

FOR SURVEY CONTROL DATA, SEE SURVEY DATA SHEETS SD01-SD09.

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA	28774(04)		1	34
DESCRIPTION		REVISIONS		DATE	



LOCATION MAP

DIVISION V

APPROX. CENTER OF PROJECT  
LATITUDE: 35°09'59.62" N  
LONGITUDE: 99°10'27.95" W

PLAN OF PROPOSED  
STATE HIGHWAY

PROJECT NO. STP-275C(035)SS  
BRIDGE & APPROACHES - OVER DRY ELK CREEK

STATE HIGHWAY 44

WASHITA COUNTY

CONTROL SECTION NO. 44-75-14

STATE JOB NO. 28774(04)

BR. "A" LOCATION NO. 7514 0348 X (OLD NBI NO. 04212)(NEW NBI NO. 31167)

INDEX OF SHEETS

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MANDATORY TIE:  
THE FOLLOWING PROJECTS ARE MANDATORILY TIED AND SHALL BE BID ACCORDINGLY:  
1. JP 28999(04), KIOWA COUNTY, SH-44 OVER ELK CREEK.  
2. JP 28774(04), WASHITA COUNTY, SH-44 OVER DRY ELK CREEK.

DESIGN DATA

AADT 2016	= 1300
AADT 2036	= 1930
K	= 11%
D	= 56%
T (% DHV)	= 17%
T (% AADT)	= 20%
T3 (% AADT)	= 15%
V	= 55 MPH
FLEX. ESALS	= 2.32M

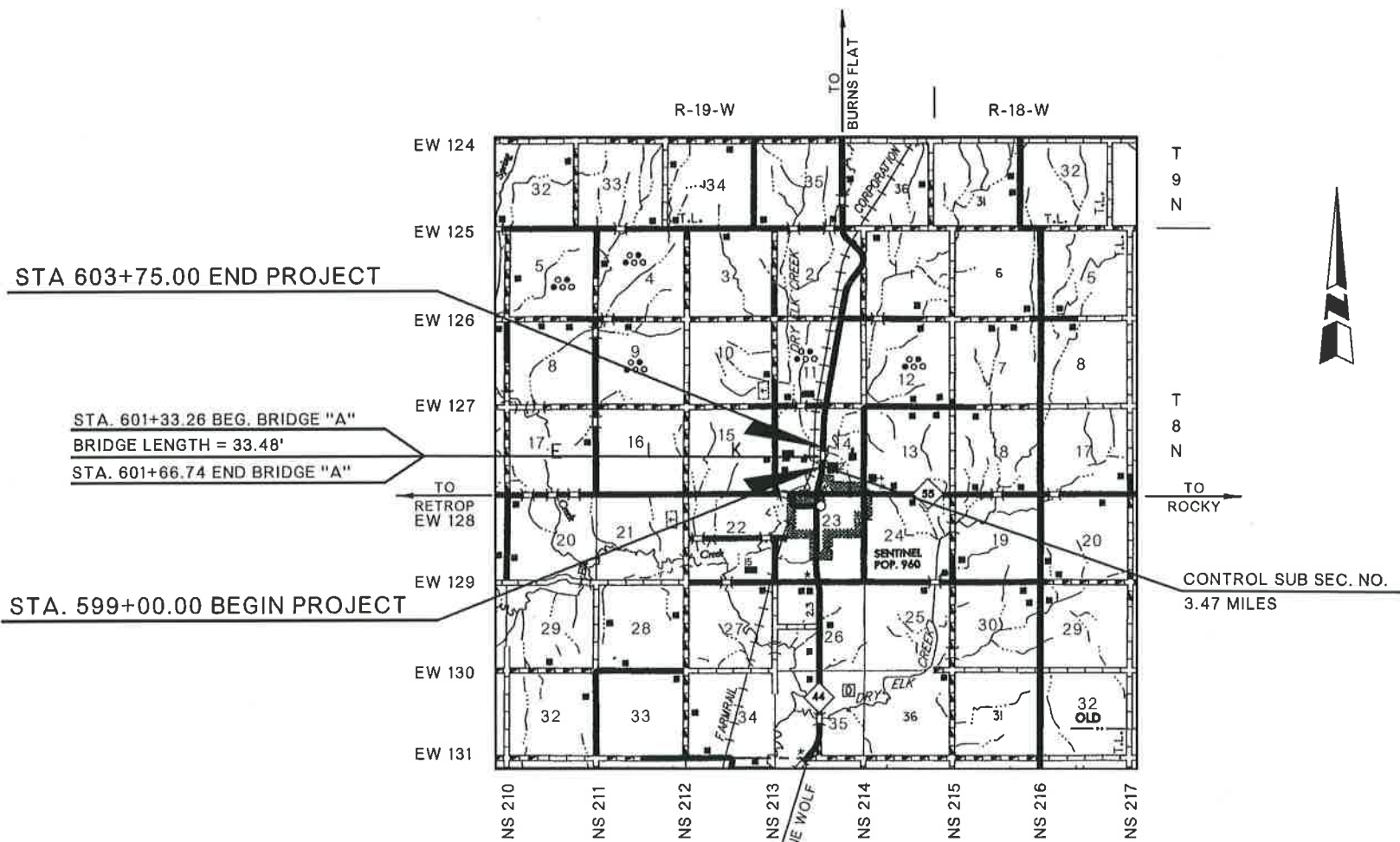
SCALES

PLAN	1" = 50'
PROFILE HOR.	1" = 50'
VER.	1" = 5'
LAYOUT MAP	1" = 5280'

LEVEL DATA IS MEAN SEA LEVEL (USC&GS)  
BEARINGS ARE FROM OBSERVATION OF POLARIS.

CONVENTIONAL SYMBOLS

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



ROADWAY	TRAFFIC	BRIDGE
SSS-1-1	PM1-1-02	TCS5-1-00
TSC2-3-2	PM3-1-02	TCS7-1-02
TRFD-1-2	TCS1-1-01	TCS8-1-00
ASCD-5-2	TCS2-1-00	TCS9-1-01
SBI-4-2	TCS4-1-01	TCS14-1-00
PUD-3-2		
		RCB-C2-14(2-10)-01E
		RCB-E2-H9-30-1-01E
		RCB-E2-H9-30-2-01E
		RCB-E2-H9-30-3-01E
		RCB-CW2-D6-30-01E

ROADWAY LENGTH \_\_\_\_\_ 441.52 FT. \_\_\_\_\_ 0.083 MI.  
BRIDGE LENGTH \_\_\_\_\_ 33.48 FT. \_\_\_\_\_ 0.006 MI.  
PROJECT LENGTH \_\_\_\_\_ 0.089 MI.

EQUATIONS: NONE  
EXCEPTIONS: NONE

**SMITH ROBERTS BALDISCHWILER, LLC**  
engineering, surveying, planning

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Oklahoma City, OK 73104  
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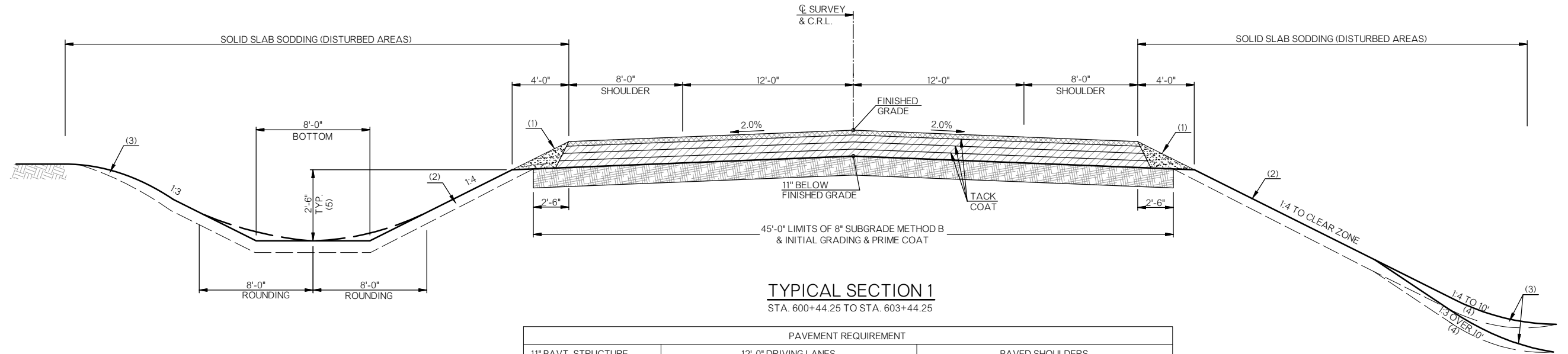
CHICKASHA OFFICE:  
104 S. 2nd Street  
Chickasha, OK 73018  
Telephone: (405) 224-1444  
FAX: (405) 224-1485

CERTIFICATE OF AUTHORIZATION NO. 3949 EXPIRES JUNE 30, 2017

SUBMITTED FOR APPROVAL BY:  
  
MARC A. LONG  
REGISTERED PROFESSIONAL ENGINEER NO. 17711

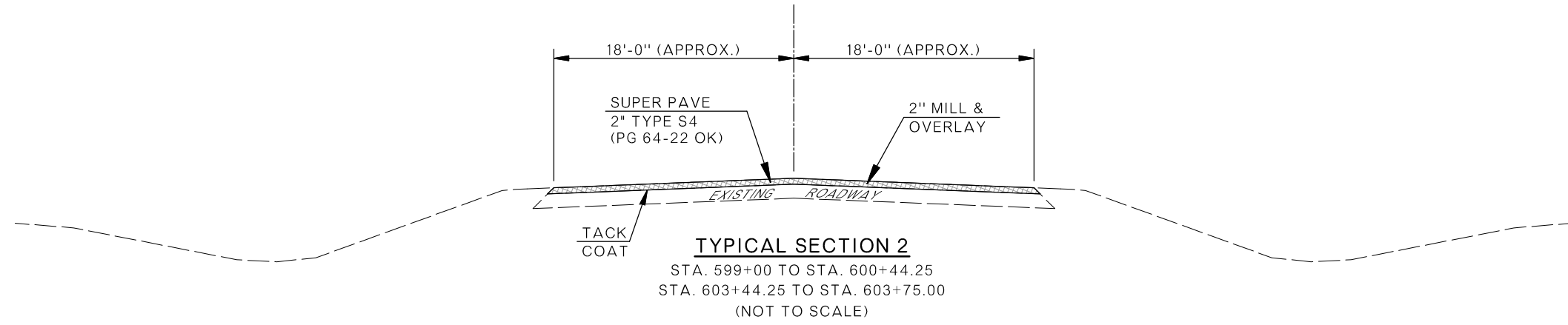
OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____ BY _____ CHIEF ENGINEER	DATE APPROVED _____ BY _____ DIVISION ADMINISTRATOR
SWO 4837(1) PROJECT NO. STP-275C(035)SS SHEET NO. 1	

R: 113547 | 11.3547E | Drawings | 01 - Title sheet | Dustin Heidrich 6-06-16 03:28pm



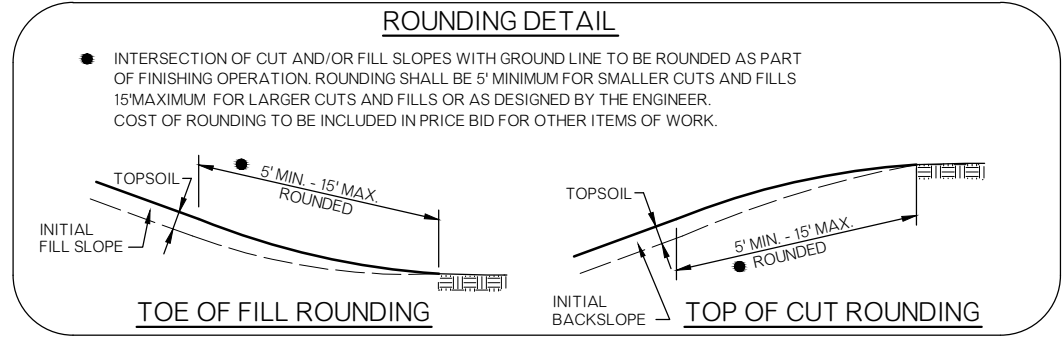
**TYPICAL SECTION 1**  
STA. 600+44.25 TO STA. 603+44.25

PAVEMENT REQUIREMENT		
11" PAVT. STRUCTURE	12'-0" DRIVING LANES	PAVED SHOULDERS
SURFACE COURSE	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)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)	3" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)	3" SUPERPAVE TYPE S3 (PG 64-22 OK)



**TYPICAL SECTION 2**  
STA. 599+00 TO STA. 600+44.25  
STA. 603+44.25 TO STA. 603+75.00  
(NOT TO SCALE)

- (1) BACKFILL NOTE:  
THIS AREA TO BE BACKFILLED AND COMPACTED AS A PART OF THE FINISHING OPERATIONS. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
- (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 ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATION SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.  
  
THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS 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 THIS SHEET.
- (4) DISTANCES ARE MEASURED VERTICALLY FROM THE EDGE OF THE FINISHED GRADE.
- (5) DISTANCES ARE MEASURED VERTICALLY FROM THE EDGE OF THE SUBGRADE.



**TYPICAL SECTION**

R: 1/13/24 11:35:47 AM Drawings | 02 - Typical section daryl.eason 3-02-16 12:25pm

WASHINGTON COUNTY

GENERAL CONSTRUCTION NOTES

PAY QUANTITY NOTES

FARMRAIL CORPORATION NOTES

TRAFFIC CONTROL

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

GRADING AND SITE WORK

FOR PROJECTS THAT INCLUDE WIDENING AND/OR RESURFACING PROJECTS, THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP-OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR APPROVAL, BEFORE OPERATIONS BEGIN. ANY PORTION OF THE CONSTRUCTION OPERATIONS, SUCH AS SUPERPAVE LAYING OPERATIONS, EXCAVATION FOR PAVEMENT WIDENING, OR EXTENSION OF ROADWAY STRUCTURES, SHALL BE LIMITED TO ONE SIDE AT A TIME, AND THE PROCEDURES OUTLINED IN THE PAVEMENT DROP-OFF TREATMENT STANDARDS PDT-1 (LATEST REVISION) SHALL BE IMPLEMENTED. ONLY THAT AMOUNT OF OPEN TRENCH WILL BE ALLOWED THAT CAN BE SURFACED IN 1 (ONE) DAY'S TIME WITHOUT APPROVAL BY THE ENGINEER. LIGHTS, SIGNS, AND BARRICADES SHALL BE MOVED AS WORK PROGRESSES.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER IS TO 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 THE PRICE BID FOR 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.

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.

THIS PROJECT IS LOCATED NEAR KNOWN SOURCES OF GYPSUM (SULFATE) DEPOSITS. SPECIAL ATTENTION SHOULD BE USED TO AVOID BORROW MATERIAL THAT COULD ADVERSELY INTERACT WITH THE CALCIUM BASED ADDITIVES (FLY ASH, PORTLAND CEMENT, CEMENT KILN DUST, AND LIME) USED IN THE STABILIZED SUBGRADE. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE SULFATE TESTING OF BORROW PIT SITES AS DIRECTED BY THE ENGINEER.

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.

EROSION CONTROL

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN 233.04B(1) OF THE STANDARD SPECIFICATIONS.

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

FINAL CLEAN UP

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.

(R-5) AN ESTIMATED QUANTITY OF 305 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 205 (A) TYPE A - SALVAGED TOPSOIL, PRICE BID TO INCLUDE COST OF 18-46-0 FERTILIZER, ESTIMATED AT 150 POUNDS PER ACRE.

FOR 230 (A) SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1000 S.Y.

(R-8) FOR 230(A) SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQ. YD. OF SODDING

(R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 1.32 ACRE.

(R-16) QUANTITY BASED ON TWO APPLICATIONS.

(R-28) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUTBACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.

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

(R-34) PRICE BID TO INCLUDE COST OF FOG SEAL, MEETING THE REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.

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

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

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

GENERAL PLAN NOTES

- (1) PAY PLAN QUANTITY.
- (2) REMOVAL OF ASPHALT IS TO BE DONE BY COLD MILLING.
- (3) ALL COLD MILLINGS WILL BE STOCK PILED ON THE RIGHT-OF-WAY AND WILL REMAIN PROPERTY OF ODOT.
- (4) THE 1.32 ACRES OF TEMPORARY EROSION AND SEDIMENT CONTROL INCLUDES 1.04 ACRES OF VEGETATIVE MULCHING AND .28 ACRES OF SUBGRADE BEING PRIMED IN THE PERMANENT PAVING AREAS.

ENVIRONMENTAL MITIGATION NOTE

SWALLOW NOTE:

CLIFF SWALLOWS AND BARN SWALLOWS ARE SMALL COLONIAL NESTING BIRDS PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE SPECIES COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE SWALLOWS RUNS FROM APRIL 1 TO AUGUST 31. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. SWALLOW USE OF BRIDGE NBI NO. 04212 WAS NOT OBSERVED DURING THE INITIAL SURVEYS CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN 2012. SWALLOWS MAY OCCUPY THE BRIDGE IN THE FUTURE NESTING SEASONS. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD POSE DISRUPTION TO ANY NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM ANY NESTING BIRDS, THE BRIDGE MAY BE NETTED PRIOR TO APRIL 1 OR THE WORK DELAYED UNTIL THE NESTING SEASON IS COMPLETE. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

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

T8N R19W:

SECTION 14: SW 1/4 SW 1/4 SW 1/4

NOTIFICATION OF WORK:

THE CONTRACTOR IS REQUIRED TO GIVE THE FARMRAIL CORPORATION AT LEAST 10 WORKING DAYS ADVANCE NOTICE, IN WRITING, BEFORE ANY WORK IS STARTED ON THE SITE. TO AVOID HAZARDS, THE FARMRAIL CORPORATION MAY HAVE A REPRESENTATIVE PRESENT, IF DEEMED NECESSARY, FOR THE PURPOSE OF INSPECTION AND THE ISSUANCE OF ANY APPROPRIATE INSTRUCTIONS FOR RAILROAD OPERATIONS DURING THE CONSTRUCTION OF A ROADWAY BRIDGE PARALLEL TO THE RAILROAD IN WASHITA COUNTY AS IT RELATES TO THE FARMRAIL CORPORATION'S PROPERTY.

THE CONTRACTOR SHALL NOTIFY:

KELLY RIPPE TOE  
ROADWAY SUPT. & SAFETY OFFICER  
FARMRAIL CORPORATION  
P.O. BOX 1750  
CLINTON, OKLAHOMA 73601  
PHONE: 580-323-1234

FLAGGING AND INSURANCE:

FLAGGING AND INSURANCE SHALL BE PROVIDED AS SPECIFIED IN SECTION 107 OF THE STANDARD SPECIFICATIONS AND IN THE SPECIAL PROVISIONS FOR RAILROAD FLAGGING (SEE PROPOSAL FOR SPECIAL PROVISIONS). FARMRAIL CORPORATION, AT THEIR DISCRETION, SHALL PROVIDE FLAGGING FOR THE RAILROAD DURING CONSTRUCTION OPERATIONS.

THE CONTRACTOR IS REQUIRED TO REIMBURSE FARMRAIL CORPORATION FOR FLAGGING SERVICES PROVIDED.

THE CONTRACTOR SHALL ALSO FURNISH SATISFACTORY EVIDENCE TO THE STATE OF OKLAHOMA THAT THEY HAVE PROVIDED INSURANCE OF THE KINDS AND AMOUNTS AS SPECIFIED IN THE SPECIAL PROVISIONS FOR RAILROAD INSURANCE.

PRE-WORK MEETING:

PRIOR TO WORKING ON THE FARMRAIL CORPORATION'S RIGHT-OF-WAY OR IN THE VICINITY OF THEIR TRACKS, YOU MUST CONTACT THE LOCAL ROADMASTER FOR THE FARMRAIL CORPORATION TO COORDINATE YOUR WORK. IT IS VITAL THAT YOU HAVE CONTACT WITH THE FARMRAIL CORPORATION'S ROADMASTER PRIOR TO GETTING ON THE RAILROAD'S PROPERTY.

COORDINATION WITH RAILROAD:

THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER WHICH WILL NOT DELAY OR INTERFERE WITH TRAIN OPERATIONS. CONSTRUCTION ACTIVITY WITHIN 25 (TWENTY-FIVE) FEET OF ACTIVE TRACKS WILL REQUIRE A FLAGMAN TO BE PROVIDED BY THE FARMRAIL CORPORATION AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE FARMRAIL CORPORATION ROADMASTER, A MINIMUM OF 30 (THIRTY) CALENDAR DAYS IN ADVANCE OF WHEN FLAGGING IS REQUIRED.

SPECIAL PERMISSION MUST BE OBTAINED FROM THE FARMRAIL CORPORATION BEFORE MOVING ANY EQUIPMENT OR OTHER OBJECT WHICH COULD MAKE THE TRACK IMPASSABLE IF IT FELL WITHIN THE AREA SHOWN ON THE CONSTRUCTION CLEARANCE DIAGRAM.

RAILROAD FLAGGERS, PROTECTIVE SERVICES, AND PROTECTIVE DEVICES WILL BE REQUIRED, BUT NOT LIMITED TO, EVENTS WHEN:

- THE CONTRACTOR WORK ACTIVITIES ARE WITHIN 25 (TWENTY-FIVE) FEET OF THE TRACK, MEASURED FROM THE TRACK CENTERLINE.
- ACTIVITIES ARE OVER OR UNDER THE TRACK.
- CRANES OR SIMILAR EQUIPMENT WILL NOT BE POSITIONED WHERE THEY COULD FOUL THE TRACK IF THEY TIPPED OVER OR EXPERIENCED SOME OTHER CATASTROPHIC EVENT.
- IN THE OPINION OF THE FARMRAIL CORPORATION REPRESENTATIVE:
  - IT IS NECESSARY TO SAFEGUARD THE FARMRAIL CORPORATION PROPERTY, EMPLOYEES, TRAINS, ENGINES, AND FACILITIES.
  - WHEN ANY EXCAVATION IS PERFORMED BELOW THE BOTTOM OF THE ELEVATIONS AND TRACK OR OTHER FARMRAIL CORPORATION FACILITIES MAY BE SUBJECT TO MOVEMENT OR SETTLEMENT.
  - WHEN WORK IN ANY WAY INTERFERES WITH SAFE OPERATION OF TRAINS AND TIMETABLE SPEEDS.
  - WHEN ANY HAZARD IS PRESENTED TO RAILROAD TRACK, SIGNALS, COMMUNICATIONS, ELECTRICAL, OR OTHER FACILITIES EITHER DUE TO PERSON, MATERIAL, EQUIPMENT, OR BLASTING IN THE AREA.

EROSION CONTROL AND DRAINAGE:

THE CONTRACTOR WILL INSTALL, MAINTAIN, AND REMOVE ALL EROSION CONTROL MEASURES DEEMED NECESSARY WITHIN THE RAILROAD RIGHT OF WAY.

THE CONTRACTOR WILL MAINTAIN THE RAILROAD DRAINAGE AT ALL TIMES WHEN WORKING WITHIN THE RAILROAD RIGHT OF WAY.

RAIL TRAFFIC:

THE FARMRAIL CORPORATION HAS THREE (3) TRAINS WEEKLY AT 30 MPH. ON THE ALTUS SUBDIVISION. RAIL TRAFFIC IS FOR INFORMATION PURPOSES ONLY. ACTUAL RAIL TRAFFIC MAY VARY.

WASHITA COUNTY 28774(04) 100 ROADWAY				
SUMMARY OF PAY QUANTITIES - ROADWAY				
ITEM NUMBER	CODE NUMBER	DESCRIPTION	UNIT	QUANTITY
201(A)	0102	CLEARING AND GRUBBING	LSUM	1
202(A)	0183	UNCLASSIFIED EXCAVATION	(1) CY	140
202(D)	0184	UNCLASSIFIED BORROW	CY	3,830
205(A)	4229	TYPE A - SALVAGED TOPSOIL	(R-5)(R-7) LSUM	1
221(C)	2801	TEMPORARY SILT FENCE	LF	194
221(G)	0151	TEMPORARY FOCK FILTER DAM (TYPE 2)	CY	103
230(A)	2806	SOLID SLAB SODDING	(R-7)(R-8) SY	2,045
233(A)	2817	VEGETATIVE MULCHING	(4)(R-11) AC	1.04
241	2832	MOWING	(R-16) AC	2
310(B)	0149	SUBGRADE METHOD B	SY	1,500
407(B)	0250	TACK COAT	GAL	720
408	5774	PRIME COAT	(R-28) GAL	546
411(B)	5945	SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-32) TON	691
411(C)	5960	SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-32) TON	229
412	5267	COLD MILLING PAVEMENT	(3)(R-34) SY	701
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(1)(R-48)(R-49) LSUM	1
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	(1,2,3)(R-49)(R-50) SY	1,578
619(B)	4780	REMOVAL OF GUARDRAIL	(1)(R-49) LF	651
619(C)	0924	SAWING PAVEMENT	LF	360

WASHITA COUNTY 28774(04) 640 CONSTRUCTION				
SUMMARY OF PAY QUANTITIES - CONSTRUCTION				
ITEM NUMBER	CODE NUMBER	DESCRIPTION	UNIT	QUANTITY
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1

MANDATORY TIE

THE COST OF PAY ITEMS: MOBILIZATION AND CONSTRUCTION STAKING FOR JP 28774(04), WASHITA COUNTY, SHALL BE INCLUDED IN THE PRICE BID FOR MOBILIZATION AND CONSTRUCTION STAKING IN JP 28999(04) KIOWA COUNTY.

SUMMARY OF PAY QUANTITIES  
AND NOTES (ROADWAY)

RE: 1135-47E 1135-47EE Drawings of SUMMARY OF PAY QUANTITIES.bret.steward 4-05-16 12:02pm

WASHITA COUNTY

S.H.44

REVISIONS		
REV. NO.	DESCRIPTION	DATE

**GENERAL NOTES**

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

**PILE DRIVING -**  
 USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE AN AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SUBSECTION 514.03.A.(2) OF THE SPECIFICATIONS.

**PILE CAPACITY -**  
 THE REQUIRED PILE SIZE AND THE FACTORED PILE REACTION ARE SHOWN IN THE PLANS WITH THE FOUNDATION DATA. THE FOLLOWING FORMULA (GATES EQUATION) WILL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES:

AXIAL LOAD RESISTANCE =  $\Phi * [\text{SQRT}(E) * 0.875 * LG (10 * N) - 50]$  (TONS)  
 WHERE:  $\Phi$  = 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.  
 SQRT = SQUARE ROOT  
 LG = LOGARITHM TO THE BASE 10

THE ABOVE FORMULA IS ONLY APPLICABLE WHEN CERTAIN CONDITIONS APPLY: THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & SINGLE ACTING HAMMERS ONLY); THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED; THE PENETRATION IS QUICK AND UNIFORM; THERE IS NO APPRECIABLE REBOUND OF THE HAMMER; AND A FOLLOWER IS NOT USED.

