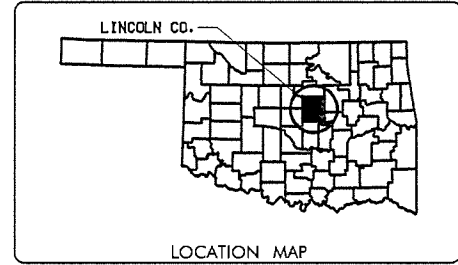


SURVEY CONTROL DATA:
SEE SURVEY DATA SHEETS

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY
FEDERAL AID PROJECT ACSTP-241B(04)SS
BRIDGE AND APPROACHES
UNITED STATES HIGHWAY 177 OVER BRUSH CREEK
LINCOLN COUNTY

CONTROL SECTION NO. 177-41-33
STATE JOB NO. 28941(04)
BRIDGE LOCATION NO. 4153 0071 X
EXISTING NBI NO. 15689 NEW NBI NO. 31154



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4	SUMMARY OF QUANTITIES AND GENERAL NOTES (BRIDGE)
5	SUMMARY OF PAY QUANTITIES (SIGNING AND STRIPING)
6	SUMMARY OF PAY QUANTITIES (TRAFFIC CONTROL)
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8	DRAINAGE DESIGN RECORD
9	STORM WATER MANAGEMENT PLAN
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S-1 TO S-9 SURVEY DATA SHEETS

CROSS SECTION SHEETS

X-1 TO X-11 US-177

THE FOLLOWING ODOT STANDARDS WILL BE REQUIRED ON THIS PROJECT:

ROADWAY	BRIDGE	TRAFFIC
SSS-1-1	RCB-E3-H10-0-1-01E	RS1-1-00
TSC2-3-2	RCB-E3-H10-0-2-01E	PM3-1-02
TFL-1-1	RCB-CW3-D8-0-01E	TCS1-1-01
TRFD-1-2	RCB-C1-8(2-14)-01E	TCS2-1-00
PSE-1-0	RCB-E1-H3-30-1-01E	TCS3-1-01
TWD-1-0	RCB-E1-H3-30-2-01E	TCS4-1-01
CET4S-3-2	RCB-E1-H3-30-3-01E	TCS5-1-00
PCES-4-1	RCB-E1-H3-30-3-01E	TCS6-1-02
SPI-4-1	RCB-CW1-D4-30-01E	TCS7-1-02
SPB-1-4		TCS8-1-00
FHTMPP-1-D		TCS9-1-01
SBI-4-2		TCS10-1-00
MI-3-0		TCS11-1-01
RDI-3-1		TCS13-1-00
DC-3-2		TCS14-1-00
PDT-1-3		TCS15-1-00
RWF2-2-1		TCS19-1-01
		TCS20-1-00
		TCS21-1-02
		TCS22-1-00

DESIGN DATA

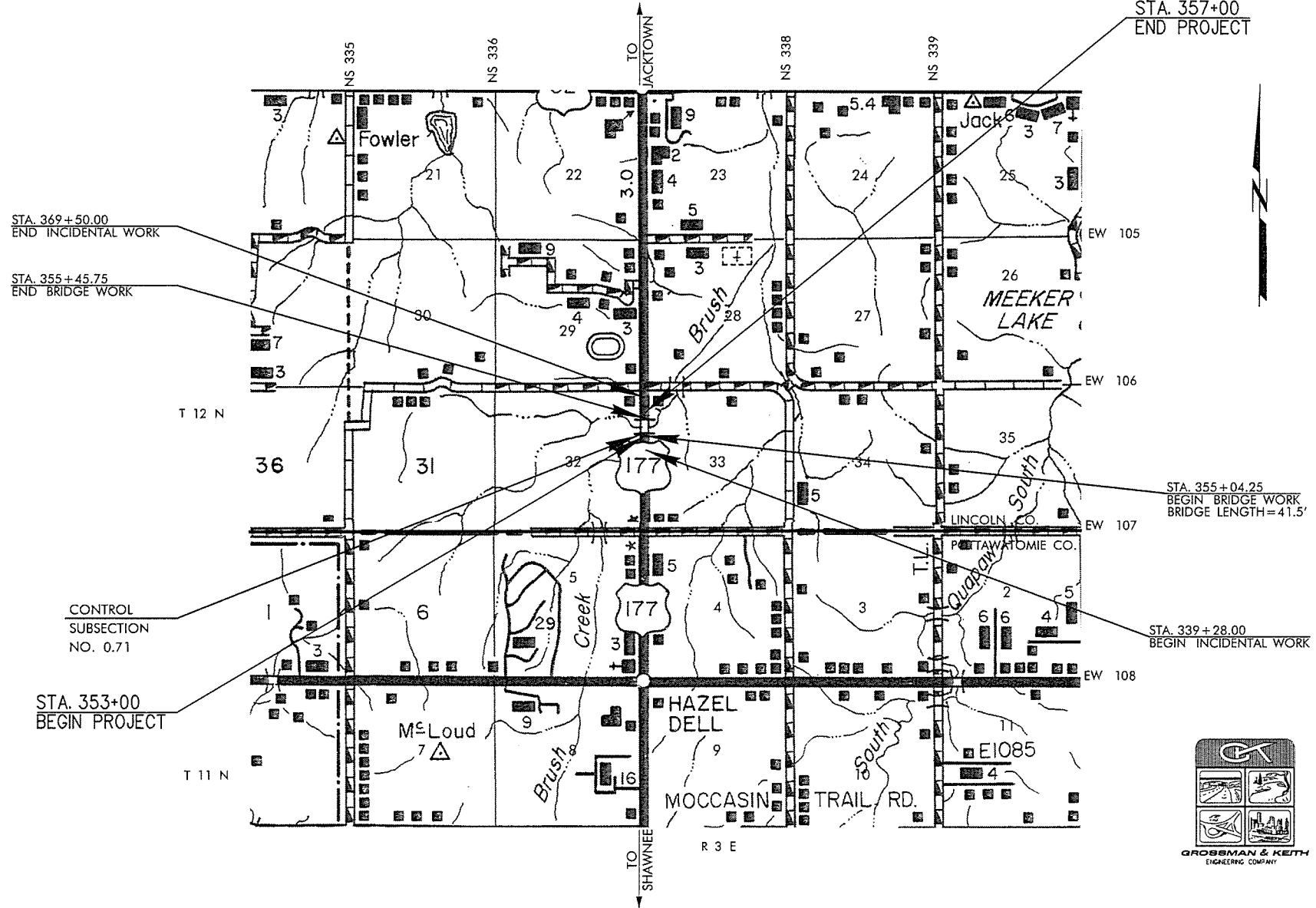
ADT 2016	=	3400
ADT 2036	=	4700
DHV	=	517
K (DHV/ADT-2 WAY)	=	11 %
D	=	56 %
T (% DHV)	=	14 %
T (% ADT)	=	18 %
T ₃ (% ADT)	=	11 %
V	=	65 MPH
20yr. Flex ESALS	=	4.33 Million

SCALES

PLAN	1" = 50'
PROFILE HOR.	1" = 50'
VER.	1" = 5'
LAYOUT MAP	1" = 2640'

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
	CISTERN
	DRAINAGE STRUCTURES - IN PLACE
	DRAINAGE STRUCTURES - NEW
	RIGHT-OF-WAY LINES - EXISTING
	RIGHT-OF-WAY LINES - NEW
	CONTROLLED ACCESS
	RIGHT-OF-WAY FENCE



ROADWAY LENGTH ----- 358.50 FT. = 0.068 MI.
 BRIDGE LENGTH ----- 41.50 FT. = 0.008 MI.
 PROJECT LENGTH ----- 0.076 MI.
 EQUATIONS: ----- NA



PREPARED BY:
GROSSMAN & KEITH ENGINEERING CO.
10408 GREENBRIAR PLACE
OKLAHOMA CITY, OKLAHOMA 73159
(405)-691-3213
C.A. #CA74 EXP. 6-30-16

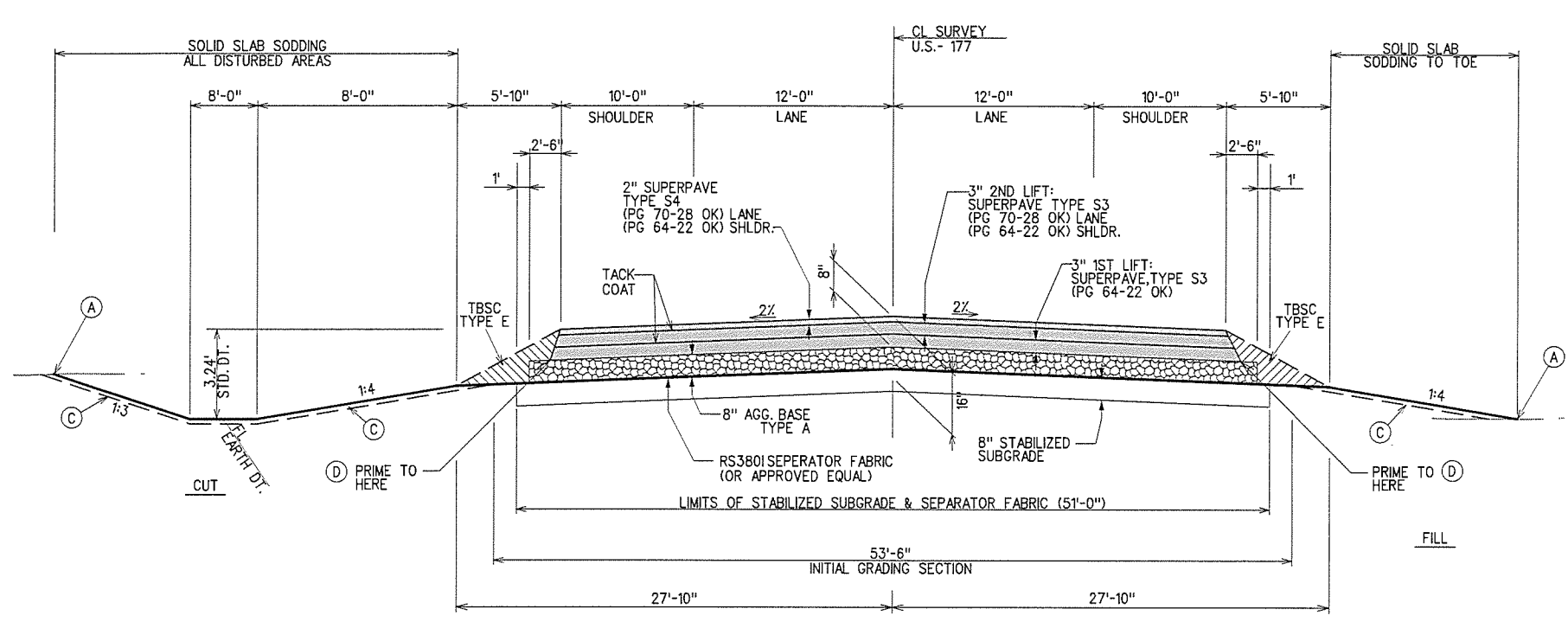
DATE 6/13/16
BRAD DONWERTH
19552
OKLA. REG. NO. 19552

DATE 6/13/16
John H. Johnson, P.E.
OKLA. REG. NO. 14780

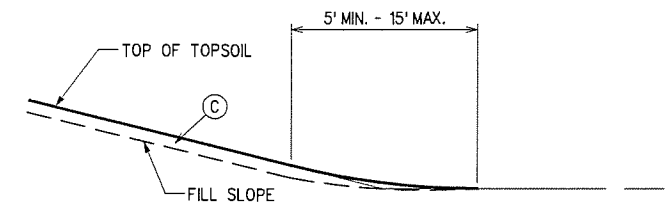
OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____	DATE APPROVED _____
BY _____ CHIEF ENGINEER	BY _____ DIVISION ADMINISTRATOR
SWO 4823(1)	PROJECT NO. ACSTP-241B(04)SS SHEET NO. 1

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

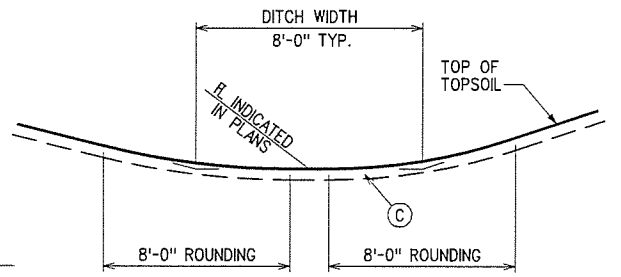
REV. NO.	DESCRIPTION	DATE



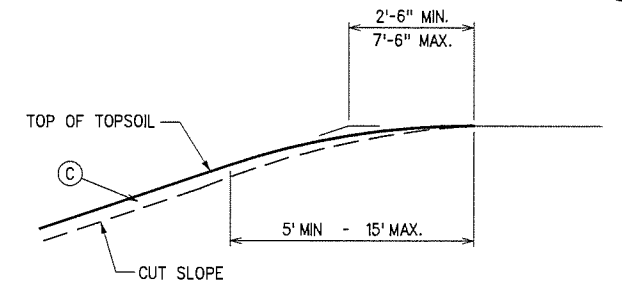
1 TYPICAL SECTION
FULL RECONSTRUCTION U.S. 177
STA. 353+00 TO STA. 357+00



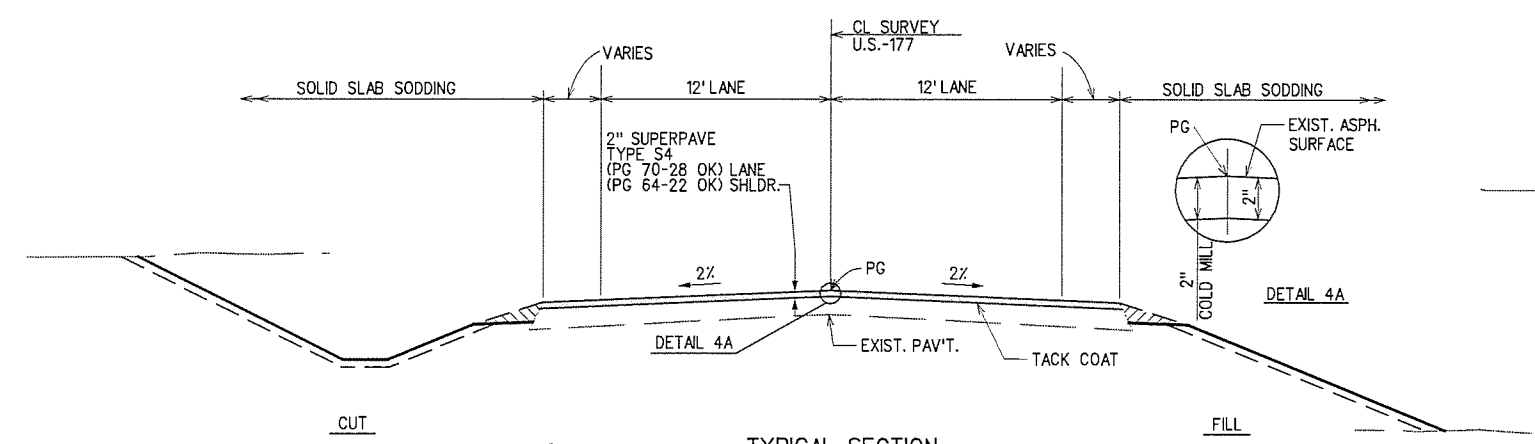
1 TOE OF FILL ROUNDING DETAIL



DITCH ROUNDING DETAIL
(NO ROUNDING REQUIRED WHERE
PAVED DITCH SCHEDULED)

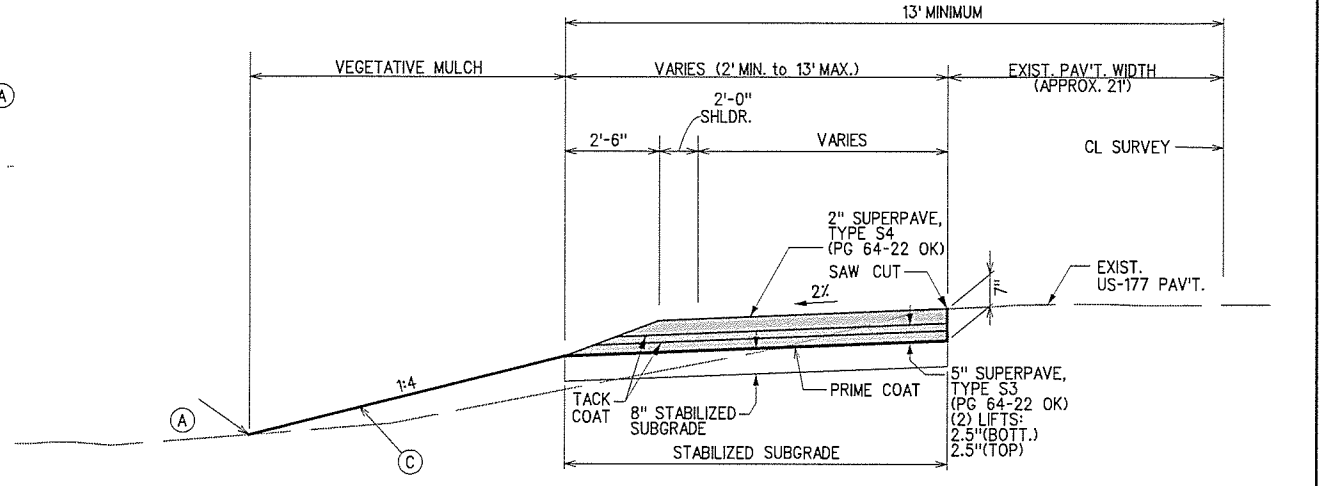


1 TOP OF CUT ROUNDING DETAIL

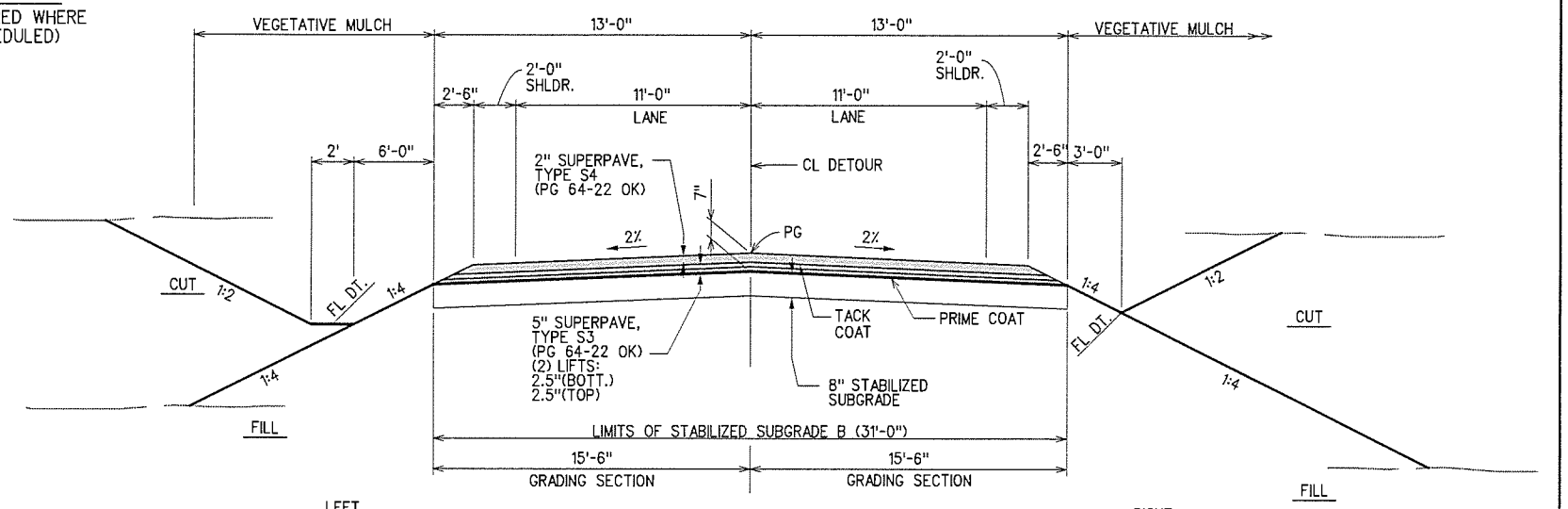


4 TYPICAL SECTION
OVERLAY U.S.-177
STA. 339+28.00 TO STA. 353+00.00
STA. 357+00.00 TO STA. 369+50.00

- (A) INTERSECTION OF CUT AND/OR FILL SLOPES WITH GROUND LINE TO BE ROUNDED AS PART OF FINISHING OPERATIONS. ROUNDDING SHALL BE FROM 5' MINIMUM FOR SMALLER CUTS AND FILLS TO 15' MAXIMUM FOR LARGER CUTS AND FILLS OR AS DESIGNATED BY THE ENGINEER. COST OF ROUNDDING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK. SEE DETAILS BELOW.
- (B) THESE AREAS TO BE BACKFILLED AND COMPACTED AS PART OF FINISHING OPERATIONS. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
- (C) RESERVE TOPSOIL SHALL BE SPREAD APPROXIMATELY 5 INCHES THICK, FIRST ON COMPLETED BACKSLOPES OF CUT SECTIONS AND REMAINDER ON COMPLETE FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER.
- (D) PRIME COAT SHALL BE APPLIED TO THE SUBGRADE SURFACE IMMEDIATELY UPON COMPLETION OF THE SUBGRADE, WITH THE APPROVAL OF THE ENGINEER.



2 TYPICAL SECTION
DETOUR WIDENING
STA. 342+98.14 TO 346+95.54
STA. 363+54.95 TO 367+38.72



3 TYPICAL SECTION
DETOUR
STA. 346+95.54 TO STA. 363+54.95

X:\Odot\EC-1394F-2\Civil\Typical Sections.dgn 12/8/2015

DESIGN			
DRAWN			
CHECKED			
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO.	28941(04) SHEET NO. 2

TYPICAL SECTIONS

US-177

GENERAL CONSTRUCTION NOTES

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

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

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

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

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

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.

TREES OUTSIDE THE TOE OF FILL SLOPES AND THE TOP OF CUT SLOPES SHALL NOT BE DISTURBED EXCEPT WITH THE APPROVAL OF THE ENGINEER.

AN EFFORT HAS BEEN MADE TO LOCATE AND SHOW ON THESE PLANS EXISTING UTILITIES. WHETHER OR NOT SHOWN ON THE PLANS, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT THE LINES DURING CONSTRUCTION. THE "OKIE" UTILITY LOCATION NUMBER 1-800-522-6543 SHOULD BE CALLED PRIOR TO ANY EXCAVATION. ADJUSTMENT AND/OR RELOCATION OF LINES THAT INTERFERE WITH CONSTRUCTION WILL BE MADE BY THE OWNER OF THE LINE. ALL COSTS TO REPAIR ANY DAMAGE TO A UTILITY LINE CAUSED BY THE CONTRACTOR, OR ANY OF HIS SUBCONTRACTORS, WHETHER THAT LINE WAS SHOWN ON THE PLANS OR NOT, WILL BE BORNE BY THE CONTRACTOR.

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

THE CONTRACTOR IS ADVISED TO MAKE SPECIAL EFFORT TO POSITIVELY LOCATE, EXPOSE AND MARK ANY AND ALL FIBER OPTICS CABLES WITHIN THE PROJECT LIMITS PRIOR TO BEGINNING ANY DIGGING OPERATIONS.

BORROW PITS SHALL NOT BE CONSTRUCTED IN WETLANDS. ONCE A POTENTIAL BORROW SITE IS IDENTIFIED, CONTACT THE U.S. ARMY CORPS OF ENGINEERS, REGULATORY BRANCH AT: (918) 669-7400 FOR A WETLANDS DETERMINATION. SEE "ENVIRONMENTAL MITIGATION NOTES" THIS SHEET FOR ADDITIONAL INFORMATION.

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.

PAY QUANTITY NOTES

(1) EXCAVATION WILL NOT BE MEASURED IN THE FIELD BUT WILL BE PAID FOR AS THE PLAN QUANTITY OF UNCLASSIFIED EXCAVATION TIMES THE UNIT PRICE BID PER C.Y. OF EXCAVATION. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS. EXCAVATED MATERIAL, APPROVED BY THE ENGINEER TO BE USED AS FILL, SHALL BE MOVED TO ITS NEW LOCATION WITHIN THE PROJECT AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS. COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR EXCAVATION. ANY ADDITIONAL EXCAVATION APPROVED BY THE ENGINEER WILL BE MEASURED AND PAID FOR SEPARATELY AT THE UNIT PRICE BID.

(2) ANY EXCESS EXCAVATED MATERIAL NOT USED AS FILL GENERATED FROM THIS PROJECT SHALL BE EITHER REMOVED FROM THE LIMITS OF THE PROJECT OR WASTED ON THE PROJECT RIGHT-OF-WAY, AT THE CONTRACTOR'S EXPENSE, IN A MANNER APPROVED BY THE ENGINEER.

(3) RESPONSIBILITY FOR OBTAINING AND COSTS ASSOCIATED WITH TRANSPORTING, PLACING AND PROPERLY COMPACTING FILL MATERIAL IN PLACE FROM OFF-SITE SOURCES, SHALL BE BORNE BY THE CONTRACTOR. ONLY MATERIAL APPROVED BY THE ENGINEER WILL BE ALLOWED IN THE ROADBED CROSS SECTION AS FILL MATERIAL. THE QUANTITY OF UNCLASSIFIED BORROW SHOWN INCLUDES AN ESTIMATED 15% FOR COMPACTION. CONTRACTOR SHALL NOT UTILIZE ANY BORROWSOIL CONTAINING SULFATE CONCENTRATIONS > 1000 PPM. MIXING WATER FOR USE IN SUBGRADE STABILIZATION SHALL BE TESTED FOR SULFATES.

(4) AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 0-46-0 FERTILIZER APPLIED, AT THE RATE OF 150 POUNDS PER ACRE, JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL. PRICE BID TO INCLUDE COST OF D-46-0 FERTILIZER, ESTIMATED AT 150 POUNDS PER ACRE. 18-46-0 FERTILIZER MAY BE SUBSTITUTED.

(5) PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1000 SQUARE YARDS.

(6) INCLUDES THE COST OF SEDIMENT REMOVAL AS REQUIRED BY THE ENGINEER.

(7) THIS ITEM INCLUDES AN ESTIMATED QUANTITY TO BE USED ONLY AS APPROVED BY THE ENGINEER. SEE THE APPROPRIATE DETAIL OR SUMMARY SHEET.

(8) SEE TABLES ON SHT. 7 FOR APPLICATION RATES.

(9) EXCAVATION AND STR. EXCAVATION WILL NOT BE MEASURED FOR PAYMENT ON THIS PROJECT FOR DRAINAGE STRUCTURES. COST SHALL BE INCLUDED IN PRICE BID FOR CLASS AA CONCRETE.

(10) PRIME COAT SHALL BE APPLIED IMMEDIATELY AFTER COMPLETION OF THE AGGREGATE BASE, WITH THE APPROVAL OF THE ENGINEER.

(11) TEMPORARY SLOPE PROTECTION QUANTITIES HAVE BEEN PROVIDED IN THIS CONTRACT, HOWEVER, WITH THE APPROVAL OF THE ENGINEER, PERMANENT SOLID SLAB SODDING MAY BE APPLIED IMMEDIATELY UPON COMPLETION OF THE PERMANENT FINISHED SLOPES, AND THE TEMPORARY SLOPE PROTECTION DELETED. ANY VEGETATIVE MULCH APPLIED SHALL BE LIMITED TO A WHEAT MULCH ONLY.

(12) THIS INCLUDES THE REMOVAL OF 5915 S.Y. OF ASPHALT PAVEMENT PLACED UNDER THIS CONTRACT AS TEMPORARY PAVEMENT. SEE SUMMARY TABLE ON SHEET 7. THE DETOUR PAVEMENT IS NOT REPRESENTED IN THE GROUND LINE SHOWN IN THE CROSS SECTIONS.

(13) SAW CUTTING OF PAVEMENT WILL BE REQUIRED AS SHOWN IN THE PLANS, AT EACH END OF THE PROJECT. THESE AND ANY OTHER SAWING REQUIRED TO FACILITATE REMOVAL(S) SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN OTHER ITEMS. NO PAYMENT WILL BE MADE FOR SAWING OF PAVEMENT.

(14) ALL SECTION CORNERS WITHIN THE PROJECT SHALL BE RESET BY A REGISTERED LAND SURVEYOR AFTER ROADWAY WORK IS COMPLETED. COSTS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

(15) THIS ITEM IS TO INCLUDE THE SETTING AND RE-SETTING AS NECESSARY ALL RIGHT OF WAY, HORIZONTAL CONTROL AND BENCHMARKS IN ADDITION TO CONSTRUCTION STAKING.

(16) WATERING AS REQ'D. AND IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SHALL BE WITH CLEAN WATER AND INCLUDED IN THE PRICE FOR SODDING.

(17) THIS ITEM INCLUDES REMOVAL OF EXISTING HIGHWAY PAVEMENT WHICH IS BELIEVED TO BE 8" ASPHALT FOR A TOTAL ESTIMATED VOLUME OF 435 C.Y. AND IS INCLUDED IN THE EARTHWORK VOLUME ESTIMATES. THIS INFORMATION IS PROVIDED FOR INFORMATION ONLY. PAYMENT FOR REMOVAL OF EXISTING PAVEMENT WILL BE MADE UNDER THIS PAY ITEM PER S.Y. REGARDLESS OF THICKNESS(ES) ENCOUNTERED UNLESS OTHERWISE PROVIDED FOR IN THESE PLANS.

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

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

(20) ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.

(21) PRICE BID PER L.F. OF PIPE SHALL INCLUDE COSTS FOR TRENCH EXCAVATION AND BEDDING MATERIAL IN ACCORDANCE WITH STANDARD DRAWINGS AND THE STANDARD SPECIFICATIONS.

(22) FABRIC TO BE RS380I OR APPROVED EQUAL.

(23) ESTIMATED AT 16D LBS. PER CU. FT.

(R-4) INCLUDES 100 CU. YARDS FOR DRIVEWAYS, RETURNS, DIKES, AND MISCELLANEOUS EARTHWORK.

(R-5) AN ESTIMATED QUANTITY OF 3808 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-8) FOR SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 4D GALLONS PER S.Y.

(R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 9.0 ACRES.

(R-16) QUANTITY BASED ON TWO APPLICATIONS.

(R-28) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER S.Y. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER S.Y. 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 SQUARE YARD PER 1" THICK.

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

(R-41) QUANTITY INCLUDES AN ESTIMATED 10.0 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.

(R-46) ANY DRAINAGE STRUCTURE DESCRIBED AS TEMPORARY, SHALL AFTER COMPLETION OF THE PROJECT, BE REMOVED BY AND BECOME THE PROPERTY OF THE CONTRACTOR.

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

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

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

(R-52) INCLUDES 2% FOR GROUND MEASUREMENT.

(R-53) ALL GATES AND GATE END POSTS FOR STRANDED WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

ENVIRONMENTAL MITIGATION NOTES

CLIFF 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. SWALLOW USE OF THE BRIDGE NBI# 15689 AND CULVERT AT N33.4762, W-97.0003 INVOLVED IN THIS PROJECT HAS BEEN OBSERVED. IN ORDER TO AVOID IMPACTS TO SWALLOWS, WORK ON THESE STRUCTURES MUST BE COMPLETED BETWEEN SEPTEMBER 1 AND MARCH 31, WHEN NESTS ARE NOT OCCUPIED. IF WORK CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND MARCH 31, THE BRIDGE NBI# 15689 AND CULVERT AT N33.4762, W-97.0003 MUST BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO APRIL 1, BY MEANS THAT DO NOT RESULT IN DEATH OR INJURY TO THESE BIRDS. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF NETTING PRIOR TO APRIL 1. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

J.P. 2894(04) 0100 ROADWAY			
PAY QUANTITIES ROADWAY			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
201(A)	0102 CLEARING AND GRUBBING	L.SUM	1
202(A)	0183 UNCLASSIFIED EXCAVATION	(1) C.Y.	32,348
202(D)	0184 UNCLASSIFIED BORROW	(2)(R-4) C.Y.	14,333
205(A)	4229 TYPE A - SALVAGED TOPSOIL	(3)(R-5) L.SUM	1
221(C)	2801 TEMPORARY SILT FENCE	(5)(6) L.F.	3547
221(G)	0152 TEMPORARY ROCK FILTER DAM TYPE 3	(5) C.Y.	51
221(G)	0153 TEMPORARY ROCK FILTER DAM TYPE 4	(5) C.Y.	12
221(K)	0600 TEMPORARY FIBER LOG	(5)(6) L.F.	688
230(A)	2806 SOLID SLAB SODDING	(4)(10)(15)(17)(R-8) S.Y.	27,415
233(A)	2817 VEGETATIVE MULCHING	(10)(18)(R-11) AC.	9
241	2832 MOWING	(R-16) AC.	16
303(A)	2100 AGGREGATE BASE TYPE A	C.Y.	484
307(A)	4200 FLY ASH	TON	375
307(K)	4300 STABILIZED SUBGRADE	S.Y.	6947
325	5271 SEPARATOR FABRIC	(21) S.Y.	2267
402(E)	0225 TRAFFIC BOUND SURFACE COURSE TYPE E	(22) TON	160
407(B)	0250 TACK COAT	(7) GAL.	3460
408	5774 PRIME COAT	(9)(R-28) GAL.	2705
411(B)	5940 SUPERPAVE, TYPE S3 (PG 70-28 OK)	(R-32) TON	184
411(B)	5945 SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-32) TON	2222
411(C)	5955 SUPERPAVE, TYPE S4 (PG 70-28 OK)	(R-32) TON	1694
411(C)	5960 SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-32) TON	2093
412	5267 COLD MILLING PAVEMENT	(R-34) S.Y.	12,889
509(A)	0319 CLASS AA CONCRETE	(8) C.Y.	23
509(D)	0325 CLASS C CONCRETE	(R-41) C.Y.	119
511(A)	0332 REINFORCING STEEL	LB.	3380
613(B)	5717 15" CORR. GALV. STEEL PIPE	(20)(R-46) L.F.	42
613(B)	0689 18" CORR. GALV. STEEL PIPE	(20) L.F.	71
613(B)	0692 36" CORR. GALV. STEEL PIPE	(20)(R-46) L.F.	50
613(B)	0696 60" CORR. GALV. STEEL PIPE	(20)(R-46) L.F.	263
619(A)	0920 REMOVAL OF STRUCTURES & OBSTRUCTIONS	(19)(R-48)(R-49) L.SUM	1
619(B)	4728 REMOVAL OF ASPHALT PAVEMENT	(11)(12)(16)(R-49)(R-50) S.Y.	7871
624(C)	7181 FENCE-STYLE SWF (6 BARB WIRE)	(R-52)(R-53) L.F.	403
629(E)	5D48 REMOVE AND RESET MAILBOX	EA.	1

J.P. 2894(04) 0600 STAKING			
PAY QUANTITIES STAKING			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
642(B)	0096 CONSTRUCTION STAKING LEVEL II	(13)(14) L.SUM	1

J.P. 2894(04) 0640 CONSTRUCTION			
PAY QUANTITIES CONSTRUCTION			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
220	2800 SWPPP DOCUMENTATION AND MANAGEMENT	L.SUM	1
641	1552 MOBILIZATION	L.SUM	1
640(A)	1398 FIELD OFFICE	EA.	1

DESIGN			SUMMARY OF PAY QUANTITIES (ROADWAY)
DRAWN			
CHECKED			
APPROVED			
SQUAD	G/K ENGR.		

JOB PIECE NO. 2894(04) SHEET NO. 3

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GENERAL NOTES

REVISIONS		
REV. NO.	DESCRIPTION	DATE

1. SPECIFICATIONS:

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

2. CONSTRUCTION:

- (A) ALL CONCRETE EDGES SHALL HAVE A 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
- (B) ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
- (C) THE QUANTITY FOR REINFORCING STEEL DOES NOT INCLUDE LAP SPLICES OF E1BARS OR E2 BARS IN THE LENGTH OF THE BARREL. THE SPLICE LENGTH FOR E BARS SHALL BE 24" MINIMUM. THE NUMBER OF SPLICES USED IS TO BE APPROVED BY THE ENGINEER. REINFORCING STEEL FOR SPLICES SHALL NOT BE MEASURED FOR PAYMENT, AND ALL COSTS WILL BE INCLUDED IN THE UNIT BID PRICE FOR REINFORCING STEEL.
- (D) TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED IN ALL CULVERTS 100 FT. OR MORE IN LENGTH. JOINTS SHALL BE SPACED AT 60 FT. MAX.
- (E) REINFORCING STEEL SHALL BE CONTINUOUS THROUGH THE TRANSVERSE CONSTRUCTION JOINT AND EXTEND A MIN. OF 24" INTO ADJACENT SECTION.

3. CONCRETE PLACEMENT:

ALL CONCRETE SHALL BE PLACED IN THE DRY.

4. CONCRETE:

CONCRETE FOR BARREL, HEADWALLS, WINGS AND APRONS SHALL BE CLASS AA, f'c = 4,000 psi MINIMUM STRENGTH AT 28 DAYS.

5. REINFORCING STEEL:

UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60.

6. REMOVAL OF EXISTING BRIDGE STRUCTURE:

ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF THE 12'-14'-12"x10'x60.0' LONG REINFORCED CONCRETE BOX. THE REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 619.04.B.(2) OF THE STANDARD SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. THE ENGINEER WILL REQUIRE THAT THIS REMOVAL BE AT LEAST ONE (1) FOOT BELOW THE NATURAL GROUND, OR REMOVAL TO AN ELEVATION THAT WILL NOT CONFLICT WITH OTHER CONSTRUCTION OR USE OF THE RIGHT-OF-WAY, WHICHEVER IS LOWER. THE STRUCTURE AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ALL COSTS NECESSARY TO REMOVE THE EXISTING BRIDGE AS DESCRIBED ABOVE INCLUDING LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".

28941(04) PAY QUANTITIES				
0200 BRIDGE "A" TRPL.12'x10',18'x84.00' CLR. RDWY. RCB W/8' DROP				
ITEM		DESCRIPTION	UNIT	QUANTITY
202(A)	1301	UNCLASSIFIED EXCAVATION (BR-1)	C.Y.	8,510.0
501(A)	1306	STRUCTURAL EXCAVATION UNCLASSIFIED	C.Y.	452.0
509(A)	1326	CLASS AA CONCRETE (BR-1)	C.Y.	1,293.9
511(A)	1332	REINFORCING STEEL (BR-1)	LB.	165,560.0
619(D)	1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM	1.0

BR-1: PAYMENT FOR THIS ITEM WILL BE BASED ON THE PLAN QUANTITIES ONLY. SEE SECTION 109.01.B OF THE STANDARD SPECIFICATIONS.

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DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		SUMMARY OF QUANTITIES AND GENERAL NOTES (BRIDGE)	
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO. 28941(04)	SHEET NO. 4

TRAFFIC SIGNING AND STRIPING PAY QUANTITY NOTES

(TS-II) QUANTITY SHOWN INCLUDES 6290 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND 2409 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4') WIDE TRAFFIC STRIPE. THIS STRIPE SHALL BE APPLIED AT A THICKNESS OF 70 MILS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND APPROVAL BY THE ENGINEER.

(SP-I) MILLED SHOULDER RUMBLE STRIPS, WHEN INSTALLED ON ASPHALT SURFACES, SHALL BE FOG SEALED A NOMINAL ONE INCH OUTSIDE THE MILLED LENGTH AND WIDTH AT A RATE OF 0.15Y/FT IN ACCORDANCE TO SECTION 407 OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. AN ESTIMATED QUANTITY OF 78 GALS. OF FOG SEAL. FOG SEAL SHALL NOT COME IN CONTACT WITH EXISTING STRIPING DURING FOG SEAL OPERATIONS. IF THE FOG SEAL DOES COME INTO CONTACT WITH EXISTING STRIPING, THE CONTRACTOR SHALL REMOVE AND RESTRIPE AT THE CONTRACTORS EXPENSE IN A TIMELY MANNER TO THE SATISFACTION OF THE ENGINEER.



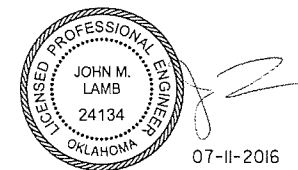
2894I (04)		PAY QUANTITIES SIGNING AND STRIPING		
0303 SIGNING AND STRIPING				
ITEM NO.		ITEM DESCRIPTION	UNIT	QUANTITY
855(A)	8840	TRAFFIC STRIPE (PLASTIC) (THIN LINE) (4' WIDE)	(TS-II) (TC-13, 14) LF	8,699
407 (A)	4659	FOG SEAL	(SP-I) GAL	78
413 (B)	4863	RUMBLE STRIP-METHOD HMA-CYC	(SP-I) LF	6,045

TRAFFIC SIGNING AND STRIPING 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.

ANY AND ALL 9th STREET NAME SIGNS LOCATED WITHIN THE PROJECT ARE TO BE REMOVED AND STATE FORCES WILL PICK UP AT THE JOB SITE.

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07-11-2016
 CA 5769 PE/LS
 LAMB-STAR ENGINEERING, L.P.
 5700 W. PLANO PARKWAY, SUITE 1000
 PLANO, TX 75093
 214-440-3600

US-177

DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SOUJAO	L-S ENGR.

SUMMARY OF PAY QUANTITIES
(SIGNING AND STRIPING)

JOB PIECE NO. 2894I(04) SHEET NO. 5

REV. NO.	DESCRIPTION	REVISIONS	DATE
1	ADDED CATEGORY NO.		7-11-16
2	REV. CONSTRUCT. DAYS		7-19-16

TRAFFIC CONTROL PAY QUANTITY NOTES

- (TC-13) A PART, OR ALL, OF THIS ITEM IS INTENDED FOR REPLACEMENT OF REMOVED EXISTING CONFLICTING STRIPING.
- (TC-14) SEE STANDARD DRAWING PMI-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-17) INCLUDES AN ESTIMATED 6402 L.F. (PAINT)(4"WIDE) WHITE STRIPE AND 8402 L.F. (PAINT)(4"WIDE) YELLOW STRIPE.
- (TC-20) ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS.
- (TC-22) AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL SHALL INCLUDE THE COST OF REMOVING STRIPE, ARROWS, WORDS AND SYMBOLS, AS SHOWN IN THE PLANS. THESE ITEMS MAY CONSIST OF PLASTIC, PAINT OR NON-REMOVABLE MARKING TAPE.
- (TC-26) CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND 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 'W' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.
- (TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION) THE MANUFACTURER SHALL FURNISH A TYPE D CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.
- (TC-52) ANY USED CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.
- (TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.
- (TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.
- (TC-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: <http://www.okladot.state.ok.us/traffic/qpl/index.php>

(SP-1) THE FOLLOWING CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS.

- PHASE 1: 30 DAYS
- PHASE 2: 60 DAYS
- PHASE 3: 30 DAYS

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.

