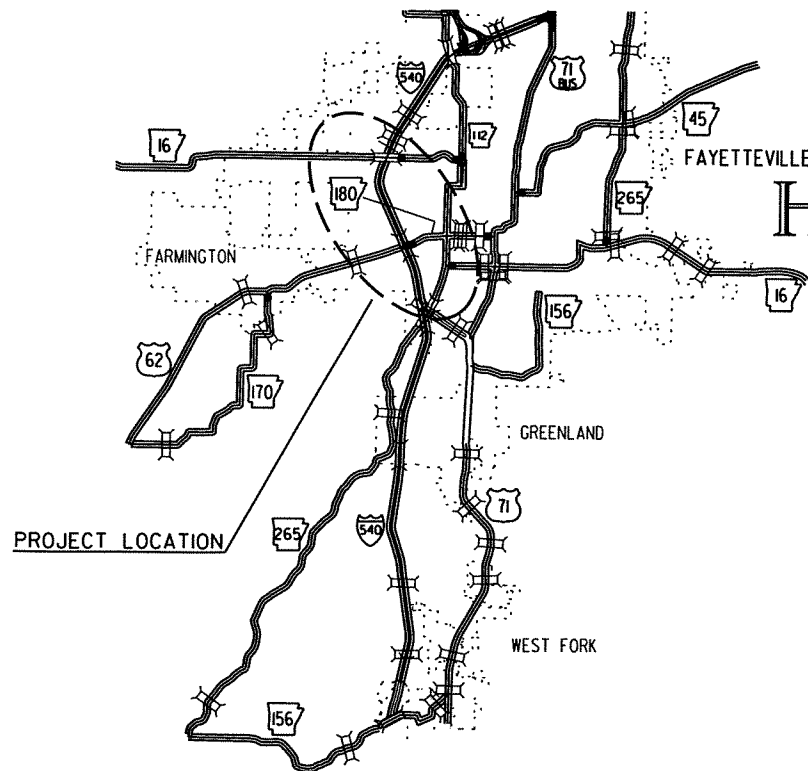


"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	1	98

2 HWY. 62/180 - HWY. 16 WIDENING (FAYETTEVILLE)(F)



VICINITY MAP

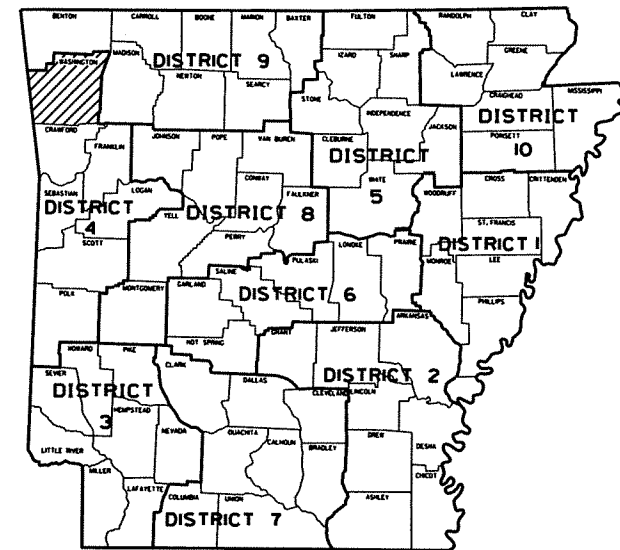
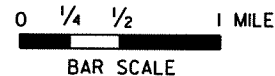
HWY. 62/180 - HWY. 16 WIDENING (FAYETTEVILLE)(F)

WASHINGTON COUNTY

ROUTE 540 SECTION 4

FEDERAL AID PROJ. EBS-IMD-540-K(257)62

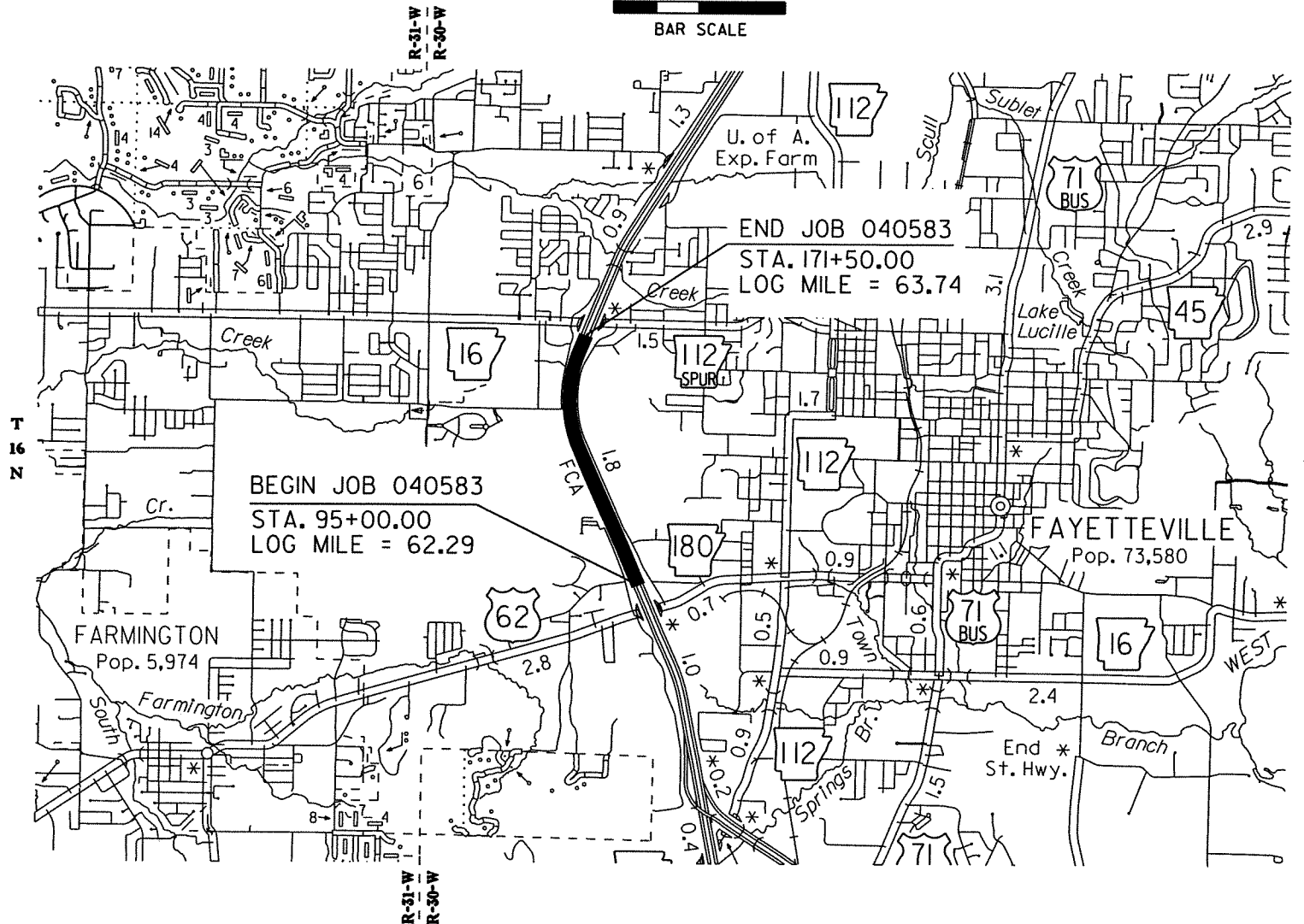
JOB 040583



ARK. HWY. DIST. NO. 4

DESIGN TRAFFIC DATA

DESIGN YEAR.....	2012
2012 ADT.....	56,000
2032 ADT.....	78,500
2032 DHV.....	8,635
DIRECTIONAL DISTRIBUTION.....	0.60
TRUCKS.....	20%
DESIGN SPEED.....	70 MPH



BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 36°03'28"	LATITUDE = N 36°03'56"	LATITUDE = N 36°04'39"
LONGITUDE = W 94°11'48"	LONGITUDE = W 94°12'02"	LONGITUDE = W 94°12'04"

LENGTH OF PROJECT CALCULATED ALONG C.L.

	GROSS LENGTH OF PROJECT	NET	NET	NET	NET	FEET OR	MILES
	7650.00	7650.00	00.00	7650.00		1,449	

P.E. JOB 012070
NON-PART.

APPROVED



3/14/12
DEPUTY DIRECTOR
AND CHIEF ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 040583			2	98

2 INDEX OF SHEETS, GOVERNING SPECIFICATIONS, & GENERAL NOTES



INDEX OF SHEETS

SHEET NO.	TITLE	DRWG. NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES		
3	TYPICAL SECTIONS OF IMPROVEMENT		
4 - 5	SPECIAL DETAILS		
6 - 8	TEMPORARY EROSION CONTROL DETAILS		
9 - 20	MAINTENANCE OF TRAFFIC DETAILS		
21 - 24	PERMANENT PAVEMENT MARKING DETAILS		
25 - 27	QUANTITIES		
28	SUMMARY OF QUANTITIES AND REVISIONS		
29 - 34	SURVEY CONTROL DETAILS		
35	SOIL LOG		
36 - 41	PLAN AND PROFILE SHEETS		
42	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	FPC-9S	11-16-01
43	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	12-15-11
44	PAVEMENT MARKING DETAILS	PM-1	11-17-10
45	PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS	PM-2	12-15-11
46	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
47	TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC	SE-1	1-09-87
48	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	12-15-11
49	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
50	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
51	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-4	10-15-09
52	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-5	10-15-09
53	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
54	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
55 - 98	CROSS SECTIONS		

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

GENERAL NOTES

- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-2	PIPE CULVERTS
JOB 040583	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 040583	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 040583	EXTENSION FOR PIPE CULVERTS
JOB 040583	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 040583	HIGH PERFORMANCE PAVEMENT MARKING
JOB 040583	INTERNET BIDDING
JOB 040583	MAINTENANCE OF TRAFFIC
JOB 040583	PARTNERING REQUIREMENTS
JOB 040583	SEQUENCE OF CONSTRUCTION
JOB 040583	SITE USE (A + C METHOD)
JOB 040583	STORM WATER POLLUTION PREVENTION PLAN
JOB 040583	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 040583	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 040583	UTILITY ADJUSTMENTS
JOB 040583	VALUE ENGINEERING
JOB 040583	WARM MIX ASPHALT

3/9/2012

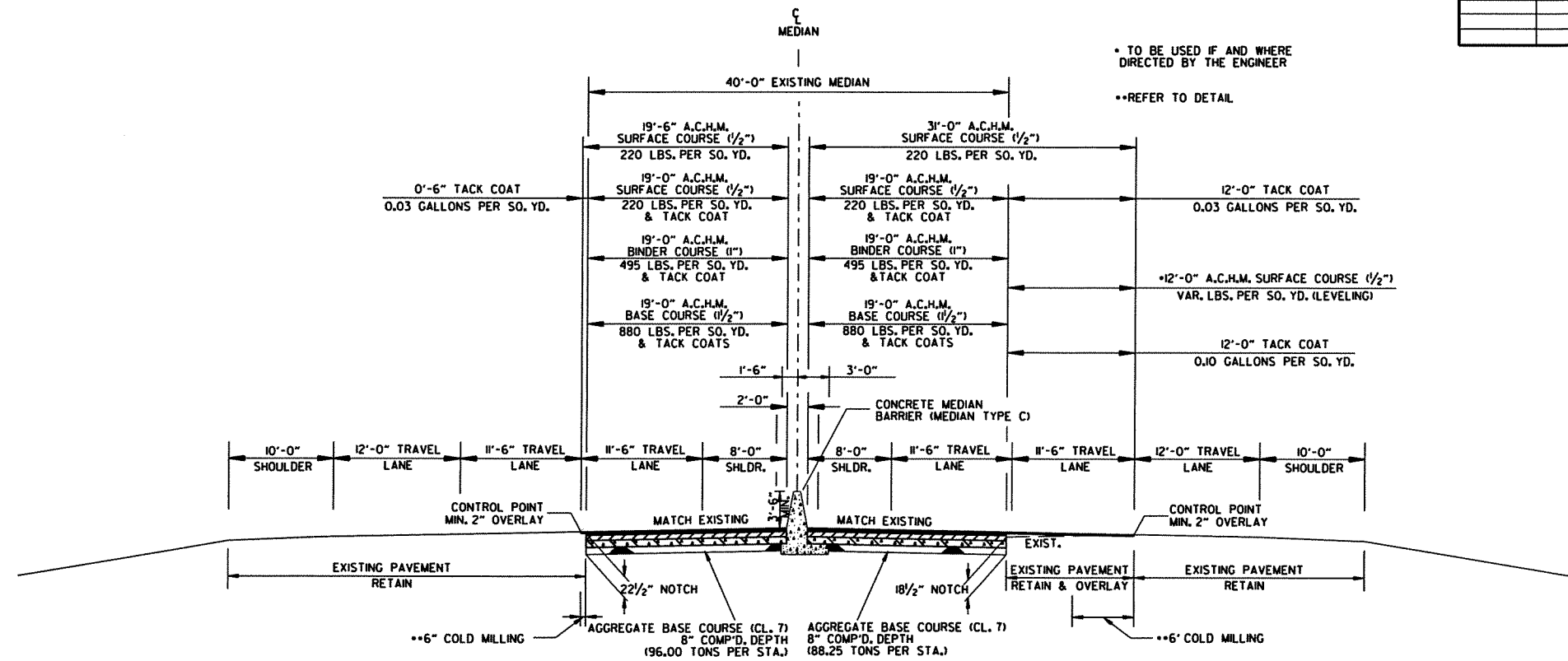
RO40583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		3	98

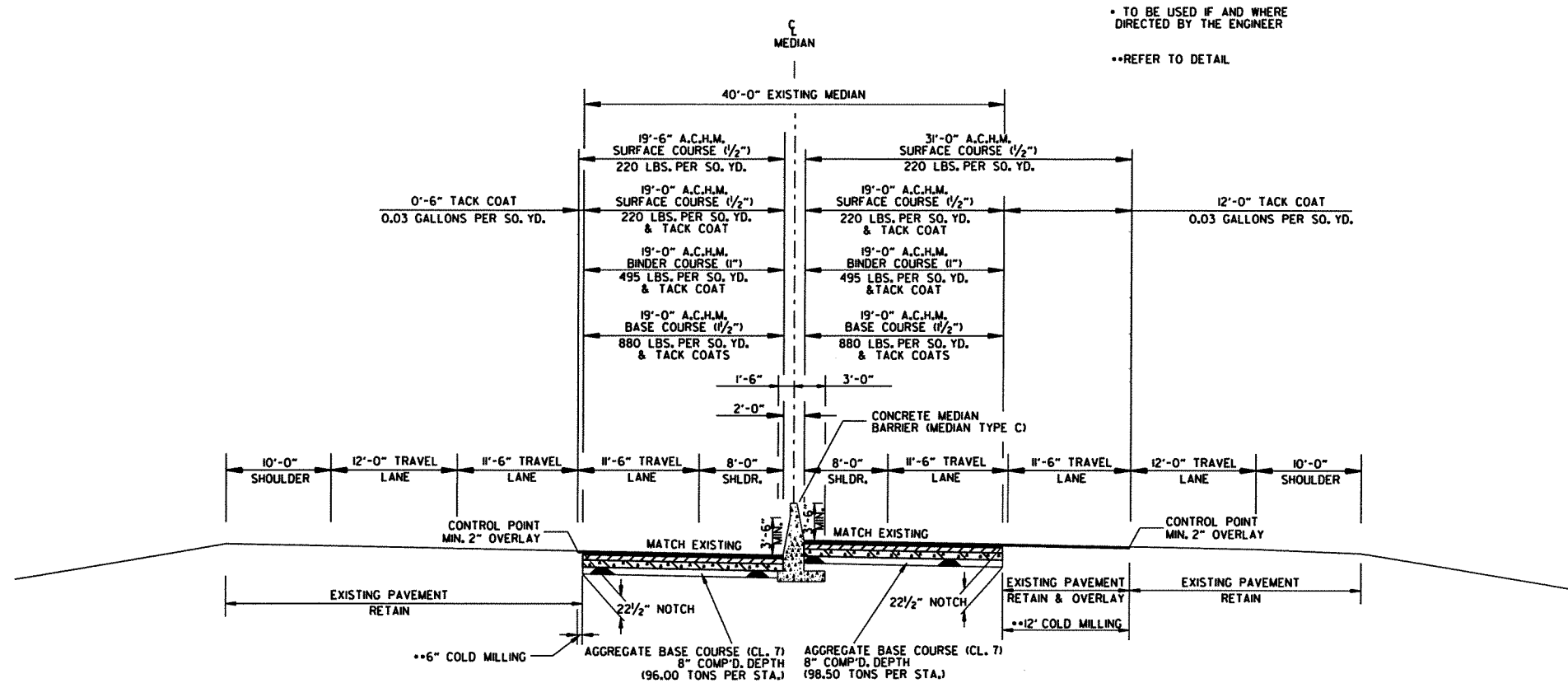
2 PLAN AND PROFILE SHEETS



3-12-12



TYPICAL SECTION OF IMPROVEMENT - I-540
 STA. 95+00.00 TO STA. 132+37.50
 STA. 164+85.00 TO STA. 171+50.00



TYPICAL SECTION OF IMPROVEMENT - I-540
 SUPERELEVATION
 STA. 132+37.50 TO STA. 164+85.00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
 **REFER TO DETAIL

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
 **REFER TO DETAIL

NOTES:
 THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
 ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.
 THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
 THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

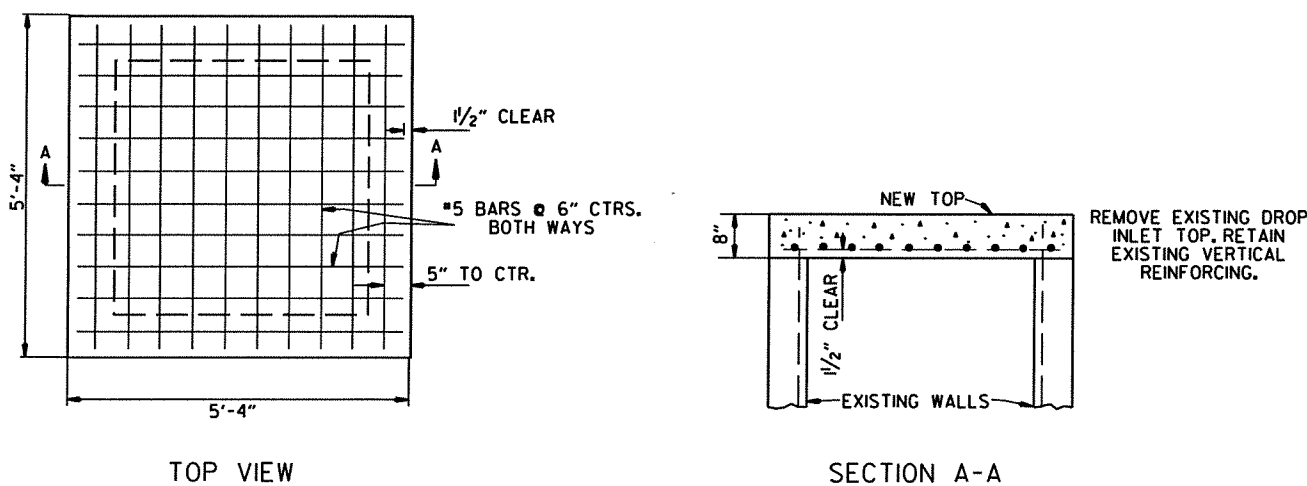
3/12/2012

RO40583.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.	040583		4	98

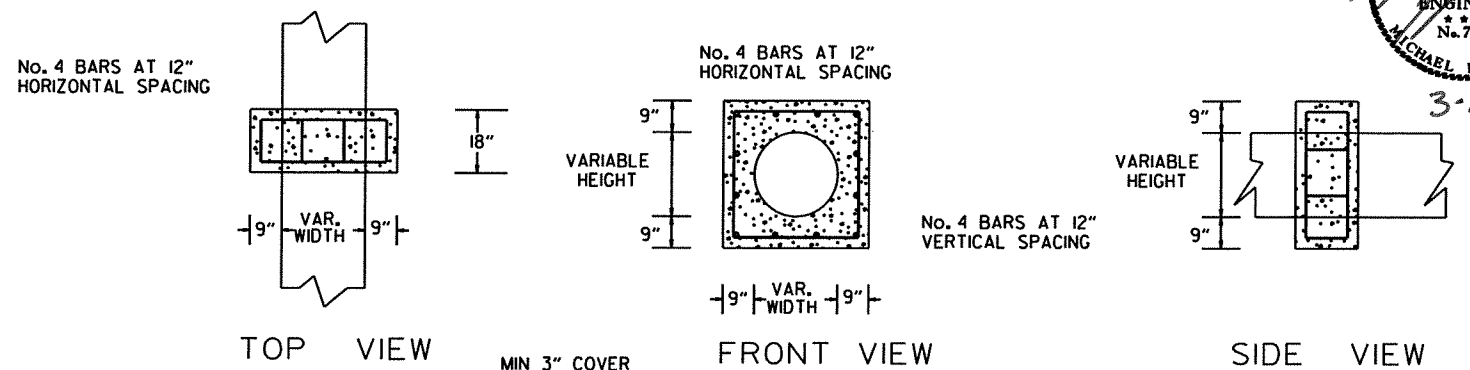
2 SPECIAL DETAILS



TOP VIEW

SECTION A-A

DETAILS OF MODIFIED DROP INLET

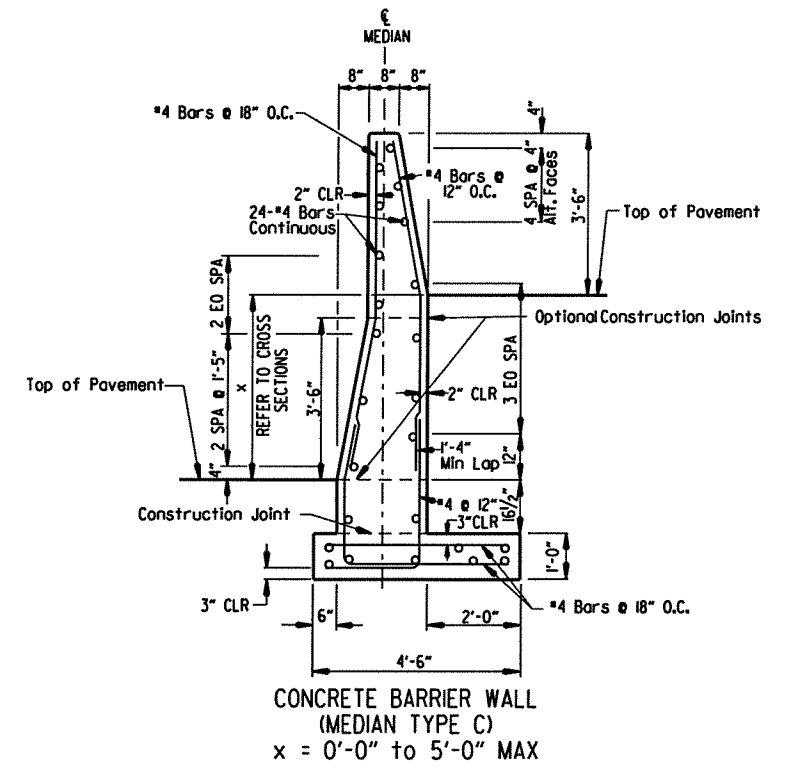


TOP VIEW

FRONT VIEW

SIDE VIEW

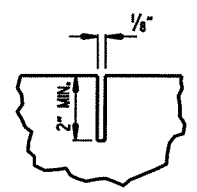
PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL



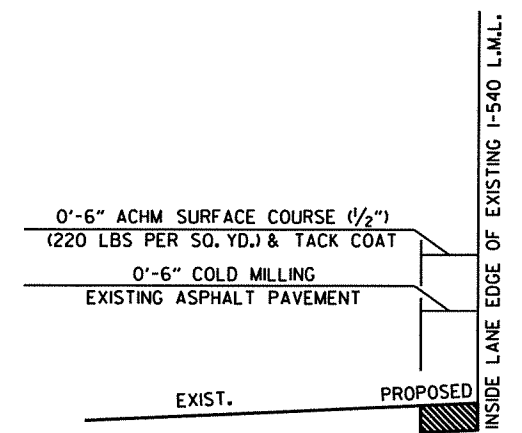
CONCRETE BARRIER WALL (MEDIAN TYPE C)
x = 0'-0" to 5'-0" MAX

GENERAL NOTES FOR CONCRETE BARRIER WALLS

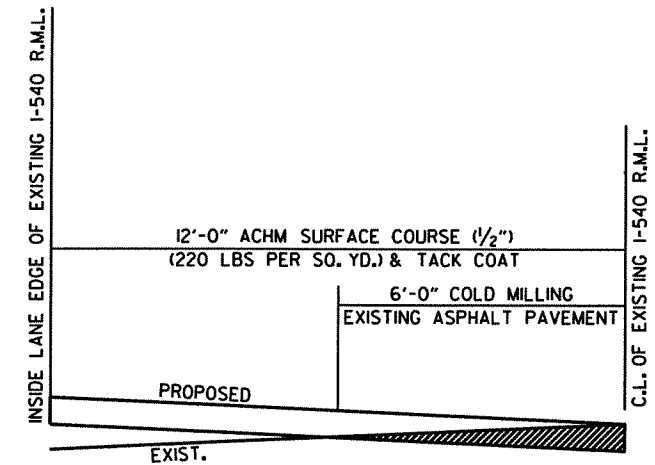
- ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 63 OF THE STANDARD SPECIFICATIONS, 2003 EDITION.
- CONTRACTION JOINTS REQUIRED @ 30'-0" MAXIMUM SPACING FOR TYPE MEDIAN C.
- ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
- ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER. THE DESIGN OF BARRIER WALL TYPE MEDIAN C IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
- SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 120 FT FOR BARRIER TYPE MEDIAN C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.



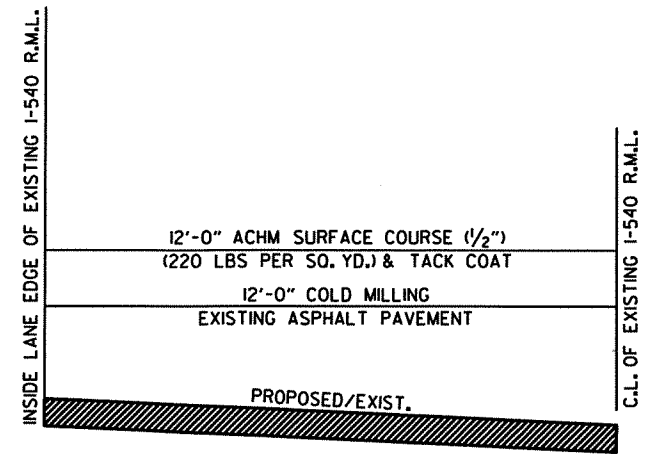
CONTRACTION JOINT DETAIL



DETAIL OF COLD MILLING OF I-540 L.M.L.



DETAIL OF COLD MILLING OF I-540 R.M.L. NORMAL CROWN



DETAIL OF COLD MILLING OF I-540 R.M.L. SUPERELEVATION

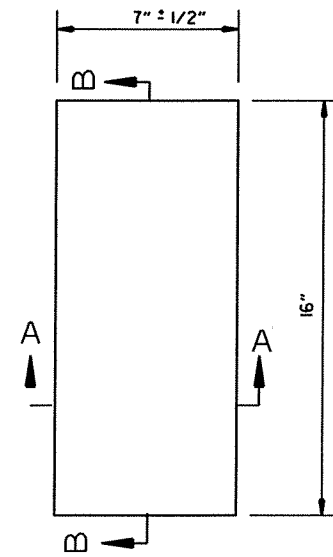
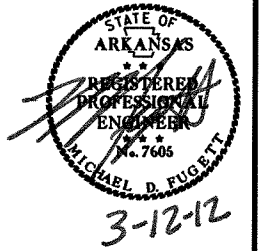
SPECIAL DETAILS

3/12/2012

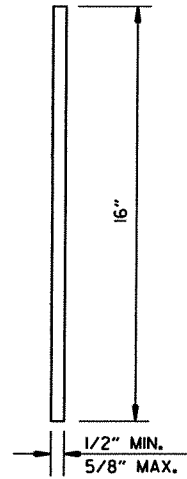
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				6	ARK.			
JOB NO. 040583							5	98

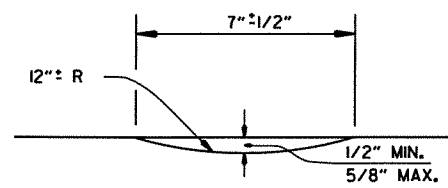
2 SPECIAL DETAILS



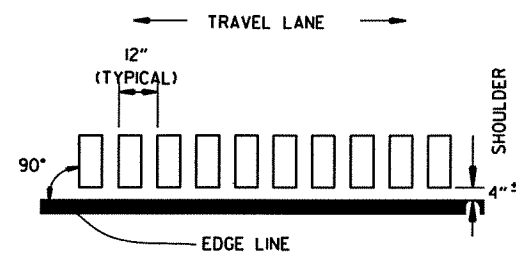
PLAN



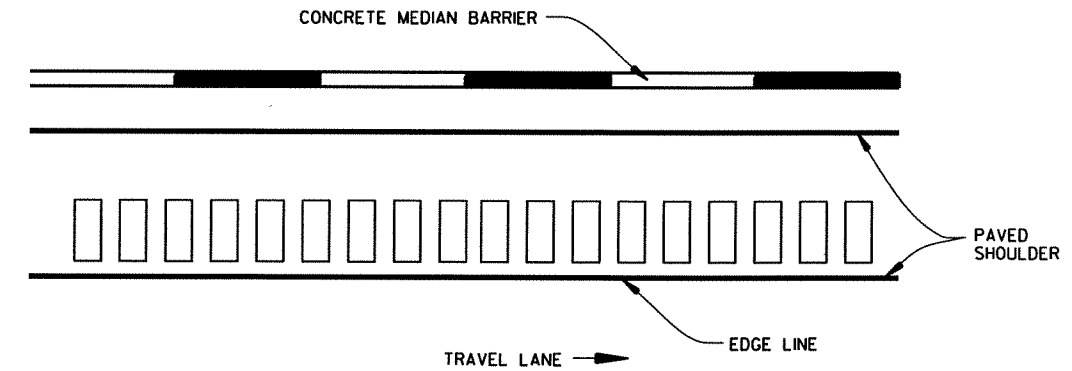
SECTION B-B



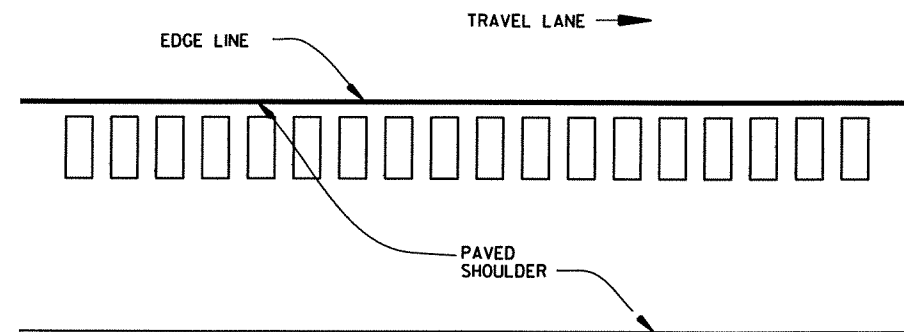
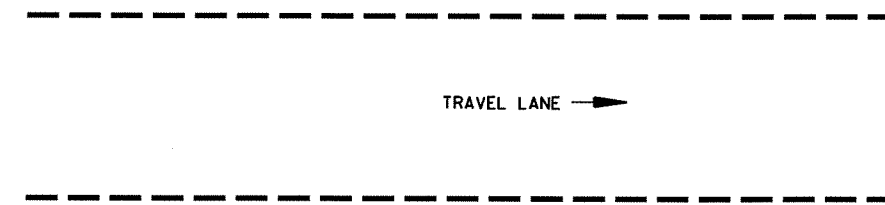
SECTION A-A



LOCATION PLAN OF RUMBLE STRIPS
LEFT SHOULDER



PLAN VIEW



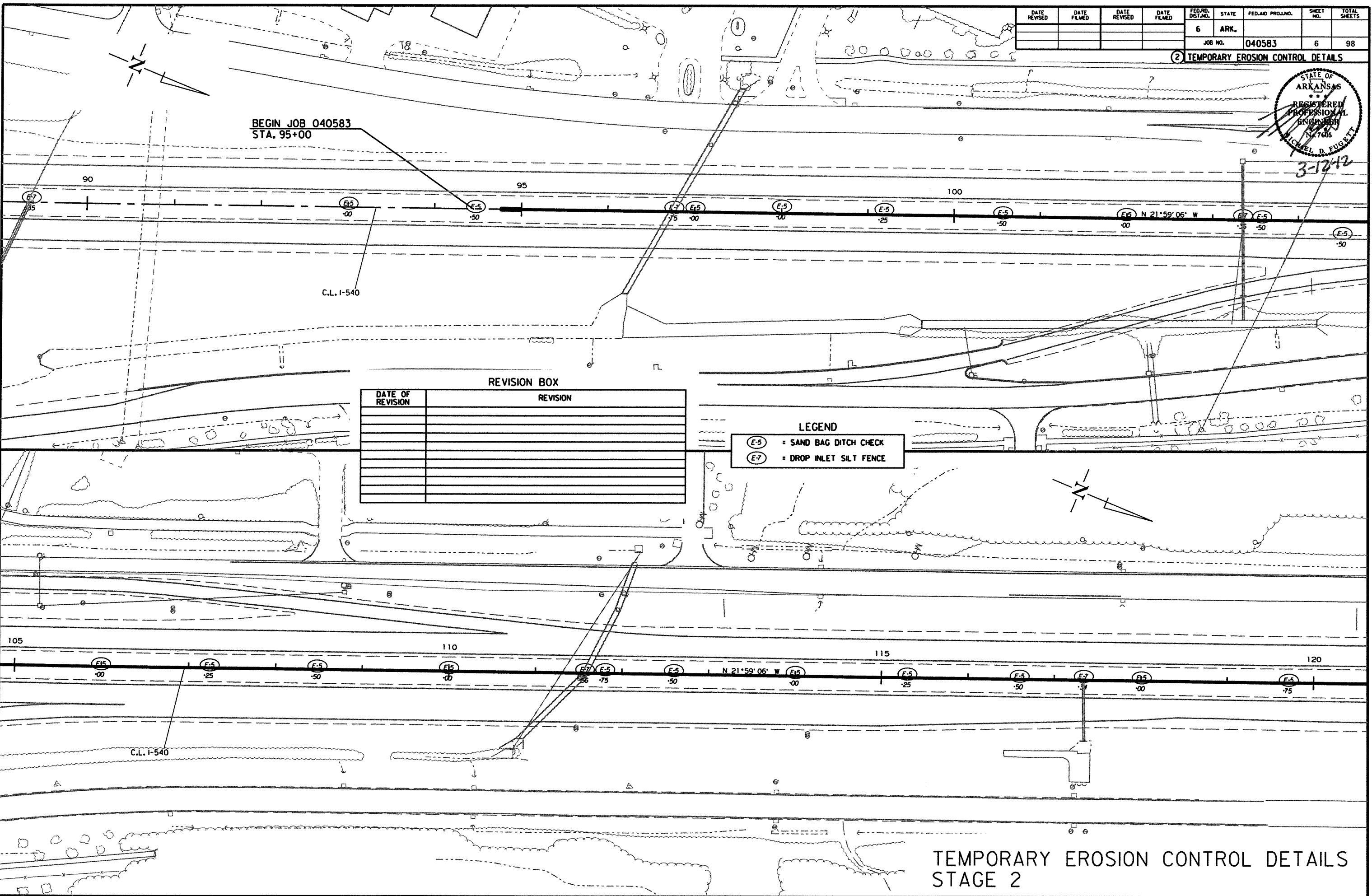
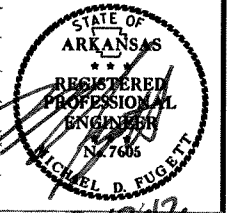
NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AS WELL AS TO AVOID EXISTING LONGITUDINAL JOINTS.
2. THE 1/2" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

DETAILS OF RUMBLE STRIPS

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JOB NO. 040583							6	98

2 TEMPORARY EROSION CONTROL DETAILS



BEGIN JOB 040583
STA. 95+00

C.L. I-540

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

3/9/2012

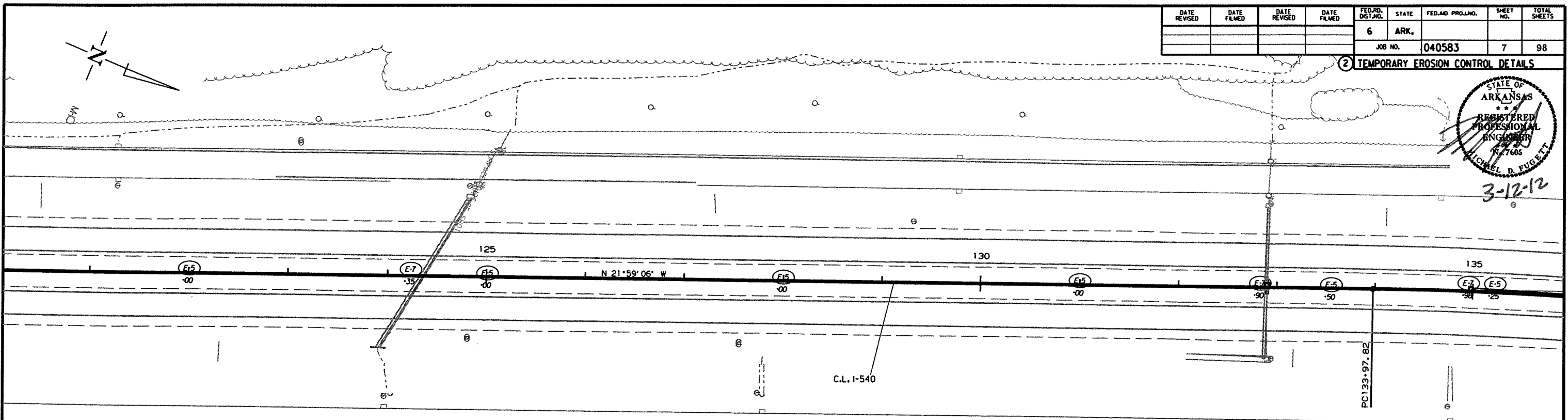
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		7	98
				JOB NO.		040583	7	98

2 TEMPORARY EROSION CONTROL DETAILS



3-12-12

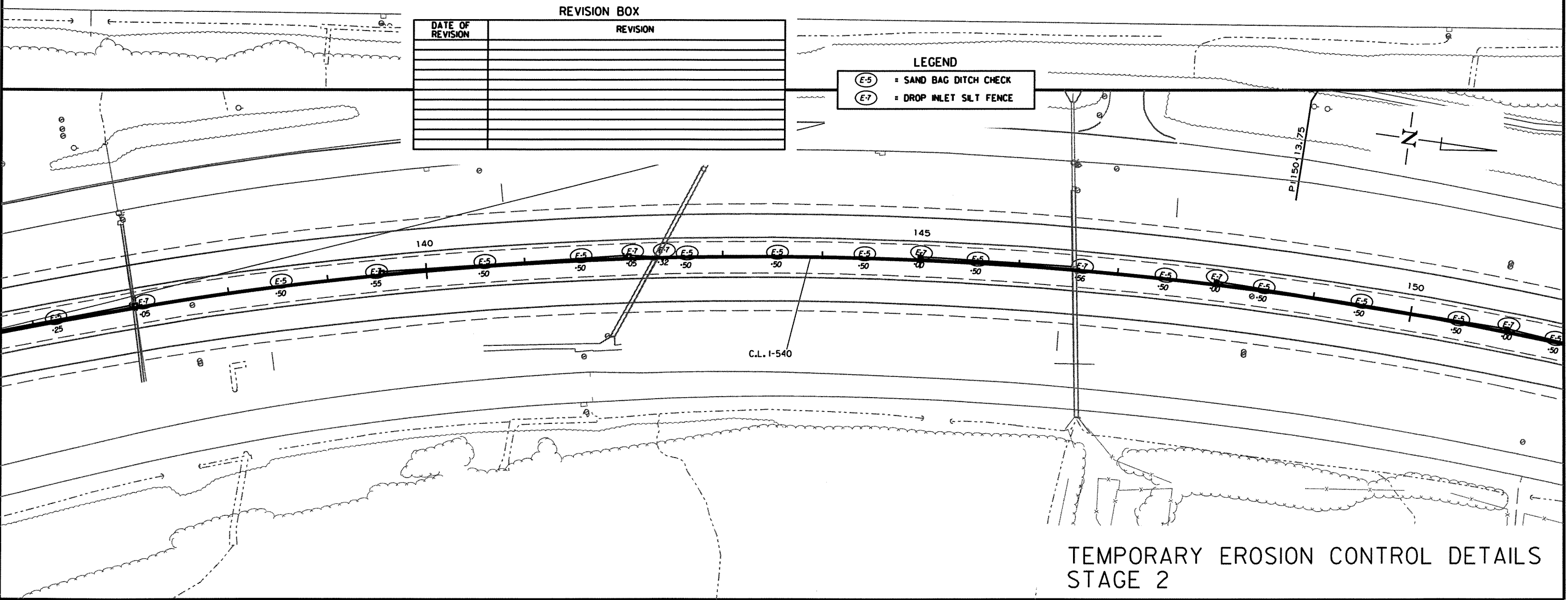


REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE



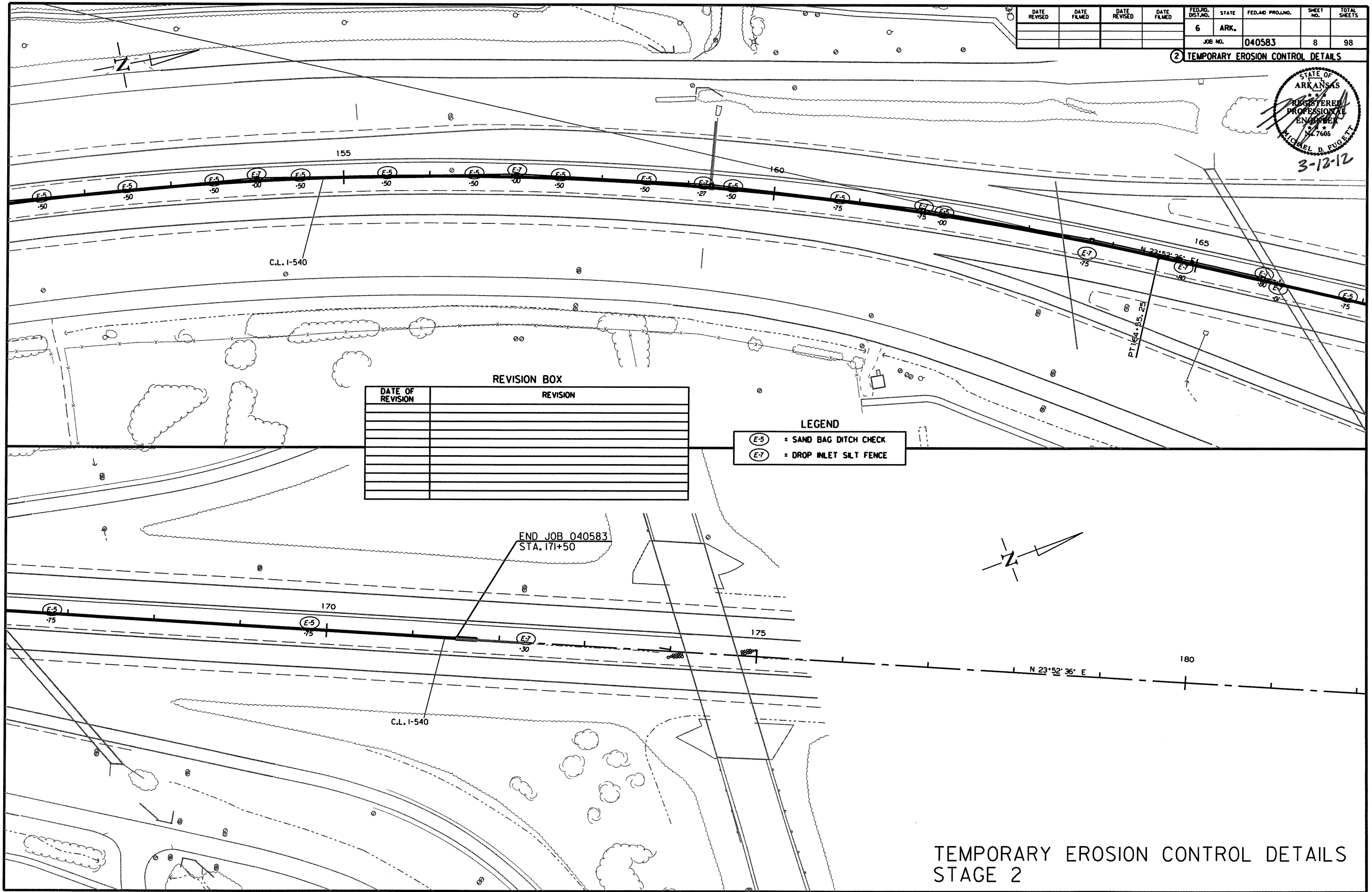
TEMPORARY EROSION CONTROL DETAILS
STAGE 2

3/9/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		8	98
				JOB NO. 040583				

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
No. 7605
3-12-12



REVISION BOX

DATE OF REVISION	REVISION

LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-7)	= DROP INLET SILT FENCE

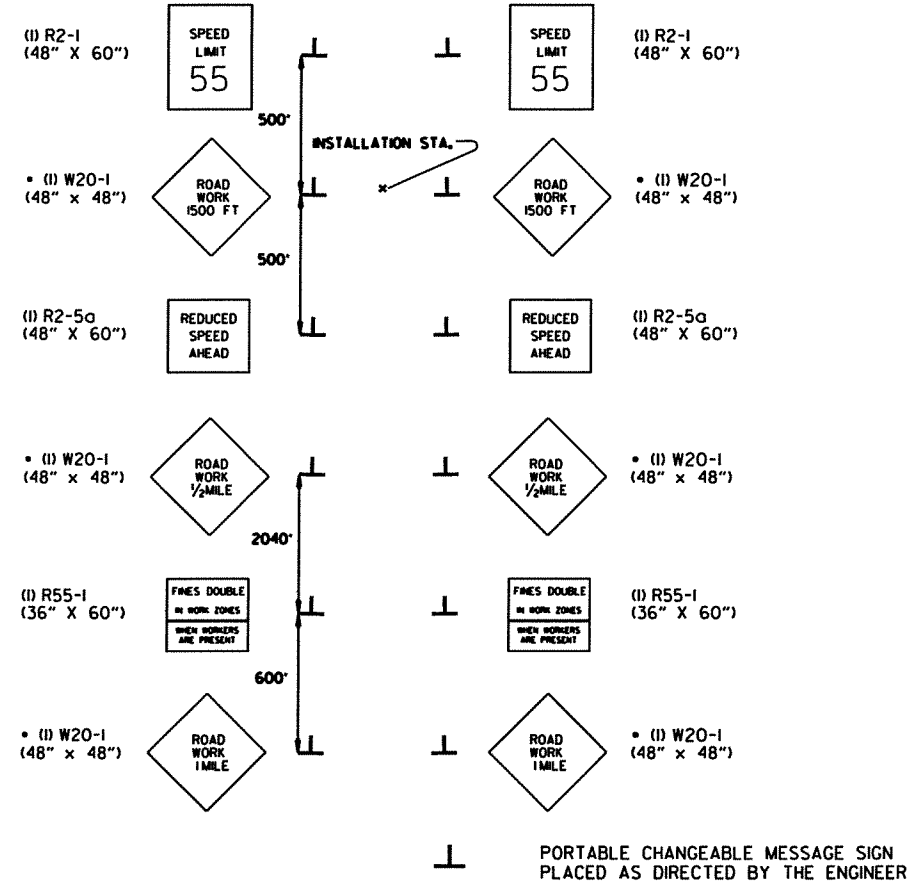
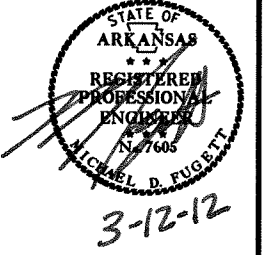
END JOB 040583
STA. 171+50

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

R040583.DGN 3/9/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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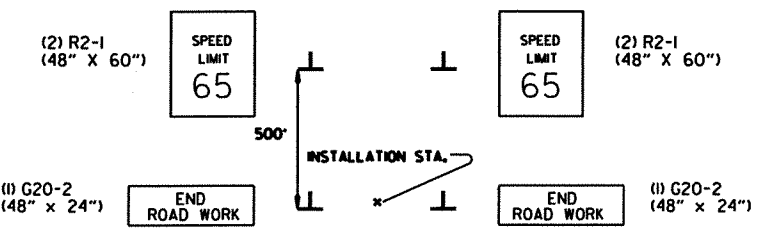
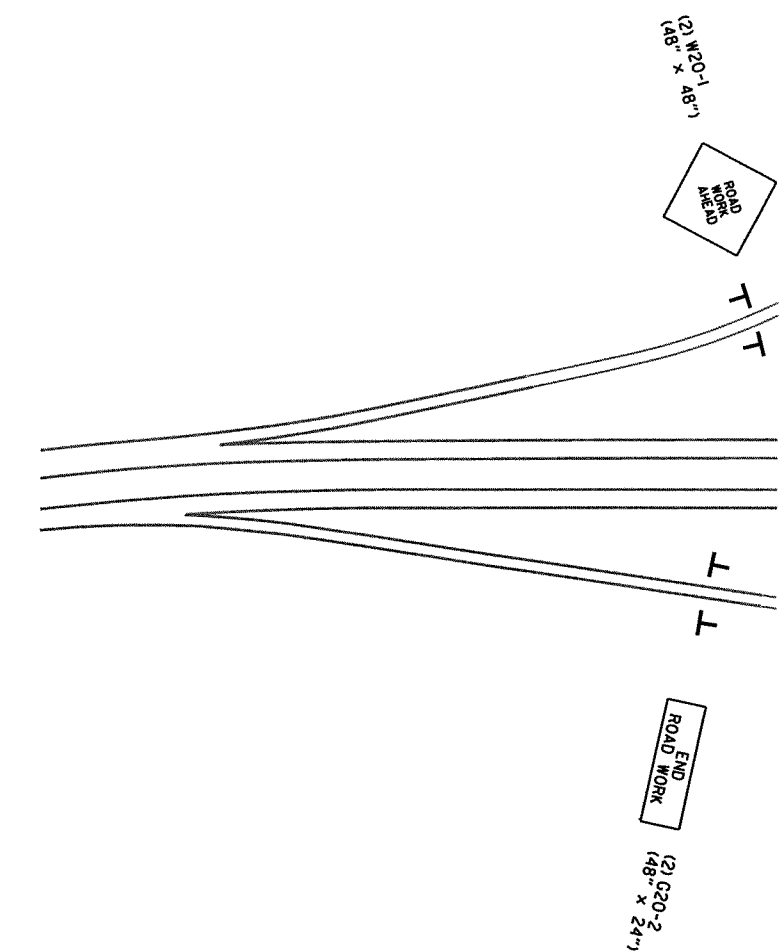
② MAINTENANCE OF TRAFFIC DETAILS



• REMOVE OR COVER WHEN LANE CLOSURE IS IN PLACE.

ADVANCE WARNING SIGNS
(ALL STAGES)
I-540 R.M.L. - STA. 45+50
I-540 L.M.L. - STA. 229+00

DETAIL OF ENTRANCE AND EXIT RAMP
(ALL STAGES)
EXIT 62
EXIT 64



END ROAD WORK SIGNS
(ALL STAGES)
I-540 R.M.L. - STA. 180+00
I-540 L.M.L. - STA. 88+20

ADVANCE WARNING QUANTITIES
SIGNS = 524 SQ. FT.

CONSTRUCTION SEQUENCE

INSTALL ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAIL. INSTALL END ROAD WORK SIGNS AND SPEED LIMIT 65 SIGNS AT THE END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL. INSTALL ROAD WORK AHEAD (W20-1) SIGN AND END ROAD WORK (G20-2) ON RAMP AS SHOWN ON THE ADVANCE WARNING DETAIL.

CLOSE INSIDE LANE OF LEFT MAIN LANES USING THE DEVICES SHOWN ON THE MAINTENANCE OF TRAFFIC WORK ZONE - LANE CLOSURE DETAIL.

COLD MILL 6" ON THE INSIDE LANE OF THE LEFT MAIN LANES TO A DEPTH OF 2".

INSTALL SHOULDER CLOSED (RSP-1), ROAD NARROWS 500' (W5-1), AND REVERSE CURVE (W1-4b) SIGNS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL REMOVABLE CONSTRUCTION PAVEMENT MARKINGS AND PRECAST CONCRETE BARRIERS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT CONCRETE BARRIER WALL AND PAVEMENT WIDENING IN THE MEDIAN OF I-540.

REMOVE PRECAST CONCRETE BARRIER WALL AND PLACE LANE CLOSURE DEVICES ON RIGHT AND LEFT MAIN LANES AS SHOWN IN THE MAINTENANCE OF TRAFFIC WORK ZONE - LANE CLOSURE DETAIL.

PLACE FINAL 2" LIFT OF A.C.H.M. SURFACE.

PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

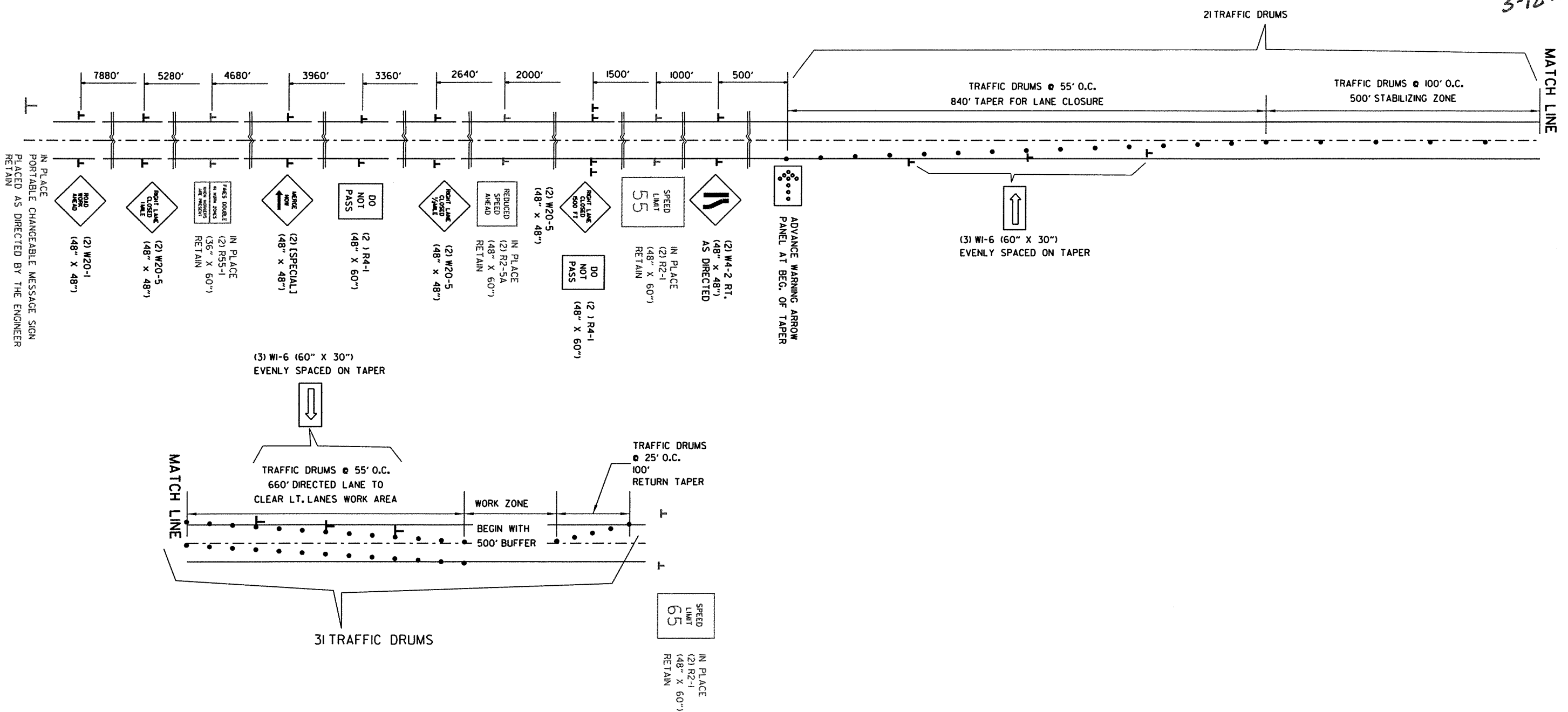
3/9/2012

RO40583.DGN

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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JOB NO. 040583							10	98

2 MAINTENANCE OF TRAFFIC DETAILS



DIVERSION FOR LT. LANE WORK ZONE
 2 SETS OF THIS NEEDED FOR JOB 040583,
 ONE EACH NORTHBOUND AND SOUTHBOUND

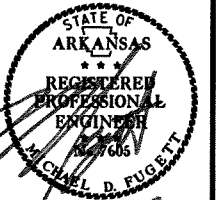
MAINTENANCE OF TRAFFIC DETAILS
 WORK ZONE - LANE CLOSURE

STAGE 1 QUANTITIES
 SIGNS = 1047 SQ. FT.
 TRAFFIC DRUMS = 220 EACH

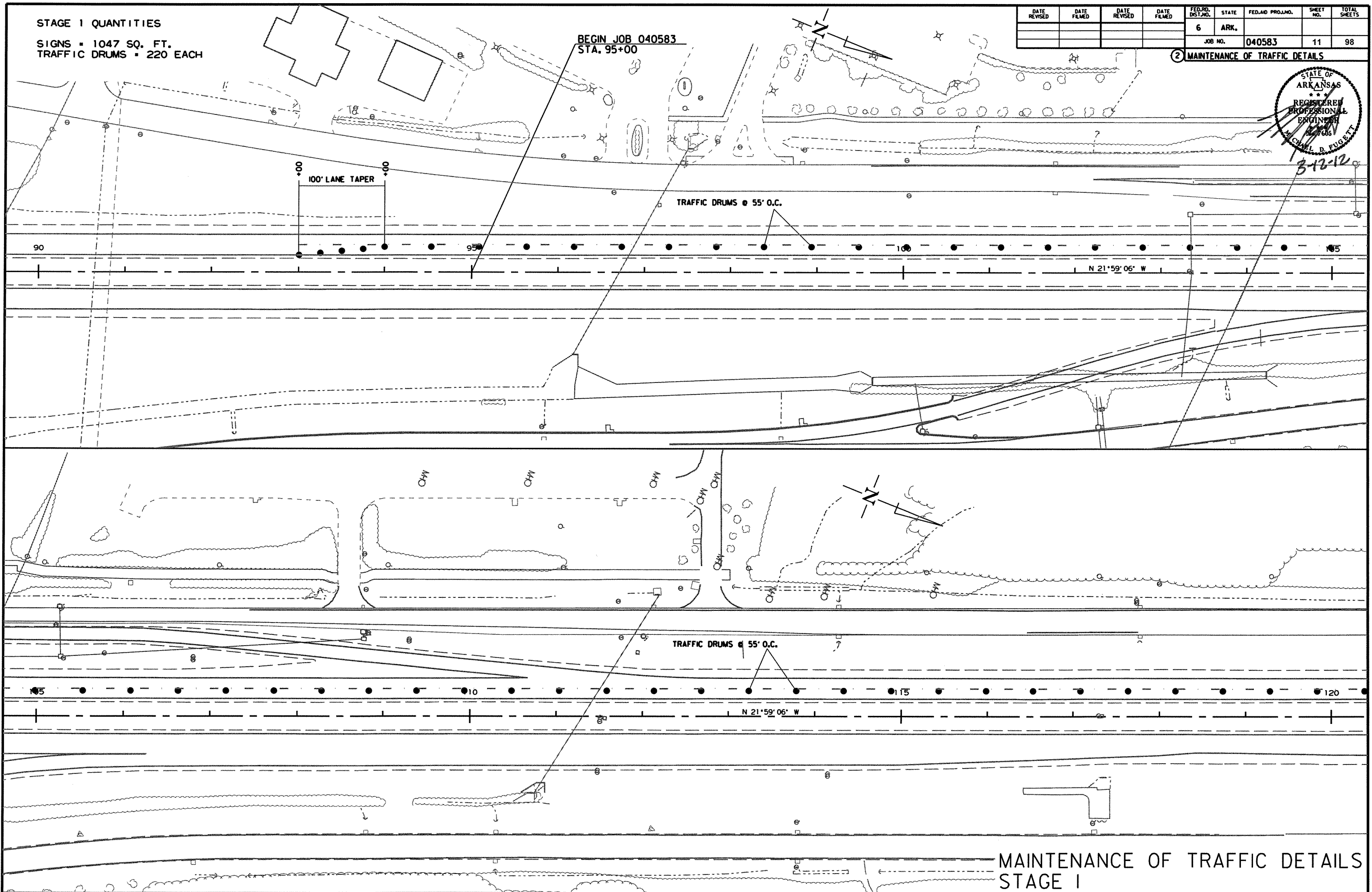
BEGIN JOB 040583
 STA. 95+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							11	98

② MAINTENANCE OF TRAFFIC DETAILS



3-12-12



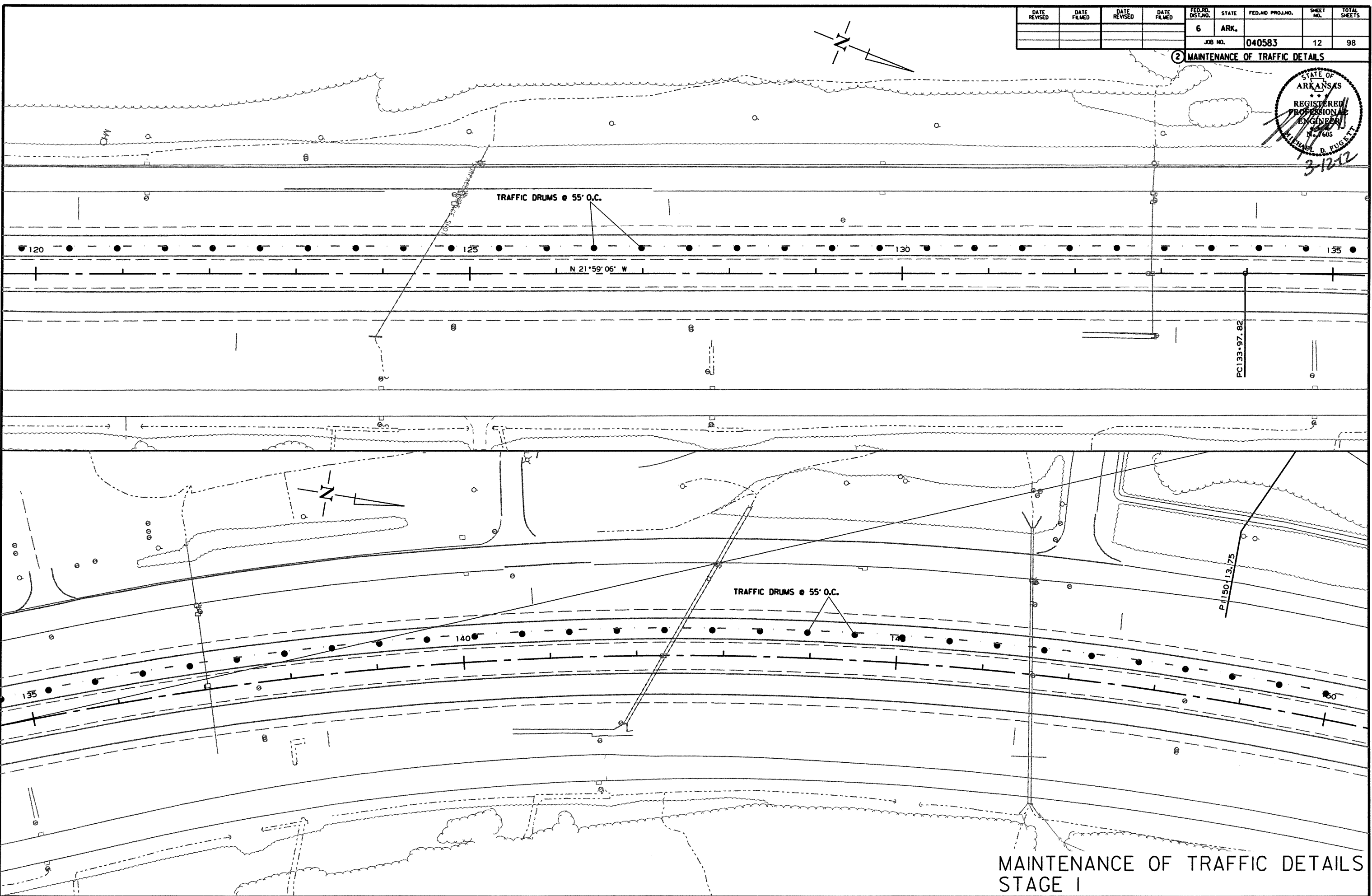
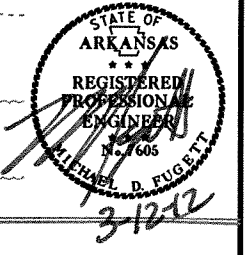
MAINTENANCE OF TRAFFIC DETAILS
 STAGE I

3/9/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		12	98
				JOB NO. 040583				

② MAINTENANCE OF TRAFFIC DETAILS



MAINTENANCE OF TRAFFIC DETAILS
STAGE I

3/9/2012

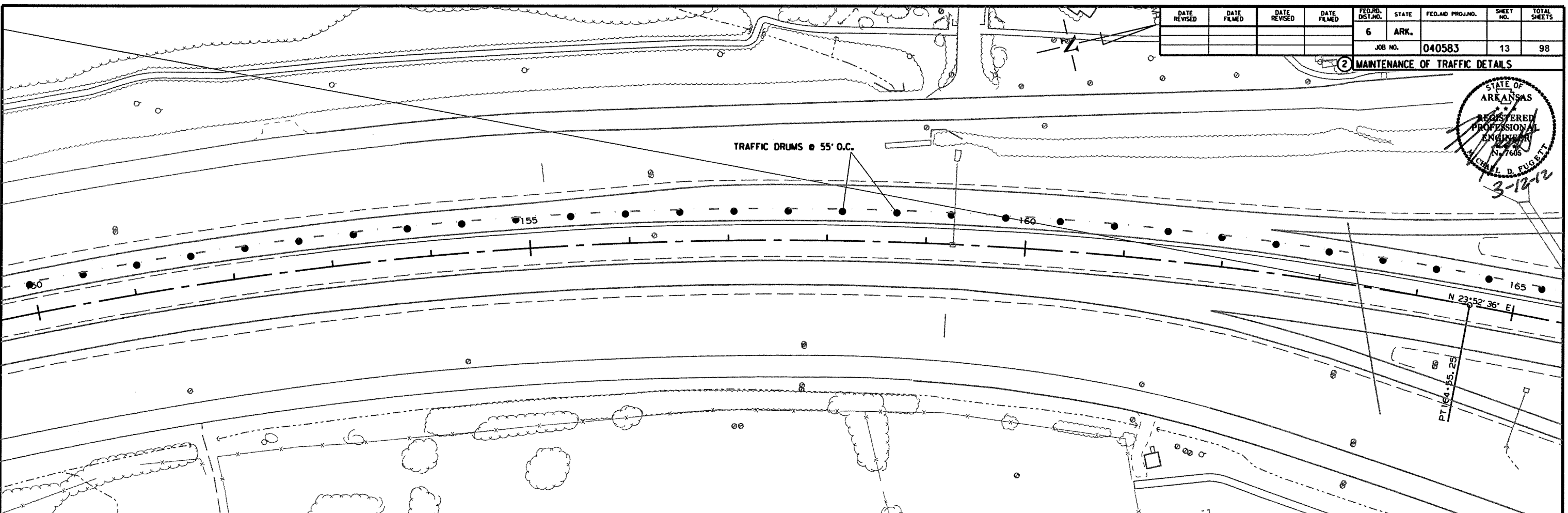
R040583.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		13	98
JOB NO. 040583								

2 MAINTENANCE OF TRAFFIC DETAILS

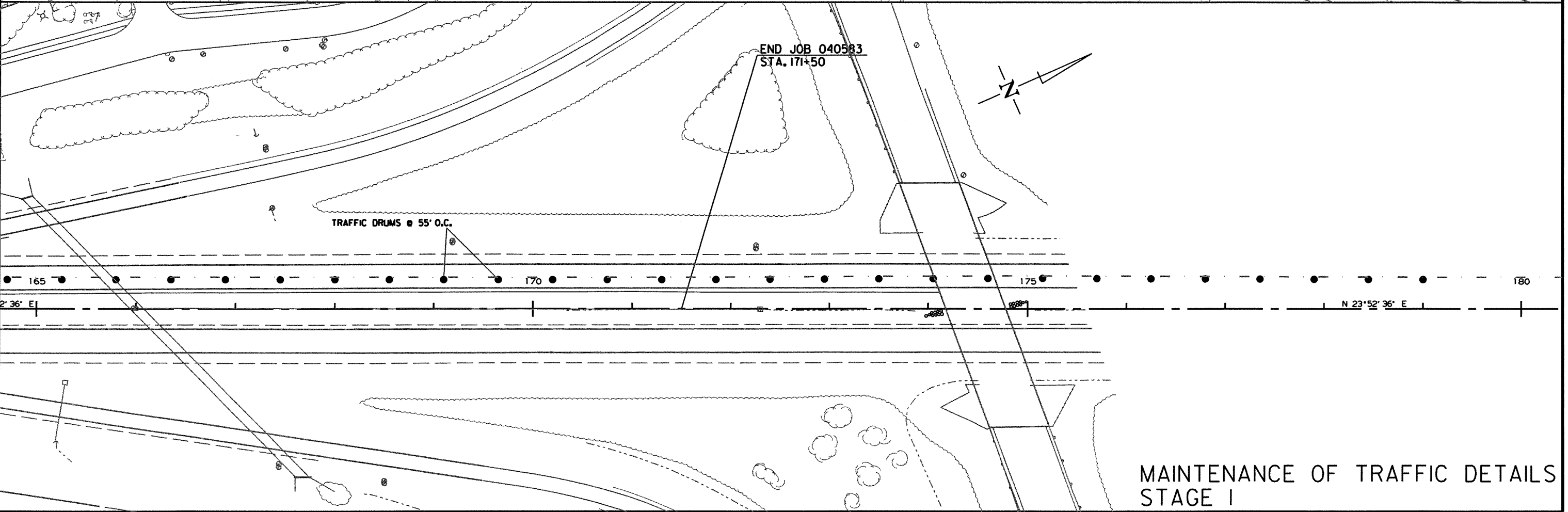
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
MICHAEL D. FUGETT
3-12-12

TRAFFIC DRUMS @ 55' O.C.



END JOB 040583
STA. 171+50

TRAFFIC DRUMS @ 55' O.C.



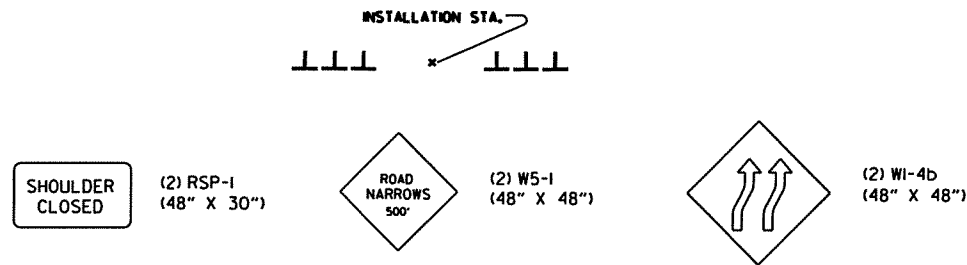
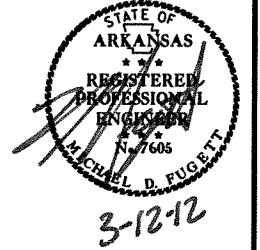
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

3/9/2012

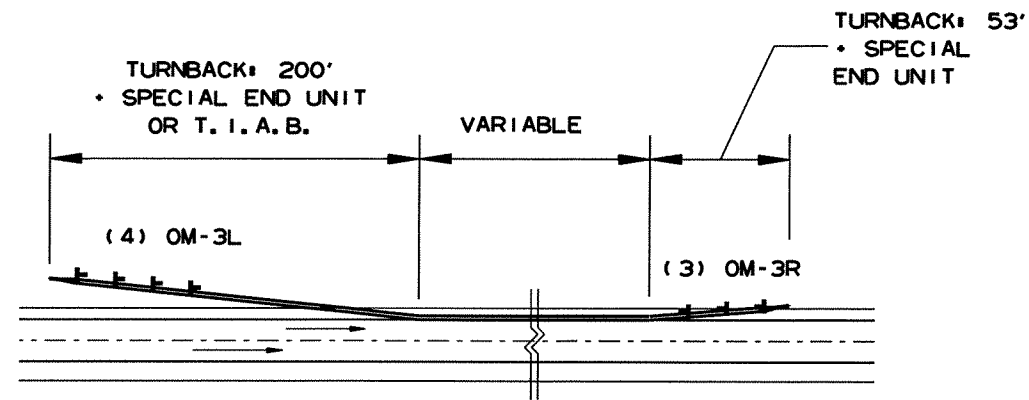
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							14	98

② MAINTENANCE OF TRAFFIC DETAILS



ADVANCE WARNING SIGNS
 I-540 R.M.L. - STA. 86+50
 I-540 L.M.L. - STA. 180+00



REFER ALSO TO STANDARD DRAWING TC-5
 FOR DETAILS OF PLACEMENT OF PCCB TURNBACKS.

DETAIL OF OBJECT MARKERS
 AT PRECAST CONCRETE BARRIER TURNBACKS

ADDITIONAL STAGE 2 QUANTITIES

SIGNS = 210 SQ. FT.
 TRAFFIC DRUMS = 228 EACH
 FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 16012 LIN. FT.
 CONSTRUCTION PAVEMENT MARKINGS = 20665 LIN. FT.
 REMOVAL OF PERMANENT PAVEMENT MARKINGS = 3448 LIN. FT.

NOTES:

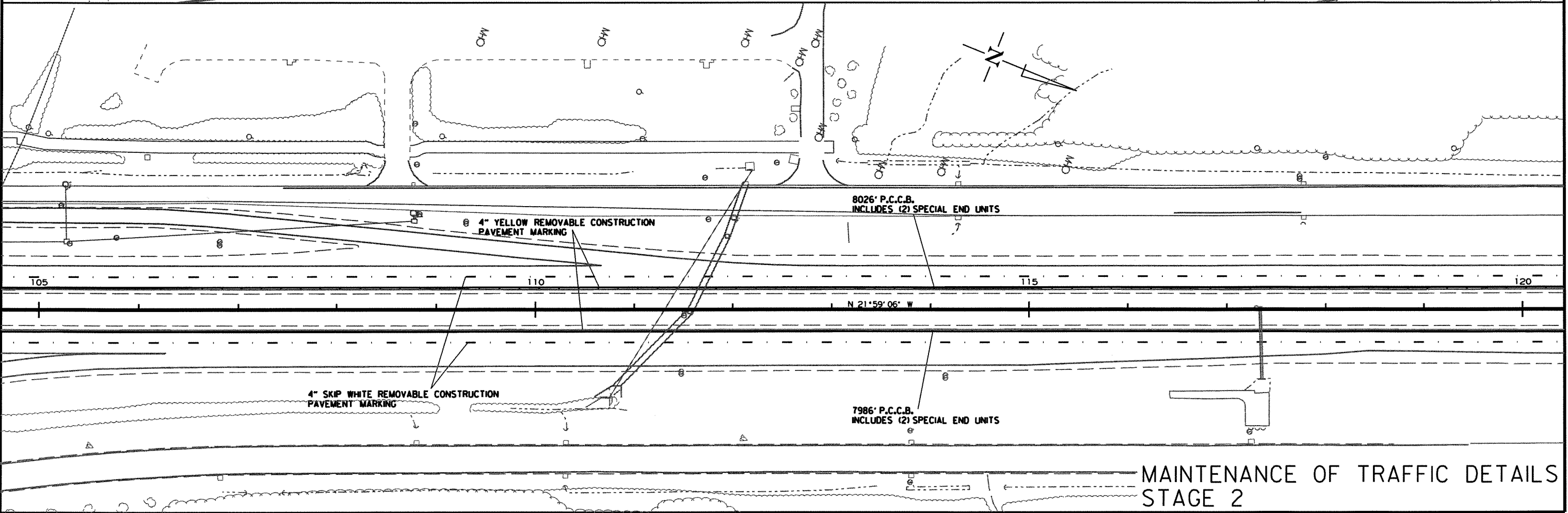
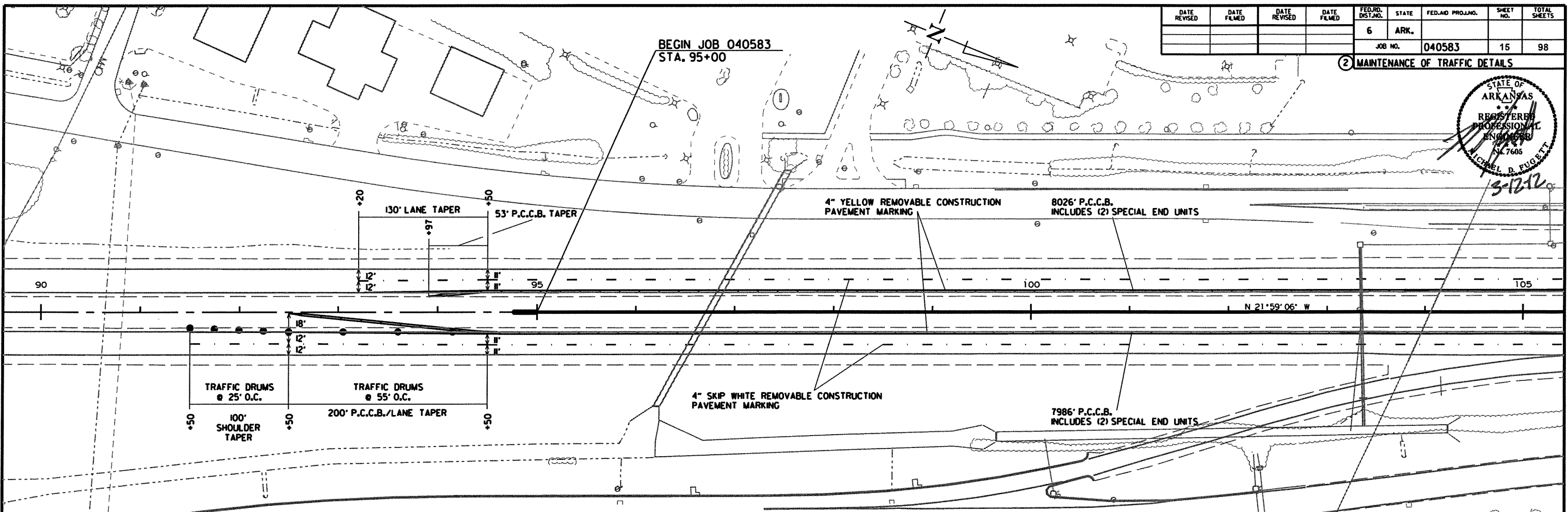
THE CONSTRUCTION PAVEMENT MARKING QUANTITY FOR STAGE 1 IS BASED ON A SINGLE APPLICATION OF THE STRIPING SHOWN ON THE MAINTENANCE OF TRAFFIC DETAILS SHEETS FOR STAGE 1.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		15	98

② MAINTENANCE OF TRAFFIC DETAILS



BEGIN JOB 040583
STA. 95+00



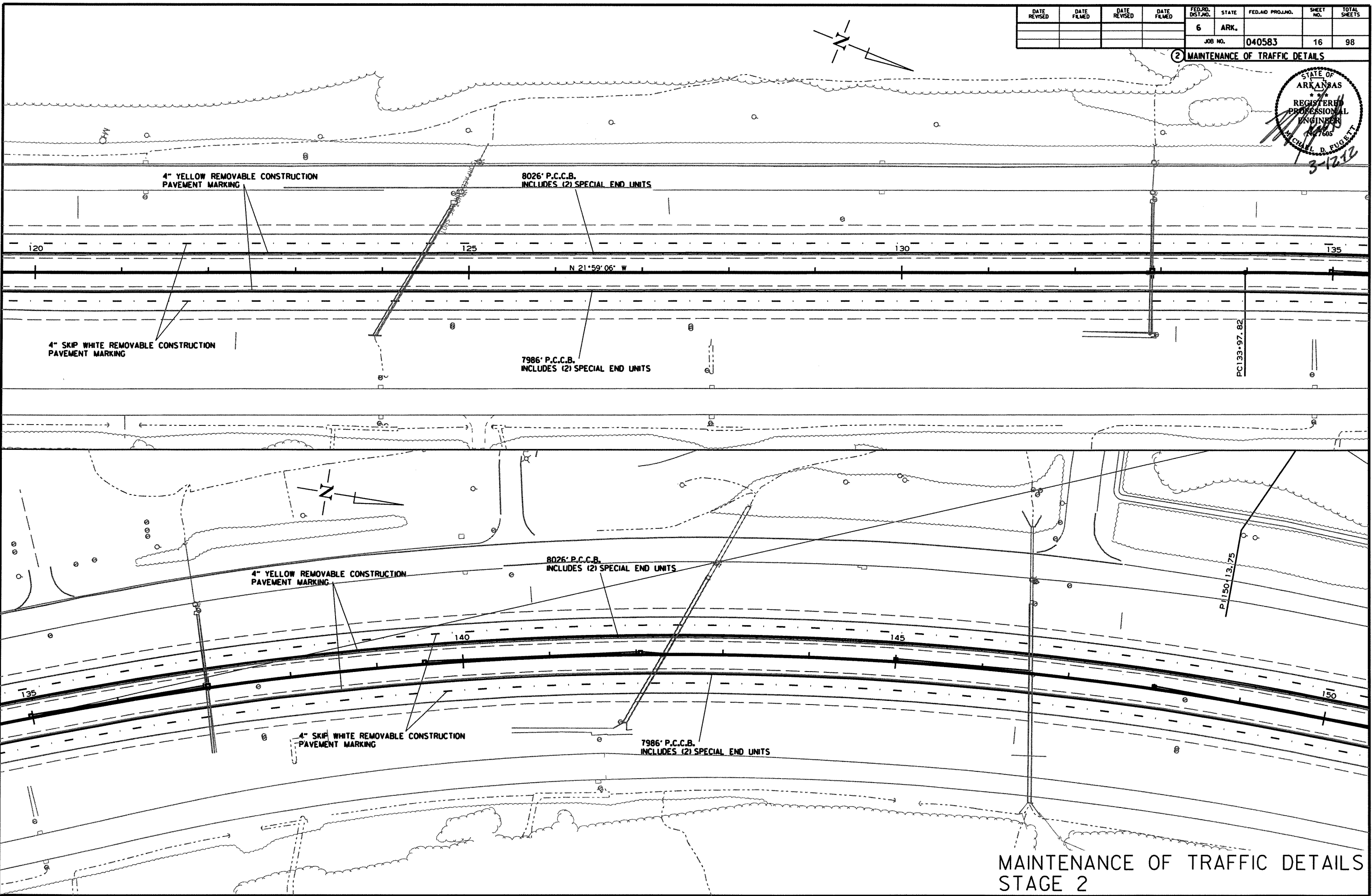
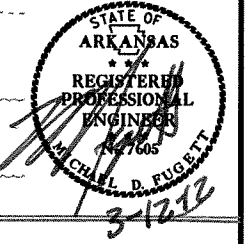
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

3/9/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							16	98

② MAINTENANCE OF TRAFFIC DETAILS



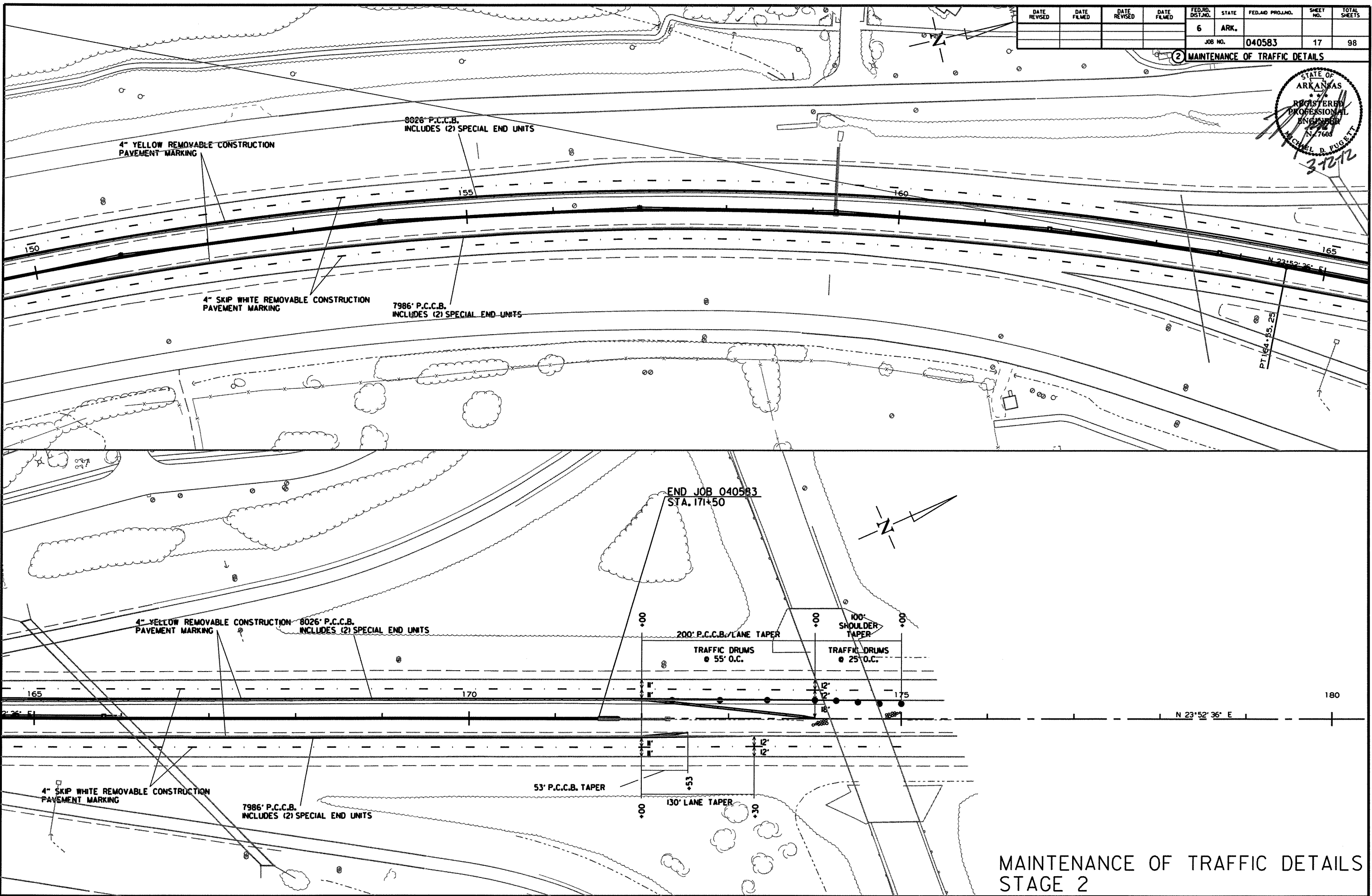
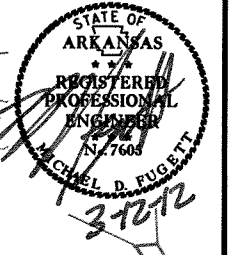
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

3/9/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		17	98
JOB NO. 040583								

2 MAINTENANCE OF TRAFFIC DETAILS



MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

3/9/2012

R040583.DGN

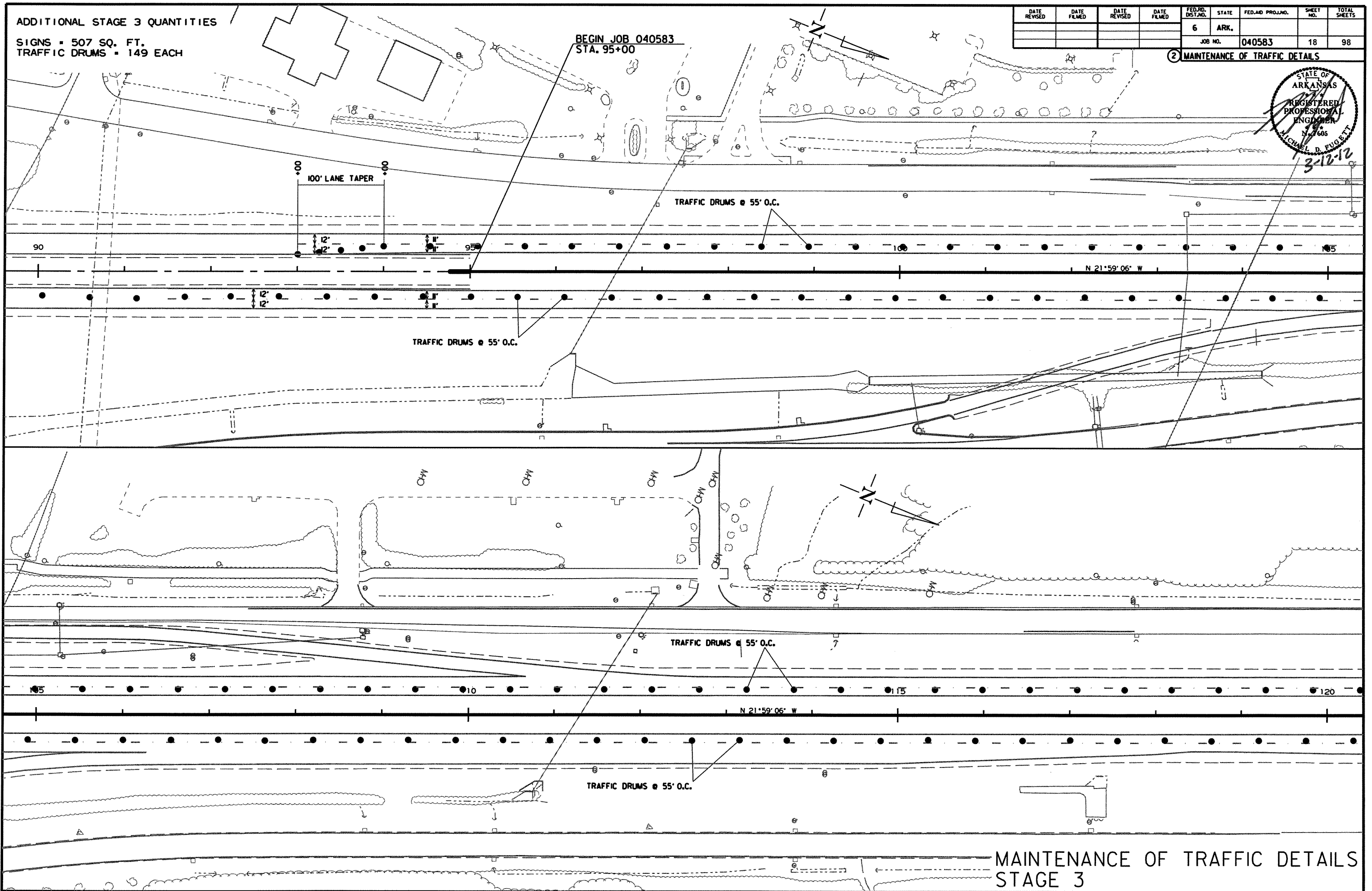
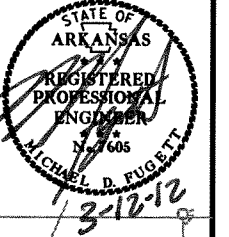
ADDITIONAL STAGE 3 QUANTITIES

SIGNS = 507 SQ. FT.
TRAFFIC DRUMS = 149 EACH

BEGIN JOB 040583
STA. 95+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							18	98

② MAINTENANCE OF TRAFFIC DETAILS



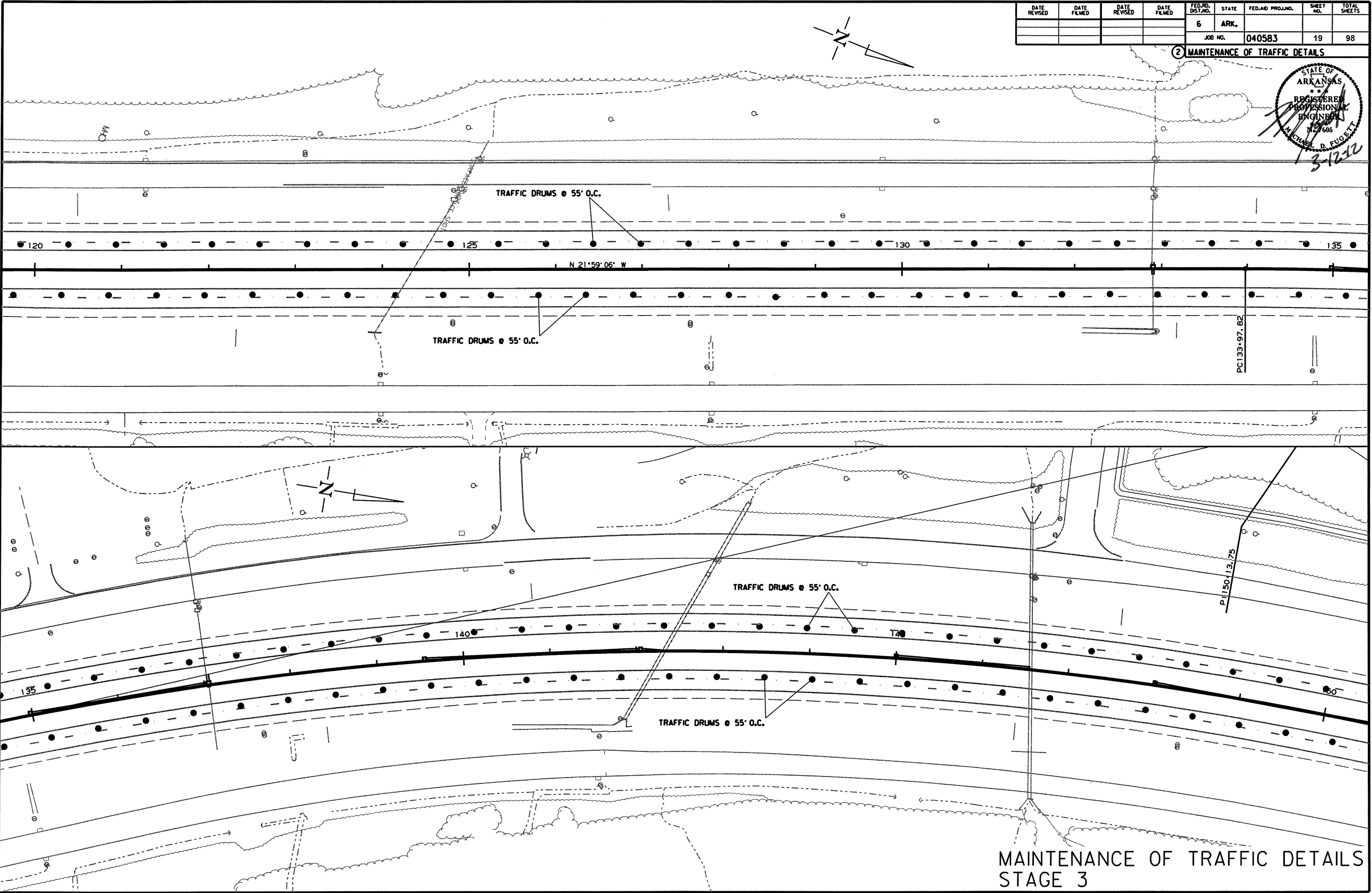
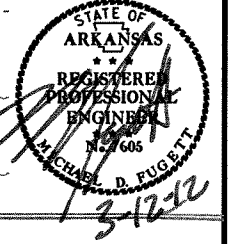
MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

3/9/2012

R040583.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		19	98
				JOB NO. 040583				

② MAINTENANCE OF TRAFFIC DETAILS

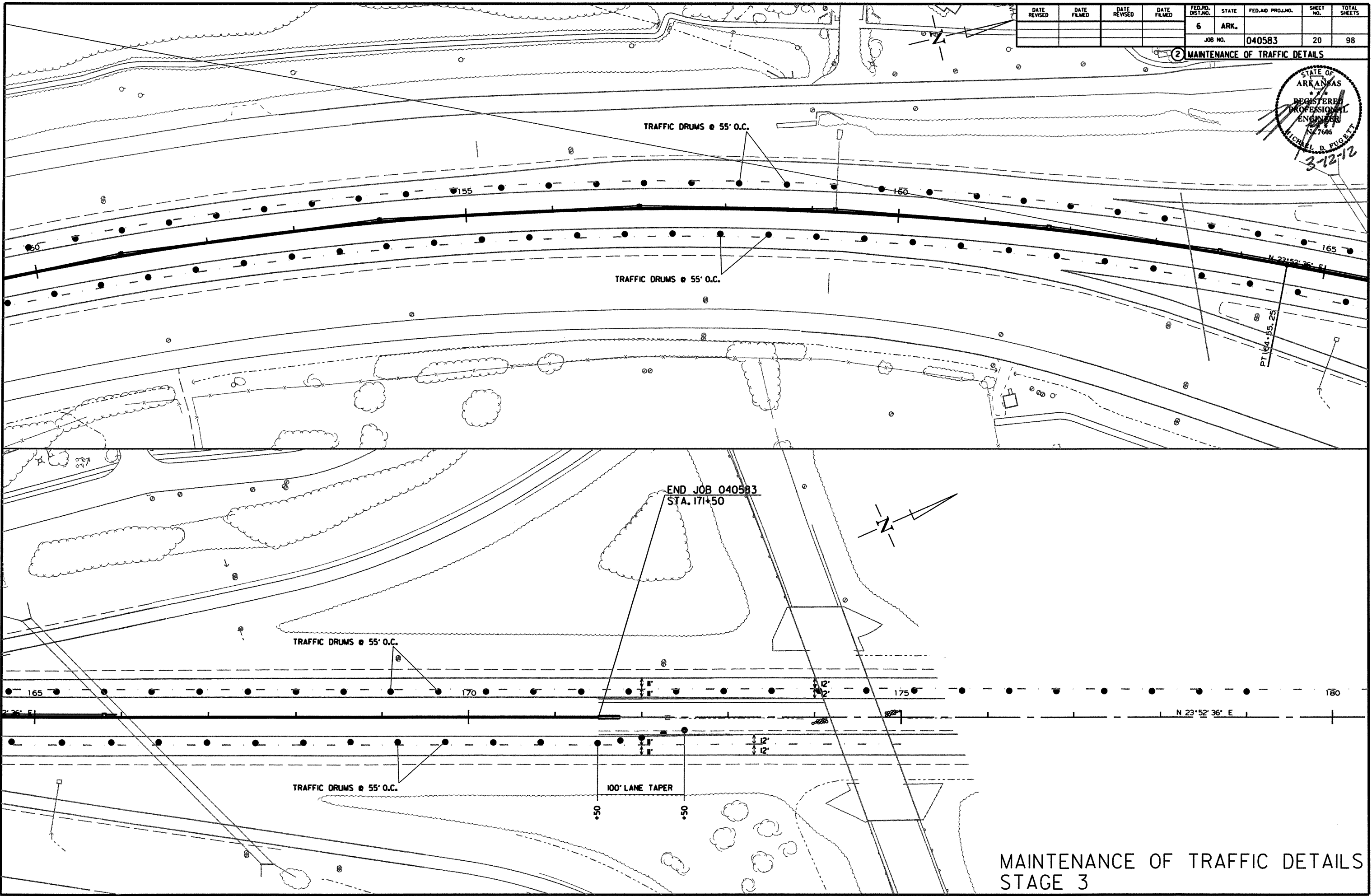
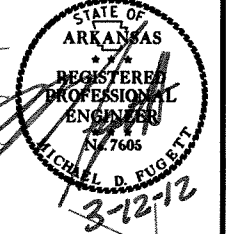


3/9/2012
R040583.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		20	98

② MAINTENANCE OF TRAFFIC DETAILS

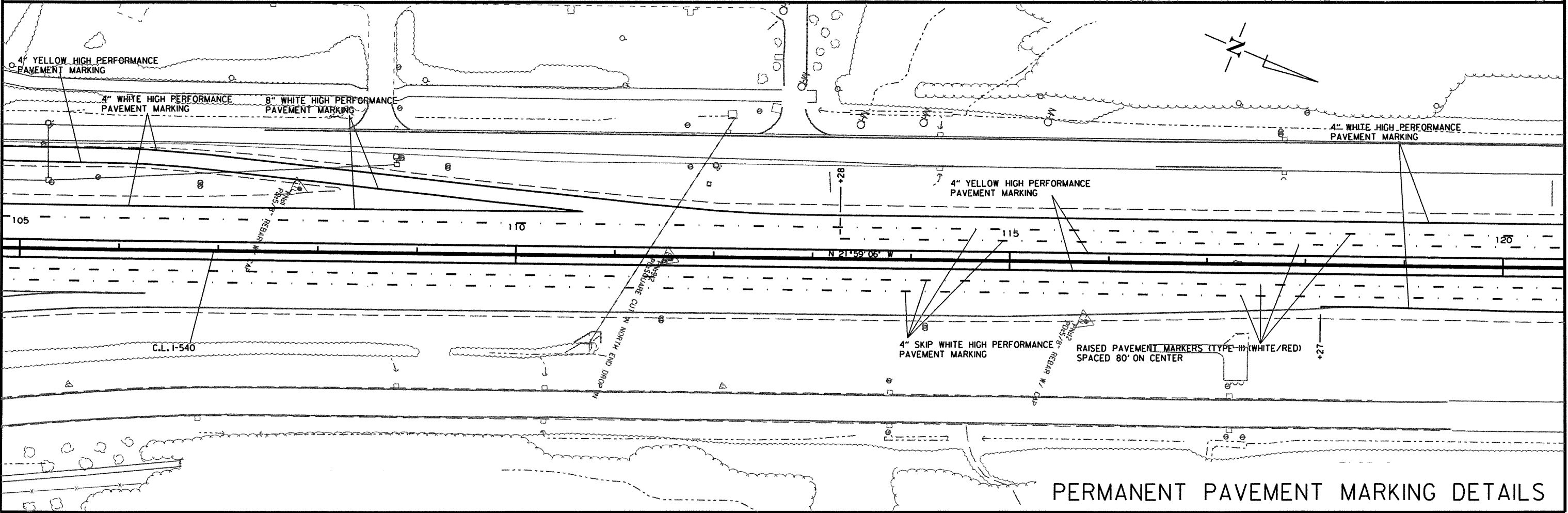
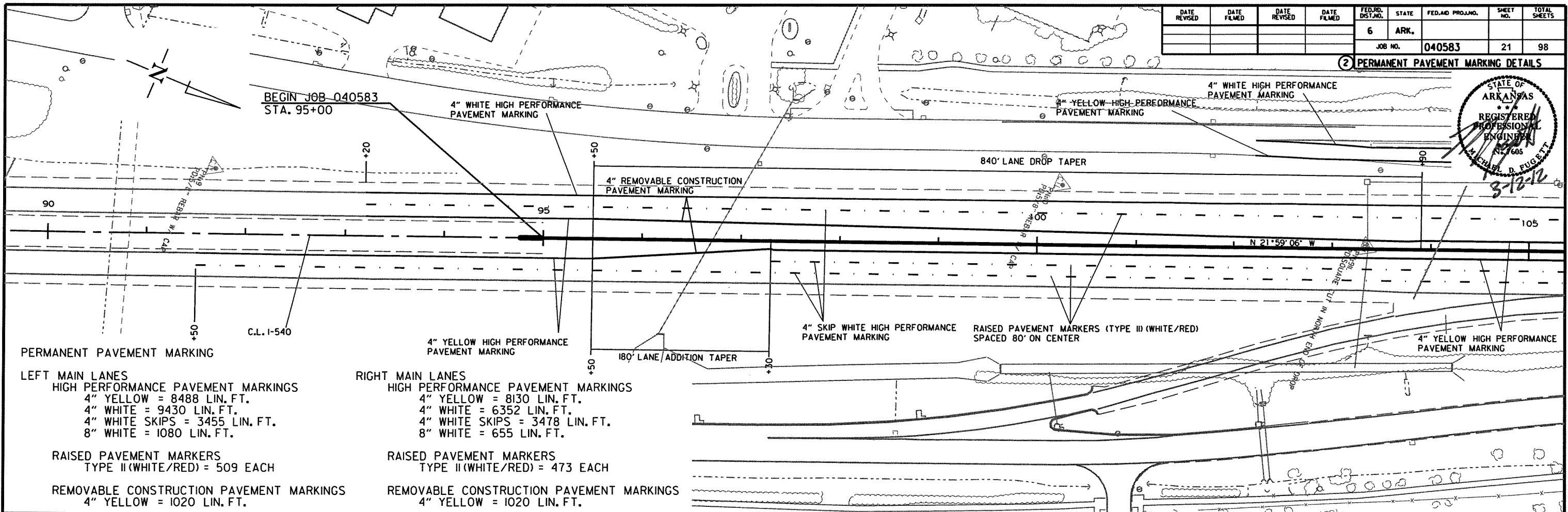
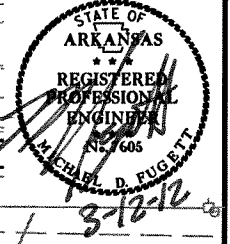


MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

3/9/2012
R040583.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		21	98

2 PERMANENT PAVEMENT MARKING DETAILS

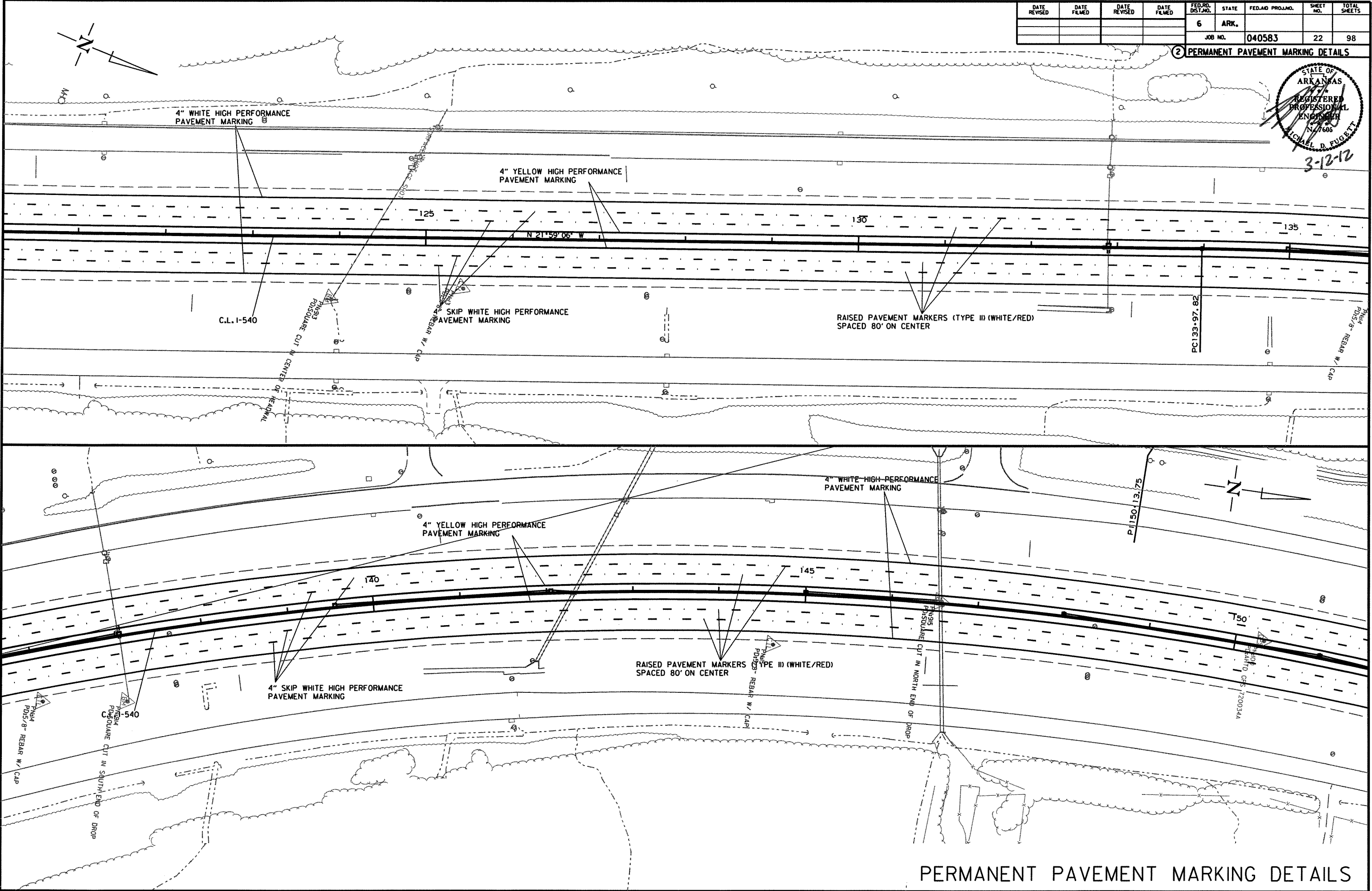
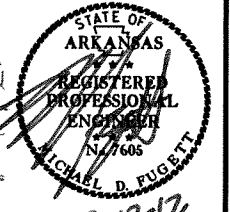


3/9/2012

R040583.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		22	98
JOB NO. 040583								

PERMANENT PAVEMENT MARKING DETAILS



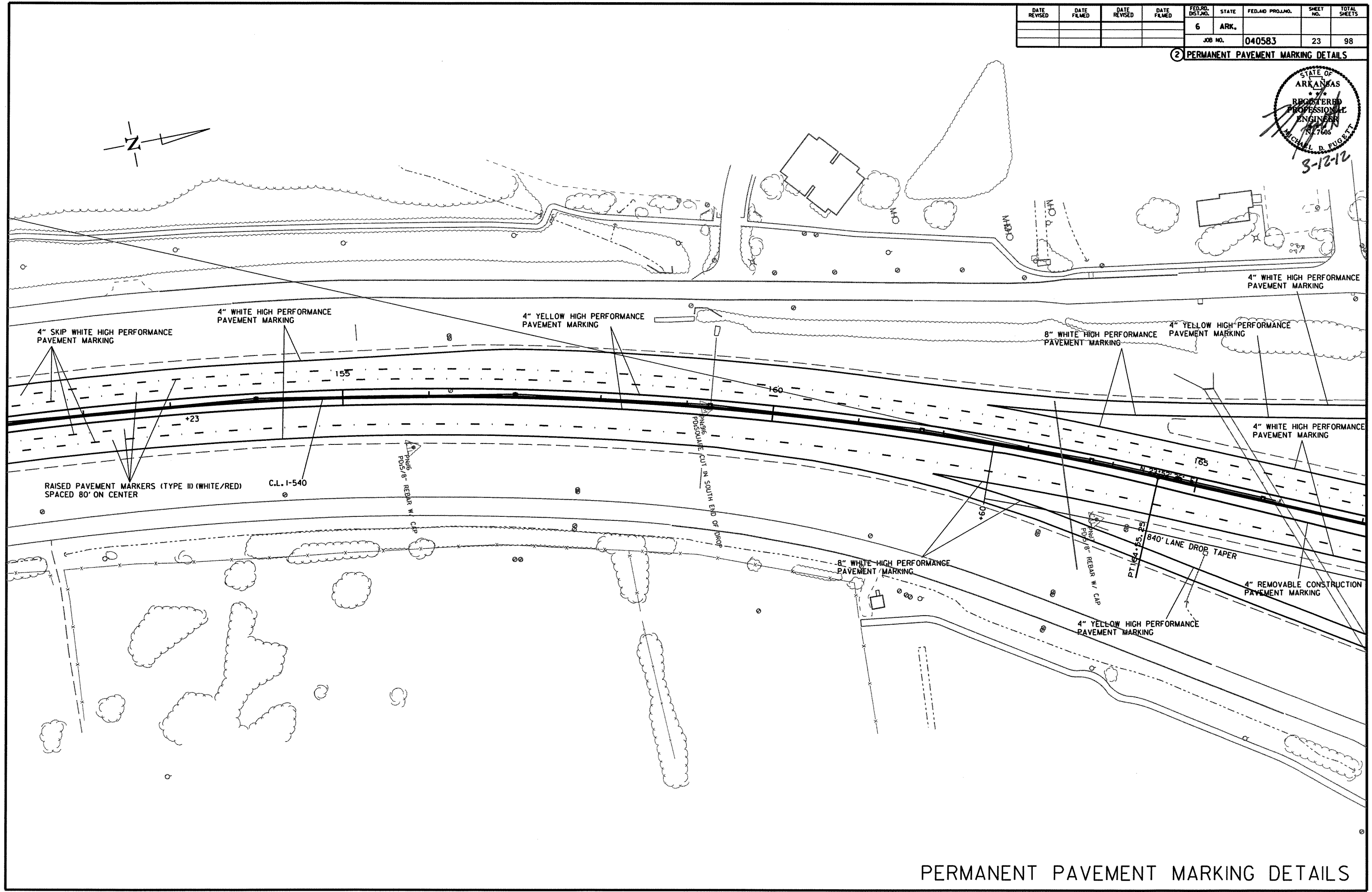
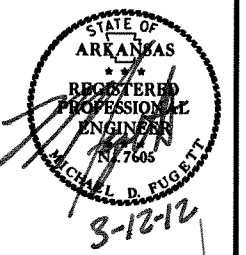
3/9/2012

R040583.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		23	98
JOB NO. 040583								

② PERMANENT PAVEMENT MARKING DETAILS

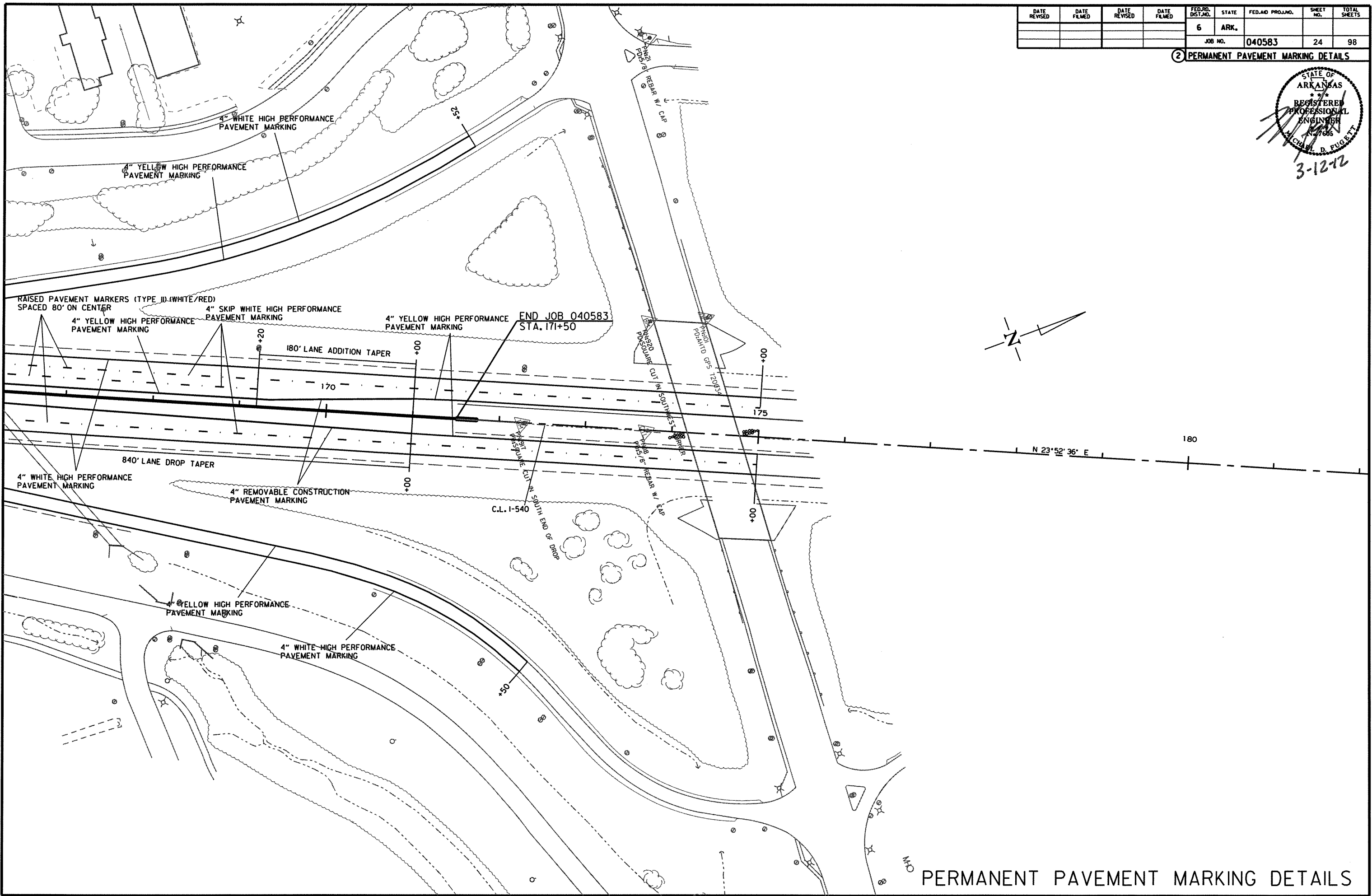
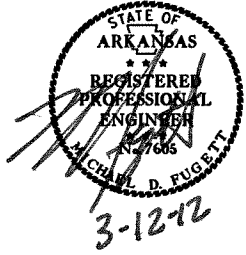


PERMANENT PAVEMENT MARKING DETAILS

3/9/2012 R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		24	98

② PERMANENT PAVEMENT MARKING DETAILS



PERMANENT PAVEMENT MARKING DETAILS

3/9/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS		
				6	ARK.					
							JOB NO.	040583	25	98

② QUANTITIES



3-26-12

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS EACH	ADVANCE WARNING ARROW PANEL DAY	PORTABLE CHANGEABLE MESSAGE SIGN WEEK	FURNISHING & INSTALLING PRECAST CONC. BARRIER LIN. FT.
							NO.	SQ. FT.				
W20-1	ROAD WORK 1 MILE	48" x 48"	4	4	4	4	4	64.0				
W20-1	ROAD WORK 1/2 MILE	48" x 48"	4	4	4	4	4	64.0				
W20-1	ROAD WORK 1500 FT.	48" x 48"	4	4	4	4	4	64.0				
W20-1	ROAD WORK AHEAD	48" x 48"	6	4	8	8	8	128.0				
G20-2	END ROAD WORK	48" x 24"	8	8	8	8	8	64.0				
SPECIAL 1	MERGE NOW + ARROW	48" x 48"	2		4	4	4	64.0				
W20-5	RIGHT LANE CLOSED 1 MILE	48" x 48"	2		4	4	4	64.0				
W20-5	RIGHT LANE CLOSED 1/2 MILE	48" x 48"	2		4	4	4	64.0				
W20-5	RIGHT LANE CLOSED 1500 FT.	48" x 48"	2		4	4	4	64.0				
W4-2R	RIGHT LANE CLOSING GRAPHIC	48" x 48"	2		4	4	4	64.0				
W1-6	LARGE ARROW	60" x 30"	6		12	12	12	150.0				
R4-1	DO NOT PASS	48" x 60"	4		8	8	8	160.0				
R55-1	FINES DOUBLE IN WORK ZONES	36" x 60"	4	4	4	4	4	60.0				
R2-1	SPEED LIMIT 55 MPH	48" x 60"	8	4	12	12	12	240.0				
R2-1	SPEED LIMIT 65 MPH	48" x 60"	8	4	12	12	12	240.0				
W5-1	ROAD NARROWS 500'	48" x 48"		4		4	4	64.0				
W1-4b	REVERSE CURVE (2 LANE)	48" x 48"		4		4	4	64.0				
RSP-1	SHOULDER CLOSED	48" x 30"		4		4	4	40.0				
OM-3R	OBJECT MARKER	12" x 36"		6		6	6	18.0				
OM-3L	OBJECT MARKER	12" x 36"		8		8	8	24.0				
	TRAFFIC DRUMS		220	18	448	448			448			
	ADVANCE WARNING ARROW PANEL		1		2	2	2		262			
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2	2	2	2			38		
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			16012		16012					16012	
TOTALS:								1764.0	448	262	38	16012

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	HIGH PERFORMANCE PAVEMENT MARKING			
						WHITE		YELLOW	
						4"	8"	4"	
LIN. FT. - EACH			LIN. FT.		EACH	LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS	3448		3448						
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	20665	2040		22705					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		982			982				
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")		22715				22715			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")		1735					1735		
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")		16618						16618	
TOTALS:			3448	22705	982	22715	1735	16618	

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

3/9/2012 R040583.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		26	98

② QUANTITIES



REMOVAL AND DISPOSAL OF DROP INLETS

STATION	LOCATION	EACH
132+90.00	D.I. IN MEDIAN	1
137+05.00	D.I. IN MEDIAN	1
159+27.00	D.I. IN MEDIAN	1
TOTAL:		3

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	LIN. FT.
95+00.00	171+50.00	R.M.L. INSIDE SHOULDER	5825
95+00.00	171+50.00	L.M.L. INSIDE SHOULDER	5825
TOTAL:			11650

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
95+00.00	171+50.00	LEFT MAIN LANES	0.5	425.00
91+50.00	95+00.00	RIGHT MAIN LANES TRANSITION	9	350.00
95+00.00	132+37.50	RIGHT MAIN LANES	6	2491.67
132+37.50	164+85.00	RIGHT MAIN LANES	12	4330.00
164+85.00	171+50.00	RIGHT MAIN LANES	6	443.33
171+50.00	177+00.00	RIGHT MAIN LANES TRANSITION	9	550.00
TOTAL:				8590.00

NOTE: AVERAGE MILLING DEPTH 1".

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			4000	250
TOTALS:			4000	250

* NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

CRASH CUSHION

STATION	DESCRIPTION	EACH
95+00	C.L. I-540	1
171+50	C.L. I-540	1
TOTAL:		2

NOTE: THE CRASH CUSHION SHALL BE NON-GATING AND REDIRECTIVE AND COMPATIBLE WITH THE SITE GEOMETRY SHOWN ON THE PLANS.

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
151+00	D.I. 2.5' LT. OF C.L. TYPE ST	1
TOTAL:		1

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	DROP INLET SILT FENCE	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-6) CU.YD.	(E-7) LIN. FT.	(E-11) LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 2	1.29	2.58	1.29	131.6	1.29	8.00	8.00	163.2	1166		550			73	
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.										286	30		200	133	133	163	
TOTALS:			1.29	2.58	1.29	131.6	1.29	8.00	8.00	163.2	1452	30	550	200	133	133	236

BASIS OF ESTIMATE:
 LIME2 TONS / ACRE OF SEEDING
 WATER..... 102.0 M.G. / ACRE OF SEEDING.
 WATER..... 20.4 M.G. / ACRE OF TEMPORARY SEEDING.
 SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
 ROCK DITCH CHECKS.....3 CU.YD./LOCATION
 DROP INLET SILT FENCE.....22 LIN. FT./LOCATION

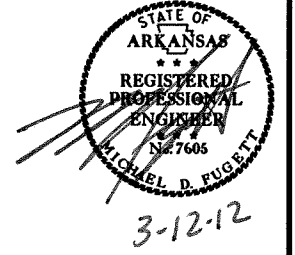
NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

*QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

3/9/2012 RO40583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							040583	27	98

2 QUANTITIES



SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100	100
TOTALS:	100	100

NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	MEDIAN TYPE C
			LIN. FT.
95+00.00	171+50.00	C.L. I-540	7650.00
TOTAL:			7650.00

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
95+00.00	171+50.00	I-540 MEDIAN	10486	1244
ENTIRE PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	1000	1000	
TOTALS:			11486	2244

* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE (CLASS III)			DROP INLETS	MODIFY DROP INLETS	STD. DWG. NOS.
		18"	24"	30"			
		LIN. FT.			ST	EACH	
96+75	MODIFY TYPE T D.I.					1	SPECIAL DETAIL
103+36	MODIFY TYPE R D.I.					1	SPECIAL DETAIL
111+56	MODIFY TYPE T D.I.					1	SPECIAL DETAIL
117+34	MODIFY TYPE R D.I.					1	SPECIAL DETAIL
132+90	D.I. 2.5' LT. OF C.L. REMOVE & REPLACE, W/ PIPE INLET AND OUTLET			12	1		FPC-9S, PCC-1
134+98	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		204		1		FPC-9S, PCC-1
137+05	D.I. 2.5' LT. OF C.L. REMOVE & REPLACE, W/ PIPE INLET AND OUTLET			12	1		FPC-9S, PCC-1
139+55	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		248		1		FPC-9S, PCC-1
142+05	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		26		1		FPC-9S, PCC-1
142+32	MODIFY TYPE T D.I.					1	SPECIAL DETAIL
145+00	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		154		1		FPC-9S, PCC-1
146+56	MODIFY TYPE T D.I.					1	SPECIAL DETAIL
148+00	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		298		1		FPC-9S, PCC-1
151+00	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		298		1		FPC-9S, PCC-1
154+00	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		298		1		FPC-9S, PCC-1
157+00	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		224		1		FPC-9S, PCC-1
159+27	D.I. 2.5' LT. OF C.L. REMOVE & REPLACE, W/ PIPE INLET AND OUTLET	4	246		1		FPC-9S, PCC-1
161+75	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		198		1		FPC-9S, PCC-1
163+75	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		102		1		FPC-9S, PCC-1
164+80	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		98		1		FPC-9S, PCC-1
165+80	D.I. 2.5' LT. OF C.L. W/ PIPE OUTLET		14		1		FPC-9S, PCC-1
166+01	MODIFY TYPE T D.I.					1	SPECIAL DETAIL
TOTALS:		4	2408	24	15	7	

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")										
				TON / STATION	TON	(0.10 GAL. PER SQ. YD.)			(0.03 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID. FEET	SQ. YD.	POUND / SQ. YD.	TON	AVG. WID. FEET	SQ. YD.	POUND / SQ. YD.	TON	AVG. WID. FEET	SQ. YD.	POUND / SQ. YD.	TON	AVG. WID. FEET	SQ. YD.	POUND / SQ. YD.	TON	TOTAL TONS	
						TOTAL WID. FEET	SQ. YD.	GALLON	TOTAL WID. FEET	SQ. YD.	GALLON																			
MAIN LANES																														
91+50.00	95+00.00	RIGHT MAIN LANES TRANSITION	350.0			12.0	466.7	46.7			46.7																			
95+00.00	132+37.50	I-540	3737.5	184.25	6886.3	12.0	4983.3	498.3	164.5	68313.2	2049.4	2547.7	38.0	15780.6	880.0	6943.5	38.0	15780.6	495.0	3905.7	38.0	15780.6	220.0	1735.9	50.5	20971.5	220.0	2306.9	4042.8	
132+37.50	164+85.00	I-540 SUPERELEVATION	3247.5	194.50	6316.4				164.5	59357.1	1780.7	1780.7	38.0	13711.7	880.0	6033.1	38.0	13711.7	495.0	3393.6	38.0	13711.7	220.0	1508.3	50.5	18222.1	220.0	2004.4	3512.7	
164+85.00	171+50.00	I-540	665.0	184.25	1225.3	12.0	886.7	88.7	164.5	12154.7	364.6	453.3	38.0	2807.8	880.0	1235.4	38.0	2807.8	495.0	694.9	38.0	2807.8	220.0	308.9	50.5	3731.4	220.0	410.5	719.4	
171+50.00	175+00.00	RIGHT MAIN LANES TRANSITION	350.0			12.0	466.7	46.7			46.7																			
ADDITIONAL FOR LEVELING																														
91+50.00	133+00.00	RIGHT MAIN LANES	4150.0			12.0	5533.3	553.3				553.3																		
166+00.00	175+00.00	RIGHT MAIN LANES	900.0			12.0	1200.0	120.0				120.0																		
TOTALS:							14428.0					5548.4					14212.0					7994.2							10985.7	

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.3% MIN. AGGR.....5.7% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.0% MIN. AGGR.....5.0% ASPHALT BINDER
 ACHM BASE COURSE (1 1/2").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

3/12/2012 R040583.DGN

QUANTITIES

SUMMARY OF QUANTITIES

Table with 4 columns: ITEM NUMBER, ITEM, QUANTITY, UNIT. Rows include items like REMOVAL AND DISPOSAL OF DROP INLETS, UNCLASSIFIED EXCAVATION, AGGREGATE BASE COURSE, etc.

*ALTERNATE BID ITEMS

REVISIONS

Table with 3 columns: DATE, REVISION, SHEET NUMBER. Table is currently empty.

Summary table with columns: DATE REVISED, DATE FILMED, FED. PROJ. NO., STATE, FED. AD. PROJ. NO., SHEET NO., TOTAL SHEETS. Values include 6, ARK., 040583, 28, 98.

SUMMARY OF QUANTITIES AND REVISIONS



3-26-12

SURVEY CONTROL COORDINATES
 Coordinate System ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
 PROJECTED TO GROUND,
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
2	630410.3257	664812.6446	1262.270	CIL	Rebar with 2 Aluminum Cap
3	631656.0335	664523.3552	1262.640	CIL	Rebar with 2 Aluminum Cap
4	632478.4613	664202.6173	1257.815	CIL	Rebar with 2 Aluminum Cap
5	633450.7938	663742.5099	1279.296	CIL	Rebar with 2 Aluminum Cap
6	633898.9316	664910.6994	1270.748	CIL	Rebar with 2 Aluminum Cap
7	633678.0246	664142.0462	1265.416	CIL	Rebar with 2 Aluminum Cap
8	633518.0323	663407.1715	1262.116	CIL	Rebar with 2 Aluminum Cap
9	634522.8993	663200.0585	1272.171	CIL	Rebar with 2 Aluminum Cap
10	634119.0692	662884.9908	1285.011	CIL	Rebar with 2 Aluminum Cap
11	636118.7931	662598.4150	1297.345	CIL	Rebar with 2 Aluminum Cap
12	636904.5223	662414.4759	1308.689	CIL	Rebar with 2 Aluminum Cap
13	637799.0836	662031.5256	1317.294	CIL	Rebar with 2 Aluminum Cap
14	638781.9309	661661.5346	1309.535	CIL	Rebar with 2 Aluminum Cap
15	642521.0960	661673.9951	1267.444	CIL	Rebar with 2 Aluminum Cap
16	640702.4382	661528.4144	1262.750	CIL	Rebar with 2 Aluminum Cap
17	641465.1095	661761.2031	1253.262	CIL	Rebar with 2 Aluminum Cap
18	642383.0905	662098.4537	1253.417	CIL	Rebar with 2 Aluminum Cap
19	642332.8502	663729.9868	1241.051	CIL	Rebar with 2 Aluminum Cap
20	642395.3992	662539.4315	1257.251	CIL	Rebar with 2 Aluminum Cap
21	642521.0960	661673.9951	1267.444	CIL	Rebar with 2 Aluminum Cap
22	642521.0960	661673.9951	1267.444	CIL	Rebar with 2 Aluminum Cap
23	643264.7632	662447.0173	1236.185	CIL	Rebar with 2 Aluminum Cap
24	644140.4015	662944.8592	1234.710	CIL	Rebar with 2 Aluminum Cap
25	644815.3314	663296.8506	1236.996	CIL	Rebar with 2 Aluminum Cap
26	645900.2993	664023.6765	1252.114	CIL	Rebar with 2 Aluminum Cap
27	646632.9823	664459.9824	1262.682	CIL	Rebar with 2 Aluminum Cap
28	643135.0327	664504.7902	1250.920	CIL	Rebar with 2 Aluminum Cap
29	645562.1668	664549.4368	1248.683	CIL	Rebar with 2 Aluminum Cap
30	647218.6188	664520.8881	1265.689	CIL	Rebar with 2 Aluminum Cap
31	647649.0986	664294.7090	1268.315	CIL	Rebar with 2 Aluminum Cap
32	647630.8910	663612.8375	1267.538	CIL	Rebar with 2 Aluminum Cap
33	647574.6035	664954.5613	1272.289	CIL	Rebar with 2 Aluminum Cap
34	648935.6761	665073.0098	1283.477	CIL	Rebar with 2 Aluminum Cap
35	649659.0172	665605.3684	1286.283	CIL	Rebar with 2 Aluminum Cap
36	650432.4829	667136.2451	1260.989	CIL	Rebar with 2 Aluminum Cap
37	651465.5406	667853.3224	1228.173	CIL	Rebar with 2 Aluminum Cap
38	652101.4961	668178.7263	1225.892	CIL	Rebar with 2 Aluminum Cap
39	652217.7648	668390.1183	1224.004	CIL	Rebar with 2 Aluminum Cap
40	653524.2443	668333.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
41	653524.2443	668333.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
42	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
43	653524.2443	668333.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
44	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
45	652915.4194	669852.0035	1224.678	CIL	Rebar with 2 Aluminum Cap
46	652915.4194	669852.0035	1224.678	CIL	Rebar with 2 Aluminum Cap
47	654188.3509	671617.6696	1239.274	CIL	Rebar with 2 Aluminum Cap
48	654892.0251	671042.5445	1218.202	CIL	Rebar with 2 Aluminum Cap
49	655068.4005	669716.5119	1231.950	CIL	Rebar with 2 Aluminum Cap
50	656712.1046	669287.8327	1261.574	CIL	Rebar with 2 Aluminum Cap
51	657562.6577	668890.0581	1287.922	CIL	Rebar with 2 Aluminum Cap
52	654920.0351	670094.7751	1216.022	CIL	Rebar with 2 Aluminum Cap
53	654920.0351	670094.7751	1216.022	CIL	Rebar with 2 Aluminum Cap
54	654019.6223	670444.4565	1219.870	CIL	Rebar with 2 Aluminum Cap
55	653350.3997	670257.9991	1222.869	CIL	Rebar with 2 Aluminum Cap
56	653350.3997	670257.9991	1222.869	CIL	Rebar with 2 Aluminum Cap
57	653467.8748	671231.0518	1221.123	CIL	Rebar with 2 Aluminum Cap
58	653736.5224	672045.7542	1221.318	CIL	Rebar with 2 Aluminum Cap
59	654234.5352	673187.2239	1237.015	CIL	Rebar with 2 Aluminum Cap
60	653865.6850	669984.3272	1231.111	CIL	Rebar with 2 Aluminum Cap
61	653352.1576	670048.0728	1246.639	CIL	Rebar with 2 Aluminum Cap
62	653038.6560	670504.4569	1243.340	CIL	Rebar with 2 Aluminum Cap
63	653038.6560	670504.4569	1243.340	CIL	Rebar with 2 Aluminum Cap
64	652101.4961	668390.1183	1224.004	CIL	Rebar with 2 Aluminum Cap
65	653524.2443	668333.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
66	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
67	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
68	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
69	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
70	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
71	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
72	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
73	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
74	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
75	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
76	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
77	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
78	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
79	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
80	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
81	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
82	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
83	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
84	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
85	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
86	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
87	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
88	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
89	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
90	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
91	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
92	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
93	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
94	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
95	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
96	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
97	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
98	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
99	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap
100	652577.5202	669033.4803	1226.004	CIL	Rebar with 2 Aluminum Cap

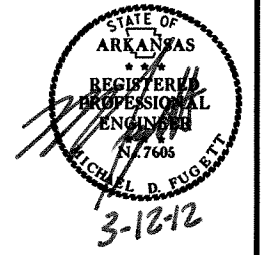
*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
 (Standard marking common to all caps, or as indicated
 in the description of the individual point).
 USE CAP I, O FOR STAKEOUT FOR THIS PROJECT.
 A PROJECT CAP OF O, 9999168402 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
 THIS CAP IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
 GRID DISTANCE - GROUND DISTANCE X CAF.
 GRID COORDINATES ARE STORED UNDER FILE NAME #0120699; A, CTL
 VERTICAL DATUM: NAD 83 1977
 HORIZONTAL DATUM: NAD 83
 POINT NAME MAY BE POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
 AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL.
 IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED,
 REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL.
 BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS.
 AGRONOMY - 720032
 720034
 720018 RESET
 UNIVERSAL ANGLES
 GRID AZIMUTH - ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

C.L. 1-540	POINT NO.	TYPE	STATION	NORTHING	EASTING
	8000	POB	75+00.00	633100.1080	663885.8177
	8001	PC	133+97.82	638959.0495	661677.8924
	8003	PT	164+55.25	641545.1101	661727.0242
	8004	PC	193+58.46	644199.8379	662902.1482
	8006	PT	204+21.92	645126.8962	663420.1220
	8007	POE	246+54.39	648614.3268	665818.1026

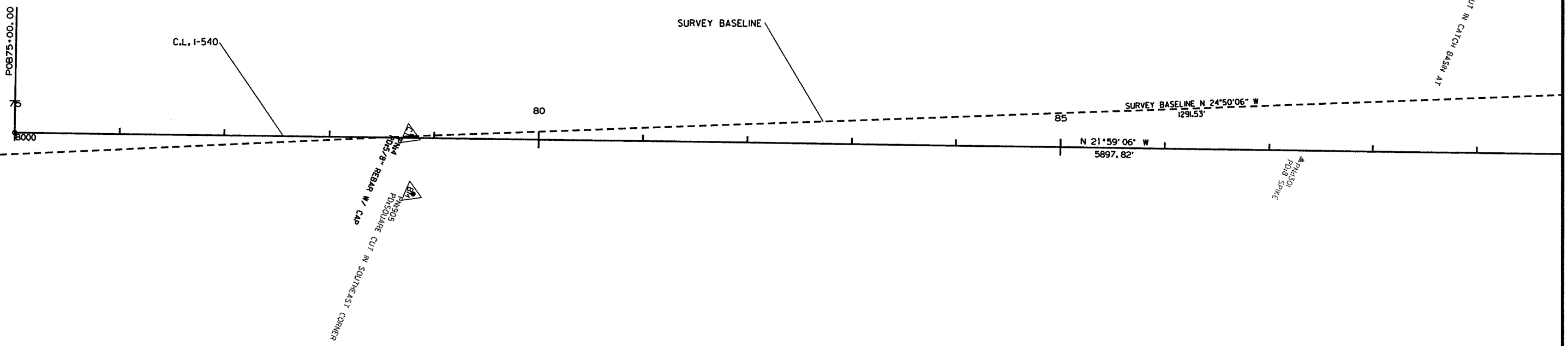
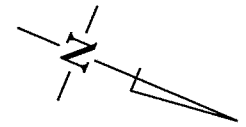
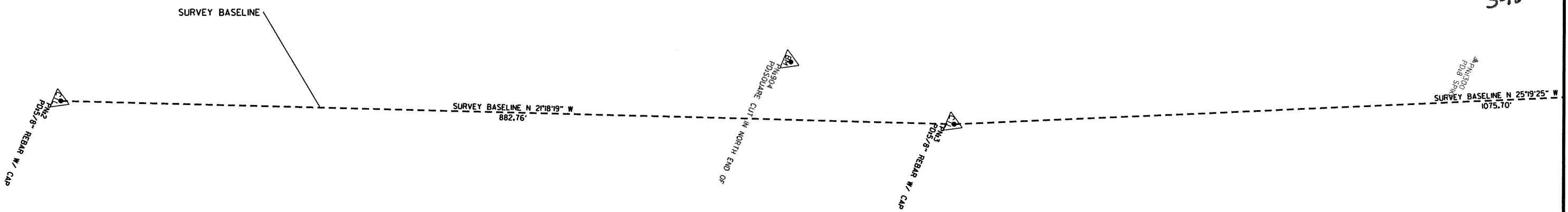
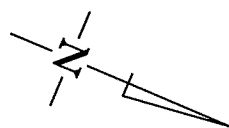
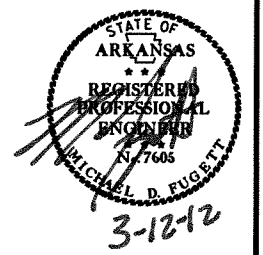
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							040583	29	98

2 SURVEY CONTROL DETAILS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							30	98

2 SURVEY CONTROL DETAILS

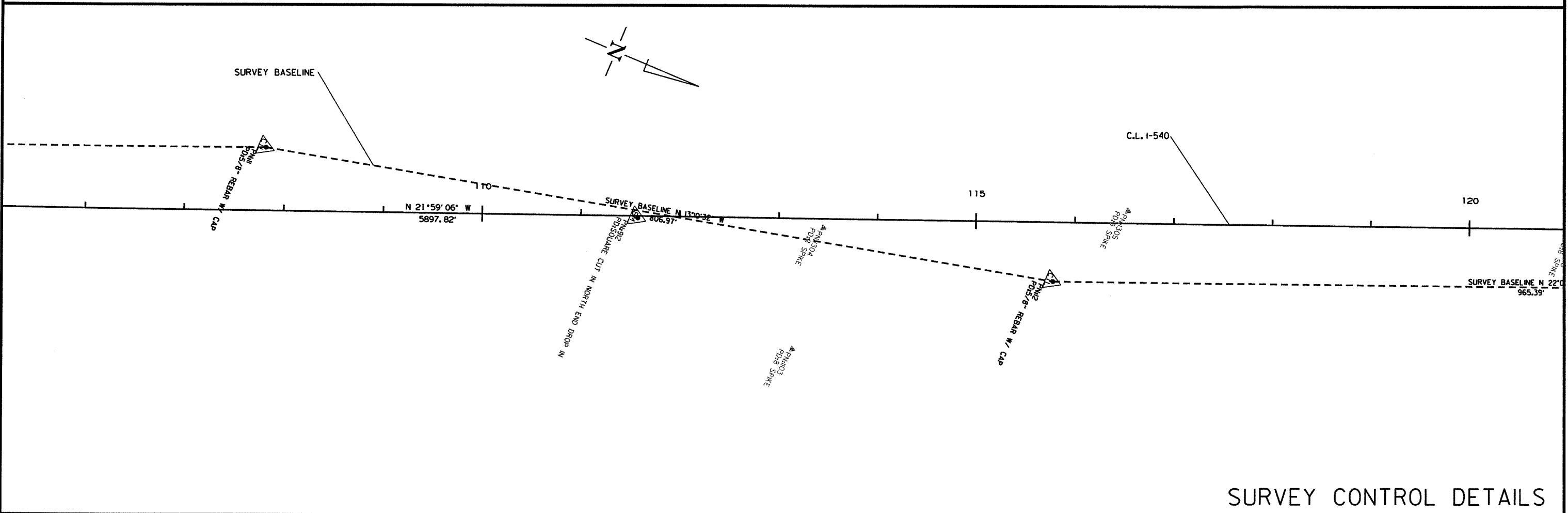
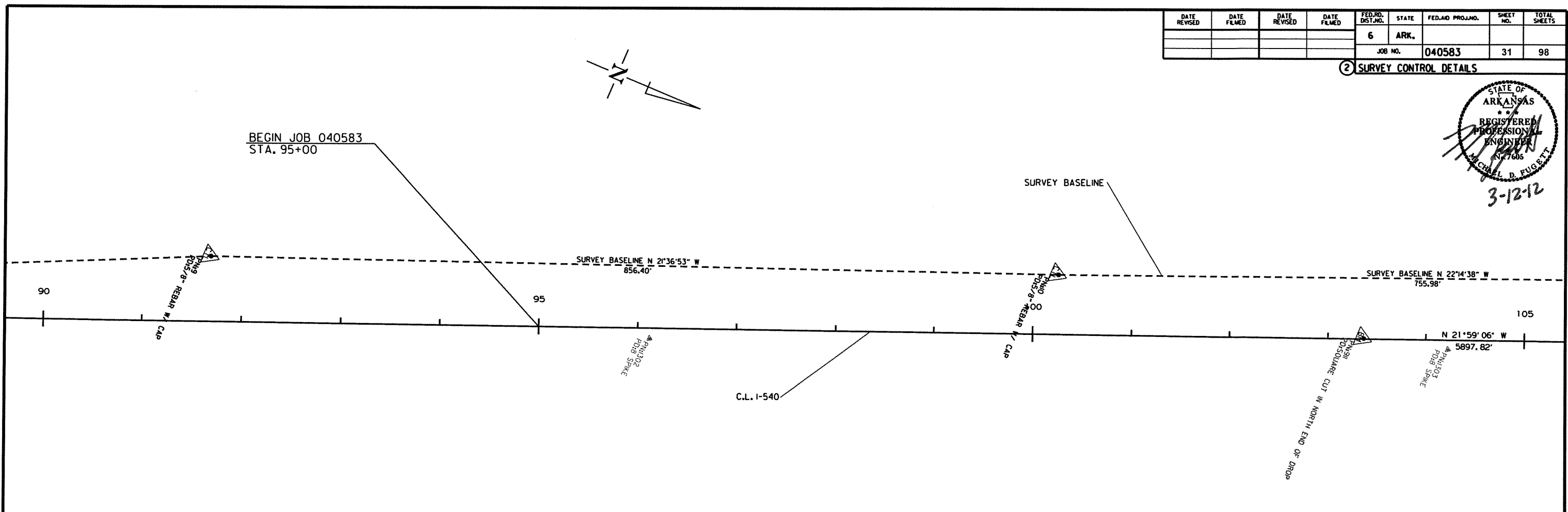
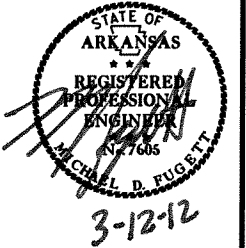


SURVEY CONTROL DETAILS

3/9/2012 R040583.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							31	98

2 SURVEY CONTROL DETAILS

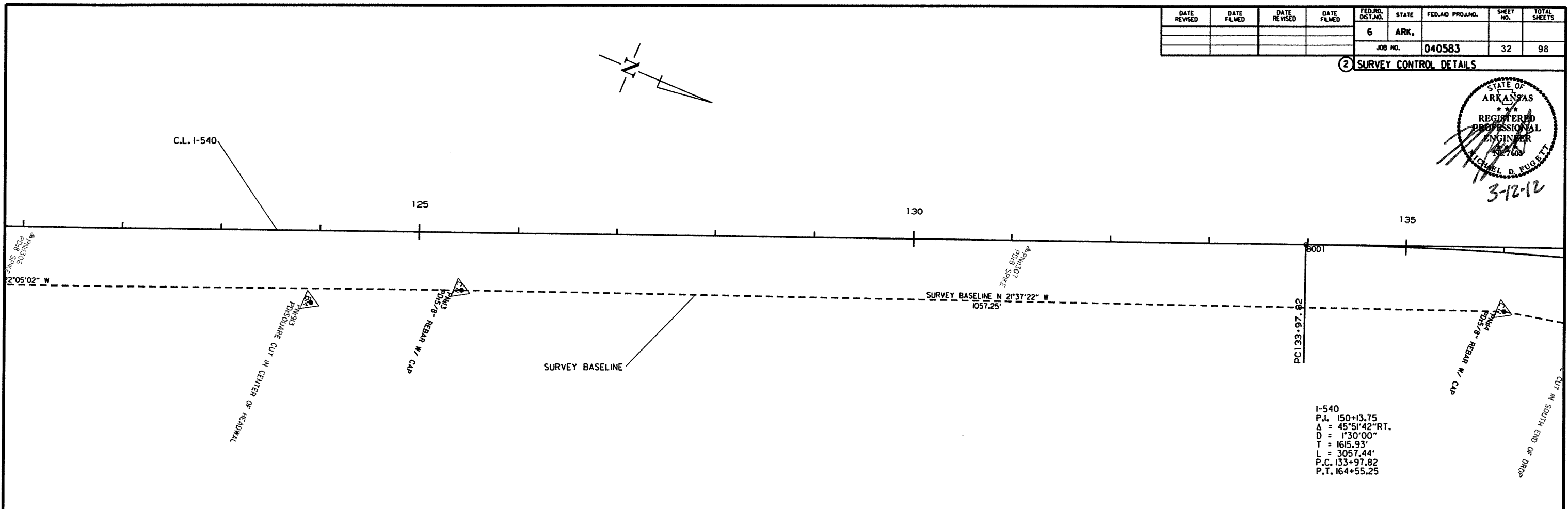
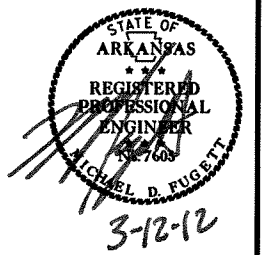


SURVEY CONTROL DETAILS

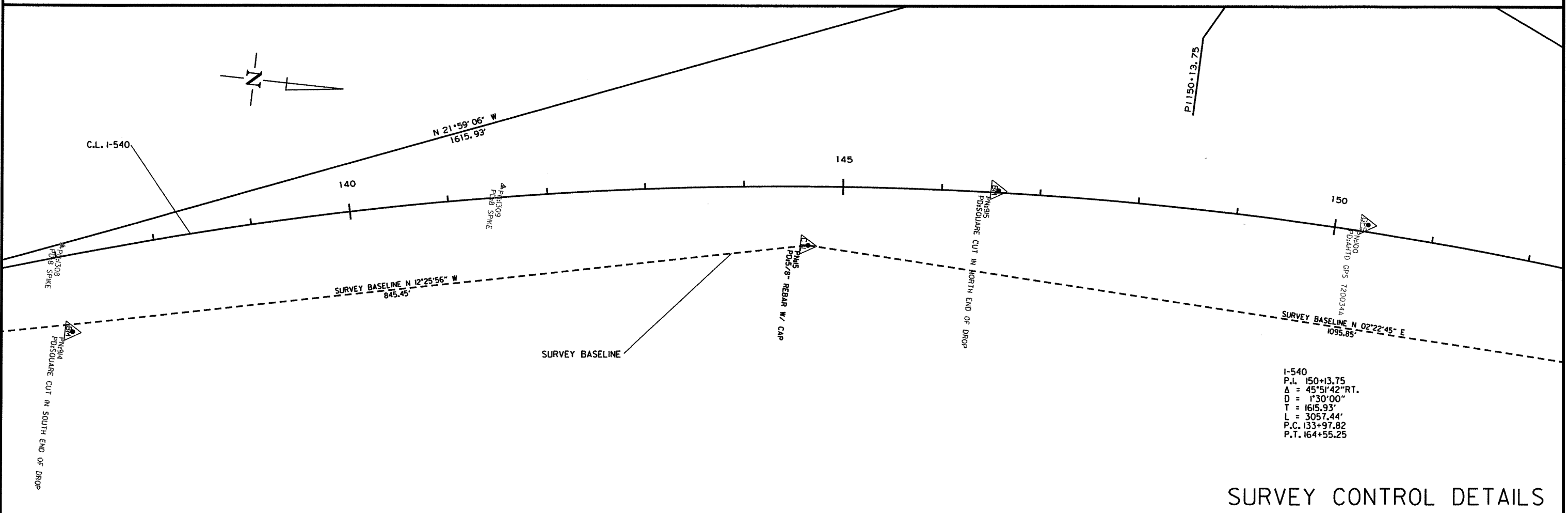
3/9/2012 R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							32	98

2 SURVEY CONTROL DETAILS



I-540
P.I. 150+13.75
Δ = 45°51'42" RT.
D = 1°30'00"
T = 1615.93'
L = 3057.44'
P.C. 133+97.82
P.T. 164+55.25



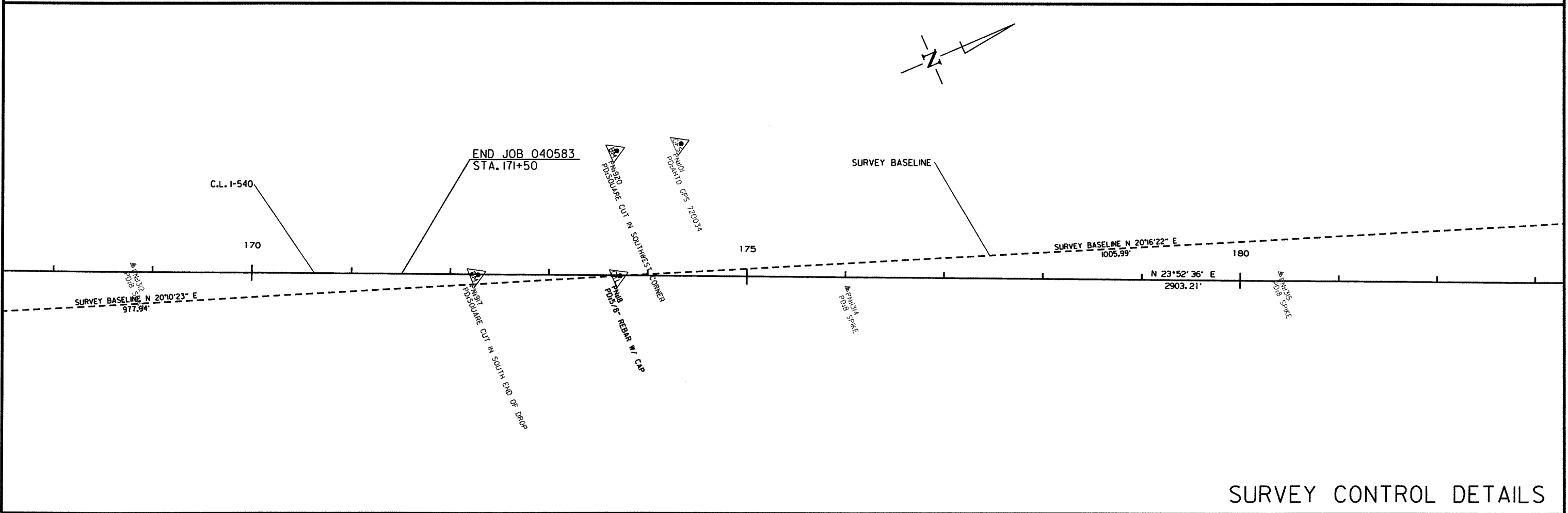
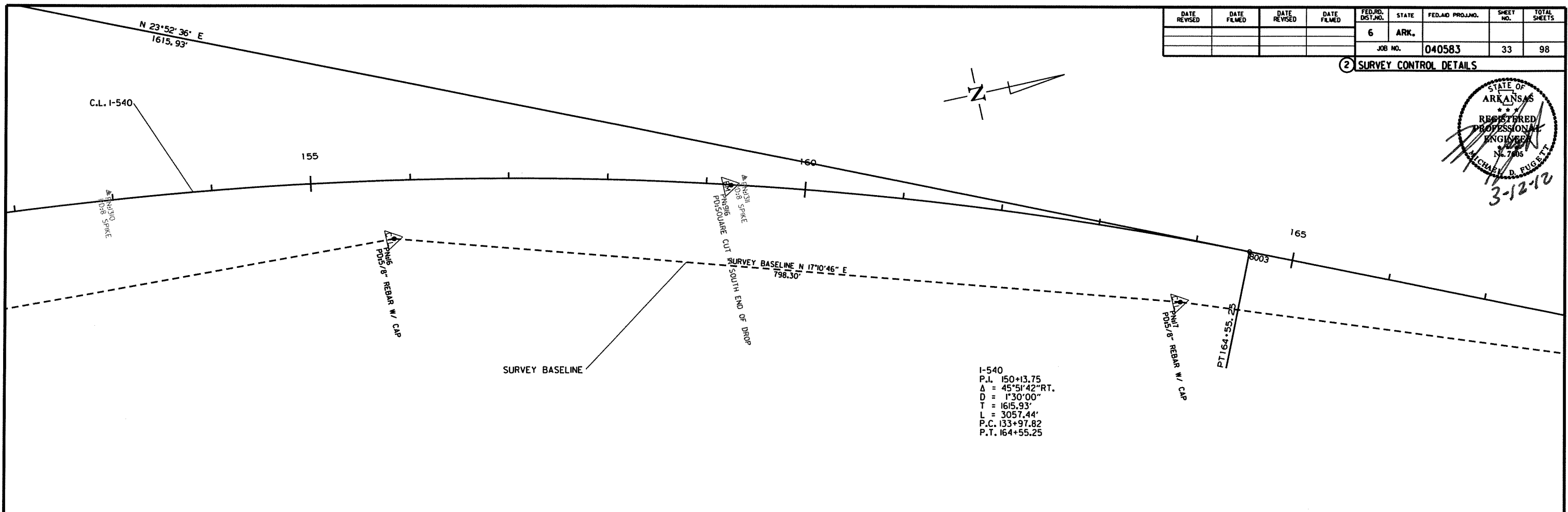
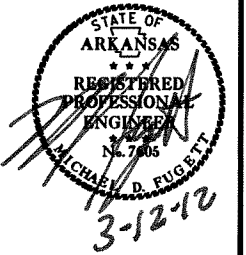
I-540
P.I. 150+13.75
Δ = 45°51'42" RT.
D = 1°30'00"
T = 1615.93'
L = 3057.44'
P.C. 133+97.82
P.T. 164+55.25

SURVEY CONTROL DETAILS

3/9/2012 R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							33	98

② SURVEY CONTROL DETAILS

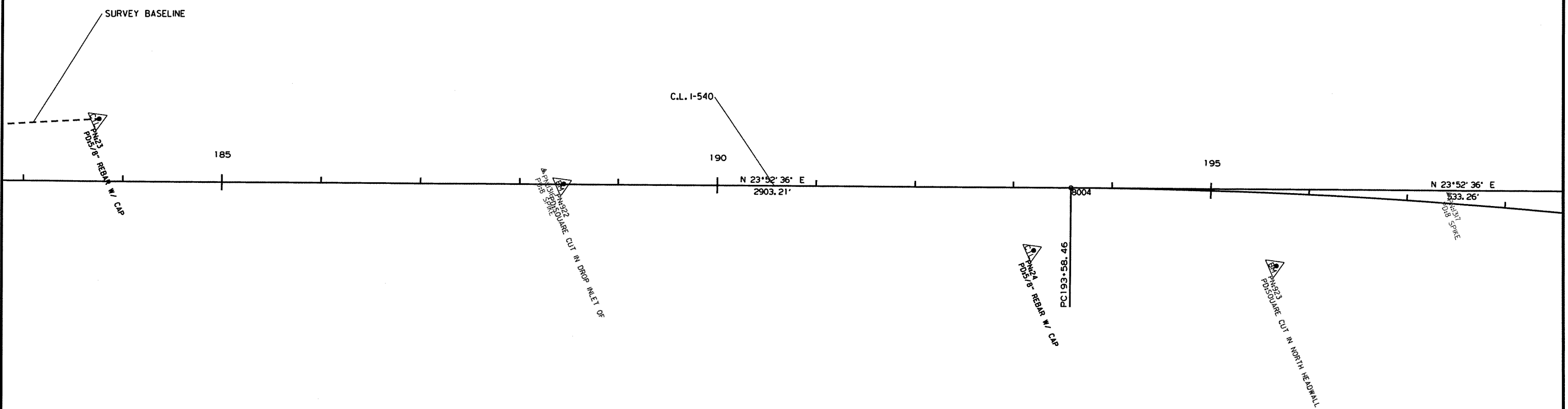
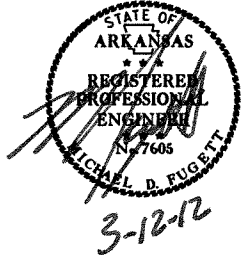


SURVEY CONTROL DETAILS

3/9/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		34	98

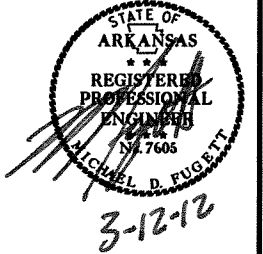
② SURVEY CONTROL DETAILS



3/9/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							35	98

2 SOIL LOG



SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC						
85+00.00	36	3	18.80	94	11	43.20	C.L.	0-5	41	20	A-7-6(18)	RED/BROWN
89+00.00	36	3	22.60	94	11	45.20	C.L.	0-2Z	44	23	A-7-6(21)	BROWN/GRAY
97+00.00	36	3	29.80	94	11	49.00	C.L.	0-5	45	25	A-7-6(24)	GRAY/BROWN
105+00.00	36	3	37.10	94	11	53.00	C.L.	0-5	37	20	A-6(15)	BROWN/RED
113+00.00	36	3	44.50	94	11	56.90	C.L.	0-5	33	17	A-6(11)	BROWN/GRAY
121+00.00	36	3	51.60	94	12	0.70	C.L.	0-5	49	30	A-7-6(27)	RED/BROWN
129+00.00	36	3	59.00	94	12	4.50	C.L.	0-5	40	21	A-6(18)	RED/BROWN
137+00.00	36	4	6.10	94	12	8.10	C.L.	0-5	49	29	A-7-6(25)	RED/BROWN
137+00.00	36	4	6.10	94	12	8.10	C.L.	0-5	43	24	A-7-6(20)	RED/BROWN
145+00.00	36	4	13.90	94	12	10.30	C.L.	0-5	45	23	A-7-6(18)	BROWN
153+00.00	36	4	22.00	94	12	10.30	C.L.	0-5	28	9	A-4(3)	BLACK
161+00.00	36	4	29.80	94	12	8.30	C.L.	0-5	36	15	A-6(9)	RED/BROWN
169+00.00	36	4	37.20	94	12	4.50	C.L.	0-5	33	15	A-6(10)	RED/BROWN