THE NUMBER OF BLOWS PER INCH OF PILE PENETRATION MAY BE MEASURED EITHER DURING INITIAL DRIVING OR BY RE-DRIVING WITH A WARM HAMMER OPERATED AT FULL ENERGY AFTER A PILE SET PERIOD, AS DETERMINED BY THE ENGINEER.

IF WATER JETS ARE USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

**CONCRETE -**  
 PROVIDE ALL EXPOSED CONCRETE EDGES WITH A 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. USE SIZED LUMBER FOR ALL CHAMFER STRIPS.

**STAY-IN-PLACE DECK FORMS -**  
 STAY-IN-PLACE STEEL DECK FORMS OR ANY OTHER TYPE OF STAY-IN-PLACE FORMS WILL NOT BE ALLOWED.

**RETAINING WALLS -**  
 SUBSTITUTION OF MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS FOR CAST-IN-PLACE (CIP) RETAINING WALLS WILL NOT BE ALLOWED.

**CUSTOM END SECTION -**  
 DETAILS SHOWN ON STANDARD END SECTION AND CURTAIN WALL SHEETS APPLY TO EAST END SECTION. STD. RCB-E2-H9-30-2-01E APPLIES TO WEST END SECTION. DO NOT INSTALL AL1 AND WD1 BARS SHOWN ON THE AFOREMENTIONED STANDARD AT THE WEST END SECTION. USE CUSTOM CL3 AND CL4 BARS IN LIEU OF CL1 AND CL2 BARS IN HEADWALL.

J.P. NO. 28774(04) 0200 BRIDGE			
PAY QUANTITIES			
S.H. 44 OVER DRY ELK CREEK 2 - 14' x 9' x 99' R.C.B. @ STA. 601+50.00, 30° SKEW RT. FWD.			
ITEM NO.	ITEM	UNIT	TOTAL
202(A) 1301	UNCLASSIFIED EXCAVATION (BR-1)	C.Y.	1,810
501(A) 1306	STRUCTURAL EXCAVATION UNCLASSIFIED (BR-1, 2)	C.Y.	230
504(F) 6006	HANDRAILING (BR-1)	L.F.	185.5
509(A) 1326	CLASS AA CONCRETE (BR-1, 3)	C.Y.	518.1
510(A) 6334	RETAINING WALL (BR-1, 6)	S.Y.	207.0
511(A) 1332	REINFORCING STEEL (BR-1, 3)	LB.	87,870
514(A) 6010	PILES, FURNISHED (HP 10x42) (BR-4)	L.F.	1,650
514(B) 6292	PILES, DRIVEN (HP 10x42)	L.F.	1,650
514(L) 6220	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1
619(D) 1397	REMOVAL OF EXISTING BRIDGE STRUCTURE (BR-5)	L.SUM	1

**PAY ITEM NOTES**

- (BR-1) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.
- (BR-2) SEE STD. SBI-4 FOR EXCAVATION DETAILS.
- (BR-3) QUANTITIES SHOWN ON STANDARD END SECTION DETAILS DO NOT APPLY ON WEST END.
- (BR-4) 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.
- (BR-5) ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVING AND DISPOSING OF THE SUPERSTRUCTURE AND SUBSTRUCTURE OF THE EXISTING BRIDGE IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. EXISTING STEEL I-BEAMS SHALL BECOME PROPERTY OF WASHITA COUNTY. ALL OTHER REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. STOCKPILE EXISTING STEEL I-BEAMS WITHIN RIGHT-OF-WAY TO BE PICKED UP BY WASHITA COUNTY. THE EXISTING BRIDGE IS DESCRIBED AS 3 - 30' I BEAM SPANS WITH 28' CLEAR ROADWAY.
- (BR-6) THE RETAINING WALLS CONTAIN AN ESTIMATED TOTAL OF 283.4 C.Y. OF CLASS A CONCRETE AND 23,290 LB. OF REINFORCING STEEL. INCLUDE THE COST OF CLASS A CONCRETE, REINFORCING STEEL, SUBSTRUCTURE EXCAVATION COMMON, 6" PERFORATED PIPE UNDERDRAIN AND 6" NON-PERFORATED PIPE UNDERDRAIN IN THE CONTRACT UNIT PRICE OF "RETAINING WALL."



S.H. 44 OVER DRY ELK CREEK		WASHITA COUNTY	
Design	AFW	Detail	DRB
Check	AFW	WHITE ENGINEERING ASSOCIATES	
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 28774(04)		SHEET NO. 4	



REV. NO.	DESCRIPTION	REVISIONS	DATE

### TRAFFIC CONTROL PAY QUANTITIES NOTES

- (TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.
- (TC-23) QUANTITY SHOWN FOR THIS ITEM INCLUDES THOSE SIGNS WHICH COMPRISE THE ROUTE MARKER ASSEMBLIES USED TO INDICATE THE DETOUR ROUTE.
- (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.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS AND CHANNELIZING DEVICES SHALL HAVE FLOURESCENT SHEETING. THE FLOURESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION)
- THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERITFICATION 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 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-84) 60 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. 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>

### SIGNING PAY QUANTITIES NOTES

- (TS-19) QUANTITY SHOWN INCLUDES 1,000 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND 1,000 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

### SPECIAL PAY QUANTITIES NOTES

- (SP-1) CHANGEABLE MESSAGE SIGNS SHALL BE PLACED ON THE PROJECT 14 DAYS IN ADVANCE OF THE START DATE.
- (SP-2) 74 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY FOR THIS ITEM.

### GENERAL CONSTRUCTION NOTES

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

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES."

"THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AS DETERMINED BY THE ENGINEER. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR."

### SUMMARY OF PAY QUANTITIES - TRAFFIC CONTROL

WASHITA COUNTY  
 JP NO. 28774(04)  
 0300 TRAFFIC CONTROL

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF ( TC -23, 26, 33, 84)	SD	9,240.00
880(B)	8821	CONSTRUCTION SIGNS 6.26 TO 15.99 SF ( TC -26, 33, 84)	SD	1,860.00
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 S.F. ( TC -26, 33, 84)	SD	960.00
880(C)	8842	CONSTRUCTION BARRICADES (TYPE III) ( TC -26, 84)	SD	1,800.00
880(C)	8848	WING BARRICADES ( TC -26, 84)	SD	240.00
880(E)	8860	WARNING LIGHTS (TYPE A) ( TC -26, 84)	SD	4,560.00
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN ( TC -26, 52, 70, 85) ( SP-1, 2)	SD	148.00

### SUMMARY OF PAY QUANTITIES - STRIPING

WASHITA COUNTY  
 JP NO. 28774(04)  
 0301 SIGNING & STRIPING

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY
855(A)	8812	TRAFFIC STRIPE (PLASTIC)(4" WIDE) (TC-14)(TS-19)	LF	2,000.00

### SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC)

SUMMARY OF SURFACING QUANTITIES						
SHEET NO.	STATION EXTENTS	SUBGRADE METHOD B 310(B)	TACK COAT 407(B)	PRIME COAT 408	SUPERPAVE TYPE S3 (PG 64-22 OK) 411(B)	SUPERPAVE TYPE S4 (PG 64-22 OK) 411(C)
		SY	GAL	GAL	TON	TON
11	STA. 599+00.00 TO STA. 603+75.00	1,500.00	719.72	545.42	690.20	228.72
	TOTALS	1,500.00	719.72	545.42	690.20	228.72

SUMMARY OF EARTHWORK QUANTITIES				
DESCRIPTION	UNCLASSIFIED EXCAVATION 202(A)	EMBANKMENTS 15% COMP. 202(F)	EXCESS EXCAVATION	UNCLASSIFIED BORROW 202(D)
	CY	CY	CY	CY
MAINLINE	139.31	3968.78		3829.47
TOTALS	139.31	3968.78		3829.47

SUMMARY OF REMOVAL QUANTITIES					
SHEET NO.	STATION EXTENTS	COLD MILLING PAVEMENT 412	REMOVAL OF ASPHALT 619(B)	REMOVAL OF GUARD RAIL 619(B)	SAWING PAVEMENT 619(C)
		SY	SY	LF	LF
8	STA. 599+00.00 TO STA. 603+75.00	700.79	1,577.71	650.32	360.00
	TOTALS	700.79	1,577.71	650.32	360.00

SUMMARY OF PERMANENT EROSION CONTROL				
SHEET NO.	STATION EXTENTS	LOCATION AND DESCRIPTION	SOLID SLAB SODDING 230(A)	MOWING 241
			SY	AC
8	STA. 599+00.00 TO STA. 603+75.00	LEFT AND RIGHT	2,044.60	0.72
	TOTALS		2,044.60	0.72

SUMMARY OF TEMPORARY SEDIMENT CONTROLS				
SHEET NO.	STATION EXTENTS	LOCATION AND DESCRIPTION	TEMPORARY SILT FENCE 221(C)	TEMPORARY FOCK FILTER DAM (TYPE 2) 221(G)
			LF	CY
8	STA. 599+00.00 TO STA. 603+75.00	LEFT AND RIGHT	194	102.4
	TOTALS		194	102.4

SUMMARIES  
(ROADWAY)

# STORM WATER MANAGEMENT PLAN

REVISIONS
DESCRIPTION
DATE

## SITE DESCRIPTION

## EROSION AND SEDIMENT CONTROLS

**PROJECT LIMITS:** BRIDGE AND APPROACHES OVER DRY ELK CREEK, 0.3 MILE NORTH OF THE SH-55 EAST JUNCTION, BEGIN APPROXIMATELY 200' SOUTH OF THE SOUTH ABUTMENT, AND END APPROXIMATELY 200' NORTH OF THE NORTH ABUTMENT.

**PROJECT DESCRIPTION:** REPLACE EXISTING SPAN BRIDGE ON EXISTING ALIGNMENT WITH A SKEWED RCB BRIDGE AND CONSTRUCT TWO (2) TWELVE (12) FOOT LANES WITH EIGHT (8) FOOT SHOULDERS.

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

SOIL TYPE: CLAIREMONT SILT LOAM

AREA TO BE DISTURBED: 1.32 ACRES

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: 35°09'59.62" N 99°10'27.95" W

NAME OF RECEIVING WATERS: Unnamed Tributary of Elk Creek

SENSITIVE WATERS OR WATERSHEDS: YES  NO

303(D) IMPAIRED WATERS: YES  NO

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

### 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:

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### 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

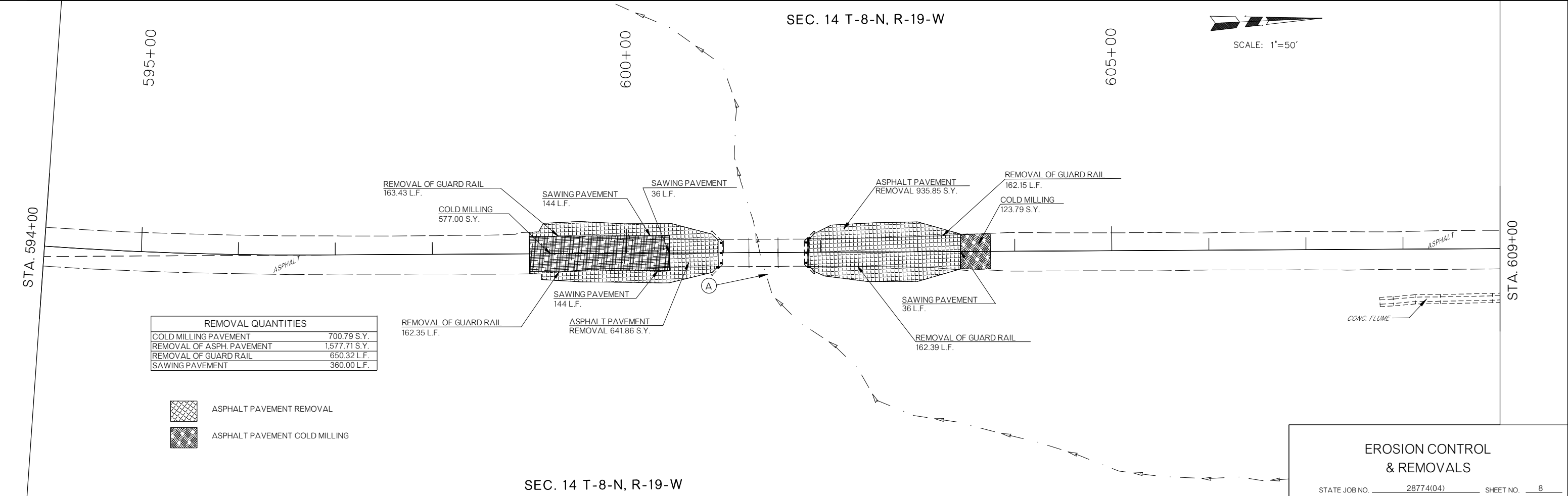
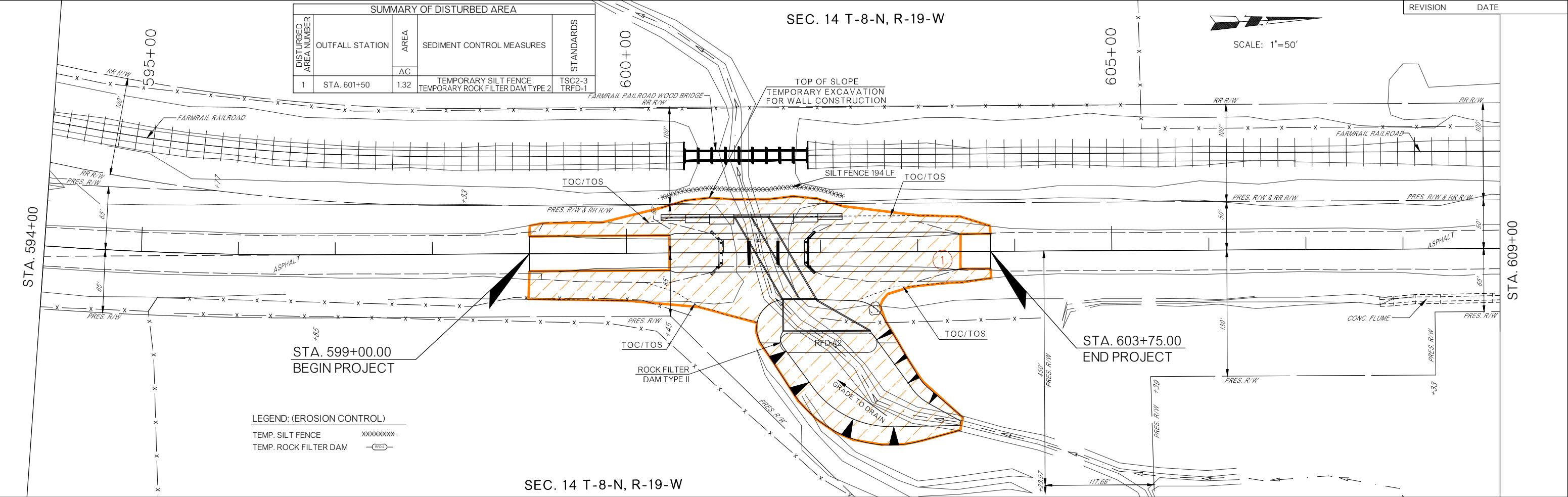
#### IN ADDITION:

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

STORMWATER  
MANAGEMENT PLAN

R: 113547 | 113547E | Drawings | EROSION CONTROL SHEETS | daryl.eason 3-08-16 11:50am

SUMMARY OF DISTURBED AREA			
DISTURBED AREA NUMBER	OUTFALL STATION	AREA	SEDIMENT CONTROL MEASURES
1	STA. 601+50	1.32	TEMPORARY SILT FENCE TEMPORARY ROCK FILTER DAM TYPE 2
			TSC2-3 TRFD-1



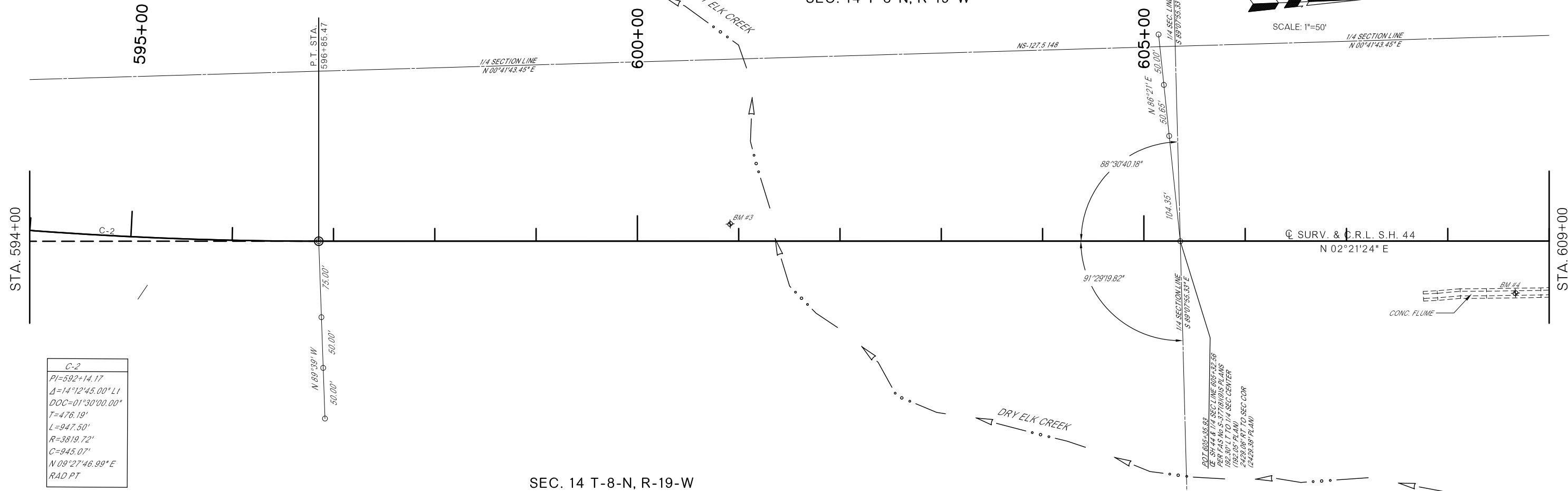
WASHITA COUNTY



SEC. 14 T-8-N, R-19-W



SCALE: 1"=50'



C-2
PI=592+14.17
Δ=14°12'45.00" LI
DOC=01°30'00.00"
T=476.19'
L=947.50'
R=3819.72'
C=945.07'
N 09°27'46.99" E
RAD.PT

SEC. 14 T-8-N, R-19-W

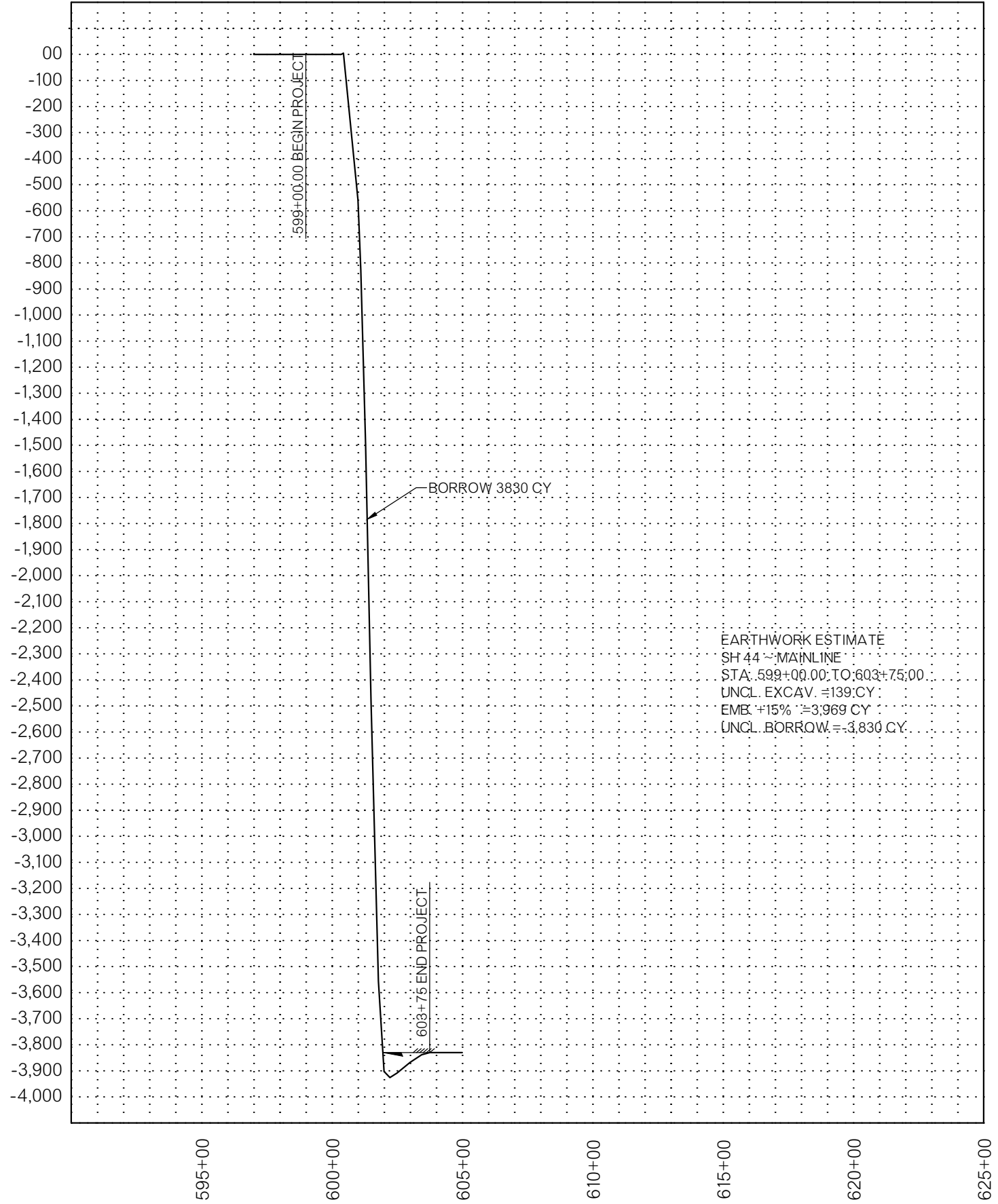
P.O.T. 605+35.63  
 C.E. 594+44 N 1/4 SEC. LINE 605+32.56  
 P.O.C. 594+45 W 5/7716095 PLANS  
 182.80' TO 1/4 SEC CENTER  
 (182.05' PLAN)  
 2429.06' RT TO SEC COR  
 (2429.38' PLAN)

GEOMETRICS

R/E 113547E 113547E Drawings GEOMETRIC PLAN DUSIM Hedrich 3-10-16 04:16pm

WASHITA COUNTY

SH.44



EARTHWORK ESTIMATE  
 SH 44 ~ MAINLINE  
 STA. 599+00.00 TO 603+75.00  
 UNCL. EXCAV. = 139 CY  
 EMB. +15% = 3,969 CY  
 UNCL. BORROW = 3,830 CY

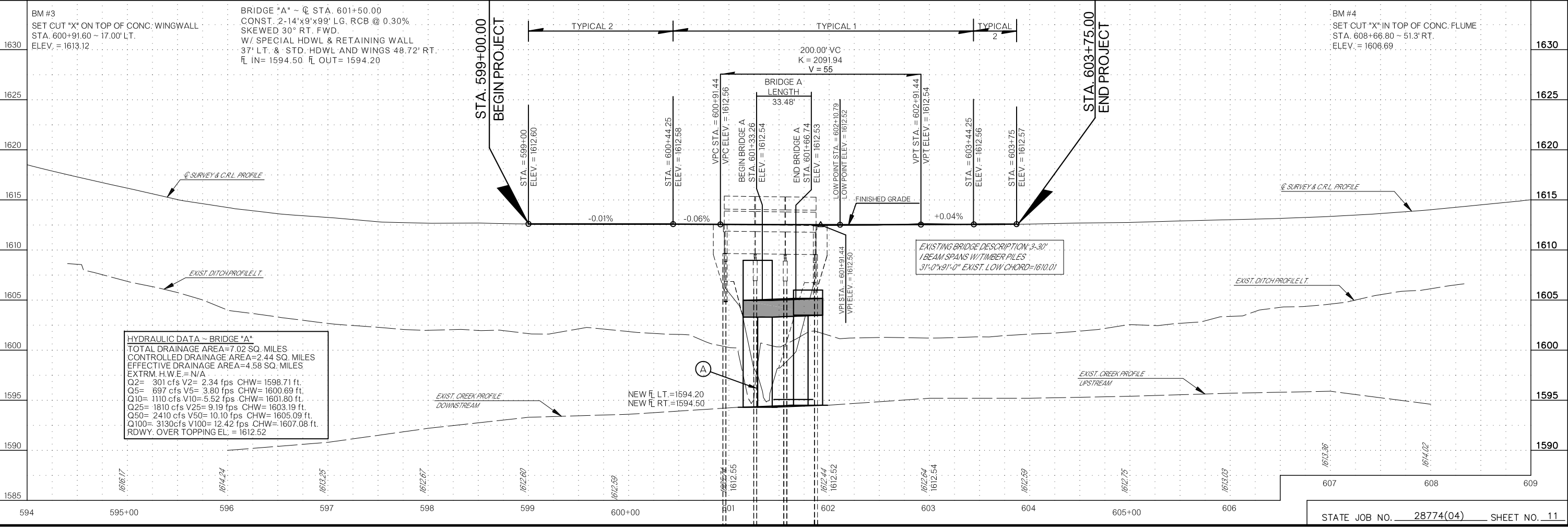
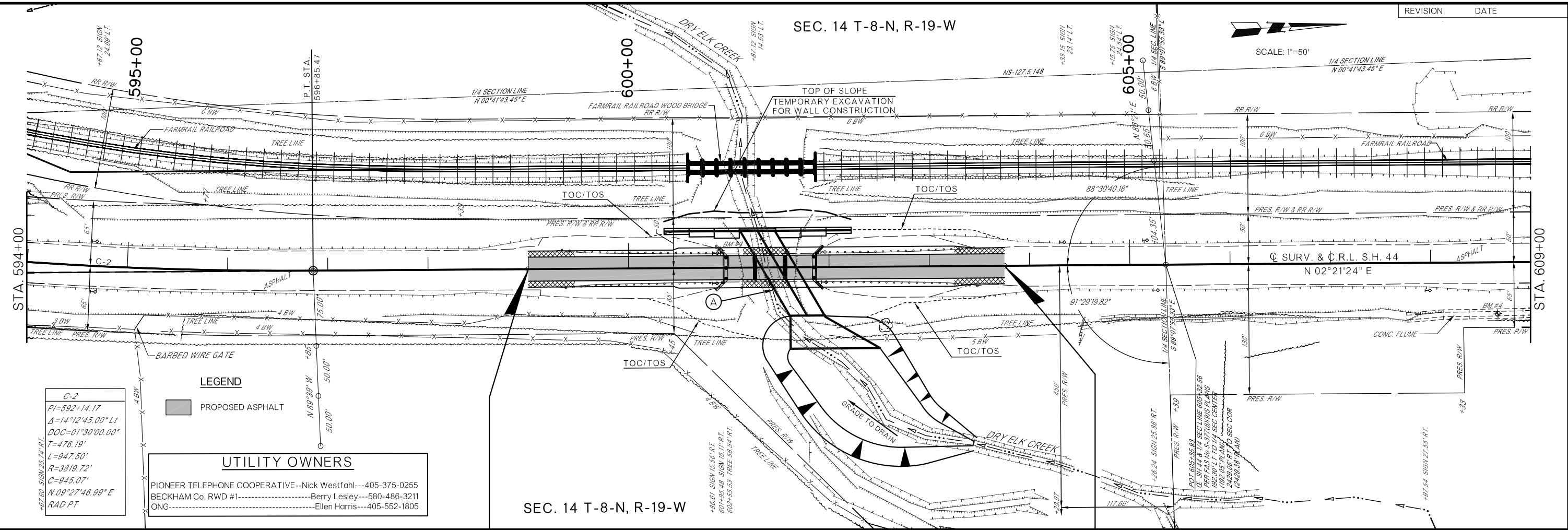
HORIZONTAL SCALE: 1"=250 FT  
 VERTICAL SCALE: 1"= 250 CY