(SP-2) WARNING LIGHTS TYPE C ARE NOT REQUIRED.

(SP-3) SIGN PLACEMENT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.

TRAFFIC CONTROL GENERAL CONSTRUCTION NOTES

ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER, UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND AS SHOWN ON TCS STANDARD DRAWINGS.

GROUND MOUNTED CONSTRUCTION TRAFFIC CONTROL SIGNS SHALL HAVE A MAXIMUM MOUNTING HEIGHT OF 7'-6".

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

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

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

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

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

CONTRACTOR TO PROVIDE DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

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 SERVICE ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.



BORDER
R=1.5"
TH=0.75"
IN=0.75"

- COLOR:
LEGEND, SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
▲ FLUORESCENT ORANGE (REFLECTORIZED)
* FLUORESCENT YELLOW (REFLECTORIZED)
● WHITE (REFLECTORIZED)
◆ CIRCLE AND DIAGONAL:
RED (TRANSPARENT)

28941 (04) PAY QUANTITIES TRAFFIC CONTROL				
0300 TRAFFIC				
ITEM NO.		ITEM DESCRIPTION	UNIT	QUANTITY
857(A)	8839	CONSTRUCTION TRAFFIC STRIPE (PAINT) (4' WIDE) (TC-17, 20, 70, 75)	LF	14,804
857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE) (TC-22, 70, 75)	LF	12,270
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF (SP-1) (TC-26, 33)	SD	3,180
880(B)	8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF (SP-1) (TC-26, 33)	SD	1,950
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF (SP-1) (TC-26, 30, 33)	SD	1,620
880(C)	8842	CONSTRUCTION BARRICADES (TYPE III) (SP-1) (TC-26)	SD	870
880(C)	8848	WING BARRICADES (SP-1) (TC-26)	SD	480
880(E)	8860	WARNING LIGHTS (TYPE A) (SP-1) (TC-26)	SD	3,060
880(F)	8878	DRUMS (SP-1) (SP-2) (TC-26)	SD	4,800
882(A)	8306	PORTABLE CHANGEABLE MESSAGE SIGN (SP-1) (SP-3) (TC-52, 85)	SD	240



07-19-2016

CA 5769 PE/LS
LAMB-STAR ENGINEERING, L.P.
5700 W. PLANO PARKWAY, SUITE 1000
PLANO, TX 75093
214-440-3600

US-177

DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SQUAO	L-S ENGR.

SUMMARY OF PAY QUANTITIES (TRAFFIC CONTROL)

JOB PIECE NO. 28941 (04) SHEET NO. 6

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SUMMARY OF EARTHWORK QUANTITIES

CONSTRUCTION PHASE	P&P SHT.	STATION TO STATION	UNCLASSIFIED EXCAVATION 202 (A)	EMBANKMENT	EMBANKMENT (+15%)	WASTE	UNCLASSIFIED BORROW 202(D)	CUMULATIVE TOTAL PER PHASE
			C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
DETOUR	12	STA. 343+00 TO STA. 356+00 CL SURVEY	33	8033	9238	-	9205	9205
	13	STA. 356+00 TO STA. 369+00 CL SURVEY	685	4968	5713	-	5028	14233 (E3)
PHASE 2	12	STA. 351+00 TO STA. 356+00 CL SURVEY	8161	508	584	7577	-	-7577
	13	STA. 356+00 TO STA. 360+00 CL SURVEY	2040	63	73	1967	-	-9544 (E5)
PHASE 3	12	STA. 343+00 TO STA. 356+00 CL SURVEY	13184	208	240	12944	-	-12944
	13	STA. 356+00 TO STA. 369+00 CL SURVEY	8245	33	37	8208	-	-21152 (E5)
TOTALS:			32348 (E4)	-	15885	-	-	-

(E1) EMBANKMENT WILL NOT BE A PAY ITEM ON THIS PROJECT. THE COST TO CONSTRUCT THE EMBANKMENTS AS SHOWN IN THE PLANS SHALL BE COMPRISED OF THE PRICE BID FOR THE EXCAVATION AND THE BORROW PAY ITEMS. THE CONTRACTOR SHALL FIRST SELECT FILL MATERIAL FROM EXCAVATED SOILS, AS APPROVED BY THE ENGINEER AND THEN MAKE UP THE VOLUME DIFFERENCE IN APPROVED UNCLASSIFIED BORROW SECURED FROM OTHER SOURCES. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING A SOURCE FOR APPROVED BORROW MATERIAL. THE VOLUME SHOWN FOR EMBANKMENT INCLUDES 15% FOR COMPACTION.

(E2) EXCAVATION WILL NOT BE MEASURED IN THE FIELD BUT WILL BE PAID FOR AS THE PLAN QUANTITY OF UNCLASSIFIED EXCAVATION TIMES THE UNIT PRICE BID PER C.Y. OF EXCAVATION. SEE SECTION 109.01(b) OF THE STANDARD SPECIFICATIONS.

(E3) THIS IS THE ESTIMATED PAY QUANTITY FOR UNCLASSIFIED BORROW.

(E4) THIS IS THE ESTIMATED PAY QUANTITY FOR UNCLASSIFIED EXCAVATION.

(E5) TOTAL EST. WASTE ON THE PROJECT IS 30,689 C.Y. CONTRACTOR MAY SPREAD THE WASTE ON THE PROJECT AS APPROVED BY THE ENGINEER OR REMOVE IT FROM THE SITE.

SUMMARY OF DRAINAGE STRUCTURES (2)

STR. NO.	P&P SHEET	LOCATION DESCRIPTION	SIDEDRAIN OR CROSSDRAIN	CLASS AA CONCRETE 509(D)	REINF. STEEL	15" CORR. GALV. STEEL PIPE	18" CORR. GALV. STEEL PIPE	36" CORR. GALV. STEEL PIPE	60" CORR. GALV. STEEL PIPE
				(1)	511(A)	613(B)	613(B)	613(B)	613(B)
				C.Y.	LB	L.F.	L.F.	L.F.	L.F.
T1	20	STA. 348+81.9; 19.9' RT. CL DETOUR INSTALL 40 L.F. 15" CGSP	S	-	-	42	-	-	-
T2	21	STA. 355+10.86 CL DETOUR INSTALL 87.50 L.F. 3-60" CGSP	C	-	-	-	-	-	263
T3	22	STA. 363+95.52; 4.11' LT. CL DET. INSTALL 50 L.F. 36" CGSP	C	-	-	-	-	50	-
1	13	STA. 345+06.00; 43' LT. CL SURVEY INSTALL 71 L.F. 18" CGSP	S	-	-	-	71	-	-
2	14	STA. 363+91.6; 36.6' LT. CL SURVEY EXT. EXIST 8'X3' RCB	C	23.25	3380	-	-	-	-
TOTALS				23.25	3380	42	71	50	263

(1) COST FOR UNCL. EXCAV. AND STR. EXCAV. SHALL BE INCLUDED IN THE UNIT PRICE BID PER C.Y. FOR CLASS AA CONCRETE.

(2) FOR ALL PIPE CONDUITS: TRENCH EXCAVATION AND BACKFILL WILL NOT BE PAY ITEMS ON THIS PROJECT. COSTS FOR TRENCH EXCAVATION AND BACKFILL IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID PER L.F. FOR THE PIPE.

SUMMARY OF DRIVEWAYS

P&P SHT.	CL Station	TYPE	RADII	LENGTH	WIDTH	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)
			FT.	FT.	FT.	GAL.	GAL.	TONS	TONS
13	STA. 345+06 LT. CL SURVEY	ASPHALT PRIVATE DRIVE	15	63	12	15	36	29.0	11.0
20	STA. 349+03 RT. CL DET.	TEMP ASPHALT DRIVE	15	23	12	6	15	12.0	4.4
TOTALS:			-	-	-	21	51	41.0	15.4

(1) EST. @ 0.35 GAL./S.Y. (2) EST. @ 0.15 GAL./S.Y.

SUMMARY OF REMOVALS

DETAIL SHEET NO. 16	NON-PAY ITEMS (R1)										PAY ITEMS				
	(R3) FENCE	8'X3' HDWLL. FOR EXTENSION	CONC. CHANNEL PROT.	(R4) SIGNS (NOT TO BE RESET)	(R5) 12" RCP	(R5) 15" CMP	(R5) 24" CMP	(R5) 36" CMP	(R5) 60" CMP	SAW PAV'T.	RIPRAP	(R6) REMOVAL OF GUARDRAIL	(R2) REMOVAL OF ASPHALT PAVEMENT 619(B)	REMOVE & RESET MAILBOX 629(E)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS 619(A)
		L.F.	EA.	S.Y.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	TON	L.F.	S.Y.	EA.	EA.
STA. 339+28 TO 350+50		756	-	-	-	1	-	-	-	-	-	-	1612	1	1
STA. 350+50 TO 362+00		788	-	127	-	-	-	-	3	-	350	928	5281	-	-
STA. 362+00 TO 369+50		-	1	-	-	-	-	1	-	-	-	-	978	-	-
TOTALS:		1544	1	127	-	1	-	1	3	88	350	928	7871	1	1

(R1) NOT MEASURED FOR PAYMENT BUT TO BE INCLUDED IN THE LUMP SUM ITEM "REMOVAL OF STRUCTURES AND OBSTRUCTIONS". PROVIDED FOR INFORMATION ONLY.
 (R2) INCL. 5877 S.Y. DETOUR PAV'T. CONSTR. ON THIS PROJECT.
 (R3) REMOVAL OF THE PIPE INCLUDES REMOVAL OF ANY HDWLL. OR END TREATMENT.
 (R4) SEE SHT. 5 FOR SUMMARY OF EXISTING SIGNS.
 (R5) REMOVAL OF TEMPORARY STRUCTURES.
 (R6) GUARDRAIL TO BECOME PROPERTY OF THE STATE FOR COUNTY USE

SUMMARY OF SURFACING QUANTITIES

P&P SHT.	STATION TO STATION	TYPE 'A' AGGREGATE BASE 303(A)	FLY ASH 307(A)	STABILIZED SUBGRADE 307(K)	RS380I SEPARATOR FABRIC 325	TRAFF. BOUND SURF COURSE TYPE E 402(E)	TACK COAT 407(B)	PRIME COAT 408	SUPERPAVE TYPE S3 (PG 64-22 OK) 411 (B)	SUPERPAVE TYPE S3 (PG 70-28 OK) 411 (B)	SUPERPAVE TYPE S4 (PG 64-22 OK) 411 (C)	SUPERPAVE TYPE S4 (PG 70-28 OK) 411 (C)	
		TON	TON	S.Y.	S.Y.	TON	GAL.	GAL.	TON	TON	TON	TON	
13	STA. 339+28 TO 353+00	-	-	-	-	-	-	-	-	-	-	342.0	409.8
13	STA. 353+00 TO 356+00	363.1	91.8	1700.3	1700.0	120.0	1459.8	378.1 (S5)	365.3	137.8	417.0	504.0	
14	STA. 356+00 TO 357+00	121.0	30.6	566.8	566.7	40.0	1072.4	126.0 (S5)	121.8	45.9	336.7	407.0	
14	STA. 357+00 TO 369+50	-	-	-	-	-	-	-	-	-	318.5	373.3	
15	STA. 342+94.36 TO 356+00 DETOUR	-	136.1	2519.8	-	-	488.4	1157.4 (S2)	911.7	-	357.3	-	
16	STA. 356+00 TO 367+34.21 DETOUR	-	116.6	2159.7	-	-	418.8	992.5 (S2)	781.9	-	306.5	-	
TOTALS:		484.2	375.1	6946.6	2266.7	160.0	3439.4	2654.0	2180.7	183.7	2078.0	1694.1	

(S1) ESTIMATED AT 0.15 GAL./S.Y.

(S3) ESTIMATED AT 15% DRY WEIGHT OF SOIL (12D PCF), OR 108 LBS./S.Y.

(S5) ESTIMATED AT 0.25 GAL./S.Y. OF AGG. BASE

(S2) ESTIMATED AT 0.35 GAL./S.Y. OF SUBGRADE

(S4) ESTIMATED AT 160 PCF

SUMMARY OF PAVED DITCHES

P&P SHT.	STATION TO STATION (CL SURVEY U.N.O.)	LEFT OR RIGHT	DESCRIPTION (ODOT STD. DC-2 U.N.O.) DES. 2A PAV. DT.	DESIGN NO.	BOTTOM WIDTH	LENGTH	NO. CURTAIN WALLS	CLASS 'C' CONCRETE 509 (E)
					FT.	FT.		
13	STA. 351+00 TO STA. 354+71	RT.	374 L.F. - 6' BOTT.	2A	6	374	5	57.9
13	STA. 355+79 TO 356+00	RT.	21.5 L.F. - 6' BOTT.	2A	6	21.5	2	3.7
14	STA. 356+00 TO 359+00	RT.	304 L.F. - 6' BOTT.	2A	6	304	5	47.3
TOTALS:		-	-	-	-	-	-	108.8

SUMMARY OF FENCE

P&P SHT.	STATION TO STATION (CL SURVEY U.N.O.)	LT. OR RT.	FENCE STYLE SW/VE (6 BARRED WIRE) 624 (C)
			L.F.
13	STA. 351+00 TO STA. 354+77 CL SURVEY	RT.	395
TOTALS:			395

SUMMARY OF TEMPORARY EROSION CONTROL

DET. SHT.	PHASE	TEMPORARY SILT FENCE 221(C)	TEMPORARY FIBER LOG 221(K)	TEMPORARY ROCK FILTER DAM TYPE 3 221(G)	TEMPORARY ROCK FILTER DAM TYPE 4 221(G)	VEGETATIVE MULCHING 233(A)
		L.F.	L.F.	C.Y.	C.Y.	AC.
10	1	2547	154	9.4	1.0	3.17
11	2	-	154	28.8	5.6	1.71
12	3	-	280	12.6	5.6	3.65
(T1)		1000	100	-	-	-
TOTALS:		3547	688	50.8	12.2	8.53

(T1) ESTIMATED ADDITIONAL QUANTITY TO BE USED ONLY AS APPROVED BY THE ENGINEER.

SUMMARY OF EROSION CONTROL

P&P SHT.	LOCATION	SOLID SLAB SODDING 230 (A)	(C1) WATERING 230 (E)	(C1) FERTILIZING (10-20-10) 234 (A)	(C2) FERTILIZING (0-46-0) 234 (A)	(C3) MOWING 241
		S.Y.	K. GAL.	LBS.	LBS.	AC.
12	STA. 343+00 TO STA. 356+00 LEFT	10400	416	2080	322	5.6
12	STA. 351+00 TO STA. 356+00 RIGHT	4808	192	962	149	2.9
13	STA. 356+00 TO STA. 369+00 LEFT	9372	375	1874	290	5.6
13	STA. 356+00 TO STA. 359+00 RIGHT	2836	113	567	88	1.6
TOTALS:		27415	1097	5483	850	15.8

(C1) NOT MEASURED FOR PAYMENT. COST INCL. IN PRICE FOR SOLID SLAB SODDING.

(C3) ESTIMATED AT MOWING THE ENTIRE ROW TWO TIMES.

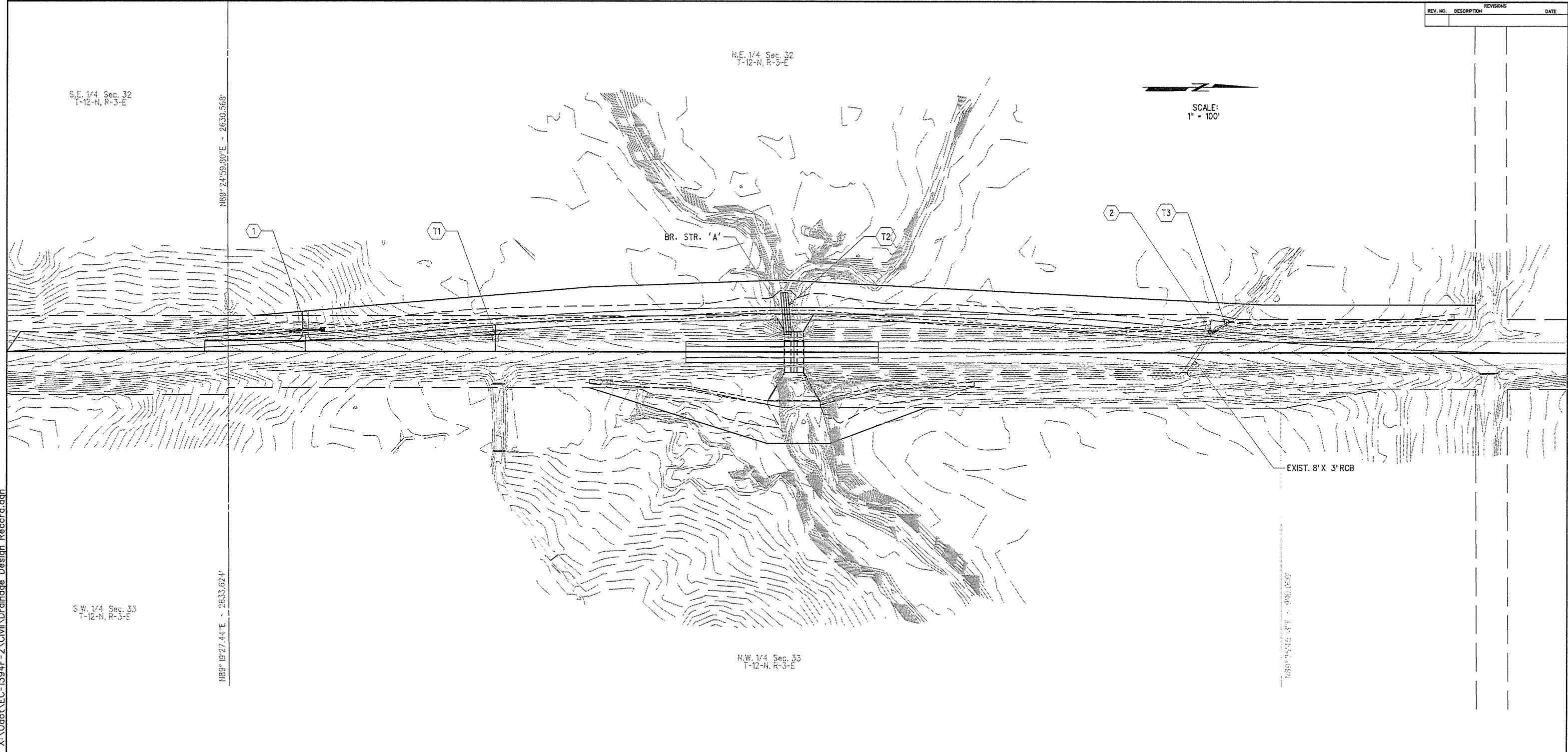
(C2) NOT MEASURED FOR PAYMENT. COST INCL. IN PRICE FOR SALVAGED TOPSOIL.

DESIGN	
DRAWN	
CHECKED	
APPROVED	
SQUAD	G/K ENGR.

SUMMARY SHEET

JOB PIECE NO. 2894(04) SHEET NO. 7

REV. NO.	DESCRIPTION	REVISIONS	DATE



X:\0dot\EC-1394F-2\Civil\Drainage Design Record.dgn

12/8/2015

DRAINAGE DESIGN RECORD

STR. NO.	P&P SHEET	LOCATION DESCRIPTION	SIDEDRAIN OR CROSSDRAIN	D.A.	"C"	"I ₂₅ "	"Q ₂₅ "	Hw DEPTH	ALLOWABLE Hw
				ACRES		IN./HR.	C.F.S.	FT.	FT.
1	13	STA. 345+06 CL SURVEY	S	0.54	0.50	4.61	1.25	958.20	971.00 (1)
		INSTALL 71 L.F. 18" CGSP							
T1	20	STA. 348+81.9 CL DETOUR	S	0.46	0.50	2.73 (2)	0.63 (2)	953.48	954.00 (1)
		INSTALL 42 L.F. 15" CGSP							

- (1) ALLOWABLE HW IS EDGE OF SHOULDER.
- (2) I₂ AND Q₂ USED FOR ALL TEMP. STR.

DESIGN	
DRAWN	
CHECKED	
APPROVED	
SQUAD	G/K ENGR.

DRAINAGE DESIGN RECORD

JOB PIECE NO. 28941(04) SHEET NO. 8

STORM WATER MANAGEMENT PLAN

REVISIONS	
DESCRIPTION	DATE
1 Not on 303(d) List	6-23-16

SITE DESCRIPTION

PROJECT LIMITS: CL US-177 APROX. STA. 343+00 (2587' NORTH OF E.W. 107.0 SECTION LINE)
NORTHERLY TO APPROX. STA. 369+00 (78' SOUTH OF E.W. 106.0 SECTION LINE).

PROJECT DESCRIPTION: REPLACE ONE RCB, EXTEND ONE EXISTING RCB, AND
400 L.F. TOTAL RECONSTRUCTION UTILIZING A TEMPORARY SHOO-FLY DETOUR

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES: _____
PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL INSTALL ALL PERIMETER CONTROLS.
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. LIMIT THE MAXIMUM AREA TO BE DISTURBED AT ANY ONE TIME.

SOIL TYPE: LEAN CLAY W/ SAND, SANDY SILTY CLAY

AREA TO BE DISTURBED: 5.4 Ac.

OFFSITE AREA TO BE DISTURBED: 0.0 Ac.
 (FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: 3.65 Ac.
 (FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 35° 20' 52.8" N and 96° 29' 39.9" W

NAME OF RECEIVING WATERS: BRUSH CREEK

SENSITIVE WATERS OR WATERSHEDS: YES NO

303(d) IMPAIRED WATERS: YES NO

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

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

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

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

STRUCTURAL PRACTICES:

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

OFFSITE VEHICLE TRACKING:

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

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

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

WASTE MATERIALS:

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

HAZARDOUS MATERIALS:

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

GENERAL NOTES:

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

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

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

IN ADDITION:

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

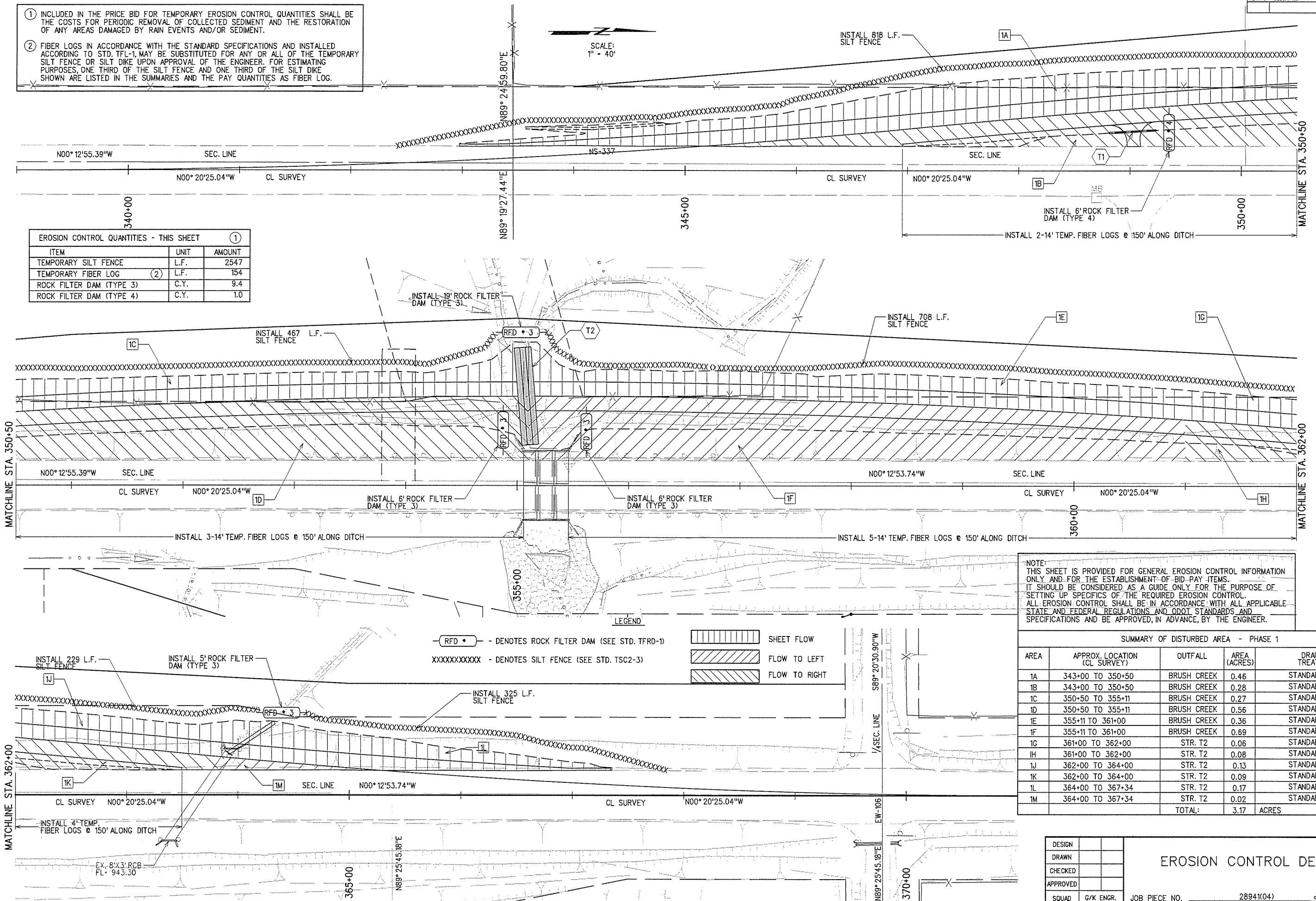


STORM WATER MANAGEMENT PLAN

- ① INCLUDED IN THE PRICE BID FOR TEMPORARY EROSION CONTROL QUANTITIES SHALL BE THE COSTS FOR PERIODIC REMOVAL OF COLLECTED SEDIMENT AND THE RESTORATION OF ANY AREAS DAMAGED BY RAIN EVENTS AND/OR SEDIMENT.
- ② FIBER LOGS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND INSTALLED ACCORDING TO STD. TFL-1, MAY BE SUBSTITUTED FOR ANY OR ALL OF THE TEMPORARY SILT FENCE OR SILT DIKE UPON APPROVAL OF THE ENGINEER. FOR ESTIMATING PURPOSES, ONE THIRD OF THE SILT FENCE AND ONE THIRD OF THE SILT DIKE SHOWN ARE LISTED IN THE SUMMARIES AND THE PAY QUANTITIES AS FIBER LOG.

SCALE:
1" = 40'

EROSION CONTROL QUANTITIES - THIS SHEET ①		
ITEM	UNIT	AMOUNT
TEMPORARY SILT FENCE	L.F.	2547
TEMPORARY FIBER LOG ②	L.F.	154
ROCK FILTER DAM (TYPE 3)	C.Y.	9.4
ROCK FILTER DAM (TYPE 4)	C.Y.	1.0



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SUMMARY OF DISTURBED AREA - PHASE 1				
AREA	APPROX. LOCATION (CL SURVEY)	OUTFALL	AREA (ACRES)	DRAINAGE TREATMENT
1A	343+00 TO 350+50	BRUSH CREEK	0.46	STANDARD BMP
1B	343+00 TO 350+50	BRUSH CREEK	0.28	STANDARD BMP
1C	350+50 TO 355+11	BRUSH CREEK	0.27	STANDARD BMP
1D	350+50 TO 355+11	BRUSH CREEK	0.56	STANDARD BMP
1E	355+11 TO 361+00	BRUSH CREEK	0.36	STANDARD BMP
1F	355+11 TO 361+00	BRUSH CREEK	0.69	STANDARD BMP
1G	361+00 TO 362+00	STR. T2	0.06	STANDARD BMP
1H	361+00 TO 362+00	STR. T2	0.08	STANDARD BMP
1J	362+00 TO 364+00	STR. T2	0.13	STANDARD BMP
1K	362+00 TO 364+00	STR. T2	0.09	STANDARD BMP
1L	364+00 TO 367+34	STR. T2	0.17	STANDARD BMP
1M	364+00 TO 367+34	STR. T2	0.02	STANDARD BMP
TOTAL:			3.17	ACRES

LEGEND

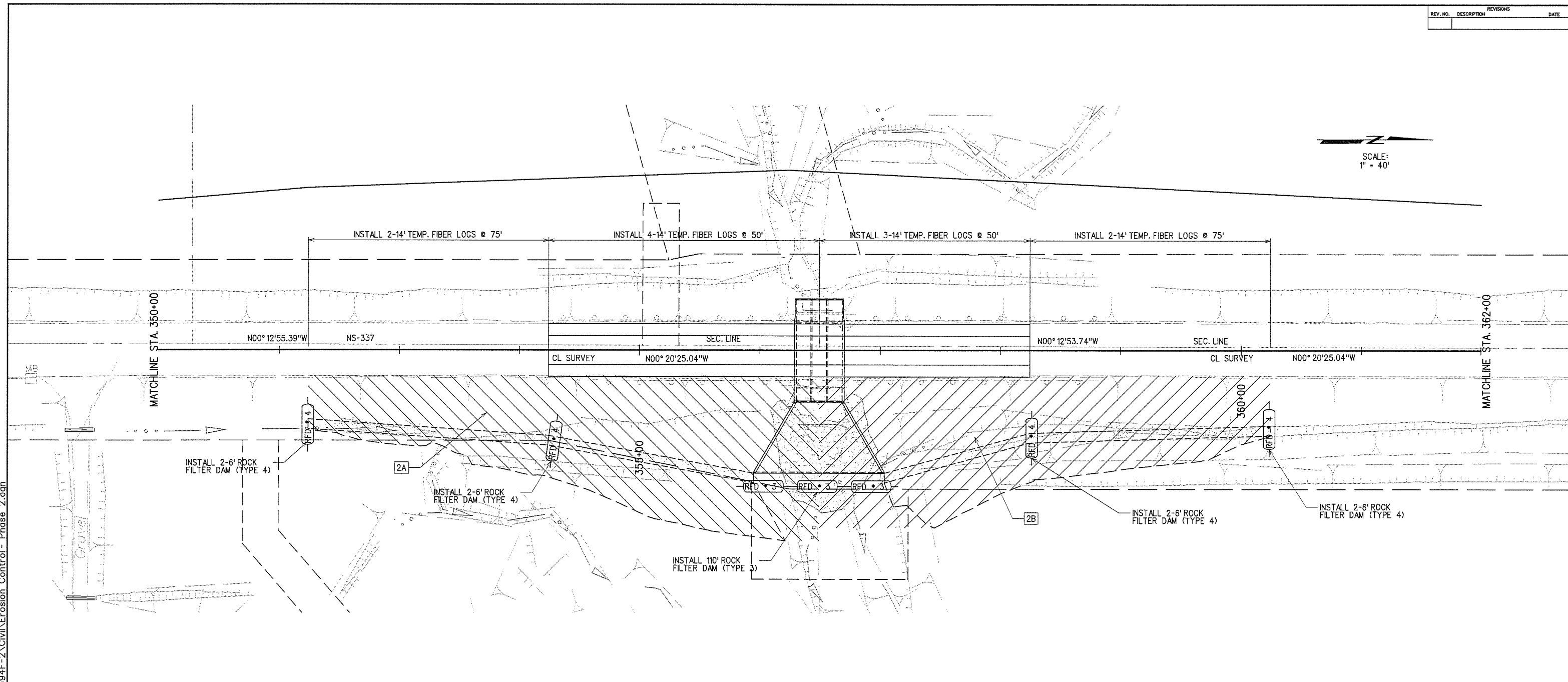
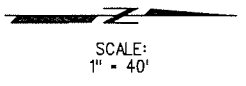
- DENOTES ROCK FILTER DAM (SEE STD. TFRD-1)
- DENOTES SILT FENCE (SEE STD. TSC-2-3)
- SHEET FLOW
- FLOW TO LEFT
- FLOW TO RIGHT

DESIGN	
DRAWN	
CHECKED	
APPROVED	
SQUAD	G/K ENGR.

EROSION CONTROL DETAILS

12/8/2015 X:\Odot\EC-1394F-2\Civil\Erosion Control - Phase 1.dgn

REV. NO.	DESCRIPTION	REVISIONS	DATE



X:\Odot\EC-1394F-2\Civil\Erosion Control - Phase 2.dgn 12/8/2015

NOTE:
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LEGEND

- DENOTES ROCK FILTER DAM (SEE STD. TFRD-1)	SHEET FLOW
XXXXXXXXXX - DENOTES SILT FENCE (SEE STD. TSC2-3)	FLOW TO LEFT
	FLOW TO RIGHT

- ① INCLUDED IN THE PRICE BID FOR TEMPORARY EROSION CONTROL QUANTITIES SHALL BE THE COSTS FOR PERIODIC REMOVAL OF COLLECTED SEDIMENT AND THE RESTORATION OF ANY AREAS DAMAGED BY RAIN EVENTS AND/OR SEDIMENT.
- ② FIBER LOGS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND INSTALLED ACCORDING TO STD. TFL-1, MAY BE SUBSTITUTED FOR ANY OR ALL OF THE TEMPORARY SILT FENCE OR SILT DIKE UPON APPROVAL OF THE ENGINEER. FOR ESTIMATING PURPOSES, ONE THIRD OF THE SILT FENCE AND ONE THIRD OF THE SILT DIKE SHOWN ARE LISTED IN THE SUMMARIES AND THE PAY QUANTITIES AS FIBER LOG.

EROSION CONTROL QUANTITIES -- THIS SHEET ①		
ITEM	UNIT	AMOUNT
TEMPORARY FIBER LOG ②	L.F.	154
ROCK FILTER DAM (TYPE 3)	C.Y.	28.8
ROCK FILTER DAM (TYPE 4)	C.Y.	5.6

SUMMARY OF DISTURBED AREA - PHASE 2				
AREA	APPROX. LOCATION (CL SURVEY)	OUTFALL	AREA (ACRES)	DRAINAGE TREATMENT
2A	353+00 TO 357+00	BRUSH CREEK	0.90	STANDARD BMP
2B	353+00 TO 357+00	BRUSH CREEK	0.81	STANDARD BMP
TOTAL:			1.71	

DESIGN	
DRAWN	
CHECKED	
APPROVED	
SQUAD	G/K ENGR.

PHASE 2

EROSION CONTROL DETAILS

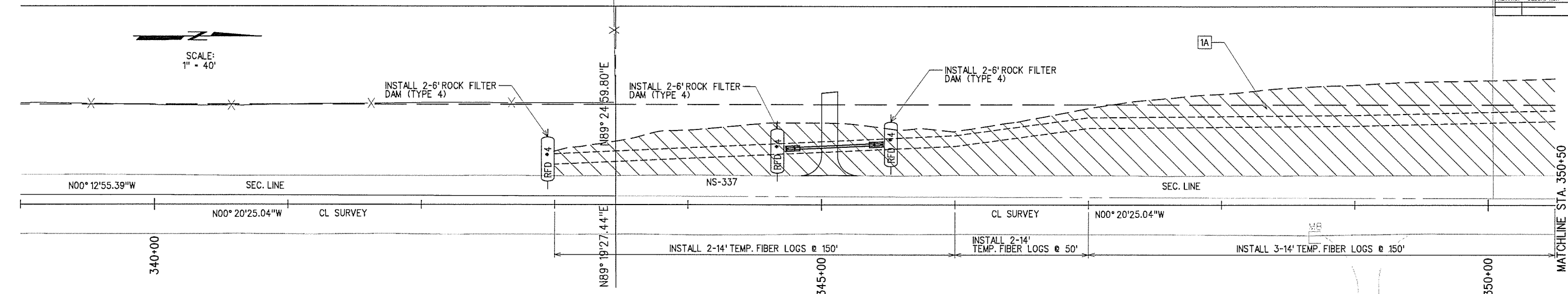
JOB PIECE NO. 28941(04) SHEET NO. 11

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12/8/2015

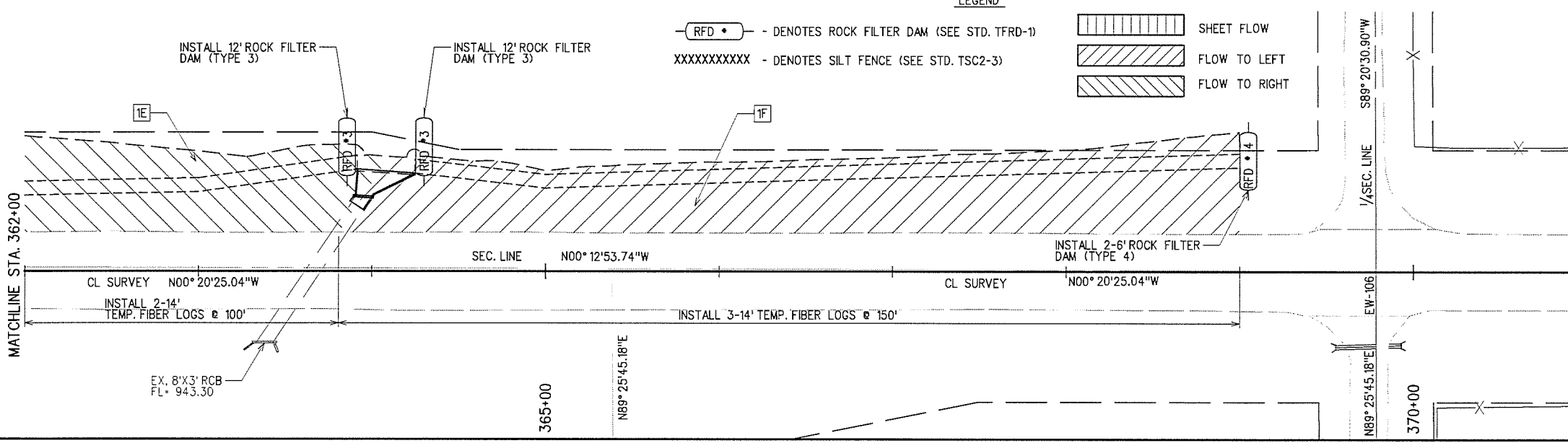
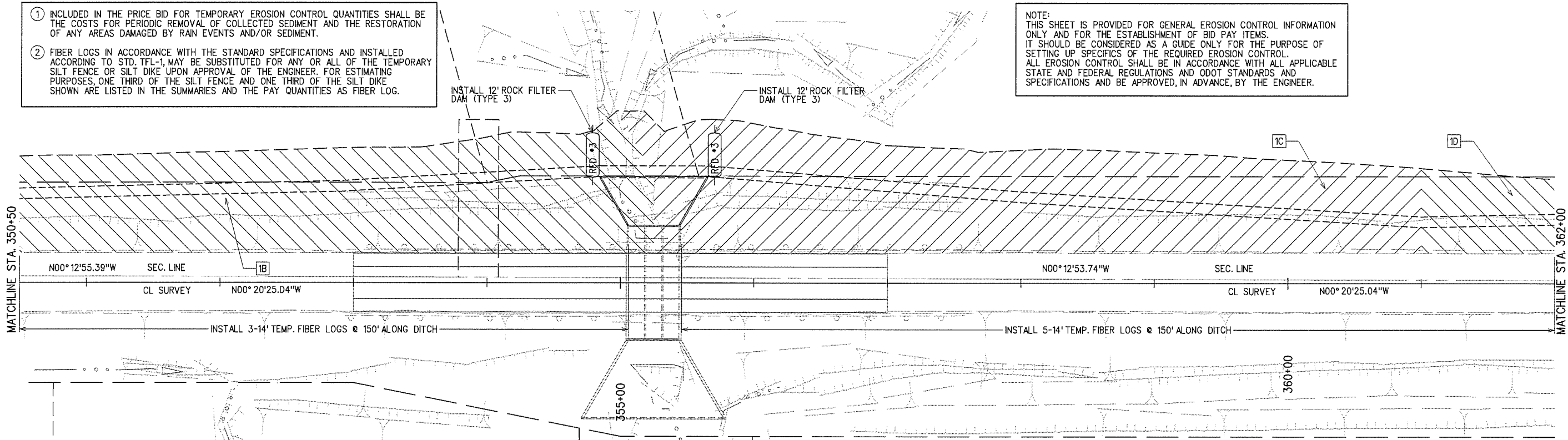
REV. NO.	DESCRIPTION	REVISIONS	DATE

SCALE:
1" = 40'



- ① INCLUDED IN THE PRICE BID FOR TEMPORARY EROSION CONTROL QUANTITIES SHALL BE THE COSTS FOR PERIODIC REMOVAL OF COLLECTED SEDIMENT AND THE RESTORATION OF ANY AREAS DAMAGED BY RAIN EVENTS AND/OR SEDIMENT.
- ② FIBER LOGS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND INSTALLED ACCORDING TO STD. TFL-1, MAY BE SUBSTITUTED FOR ANY OR ALL OF THE TEMPORARY SILT FENCE OR SILT DIKE UPON APPROVAL OF THE ENGINEER. FOR ESTIMATING PURPOSES, ONE THIRD OF THE SILT FENCE AND ONE THIRD OF THE SILT DIKE SHOWN ARE LISTED IN THE SUMMARIES AND THE PAY QUANTITIES AS FIBER LOG.