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.
Z- AUGER REFUSAL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	36	98

② PLAN AND PROFILE SHEETS



STA. 96+75 - IN PLACE
5' x 4' x 270' R.C. BOX CULV'T.
WITH TYPE T DROP INLET IN MEDIAN
MODIFY DROP INLET

STA. 103+36 - IN PLACE
TYPE R DROP INLET IN MEDIAN
WITH STEEL GRATE ASSEMBLY
& 24" x 64' R.C. PIPE INLET
& 24" x 115' R.C. PIPE OUTLET
MODIFY DROP INLET

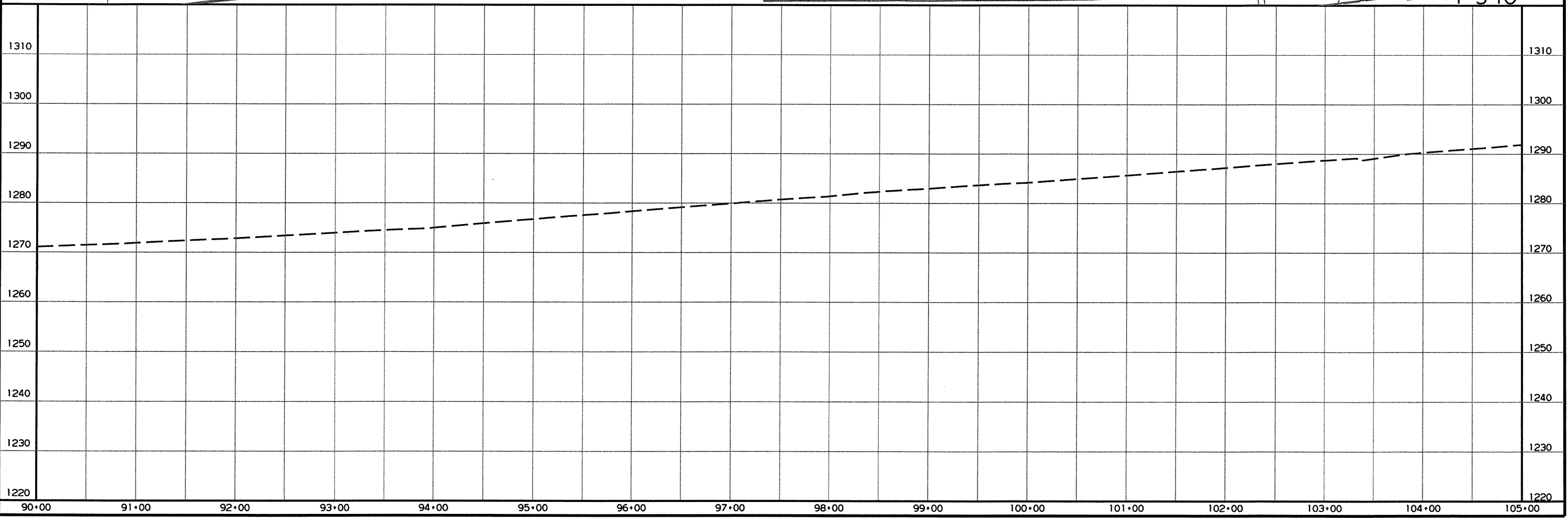
CONCRETE MEDIAN BARRIER
TYPE C STA. 95+00.00 TO STA. 171+50.00

BEGIN JOB 040583
STA. 95+00

350' PAVING TRANSITION

STA. 95+00 - INSTALL
CRASH CUSHION IN MEDIAN = 1EACH

I-540



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							37	98

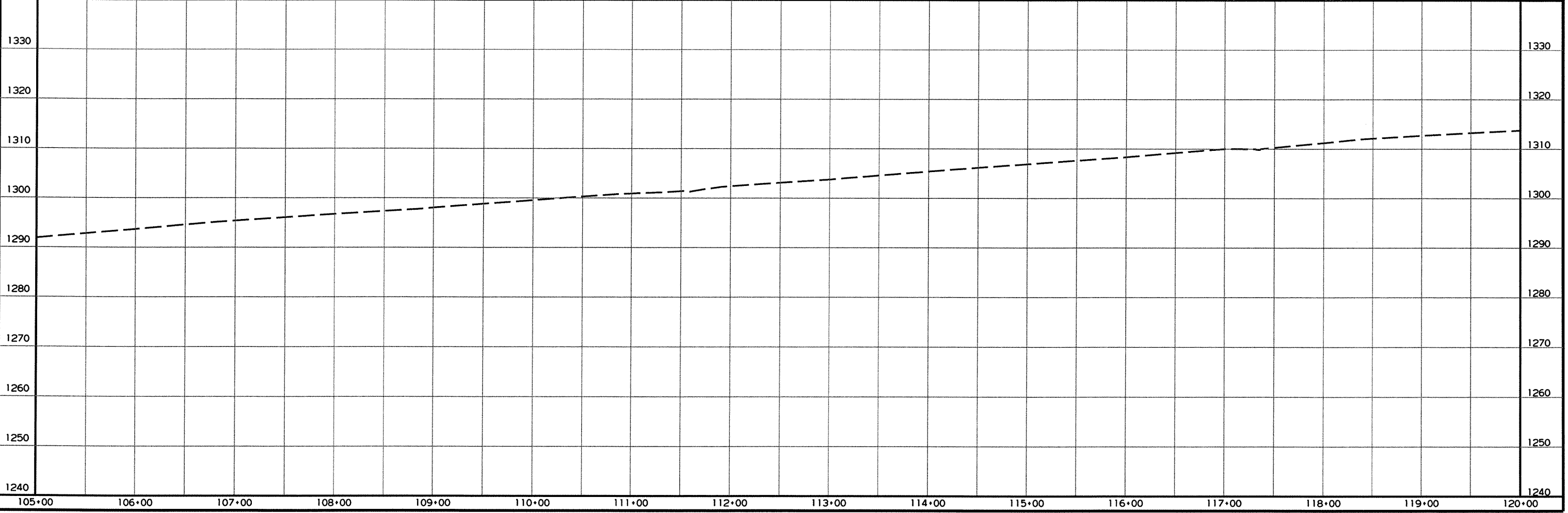
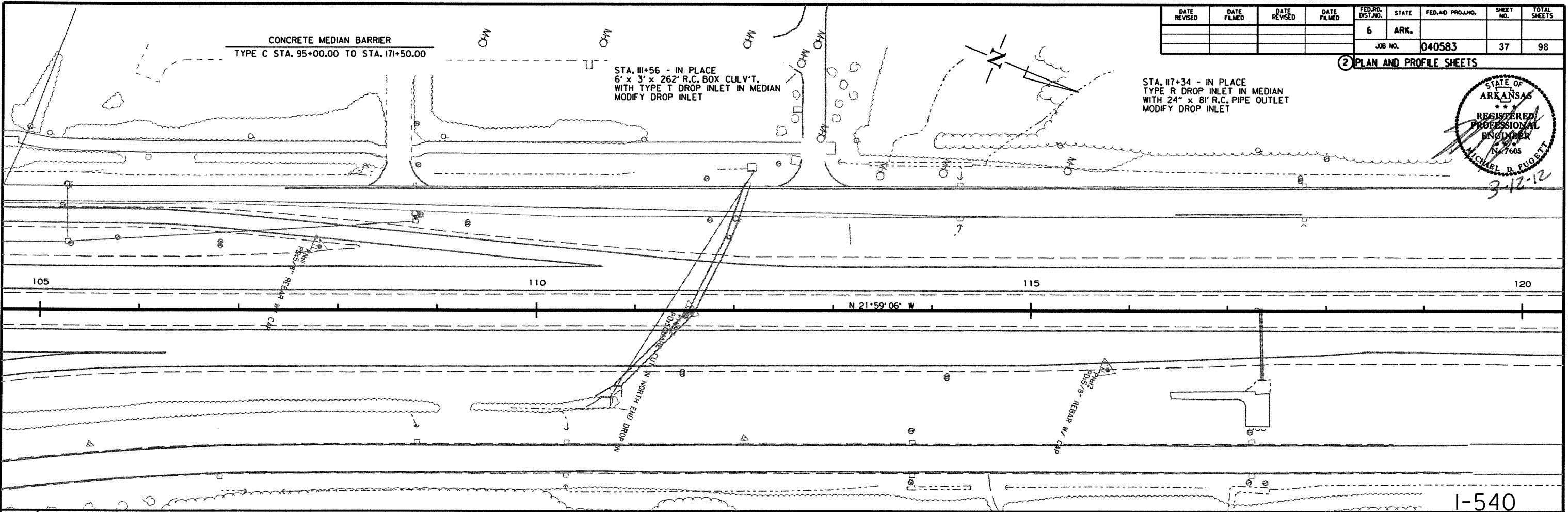
② PLAN AND PROFILE SHEETS



CONCRETE MEDIAN BARRIER
TYPE C STA. 95+00.00 TO STA. 171+50.00

STA. 111+56 - IN PLACE
6' x 3' x 262" R.C. BOX CULV'T.
WITH TYPE T DROP INLET IN MEDIAN
MODIFY DROP INLET

STA. 117+34 - IN PLACE
TYPE R DROP INLET IN MEDIAN
WITH 24" x 8" R.C. PIPE OUTLET
MODIFY DROP INLET



RO40583.DCN 3/12/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							38	98

2 PLAN AND PROFILE SHEETS



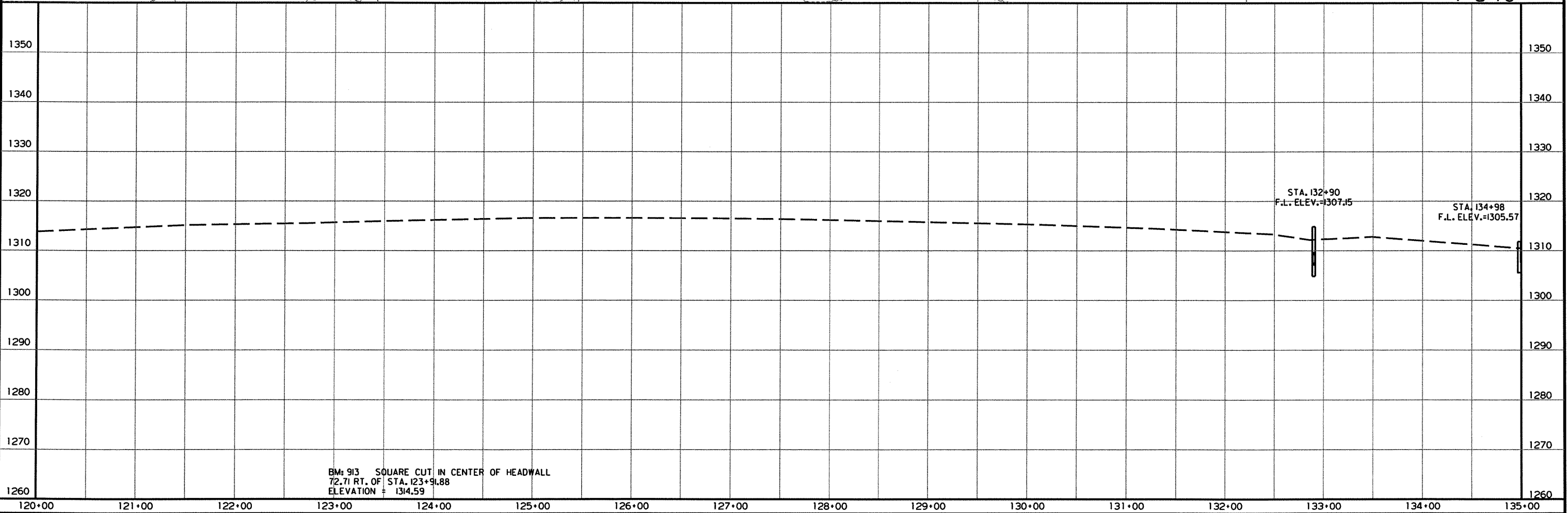
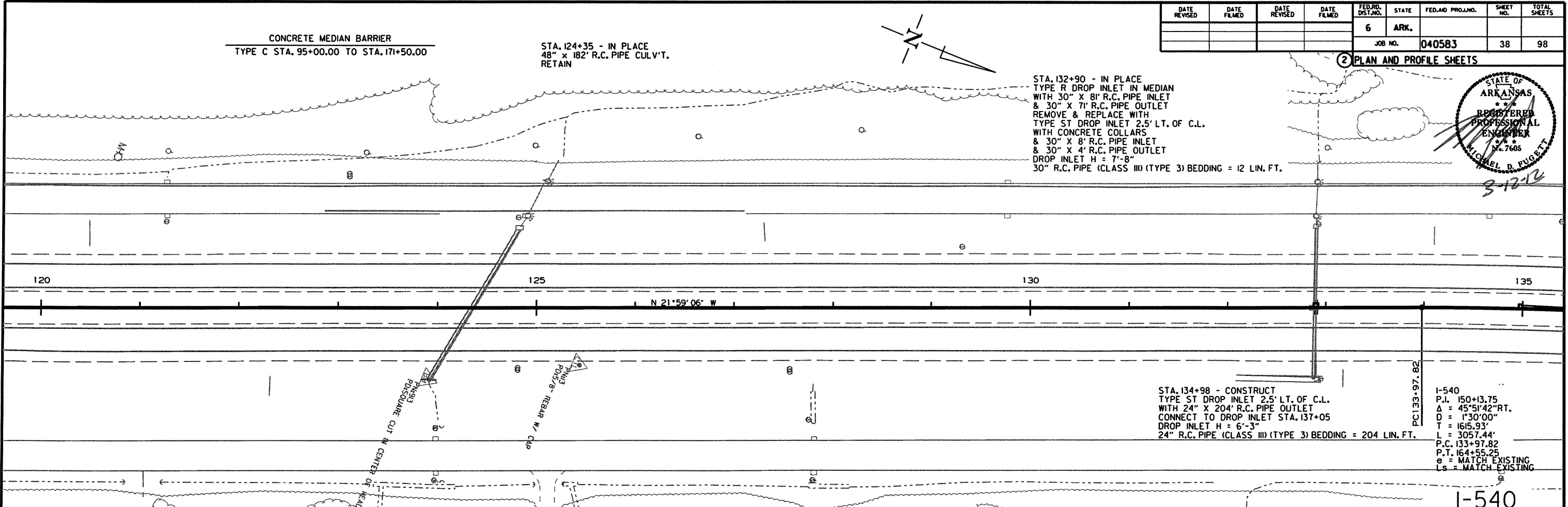
CONCRETE MEDIAN BARRIER
TYPE C STA. 95+00.00 TO STA. 171+50.00

STA. 124+35 - IN PLACE
48" x 182" R.C. PIPE CULV'T.
RETAIN

STA. 132+90 - IN PLACE
TYPE R DROP INLET IN MEDIAN
WITH 30" x 8" R.C. PIPE INLET
& 30" x 7" R.C. PIPE OUTLET
REMOVE & REPLACE WITH
TYPE ST DROP INLET 2.5' LT. OF C.L.
WITH CONCRETE COLLARS
& 30" x 8" R.C. PIPE INLET
& 30" x 4" R.C. PIPE OUTLET
DROP INLET H = 7'-8"
30" R.C. PIPE (CLASS III) (TYPE 3) BEDDING = 12 LIN. FT.

STA. 134+98 - CONSTRUCT
TYPE ST DROP INLET 2.5' LT. OF C.L.
WITH 24" x 204" R.C. PIPE OUTLET
CONNECT TO DROP INLET STA. 137+05
DROP INLET H = 6'-3"
24" R.C. PIPE (CLASS III) (TYPE 3) BEDDING = 204 LIN. FT.

I-540
P.I. 150+13.75
 $\Delta = 45^{\circ}5'42''$ RT.
D = 1'30'00"
T = 1615.93'
L = 3057.44'
P.C. 133+97.82
P.T. 164+55.25
e = MATCH EXISTING
ls = MATCH EXISTING



BM: 913 SQUARE CUT IN CENTER OF HEADWALL
72.71 RT. OF STA. 123+91.88
ELEVATION = 1314.59

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STA. 137+05 - IN PLACE
 TYPE R DROP INLET 4' LT. OF C.L.
 WITH 30" x 78' R.C. PIPE INLET
 & 30" x 8' R.C. PIPE OUTLET
 REMOVE & REPLACE WITH
 TYPE ST DROP INLET 2.5' LT. OF C.L.
 WITH CONCRETE COLLARS
 & 30" x 4' R.C. PIPE INLET
 & 30" x 8' R.C. PIPE OUTLET
 DROP INLET H = 7'-0"
 30" R.C. PIPE (CLASS III) (TYPE 3) BEDDING = 12 LIN. FT.

STA. 139+55 - CONSTRUCT
 TYPE ST DROP INLET 2.5' LT. OF C.L.
 WITH 24" x 248' R.C. PIPE OUTLET
 CONNECT TO DROP INLET STA. 142+05
 DROP INLET H = 5'-8"
 24" R.C. PIPE (CLASS III) (TYPE 3) BEDDING = 248 LIN. FT.

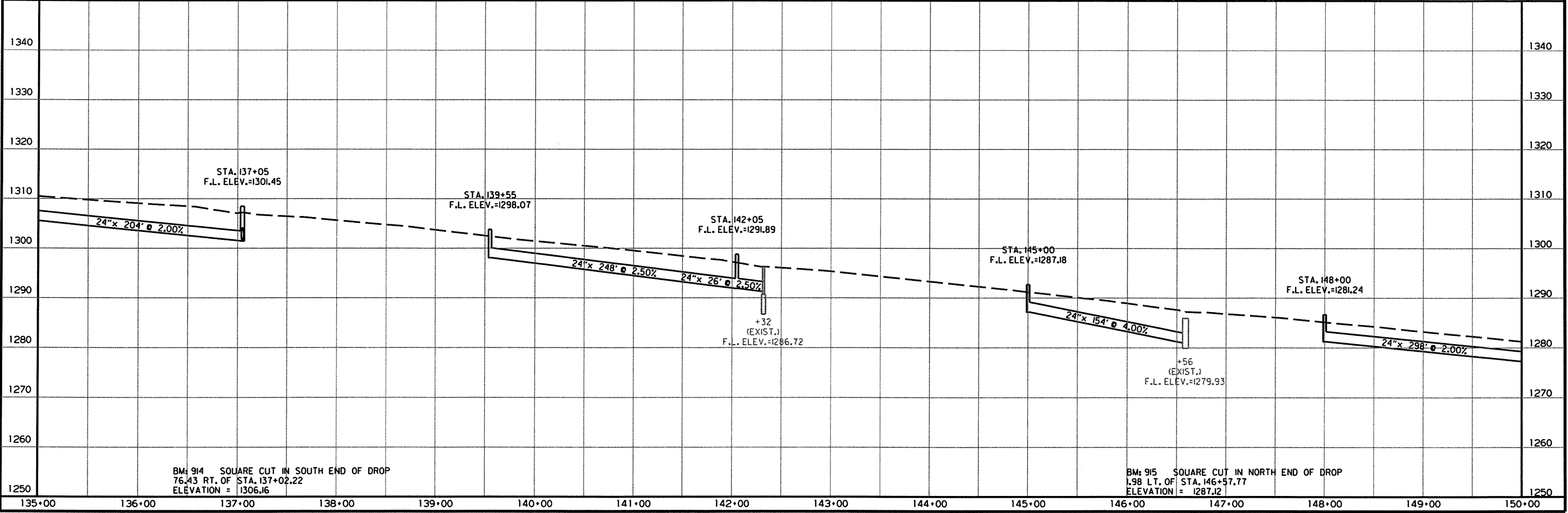
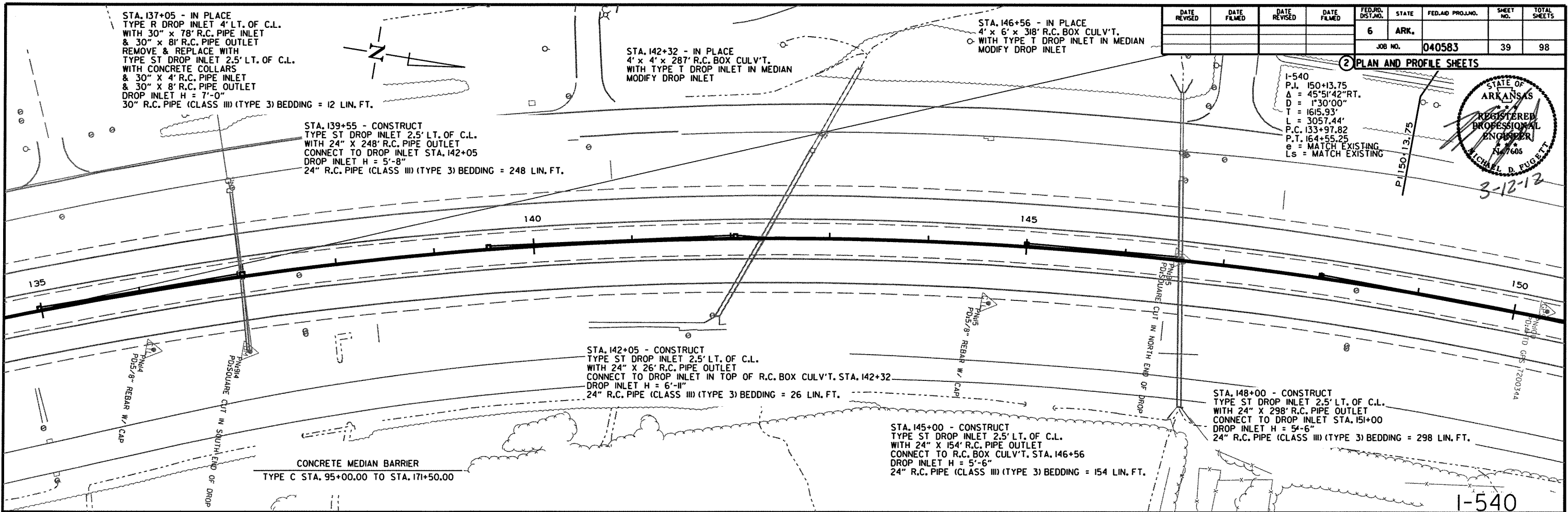
STA. 142+32 - IN PLACE
 4' x 4' x 287' R.C. BOX CULV'T.
 WITH TYPE T DROP INLET IN MEDIAN
 MODIFY DROP INLET

STA. 146+56 - IN PLACE
 4' x 6' x 318' R.C. BOX CULV'T.
 WITH TYPE T DROP INLET IN MEDIAN
 MODIFY DROP INLET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		39	98

2 PLAN AND PROFILE SHEETS

I-540
 P.I. 150+13.75
 Δ = 45°51'42" RT.
 D = 1°30'00"
 T = 1615.93'
 L = 3057.44'
 P.C. 133+97.82
 P.T. 164+55.25
 e = MATCH EXISTING
 Ls = MATCH EXISTING



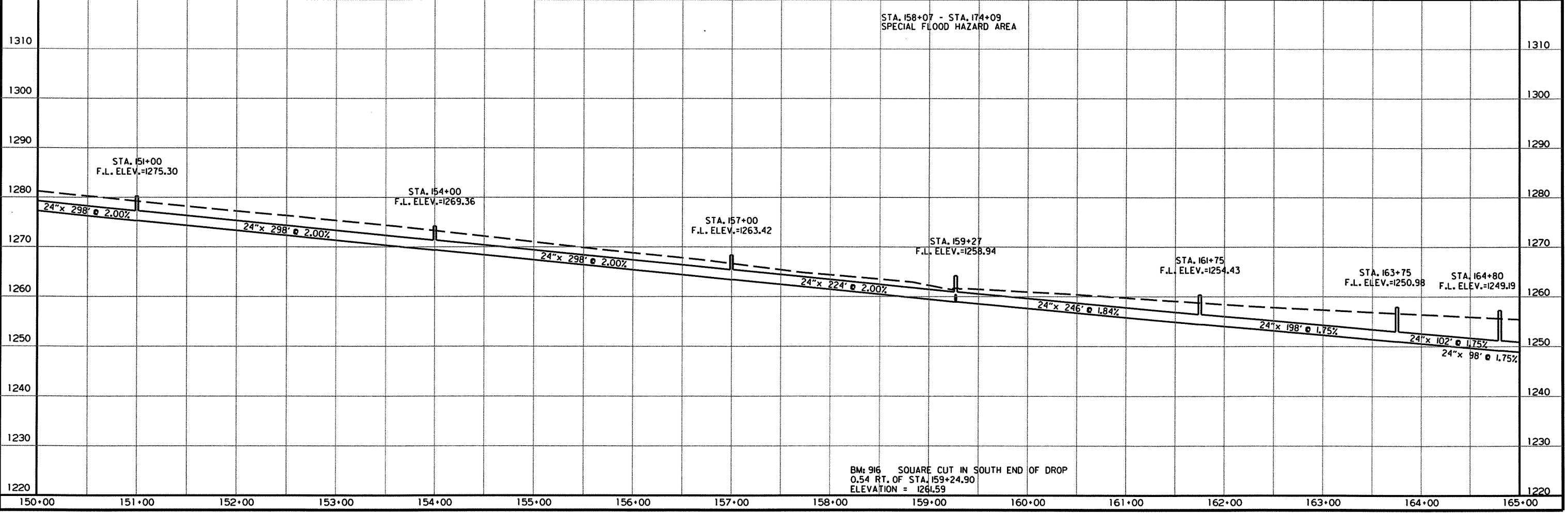
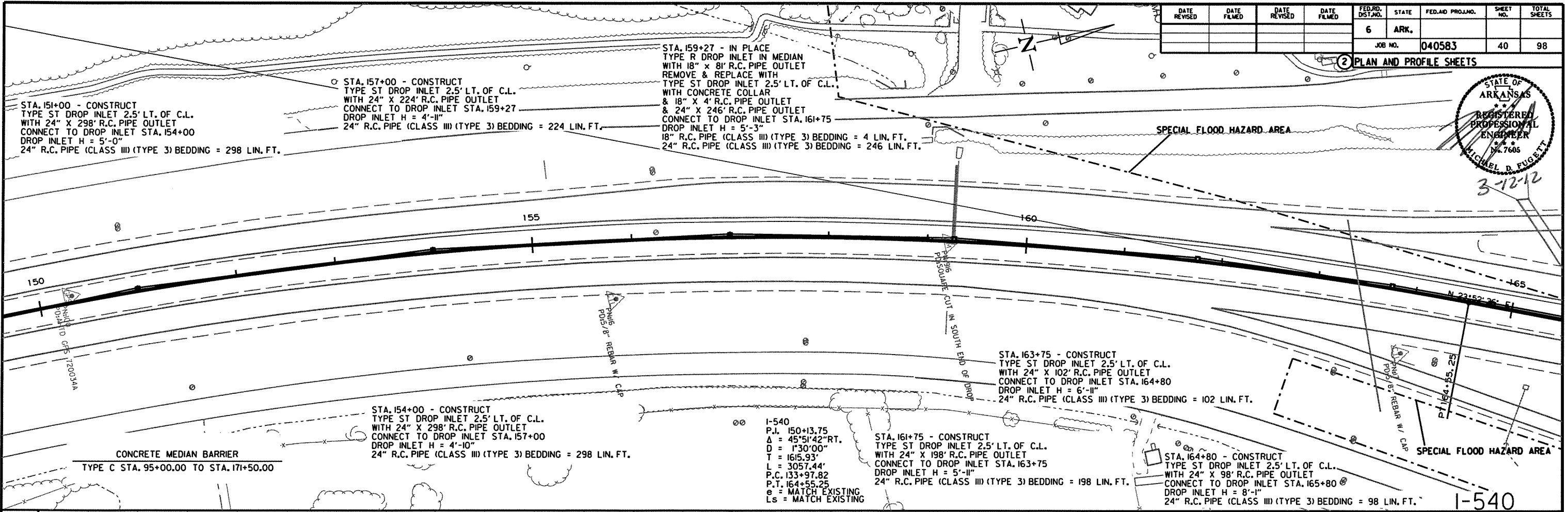
BM: 914 SQUARE CUT IN SOUTH END OF DROP
 76.43 RT. OF STA. 137+02.22
 ELEVATION = 1306.16

BM: 915 SQUARE CUT IN NORTH END OF DROP
 1.98 LT. OF STA. 146+57.77
 ELEVATION = 1287.12

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							40	98

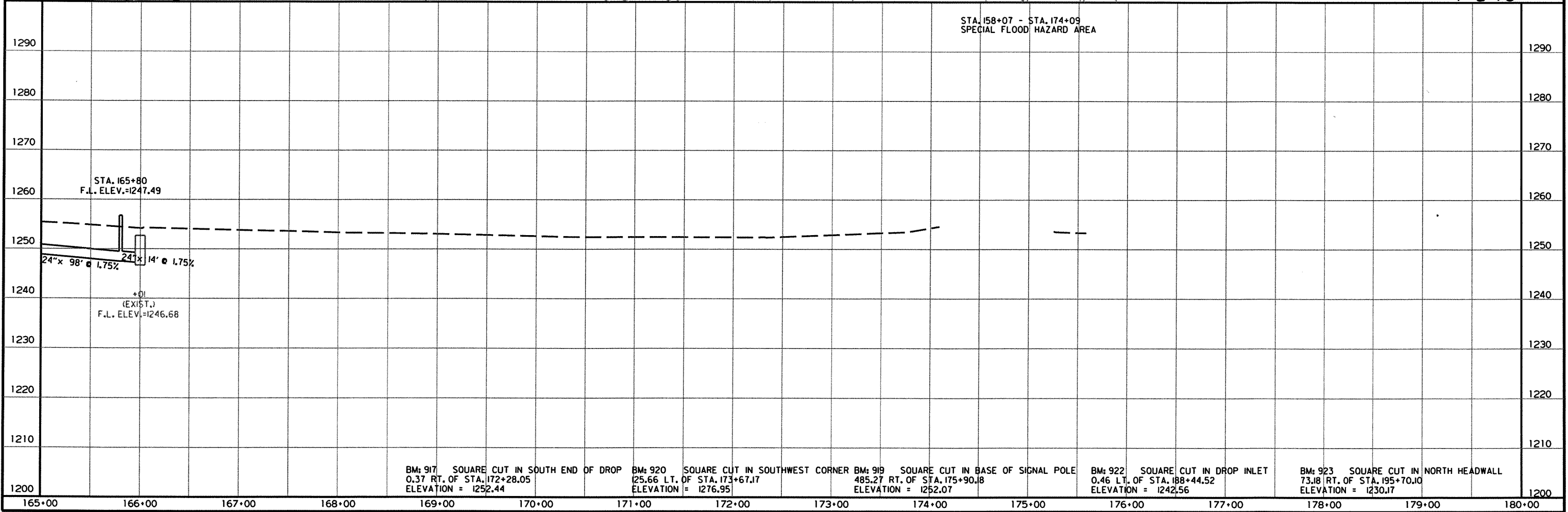
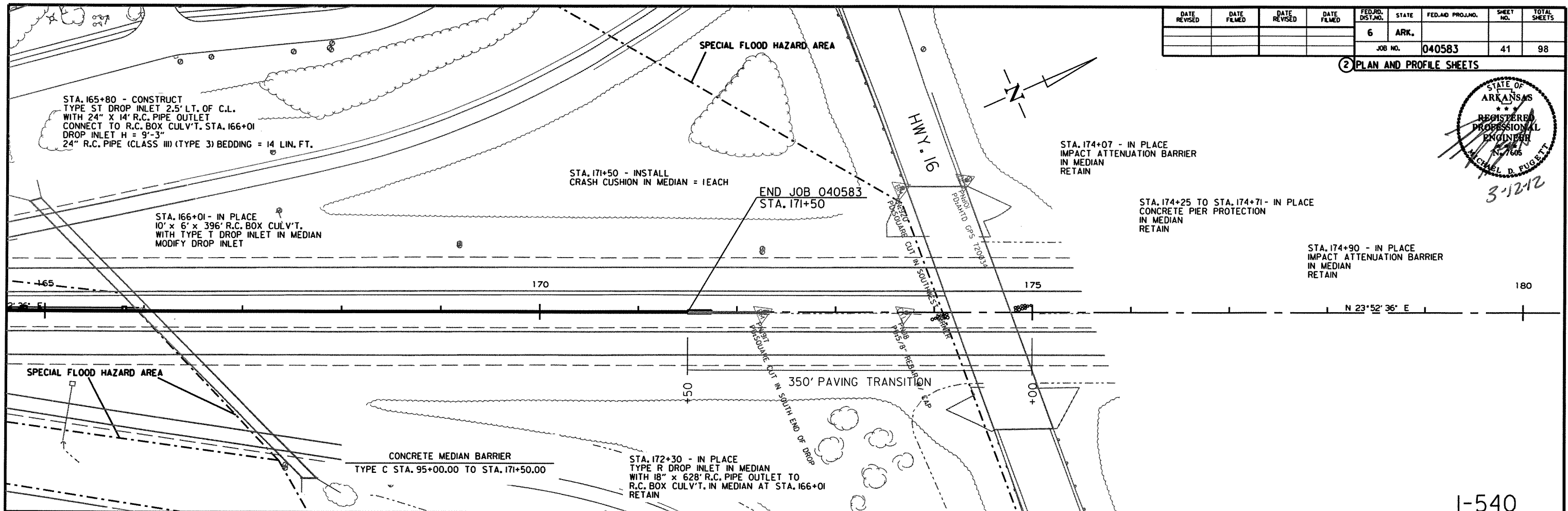
2 PLAN AND PROFILE SHEETS



R040583.DGN 3/12/2012

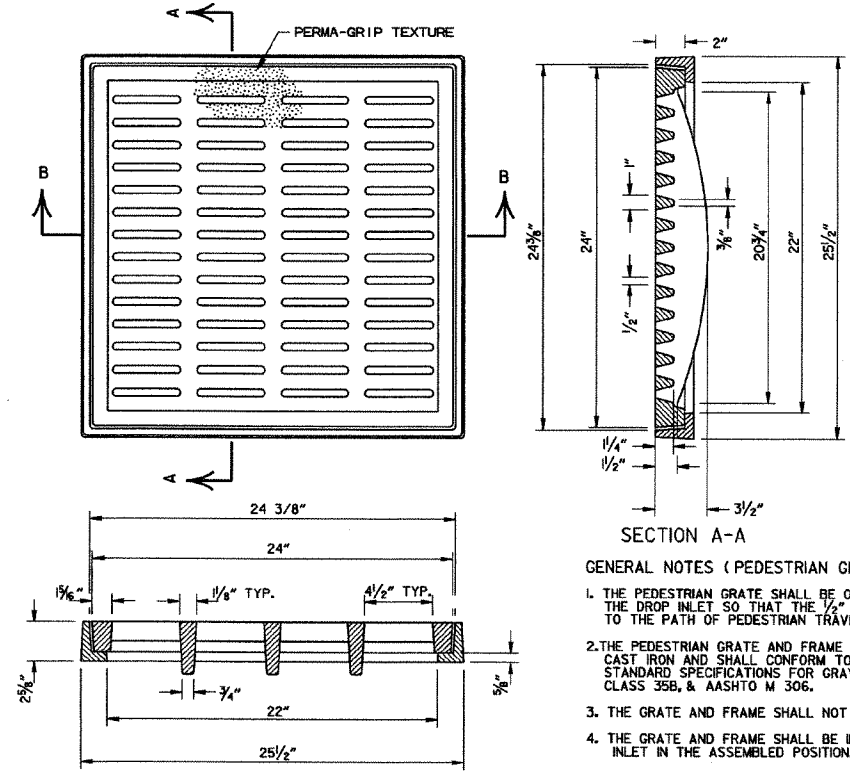
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							41	98

2 PLAN AND PROFILE SHEETS



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1-540

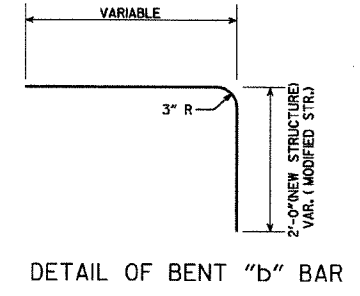


SECTION A-A

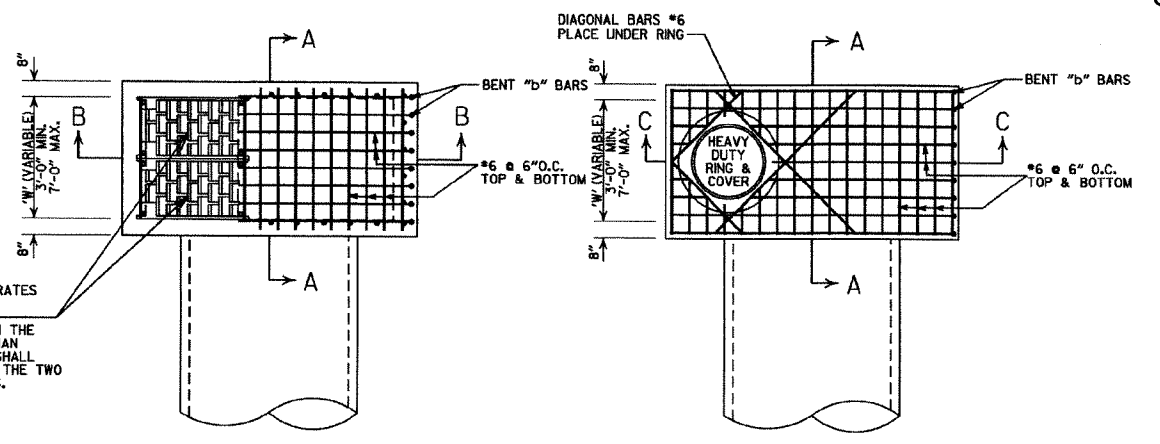
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE 1/2\"
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 211 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

SECTION B-B
DETAILS OF PEDESTRIAN GRATE AND FRAME



TWO RIBBED VANE GRATES WITH FRAME NORMAL.
WHEN CALLED FOR IN THE PLANS, ONE PEDESTRIAN GRATE WITH FRAME SHALL BE USED IN LIEU OF THE TWO RIBBED VANE GRATES.

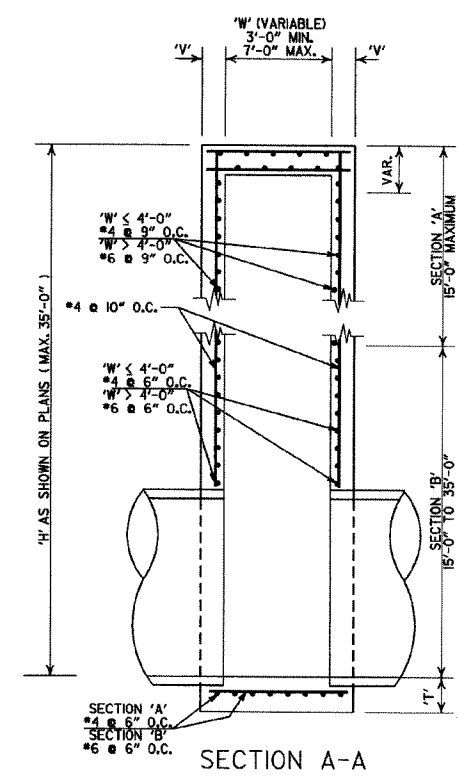


GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

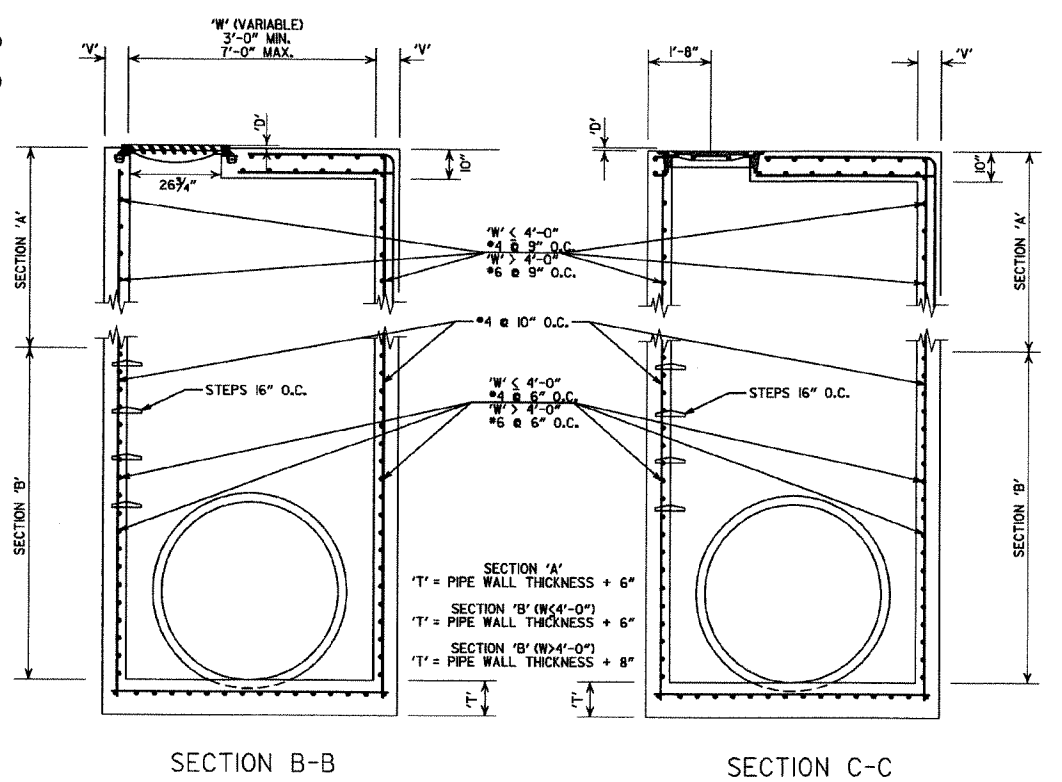
1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0\"
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0\"
3. ALL EXPOSED CORNERS ARE TO HAVE A 3/4\"
4. ALL #4 & #5 REINFORCING BARS ARE TO HAVE A MIN. 1/2\"

GENERAL NOTES (HEAVY DUTY RING & COVER):

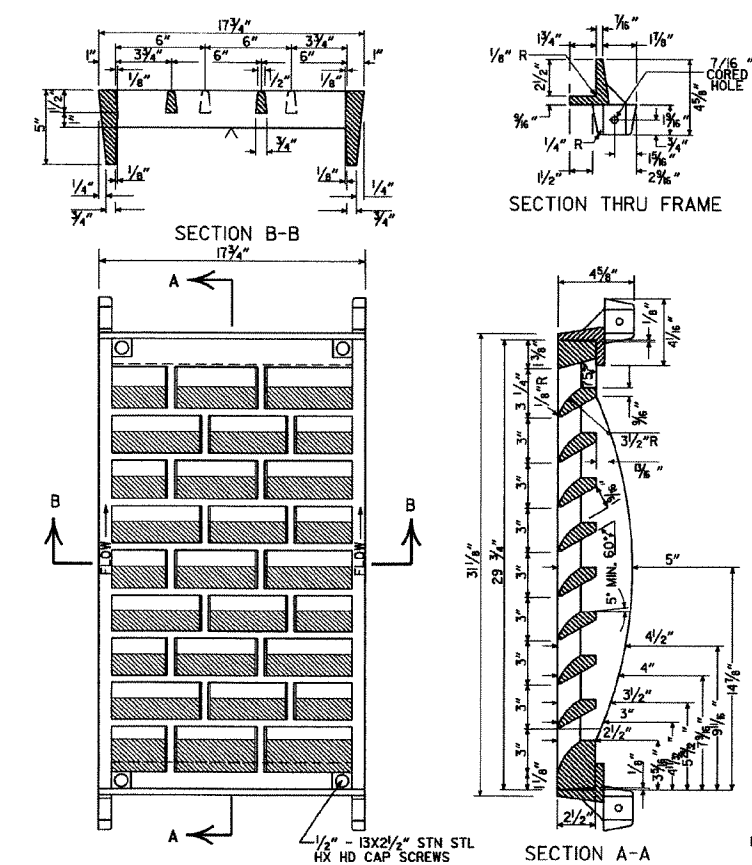
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION A-A
DETAILS OF DROP INLET (TYPE ST)



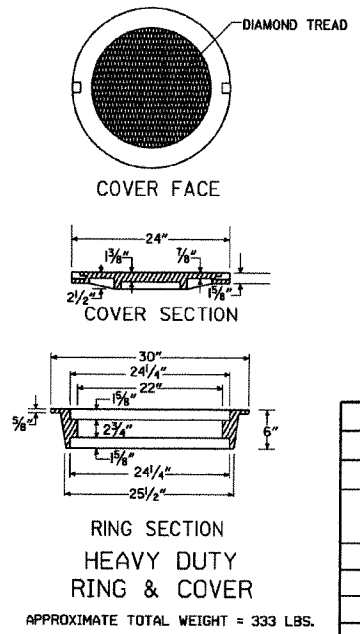
SECTION B-B
SECTION C-C
DETAILS OF JUNCTION BOX (TYPE ST)



SECTION A-A
DETAILS OF RIBBED VANE GRATE AND FRAME

GENERAL NOTES (RIBBED VANE GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



RING SECTION
HEAVY DUTY RING & COVER
APPROXIMATE TOTAL WEIGHT = 333 LBS.

DATE REVISED	DATE FILMED	DESCRIPTION
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA. INCHES	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
15	18	18	11	11
18	22	22	13 1/2	14
21	26	26	15 1/2	16
24	28 1/2	29	18	18
30	36 1/4	36	22 1/2	23
36	43 3/8	44	26 3/8	27
42	51 1/8	51	31 1/8	31
48	58 1/2	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77 1/2	77
108	138	138	87 1/8	87
120	154	154	96 1/8	97
132	168 3/4	169	106 1/2	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA. INCHES	AASHTO M 207	
	SPAN	RISE
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(F)(1).

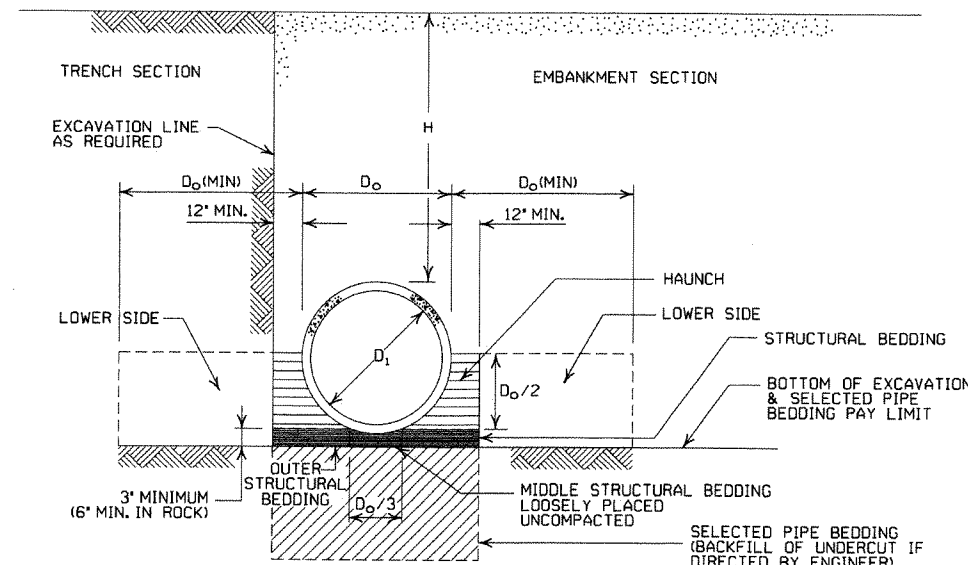
NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

- LEGEND -

- D₁ = NORMAL INSIDE DIAMETER OF PIPE
- D_o = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

- * SM-3 WILL NOT BE ALLOWED.
- ** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
PIPE ID (IN.)	TYPE 1 OR 2	TYPE 3	ALL	ALL
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

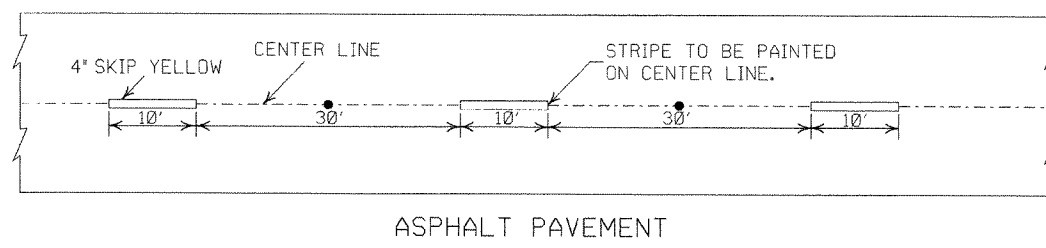
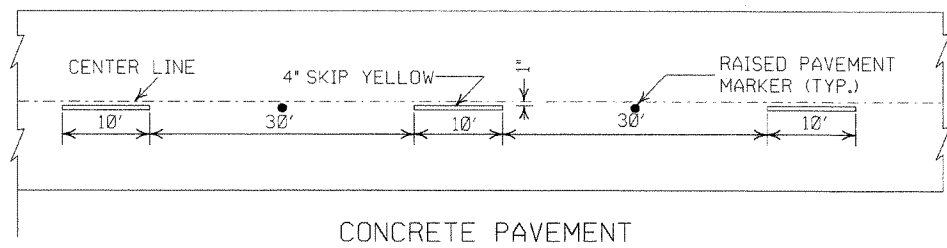
DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

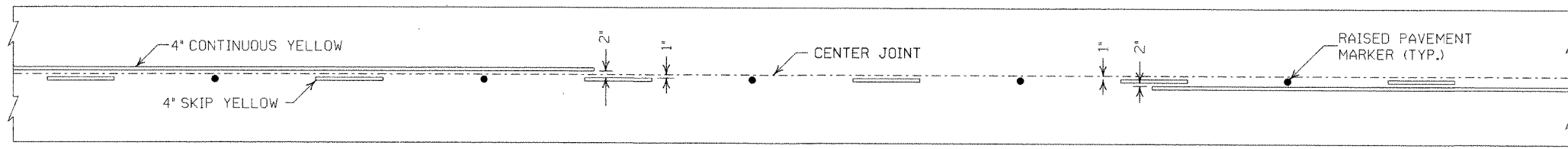




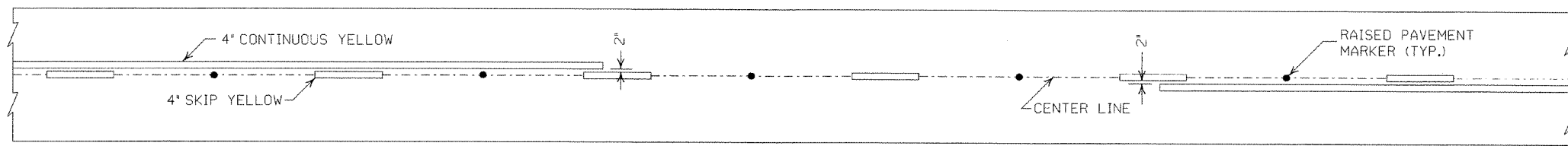
CONCRETE PAVEMENT

ASPHALT PAVEMENT

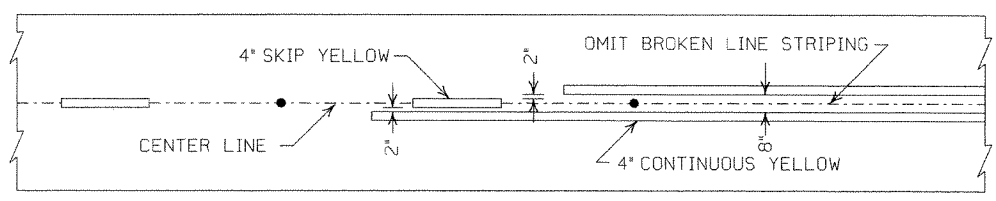
BROKEN LINE STRIPING



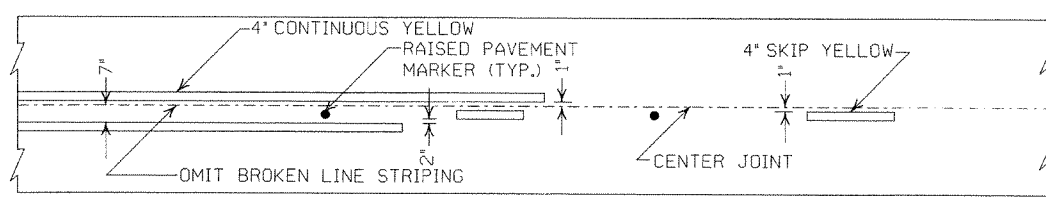
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

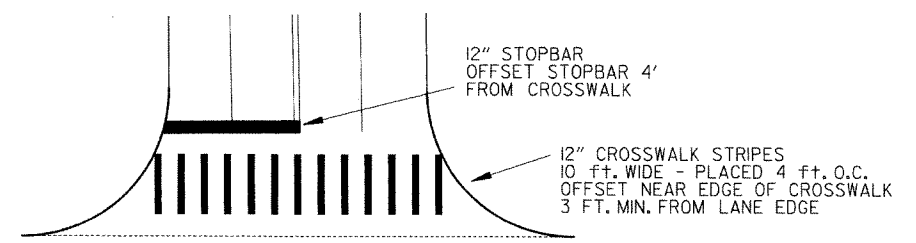


ASPHALT PAVEMENT



CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

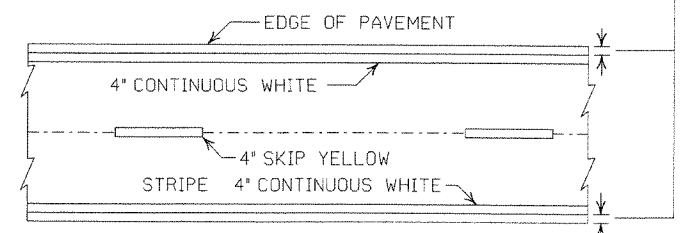


CROSSWALK AND STOPBAR DETAILS

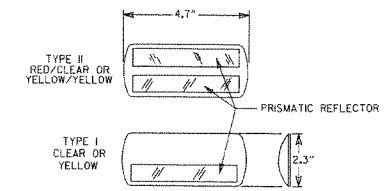
NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.

