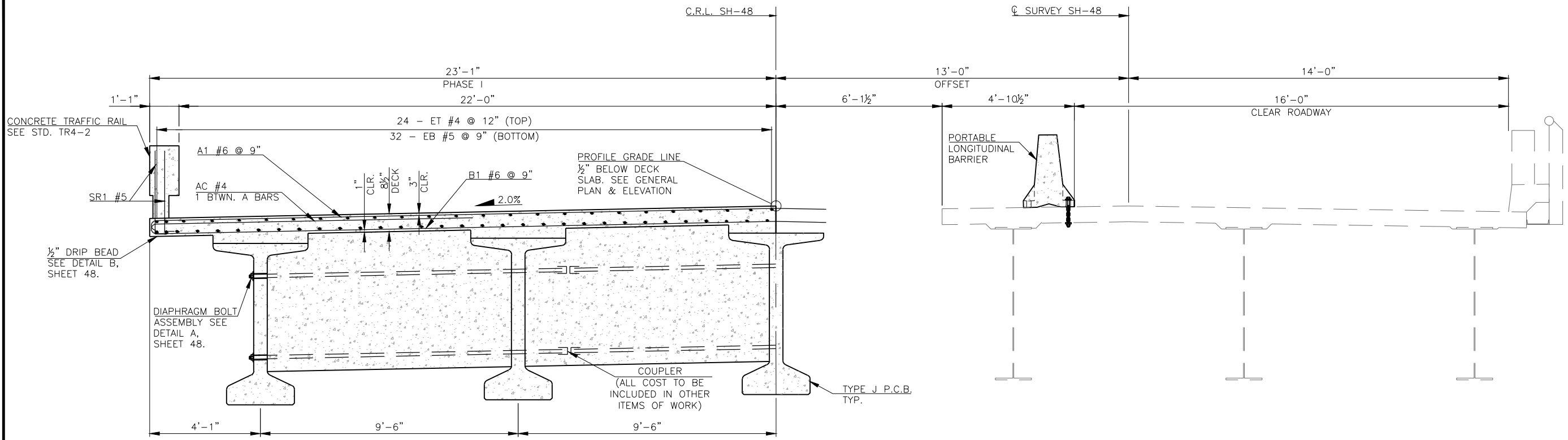
TYPICAL CROSS SECTION
PHASE II (SPANS 1-2)

- NOTE: FOR SUPERSTRUCTURE QUANTITIES, SEE SHEET 49.
- NOTE: FOR BAR BENDS AND BAR LIST, SEE SHEET 58.
- NOTE: ROTATE HOOKS ON A BARS TO MAINTAIN MINIMUM CLEARANCE.
- NOTE: FOR ADDITIONAL PORTABLE LONGITUDINAL BARRIER DETAILS, SEE SHEET 28.

(A) GRIND LONGITUDINAL CONSTRUCTION JOINT TO PROVIDE A SMOOTH ROUNDED SURFACE AS APPROVED BY THE ENGINEER. INCLUDE ALL COSTS FOR GRINDING BRIDGE DECK TO SMOOTHNESS, INCLUDING LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN THE PRICE BID FOR "CLASS AA CONCRETE". SEAL LONGITUDINAL JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE AFTER ALL GRINDING HAS BEEN COMPLETED.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	TYPICAL CROSS SECTION (SPAN 1-2)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 46

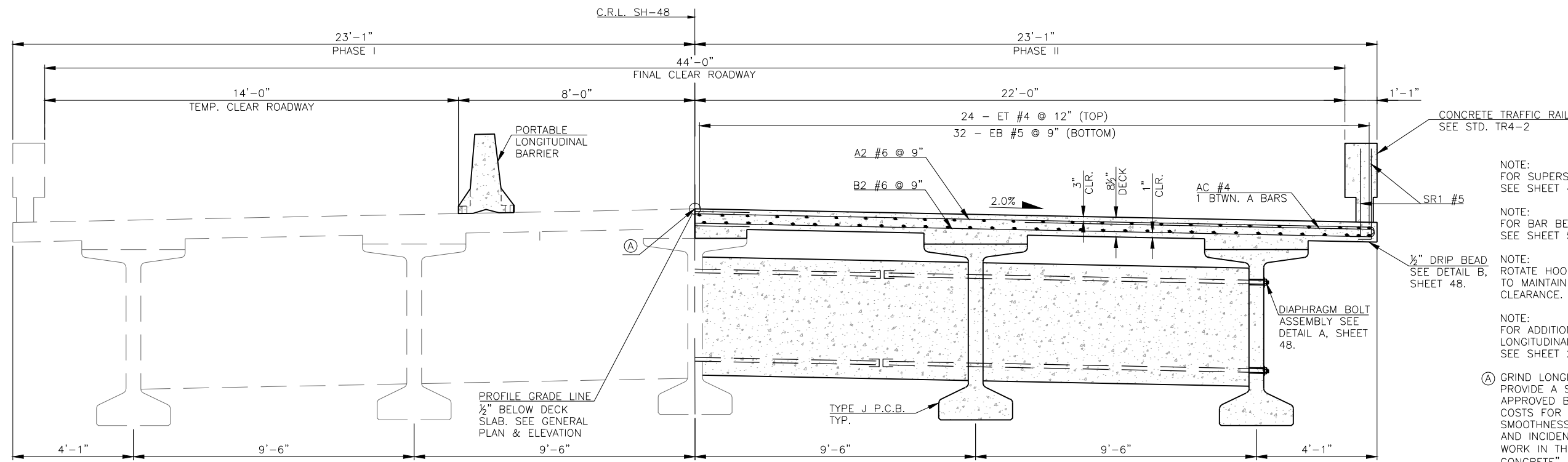
DESCRIPTION	REVISIONS	DATE



HALF SECTION AT END DIAPHRAGM

TYPICAL CROSS SECTION

PHASE I (SPANS 3-7)



HALF SECTION AT INTERMEDIATE DIAPHRAGM

TYPICAL CROSS SECTION

PHASE II (SPANS 3-7)

NOTE:
FOR SUPERSTRUCTURE QUANTITIES,
SEE SHEET 49.

NOTE:
FOR BAR BENDS AND BAR LIST,
SEE SHEET 58.

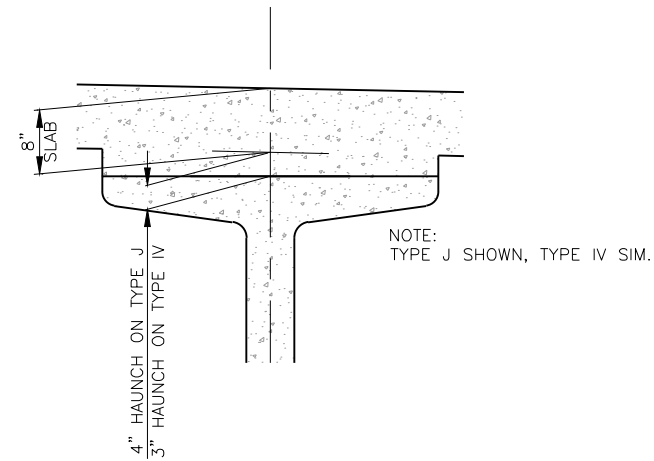
NOTE:
ROTATE HOOKS ON A BARS
TO MAINTAIN MINIMUM
CLEARANCE.

NOTE:
FOR ADDITIONAL PORTABLE
LONGITUDINAL BARRIER DETAILS,
SEE SHEET 28.

(A) GRIND LONGITUDINAL CONSTRUCTION JOINT TO PROVIDE A SMOOTH ROUNDED SURFACE AS APPROVED BY THE ENGINEER. INCLUDE ALL COSTS FOR GRINDING BRIDGE DECK TO SMOOTHNESS, INCLUDING LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN THE PRICE BID FOR "CLASS AA CONCRETE". SEAL LONGITUDINAL JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE AFTER ALL GRINDING HAS BEEN COMPLETED.

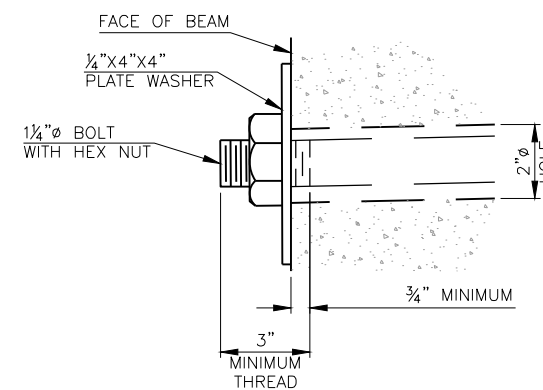
DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	TYPICAL CROSS SECTION (SPANS 3-7)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 47

DESCRIPTION	REVISIONS	DATE

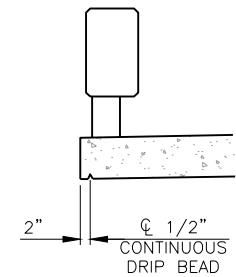


BEAM HAUNCH DETAIL

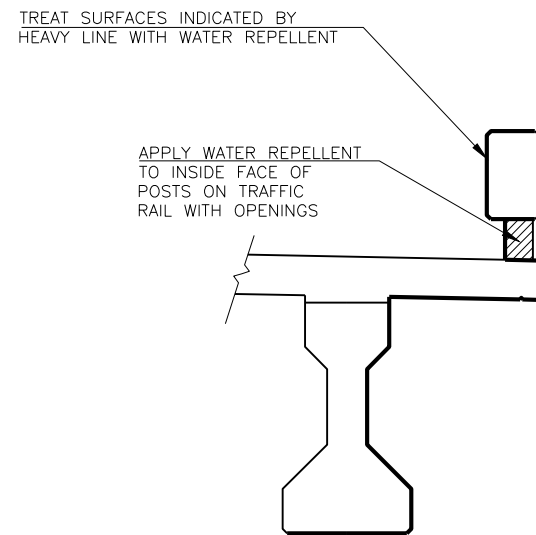
NOTE:
 PLAN QUANTITIES FOR CLASS AA CONCRETE INCLUDE 35.9 CY FOR BEAM HAUNCHES IN PHASE I AND 35.9 CY FOR BEAM HAUNCHES IN PHASE II. THE HAUNCH HEIGHT SHOWN IS THE THEORETICAL HAUNCH HEIGHT AT THE CENTERLINE BEARING ONLY, MEASURED FROM THE BOTTOM OF THE DECK SLAB TO THE TOP OF THE BEAM, AND VARIES ACROSS 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.



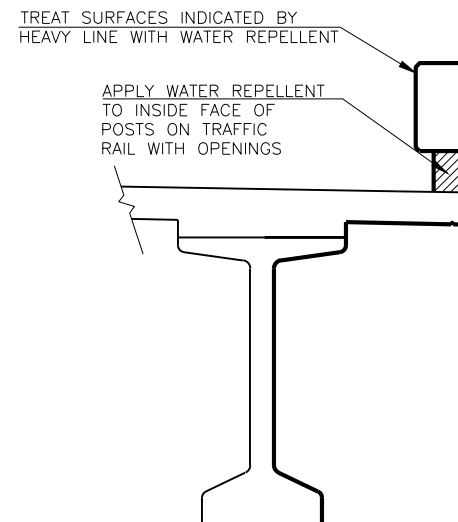
DETAIL A



DETAIL B

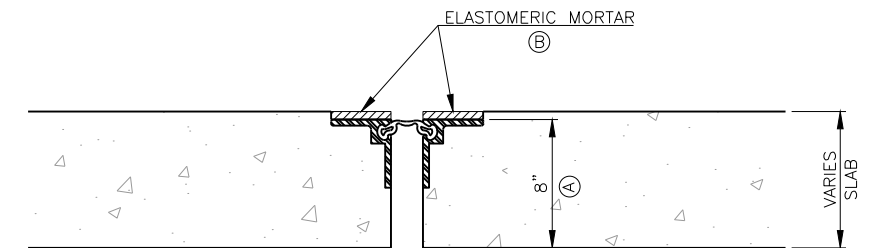


TRAFFIC RAIL, SLAB, AND BEAM



TRAFFIC RAIL, SLAB AND BEAM

WATER REPELLENT TREATMENT DETAILS

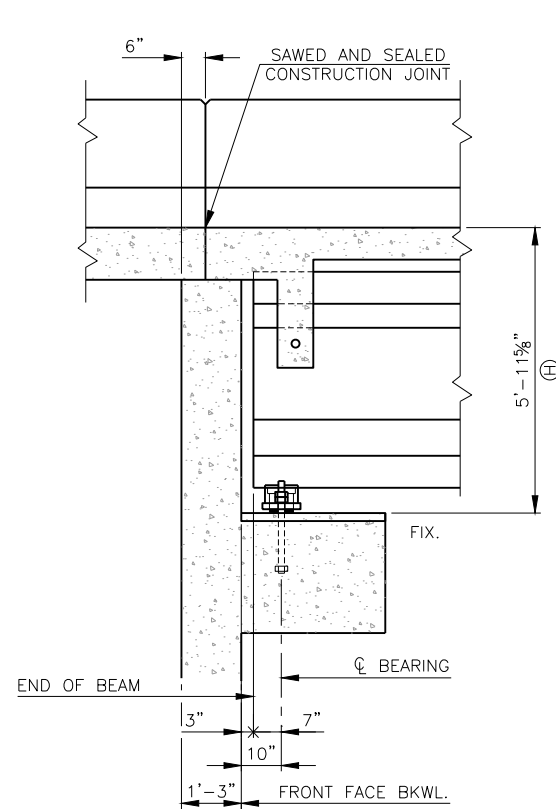


EXPANSION JOINT PLACEMENT DETAIL

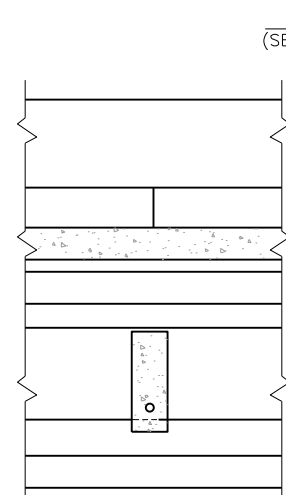
- (A) SET EXPANSION JOINT DEVICES AT AN ELEVATION CORRESPONDING TO AN 8" DECK SLAB.
- (B) PLACE ELASTOMERIC MORTAR OVER STEEL RECEPTORS TO MATCH BRIDGE DRIVING SURFACE AFTER ALL GRINDING HAS BEEN COMPLETED. INCLUDE ALL COSTS FOR PLACING THE ELASTOMERIC MORTAR, INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE FOR "CLASS AA CONCRETE".

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	TYPICAL CROSS SECTION DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 48

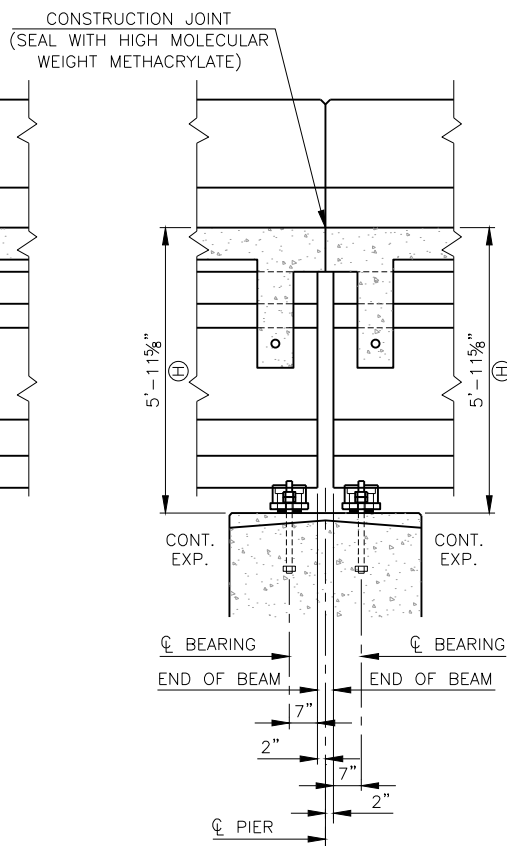
DESCRIPTION	REVISIONS	DATE



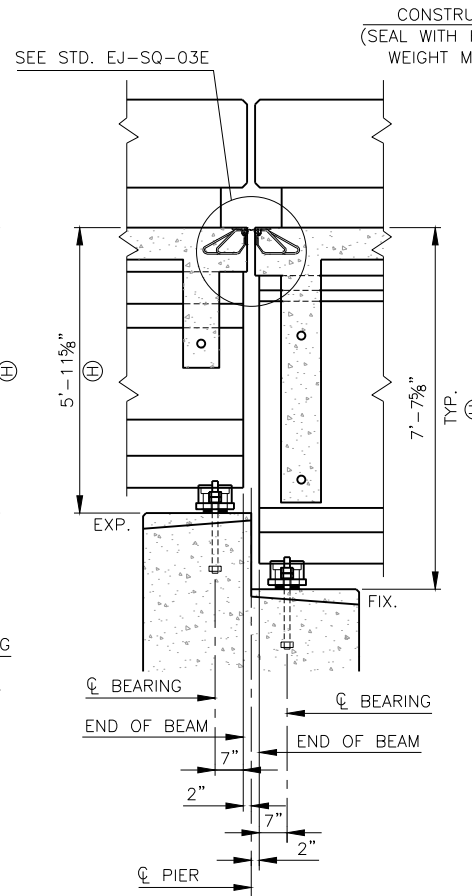
ABUTMENT NO. 1



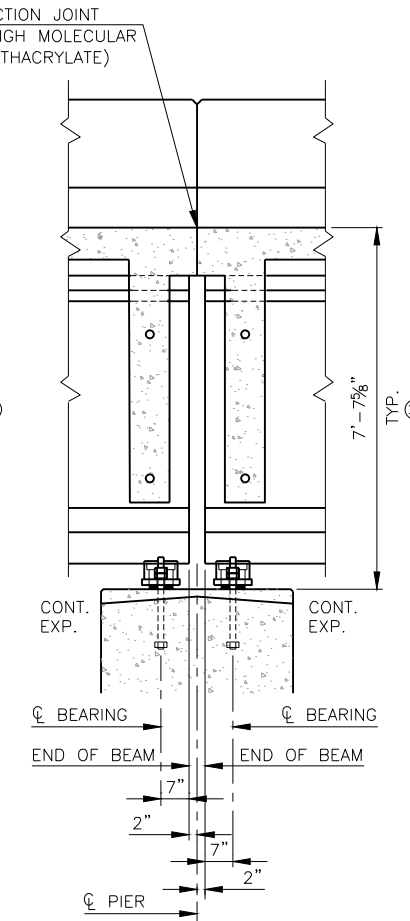
INTERMEDIATE DIAPHRAGM



PIER NO. 1

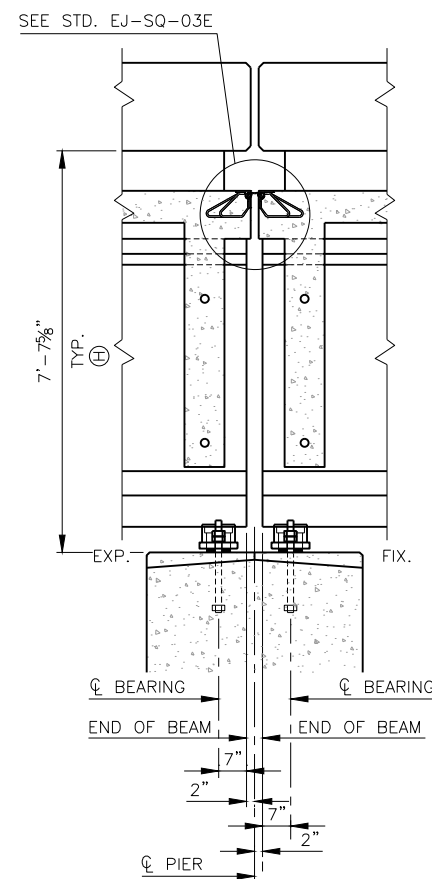


PIER NO. 2

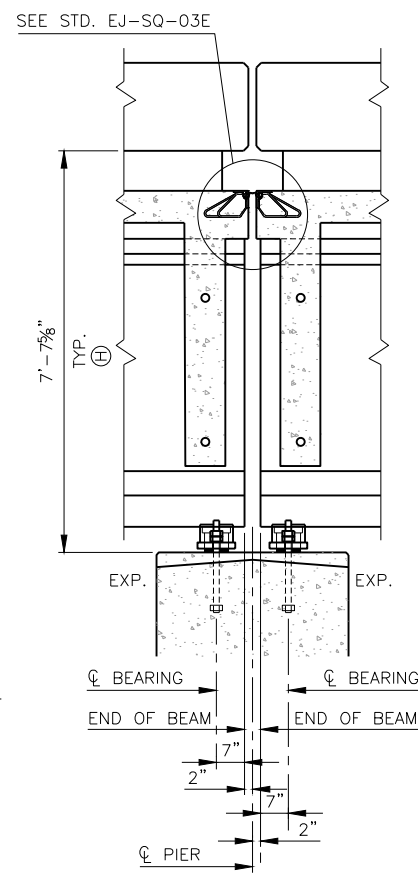


PIER NO. 3

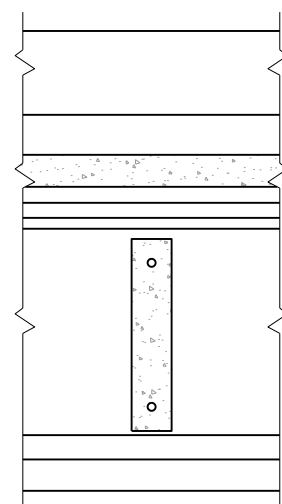
EXP. JOINT OPENING	TEMPERATURE			
	PIER NO. 2	PIER NO. 4	PIER NO. 5	PIER NO. 6
2 3/4"		0'		0'
2 5/8"	0'	7'		7'
2 1/2"	8"	14"		14"
2 3/8"	17"	21"	0'	21"
2 1/4"	26"	28"	14"	28"
2 1/8"	34"	36"	28"	36"
2"	43"	43"	43"	43"
1 7/8"	52"	50"	58"	50"
1 3/4"	60"	58"	72"	58"
1 5/8"	69"	65"	87"	65"
1 1/2"	78"	72"	101"	72"
1 3/8"	87"	79"	116"	79"
1 1/4"	95"	87"	120"	87"
1 1/8"	104"	94"		94"
1"	113"	101"		101"
7/8"	120"	108"		109"
3/4"		116"		116"
5/8"		120"		120"



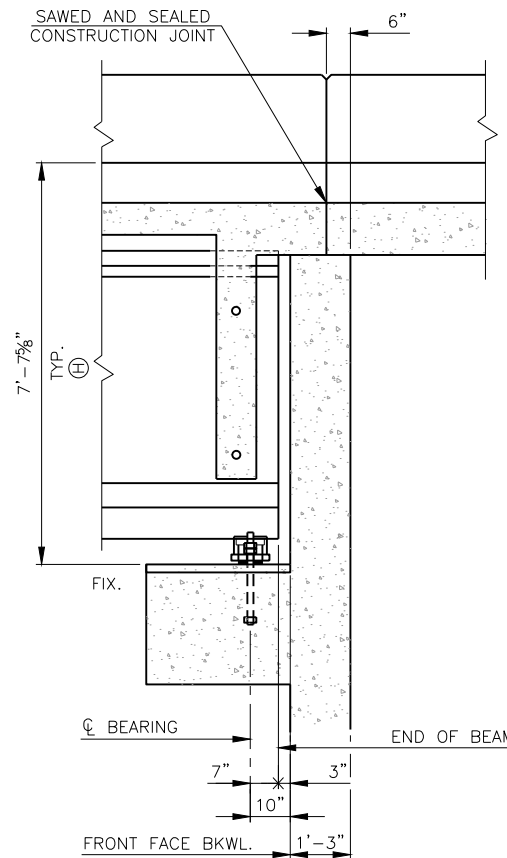
PIER NO. 4 AND 5



PIER NO. 6



INTERMEDIATE DIAPHRAGM



ABUTMENT NO. 2

SUPERSTRUCTURE QUANTITIES			
ITEM	UNIT	PHASE I	PHASE II
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	598.0	398.7
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	1,795.0	1,196.7
SAW-CUT GROOVING	S.Y.	1,959.6	1,959.6
SEALED EXPANSION JOINT	L.F.	91.5	91.5
CONCRETE RAIL (TR4)	L.F.	801.7	801.7
STRUCTURAL STEEL	LB.	3,840	3,700
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	15	10
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	27	18
CLASS AA CONCRETE	C.Y.	581.1	581.1
EPOXY COATED REINFORCING STEEL	LB.	150,610	139,460
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	1,548.2	1,548.2
SEALER CRACK PREPARATION	L.F.	46	848
SEALER RESIN	GAL.	1	10

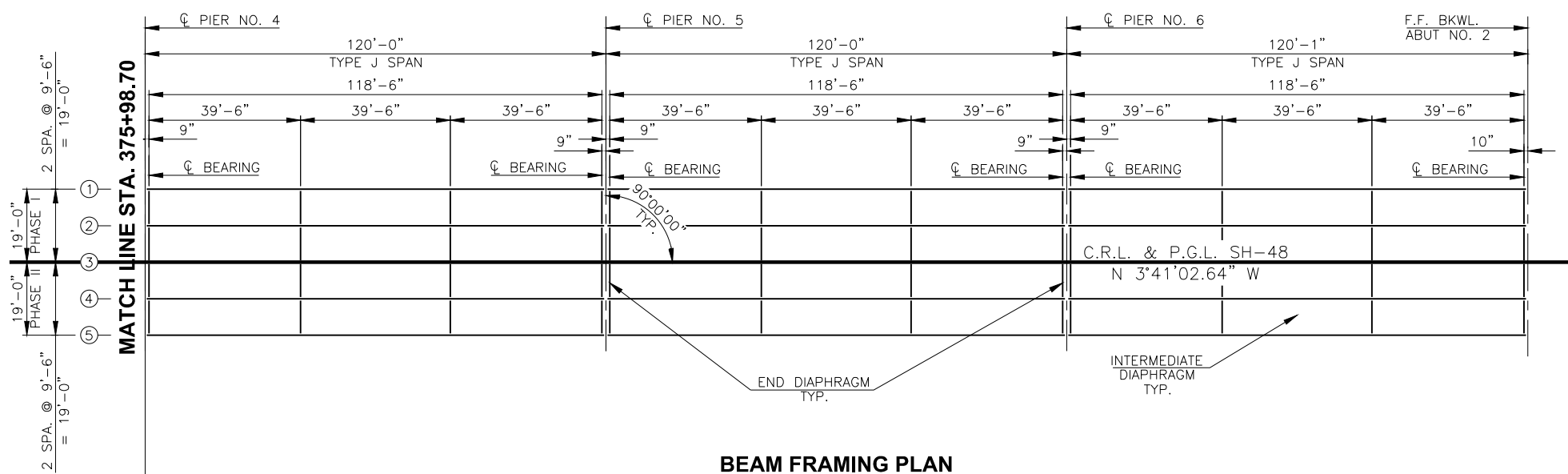
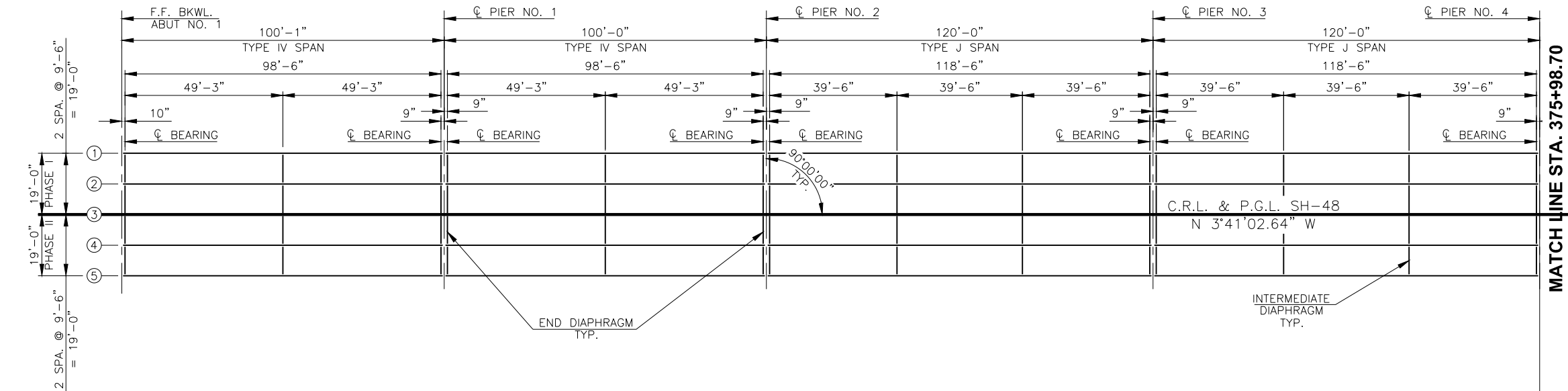
⊕ DIMENSION IS FROM TOP OF DECK SLAB TO BOTTOM OF BEARING ASSEMBLY AT CL BEARING.

DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS 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.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.		
CHECKED	T.A.C.		
APPROV.	B.J.K.		
SQUAD	CEC		

LONGITUDINAL SECTION

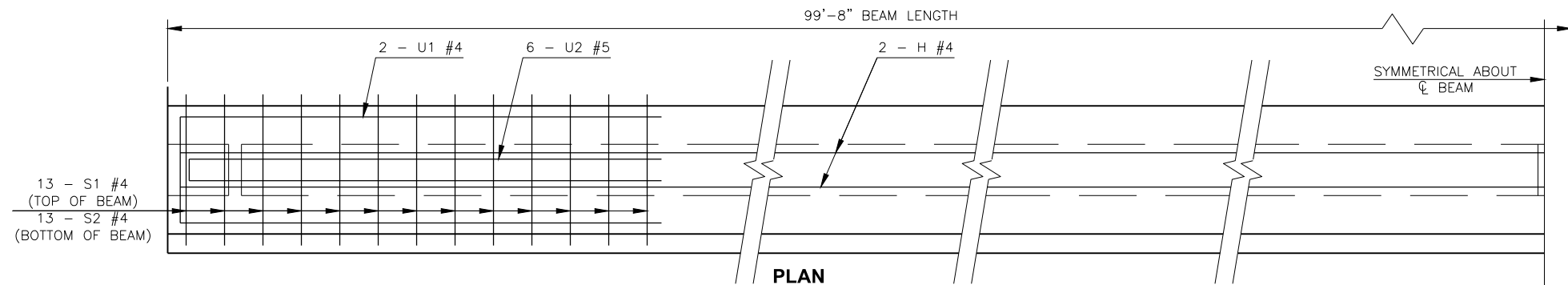
JOB PIECE NO. 27925(04) SHEET NO. 49



BEAM FRAMING PLAN

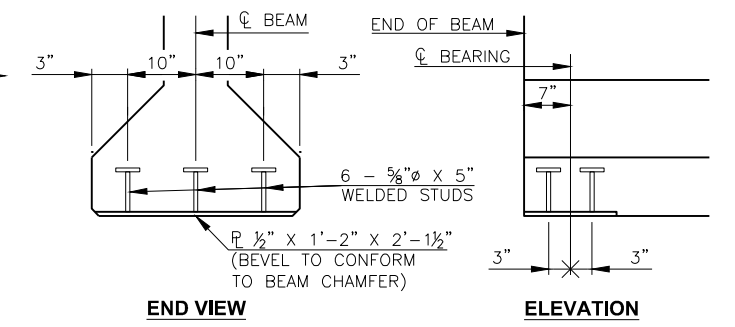
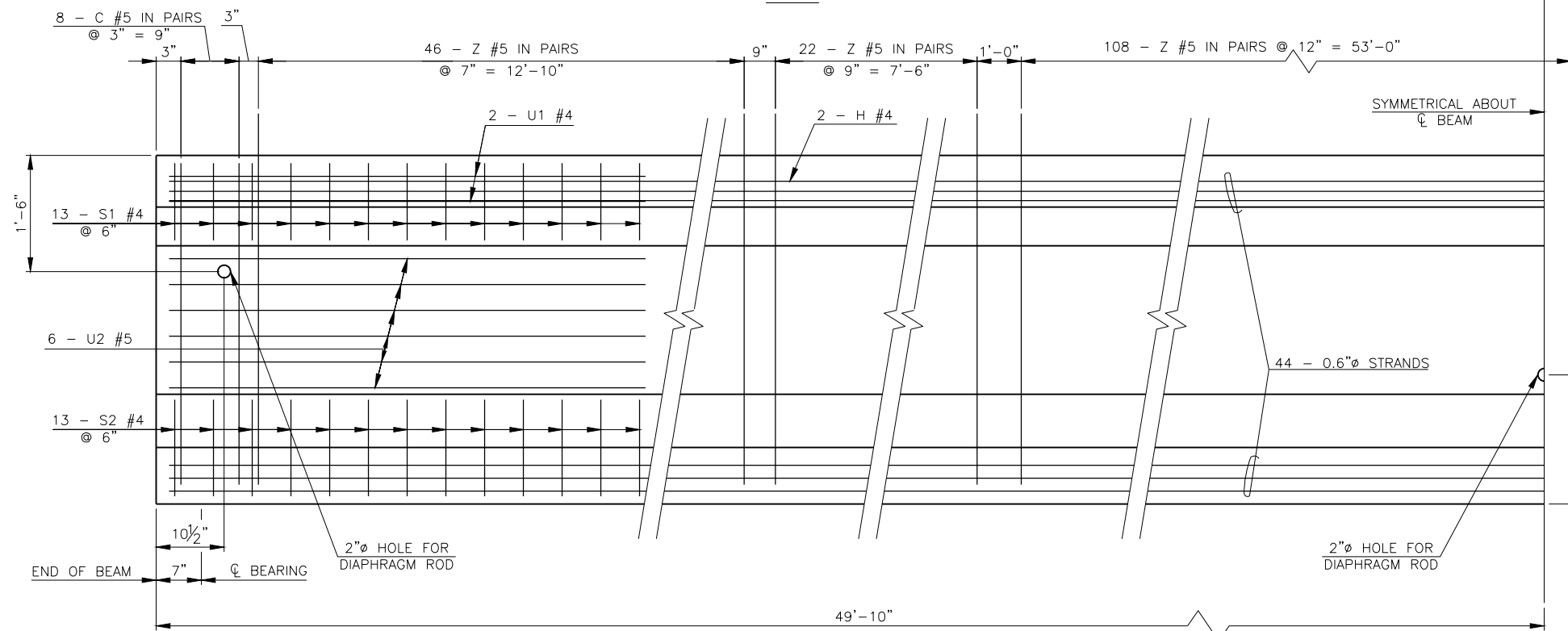
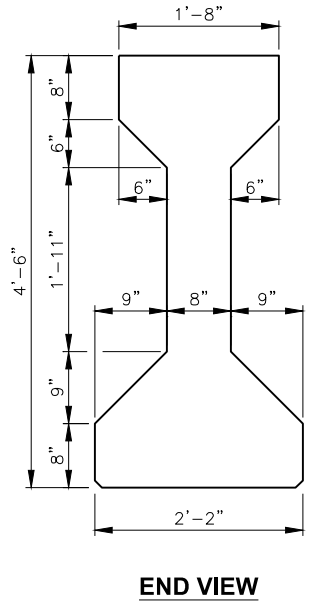
DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	R.A.P.	BEAM FRAMING PLAN JOB PIECE NO. <u>27925(04)</u> SHEET NO. <u>50</u>	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		

DESCRIPTION	REVISIONS	DATE

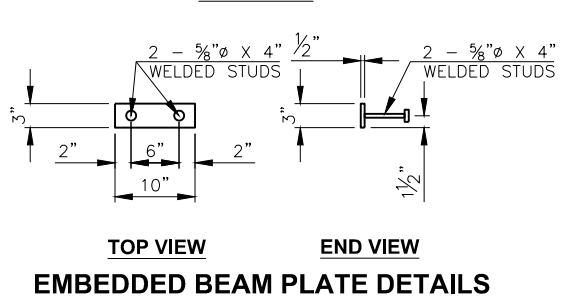
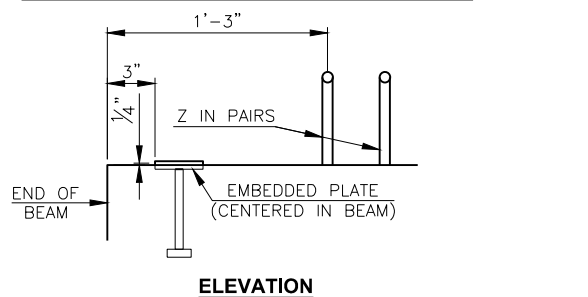


NOTE:
PROVIDE AN EMBEDDED
SOLE PLATE AT EACH
END OF THE BEAM.

PRESTRESSED CONCRETE BEAM NOTES
 COMPRESSIVE STRENGTH
 PROVIDE CONCRETE WITH A COMPRESSIVE
 STRENGTH OF 6,300 P.S.I. AT TRANSFER OF
 PRESTRESS AND 9,000 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.

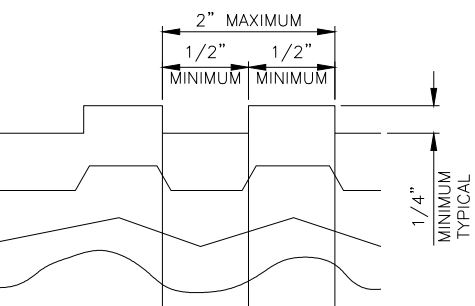


EMBEDDED SOLE PLATE DETAILS



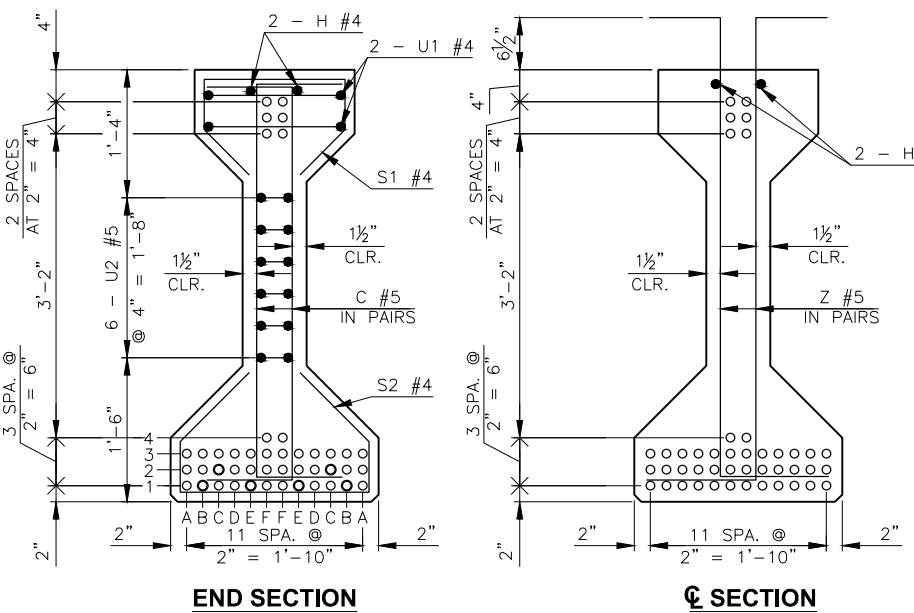
EMBEDDED BEAM PLATE DETAILS

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

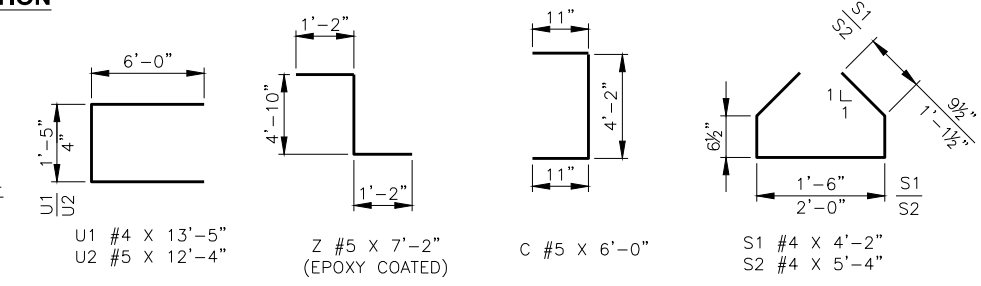


INTENTIONALLY ROUGHENED SURFACE DETAILS

TOP SURFACE OF P.C. BEAMS SHALL BE INTENTIONALLY
 ROUGHENED TO A MINIMUM HEIGHT OF 1/4" OVER A
 MAXIMUM PITCH OF 2" MEASURED LONGITUDINALLY ALONG
 THE LENGTH OF THE BEAM. THE CREST AND TROUGH
 ASSOCIATED WITH THE HEIGHT SHALL NOT BE LESS THAN
 1/2" AND SHALL EXTEND THE FULL WIDTH OF THE TOP
 FLANGE. PRODUCE THE ROUGHENED SURFACE BY USING
 A SPECIAL TROWEL TO FORM ONE OF THE SURFACES
 SOWN IN THE DETAILS, BY CLEANING THE CONCRETE
 SURFACE WITH A STIFF WIRE BRUSH (OR BLASTING)
 TO THE EXTENT THAT AGGREGATE IS EXPOSED TO A HEIGHT
 OF 1/4", OR BY ANOTHER APPROVED METHOD. THE
 METHOD USED SHALL BE SUBMITTED FOR APPROVAL BY
 THE ENGINEER. REPAIR ANY DAMAGE TO THE
 REINFORCEMENT'S EPOXY COATING BEFORE PLACEMENT
 OF DECK CONCRETE.



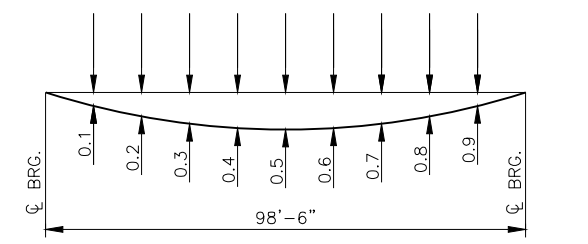
BEAM SECTIONS
(44 - 0.6" STRANDS)



BEAM LINE	LOAD	CL BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG.
1&5	1	0.00"	0.47"	0.91"	1.26"	1.48"	1.56"	1.48"	1.26"	0.91"	0.47"	0.00"
2-4	1	0.00"	0.51"	0.96"	1.32"	1.56"	1.64"	1.56"	1.32"	0.96"	0.51"	0.00"

1 DECK SLAB, DIAPHRAGMS, HAUNCH AND CONCRETE TRAFFIC RAIL. DOES NOT
 INCLUDE BEAM WEIGHT OR FUTURE WEARING SURFACE.

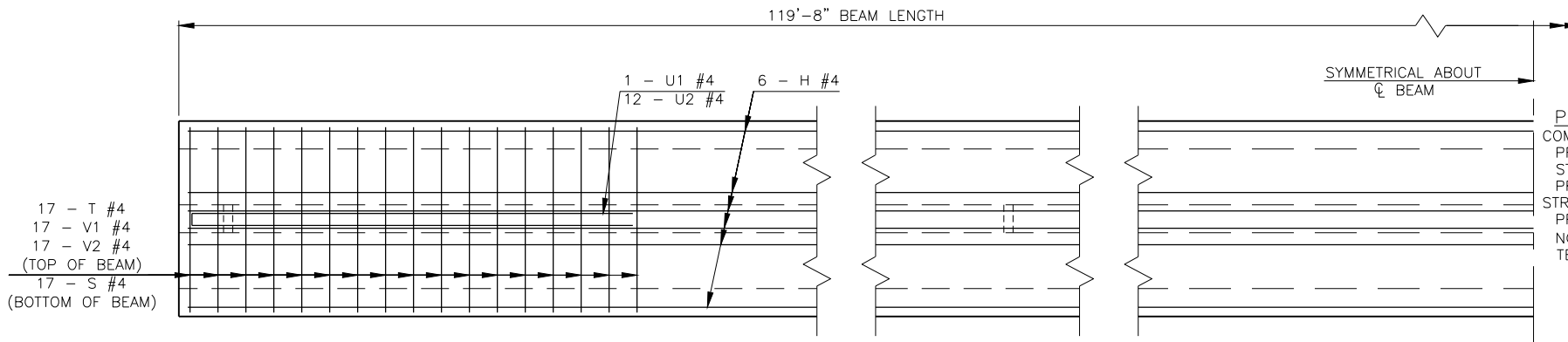
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
B1	16'-0"
D1	8'-0"
C2	4'-0"



DEAD LOAD DEFLECTION DIAGRAM

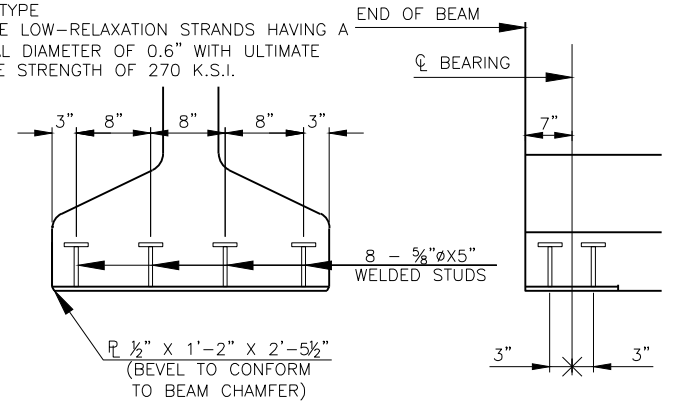
DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	BEAM DETAILS (SPAN 1-2)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 51

DESCRIPTION	REVISIONS	DATE



PLAN

PRESTRESSED CONCRETE BEAM NOTES
 COMPRESSIVE STRENGTH
 PROVIDE CONCRETE WITH A COMPRESSIVE STRENGTH OF 6,300 P.S.I. AT TRANSFER OF PRESTRESS AND 9,000 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.

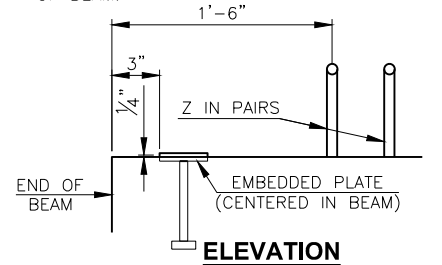


END VIEW

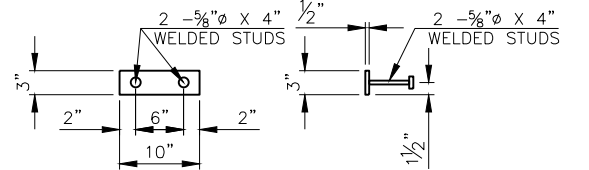
ELEVATION

EMBEDDED SOLE PLATE DETAILS

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



ELEVATION

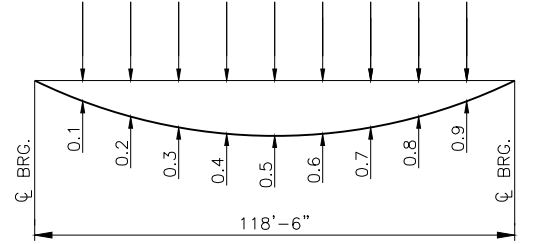


TOP VIEW

END VIEW

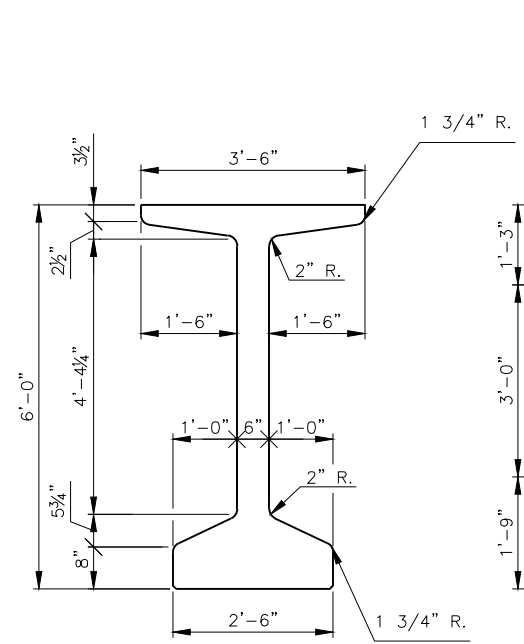
EMBEDDED BEAM PLATE DETAILS

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

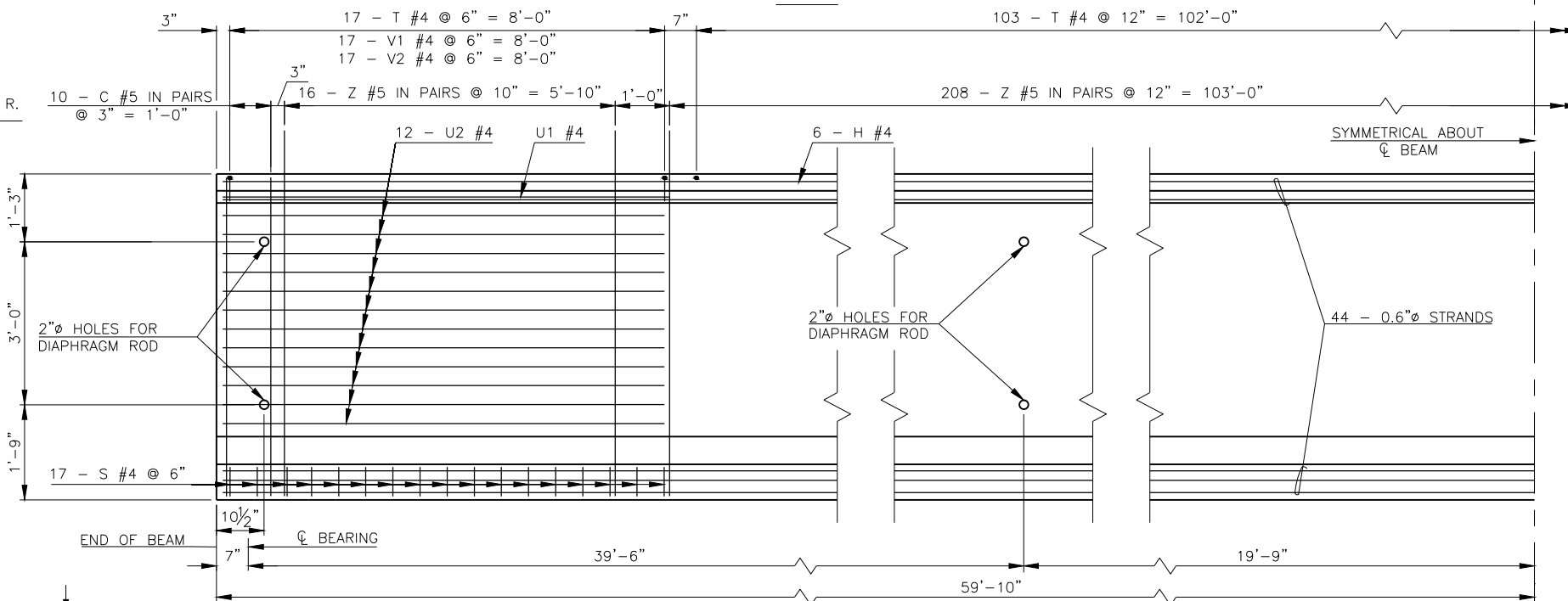


DEAD LOAD DEFLECTION DIAGRAM

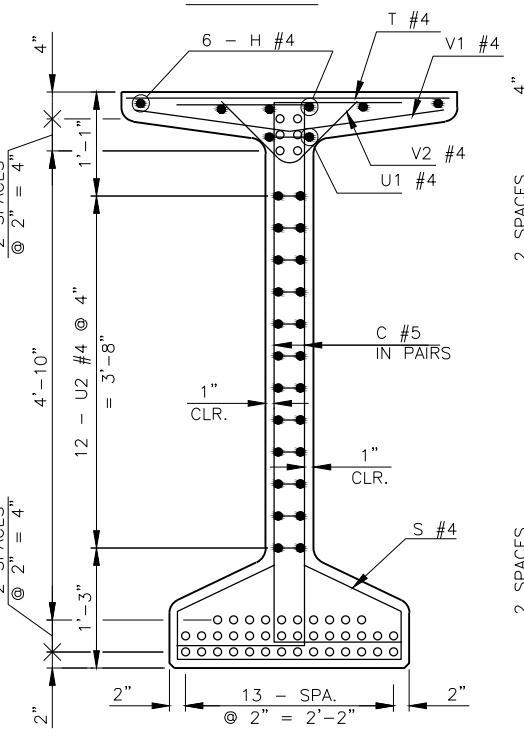
NOTE:
 FOR INTENTIONALLY ROUGHENED SURFACE DETAILS, SEE SHEET 51.



