

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-1(1) & 12B-1(2)	CLAY	39	1
ILLINOIS			CONTRACT NO. 74116	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.S. ROUTE 2704 (OLD U.S. 50)
SECTION 12B-1(1) & 12B-1(2)
PROJECT ACRS-2704(001)
BRIDGE REPLACEMENT
CLAY COUNTY

C-97-080-05

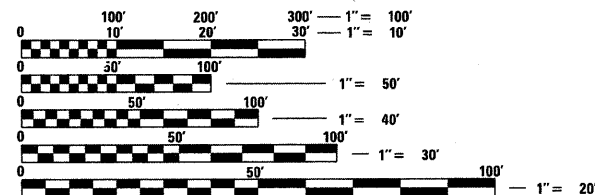
FOR INDEX OF SHEETS, SEE SHEET NO. 2

2008 ADT = 1300 (EAST OF XENIA)
2008 ADT = 600 (WEST OF XENIA)

D-97-046-05

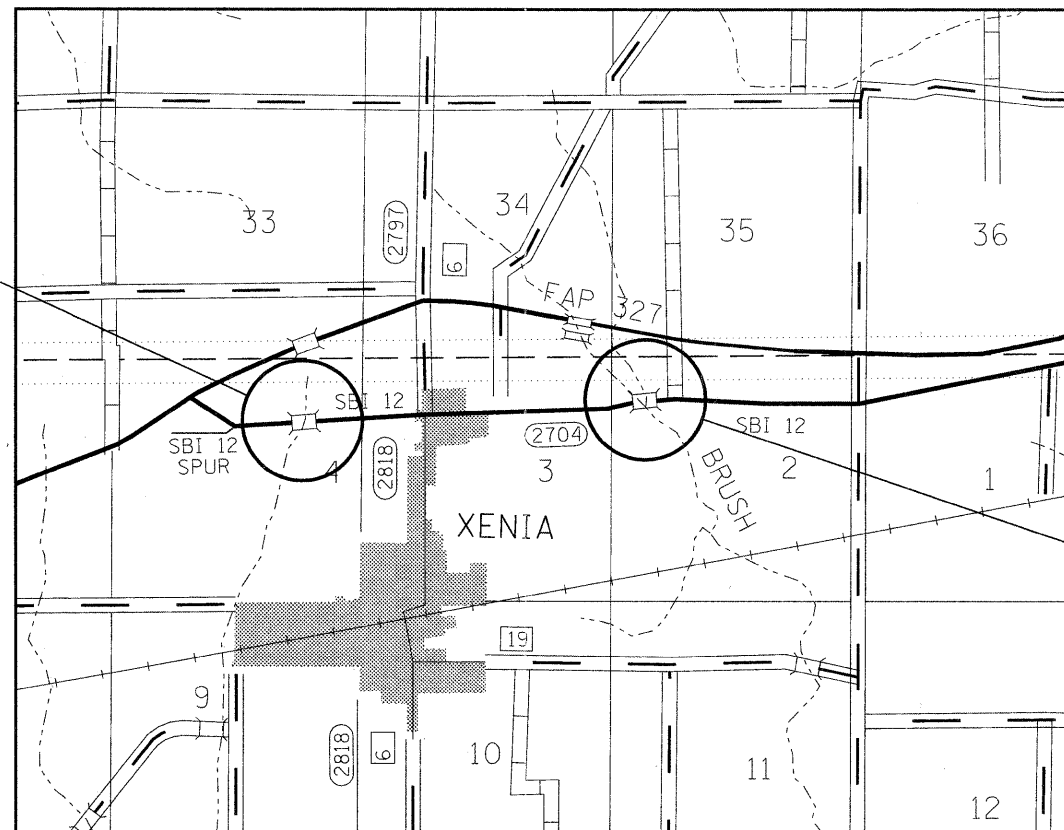


PROJECT LOCATION
SECTION 12B-1(1)
STRUCTURE #013-2012
STATION 407 + 98



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811



PROJECT LOCATION
SECTION 12B-1(2)
STRUCTURE #013-2013
STATION 334 + 46

GROSS LENGTH = 925 FT. = 0.175 MILE
NET LENGTH = 925 FT. = 0.175 MILE

PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: JENNIFER WENTHE
PHONE: 217-342-8320
CONTRACT NO. 74116

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Feb 3 2011
Roger J. Dunkel
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13 2011
Scott E. Stitt P.E. Ia
ACTING ENGINEER OF DESIGN AND ENVIRONMENT

May 13 2011
Christine M. Reed Ia
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", ADOPTED JANUARY 1, 2011, AND THE SPECIAL PROVISIONS INCLUDED IN THIS PROPOSAL.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF REMOVAL OF TWO BRIDGES, CONSTRUCTION OF A CAST IN PLACE DOUBLE BARREL BOX CULVERT, CONSTRUCTION OF A DOUBLE BARREL PRE-CAST BOX CULVERT, PAVEMENT PATCHING, MILLING, HOT-MIX ASPHALT RESURFACING, PCC PAVEMENT, EARTHWORK, GUARDRAIL, AGGREGATE SHOULDERS, PAVEMENT MARKING, AND ANY OTHER WORK NECESSARY TO COMPLETE THIS SECTION. THIS WORK SHALL BE COMPLETED UTILIZING ROAD CLOSURES.

THIS PROJECT IS LOCATED AT EXISTING STRUCTURE NUMBER 013-0022 WHICH CARRIES FAS ROUTE 2704 (OLD US 50) OVER NICKOLSON CREEK 0.3 MILES EAST OF THE MARION COUNTY LINE IN CLAY COUNTY AND AT EXISTING STRUCTURE NUMBER 013-0023 WHICH CARRIES FAS ROUTE 2704 (OLD US 50) OVER BRUSH CREEK 0.8 MILES EAST OF XENIA ROAD IN CLAY COUNTY.

THE CONTRACTOR SHALL USE EITHER RC-70, SS-1H, OR SS-1HP APPLIED AT THE RATE DIRECTED BY THE ENGINEER FOR THE PAY ITEM BITUMINOUS MATERIALS (PRIME COAT).

THE RESIDENT ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE CURING TIME FOR ALL HOT-MIX ASPHALT LIFTS.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE HOT-MIX ASPHALT PLANT QUALITY CONTROL LAB SO THAT HOT-MIX ASPHALT PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL HOT-MIX ASPHALT PAY ITEMS.

THE MATERIAL USED FOR AGGREGATE SHOULDERS, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE, OR RAP.

A UNIFORMLY STRAIGHT SAW CUT SHALL BE MADE AT LOCATIONS WHERE PROPOSED NEW CONSTRUCTION WILL ABUT EXISTING BITUMINOUS CONCRETE SURFACES. THE SAW CUT SHALL BE MADE FULL DEPTH THROUGH THE EXISTING SURFACE. THIS WORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT ITEMS INVOLVED AND NO EXTRA COMPENSATION WILL BE ALLOWED.

PAVEMENT MARKING SHALL BE APPLIED IN ACCORDANCE WITH SECTION 780 OF THE STANDARD SPECIFICATIONS. SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO THE MILLED SURFACE, BITUMINOUS MATERIALS (PRIME COAT), HOT-MIX ASPHALT BINDER COURSE, AND HOT-MIX ASPHALT SURFACE COURSE AS SPECIFIED IN SECTION 703 OF THE STANDARD SPECIFICATIONS. TEMPORARY TAPE SHALL BE USED ON THE SURFACE COURSE AND PAINT SHALL BE USED ON MILLED SURFACES.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING - LINE 4" CONSISTS OF 231 FEET OF YELLOW AND 1,850 FEET OF WHITE.

RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 781 OF THE STANDARD SPECIFICATIONS. THE TOTAL QUANTITY OF RAISED REFLECTIVE PAVEMENT MARKERS CONSISTS OF 9 TWO-WAY AMBER MARKERS.

THE TREES LISTED IN TREE SCHEDULE SHALL BE APPROVED AND HAND PLANTED AT LOCATIONS AS DIRECTED BY THE ROADSIDE MAINTENANCE TECHNICIAN, PHIL NOSBISH, (217) 342-8270. THE CONTRACTOR SHALL BE REQUIRED TO GIVE TWO WEEKS NOTICE TO SCHEDULE A TIME FOR THE LOCATIONS TO BE STAKED AND ON THE SAME DAY THE TREES SHALL BE DELIVERED TO THE JOBSITE FOR ACCEPTANCE OF THE PLANTING MATERIAL BY THE ROADSIDE MAINTENANCE TECHNICIAN.

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

GENERAL NOTES (Cont'd)

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

BINDER COURSE (3/4" TO 4")
 APPLICATION: HOT-MIX ASPHALT BINDER COURSE
 PG GRADE: PG 64-22
 DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70
 MIXTURE COMPOSITION: IL-19.0
 FRICTION AGGREGATE: N/A

SURFACE COURSE (1 1/2")
 APPLICATION: HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70
 PG GRADE: PG 64-22
 DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70
 MIXTURE COMPOSITION: IL-9.5
 FRICTION AGGREGATE: MIXTURE C

PAVEMENT PATCHING
 APPLICATION: HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70
 PG GRADE: PG 64-22
 DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70
 MIXTURE COMPOSITION: IL-19.0
 FRICTION AGGREGATE: N/A

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

HOT MIX ASPHALT	112 LBS/SQ YD/IN
BITUMINOUS MATERIALS PRIME COAT	0.10 GALLONS/SQ YD
AGGREGATE PRIME COAT	2.00 LBS/SQ YD
GRANULAR MATERIAL	2.05 TONS/CU YD

INDEX OF SHEETS

SHEET NO.	ITEM
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2	INDEX OF SHEETS & GENERAL NOTES
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4	TYPICAL SECTIONS - S.N. 013-2012 NICKOLSON CREEK
5-6	TYPICAL SECTIONS - S.N. 013-2013 BRUSH CREEK
7	JOB DETAILS - S.N. 013-2013 BRUSH CREEK
8	TIE POINTS AND BENCHMARKS
9	SCHEDULES - S.N. 013-2012 NICKOLSON CREEK
10-11	SCHEDULES - S.N. 013-2013 BRUSH CREEK
12	ENTRANCE SCHEDULE AND DETAILS
13	PLAN AND PROFILE - S.N. 013-2012 NICKOLSON CREEK
14-15	PLAN AND PROFILE - S.N. 013-2013 BRUSH CREEK
16-17	ROW PLANS
18-22	CULVERT PLANS - S.N. 013-2012 NICKOLSON CREEK
23-27	CULVERT PLANS - S.N. 013-2013 BRUSH CREEK
28-29	EROSION CONTROL DETAILS - S.N. 013-2013 BRUSH CREEK
30-35	CROSS SECTIONS - S.N. 013-2012 NICKOLSON CREEK
36-39	CROSS SECTIONS - S.N. 013-2013 BRUSH CREEK

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 39:

STD. NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
420601-05	24' PCC PAVEMENT
420701-02	PAVEMENT FABRIC
442201-03	CLASS C AND D PATCHES
515001-03	NAME PLATE FOR BRIDGES
630001-09	STEEL PLATE BEAM GUARDRAIL
630101-09	GUARDRAIL MOUNTED ON EXISTING CULVERTS
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
666001-01	RIGHT OF WAY MARKERS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-03	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-02	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE 2L, 2W, MOVING OPERATIONS - DAY ONLY
701901-01	TRAFFIC CONTROL DEVICES
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES AND INDEX OF SHEETS		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
FILEL		DRAWN -	REVISED -		SCALE: NA	SHEET NO. 1	OF 1	SHEETS	STA.	TO STA.	2704	12B-1(1) & 12B-1(2)	CLAY	39	2
		CHECKED -	REVISED -		CONTRACT NO. 74116										
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT										

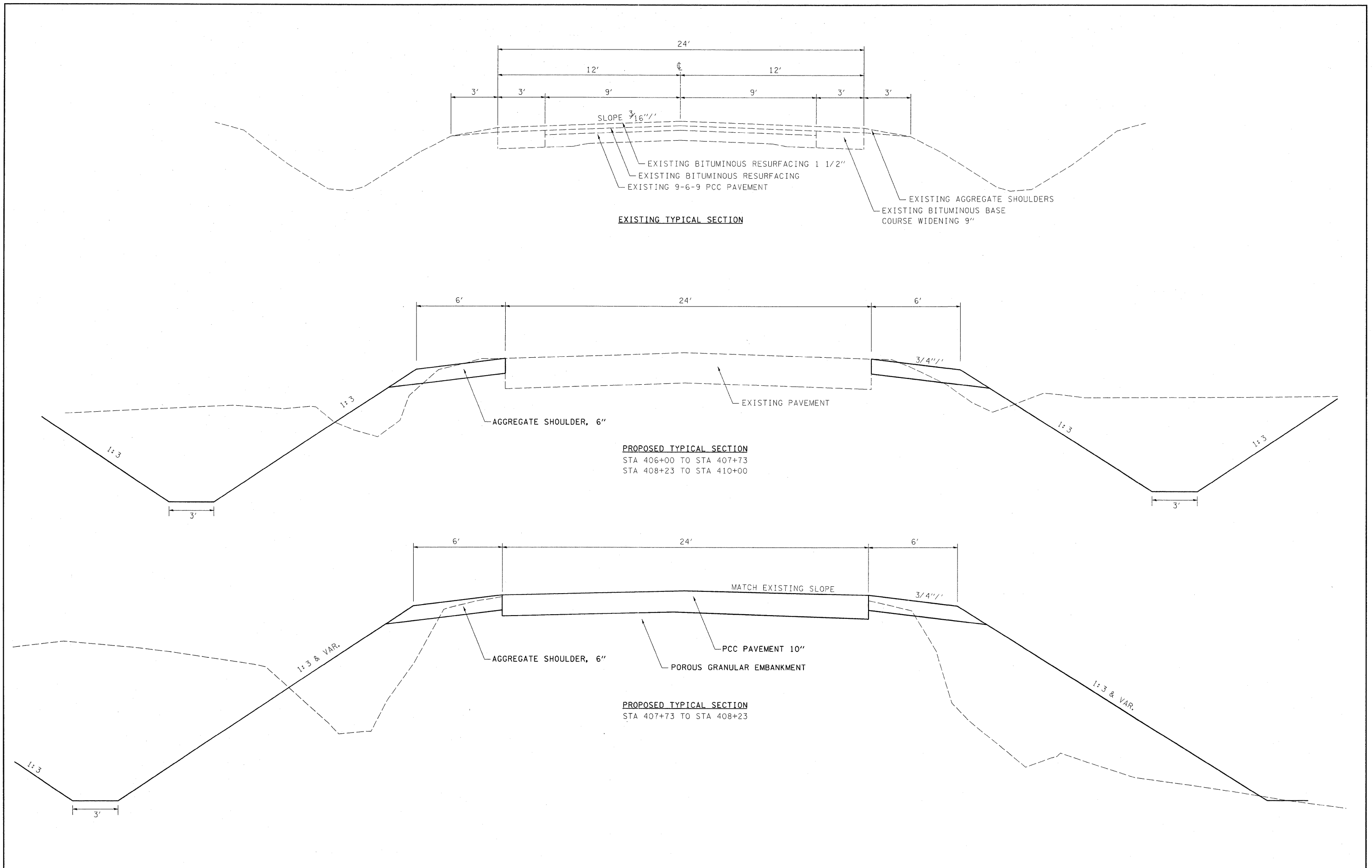
80% FEDERAL
20% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0011	0011
				SN 013-2012	SN 013-2013
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	296	167	129
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	201	75	126
20200100	EARTH EXCAVATION	CU YD	1569	1045	524
20400800	FURNISHED EXCAVATION	CU YD	507		507
20700110	POROUS GRANULAR EMBANKMENT	TON	715	715	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	113	70	43
28000305	TEMPORARY DITCH CHECKS	FOOT	268	226	42
28000400	PERIMETER EROSION BARRIER	FOOT	200		200
28100107	STONE RIPRAP, CLASS A4	SQ YD	124	124	
28100109	STONE RIPRAP, CLASS A5	SQ YD	662		662
28200200	FILTER FABRIC	SQ YD	786	124	662
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1.6		1.6
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	128		128
40600300	AGGREGATE (PRIME COAT)	TON	3		3
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	367		367
40600990	TEMPORARY RAMP	SQ YD	24		24
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	419		419
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	107		107
40701961	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 14"	SQ YD	82		82
42000500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ YD	133	133	
42001200	PAVEMENT FABRIC	SQ YD	133	133	
44000100	PAVEMENT REMOVAL	SQ YD	136	63	73
44201815	CLASS D PATCHES, TYPE II, 14 INCH	SQ YD	25		25
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	1198	533	665
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1	1	
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1		1
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	182		182
50800105	REINFORCEMENT BARS	POUND	36410		36410
50800515	BAR SPLICERS	EACH	20	20	
51500100	NAME PLATES	EACH	2	1	1

80% FEDERAL
20% STATE

SUMMARY OF QUANTITIES (Cont'd)			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0011	0011
				SN 013-2012	SN 013-2013
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2	2	
54003000	CONCRETE BOX CULVERTS	CU YD	198		198
54011006	PRECAST CONCRETE BOX CULVERTS 10' X 6'	FOOT	118	118	
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	637.5		637.5
* 63000025	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	FOOT	53		53
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4		4
63200310	GUARDRAIL REMOVAL	FOOT	753		753
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	12	8	4
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70300100	SHORT TERM PAVEMENT MARKING	FOOT	156		156
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	17		17
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2081	900	1181
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	9		9
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	11		11
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4		4
* A2006416	TREE, QUERCUS ALBA (WHITE OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	7	7	
* A2007116	TREE, QUERCUS RUBRA (RED OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	12	7	5
* A2007616	TREE, TAXODIUM DISTICHUM (COMMON BALD CYPRESS), 2" CALIPER, BALLED AND BURLAPPED	EACH	5		5
* D2001772	EVERGREEN, PICEA ABIES (NORWAY SPRUCE), 6' HEIGHT, BALLED AND BURLAPPED	EACH	5		5
* D2002948	EVERGREEN, PINUS STROBUS (EASTERN WHITE PINE), 4' HEIGHT, BALLED AND BURLAPPED	EACH	7	7	
* X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.1	0.7	0.4
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	770		770
X7011830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	EACH	2	1	1
Z0023602	GRANULAR CULVERT BACKFILL	CU YD	336		336
Z0054505	ROCK FILL - REPLACEMENT	TON	327		327
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5	

* SPECIALTY ITEM



EXISTING TYPICAL SECTION

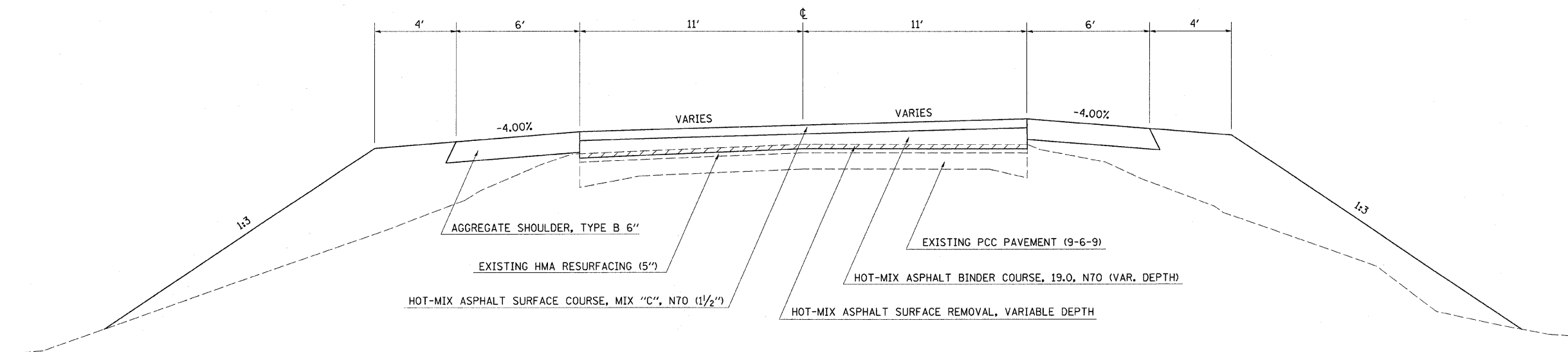
PROPOSED TYPICAL SECTION
 STA 406+00 TO STA 407+73
 STA 408+23 TO STA 410+00

PROPOSED TYPICAL SECTION
 STA 407+73 TO STA 408+23

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		CHECKED -	REVISED -										CONTRACT NO. 74116
		DATE -	REVISED -										ILLINOIS FED. AID PROJECT

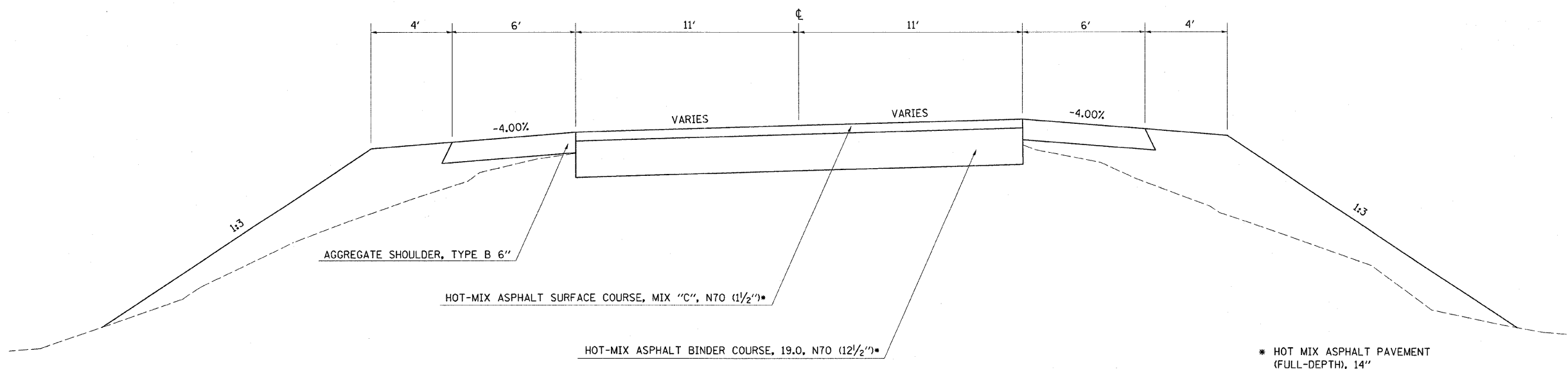
TYPICAL SECTION

STA 333+85 TO STA 336+16
STA 336+76 TO STA 339+10



TYPICAL SECTION

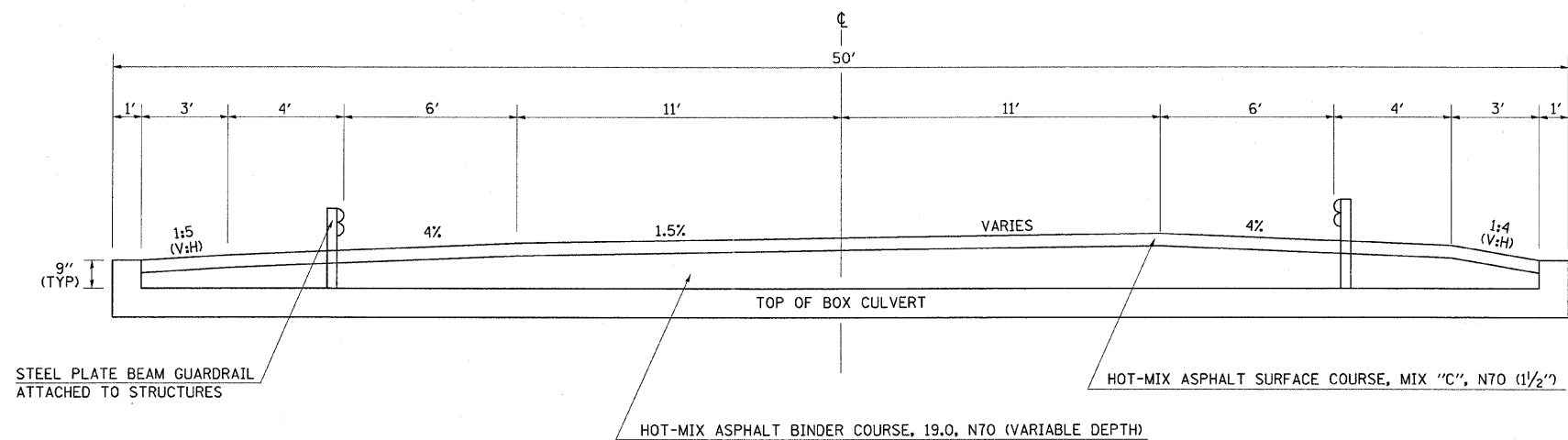
STA 336+16.00 TO STA 336+32.75
STA 336+59.25 TO STA 336+76.00



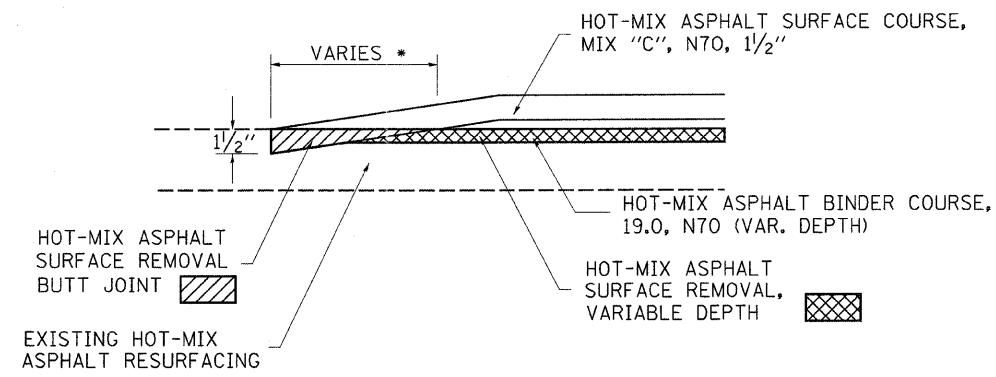
* HOT MIX ASPHALT PAVEMENT (FULL-DEPTH), 14"