2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

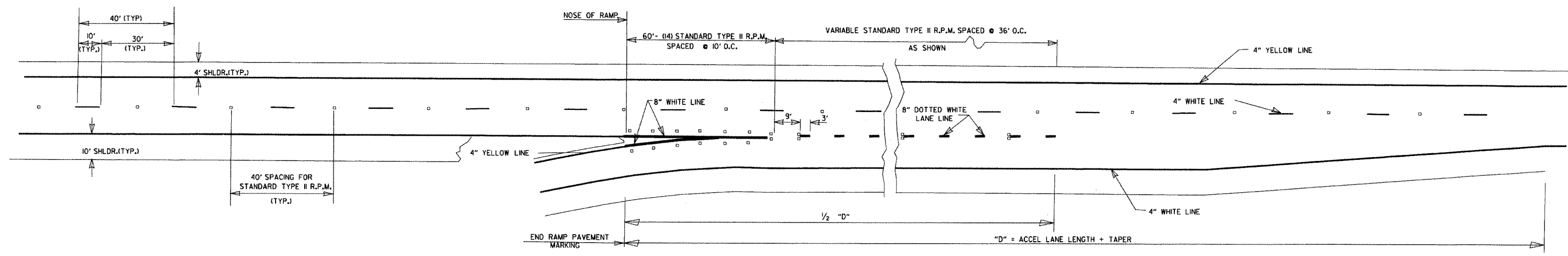
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION	
PAVEMENT MARKING DETAILS	
STANDARD DRAWING PM-1	

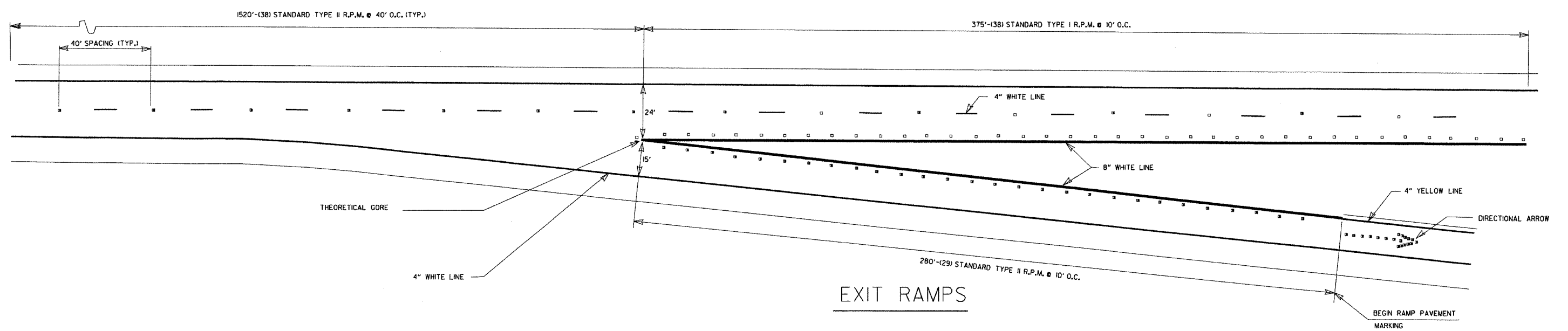
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

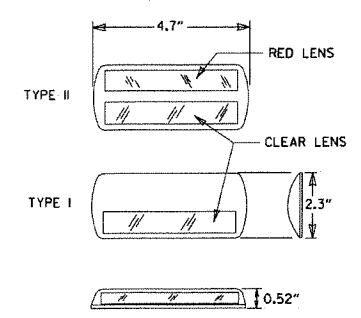
EXIT RAMP
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

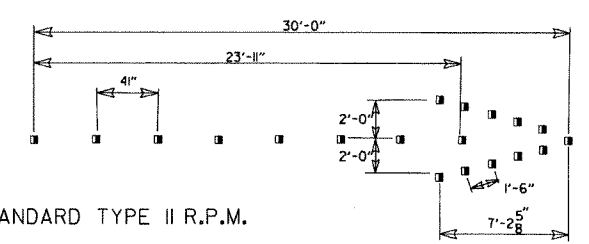


EXIT RAMPS



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

NOTE: THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DIRECTIONAL ARROWS

GENERAL NOTES:
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

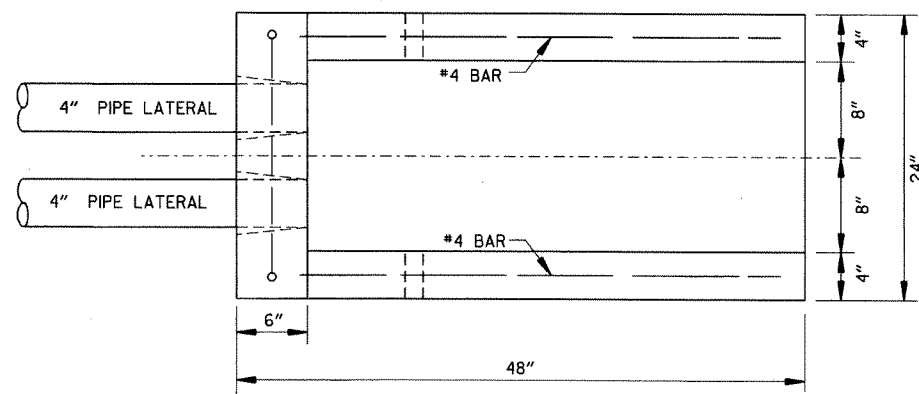
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

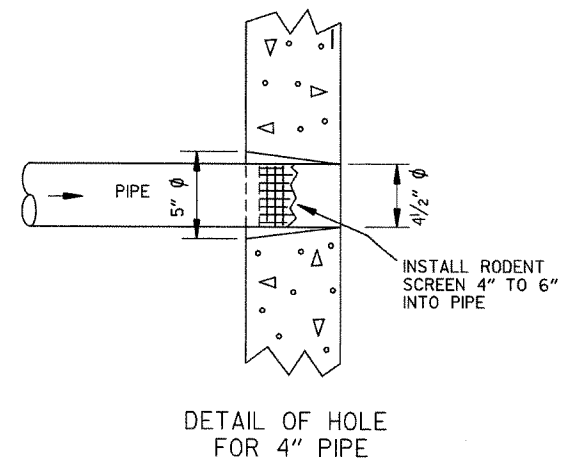
DATE	REVISION	FILMED
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION
PERMANENT PAVEMENT MARKING
ON ACCESS CONTROLLED ROADWAYS
STANDARD DRAWING PM-2

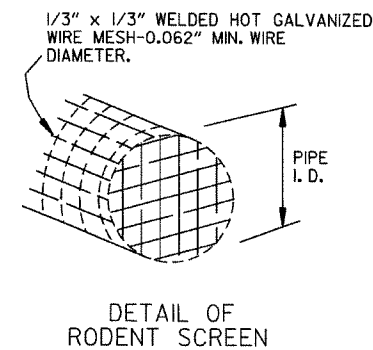
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



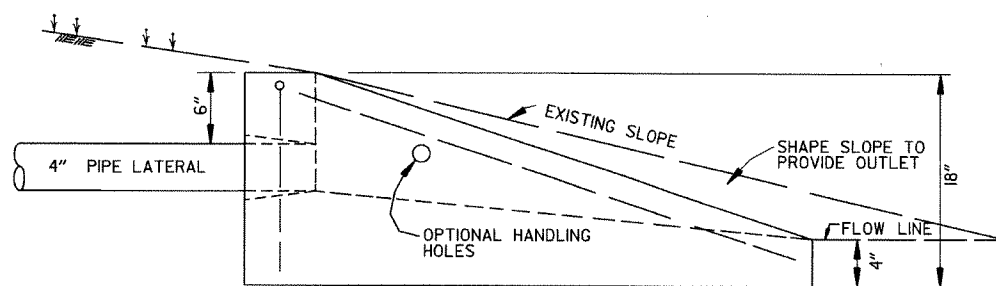
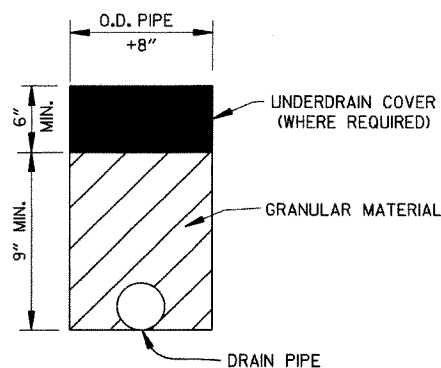
PLAN VIEW



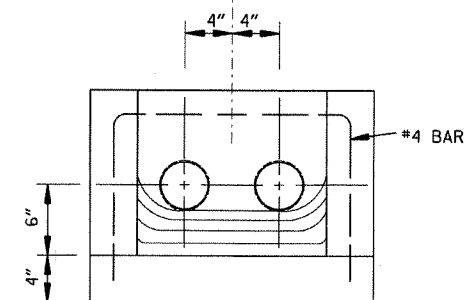
DETAIL OF HOLE FOR 4" PIPE



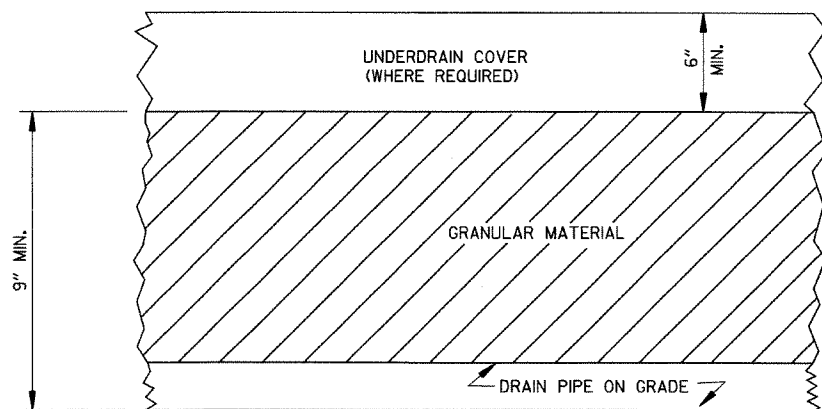
DETAIL OF RODENT SCREEN



SIDE VIEW

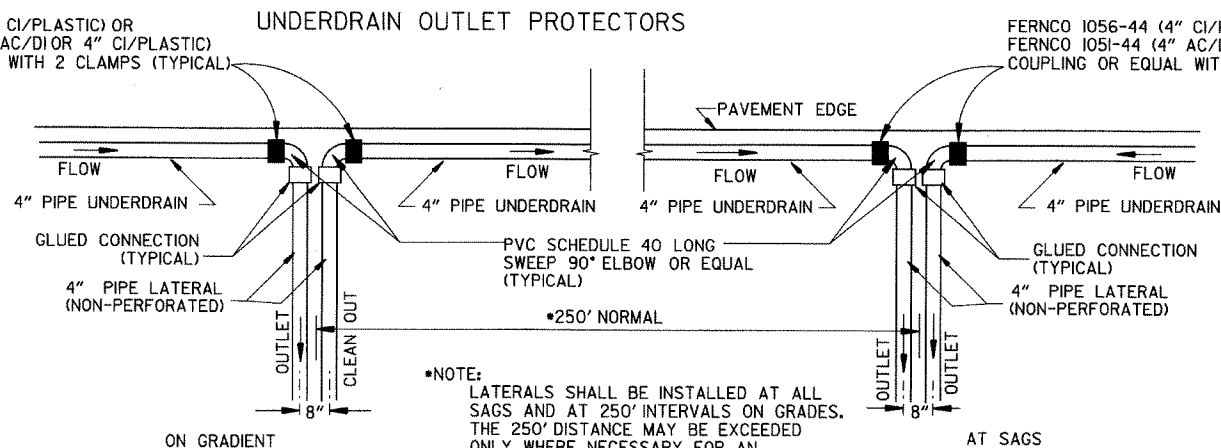


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

FERNCO 1056-44 (4" CI/PLASTIC) OR FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC) COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)



NOTE:
 LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE
 NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11-3-94	REVISED FOR DUAL LATERALS	11-3-94
10-1-92	SUBSTITUTED GEOTEXTILE	10-1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11-8-90	DELETED ALTERNATE NOTE	11-8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88
DATE	REVISION	DATE FILMED


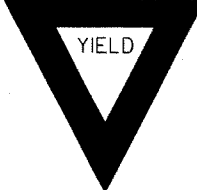
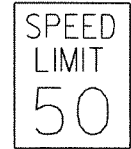
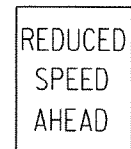




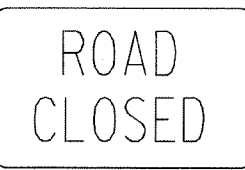
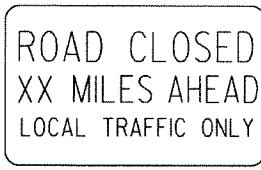
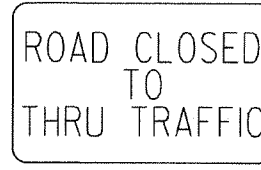
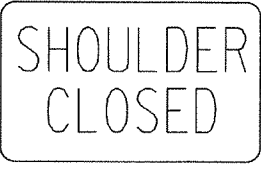
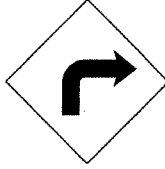
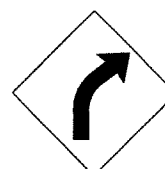



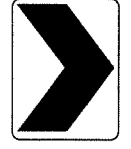
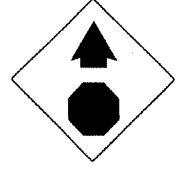
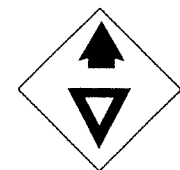
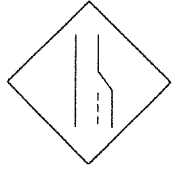



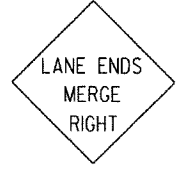


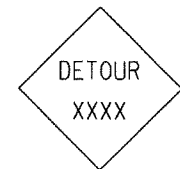







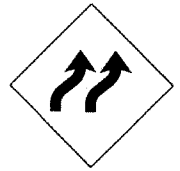


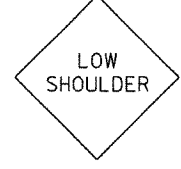
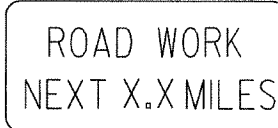
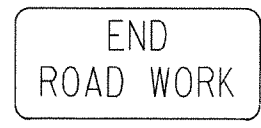
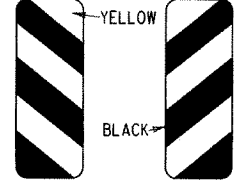


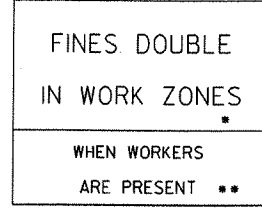
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

ADVANCE DISTANCES (XXXX)

500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>
<p>W20-3</p>  <p>STD. 48"x48"</p>	<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>500 FEET 18" W6-2 24"</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>
<p>WI-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>	<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>
<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>WHEN WORKERS ARE PRESENT **</p> <p>* USE 6" C LETTERS ** USE 4" D LETTERS</p>				

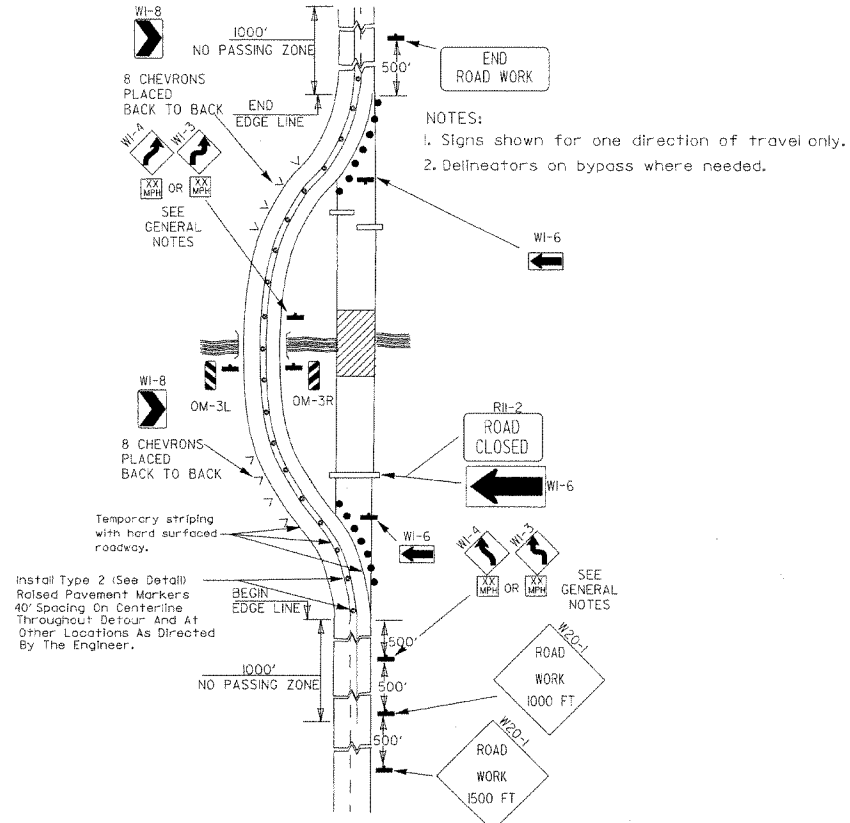
GENERAL NOTES:

- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
- EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
- POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
- ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

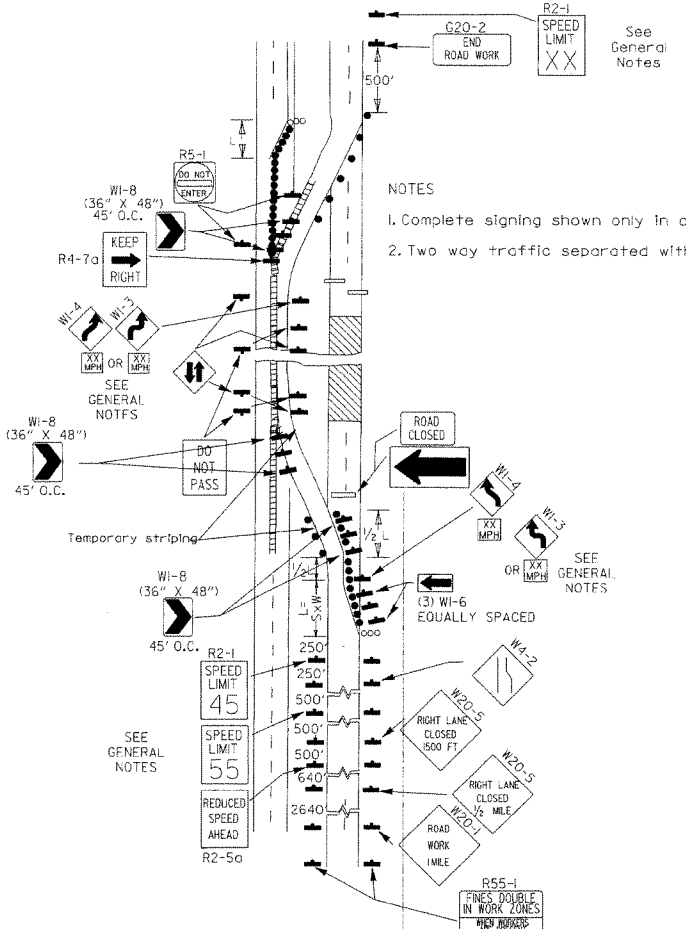
- FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
- R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

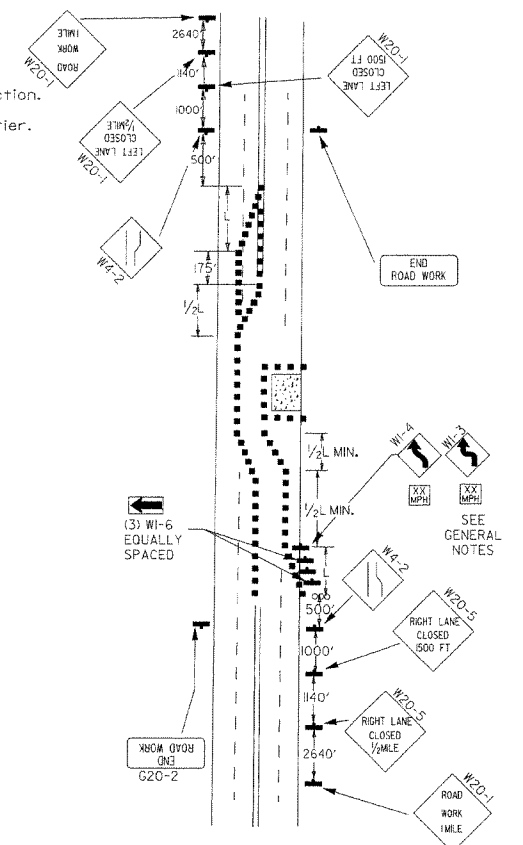
12-15-8	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED



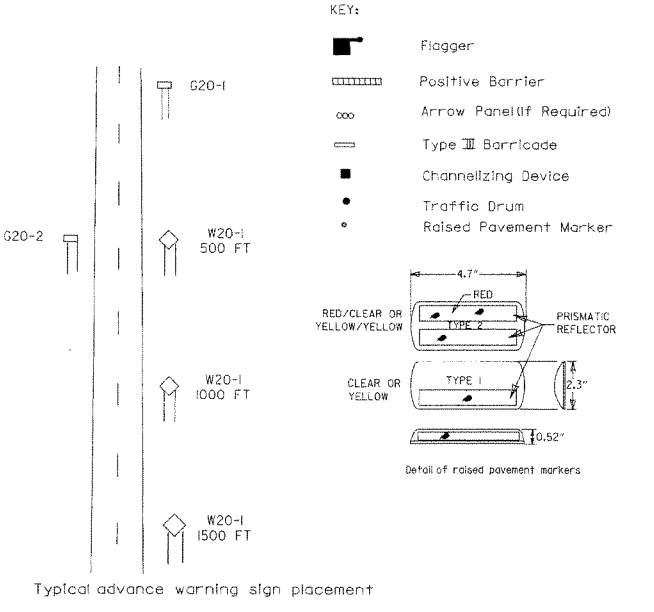
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



(B) Typical application - 4-lane divided roadway where one roadway is closed.

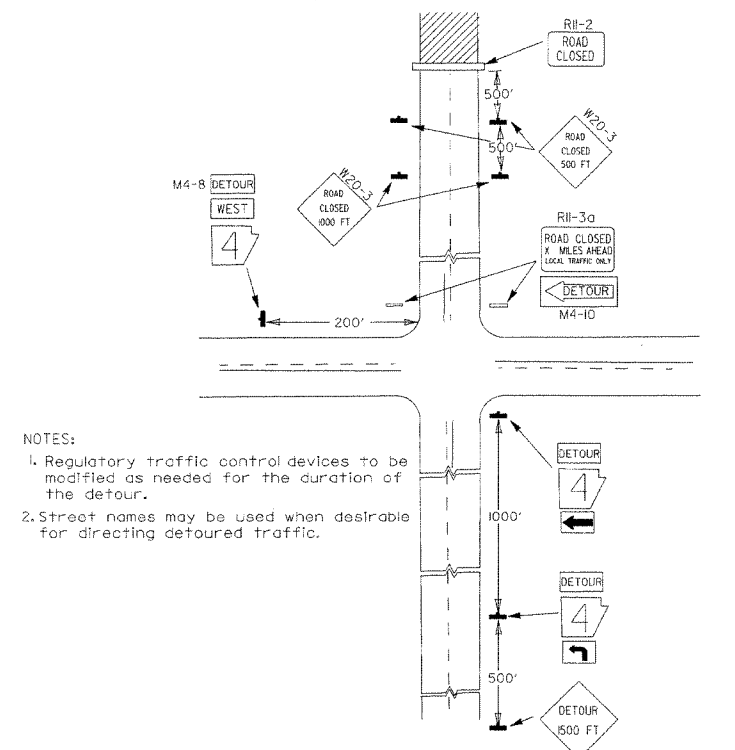


(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.

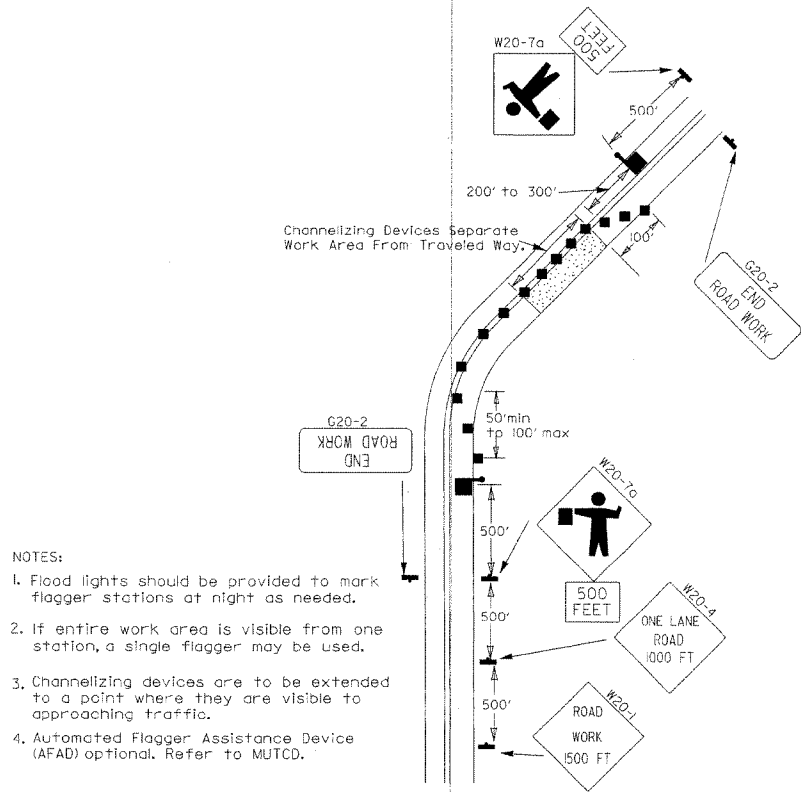


Taper formulae:
 $L = S \times W$ for speeds of 45mph or more.
 $L = \frac{W \times S^2}{60}$ for speeds of 40mph or less.
 Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.
 W = Width of offset.

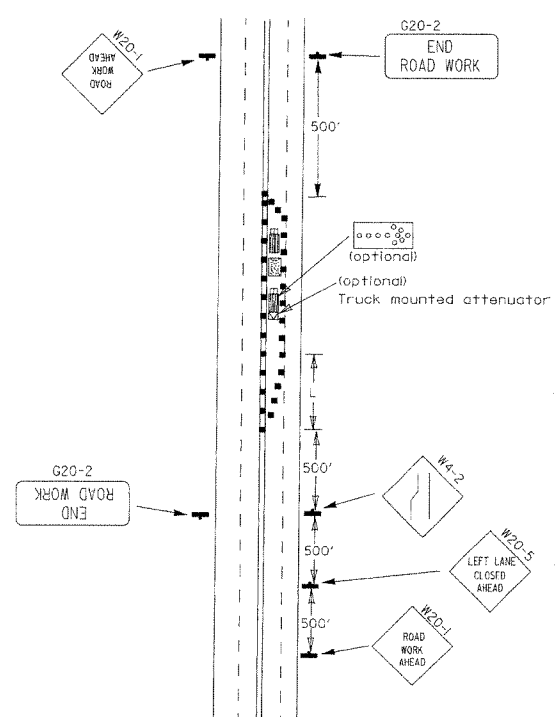
- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(45) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
 - When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
 - The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
 - Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
 - Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
 - Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



(D) Typical application - roadway closed beyond detour point.



(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.

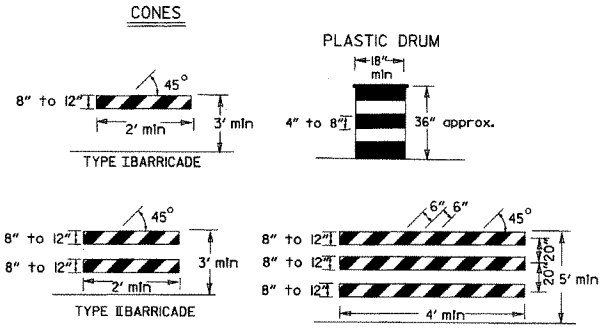


(F) Typical application - 4-lane undivided roadway with inside lane closed.

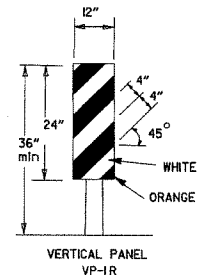
DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-5-91	DRAWN AND PLACED IN USE	

Channelizing devices

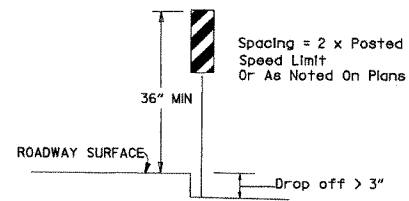
When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



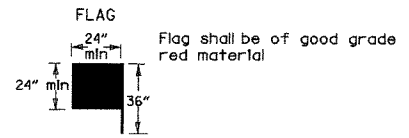
VERTICAL PANEL PLACEMENT



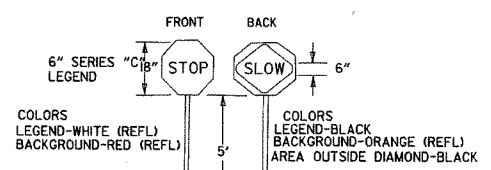
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-II
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-I and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

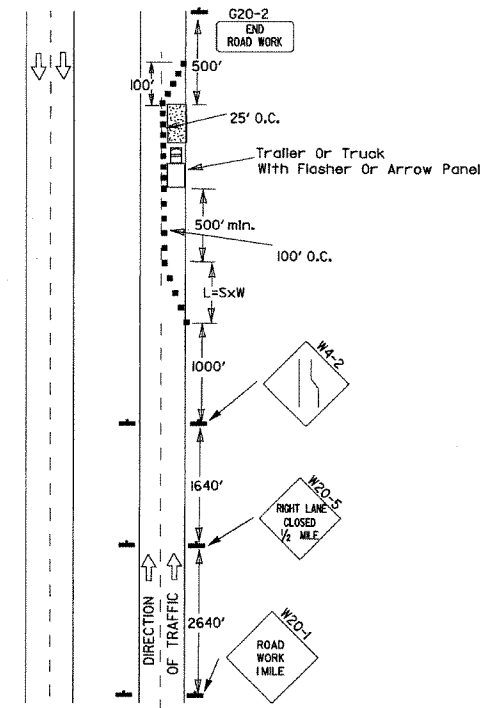
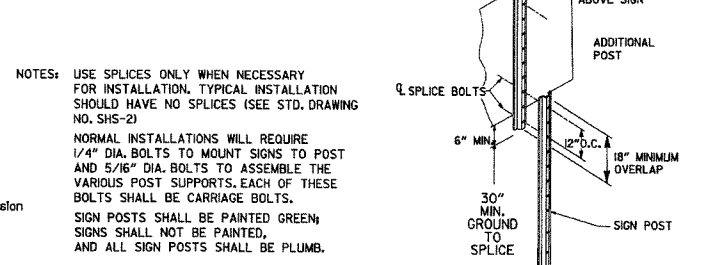
When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



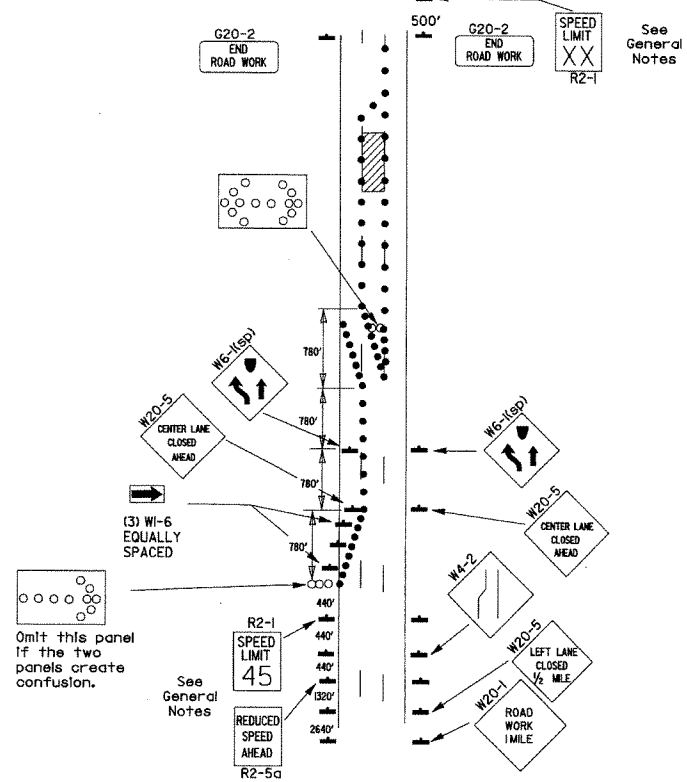
STOP SLOW PADDLE



DETAIL OF SPLICES



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.

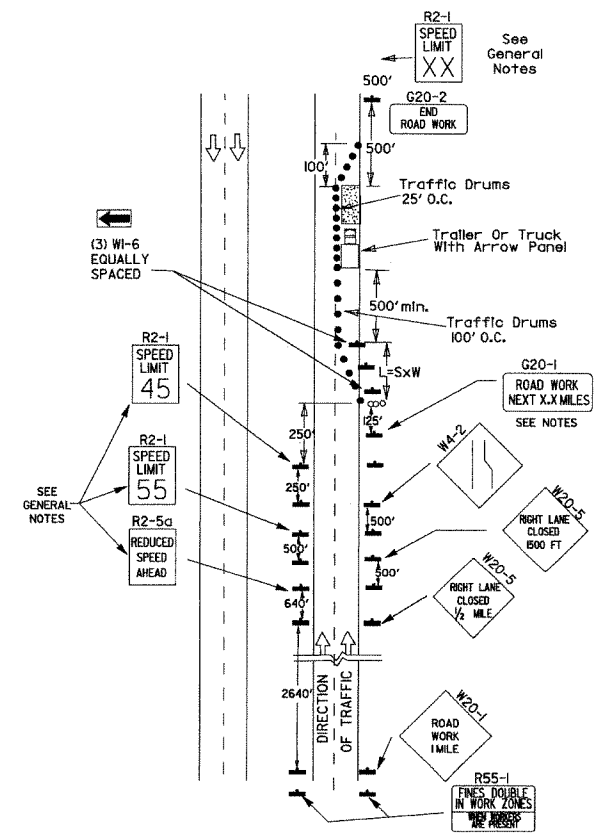


(B) Typical application - 3-lane oneway roadway where center lane is closed.

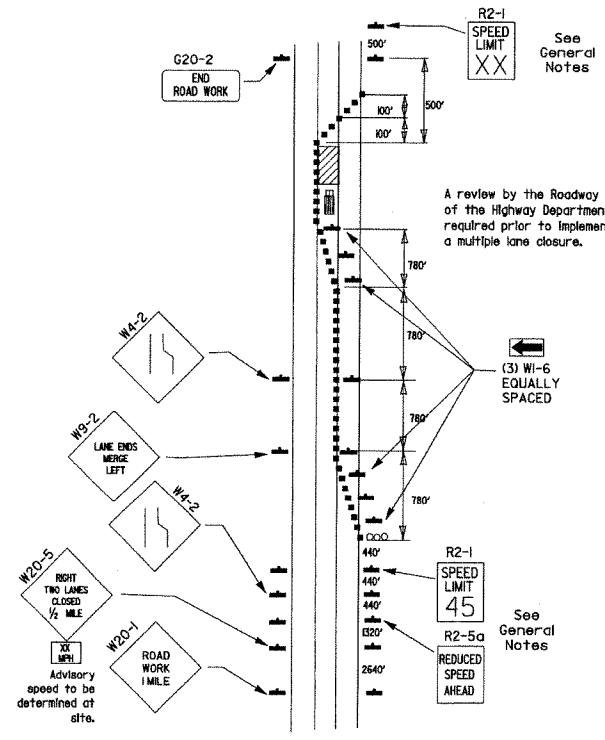
- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 1/2 mile in advance of the job limit. Additional W20-1(1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
- Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



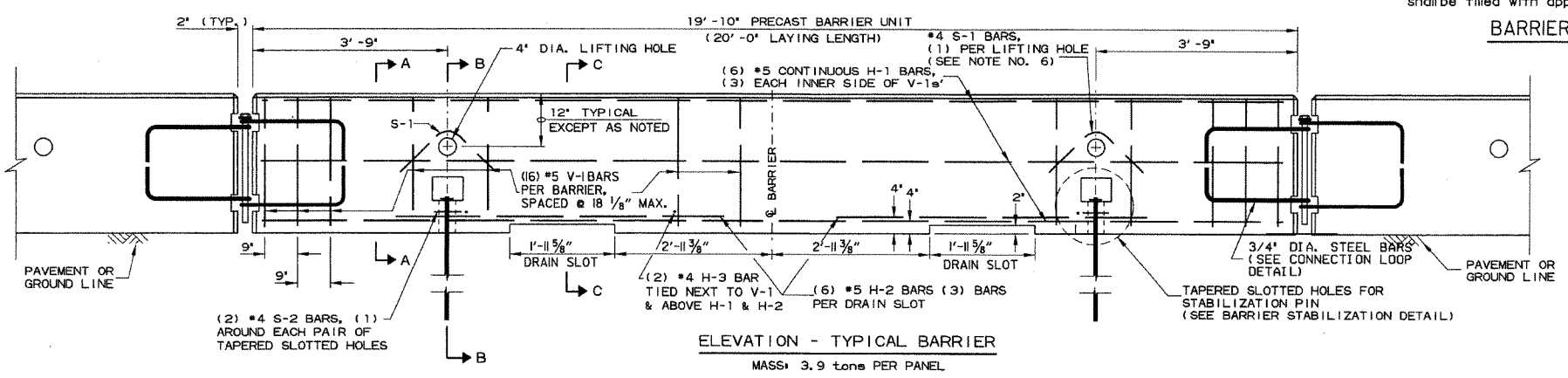
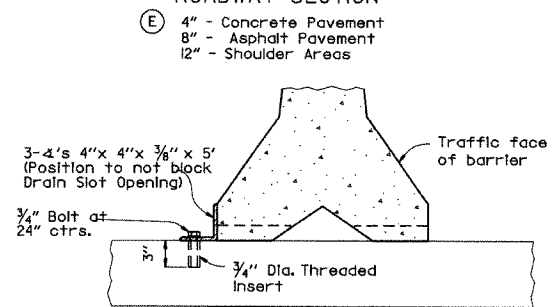
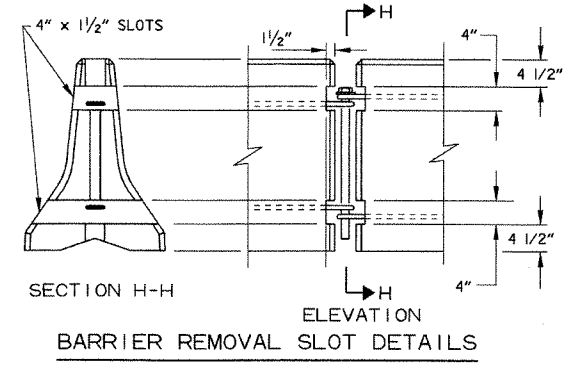
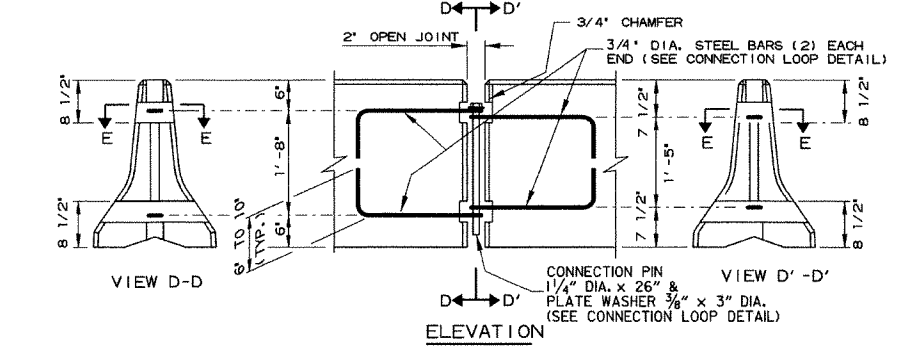
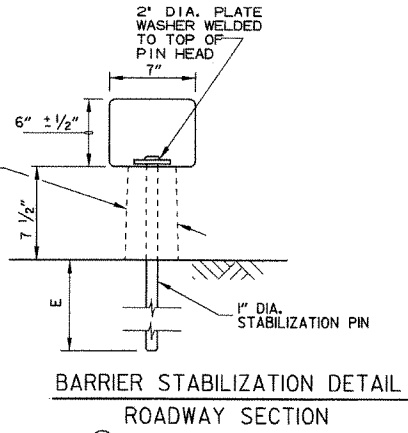
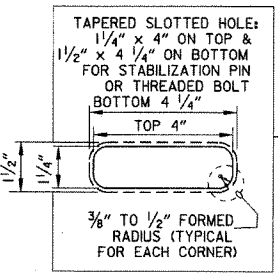
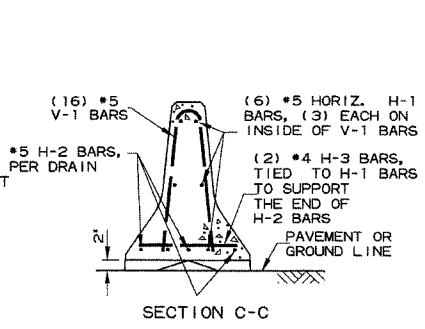
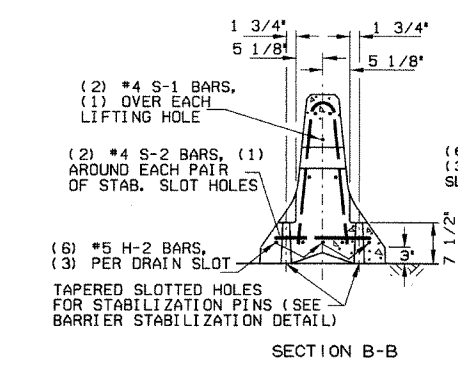
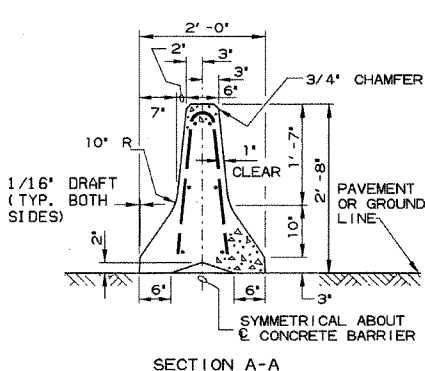
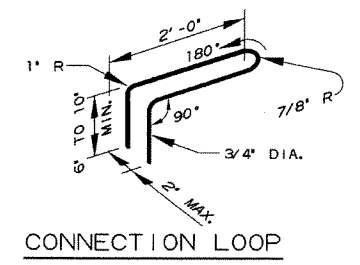
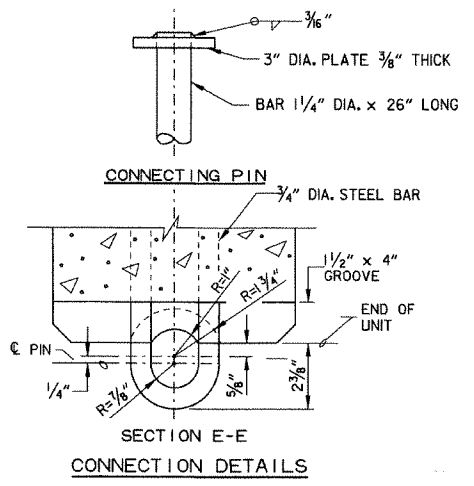
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



(D) Typical application - closing multiple lanes of a multi-lane highway.

DATE	REVISION	FILED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

REINFORCING BAR TABLE PER BARRIER UNIT				
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	



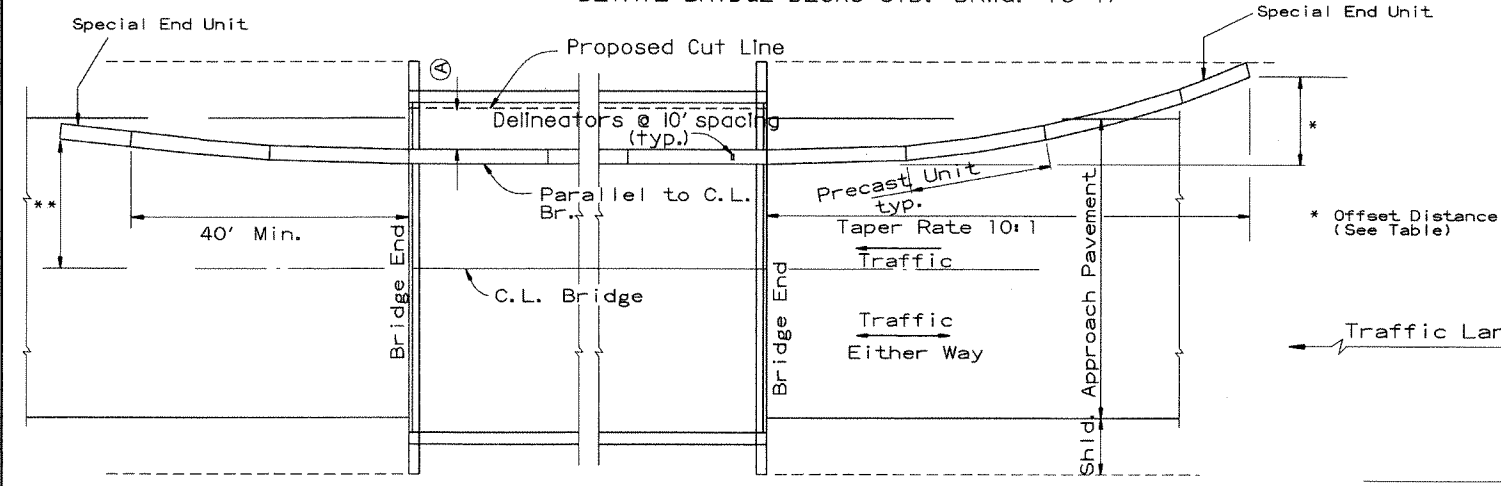
- General Notes**
- The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
 - Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
 - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
 - Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.
 - Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
 - A 4" White PVC Sleeve may be used to form the Lifting Hole and If used the Sleeve is to be left in place.

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
STANDARD DRAWING TC-4

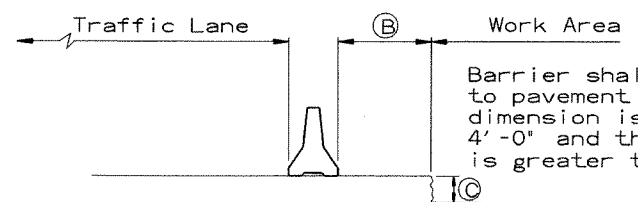
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



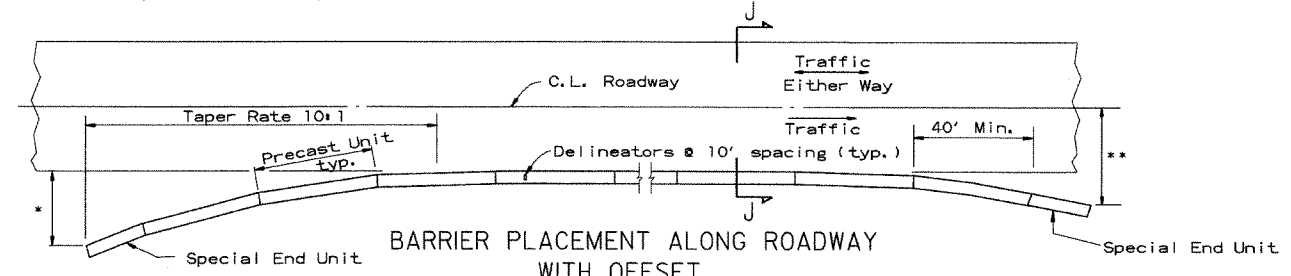
BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J
No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

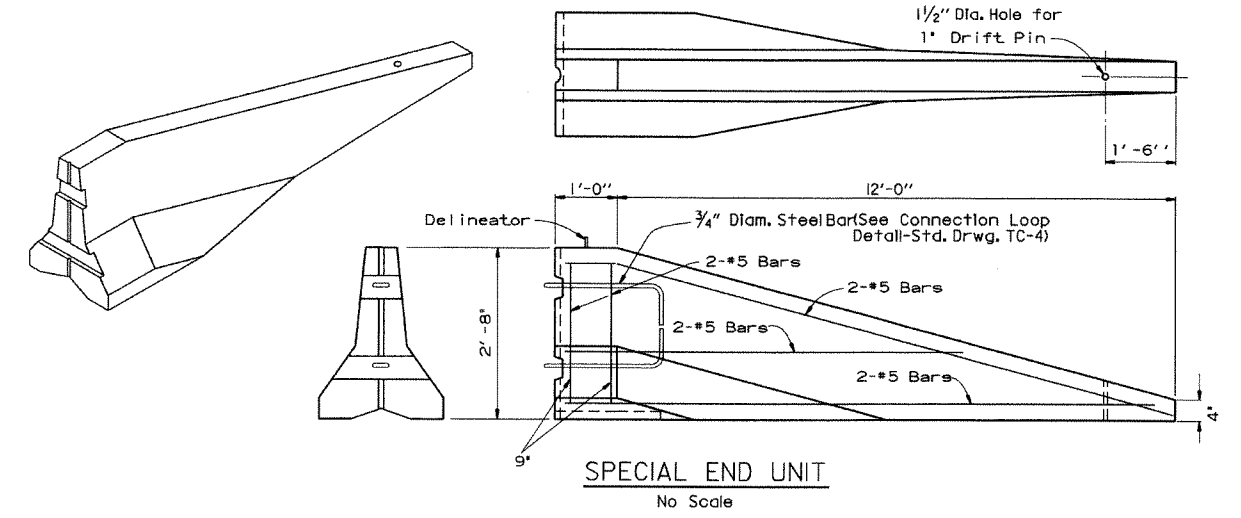
* Offset Distance (See Table)

** Offset Distance for Two Way Traffic Only

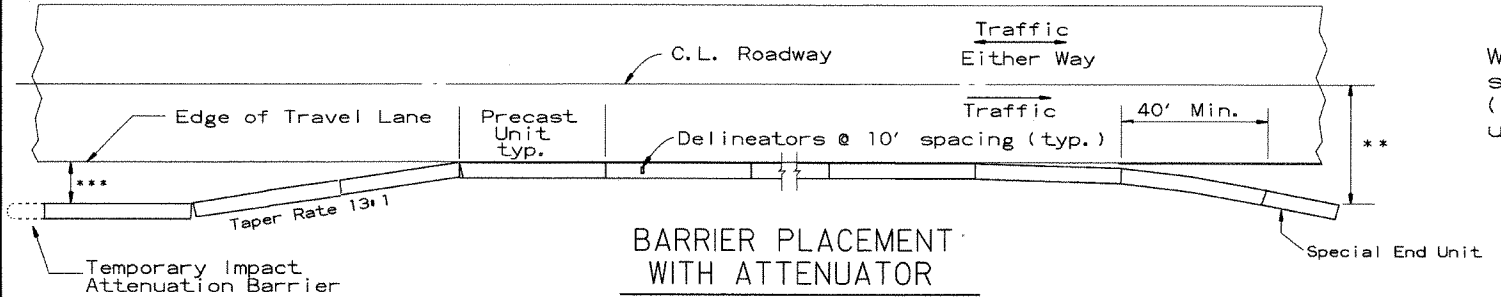
Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.