END VIEW

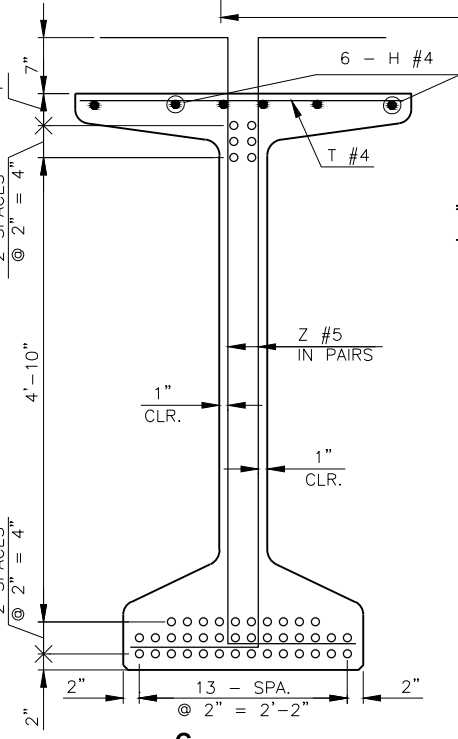


ELEVATION

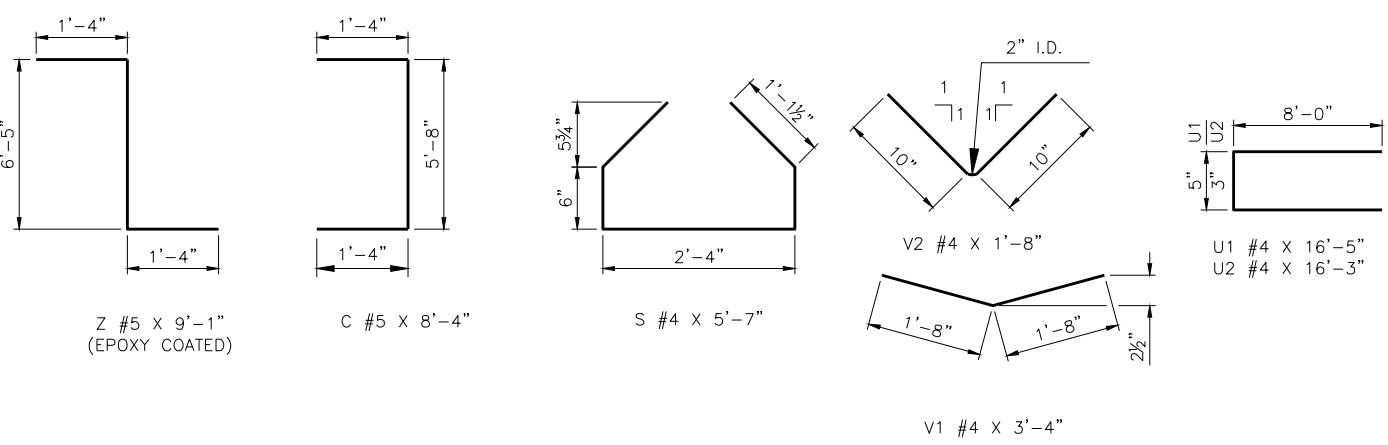


END SECTION

BEAM SECTIONS
 (44 - 0.6"Ø STRANDS)



CL SECTION

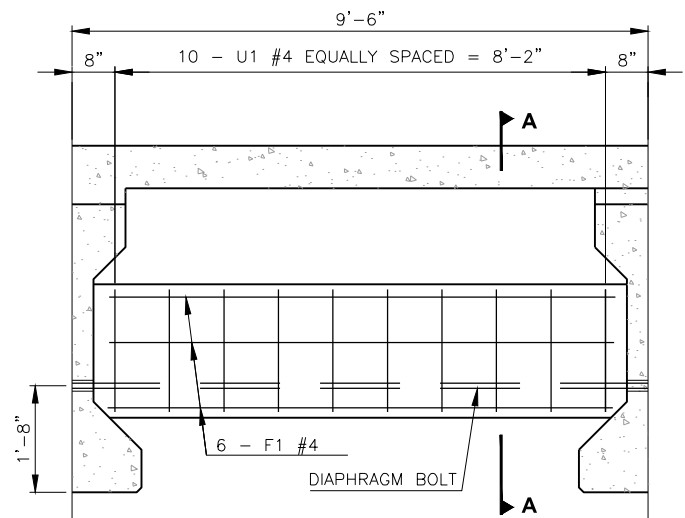


DEAD LOAD DEFLECTION SCHEDULE AT TENTH POINTS												
BEAM LINE	LOAD	CL BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG.
1&5	1	0.00"	0.48"	0.93"	1.28"	1.50"	1.58"	1.50"	1.28"	0.93"	0.48"	0.00"
2-4	1	0.00"	0.52"	1.02"	1.41"	1.66"	1.74"	1.66"	1.41"	1.02"	0.52"	0.00"

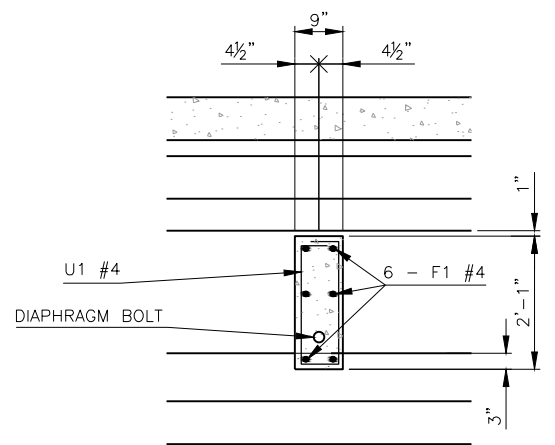
1 DECK SLAB, DIAPHRAGMS, HAUNCH AND CONCRETE TRAFFIC RAIL. DOES NOT INCLUDE BEAM WEIGHT OR FUTURE WEARING SURFACE.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	BEAM DETAILS (SPAN 3-7)	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 52

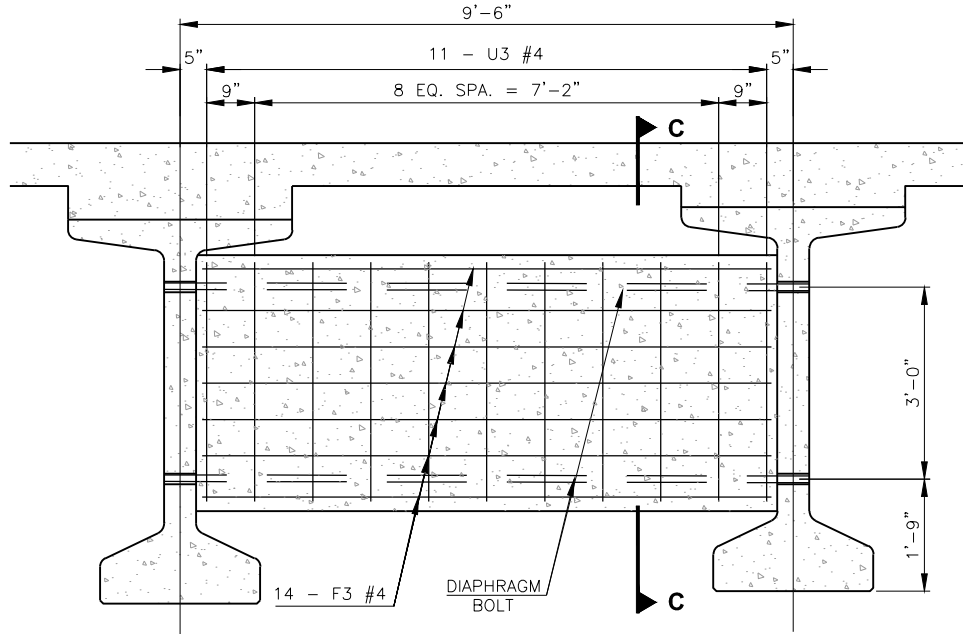
DESCRIPTION	REVISIONS	DATE



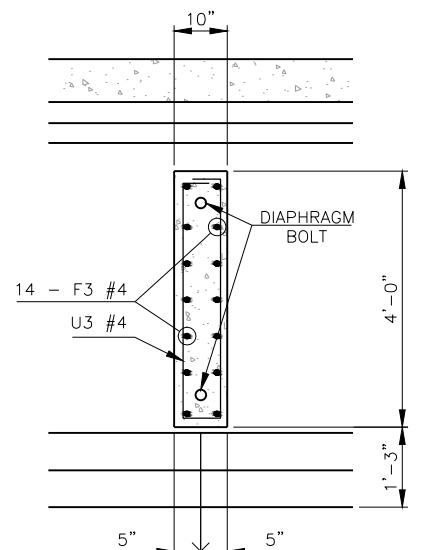
INTERMEDIATE DIAPHRAGM



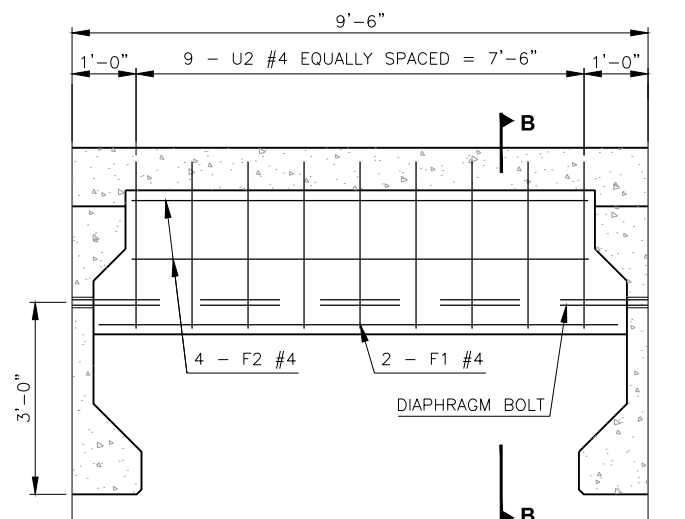
SECTION A-A



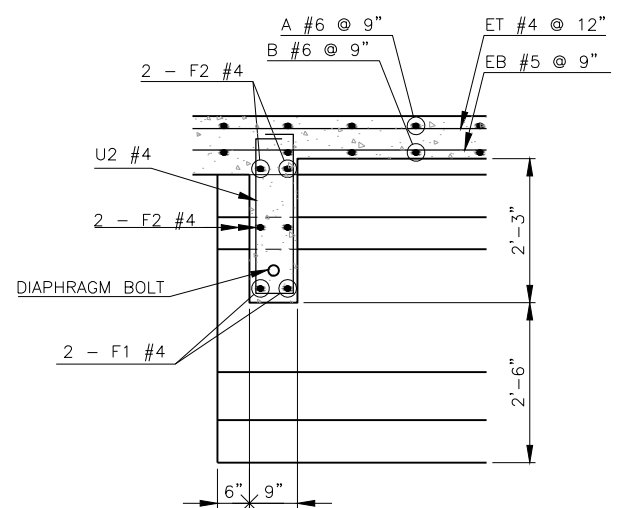
INTERMEDIATE DIAPHRAGM



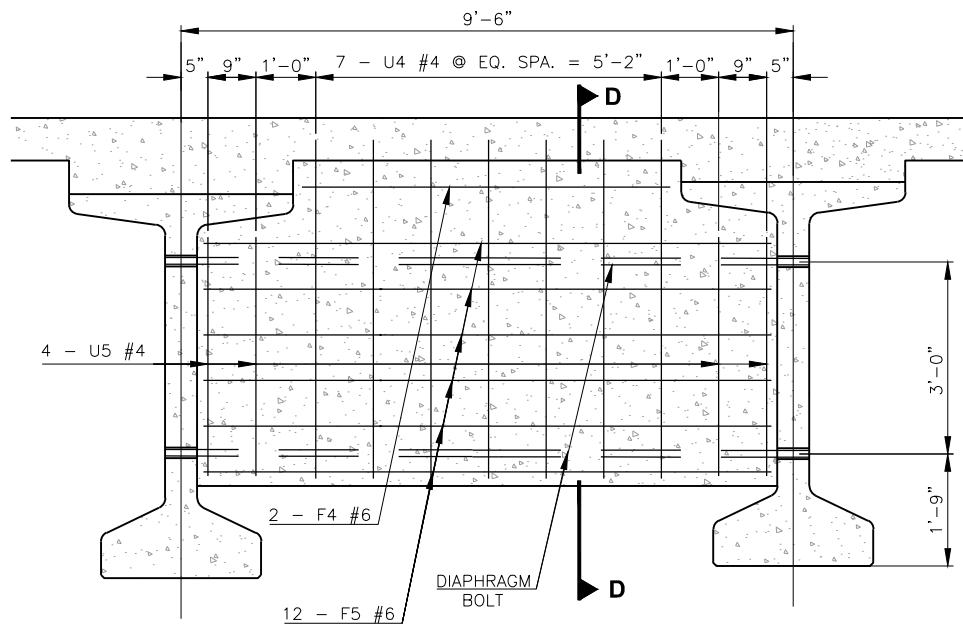
SECTION C-C



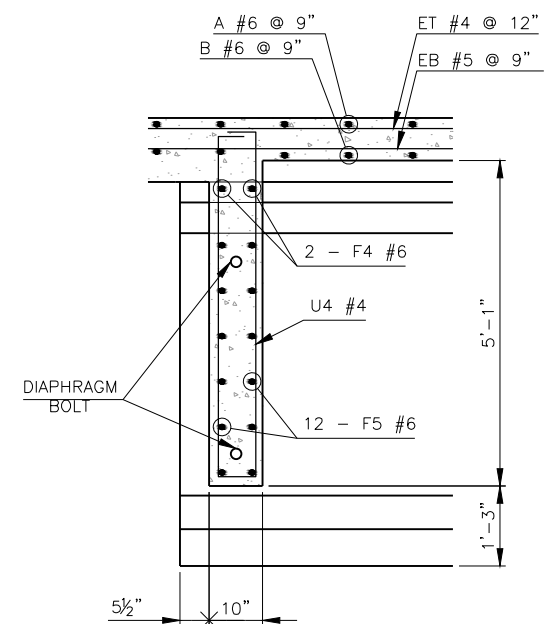
END DIAPHRAGM



SECTION B-B



END DIAPHRAGM



SECTION D-D

TYPE IV DIAPHRAGM DETAILS

(SPAN NO. 1 & NO. 2)

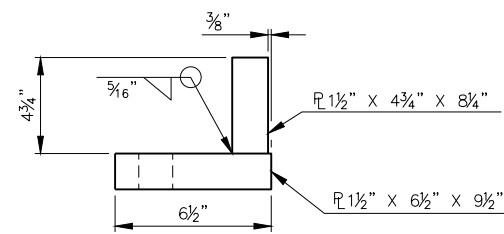
TYPE J DIAPHRAGM DETAILS

(SPAN NO. 3 - NO. 7)

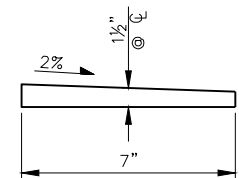
NOTE:
FOR BAR BENDS,
SEE SHEET 58.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	DIAPHRAGM DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 53

DESCRIPTION	REVISIONS	DATE

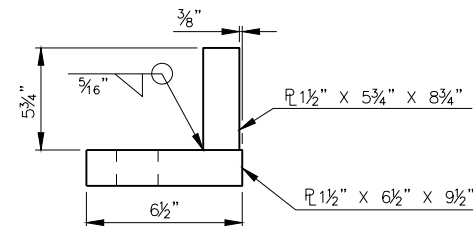


BUILT-UP CONTACT ANGLE DETAIL

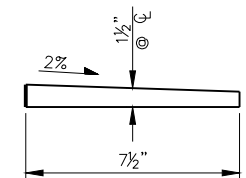


BEVELED ANCHOR PLATE DETAIL

NOTE:
PAINT THICKEST EDGE RED.
RED FACE OF BEVEL PLATES
SHALL FACE UPSTATION TOWARD
ABUTMENT NO. 2.

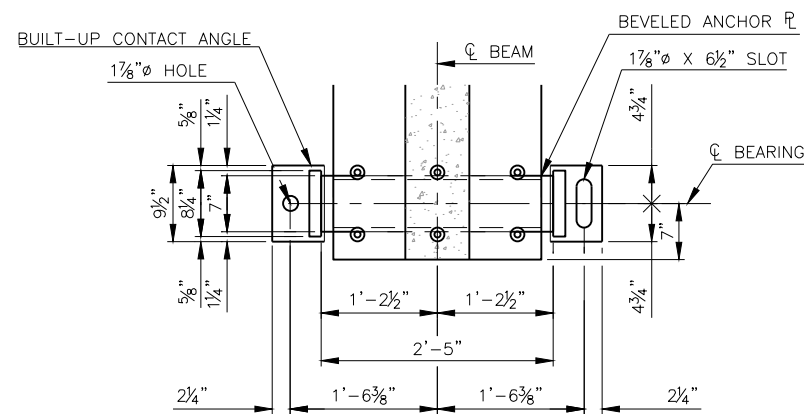


BUILT-UP CONTACT ANGLE DETAIL

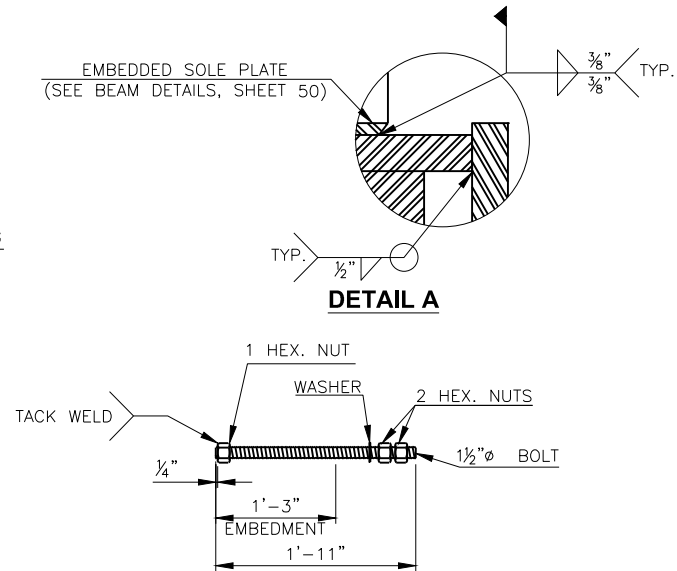


BEVELED ANCHOR PLATE DETAIL

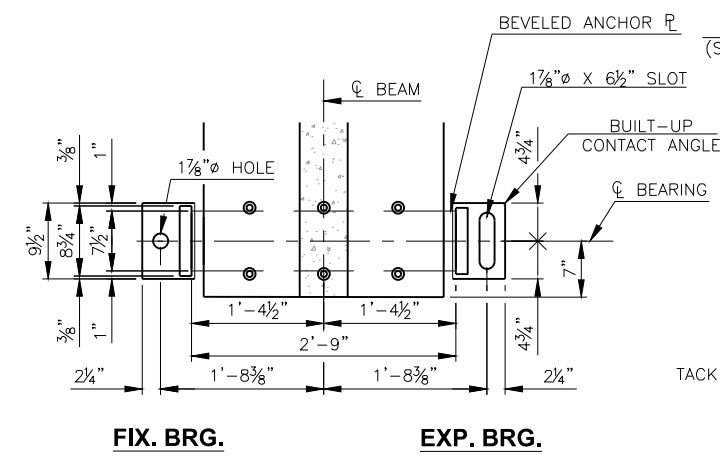
NOTE:
PAINT THICKEST EDGE RED.
RED FACE OF BEVEL PLATES
SHALL FACE UPSTATION TOWARD
ABUTMENT NO. 2.



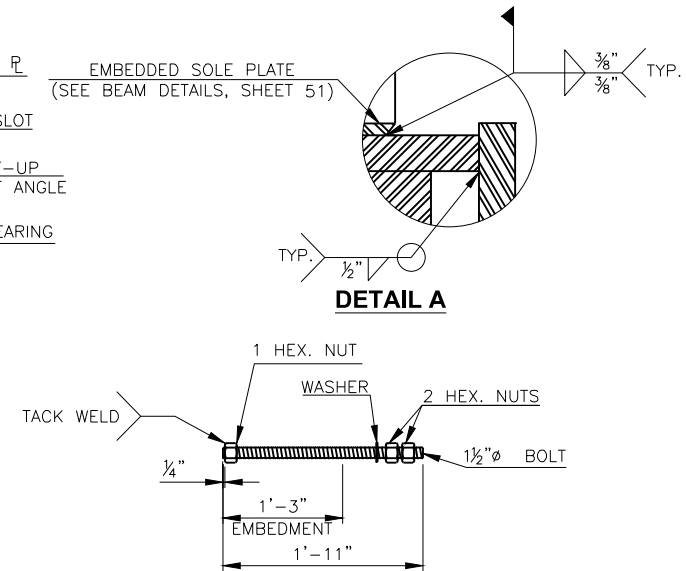
BEARING PLAN



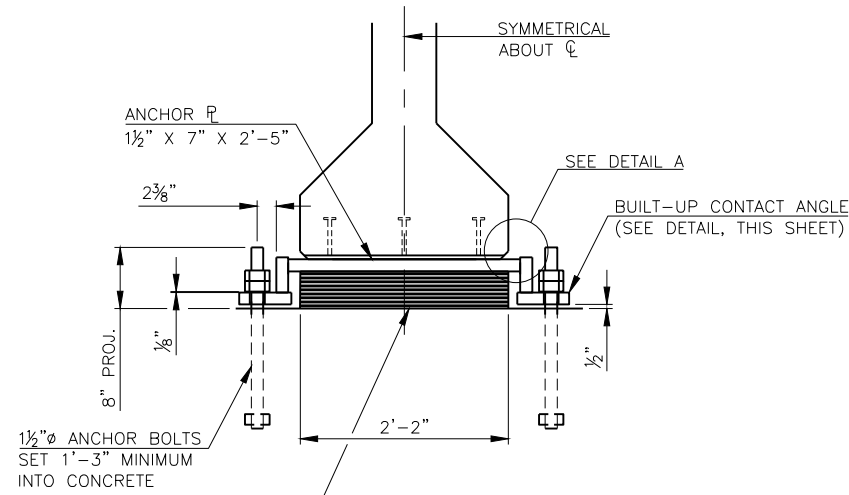
ANCHOR BOLT DETAIL



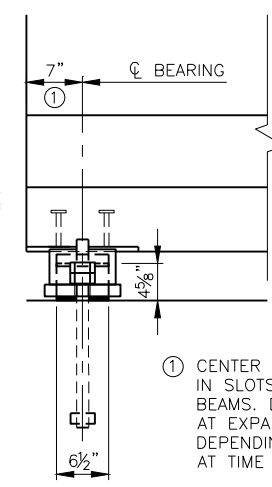
BEARING PLAN



ANCHOR BOLT DETAIL



END VIEW

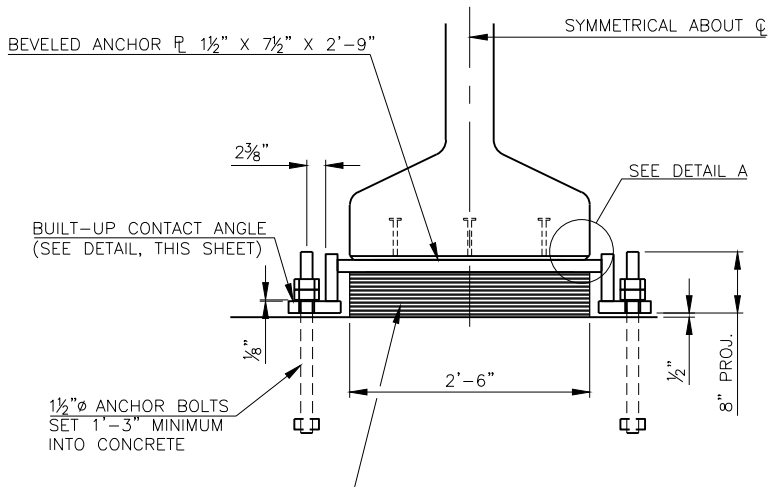


SIDE VIEW

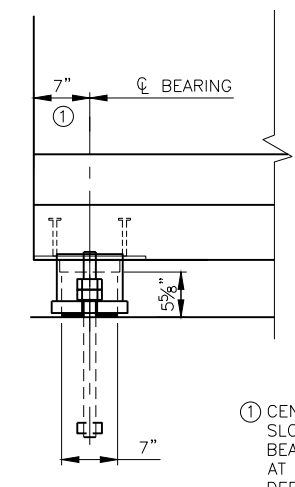
① CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF BEAMS. DIMENSION MAY VARY AT EXPANSION BEARINGS DEPENDING ON TEMPERATURE AT TIME OF BEAM SETTING.

DO NOT BOND BEARING PAD TO THE ANCHOR PLATE.

TYPE IV BEARING DETAILS
(SPAN NO. 1 & NO. 2)



END VIEW



SIDE VIEW

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

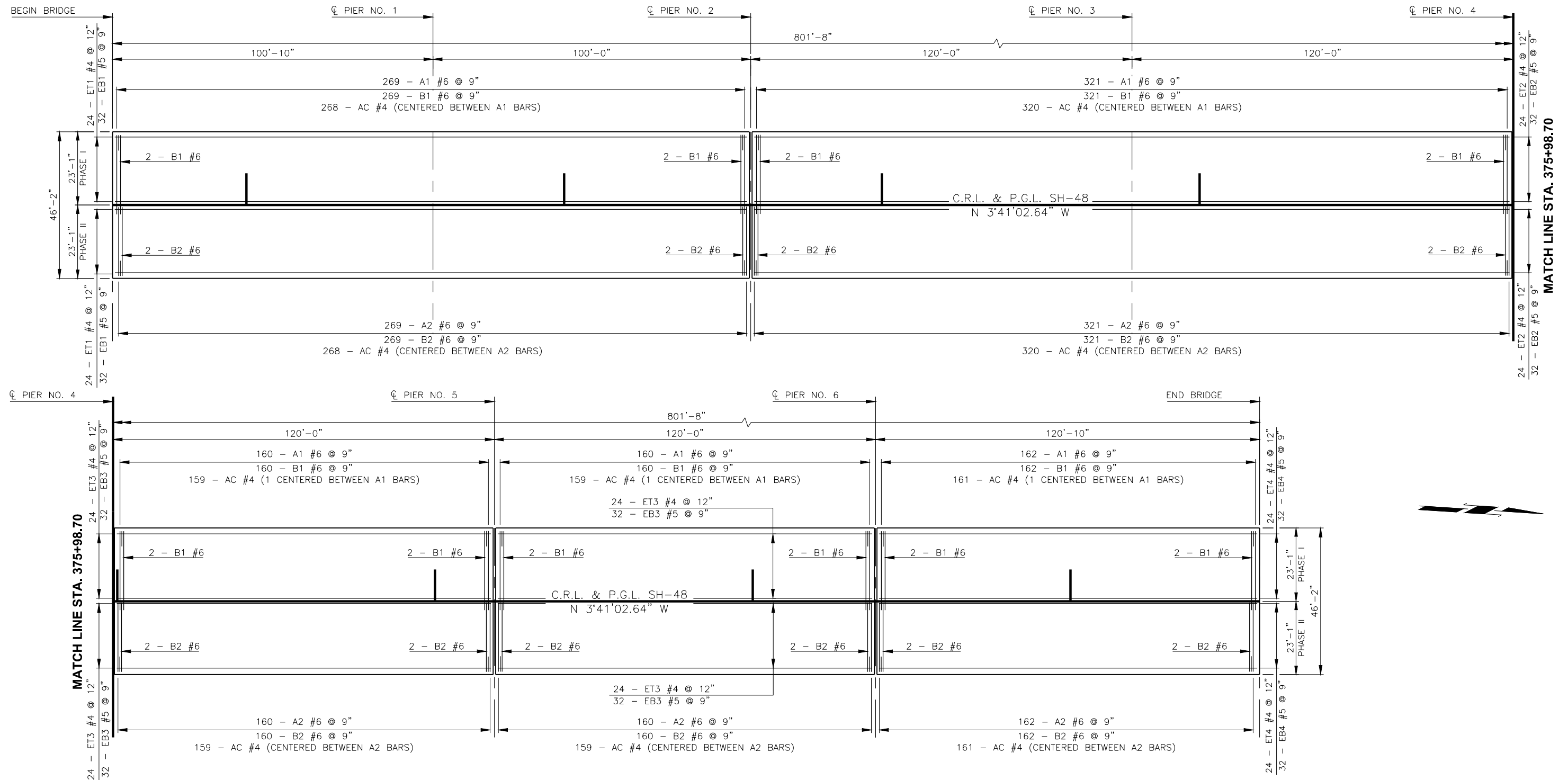
TYPE J BEARING DETAILS
(SPAN NO. 3 - NO. 7)

- ELASTOMETRIC BEARING PAD
- 60 DURO
- 4 5/8" x 6 1/2" x 2'-2"
- 2 - 1/4" COVER LAYER
- 8 - 3/8" INTERNAL LAYERS
- 9 - 1/8" LAMINATE PLATES

- ELASTOMETRIC BEARING PAD
- 60 DURO
- 5 3/8" x 7" x 2'-6"
- 2 - 1/4" COVER LAYER
- 10 - 3/8" INTERNAL LAYERS
- 11 - 1/8" LAMINATE PLATES

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	BEARING DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
JOB PIECE NO. 27925(04)			

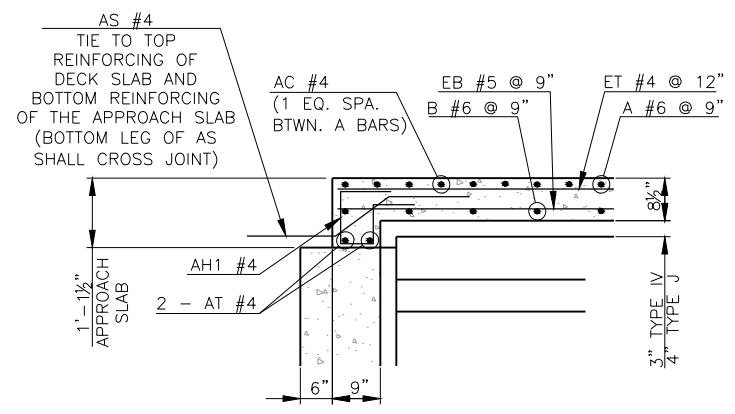
DESCRIPTION	REVISIONS	DATE



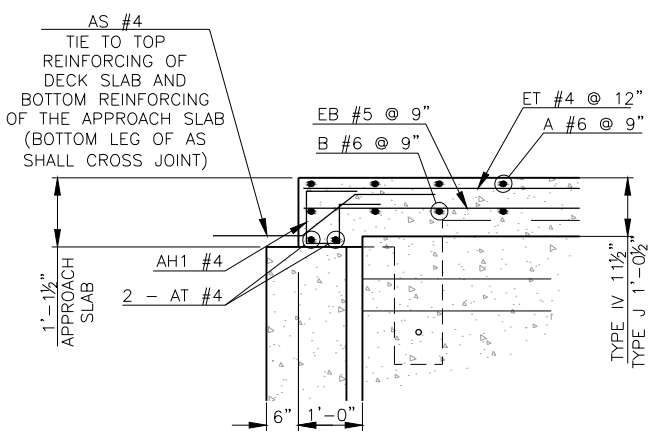
SLAB REINFORCING PLAN

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	SLAB REINFORCING PLAN JOB PIECE NO. 27925(04) SHEET NO. 55	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		