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	PLOT SCALE = 20.0000' / IN.	CHECKED -	REVISED -												
	PLOT DATE = 2/3/2011	DATE -	REVISED -												
											CONTRACT NO. 74116			ILLINOIS FED. AID PROJECT	

TYPICAL SECTION
 STA 336+32.75 TO STA 336+59.25

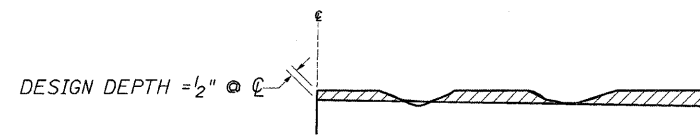


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	PLOT DATE = 2/3/2011	DATE -	REVISED -										
ILLINOIS FED. AID PROJECT													



BUTT JOINT DETAIL

STA. 333+85 TO STA. 334+90* 105'
 STA. 338+65 TO STA. 339+10* 45'

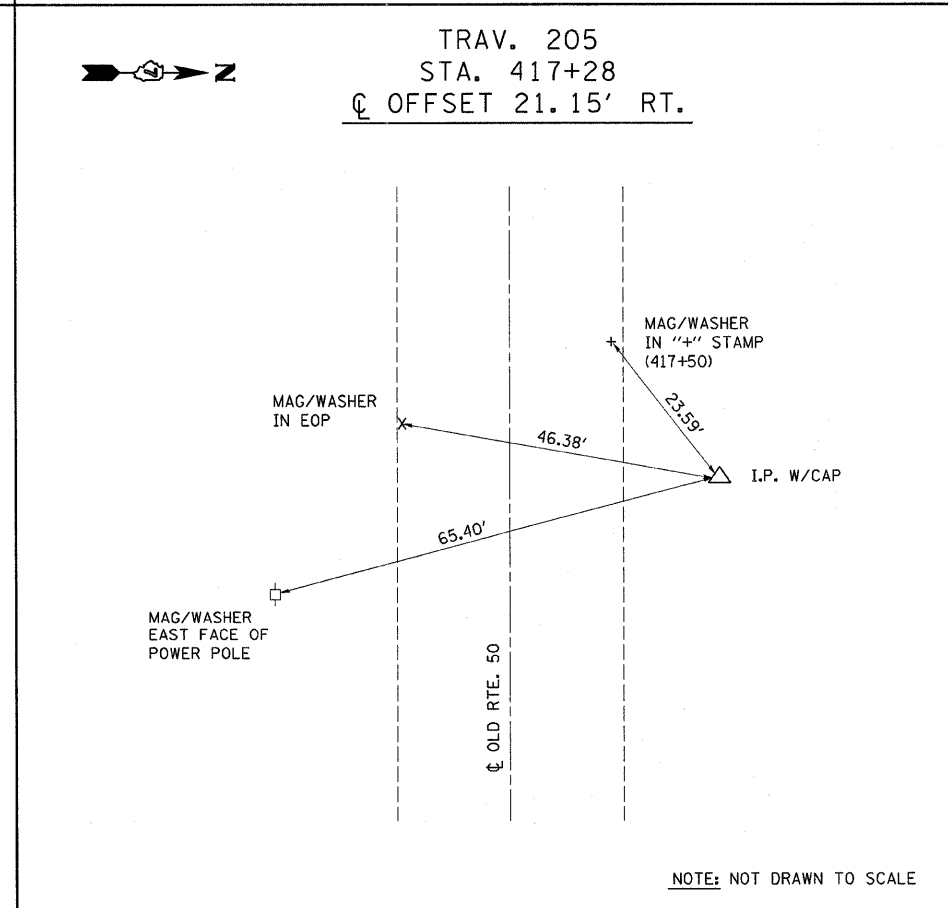
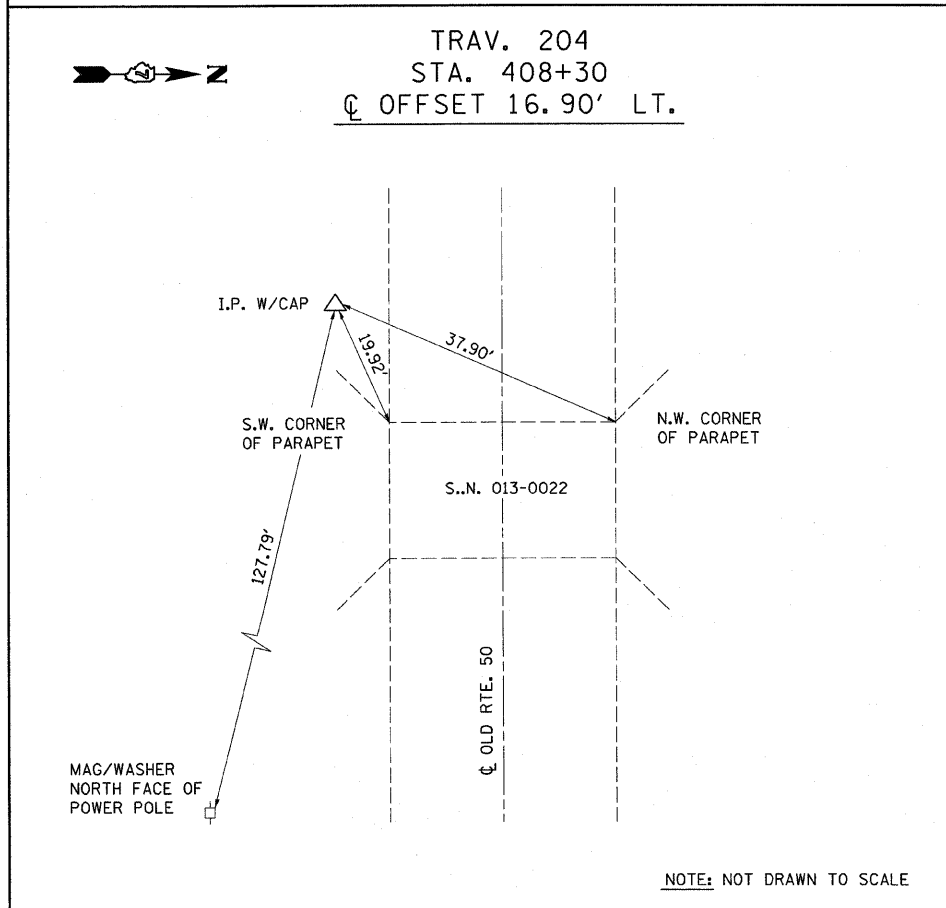
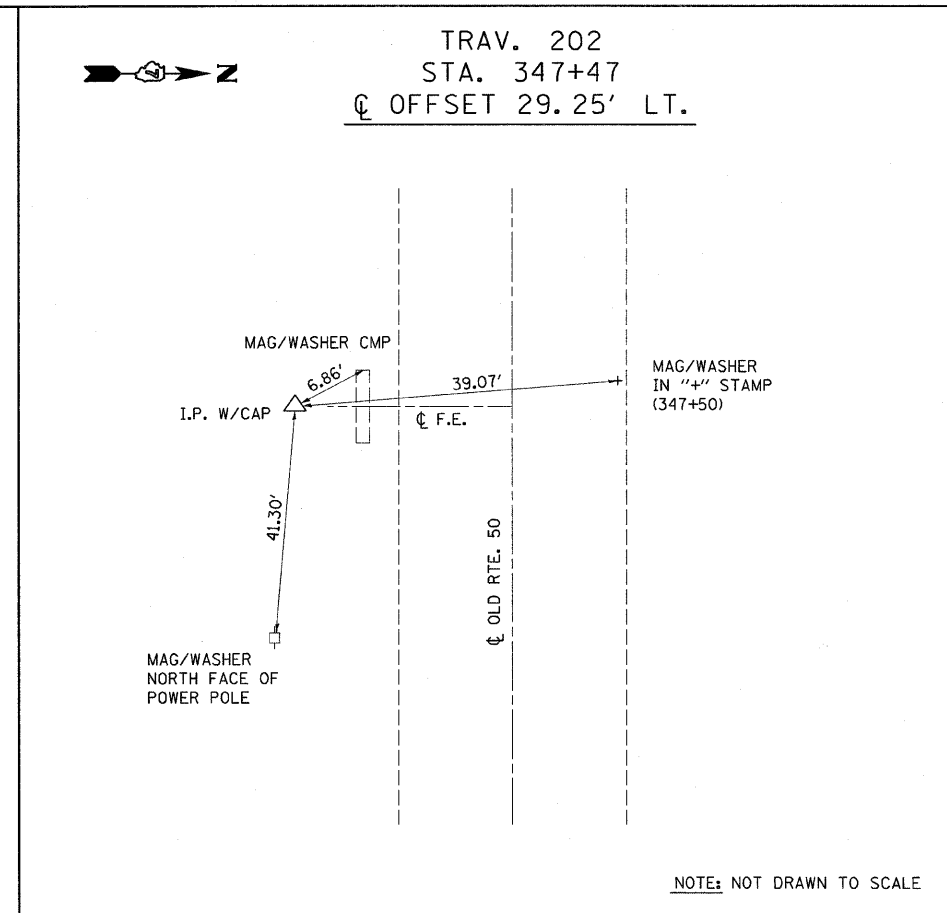
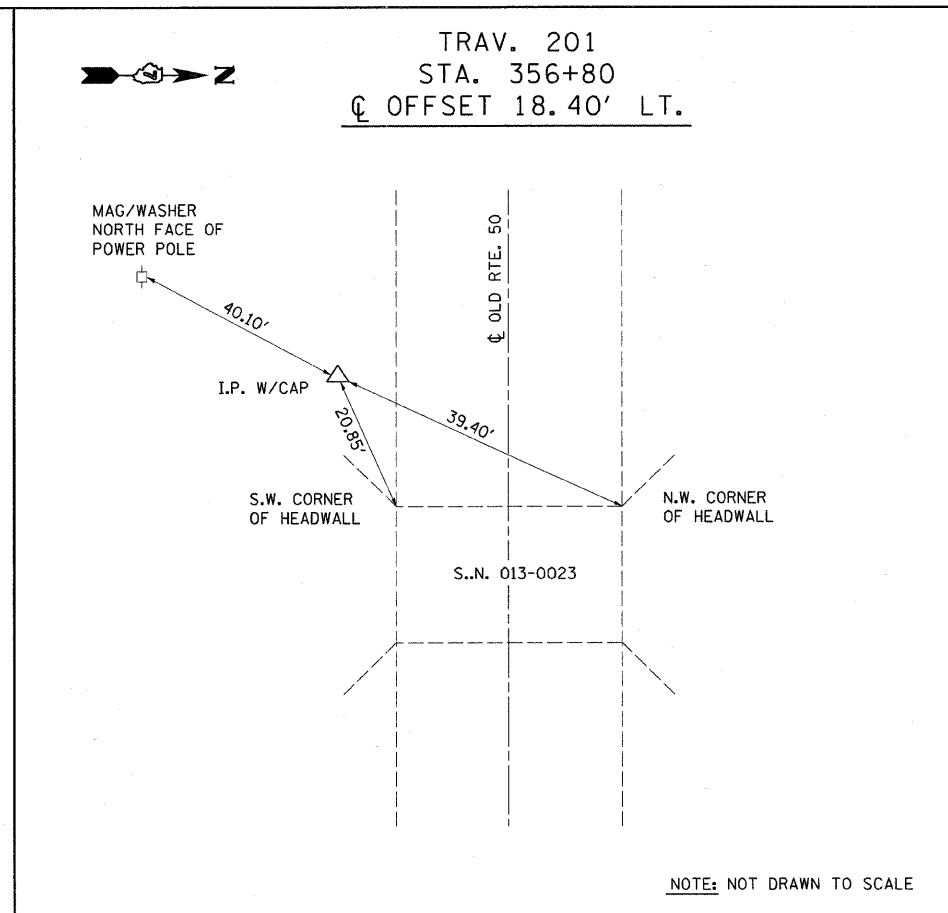
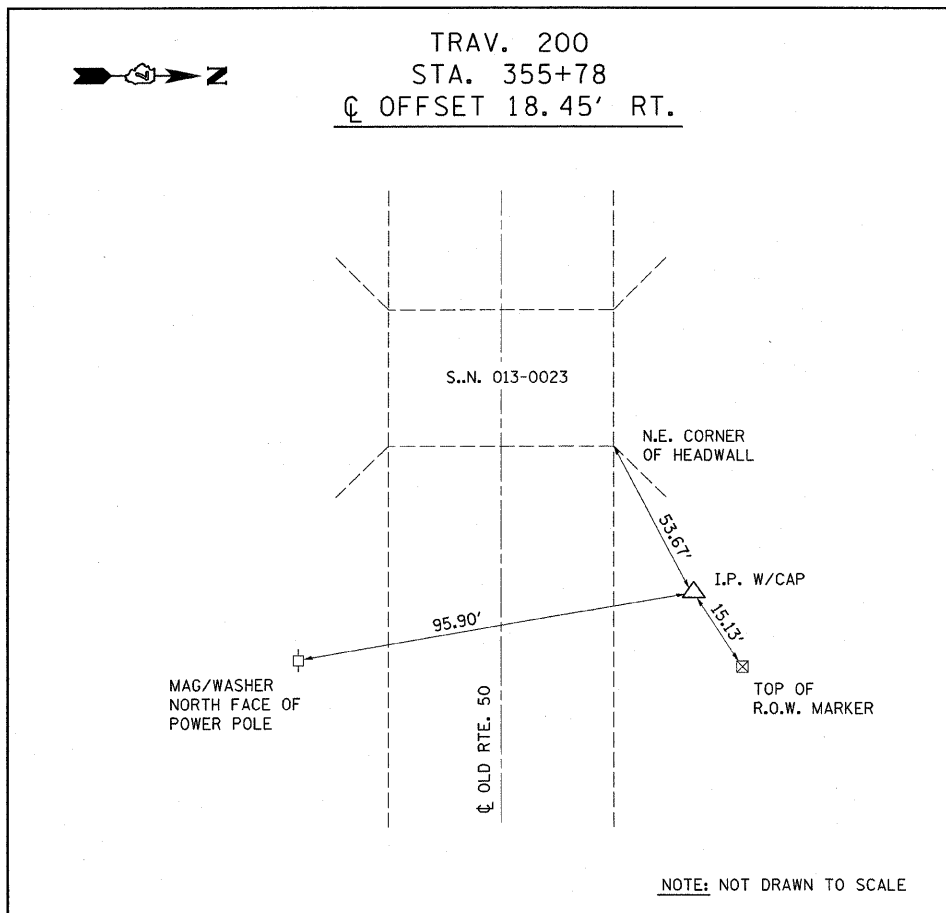


NOTES:

1. MILLING SHALL BE DONE TO ATTAIN A $\frac{3}{16}$ "/' SLOPE IN CROWN SECTIONS
2. EXISTING S.E. AND S.E. TRANSITIONS SHALL BE MAINTAINED UNLESS OTHERWISE SHOWN ON THE PLANS.
3. MILLING TO THE BOTTOM OF WHEEL RUTS SHALL NOT BE NECESSARY UNLESS REQUIRED TO OBTAIN SLOPE OR THE DESIGN DEPTH AT CENTERLINE.
4. THE AVERAGE DEPTH OF MILLING IS ESTIMATED TO BE $\frac{1}{2}$ " BUT MAY VARY IN ISOLATED LOCATIONS.

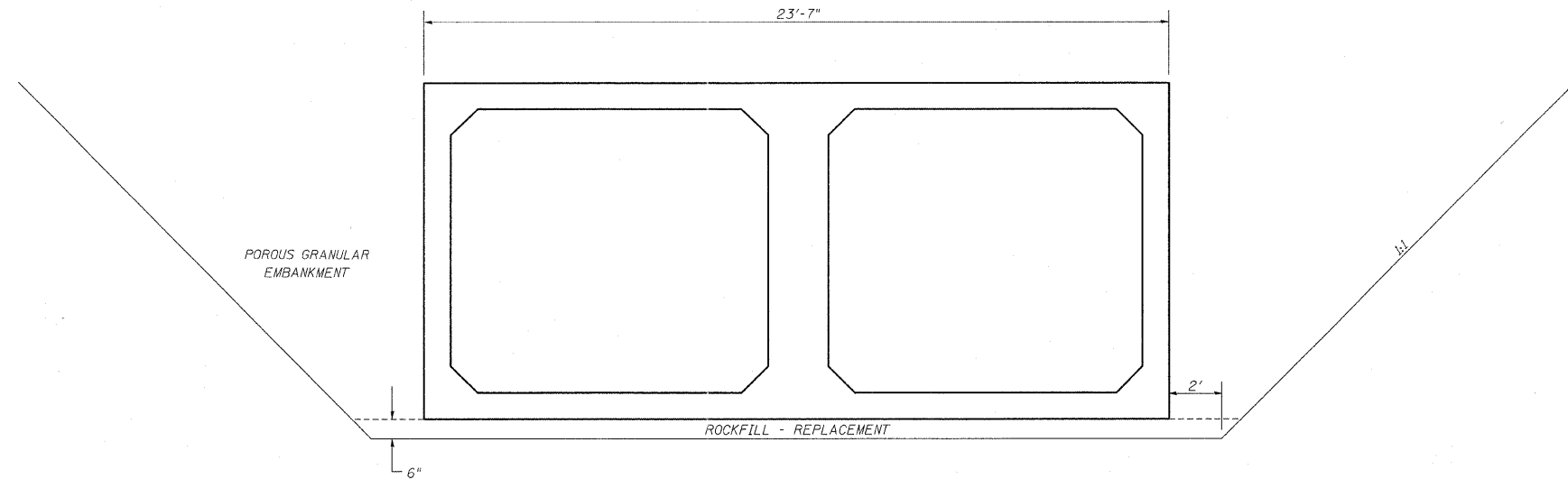
HOT-MIX ASPHALT SURFACE REMOVAL (VARIABLE DEPTH) DETAIL

FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOB DETAILS			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pw\work\pwidot\swartzw\d0121944\d774	14-shit-details.dgn	DRAWN -	REVISED -		S.N. 013-2013 BRUSH CREEK			2704	12B-1(1) & 12B-1(2)	CLAY	39	7	
	PLOT SCALE = 20.0000' / IN.	CHECKED -	REVISED -		SCALE: NA	SHEET NO. 1	OF 1 SHEETS	STA.					CONTRACT NO. 74116
	PLOT DATE = 2/3/2011	DATE -	REVISED -					TO STA.					ILLINOIS FED. AID PROJECT



BENCHMARKS

BENCHMARK	ELEVATION	STATION	OFFSET	DESCRIPTION
100	512.53	354+90	28.5' LT	RR SPIKE IN PP S SIDE OF OLD 50
101	550.30	359+73	27.7' LT	RR SPIKE IN PP S SIDE OF OLD 50
102	550.62	396+87	28.5' LT	RR SPIKE IN PP S SIDE OF OLD 50
103	533.87	409+55	27.5' LT	RR SPIKE IN PP S SIDE OF OLD 50
104	558.35	427+05	23.0' LT	CHSL SQUARE NE CORNER CULV HEADWALL



EXCAVATION DETAIL

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU. YD.	EXCAVATION TO BE USED IN EMBANKMENT ADJUSTED FOR SHRINKAGE CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE WASTE (+) SHORTAGE (-) CU. YD.
STA 406+00 TO 410+00	1044	783		783
STA 406+00 TO 410+00			316	-316
EXCAVATION FOR BOX	349	262		262
TOTALS	1393	1045	316	729

PCC PAVEMENT 10"

STA 407+73 TO 408+23	133 S. Y.
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AGGREGATE SHOULDERS, TYPE B 6"

STA 406+00 TO 410+00	533 S. Y.
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SEEDING, CLASS 2 (SPECIAL)

STA 406+00 TO 410+00	0.7 ACRE
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PAINT PAVEMENT MARKING - LINE 4"

STA 406+00 TO 410+00 EDGE LINES	800
STA 406+00 TO 410+00 DASHES	100
TOTAL	900

TREE REMOVAL (6-15 UNITS DIAMETER)

RT STA 406+75 TO 407+75	167 UNITS
-------------------------	-----------

TREE REMOVAL (OVER 15 UNITS DIAMETER)

RT STA 406+80 TO 407+75	75 UNITS
-------------------------	----------

PAVEMENT FABRIC

STA 407+73 TO 408+23	133 S. Y.
----------------------	-----------

RESURFACING SCHEDULE													
STATION TO STATION	LENGTH	AVERAGE PAVEMENT WIDTH	AREA	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90	AGGREGATE SHOULDERS, TYPE B 6"	PAVEMENT REMOVAL	HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) 14"	TEMPORARY RAMP
	FOOT	FOOT	SQ YD	SQ YD	SQ YD	GALLON	TON	TON	TON	SQ YD	SQ YD	SQ YD	SQ YD
333+85.00 TO 334+90.00	105.0	22.0	256.7	0.0	256.7	25.7	0.5	21.6	0.0	140.0	0.0	0.0	12.2
334+90.00 TO 336+16.00	126.0	22.0	308.0	308.0	0.0	30.8	0.6	25.9	100.3	168.0	0.0	0.0	0.0
336+16.00 TO 336+31.00	15.0	22.0	36.7	0.0	0.0	3.7	0.1	0.0	0.0	20.0	36.7	36.7	0.0
336+31.00 TO 336+32.75	1.8	22.0	4.3	0.0	0.0	0.4	0.0	0.0	0.0	2.3	0.0	4.3	0.0
336+32.75 TO 336+59.25	26.5	48.0	141.3	0.0	0.0	6.5	0.1	11.9	130.4	0.0	0.0	0.0	0.0
336+59.25 TO 336+61.00	1.8	22.0	4.3	0.0	0.0	0.4	0.0	0.0	0.0	2.3	0.0	4.3	0.0
336+61.00 TO 336+76.00	15.0	22.0	36.7	0.0	0.0	3.7	0.1	0.0	0.0	20.0	36.7	36.7	0.0
336+76.00 TO 338+65.00	189.0	22.0	462.0	462.0	0.0	46.2	0.9	38.8	188.0	252.0	0.0	0.0	0.0
338+65.00 TO 339+10.00	45.0	22.0	110.0	0.0	110.0	11.0	0.2	9.2	0.0	60.0	0.0	0.0	12.2
TOTALS				770.0	367.0	128.0	3.0	107.0	419.0	665.0	73.0	82.0	24.0

TREE REMOVAL SCHEDULE		
SN 013-2013	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	TREE REMOVAL (OVER 15 UNITS DIAMETER)
	UNIT	UNIT
NE QUAD	24	86
NW QUAD	90	40
SE QUAD	9	
SW QUAD	6	
TOTALS	129	126

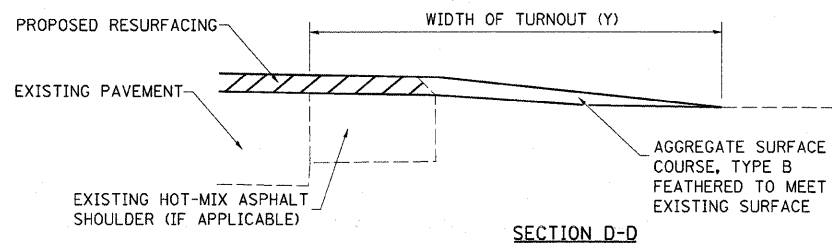
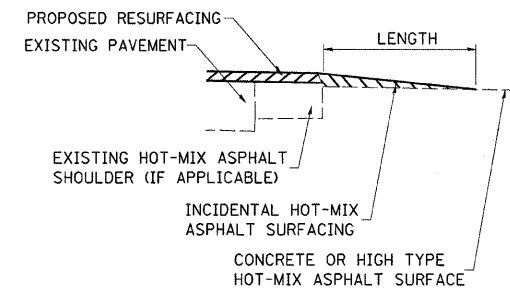
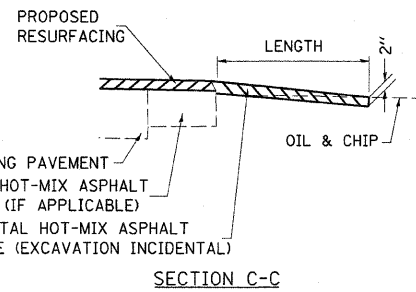
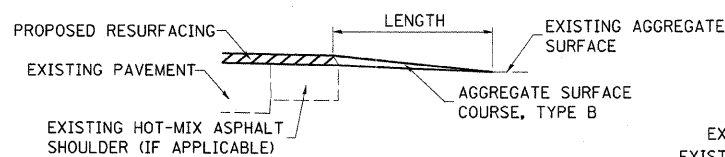
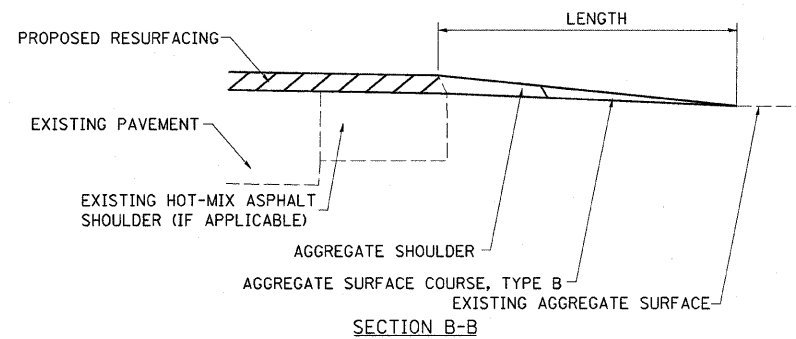
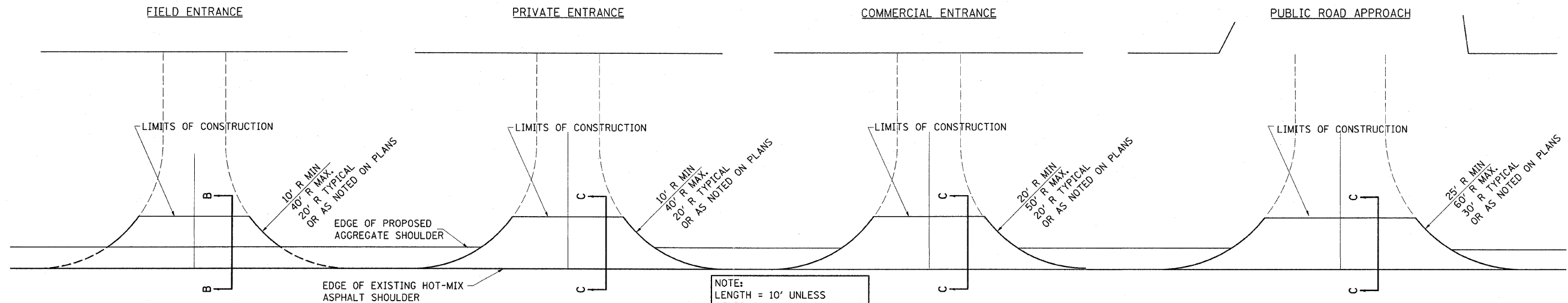
PAVEMENT MARKING SCHEDULE							
STATION TO STATION	LENGTH	PAINT PAVEMENT MARKING - LINE 4" (WHITE)	PAINT PAVEMENT MARKING - LINE 4" (YELLOW)	TEMPORARY PAVEMENT MARKING - LINE 4"	SHORT-TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER
	FOOT	FOOT	FOOT	FOOT	FOOT	SQ FT	SQ FT
333+85.00 TO 336+32.75	247.8	495.5	61.9	557.4	72.0	8.0	4.0
336+32.75 TO 336+59.25	26.5	53.0	6.6	59.6	12.0	1.3	1.0
336+59.25 TO 339+10.00	250.8	501.5	62.7	564.2	72.0	8.0	4.0
TOTALS		1050.0	131.0	1181.0	156.0	17.0	9.0