MASS DIAGRAM

R: |113547|113547E|Drawings\MASS DIAGRAM daryl.eason 2-29-16 04:01pm

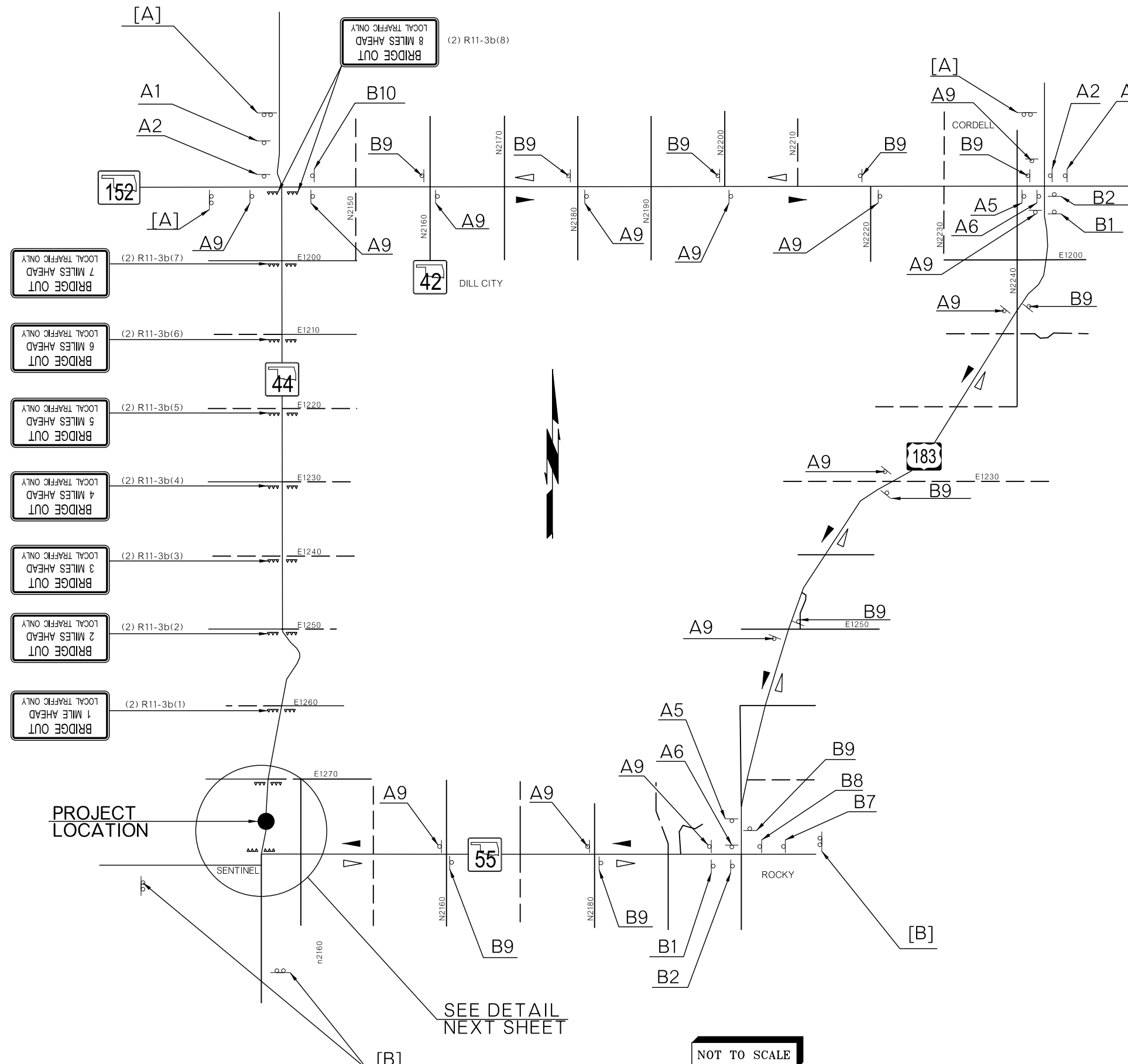
WASHINGTON COUNTY STATE HWY 44

SEC. 14 T-8-N, R-19-W



R: 113547\113547E\Drawings\PP01 Dustin.Heidrich 3-08-16 11:52am

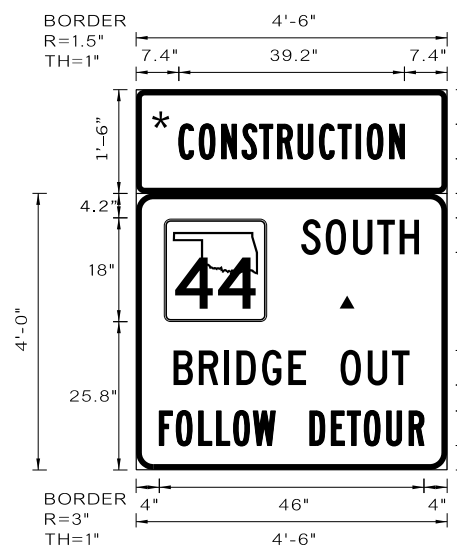
WASHITA COUNTY  
S.H. 44



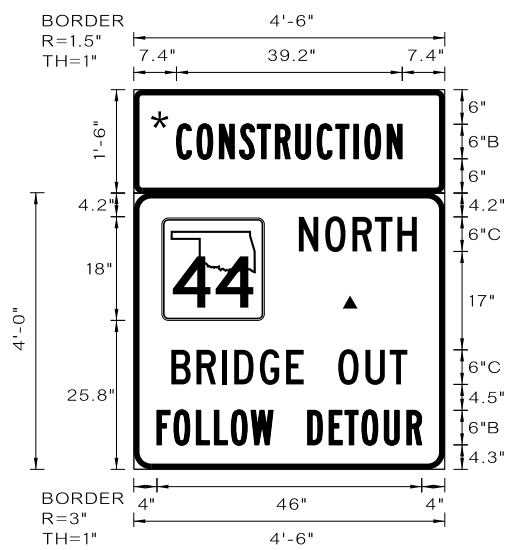
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(8) 8 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(7) 7 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(6) 6 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(5) 5 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(4) 4 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(3) 3 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(2) 2 MILES AHEAD
- BRIDGE OUT LOCAL TRAFFIC ONLY (2) R11-3b(1) 1 MILE AHEAD

- KEY:
- SIGN
  - WORK AREA
  - TYPE III BARRICADES
  - NORTHBOUND TRAFFIC
  - SOUTHBOUND TRAFFIC

	A	B
	M4-8 M3-3 M1-6(2)	M4-8 M3-1 M1-6(2)
1	M5-1(L)	M5-1(L)
2	M6-1(L)	M6-1(L)
3	M5-2(L)	M5-2(L)
4	M6-2(L)	M6-2(L)
5	M5-1(R)	M5-1(R)
6	M6-1(R)	M6-1(R)
7	M5-2(R)	M5-2(R)
8	M6-2(R)	M6-2(R)
9	M6-3	M6-3
10	M4-8a	M4-8a



[A]



[B]

- COLOR:
- LEGEND AND BORDER: BLACK (NON-REFLECTORIZED)
  - BACKGROUND: FLUORESCENT ORANGE
  - \* FLUORESCENT ORANGE
  - ▲ WHITE (REFLECTORIZED)

CONSTRUCTION TRAFFIC CONTROL (DETOUR)

1/19/2016 R:\11354711\Drawings\TRAFFIC\28774 (04)\_12\_DETOUR.dgn

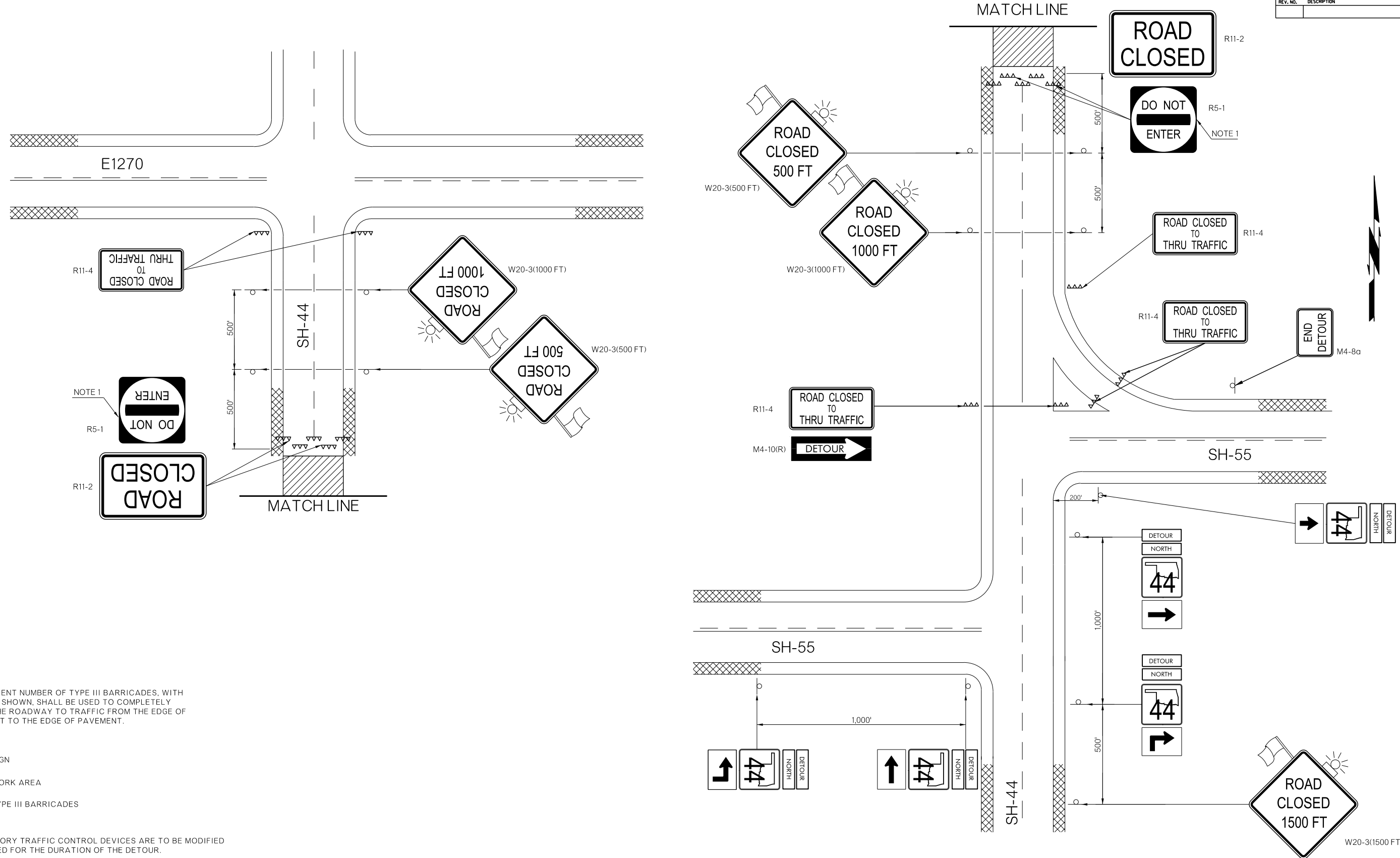
WASHITA COUNTY SH-44

NOT TO SCALE

SEE DETAIL NEXT SHEET



REV. NO.	DESCRIPTION	REVISIONS	DATE



NOTE 1  
 A SUFFICIENT NUMBER OF TYPE III BARRICADES, WITH SIGNS AS SHOWN, SHALL BE USED TO COMPLETELY CLOSE THE ROADWAY TO TRAFFIC FROM THE EDGE OF PAVEMENT TO THE EDGE OF PAVEMENT.

- KEY:
- SIGN
  - WORK AREA
  - TYPE III BARRICADES

NOTES  
 REGULATORY TRAFFIC CONTROL DEVICES ARE TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.

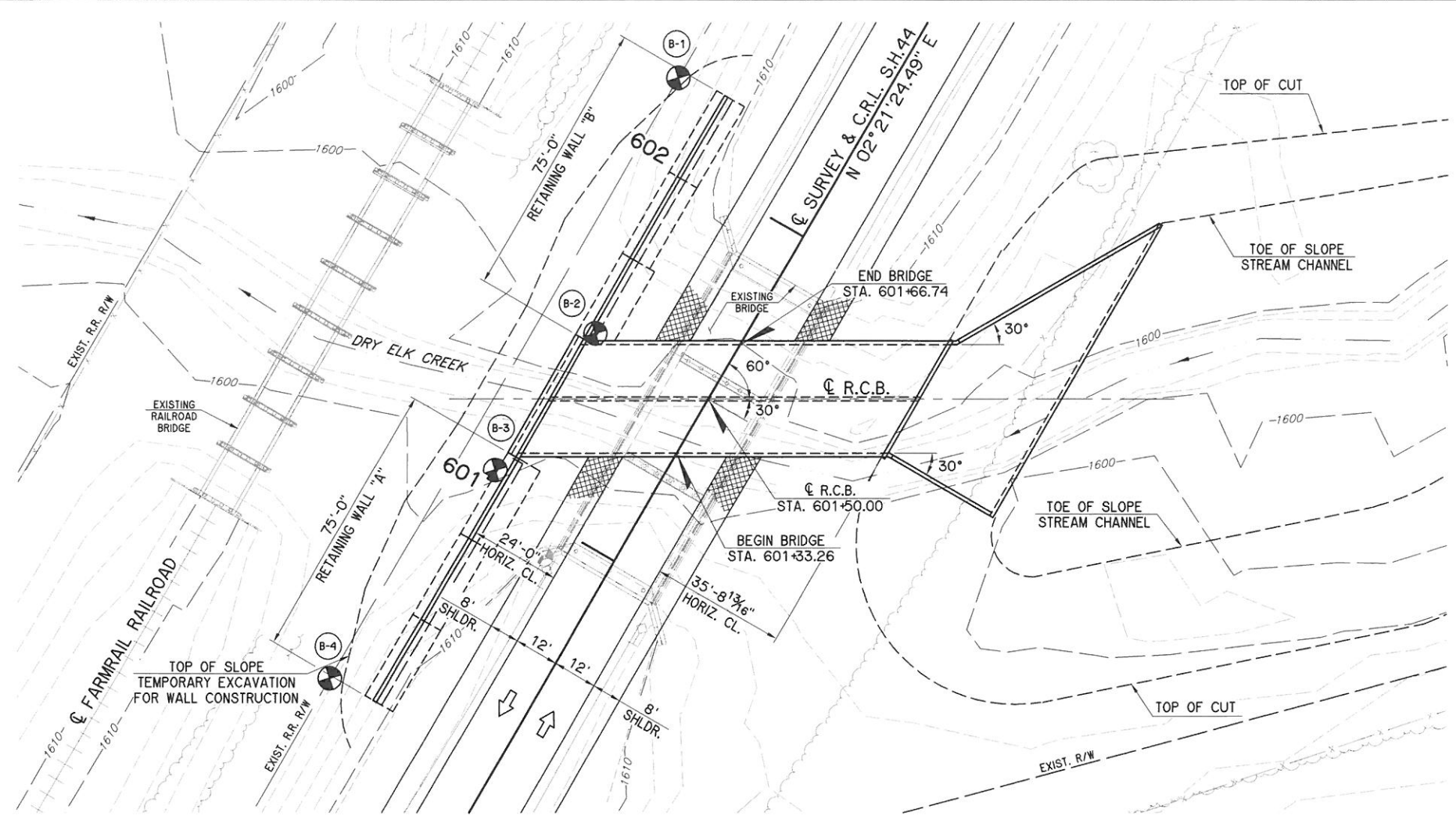
IF THE ROAD IS OPENED FOR SOME DISTANCE BEYOND THE INTERSECTION AND/OR THERE ARE SIGNIFICANT ORIGIN/DESTINATION POINTS BEYOND THE INTERSECTION, PLACE THE 'ROAD CLOSED' AND 'DETOUR' SIGN ON TYPE III BARRICADES LOCATED AT THE EDGE OF THE TRAVELED WAY.

IF THE ROAD IS CLOSED A SHORT DISTANCE BEYOND THE INTERSECTION AND THERE ARE FEW ORIGIN/DESTINATION POINTS BEYOND (E.G., A FEW RESIDENCES), THE 'ROAD CLOSED' AND 'DETOUR' SIGN MAY BE PLACED ON A TYPE III BARRICADE PLACED IN THE CENTER OF THE ROADWAY.

**CONSTRUCTION TRAFFIC CONTROL  
 (DETOUR DETAIL)**

R:\1135471\Drawings\TRAFFIC\28774 (04) 13\_DETOUR DETAIL.dgn 12/17/2015

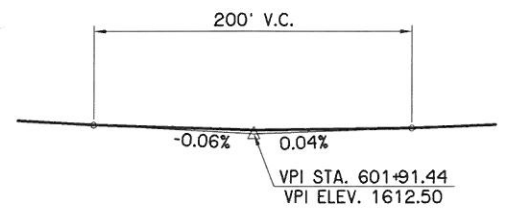
WASHITA COUNTY SH-44



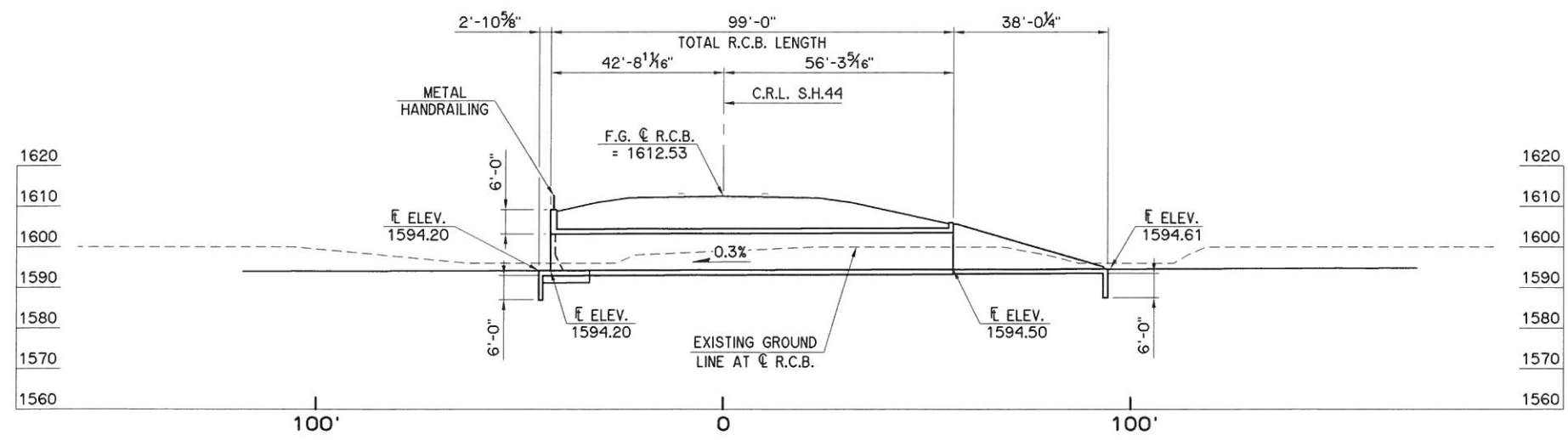
BM #3  
SET CUT "X" ON TOP OF CONC. WINGWALL  
STA. 600+91.60 17.00' LT. ELEV. = 1613.12

**PLAN**  
1"=20'

BM #4  
SET CUT "X" IN TOP OF CONC. FLUME  
STA. 608+66.80 51.3' RT. ELEV. = 1606.69



**VERTICAL CURVE DATA**



**ELEVATION**  
1"=20'

**DESIGN DATA**

CONCRETE CLASS AA  
REINFORCING STEEL (GRADE 60) f'c = 4 K.S.I.  
fy = 60 K.S.I.

LOADING:  
HL-93 OR OKLAHOMA OVERLOAD TRUCK

DESIGN:  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, WITH 2008 INTERIMS

LFD OPERATING RATING: HS 119.4

**INDEX OF SHEETS**

- 4 SUMMARY OF BRIDGE PAY QUANTITIES AND GENERAL NOTES
- 14 GENERAL PLAN AND ELEVATION
- 15 R.C.B. DETAILS
- 16 PLAN AND ELEVATION - RETAINING WALLS A & B
- 17 FOUNDATION REPORT
- 18-20 RETAINING WALL DETAILS

**STANDARDS**

- SBI-4-2
- RCB-C2-14(2-10)-01E
- RCB-E2-H9-30-1-01E
- RCB-E2-H9-30-2-01E
- RCB-E2-H9-30-3-01E
- RCB-CW2-D6-30-01E

**HYDRAULIC DATA**

- TOTAL DRAINAGE AREA = 7.02 SQ. MILES
- CONTROLLED DRAINAGE AREA = 2.44 SQ. MILES
- EFFECTIVE DRAINAGE AREA = 4.58 SQ. MILES
- Q2 = 301 C.F.S.
- V2 = 2.34 F.P.S.
- Q2 COMPUTED HIGHWATER ELEVATION = 1598.71 FT.
- Q5 = 697 C.F.S.
- V5 = 3.80 F.P.S.
- Q5 COMPUTED HIGHWATER ELEVATION = 1600.69 FT.
- Q10 = 1110 C.F.S.
- V10 = 5.52 F.P.S.
- Q10 COMPUTED HIGHWATER ELEVATION = 1601.80 FT.
- Q25 = 1810 C.F.S.
- V25 = 9.19 F.P.S.
- Q25 COMPUTED HIGHWATER ELEVATION = 1603.19 FT.
- Q50 = 2410 C.F.S.
- V50 = 10.10 F.P.S.
- Q50 COMPUTED HIGHWATER ELEVATION = 1605.09 FT.
- Q100 = 3130 C.F.S.
- V100 = 12.42 F.P.S.
- Q100 COMPUTED HIGHWATER ELEVATION = 1607.08 FT.
- Q0T = Q455 = 5025 C.F.S.
- V455 = 17.5 F.P.S.
- Q455 COMPUTED HIGHWATER ELEVATION = 1612.52 FT.

**SUMMARY OF QUANTITIES**

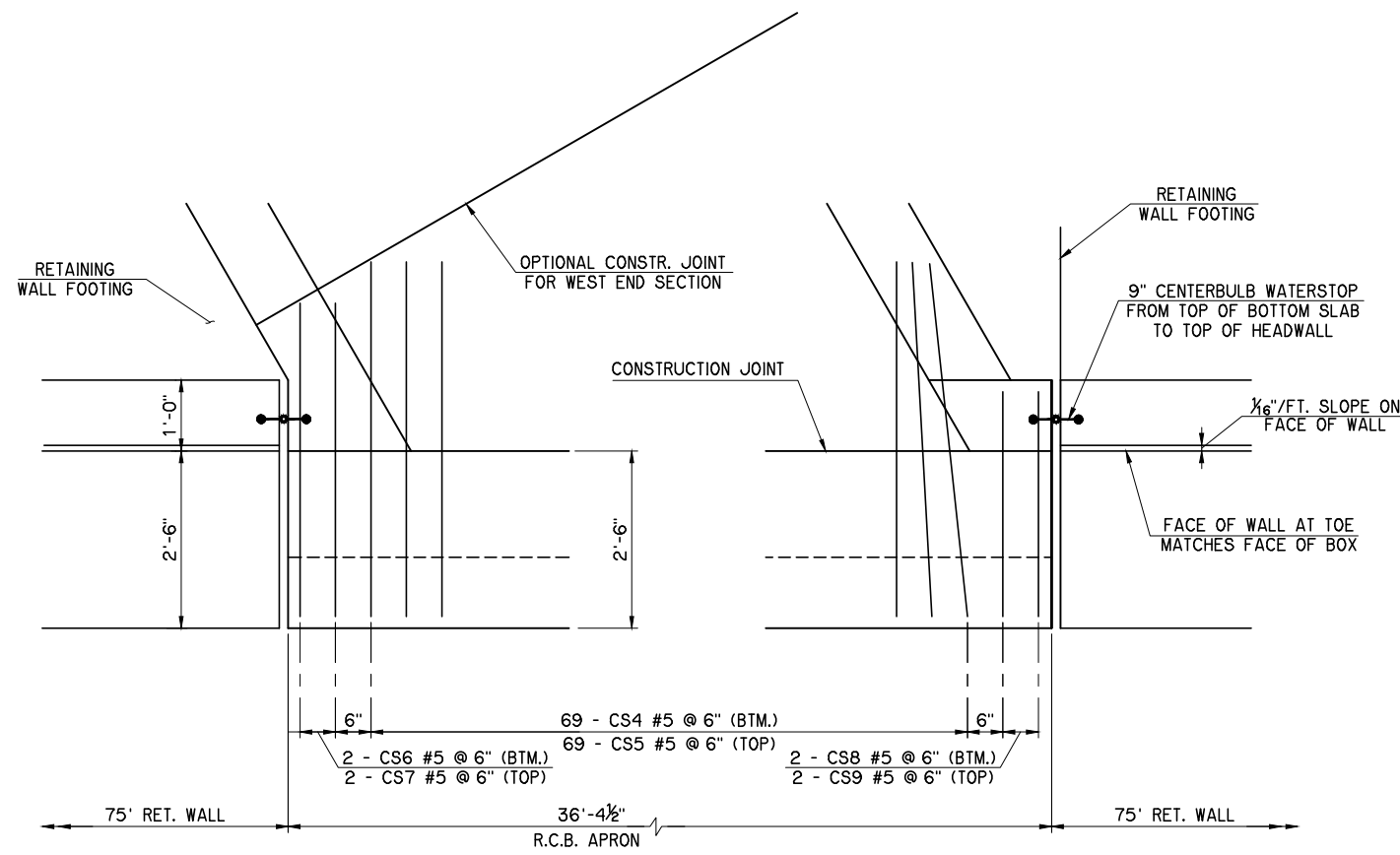
ITEM	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	C.Y.	1,810
STRUCTURAL EXCAVATION UNCLASSIFIED	C.Y.	230
HANDRAILING	L.F.	185.5
CLASS AA CONCRETE	C.Y.	518.1
RETAINING WALL	S.Y.	207.0
REINFORCING STEEL	LB.	87,870
PILES, FURNISHED (HP 10x42)	L.F.	1,650
PILES, DRIVEN (HP 10x42)	L.F.	1,650
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1
REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM	1

S.H. 44 OVER DRY ELK CREEK WASHITA COUNTY  
**GENERAL PLAN AND ELEVATION**  
 2 - 14' x 9' x 99' R.C.B.  
 @ STA. 601+50.00, 30° SKEW RT. FWD.