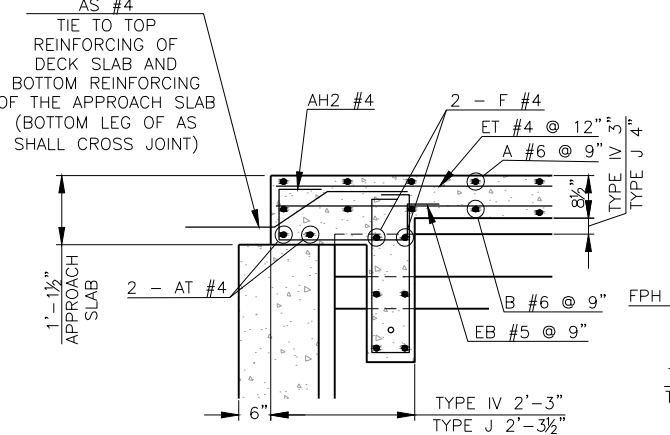
DESCRIPTION	REVISIONS	DATE



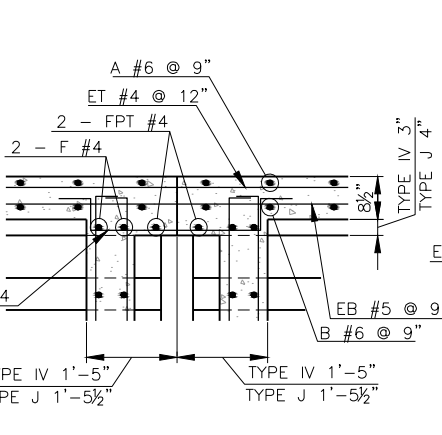
SECTION A



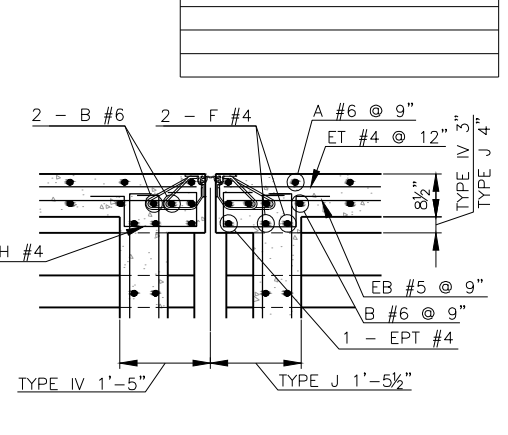
SECTION B



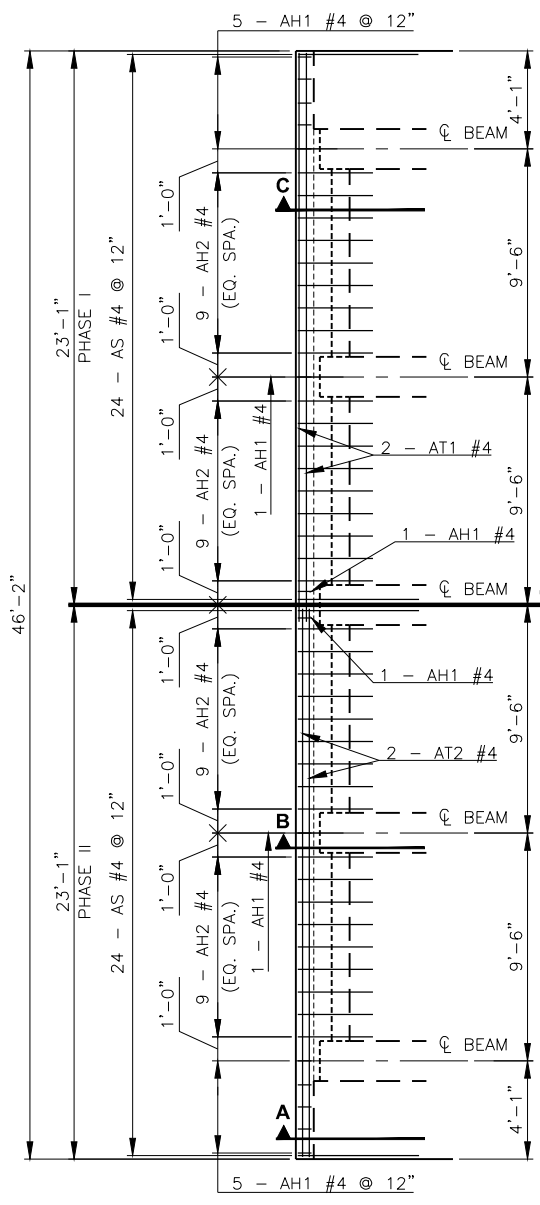
SECTION C



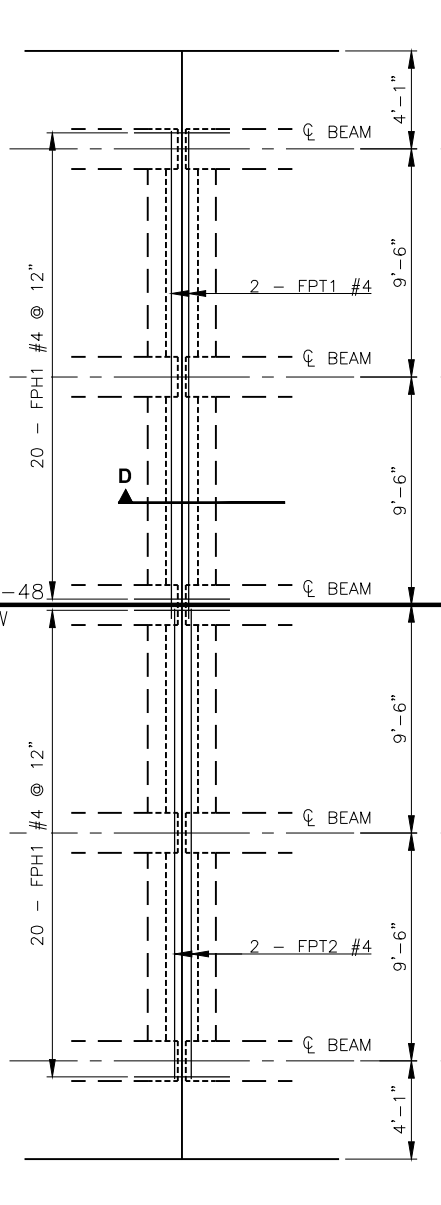
SECTION D



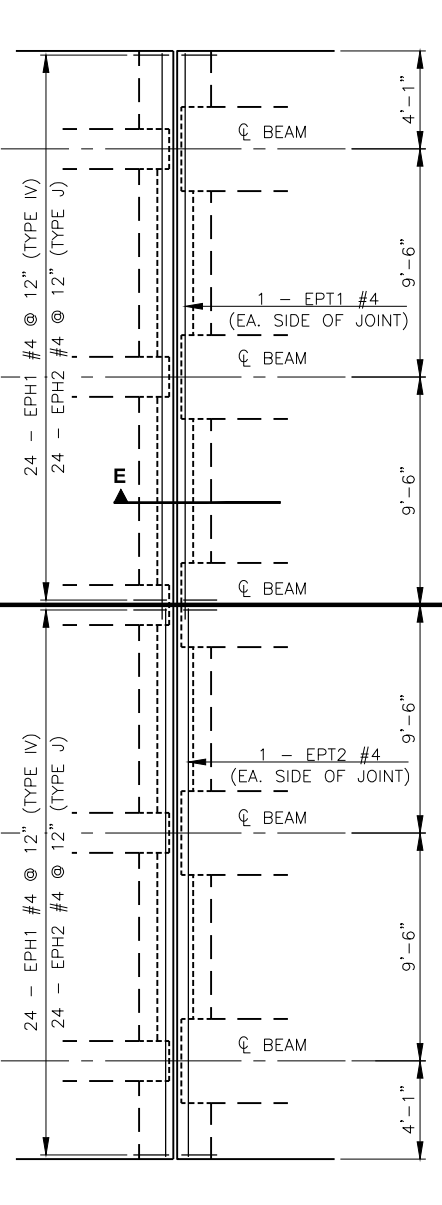
SECTION E



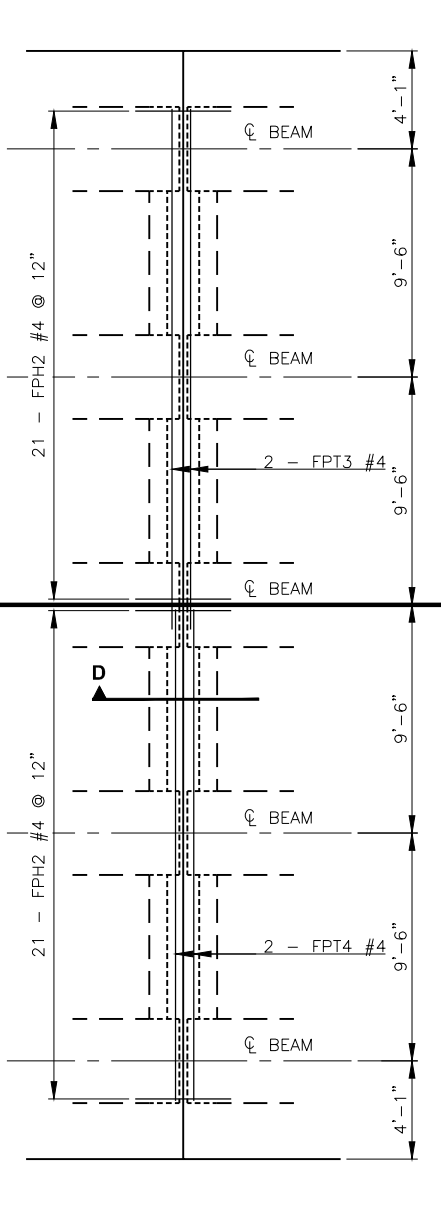
ABUTMENT NO. 1



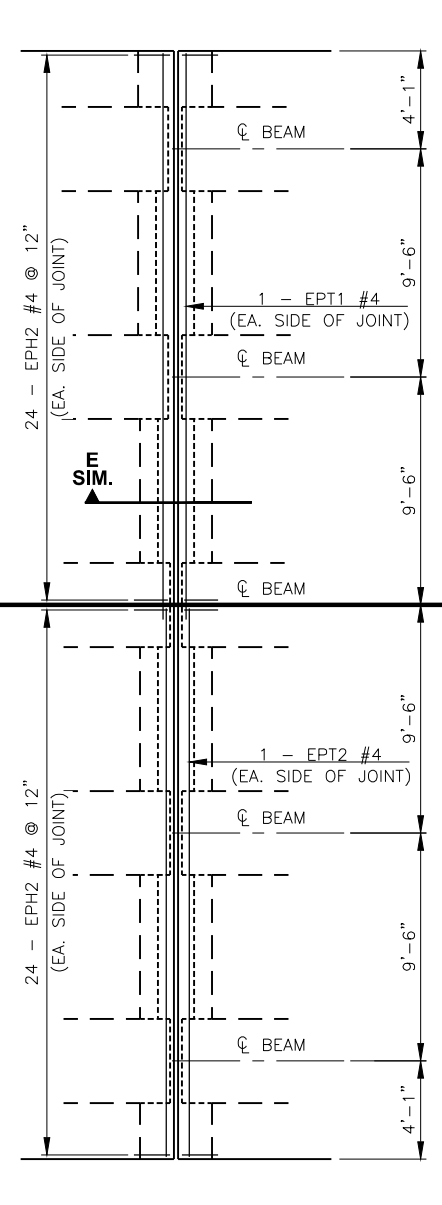
PIER NO. 1



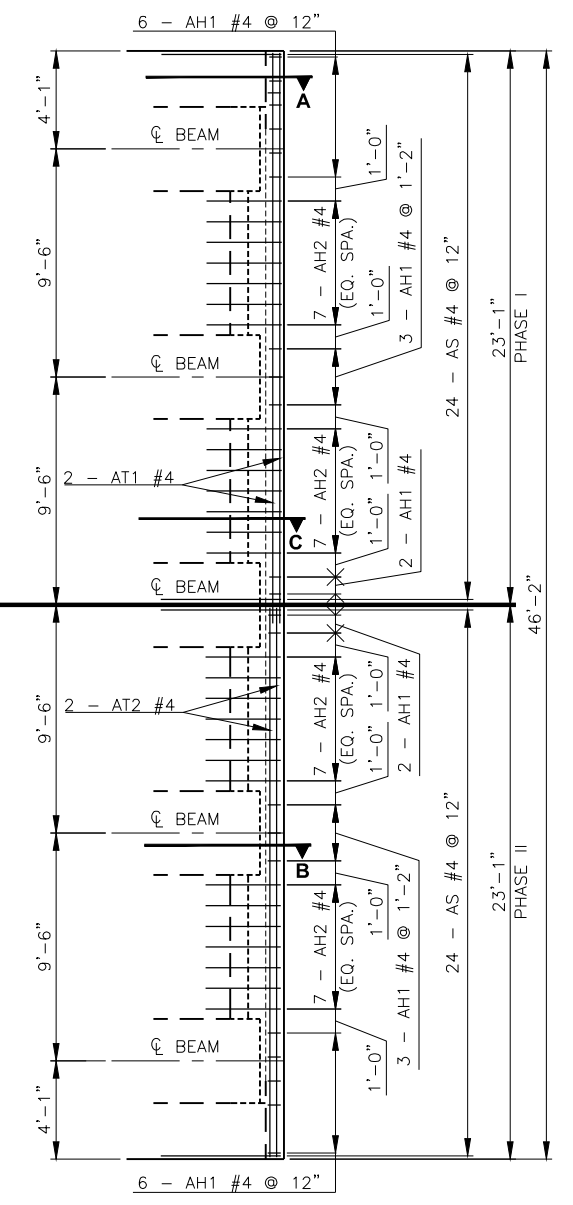
PIER NO. 2



PIER NO. 3



PIER NO. 4
(PIER NO. 5 & 6 SIM.)



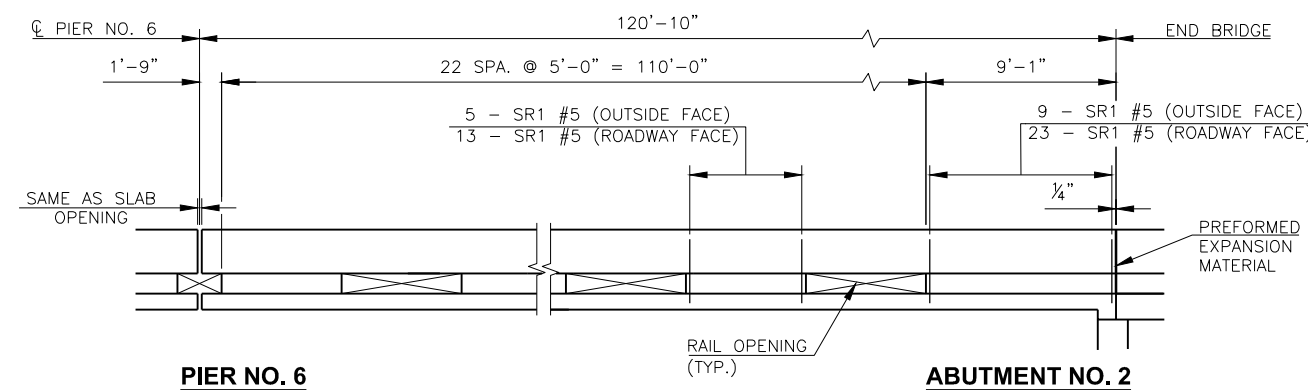
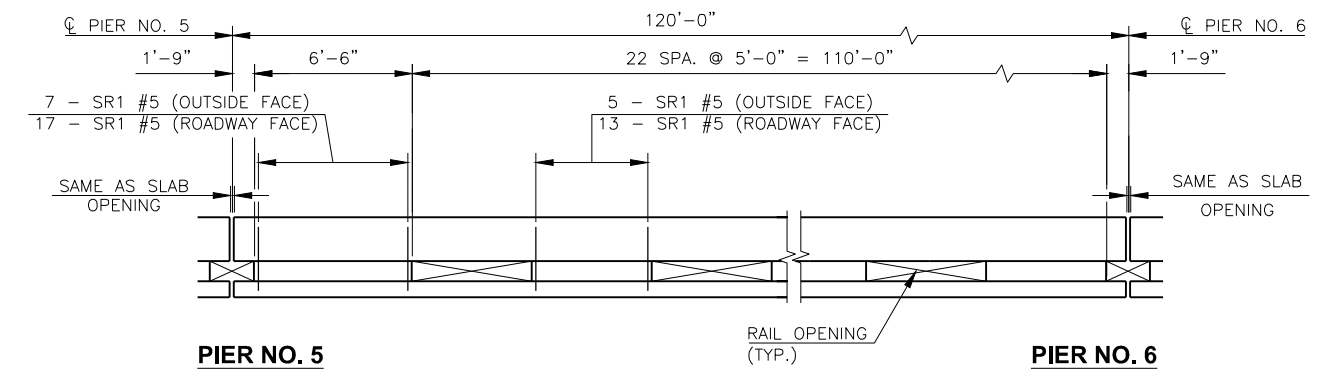
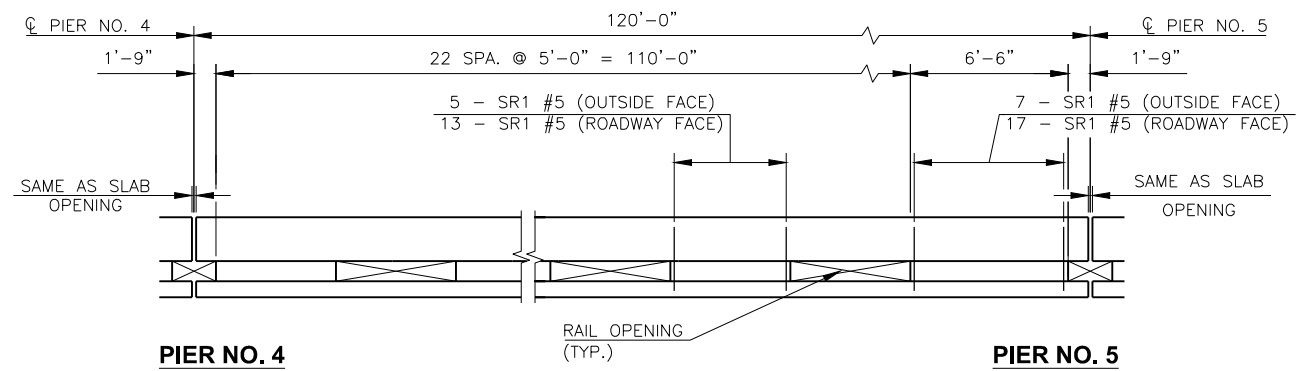
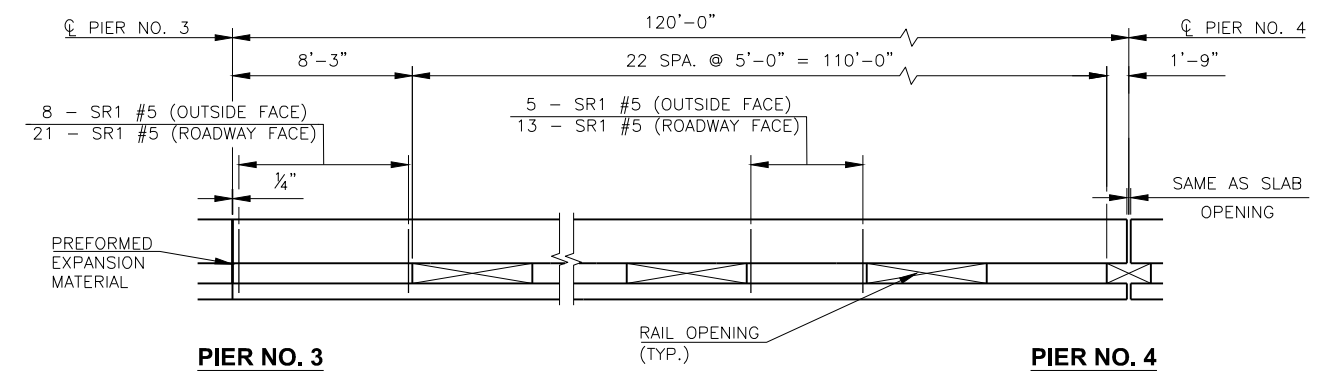
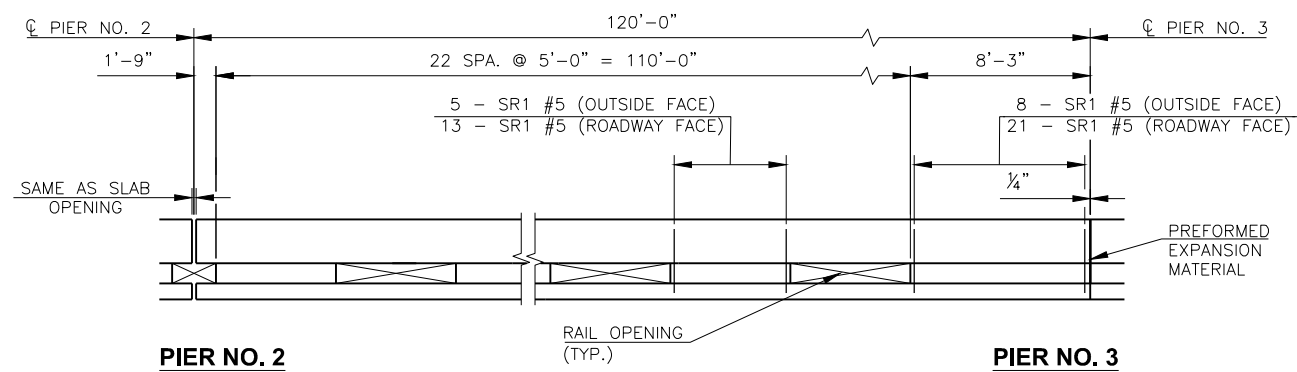
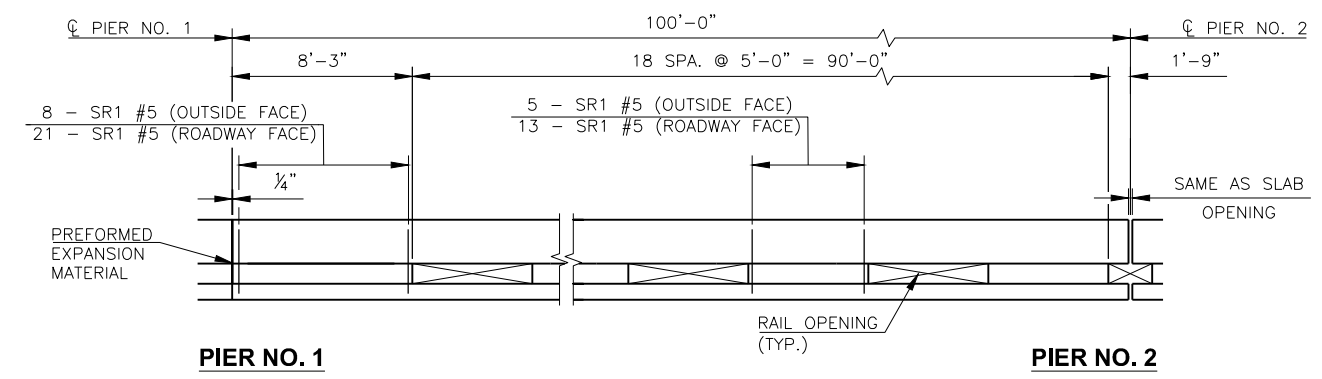
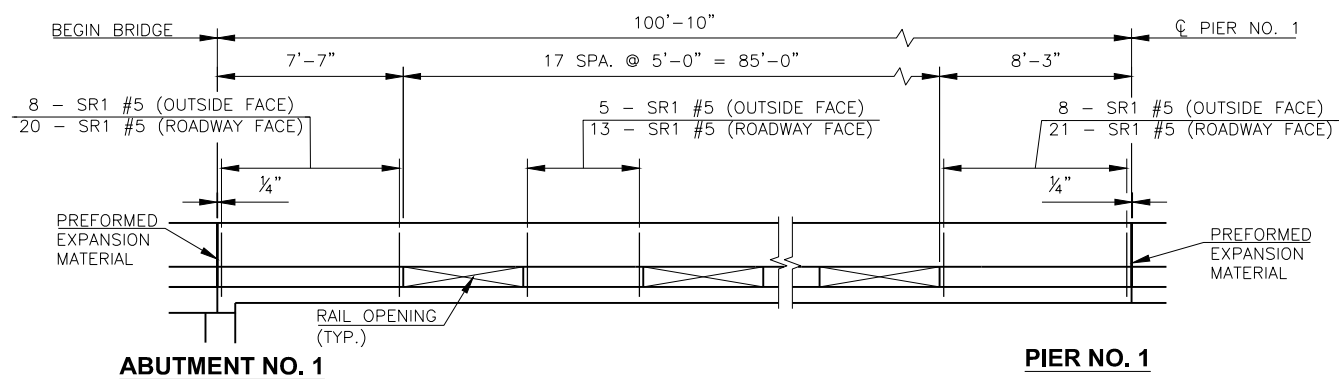
ABUTMENT NO. 2

ADDITIONAL SLAB REINFORCING PLAN

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.		
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		

ADDITIONAL SLAB REINFORCING PLAN

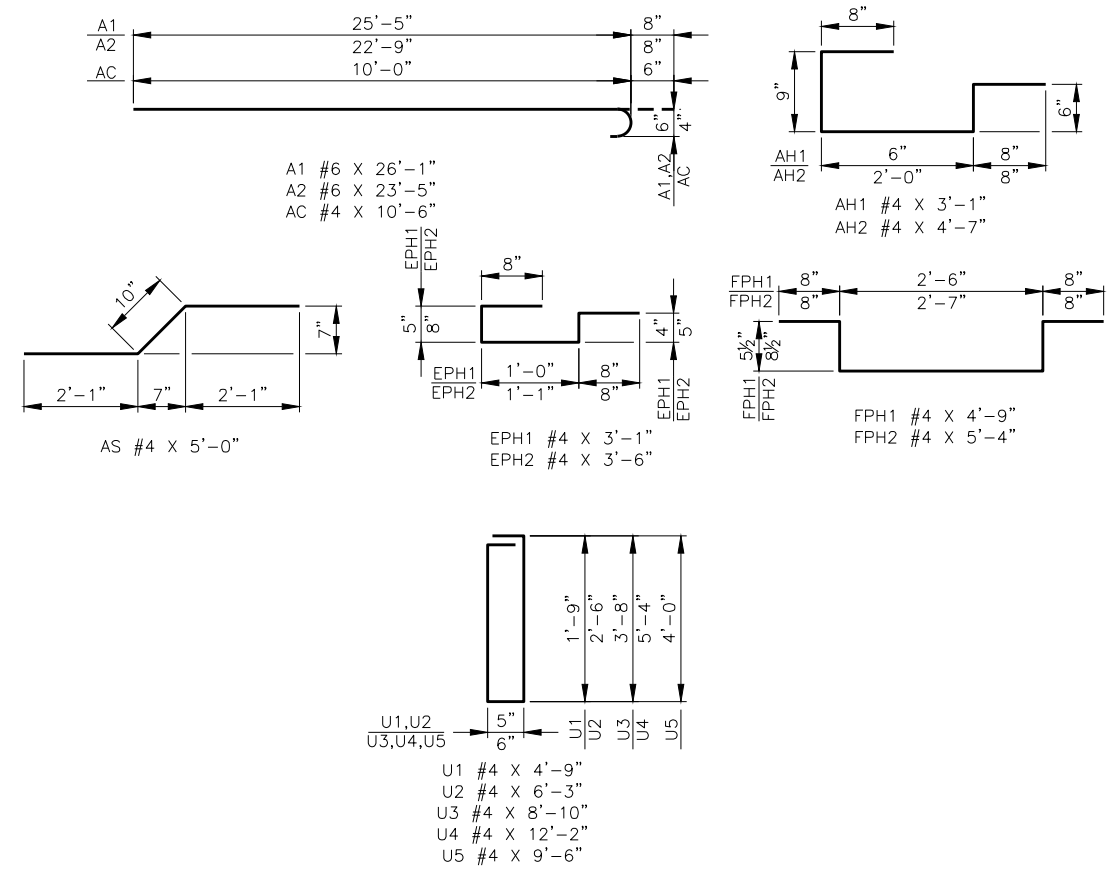
DESCRIPTION	REVISIONS	DATE



NOTE:
FOR ADDITIONAL DETAIL OF PARAPET,
SEE STD. TR4-2.