GUARDRAIL SCHEDULE	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	GUARDRAIL REMOVAL	TERMINAL MARKERS - DIRECT APPLIED	GUARDRAIL MARKERS, TYPE A
	LOCATION	EACH	FOOT	FOOT	FOOT	EACH
NE CORNER	1.0		200.0		1.0	
SE CORNER	1.0		87.5		1.0	
NORTH SIDE OF CULVERT		25.0		376.0		6.0
SOUTH SIDE OF CULVERT		25.0		377.0		5.0
NW CORNER	1.0		150.0		1.0	
SW CORNER	1.0		200.0		1.0	
TOTALS=	4.0	50.0	637.5	753.0	4.0	11.0

SEEDING SCHEDULE	SEEDING, CLASS 2 (SPECIAL)	TEMPORARY EROSION CONTROL SEEDING	NITROGEN FERTILIZER NURTIENT*	PHOSPHORUS FERTILIZER NURTIENT*	POTASSIUM FERTILIZER NURTIENT*	MULCH, METHOD 2*	AGRICULTURAL GROUND LIMESTONE*
	STATION TO STATION	ACRE	POUND	POUND	POUND	ACRE	TON
333+85.0 TO 334+00.0	0.02	2.00	1.80	1.80	1.80	0.02	0.04
334+00.0 TO 334+50.0	0.04	4.00	3.60	3.60	3.60	0.03	0.08
334+50.0 TO 335+00.0	0.05	5.00	4.50	4.50	4.50	0.01	0.10
335+00.0 TO 335+50.0	0.04	4.00	3.60	3.60	3.60	0.02	0.08
335+50.0 TO 336+00.0	0.04	4.00	3.60	3.60	3.60	0.04	0.08
336+00.0 TO 336+32.8	0.03	3.00	2.70	2.70	2.70	0.04	0.06
336+59.3 TO 337+00.0	0.03	3.00	2.70	2.70	2.70	0.05	0.06
337+00.0 TO 337+50.0	0.03	3.00	2.70	2.70	2.70	0.05	0.06
337+50.0 TO 338+00.0	0.05	5.00	4.50	4.50	4.50	0.04	0.10
338+00.0 TO 338+50.0	0.05	5.00	4.50	4.50	4.50	0.03	0.10
338+50.0 TO 339+00.0	0.04	4.00	3.60	3.60	3.60	0.03	0.08
339+00.0 TO 339+10.0	0.01	1.00	0.90	0.90	0.90	0.01	0.02
TOTAL =	0.40	43.00	39.00	39.00	39.00	0.40	0.90

* QUANTITY FOR INFO ONLY.
INCLUDED IN THE COST OF SEEDING, CLASS 2 (SPECIAL)

EARTHWORK SCHEDULE	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EARTH FILL	EARTHWORK BALANCE, WASTE (+) OR SHORTAGE (-)
	LOCATION	CU YD	CU YD	CU YD
333+50.00 TO 334+00.00	19.4	14.5	3.8	10.8
334+00.00 TO 334+50.00	61.8	46.3	6.8	39.5
334+50.00 TO 335+00.00	99.2	74.4	8.1	66.3
335+00.00 TO 335+50.00	73.1	54.8	57.6	-2.8
335+50.00 TO 336+00.00	17.7	13.3	140.0	-126.8
336+00.00 TO 336+32.75	1.8	1.3	114.6	-113.3
CULVERT EXCAVATION (E. SIDE)	113.6	85.2	0.0	85.2
CULVERT EXCAVATION (W. SIDE)	113.6	85.2	0.0	85.2
336+59.25 TO 337+00.00	5.7	4.2	136.2	-131.9
337+00.00 TO 337+50.00	3.5	2.6	146.8	-144.1
337+50.00 TO 338+00.00	0.4	0.3	116.1	-115.8
338+00.00 TO 338+50.00	2.3	1.7	87.5	-85.8
338+50.00 TO 339+00.00	6.9	5.2	58.7	-53.5
339+00.00 TO 339+50.00	5.0	3.7	24.0	-20.3
TOTALS =	524.0	393.0	900.0	-507.0



TYPICAL SECTION AT MAILBOX TURNOUT

NOTE: SEE STANDARD 406201 FOR MAILBOX TURNOUT DETAILS

NOTES

THE COST OF THE ASPHALT MATERIALS, AND AGGREGATE (PRIME COAT) FOR ENTRANCES AND PUBLIC ROADS AND APPROACHES SHALL BE INCLUDED IN THE PAY ITEM INCIDENTAL HOT-MIX ASPHALT SURFACING.

THE COST OF EXCAVATION IS INCLUDED IN THE PAY ITEM INCIDENTAL HOT-MIX ASPHALT SURFACING.

IF THERE IS NOT EXISTING HOT-MIX ASPHALT SHOULDER THEN THE ENTRANCE TAPER STARTS AT THE EDGE OF EXISTING PAVEMENT.

THE COST OF THE BITUMINOUS MATERIALS AND AGGREGATE (PRIME COAT) FOR ENTRANCES AND PUBLIC ROAD APPROACHES SHALL BE INCLUDED IN THE PAY ITEM INCIDENTAL HOT-MIX ASPHALT SURFACING.

SIDE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING		TYPE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING		TYPE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING		TYPE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING	
			TON	TON				TON	TON				TON	TON				TON	TON
LT	334+75	FE		1.6															

FE=FIELD ENTRANCE PRA - PUBLIC ROAD APPROACH
 PE=PRIVATE ENTRANCE MBT - MAILBOX TURNOUT
 CE=COMMERCIAL ENTRANCE

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	PLOT DATE = 2/3/2011	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

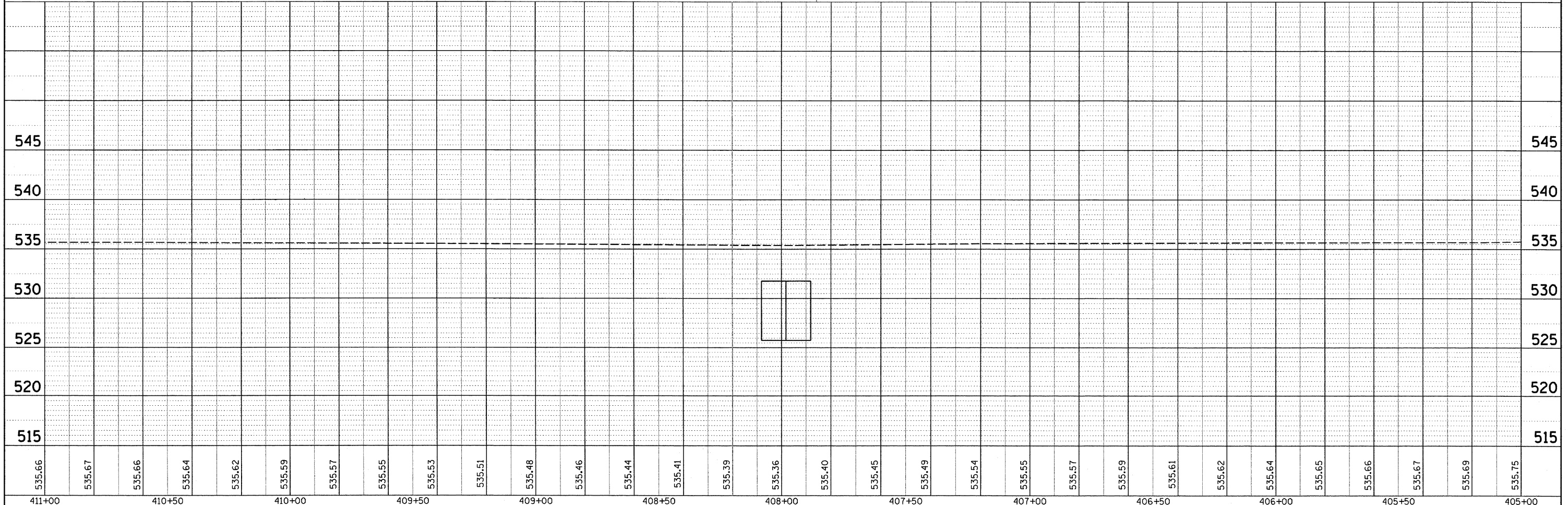
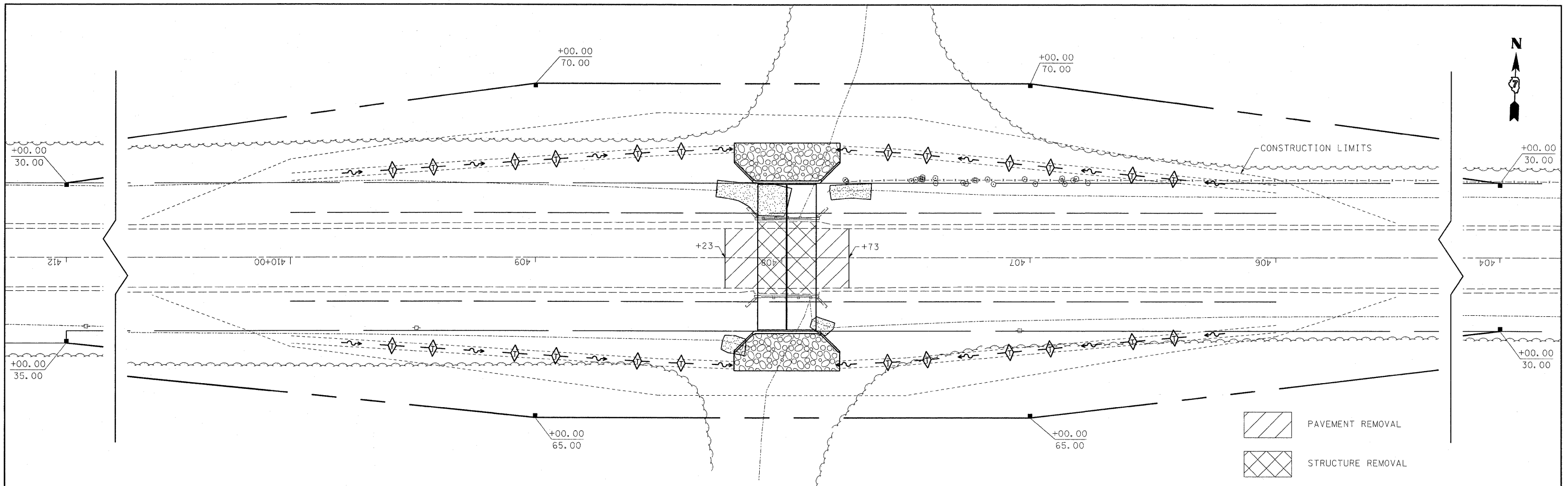
**RURAL ENTRANCE SCHEDULE AND MAILBOX TURNOUT DETAILS
WITH SHOULDERS**

SCALE: NA SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-(1) & 12B-(2)	CLAY	39	12
CONTRACT NO. 74116				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



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BY	
SURVEYED	
PLOTTED	
ALIGNMENT CHECKED	
NOTED	
NOTE BOOK NO.	
CADD FILE NAME	

PROFILE	DATE
BY	
SURVEYED	
PLOTTED	
GRADES CHECKED	
NOTED	
NOTE BOOK NO.	
STRUCTURE NOTATIONS CHD	

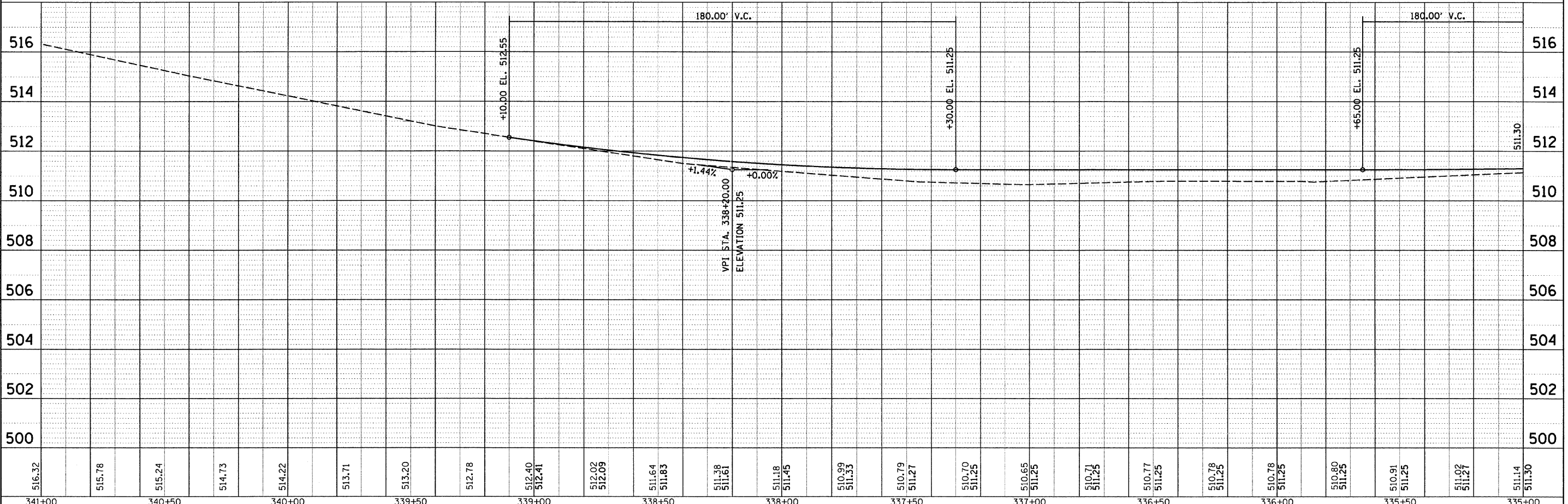
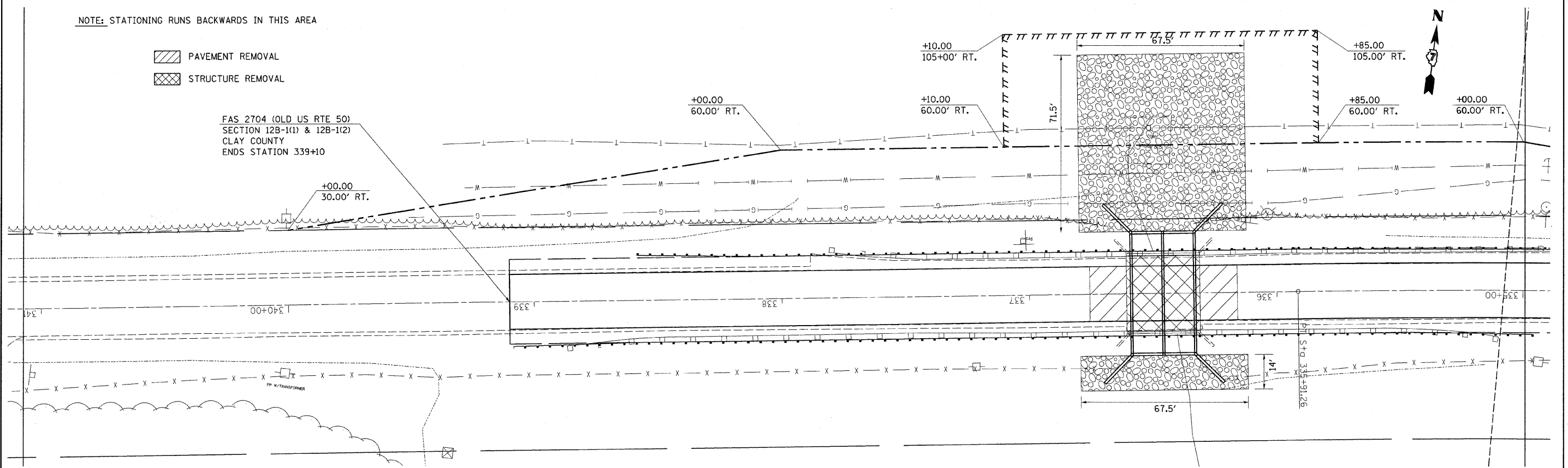


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PLOT SCALE = 28.0000' / IN.		CHECKED -	REVISED -		SCALE: 20		SHEET NO. 1 OF 1 SHEETS		CONTRACT NO. 74116		
PLOT DATE = 2/3/2011		DATE -	REVISED -		STA. TO STA.		ILLINOIS FED. AID PROJECT				

NOTE: STATIONING RUNS BACKWARDS IN THIS AREA

-  PAVEMENT REMOVAL
-  STRUCTURE REMOVAL

FAS 2704 (OLD US RTE 50)
SECTION 12B-1(1) & 12B-1(2)
CLAY COUNTY
ENDS STATION 339+10



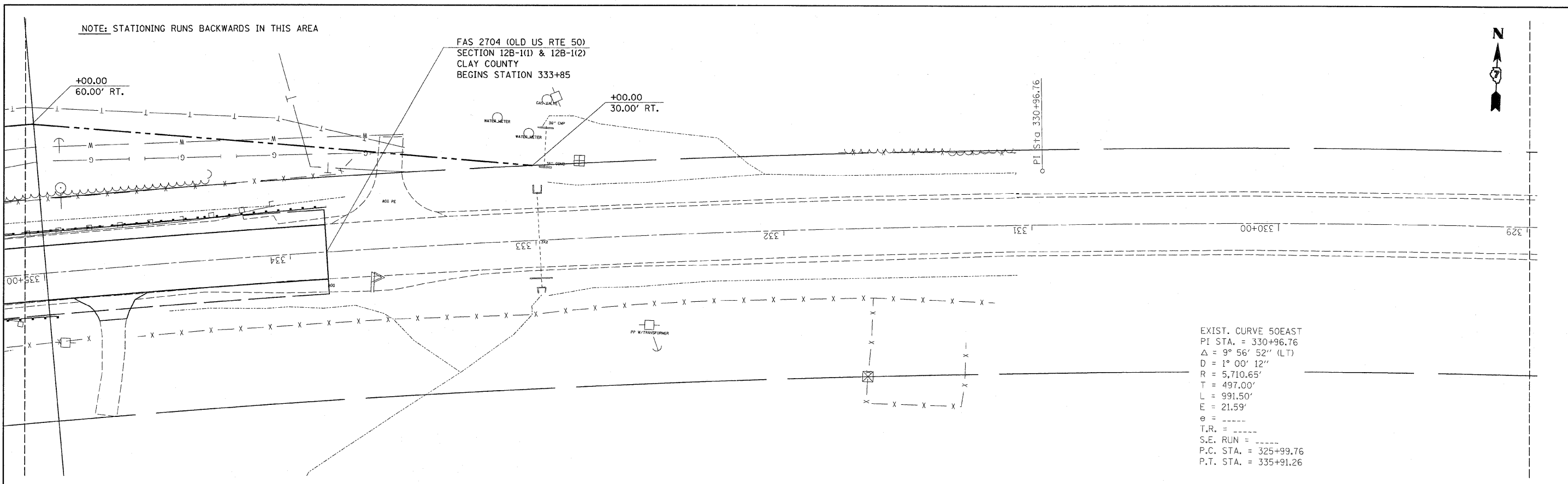
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	BY	
	PLOTTED	
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	DATE	
	FILE NAME	

PROFILE	SURVEYED	DATE
	BY	
	PLOTTED	
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	DATE	
	FILE NAME	

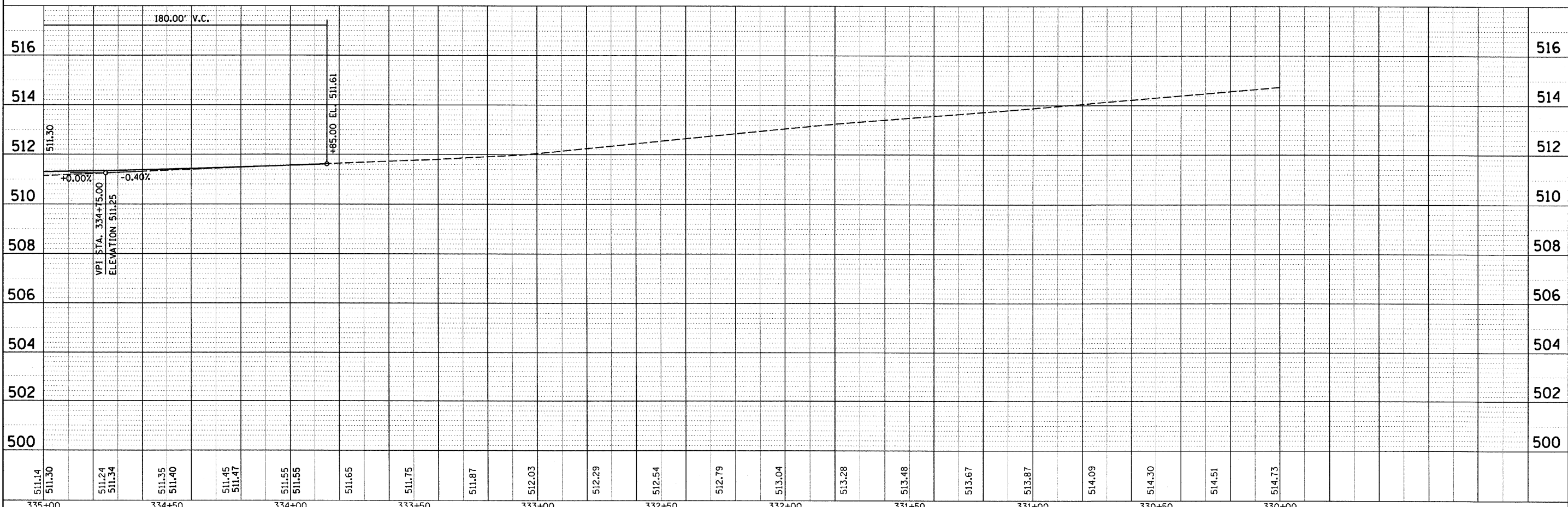
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PLOT SCALE = 20.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74116				
PLOT DATE = 2/3/2011		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
				SCALE: 20	SHEET NO. 1 OF 2 SHEETS	STA. 335+00	TO STA. 341+00			

PLAN SURVEYED BY DATE
 ALIGNED CHECKED
 RT. OF WAY CHECKED
 NO. ROAD FILE NAME

PROFILE SURVEYED BY DATE
 GRADES CHECKED
 B.M. NOTED
 STRUCTURE NOTATIONS CIRCLED
 NO.