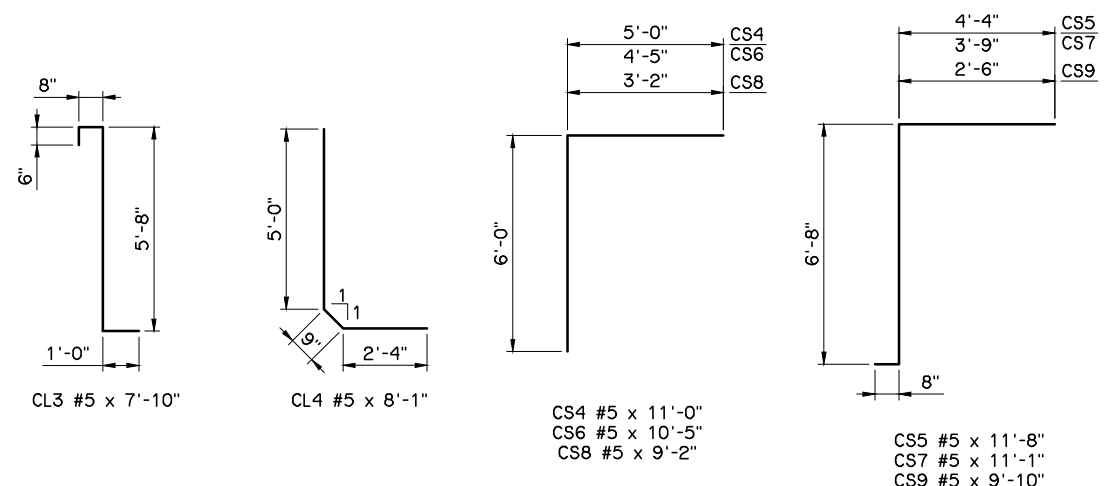
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REV. NO.	DESCRIPTION	DATE



**WEST R.C.B. APRON**

NOTE:  
SEE STD. RCB-E2-H9-30-2 FOR ADDITIONAL REINFORCING EXCEPT USE CL3 AND CL4 BARS IN LIEU OF CL1 AND CL2 BARS. OMIT WD1 AND AC1 BARS SHOWN FOR WING AND APRON.



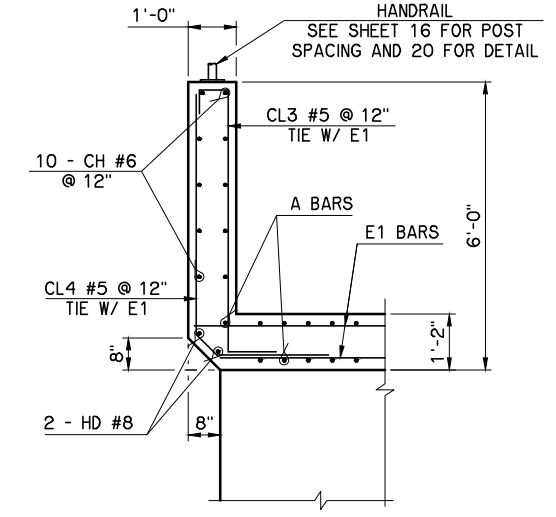
WEST END SECTION QUANTITIES		
ITEM	UNIT	TOTAL
CLASS A CONCRETE	C.Y.	18.8
REINFORCING STEEL	LB.	3,520

NOTE:  
QUANTITIES INCLUDE CUSTOM HEADWALL, APRON AND CURTAIN WALL

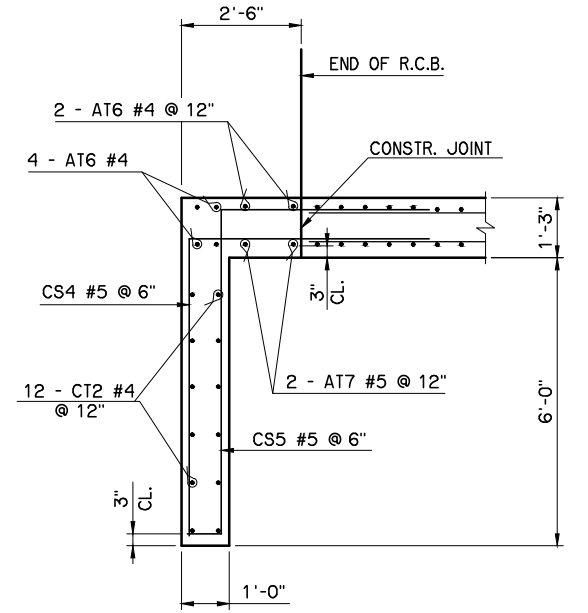
WEST HEADWALL BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING BARS				
CH	#6	10	STR.	36'-0"
CL3	#5	34	BNT.	7'-10"
CL4	#5	34	BNT.	8'-1"
HD	#8	2	STR.	36'-0"

WEST APRON & CURTAIN WALL BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
REINFORCING BARS				
AT6	#4	6	STR.	36'-0"
AT7	#5	2	STR.	36'-0"
CS4	#5	69	BNT.	11'-0"
CS5	#5	69	BNT.	11'-8"
CS6	#5	2	BNT.	10'-5"
CS7	#5	2	BNT.	11'-1"
CS8	#5	2	BNT.	9'-2"
CS9	#5	2	BNT.	9'-10"
CT2	#4	12	STR.	36'-0"

NOTE:  
FOR WEST END SECTION BAR LIST, SEE END CONNECTION BAR LIST ON STD. RCB-E2-H9-30-2



**HEADWALL DETAIL AT MIDSPAN**



**CURTAIN WALL DETAIL**

S.H. 44 OVER DRY ELK CREEK	WASHITA COUNTY	Design	AFW
<b>R.C.B. DETAILS</b>		Detail	DRB
		Check	AFW
STATE OF OKLAHOMA		WHITE ENGINEERING ASSOCIATES	
DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 28774(O4)	
		SHEET NO. 15	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

**DESIGN DATA**

CONCRETE CLASS A f'c = 3 K.S.I.  
 REINFORCING STEEL (GRADE 60) fy = 60 K.S.I.

LOADING:  
 HL-93 OR OKLAHOMA OVERLOAD TRUCK

DESIGN:  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION

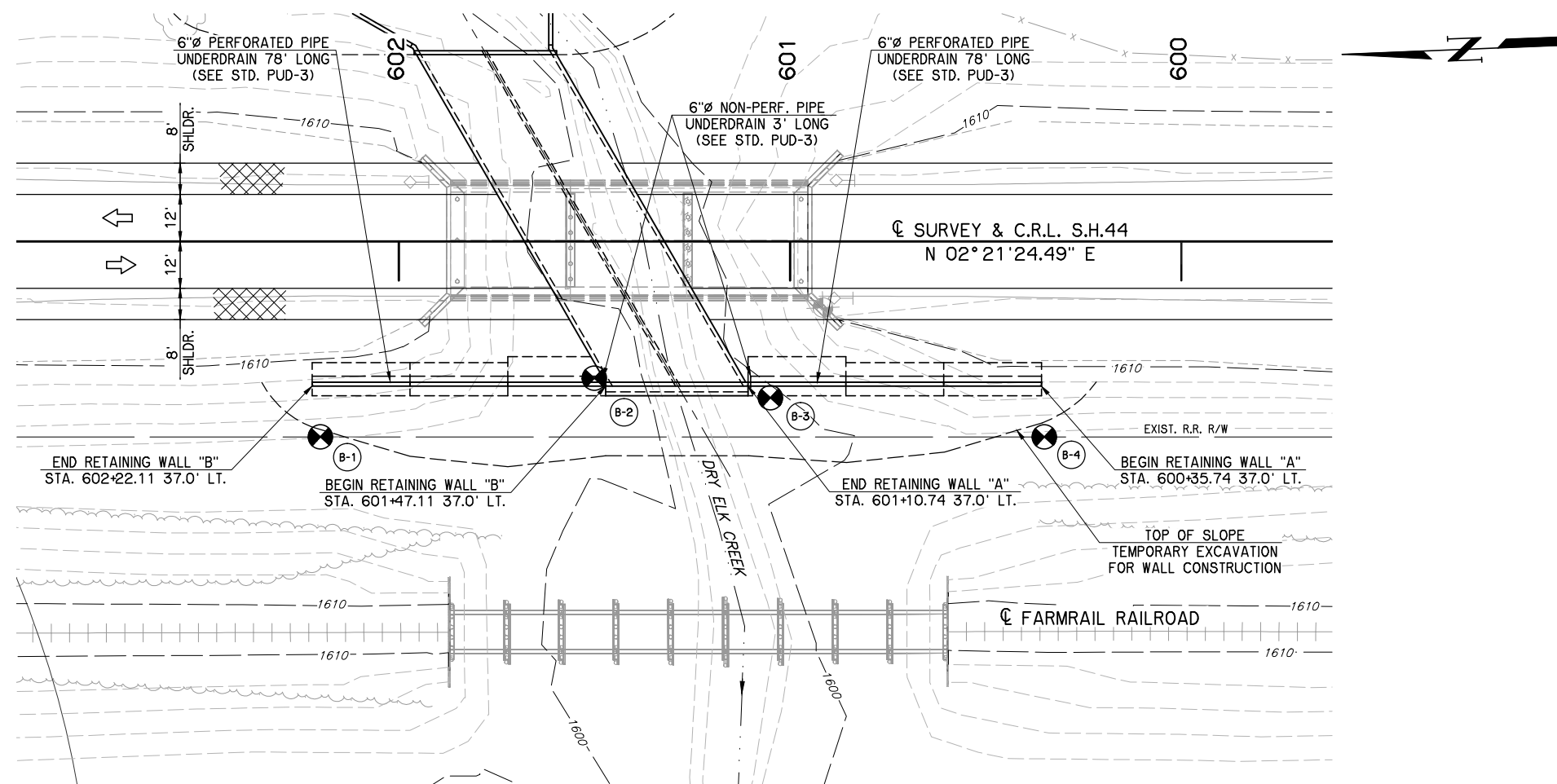
**FOUNDATION DATA**

HP10x42 PILING  
 FACTORED PILE REACTION (TYPE 1) = 86.3 TON / PILE  
 FACTORED PILE REACTION (TYPE 2) = 57.0 TON / PILE  
 FACTORED PILE REACTION (TYPE 3) = 47.2 TON / PILE

FACTORED PILE RESISTANCE:  
 DRIVE PILING THROUGH THE COMPACTED FILL AND TO A POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF A FACTORED AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION IS NOT OBTAINED AT THIS ELEVATION, CONTINUE DRIVING UNTIL SUCH IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

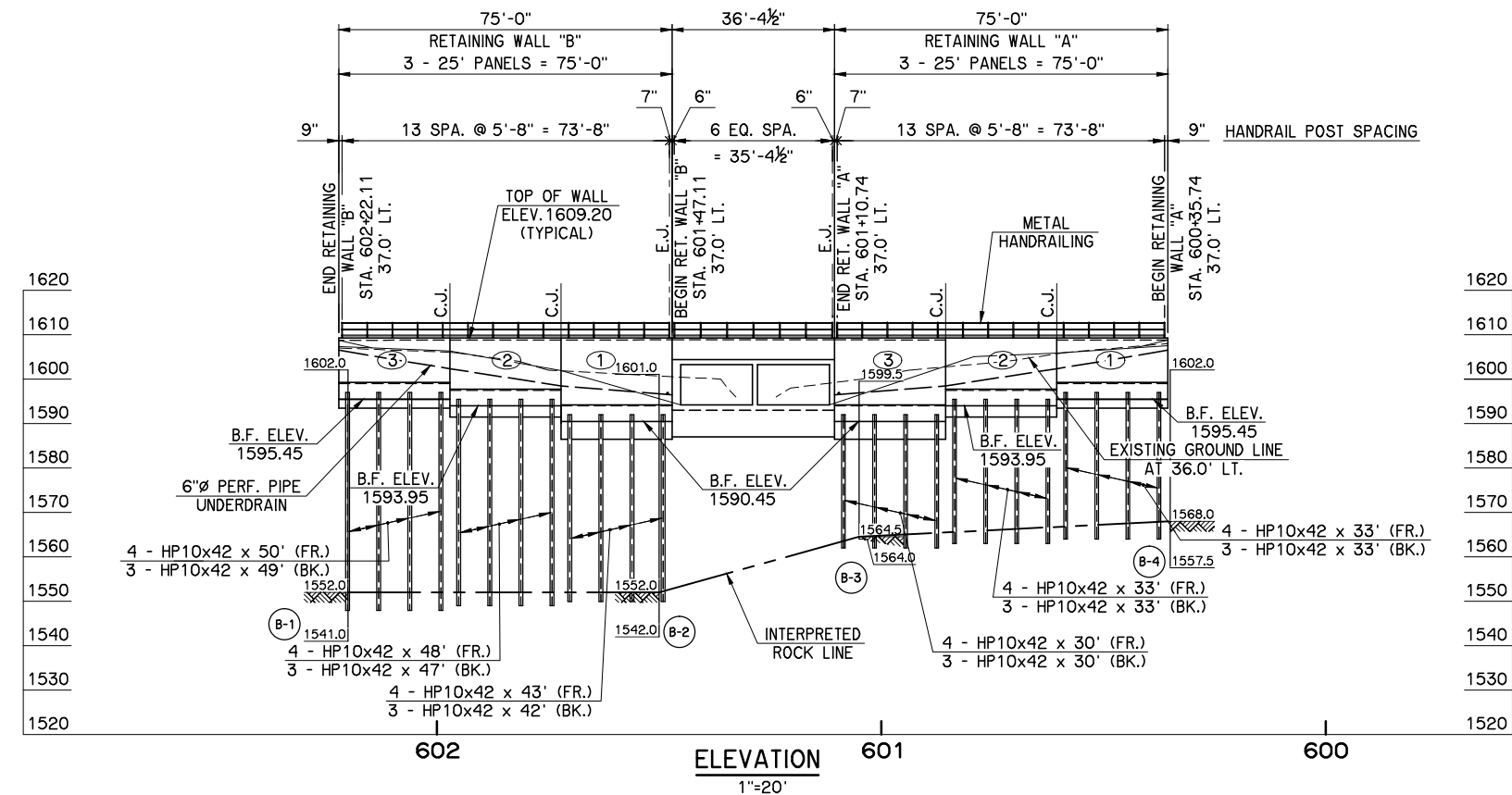
**STANDARDS**

PUD-3-2



BM #4  
 SET CUT "X" IN TOP OF CONC. FLUME  
 STA. 608+66.80 51.3' RT. ELEV. = 1606.69

BM #3  
 SET CUT "X" ON TOP OF CONC. WINGWALL  
 STA. 600+91.60 17.00' LT. ELEV. = 1613.12



NOTES:  
 B.F. DENOTES BOTTOM OF FOOTING.  
 C.J. DENOTES CONSTRUCTION JOINT.  
 E.J. DENOTES EXPANSION JOINT.  
 BACK PILES NOT SHOWN FOR CLARITY.

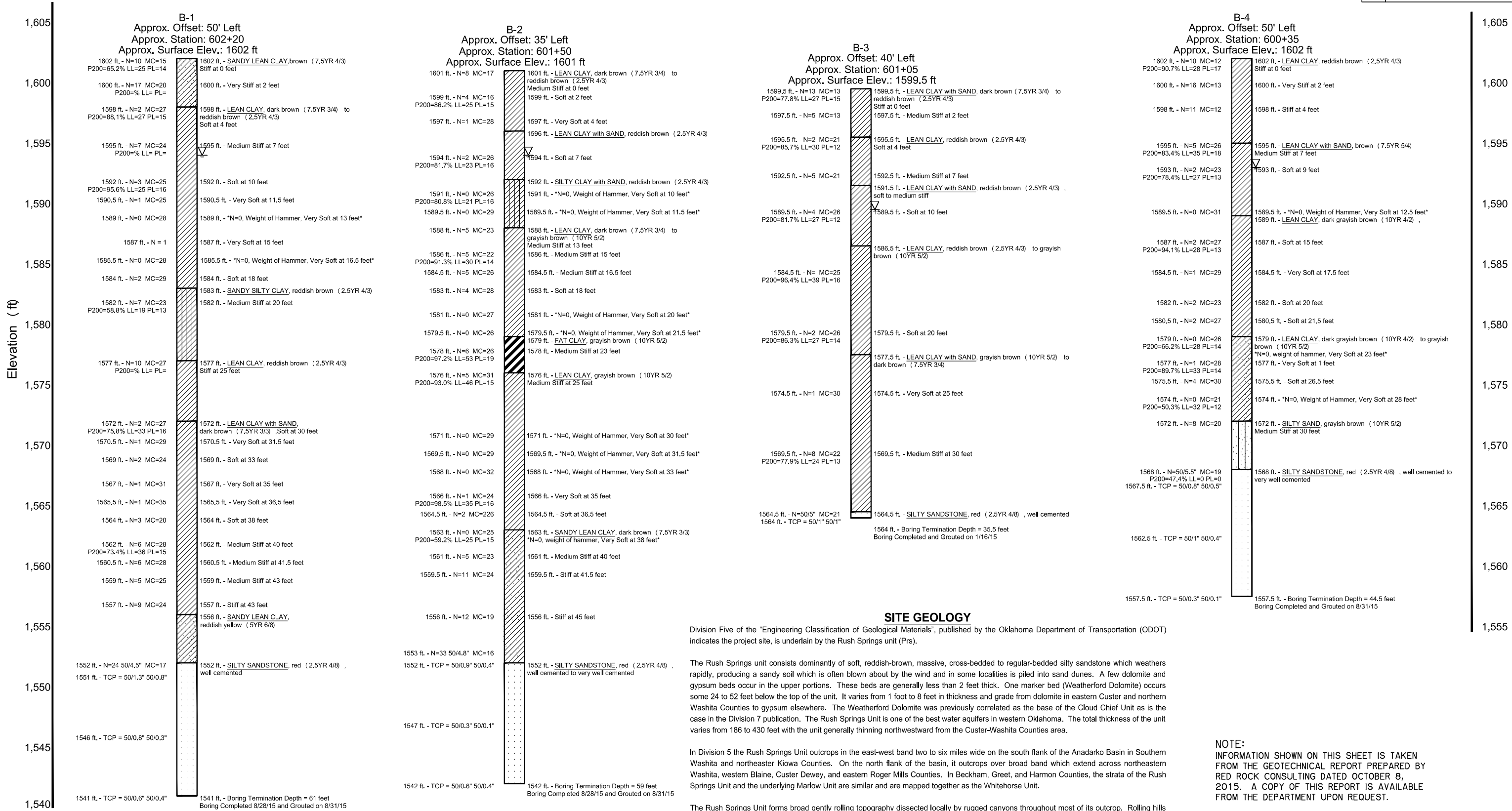
USE INTERPRETED ROCK LINE FOR ESTIMATING PURPOSES ONLY

S.H. 44 OVER DRY ELK CREEK		WASHITA COUNTY		Design	AFW
RETAINING WALL A & B				Detail	DRB
				Check	AFW
				WHITE ENGINEERING ASSOCIATES	
<b>STATE OF OKLAHOMA</b>		DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 28774(O4)	
				SHEET NO. 16	

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REVISIONS		
REV. NO.	DESCRIPTION	DATE



**SITE GEOLOGY**

Division Five of the "Engineering Classification of Geological Materials", published by the Oklahoma Department of Transportation (ODOT) indicates the project site, is underlain by the Rush Springs unit (Prs).

The Rush Springs unit consists dominantly of soft, reddish-brown, massive, cross-bedded to regular-bedded silty sandstone which weathers rapidly, producing a sandy soil which is often blown about by the wind and in some localities is piled into sand dunes. A few dolomite and gypsum beds occur in the upper portions. These beds are generally less than 2 feet thick. One marker bed (Weatherford Dolomite) occurs some 24 to 52 feet below the top of the unit. It varies from 1 foot to 8 feet in thickness and grade from dolomite in eastern Custer and northern Washita Counties to gypsum elsewhere. The Weatherford Dolomite was previously correlated as the base of the Cloud Chief Unit as is the case in the Division 7 publication. The Rush Springs Unit is one of the best water aquifers in western Oklahoma. The total thickness of the unit varies from 186 to 430 feet with the unit generally thinning northwestward from the Custer-Washita Counties area.

In Division 5 the Rush Springs Unit outcrops in the east-west band two to six miles wide on the south flank of the Anadarko Basin in Southern Washita and northeaster Kiowa Counties. On the north flank of the basin, it outcrops over broad band which extend across northeastern Washita, western Blaine, Custer Dewey, and eastern Roger Mills Counties. In Beckham, Greet, and Harmon Counties, the strata of the Rush Springs Unit and the underlying Marlow Unit are similar and are mapped together as the Whitehorse Unit.

The Rush Springs Unit forms broad gently rolling topography dissected locally by rugged canyons throughout most of its outcrop. Rolling hills are prominent near its base with massive bluffs to rounded hills overlooking the underlying Marlow Unit.

According to the Geologic Map of the "Hydrologic Atlas 5 of Oklahoma," Reconnaissance of the Water Resources of the Clinton quadrangle, west-central Oklahoma," by Jerry E. Carr and DeRoy L. Bergman, 1976, indicates that the project site is located over Rush Springs Formation (Pr). The deposit and geologic formation are described therein as follows:

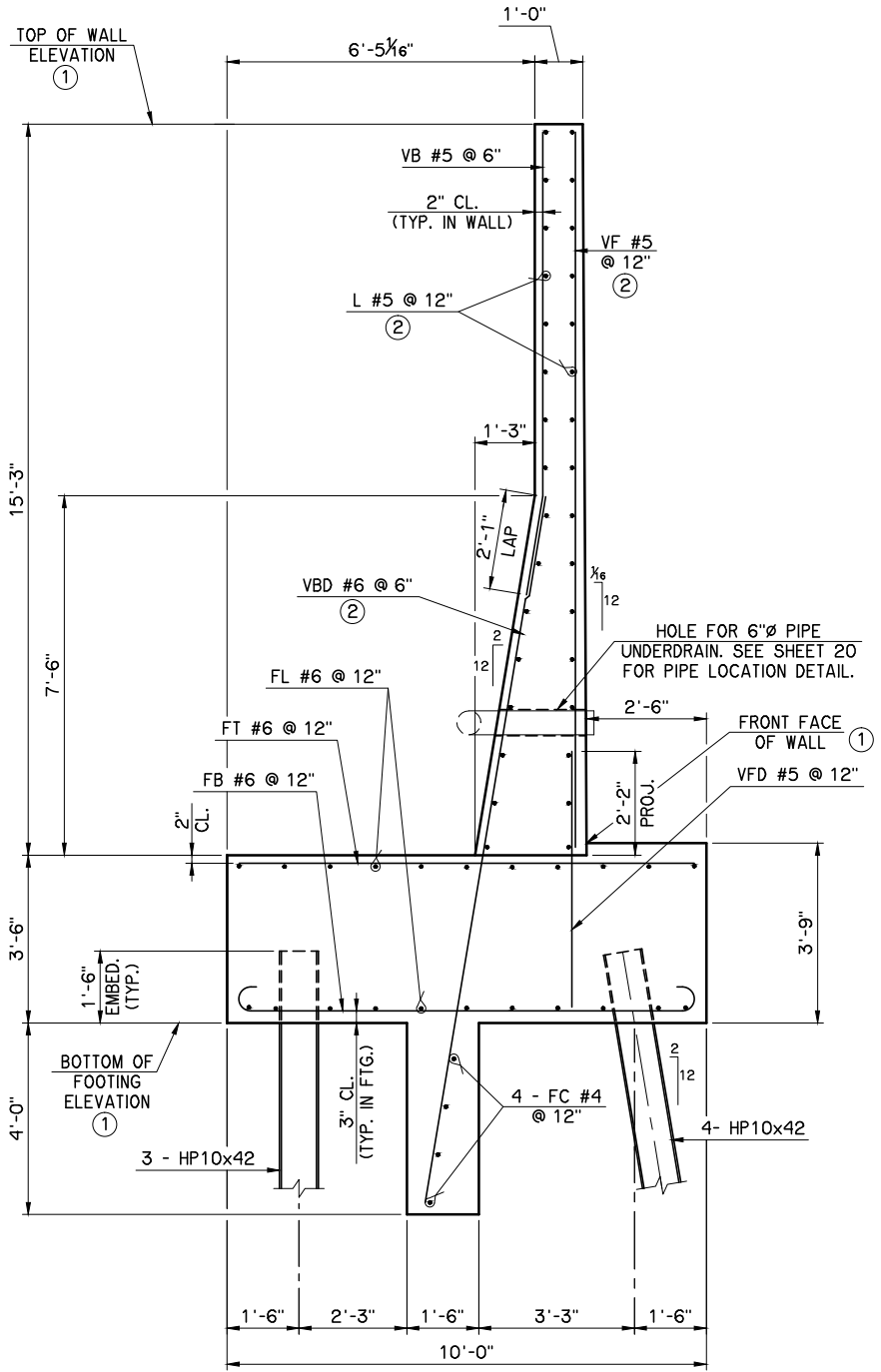
Orange brown, cross-bedded, fine-grained sandstone with dolomite and gypsum beds. Thickness, about 300 feet, thinning northward to about 186 feet.