PARAPET ELEVATION

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	PARAPET ELEVATION	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 57

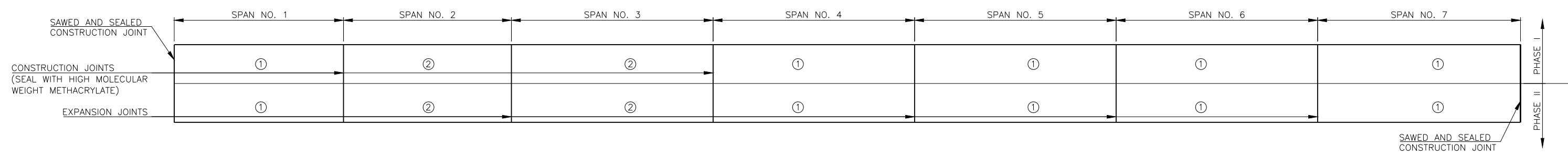


SUPERSTRUCTURE BAR LIST				
PHASE I				
EPOXY COATED REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
A1	#6	1,072	BNT.	26'-1"
AC	#4	1,067	BNT.	10'-6"
AH1	#4	18	BNT.	3'-1"
AH2	#4	32	BNT.	4'-7"
AS	#4	48	BNT.	5'-0"
AT1	#4	4	STR.	24'-6"
B1	#6	1,092	STR.	26'-11"
EB1	#5	32	STR.	208'-4"
EB2	#5	32	STR.	247'-6"
EB3	#5	64	STR.	122'-2"
EB4	#5	32	STR.	125'-7"
EPH1	#4	24	BNT.	3'-1"
EPH2	#4	168	BNT.	3'-6"
EPT1	#4	8	STR.	24'-6"
ET1	#4	24	STR.	206'-10"
ET2	#4	24	STR.	246'-0"
ET3	#4	48	STR.	121'-8"
ET4	#4	24	STR.	124'-7"
F1	#4	40	STR.	8'-6"
F2	#4	32	STR.	7'-6"
F3	#4	280	STR.	8'-8"
F4	#4	40	STR.	5'-8"
F5	#6	240	STR.	8'-8"
FPH1	#4	20	BNT.	4'-9"
FPH2	#4	21	BNT.	5'-4"
FPT1	#4	2	STR.	21'-3"
FPT2	#4	2	STR.	22'-2"
FPT3	#4	2	STR.	22'-2"
SR1	#5	1,520	BNT.	4'-1"
U1	#4	40	BNT.	4'-9"
U2	#4	72	BNT.	6'-3"
U3	#4	220	BNT.	8'-10"
U4	#4	140	BNT.	12'-2"
U5	#4	80	BNT.	9'-6"

- ① BAR LENGTH INCLUDES THREE 2'-6" LAPS.
- ② BAR LENGTH INCLUDES ONE 2'-6" LAPS.
- ③ BAR LENGTH INCLUDES TWO 2'-6" LAPS.
- ④ BAR LENGTH INCLUDES THREE 2'-0" LAPS.
- ⑤ BAR LENGTH INCLUDES ONE 2'-0" LAPS.
- ⑥ BAR LENGTH INCLUDES TWO 2'-0" LAPS.
- ⑦ FOR BAR BEND, SEE STD. TR4-2.

SUPERSTRUCTURE BAR LIST				
PHASE II				
EPOXY COATED REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
A2	#6	1,072	BNT.	23'-5"
AC	#4	1,067	BNT.	10'-6"
AH1	#4	18	BNT.	3'-1"
AH2	#4	32	BNT.	4'-7"
AS	#4	48	BNT.	5'-0"
AT2	#4	4	STR.	22'-9"
B2	#6	1,092	STR.	22'-9"
EB1	#5	32	STR.	208'-4"
EB2	#5	32	STR.	247'-6"
EB3	#5	64	STR.	122'-2"
EB4	#5	32	STR.	125'-7"
EPH1	#4	24	BNT.	3'-1"
EPH2	#4	168	BNT.	3'-6"
EPT2	#4	8	STR.	22'-9"
ET1	#4	24	STR.	206'-10"
ET2	#4	24	STR.	246'-0"
ET3	#4	48	STR.	121'-8"
ET4	#4	24	STR.	124'-7"
F1	#4	40	STR.	8'-6"
F2	#4	32	STR.	7'-6"
F3	#4	280	STR.	8'-8"
F4	#4	40	STR.	5'-8"
F5	#6	240	STR.	8'-8"
FPH1	#4	20	BNT.	4'-9"
FPH2	#4	21	BNT.	5'-4"
FPT2	#4	2	STR.	20'-4"
FPT4	#4	2	STR.	20'-5"
SR1	#5	1,520	BNT.	4'-1"
U1	#4	40	BNT.	4'-9"
U2	#4	72	BNT.	6'-3"
U3	#4	220	BNT.	8'-10"
U4	#4	140	BNT.	12'-2"
U5	#4	80	BNT.	9'-6"

- ① BAR LENGTH INCLUDES THREE 2'-6" LAPS.
- ② BAR LENGTH INCLUDES ONE 2'-6" LAPS.
- ③ BAR LENGTH INCLUDES TWO 2'-6" LAPS.
- ④ BAR LENGTH INCLUDES THREE 2'-0" LAPS.
- ⑤ BAR LENGTH INCLUDES ONE 2'-0" LAPS.
- ⑥ BAR LENGTH INCLUDES TWO 2'-0" LAPS.
- ⑦ FOR BAR BEND, SEE STD. TR4-2.



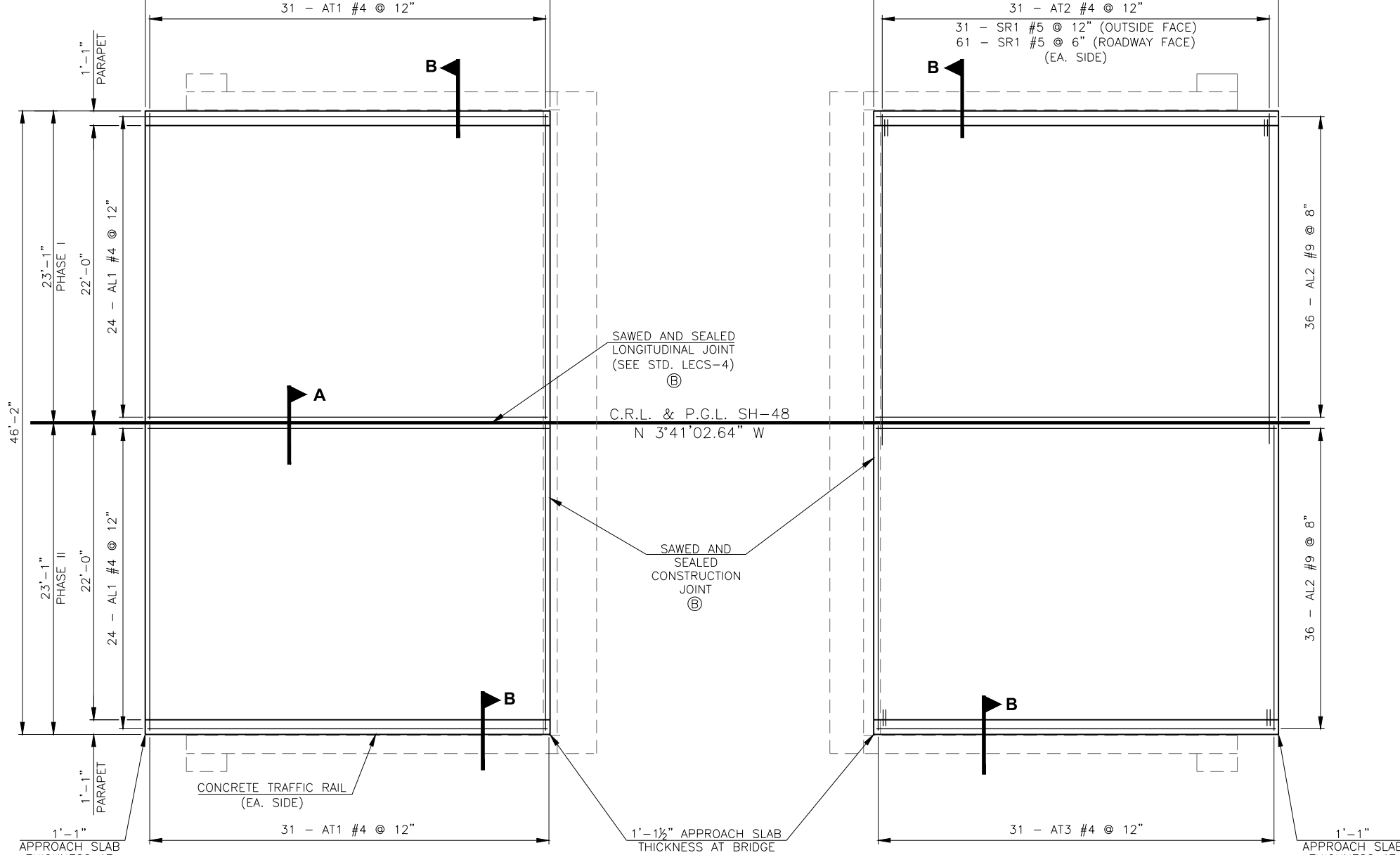
DECK SLAB POURING SEQUENCE DIAGRAM

NOTE:
THE DECK SLAB IS DIVIDED INTO SECTIONS BETWEEN CONSTRUCTION AND EXPANSION JOINTS AS SHOWN. THE CONCRETE SHALL BE POURED IN EACH SECTION OF THE DECK SLAB IN THE NUMERICAL SEQUENCE INDICATED. SECTIONS OF THE DECK SLAB WITH THE SAME NUMBER MAY BE POURED IN ANY ORDER, UNDER NO CIRCUMSTANCES WILL A SECTION IN SEQUENCE 2 BE POURED BEFORE THE ADJACENT SECTIONS HAVE BEEN IN PLACE FOR AT LEAST 48 HOURS.

DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	B.M.S.	SLAB REINFORCING DETAILS	
CHECKED	M.R.S.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 58

DESCRIPTION	REVISIONS	DATE

BEGIN APPROACH SLAB STA. 371+27.87 30'-0" BEGIN BRIDGE STA. 371+57.87 END BRIDGE STA. 379+59.54 30'-0" END APPROACH SLAB STA. 379+89.54



APPROACH SLAB BAR LIST

PHASE I

EPOXY COATED REINFORCING
 (ONE SHOWN TWO REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH
AL1	#4	24	STR.	29'-10"
AL2	#9	36	STR.	29'-10"
AT1	#4	31	STR.	22'-9"
AT2	#4	31	STR.	25'-3"
SR1	#5	92	BNT.	4'-1"

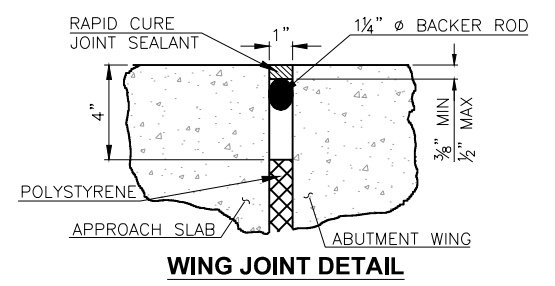
APPROACH SLAB BAR LIST

PHASE II

EPOXY COATED REINFORCING
 (ONE SHOWN TWO REQUIRED)

MARK	SIZE	NO.	FORM	LENGTH
AL1	#4	24	STR.	29'-10"
AL2	#9	36	STR.	29'-10"
AT1	#4	31	STR.	22'-9"
AT3	#4	31	STR.	22'-9"
SR1	#5	92	BNT.	4'-1"

① FOR SR1 BAR BEND, SEE STD. TR4-2.



NOTES:
 PLACE REINFORCING IN THE TOP OF THE APPROACH SLAB 2" FROM EITHER SIDE OF THE SAWED AND SEALED LONGITUDINAL JOINT. FOR ADDITION DETAILS OF LONGITUDINAL JOINT, SEE STD. LECS-4.

FOR ADDITIONAL DETAIL OF APPROACH SLAB AT ABUTMENT, SEE SHEET 56.

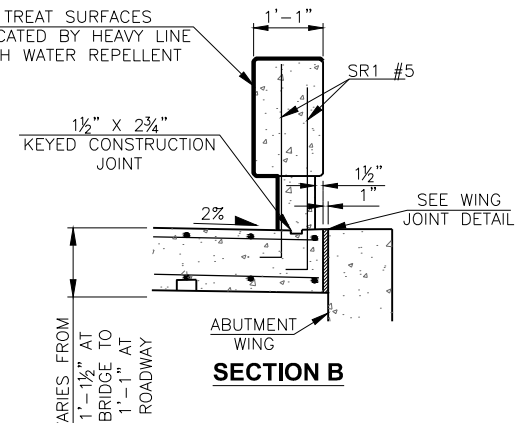
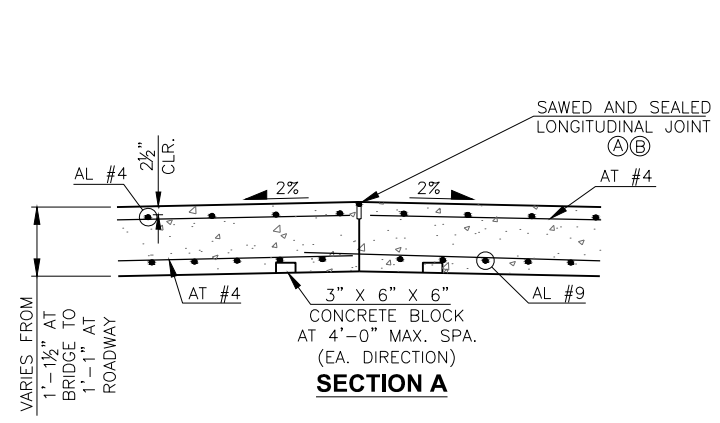
FOR ADDITIONAL DETAIL OF CONCRETE TRAFFIC RAIL SEE STD. TR4-2.

(A) GRIND APPROACH SLABS TO MATCH BRIDGE DECK AND FEATHER FOR A SMOOTH TRANSITION. INCLUDE ALL COSTS FOR GRINDING APPROACH SLABS, INCLUDING LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE PRICE BID FOR "APPROACH SLAB".

(B) SAW AND SEAL JOINT ONLY AFTER ALL GRINDING HAS BEEN COMPLETED.

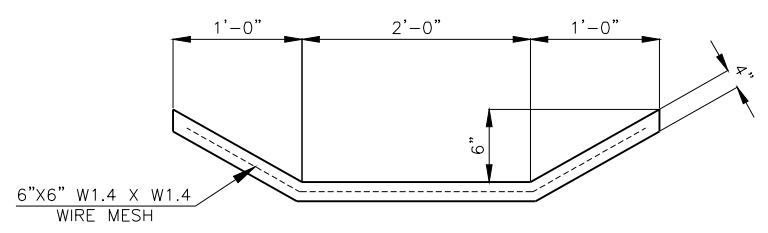
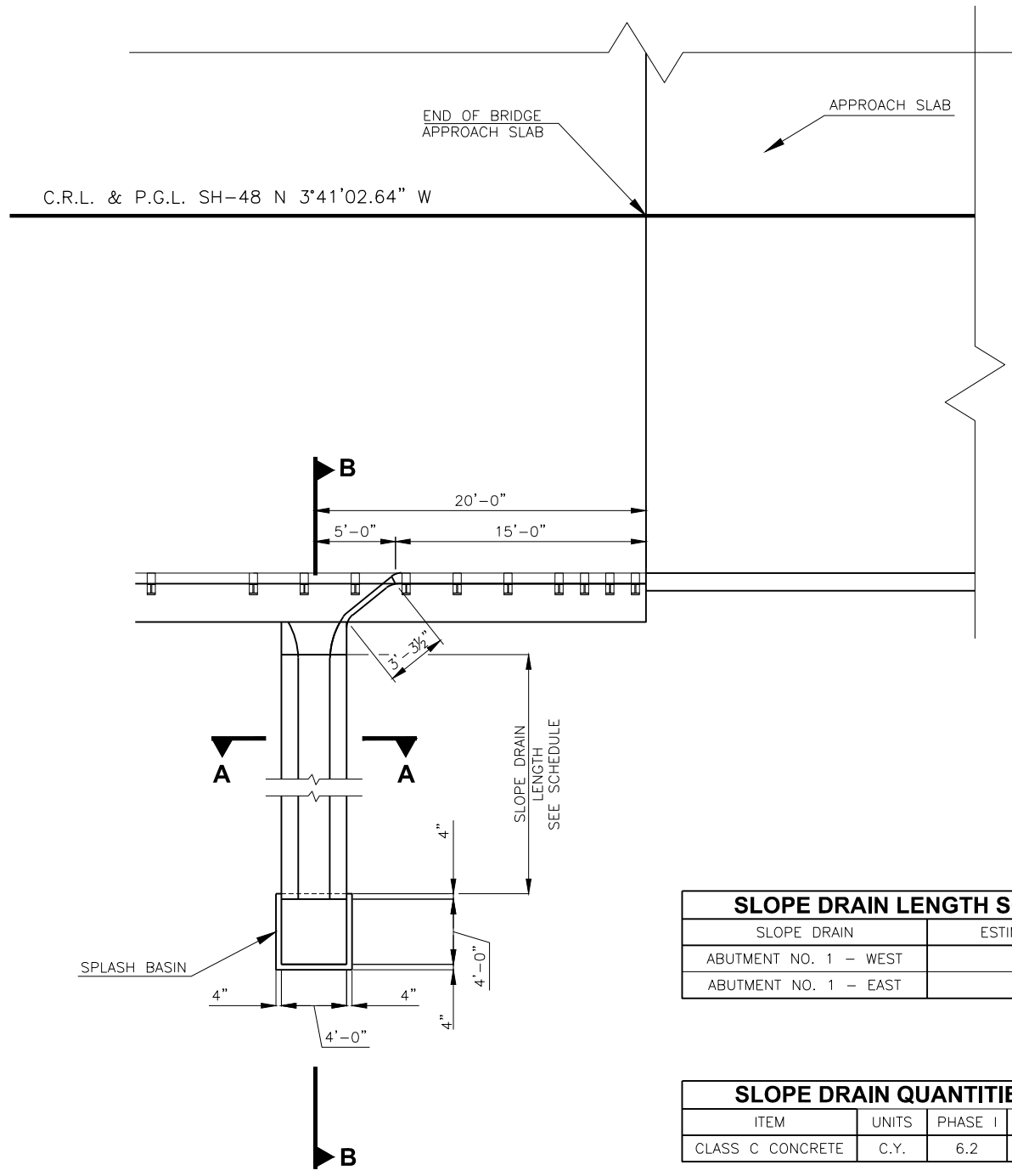
APPROACH SLAB QUANTITIES

ITEM	UNIT	PHASE I			PHASE II		
		APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
APPROACH SLAB	S.Y.	76.9	76.9	153.8	76.9	76.9	153.8
SAW-CUT GROOVING	S.Y.	73.3	73.3	146.6	73.3	73.3	146.6
CONCRETE RAIL (TR4)	L.F.	30.0	30.0	60.0	30.0	30.0	60.0
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	13.7	13.7	27.4	13.7	13.7	27.4

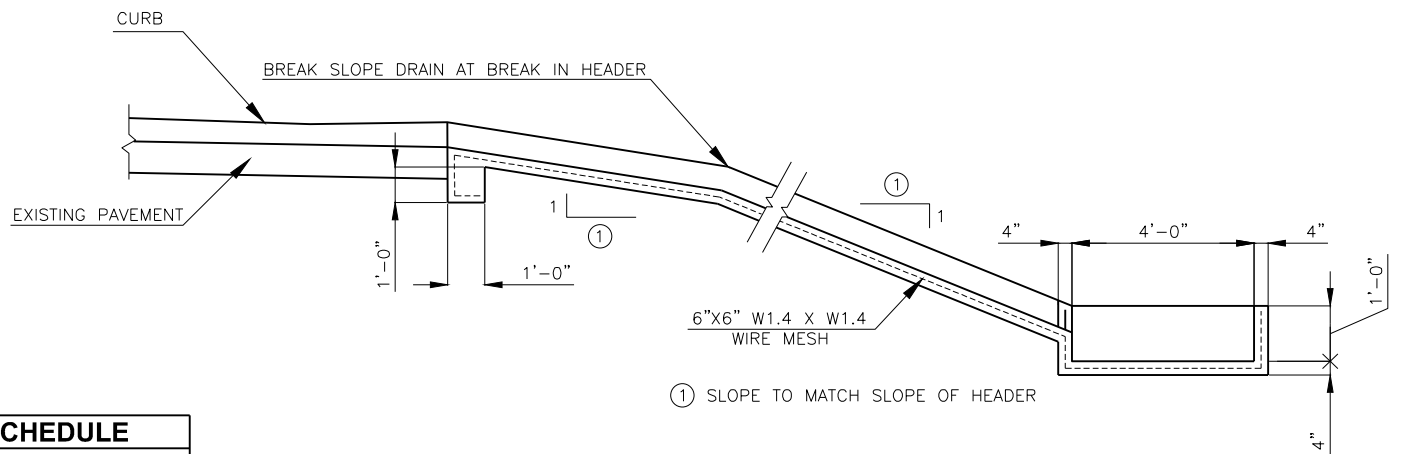


DESIGN	B.J.K.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	APPROACH SLAB DETAILS	
CHECKED	T.A.C.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 59

DESCRIPTION	REVISIONS	DATE



SECTION A-A



SECTION B-B

SLOPE DRAIN LENGTH SCHEDULE	
SLOPE DRAIN	ESTIMATED LENGTH
ABUTMENT NO. 1 - WEST	110'-0"
ABUTMENT NO. 1 - EAST	90'-0"

SLOPE DRAIN QUANTITIES			
ITEM	UNITS	PHASE I	PHASE II
CLASS C CONCRETE	C.Y.	6.2	5.2

NOTE:
 SLOPE DRAINS AND SPLASH BASINS SHALL BE CONSTRUCTED USING CLASS C CONCRETE AS SHOWN ON THIS SHEET. LENGTH OF SLOPE DRAIN SHOWN IN THE PLANS IS ESTIMATED. ACTUAL LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL COSTS OF THE SLOPE DRAINS AND SPLASH BASINS INCLUDING REINFORCEMENT SHALL BE INCLUDED IN THE BRIDGE PAY ITEM FOR "CLASS C CONCRETE".

DESIGN	M.R.S.	SH-48 OVER CIMARRON RIVER	CREEK COUNTY
DRAWN	J.F.R.	SLOPE DRAIN DETAILS	
CHECKED	B.J.K.		
APPROV.	B.J.K.		
SQUAD	CEC		
		JOB PIECE NO. 27925(04)	SHEET NO. 60

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

SURVEY CONTROL DATA

1. HORIZONTAL CONTROL:

- A. HORIZONTAL CONTROL FOR THIS SURVEY IS THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM, NAD83 (2011), LAMBERT PROJECTION (NORTH ZONE).
- B. ACCURACY - THE PRIMARY CONTROL NETWORK, THE SECONDARY CONTROL NETWORK AND SECTION BOUNDARIES FOR THIS SURVEY ARE IN GENERAL COMPLIANCE WITH THE NGS SECOND ORDER, CLASS 11 STANDARDS FOR HORIZONTAL CONTROL (1:20,000).

2. BEARINGS:

THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL. THE ANGLE OF VARIANCE BETWEEN GRID NORTH (GN) AND THE ASTRONOMICAL TRUE NORTH (TN) IS DEPICTED DIAGRAMMATICALLY.

3. VERTICAL CONTROLS:

- A. LEVEL DATUM IS NAVD 88.
- B. ACCURACY - VERTICAL CONTROL FOR THIS SURVEY IS WITHIN THE CLOSURE REQUIREMENT OF NOAA/NGS "CLASSIFICATION, STANDARDS OF ACCURACY, AND GENERAL SPECIFICATIONS OF GEODETIC CONTROL SURVEYS" (FEB. 1974, REPRINTED FEB. 1977) THIRD ORDER STANDARDS AS A MINIMUM.

SURVEY BEGAN: June 10, 2013.
SURVEY COMPLETED: August 22, 2013.

Derrick E. Anderson, Professional Land Surveyor Level II
Charles W. Pauley, Transportation Specialist Level V
Brandon C. Burnett, Transportation Specialist Level IV
Jimmie R. Wallace, Jr., Transportation Specialist Level IV
Lloyd R. Teeter, Transportation Specialist Level IV

EQUIPMENT:

Leica TCRA1203 Total Station W/Algebra Data Collector
Leica Viva GPS Sensors With Data Collector
Leica GPS1200 GPS Sensor
Wild NA-2 Automatic Level
Leica DNA-10 Electronic Level



SCALES
SURVEY DATA SHEETS 1" = 100'
GEOMETRIC DATA SHEETS 1" = 500'

CONVENTIONAL SYMBOLS

	RAILROADS
	RANGE & TOWNSHIP
	SECTION LINES
	QUARTER SECTION LINES
	FENCES
	EXISTING ROADS
	BASE LINE
	TELEPHONE & TELEGRAPH
	POWER LINES
	BUILDINGS
	OIL WELL
	DRAINAGE STRUCTURES - IN PLACE

Utility Companies:
Cimarron Telephone Company - Mannford, Ok. - 918-865-3311
Keystone Gas Corporation - Drumright, Ok. - 918-352-2443
Indian Electric Coop. - Cleveland, Ok. - 918-358-2514

**"CALL BEFORE YOU DIG"
THE NEW NATIONAL LOCATE NUMBER
811**

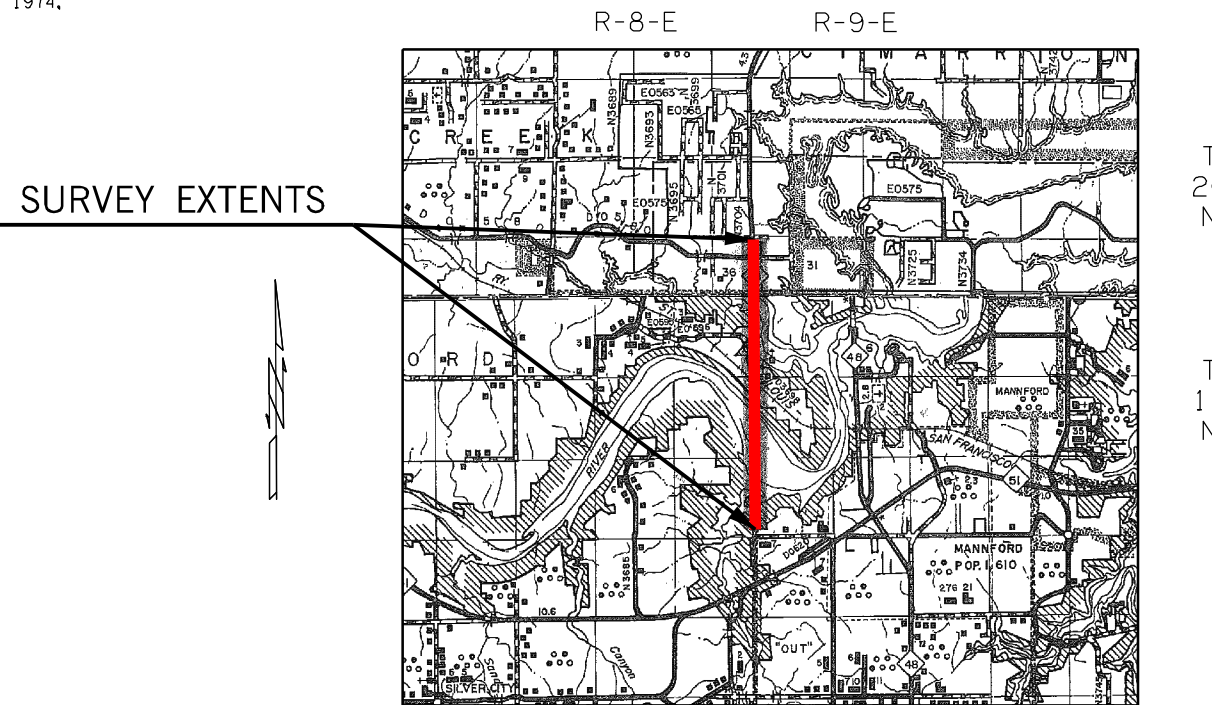
THIS SURVEY MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, JUNE 11, 2001.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED SEPTEMBER 11, 2001 GOVERN.
SDS 1 OF 9

SURVEY DATA SHEETS

CREEK COUNTY S.H. 48 SWO 4994(1) STATE JOB NO. 27925(04)

PROJECT LOCATION



INDEX OF SURVEY SHEETS

- 1. TITLE SHEET & SURVEYORS CERTIFICATION
- 2. HISTORICAL LETTER & WRITTEN REPORT
- 3-4. BENCHMARK LIST, COGO POINT LIST, ALIGNMENT REPORT
- 5-9. SURVEY DATA SHEET

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

SWO 4994(1) Job/Piece 27925 (04) Engr. Contract No. _____

LAND SURVEYOR'S CERTIFICATION

I hereby certify that all land and property subdivision 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 Surveying Instructions";
- its supplement, "Restoration of Lost or Obliterated Corners and Subdivision of Sections";
- "Oklahoma Minimum Standards for the Practice of Land Surveying" as adopted by the State Board of Registration 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 and that it is true, accurate and correct to the best of my knowledge and belief.