NOTE:
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- LEGEND
- DENOTES ROCK FILTER DAM (SEE STD. TFRD-1)
 - XXXXXXXXXX - DENOTES SILT FENCE (SEE STD. TSC2-3)
 - SHEET FLOW
 - FLOW TO LEFT
 - FLOW TO RIGHT

EROSION CONTROL QUANTITIES -- THIS SHEET ①		
ITEM	UNIT	AMOUNT
TEMPORARY FIBER LOG ②	L.F.	280
ROCK FILTER DAM (TYPE 3)	C.Y.	12.6
ROCK FILTER DAM (TYPE 4)	C.Y.	5.6

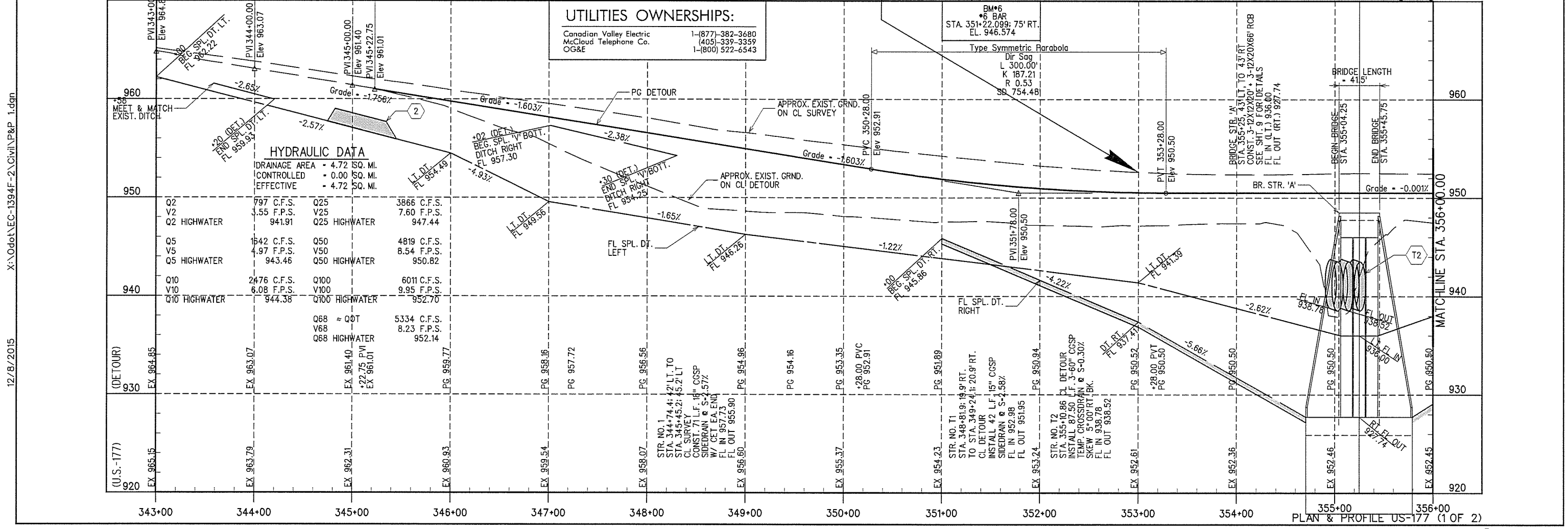
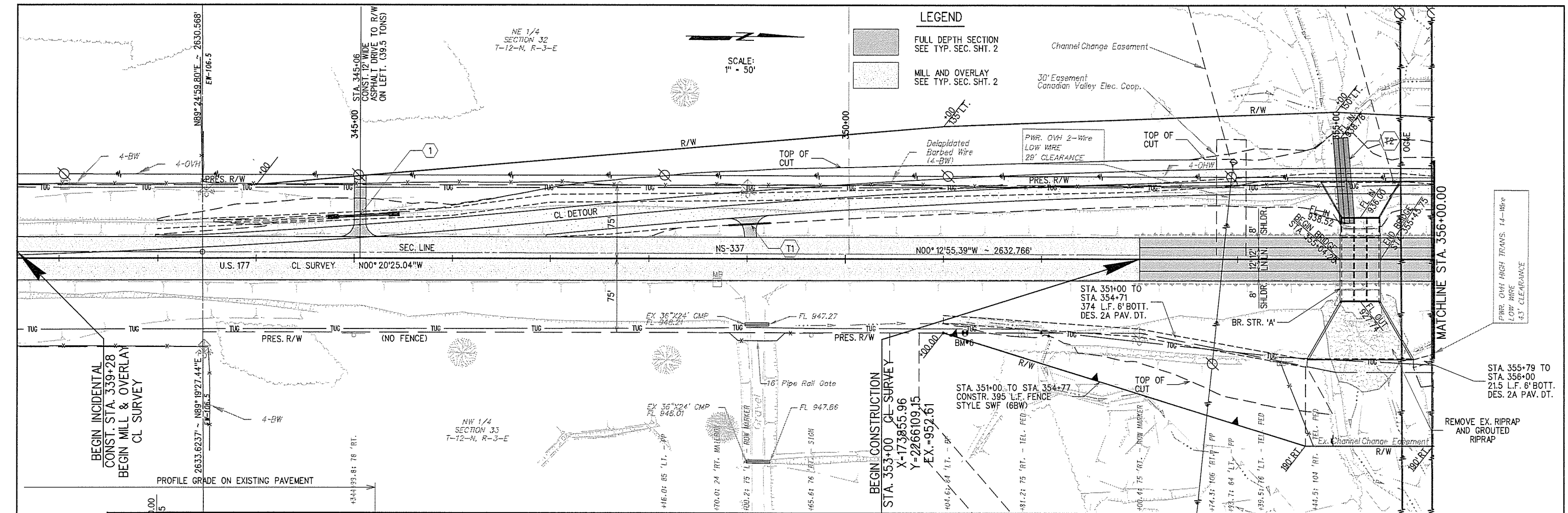
SUMMARY OF DISTURBED AREA - PHASE 3				
AREA	APPROX. LOCATION (CL SURVEY)	OUTFALL	AREA (ACRES)	DRAINAGE TREATMENT
1A	343+00 TO 350+50	BRUSH CREEK	0.85	STANDARD BMP
1B	350+50 TO 355+11	BRUSH CREEK	0.87	STANDARD BMP
1C	355+11 TO 361+00	BRUSH CREEK	1.06	STANDARD BMP
1D	361+00 TO 362+00	BRUSH CREEK	0.14	STANDARD BMP
1E	362+00 TO 364+00	BRUSH CREEK	0.22	STANDARD BMP
1F	364+00 TO 367+34	BRUSH CREEK	0.51	STANDARD BMP
TOTAL:			3.65	ACRES

DESIGN	
DRAWN	
CHECKED	
APPROVED	
SQUAD	G/K ENGR.

EROSION CONTROL DETAILS

JOB PIECE NO. 28941(04) SHEET NO. 12

PHASE 3



HYDRAULIC DATA

DRAINAGE AREA = 4.72 SQ. MI.
 CONTROLLED = 0.00 SQ. MI.
 EFFECTIVE = 4.72 SQ. MI.

Q2	797 C.F.S.	Q25	3866 C.F.S.
V2	1.55 F.P.S.	V25	7.60 F.P.S.
Q2 HIGHWATER	941.91	Q25 HIGHWATER	947.44
Q5	1642 C.F.S.	Q50	4819 C.F.S.
V5	4.97 F.P.S.	V50	8.54 F.P.S.
Q5 HIGHWATER	943.46	Q50 HIGHWATER	950.82
Q10	2476 C.F.S.	Q100	6011 C.F.S.
V10	6.08 F.P.S.	V100	9.95 F.P.S.
Q10 HIGHWATER	944.38	Q100 HIGHWATER	952.70
Q68	≈ Q0T	Q68	5334 C.F.S.
V68	≈ V0T	V68	8.23 F.P.S.
Q68 HIGHWATER		Q68 HIGHWATER	952.14

UTILITIES OWNERSHIPS:

Canadian Valley Electric 1-(877)-382-3680
 McCloud Telephone Co. (405)-339-3359
 OG&E 1-(800) 522-6543


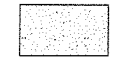
Type Symmetric Parabola

Dir Sag
 L 300.00'
 K 187.21
 R 0.53
 SB 754.48

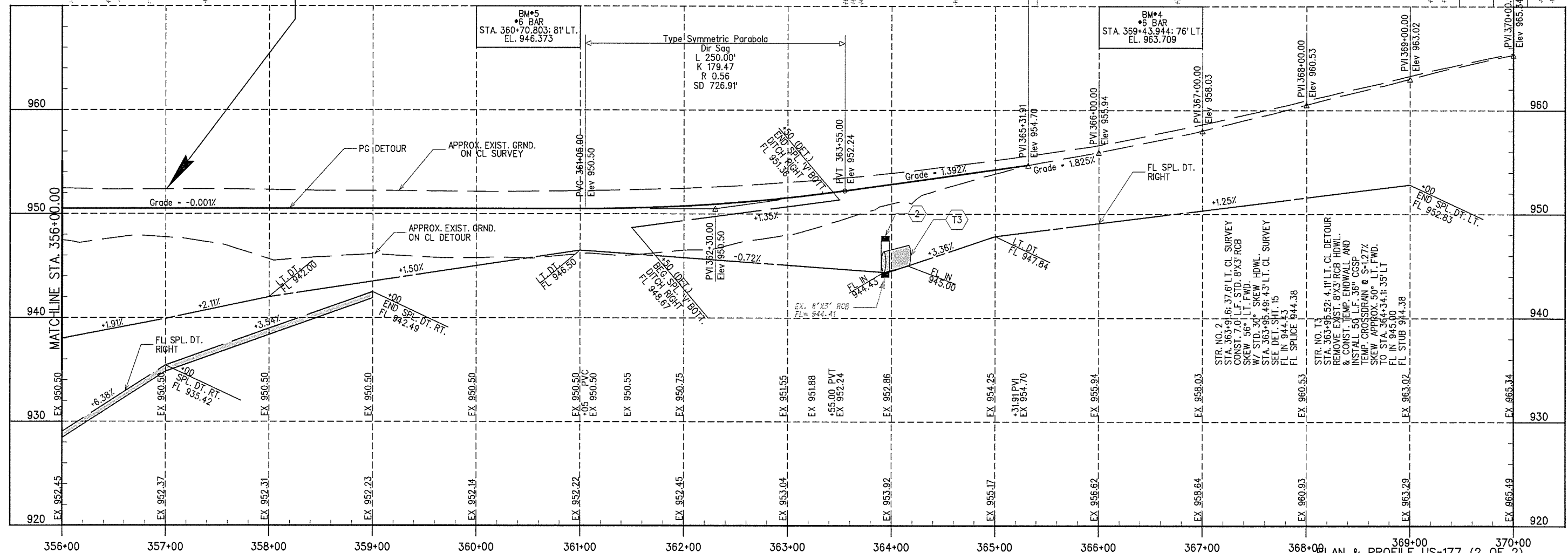
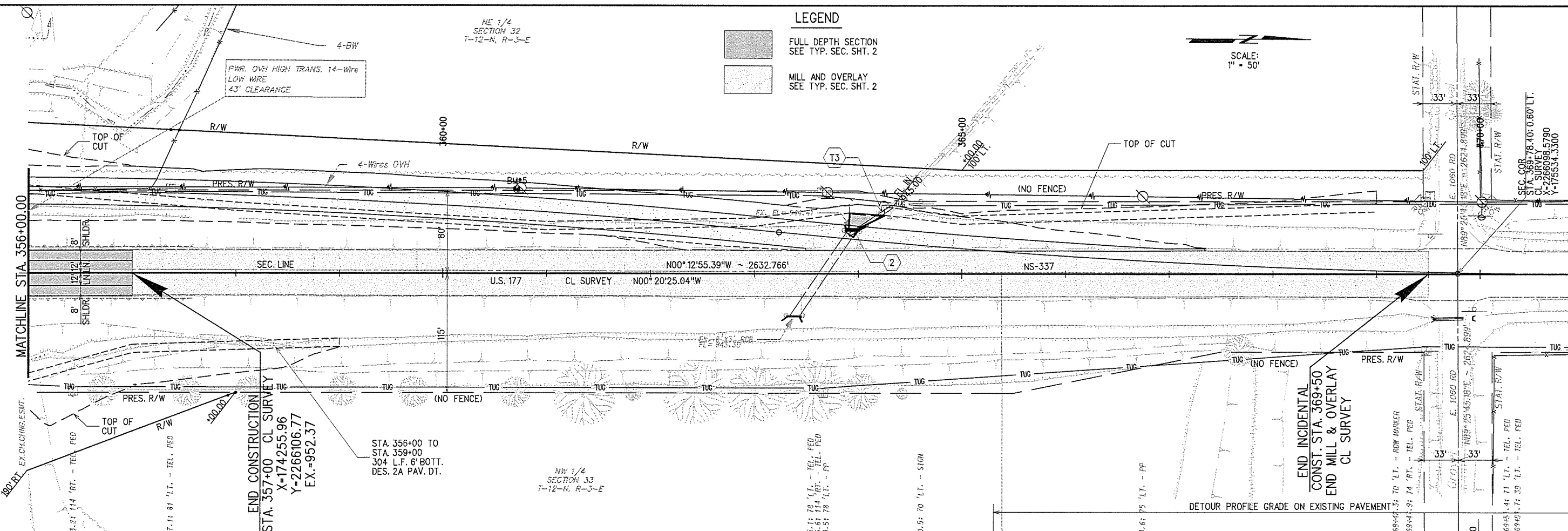
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12/8/2015 X:\Odot\EC-1394F-2\Civil\P&P_2.dgn

LEGEND

-  FULL DEPTH SECTION
SEE TYP. SEC. SHT. 2
-  MILL AND OVERLAY
SEE TYP. SEC. SHT. 2

SCALE:
1" = 50'



END INCIDENTAL
 CONST. STA. 369+50
 END MILL & OVERLAY
 CL SURVEY

END CONSTRUCTION
 STA. 357+00 CL SURVEY
 X=174255.96
 Y=2266106.77
 EX.=952.37

STA. 356+00 TO
 STA. 359+00
 304 L.F. 6" BOTT.
 DES. 2A PAV. DT.

NW 1/4
SECTION 33
T-12-N, R-3-E

NE 1/4
SECTION 32
T-12-N, R-3-E

STR. NO. 2
 STA. 363+91.6; 37' 6" LT. CL SURVEY
 CONST. 7.0' L.F. STD. 8'X3' RCB
 SKEW 56° LT. FWD. HDWL.
 W/ STD. 30" SKEW. HDWL.
 STA. 363+95.49; 43' LT. CL SURVEY
 SEE DET. SHT. 15
 FL IN 944.41
 FL SPLICE 944.38

STR. NO. T3
 STA. 363+95.52; 4' 11" LT. CL DETOUR
 REMOVE EXIST. 8'X3' RCB HDWL.
 & CONST. TEMP. ENDWALL AND
 INSTALL 50' L.F. 36" CGSP
 TEMP. CROSSDRAIN @ S=12.7%
 SKEW APPROX. 50° LT. FWD.
 TO STA. 364+34.1; 35' LT.
 FL IN 945.90
 FL STUB 944.38

REV. NO.	DESCRIPTION	REVISIONS	DATE

P.O.B.
 STA. 0+00 CL EXIST. STR.
 -STA. 364+50.12; 124.30' LT.
 CL SURVEY
 X=2265978.0171
 Y=175005.3252

WORKING POINT
 FACE OF HEADWALL
 STR. NO. 2
 STA. 0+97.60 CL EXIST. STR.
 -STA. 363+95.49 CL SURVEY
 43.42' LT.
 X=2266059.22
 Y=174951.18
 FL 944.43

STA. 1+47.66 CL EXIST. STR.
 @ CL SECTION LINE
 -STA. 363+67.47; 1.94' LT.
 X=2266100.87
 Y=174923.40

SPLICE PT.
 STR. NO. 2
 STA. 1+04.60 CL EXIST. STR.
 -STA. 363+91.58 CL SURVEY
 37.61' LT.
 FL 944.38

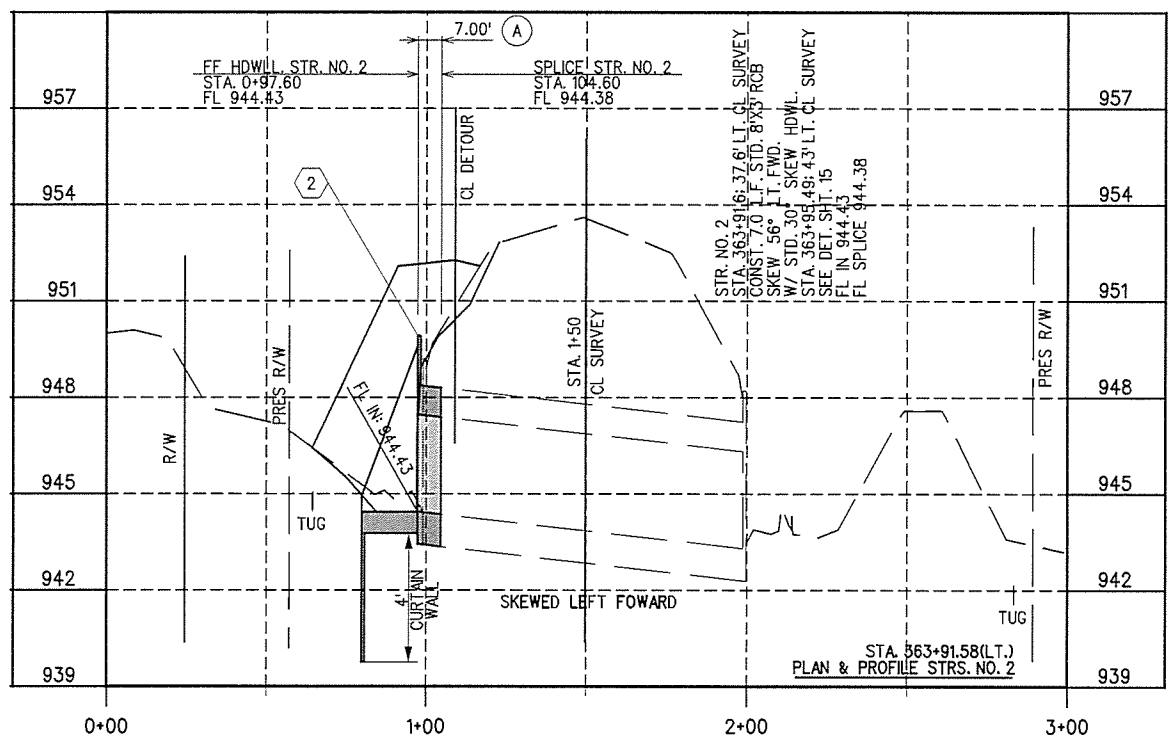
STA. 1+50.00 CL EXIST. STR.
 -STA. 363+66.16 CL SURVEY
 X=2266102.82
 Y=174922.11

P.O.E.
 STA. 3+00 CL EXIST. STR.
 -STA. 362+82.20; 124.30' LT.
 CL SURVEY
 X=2266227.6133
 Y=174838.8868

(A) 7.00 L.F. EXTENSION EQUALS 2.00 L.F. STD. BARRELL PLUS 5.00 L.F. (DIM. 'A') FROM STD. 30° SKEWED HEADWALL

STR. NO. 2	QUANTITIES		8'X3' X 7.00' LG. (A)			
	ITEM	UNIT	BARREL	HDWLL.	CURT. WALL	TOTAL
	CLASS AA CONC.	C.Y.	1.75	16.50	5.00	23.25
	REINFORCING STEEL	LBS.	240	2490	650	3380

- ① COST FOR UNCL. EXCAV. AND STR. EXCAV. SHALL BE INCLUDED IN THE UNIT PRICE BID PER C.Y. FOR CLASS AA CONCRETE.
- ② SEE THE FOLLOWING STANDARD DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN.
 RCB GUIDE -1
 RCB-GUIDE-2
 RCB-GUIDE-3
 RCB-C1-B(2-14)
 RCB-E1-H3-30-1
 RCB-E1-H3-30-2
 RCB-E1-H3-30-3
 RCB-CW1-D4-30
 SBI-4-2



DESIGN	
DRAWN	
CHECKED	
APPROVED	
SQUAD	G/K ENGR.

STR. NO. 2

DRAINAGE DETAILS

JOB PIECE NO. 28941(04) SHEET NO. 15

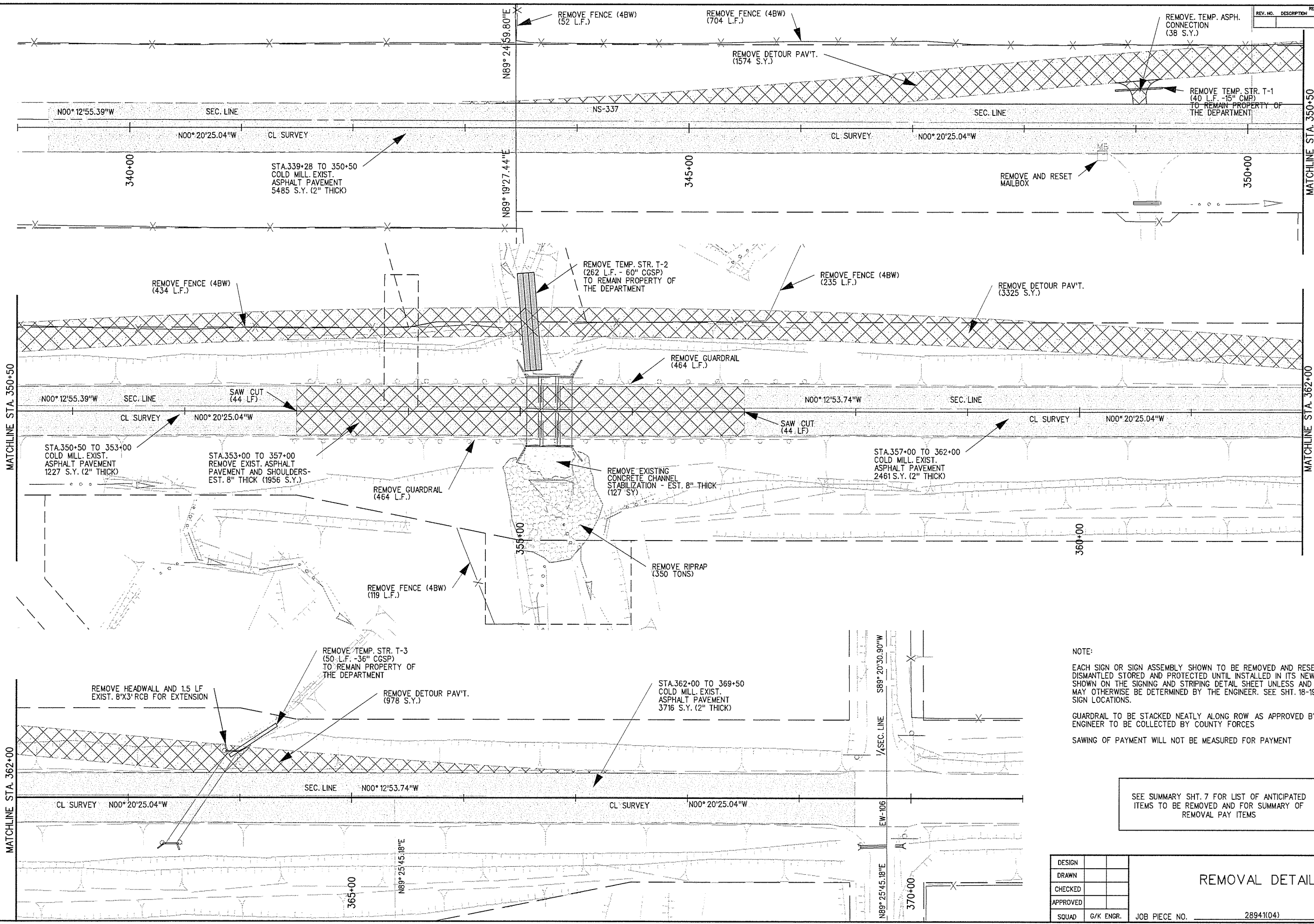
12/8/2015 X:\odot\EC-1394F-2\Civil\Drainage Detail.dgn

X:\odot\EC-1394F-2\Civil\Removals.dgn

12/8/2015

REV. NO.	DESCRIPTION	REVISIONS	DATE

SCALE: 1" = 40'



NOTE:
 EACH SIGN OR SIGN ASSEMBLY SHOWN TO BE REMOVED AND RESET SHALL BE DISMANTLED STORED AND PROTECTED UNTIL INSTALLED IN ITS NEW LOCATION SHOWN ON THE SIGNING AND STRIPING DETAIL SHEET UNLESS AND EXCEPT AS MAY OTHERWISE BE DETERMINED BY THE ENGINEER. SEE SHT. 18-19 FOR NEW SIGN LOCATIONS.
 GUARDRAIL TO BE STACKED NEATLY ALONG ROW AS APPROVED BY THE ENGINEER TO BE COLLECTED BY COUNTY FORCES
 SAWING OF PAYMENT WILL NOT BE MEASURED FOR PAYMENT

SEE SUMMARY SHT. 7 FOR LIST OF ANTICIPATED ITEMS TO BE REMOVED AND FOR SUMMARY OF REMOVAL PAY ITEMS

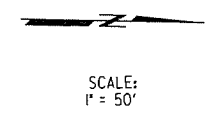
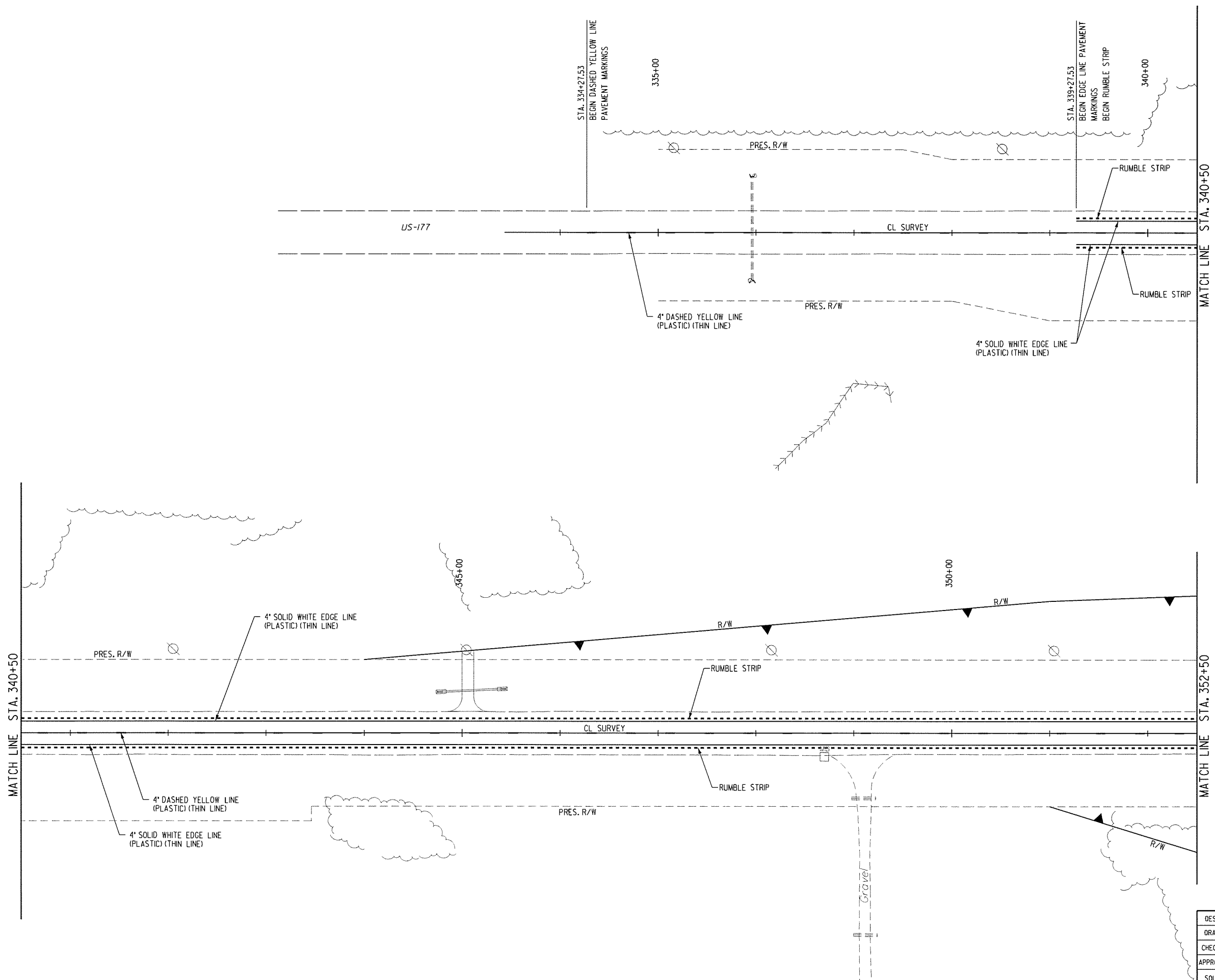
DESIGN			
DRAWN			
CHECKED			
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO. 28941(04)	SHEET NO. 16

REMOVAL DETAILS

REV. NO.	DESCRIPTION	REVISIONS	DATE

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12/1/2015



SUMMARY OF STRIPING (THIS SHEET)		
ITEM	UNIT	QUANTITY
TRAFFIC STRIPE (PLASTIC) (THIN LINE) 4" WHITE	LF	2645
TRAFFIC STRIPE (PLASTIC) (THIN LINE) 4" YELLOW	LF	486
RUMBLE STRIP	LF	2645



 JOHN M. LAMB
 24134
 OKLAHOMA
 12-01-2015

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 PLANO, TX 75093
 214-440-3600

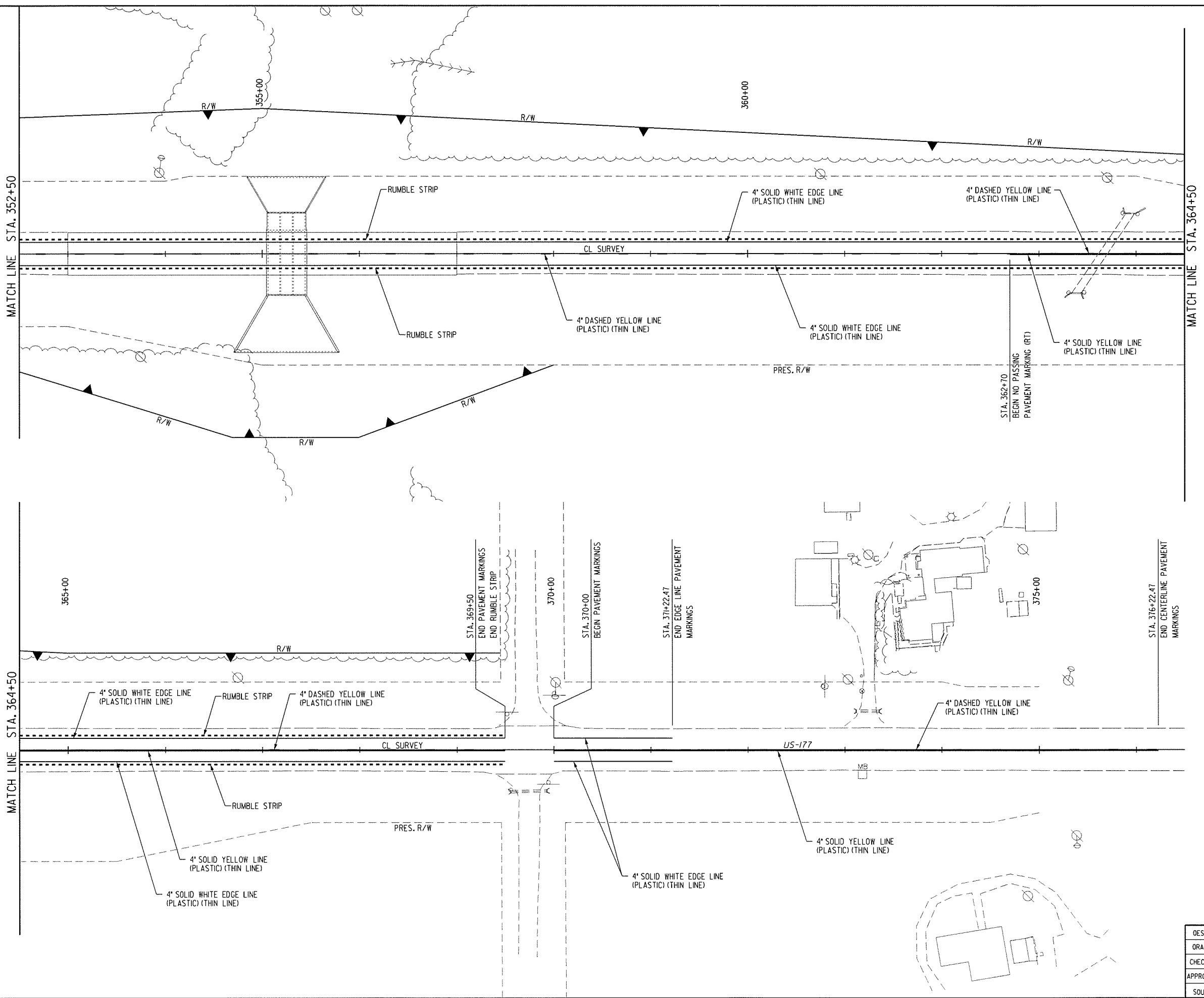
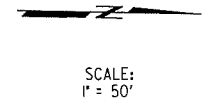
US-177 (1 OF 2)

DESIGN	TWW
DRAWN	TWW
CHECKED	WLD
APPROVED	JML
SQUAD	L-S ENGR.

JOB PIECE NO. 28941(04) SHEET NO. 17

SIGNING AND STRIPING

REV. NO.	DESCRIPTION	REVISIONS	DATE



SUMMARY OF STRIPING (THIS SHEET)		
ITEM	UNIT	QUANTITY
TRAFFIC STRIPE (PLASTIC) (THIN LINE) 4" WHITE	LF	3645
TRAFFIC STRIPE (PLASTIC) (THIN LINE) 4" YELLOW	LF	1923
RUMBLE STRIP	LF	3400



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 PLANO, TX 75093
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 US-177 (2 OF 2)

DESIGN	TW	
DRAWN	TW	
CHECKED	WLO	
APPROVED	JML	
SQUAD	L-S ENGR.	

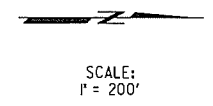
JOB PIECE NO. 28941(04) SHEET NO. 18

SIGNING AND STRIPING

12/1/2015 H:\Projects\2012\GK ODOT ECI394F US177\CAD\Sheets\ECI394-06_PM02.dgn

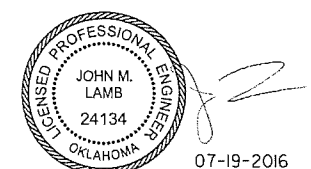
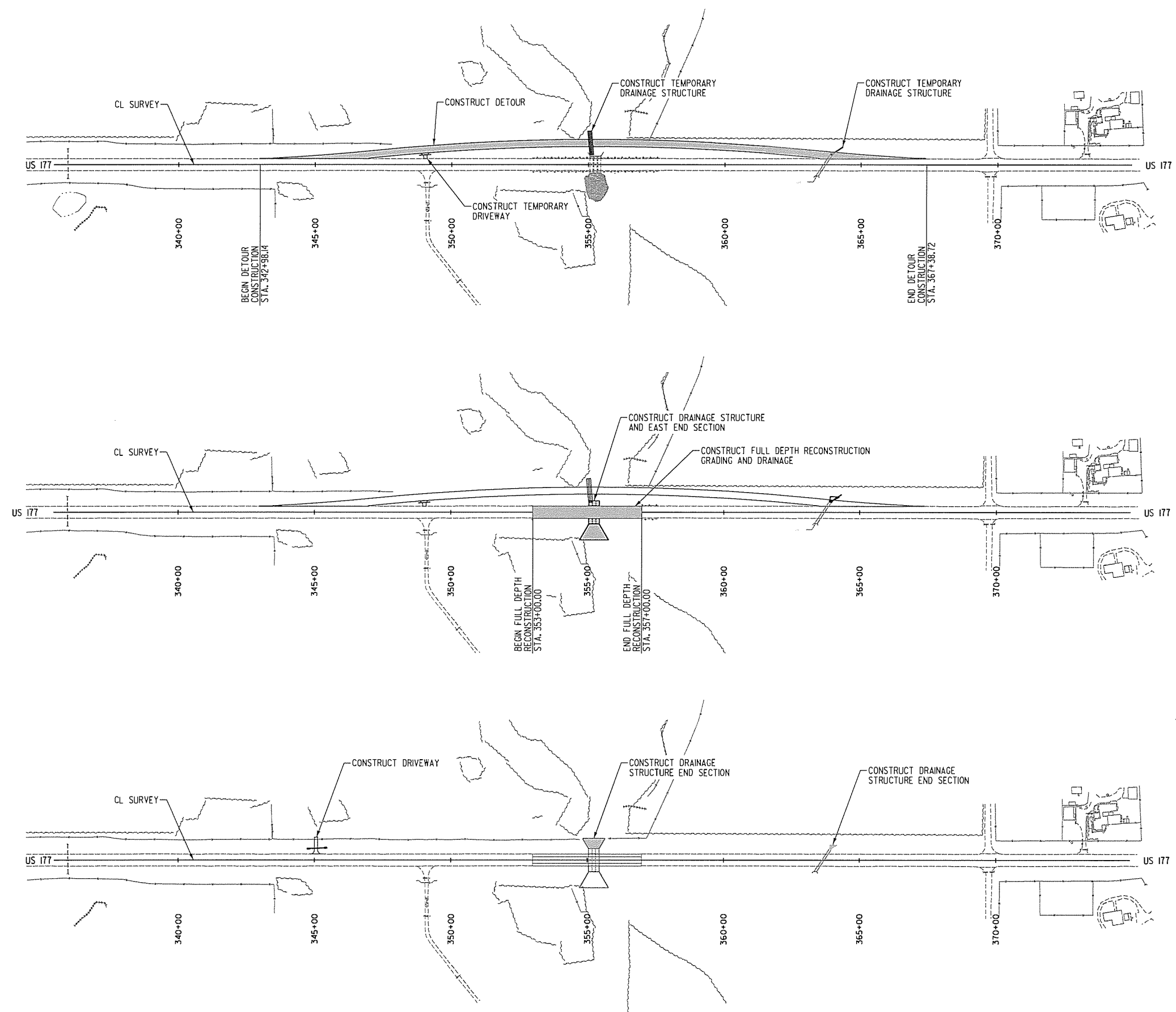
REV. NO.	DESCRIPTION	REVISIONS	DATE
1	REV. CONSTRUCT. DAYS		7-19-16

- PHASE 1 CONSTRUCTION SEQUENCE:**
1. PLACE ADVANCE WARNING SIGNS, BARRICADES AND EROSION CONTROL DEVICES AS SHOWN IN THE PLANS.
 2. CONSTRUCT DETOUR AS SHOWN IN THE PLANS INCLUDING TEMPORARY GRADING AND DRAINAGE.
- ESTIMATED DURATION FOR PHASE 1 = 30 DAYS



- PHASE 2 CONSTRUCTION SEQUENCE:**
1. SHIFT TRAFFIC ONTO THE DETOUR CONSTRUCTED IN PHASE 1
 2. CONSTRUCT FULL DEPTH RECONSTRUCTION, GRADING AND DRAINAGE FROM STA. 353+00.00 TO STA. 357+00.00
 3. CONSTRUCT RCB AND EAST END SECTION AT STA. 355+25.00
- ESTIMATED DURATION FOR PHASE 2 = 60 DAYS

- PHASE 3 CONSTRUCTION SEQUENCE:**
1. SHIFT TRAFFIC FROM DETOUR ONTO COMPLETED FULL RECONSTRUCTION SECTION
 2. REMOVE DETOUR AND TEMPORARY DRAINAGE STRUCTURES
 3. CONSTRUCT DRAINAGE STRUCTURE END SECTIONS, DRIVEWAY AND REMAINDER OF GRADING AND DRAINAGE
 4. MILL AND OVERLAY PAVEMENT FROM STA. 339+27.53 TO STA. 353+00.00 AND FROM STA. 357+00.00 TO STA. 369+50.00
- ESTIMATED DURATION FOR PHASE 3 = 30 DAYS



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US-177

DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SQUAD	L-S ENGR.