**NOTE:**  
INFORMATION SHOWN ON THIS SHEET IS TAKEN FROM THE GEOTECHNICAL REPORT PREPARED BY RED ROCK CONSULTING DATED OCTOBER 8, 2015. A COPY OF THIS REPORT IS AVAILABLE FROM THE DEPARTMENT UPON REQUEST.

Note: TCP denotes Texas Cone Penetration Test

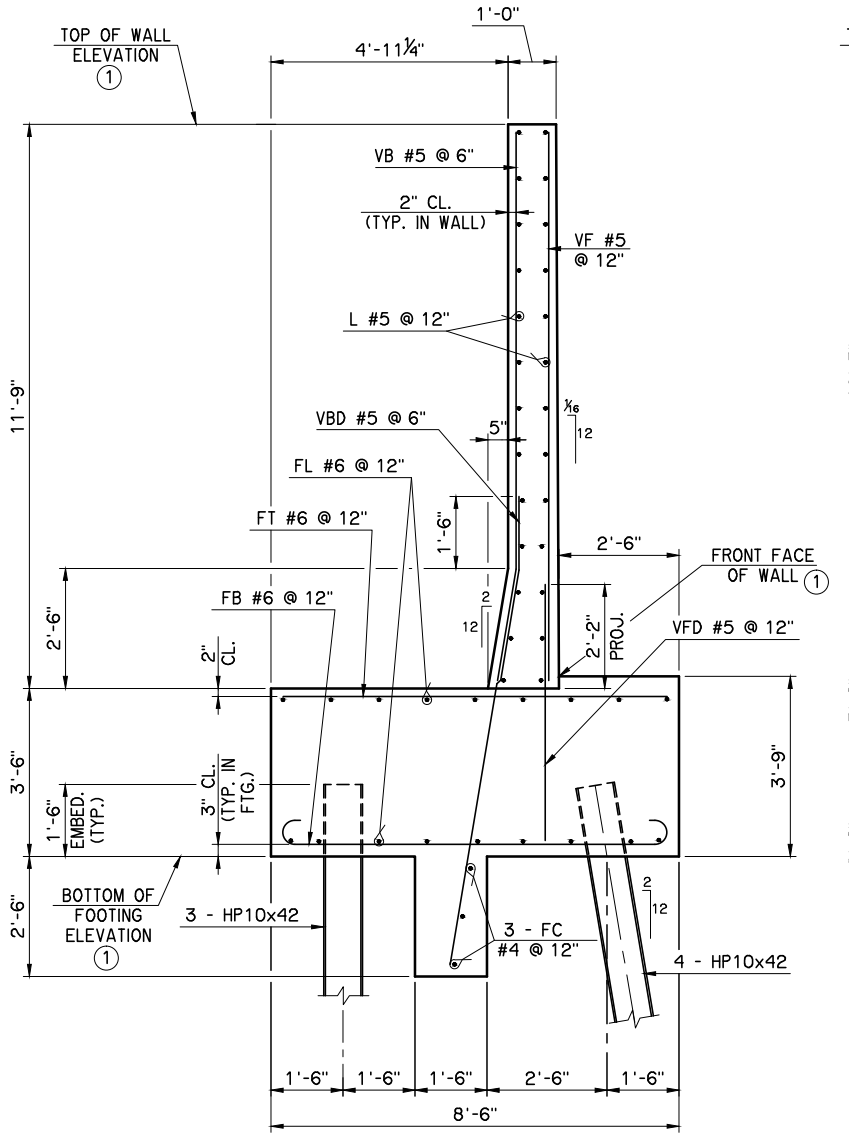
S.H. 44 OVER DRY ELK CREEK		WASHITA COUNTY	
Design	RRC	Detail	DRB
Check	RRC	Check	RRC
<b>FOUNDATION REPORT</b> WHITE ENGINEERING ASSOCIATES			
<b>STATE OF OKLAHOMA</b> DEPARTMENT OF TRANSPORTATION JOB PIECE NO. 28774(O4)		SHEET NO. 17	

REV. NO.	DESCRIPTION	DATE



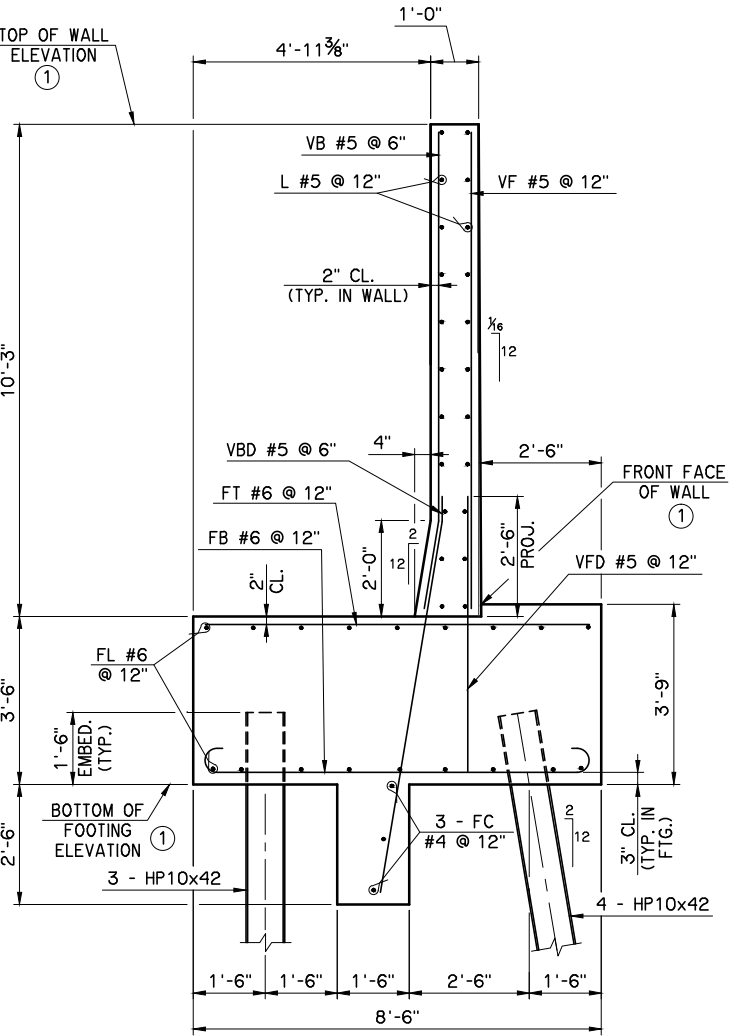
**PANEL TYPE I**

NOTE:  
FOR PLAN VIEW OF  
RETAINING WALL B, PANEL  
NO. 1 FOOTING, SEE  
SHEET 20.

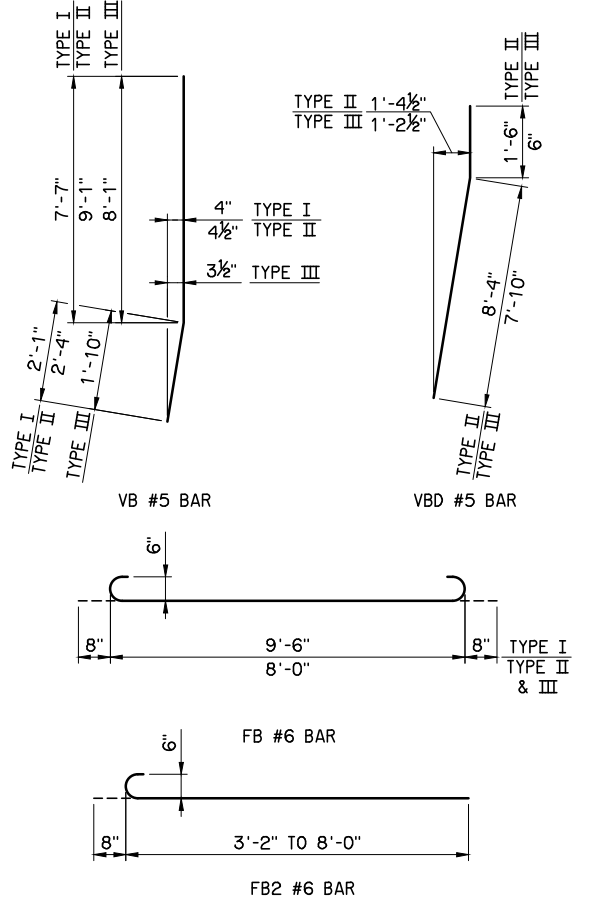


**PANEL TYPE II**

- ① AS SHOWN ON PLAN AND ELEVATION
- ② ADJUST SPACING TO FIT THE HOLE FOR 6" PIPE UNDERDRAIN



**PANEL TYPE III**



RETAINING WALL SCHEDULE				
RET. WALL	PANEL NO.	WALL HEIGHT	HP10x42 PILE LENGTH	
			BACK (1 SHOWN, 3 TOTAL)	FRONT (1 SHOWN, 4 TOTAL)
A	1	10.25'	33'	33'
A	2	11.75'	33'	33'
A	3	15.25'	30'	30'
B	1	15.25'	42'	43'
B	2	11.75'	47'	48'
B	3	10.25'	49'	50'

RETAINING WALL BAR LIST															
RET. WALL	PANEL NO.	PANEL TYPE	L #5 BARS			FC #4 BARS			FL1 #6 BARS			FL2 #6 BAR			
			NO.	FORM	LENGTH	NO.	FORM	LENGTH	NO.	FORM	LENGTH	NO.	FORM	LENGTH	LENGTH VAR.
A	1	III	22	STR.	24'-8"	3	STR.	24'-6"	18	STR.	24'-6"				
A	2	II	26	STR.	24'-8"	3	STR.	24'-6"	18	STR.	24'-6"				
A	3	I	32	STR.	24'-8"	4	STR.	24'-6"	22	STR.	24'-6"				
B	1	I	32	STR.	24'-8"	4	STR.	24'-6"	8	STR.	24'-6"	14	STR.	22'-6" AVG.	20'-10" TO 24'-2"
B	2	II	26	STR.	24'-8"	3	STR.	24'-6"	18	STR.	24'-6"				
B	3	III	22	STR.	24'-8"	3	STR.	24'-6"	18	STR.	24'-6"				

RETAINING WALL BAR LIST																															
RET. WALL	PANEL NO.	PANEL TYPE	FT1 #6 BARS			FT2 #6 BAR			FB1 #6 BARS			FB2 #6 BAR				VB #5 BARS			VBD BARS			VF #5 BARS			VFD #5 BARS						
			NO.	FORM	LENGTH	NO.	FORM	LENGTH	LENGTH VAR.	NO.	FORM	LENGTH	NO.	FORM	LENGTH	LENGTH VAR.	NO.	FORM	LENGTH	SIZE	NO.	FORM	LENGTH	NO.	FORM	LENGTH	NO.	FORM	LENGTH		
A	1	III	26	STR.	8'-0"						26	BNT.	9'-4"						51	BNT.	9'-11"	#5	51	BNT.	8'-4"	26	STR.	9'-11"	26	STR.	5'-9"
A	2	II	26	STR.	8'-0"						26	BNT.	9'-4"						51	BNT.	11'-5"	#5	51	BNT.	9'-10"	26	STR.	11'-5"	26	STR.	5'-5"
A	3	I	26	STR.	9'-6"						26	BNT.	10'-10"						51	BNT.	9'-8"	#6	51	STR.	14'-11"	26	STR.	14'-11"	26	STR.	5'-5"
B	1	I	22	STR.	9'-6"	4	STR.	5'-7" AVG.	3'-2" TO 8'-0"			22	BNT.	10'-10"	4	BNT.	6'-3" AVG.	3'-10" TO 8'-8"	51	BNT.	9'-8"	#6	51	STR.	14'-11"	26	STR.	14'-11"	26	STR.	5'-5"
B	2	II	26	STR.	8'-0"						26	BNT.	9'-4"						51	BNT.	11'-5"	#5	51	BNT.	9'-10"	26	STR.	11'-5"	26	STR.	5'-5"
B	3	III	26	STR.	8'-0"						26	BNT.	9'-4"						51	BNT.	9'-11"	#5	51	BNT.	8'-4"	26	STR.	9'-11"	26	STR.	5'-9"

S.H. 44 OVER DRY ELK CREEK WASHITA COUNTY

**RETAINING WALL DETAILS**  
SHEET 1 OF 3

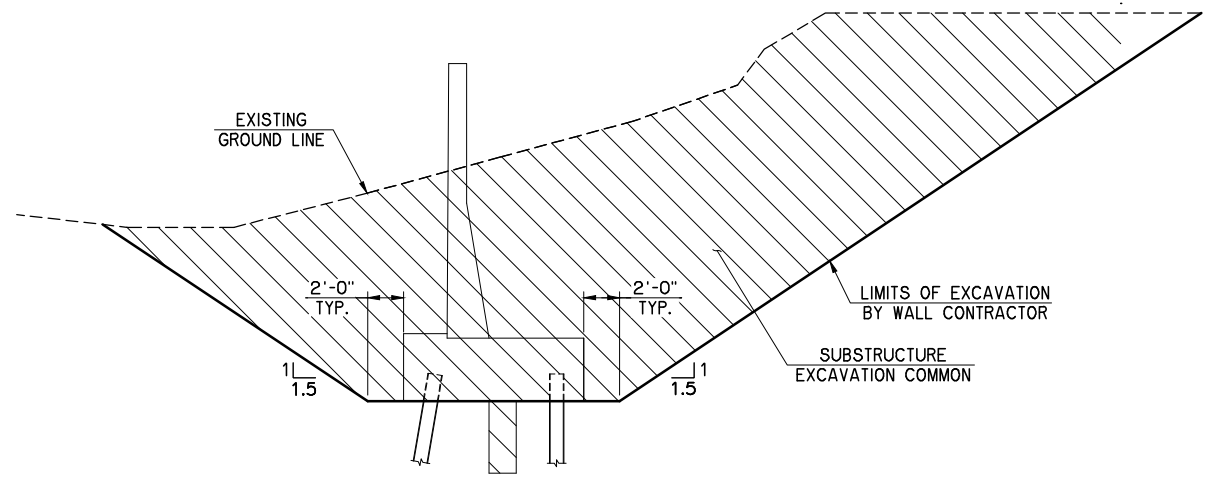
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Detail: DRB  
Check: AFW

WHITE ENGINEERING ASSOCIATES

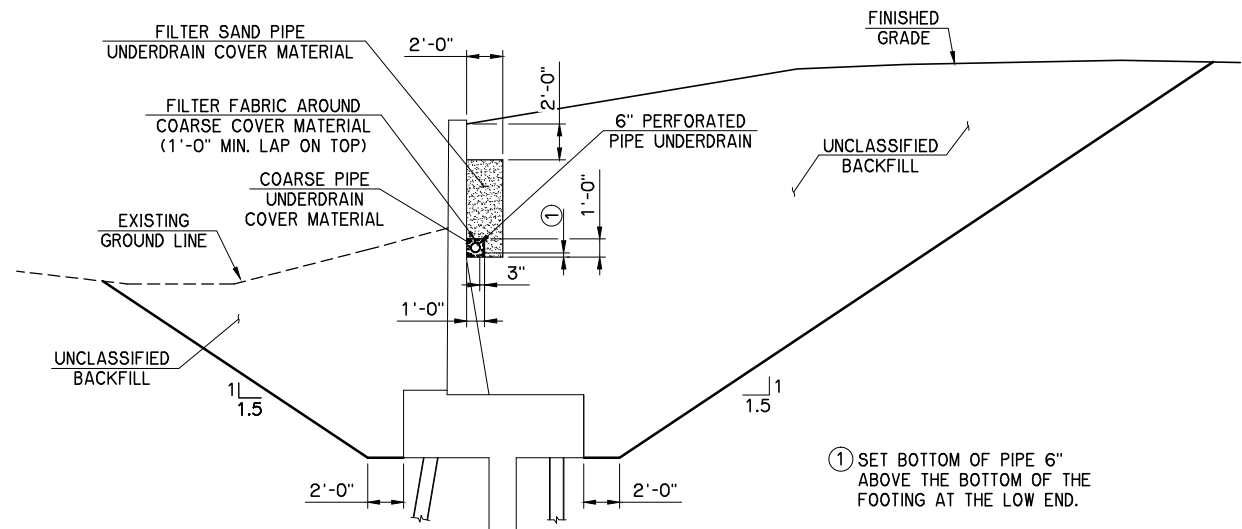
STATE OF OKLAHOMA DEPARTMENT OF TRANSPORTATION  
JOB PIECE NO. 28774(O4) SHEET NO. 18

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REV. NO.	DESCRIPTION	DATE

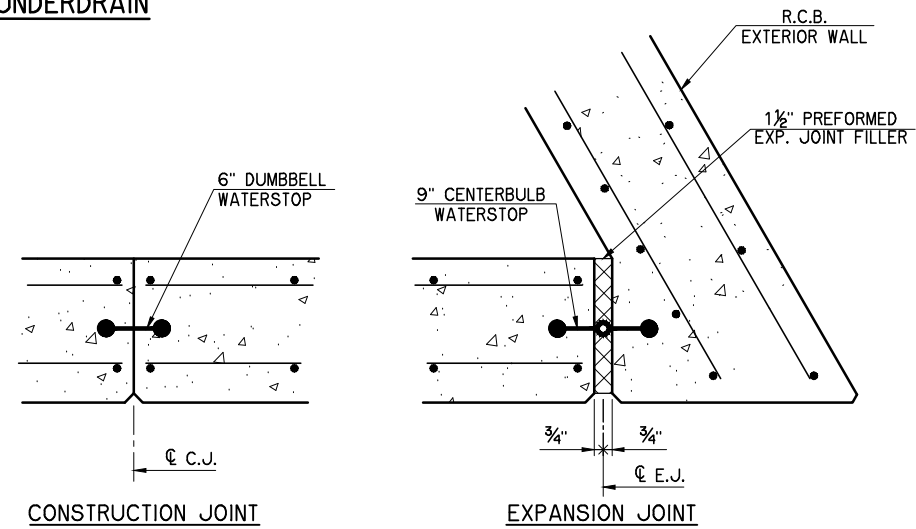


**TYPICAL EXCAVATION SECTION**  
TYPE I SHOWN  
(TYPE II & III SIMILAR)



**PIPE UNDERDRAIN**

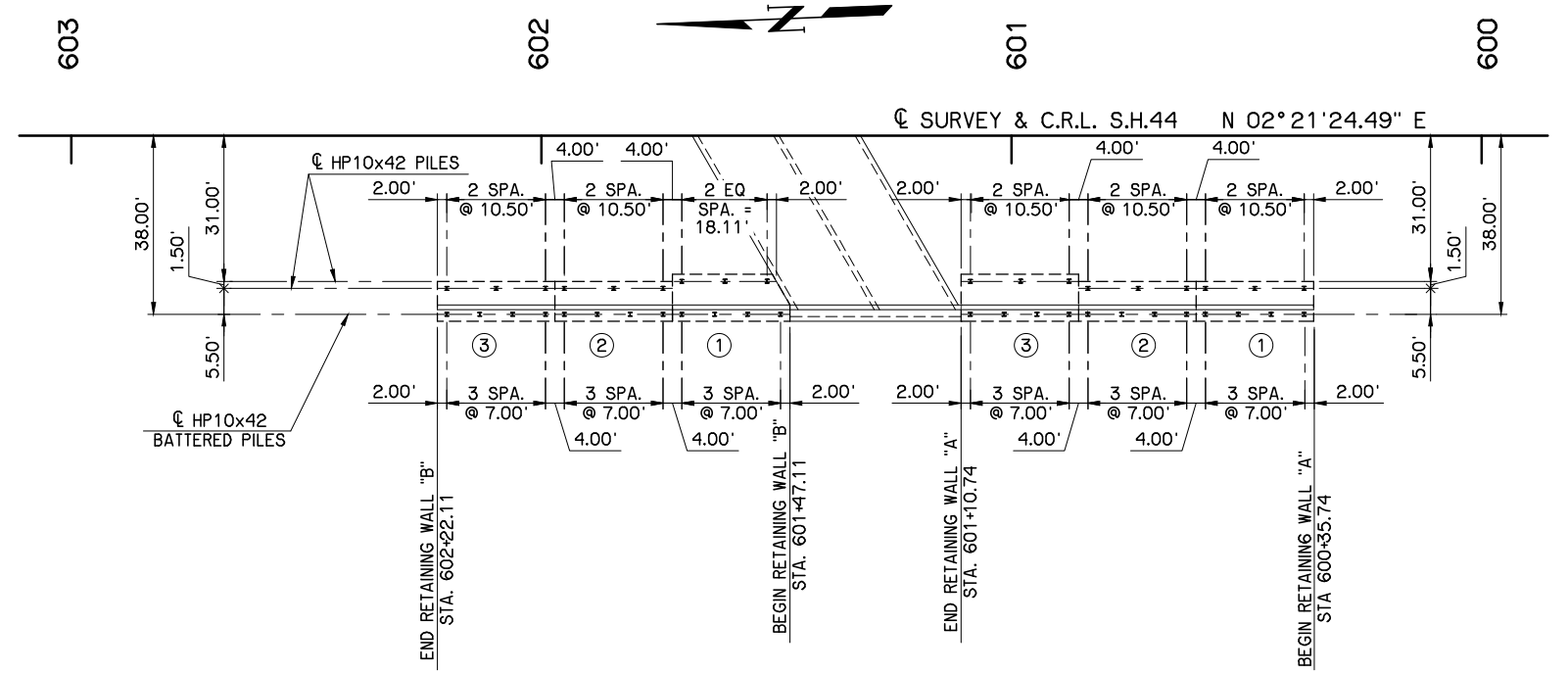
① SET BOTTOM OF PIPE 6" ABOVE THE BOTTOM OF THE FOOTING AT THE LOW END.



**RETAINING WALL JOINT DETAILS**

SEE PLAN AND ELEVATION ON SHEET 16 FOR JOINT LOCATIONS

NOTE: WATERSTOP AND EXP. JOINT FILLER WILL BE PLACED THE FULL HEIGHT OF WALL. COST WILL BE INCLUDED IN OTHER ITEMS OF WORK.



**SUBSTRUCTURE LAYOUT**

RETAINING WALL "A" QUANTITIES									
PANEL NO.	PAY ITEMS				NON-PAY ITEMS				
	RETAINING WALL (S.Y.)	PILES FURNISHED (HP10x42) (L.F.)	PILES DRIVEN (HP10x42) (L.F.)	HANDRAILING (L.F.)	SUBSTRUCTURE EXCAVATION COMMON (C.Y.)	CLASS A CONCRETE (C.Y.)	REINFORCING STEEL (LB.)	6" PERF. PIPE UNDERDRAIN RND. (L.F.)	6" NON-PERF. PIPE UNDERDRAIN RND. (L.F.)
1	28.5	231	231	25.0	465	41.6	3,350	26.0	
2	32.6	231	231	25.0	325	43.3	3,640	26.0	
3	42.4	210	210	25.0	460	57.6	4,700	25.0	3.0
TOTALS	103.5	672	672	75.0	1,250	142.5	11,690	77.0	3.0

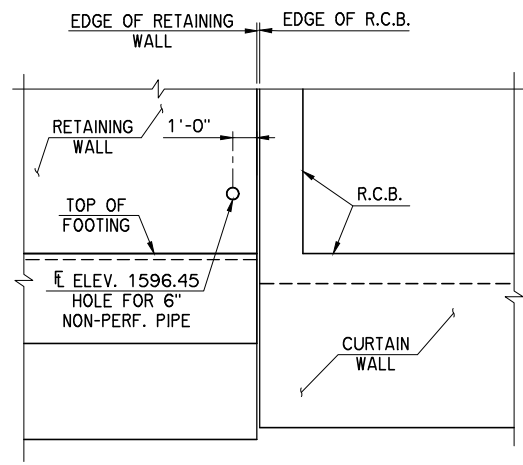
RETAINING WALL "B" QUANTITIES									
PANEL NO.	PAY ITEMS				NON-PAY ITEMS				
	RETAINING WALL (S.Y.)	PILES FURNISHED (HP10x42) (L.F.)	PILES DRIVEN (HP10x42) (L.F.)	HANDRAILING (L.F.)	SUBSTRUCTURE EXCAVATION COMMON (C.Y.)	CLASS A CONCRETE (C.Y.)	REINFORCING STEEL (LB.)	6" PERF. PIPE UNDERDRAIN RND. (L.F.)	6" NON-PERF. PIPE UNDERDRAIN RND. (L.F.)
1	42.4	298	298	25.0	365	56.0	4,610	25.0	3.0
2	32.6	333	333	25.0	275	43.3	3,640	26.0	
3	28.5	347	347	25.0	500	41.6	3,350	26.0	
TOTALS	103.5	978	978	75.0	1,140	140.9	11,600	77.0	3.0

S.H. 44 OVER DRY ELK CREEK		WASHITA COUNTY		Design	AFW
<b>RETAINING WALL DETAILS</b> SHEET 2 OF 3				Detail	DRB
				Check	AFW
<b>STATE OF OKLAHOMA</b>				DEPARTMENT OF TRANSPORTATION	
				JOB PIECE NO. 28774(O4)	

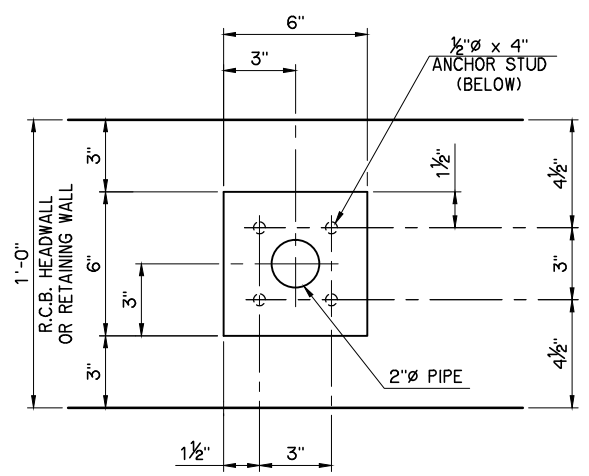
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REVISIONS		
REV. NO.	DESCRIPTION	DATE

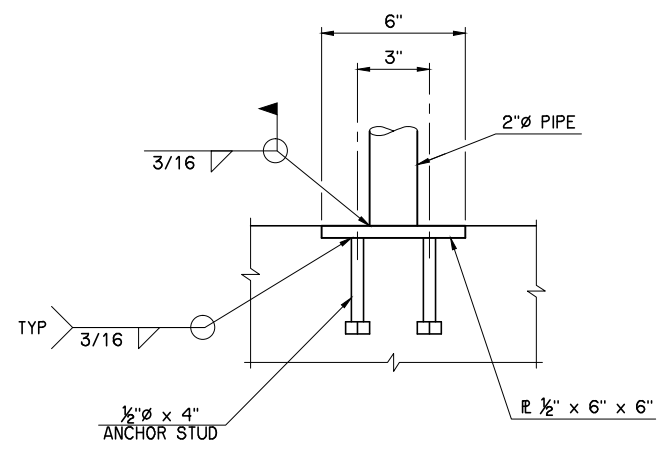
NOTE:  
ADJUST WALL REINFORCEMENT SPACING  
TO FIT 6"Ø PIPE UNDERDRAIN.