EXIST. CURVE 50EAST
 PI STA. = 330+96.76
 $\Delta = 9^\circ 56' 52''$ (LT)
 $D = 1^\circ 00' 12''$
 $R = 5,710.65'$
 $T = 497.00'$
 $L = 991.50'$
 $E = 21.59'$
 $e = \text{---}$
 $T.R. = \text{---}$
 $S.E. RUN = \text{---}$
 P.C. STA. = 325+99.76
 P.T. STA. = 335+91.26



511.14 511.30	511.24 511.34	511.35 511.40	511.45 511.47	511.65 511.55	511.65	511.75	511.87	512.03	512.29	512.54	512.79	513.04	513.28	513.48	513.67	513.87	514.09	514.30	514.51	514.73
335+00	334+50	334+00	333+50	333+00	332+50	332+00	331+50	331+00	330+50	330+00										

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USER NAME = swartzr
 DRAWN -
 CHECKED -
 DATE -

DESIGNED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN PROFILE
 S.N. 013-2013 BRUSH CREEK

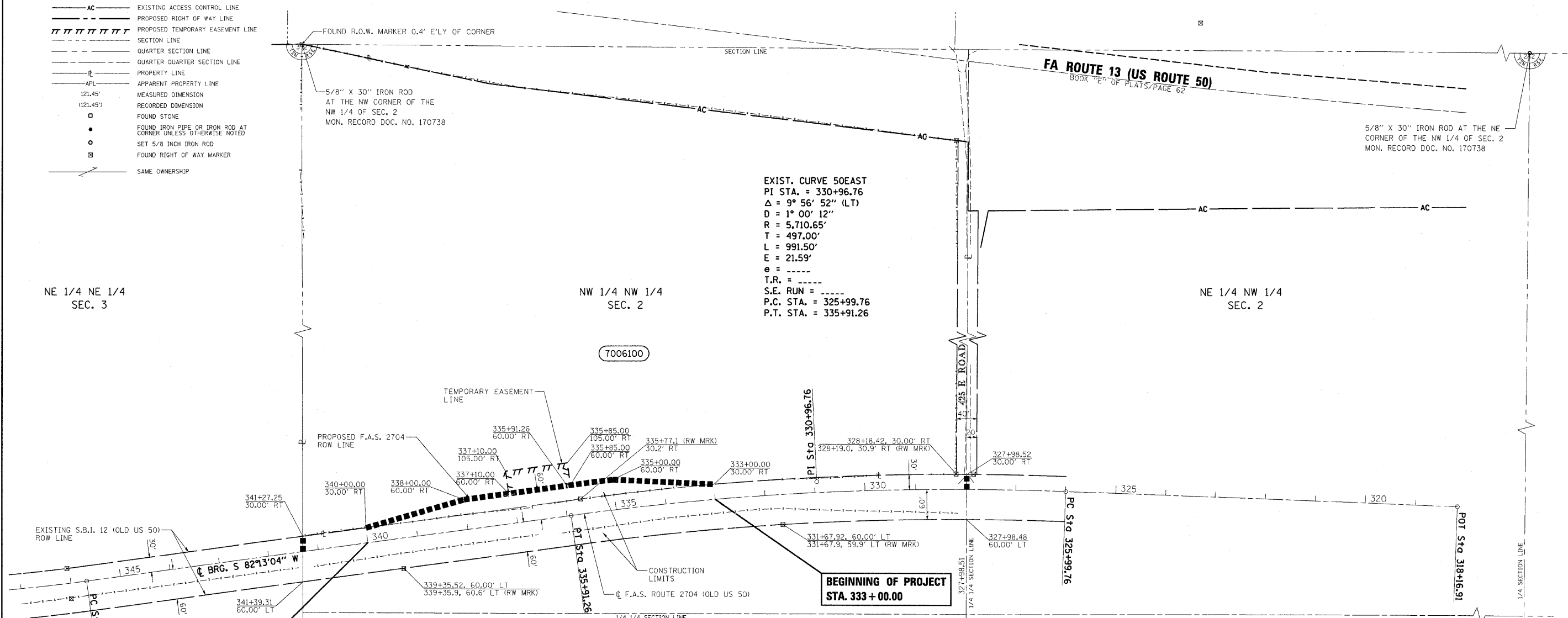
SCALE: 20 SHEET NO. 2 OF 2 SHEETS STA. 329+00 TO STA. 335+00

F.A.S. RTE. 2704	SECTION 12B-1(1) & 12B-1(2)	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 15
CONTRACT NO. 74116			ILLINOIS FED. AID PROJECT	

T.2N.-R.5E., 3rd P.M., XENIA TWP., CLAY COUNTY, IL

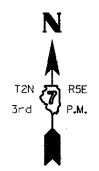
LEGEND

- EXISTING CENTERLINE
- EXISTING RIGHT OF WAY LINE
- AC EXISTING ACCESS CONTROL LINE
- PROPOSED RIGHT OF WAY LINE
- ||||| PROPOSED TEMPORARY EASEMENT LINE
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER QUARTER SECTION LINE
- PROPERTY LINE
- APL APPARENT PROPERTY LINE
- 121.45' MEASURED DIMENSION
- (121.45') RECORDED DIMENSION
- FOUND STONE
- FOUND IRON PIPE OR IRON ROD AT CORNER UNLESS OTHERWISE NOTED
- SET 5/8 INCH IRON ROD
- ⊠ FOUND RIGHT OF WAY MARKER
- SAME OWNERSHIP

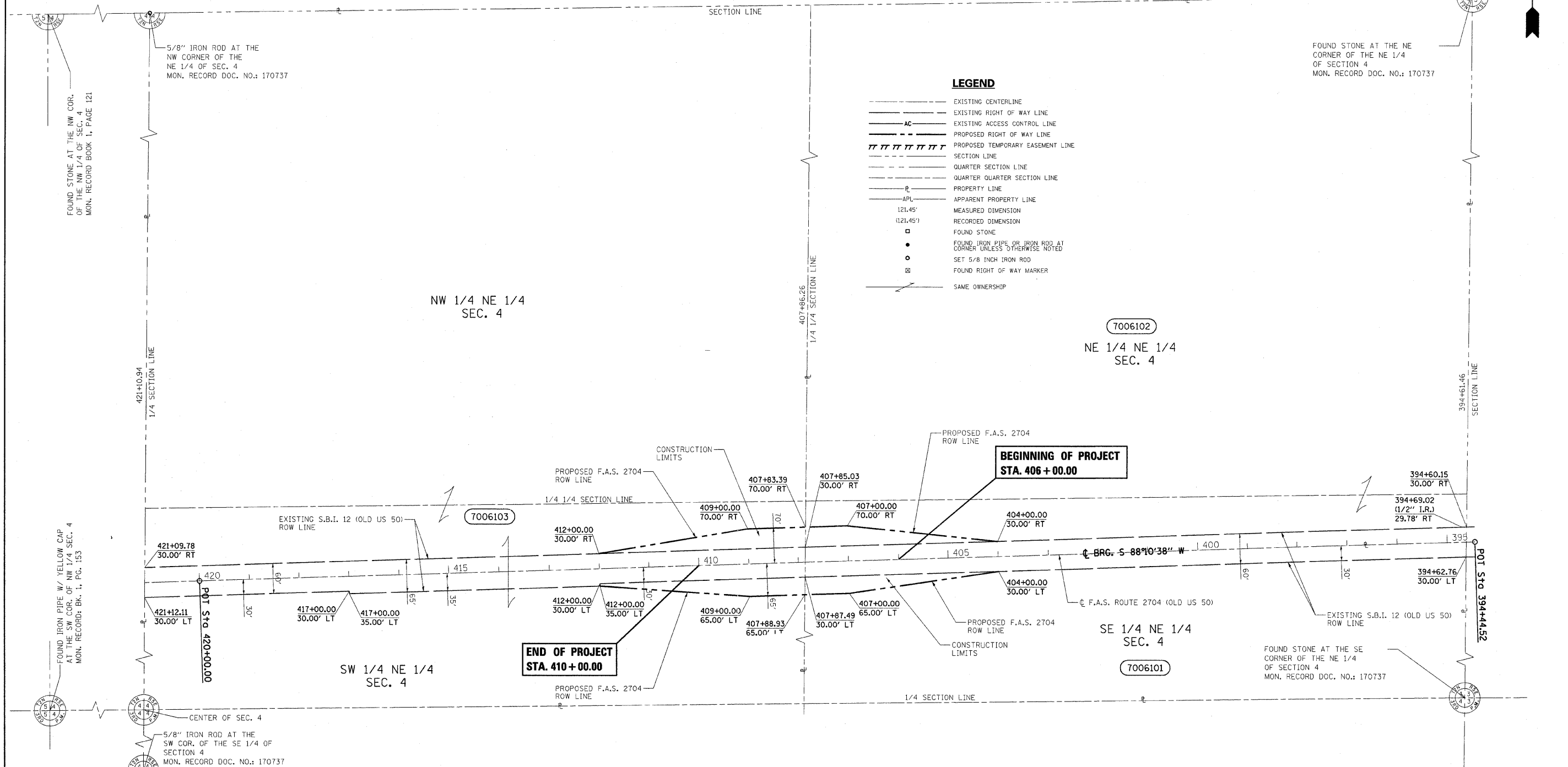
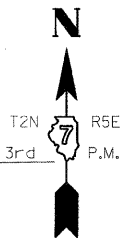


PARCEL	OWNER	AREA TAKEN		EASEMENT	AREA REM	INST	RECORDED			EXCESS		
		ADD	EXIST				MICRO FILM NO	DATE	BOOK	PAGE	AREA	SOLD
7006100	A LIFE ESTATE IN EUNICE SHARAR, REMAINDER INTEREST IN TONY E. SHARAR AND JOAN M. SHARAR, AS JOINT TENANTS.	0.343 AC±	0.918 AC±	0.129 AC±	30.76 AC±							

NOTE:
 BEARINGS ARE REFERENCED TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE DATUM OF 1983.
 TEMPORARY EASEMENT REQUIRED TO REMOVE OLD CONCRETE BRIDGE AND AS A WORK AREA.



T.2N.-R.5E., 3rd P.M., XENIA TWP., CLAY COUNTY, IL



LEGEND

- EXISTING CENTERLINE
- AC --- EXISTING RIGHT OF WAY LINE
- EXISTING ACCESS CONTROL LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED TEMPORARY EASEMENT LINE
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER QUARTER SECTION LINE
- PROPERTY LINE
- APL --- APPARENT PROPERTY LINE
- 121.45' MEASURED DIMENSION
- (121.45') RECORDED DIMENSION
- FOUND STONE
- FOUND IRON PIPE OR IRON ROD AT CORNER UNLESS OTHERWISE NOTED
- SET 5/8 INCH IRON ROD
- ⊗ FOUND RIGHT OF WAY MARKER
- SAME OWNERSHIP

**BEGINNING OF PROJECT
STA. 406 + 00.00**

**END OF PROJECT
STA. 410 + 00.00**

PARCEL	OWNER	AREA TAKEN		EASEMENT	AREA REM	INST	RECORDED			EXCESS	
		ADD	EXIST				MICRO FILM NO	DATE	BOOK	PAGE	AREA
7006103	BRYAN R. LAND AND KENTON LAND, AS TENANTS IN COMMON	0.472 AC±	1.877 AC±		78.154 AC±						
7006102	BRYAN R. LAND AND KENTON LAND, AS TENANTS IN COMMON	0.215 AC±	0.912 AC±		42.547 AC±						
7006101	ROCHELLE SCHMIDT AS TRUSTEE UNDER DECLARATION OF TRUST DATED MARCH 12, 1992	0.191 AC±	0.913 AC±		35.854 AC±						

NOTE:
BEARINGS ARE REFERENCED TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE DATUM OF 1983.

FILE NAME: D774116-sht-rwpln3.dgn	USER NAME = swartzw	DESIGNED - IDOT D-7	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RIGHT OF WAY PLANS				F.A.S. RTE. 2704	SECTION 12B-1(I) & 12B-1(I2)	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 17
	PLOT SCALE = 100.0000' / IN.	DRAWN - AMJ	REVISED -		PROJECT	JOB NO. R-97-006-10			CONTRACT NO. 74116				
	PLOT DATE = 2/3/2011	CHECKED - JRL	REVISED -		SCALE: 1" = 100'	SHEET NO. 2 OF 2 SHEETS			STA. 406+00.00 TO STA. 410+00.00				
		DATE - 05/12/10	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								

Benchmark (B.M. 103): Railroad spike in power pole on the south side of Old U.S. Route 50. Sta. 409+55; 27.5' Lt., Elev. 533.87

Existing Structure: S.N. 013-0022 built 1924 as S.B.I. Route 12, Section 12-12B at Sta. 407+98 as a simple span reinforced concrete slab bridge, 26'-0" back to back abutments, supported on untreated timber piles. Existing bridge is to be removed and replaced with a precast double box culvert with cast-in-place end sections and sheet pile wingwalls. Traffic to be detoured during construction.

No Salvage

Permanent steel sheet piling wall with cap, typ. Minimum tip Elev. 509.00

DESIGN SCOUR ELEVATION TABLE

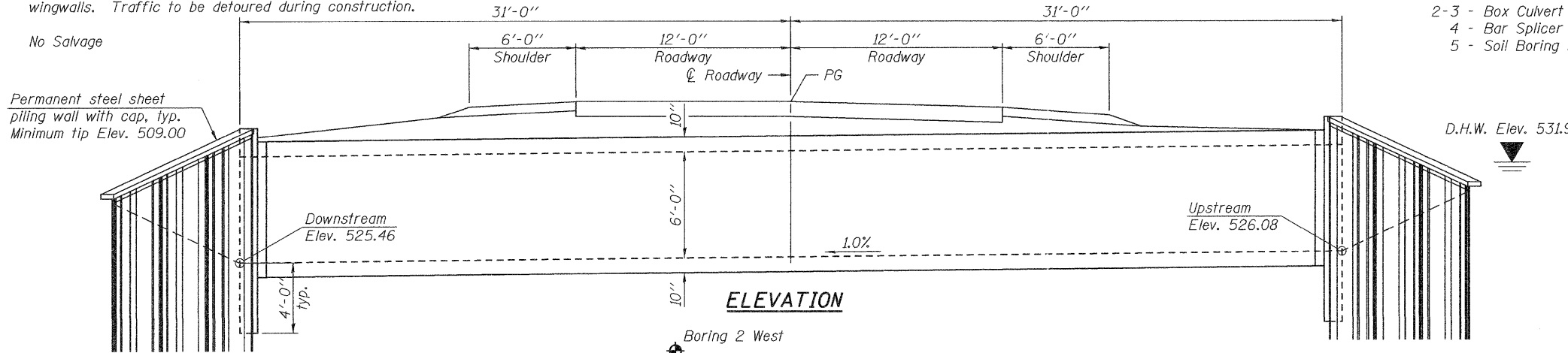
Design Scour Elevation (ft.)	Downstream	Upstream
	521.46	522.08

INDEX OF SHEETS

- 1 - General Plan & Elevation
- 2-3 - Box Culvert End Section Details
- 4 - Bar Splicer Assembly Details
- 5 - Soil Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Name Plates	Each	1
Box Culvert End Sections, Culvert No. 1	Each	2
Precast Concrete Box Culvert 10' x 6'	Foot	118.0
Stone Riprap, Class A4	Sq. yd.	124
Filter Fabric	Sq. yd.	124



DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 38,000$ psi (permanent sheet piling)
 $f_y = 50,000$ psi (AASHTO M270, Grade 50W)

PRECAST UNITS
 $f'_c = 5,000$ psi
 $f_y = 65,000$ psi (welded wire fabric)
 $f_y = 60,000$ psi (Reinforcement)

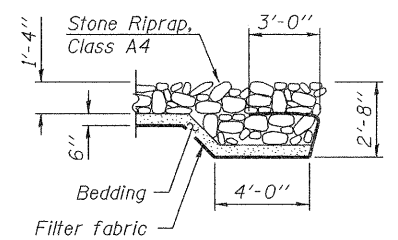
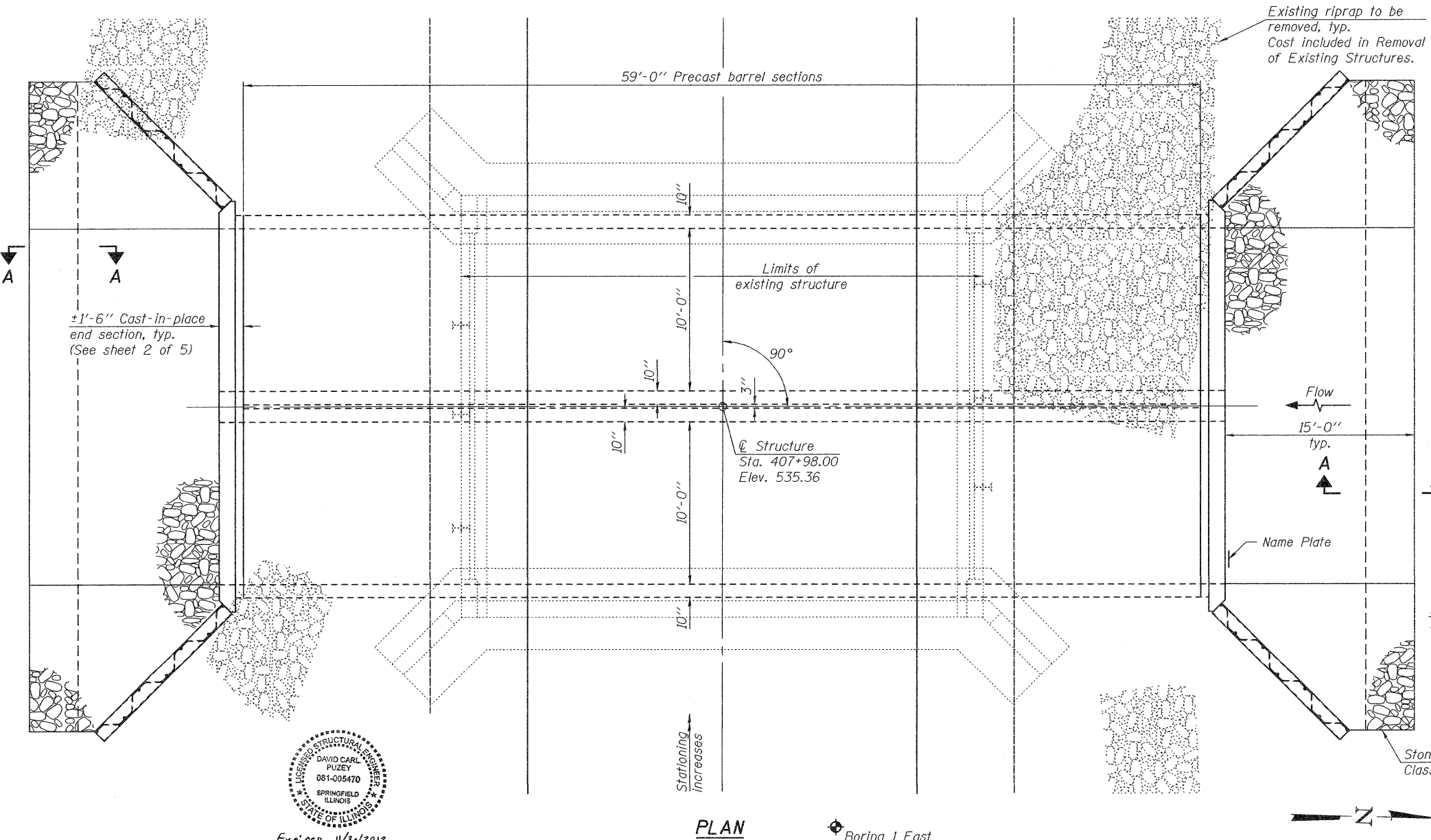
LOADING HS-20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2002 AASHTO

CULVERT CONSTRUCTION SEQUENCE

1. Remove existing structure
2. Build cutoff wall
3. Prepare bed
4. Place precast box culvert sections.
5. Form and place concrete in end section
6. Drive sheeting
7. Backfill culvert and wings
8. Install sheet pile cap

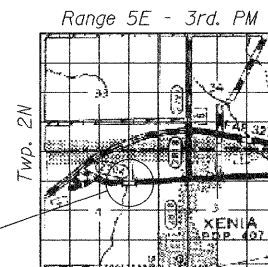


SECTION A-A

WATERWAY INFORMATION

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	391	100	106	531.3	0.3	0.0	531.6	531.3
Base	50	650	114	118	531.9	0.9	0.5	532.8	532.4
Max. Calc.	100	768	117	120	532.0	1.7	0.8	533.7	532.8

Proposed Low Grade Elev. 535.36 @ Sta. 408+00
 Existing Low Grade Elev. 535.36 @ Sta. 408+00
 10 year velocity through existing bridge = 3.9 ft./sec.
 10 year velocity through proposed culvert = 3.7 ft./sec.



LOCATION SKETCH

STATION 407+98.00
 BUILT 201 BY
 STATE OF ILLINOIS
 F.A.S. RTE. 2704 SEC. 12B-1(I)
 LOADING HS-20
 STRUCTURE NO. 013-2012

NAME PLATE
See Std. 515001

GENERAL PLAN & ELEVATION
OLD U.S. ROUTE 50 OVER NICKOLSON CREEK
F.A.S. RTE. 2704 - SEC. 12B-1(I)
CLAY COUNTY
STATION 407+98.00
STRUCTURE NO. 013-2012

DAVID CARL PUEZY
 081-005470
 SPRINGFIELD ILLINOIS
 LICENSED STRUCTURAL ENGINEER
 STATE OF ILLINOIS
 Expires 11/30/2012

DESIGNED - <i>David Puzey</i>	EXAMINED - <i>Michael B. Mossman</i>	DATE - MARCH 9, 2011
CHECKED - <i>Michael B. Mossman</i>	PASSED - <i>Michael B. Mossman</i>	
DRAWN - MICHAEL B. MOSSMAN		
CHECKED -		

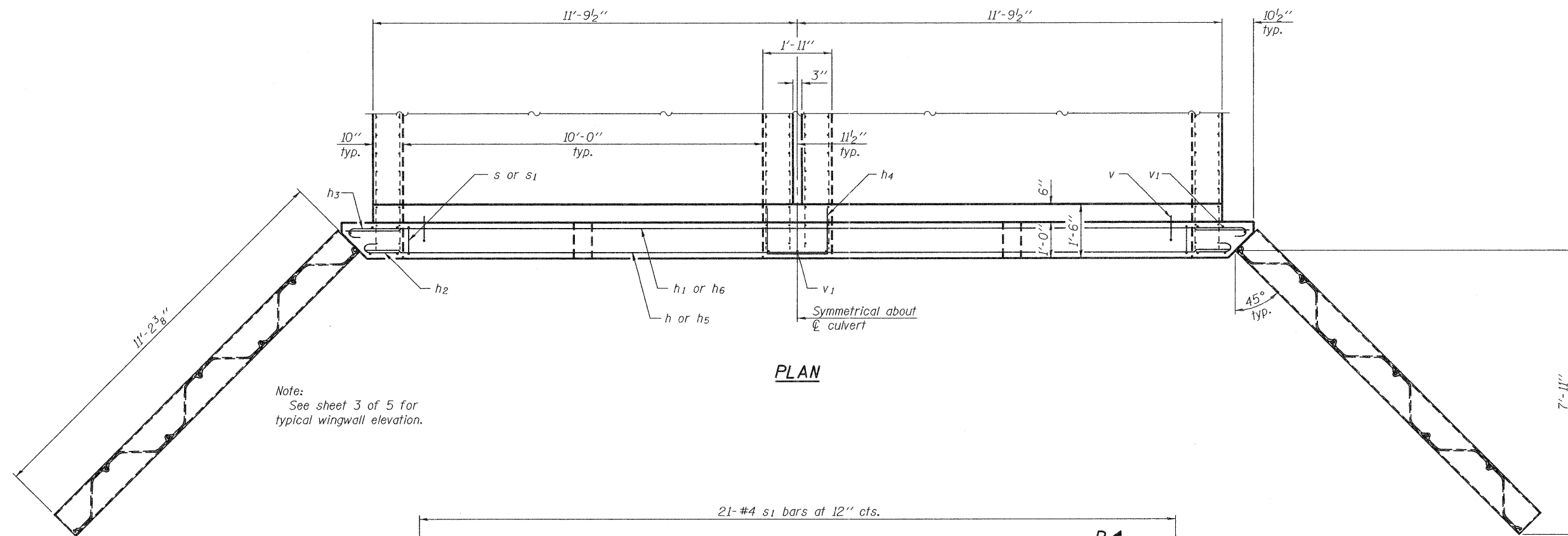
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS
 STRUCTURE NO. 013-2012

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-1(I)	CLAY	39	18

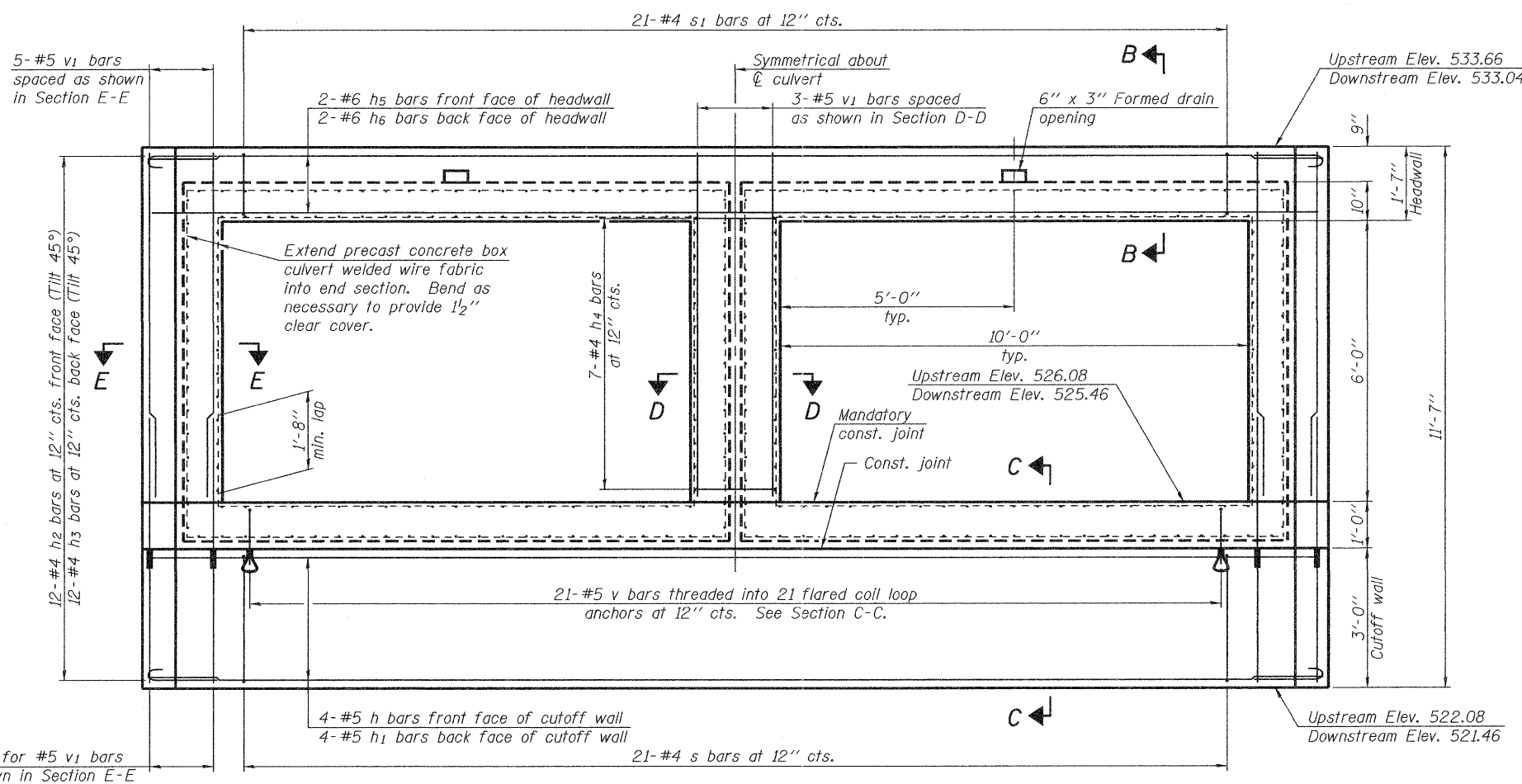
SHEET NO. 1 OF 5 SHEETS

CONTRACT NO. 74116
 ILLINOIS FED. AID PROJECT



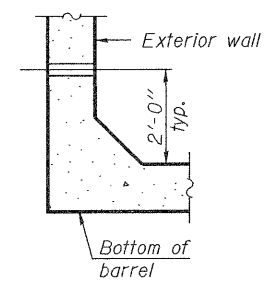
Note:
See sheet 3 of 5 for
typical wingwall elevation.