Dated this 22nd day of August, 2013.

Land Surveyor Derrick E. Anderson (seal)
Signature
Derrick E. Anderson
Printed Name



Oklahoma Registered Land Surveyor No. _____
Certificate of Authorization No. _____ Exp. Date _____

Scale:
1" = 100'

Electronic File Transfer Disclaimer:
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PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	

SURVEY DATA SHEET

SWO 4994 (1) STATE JOB NO. 27925(04) SHEET NO. 1

Date: August 22, 2013

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

To Mr. Larry D. Reser, Chief of Surveys
 From Derrick E. Anderson, Professional Land Surveyor
 Subject SW04994(1) - J/P No. 27925(04) - S.H. 48 - Creek County.
 Bridge over the Cimarron River, 2.5 miles north of S.H. 51.

HISTORICAL LETTER AND WRITTEN REPORT

GENERAL:
 Survey Began: June 10, 2013
 Survey Completed: August 22, 2013

Personnel on this survey:

Derrick E. Anderson Professional Land Surveyor Lv. II
 Charles W. Pauley Transportation Specialist Lv. V
 Brandon C. Burnett Transportation Specialist Lv. IV
 Jimmie R. Wallace Transportation Specialist Lv. IV
 Lloyd R. Teeter Transportation Specialist Lv. IV

Previous Surveys & Projects relevant to this project:

F.A.S.P. No. S806 (2)S - S.H. 48 Plans - S.H. 48 plans from south of the intersection of S.H. 48 & S.H. 51, north along present S.H. 48 for approximately 7.9 miles. Benham Engineering Company for the Corps of Engineer, Tulsa District - Dated January, 1961.

ASSIGNMENT:
 Authorization for this survey came verbally from Mr. Larry G. Williams, Transportation Survey Manager, on June 5, 2013.

PURPOSE:
 The purpose of this project is to obtain and provide adequate data to design construction plans to replace the existing bridge over the Cimarron River.

SURVEY LIMITS:
 This survey begins at Station 350+00.00 as depicted on F.A.S.P. No. S-806(2)S - S.H. 48 Corps of Engineers plans. From this point centerline was carried northerly along S.H. 48 to Station 420+00.00.

Work on this project was done by the Tecumseh Survey Crew, under the direct supervision of Charles W. Pauley, Transportation Specialist Lv. V.

SURVEY METHOD:
 This survey was performed using a combination of aerial & conventional field methods.

ALIGNMENT:
 The centerline of this survey from is along and identical to the centerline as depicted on F.A.S.P. No. S-806(2)S - S.H. 48 Corps of Engineers plans. Centerline was established using a Brass Cap found at P.I. Station 255+50.03 and by using the centerline split of the bridge over the Cimarron River.

STATIONING:
 Stationing shown on this survey is identical to F.A.S.P. No. S-806(2)S - S.H. 48 Corps of Engineers plans.

HORIZONTAL CONTROL:
 Horizontal Control for this survey is NGS NAD83(2011), established by static GPS observations, using the following control points:
 NGS CORS Monument "OKTE"
 NGS CORS Monument "OKTU"
 NGS CORS Monument "OKPR"
 ODOT Control Monument C-19-959 (established this survey).
 ODOT Control Monument C-19-960 (established this survey).
 ODOT Control Monument P-59-270 (established this survey).
 (See submitted SD Form #20 for complete control information).

COORDINATES:
 Coordinates shown on this survey are the National Geodetic Survey (NGS) Oklahoma State Plane Coordinate System of 1983(2011), North Zone established this survey.

VERTICAL CONTROL:
 Vertical control datum for this survey is NGS NAVD88. Vertical control was established on this survey by using the plan elevation on the north Bridge Seat on the bridge over the Cimarron River as per F.A.S.P. S-806(2)S - S.H. 48 Corps of Engineers plans and adjusting the vertical datum from 1929 datum to 1988 datum. The U.S.G.S. bench mark H-48 was used to establish the vertical control on the F.A.S.P. S-806(2)S - S.H. 48 Corps of Engineers plans. Bench Marks established or used this survey are within the requirements of NGS 3rd order standards as a minimum.

MEASUREMENT UNITS:
 The distances, coordinates, and elevations shown on this survey are in U.S. Survey Feet. All angles and bearings shown are in degrees, minutes, and seconds.

TOPOGRAPHY:
 The following topography information was obtained during the course of this survey:
 -Horizontal and vertical location of all drainage structures.
 -Horizontal and vertical location of the Cimarron River channel 500' upstream & 500' downstream.

ENVIRONMENTAL CONCERNS:
 No contamination areas were encountered this survey.

DRAINAGE:
 Drainage/Hydraulic information for this survey has been shown in the appropriate Microstation Design file. Drainage divide lines and areas were obtained using a scanned raster image of a USGS quadrangle map of the survey area. These areas were also verified by visual inspection in the field, where necessary. Ravine sections were obtained and shown on the drainage design file.

UTILITIES:
 All utility companies that have services within the limits of this project were contacted during the course of this survey. Utilities depicted on the Microstation Design file is shown in the locations which the locator from each utility company marked their lines in the field. Depth information was not given by any owning companies.

RIGHT OF WAY:
 Right of Way shown on this survey was taken from F.A.S.P. No. S-(806)S - S.H. 48 - Corps of Engineers plans.

PROPERTY OWNERS:
 All information on property lines and corners shown were computed using information obtained from the Creek and Pawnee County courthouse without actual field ties to all existing evidence

LAND TIES:
 Land ties for this survey consisted of the establishment of the corners of the following sections: Section 6, T-19-N, R-9-E, 1.M. and Section 36, T-20-N, R-8-E, 1.M. For detailed information about each of the corners established on this survey see Survey Data Sheets 8 and 9 on the main design file.

Derrick E. Anderson, PLS
 Oklahoma Department of Transportation
 Survey Division

Scale:
 1"=100'

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	
SURVEY DATA SHEET		
		SWO 4994 (1) PROJECT NO. 27925(04) SHEET NO. 52

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



Network Adjustment
 www.MOVIT3.com
 (c) 1999-2010 Geotrij
 Licensed to Leica Geosystems AG
 Created: 03/13/2013 10:42:04

Project Information

Project name: 12June2013
 Date created: 06/13/2013 08:35:45
 Time zone: -5h 00'
 Coordinate system name: OK N NAD83 CDS
 Application software: LEICA Geo Office B.0
 Processing format: MOVIE3 4.0.4

General Information

Adjustment Type: Weighted constrained
 Observation: 30
 Coordinate system: NGS 1984
 Height datum: Ellipsoid

Number of iterations: 1
 Maximum coord correction in last iteration: 0.0000 ft (tolerance is met)

Stations
 Number of (fixed) known stations: 3
 Number of unknown stations: 3
 Total: 6

Observations
 GPS coordinate differences: 27 (9 baselines)
 Known coordinates: 8
 Total: 35

Unknowns
 Coordinates: 15
 Tors: 28
 Degrees of freedom: 15

Testing
 Alfa (multi-dimensional): 0.9739
 Alfa-B (one-dimensional): 7.0 %
 Beta: 90.0 %
 Sigma a priori (RMS): 10.0

Critical value W-test: 1.66
 Critical value T-test (2-dimensional): 2.42
 Critical value F-test (2-dimensional): 1.88
 Critical value F-test: 1.07
 F-test: 0.19 (accepted)

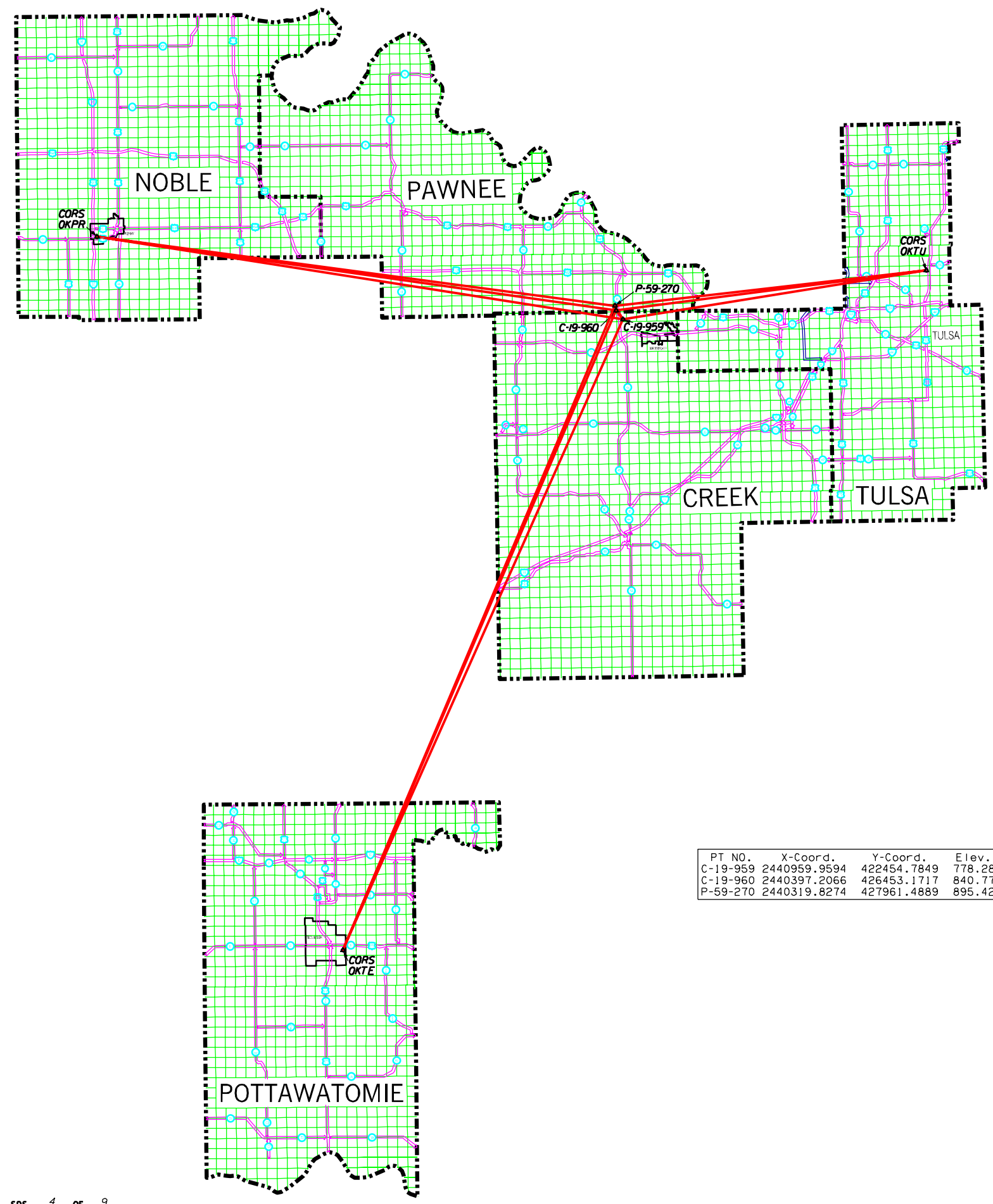
Results based on a posteriori variance factor

Adjustment Results

Coordinates

Station	Latitude	Longitude	Height	Corr	Sd
C-19-959	39° 05' 59.41922" N	-95° 23' 58.21963" W	686.8711 ft	-0.0073 ft	0.0039 ft
				-0.0077 ft	0.0039 ft
				1.0321 ft	0.1853 ft
C-19-960	39° 09' 59.39803" N	-95° 24' 04.76049" W	740.5701 ft	-0.0077 ft	0.0039 ft
				-0.0077 ft	0.0039 ft
				1.0321 ft	0.1858 ft
OKPR	39° 18' 34.48478" N	-97° 19' 37.97563" W	1072.0248 ft	0.0000 ft	fixed
				1.8916 ft	0.1889 ft
				0.0000 ft	fixed
OKTE	39° 15' 26.69972" N	-95° 53' 52.19775" W	666.1695 ft	0.0000 ft	fixed
				1.0319 ft	0.1889 ft
				0.0000 ft	fixed
OKTU	39° 12' 38.11380" N	-95° 51' 15.78259" W	597.5141 ft	0.0000 ft	fixed
				1.9259 ft	0.1856 ft
				-0.0079 ft	0.0040 ft
P-59-270	39° 09' 53.94458" N	-95° 24' 05.42081" W	804.0150 ft	-0.0079 ft	0.0039 ft
				1.8221 ft	0.1858 ft
				0.0000 ft	fixed

PT NO.	X-Coord.	Y-Coord.	Elev.
C-19-959	2440959.9594	422454.7849	778.28
C-19-960	2440397.2066	426453.1717	840.77
P-59-270	2440319.8274	427961.4889	895.42



Scale:
1" = 100'

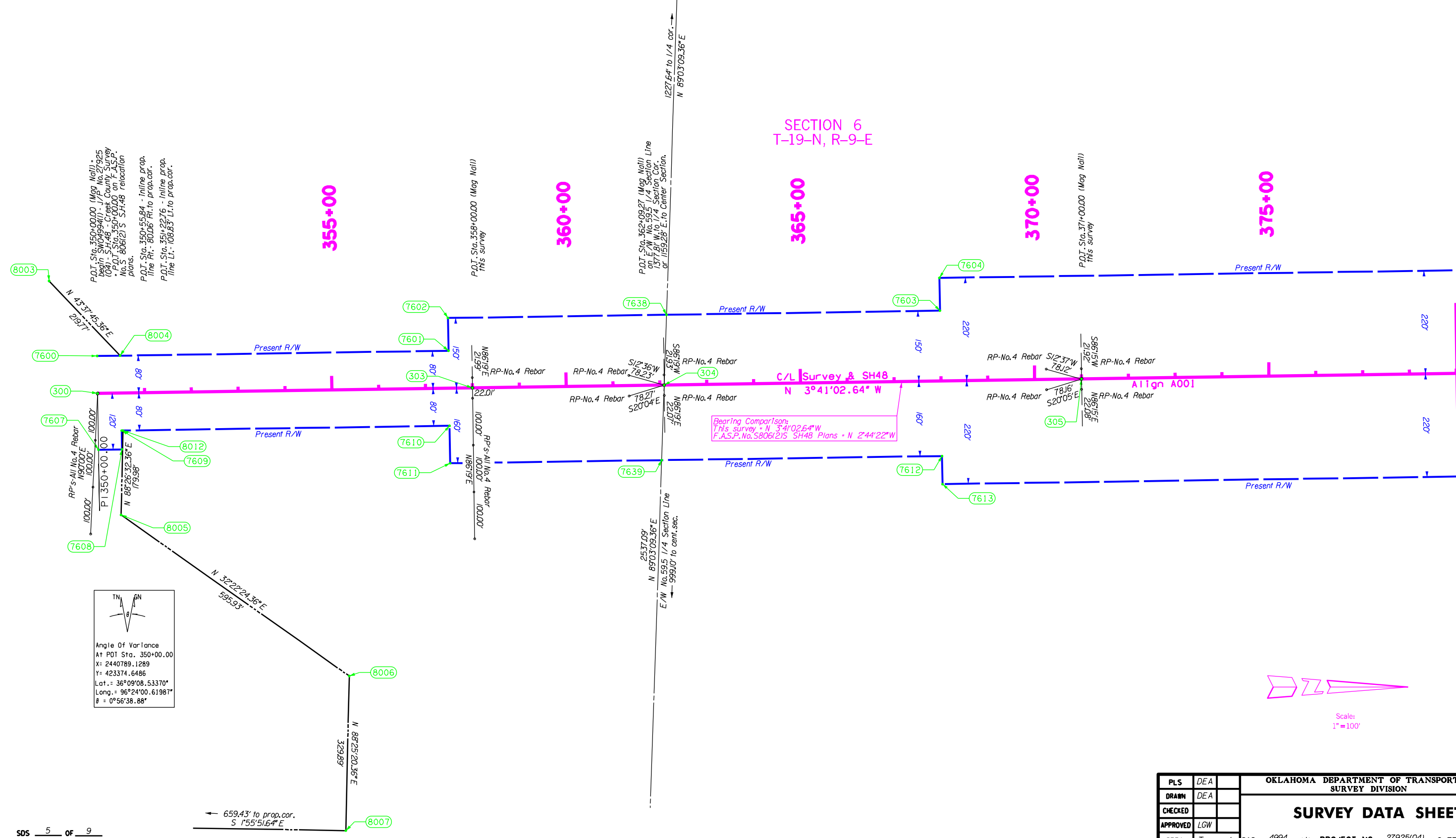
PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	

SURVEY DATA SHEET

SWO 4994 (1) PROJECT NO. 27925(04) SHEET NO. S4

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

SECTION 6
T-19-N, R-9-E



Angle of Variance
At P.O.T. Sta. 350+00.00
X = 2440789.1289
Y = 4233374.6486
Lat. = 36°09'08.53370"
Long. = 96°24'00.61987"
θ = 0°56'38.88"



Scale:
1" = 100'

SDS 5 OF 9

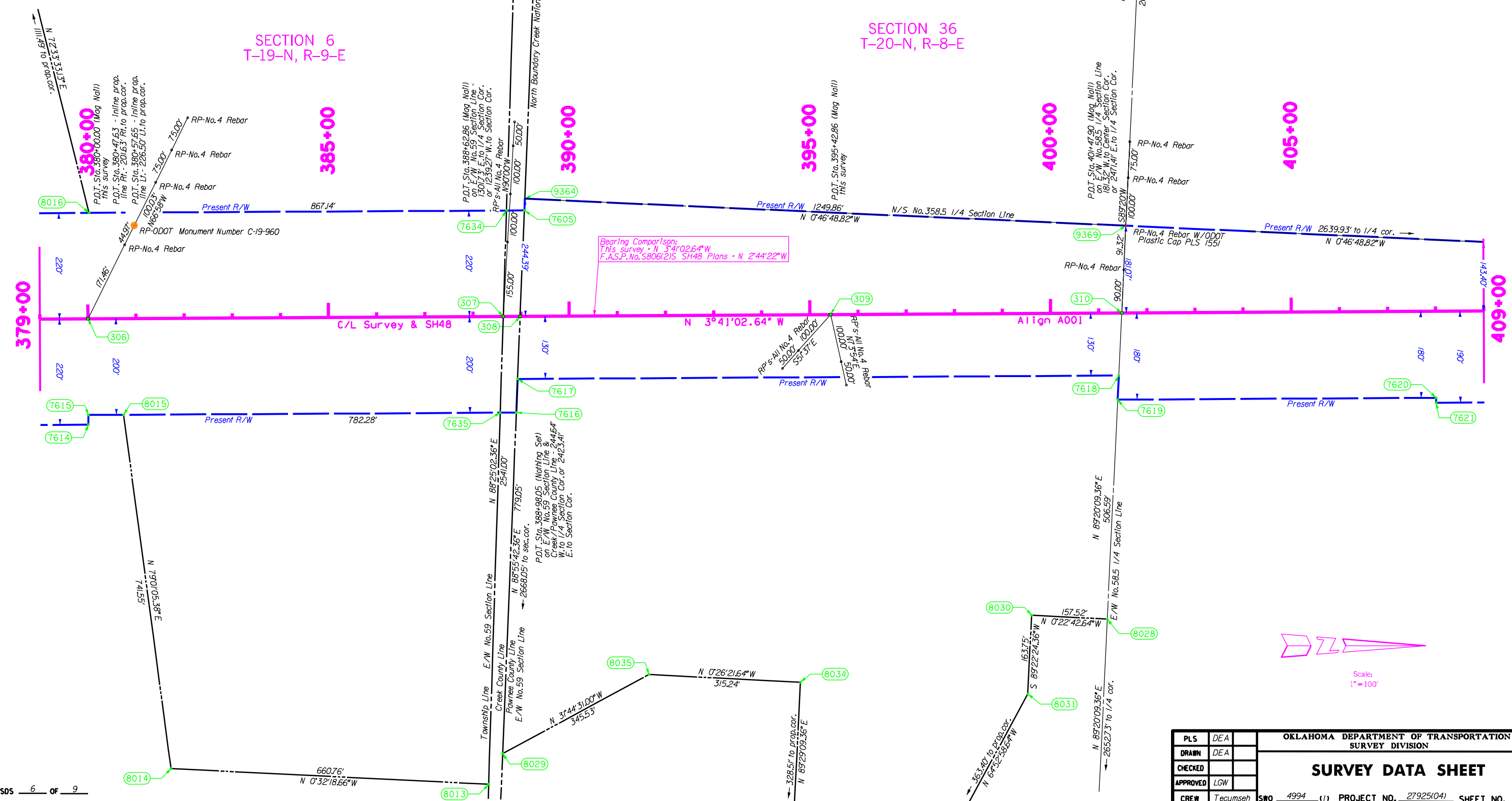
PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	

PROJECT NO. 4994 (1) PROJECT NO. 27925(04) SHEET NO. 55

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

SECTION 6
T-19-N, R-9-E

SECTION 36
T-20-N, R-8-E



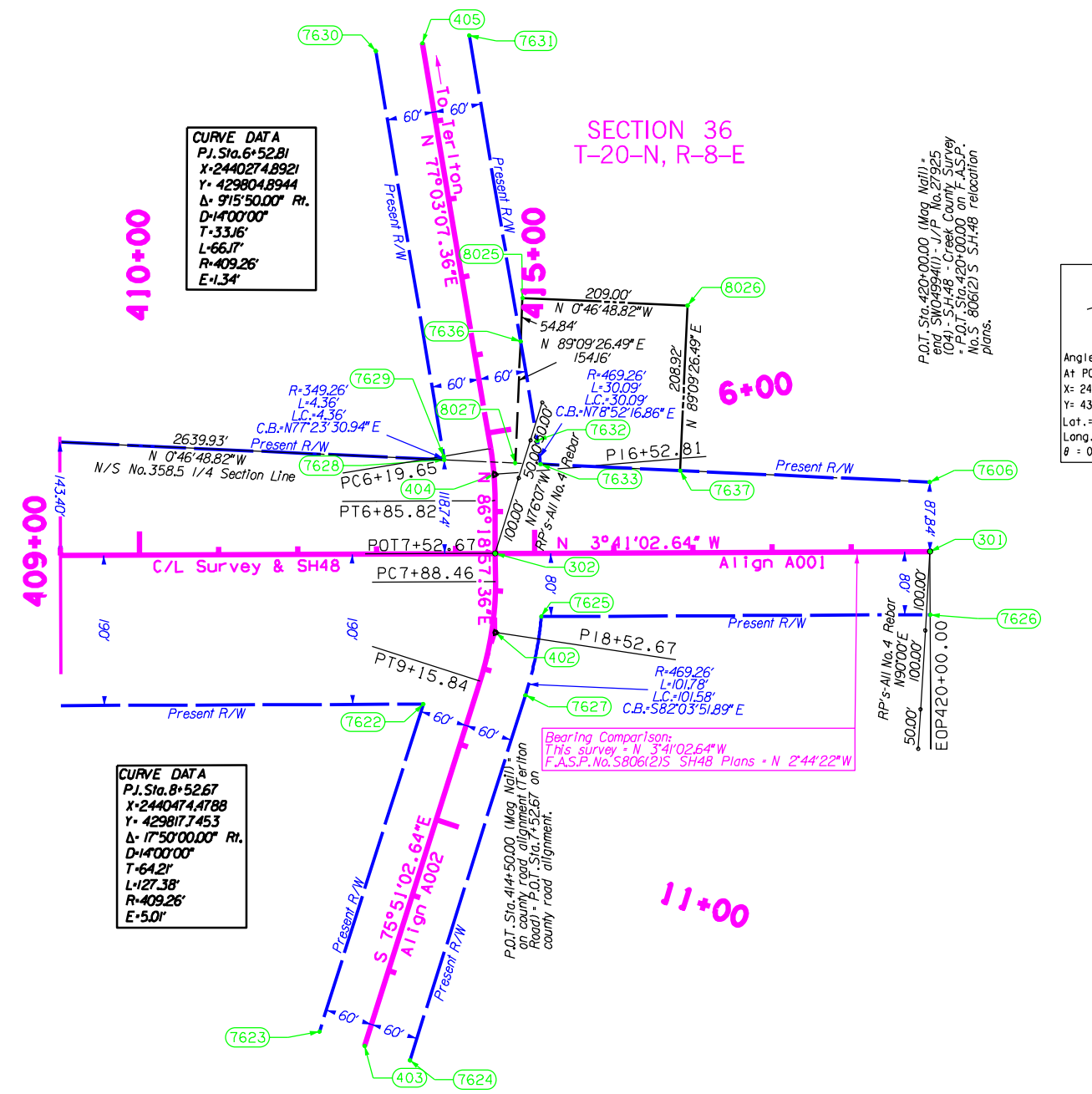
Bearing Comparison:
This survey = N 3°41'02.64" W
F.A.S.P. No. 5806(2)S SH48 Plans = N 2°44'22" W



Scale:
1" = 100'

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	
		SURVEY DATA SHEET
		SWO 4994 (1) PROJECT NO. 27925(04) SHEET NO. 56

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



CURVE DATA
 P.I. Sta. 6+52.81
 X=2440274.8921
 Y= 429804.8944
 Δ= 91°5'00.00" Rr.
 D=1400'00"
 T=33.16'
 L=66.17'
 R=409.26'
 E=1.34'

CURVE DATA
 P.I. Sta. 8+52.67
 X=2440474.4788
 Y= 429817.453
 Δ= 17°50'00.00" Rr.
 D=1400'00"
 T=64.21'
 L=127.38'
 R=409.26'
 E=5.01'

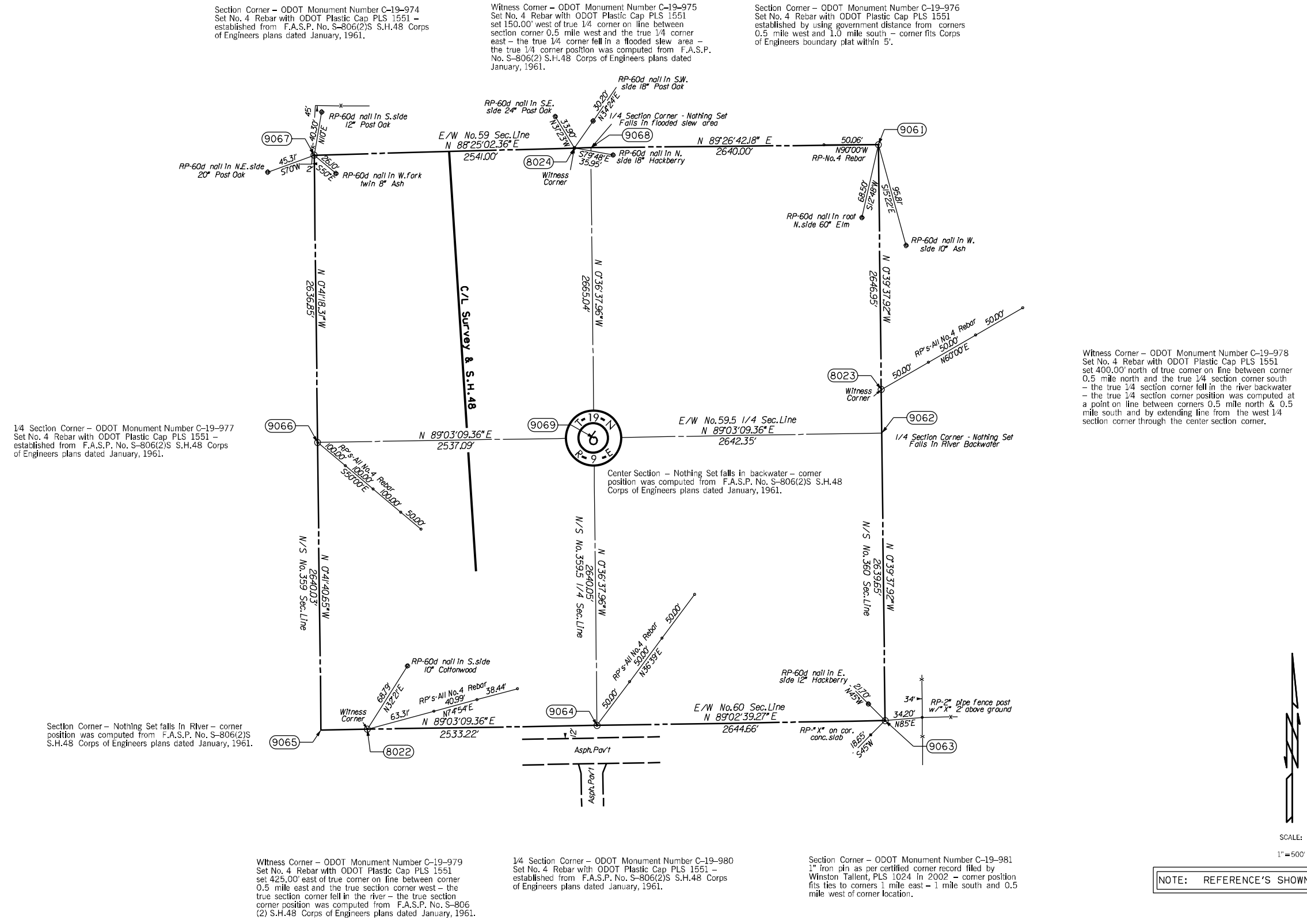
Angle Of Variance
 At POT Sta. 420+00.00
 X= 2440339.3453
 Y= 430360.1833
 Lat.= 36°10'17.67999"
 Long.= 96°24'04.70122"
 θ = 0°56'36.47"



Scale:
 1" = 100'

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	
		SURVEY DATA SHEET
SWO 4994 (1)		PROJECT NO. 27925(04) SHEET NO. 57

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



Section Corner - ODOT Monument Number C-19-974
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 -
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961.