SPECIAL END UNIT
No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance for Two Way Traffic Only

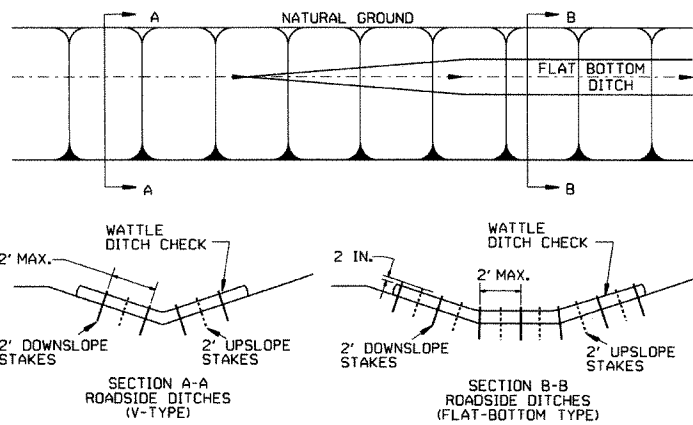
General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

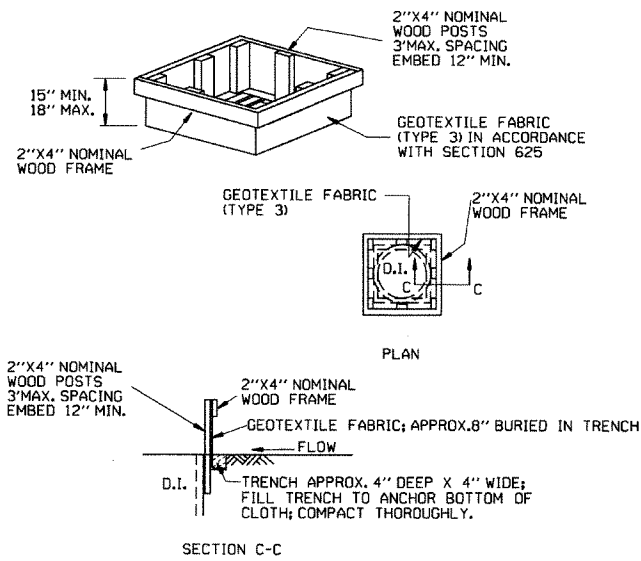
			ARKANSAS STATE HIGHWAY COMMISSION	
			STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER	
			STANDARD DRAWING TC-5	
10-15-09	ADDED REFERENCE TO MASH			
5-25-06	REVISED BARRIER PLACEMENT			
8-22-02	ISSUED NEW DRAWING			
DATE	REVISION	FILMED		

GENERAL NOTES

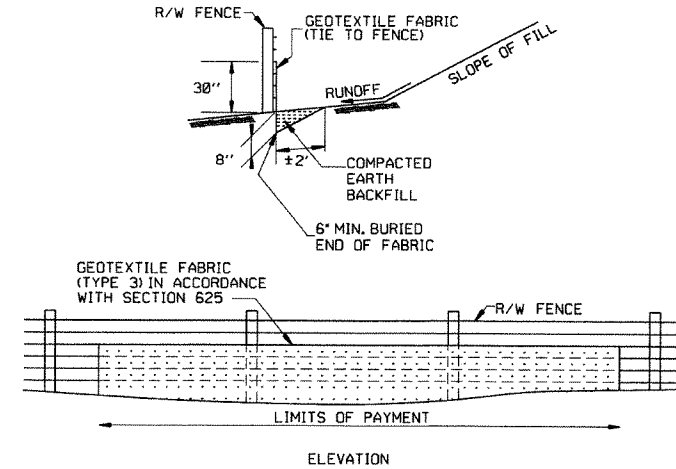
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)

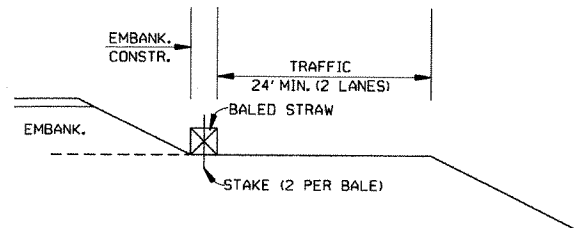


DROP INLET SILT FENCE (E-7)

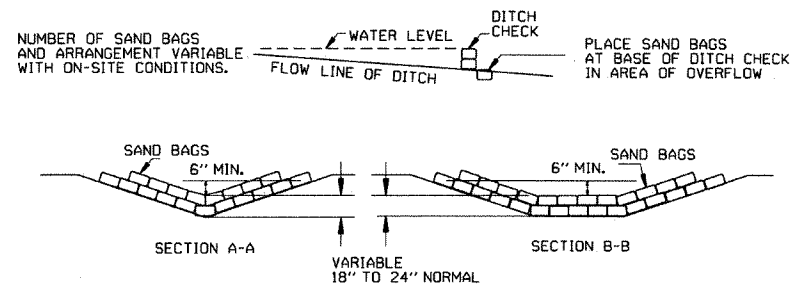


SILT FENCE ON R/W FENCE (E-4)

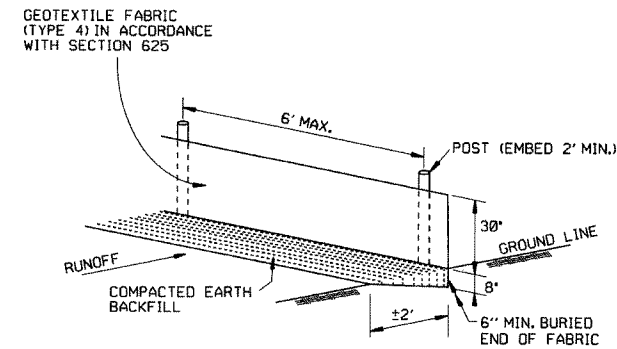
GENERAL NOTES
 GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



BALED STRAW FILTER BARRIER (E-2)

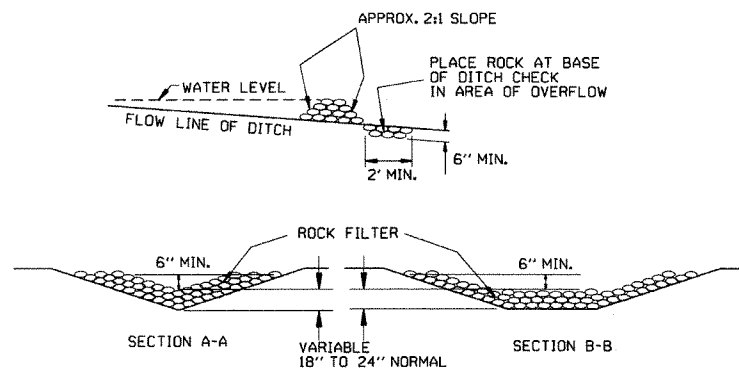


SAND BAG DITCH CHECK (E-5)



SILT FENCE (E-11)

GENERAL NOTES
 GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

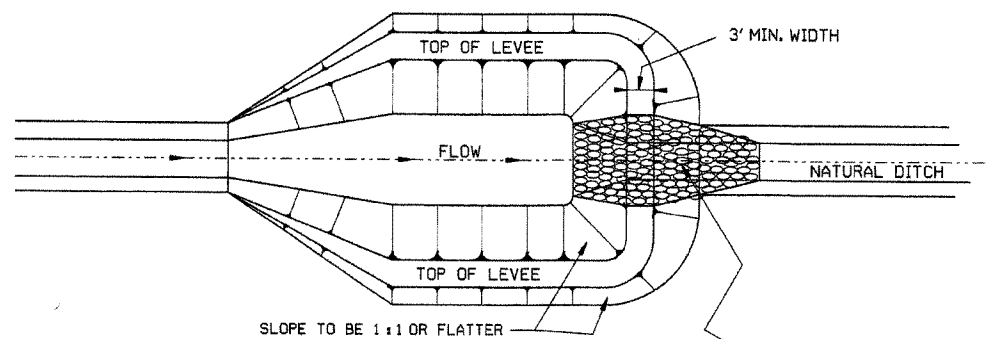


ROCK DITCH CHECK (E-6)

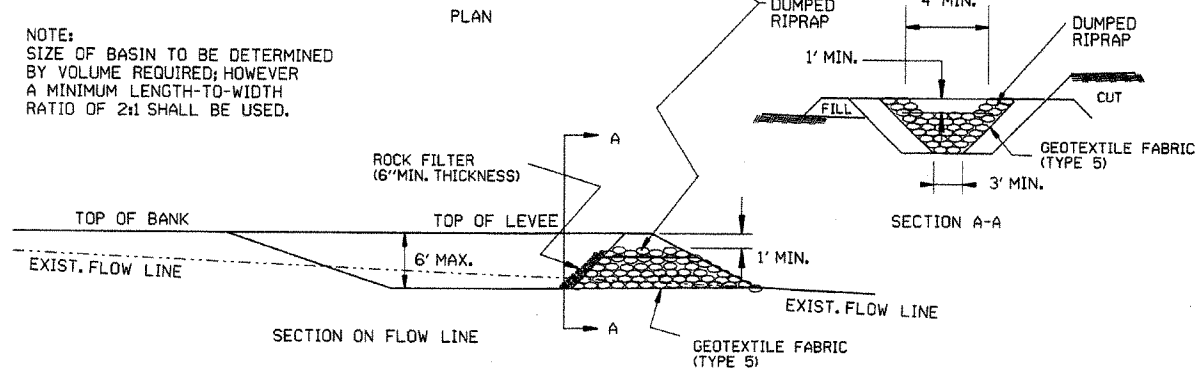
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	REV. E-4 & E-11 MIN. 13\"/>		
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	

TEMPORARY EROSION CONTROL DEVICES

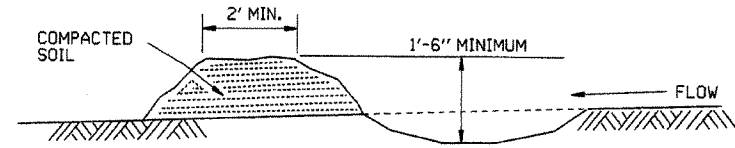
STANDARD DRAWING TEC-1



NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

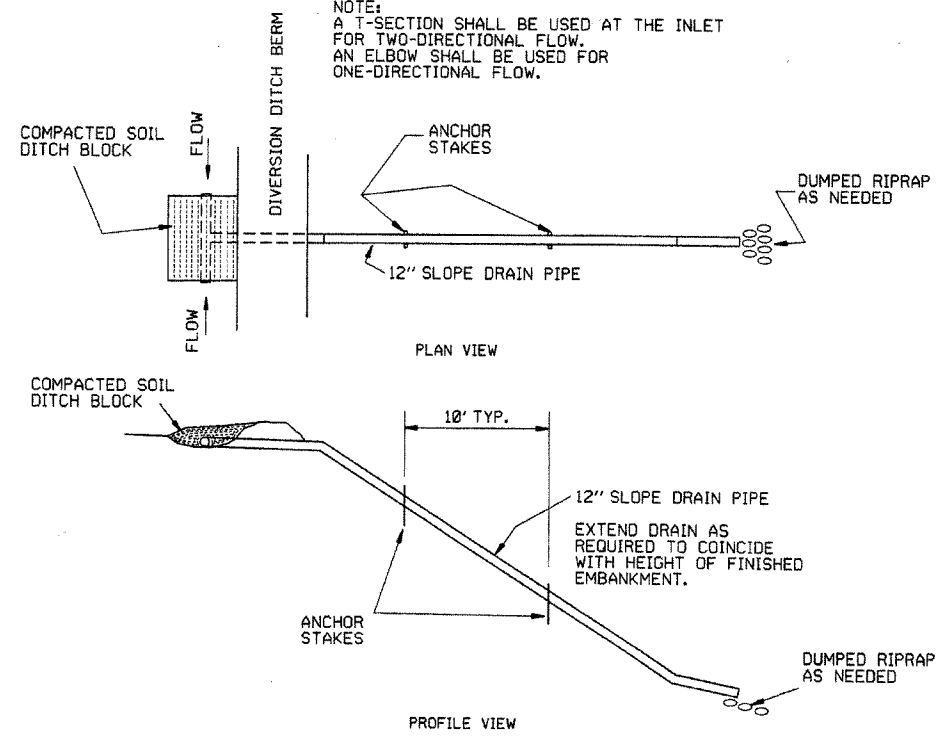


SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

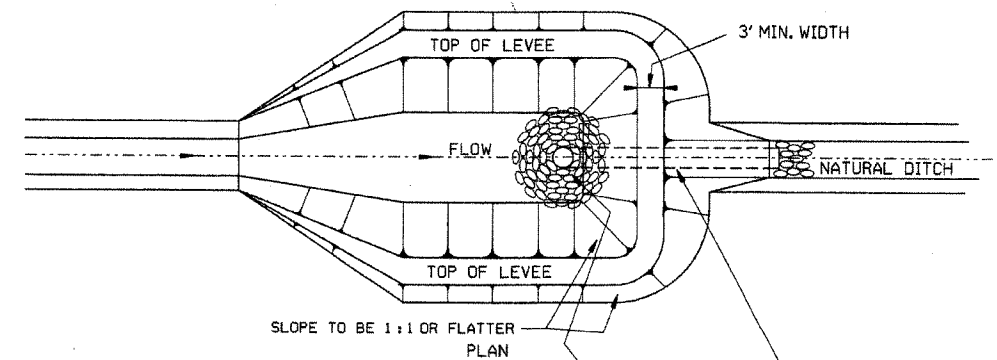


DIVERSION DITCH (E-8)

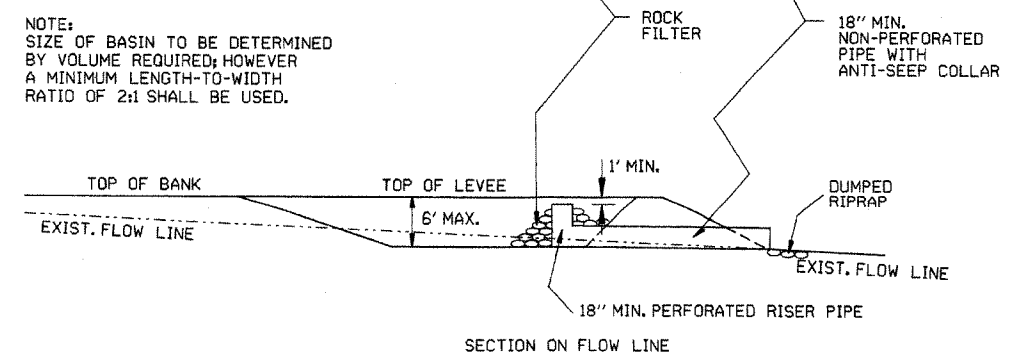
NOTE:
A T-SECTION SHALL BE USED AT THE INLET
FOR TWO-DIRECTIONAL FLOW.
AN ELBOW SHALL BE USED FOR
ONE-DIRECTIONAL FLOW.



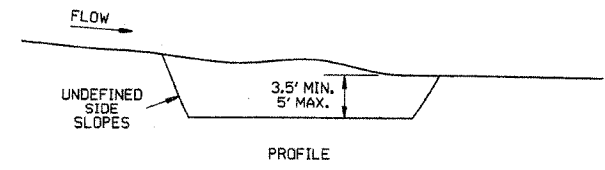
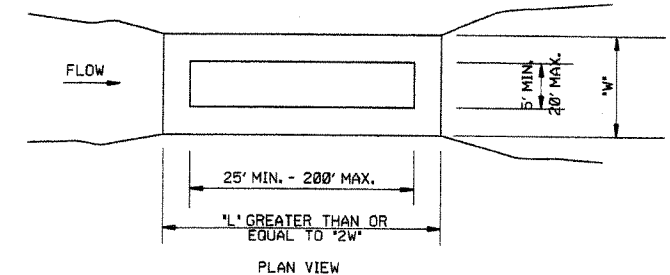
SLOPE DRAIN (E-12)



NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.



SEDIMENT BASIN WITH PIPE OUTLET (E-10)

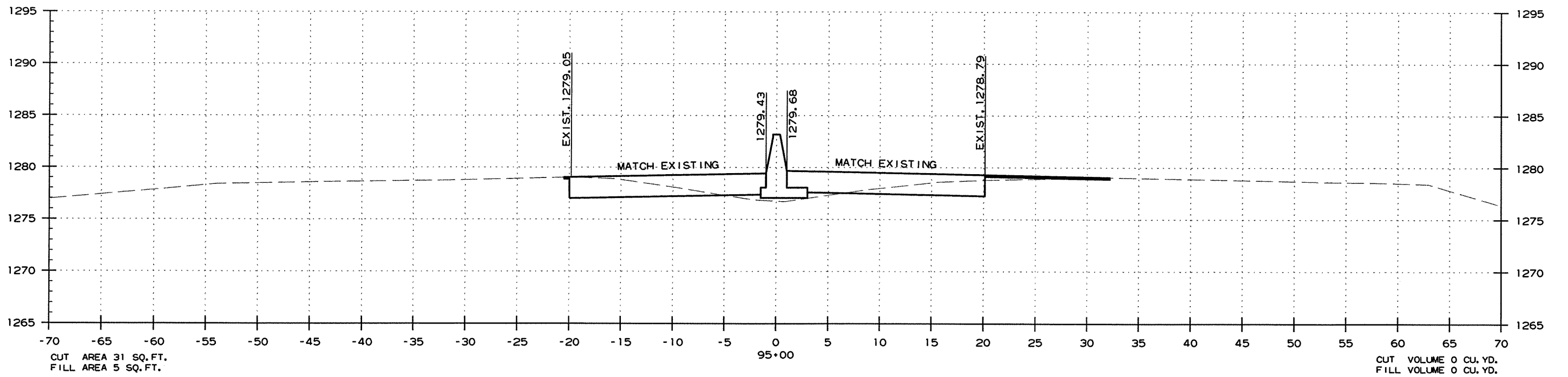
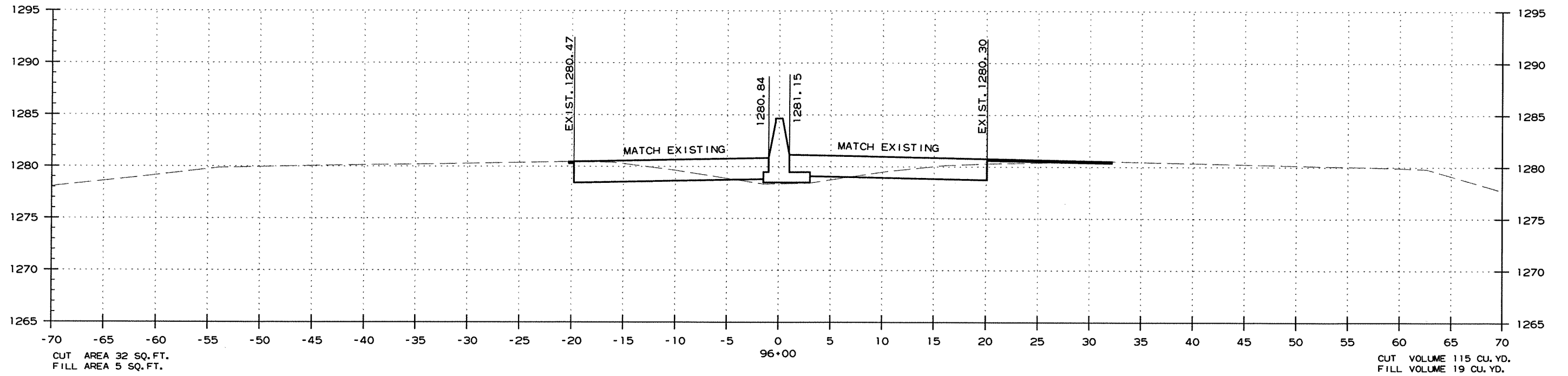


SEDIMENT BASIN (E-14)

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		STANDARD DRAWING TEC-2
4-1-93	ISSUED		
DATE	REVISION	FILMED	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							55	98

2 CROSS SECTIONS



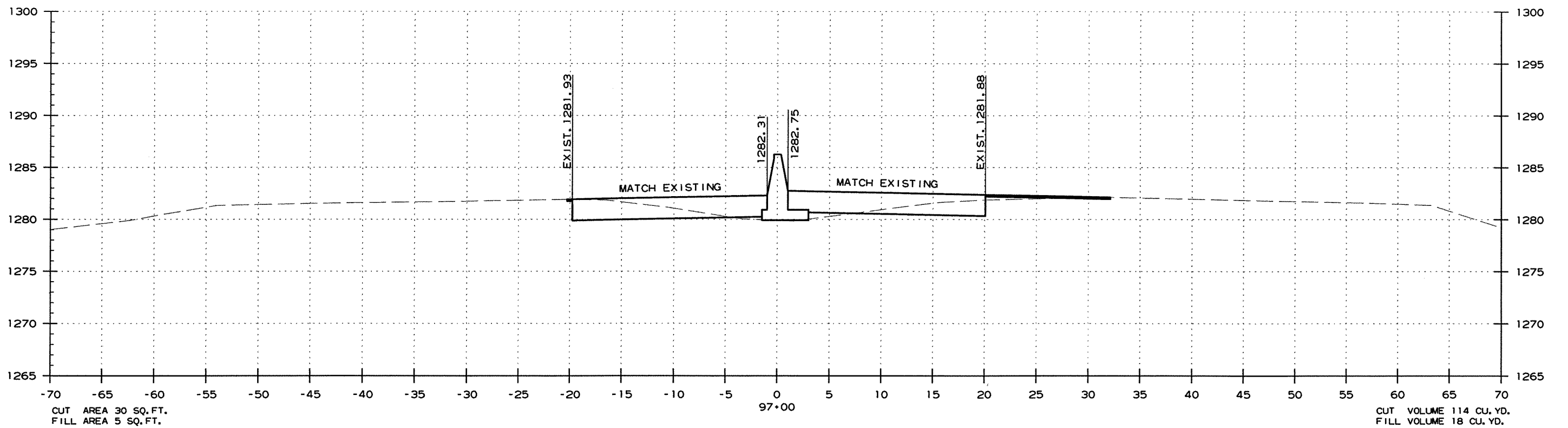
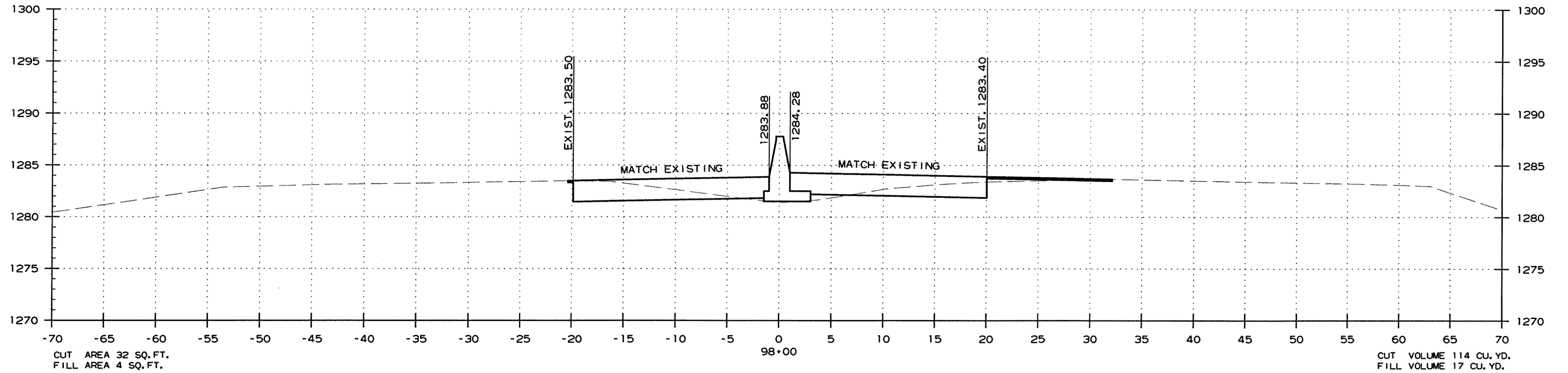
CROSS SECTION STA. 95+00 TO STA. 96+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	56	98

2 CROSS SECTIONS



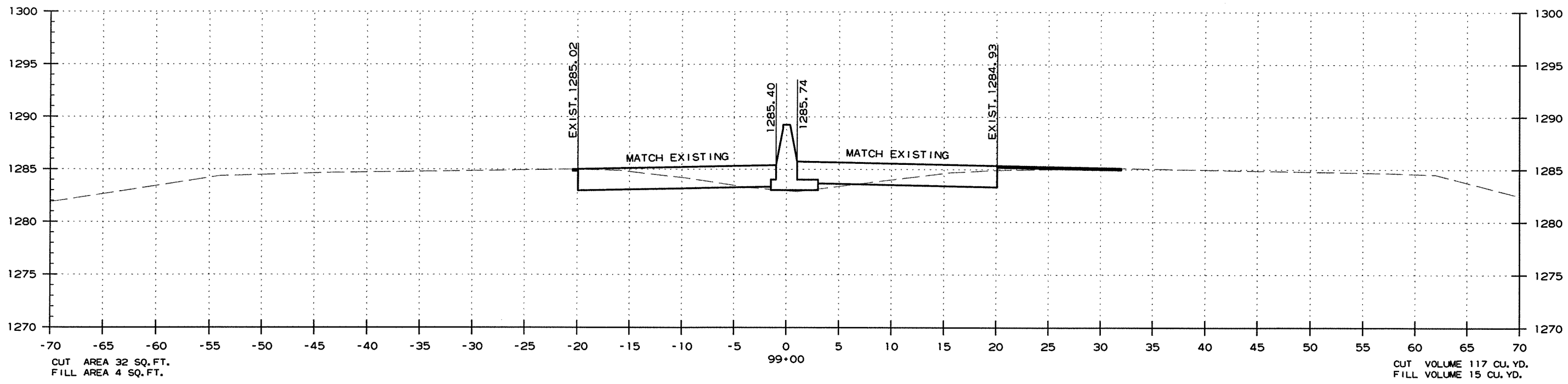
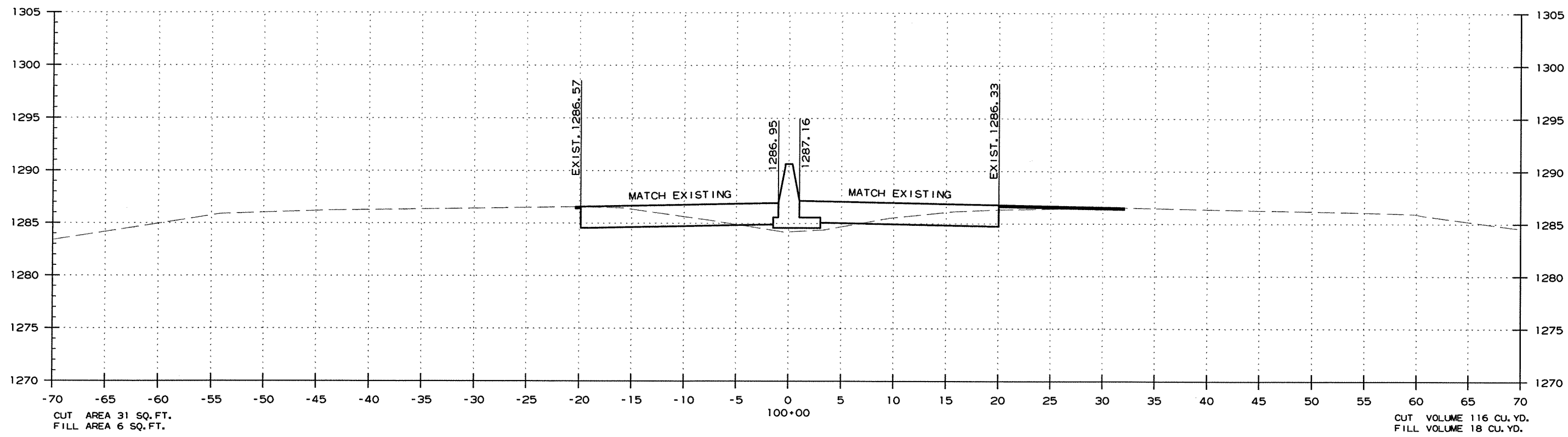
CROSS SECTION STA. 97+00 TO STA. 98+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	040583	57

② CROSS SECTIONS

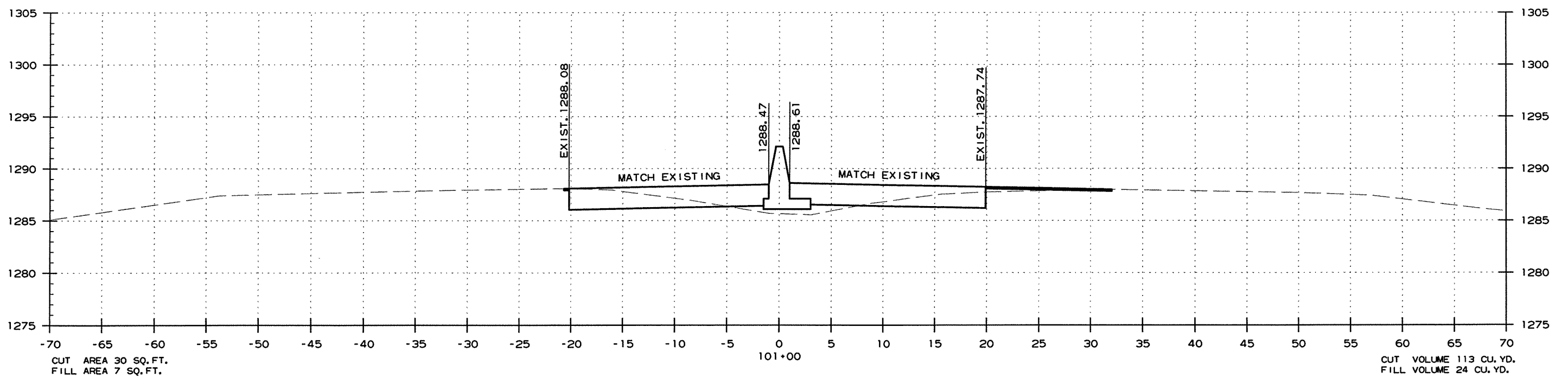
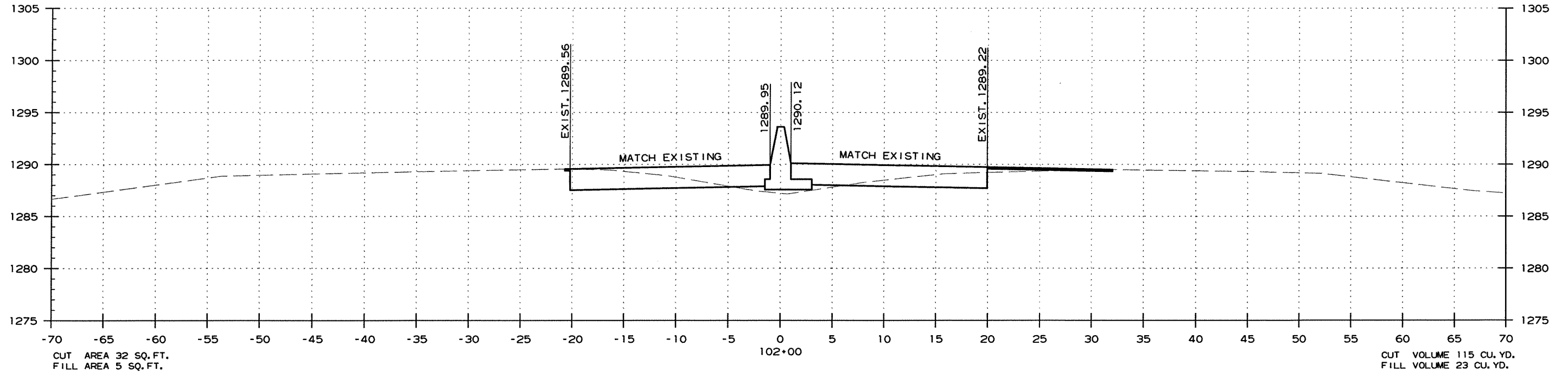


CROSS SECTION STA. 99+00 TO STA. 100+00

3/6/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		58	98

② CROSS SECTIONS



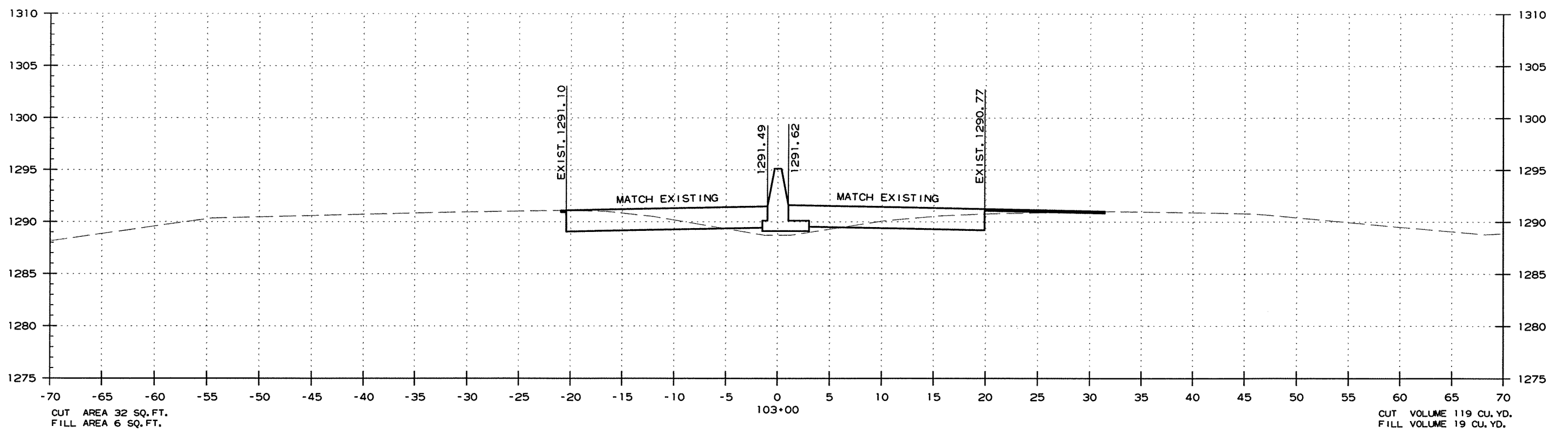
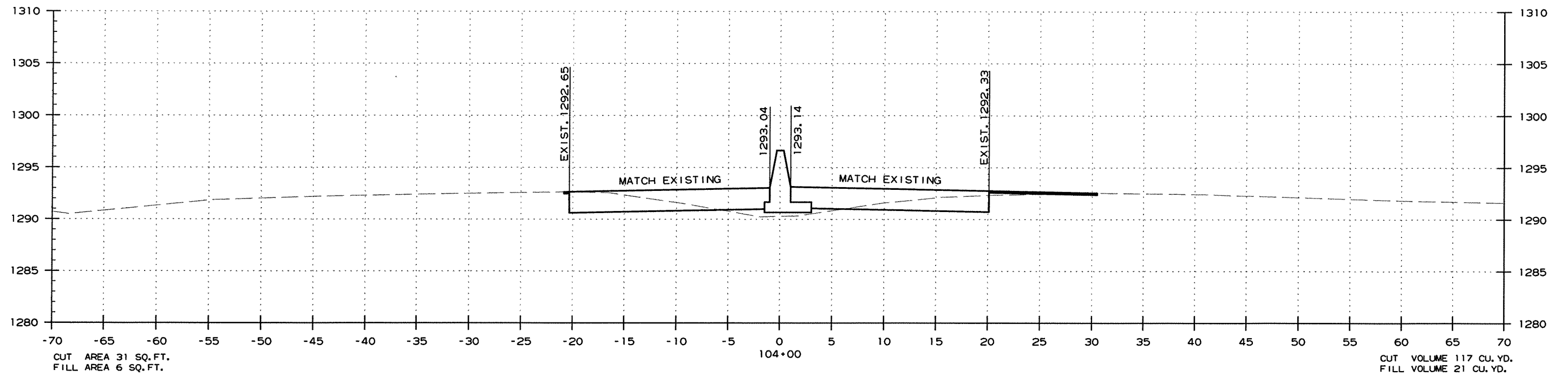
CROSS SECTION STA. 101+00 TO STA. 102+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		59	98

② CROSS SECTIONS

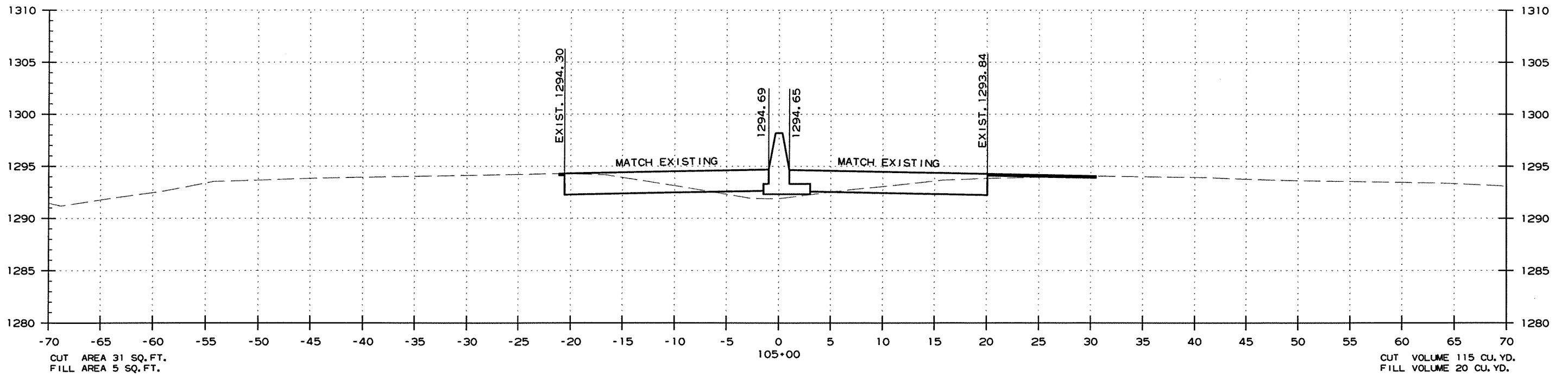
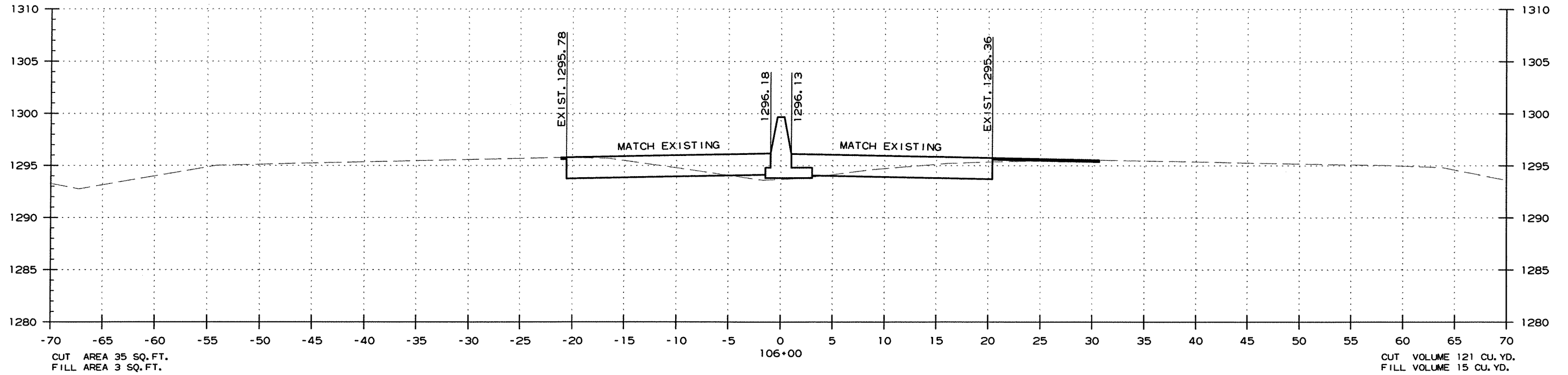


CROSS SECTION STA. 103+00 TO STA. 104+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							60	98

② CROSS SECTIONS



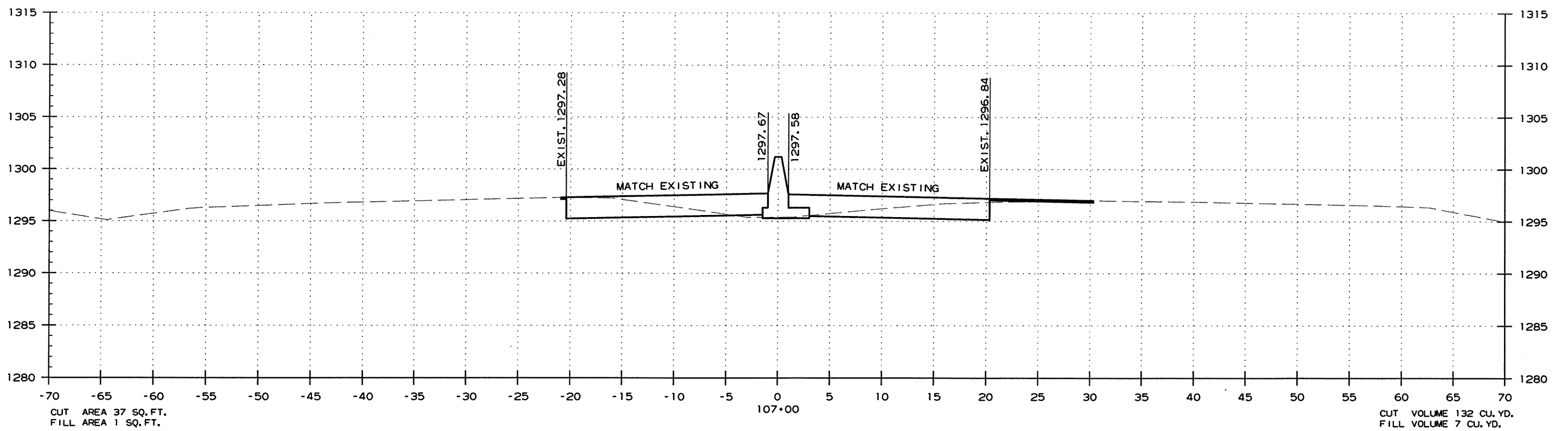
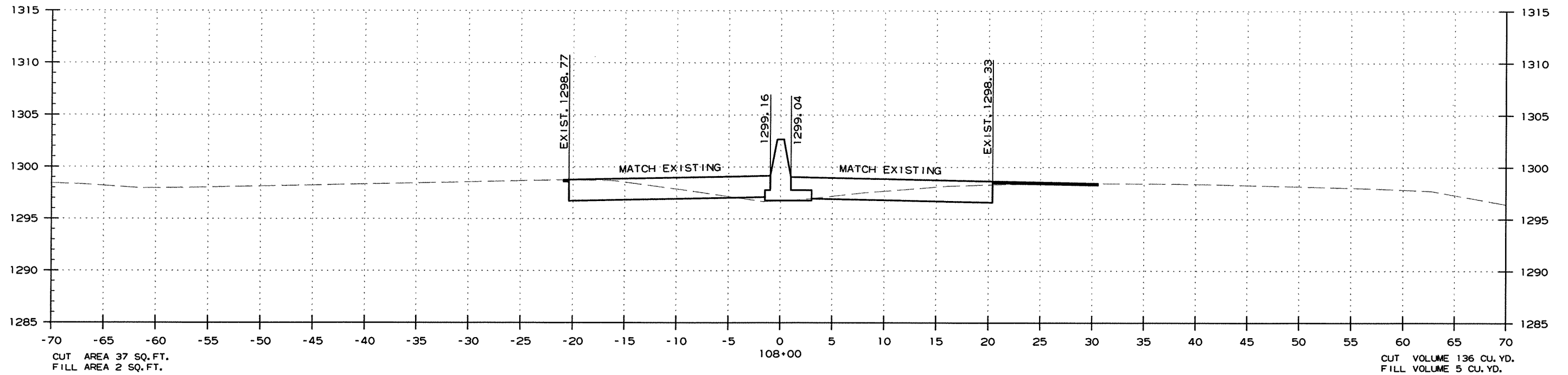
CROSS SECTION STA. 105+00 TO STA. 106+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		61	98

2 CROSS SECTIONS



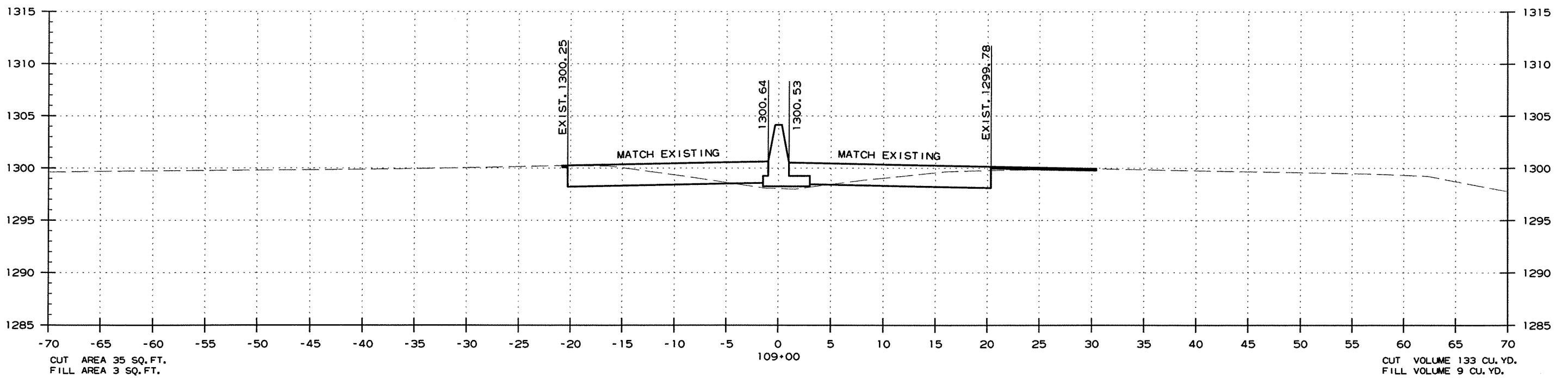
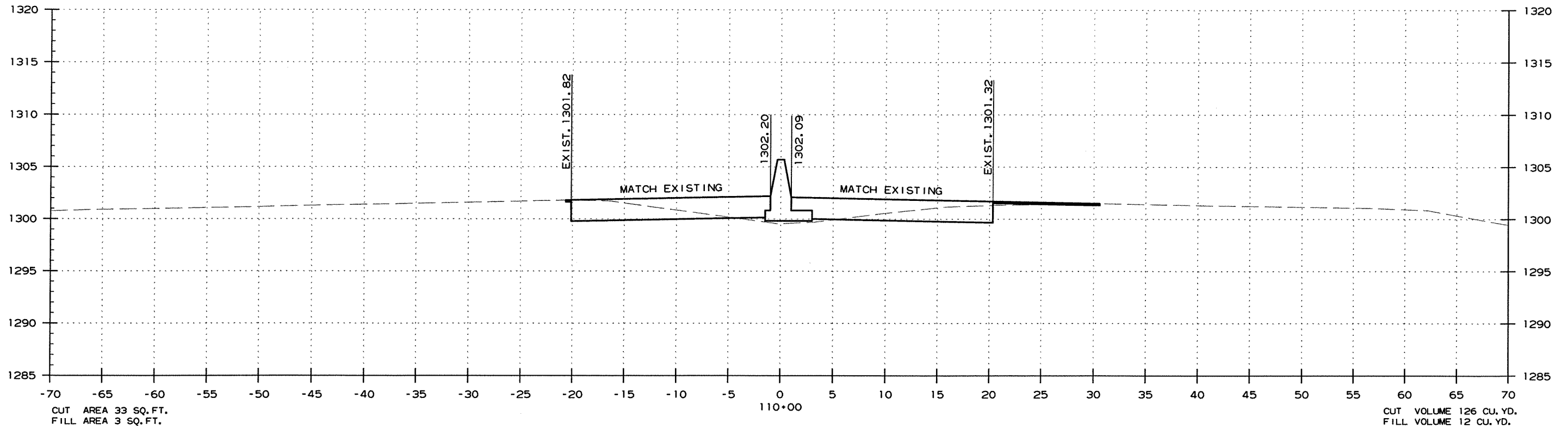
CROSS SECTION STA. 107+00 TO STA. 108+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							62	98

② CROSS SECTIONS



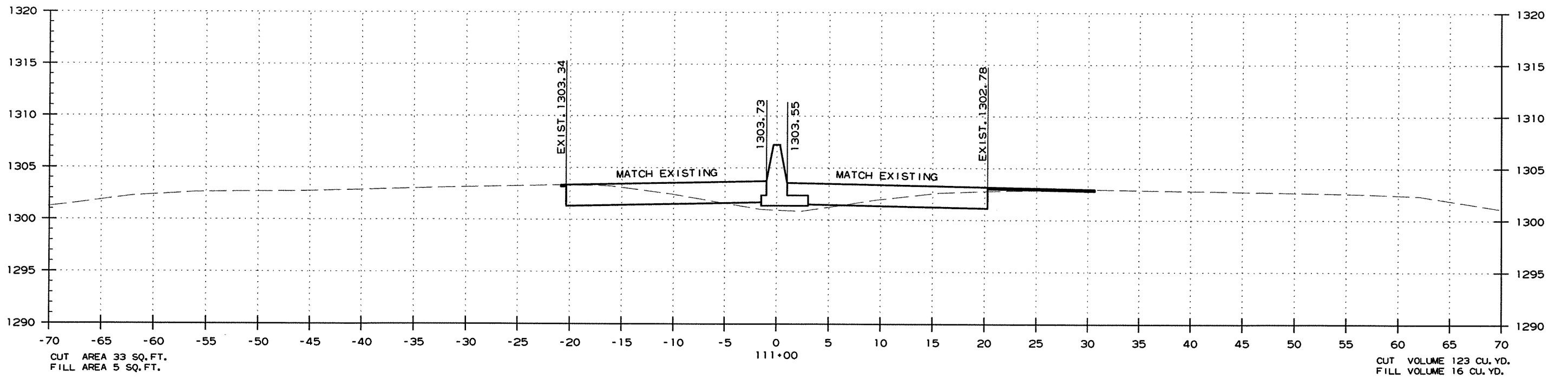
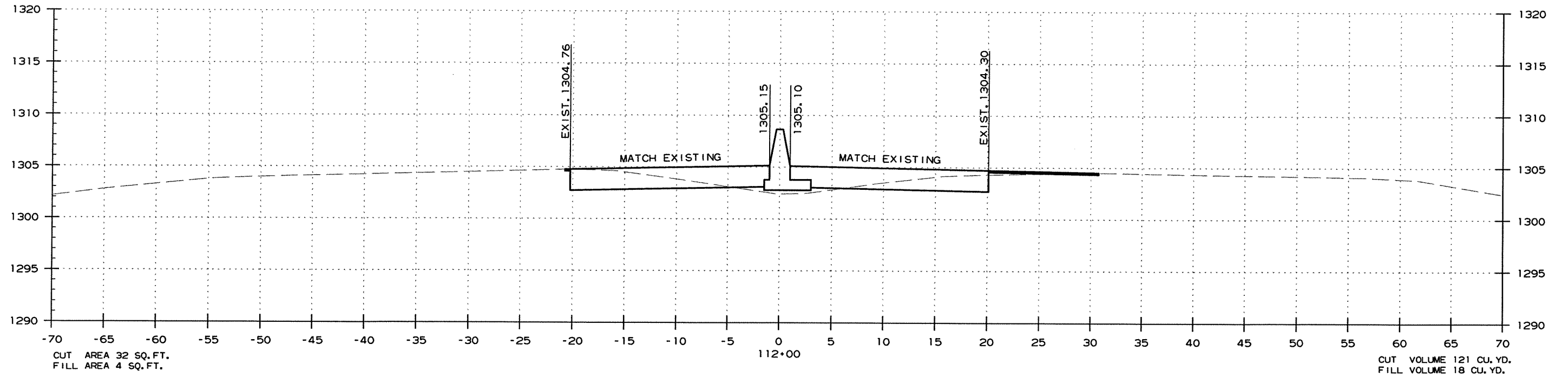
CROSS SECTION STA. 109+00 TO STA. 110+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							63	98

2 CROSS SECTIONS



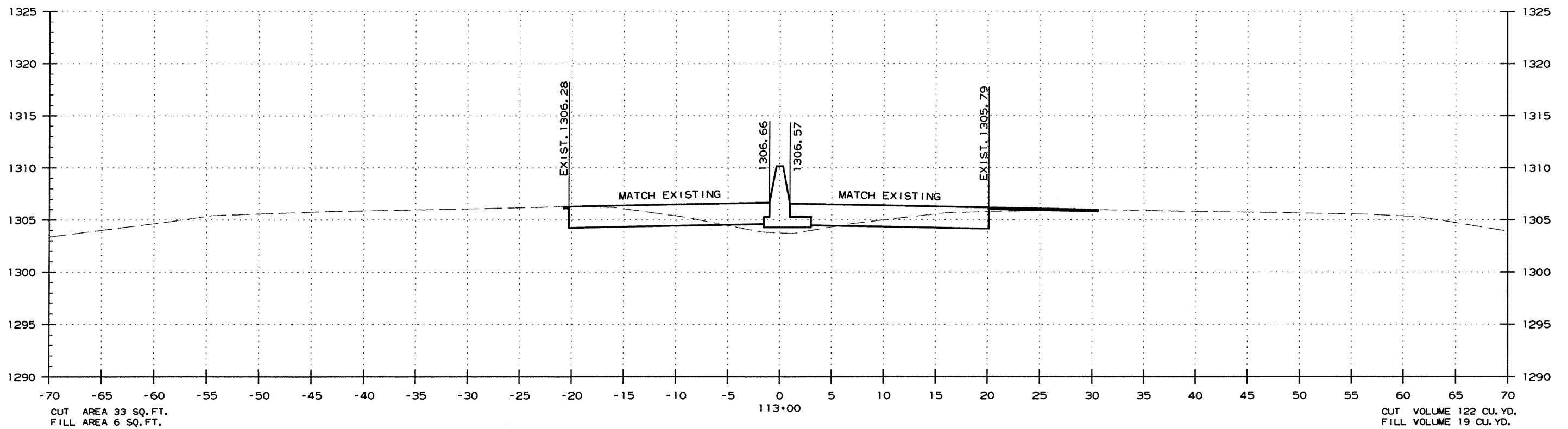
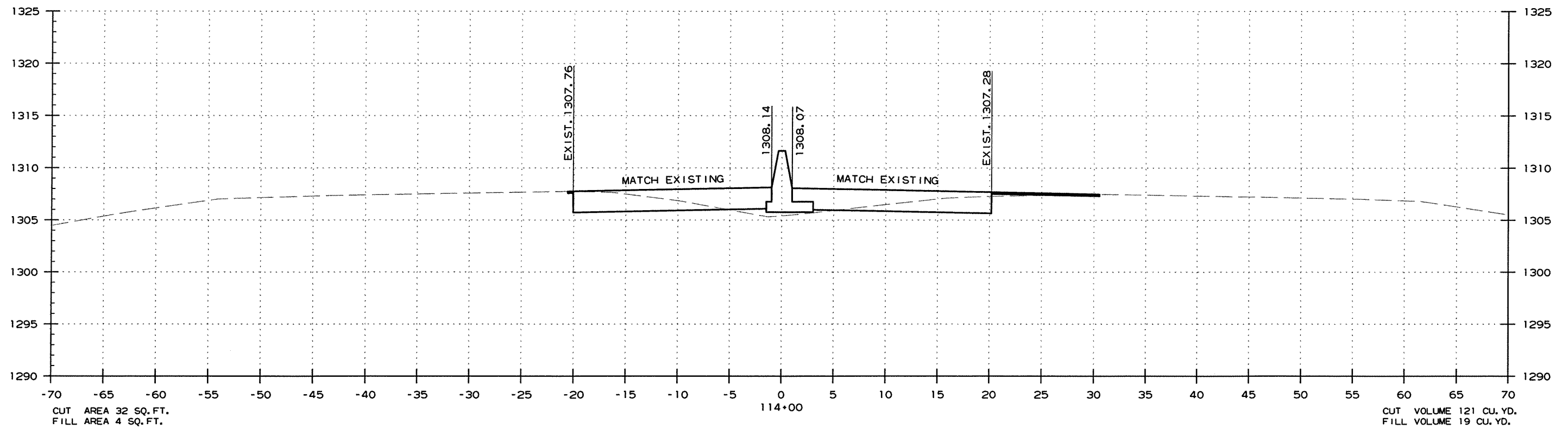
CROSS SECTION STA. III+00 TO STA. II2+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		64	98