PLAN



END ELEVATION

Wingwalls omitted in this view for clarity.
See sheet 3 of 5 for additional wingwall
details.



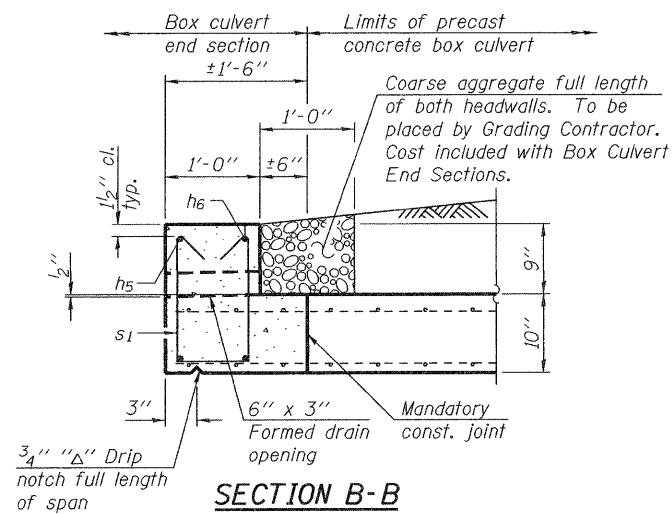
DRAIN DETAIL

Provide 3" ϕ drain holes in exterior
walls at $\pm 8'$ cts. See Article 503.11
of the Standard Specifications.

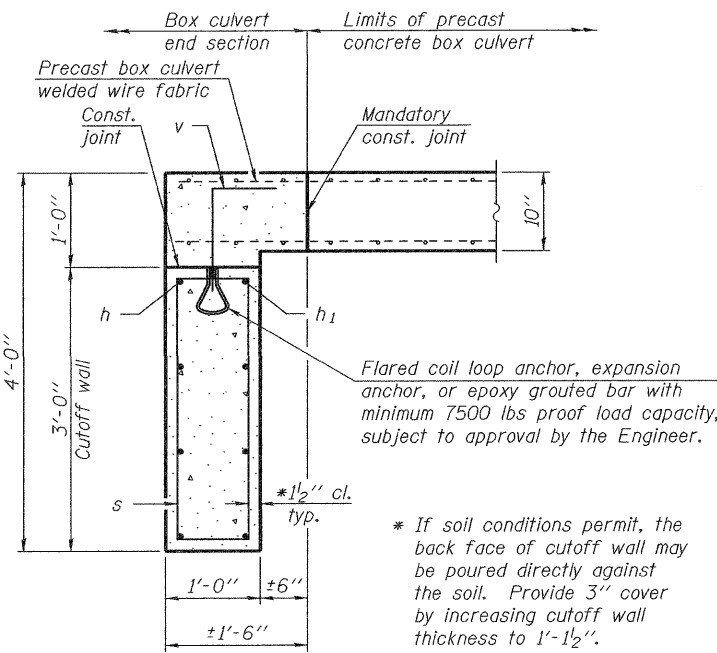
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
The design fill height for this structure is 2 feet. The precast concrete box culvert sections shall conform to the requirements of AASHTO M259.
The minimum effective section modulus of the permanent sheet pile wall shall be 15.0 in.³/ft.
The sheet pile cap shall be AASHTO M270 Grade 50W.
Fasteners shall be AASHTO M164 Type 3. Bolts 1/2" ϕ , holes 5/8" ϕ .
See sheet 1 of 5 for culvert construction sequence.
The box culvert end section shall be built in the field and a precast option is not allowed except the cutoff wall may be precast. If the Contractor elects to use a precast cutoff wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.
Areas of the precast box culvert in contact with cast-in-place concrete shall be sandblasted, cleaned, and wetted prior to placing concrete in the field according to Article 503.09(b).
The ends of the precast box sections adjacent to the end section shall be formed without the male and female shapes specified in Article 8.1 of AASHTO M259.
The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.
Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

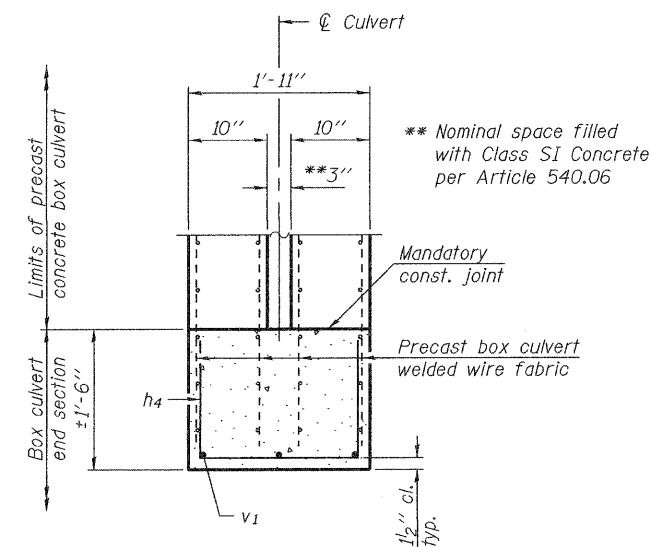
DESIGNED - DAVID L. GREIFZU	EXAMINED	DATE - MARCH 9, 2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BOX CULVERT END SECTION DETAILS STRUCTURE NO. 013-2012	F.A.S. RTE. 2704	SECTION 12B-111)	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 19	
CHECKED - MICHAEL D. ROLAPE	PASSED				CONTRACT NO. 74116					
DRAWN - MICHAEL B. MOSSMAN					ILLINOIS FED. AID PROJECT					
CHECKED - D.L.G. / M.D.R.					SHEET NO. 2 OF 5 SHEETS					



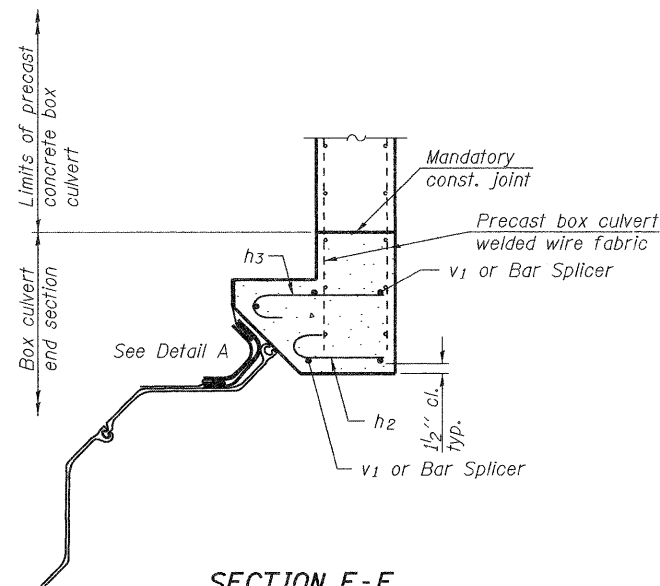
SECTION B-B



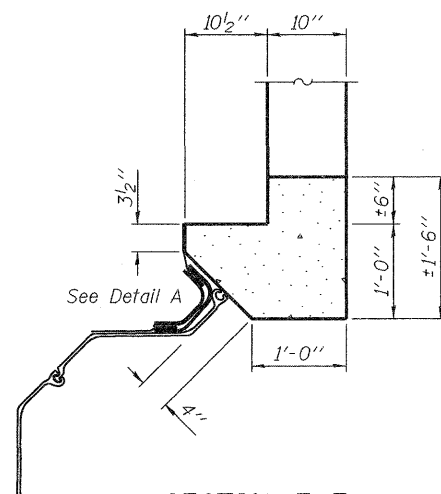
SECTION C-C



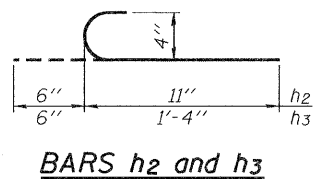
SECTION D-D



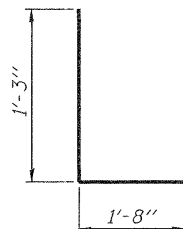
SECTION E-E
(Showing reinforcement)



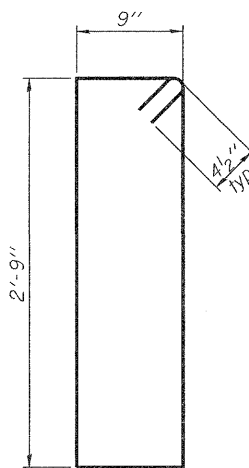
SECTION E-E
(Showing dimensions)



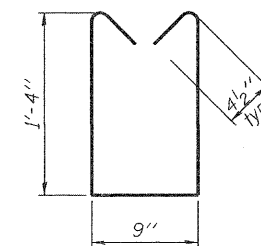
BARS h₂ and h₃



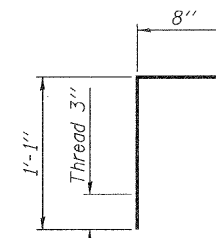
BAR h₄



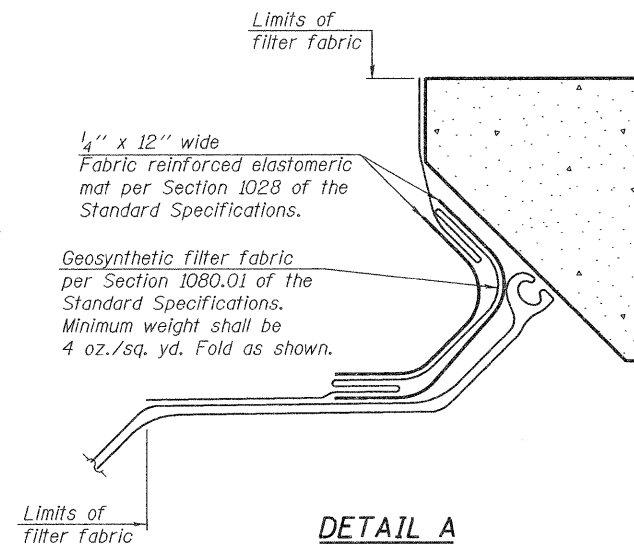
BAR s



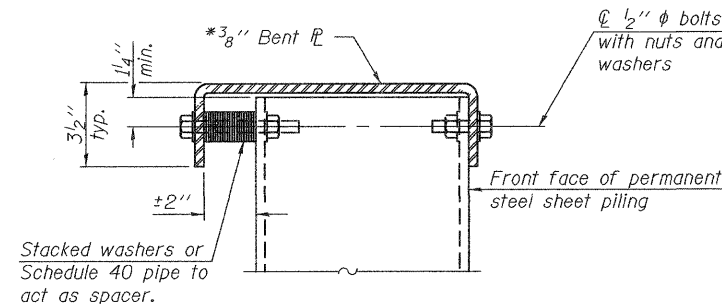
BAR s₁



BAR v

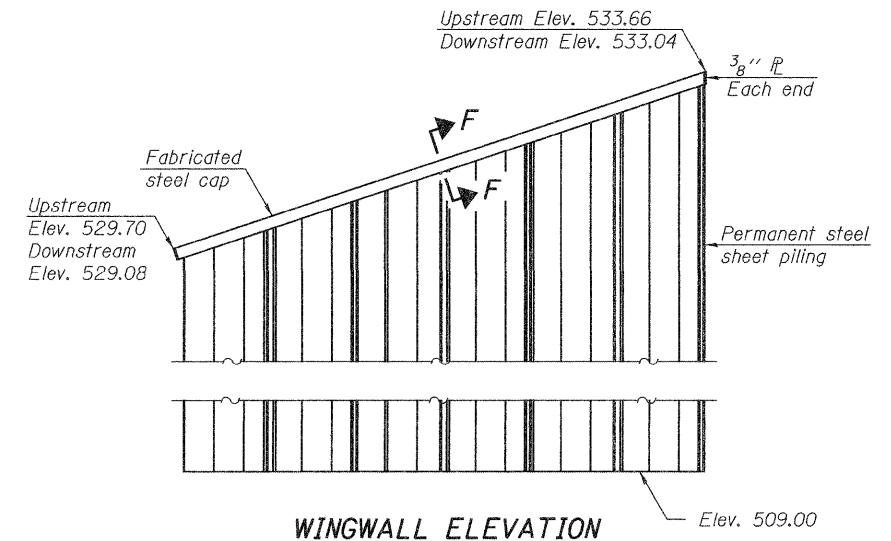


DETAIL A

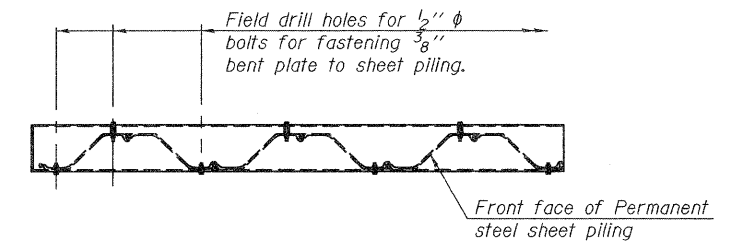


SECTION F-F

*AASHTO M270 Grade 50W



WINGWALL ELEVATION



WINGWALL PLAN

ONE END SECTION
BILL OF MATERIAL

(For information only)

Bar	No.	Size	Length	Shape
h	4	#5	23'-7"	—
h ₁	4	#5	25'-0"	—
h ₂	24	#4	1'-5"	⊔
h ₃	24	#4	1'-10"	⊔
h ₄	7	#4	4'-2"	⊔
h ₅	2	#6	23'-7"	—
h ₆	2	#6	25'-0"	—
s	21	#4	7'-9"	⊔
s ₁	21	#4	4'-2"	⊔
v	21	#5	1'-9"	⊔
v ₁	13	#5	8'-4"	—
Concrete Box Culverts		Cu. Yd.	7.6	
Reinforcement Bars		Pound	740	
Bar Splicers		Each	10	
Permanent Steel Sheet Piling		Sq. Ft.	501.0	

The cost of the fabricated steel cap, bolts, washers, geosynthetic filter fabric, and elastomeric mat shall be included in the cost of Box Culvert End Sections, Culvert No. 1.

DESIGNED - DAVID L. GREIFZU
CHECKED - MICHAEL D. ROLAPE
DRAWN - MICHAEL B. MOSSMAN
CHECKED - D.L.G. / M.D.R.

EXAMINED
PASSED
DATE - MARCH 9, 2011
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS
STRUCTURE NO. 013-2012

SHEET NO. 3 OF 5 SHEETS

F.A.S. RTE. 2704
SECTION 12B-1(1)
COUNTY CLAY
TOTAL SHEETS 39
SHEET NO. 28
CONTRACT NO. 74116
ILLINOIS FED. AID PROJECT

The diameter of this part is equal or larger than the diameter of bar spliced.

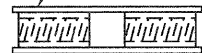
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

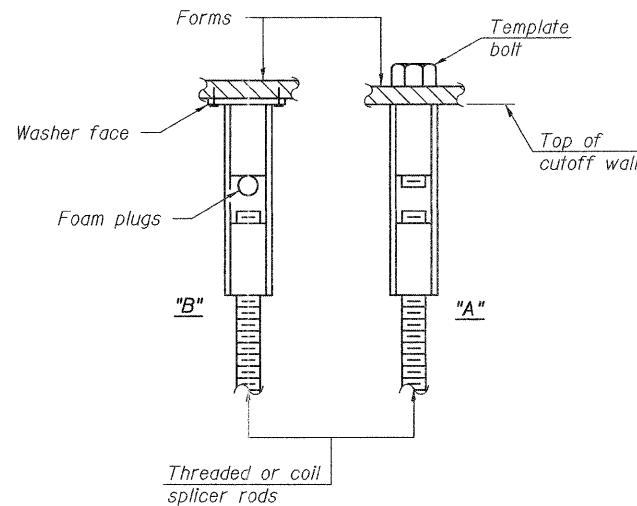
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

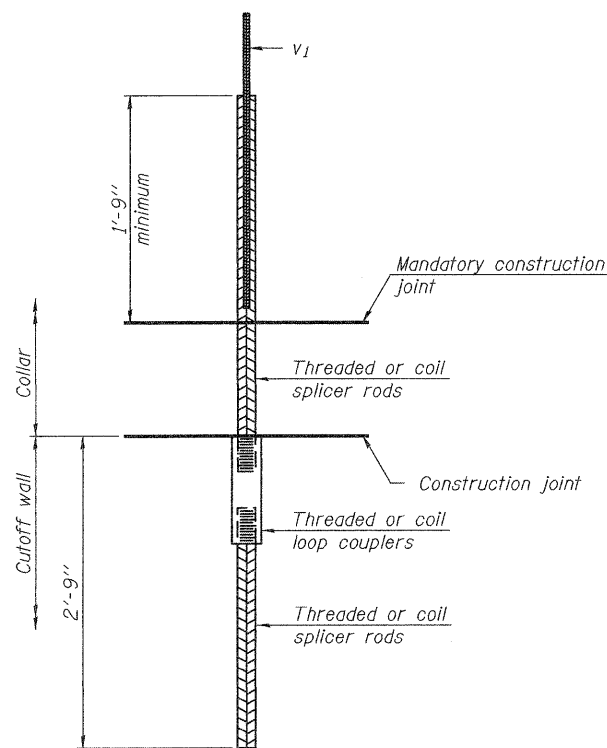
NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required = 20	



FOR BOX CULVERT END SECTIONS

DESIGNED - DAVID L. GREIFZU	EXAMINED	DATE - MARCH 9, 2011
CHECKED - MICHAEL D. ROLAPE	PASSED	
DRAWN - MICHAEL B. MOSSMAN		
CHECKED - D.L.G. / M.D.R.	ENGINEER OF BRIDGES AND STRUCTURES	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
 STRUCTURE NO. 013-2012

SHEET NO. 4 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-111	CLAY	39	21
			CONTRACT NO. 74116	
ILLINOIS FED. AID PROJECT				

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1
Date 10/22/08

ROUTE FAS 2704 DESCRIPTION Old US 50 over Nickolson Creek LOGGED BY E. Sandschafer

SECTION 12B-111 LOCATION NE 1/4, SEC. 4, TWP. 2 N, RNG. 5 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0022
Station 407+98

BORING NO. 1 East
Station 407+72
Offset 7.000 ft
Ground Surface Elev. 535.33 ft (ft) (6") (tsf) (%)

DEPTH (ft)	SOIL DESCRIPTION	UCS Failure Mode		SPT (N)	
		B	S	1	2
0	8 1/4" asphalt on 6 1/2" concrete pavement.				
0.1	Medium to very soft, wet, red/graybrown, SILTY LOAM. (continued)			0.1	27
1				1	B
534.23	Brown, SILTY CLAY.				
533.33	Stiff, damp, red, SILTY LOAM.			11	
17				17	1.6 19
21				21	S
510.83	Very stiff, damp, gray, CLAY TILL.			3	
6				6	3.4 14
10				10	B
510.83	Stiff, damp, gray, CLAY LOAM TILL.			3	
-6				-6	1.1 16
5				5	B
4				4	B
509.33	Extent of exploration.				
528.33	Stiff, damp, red marbled gray, CLAY LOAM.			2	
3				3	1.9 22
5				5	S
525.83	Stiff to medium, damp, gray/brown/red, CLAY.			3	
4				4	1.8 22
5				5	B
3				3	1.8 19
5				5	B
517.83	Medium to very soft, wet, red/graybrown, SILTY LOAM.			2	
3				3	0.5 23
4				4	B
-20				-20	

Latitude W 88 deg 38.654 min. Longitude N 38 deg 38.796 min. Map Datum: NAD 83

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways

SOIL BORING LOG

Page 1 of 1
Date 10/22/08

ROUTE FAS 2704 DESCRIPTION Old US 50 over Nickolson Creek LOGGED BY E. Sandschafer

SECTION 12B-111 LOCATION NE 1/4, SEC. 4, TWP. 2 N, RNG. 5 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0022
Station 407+98

BORING NO. 2 West
Station 409+24
Offset 6.500 ft
Ground Surface Elev. 535.34 ft (ft) (6") (tsf) (%)

DEPTH (ft)	SOIL DESCRIPTION	UCS Failure Mode		SPT (N)	
		B	S	1	2
0	7 3/4" asphalt on 10" concrete pavement.				
0.1	Very soft, wet, brown, SILTY LOAM (Qu = 0.1 tsf).			0.1	18
3				3	B
533.84	Brown, SILTY CLAY.				
533.34	Medium to soft, damp, gray, SILTY LOAM.			3	
3				3	0.8 19
4				4	B
510.83	Hard, damp, red/gray, CLAY LOAM TILL.			7	
11				11	4.4 15
20				20	S
509.34	Extent of exploration.				
528.34	Stiff, damp, red/graybrown, CLAY.			2	
3				3	1.5 22
4				4	B
2				2	
4				4	1.5 21
5				5	BS
518.34	Medium, damp, red marbled gray, SILTY CLAY LOAM.			2	
3				3	0.8 19
3				3	B
-20				-20	

Latitude W 88 deg 38.655 min. Longitude N 38 deg 38.793 min. Map Datum: NAD 83

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

DESIGNED - DAVID L. GREIFZU
CHECKED - MICHAEL D. ROLAPE
DRAWN - MICHAEL B. MOSSMAN
CHECKED - D.L.G. / M.D.R.

EXAMINED Thomas J. Domagala ENGINEER OF BRIDGE DESIGN
PASSED Paul King ENGINEER OF BRIDGES AND STRUCTURES
DATE - MARCH 9, 2011

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOIL BORING LOGS
STRUCTURE NO. 013-2012**

SHEET NO. 5 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-111	CLAY	39	22
				CONTRACT NO. 74116
ILLINOIS FED. AID PROJECT				

Benchmark: Railroad spike in power pole south side of Old US 50, Sta. 354+90, 28.5' Lt., Elevation 512.53.

Existing Structure: S.N. 013-0023 built in 1924 as a single span RC slab bridge on closed abutments, 32'-2" out to out deck, 30'-0" bk to bk abutments. The existing structure is to be removed and replaced with a double 12'x10' CIP box culvert. Traffic to be detoured during construction.

No Salvage

Note: The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

STA. 336+46.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.S. RTE. 2704-SEC. 12B-1(2)
LOADING HS20-44
STR. NO. 013-2013

NAME PLATE
(Standard 515001)

Granular culvert backfill within limits of proposed roadway and paved shoulders (34' total length). Outside limits of paved shoulders, the culvert shall be backfilled in accordance with Section 502 of the Standard Specification.

TOTAL BILL OF MATERIAL

Item	Unit	Quantity
Concrete Box Culverts	Cu. Yd.	198.0
Reinforcement Bars	Pound	36410
Filter Fabric	Sq. Yd.	231
Stone Riprap, Class A5	Sq. Yd.	231
Name Plates	Each	1
Rockfill-Replacement	Ton	327
Removal of Existing Structures No. 2	Each	1
Removal & Disposal of Unsuitable Material for Structures	Cu. Yd.	182
Granular Culvert Backfill	Cu. Yd.	336
Steel Plate Beam Guardrail, Attached To Structures	Foot	53

WATERWAY INFORMATION

Drainage Area = 2.1 sq. mi. Prop. Low Grade Elev. 510.65 @ Sta. 337+00
Exist. Low Grade Elev. 510.65 @ Sta. 337+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	10	914	179	187	506.3	0.6	0.4	506.9	506.7
Base	50	1510	202	206	507.1	2.1	1.1	509.2	508.2
Overtopping Prop.	100	1780	213	216	507.5	2.2	1.4	509.7	508.9
Overtopping Exist.					508.1	3.0		511.1	
Max. Calc.	500	2480	229	230	508.1	3.0	2.4	511.1	510.5

10 Year Velocity through Existing Bridge = 5.11 ft/s
10 Year Velocity through Proposed Bridge = 4.89 ft/s

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	495.30	495.50

GENERAL NOTES

Reinforcement bars shall conform to the requirements of A.S.T.M. A 706, Grade 60. See Special Provisions.
Cast in place concrete exposed edges shall be beveled 3/4".
Precast alternative is not allowed.
At least 8 ft. of the barrel shall be poured monolithically with the wingwalls.
Guardrail shall be mounted to the culvert per Highway Standard 630101 (Case IV) except that the 1/2" holes in the top slab shall be formed (instead of cored) for the threaded rods.
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. For backfilling and embankment, See Special Provisions.