CONSTRUCTION SEQUENCE

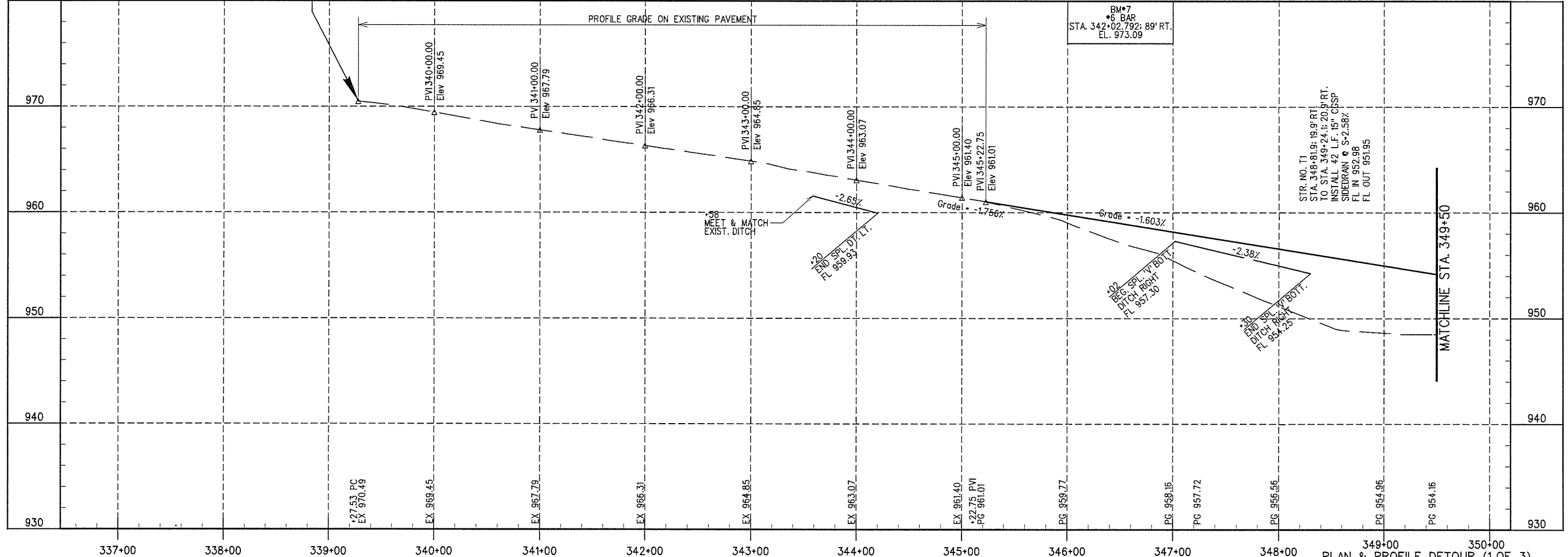
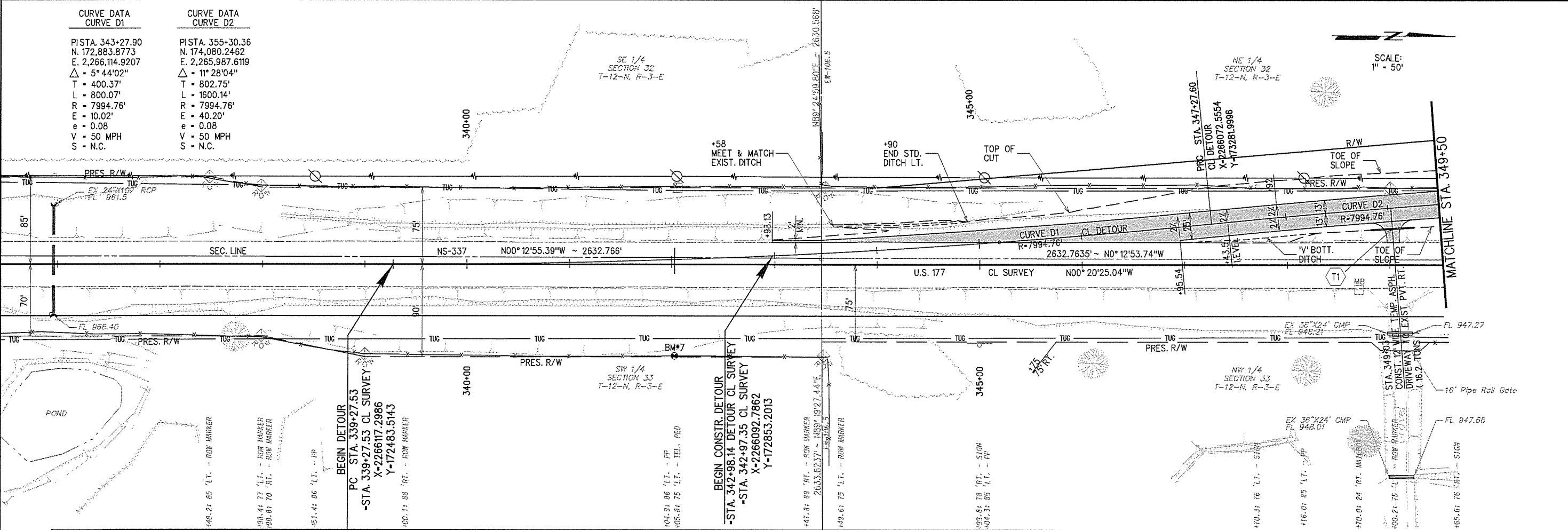
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12/8/2015

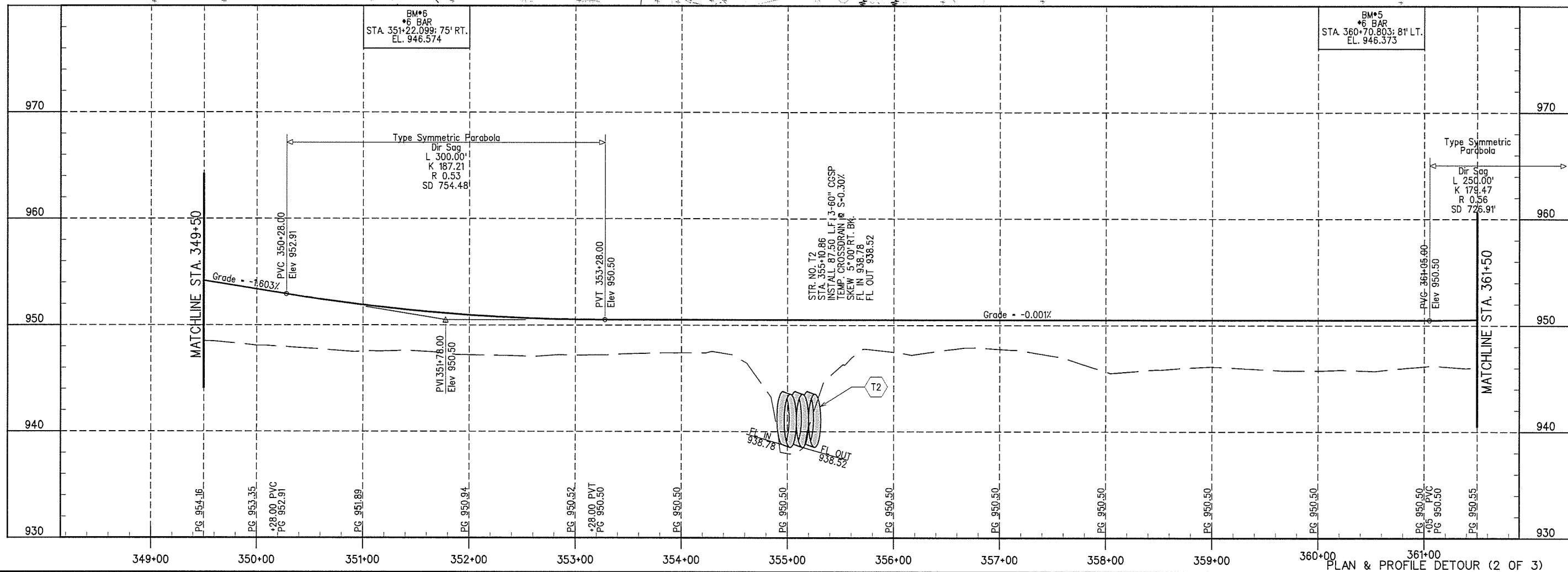
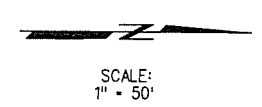
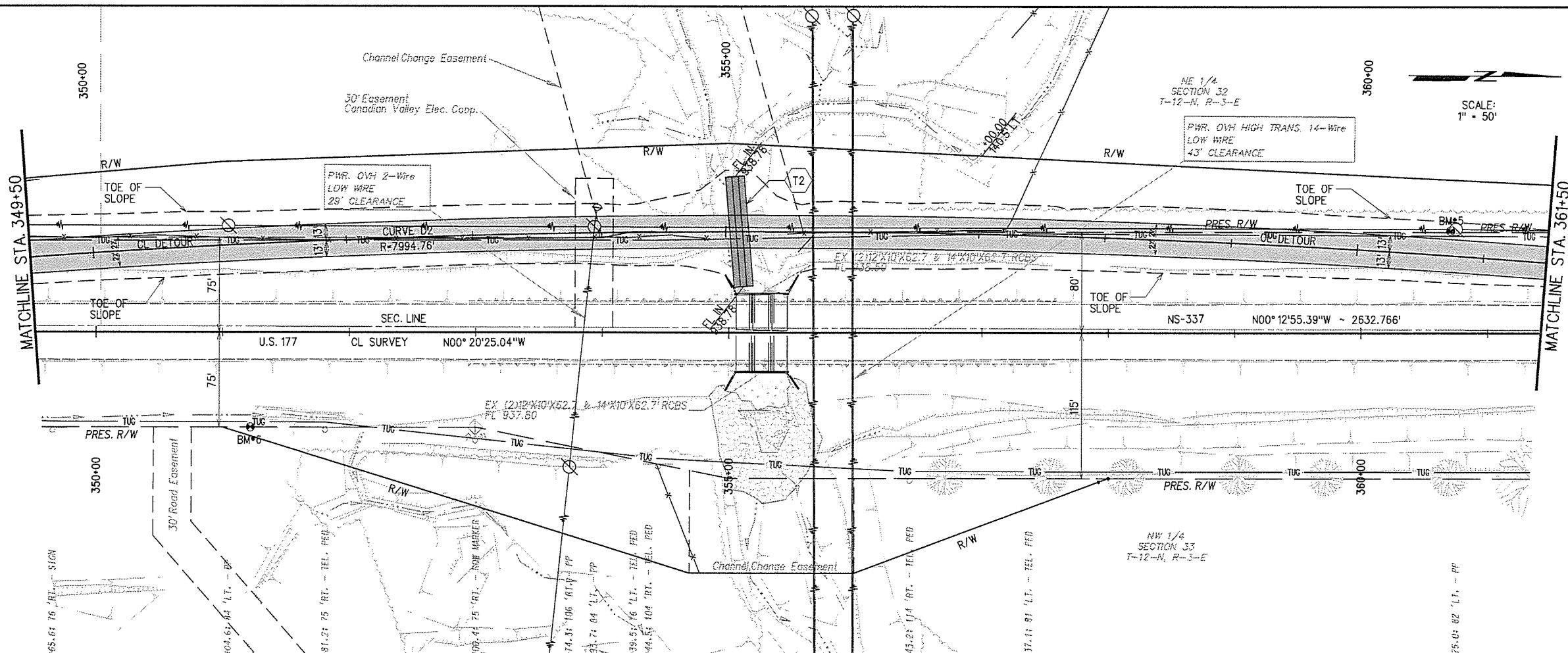
CURVE DATA CURVE D1		CURVE DATA CURVE D2	
PISTA. 343+27.90	PISTA. 355+30.36	PISTA. 343+27.90	PISTA. 355+30.36
N. 172,883.8773	N. 174,080.2462	N. 172,883.8773	N. 174,080.2462
E. 2,266,114.9207	E. 2,265,987.6119	E. 2,266,114.9207	E. 2,265,987.6119
$\Delta = 5^\circ 44'02''$	$\Delta = 11^\circ 28'04''$	$\Delta = 5^\circ 44'02''$	$\Delta = 11^\circ 28'04''$
T = 400.37'	T = 802.75'	T = 400.37'	T = 802.75'
L = 800.07'	L = 1600.14'	L = 800.07'	L = 1600.14'
R = 7994.76'	R = 7994.76'	R = 7994.76'	R = 7994.76'
E = 10.02'	E = 40.20'	E = 10.02'	E = 40.20'
e = 0.08	e = 0.08	e = 0.08	e = 0.08
V = 50 MPH	V = 50 MPH	V = 50 MPH	V = 50 MPH
S = N.C.	S = N.C.	S = N.C.	S = N.C.

SCALE:
1" = 50'



PLAN & PROFILE DETOUR (1 OF 3)

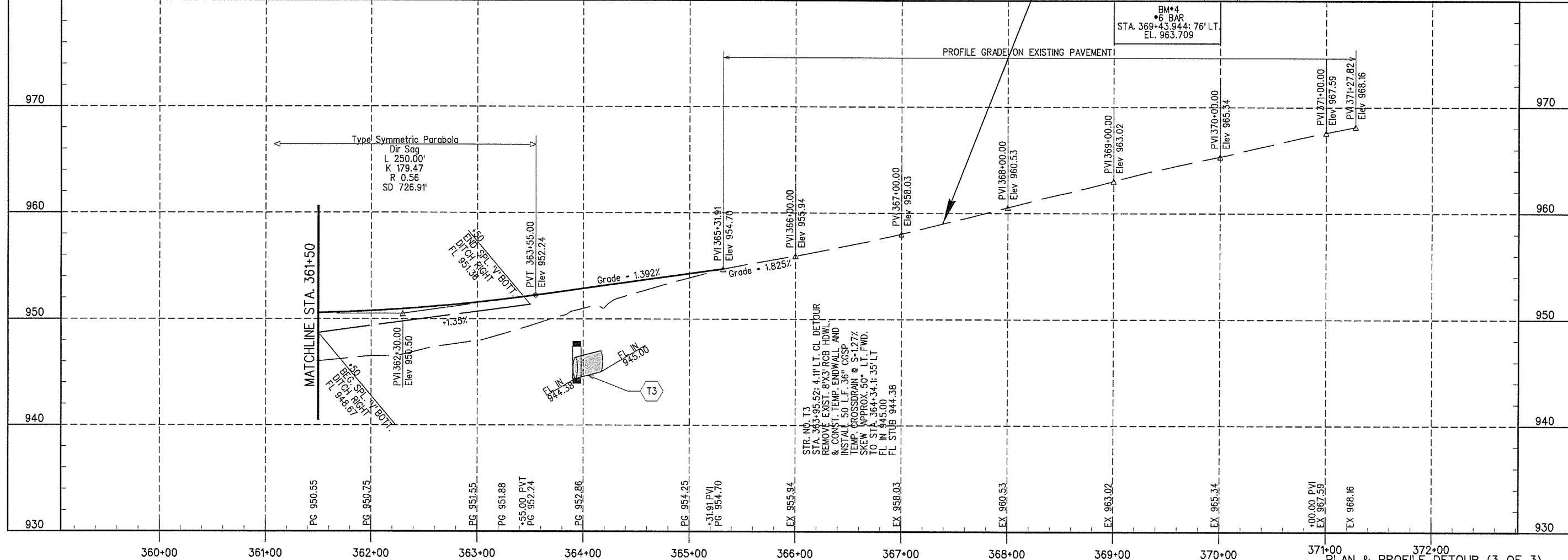
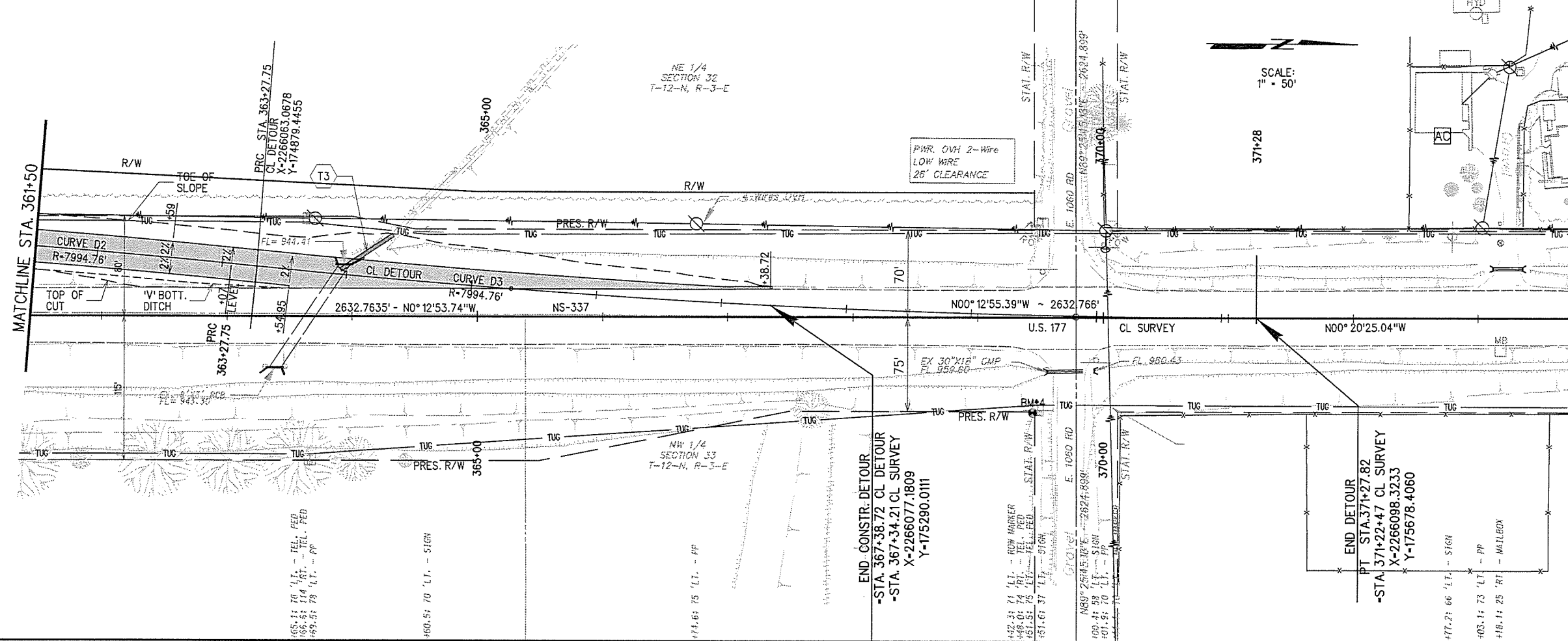
CURVE DATA
 CURVE D2
 PISTA 355+30.36
 N. 174,080.2462
 E. 2,265,987.6119
 - 11° 28' 04"
 T = 802.75'
 L = 1600.14'
 R = 7994.76'
 E = 40.20'
 e = 0.08
 V = 50 MPH
 S = N.C.



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12/8/2015

CURVE DATA CURVE D2		CURVE DATA CURVE D3	
PISTA. 355+30.36	PISTA. 367+28.12	PISTA. 355+30.36	PISTA. 367+28.12
N. 174,080.2462	N. 175,278.0429	N. 174,080.2462	N. 175,278.0429
E. 2,265,987.6119	E. 2,266,100.7011	E. 2,265,987.6119	E. 2,266,100.7011
Δ = 11° 28' 04"	Δ = 05° 44' 02"	Δ = 11° 28' 04"	Δ = 05° 44' 02"
T = 802.75'	T = 400.37'	T = 802.75'	T = 400.37'
L = 1600.14'	L = 800.07'	L = 1600.14'	L = 800.07'
R = 7994.76'	R = 7994.76'	R = 7994.76'	R = 7994.76'
E = 40.20'	E = 10.02'	E = 40.20'	E = 10.02'
e = 0.08	e = 0.08	e = 0.08	e = 0.08
V = 50 MPH	V = 50 MPH	V = 50 MPH	V = 50 MPH
S = N.C.	S = N.C.	S = N.C.	S = N.C.

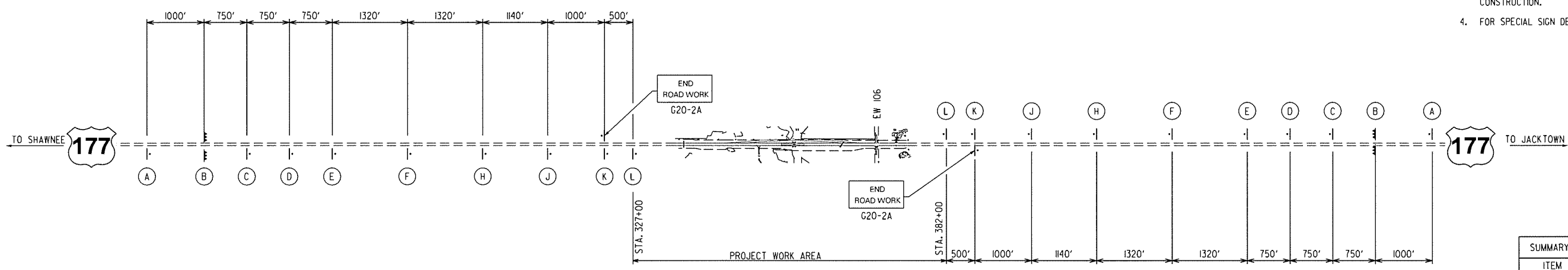


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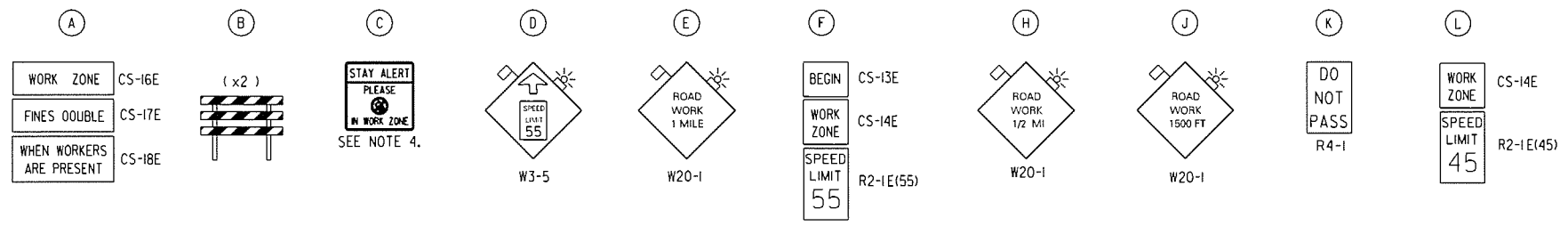
SCALE:
1" = 1000'

TRAFFIC CONTROL NOTES

1. ALL TRAFFIC CONTROL SIGNS AND DEVICES AND THEIR USE SHALL CONFORM TO ODOT TRAFFIC CONTROL STANDARDS AND PART 6 (WORK ZONES) OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. THE HIGHWAY IS TO REMAIN OPEN TO TRAFFIC THROUGHOUT CONSTRUCTION.
3. ADVANCE WARNING SIGNS SHALL REMAIN IN PLACE FOR ALL PHASES OF CONSTRUCTION.
4. FOR SPECIAL SIGN DETAIL SEE SHEET NO. 6



SUMMARY OF TRAFFIC CONTROL (THIS SHEET)		
ITEM		NO. REQ'D.
SIGN: W20-1	(16.0 S.F.)	6
SIGN: G20-2A	(4.5 S.F.)	2
SIGN: W3-5	(16.0 S.F.)	2
SIGN: R2-1E(45)	(12.0 S.F.)	2
SIGN: R2-1E(55)	(12.0 S.F.)	2
SIGN: CS-13E	(3.0 S.F.)	2
SIGN: CS-14E	(6.0 S.F.)	4
SIGN: CS-16E	(6.0 S.F.)	2
SIGN: CS-17E	(6.0 S.F.)	2
SIGN: CS-18E	(8.0 S.F.)	2
SIGN: R4-1	(5.0 S.F.)	2
SIGN: STAY ALERT	(16.0 S.F.)	2
WING BARRICADES		4
TYPE 'A' LIGHTS		8



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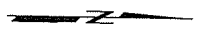
US-177

DESIGN	TWW	
DRAWN	TWW	
CHECKED	WLO	
APPROVED	JML	
SQUAD	L-S ENGR.	

TRAFFIC CONTROL
 ADVANCE WARNING SIGNS
 JOB PIECE NO. 28941(04) SHEET NO. 23

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12/1/2015



SCALE:
1" = 50'

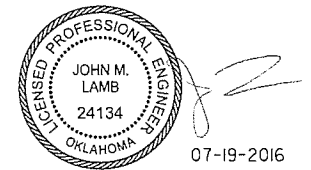
PHASE I CONSTRUCTION ACTIVITIES:

1. TRAFFIC IS RUNNING ON EXISTING HIGHWAY PAVEMENT.
 2. CONSTRUCT DETOUR, TEMPORARY DRIVEWAY, GRADING AND DRAINAGE FROM STA. 342+98.14 TO STA. 367+38.72
- ESTIMATED DURATION FOR PHASE I: 30 DAYS. ⚠

TRAFFIC CONTROL NOTES

- A. ALL TRAFFIC CONTROL SIGNS AND DEVICES AND THEIR USE SHALL CONFORM TO ODOT TRAFFIC CONTROL STANDARDS AND PART 6 (WORK ZONES) OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- B. THE HIGHWAY IS TO REMAIN OPEN TO TRAFFIC THROUGHOUT CONSTRUCTION.

SUMMARY OF TRAFFIC CONTROL (THIS SHEET)		
ITEM	(10.0 S.F.)	NO. REQ'D.
SIGN: RII-2	(10.0 S.F.)	3
SIGN: W5-1	(16.0 S.F.)	1
TYPE III BARRICADES		3
DRUMS		15
TYPE A LIGHTS		7



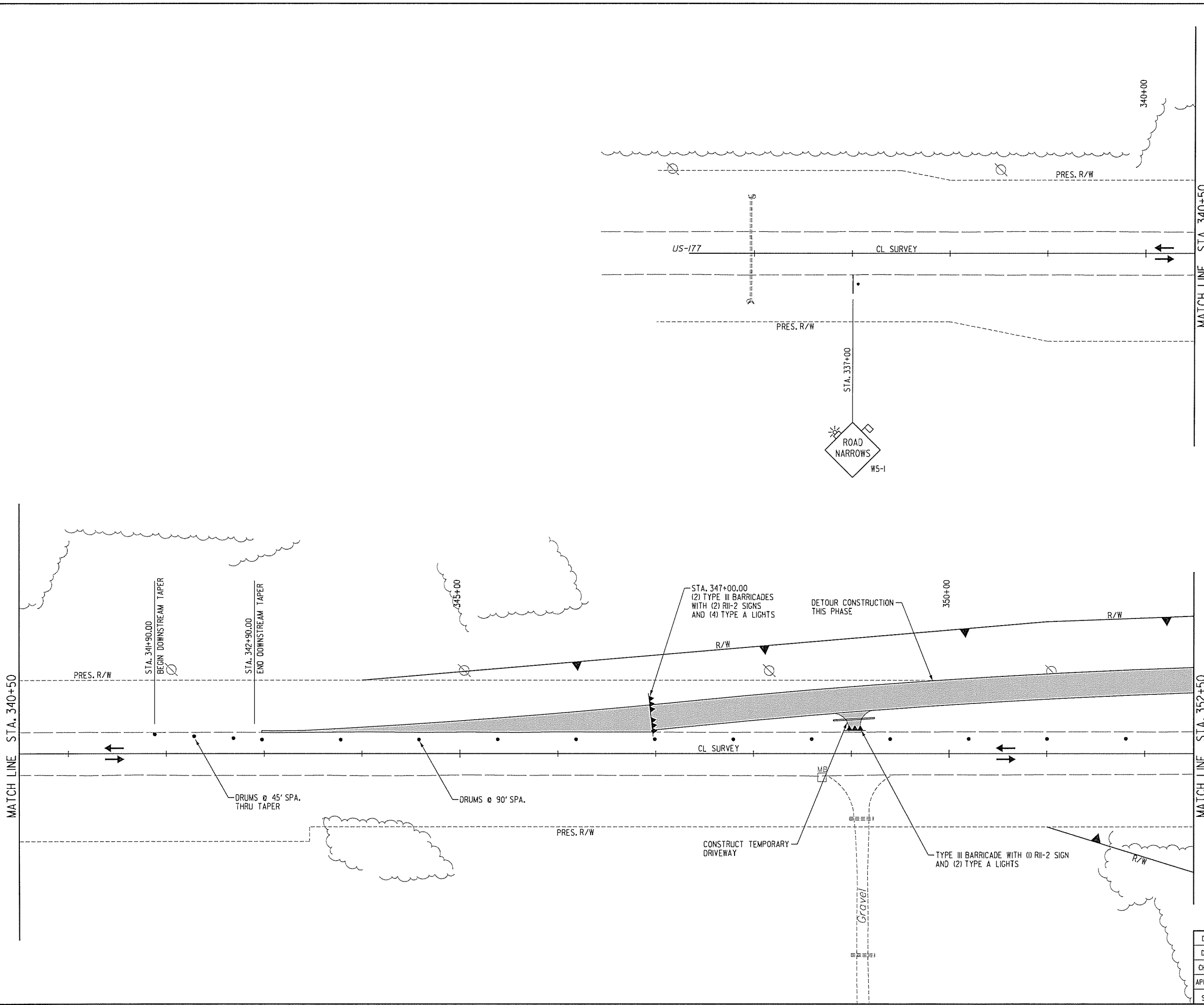
CA 5769 PE/LS
LAMB-STAR ENGINEERING, L.P.
5700 W. PLANO PARKWAY, SUITE 1000
PLANO, TX 75093
214-440-3600

US-177 (1 OF 2)

DESIGN	TWW
DRAWN	TWW
CHECKED	WLD
APPROVED	JML
SQUAD	L-S ENGR.

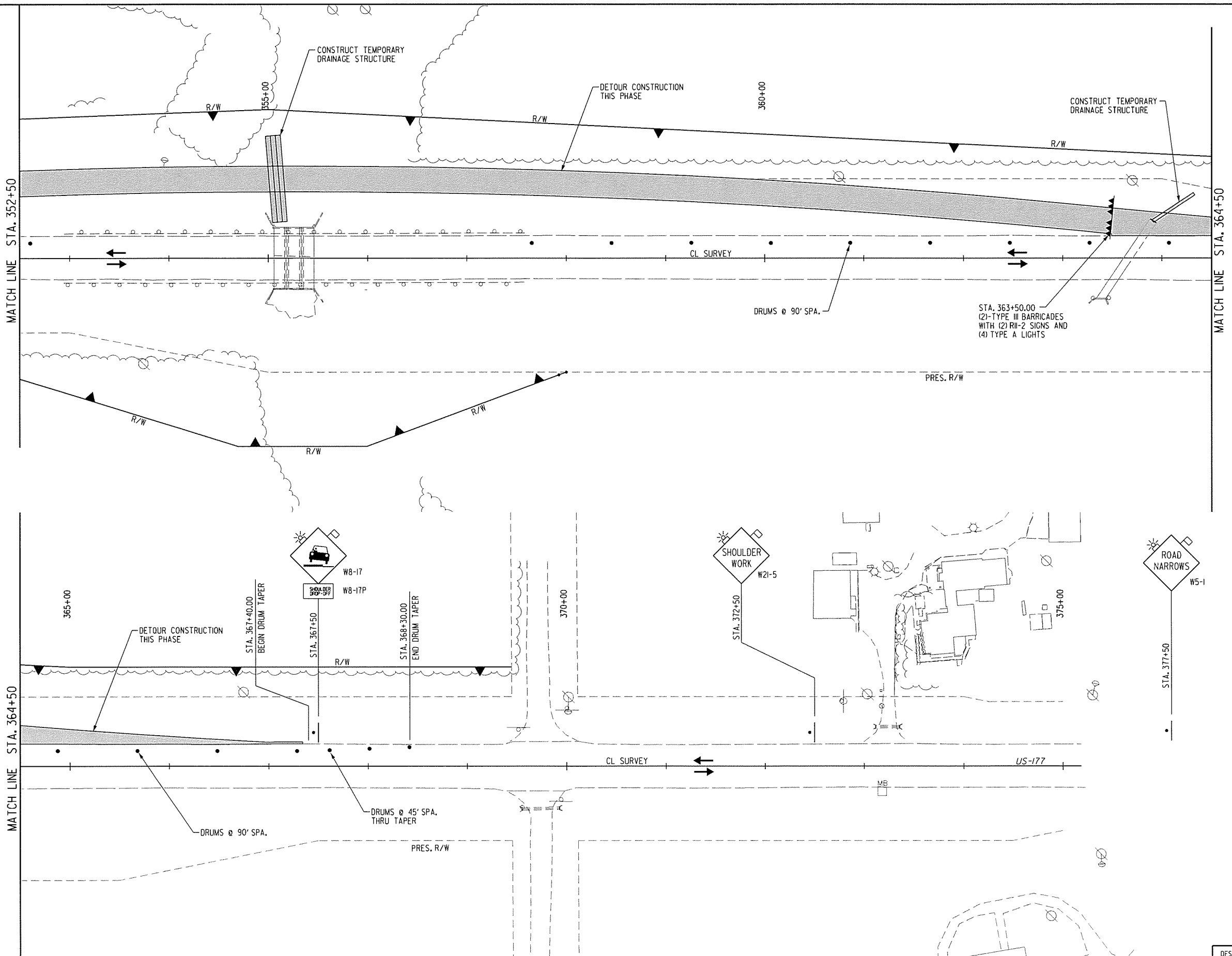
TRAFFIC CONTROL PLAN
PHASE I

JOB PIECE NO. 28941(04) SHEET NO. 24



7/19/2016 H:\Projects\2012\GK ODOT ECI394F US177\CAD\Sheets\ECI394-06_TCOI.dgn

REV. NO.	DESCRIPTION	REVISIONS	DATE



SCALE:
1" = 50'

SUMMARY OF TRAFFIC CONTROL (THIS SHEET)		
ITEM		NO. REQ'D.
SIGN: W8-17	(16.0 S.F.)	1
SIGN: W8-17P	(4.5 S.F.)	1
SIGN: W21-5	(16.0 S.F.)	1
SIGN: R11-2	(10.0 S.F.)	2
SIGN: W5-1	(16.0 S.F.)	1
TYPE III BARRICADES		2
DRUMS		15
TYPE A LIGHTS		7

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12/1/2015



[Signature]
12-01-2015

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PLANO, TX 75093
214-440-3600
US-177 (2 OF 2)

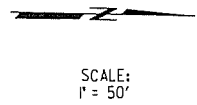
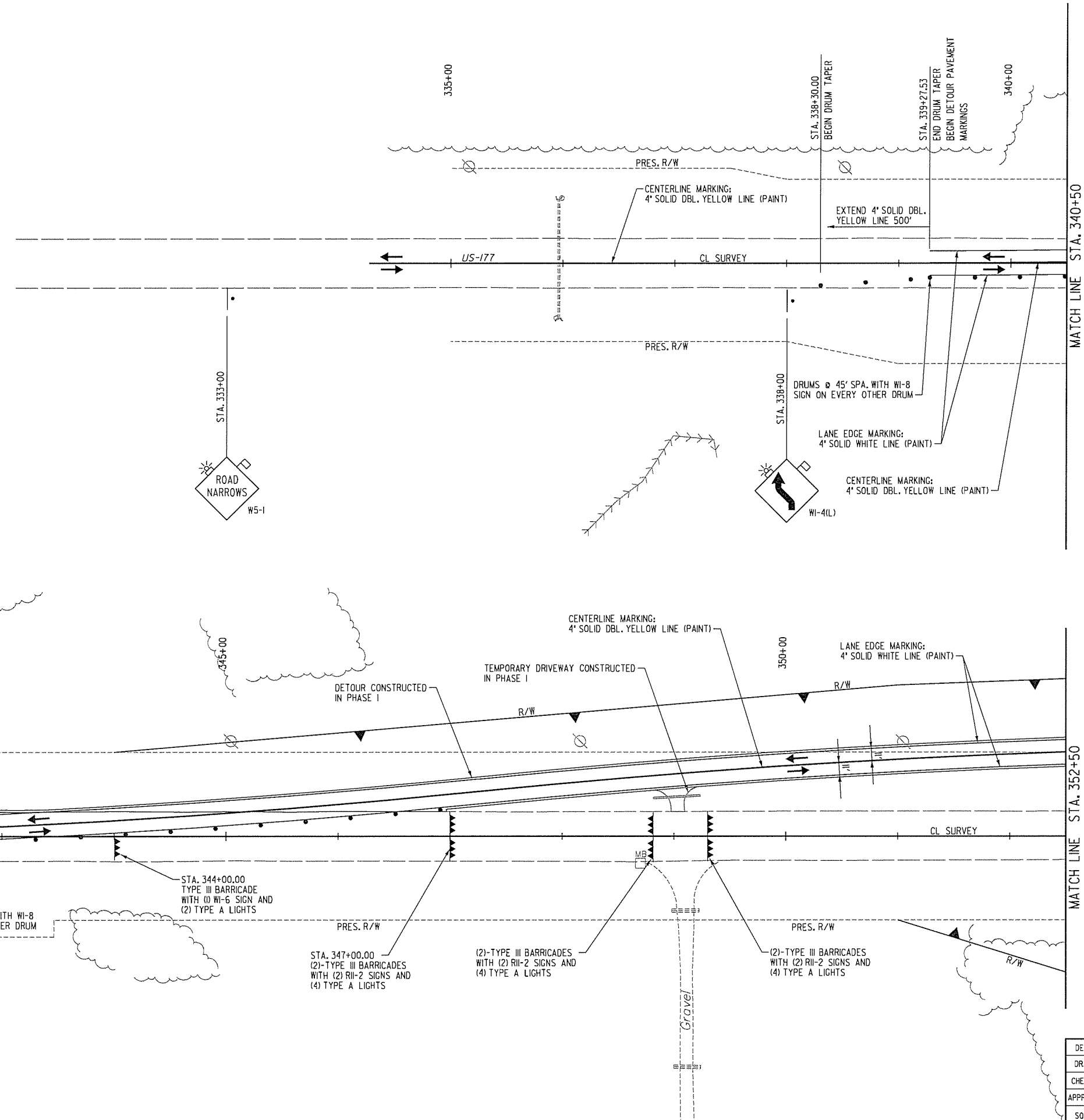
DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SQUAD	L-S ENGR.

TRAFFIC CONTROL PLAN
PHASE I

JOB PIECE NO. 28941(04) SHEET NO. 25

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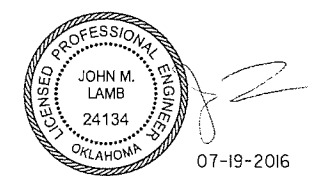
7/19/2016



- PHASE 2 CONSTRUCTION ACTIVITIES:**
1. TRAFFIC IS SHIFTED TO THE WEST AND RUNNING ON DETOUR PAVEMENT.
 2. CONSTRUCT DRAINAGE STRUCTURE AND HEADWALL
 3. CONSTRUCT FULL DEPTH RECONSTRUCTION, GRADING AND DRAINAGE FROM STA. 353+00.00 TO STA. 357+00.00
- ESTIMATED DURATION FOR PHASE 2 : 60 DAYS. ⚠

- TRAFFIC CONTROL NOTES**
- A. ALL TRAFFIC CONTROL SIGNS AND DEVICES AND THEIR USE SHALL CONFORM TO ODOT TRAFFIC CONTROL STANDARDS AND PART 6 (WORK ZONES) OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - B. THE HIGHWAY IS TO REMAIN OPEN TO TRAFFIC THROUGHOUT CONSTRUCTION.

SUMMARY OF TRAFFIC CONTROL (THIS SHEET)		
ITEM		NO. REQ'D.
SIGN: W5-1	(6.0 S.F.)	1
SIGN: RII-2	(10.0 S.F.)	6
SIGN: WI-4(L)	(6.0 S.F.)	1
SIGN: WI-6	(8.0 S.F.)	2
SIGN: WI-8	(3.0 S.F.)	12
TYPE III BARRICADES		8
DRUMS		23
TYPE A LIGHTS		18
TRAFFIC STRIPE PAINT 4\"/>		



CA 5769 PE/LS
 LAMB-STAR ENGINEERING, L.P.
 5700 W. PLANO PARKWAY, SUITE 1000
 PLANO, TX 75093
 214-440-3600

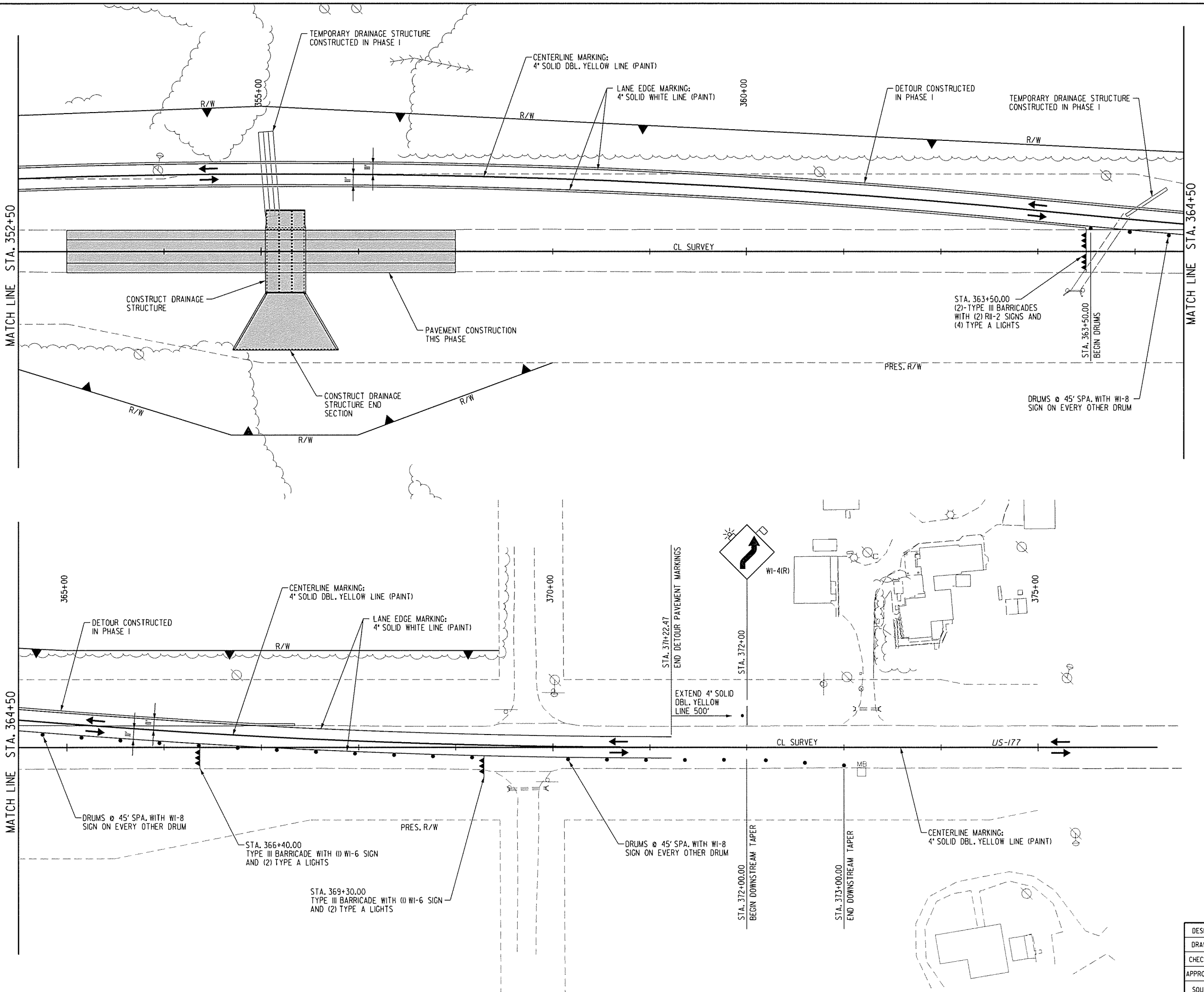
US-177 (1 OF 2)

DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SQUAD	L-S ENGR.

**TRAFFIC CONTROL PLAN
PHASE 2**

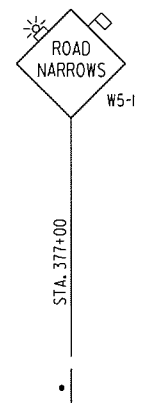
JOB PIECE NO. _____ SHEET NO. 26

REV. NO.	DESCRIPTION	REVISIONS	DATE



SCALE:
1" = 50'

SUMMARY OF TRAFFIC CONTROL (THIS SHEET)		
ITEM		NO. REQ'D.
SIGN: W5-1	(16.0 S.F.)	1
SIGN: RII-2	(10.0 S.F.)	2
SIGN: WI-4(R)	(16.0 S.F.)	1
SIGN: WI-6	(8.0 S.F.)	10
SIGN: WI-8	(3.0 S.F.)	12
TYPE III BARRICADES		4
DRUMS		23
TYPE A LIGHTS		10
TRAFFIC STRIPE PAINT 4" WHITE		3751
TRAFFIC STRIPE PAINT 4" YELLOW		4751
PVMT MRK REMOVAL TRAFFIC STRIPE		4662



12-01-2015

CA 5769 PE/L S
LAMB-STAR ENGINEERING, L.P.
5700 W. PLANO PARKWAY, SUITE 1000
PLANO, TX 75093
214-440-3600

US-177 (2 OF 2)

DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SQUAD	L-S ENGR.