**PIPE UNDERDRAIN LOCATION DETAIL**  
(PANEL 1B SHOWN, PANEL 3 A OPPOSITE HAND)



**PLAN AT HANDRAIL BASE PLATE**



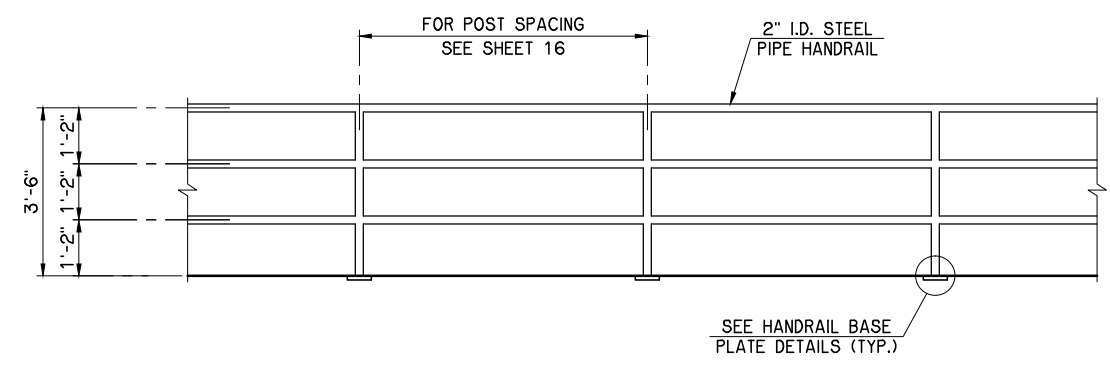
**SECTION AT HANDRAIL BASE PLATE**

NOTES:  
AFTER FIELD FABRICATION, THE 2" DIAMETER STEEL PIPE RAIL SHALL  
BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTIONS 512 AND  
730 OF THE STANDARD SPECIFICATIONS.

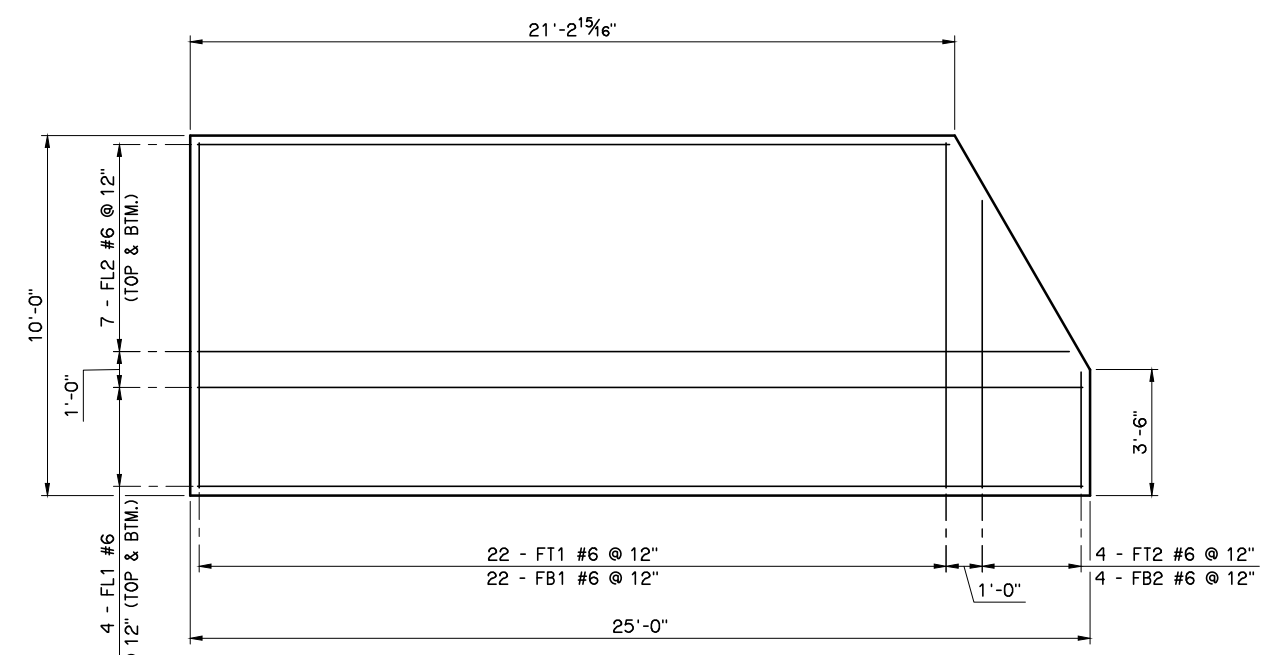
THE PIPE RAIL SHALL BE CLEANED OF ALL MILL SCALE, DIRT, AND  
OTHER FOREIGN MATERIAL IN ACCORDANCE WITH SSPC-SP 10,  
NEAR-WHITE BLAST CLEANING USING AN APPROVED ABRASIVE  
MATERIAL TO PRODUCE A DENSE UNIFORM ANCHOR PATTERN IN  
ACCORDANCE WITH SECTION 512.04(B) OF THE STANDARD  
SPECIFICATIONS.

WELDED CONNECTIONS MAY BE USED FOR THE PIPE RAIL. ALL  
WELDED CONNECTIONS SHALL BE THOROUGHLY CLEANED OF ALL  
LOOSE SCALE, AND GROUND SMOOTH. SHOP DETAILS FOR ALL PIPE  
RAIL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

ALL COST TO COMPLETE THE WORK AS SPECIFIED INCLUDING LABOR,  
MATERIALS, TOOLS, WELDING, CLEANING, PAINTING AND INCIDENTALS  
SHALL BE INCLUDED IN THE ROADWAY UNIT PRICE BID PER LINEAR  
FOOT FOR "HANDRAILING".



**ELEVATION OF HANDRAIL**



**PLAN OF RETAINING WALL B, PANEL NO. 1 FOOTING**  
(WALL NOT SHOWN FOR CLARITY)

S.H. 44 OVER DRY ELK CREEK	WASHITA COUNTY	Design	AFW
<b>RETAINING WALL DETAILS</b> SHEET 3 OF 3		Detail	DRB
		Check	AFW
<b>STATE OF OKLAHOMA</b>		WHITE ENGINEERING ASSOCIATES	
DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 28774(04)	
		SHEET NO. 20	

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

SURVEY OF  
STATE HIGHWAY 44  
SWO 4837(1)  
J/P NO. 28774(04)  
WASHITA COUNTY  
S.H. 44, BRIDGE OVER DRY ELK CREEK,  
0.3 MILES NORTH OF S.H. 55 IN SENTINEL

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

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION  
SURVEY DIVISION

SWO 4837(1) J/P 28774(04) : \_\_\_\_\_ CO. Washita

**HORIZONTAL CONTROL:**  
 Oklahoma Coordinate System of 1927 \_\_\_\_\_ Zone.  
 Oklahoma Coordinate System of 1983 (93) South Zone.  
 Oklahoma Dept. of Transportation Plane Coordinate System of 1927 \_\_\_\_\_ Zone.  
 Oklahoma Dept. of Transportation Plane Coordinate System of 1983 \_\_\_\_\_ Zone.  
 Arbitrary Coordinate System \_\_\_\_\_

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

1. Primary Control adjusted to NGS (C) Order  
 Stations \_\_\_\_\_  
 A) Closure before adjustment X \_\_\_\_\_ Y \_\_\_\_\_ Angles \_\_\_\_\_  
 Trav. Length \_\_\_\_\_ No. Angles \_\_\_\_\_ ; 1:  
 B) \_\_\_\_\_ ; is ( ) Order before adjustment.  
 C) Method of Distance Measurement:  
 Electronic  GPS  Triangulation  Chained  
 D) Instrument used for angles Topcon GPS GR3

2. Secondary Control adjusted to Primary Control (D) Order  
 Stations \_\_\_\_\_  
 A) Closure before adjustment X \_\_\_\_\_ Y \_\_\_\_\_ Angles \_\_\_\_\_  
 B) \_\_\_\_\_ ; is ( ) Order, Tied to \_\_\_\_\_  
 C) Method of Distance Measurement:  
 Electronic  GPS  Triangulation  Chained  
 D) Instrument used for angles Sokkia Total Station Set 3 130r3

VERTICAL CONTROL IS 3rd order. Level Line taken from \_\_\_\_\_  
 order and tied to \_\_\_\_\_ order.  NGVD 29 datum  NAVD 88 datum

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

Distribution:  
 Copy w/survey reports \_\_\_\_\_ Cliff R. Stout Jr.  
 Copy in each Alignment \_\_\_\_\_  
 and level book \_\_\_\_\_  
 Professional Land Surveyor  
 \_\_\_\_\_  
December 14, 2012  
 Date  
 (FORM SD #20)  
 Rev. 11/03

Index of Sheets  
 1. Title Sheet  
 2. Historical Letter and Written Report  
 3. Historical Letter and Written Report  
 4. Check Levels & Alignment Report  
 5. Cogo Report  
 6. Horizontal Control  
 7. Survey Data Sheets  
 8. Land Tie Data Sheet

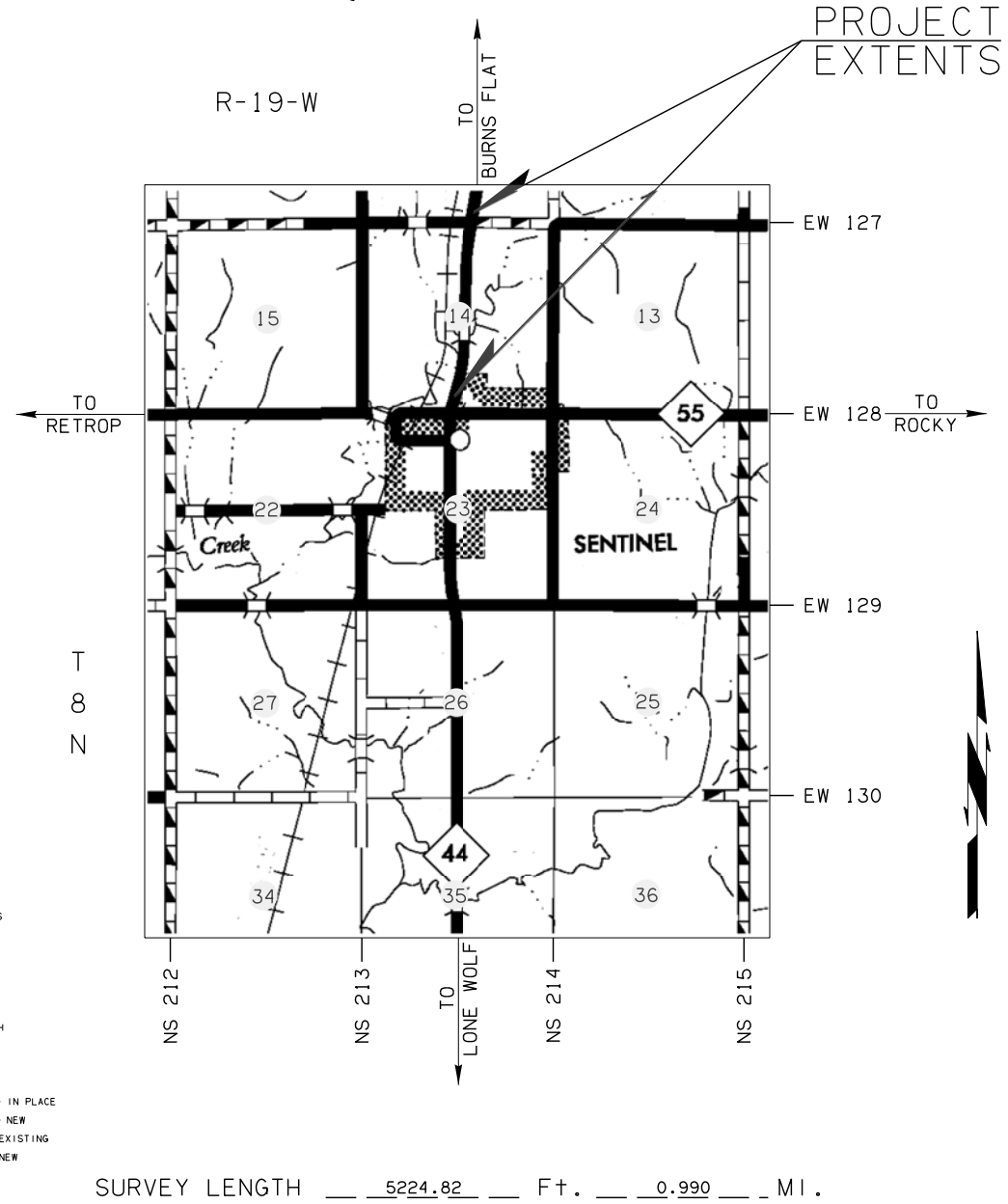
Survey Began 7-20-12  
 Survey End 12-28-12

Personal:	Title:	Equipment:	Serial#
Cliff R. Stout Jr.	Professional Land Surveyor	Sokkia 130R3 Total Station	D22819
Thomas D. Lee	Professional Land Surveyor	Sokkia Allegro Data Collector	30139
Tim Endsley	Senior CADD Technician	Sokkia Allegro Data Collector	30126
Mandy Palmatary	Administrative Support	Sokkia Total Station Set 3 130r3	141740
Brad Cypert	Senior Party Chief	Topcon FC-2200 Data Collector	TPS100191
Brian Hale	Party Chief	Topcon GPS GR3 Receiver	444-0405
Sam Gibson	Party Chief	Topcon GPS GR3 Receiver	444-0402
Jason Arnold	Instrument Man	Topcon GPS GR3 Receiver	444-0456
Josh Pridemore	Instrument Man	Topcon GPS GR3 Receiver	444-458
Caleb Avery	Instrument Man	Topcon FC-2500 Data Collector	558-2012
Teresa Lenox	Hydraulic Technician	Trimble Digital Level DiNi	707885
Carissa Palmer	Utility Technician		

Utility	Phone Number
<b>Electric Lines:</b> Public Service of Oklahoma	(800) 522-6543
<b>Gas Lines:</b> ONG (Oklahoma Natural Gas)	(405) 522-1805

CONVENTIONAL SYMBOLS

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



STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

SWO 4837(1) Job / Piece 28774(04) Engr. Contract No. 1394

LAND SURVEYOR'S CERTIFICATION

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

- applicable instructions contained in the U.S. Government Bureau of Land Management publication "Manual of 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 14<sup>th</sup> day of December, 2012

Land Surveyor Cliff R. Stout Jr.  
 Signature

Cliff R. Stout Jr.  
 Printed Name

Oklahoma Professional Land Surveyor No. 1473

Certificate of Authorization No. 3949 Exp. Date: June 30, 2013

THIS SURVEY MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, MAY 17, 2010.

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PLS	CRS	DATE	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	TDL	12/12	 <b>SURVEY DATA SHEET</b> 100 N.E. 5th Street Oklahoma City, OK 73104 Telephone: (405) 840-7094 FAX: (405) 840-5116
CHECKED	JAC	12/12	
APPROVED	CRS	12/12	
CREW	BC, SG, BH		
SWO <u>4837(1)</u> PROJECT NO. <u>28774(04)</u> SHEET NO. <u>SD01</u>			



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

Oklahoma Department of Transportation

Date: December 14, 2012

To: Mr. Larry Reser, Chief of Surveys  
 From: Cliff R. Stout Jr., Professional Land Surveyor  
 Subject: SWO 4837(1) J/P No. 28774(04)  
 S.H. 44, Bridge over Dry Elk Creek,  
 0.3 Miles North of S.H. 55 in Sentinel

HISTORICAL LETTER AND WRITTEN REPORT

1. ASSIGNMENT OF SURVEY:

This Survey was assigned by Larry D. Reser, P.L.S. Chief of Surveys, Oklahoma Department of Transportation, 200 N.E. 21<sup>st</sup> Street, Oklahoma City, Oklahoma on March 9, 2012.

2. GENERAL:

Method of Survey: This survey was performed using the Break Line Method, applying a combination of field conventional methods to obtain topography in the main project area, and real-time kinematic GPS (RTK) to obtain information on existing land tie evidence.

Units of measurement: U.S. Survey Foot

Reference material relevant to this project:

SWO 2534(1) survey  
 FAS No. S-377 (8)(9) S plans

3. SURVEY LIMITS:

This survey will begin at P.T. Sta. 581+15.62 and will extend north to P.T. Sta. 633+40.44 as established under SWO 2534(1) survey and shown on FAS No. S-377 (8)(9) S plans (approximate centerline length = 0.99 miles).

4. ALIGNMENT:

The Centerline of Survey for this project will be along and identical to the centerline of present S.H. 44 as established under SWO 2534(1) survey and shown on FAS No. S-377 (8)(9) S plans.

5. STATIONING:

Stationing for this survey will be taken from SWO 2534(1) survey and FAS No. S-377 (8)(9) S plans.

6. PURPOSE OF SURVEY

The purpose of this survey is to furnish sufficient data to develop plans to construct new bridge over Dry Elk Creek north of Sentinel. The survey will include the Alignment, Topographic/Planimetric data, Surface Features/DTM data, Land Ties, Utilities, Drainage and all other pertinent information needed to aid in the design.

7. TOPOGRAPHY / DTM INFORMATION:

The Break Line Method, applying conventional field methods to obtain topography, and analytical aerotriangulation and stereo compilation of mapping through standard aerial mapping methods was used to create a Digital Terrain Model (DTM) and has been archived within the MicroStation Design File (See: SUBMITTED DATA).

8. HORIZONTAL CONTROL:

Horizontal control for this survey was established by static and real time kinematic GPS (RTK) Survey Methods. Coordinates on this survey are NGS Oklahoma State Plane Coordinate system NAD 83(HPGN) Lambert Projection South Zone. 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.

9. VERTICAL CONTROL:


Vertical Control for this survey is NGS, NAVD'88. Total length of run = 1.01 miles. A benchmark list depicting existing and newly established benchmarks, as well as results of the control leveling has been placed and archived within the MicroStation Design File (See: SUBMITTED DATA).

10. UTILITIES:

CALL OKIE was contacted on June 26, 2012, and utilities were located by June 28, 2012. All utility information has been shown and archived within the MicroStation Design File See: SUBMITTED DATA).

UTILITIES OWNERSHIPS:

- 1. PSO (Public Service of Oklahoma) (800) 522-6543  
 Darren Stephens  
 2000 W. Frisco Avenue,  
 Chickasha, Ok, 73023
- 2. ONG (Oklahoma Natural Gas) (405) 522-1805  
 Ellen Harris  
 401 N. Harvey Ave.  
 C/O GIS Conversion Center  
 Oklahoma City, Ok., 73102-3470

PLS	CRS	12/12	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION  <b>SMITH ROBERTS BALDISCHWILER, LLC</b> <small>100 N.E. 5th Street          Oklahoma City, OK 73104          Telephone: (405) 843-7094          Fax: (405) 840-5116</small> <b>SURVEY DATA SHEET</b>
DRAWN	TDL	12/12	
CHECKED	JAC	12/12	
APPROVED	CRS	12/12	
CREW	BC, SG, BH	SWO 4837 (1)	

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

**11. SECTION BOUNDARY SURVEYS:**

Land Ties are to include establishing/re-establishing all section corners and 1/4 section corners, including the center section corner, of each section through which the main line passes and any other quarter (1/4) section from which right-of-way may need to be acquired. All section corners and 1/4 section corner so established are to be monumented and referenced in accordance with the Survey Specifications. As a minimum, the following sections or partial sections are to be set up in:

**SECTION 14, TOWNSHIP 8 NORTH, RANGE 19 WEST, I.M.;**

NW CORNER - ODOT STA. No. W-75-808 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

NORTH 1/4 CORNER - ODOT STA. No. W-75-809 - FOUND 1/2" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

NE CORNER - ODOT STA. No. W-75-810 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

WEST 1/4 CORNER - ODOT STA. No. W-75-811 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

EAST 1/4 CORNER - ODOT STA. No. W-75-812 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

SW CORNER - ODOT STA. No. W-75-813 - FOUND 5/8" IRON PIN WITH CAP BWR AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

SOUTH 1/4 CORNER - ODOT STA. No. W-75-814 - SET MAG NAIL WITH TAG No. CA3949 PER REFERENCES AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

SE CORNER - ODOT STA. No. W-75-815 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

**12. DRAINAGE:**

The drainage information on this survey will be limited to flowline profiles 1,000 feet upstream and 1,000 feet downstream from the Centerline of Survey. Flowline profiles will be shown as three dimensional line strings in the .dgn file.

**13. SUBMITTED DATA:**

**CIVIL:**


1. SWO4837\CIVIL\SWO4837\_1\_V1.alg - InRoads Alignment
2. SWO4837\CIVIL\SWO4837\_1\_V1.dtm - InRoads Digital Terrain Model
3. SWO4837\CIVIL\SWO4837\_1\_V1\_ALIGN.pdf - InRoads Alignment Report
4. SWO4837\CIVIL\SWO4837\_1\_V1\_SURF.pdf - InRoads Surface Report

**DGN**

1. SWO4837\DGNSWO4837\_1\_V1.dgn - All Survey Drawings
2. SWO4837\DGNSWO4837\_1\_V1\_DRA.dgn - Drainage Map & USGS Tide Gage Report
3. SWO4837\DGNSWO4837\_1\_V1\_DRA\_USGS.tif - Drainage Map Image
4. SWO4837\DGNSWO4837\_1\_V1\_Full\_Size.pdf - All Survey Drawings
5. SWO4837\DGNSWO4837\_1\_V1\_Half\_Size.pdf - All Survey Drawings
6. SWO4837\DGNSWO4837\_1\_V1\_Location Map.pdf - Location Map
7. SWO4837\DGNSWO4837\_1\_V1\_SFF.dgn - Surface Feature File
8. SWO4837\DGNSWO4837\_1\_V1\_TOPO.dgn - Topography Identification File
9. SWO4837\DGNSWO4837\_1\_V1\_TRI.dgn - Triangle File

**Reports:**

1. SWO4837\REPORTS\SWO4837\_1\_V1\_Check\_Levels.pdf
2. SWO4837\REPORTS\SWO4837\_1\_V1\_COGO\_Points.pdf
3. SWO4837\REPORTS\SWO4837\_1\_V1\_COGO\_Points.txt
4. SWO4837\REPORTS\SWO4837\_1\_V1\_Historical Letter and Written Report.pdf
5. SWO4837\REPORTS\SWO4837\_1\_V1\_Index.pdf
6. SWO4837\REPORTS\SWO4837\_1\_V1\_OCCR.pdf
7. SWO4837\REPORTS\SWO4837\_1\_V1\_SD 7 Public and Private Utilities.pdf
8. SWO4837\REPORTS\SWO4837\_1\_V1\_SD 11 Static Monumentation.pdf
9. SWO4837\REPORTS\SWO4837\_1\_V1\_SD 20 Survey Control Accuracy Statement.pdf
10. SWO4837\REPORTS\SWO4837\_1\_V1\_SD 41 Surveyors Certification.pdf

PLS	CRS	12/12	<p align="center">OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION</p>  <p align="center"><b>SMITH ROBERTS BALDISCHWILER, LLC</b> 100 N.E. 5th Street Oklahoma City, OK 73104 Telephone: (405) 840-7094 Fax: (405) 840-5116</p> <p align="center"><b>SURVEY DATA SHEET</b></p>
DRAWN	TDL	12/12	
CHECKED	JAC	12/12	
APPROVED	CRS	12/12	
CREW	BC, SG, BH	SWO 4837 (1)	
PROJECT NO. 28774(Q4)			SHEET NO. SD03



CHECK LEVELS				BENCHMARK LIST			NAVD 88 DATUM
BENCHMARK #	RUN 1	RUN 2	MEAN DIFF.	UNADJ. ELEV.	ADJ. ELEV.	PUBLISHED ELEV.	DESCRIPTION
CP 7400						1642.279	ODOT Sta W-75-816 - Set 5/8" Iron Rod with 2" Aluminum Cap stamped "7400" at Station 584+55.5 Offset 57.0' Rt, same being 38'+/- East of East edge of S.H. 44 and 10'+/- North of 45 MPH sign (elevation per RTK observation based on NGS Monument FK0373).
BM 1	-8.896	-8.897	-8.897	1633.833	1633.832		Set out "X" centered on top of concrete headwall at Station 582+87.2 Offset 41.7' Lt, same being 21'+/- West of West edge of S.H. 44 and 98'+/- North of a traffic sign.
BM 2	-13.183	-13.182	-13.182	1620.849	1620.650		Set out "X" centered on top of the North concrete headwall for a culvert at Station 592+23.4 Offset 50.9' Rt, same being 30'+/- East of East edge of S.H. 44 and 22'+/- North of the centerline of a dirt/grass entrance drive.
BM 3	-7.533	-7.531	-7.532	1613.117	1613.118		Set out "X" on top of a concrete wingwall located at the SW corner of the Dry Elk Creek bridge at Station 600+91.0 Offset 17.0' Lt.
BM 4	-6.433	-6.432	-6.433	1606.685	1606.686		Set out "X" on top of a concrete flume East side of S.H. 44 at station 808+68.8 Offset 51.3' Rt, same being 30'+/- East of the East edge of S.H. 44 and 91'+/- North of the South end of the concrete flume.
BM 5	22.358	22.363	22.361	1629.044	1629.046		Set "1/2" Iron Pin with "SRB CP" Cap at Station 618+87.9 Offset 26.3' Rt, same being 5'+/- East of East edge of S.H. 44 and 20'+/- North of the North end of the concrete flume.
BM 6	4.671	4.672	4.672	1633.718	1633.718		Set out "X" centered on top of a concrete headwall at Station 631+98.7 Offset 41.0' Rt, same being 10'+/- East of East edge of S.H. 44 and 10'+/- South of the South edge of pavement for E 1270 Road
CP 7401	-0.563	-0.564	-0.564	1633.155	1633.154	1633.154	ODOT Sta. No. W-75-817 -Set 5/8" Iron rod with 2" Aluminum cap stamped "7401" at Station 635+33.8 Offset 62.7' Lt, same being 40'+/- West of the West edge of S.H. 44 and 315'+/- North of the North concrete headwall lying East of S.H. 44, (elevation per RTK observation based on NGS Monument FK0373).