LOADING HS20-44

Allow 50#/sq.ft. for future wearing surface

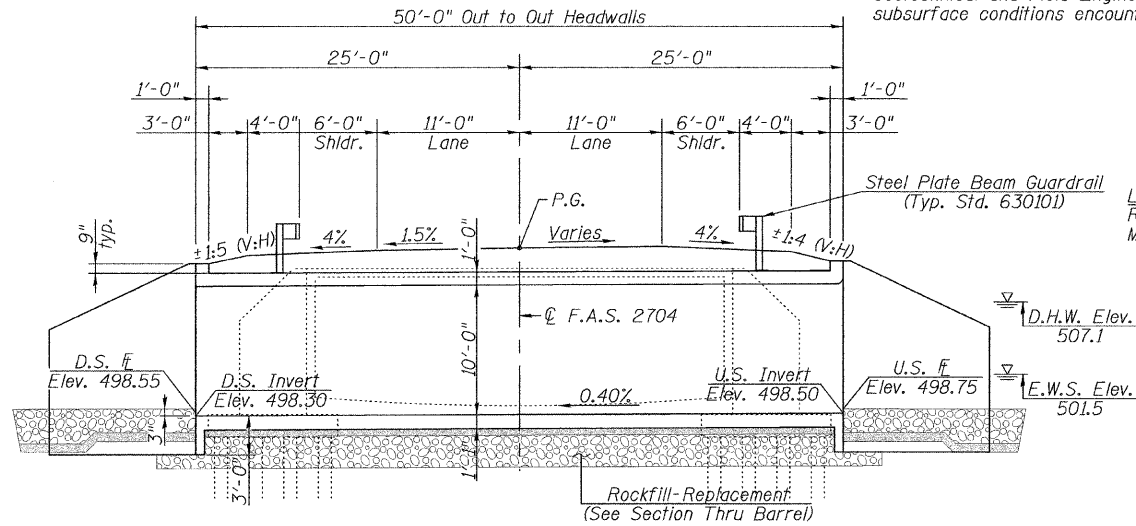
DESIGN SPECIFICATIONS

2002 A.A.S.H.T.O. Standard Specifications for Highway Bridges.

DESIGN STRESSES

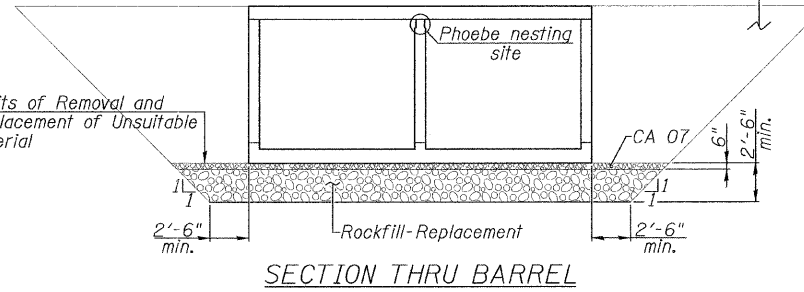
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

GENERAL PLAN & ELEVATION
OLD US 50 OVER BRUSH CREEK
F.A.S. ROUTE 2704 - SEC. 12B-1(2)
CLAY COUNTY
STATION 336+46.00
STRUCTURE NO. 013-2013

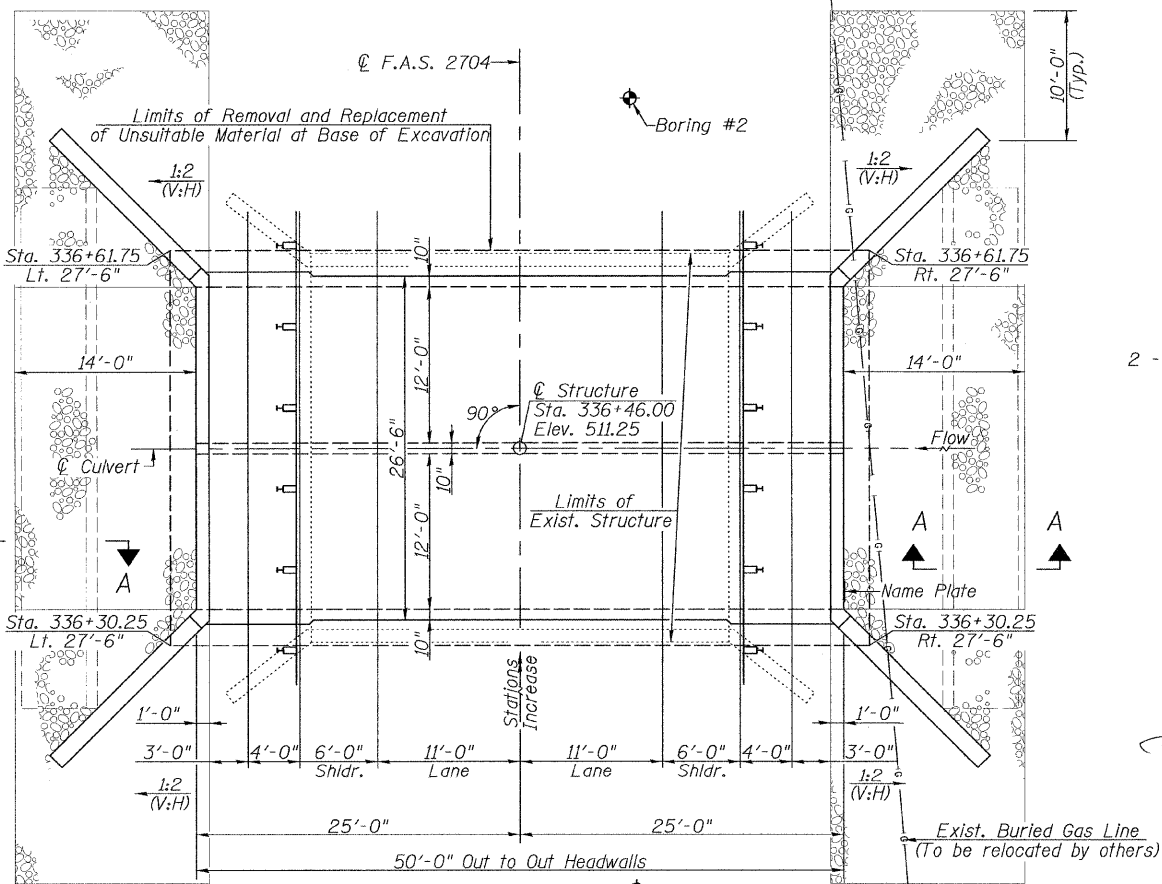


LONGITUDINAL SECTION
(Looking West)

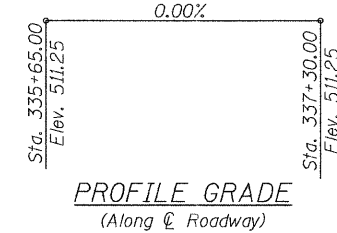
Limits of Removal and Replacement of Unsuitable Material



SECTION THRU BARREL



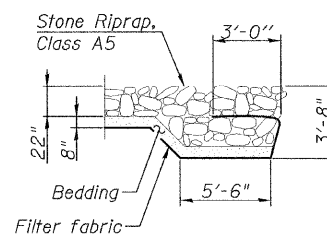
PLAN



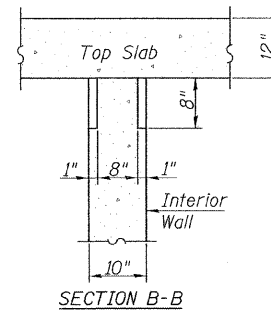
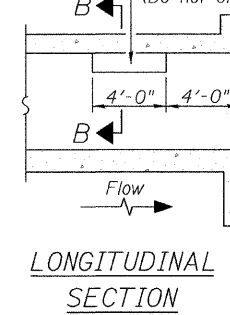
INDEX OF SHEETS
1. General Plan & Elevation
2 - 4. Culvert Details
5. Boring Logs

CURVE DATA

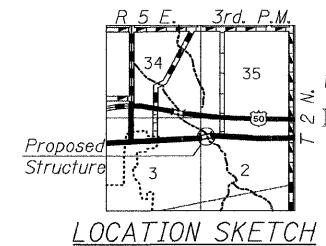
P.I. Sta. 331+00
Δ = 10° 00'
D = 1° 00'
R = 5229.6'
T = 501.3'
L = 1000'
E = 21.9'
SE = 0.021'/'
Superelevation Attained:
Sta. 324+38.7 to Sta. 326+78.7
Sta. 335+18.7 to Sta. 337+61.3



SECTION A-A



SECTION B-B
PHOEBE NESTING SITE DETAILS
(Downstream End Only)

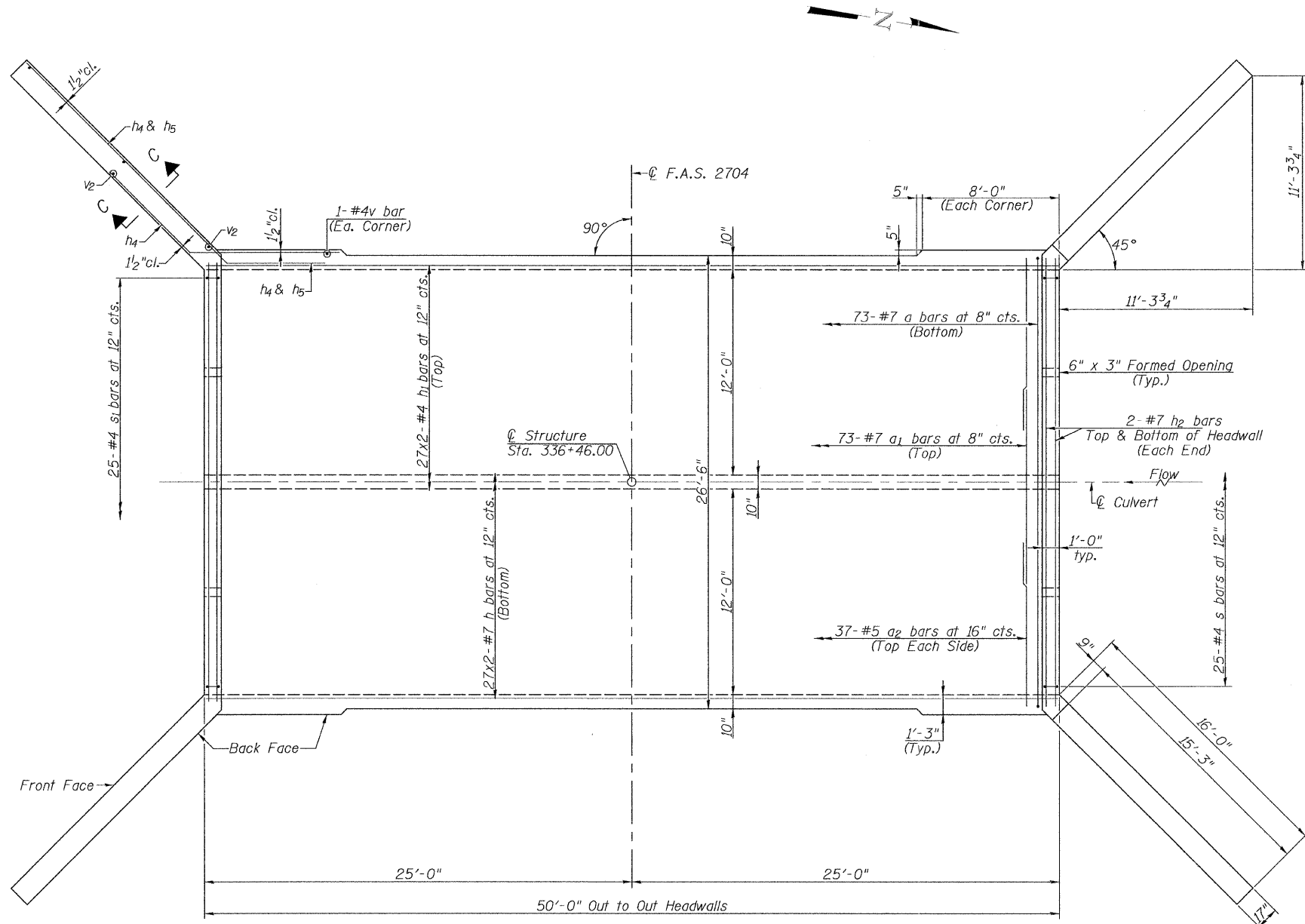


Dated 3/8/2011
Sealed 3/8/2011
Exp'dition 11/30/2012
ALLEN HENDERSON & ASSOCIATES, INC.
081-006678
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS
Allen Henderson
ENGINEER OF BRIDGES AND STRUCTURES

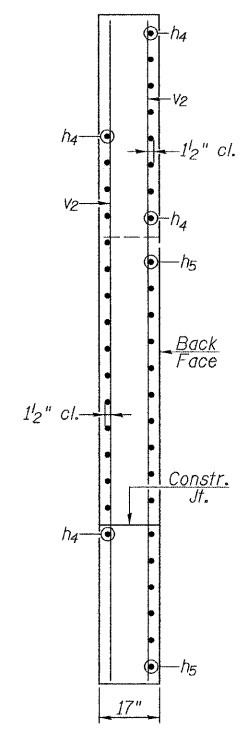
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Allen Henderson
ENGINEER OF BRIDGES AND STRUCTURES

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

SHEET NO.	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5 SHEETS	2704	12B-1(2)	CLAY	39	23
CONTRACT NO. 74116					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



PLAN - TOP SLAB



SECTION C-C

MIN. BAR LAPS
 #4 bars = 1'-4"
 #5 bars = 1'-8"
 #7 bars = 2'-8"

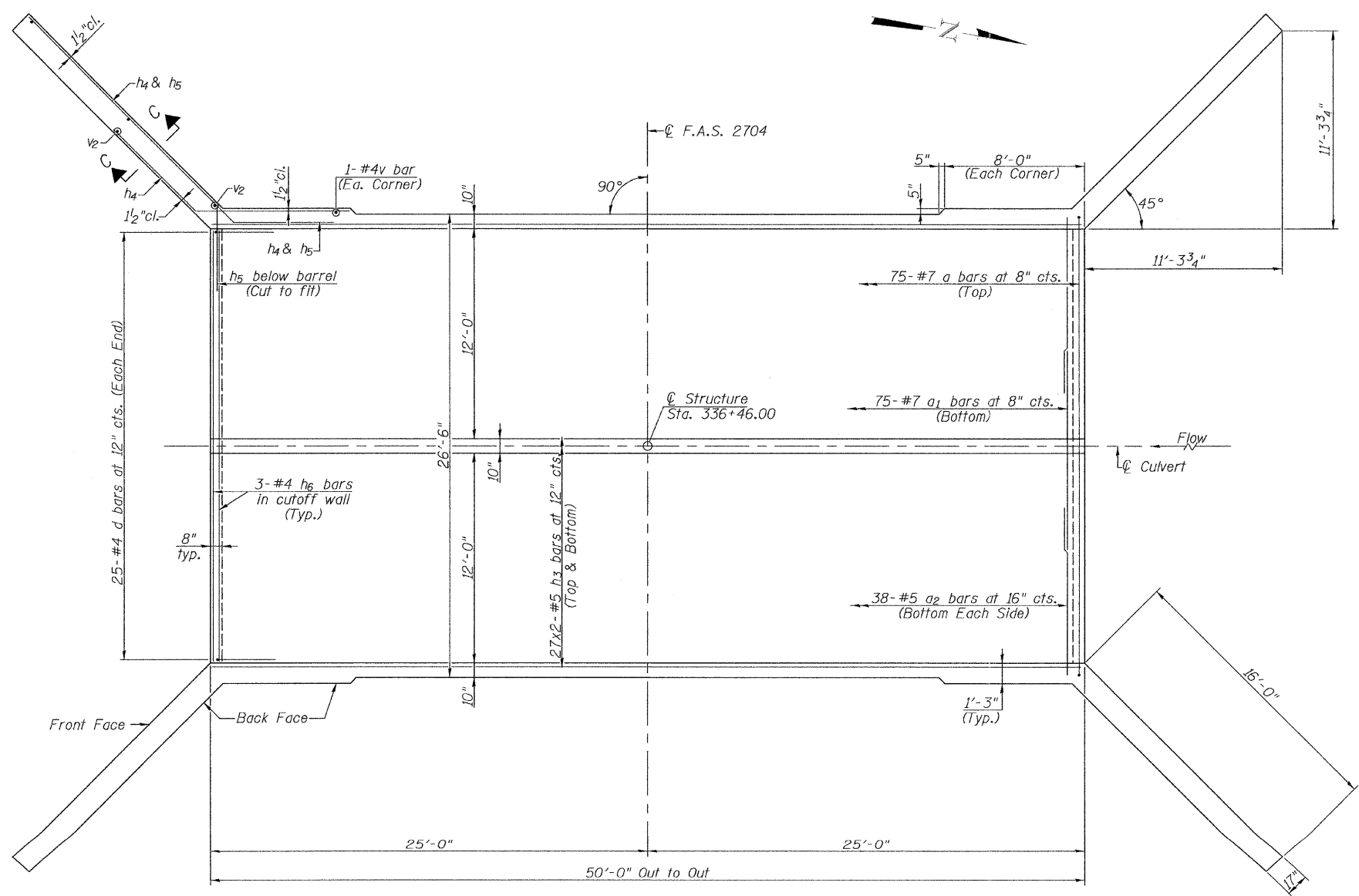
Bars Indicated thus 27x2-#4 etc. Indicates 27 lines of bars with 2 lengths per line.

CULVERT DETAILS
STRUCTURE NO. 013-2013



Allen Henderson & Associates, Inc.
 Civil and Structural Engineers Springfield, IL.
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 No. 184-001907

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2704	12B-1(2)	CLAY	39	24
5 SHEETS	CONTRACT NO. 74116				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



PLAN - BOTTOM SLAB

MIN. BAR LAPS
#5 bars = 1'-8"

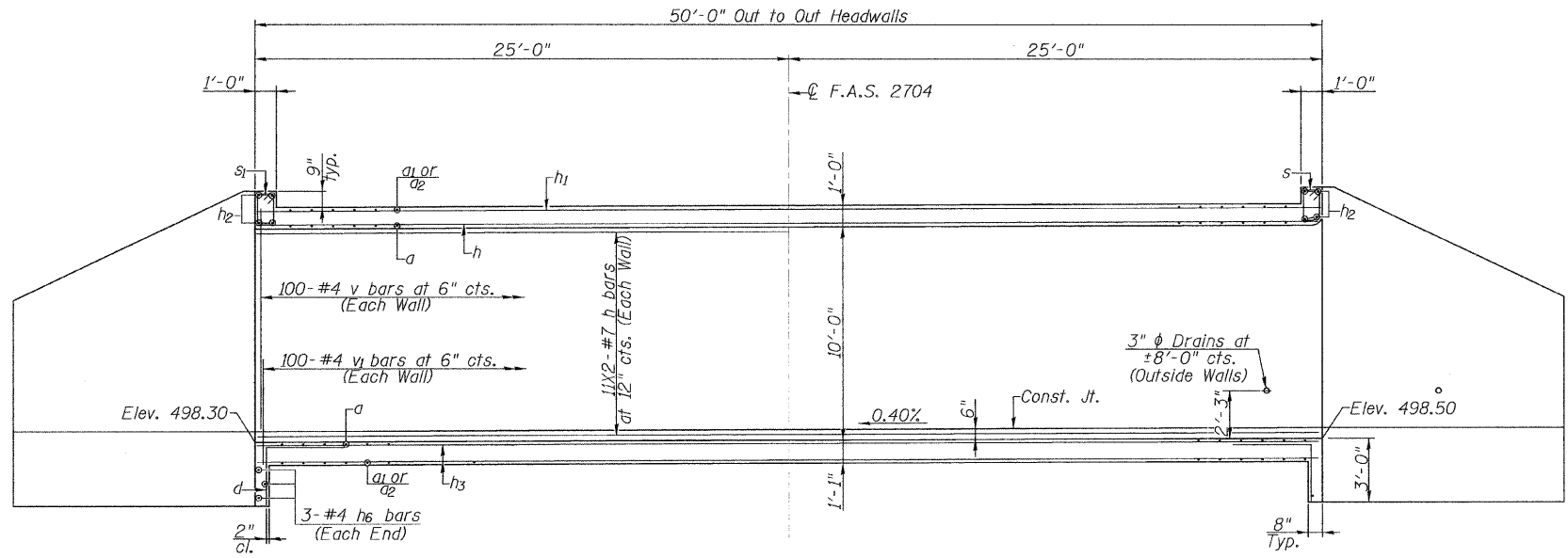
Bars indicated thus 27x2 #5 etc. indicates 27 lines of bars with 2 lengths per line. See Sheet 2 of 5 for Section C-C.

CULVERT DETAILS
STRUCTURE NO. 013-2013

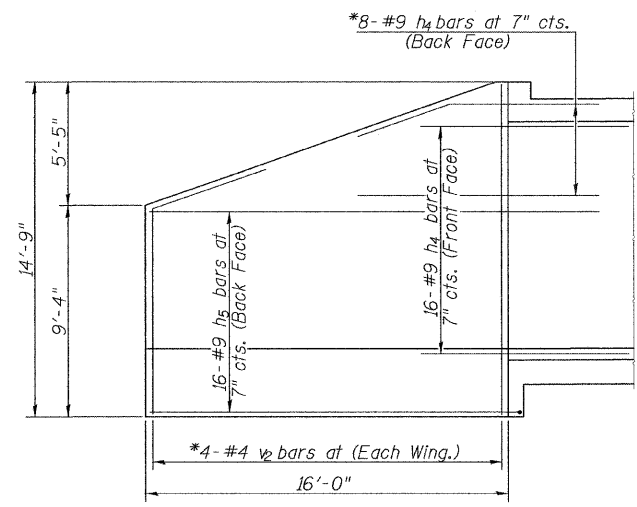


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No. 184-001907

SHEET NO. 3 5 SHEETS	F.A.S. RTE. 2704	SECTION 12B-1(2)	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 25
	CONTRACT NO. 74116				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					



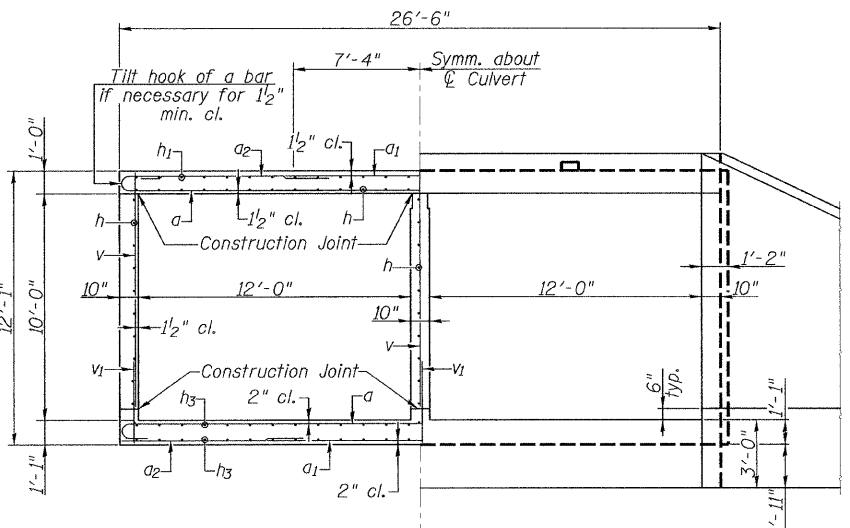
ELEVATION



WINGWALL ELEVATION

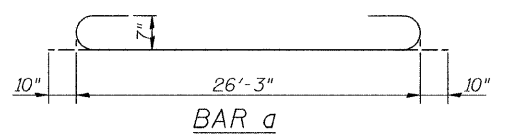
* Bend bars in field as required

MIN. BAR LAPS
#7 bars = 2'-8"

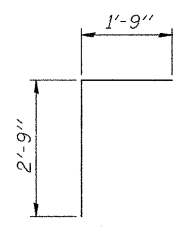


HALF SECTION THRU BARRELS

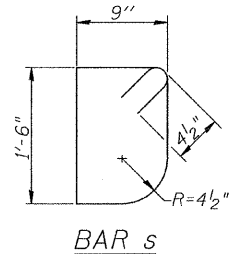
HALF END ELEVATION



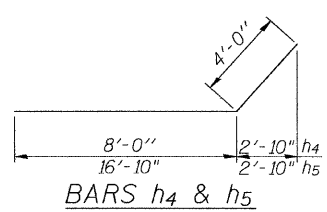
BAR a



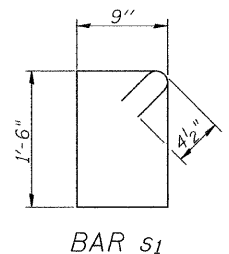
BAR d



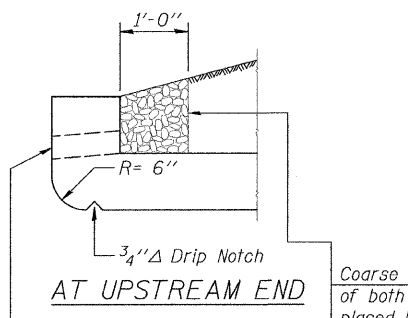
BAR s



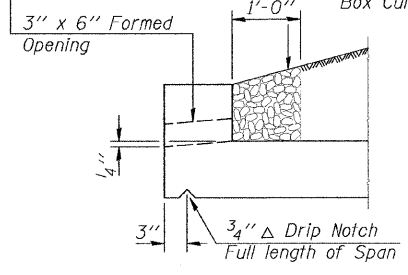
BARS h4 & h5



BAR s1



AT UPSTREAM END



AT DOWNSTREAM END

DRAIN DETAIL

Coarse aggregate full length of both headwalls. To be placed by Grading Contractor. Cost included with Concrete Box Culverts.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	148	#7	27'-11"	
a1	148	#7	14'-8"	—
a2	150	#5	7'-6"	—
d	50	#4	4'-6"	
h	120	#7	26'-3"	—
h1	54	#4	25'-7"	—
h2	8	#7	26'-5"	—
h3	108	#5	25'-9"	—
h4	96	#9	12'-0"	
h5	64	#9	20'-10"	
h6	6	#4	27'-1"	—
s	25	#4	5'-1"	
s1	25	#4	5'-3"	
v	304	#4	10'-1"	—
v1	300	#4	2'-10"	—
v2	16	#4	14'-5"	—
Concrete Box Culverts			Cu. Yd.	198.0
Reinforcement Bars			Pound	36410

Bars indicated thus 11 x 2 - #7 etc. indicates 11 lines of bars with 2 lengths per line.