TRAFFIC CONTROL PLAN
PHASE 2

JOB PIECE NO. 28941(04) SHEET NO. 27

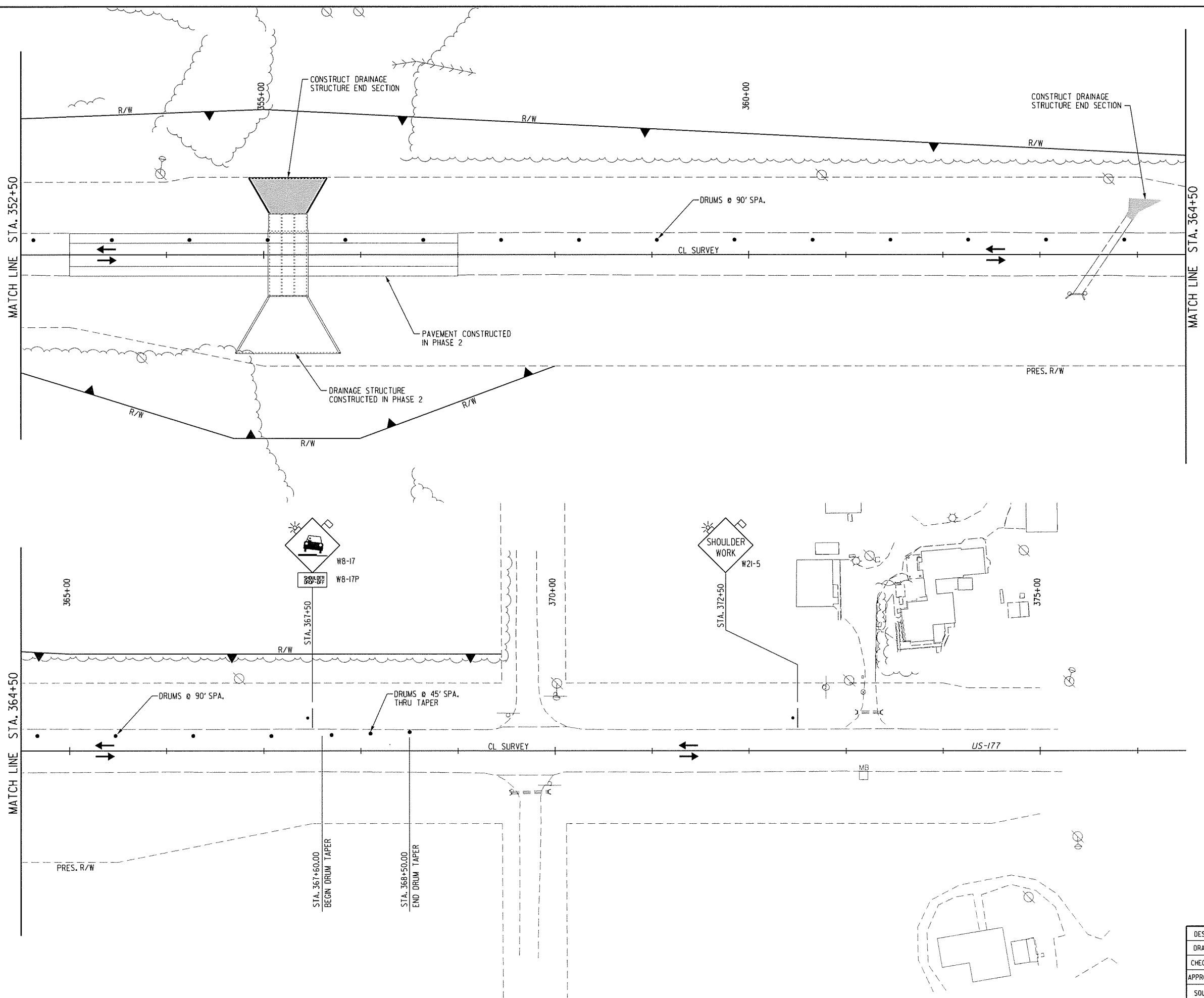
H:\Projects\2012\GK ODOT EC1394F US17\CAD\Sheets\EC1394-06_IC04.dgn

12/1/2015

REV. NO.	DESCRIPTION	REVISIONS	DATE



SCALE:
1" = 50'



SUMMARY OF TRAFFIC CONTROL (THIS SHEET)	
ITEM	NO. REQ'D.
DRUMS	23
PVMT MRK REMOVAL TRAFFIC STRIPE	2250



[Signature]
12-01-2015

CA 5769 PE/LS
LAMB-STAR ENGINEERING, L.P.
5700 W. PLANO PARKWAY, SUITE 1000
PLANO, TX 75093
214-440-3600

US-177 (2 OF 2)

DESIGN	TWW
DRAWN	TWW
CHECKED	WLO
APPROVED	JML
SQUAD	L-5 ENGR.

**TRAFFIC CONTROL PLAN
PHASE 3**

JOB PIECE NO. 28941(04) SHEET NO. 29

12/1/2015 H:\Projects\2012\GK_000T_ECI394F_US177\CAD_Sheets\ECI394-06_IC06.dgn

REV. NO.	DESCRIPTION	DATE

SHEET INDEX

SHEET NO.	TITLE
4	SUMMARY OF QUANTITIES AND GENERAL NOTES (BRIDGE)
30	GENERAL PLAN & ELEVATION
31	STRUCTURE PROFILE
32-35	BARREL DETAILS (4 SHEETS)
36-38	HEADWALL DETAILS (3 SHEETS)

DESIGN DATA

- DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION.
- DESIGNED FOR HL-93 LOADING AND ODOT OVERLOAD TRUCK.
- MATERIALS:
 CONCRETE (CLASS AA) $f'_c = 4$ KSI
 REINFORCING STEEL $f_y = 60$ KSI

HYDRAULIC DATA

DRAINAGE AREA = 4.72 SQ. MI.
 CONTROLLED = 0.00 SQ. MI.
 EFFECTIVE = 4.72 SQ. MI.

Q2	797 C.F.S.	Q25	3866 C.F.S.
V2	3.55 F.P.S.	V25	7.60 F.P.S.
Q2 HIGHWATER	941.91	Q25 HIGHWATER	947.44
Q5	1642 C.F.S.	Q50	4819 C.F.S.
V5	4.97 F.P.S.	V50	8.54 F.P.S.
Q5 HIGHWATER	943.46	Q50 HIGHWATER	950.82
Q10	2476 C.F.S.	Q100	6011 C.F.S.
V10	6.08 F.P.S.	V100	9.95 F.P.S.
Q10 HIGHWATER	944.38	Q100 HIGHWATER	952.70
		Q68 ≈ Q0T	5334 C.F.S.
		V68	8.23 F.P.S.
		Q68 HIGHWATER	952.14

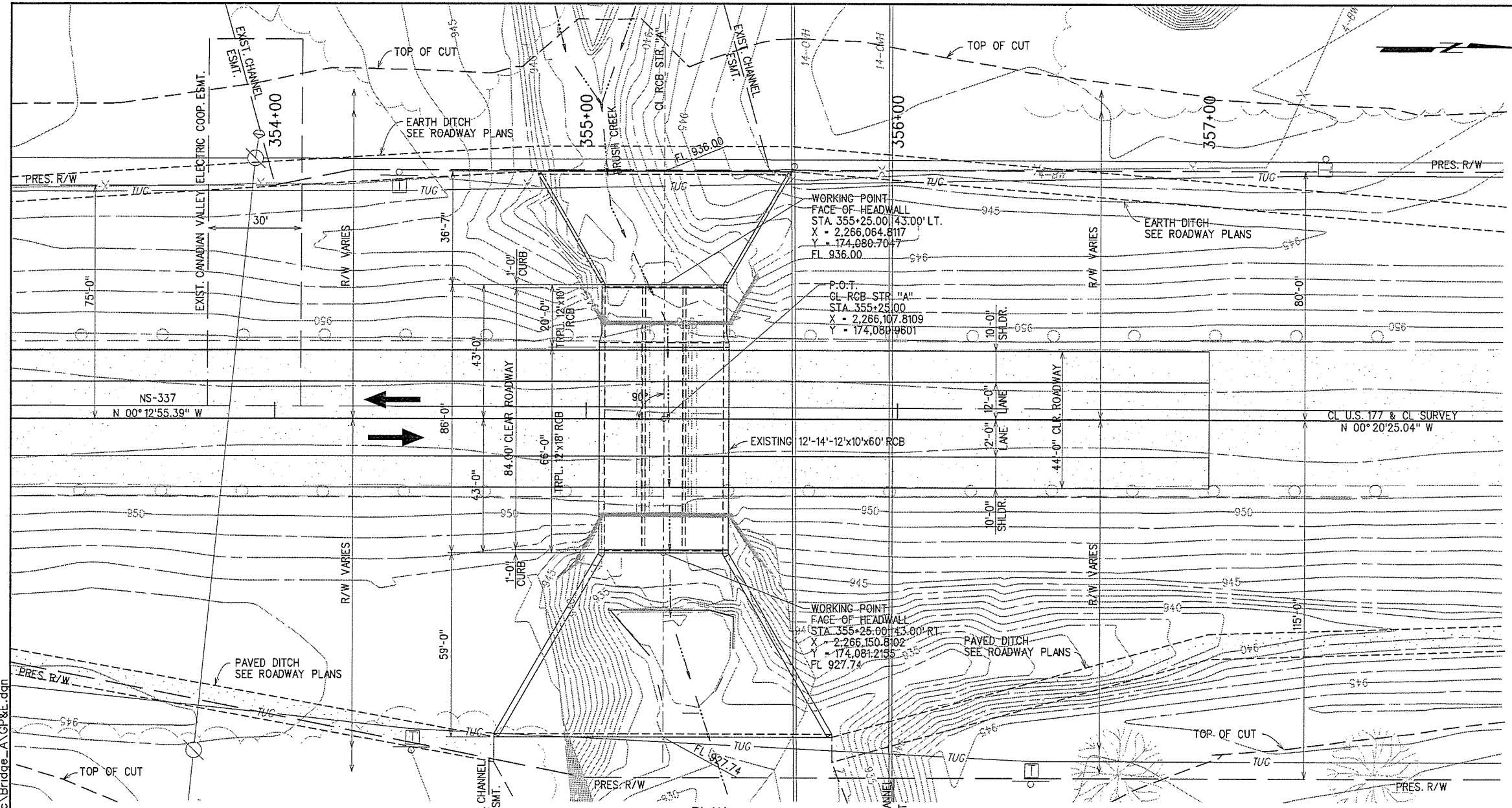
STANDARDS

- DESIGN NO.
 RCB-E3-H10-0-1
 RCB-E3-H10-0-2
 RCB-CW3-D8-0
 SBI-4

NOTE:
 1. FOR PROFILE OF STRUCTURE SEE SHT. 31.

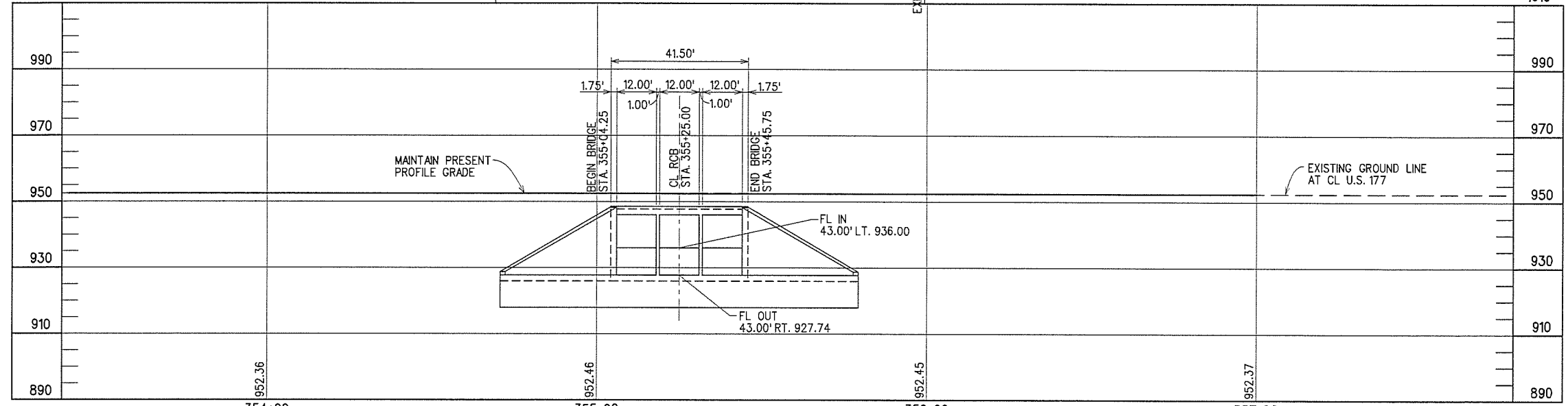
SUMMARY OF QUANTITIES

CONSTRUCT TRPL.12'x10',18'x84.00' CLR. RDWY. RCB W/8' DROP					
ITEM	UNIT	INLET HEADWALL	OUTLET HEADWALL	BARREL	TOTAL QUANTITIES
UNCLASSIFIED EXCAVATION	C.Y.	---	---	---	8,510.0
STRUCTURAL EXCAVATION UNCLASSIFIED	C.Y.	---	---	---	452.0
CLASS AA CONCRETE	C.Y.	134.9	431.2	727.8	1,293.9
REINFORCING STEEL	LB.	19,290.0	51,860.0	94,410.0	165,560.0
REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM	---	---	---	1.0



PLAN
 SCALE: 1"=20'-0"

B.M. #5 - #6 BAR, 30" LONG SET FLUSH
 STA. 360+70.803, 81' LT. EL. 946.373

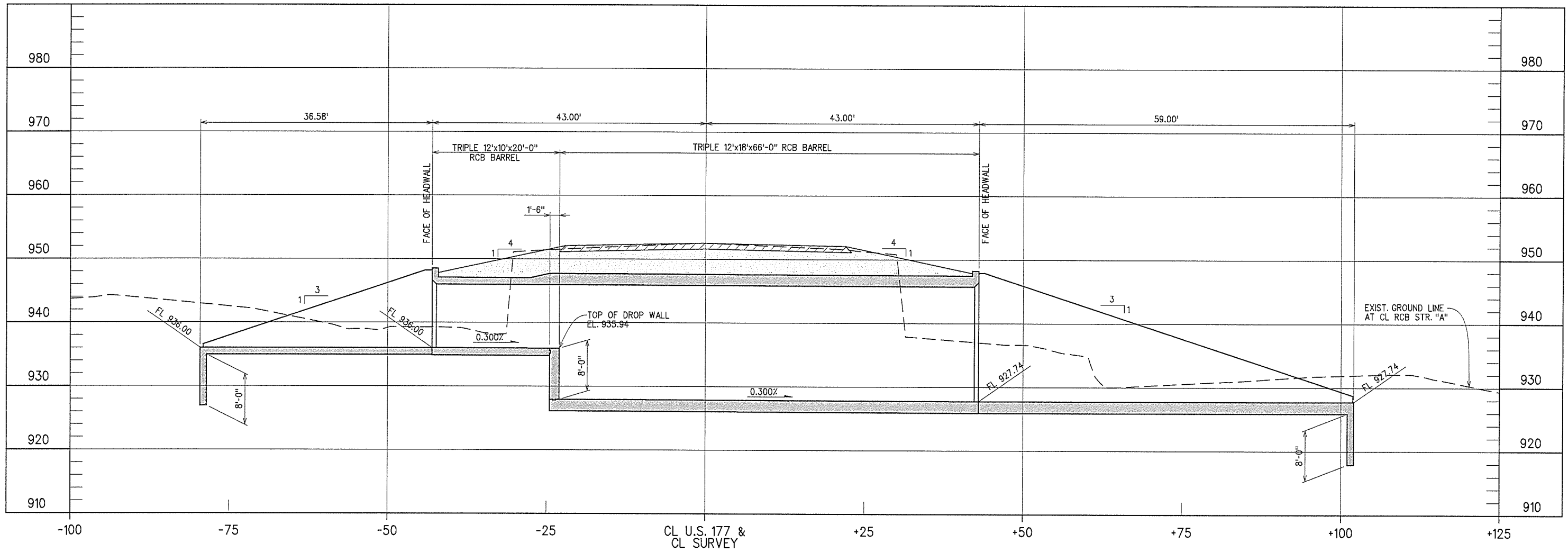


ELEVATION
 SCALE: 1"=20'-0"

DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		GENERAL PLAN AND ELEVATION	
APPROVED		CONSTRUCT TRPL.12'x10',18'x84.00' CLR. RDWY. RCB W/8' DROP	
		W/HEADWALL EACH END, NO SKEW CL STATION 355+25.00	
SQUAD	G/K ENGR.	JOB PIECE NO. 28941(04)	SHEET NO. 30

X:\0dot\EC-1394F-2\Struc\Bridge_A\GP&E.dgn 12/8/2015

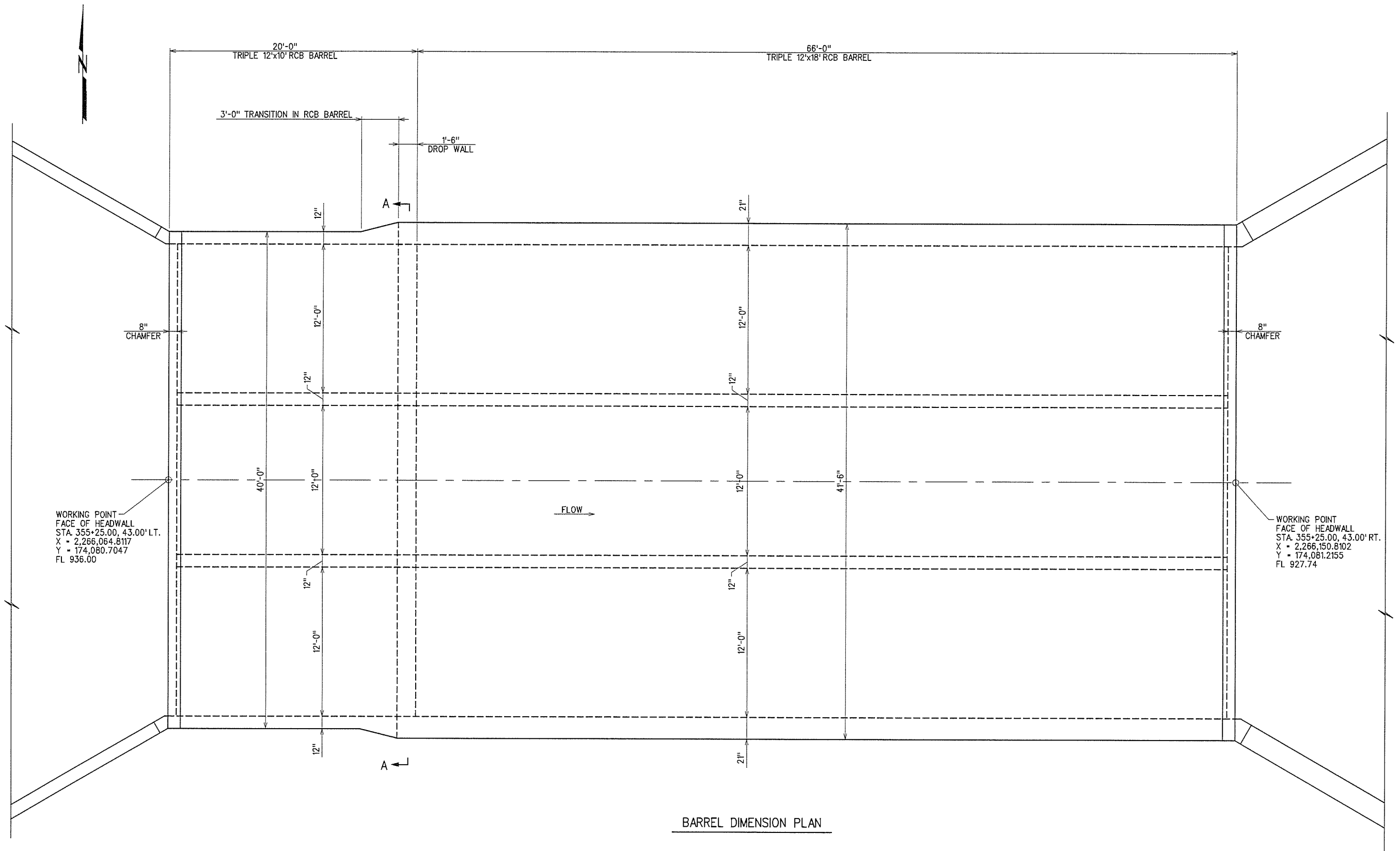
REV. NO.	DESCRIPTION	REVISIONS	DATE



X:\odot\EC-1394F-2\Struc\Bridge_A_Profile.dgn 12/8/2015

DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		STRUCTURE PROFILE	
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO. 28941(04)	SHEET NO. 31

REV. NO.	DESCRIPTION	DATE



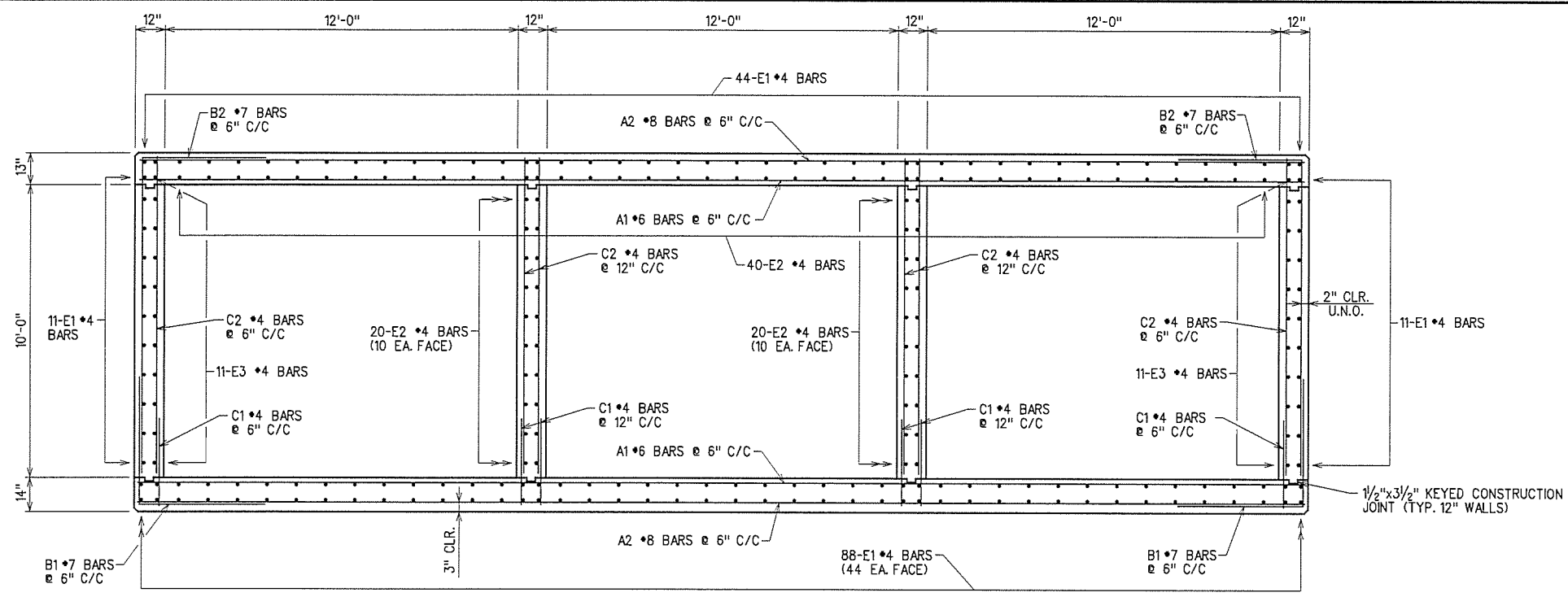
WORKING POINT
FACE OF HEADWALL
STA. 355+25.00, 43.00' LT.
X = 2,266,064.8117
Y = 174,080.7047
FL 936.00

WORKING POINT
FACE OF HEADWALL
STA. 355+25.00, 43.00' RT.
X = 2,266,150.8102
Y = 174,081.2155
FL 927.74

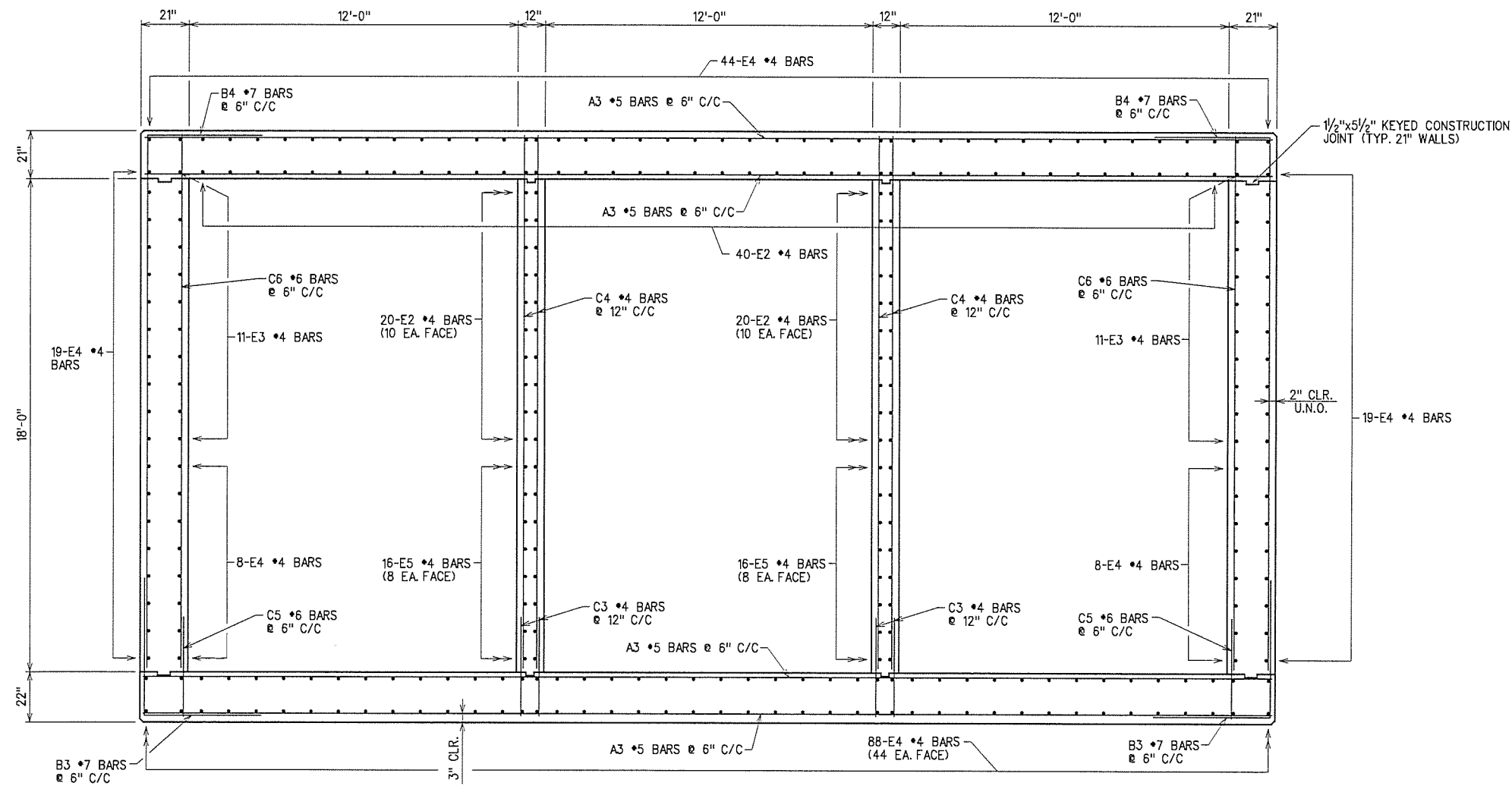
BARREL DIMENSION PLAN

12/8/2015 X:\Odot\EC-1394F-2\Struc\Bridge_A\Barrel.dgn

DESIGN		U.S. 177 OVER BRUSH CREEK BRIDGE "A" BARREL DETAILS (1 OF 4)	LINCOLN COUNTY
DRAWN			
CHECKED			
APPROVED			
SQUAD	G/K ENGR.		JOB PIECE NO. 28941(04)

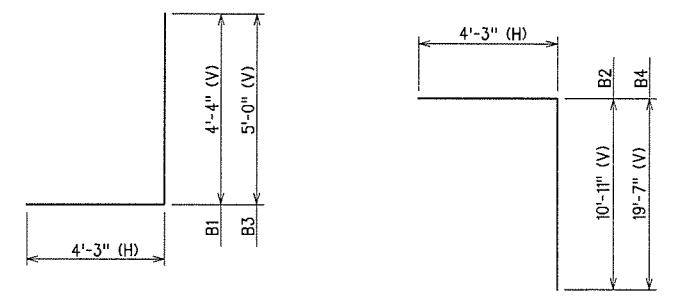


TRIPLE 12'x10' RCB BARREL SECTION



TRIPLE 12'x18' RCB BARREL SECTION

BARREL BAR LIST				
MARK	NO.	SIZE	FORM	LENGTH
PLAIN REINFORCING				
A1	76	#6	STR.	39'-8"
A2	76	#8	STR.	39'-8"
A3	544	#5	STR.	41'-2"
B1	76	#7	BNT.	8'-7"
B2	76	#7	BNT.	15'-2"
B3	272	#7	BNT.	9'-3"
B4	272	#7	BNT.	23'-10"
C1	152	#4	STR.	3'-1"
C2	152	#4	STR.	10'-1"
C3	272	#4	STR.	3'-9"
C4	272	#4	STR.	19'-7"
C5	272	#6	STR.	4'-4"
C6	272	#6	STR.	19'-7"
E1	154	#4	STR.	18'-2"
E2	80	#4	STR.	84'-4"
E3	22	#4	STR.	85'-8"
E4	186	#4	STR.	67'-2"
E5	32	#4	STR.	65'-0"
ET1	26	#6	BNT.	7'-1"
ET2	44	#6	BNT.	6'-11"
ET3	4	#6	STR.	6'-4"
DW1	78	#6	BNT.	11'-4"
DW2	78	#6	BNT.	6'-6"
DW3	72	#4	BNT.	5'-8"
DW4	18	#4	STR.	37'-8"



B1 - #7 BAR x 8'-7"
 B3 - #7 BAR x 9'-3"
 B2 - #7 BAR x 15'-2"
 B4 - #7 BAR x 23'-10"

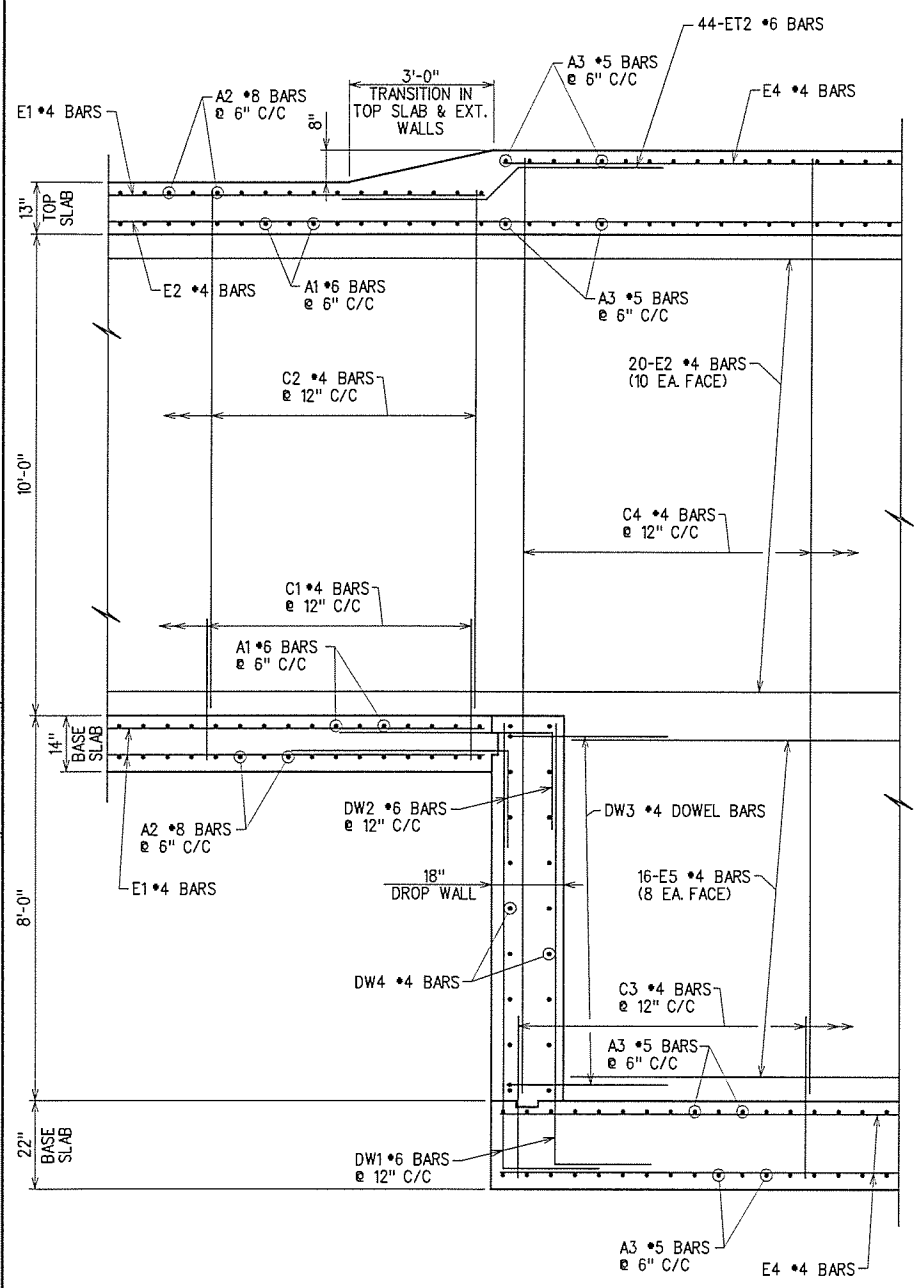
BAR BENDING DIAGRAMS

(ALL DIMENSIONS ARE OUT TO OUT)

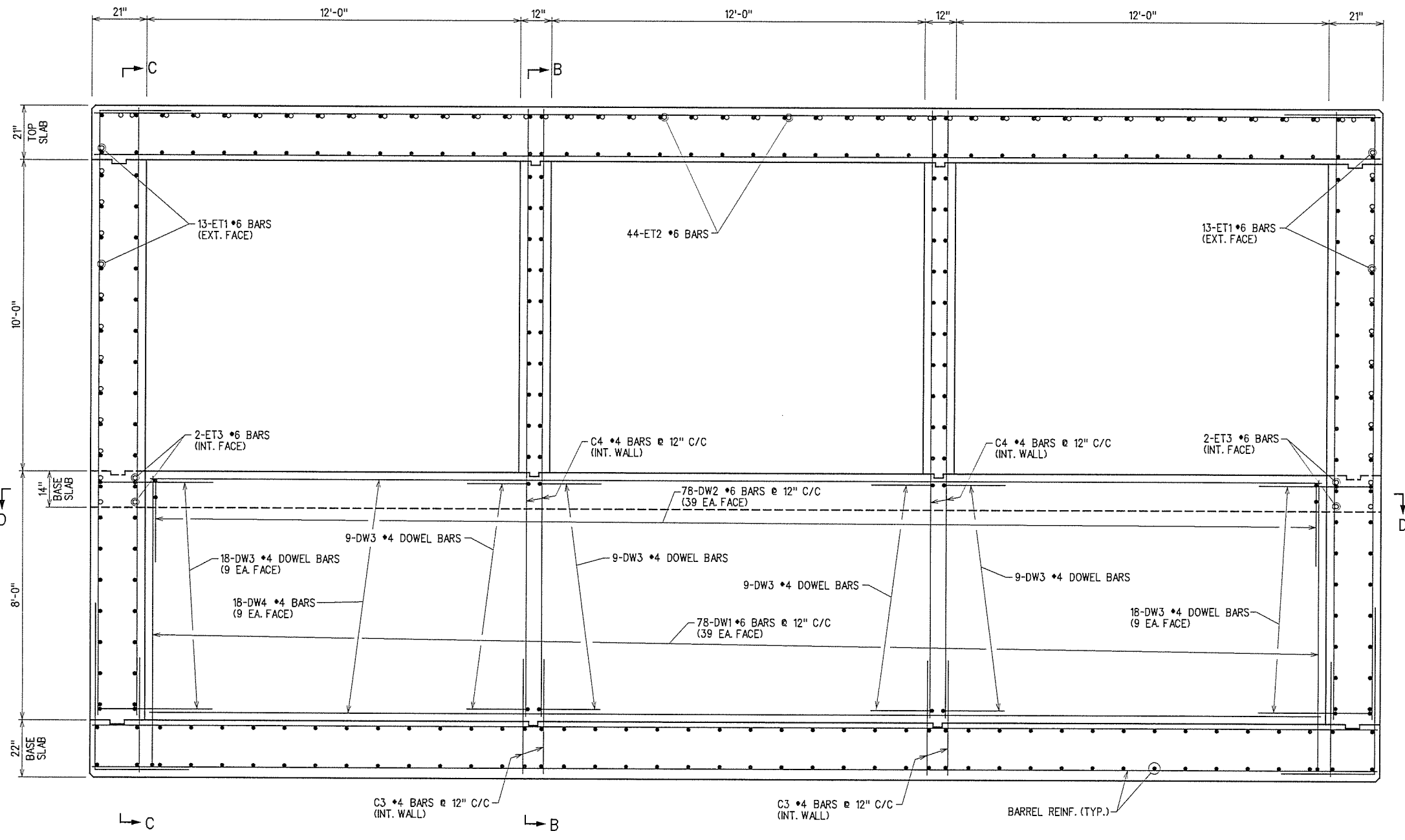
NOTE:
 (H) DIMENSION IS IN HORIZONTAL POSITION IN SECTION
 (V) DIMENSION IS IN VERTICAL POSITION IN SECTION

X:\0dot\EC-1394F-2\Struc\Bridge_A\Barrel.dgn 12/8/2015

REV. NO.	DESCRIPTION	REVISIONS	DATE



SECTION B-B
INTERIOR WALL AT DROP WALL

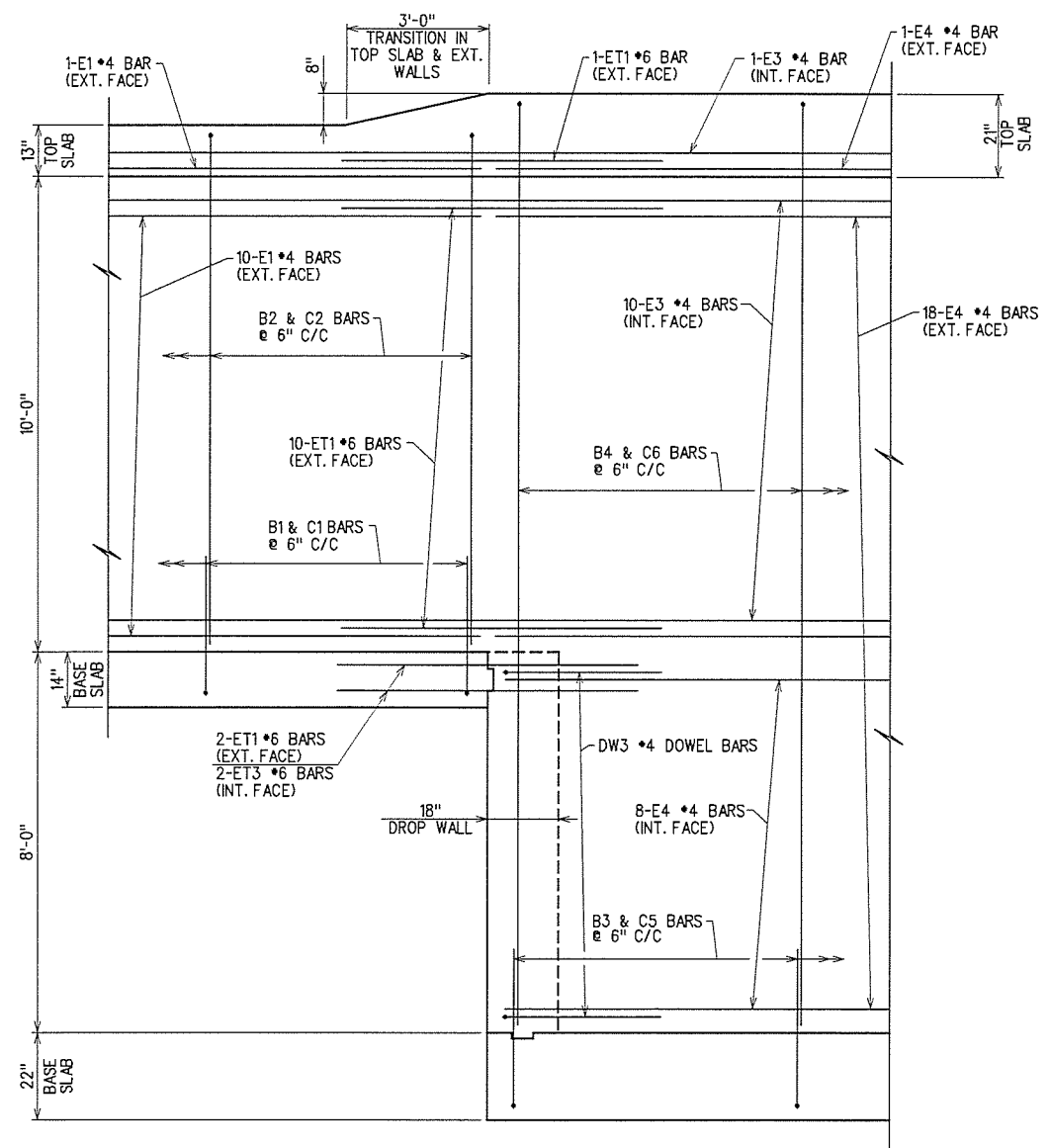
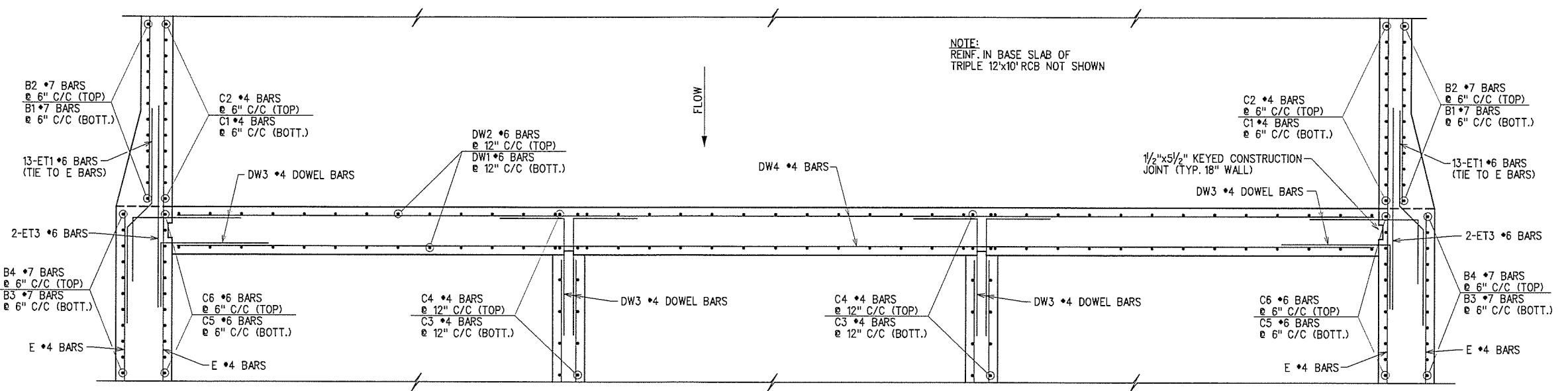


SECTION A-A
INTERIOR DROP WALL

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12/8/2015

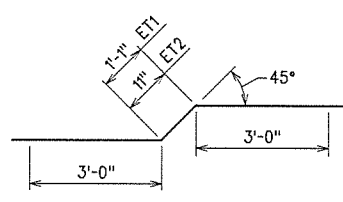
DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		BARREL DETAILS (3 OF 4)	
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO. 28941(04)	SHEET NO. 34