Project Name: SWO4837\_1\_V1  
Description: SH 44 Bridge Over Dry Elk Creek  
Horizontal Alignment Name: A001  
Description: SH 44 Bridge over Dry Elk Creek  
Style: Centerline

	STATION	EASTING	NORTHING
Element: Linear			
POB ( 300)	571+00.00	01617044.9289	666230.1743
PC ( 301)	575+82.29	01617049.7210	666712.4405
Tangent Direction:	N 00°24'09.49" E		
Tangent Length:	482.290		
Element: Circular			
PC ( 301)	575+82.29	01617049.7210	666712.4405
PI ( 304)	578+50.70	01617052.3890	666980.8405
CC ( 302)		01618959.4860	666693.4641
PT ( 303)	581+15.62	01617128.9927	667228.1080
Radius:	1909.859		
Delta:	16°00'00.00" Right		
Degree of Curvature (Arc):	03°00'00.00"		
Length:	522.323		
Tangent:	266.413		
Chord:	521.602		
Middle Ordinate:	018.587		
External:	018.769		
Tangent Direction:	N 00°24'09.49" E		
Radial Direction:	S 89°25'50.51" E		
Chord Direction:	N 08°24'09.49" E		
Radial Direction:	S 73°25'50.51" E		
Tangent Direction:	N 16°24'09.49" E		
Element: Linear			
PT ( 303)	581+15.62	01617128.9927	667228.1080
PC ( 305)	587+37.97	01617306.4114	667824.6155
Tangent Direction:	N 16°24'09.49" E		
Tangent Length:	622.350		
Element: Circular			
PC ( 305)	587+37.97	01617306.4114	667824.6155
PI ( 308)	592+14.17	01617442.2100	668291.0360
CC ( 306)		01613645.3047	668923.9032
PT ( 307)	596+85.47	01617461.7922	668766.8274
Radius:	3819.719		
Delta:	14°12'48.00" Left		
Degree of Curvature (Arc):	01°30'00.00"		
Length:	947.500		
Tangent:	476.194		
Chord:	945.073		
Middle Ordinate:	29.341		
External:	29.568		
Tangent Direction:	N 16°24'09.49" E		
Radial Direction:	S 73°25'50.51" E		
Chord Direction:	N 09°27'46.99" E		
Radial Direction:	S 87°28'25.51" E		
Tangent Direction:	N 02°21'24.49" E		

Page 1 of 2

Element: Linear				
PT ( 307)	596+85.47	01617461.7922	668766.8274	
PC ( 309)	617+46.89	01617846.5627	670826.5027	
Tangent Direction:	N 02°21'24.49" E			
Tangent Length:	2061.420			
Element: Circular				
PC ( 309)	617+46.89	01617846.5627	670826.5027	
PI ( 312)	625+45.23	01617579.3924	671624.1681	
CC ( 310)		01628280.4241	670284.7277	
PT ( 311)	623+40.64	01617729.7637	672408.2184	
Radius:	010742.959			
Delta:	08°30'00.00" Right			
Degree of Curvature (Arc):	00°32'00.00"			
Length:	01593.750			
Tangent:	798.340			
Chord:	01592.289			
Middle Ordinate:	29.541			
External:	29.629			
Tangent Direction:	N 02°21'24.49" E			
Radial Direction:	S 87°38'25.51" E			
Chord Direction:	N 06°36'24.49" E			
Radial Direction:	S 79°08'25.51" E			
Tangent Direction:	N 10°51'24.49" E			
Element: Linear				
PT ( 311)	623+40.64	01617729.7637	672408.2184	
POE ( 313)	623+35.84	01618106.1335	674970.6458	
Tangent Direction:	N 10°51'24.49" E			
Tangent Length:	1598.192			

Page 2 of 2

COORDINATE POINT LIST

SWO4837(1) Job Piece 28774(04)

PT NO	EASTING	NORTHING	PT NO	EASTING	NORTHING
1	1617137.9410000	667414.4790000	7610	1617591.0743036	670327.3574808
2	1617485.1322125	668299.2194706	7611	1617603.1219639	670376.9039629
3	1617461.8302125	669173.2794706	7612	1617621.4992013	670823.4195363
4	1617561.8237875	669944.9655294	7613	1617628.8336929	670975.2787592
5	1617579.5172125	670965.9374706	7614	1617621.7156168	671025.4470228
6	1617744.5670000	672259.3450000	7615	1617765.1020475	672241.2278505
300	1617044.9289430	668230.1743459	7616	1619927.4621367	672187.5507756
301	1617049.7210020	666712.4405382	7617	1619892.5497354	669580.2729927
302	1618959.4860241	668693.4640747	7618	1619857.1563227	668672.8633589
303	1617128.9329824	667238.1080031	7619	1617272.8145146	667010.1746567
304	1617052.3879701	668980.8405085	7620	1617208.4208949	667011.0689712
305	1617306.4113572	667834.6154903	7621	1617010.7831503	667013.8175738
306	1613645.3046737	668923.9033473	7622	1617086.6317751	667256.0443714
307	1617461.7922396	668766.8274343	7623	1617244.1104499	667893.1518586
308	1617442.2100000	668291.0380000	7624	1617390.9406890	668963.0294609
309	1617546.5627325	670826.5037147	7625	1617417.8903407	668916.0202080
310	1628280.4341490	670384.7277040	7626	1617446.7540691	669617.3266418
311	1617729.7639948	672408.2184001	7627	1617516.4042946	671309.6244262
312	1617579.3923610	671624.1681490	7628	1617613.2588190	672145.8499613
313	1618106.1334725	674370.6457543	7629	1617632.1850867	672244.5272980
314	1617071.2395677	669979.9738750	7630	1617336.4364543	672251.8687772
315	1617496.7652156	669616.5689740	7631	1614748.9568746	672270.0936493
316	1617705.2134813	672275.7246525	7632	1614716.8663421	669658.6871062
317	1617281.8180227	667751.9570629	7633	1614667.0609178	667046.4017246
318	1616620.4243153	669986.2414403	7634	1617776.9183209	672306.9548622
319	1617185.5462913	668178.7112966	7635	1617793.8002597	672395.9753208
320	1615459.8888518	668996.6161134	7636	1618169.9700373	674358.4026750
321	1617367.9326348	668918.0781599	7637	1619928.3458793	672253.5491696
322	1617466.4465867	671311.6805451	7638	1618042.2969076	674382.8888336
323	1623191.1780375	671076.0666716	7639	1617644.7899905	672310.2348077
324	1617564.1537691	672155.2617146	7640	1617337.2375187	672317.8669977
325	1617993.1918578	674362.3065989	7641	1614749.7724207	672336.0895425
326	1616935.9625245	667019.0288058	7642	1616675.3927878	669685.4772282
327	1617351.9539070	668529.8415714	7643	1618565.4558427	669687.0065525
328	1617396.7426227	669618.0843095	7644	1617230.7322123	668157.2985983
329	1617483.9557240	671737.1015787	7645	1617140.3663702	668200.1239948
330	1617581.5150569	672245.7850662	7646	1617317.9749289	668920.1342759
331	1617594.1169608	672311.4928088	7647	1617346.7317762	669618.8419772
7400	1617280.4510000	667547.6070000	7648	1617416.4888929	671313.7366940
7401	1617704.5622222	672609.7324445	7649	1617515.0487192	672164.8794679
7600	1617152.8787356	667067.1985213	7650	1617530.9450271	672247.0429003
7601	1617161.2335867	667219.5718349	7651	1617643.4489310	672312.7504100
7602	1617388.7122845	667816.0791220	7652	1617944.0988079	674401.7243402
7603	1617528.7372572	668764.1544798	7653	1616690.9309970	667018.2643638
7604	1617541.5208044	669123.3467949	7654	1616580.9940519	667019.7928179
7605	1617942.1335621	669494.7788236	7655	1617638.4880386	672277.3810529
7606	1617946.8655338	669809.7499644	7656	1617537.1459791	672279.8666551
7607	1617628.7941964	669614.5990379	7657	1617278.9338200	667514.3329298
7608	1617638.8762393	669908.1575185	7658	1617284.8412526	668001.0353959
7609	1617573.9079913	669910.2660423	7659	1617288.3686227	668291.6489004

Page 1 of 2

COORDINATE POINT LIST

SWO4837(1) Job Piece 28774(04)

PT NO	EASTING	NORTHING	PT NO	EASTING	NORTHING
7660	1617293.1342328	668694.2787143	8000	1615215.0151865	667038.7838812
8001	1615234.7114499	669075.5981658	8002	1614698.7571810	668983.2142292
8003	1614733.0254947	670980.8993361	8004	1617320.6612096	670952.1755043
8005	1617401.5414997	670950.5587525	8006	1618951.2153979	667567.4903440
8007	1617145.8883670	667522.3543170	8008	1617291.3925618	668298.5436670
8009	1617347.8328488	668298.8610999	8010	1617479.1490491	668297.2647700
8011	1617813.4282104	668293.2074250	8012	1617769.9604647	667183.7895058
8013	1617599.9751954	667186.2168905	8014	1617601.8442585	667340.2055179
8015	1617321.3052757	667343.6106067	8016	1617323.1600582	667450.3618614
8017	1617278.1668491	667451.1436098	8018	1617376.8808305	667342.9362919
8019	1617374.5550018	667152.9633227	8020	1617274.5623671	667154.1770000
8021	1617274.5676761	667154.6143983	8022	1617217.0477243	667154.5763885
8023	1617173.1747392	667154.5473968	8024	1617216.4196077	667034.6100433
8025	1617184.9694580	667034.7679757	8026	1617806.5264547	667724.7492969
8027	1618587.7689094	667715.2688359	8028	1618610.6414567	669599.6937741
8029	1619597.7346101	669924.7783516	8030	1619592.5842088	669584.8173636
9000	1614716.3650000	672303.3240000	9001	1617336.8370000	672284.8690000
9002	1619960.8960000	672219.7310000	9003	1614683.8900000	669599.1870000
9004	1617304.4854193	669619.4820088	9005	1619925.5490000	669579.7730000
9006	1614633.4370000	667013.8680000	9007	1617272.4140000	669677.1770000
9008	1619889.7050000	666939.3900000			

Page 2 of 2

STATE OF OKLAHOMA      S.D. FORM NO. 11  
DEPARTMENT OF HIGHWAYS      REVISED 3/10/75  
SURVEY DIVISION  
POSITION AND DESCRIPTION OF SURVEY MONUMENTS

COUNTY WASHITA      STATION NUMBER W-75-816      SWQ 4837(01)      DATE 12-17-2012

TYPE OF MONUMENT 5/8" IRON ROD/ALM. CAP "740" MONUMENT SET FOR HORIZ. AND VERT. CONTROL

METHOD ESTABLISHED: TRILATERATION\_\_\_\_, TRIANGULATION\_\_\_\_, TRAVERS\_\_\_\_, OTHER (SPECIFY) GPS STATIC METHOD

HEIGHT OF INSTRUMENT ABOVE MONUMENT: \_\_\_\_\_ FEET, TYPE OF WITNESS POST \_\_\_\_\_

WRITTEN DESCRIPTION OF LOCATION: THE MONUMENT IS LOCATED AT 48+55.45 OFFSET 56.97' RT. SAID POINT BEING 38'-1/2" EAST OF THE EAST EDGE OF PAVEMENT S.H. 44.

ESTABLISHED BY: SMITH ROBERTS BALDISCHWILER LLC  
CLIFF R. STOUT PLS 1473

COORDINATE SYSTEM: <input type="checkbox"/> USC&GS, <input type="checkbox"/> OHD, <input checked="" type="checkbox"/> OTHER (SPECIFY) <u>NAD 83 (1993)</u>	
GRID DATA:	COORDINATES (FEET)
<u>SOUTH ZONE</u>	X <u>167280.4510</u>
ACCURACY:	Y <u>667549.6070</u>
<u>3rd ORDER</u>	

GEODETTIC DATA		POSITION	ELEVATION
ANGLE OF VARIANCE (O)	LATITUDE	NORTH	FEET
<u>-0°40'01.0600"</u>	<u>35°09'43.5039"</u>		<u>1642.729</u>
	LONGITUDE	WEST	SOURCE
	<u>99°10'30.5774"</u>		<u>NAV/D BB</u>
			ACCURACY: <u>3rd ORDER</u>

GENERAL VICINITY:  
SEC 14  
R 19 W

△ = CONTROL MONUMENT  
○ = LAND CORNER  
□ = OTHER

STATE OF OKLAHOMA      S.D. FORM NO. 11  
DEPARTMENT OF HIGHWAYS      REVISED 3/10/75  
SURVEY DIVISION  
POSITION AND DESCRIPTION OF SURVEY MONUMENTS

COUNTY WASHITA      STATION NUMBER W-75-817      SWQ 4837(01)      DATE 12-17-2012

TYPE OF MONUMENT 1/2" IRON ROD/ALM. CAP "740" MONUMENT SET FOR HORIZ. AND VERT. CONTROL

METHOD ESTABLISHED: TRILATERATION\_\_\_\_, TRIANGULATION\_\_\_\_, TRAVERS\_\_\_\_, OTHER (SPECIFY) GPS STATIC METHOD

HEIGHT OF INSTRUMENT ABOVE MONUMENT: \_\_\_\_\_ FEET, TYPE OF WITNESS POST \_\_\_\_\_

WRITTEN DESCRIPTION OF LOCATION: THE MONUMENT IS LOCATED AT 635+33.79 OFFSET 62.70' LT. SAID POINT BEING 43'-1/2" WEST OF THE WEST EDGE OF PAVEMENT S.H. 44.

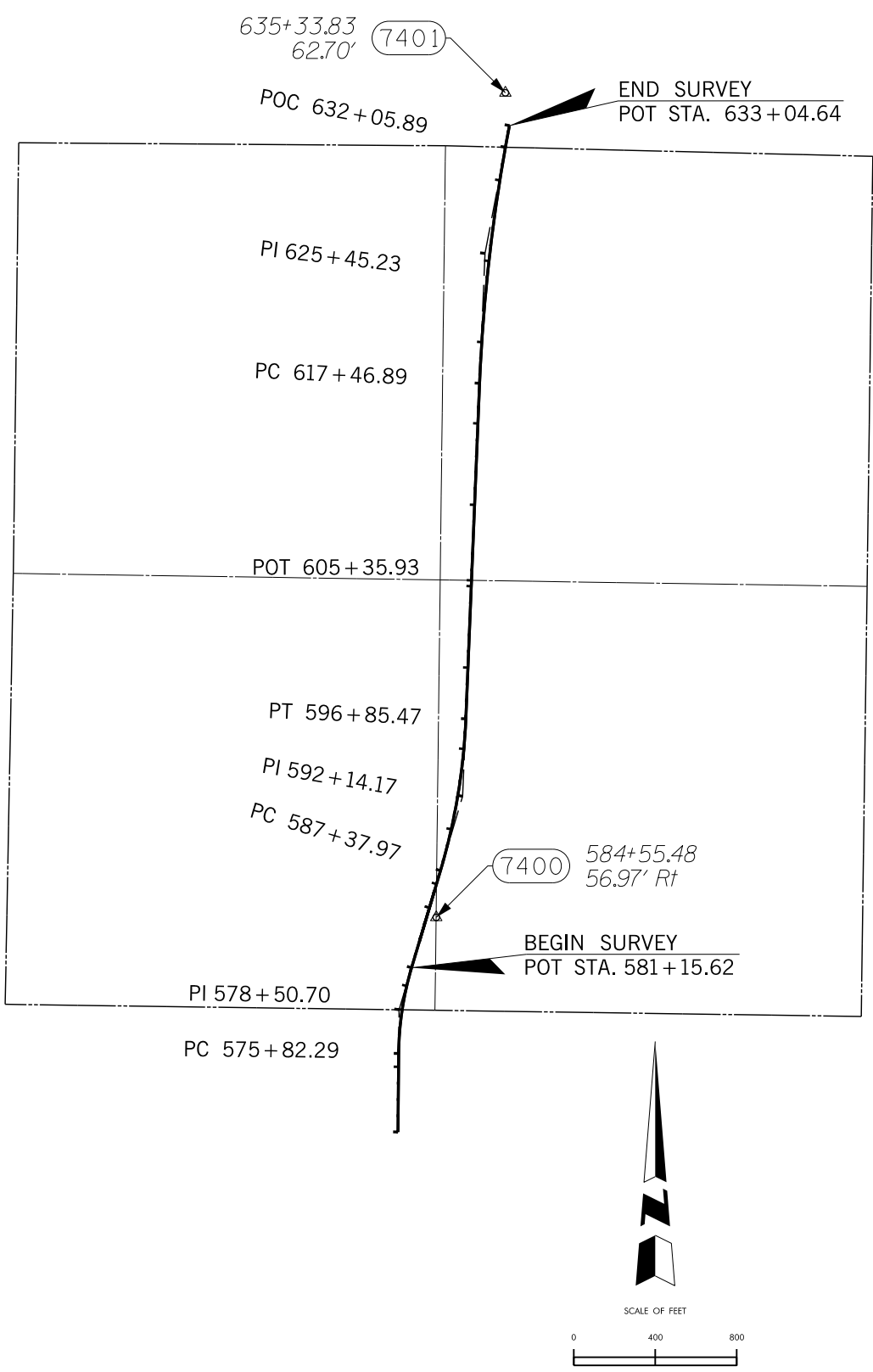
ESTABLISHED BY: SMITH ROBERTS BALDISCHWILER LLC  
CLIFF R. STOUT PLS 1473

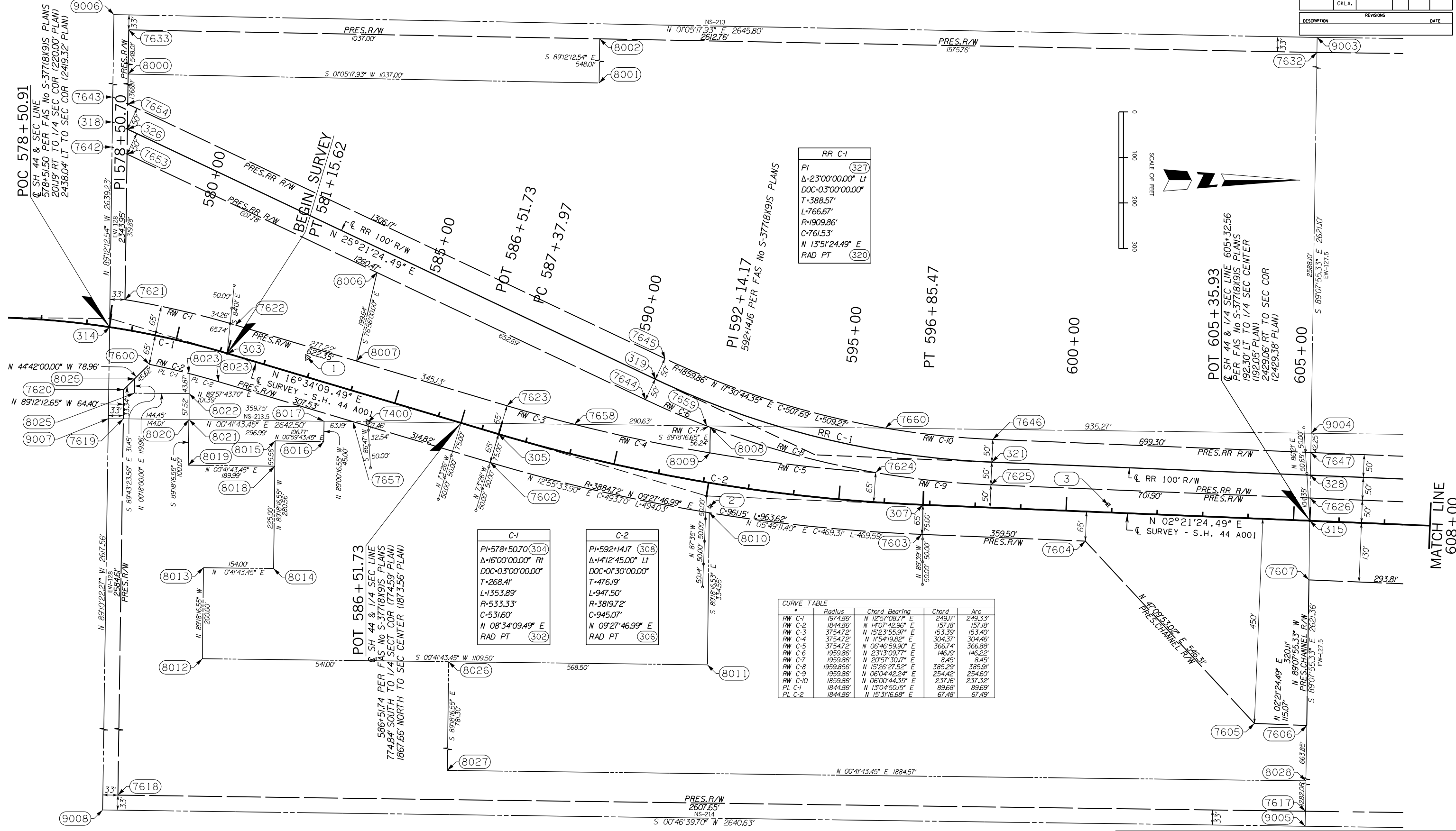
COORDINATE SYSTEM: <input type="checkbox"/> USC&GS, <input type="checkbox"/> OHD, <input checked="" type="checkbox"/> OTHER (SPECIFY) <u>NAD 83 (1993)</u>	
GRID DATA:	COORDINATES (FEET)
<u>SOUTH ZONE</u>	X <u>167704.5622</u>
ACCURACY:	Y <u>672609.7324</u>
<u>3rd ORDER</u>	

GEODETTIC DATA		POSITION	ELEVATION
ANGLE OF VARIANCE (O)	LATITUDE	NORTH	FEET
<u>-0°39'58.6134"</u>	<u>35°10'33.26308"</u>		<u>1633.154</u>
	LONGITUDE	WEST	SOURCE
	<u>99°10'25.75909"</u>		<u>NAV/D BB</u>
			ACCURACY: <u>3rd ORDER</u>

GENERAL VICINITY:  
SEC 11  
R 19 W

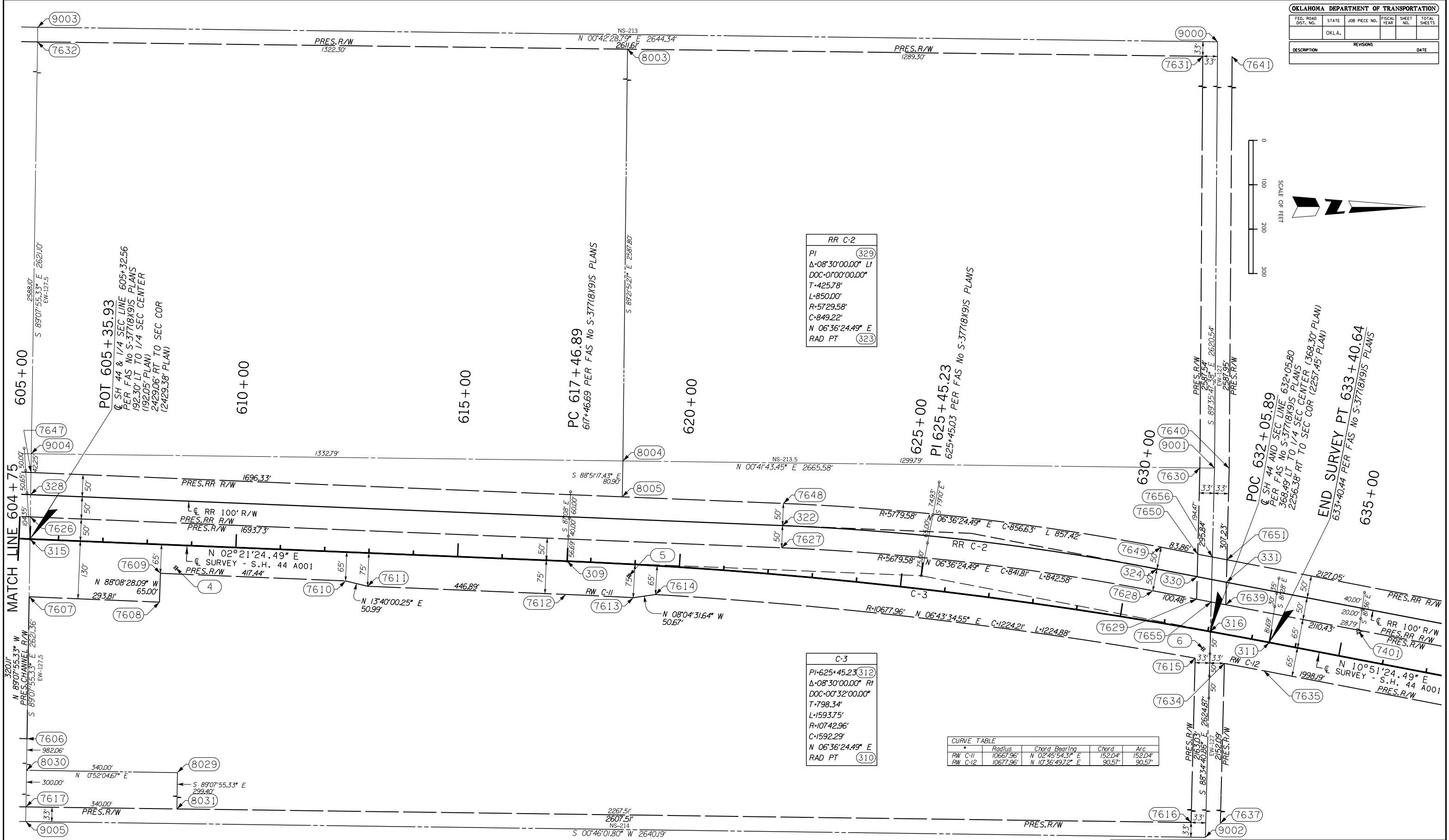
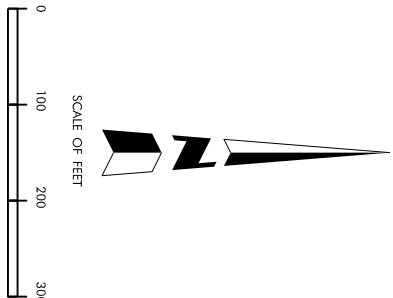
△ = CONTROL MONUMENT  
○ = LAND CORNER  
□ = OTHER





NOTE:  
 ALL REFERENCE POINTS ARE 1/2" IRON PINS UNLESS OTHERWISE NOTED ON SURVEY.