CULVERT DETAILS
STRUCTURE NO. 013-2013



Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
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No. 184-001907

SHEET NO. 4	F.A.S. RTE. 2704	SECTION 12B-1(2)	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 26
5 SHEETS	CONTRACT NO. 74116			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

SOIL BORING LOG

Date 10/23/08

ROUTE FAS 2704 DESCRIPTION Old US 50 over Brush Creek LOGGED BY E. Sandschafer
SECTION 12B-1(2) LOCATION NW 1/4, SEC. 2, TWP. 2 N, RNG. 5 E, 3 PM
COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	Station	DEPTH (ft)	BL (ft)	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After 24 Hrs.	DEPTH (ft)	BL (ft)	UCS (tsf)	MOIST (%)
013-0023	336+46					498.78	498.36								
1 East	336+19														
	9.00ft Rt														
	510.80														
		7 3/4"						Very dense, moist, brown and gray layers, SANDY CLAY SHALE. (continued)				50/1"			12
	509.40											50/1"			
		4													
		5	2.2	18		488.80	488.30	Very dense, moist, gray, SANDSTONE.				50/5"		5	
		7	B					Extent of exploration.				50/1"			
		3						Benchmark: BM 100 RR spike in PP on South side of Old US 50, Sta 354+90, 28.5' Lt = 512.53' elevation. Provided by Program Development.				-26			
		5	1.7	16											
		6	B												
	503.80														
		2	0.7	20				* Note: Hole caved at 12.0' depth at 24 hours.							
		3	B												
	501.30														
		3													
		3	0.2	20											
		5	B												
		5													
		6	0.1	15											
		7	S												
		2													
		2	0.3	16											
		2	B												
	493.80														
		3													
		8	1.2	16											
		15	B												
	492.40														
	491.30														
		50													

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

SOIL BORING LOG

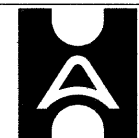
Date 10/23/08

ROUTE FAS 2704 DESCRIPTION Old US 50 over Brush Creek LOGGED BY E. Sandschafer
SECTION 12B-1(2) LOCATION NW 1/4, SEC. 2, TWP. 2 N, RNG. 5 E, 3 PM
COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	Station	DEPTH (ft)	BL (ft)	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	Groundwater Elev.:	First Encounter	Upon Completion	After 24 Hrs.	DEPTH (ft)	BL (ft)	UCS (tsf)	MOIST (%)
013-0023	336+46					498.78	498.36								
2 West	336+73														
	8.50ft Rt														
	510.61														
		8 1/2"						Very dense, moist, brown, SANDSTONE.				50/4"			10
	509.11											50/1"			
		3													
		3	1.7	18		488.61	488.30	Very dense, moist, gray, SANDY CLAY SHALE.				50/5"		7	
		4	B					Extent of exploration.				50/4"			
		1						Benchmark: BM 100 RR spike in PP on South side of Old US 50, Sta 354+90, 28.5' Lt = 512.53' elevation. Provided by Program Development.				-25			
		1	0.3	24											
		2	B												
	506.11														
		1													
		1	0.6	26				* Note: Hole caved at 10.5' depth at 24 hours.							
		2	B												
	503.61														
		0													
		0	0.1	26											
		0	B												
	499.91														
		0													
		1	0.1	22											
		0	B												
		3	0.3	15											
		4	B												
	494.91														
		1													
		3	0.7	15											
		9	B												
	490.61														
		15													

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BORING LOGS
STRUCTURE NO. 013-2013



Allen Henderson & Associates, Inc.
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No. 184-001907

SHEET NO. 5	F.A.S. RTE. 2704	SECTION 12B-1(2)	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 27
5 SHEETS	CONTRACT NO. 74116		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

EROSION CONTROL GENERAL NOTES

EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION:

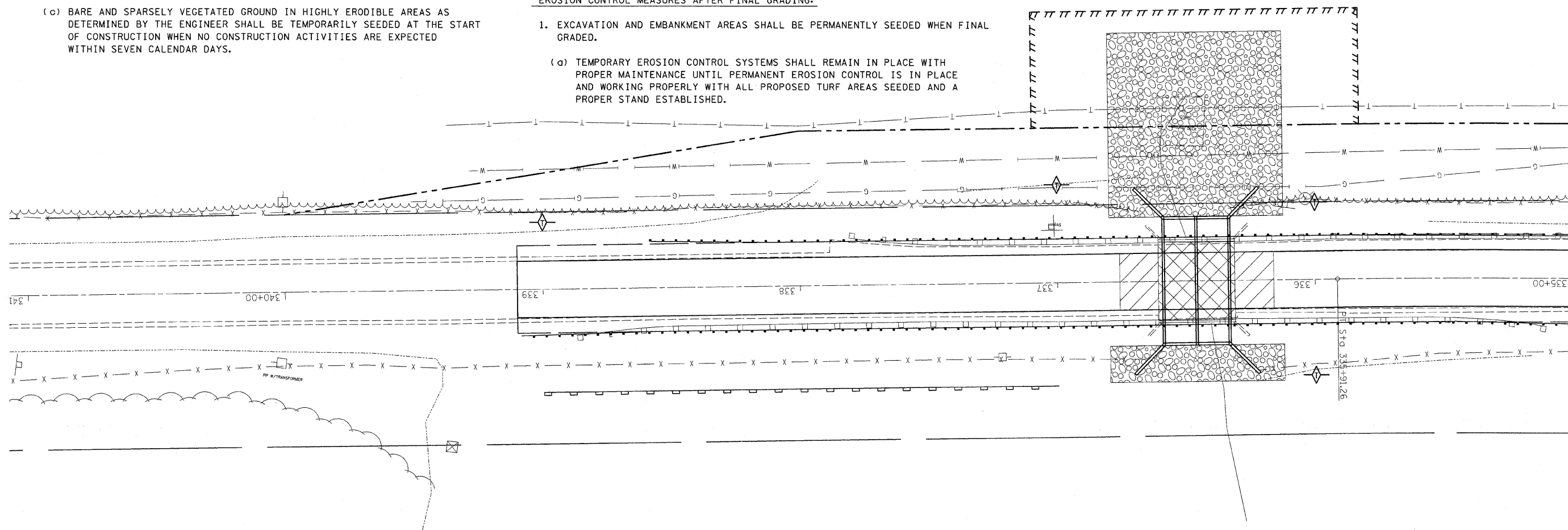
1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:
 - (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM MOWING, BRUSH CUTTING, TREE REMOVAL, AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
 - (b) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
 - (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

EROSION CONTROL MEASURES DURING CONSTRUCTION:

1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
 - (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.
 - (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

EROSION CONTROL MEASURES AFTER FINAL GRADING:

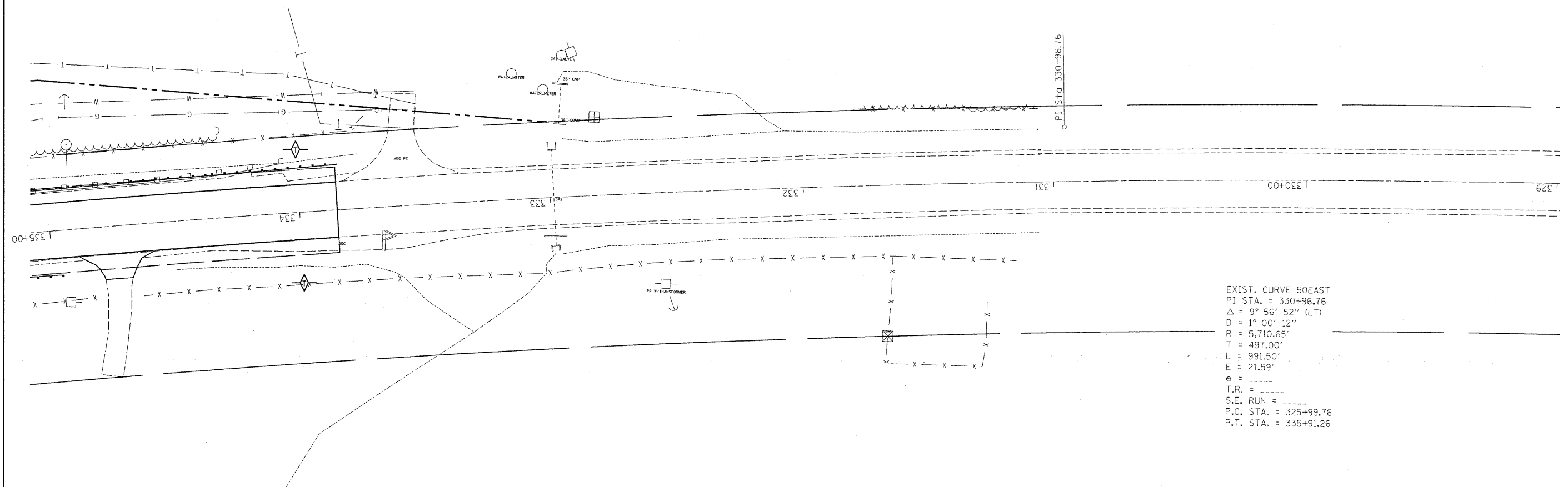
1. EXCAVATION AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADED.
 - (a) TEMPORARY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.



LEGEND

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECKS

FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EROSION CONTROL S.N. 013-2013 BRUSH CREEK		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 2/3/2011		DATE -	REVISED -		SCALE: 20	SHEET NO. 1 OF 2 SHEETS	STA. 335+00 TO STA. 341+00	ILLINOIS FED. AID PROJECT			



EXIST. CURVE 50EAST
 PI STA. = 330+96.76
 $\Delta = 9^{\circ} 56' 52''$ (LT)
 $D = 1^{\circ} 00' 12''$
 $R = 5,710.65'$
 $T = 497.00'$
 $L = 991.50'$
 $E = 21.59'$
 $e =$
 $T.R. =$
 $S.E. RUN =$
 $P.C. STA. = 325+99.76$
 $P.T. STA. = 335+91.26$

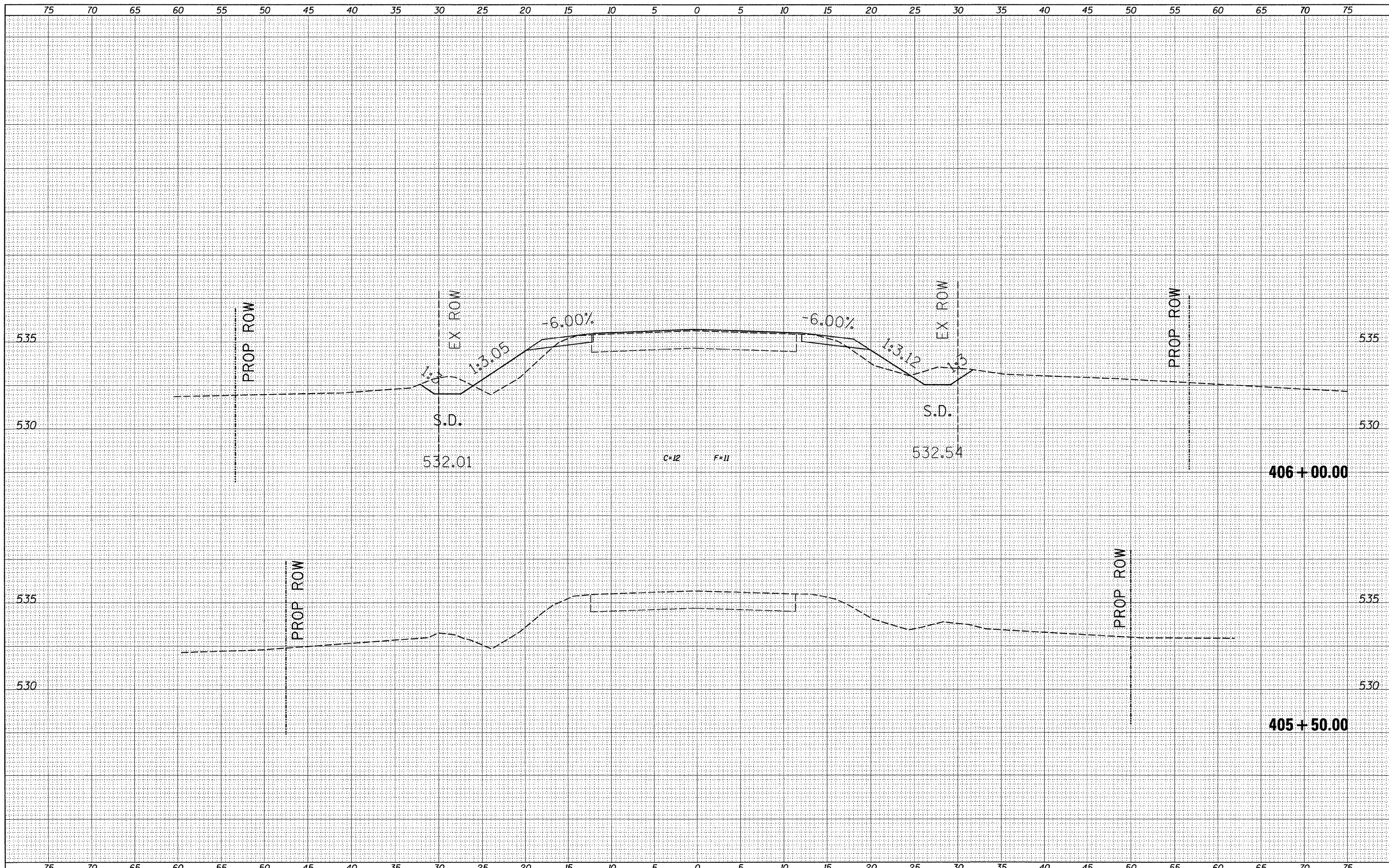
LEGEND

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECKS

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PLOT SCALE = 20.0000 / / IN.	CHECKED -	REVISED -	REVISED -		SCALE: 20	SHEET NO. 2 OF 2 SHEETS	STA. 329+00	TO STA. 335+00	CONTRACT NO. 74116			
PLOT DATE = 2/3/2011	DATE -	REVISED -	REVISED -		ILLINOIS FED. AID PROJECT							

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK NO.	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK NO.	
AREAS CHECKED	



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 xshhdgn
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 PLOT DATE = 2/3/2011

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

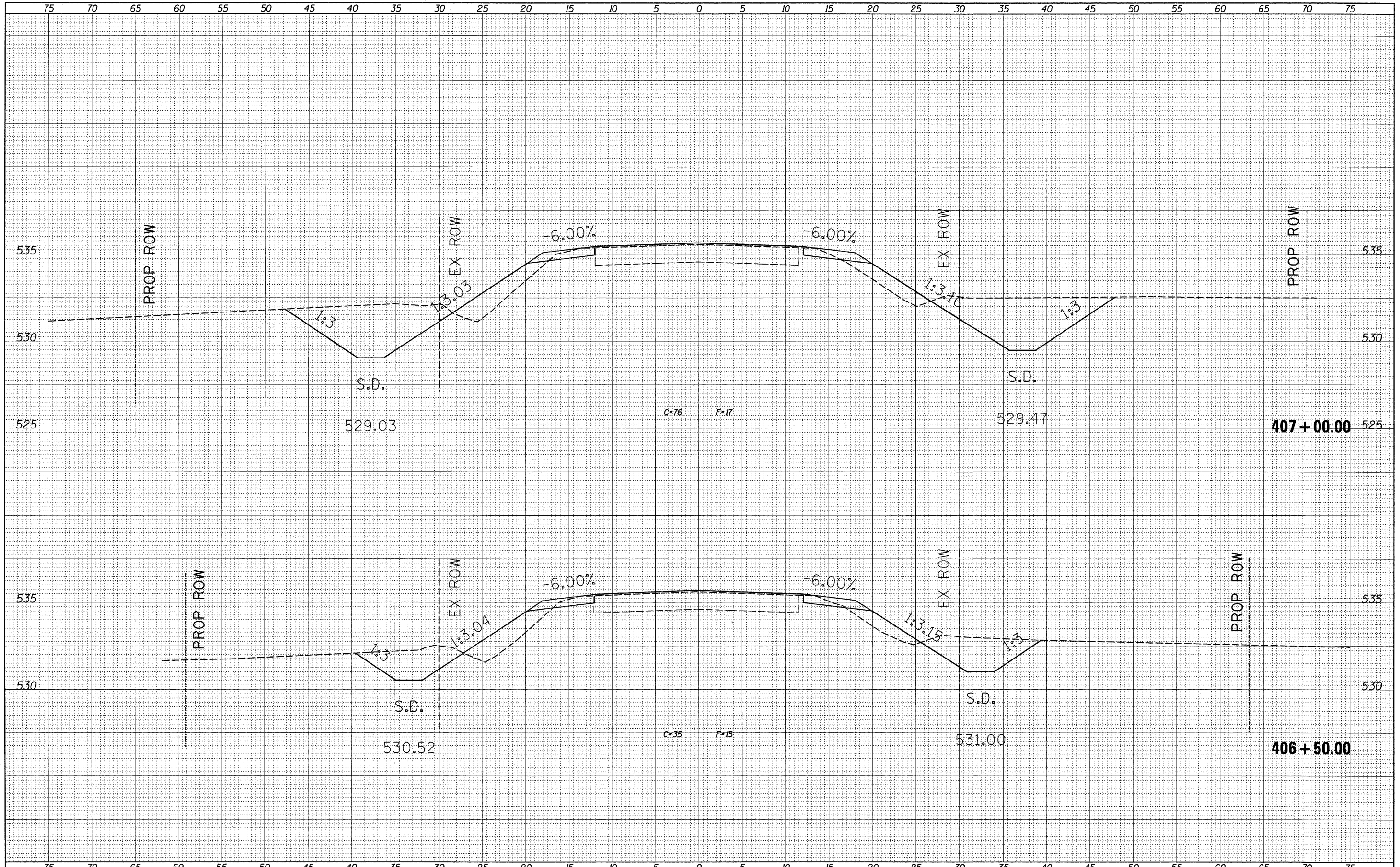
CROSS SECTIONS S.N. 013-2012 NICKOLSON CREEK

SCALE: 5 SHEET NO. 1 OF 6 SHEETS STA. 405+50.00 TO STA. 406+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-1(1) & 12B-1(2)	CLAY	39	30
CONTRACT NO.			74116	
ILLINOIS FED. AID PROJECT				

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	
AREAS CHECKED	



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 PLOT DATE = 2/3/2011

DESIGNED -
 DRAWN -
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 DATE -

REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

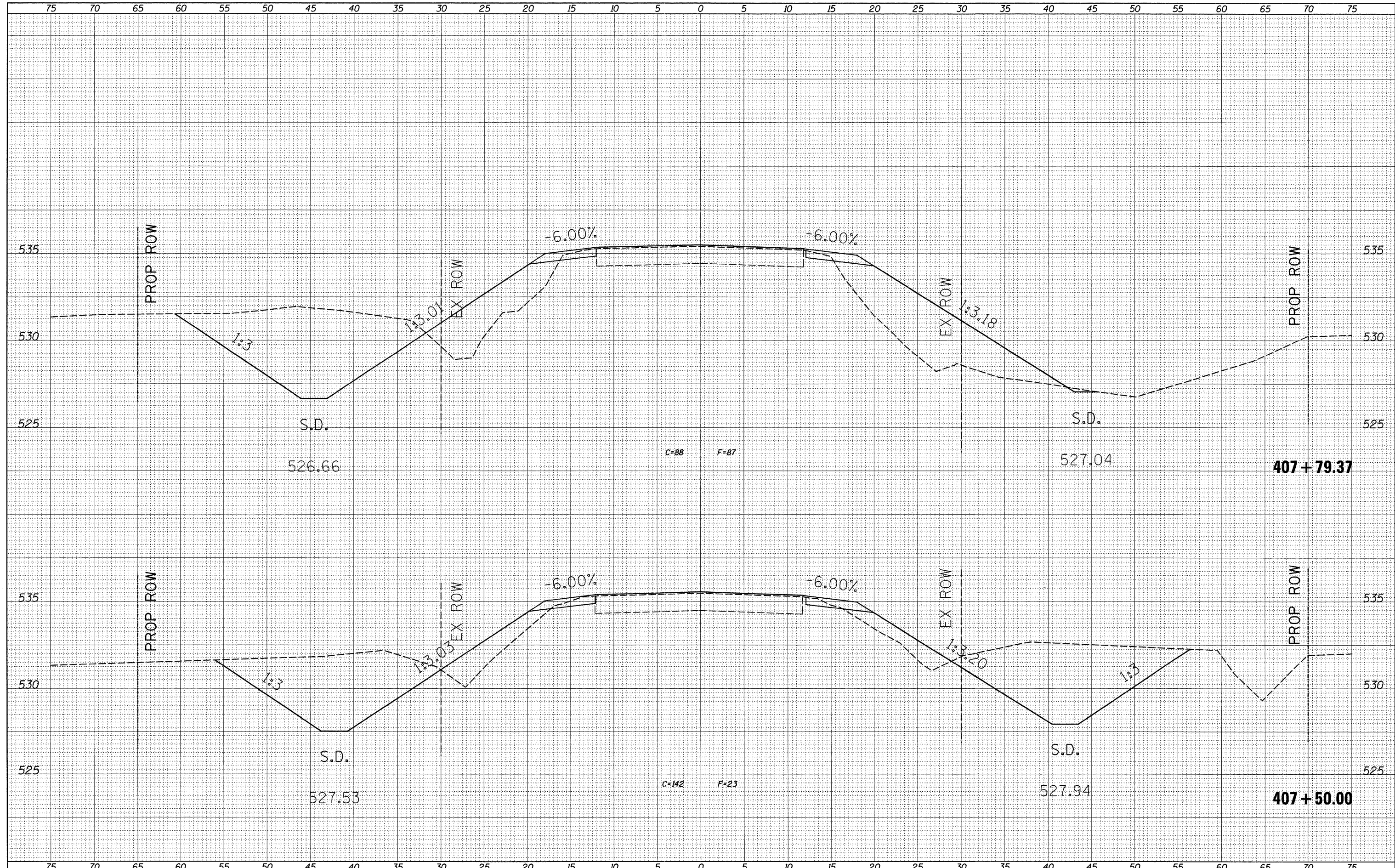
CROSS SECTIONS S.N. 013-2012 NICKOLSON CREEK

SCALE: 5 SHEET NO. 2 OF 6 SHEETS STA. 406+50.00 TO STA. 407+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	128-1(1) & 128-1(2)	CLAY	39	31
			CONTRACT NO. 74116	
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS	
	CHECKED	

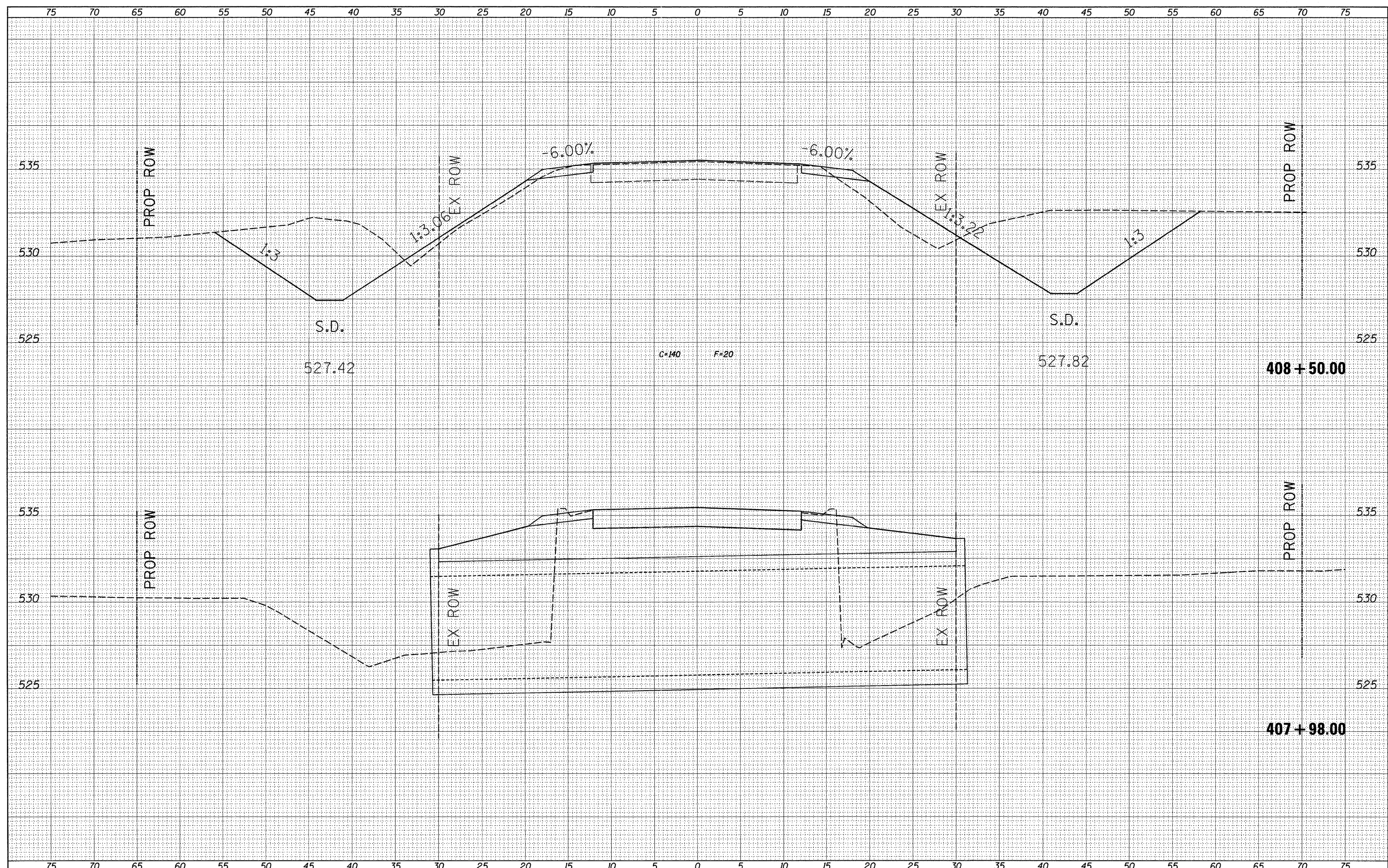
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NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS	
	CHECKED	



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PLOT DATE = 2/3/2011	DATE -	REVISED -	REVISED -			ILLINOIS FED. AID PROJECT				
				SCALE: 5	SHEET NO. 3 OF 6 SHEETS	STA. 407+50.00 TO STA. 407+79.37				