REV. NO.	DESCRIPTION	DATE

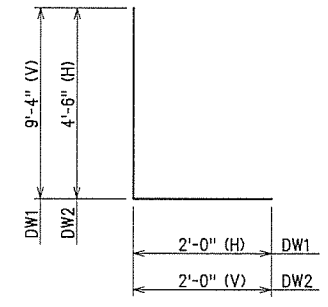


SECTION C-C
EXTERIOR WALL AT DROP WALL

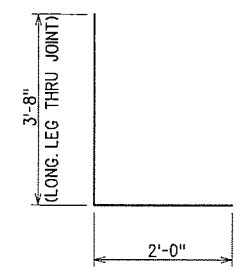
SECTION D-D
DROP WALL



ET1 - #6 BAR x 7'-1"
ET2 - #6 BAR x 6'-11"



DW1 - #6 BAR x 11'-4"
DW2 - #6 BAR x 6'-6"



DW3 - #4 BAR x 5'-8"

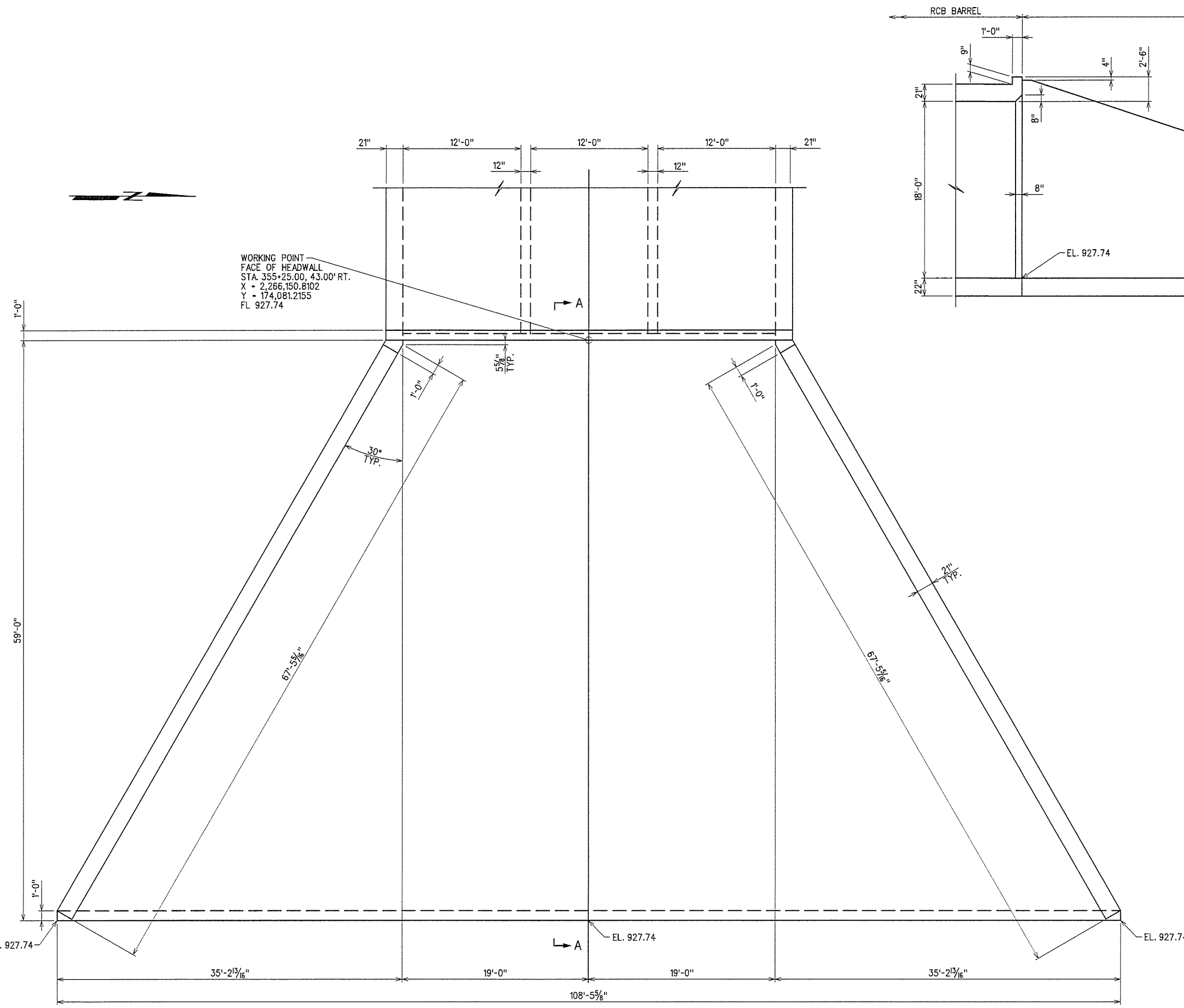
BAR BENDING DIAGRAMS
(ALL DIMENSIONS ARE OUT TO OUT)

NOTE:
(H) DIMENSION IS IN HORIZONTAL POSITION IN SECTION
(V) DIMENSION IS IN VERTICAL POSITION IN SECTION

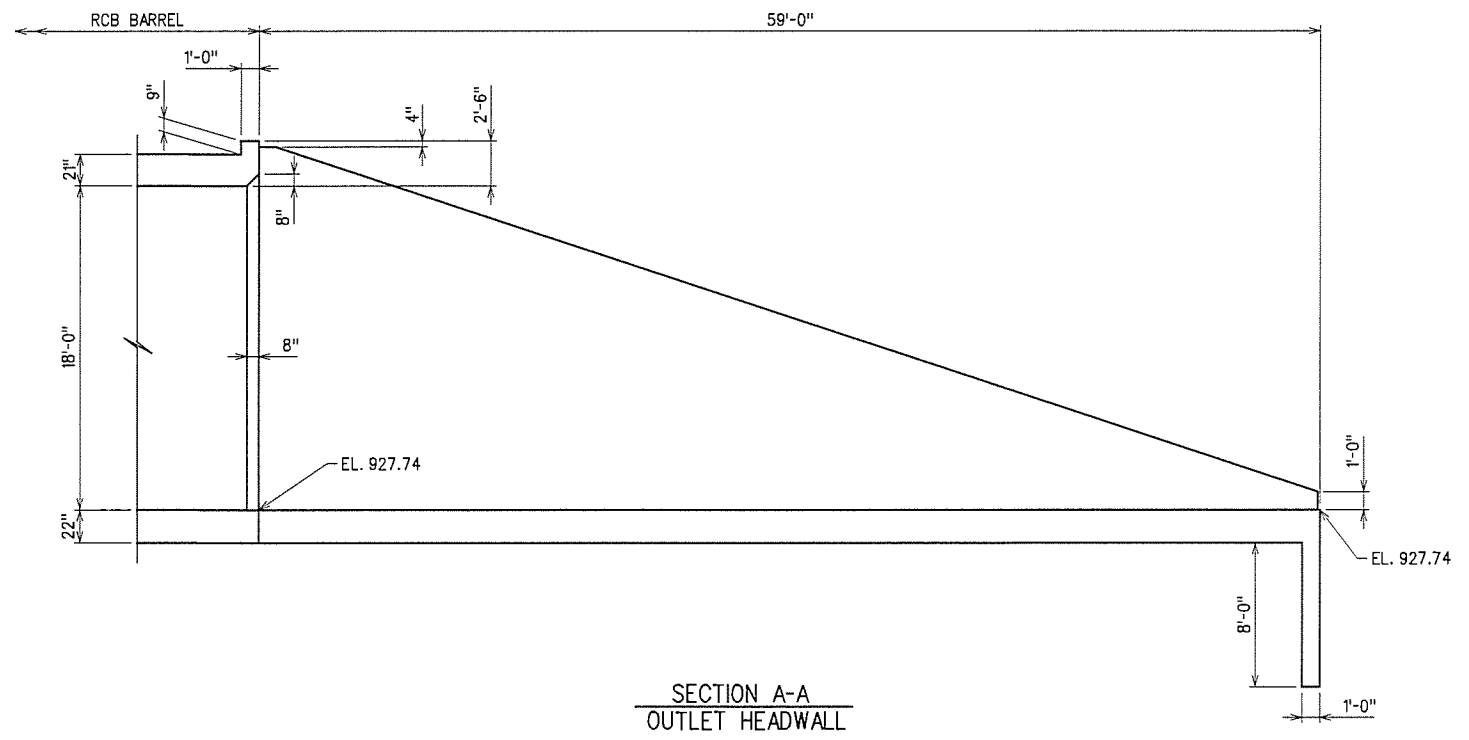
X:\Odot\EC-1394F-2\Struc\Bridge_A\Barrel.dgn 12/8/2015

DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		BARREL DETAILS (4 OF 4)	
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO.	28941(04) SHEET NO. 35

REV. NO.	DESCRIPTION	REVISIONS	DATE



PLAN
OUTLET HEADWALL



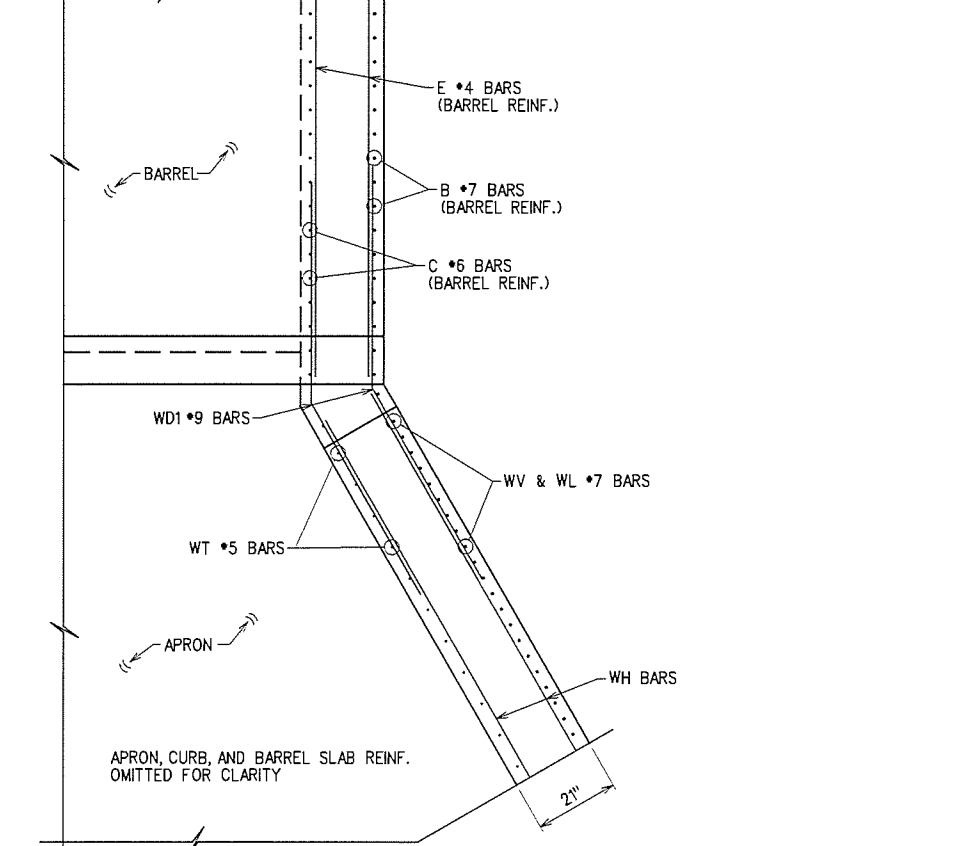
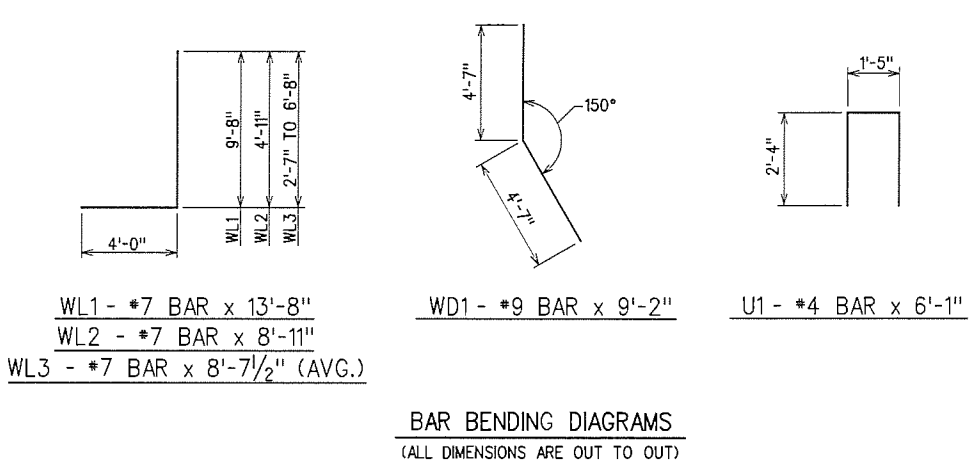
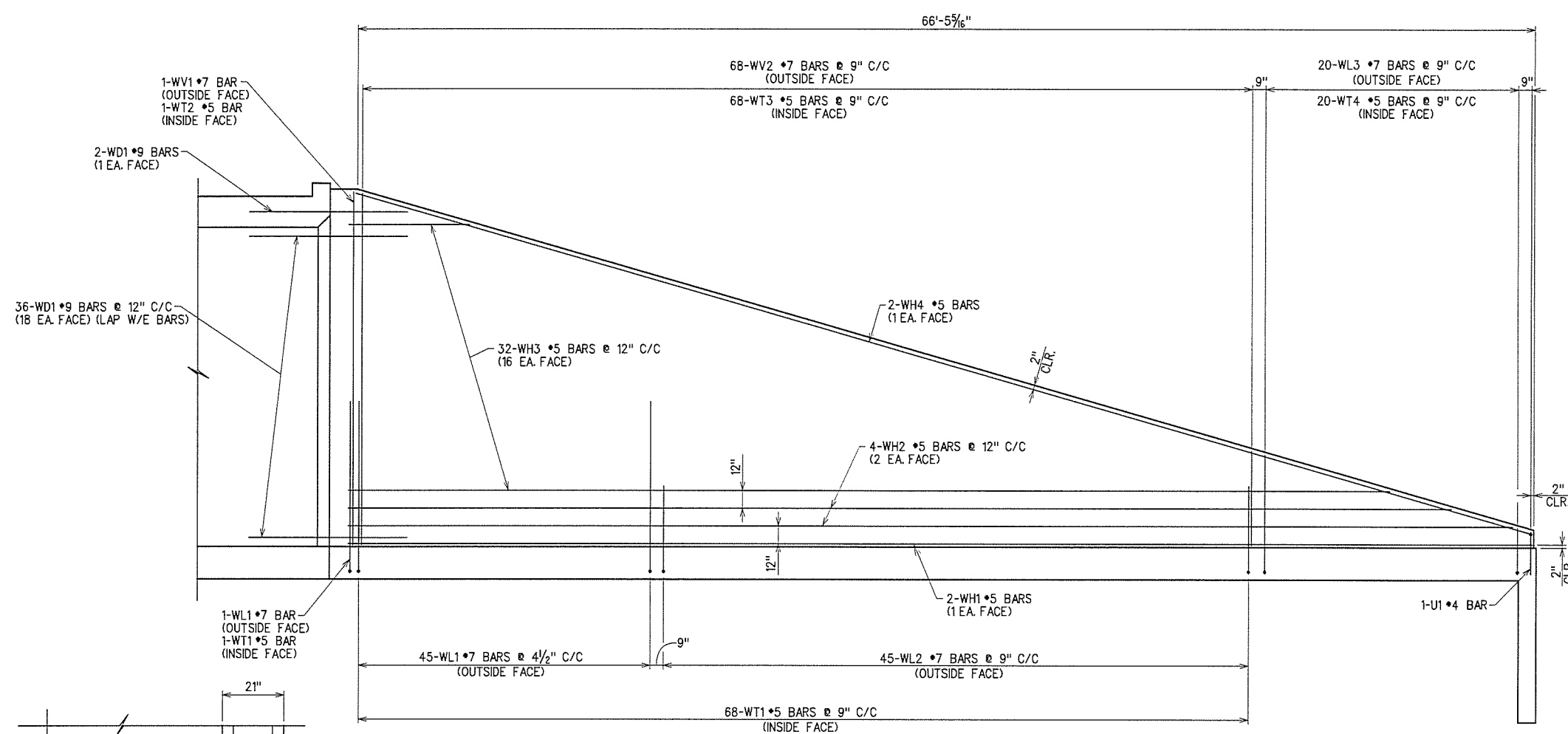
SECTION A-A
OUTLET HEADWALL

WORKING POINT
FACE OF HEADWALL
STA. 355+25.00, 43.00' RT.
X = 2,266,150.8102
Y = 174,081.2155
FL 927.74

NOTE:
1. SEE STD. RCB-E3-H10-0-1 AND RCB-E3-H10-0-2 FOR INLET HEADWALL, CURB, APRON AND WINGWALL DETAILS.
2. SEE STD. RCB-CW3-D8-0 FOR INLET CURTAIN WALL DETAILS.

12/8/2015 X:\Odot\EC-1394F-2\Struc\Bridge_A\Headwall.dgn

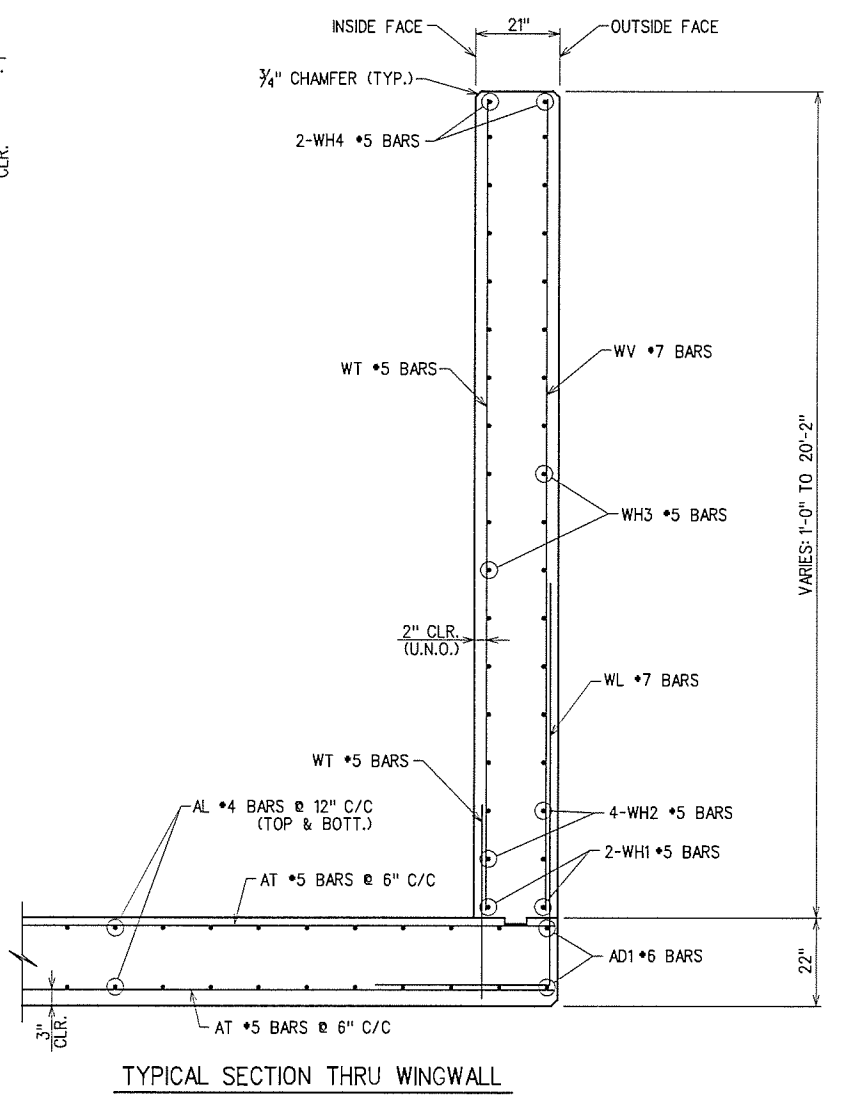
DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		HEADWALL DETAILS (1 OF 3)	
APPROVED			
SQUAD	G/K ENGR.	JOB PIECE NO. 2894104	SHEET NO. 36



OUTLET WINGWALL ELEVATION

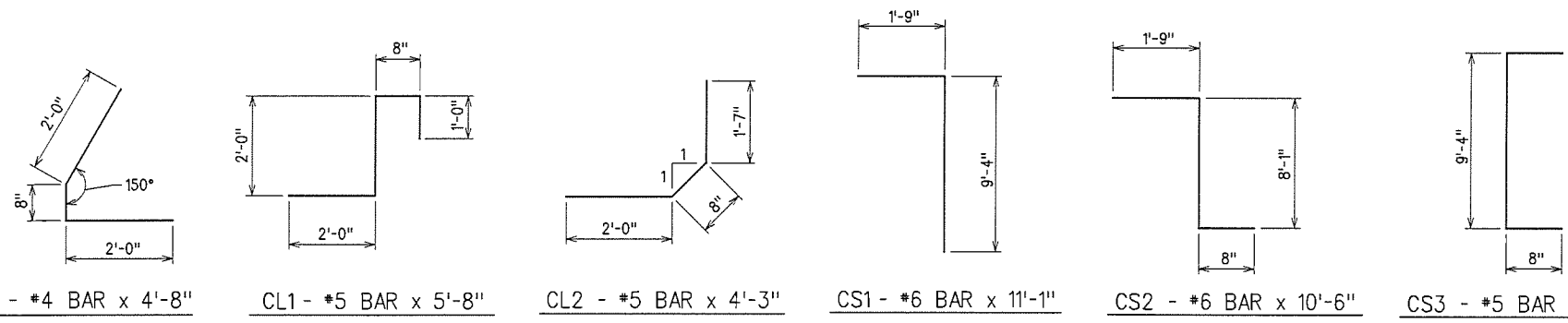
OUTLET WINGWALL BAR LIST					
ONE SHOWN, TWO REQUIRED					
MARK	NO.	SIZE	FORM	LENGTH	LENGTH VARIATION
PLAIN REINFORCING					
WD1	38	#9	BNT.	9'-2"	
WH1	2	#5	STR.	69'-4"	
WH2	4	#5	STR.	66'-5 1/2" (AVG.)	64'-9" TO 68'-2"
WH3	32	#5	STR.	32'-9" (AVG.)	6'-9" TO 58'-9"
WH4	2	#5	STR.	71'-6"	
WL1	46	#7	BNT.	13'-8"	
WL2	45	#7	BNT.	8'-11"	
WL3	20	#7	BNT.	8'-7 1/2" (AVG.)	6'-7" TO 10'-8"
WT1	69	#5	STR.	3'-11"	
WT2	1	#5	STR.	20'-0"	
WT3	68	#5	STR.	12'-8" (AVG.)	5'-5" TO 19'-11"
WT4	20	#5	STR.	4'-7 1/2" (AVG.)	2'-7" TO 6'-8"
WV1	1	#7	STR.	20'-0"	
WV2	68	#7	STR.	12'-8" (AVG.)	5'-5" TO 19'-11"
U1	1	#4	BNT.	6'-1"	

- ① INCLUDES 2'-6" FOR (1) LAP SPLICE
- ② 2 SETS OF 2 BARS
- ③ 2 SETS OF 16 BARS



TYPICAL SECTION THRU WINGWALL

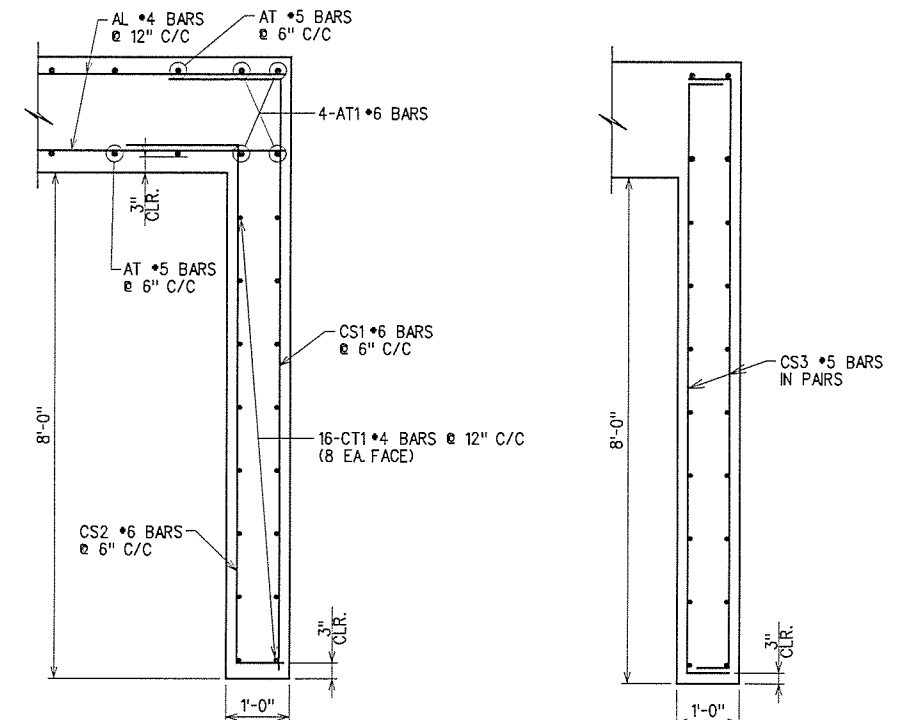
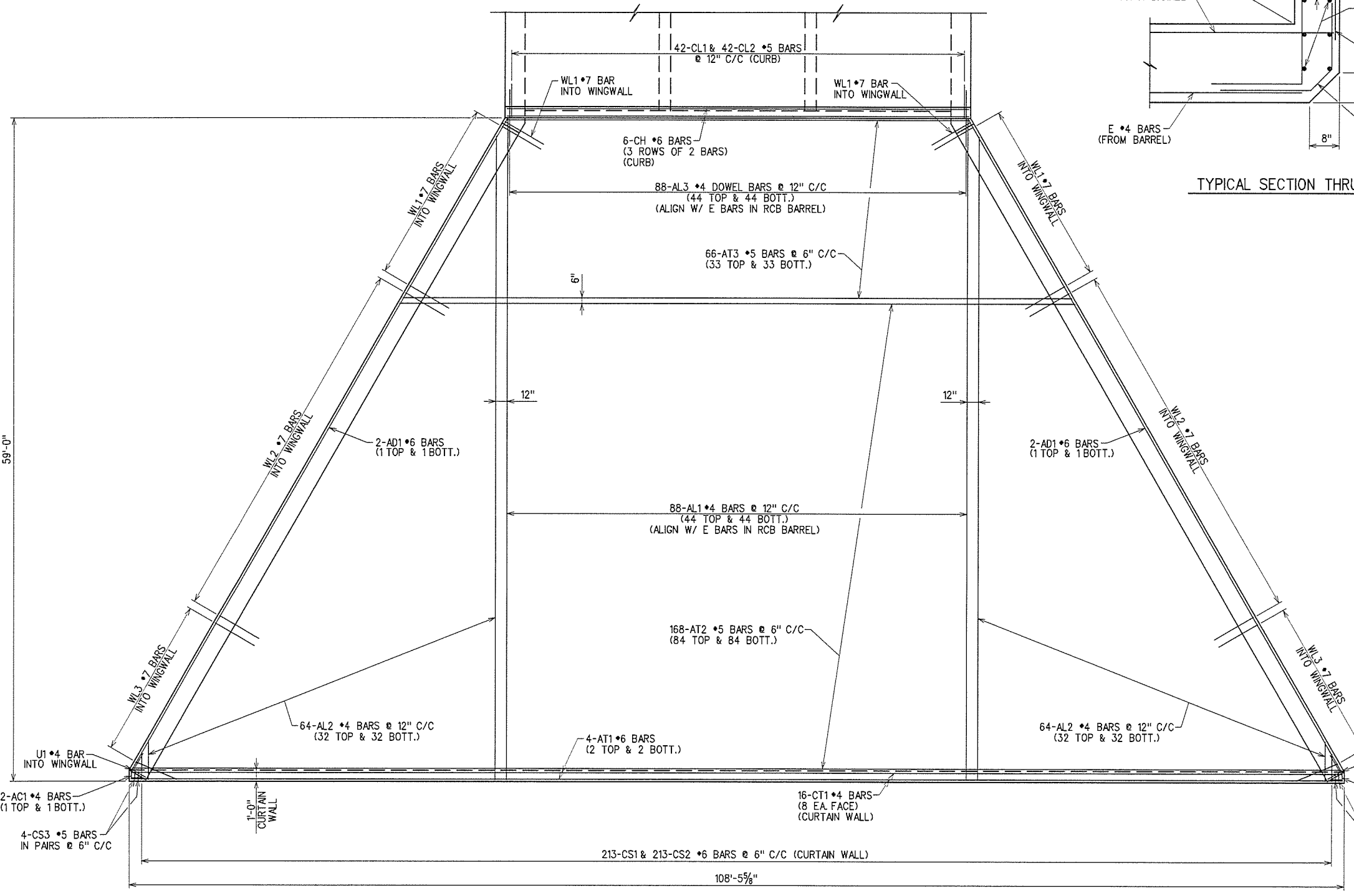
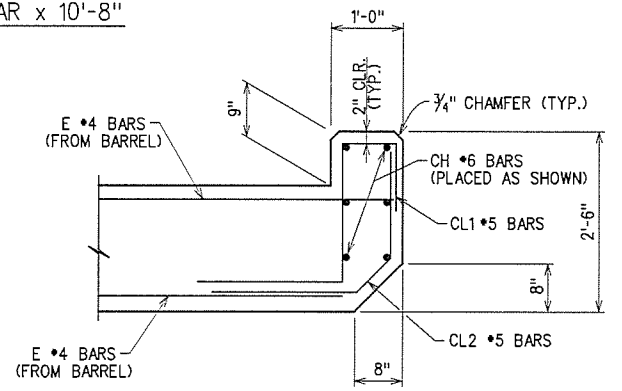
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BAR BENDING DIAGRAMS
 (ALL DIMENSIONS ARE OUT TO OUT)

OUTLET HEADWALL BAR LIST						
MARK	NO.	SIZE	FORM	LENGTH	LENGTH VARIATION	
PLAIN REINFORCING						
AC1	4	#4	BNT.	4'-8"		
AD1	4	#6	STR.	69'-8"		
AL1	88	#4	STR.	58'-8"		
AL2	128	#4	STR.	30'-3 1/2" (AVG.)	3'-5" TO 57'-2"	
AL3	88	#4	STR.	5'-0"		
AT1	4	#6	STR.	111'-1"		
AT2	168	#5	STR.	86'-6" (AVG.)	62'-8" TO 110'-4"	
AT3	66	#5	STR.	50'-5" (AVG.)	41'-3" TO 59'-7"	
CH	6	#6	STR.	41'-2"		
CL1	42	#5	BNT.	5'-8"		
CL2	42	#5	BNT.	4'-3"		
CT1	16	#4	STR.	110'-1"		
CS1	213	#6	BNT.	11'-1"		
CS2	213	#6	BNT.	10'-6"		
CS3	8	#5	BNT.	10'-8"		

- ① 4 SETS OF 32 BARS
- ② 2 SETS OF 84 BARS
- ③ 2 SETS OF 33 BARS
- ④ INCLUDES 2'-0" FOR (1) LAP SPLICE
- ⑤ INCLUDES 2'-6" FOR (1) LAP SPLICE
- ⑥ INCLUDES 3'-0" FOR (1) LAP SPLICE



X:\Odot\EC-1394F-2\Struc\Bridge_A\Headwall.dgn

12/8/2015

DESIGN		U.S. 177 OVER BRUSH CREEK	LINCOLN COUNTY
DRAWN		BRIDGE "A"	
CHECKED		HEADWALL DETAILS	
APPROVED		(3 OF 3)	
SQUAD	G/K ENGR.	JOB PIECE NO. 2894104	SHEET NO. 38

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

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

SURVEY OF
U.S. 177

SWO 4823(1)
J/P NO. 28941(04)

LINCOLN CO.
U.S. 177, BRIDGE OVER BRUSH CREEK, 0.71 MILE NORTH
OF THE POTTAWATOMIE COUNTY LINE

INDEX OF SHEETS

1	TITLE SHEET
2-3	SURVEY INFORMATION (Notes, Letters) & ALIGNMENT DATA
4	CHECK LEVELS & COGO POINTS
5	HORIZONTAL CONTROL DIAGRAM & STATIC DATA
6-9	SURVEY DATA SHEETS

SURVEY BEGAN: 9/25/2012
SURVEY COMPLETED: 9/24/2013

PERSONNEL:	TITLE:
SHAWN SMITH, PLS	PROF. LAND SURVEYOR
PIERCE TRANUM	SURVEY TECH
BOB BLEDSOE	SURVEY TECH
TERRY GLAD, CST II	SURVEY TECH
CLARK FISHER, CST III	SURVEY TECH
SHAUN KOONCE	SURVEY TECH

EQUIPMENT:
TRIMBLE R6 BASE & ROVER GPS
TRIMBLE S6 ROBOTIC TOTAL STATION
SOKKIA SDL-30 DIGITAL LEVEL

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

SWO 4823(1) J/P 28941(04) ; CO. Lincoln

HORIZONTAL CONTROL:
 Oklahoma Coordinate System of 1927 Zone.
 Oklahoma Coordinate System of 1983(2011) North Zone.
 Oklahoma Dept. of Transportation Plane Coordinate System of 1927 Zone.
 Oklahoma Dept. of Transportation Plane Coordinate System of 1983 Zone.
 Arbitrary Coordinate System

HORIZONTAL PLANE DATUM DEFINITION:
The horizontal control for this survey is the NGS Oklahoma State Plane Coordinates System, NAD83(2011), Lambert Projection (North Zone). The combined scale factor for conversion to geodetic distances is 1.00004122.

1. Primary Control adjusted to NGS (2nd) Order
Stations OKAO, OKMA, OKPR, NGS JACK
A) Closure before adjustment X Y Angles
Trav. Length No Angles Accuracy 1:20,000
B) ; is () Order before adjustment.
C) Method of Distance Measurement:
() Electronic (X) GPS () Triangulation () Chained
D) Instrument used for angles Trimble R6
2. Secondary Control adjusted to Primary Control () Order
Stations L-41-811 & L-41-812
A) Closure before adjustment X Y Angles
B) ; is () Order; Tied to
C) Method of Distance Measurement:
() Electronic (X) GPS () Triangulation () Chained
D) Instrument used for angles Trimble R6, Trimble S6

VERTICAL CONTROL IS (3rd) order. Level Line taken from BM from FAS No. S-251(10)S plans through site benchmarks and tied to BM from FAS No. S-251(6)(7)S plans.

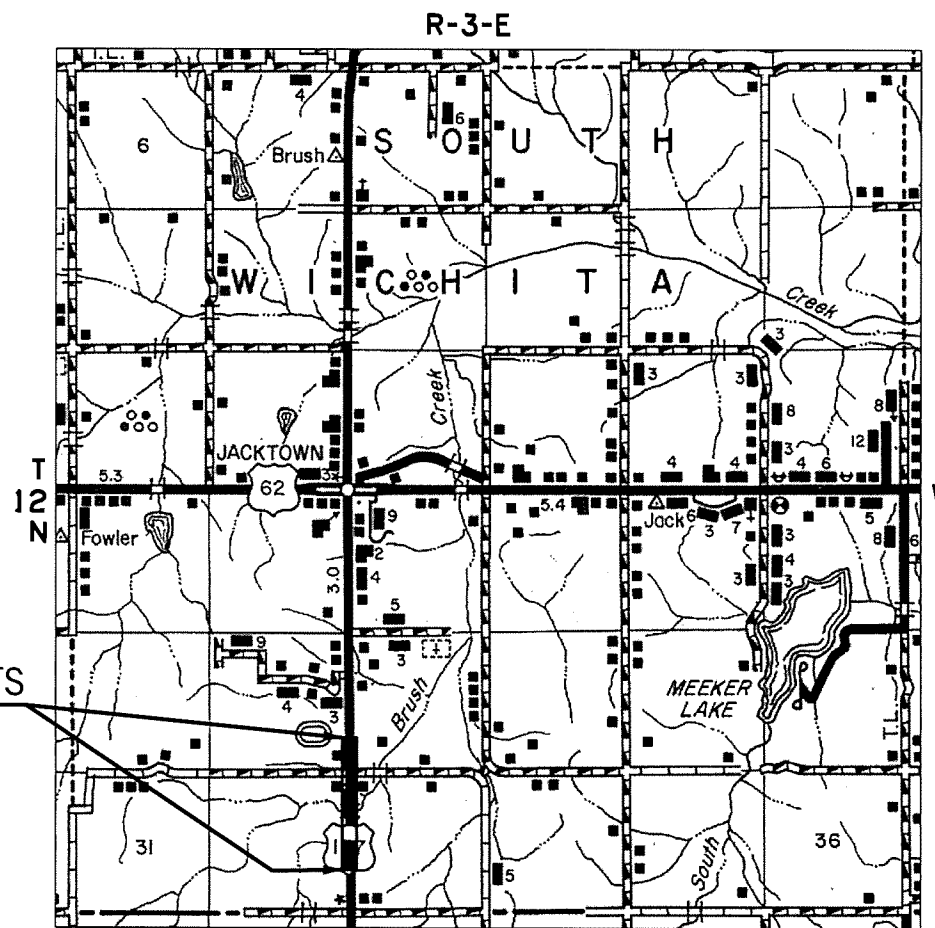
ACCURACY DEFINITION:
() NGVD 29 datum
(X) NAVD 88 datum
(1) HORIZONTAL: (2nd Order = Class II = 1 : 20,000')
(3rd Order = Class I = 1 : 10,000')
(3rd Order = Class II = 1 : 5,000')
(2) VERTICAL: (1st Order = 0.017 Ft. x sqrt. of MI.)
(2nd Order = 0.035 Ft. x sqrt. of MI.)
(3rd Order = 0.050 Ft. x sqrt. of MI.)

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



(FORM SD #20)
Rev. 11/03

Date



PROJECT EXTENTS

PROJECT LENGTH 4000.000 Ft. 0.76 Mi.

BEGINNING STATION : 335+00.000
ENDING STATION : 375+00.000

Utilities

Utility	Phone Number
Telephone Lines:	
M.Cloud Telephone Co.	405-964-8600
Electric Lines:	
Canadian Valley Electric	405-382-3680

Electronic File Transfer Disclaimer:

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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, JULY 25, 2013.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED MAY 1, 1999 GOVERN.
SDS 1 OF 9



PLS	SS	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	SK	
CHECKED	SS	
APPROVED	SS	
CREW	P788	SURVEY DATA SHEET

SWO 4823 (1) PROJECT NO. 28941(04) SHEET NO. 5-1

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

Oklahoma Department of Transportation (405) 521-2621
Survey Division

Date

To: Mr. Larry D. Reese, PLS, Chief of Surveys

From: Shaw Smith, Professional Land Surveyor

Subject: SWO 4823(1) - J/P 28941(04) - U.S. 177 - Lincoln County
Bridge over Brush Creek, 0.71 mile North of the Pottawatomie County Line.

I. GENERAL:

Survey Began: September 25, 2012
Survey Completed: September 24, 2013

The measurement unit for this project was the U.S. Survey Foot.

II. SURVEY ASSIGNMENT:

This survey was assigned to Lemke Land Surveying, Inc. (LLS) under Engineering Contract Number 1394-F.

III. PURPOSE OF SURVEY:

The purpose of this survey was to furnish sufficient data to develop plans to construct a new bridge over Brush Creek south of Jacktown.

IV. SURVEY LIMITS:

This survey began at Sta. 335+00.000 and extended north to Sta. 375+00.000 as shown on SWO 2167(1) survey and FAS No. S-251 (10) S plans (approximate centerline length = 0.76 mile).

V. ALIGNMENT:

As directed by the Special Provisions, the Centerline of Survey was re-established along and identical to the Centerline of present U.S. 177. The alignment was re-established using historical geometric information as shown in FAS No. S-251 (10) S plans along with the existing bridge.

VI. STATIONING:

As directed by the Special Provisions, stationing was taken from SWO 2167(1) survey and FAS No. S-251 (10) S plans. Stationing was re-established using the section/quarter section lines and the existing bridge.

VII. HORIZONTAL CONTROL:

Horizontal control for this survey was established by static GPS observations to the project site control using NGS CORS stations processed in a fully constrained least squares network adjustment. These points were occupied multiple times using a minimum of 6 hour static GPS sessions. The primary control stations were OKAO, OKMA, OKPR and NGS JACK. Coordinates shown on this survey are NGS Oklahoma State Plane Coordinate System NAD83(2011) Lambert Projection South Zone. The distances and coordinates shown on this survey are in U.S. Survey Feet. All angles and bearings are shown in degrees, minutes, and seconds. Secondary control points were established by multiple observations using RTK and by Robotic Total Stations.

VIII. VERTICAL CONTROL:

- A. Vertical control for this survey is NAVD88.
- B. Site control elevations were established by holding an existing benchmark from FAS No. S-251 (10) S plans, running through the project limits and an additional existing benchmark from FAS No. S-251 (10) S plans and tying to an existing benchmark from FAS No. 251 (6)(7) S plans. Differential leveling techniques were used to establish elevations for the survey vertical control.
- C. A benchmark list depicting newly established benchmarks as well as the results of the leveling has been placed on the Survey Data Sheets.

IX. PHOTO CONTROLS:

No Photo Controls were used on this project.

X. TOPOGRAPHY AND DTM:

Topographic data was collected by conventional field methods.

DTM data was collected out to 200 feet right and left of Centerline of Survey from the Beginning of Survey to Sta. 350+00; thence, 500 feet right and left of Centerline of Survey from Sta. 350+00 to Sta. 360+00; thence, 200 feet right and left of Centerline of Survey from Sta. 360+00 to the End of Survey.

XI. LAND TIES:

- A. Complete land tie information was obtained by conventional field methods as per the Survey Special Provisions within the following sections or partial sections:
In T-12-N, R-3-E, I.M., Section 32 and 33.
The following is a detailed explanation of how each corner was re-established:

NW Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted #3 rebar as shown on corner record filed by Billie D. Schooley, PLS 1068.

N/4 Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted #3 rebar as shown on corner record filed by Billie D. Schooley, PLS 1068.

NE Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted mag nail as shown on corner record filed by Charles F. Cahill, PLS 1095.

W/4 Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted #3 rebar as shown on corner record filed by Charles Reed, PLS 1660.

E/4 Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted PK nail as shown on corner record filed by Billy Gene Knight, PLS 1244.

SW Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted 1" crimped pipe as shown on corner record filed by Charles Reed, PLS 1660.

S/4 Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted #4 rebar as shown on corner record filed by Billy Gene Knight, PLS 1244.