**NOTE:**  
ALL REFERENCE POINTS ARE 1/2" IRON PINS UNLESS OTHERWISE NOTED ON SURVEY.

PLS	CRS	12/12
DRAWN	TDL	12/12
CHECKED	JAC	12/12
APPROVED	CRS	12/12
CREW	BC, SG, BH	

OKLAHOMA DEPARTMENT OF TRANSPORTATION  
SURVEY DIVISION

**SMITH ROBERTS BALDISCHWILER, LLC**  
100 N.E. 5th Street, Oklahoma City, OK 73104  
Telephone: (405) 840-7094  
Fax: (405) 840-9116

**SURVEY DATA SHEET**

SWO 4837 (1) PROJECT NO. 28774(04) SHEET NO. SD08

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

**NOTE:**  
ALL REFERENCE POINTS ARE 1/2" IRON PINS WITH CA3949 CAPS UNLESS OTHERWISE NOTED ON SURVEY.

NORTH 1/4 CORNER - ODOT STA. No. W-75-809 - FOUND 1/2" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

NW CORNER - ODOT STA. No. W-75-808 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

NE CORNER - ODOT STA. No. W-75-810 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

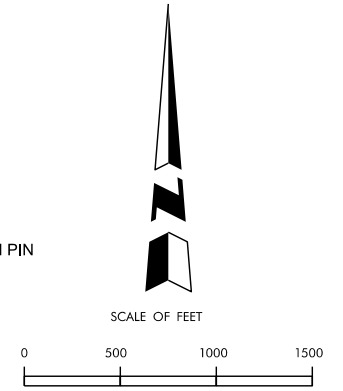
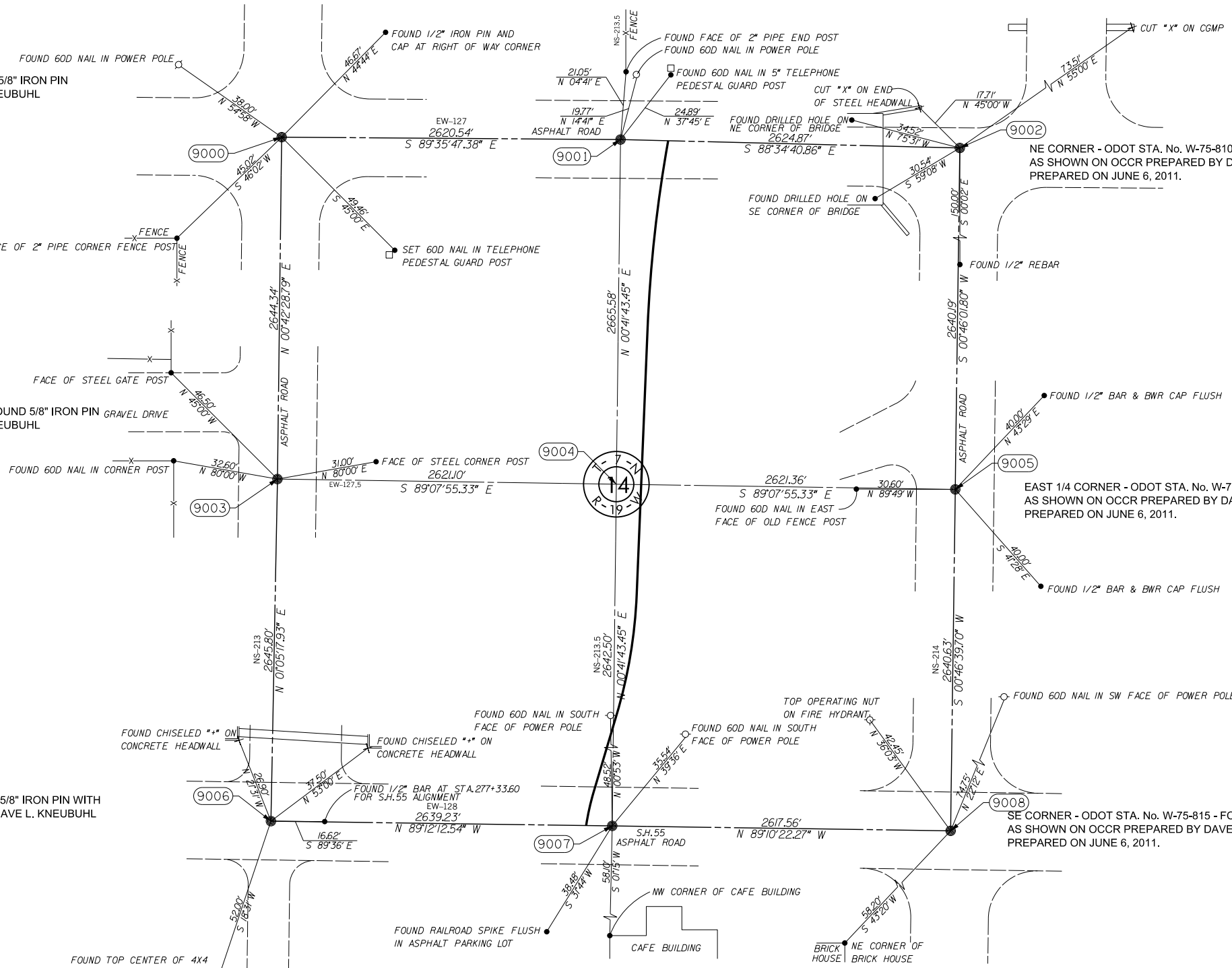
WEST 1/4 CORNER - ODOT STA. No. W-75-811 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

EAST 1/4 CORNER - ODOT STA. No. W-75-812 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.


SW CORNER - ODOT STA. No. W-75-813 - FOUND 5/8" IRON PIN WITH CAP BWR AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

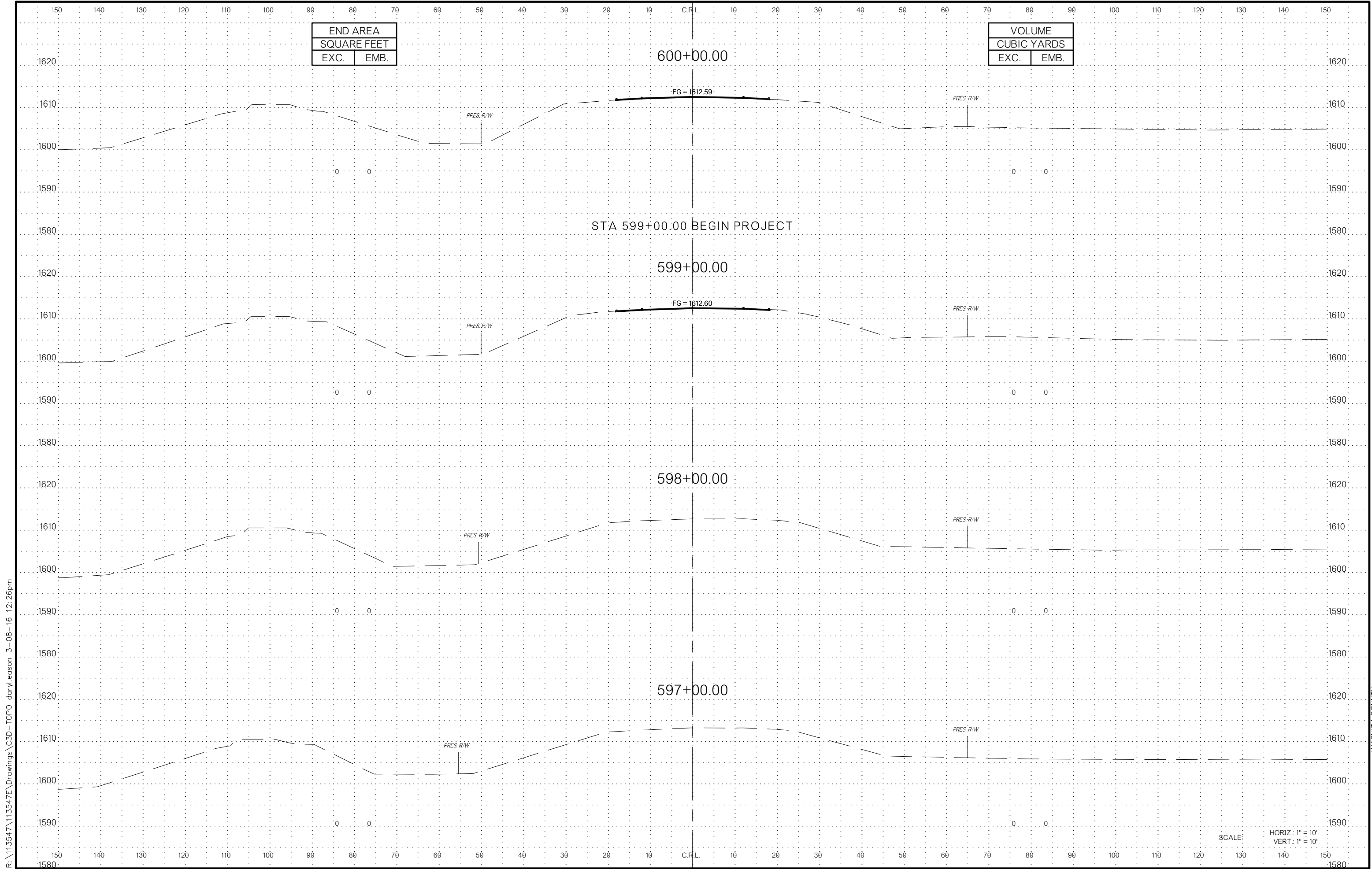
SE CORNER - ODOT STA. No. W-75-815 - FOUND 5/8" IRON PIN AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.

SOUTH 1/4 CORNER - ODOT STA. No. W-75-814 - SET MAG NAIL WITH TAG No. CA3949 PER REFERENCES AS SHOWN ON OCCR PREPARED BY DAVE L. KNEUBUHL PREPARED ON JUNE 6, 2011.



NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

PLS	CRS	12/12	<b>OKLAHOMA DEPARTMENT OF TRANSPORTATION</b> <b>SURVEY DIVISION</b>  <b>SMITH ROBERTS BALDSCHWILER, LLC</b> 100 N.E. 5th Street Oklahoma City, OK 73104 Telephone: (405) 840-7094 FAX: (405) 840-5116
DRAWN	TDL	12/12	
CHECKED	JAC	12/12	
APPROVED	CRS	12/12	
CREW	BC, SG, BH	SWO 4837 (1)	

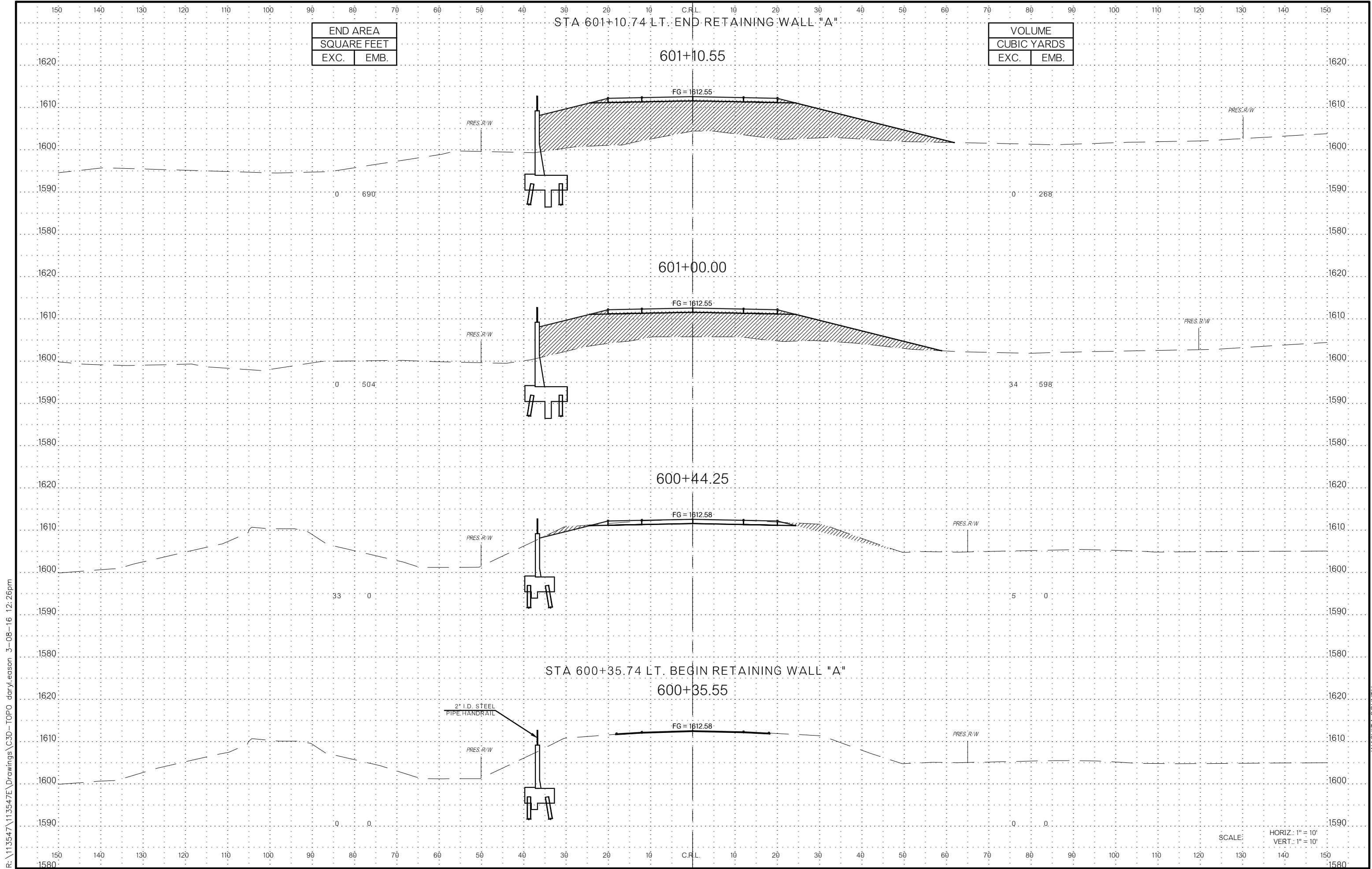


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WASHINGTON COUNTY

SH. 44

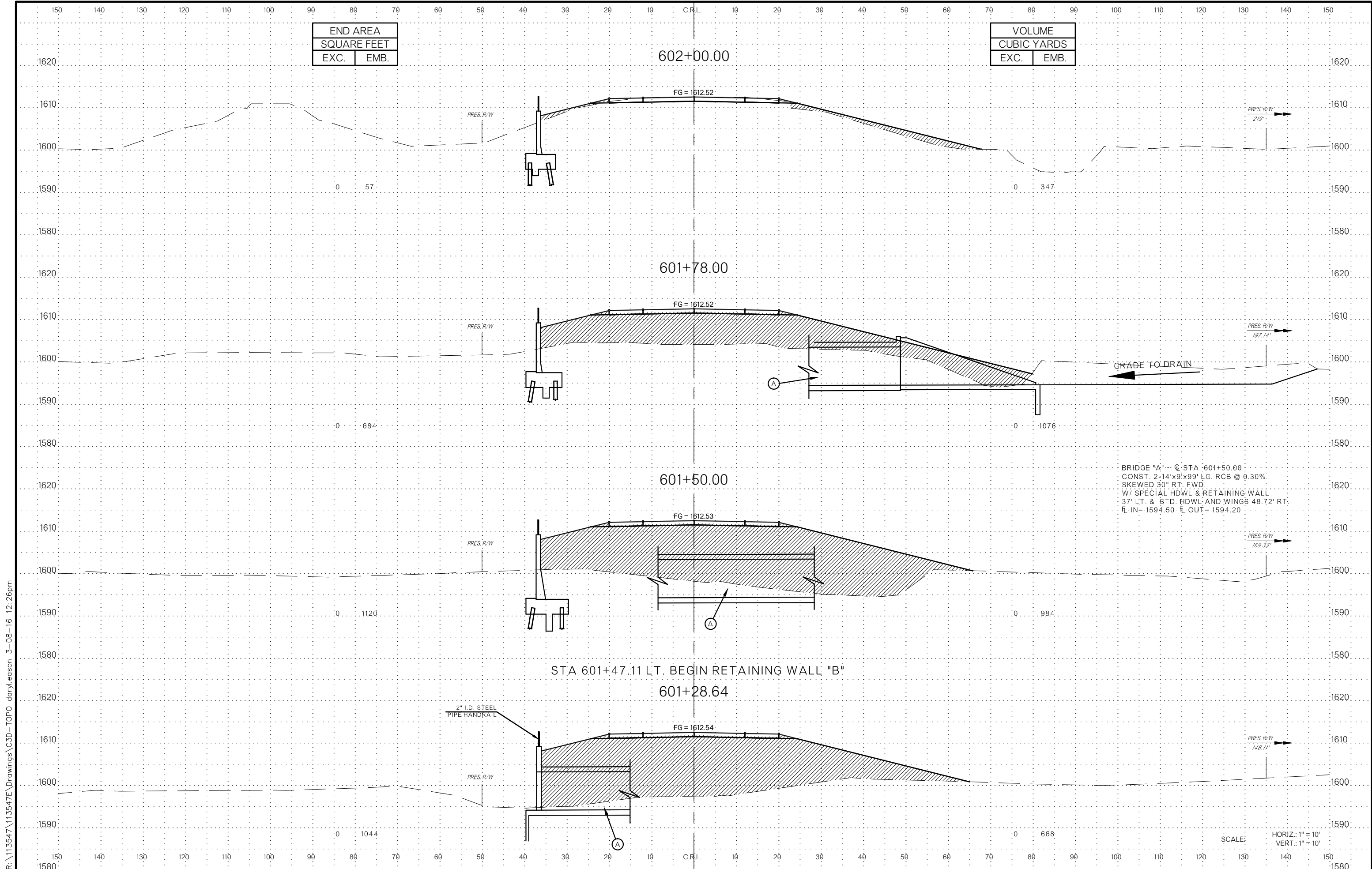
SCALE: HORIZ.: 1" = 10'  
VERT.: 1" = 10'



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WASHINGTON COUNTY

SH. 44



END AREA	
SQUARE FEET	
EXC.	EMB.

VOLUME	
CUBIC YARDS	
EXC.	EMB.

BRIDGE "A" ~ C. STA. 601+50.00  
 CONST. 2-14'x9'x99' LG. RCB @ 0.30%  
 SKEWED 30° RT. FWD.  
 W/ SPECIAL HDWL & RETAINING WALL  
 37' LT. & STD. HDWL AND WINGS 48.72' RT.  
 FL IN= 1594.50 FL OUT= 1594.20

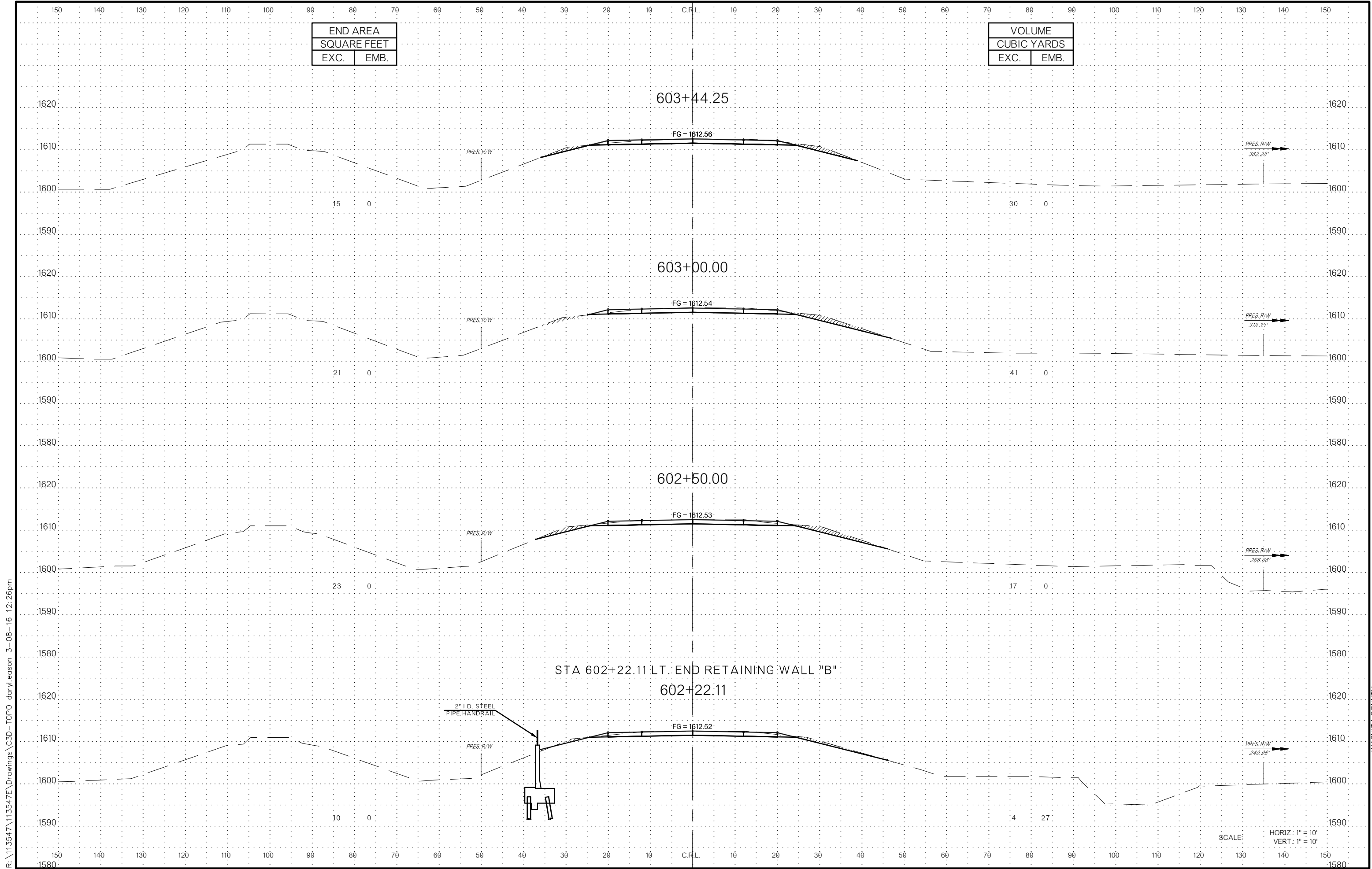
STA 601+47.11 LT. BEGIN RETAINING WALL "B"

SCALE: HORIZ.: 1" = 10'  
 VERT.: 1" = 10'

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WASHITA COUNTY

SH. 44

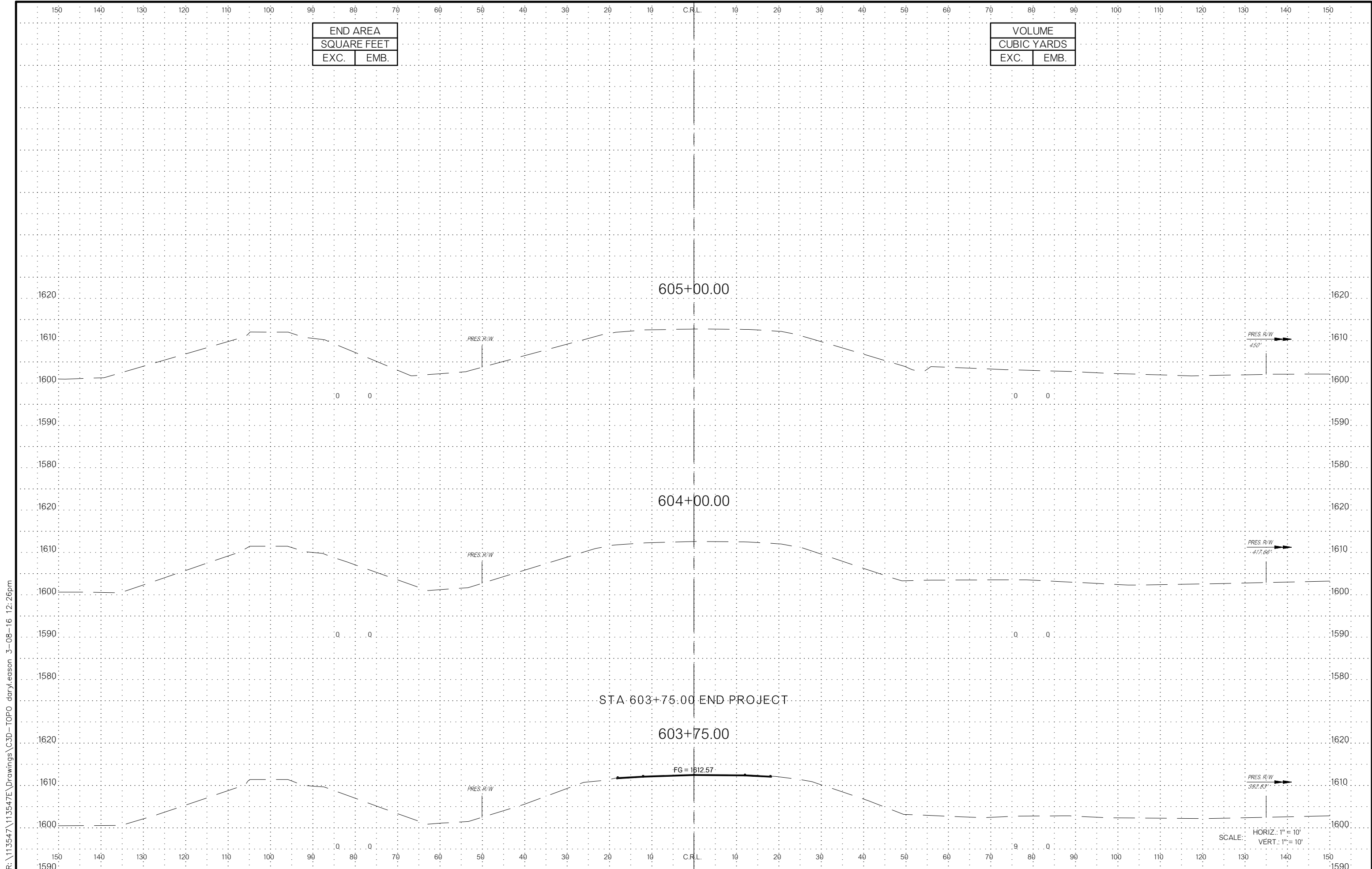


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WASHITA COUNTY

SH. 44





END AREA	
SQUARE FEET	
EXC.	EMB.

VOLUME	
CUBIC YARDS	
EXC.	EMB.

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WASHITA COUNTY  
SH. 44

SCALE: HORIZ.: 1" = 10'  
VERT.: 1" = 10'