DATE	
FINAL SURVEY	
SURVEY PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

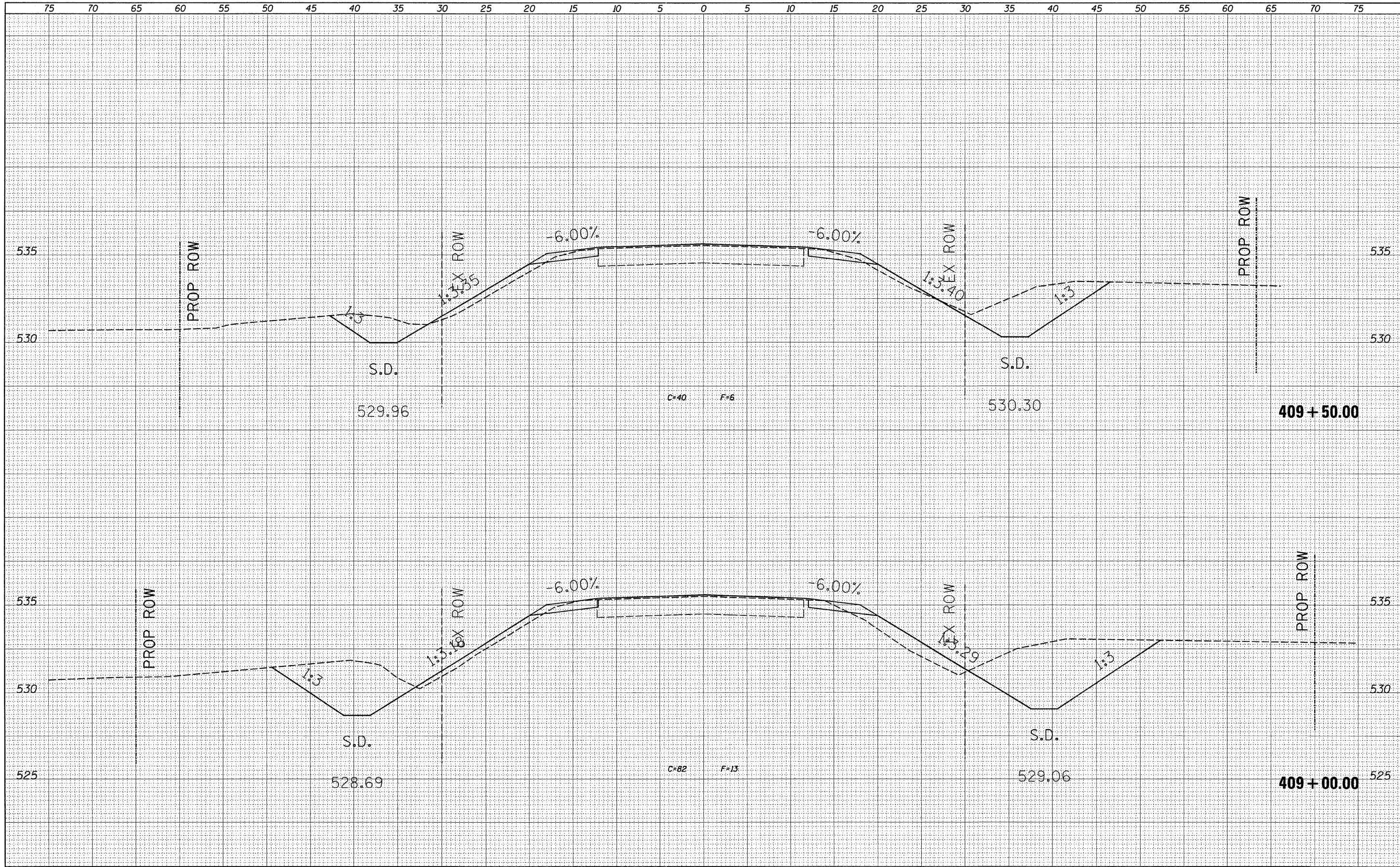
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BY	
ORIGINAL SURVEY	
SURVEY PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS S.N. 013-2012 NICKOLSON CREEK	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
os\pw_work\psidot\swartzw\dms37456\0774116-ah	xasht.dgn	DRAWN -	REVISED -			2704	12B-1(1) & 12B-1(2)	CLAY	39	33
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PLOT DATE = 2/3/2011		DATE -	REVISED -			SCALE: 5	SHEET NO. 4 OF 6 SHEETS	STA. 407+98.00 TO STA. 408+50.00		

DATE	
BY	
FINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
NO.	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
NO.	
AREAS CHECKED	



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 xshldgn
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 PLOT DATE = 2/3/2011

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

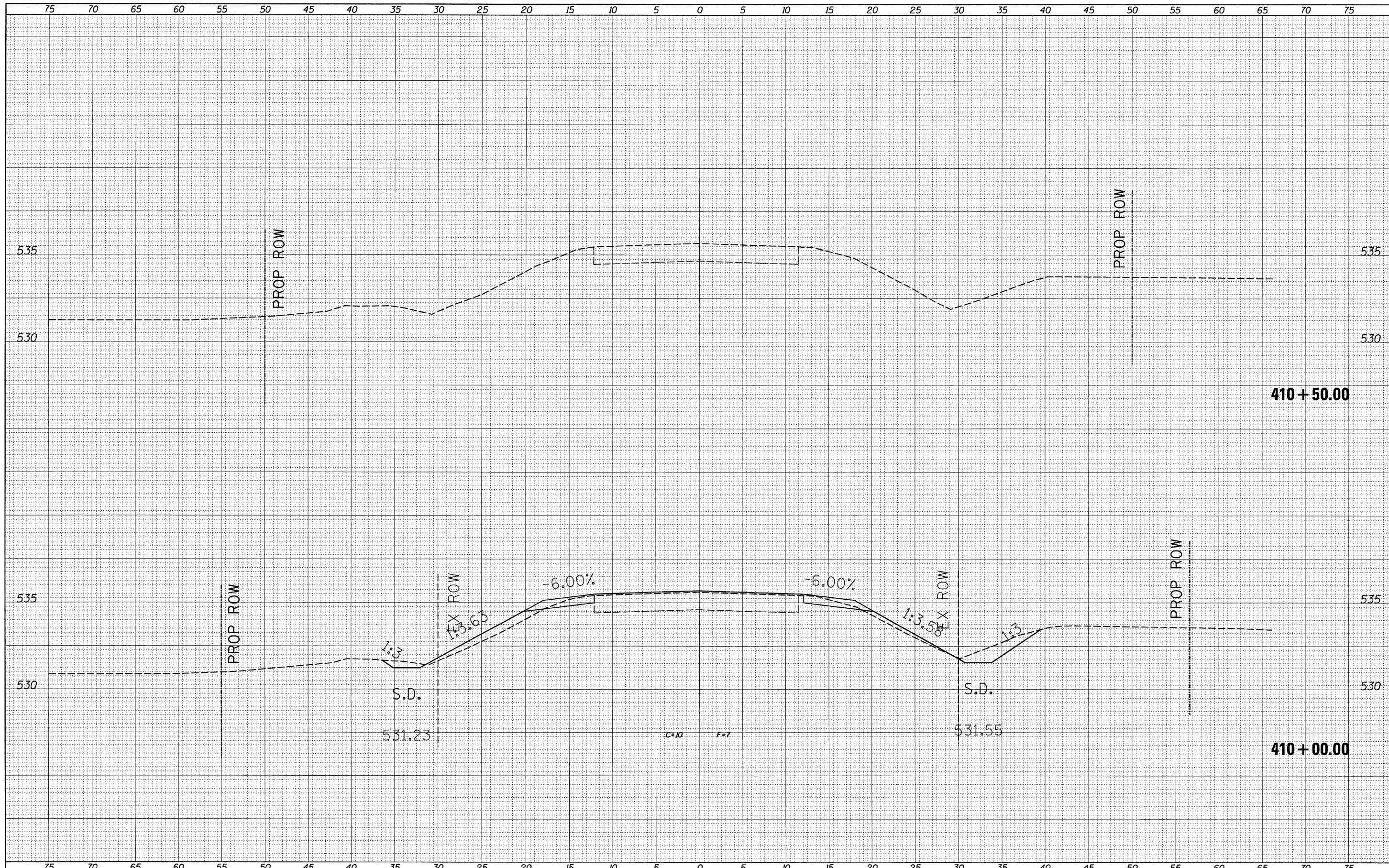
CROSS SECTIONS S.N. 013-2012 NICKOLSON CREEK

SCALE: 5 SHEET NO. 5 OF 6 SHEETS STA. 409+00.00 TO STA. 409+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	128-1(1) & 128-1(2)	CLAY	39	34
			CONTRACT NO. 74116	
ILLINOIS FED. AID PROJECT				

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
NO.	
AREAS CHECKED	

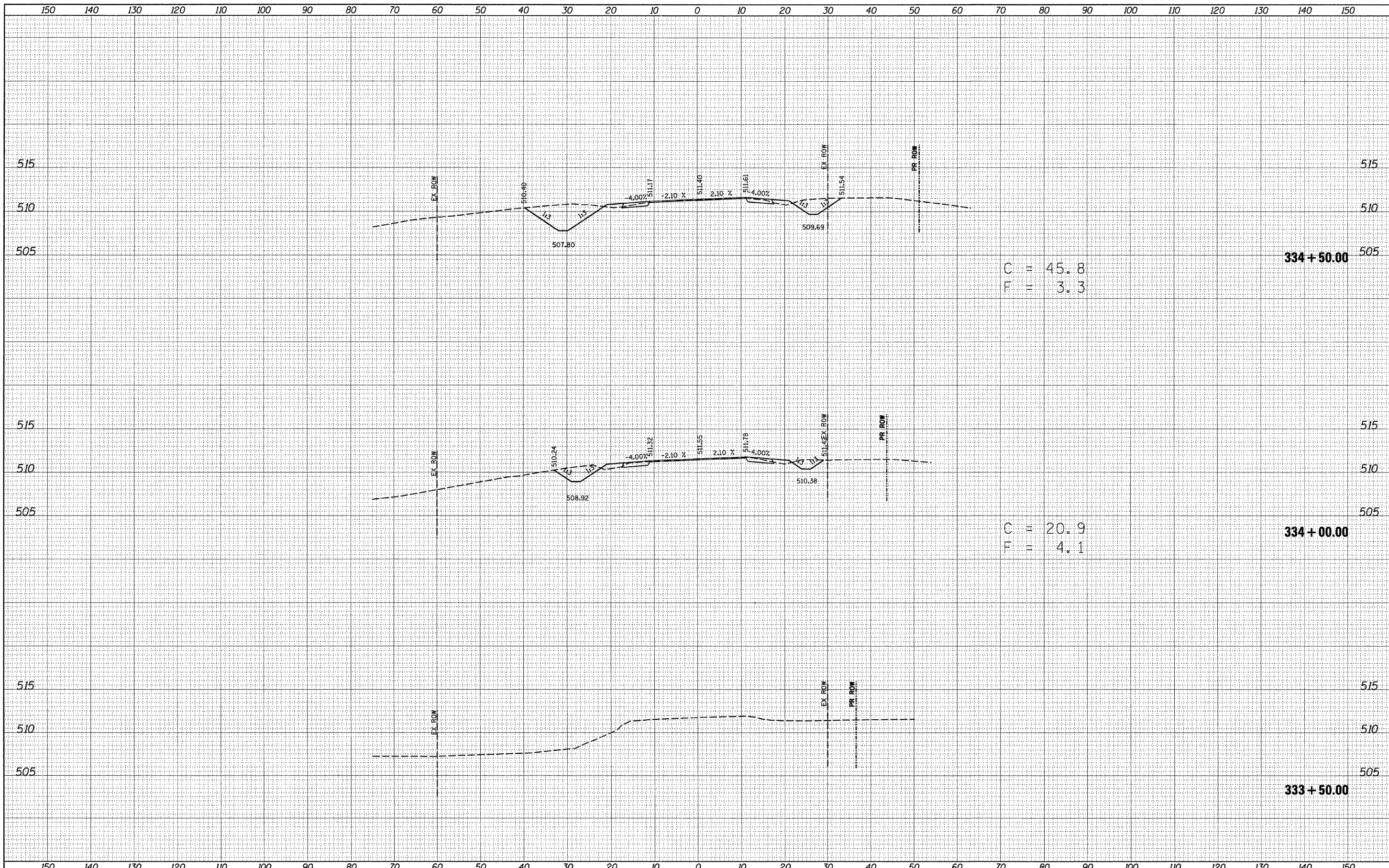
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SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
NO.	
AREAS CHECKED	



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c:\pwork\pwork\swartzw\dms37456\0774116-sh	xsht.dgn	DRAWN -	REVISED -			2704	12B-1(1) & 12B-1(2)	CLAY	39	35	
PLOT SCALE = 5.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74116					
PLOT DATE = 2/3/2011		DATE -	REVISED -			SCALE: 5		SHEET NO. 6 OF 6 SHEETS		STA. 410+00.00 TO STA. 410+50.00	
ILLINOIS FED. AID PROJECT											

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

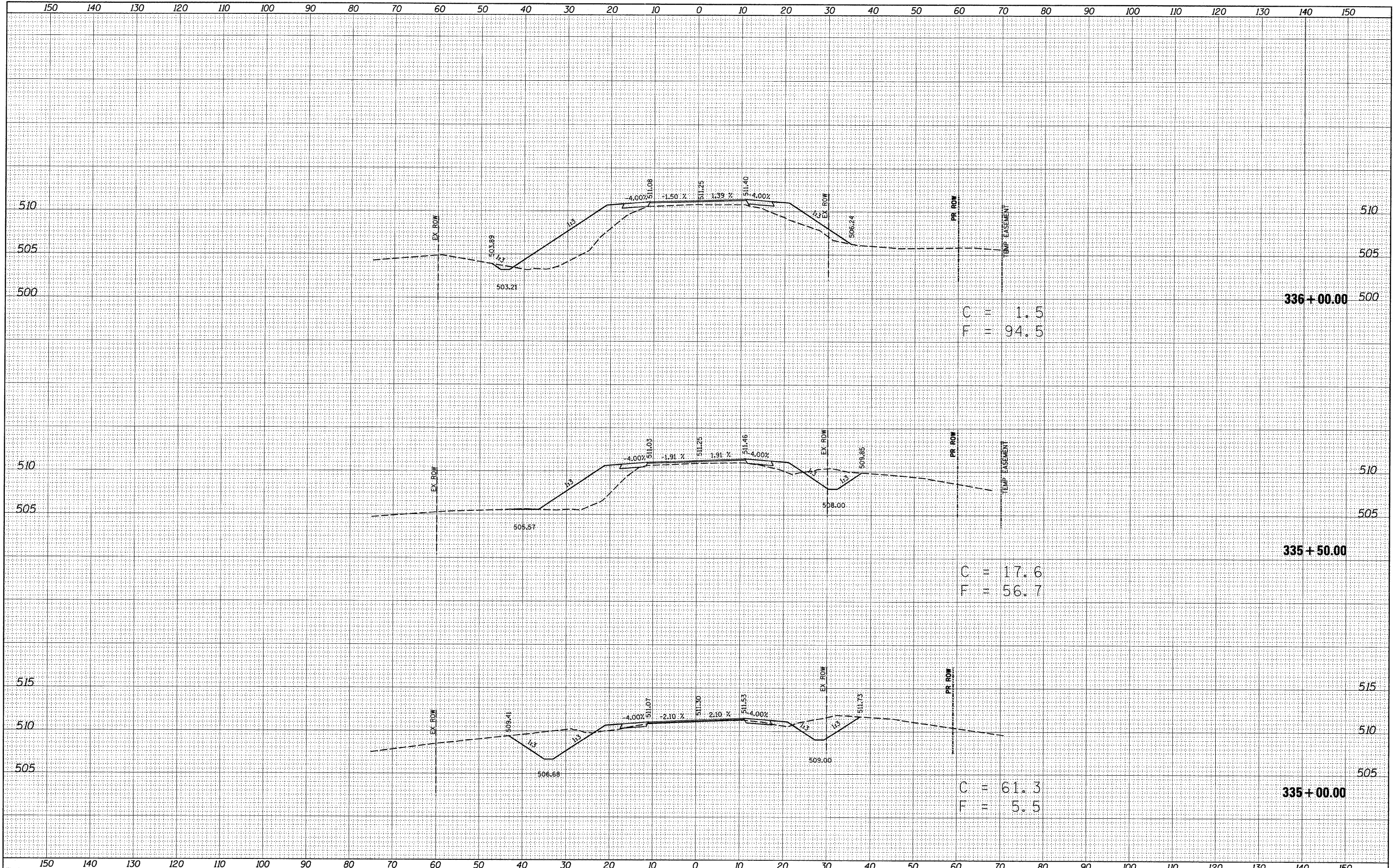
DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



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o:\pr_work\psidot\swartz\dms72717\0774114-sh	xsht.dgn	DRAWN -	REVISED -		SCALE: 10	SHEET NO. 1 OF 4 SHEETS	STA. 333+50.00 TO STA. 334+50.00	2704	12B-1(1) & 12B-1(2)	CLAY	39	36
PLOT SCALE = 10.0000' / IN.		CHECKED -	REVISED -									
PLOT DATE = 2/3/2011		DATE -	REVISED -									
											CONTRACT NO. 74116	
											ILLINOIS FED. AID PROJECT	

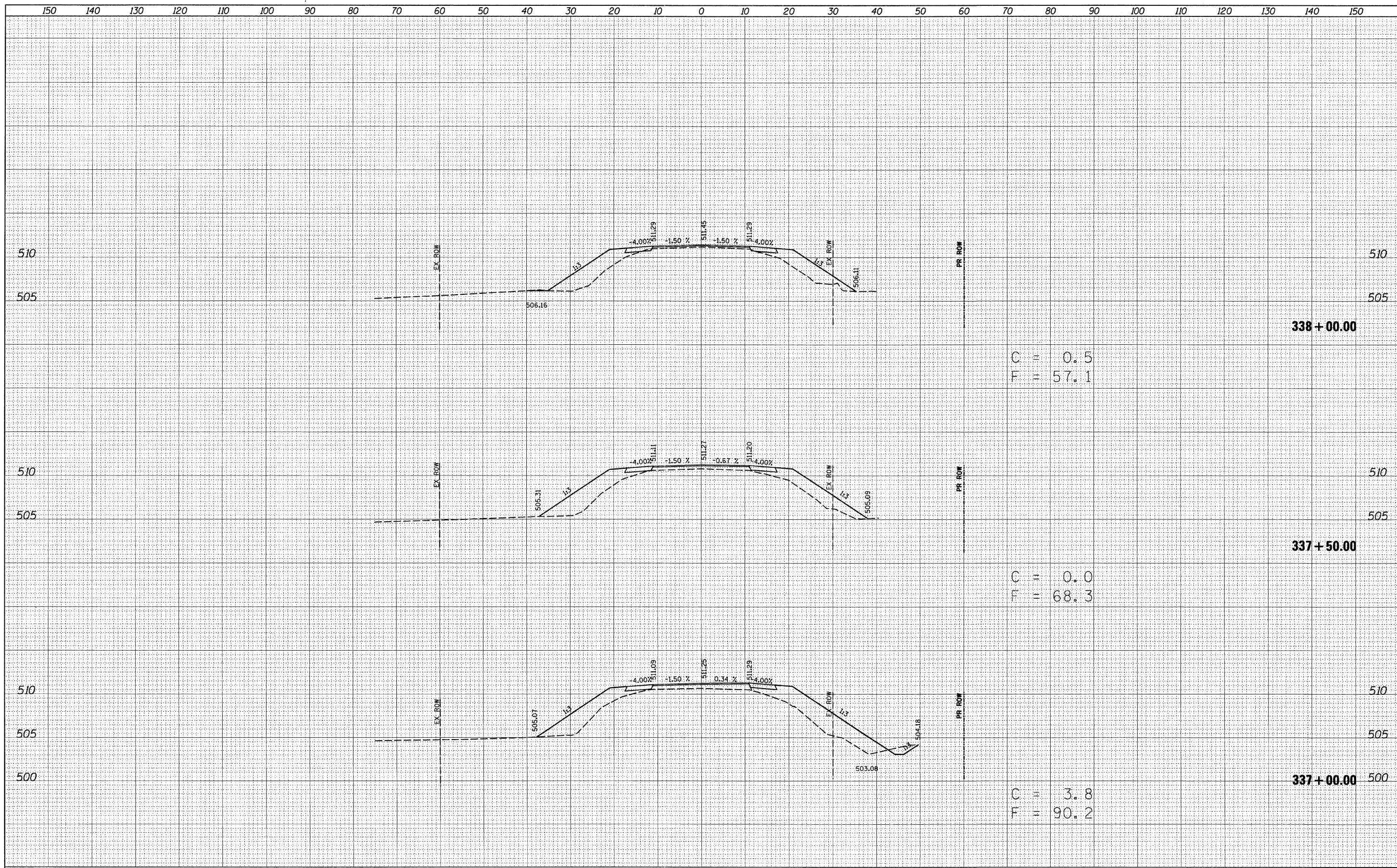
DATE	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



DATE	
BY	
FINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	



C = 0.5
F = 57.1

C = 0.0
F = 68.3

C = 3.8
F = 90.2

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DESIGNED -
DRAWN -
CHECKED -
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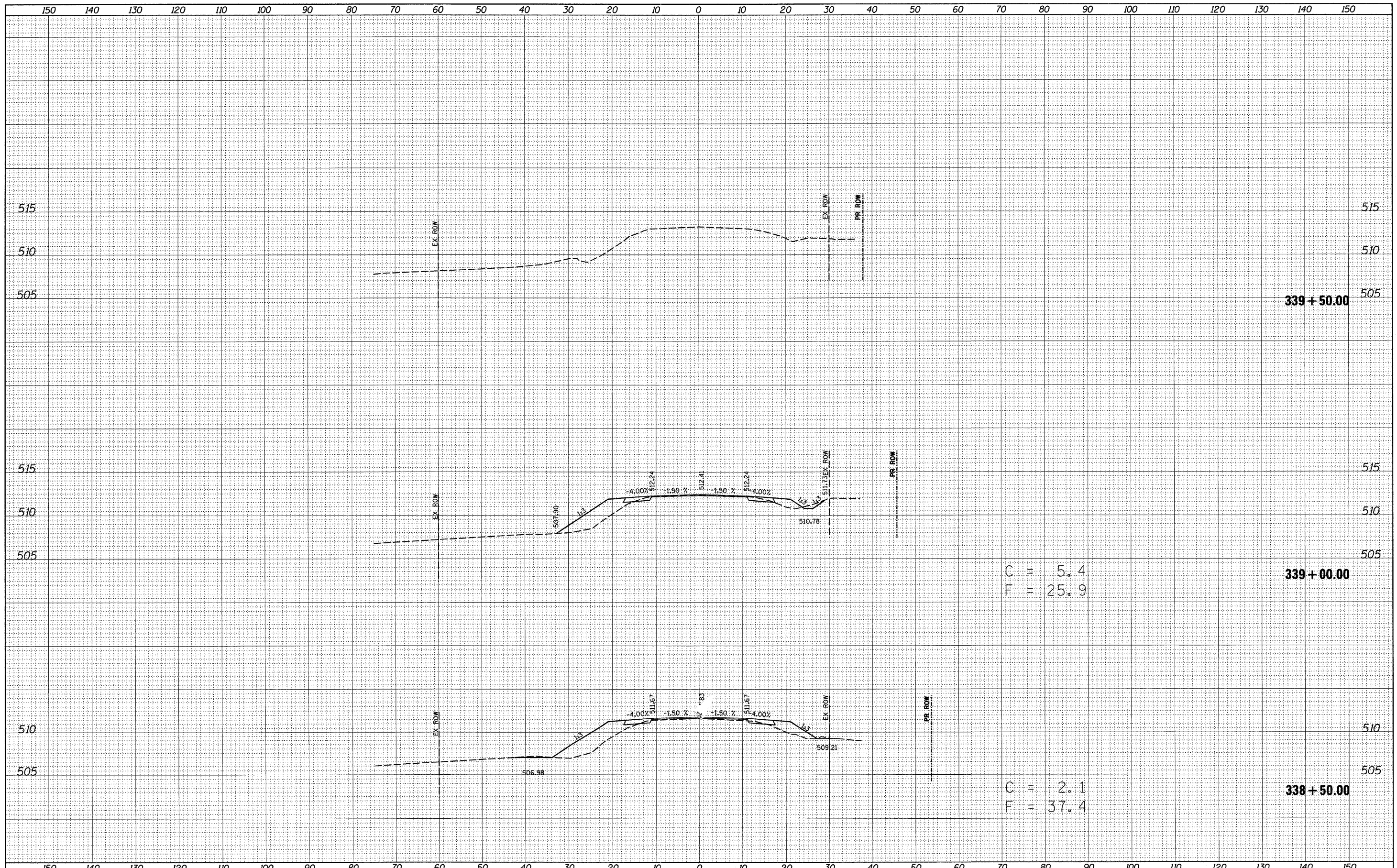
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
S.N. 013-2013 BRUSH CREEK
SCALE: 10 SHEET NO. 3 OF 4 SHEETS STA. 337+00.00 TO STA. 338+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2704	12B-1(1) & 12B-1(2)	CLAY	39	38
CONTRACT NO. 74116				
ILLINOIS FED. AID PROJECT				

DATE	
BY	
FINISH SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS S.N. 013-2013 BRUSH CREEK		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ar:\pwork\pwork\swartzw\dms72717\0774114-sh	kshtdgn	DRAWN -	REVISED -		SCALE: 10	SHEET NO. 4 OF 4 SHEETS	STA. 338+50.00 TO STA. 339+50.00	2704	12B-1(1) & 12B-1(2)	CLAY	39	39
	PLOT SCALE = 10.0000' / IN.	CHECKED -	REVISED -									
	PLOT DATE = 2/3/2011	DATE -	REVISED -									
											CONTRACT NO. 74116	
											ILLINOIS FED. AID PROJECT	