SE Corner of Section 32, T-12-N, R-3-E, I.M.
Found and accepted railroad spike. This monument appears to be in the same location as shown on corner record filed by Billy Gene Knight, PLS 1244.

N/4 Corner of Section 33, T-12-N, R-3-E, I.M.
Found and accepted #4 rebar. This monument fits well with surrounding collateral evidence. There was no corner record on file.

NE Corner of Section 33, T-12-N, R-3-E, I.M.
Found and accepted #3 rebar. This monument appears to be in the same location as shown on corner record filed by Charles F. Cahill, PLS 1095. Also found 804 nail 12.3' south of corner. Monument shown on corner record filed by Larry G. Fox, PLS 434 was found lying in a ditch on the side of the road.

E/4 Corner of Section 33, T-12-N, R-3-E, I.M.
Found and accepted #4 rebar. This monument appears to be in the same location as shown on corner record filed by Larry G. Fox, PLS 434.

S/4 Corner of Section 33, T-12-N, R-3-E, I.M.
Found and accepted #3 rebar as shown on corner record filed by Charles Reed, PLS 1660.

SE Corner of Section 33, T-12-N, R-3-E, I.M.
Found and accepted #3 rebar. This monument appears to be in the same location as shown on corner record filed by Larry G. Fox, PLS 434.

- B. All property divisions, including existing right-of-way lines, adjacent to and/or crossing the Survey Centerline throughout the project limits were computed mathematically based upon the best available information.

XII. EXISTING RIGHT OF WAY:

The right of way along U.S. 177 was re-established from the existing plans, right of way documents, and right of way occupation.

XIII. UTILITIES:

CALL OKIE was contacted on September 17, 2013 with Order No. 13091712491802. Utilities notified according to the CALL OKIE ticket are Canadian Valley Electric and McCloud Telephone Company. All utilities marked, along with any overhead lines, are depicted in the submitted digital file.

XIV. ENVIRONMENTAL CONCERNS:

There is no visible evidence of any environmental concerns nor has there been any environmental concerns identified within the limits of the project.

XV. DRAINAGE:

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

There is evidence that the creek encompasses the entire bridge. This area is part of the Quappaw Creek Watershed Project which could affect flooding.

XVI. SURVEY DATA SHEETS:

Survey Data Sheets were submitted in the form of a Microstation Design File as per GDOT Survey Division Standards. These were incorporated into a set of design drawings and are in substantial conformity with the ODOT Survey Division Standards for Survey Data Sheets.

OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION			
PLS	SS		
DRAWN	SK		
CHECKED	SS		
APPROVED	SS		
CREW	P7, BB	SWO 4823 (11)	PROJECT NO. 28941(04) SHEET NO. 5-2

XVII. DATA SUBMITTED:

A. Reports


1. Historical Letter & Written Report
2. Form SD-1, Transmittal Letter
3. Form SD-7, Public and Privately Owned Utilities List
4. Form SD-11, Position and Description of Survey Monuments
5. Form SD-20, Survey Control Data Statement
6. Form SD-11, Surveyor's Certification
7. Copy Point List
8. Alignment Report
9. Benchmark & Check Levels List
10. Oklahoma Certified Corner Record Forms

B. Computer Files

1. Digital files submitted on compact disk

XVIII. PERSONNEL:

Shawn Smith, PLS	Professional Land Surveyor
Pierce Tramm	Survey Technician
Bob Madson	Survey Technician
Tony Glad, CST II	Survey Technician
Carl Olsler, CST III	Survey Technician
Shawn Keenan	Survey Technician



50 1-13

Shawn Smith, PLS
Professional Land Surveyor

Alignment Report

Project Name: SWO4823_1_V1
Description: U.S. 177
Horizontal Alignment Name: A001
Description: Centerline of Survey U.S. 177
Style: Centerline

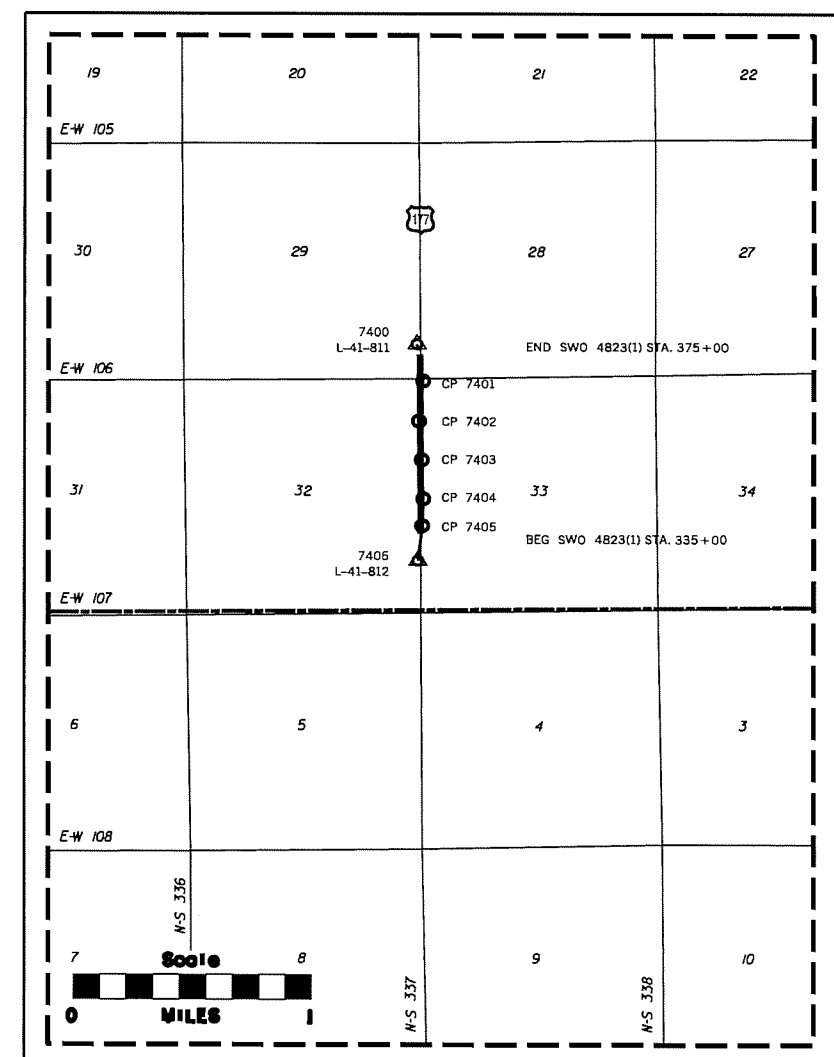
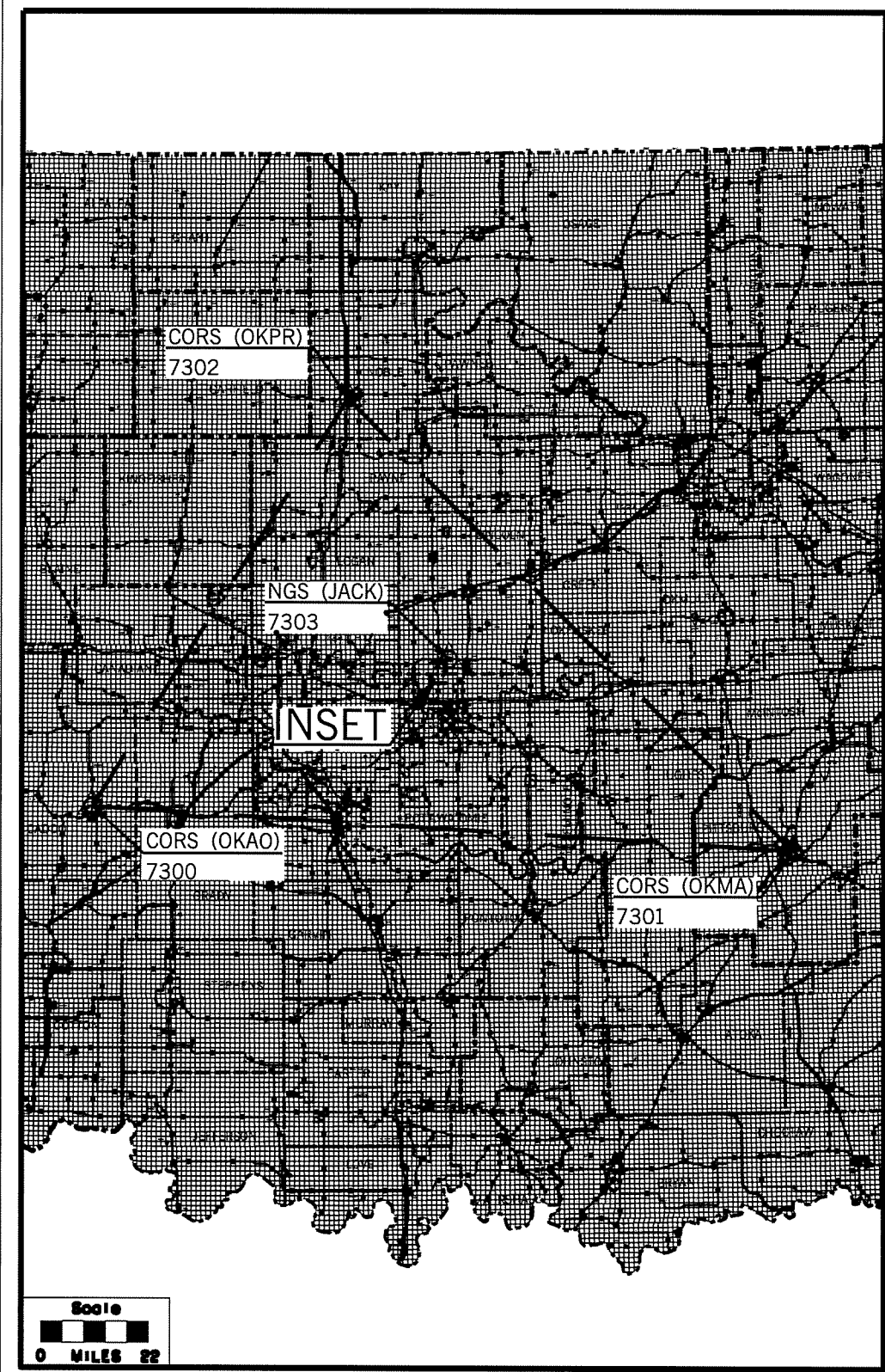
Element: Linear	STATION	EASTING	NORTHING
POB (300)	335+00.00	2266119.83772	172055.99589
POE (307)	375+00.00	2266096.08112	176055.92534
Tangent Direction:	N 00°20'25.04" W		
Tangent Length:	4000.000'		

CHECK LEVELS					BENCHMARK LIST		NAVD 88 DATUM
BM NO.	RUN 1	RUN 2	DIFF.	MEAN DIFF.	ADJ. ELEV.	PUBLISHED ELEV.	BM DESCRIPTION
BM 1					971.400	971.400	CUT "X" ON N.E. COR. CONC. CELLAR - 177' LT. STA 424+40.000 FROM FAS NO. S-251(10)S PLANS
TO	2.585	2.604	-0.019	2.594			
L-41-811					973.995		#4 BAR W/ LEMKE CONTROL CAP - 62' LT. STA 377+30.397
TO	0.258	0.296	0.002	0.297			
BM 2					974.292		#8 BAR 30" LONG SET FLUSH - 72' LT. STA 375+26.630
TO	1.135	1.133	0.002	1.134			
BM 3					975.426	975.420	CUT "X" ON NE COR. CONC. FDN. OF WINDMILL - 155' LT. STA 373+35.140 FROM FAS NO. S-251(10)S PLANS
TO	-11.719	-11.715	-0.004	-11.717			
BM 4					963.709		#6 BAR 30" LONG SET FLUSH - 76' RT. STA 369+43.939
TO	-3.632	-3.632	0.000	-3.632			
CP 7401					960.077		60D NAIL SET FLUSH - 75' RT. STA 369+09.362
TO	-10.197	-10.201	0.004	-10.199			
CP 7402					949.878		60D NAIL SET FLUSH - 31' LT. STA 350+13.360
TO	-3.505	-3.505	0.000	-3.505			
BM 5					946.373		#6 BAR 30" LONG SET FLUSH - 81' LT. STA 350+70.803
TO	4.874	4.877	-0.003	4.876			
CP 7403					951.248		60D NAIL SET FLUSH - 30' RT. STA 351+46.587
TO	-4.674	-4.674	0.000	-4.674			

BM 6					946.574		#6 BAR 30" LONG SET FLUSH - 75' RT. STA 351+22.099
TO	19.634	19.690	0.004	19.692			
CP 7404					966.266		#4 BAR W/ LEMKE CONTROL CAP - 58' RT. STA 342+77.937
TO	6.826	6.826	0.000	6.826			
BM 7					973.092		#6 BAR 30" LONG SET FLUSH - 69' RT. STA 342+02.792
TO	-1.342	-1.333	-0.009	-1.338			
CP 7405					971.755		60D NAIL SET FLUSH - 30' RT. STA 336+77.117
TO	2.685	2.682	0.003	2.684			
BM 8					974.438		#6 BAR 30" LONG SET FLUSH - 75' RT. STA 334+31.767
TO	14.916	14.910	0.006	14.913			
L-41-812					989.351		#4 BAR W/ LEMKE CONTROL CAP - 65' LT. STA 328+98.984
TO	93.063	92.994	0.009	92.999			
BM 9					1082.350	1082.350	CUT SQUARE ON N. END BOTTOM STEP OF SCHOOL - 167' LT. STA 263+31.170 FROM FAS NO. 251(6)(7)S PLANS

COORDINATE POINT LIST					
SWO 4823(1)					
Job Piece 28941(04)					
PT NO.	EASTING	NORTHING	PT NO.	EASTING	NORTHING
300	2266119.83772	172055.99589	7624	2263459.48563	175471.01463
301	2266114.81511	172901.66001	7625	2267088.65367	17511.19188
302	2266113.89857	173055.97826	7626	2268723.58091	175527.47968
303	2266107.95942	174055.96052	7627	2266026.67627	175955.51137
304	2266102.02027	175055.94298	7628	2266031.52770	175980.54062
305	2266101.79217	175094.34866	7629	2266171.37676	176006.37166
306	2266099.17897	175534.33598	7630	2266161.07998	176056.31139
307	2266096.08112	176055.92534	7631	2266031.08227	176055.53930
7300	1694915.34800	27905.63500	8000	2266606.73219	173357.47838
7301	2646851.88600	-18301.69300	8001	2267265.68630	173365.26182
7302	2168446.84000	465274.28500	8002	2267264.21051	174025.25718
7303	2277714.85300	186101.59200	8003	2266604.25641	174017.47374
7400	2266032.29900	176285.94800	8004	2265518.89820	174632.54262
7401	2266168.52000	175465.46900	8005	2264788.94636	174624.15824
7402	2266074.03600	174568.85100	8006	2264778.66607	175519.16920
7403	2266139.99800	173702.45500	8007	2265508.61792	175527.55358
7404	2266173.35500	172833.98700	8008	2266100.22952	175094.33310
7405	2266148.72800	172233.01100	8009	2267090.18040	175104.19538
7406	2266057.96400	171454.60200	8010	2267088.52988	175544.19229
7600	2266034.83922	172055.49106	9000	2260851.86500	170221.63200
7601	2266189.83649	172056.41163	9001	2263496.84200	170239.37600
7602	2266033.35444	172305.48666	9002	2266118.35200	170268.83800
7603	2266188.05475	172356.40634	9003	2268760.51000	170295.33710
7604	2266043.05730	172355.54516	9004	2271406.11200	170323.84300
7605	2266207.46048	172456.52336	9005	2260836.22600	172847.90100
7606	2266204.81039	172902.72141	9006	2263478.02382	172874.80087
7607	2266039.81838	172900.88611	9007	2266108.45500	172901.58500
7608	2266189.81118	172902.54451	9008	2268741.89558	172932.64357
7609	2266184.14593	173856.40958	9009	2271374.99300	172963.69810
7610	2266033.55466	173955.51695	9010	2260820.42100	175474.21510
7611	2266028.40627	173980.48681	9011	2263459.25000	175504.01410
7612	2266222.95740	174056.64362	9012	2266098.57900	175534.33000
7613	2266022.61560	174955.46961	9013	2268723.34800	175560.47900
7614	2266032.31846	175005.52812	9014	2271347.98000	175586.35100
7615	2266216.78740	175095.49429			
7616	2266216.72129	175106.62510			
7617	2266175.53416	175306.38401			
7618	2266029.37850	175500.53297			
7619	2266174.37185	175502.08344			
7620	2266173.97987	175568.08281			
7621	2266028.98651	175566.53282			
7622	2265508.99694	175494.55576			
7623	2264779.04509	175486.17137			

September 24th, 2013



Network Adjustment Report

A Review of Statistics

Setup Errors
 GNSS
 Error in Height of Antenna: 0.000 ft
 Centering Error: 0.000 ft
 GNSS Weighting
 Fixed Diagnostics
 Errors
 Horizontal: 0.000 ft - 0.000 ppm
 Vertical: 0.000 ft - 0.000 ppm
 Cap Station Diagnostics
 Horizontal
 Propagated Linear Error (R): 0.000 ft
 Constant Term (C): 0.000 ft
 Scale on Linear Error (S): 1.900
 This is Observed
 Propagated Linear Error (R): 0.000 ft
 Constant Term (C): 0.000 ft
 Scale on Linear Error (S): 1.900

Adjustment Statistics
 Number of Iterations for Strongest Adjustment: 2
 Network Minimum Station: 0.90
 Obs. Station Total: 95 %
 Precision Condition Level: 97.6
 Degrees of Freedom: 16
 Post Processed Vector Statistics
 Reference Station: 0.90
 Redundancy Number: 16.00
 A Priori Error: 1.00

Control Point Constraints

Point ID	Type	North (US survey foot)	East (US survey foot)	Height (US survey foot)	Dimension (US survey foot)
7400	Local	Fixed	Fixed	Fixed	
7406	Local	Fixed	Fixed	Fixed	
7401	Local	Fixed	Fixed	Fixed	
7402	Local	Fixed	Fixed	Fixed	
7403	Local	Fixed	Fixed	Fixed	
7404	Local	Fixed	Fixed	Fixed	
7405	Local	Fixed	Fixed	Fixed	

Fixed = 0.000000 US survey foot

Adjusted Geodetic Coordinates

Point ID	Latitude	Longitude	Height (US survey foot)	Height Error (US survey foot)	Constraint
7401	N25°02'41.14625"	W97°00'02.52036"	883.899	0.000	
7402	N25°02'00.46231"	W97°00'02.87716"	899.148	0.000	
7403	N25°02'04.10207"	W97°00'40.01381"	941.144	0.000	L.L.
7404	N25°04'33.04231"	W97°14'42.32811"	1116.547	0.000	L.L.
7405	N24°57'40.13441"	W97°44'14.25644"	662.712	0.000	L.L.
7406	N24°16'34.46474"	W97°19'17.37550"	1070.549	0.000	L.L.

September 24th, 2013

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

Lincoln County Conservation District Easement
Book 647, Page 254.

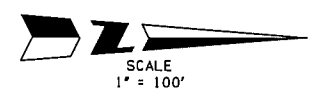
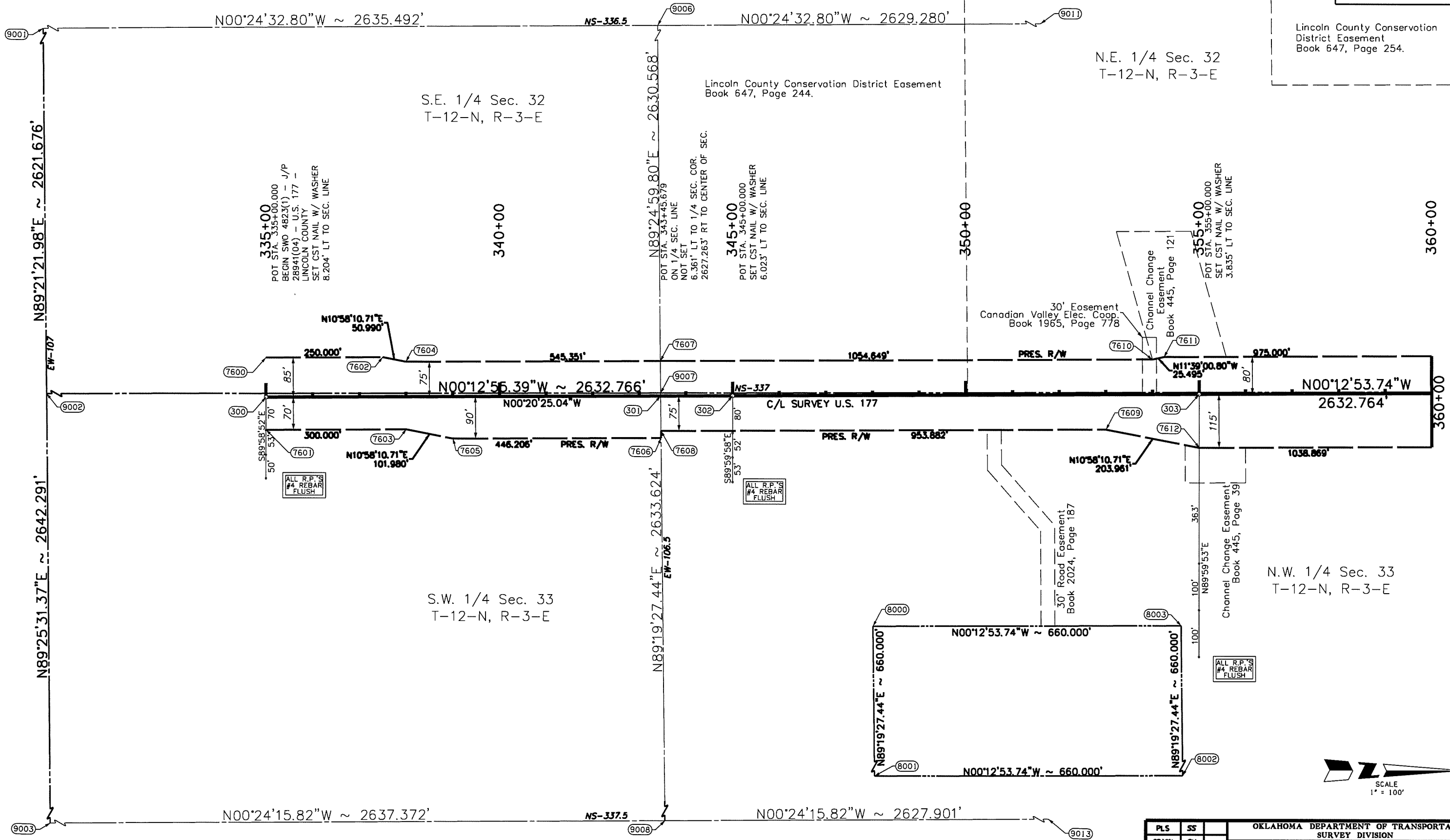
N.E. 1/4 Sec. 32
T-12-N, R-3-E

S.E. 1/4 Sec. 32
T-12-N, R-3-E

Lincoln County Conservation District Easement
Book 647, Page 244.

N.W. 1/4 Sec. 33
T-12-N, R-3-E

S.W. 1/4 Sec. 33
T-12-N, R-3-E

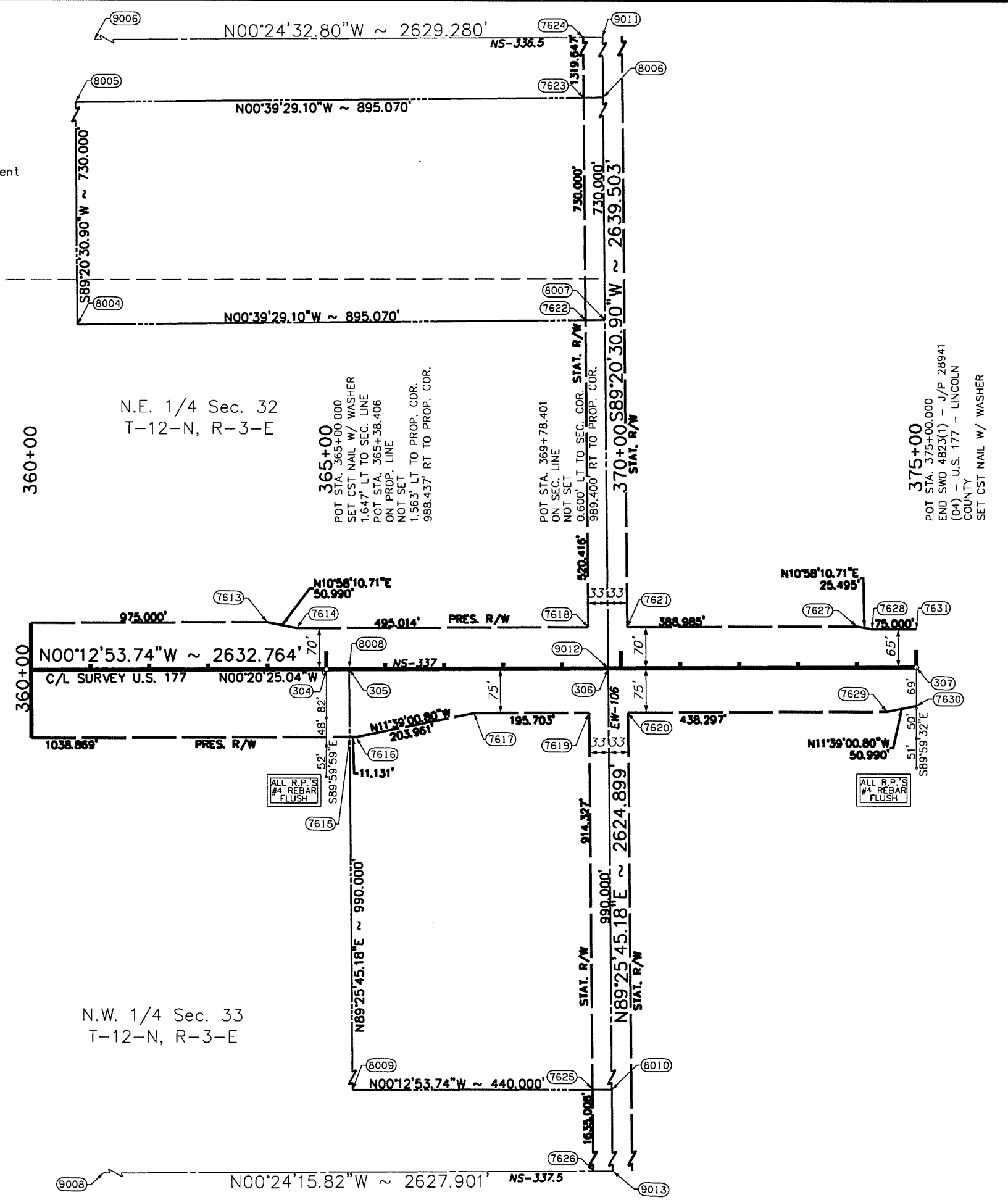


PLS	SS	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	SX	
CHECKED	SS	
APPROVED	SS	
CREW	PT, BB	
SURVEY DATA SHEET		
SWS 4823 (1)		PROJECT NO. 28941(04) SHEET NO. 5-6

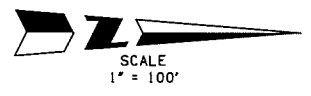
September 24th, 2013

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FILE NO.	DATE	PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS	DATE
DESIGNER		REVISIONS		DATE		

Lincoln County Conservation District Easement
Book 647, Page 254.



September 24th, 2013



PLS	SS	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	SK	
CHECKED	SS	
APPROVED	SS	
CREW	PT, BB	
		SURVEY DATA SHEET
		SNO 4223 (11) PROJECT NO. 28941(04) SHEET NO. 5-7

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

SECTION CORNER - O.D.O.T. L-41-821
 FOUND AND ACCEPTED #3 REBAR AS SHOWN ON
 CORNER RECORD FILED BY BILLIE D. SCHOOLEY, PLS
 1068.

SECTION CORNER - O.D.O.T. L-41-822
 FOUND AND ACCEPTED #3 REBAR AS SHOWN ON
 CORNER RECORD FILED BY BILLIE D. SCHOOLEY, PLS
 1068.

SECTION CORNER - O.D.O.T. L-41-823
 FOUND AND ACCEPTED MAG NAIL AS SHOWN ON
 CORNER RECORD FILED BY CHARLES F. CAHILL, PLS 1005.

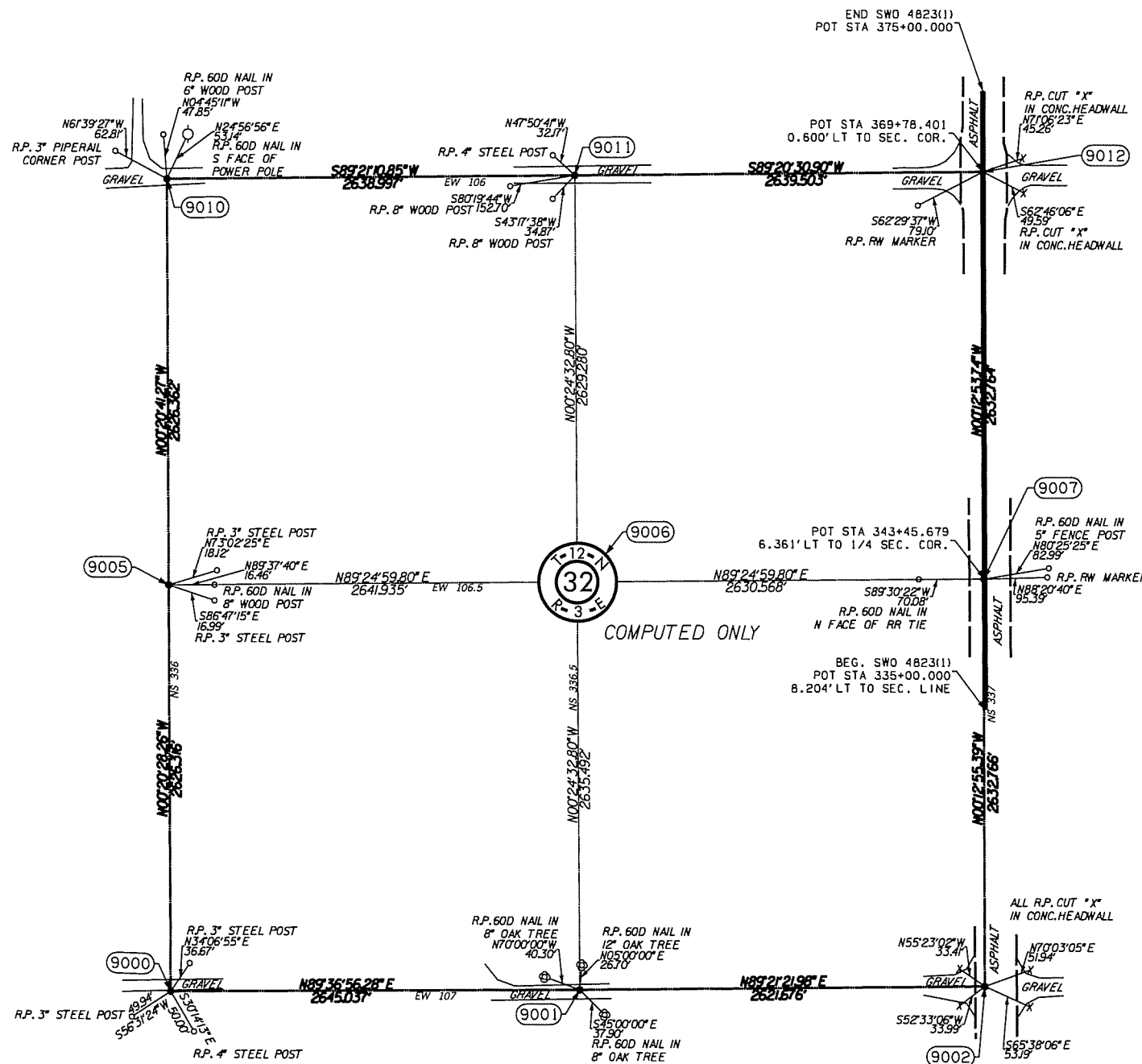
SECTION CORNER - O.D.O.T. L-41-818
 FOUND AND ACCEPTED #3 REBAR AS SHOWN ON
 CORNER RECORD FILED BY CHARLES REED, PLS 1660.

SECTION CORNER - O.D.O.T. L-41-819
 FOUND AND ACCEPTED PK NAIL AS SHOWN ON CORNER
 RECORD FILED BY BILLY GENE KNIGHT, PLS 1244.

SECTION CORNER - O.D.O.T. L-41-813
 FOUND AND ACCEPTED 1" CRIMPED PIPE AS SHOWN ON
 CORNER RECORD FILED BY CHARLES REED, PLS 1660.

SECTION CORNER - O.D.O.T. L-41-815
 FOUND AND ACCEPTED RAILROAD SPIKE. THIS
 MONUMENT APPEARS TO BE IN THE SAME LOCATION AS
 SHOWN ON CORNER RECORD FILED BY BILLY GENE
 KNIGHT, PLS 1244.

SECTION CORNER - O.D.O.T. L-41-814
 FOUND AND ACCEPTED #4 REBAR AS SHOWN ON
 CORNER RECORD FILED BY BILLY GENE KNIGHT, PLS
 1244.



SCALE:
 1" = 500'

NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION			
PLS	SS		
DRAWN	SK		
CHECKED	SS		
APPROVED	SS		
CREW	PT, BB		

SURVEY DATA SHEET

SWO 4823 (1) PROJECT NO. 28941(04) SHEET NO. 5-8

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

SECTION CORNER - O.D.O.T. L-41-824
 FOUND AND ACCEPTED #4 REBAR. THIS MONUMENT FITS WELL WITH SURROUNDING COLLATERAL EVIDENCE. THERE WAS NO CORNER RECORD ON FILE.

SECTION CORNER - O.D.O.T. L-41-823
 FOUND AND ACCEPTED MAG NAIL AS SHOWN ON CORNER RECORD FILED BY CHARLES F. CAHILL, PLS 1005.

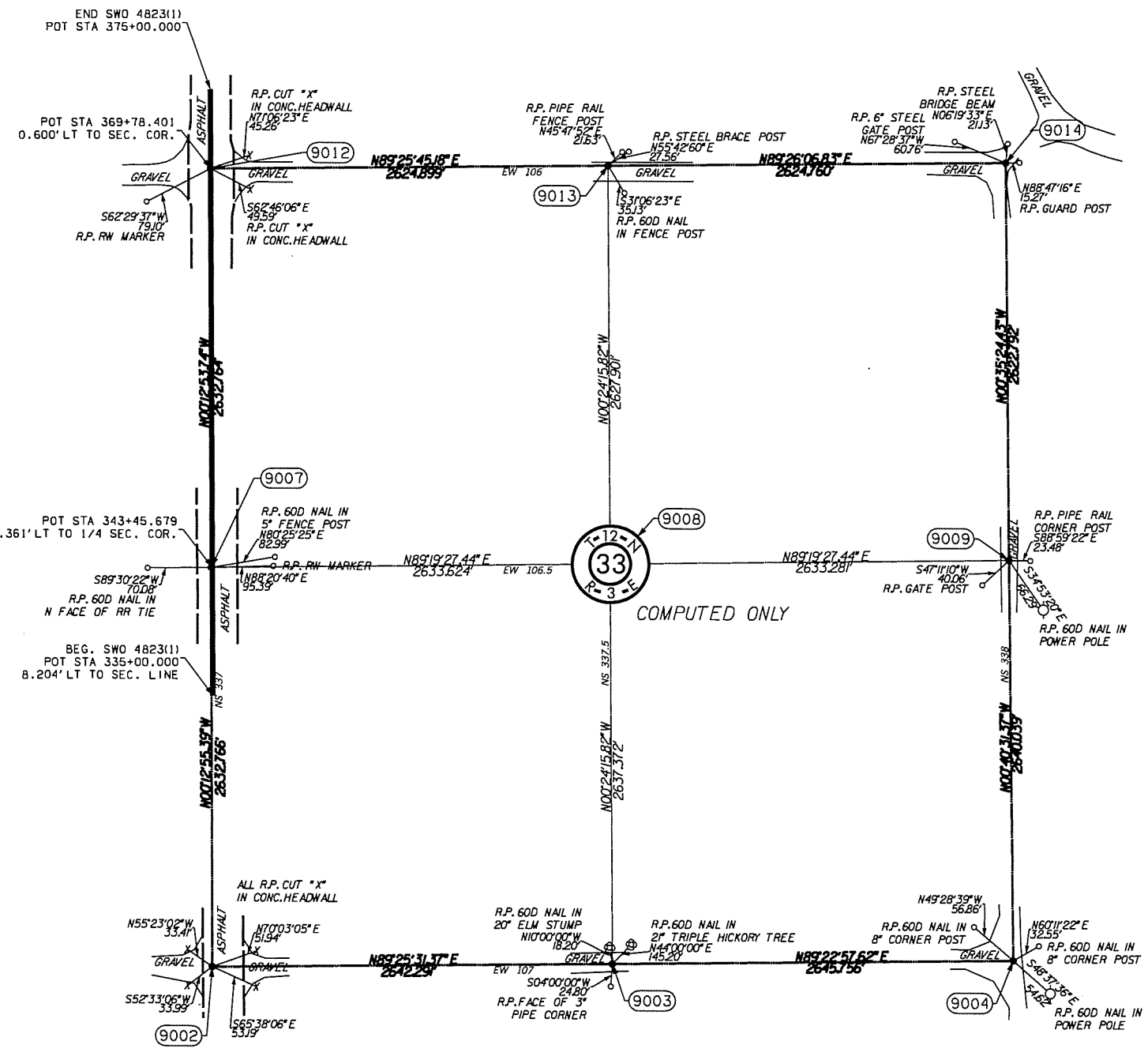
SECTION CORNER - O.D.O.T. L-41-825
 FOUND AND ACCEPTED #3 REBAR. THIS MONUMENT APPEARS TO BE IN THE SAME LOCATION AS SHOWN ON CORNER RECORD FILED BY CHARLES F. CAHILL, PLS 1005. ALSO FOUND 80D NAIL 12.3' SOUTH OF CORNER. MONUMENT SHOWN ON CORNER RECORD FILED BY LARRY G. FOX, PLS 434 WAS FOUND LYING IN A DITCH ON THE SIDE OF THE ROAD.

SECTION CORNER - O.D.O.T. L-41-819
 FOUND AND ACCEPTED PK NAIL AS SHOWN ON CORNER RECORD FILED BY BILLY GENE KNIGHT, PLS 1244.

SECTION CORNER - O.D.O.T. L-41-820
 FOUND AND ACCEPTED #4 REBAR. THIS MONUMENT APPEARS TO BE IN THE SAME LOCATION AS SHOWN ON CORNER RECORD FILED BY LARRY G. FOX, PLS 434.

SECTION CORNER - O.D.O.T. L-41-815
 FOUND AND ACCEPTED RAILROAD SPIKE. THIS MONUMENT APPEARS TO BE IN THE SAME LOCATION AS SHOWN ON CORNER RECORD FILED BY BILLY GENE KNIGHT, PLS 1244.

SECTION CORNER - O.D.O.T. L-41-817
 FOUND AND ACCEPTED #3 REBAR. THIS MONUMENT APPEARS TO BE IN THE SAME LOCATION AS SHOWN ON CORNER RECORD FILED BY LARRY G. FOX, PLS 434.



SECTION CORNER - O.D.O.T. L-41-816
 FOUND AND ACCEPTED #3 REBAR AS SHOWN ON CORNER RECORD FILED BY CHARLES REED, PLS 1660.

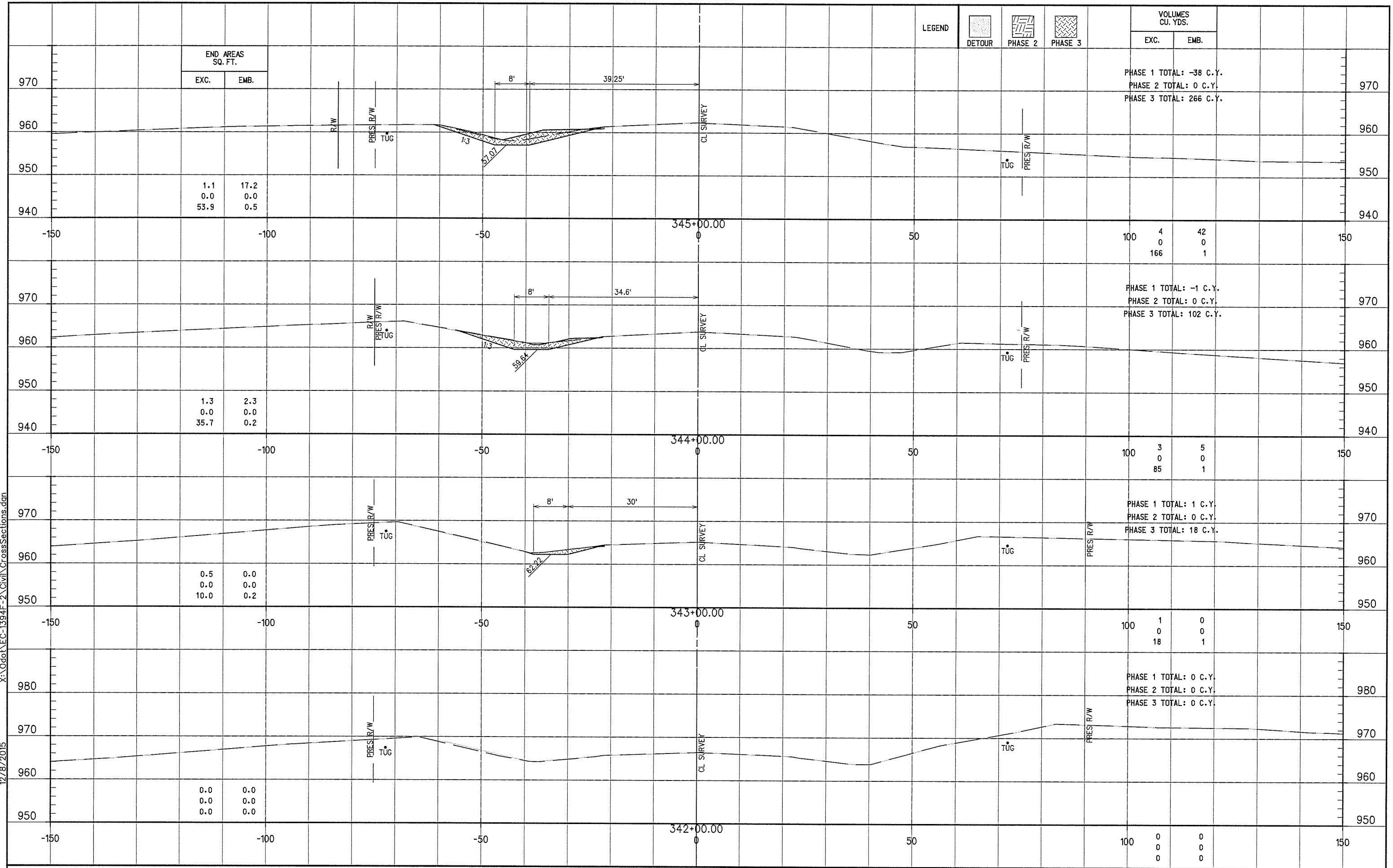


SCALE:
 1" = 500'

NOTE: REFERENCE'S SHOWN ARE NOT TO SCALE.