② CROSS SECTIONS



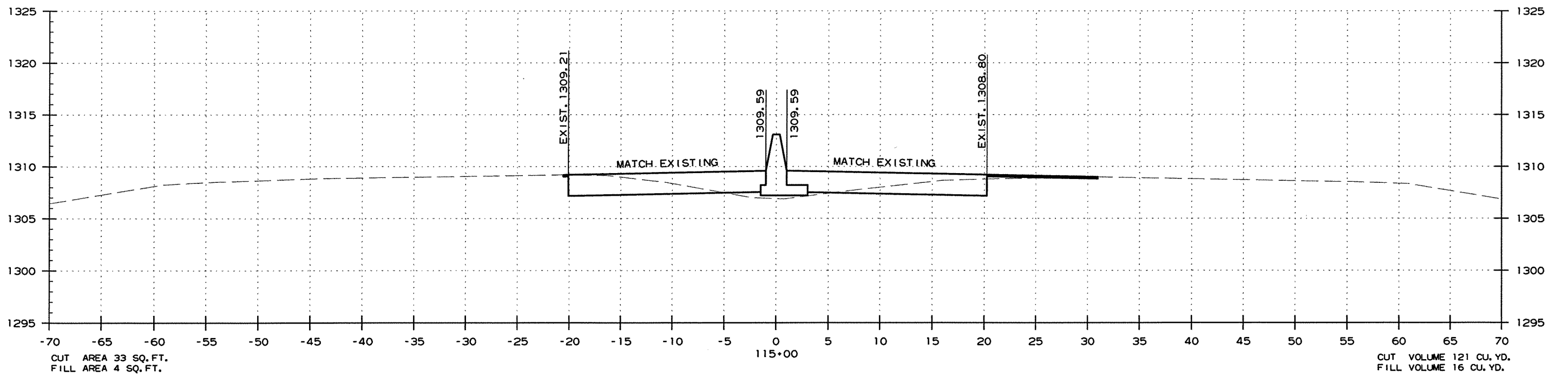
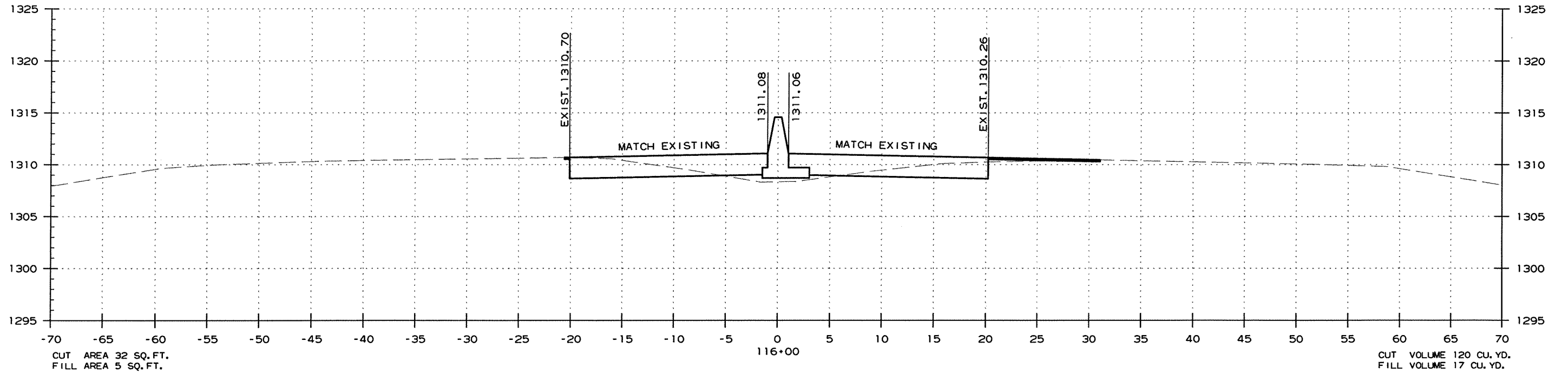
CROSS SECTION STA. 113+00 TO STA. 114+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		65	98

2 CROSS SECTIONS



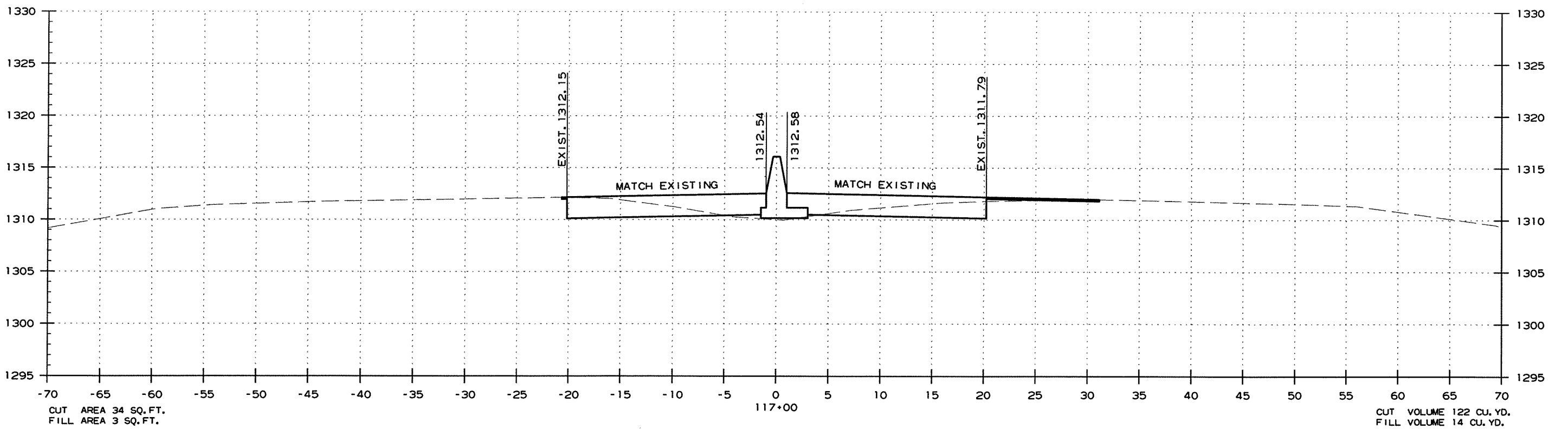
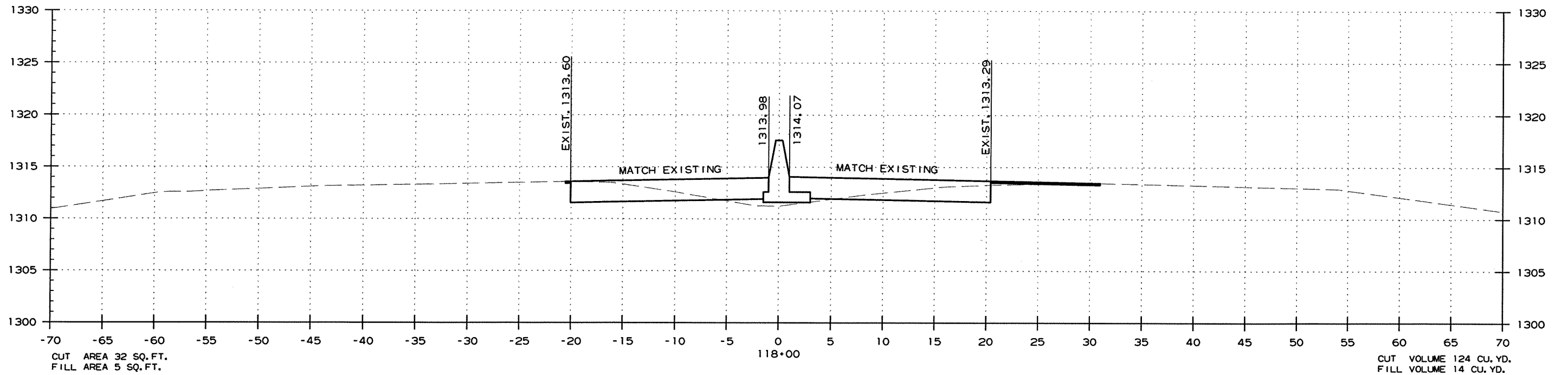
CROSS SECTION STA. 115+00 TO STA. 116+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							66	98

2 CROSS SECTIONS



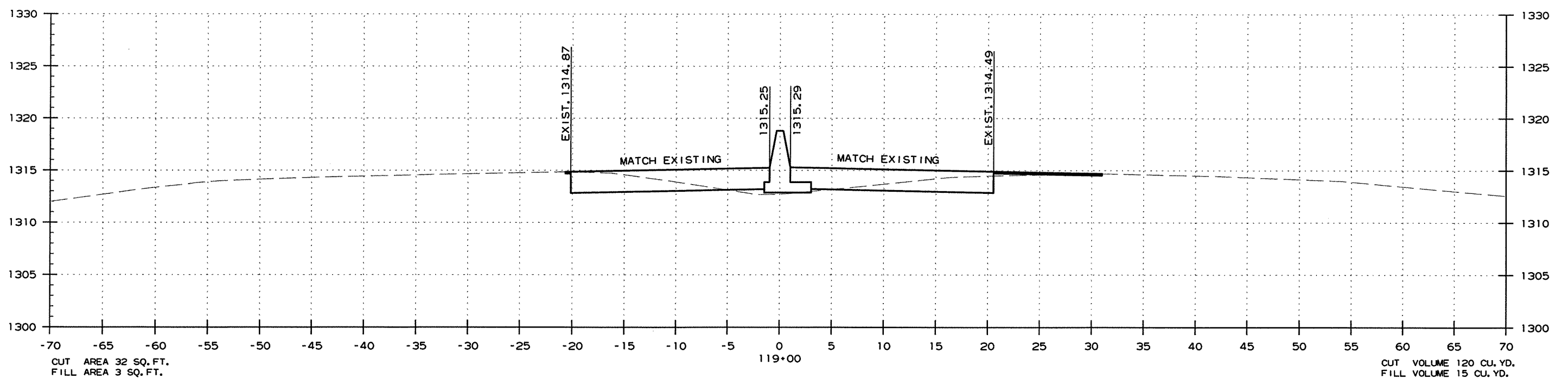
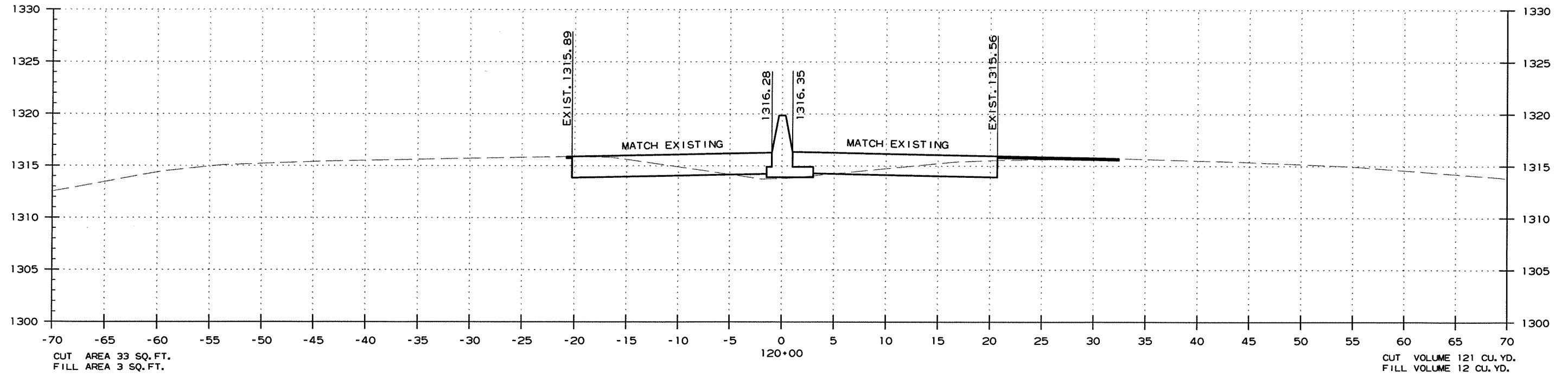
CROSS SECTION STA. 117+00 TO STA. 118+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		67	98

② CROSS SECTIONS



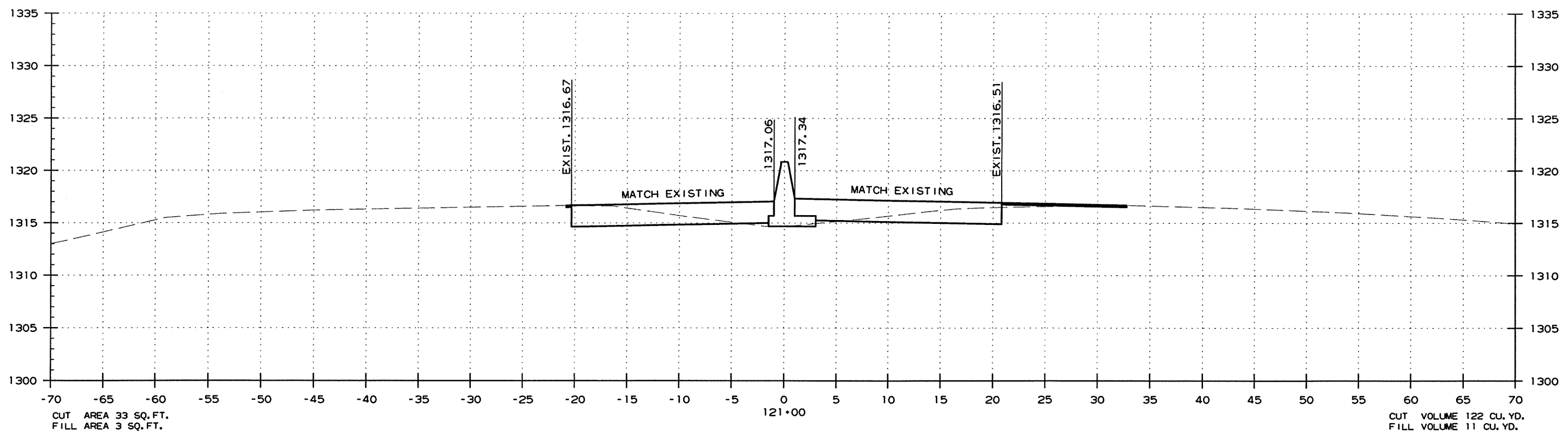
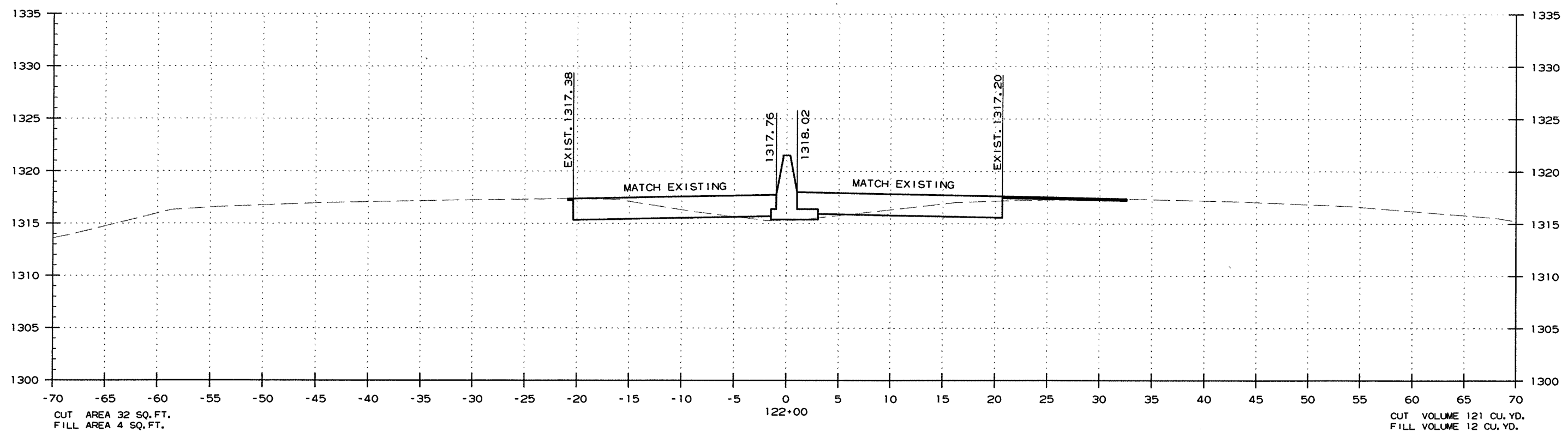
CROSS SECTION STA. 119+00 TO STA. 120+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							68	98

2 CROSS SECTIONS



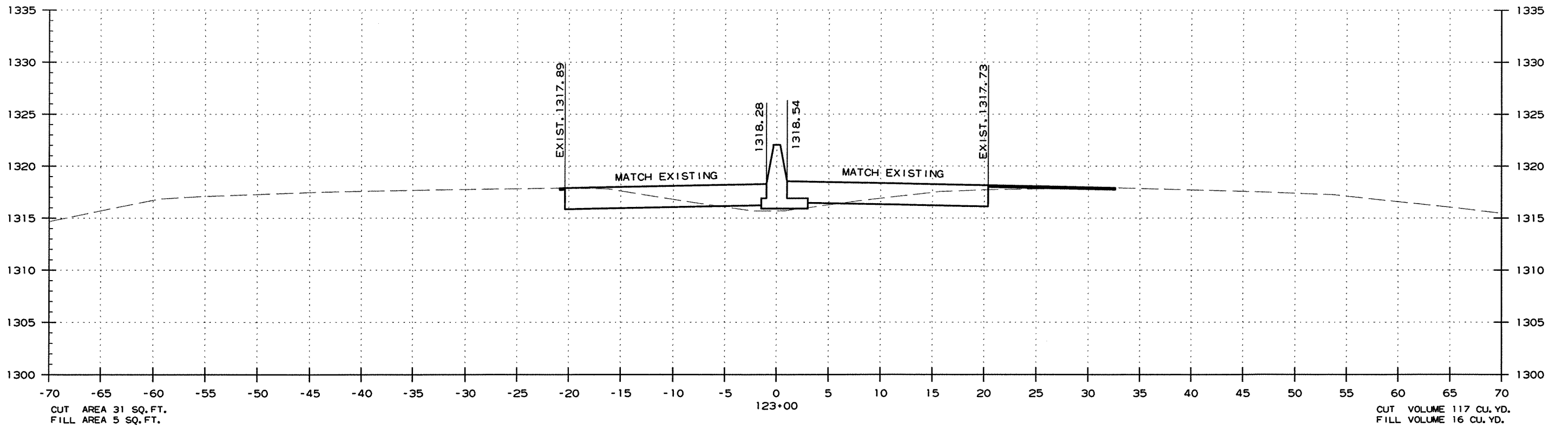
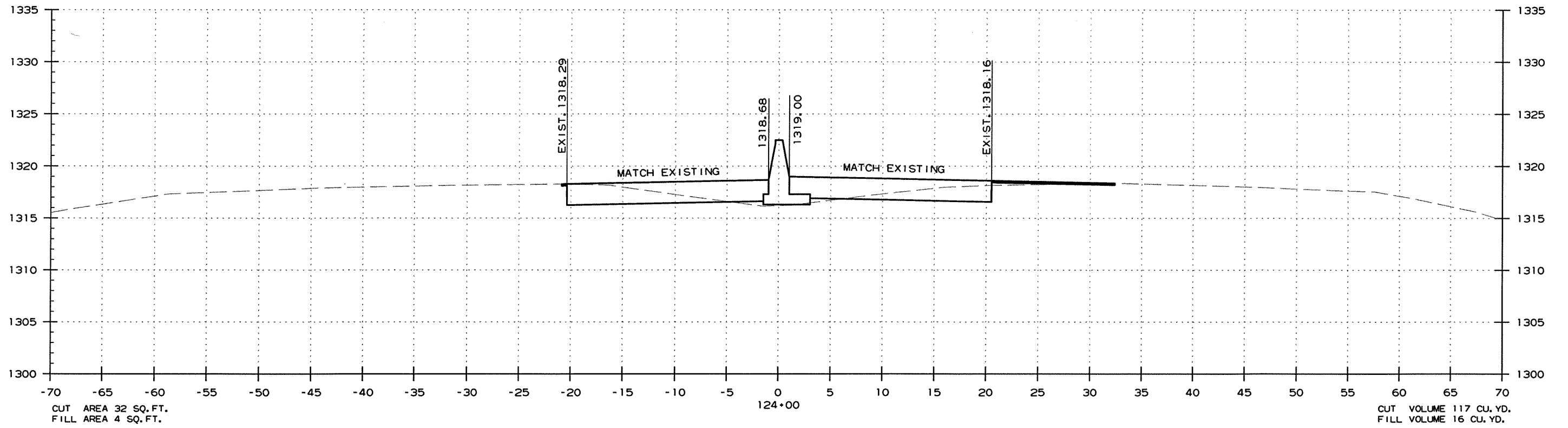
CROSS SECTION STA. 121+00 TO STA. 122+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		69	98

② CROSS SECTIONS



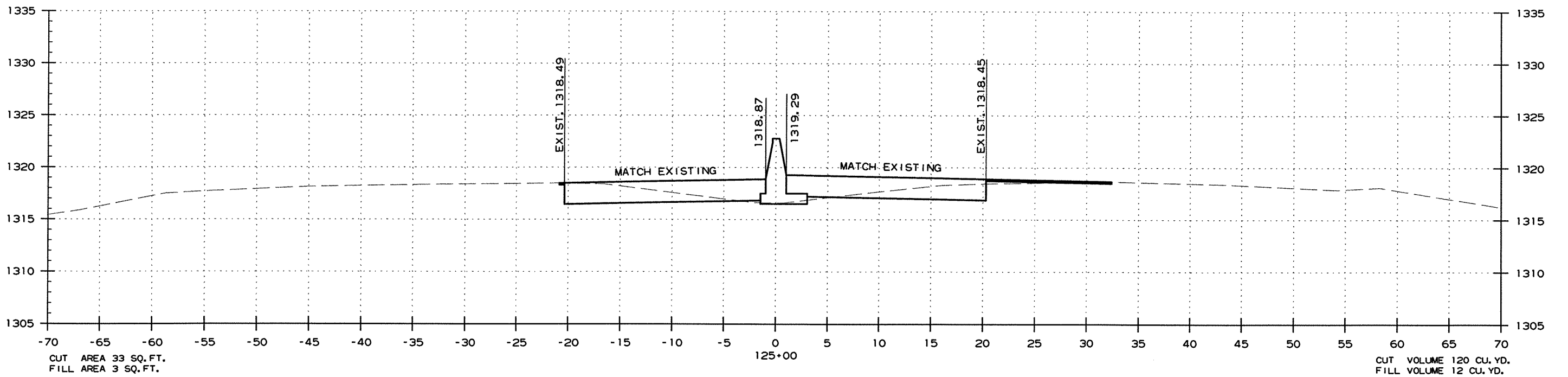
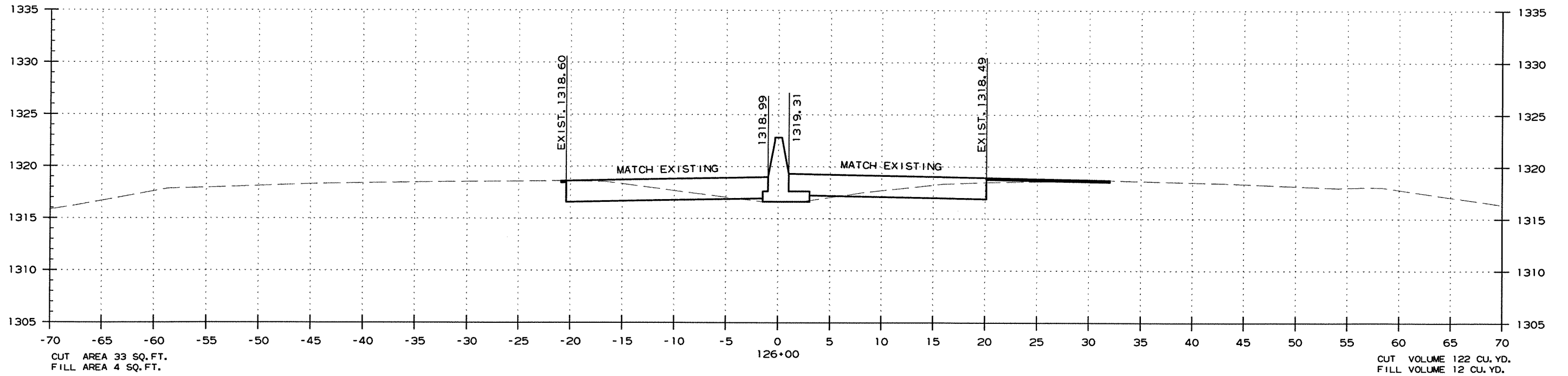
CROSS SECTION STA. 123+00 TO STA. 124+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		70	98

2 CROSS SECTIONS



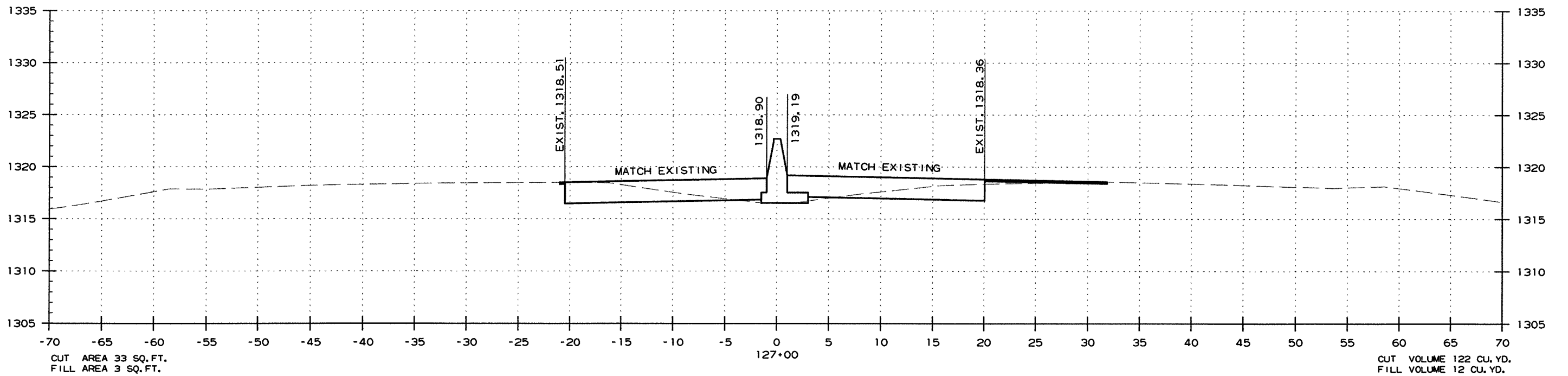
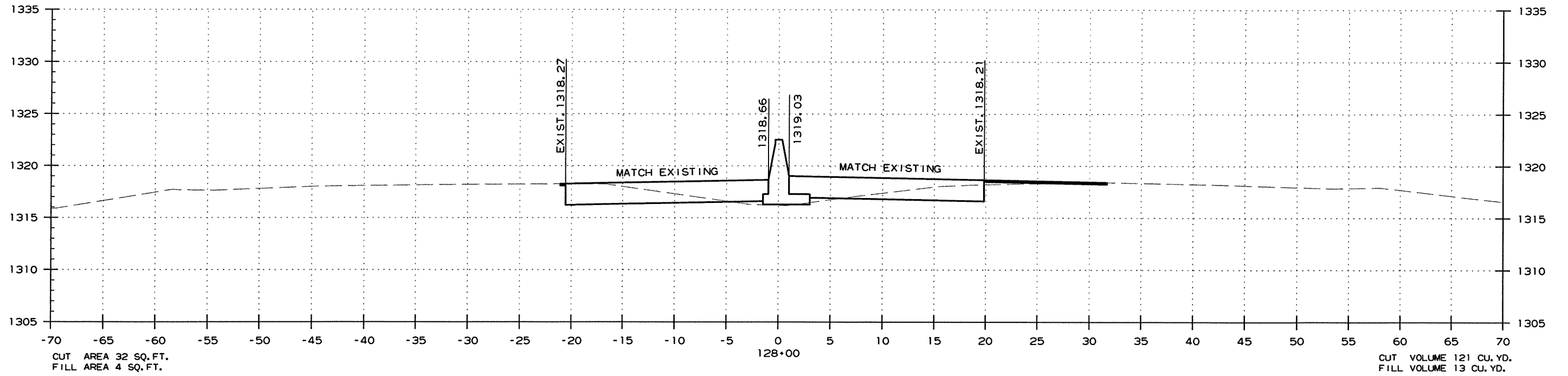
CROSS SECTION STA. 125+00 TO STA. 126+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		71	98

② CROSS SECTIONS



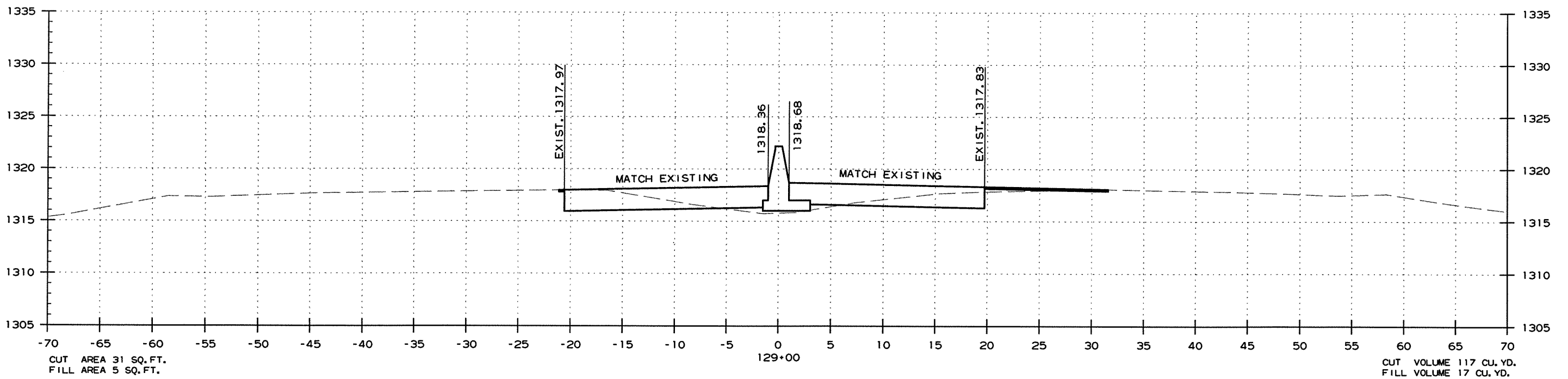
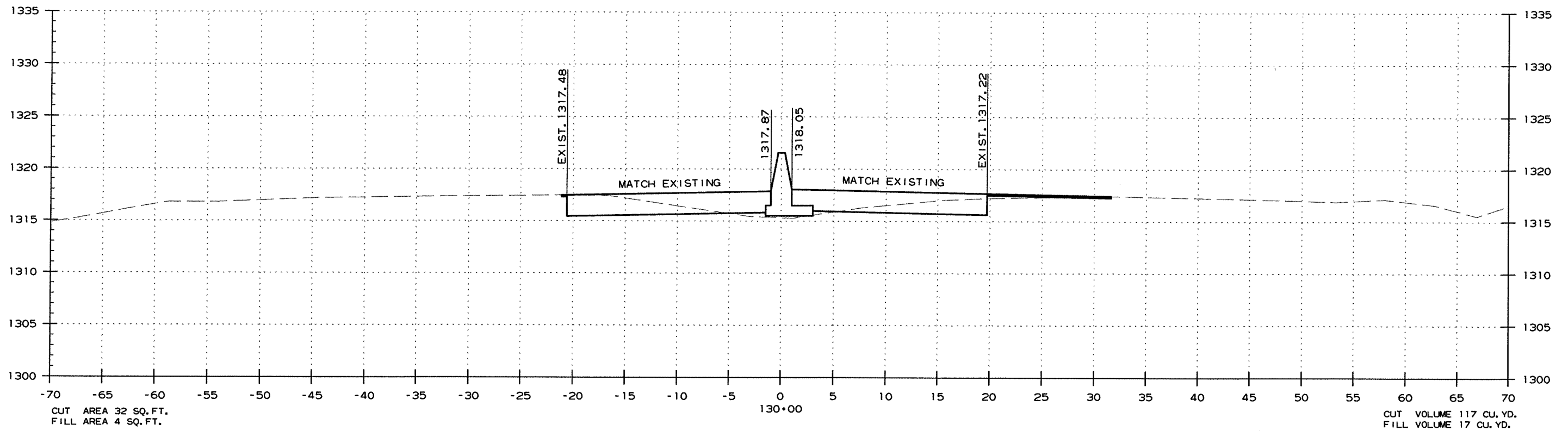
CROSS SECTION STA. 127+00 TO STA. 128+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							72	98

② CROSS SECTIONS



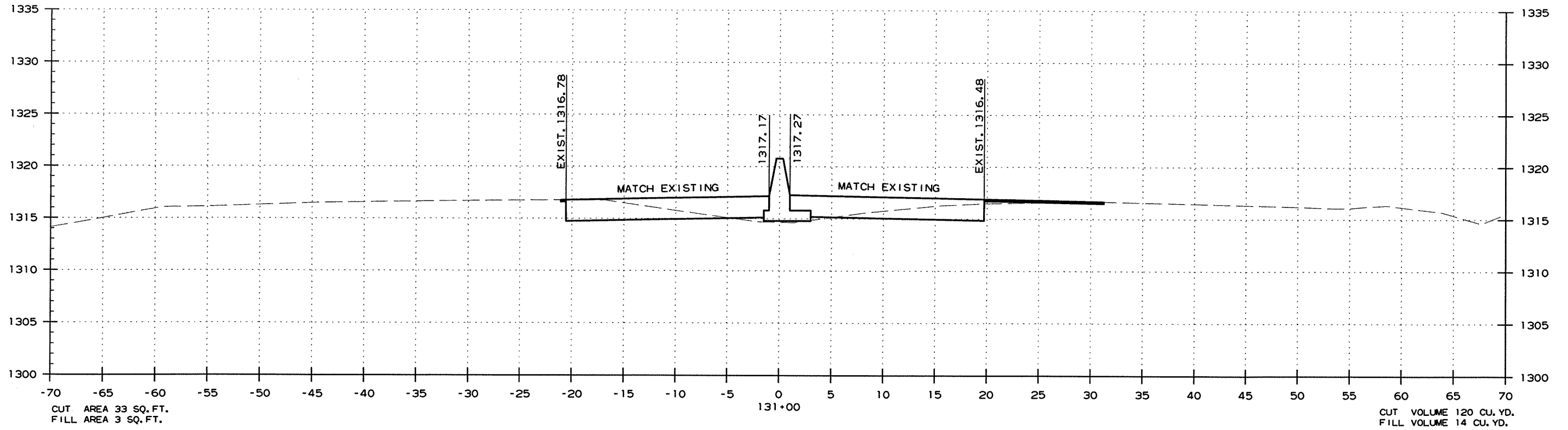
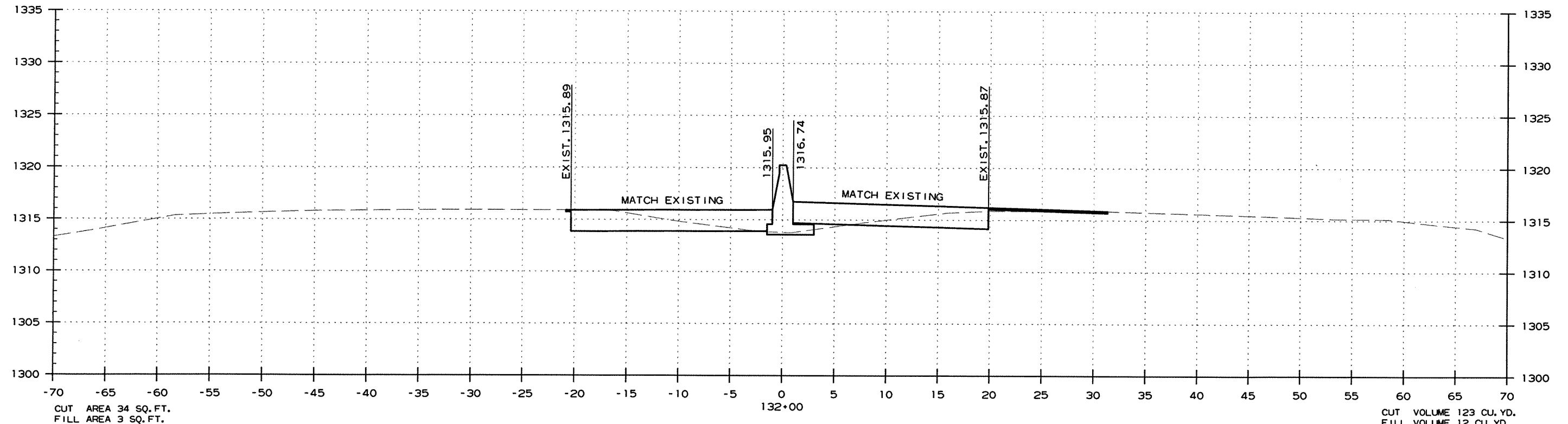
CROSS SECTION STA. 129+00 TO STA. 130+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							73	98

2 CROSS SECTIONS



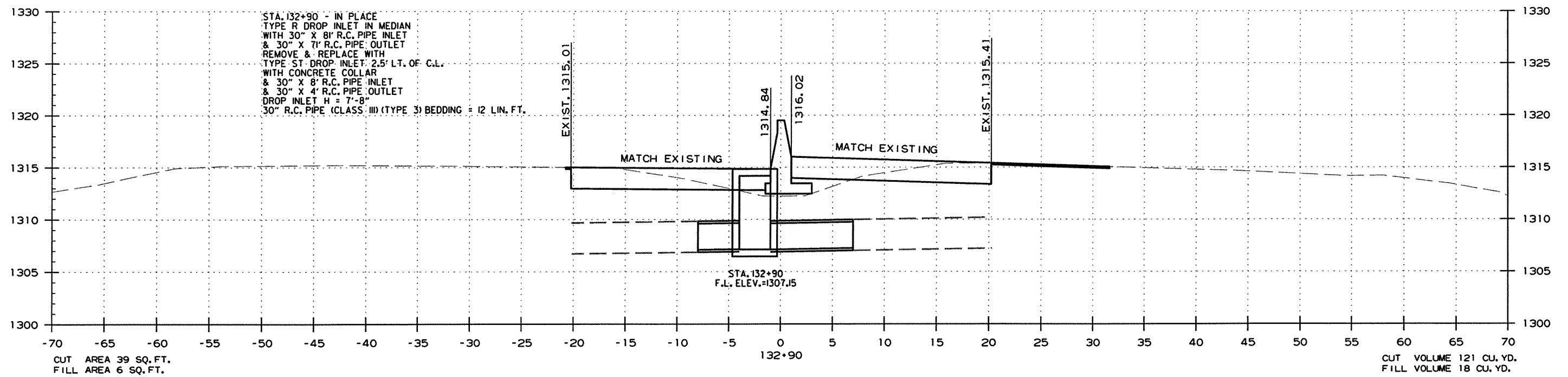
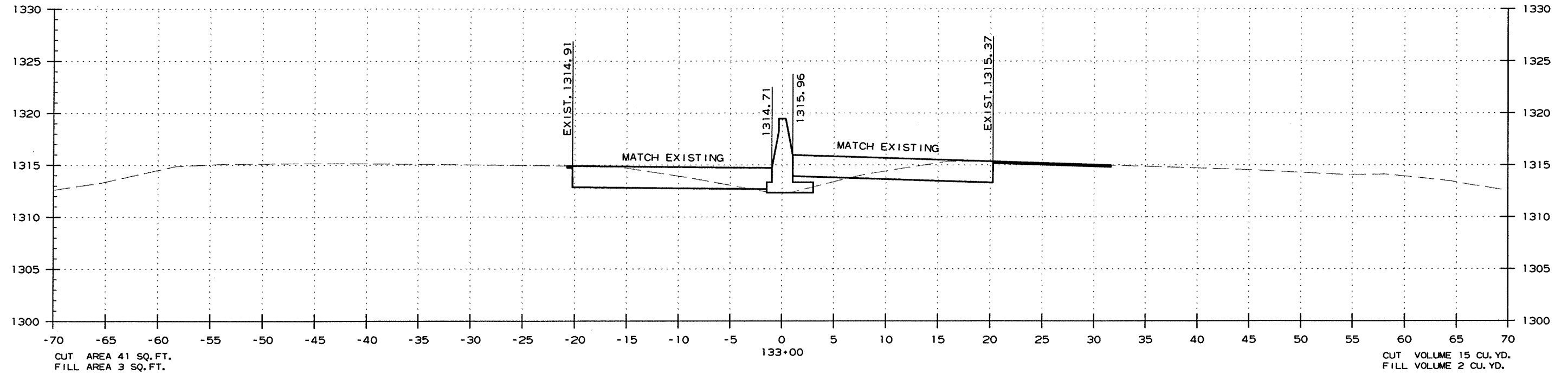
CROSS SECTION STA. 131+00 TO STA. 132+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040583	74	98

2 CROSS SECTIONS



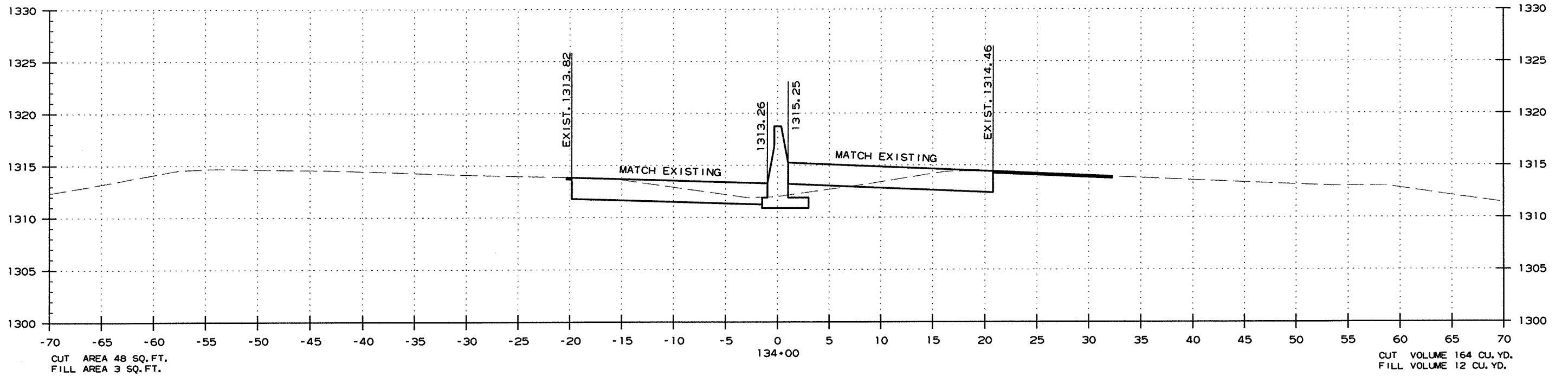
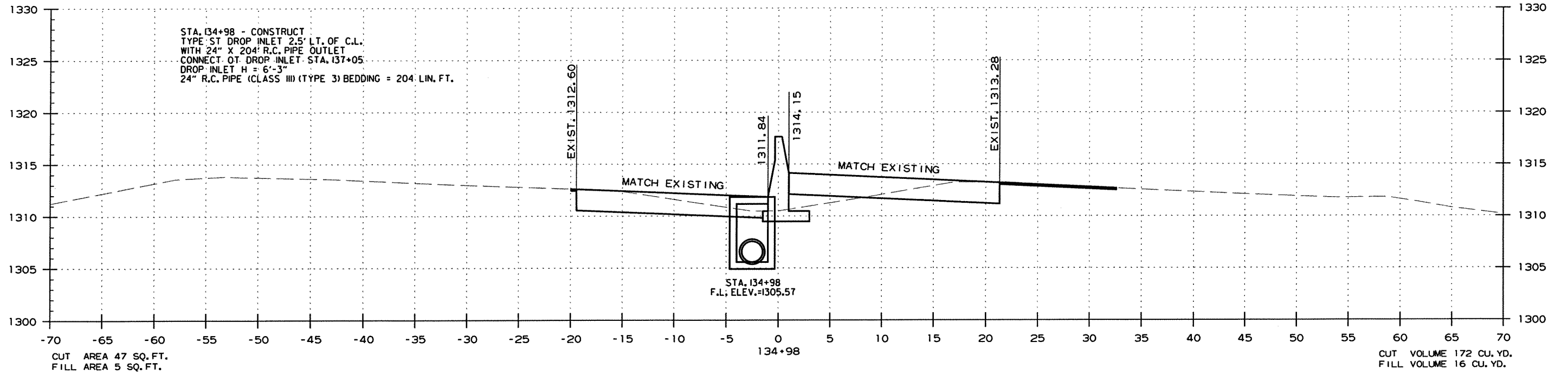
CROSS SECTION STA. 132+90 TO STA. 133+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							75	98

2 CROSS SECTIONS



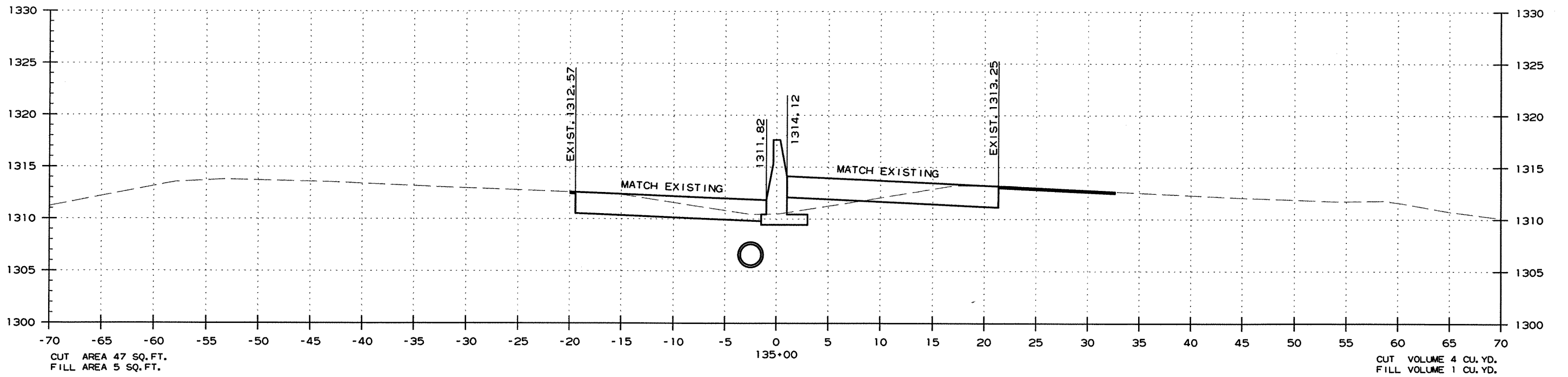
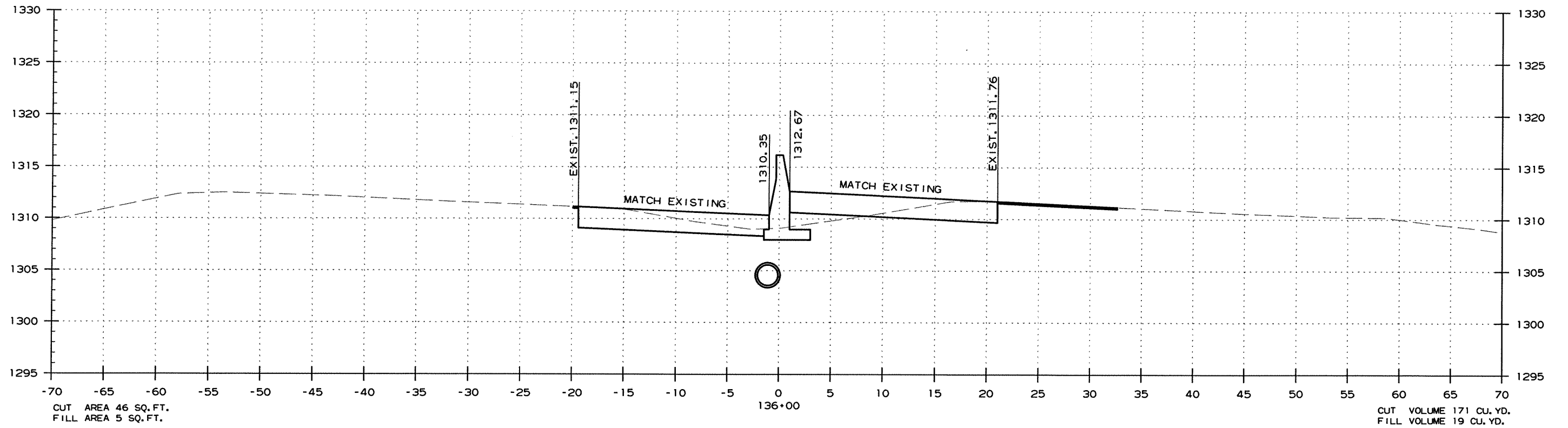
CROSS SECTION STA. 134+00 TO STA. 134+98

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		76	98

② CROSS SECTIONS



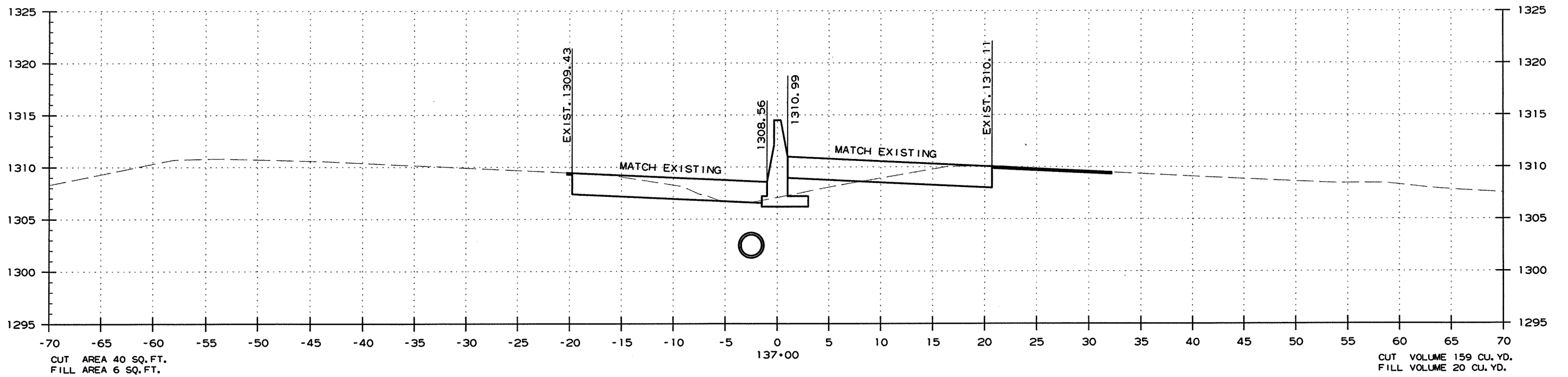
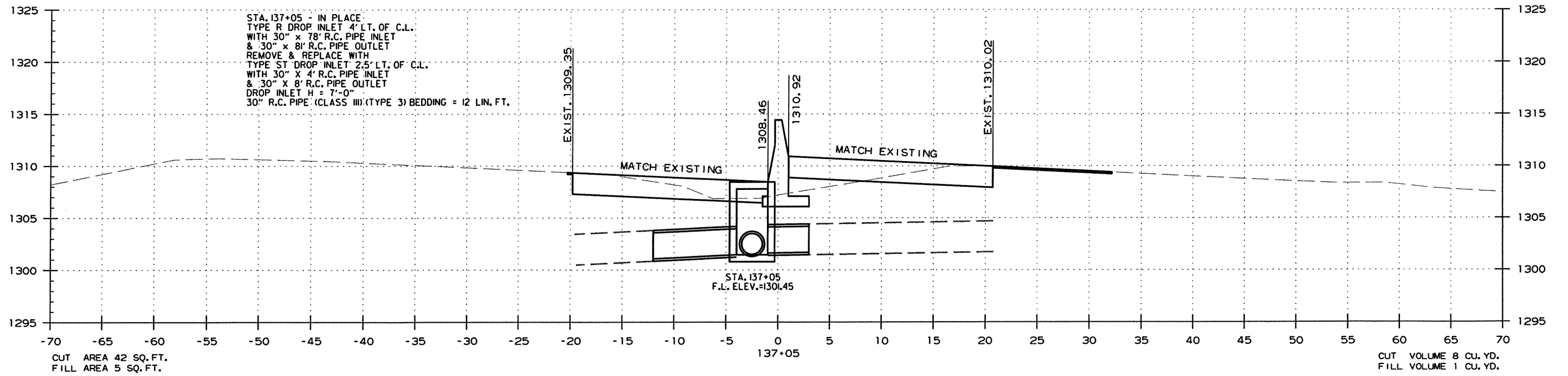
CROSS SECTION STA. 135+00 TO STA. 136+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							77	98