Witness Corner - ODOT Monument Number C-19-975
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551
set 150.00' west of true 1/4 corner on line between
section corner 0.5 mile west and the true 1/4 corner
east - the true 1/4 corner fell in a flooded slew area -
the true 1/4 corner position was computed from F.A.S.P.
No. S-806(2) S.H.48 Corps of Engineers plans dated
January, 1961.

Section Corner - ODOT Monument Number C-19-976
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551
established by using government distance from corners
0.5 mile west and 1.0 mile south - corner fits Corps
of Engineers boundary plat within 5'.

1/4 Section Corner - ODOT Monument Number C-19-977
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 -
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961.

Witness Corner - ODOT Monument Number C-19-978
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551
set 400.00' north of true corner on line between corner
0.5 mile north and the true 1/4 section corner south
- the true 1/4 section corner fell in the river backwater
- the true 1/4 section corner position was computed at
a point on line between corners 0.5 mile north & 0.5
mile south and by extending line from the west 1/4
section corner through the center section corner.

Section Corner - Nothing Set falls in River - corner
position was computed from F.A.S.P. No. S-806(2)S
S.H.48 Corps of Engineers plans dated January, 1961.

Center Section - Nothing Set falls in backwater - corner
position was computed from F.A.S.P. No. S-806(2)S S.H.48
Corps of Engineers plans dated January, 1961.

Witness Corner - ODOT Monument Number C-19-979
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551
set 425.00' east of true corner on line between corner
0.5 mile east and the true section corner west - the
true section corner fell in the river - the true section
corner position was computed from F.A.S.P. No. S-806
(2) S.H.48 Corps of Engineers plans dated January, 1961.

1/4 Section Corner - ODOT Monument Number C-19-980
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 -
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961.

Section Corner - ODOT Monument Number C-19-981
1" iron pin as per certified corner record filed by
Winston Tallent, PLS 1024 in 2002 - corner position
fits ties to corners 1 mile east - 1 mile south and 0.5
mile west of corner location.



NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	
		SURVEY DATA SHEET
SWO 4994 (1)		PROJECT NO. 27925(04) SHEET NO. 58

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

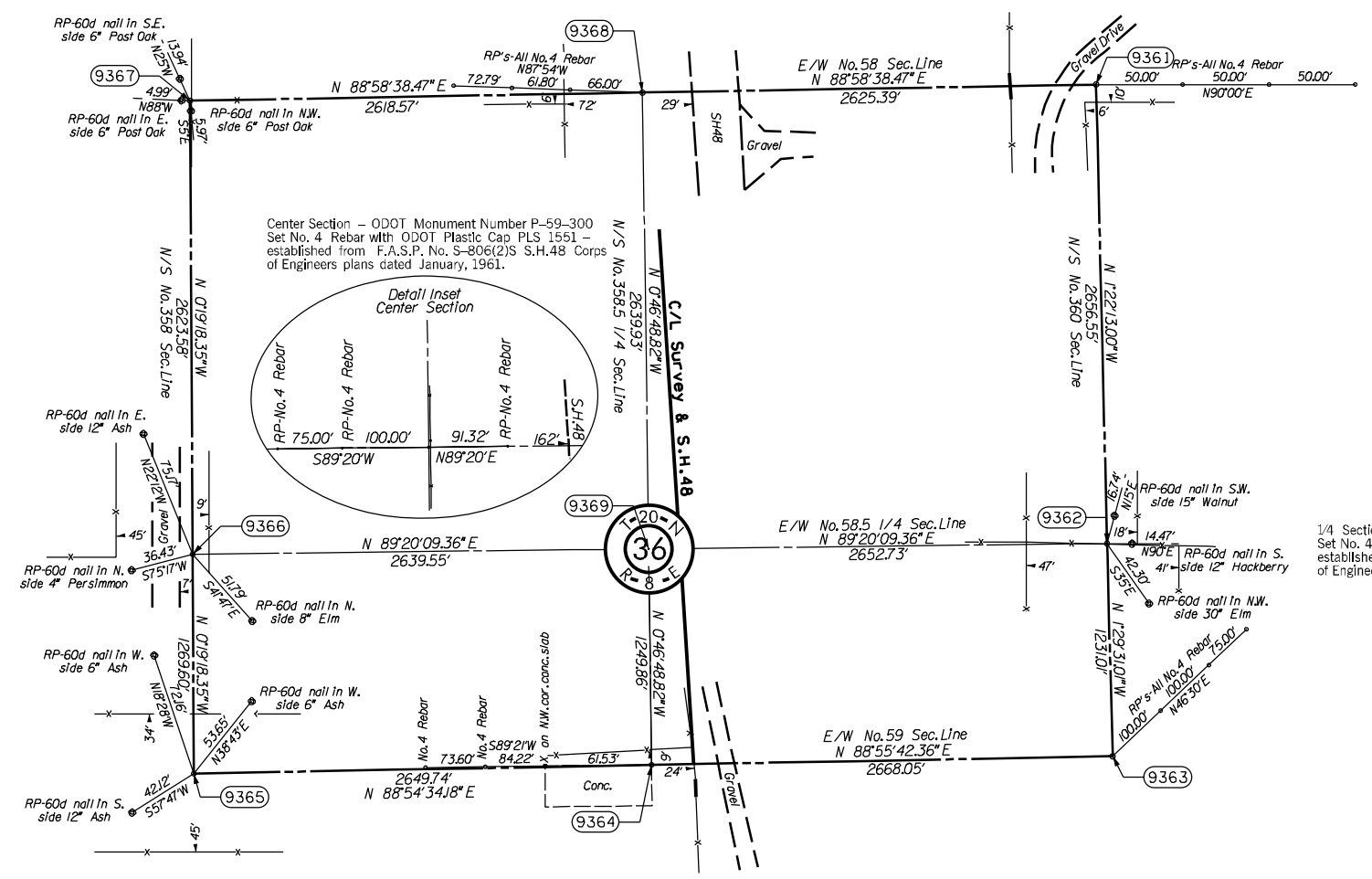
Section Corner – ODOT Monument Number P-59-296
Original Stone found and used this survey.

1/4 Section Corner – ODOT Monument Number P-59-297
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 –
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961.

Section Corner – ODOT Monument Number P-59-298
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 –
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961 – also found
a Corps of Engineers Brass Cap 49.5' west & 8.1' south
of corner established.

1/4 Section Corner – ODOT Monument Number P-59-299
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551
computed at a point on line between corners 0.5 mile
north & 0.5 mile south and by extending line from the
east 1/4 section corner through the center section corner.

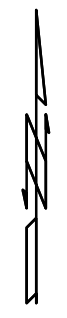
1/4 Section Corner – ODOT Monument Number P-59-301
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 –
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961.



Section Corner – ODOT Monument Number P-59-302
No. 6 Rebar found and used this survey – corner
position fits government distance to corner 0.5 mile
east.

1/4 Section Corner – ODOT Monument Number P-59-303
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 –
established from F.A.S.P. No. S-806(2)S S.H.48 Corps
of Engineers plans dated January, 1961.

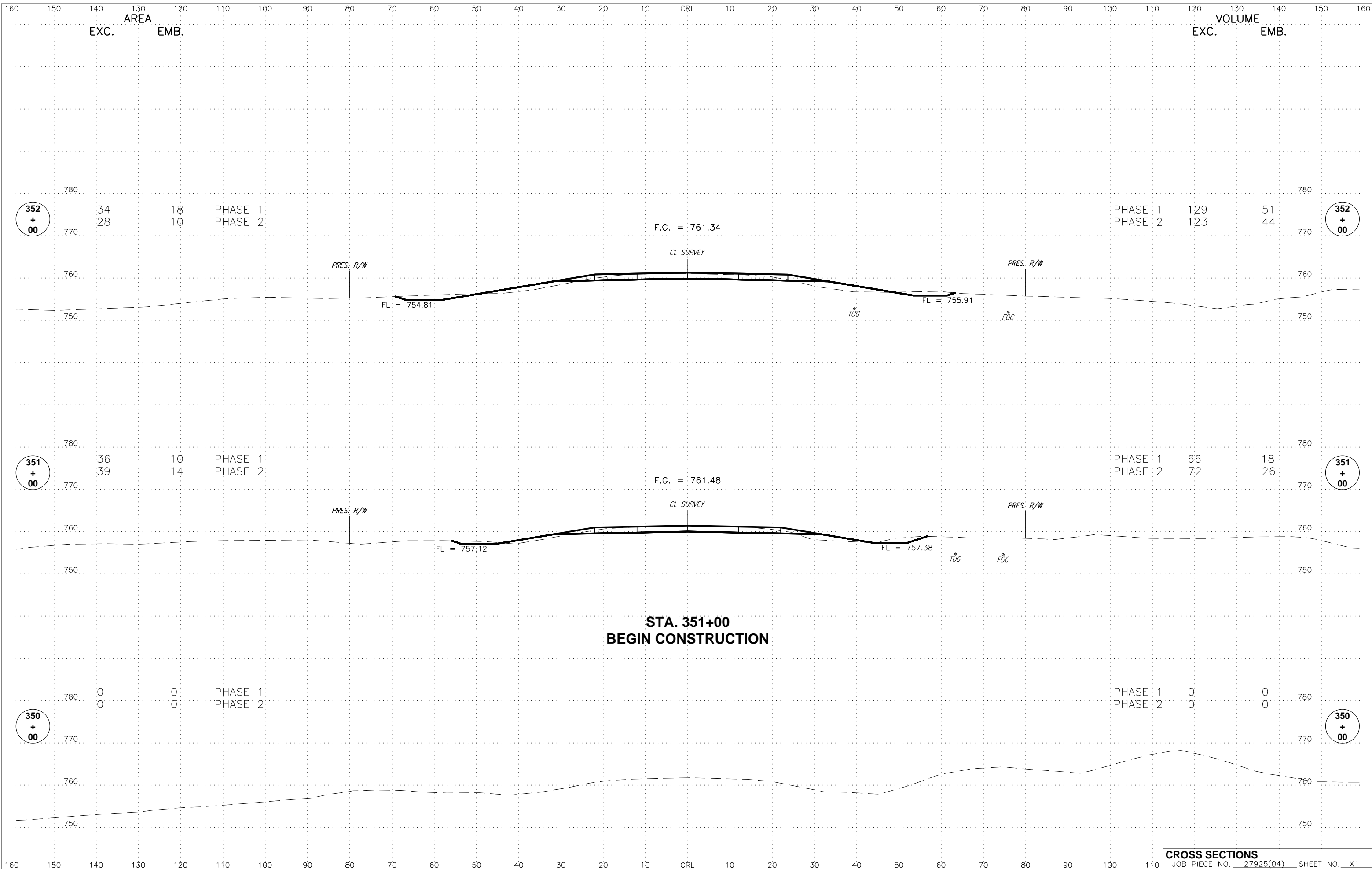
Section Corner – ODOT Monument Number P-59-304
Set No. 4 Rebar with ODOT Plastic Cap PLS 1551 –
the area which this corner falls is subject to flooding
at times this corner might be under water – established
from F.A.S.P. No. S-806(2)S S.H.48 Corps of Engineers
plans dated January, 1961.

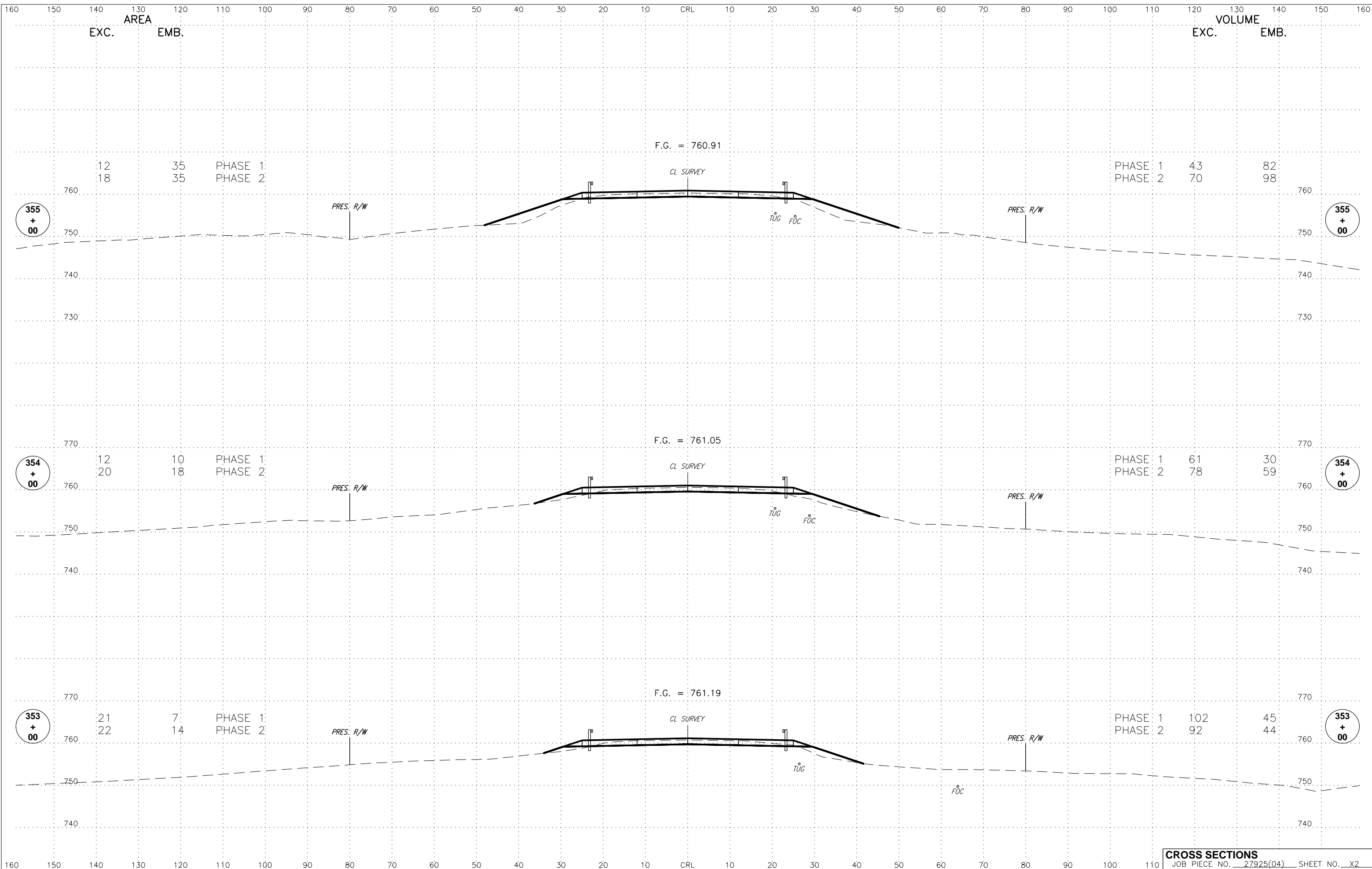


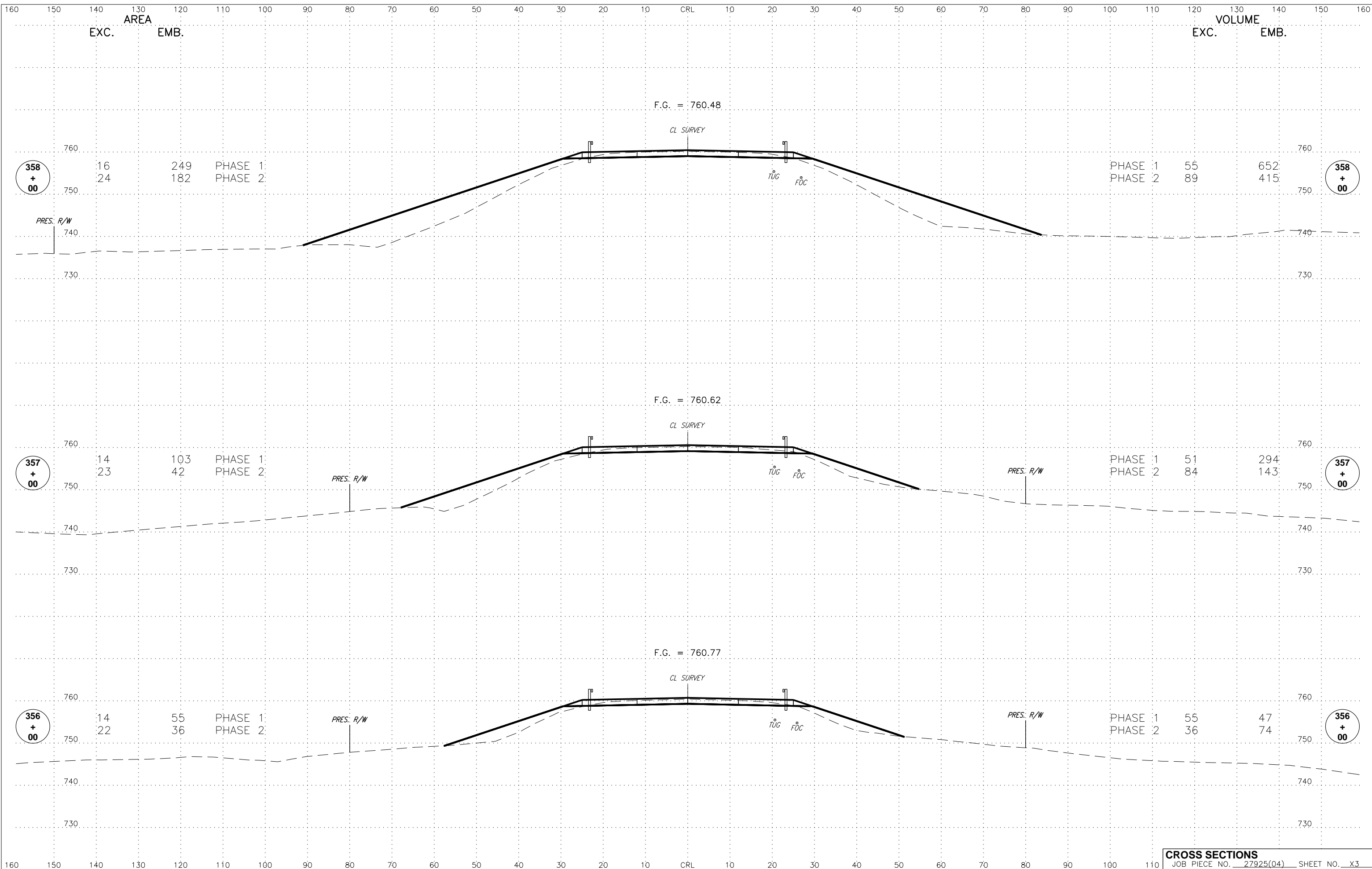
SCALE:
1" = 500'

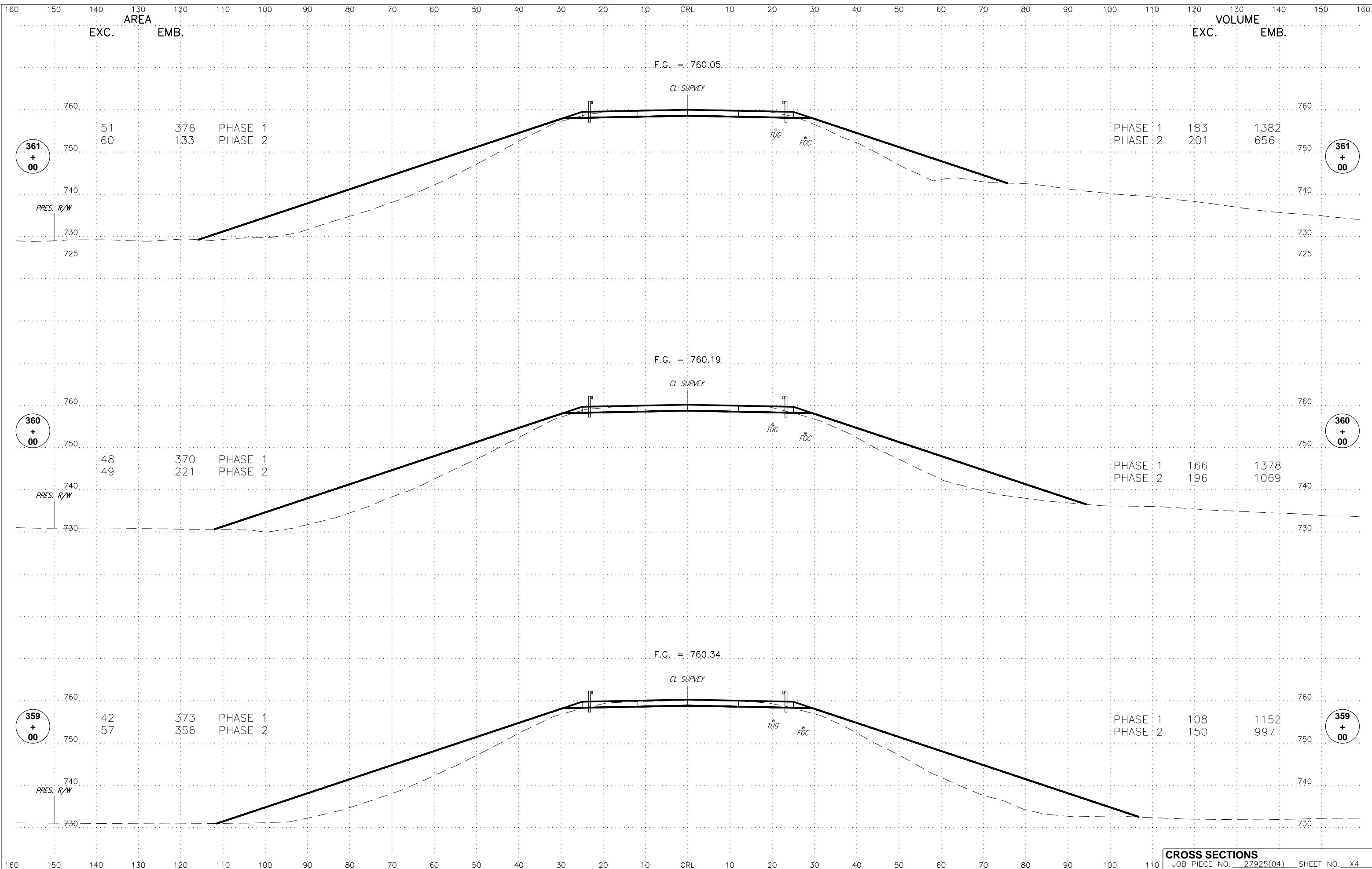
NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

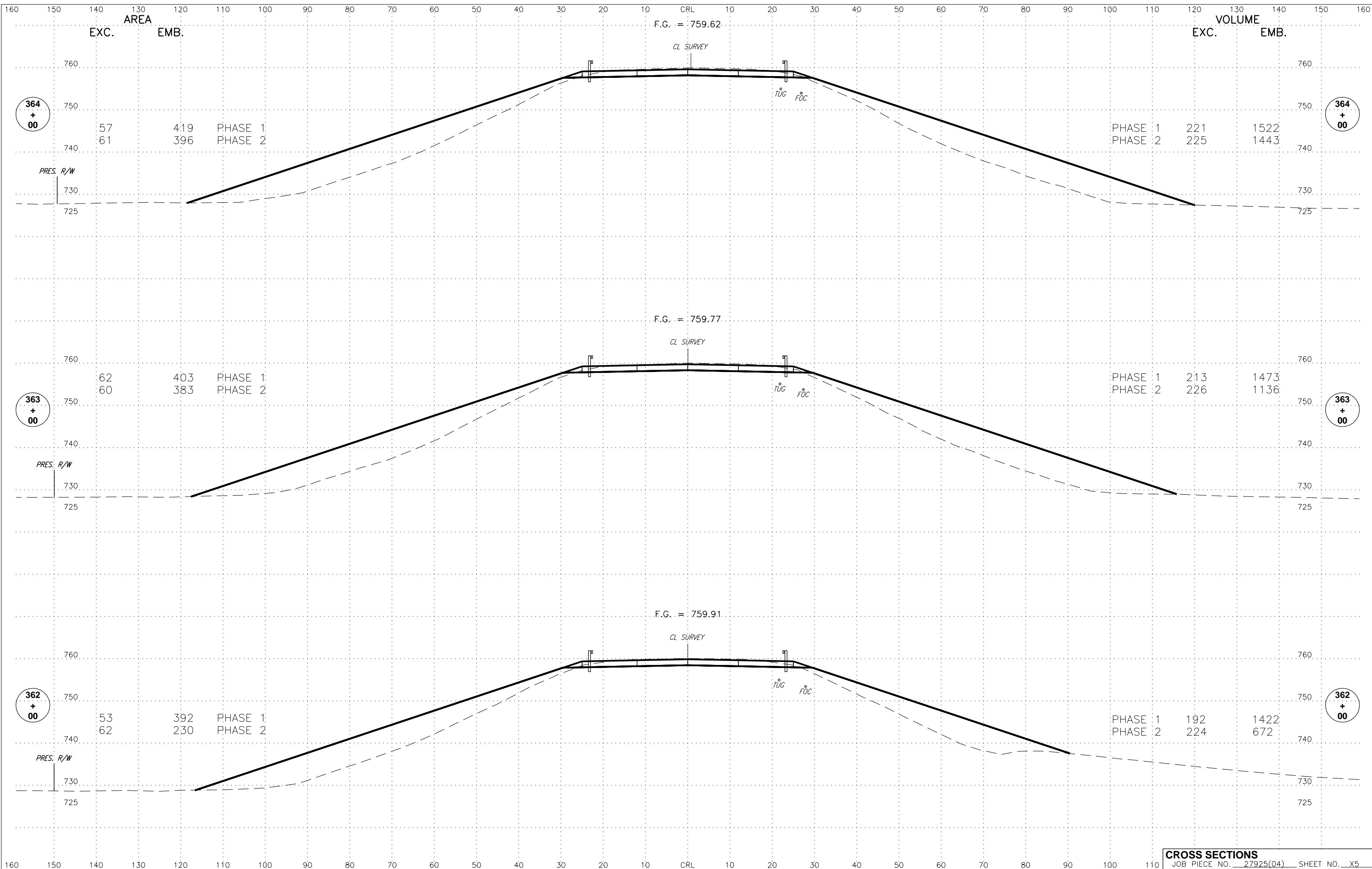
PLS	DEA	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	DEA	
CHECKED		
APPROVED	LGW	
CREW	Tecumseh	
		SURVEY DATA SHEET
SWO 4994 (1)		PROJECT NO. 27925(04) SHEET NO. 59











364
+
00

AREA
EXC. EMB.

57	419	PHASE 1
61	396	PHASE 2

VOLUME
EXC. EMB.