PLS	SS	OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	SK	
CHECKED	SS	
APPROVED	SS	
CREW	PT, BB	
SURVEY DATA SHEET		
SWO 4823 (1)		PROJECT NO. 28941(04) SHEET NO. 5-9

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END AREAS SQ. FT.	
EXC.	EMB.
1.1	17.2
0.0	0.0
53.9	0.5

LEGEND	VOLUMES CU. YDS.		
	EXC.	EMB.	
[Hatched Box] DETOUR			
[Hatched Box] PHASE 2			
[Hatched Box] PHASE 3			

PHASE 1 TOTAL: -38 C.Y.
 PHASE 2 TOTAL: 0 C.Y.
 PHASE 3 TOTAL: 266 C.Y.

PHASE 1 TOTAL: -1 C.Y.
 PHASE 2 TOTAL: 0 C.Y.
 PHASE 3 TOTAL: 102 C.Y.

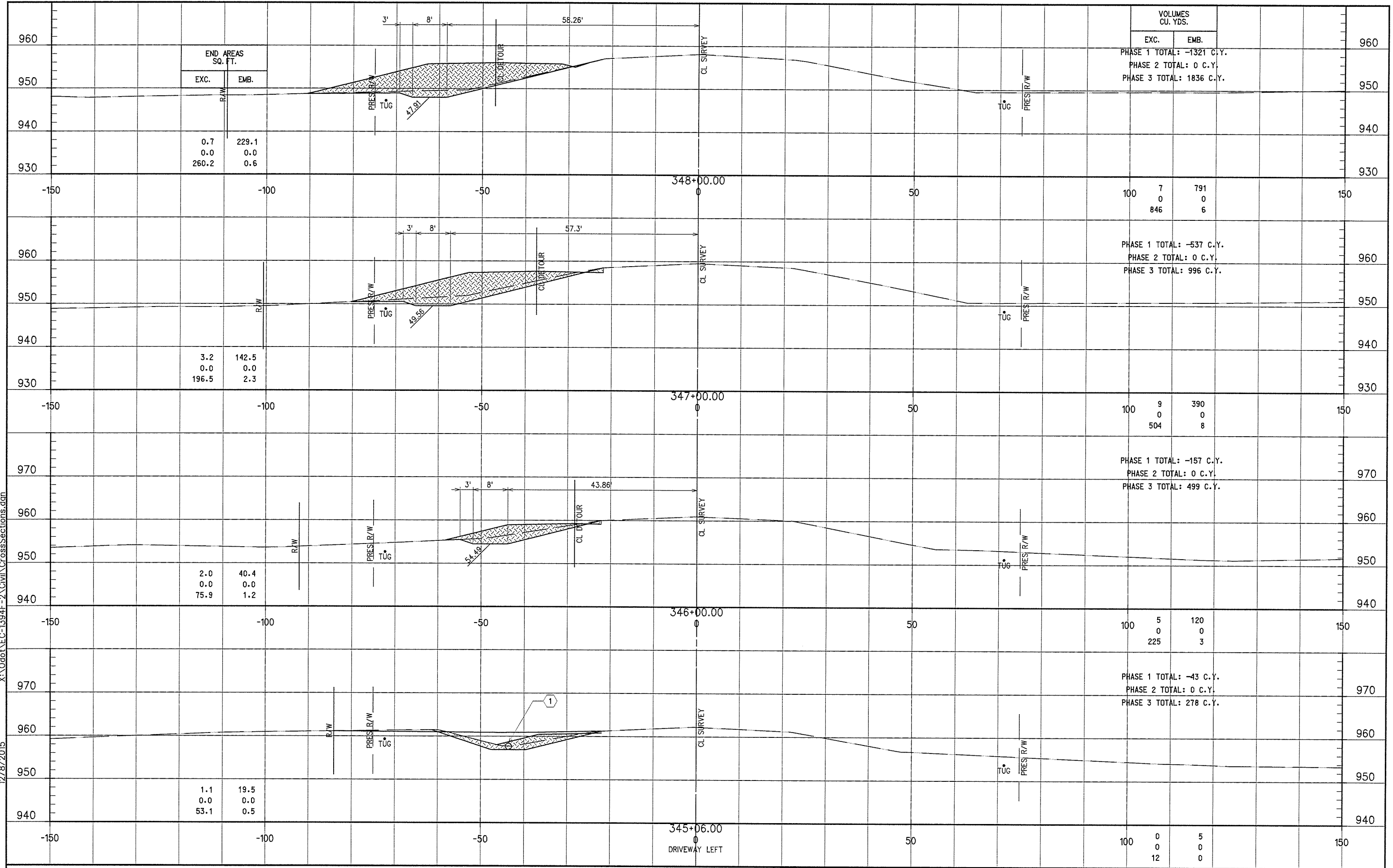
PHASE 1 TOTAL: 1 C.Y.
 PHASE 2 TOTAL: 0 C.Y.
 PHASE 3 TOTAL: 18 C.Y.

PHASE 1 TOTAL: 0 C.Y.
 PHASE 2 TOTAL: 0 C.Y.
 PHASE 3 TOTAL: 0 C.Y.

STA. 342+00.00 TO STA. 345+00.00

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

12/8/2015 X:\0dot\EC-1394F-2\Civil\CrossSections.dgn



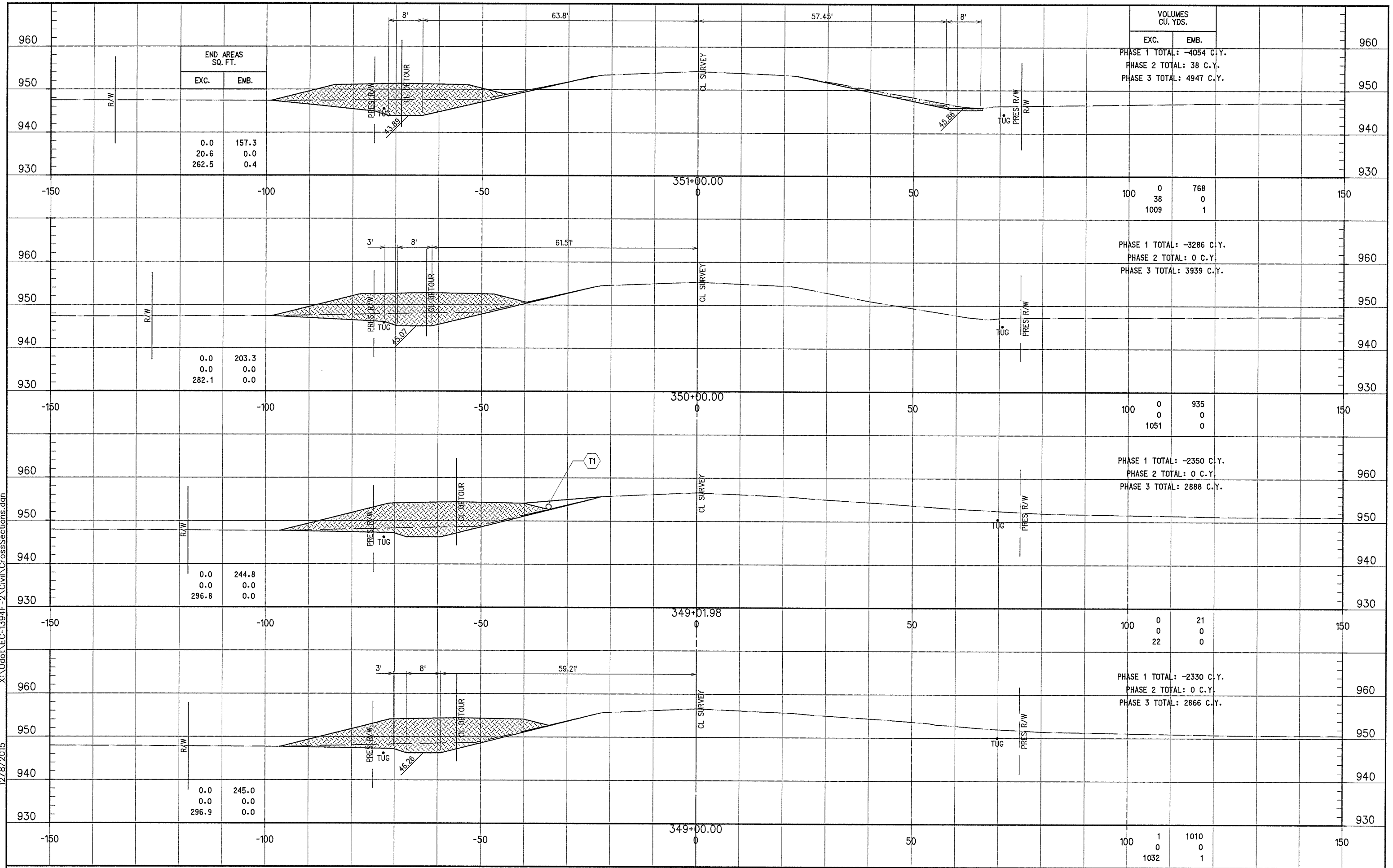
STA. 345+06.00 TO STA. 348+00.00

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

CROSS SECTIONS - US-177

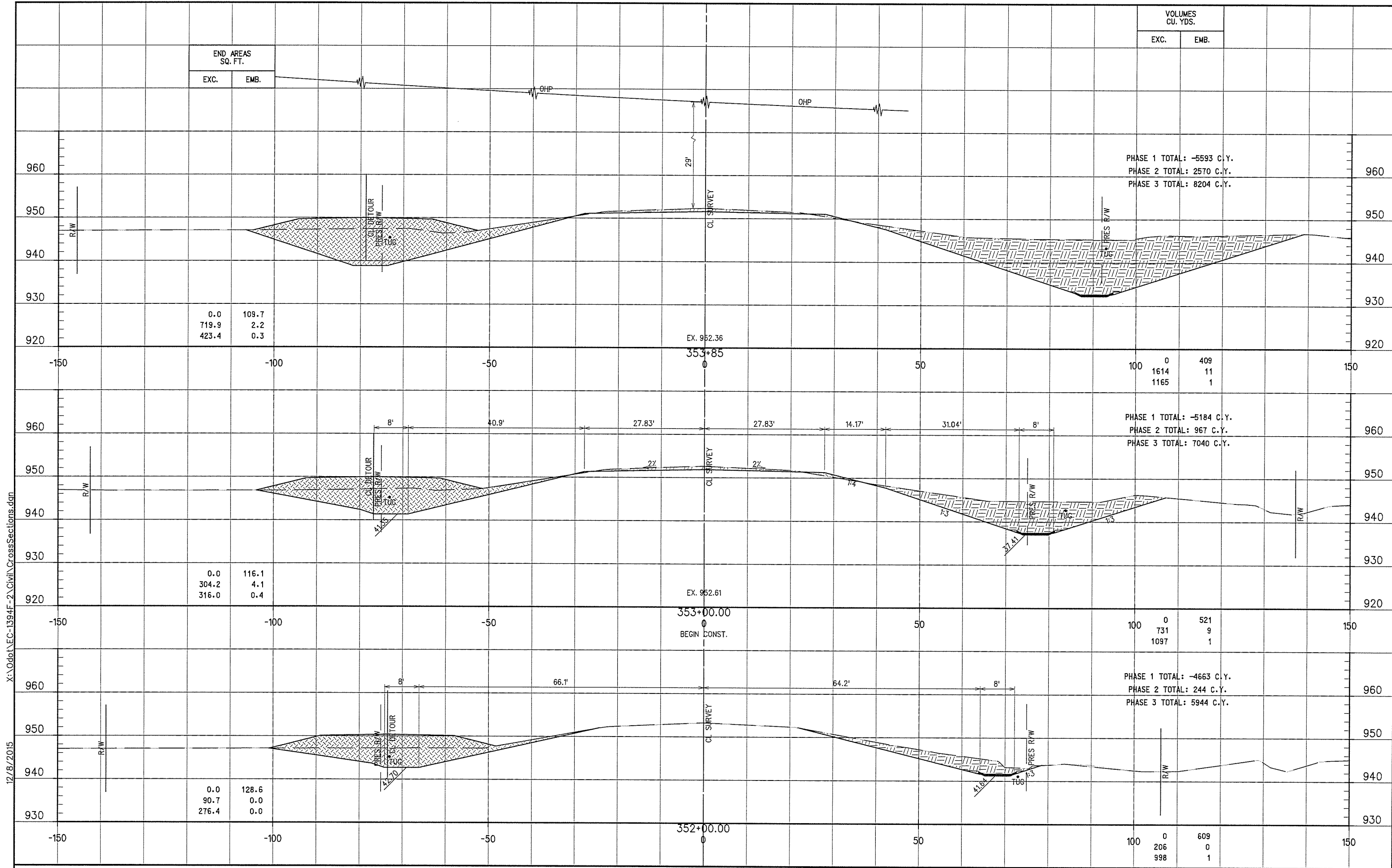
FAS PROJECT NO. 28941(04) SHEET NO. X-2

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12/8/2015



STA. 349+00.00 TO STA. 351+00.00

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



END AREAS SQ. FT.	
EXC.	EMB.

VOLUMES CU. YDS.	
EXC.	EMB.

PHASE 1 TOTAL: -5593 C.Y.
 PHASE 2 TOTAL: 2570 C.Y.
 PHASE 3 TOTAL: 8204 C.Y.

0.0	109.7
719.9	2.2
423.4	0.3

0	409
1614	11
1165	1

PHASE 1 TOTAL: -5184 C.Y.
 PHASE 2 TOTAL: 967 C.Y.
 PHASE 3 TOTAL: 7040 C.Y.

0.0	116.1
304.2	4.1
316.0	0.4

0	521
731	9
1097	1

PHASE 1 TOTAL: -4663 C.Y.
 PHASE 2 TOTAL: 244 C.Y.
 PHASE 3 TOTAL: 5944 C.Y.

0.0	128.6
90.7	0.0
276.4	0.0

0	609
206	0
998	1

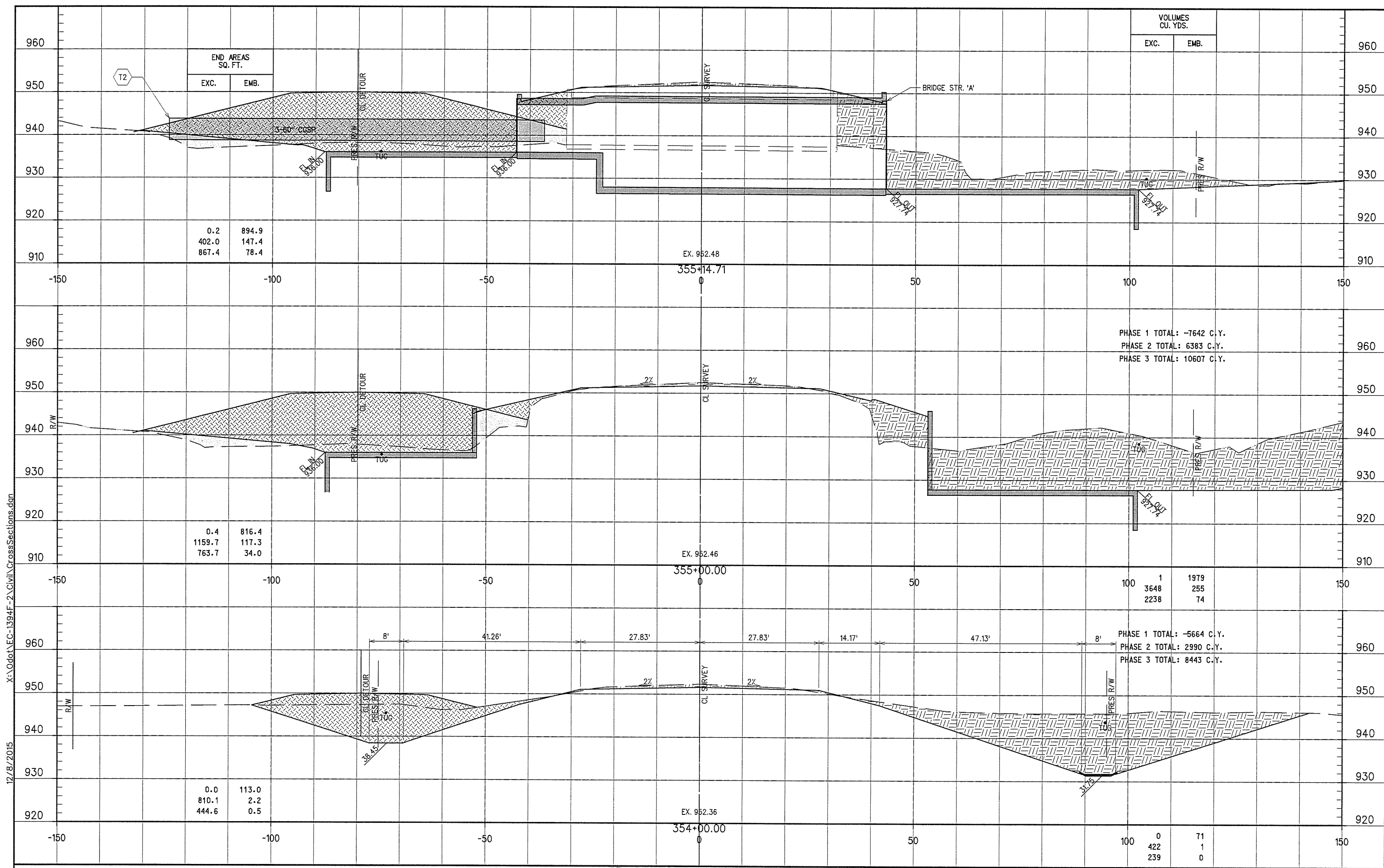
STA. 352+00.00 TO STA. 353+85

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 28941(04) SHEET NO. X-4

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END AREAS
SQ. FT.

EXC.	EMB.
------	------

0.2	894.9
402.0	147.4
867.4	78.4

0.4	816.4
1159.7	117.3
763.7	34.0

0.0	113.0
810.1	2.2
444.6	0.5

VOLUMES
CU. YDS.

EXC.	EMB.
------	------

PHASE 1 TOTAL: -7642 C.Y.
PHASE 2 TOTAL: 6383 C.Y.
PHASE 3 TOTAL: 10607 C.Y.

PHASE 1 TOTAL: -5664 C.Y.
PHASE 2 TOTAL: 2990 C.Y.
PHASE 3 TOTAL: 8443 C.Y.

1	1979
3648	255
2238	74

0	71
422	1
239	0

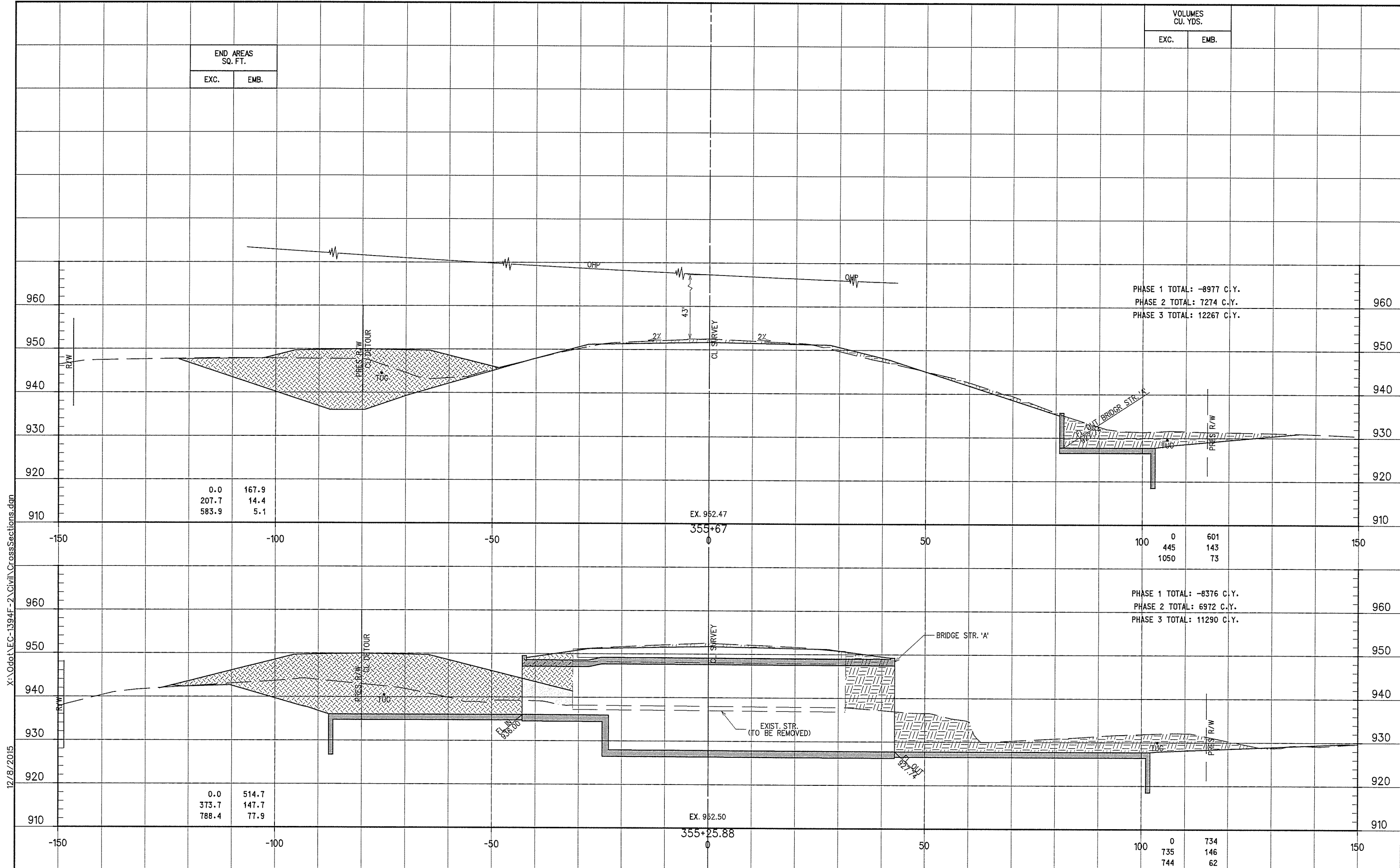
STA. 354+00.00 TO STA. 355+14.71

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 2894104 SHEET NO. X-5

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STA. 355+25.88 TO STA. 355+67

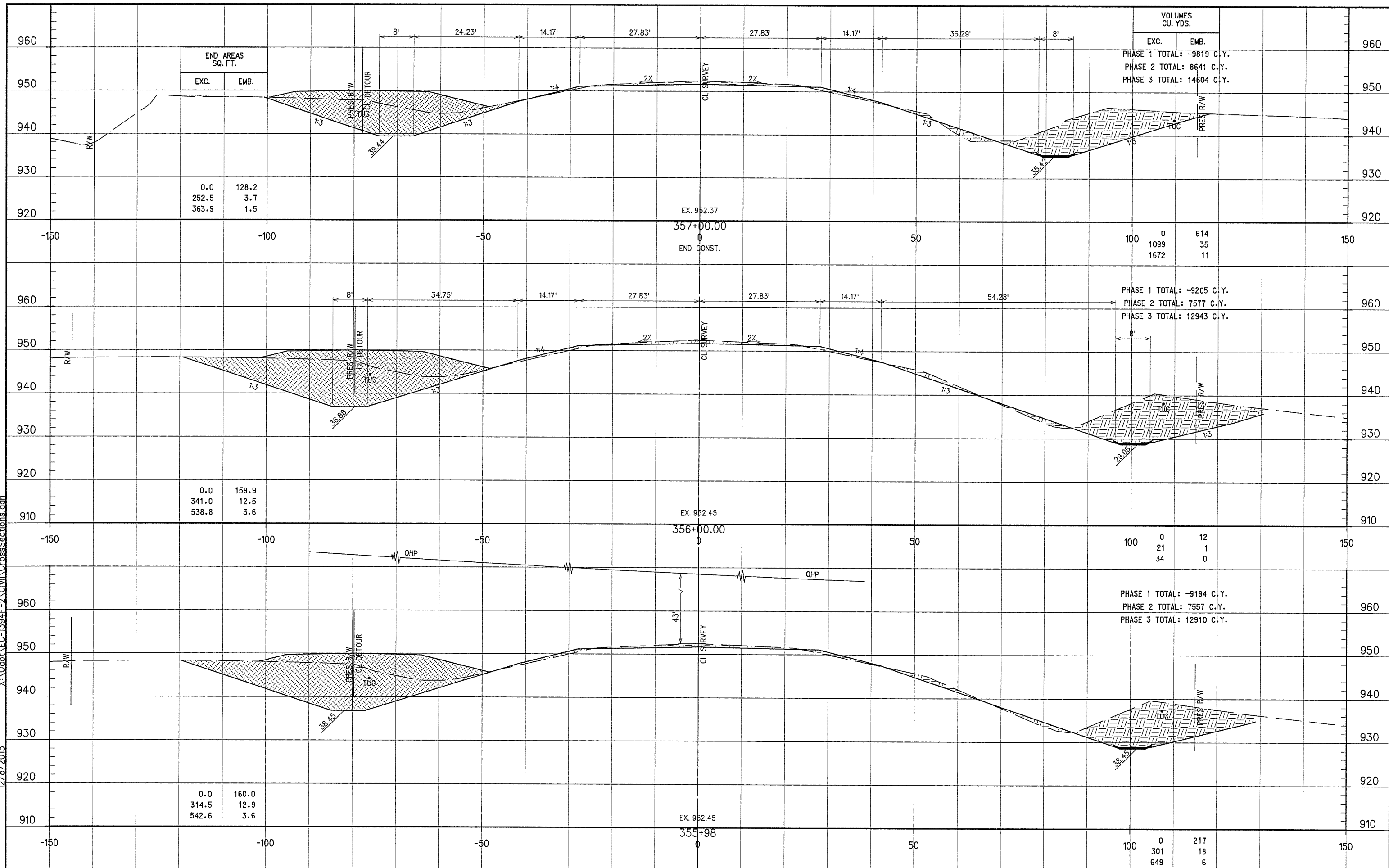
SCALE: 1"=10' VERT. & HORIZ.

CROSS SECTIONS - US-177

FAS PROJECT NO. 2894104 SHEET NO. X-6

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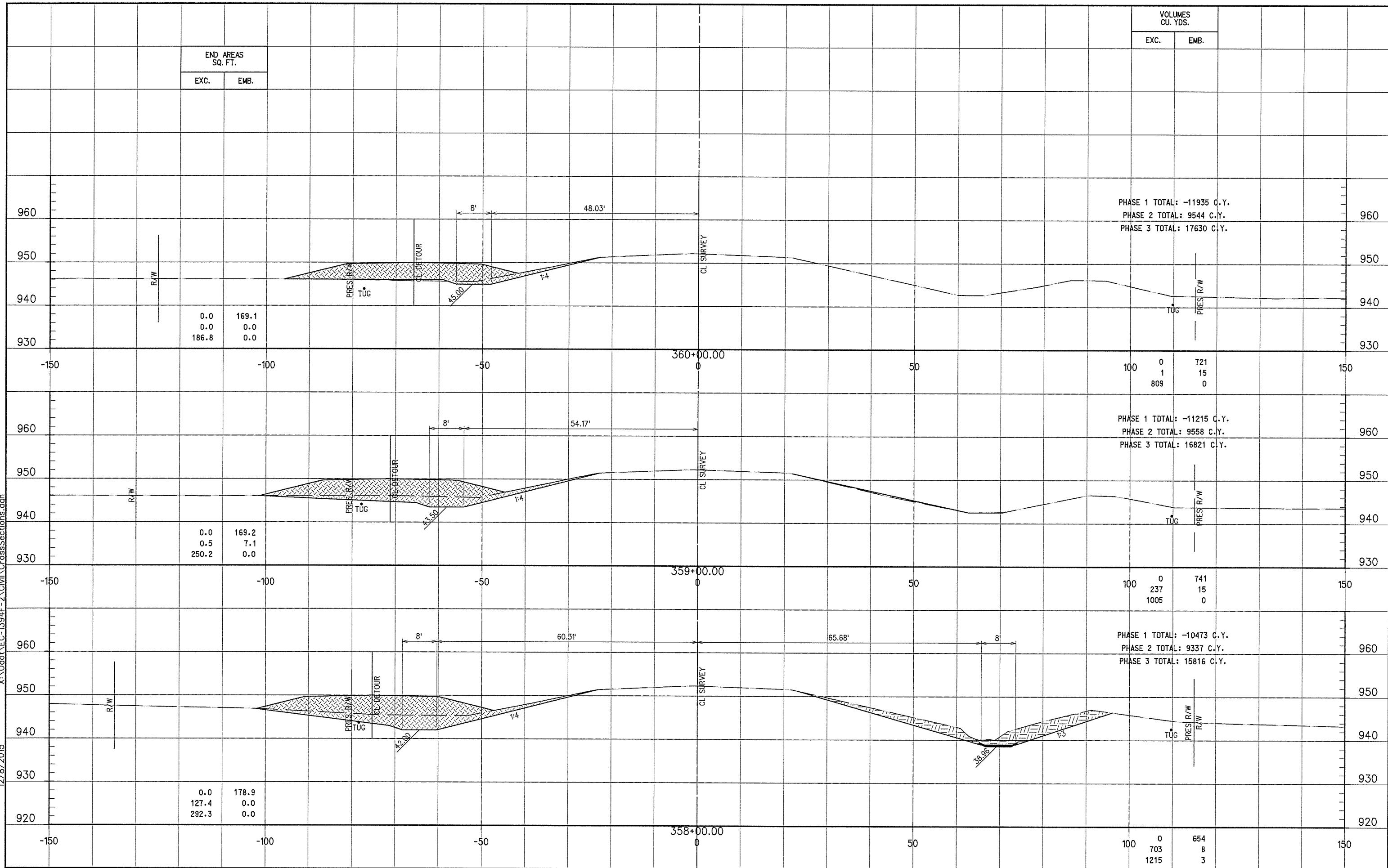
STA. 355+98 TO STA. 357+00.00

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 28941(04) SHEET NO. X-7

12/8/2015 X:\0dot\EC-1394F-2\Civil\CrossSections.dgn



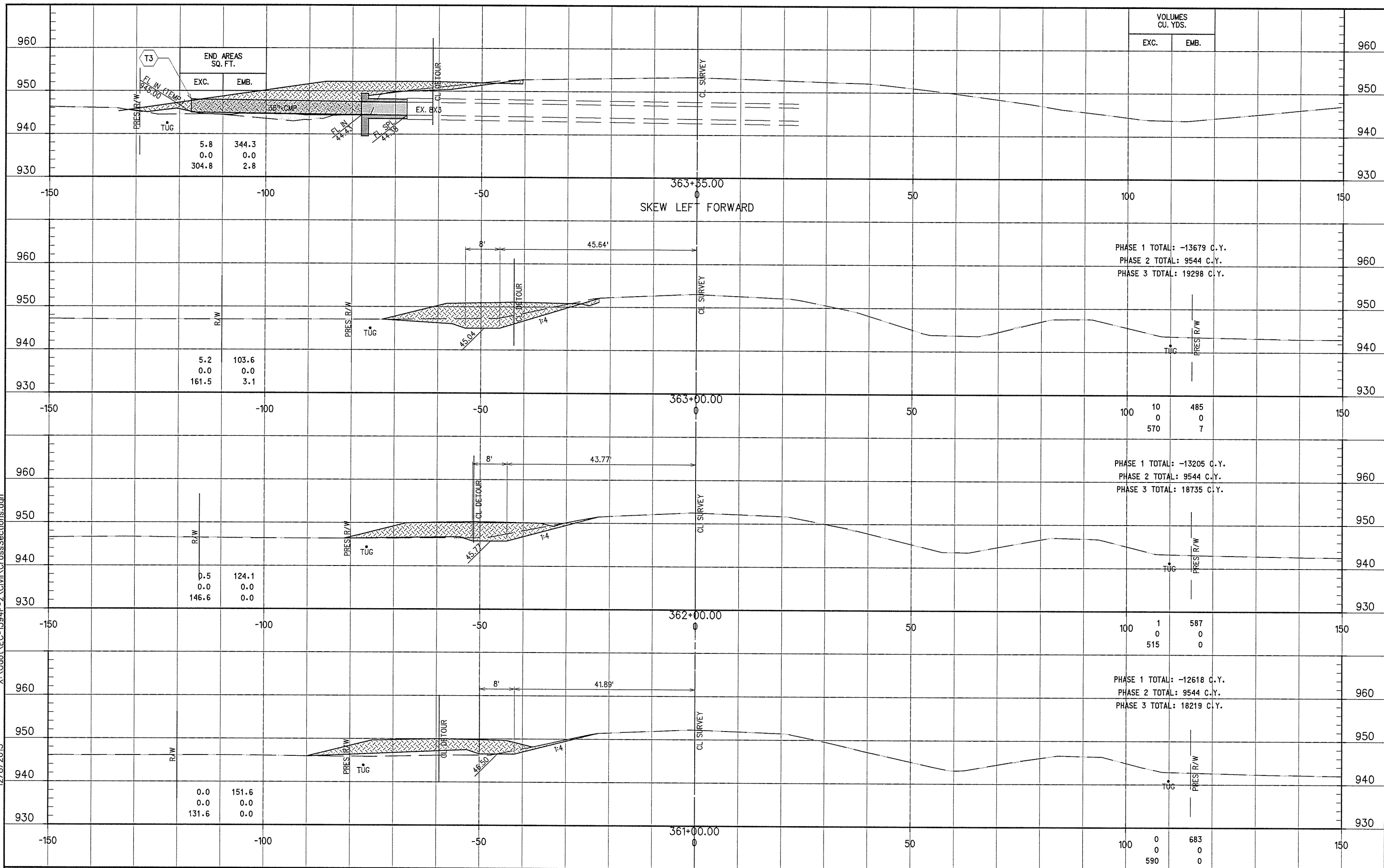
STA. 358+00.00 TO STA. 360+00.00

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 2894(104) SHEET NO. X-8

12/8/2015 X:\0dot\EC-1394F-2\Civil\CrossSections.dgn



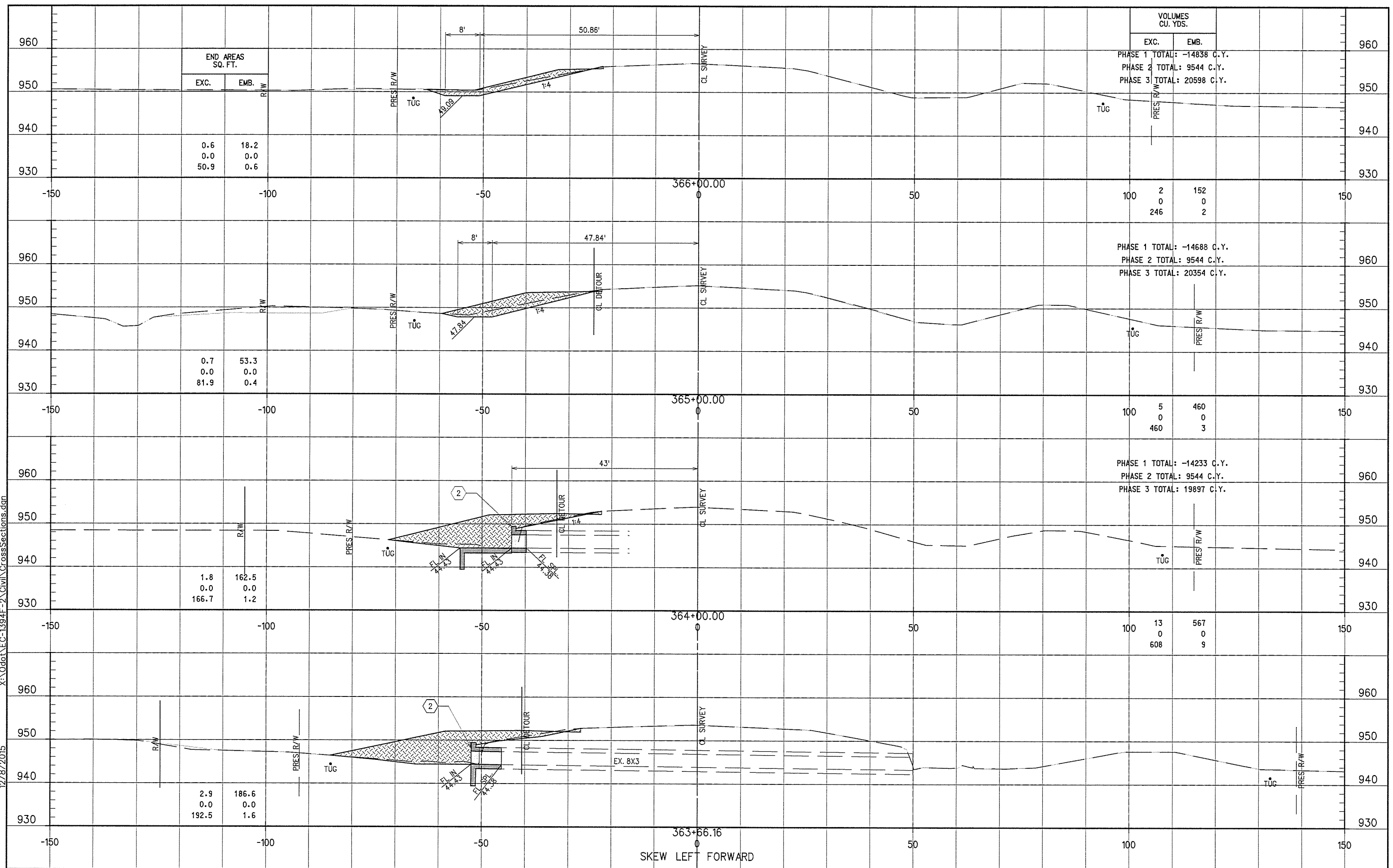
STA. 361+00.00 TO STA. 363+35.00

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 2894104 SHEET NO. X-9

12/8/2015 X:\0dot\EC-1394F-2\Civil\CrossSections.dgn



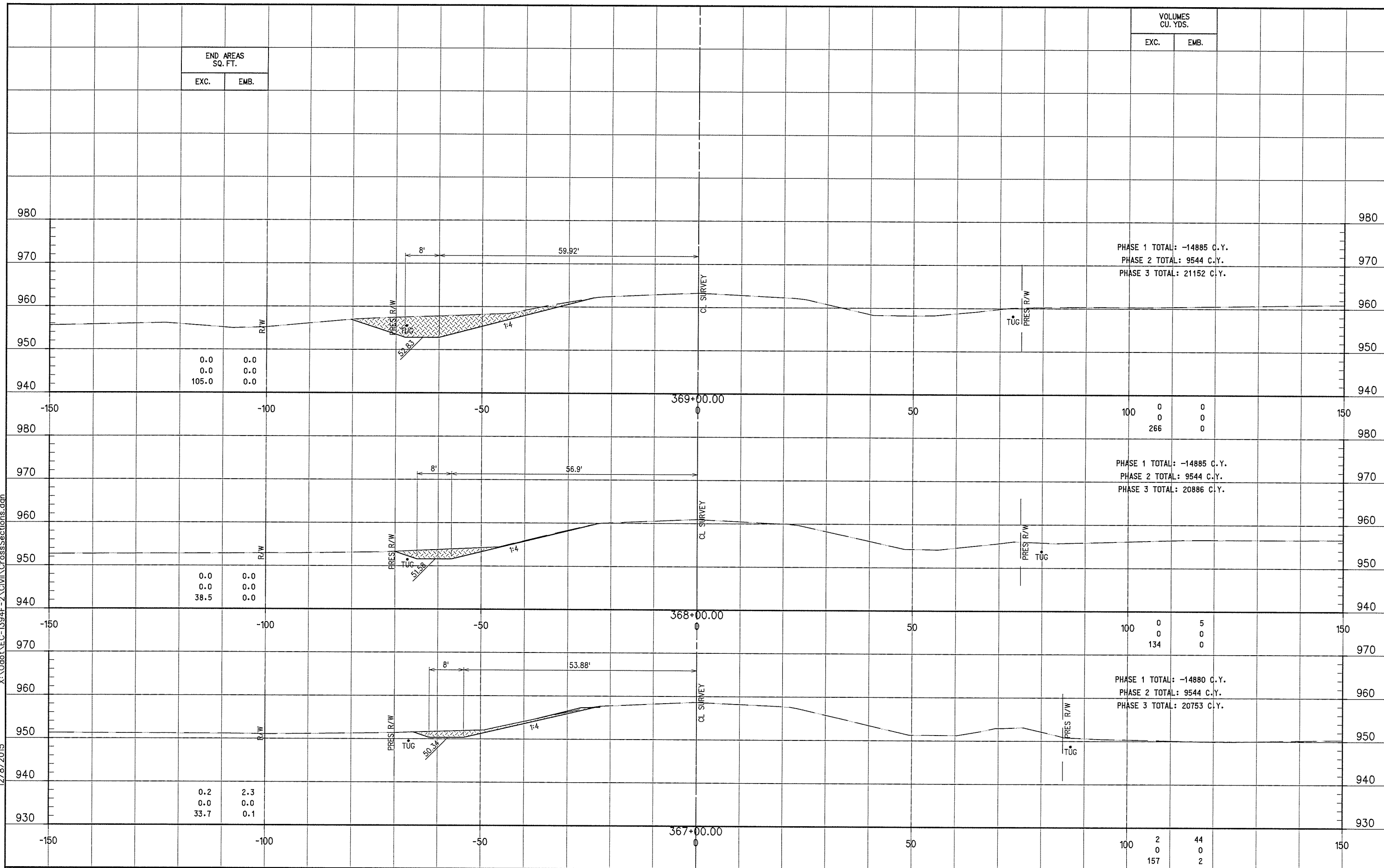
STA. 363+66.16 TO STA. 366+00.00

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 28941(04) SHEET NO. X-10

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PHASE 1 TOTAL: -14885 C.Y.
 PHASE 2 TOTAL: 9544 C.Y.
 PHASE 3 TOTAL: 21152 C.Y.

PHASE 1 TOTAL: -14885 C.Y.
 PHASE 2 TOTAL: 9544 C.Y.
 PHASE 3 TOTAL: 20886 C.Y.

PHASE 1 TOTAL: -14880 C.Y.
 PHASE 2 TOTAL: 9544 C.Y.
 PHASE 3 TOTAL: 20753 C.Y.

STA. 367+00.00 TO STA. 369+00.00

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

CROSS SECTIONS - US-177

FAS PROJECT NO. 2894104 SHEET NO. X-11