221	1522	PHASE 1
225	1443	PHASE 2

364
+
00

363
+
00

62	403	PHASE 1
60	383	PHASE 2

213	1473	PHASE 1
226	1136	PHASE 2

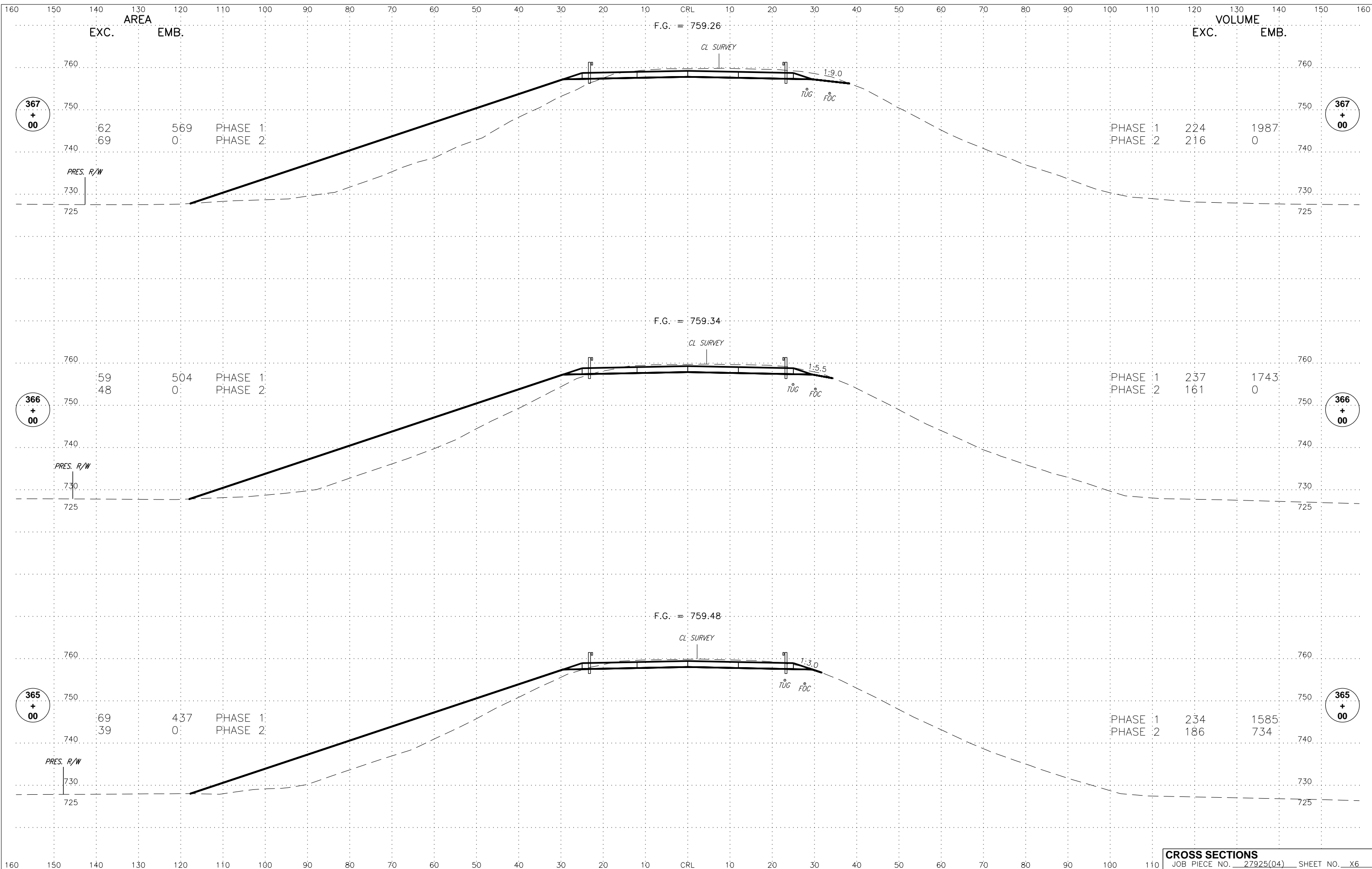
363
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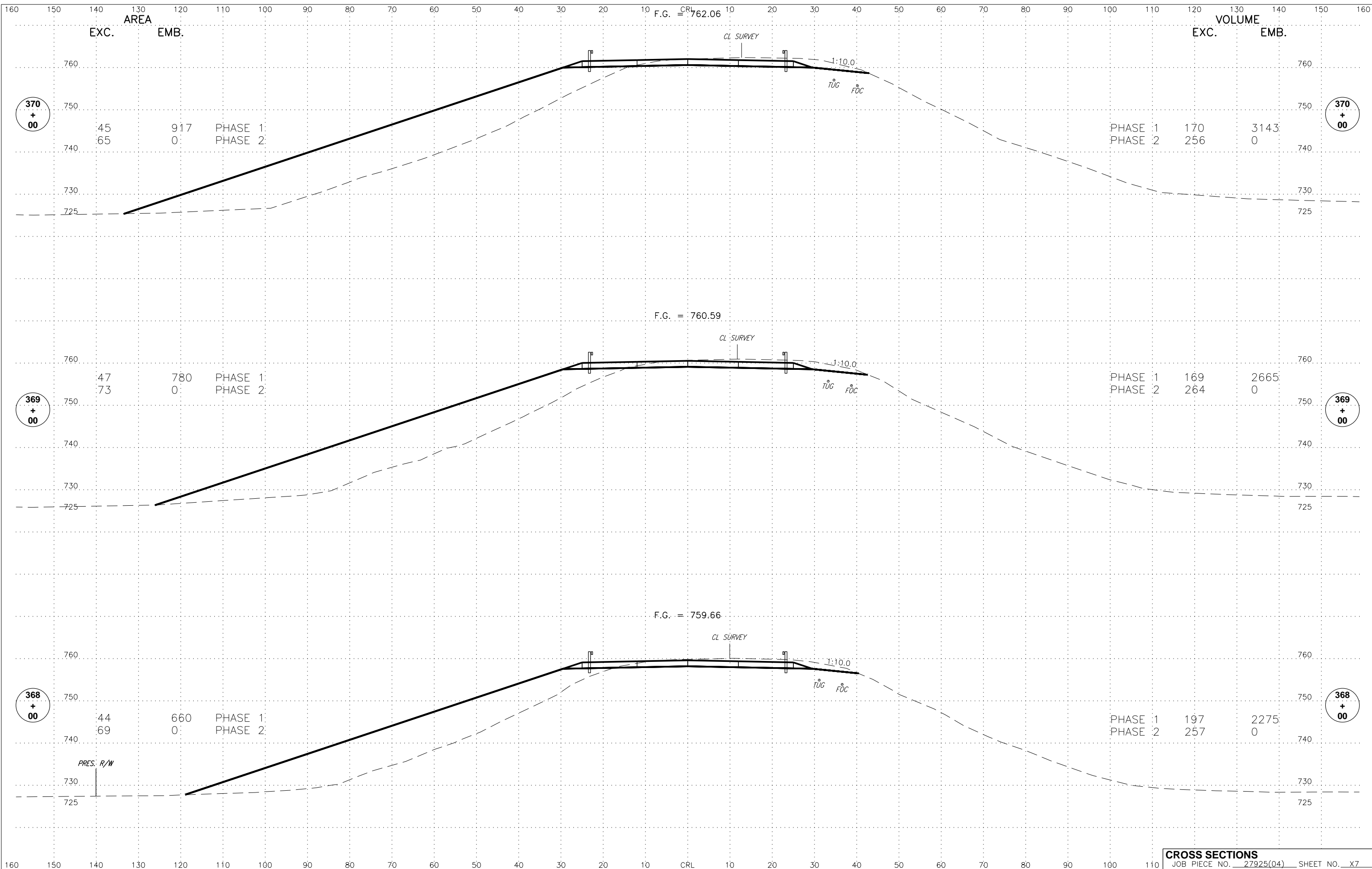
362
+
00

53	392	PHASE 1
62	230	PHASE 2

192	1422	PHASE 1
224	672	PHASE 2

362
+
00





AREA
EXC. EMB.

VOLUME
EXC. EMB.

F.G. = 762.06

F.G. = 760.59

F.G. = 759.66

370
+
00

370
+
00

369
+
00

369
+
00

368
+
00

368
+
00

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

45
65 917
0

170 3143
256 0

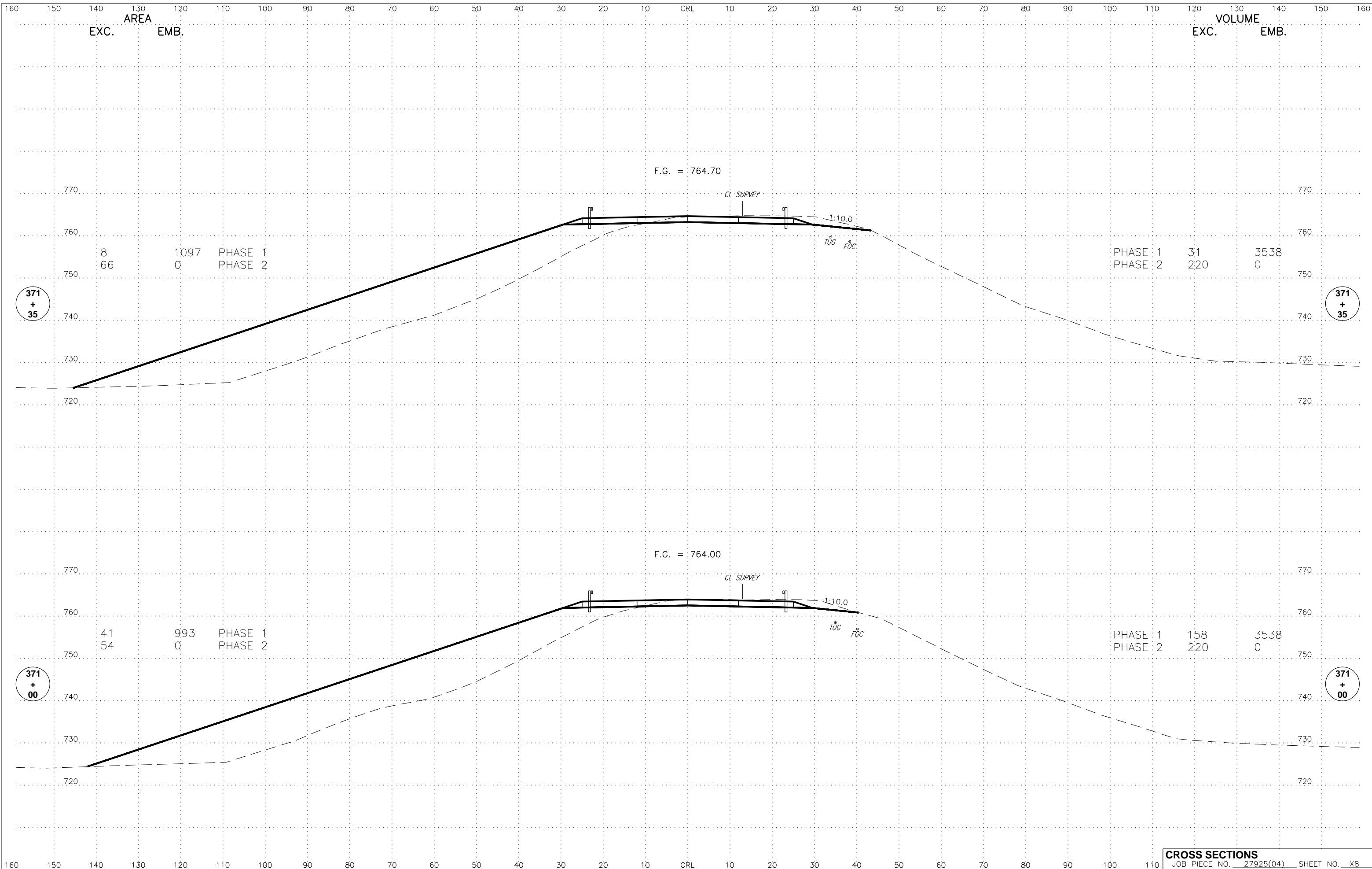
47
73 780
0

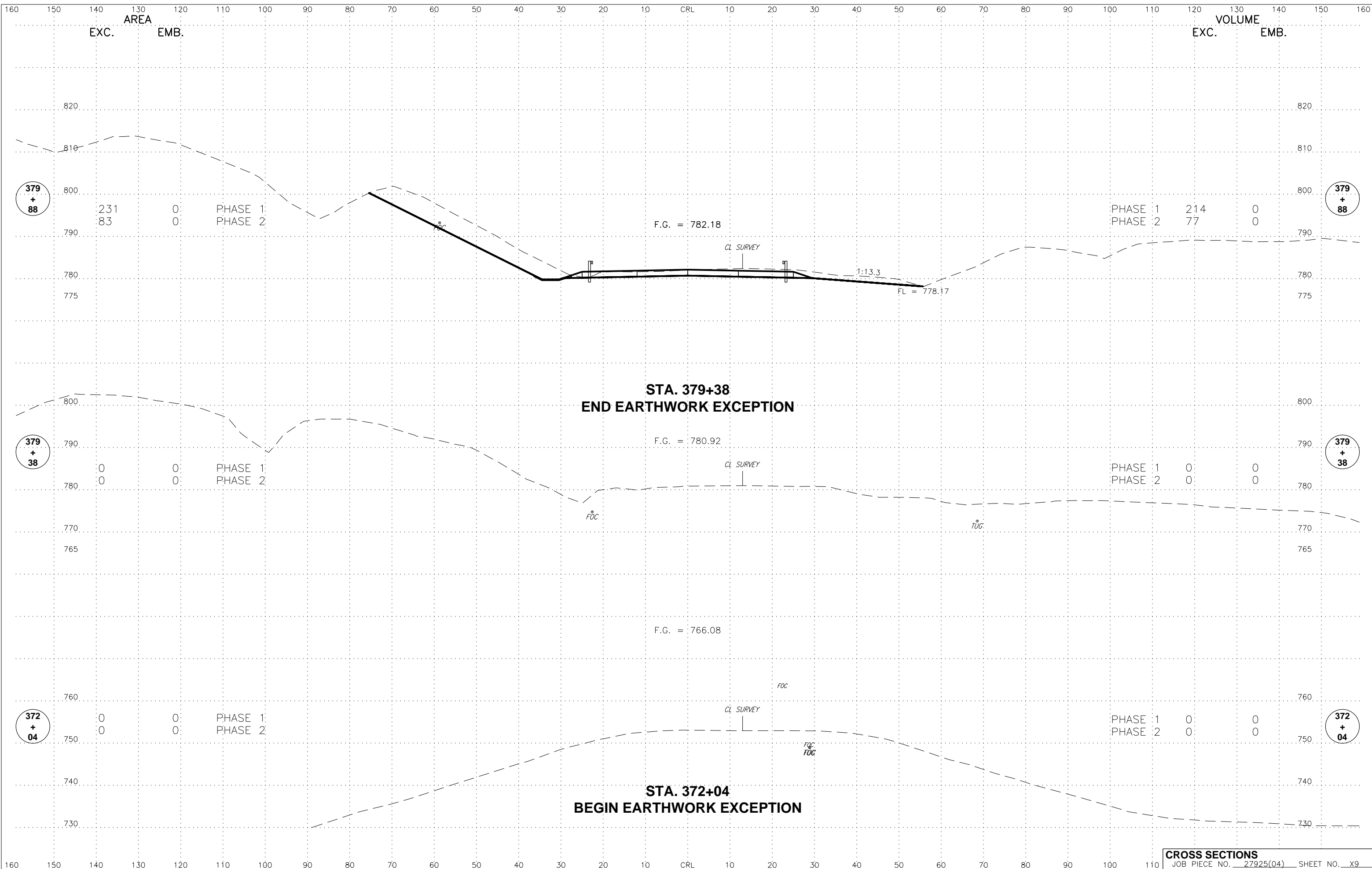
169 2665
264 0

44
69 660
0

197 2275
257 0

PRES. R/W





AREA
EXC. EMB.

VOLUME
EXC. EMB.

379
+
88

379
+
88

231 0
83 0

PHASE 1
PHASE 2

214 0
77 0

PHASE 1
PHASE 2

F.G. = 782.18

CL SURVEY

1:13.3

FL = 778.17

STA. 379+38
END EARTHWORK EXCEPTION

379
+
38

379
+
38

0 0
0 0

PHASE 1
PHASE 2

0 0
0 0

PHASE 1
PHASE 2

F.G. = 780.92

CL SURVEY

F.G. = 766.08

CL SURVEY

STA. 372+04
BEGIN EARTHWORK EXCEPTION

372
+
04

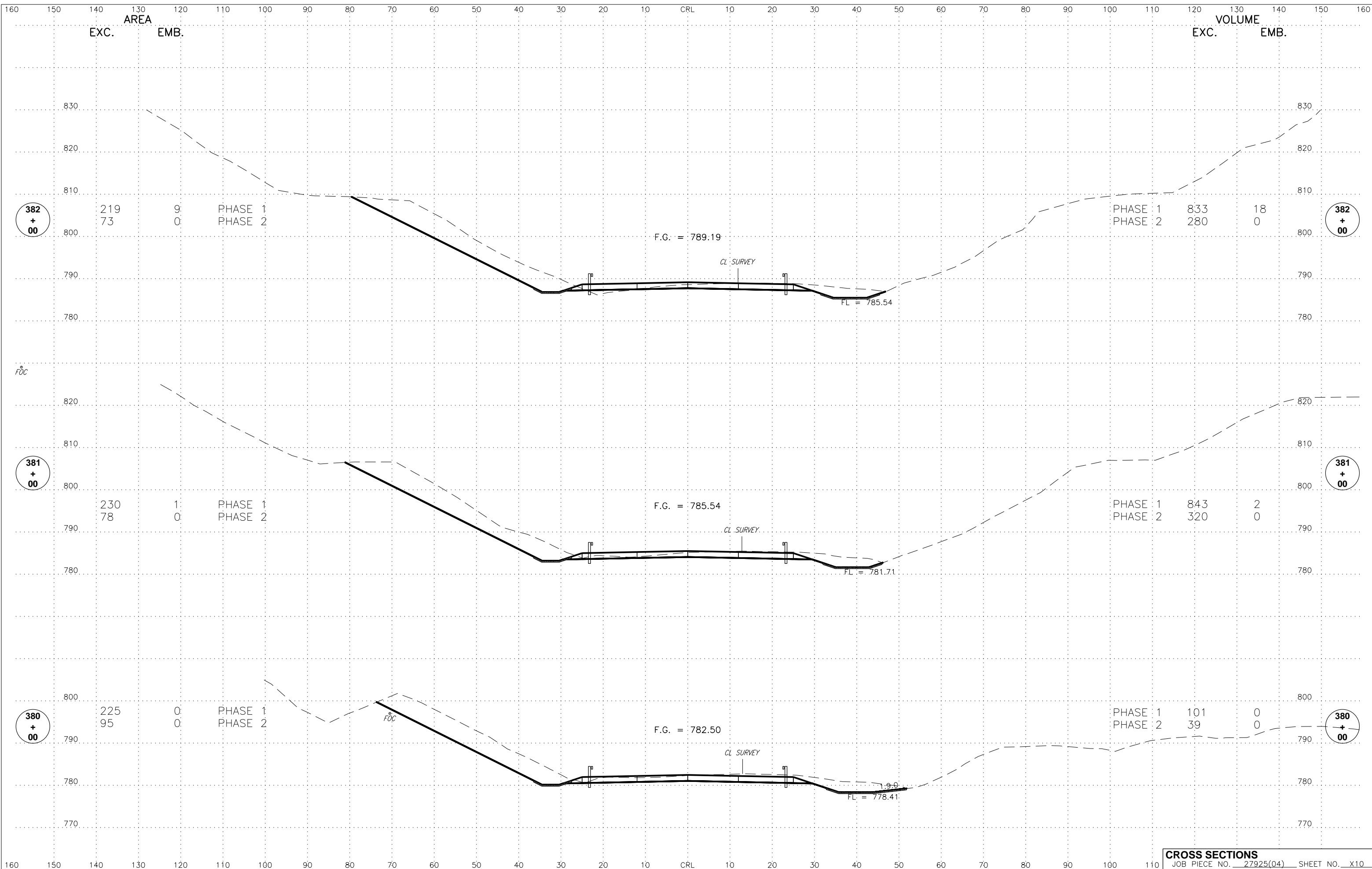
372
+
04

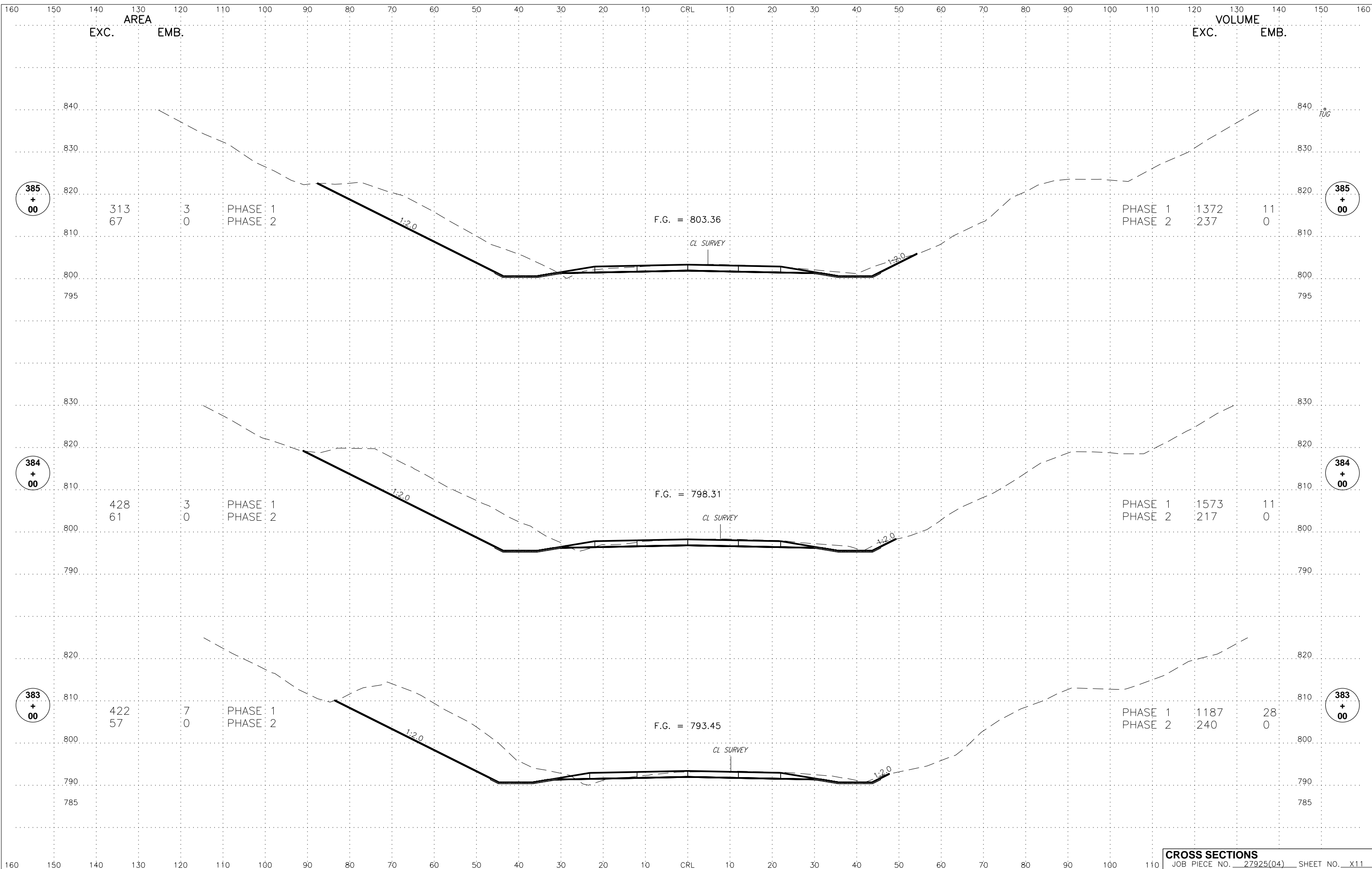
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0 0

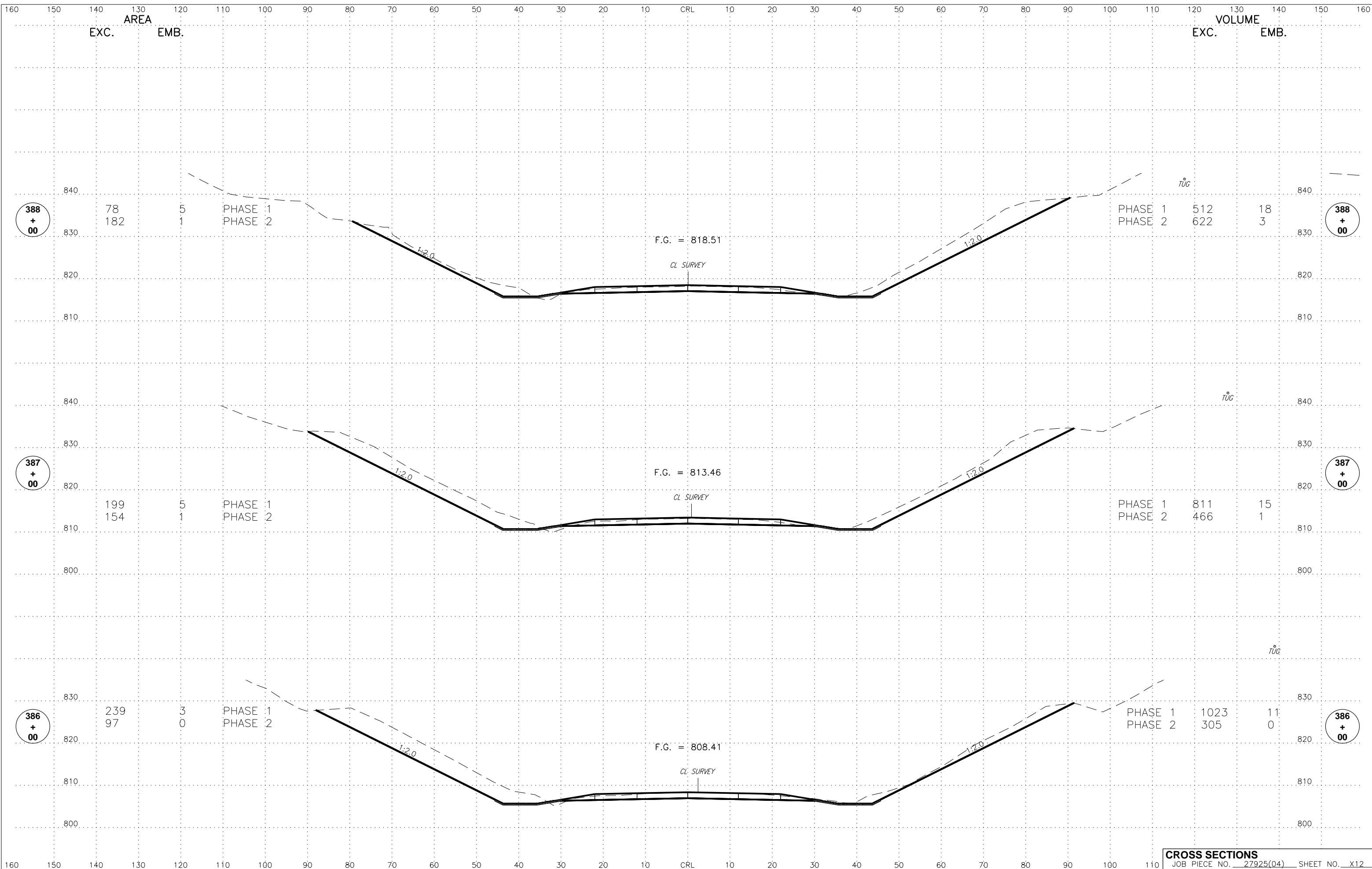
PHASE 1
PHASE 2

0 0
0 0

PHASE 1
PHASE 2







AREA
EXC. EMB.

VOLUME
EXC. EMB.

388
+
00

388
+
00

387
+
00

387
+
00

386
+
00

386
+
00

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

PHASE 1
PHASE 2

F.G. = 818.51

F.G. = 813.46

F.G. = 808.41

CL SURVEY

CL SURVEY

CL SURVEY

TUG

TUG

TUG