② CROSS SECTIONS



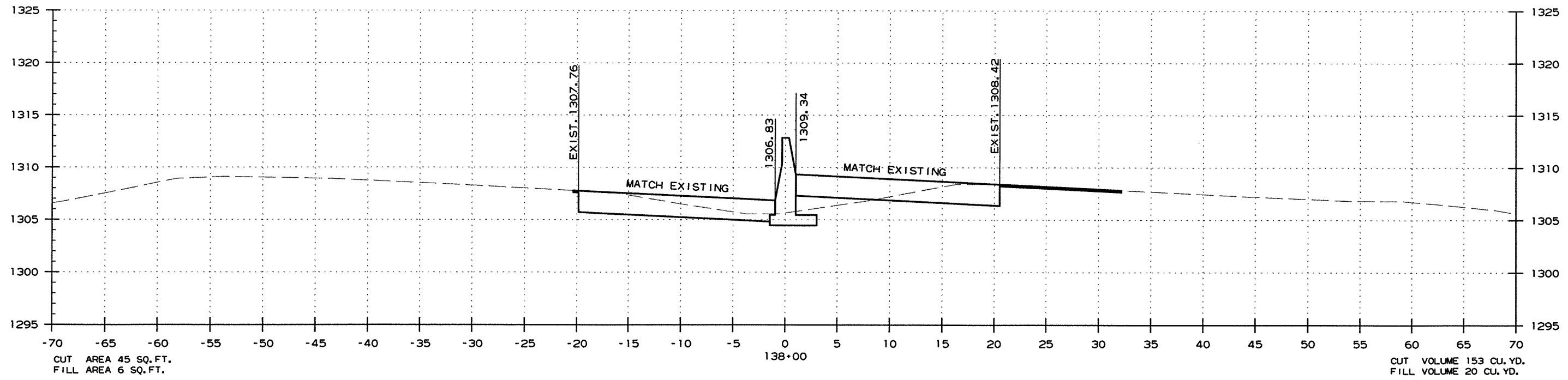
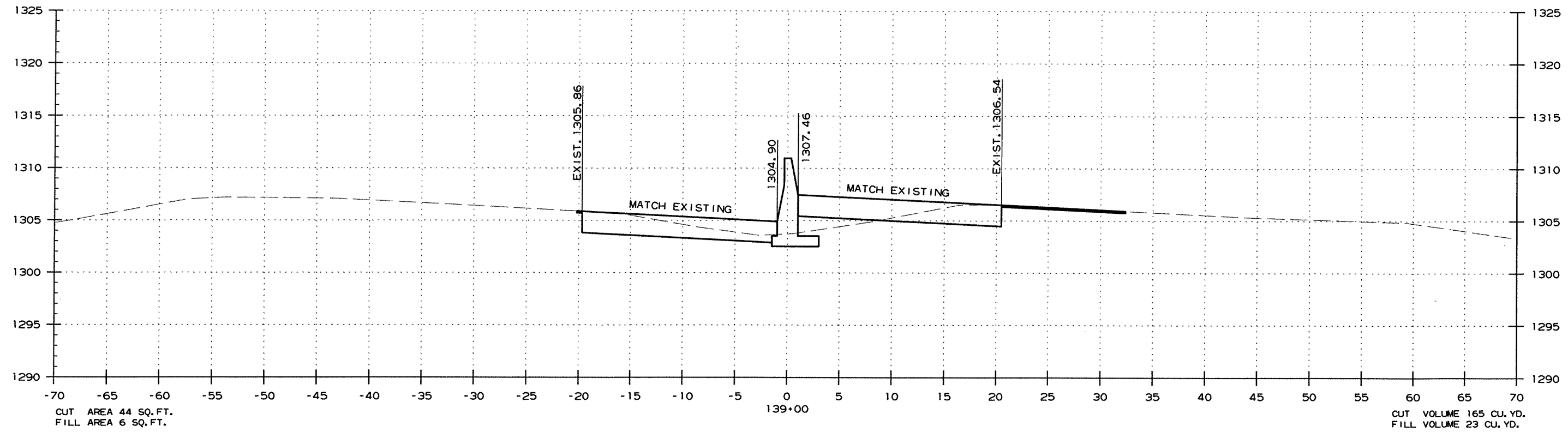
CROSS SECTION STA. 137+00 TO STA. 137+05

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							78	98

② CROSS SECTIONS

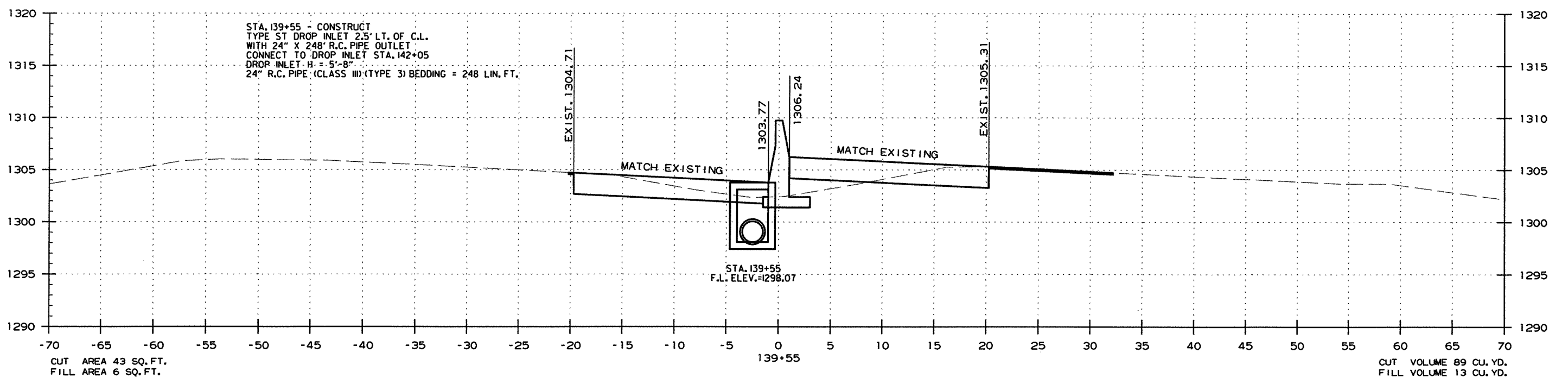
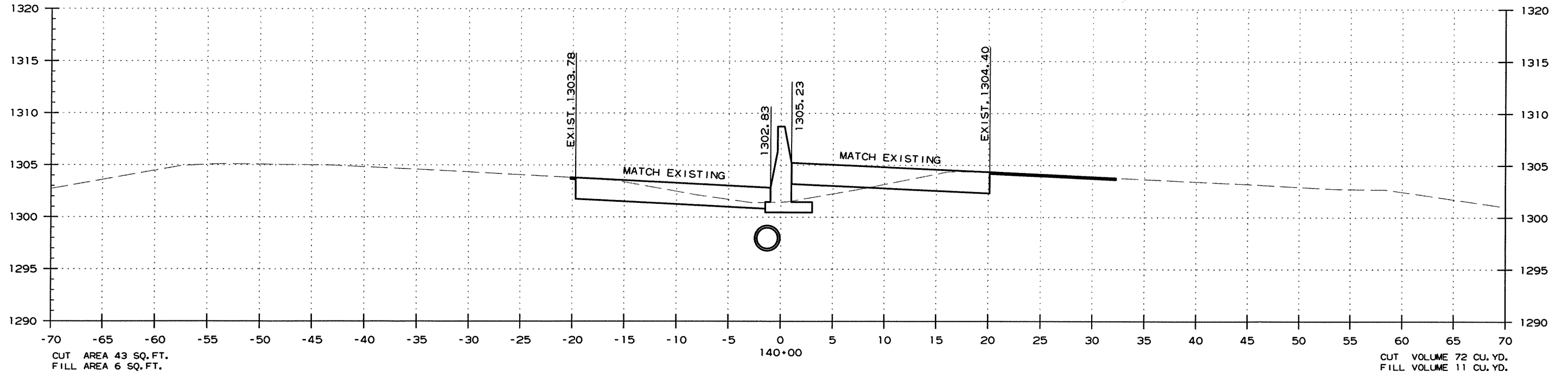


CROSS SECTION STA. 138+00 TO STA. 139+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		79	98

② CROSS SECTIONS



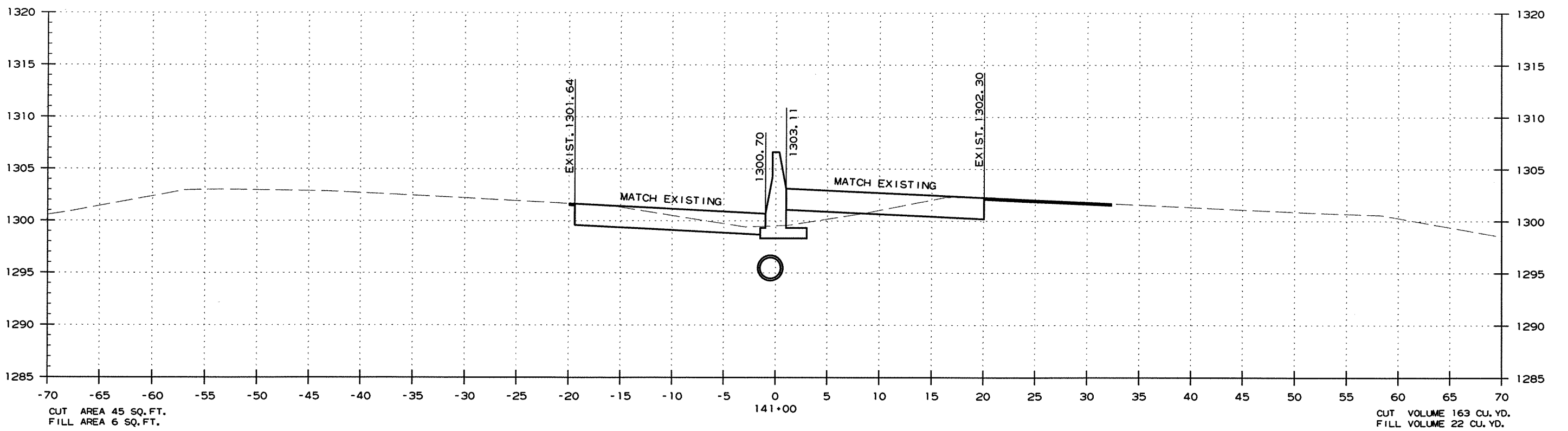
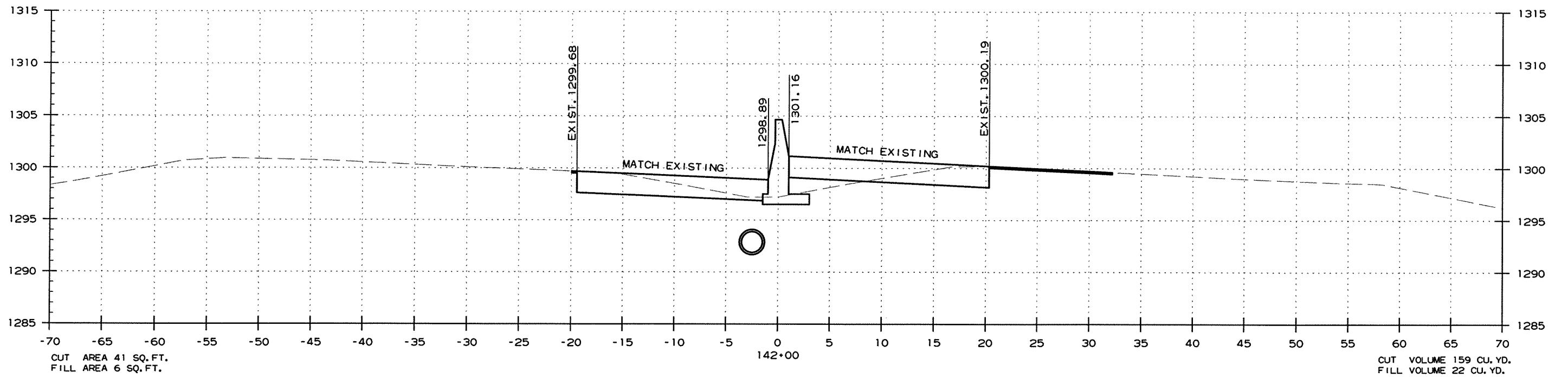
CROSS SECTION STA. 139+55 TO STA. 140+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		80	98

② CROSS SECTIONS



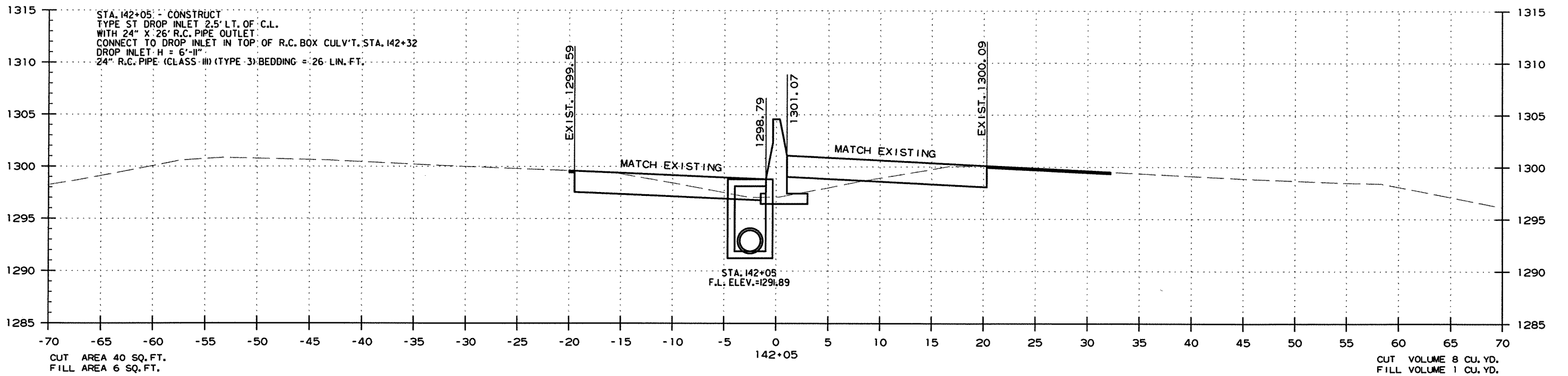
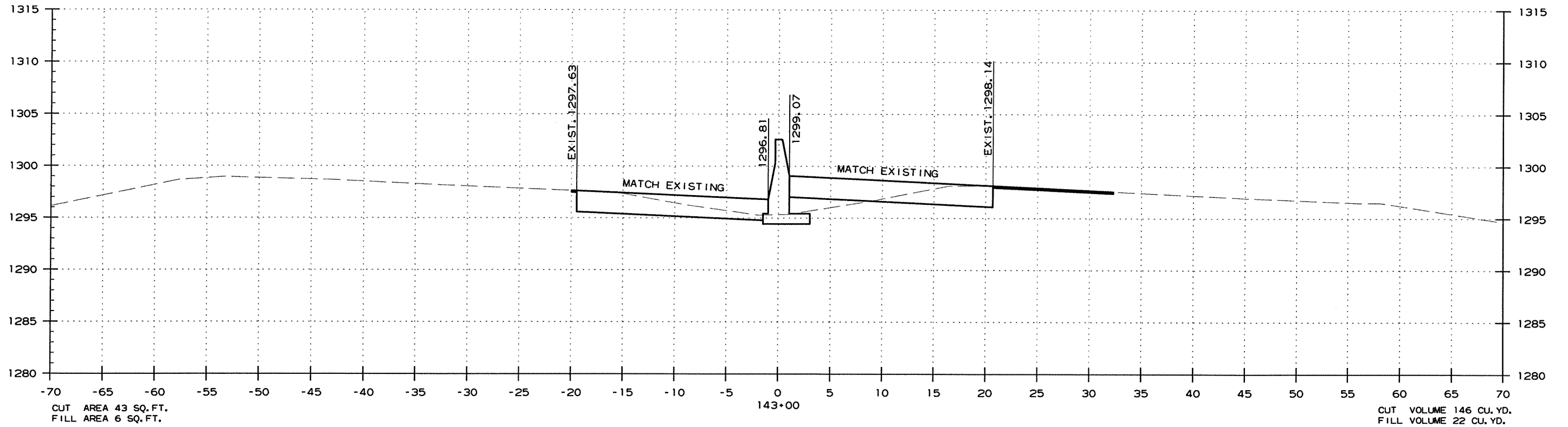
CROSS SECTION STA. 141+00 TO STA. 142+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							81	98

2 CROSS SECTIONS



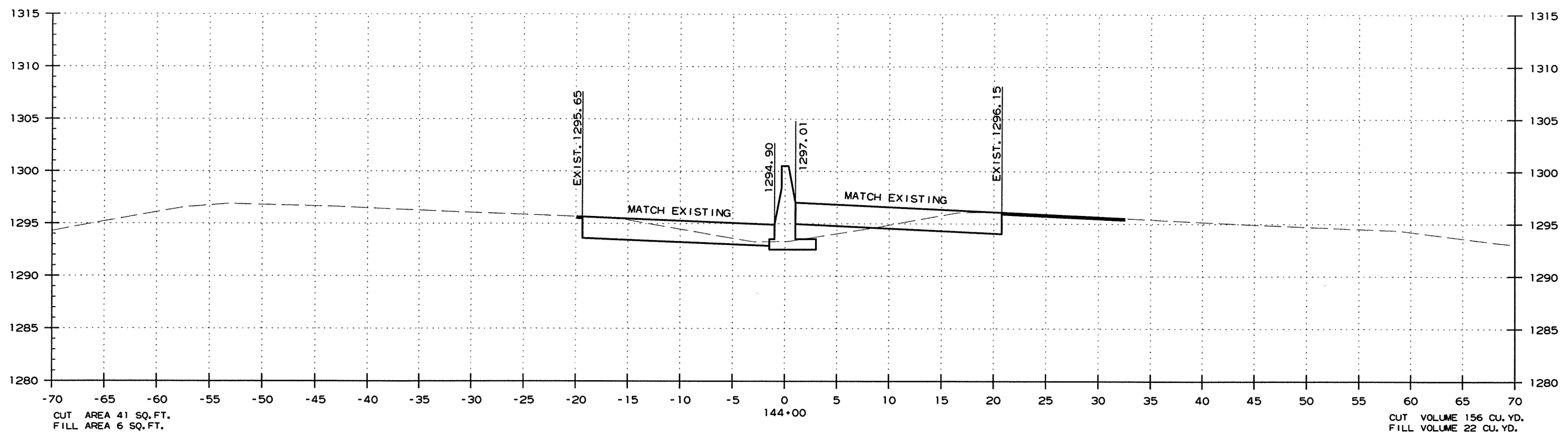
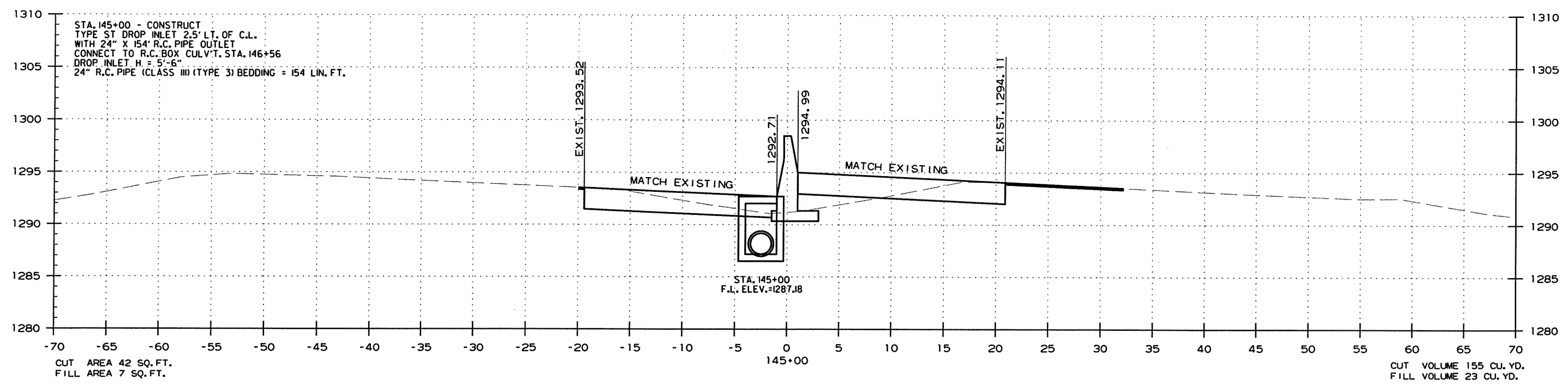
CROSS SECTION STA. 142+05 TO STA. 143+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							82	98

② CROSS SECTIONS

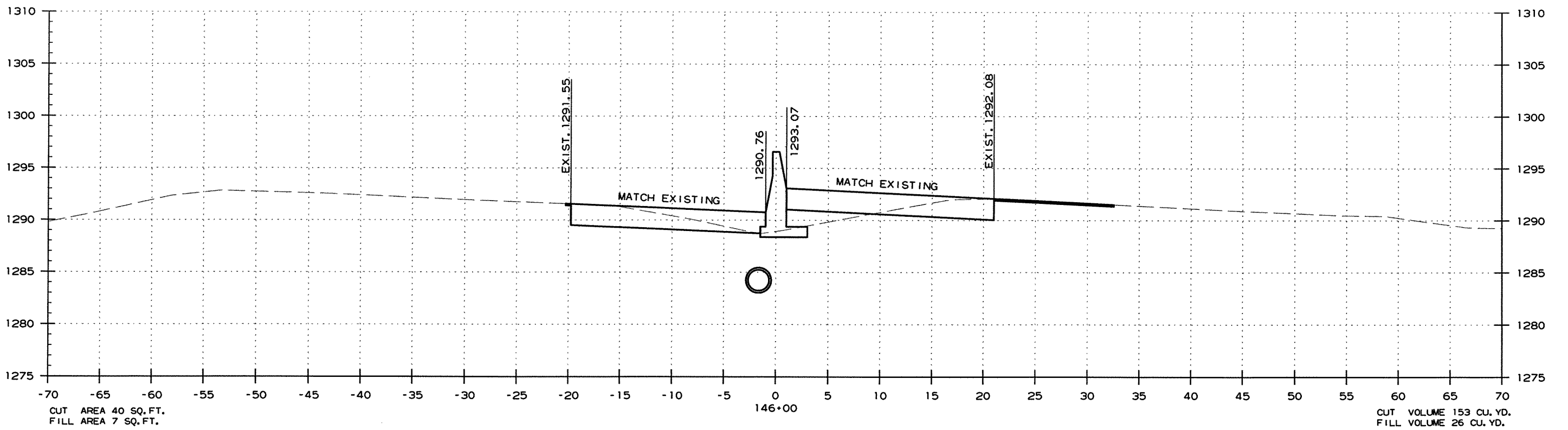
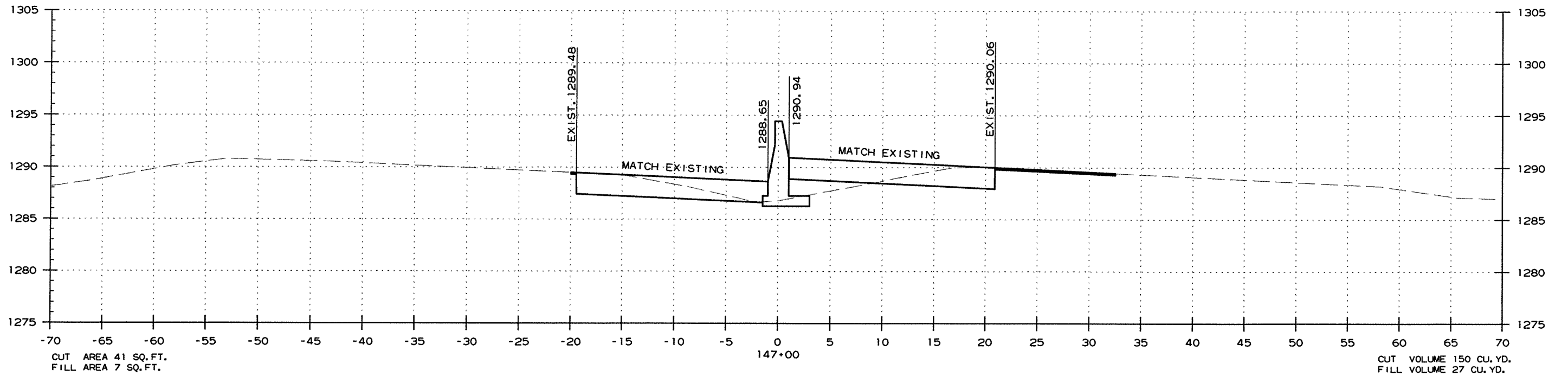


CROSS SECTION STA. 144+00 TO STA. 145+00

3/6/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		83	98

② CROSS SECTIONS



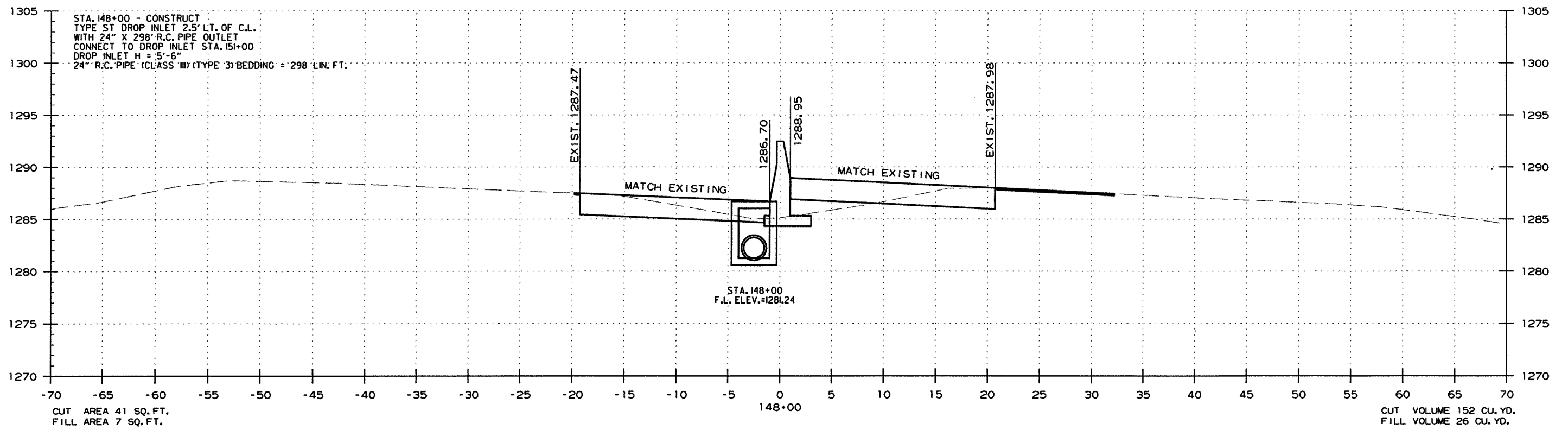
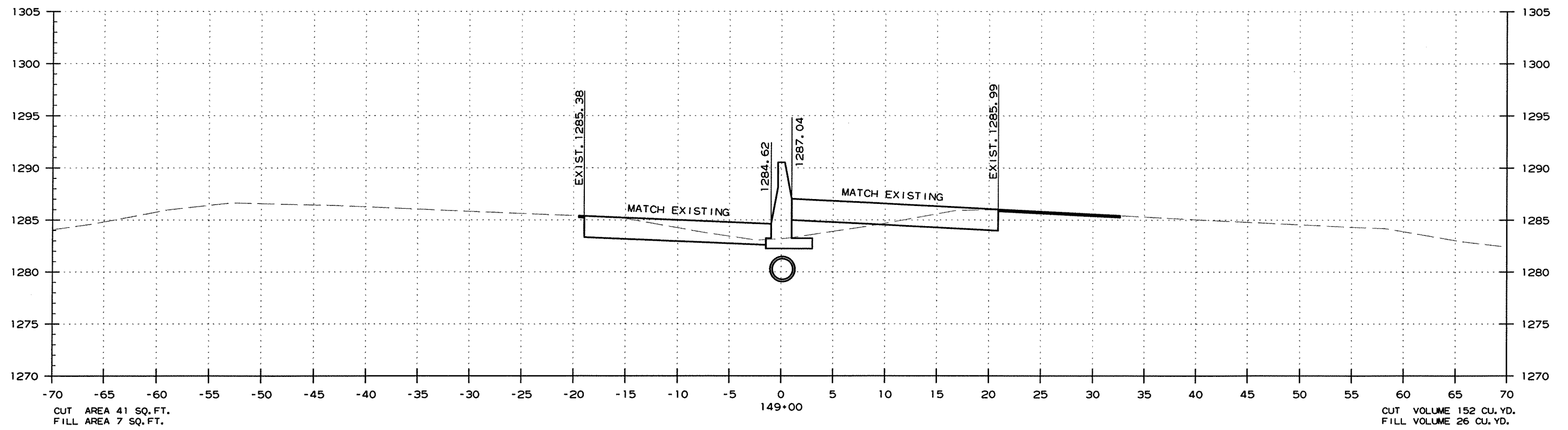
CROSS SECTION STA. 146+00 TO STA. 147+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							84	98

2 CROSS SECTIONS

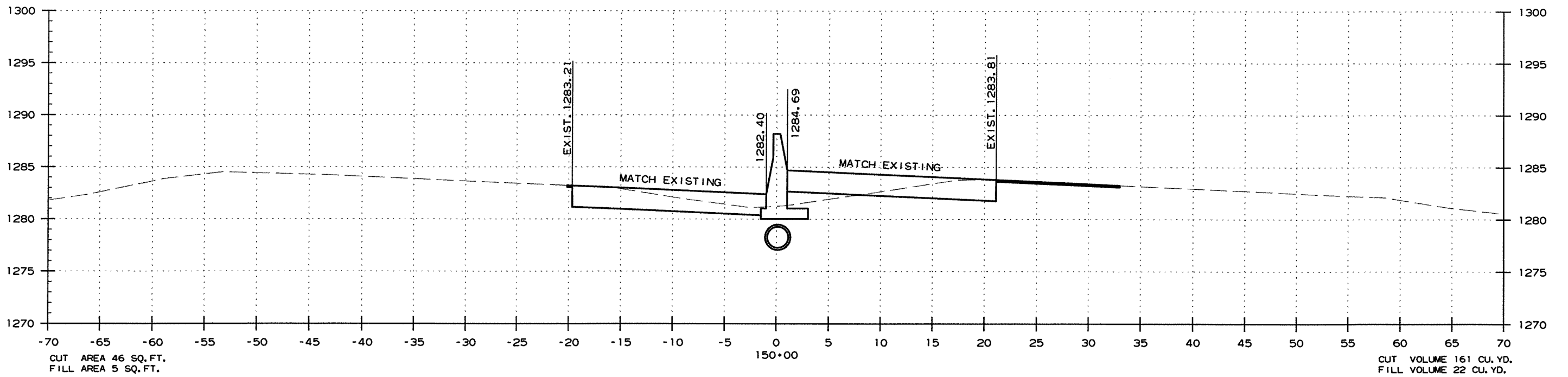
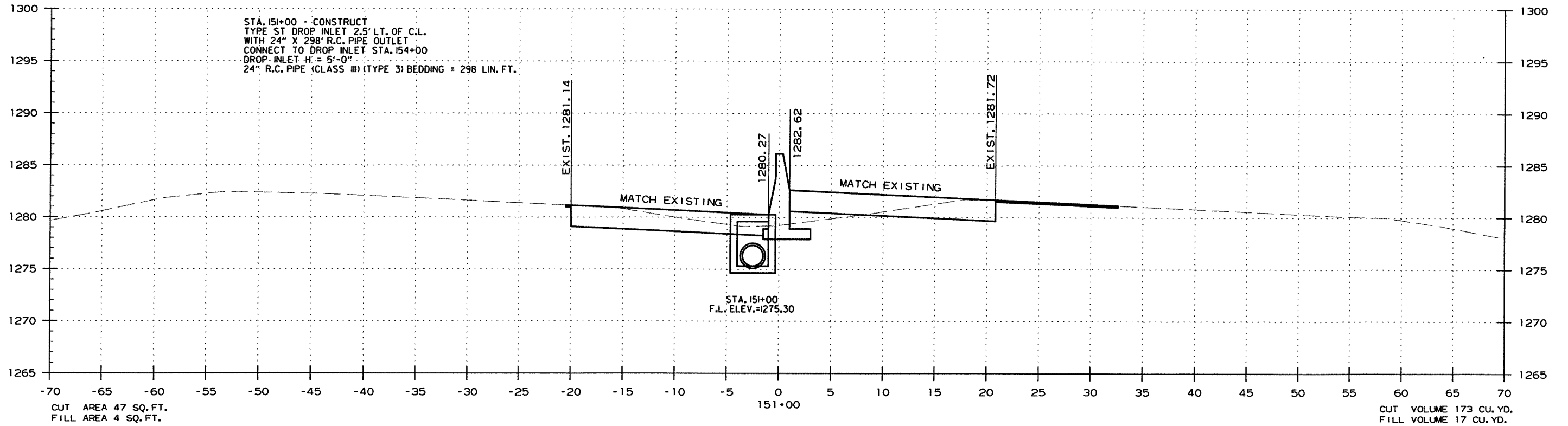


CROSS SECTION STA. 148+00 TO STA. 149+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							85	98

2 CROSS SECTIONS



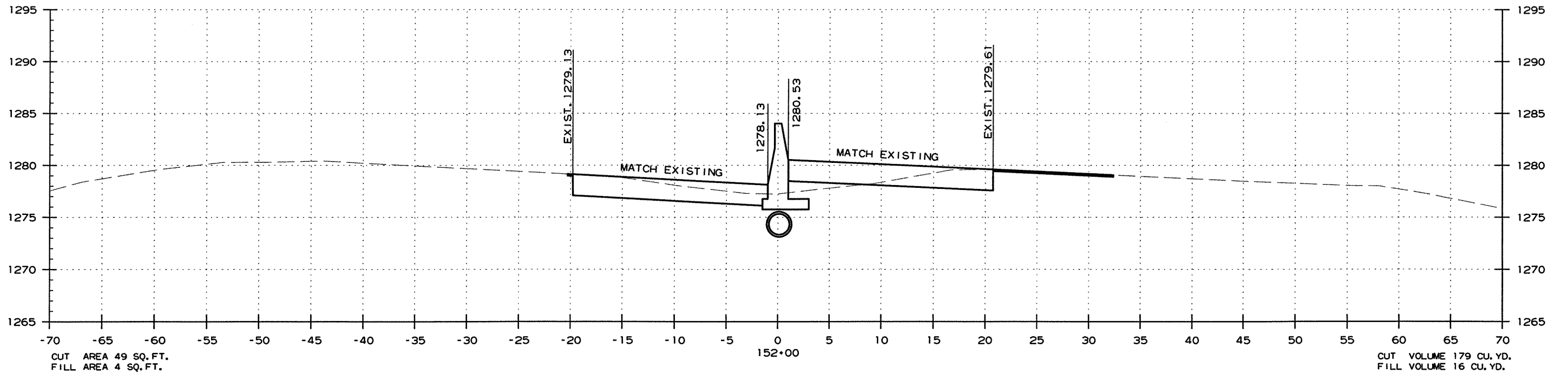
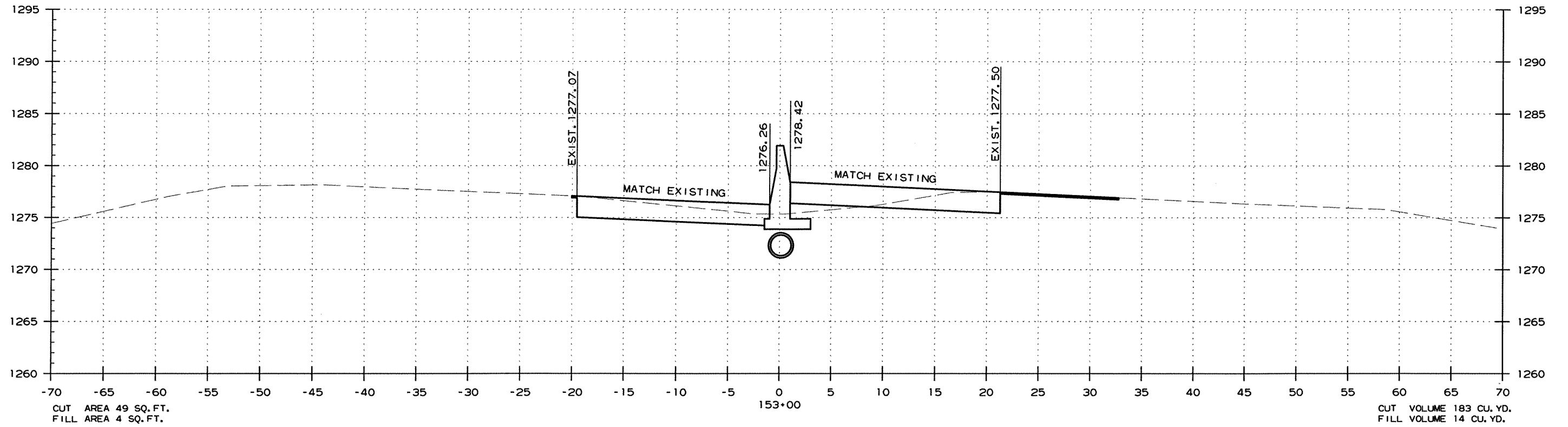
CROSS SECTION STA. 150+00 TO STA. 151+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	040583
							SHEET NO.	86
							TOTAL SHEETS	98

② CROSS SECTIONS



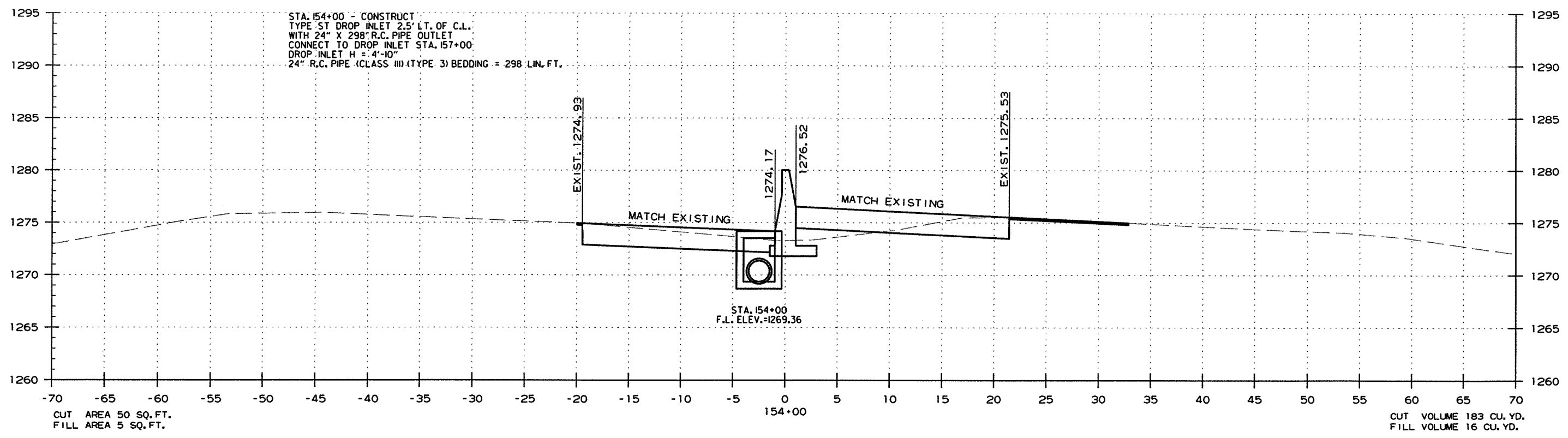
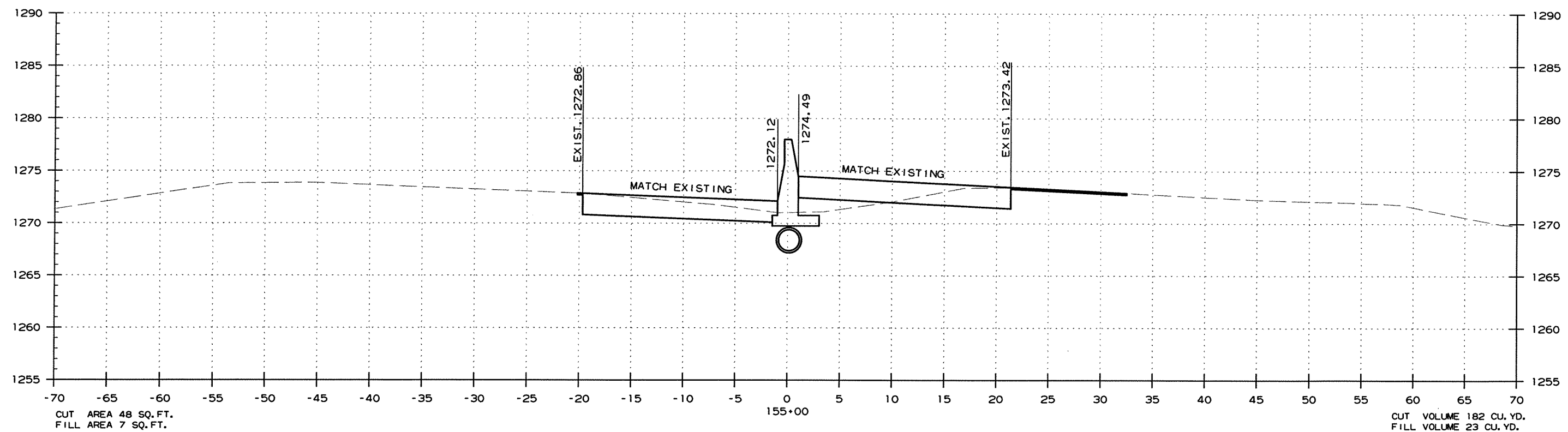
CROSS SECTION STA. 152+00 TO STA. 153+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							87	98

2 CROSS SECTIONS



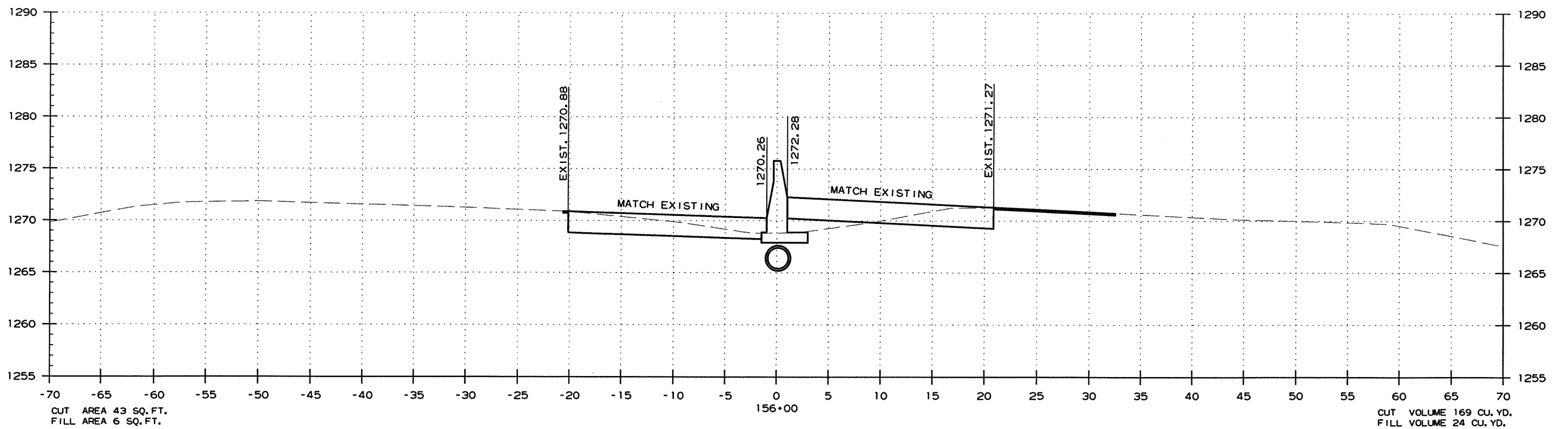
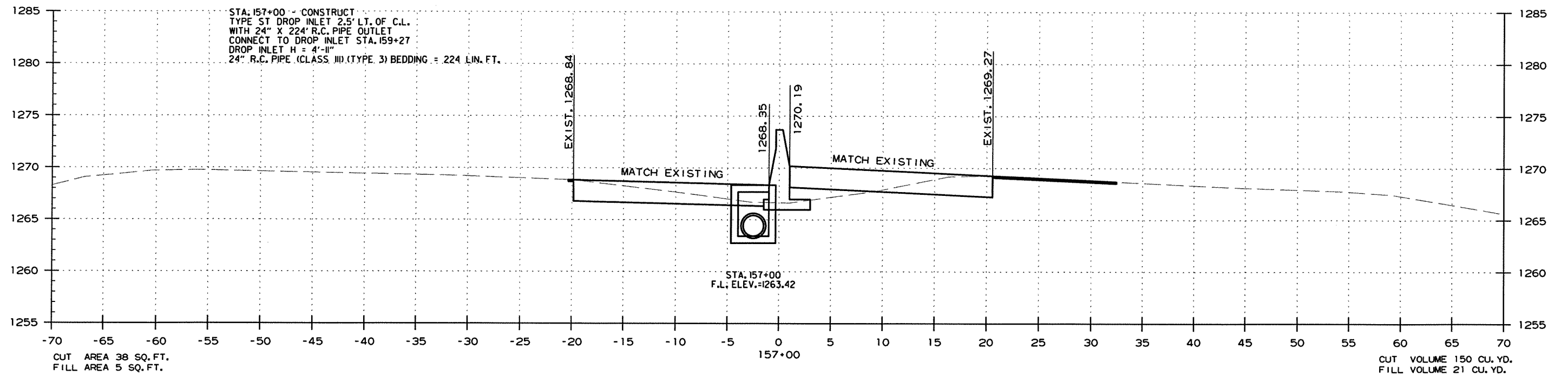
CROSS SECTION STA. 154+00 TO STA. 155+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	88	98

② CROSS SECTIONS



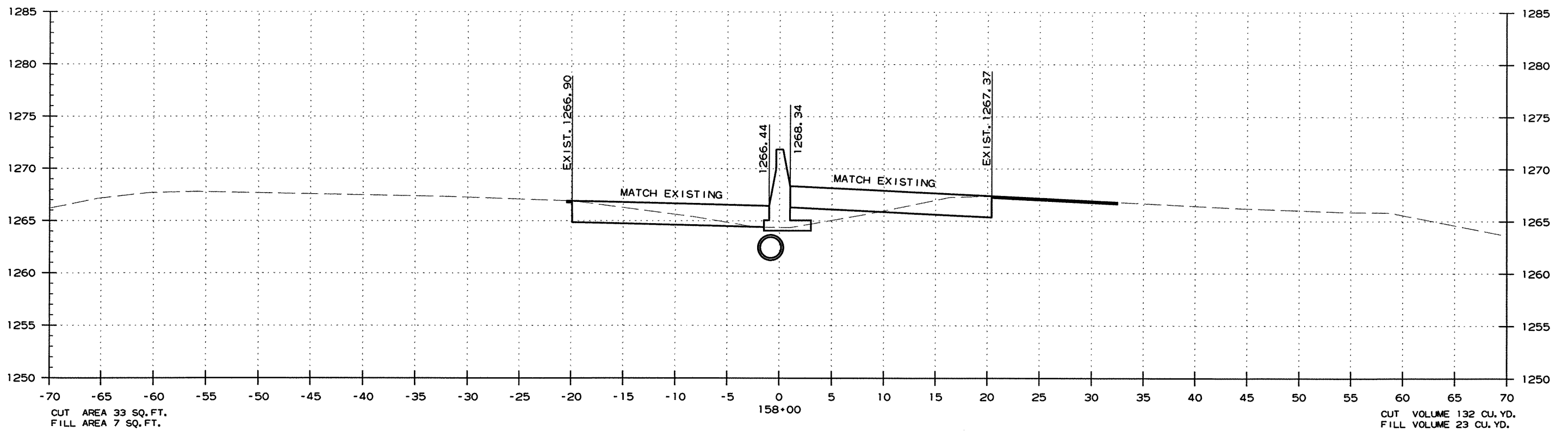
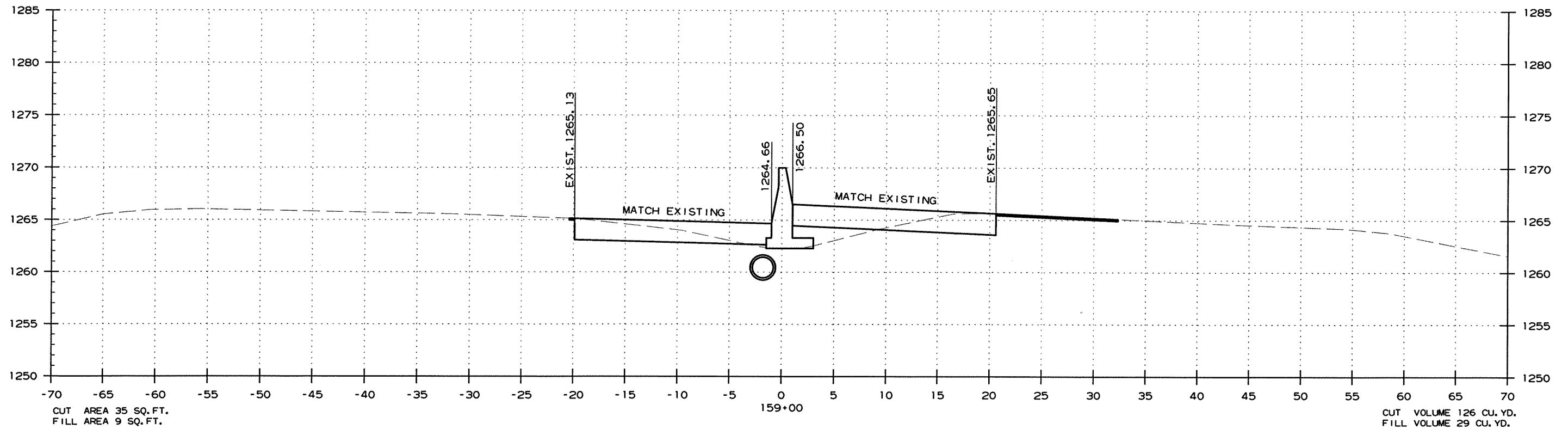
CROSS SECTION STA. 156+00 TO STA. 157+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							89	98

2 CROSS SECTIONS



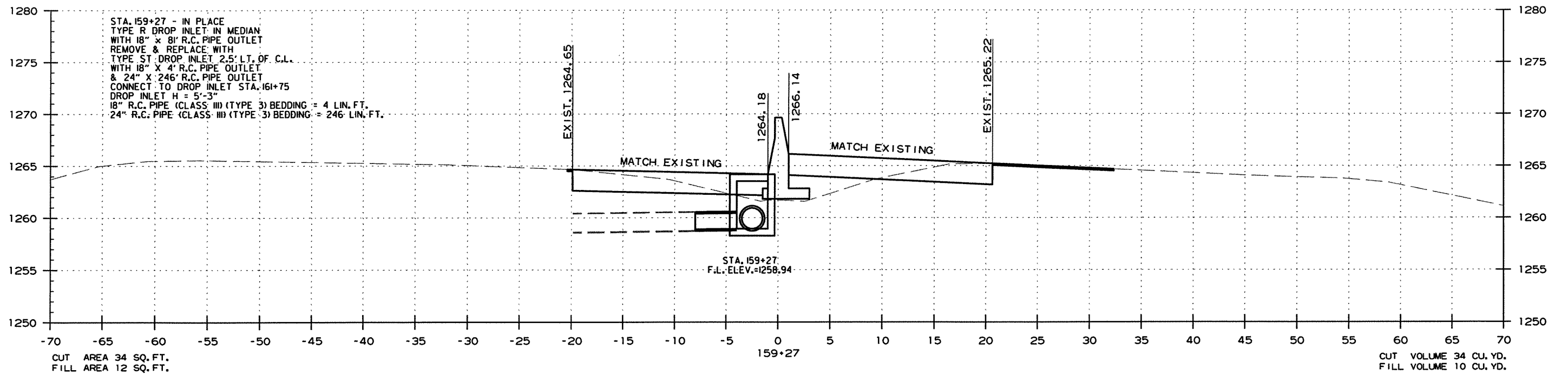
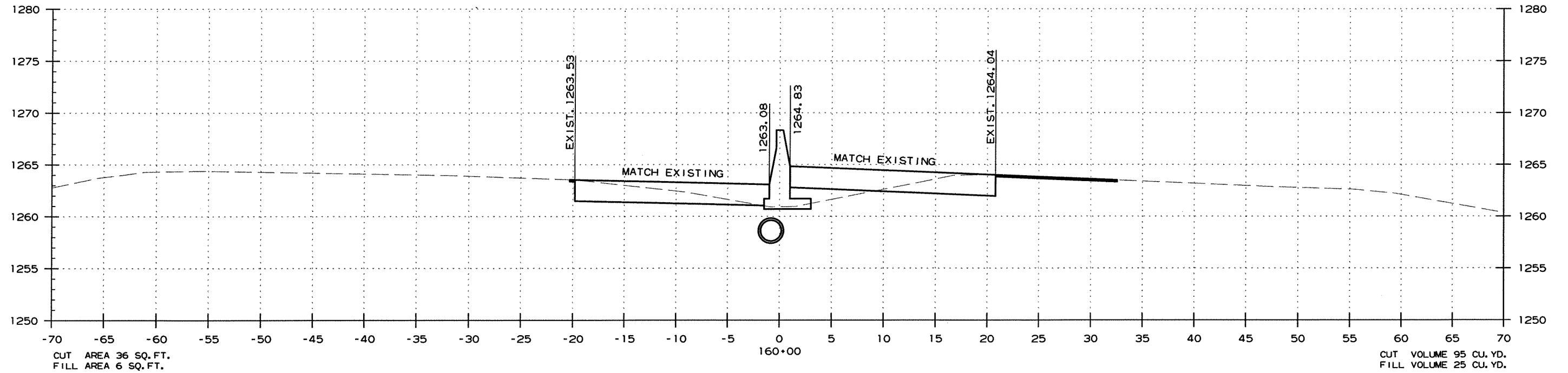
CROSS SECTION STA. 158+00 TO STA. 159+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	90	98

2 CROSS SECTIONS



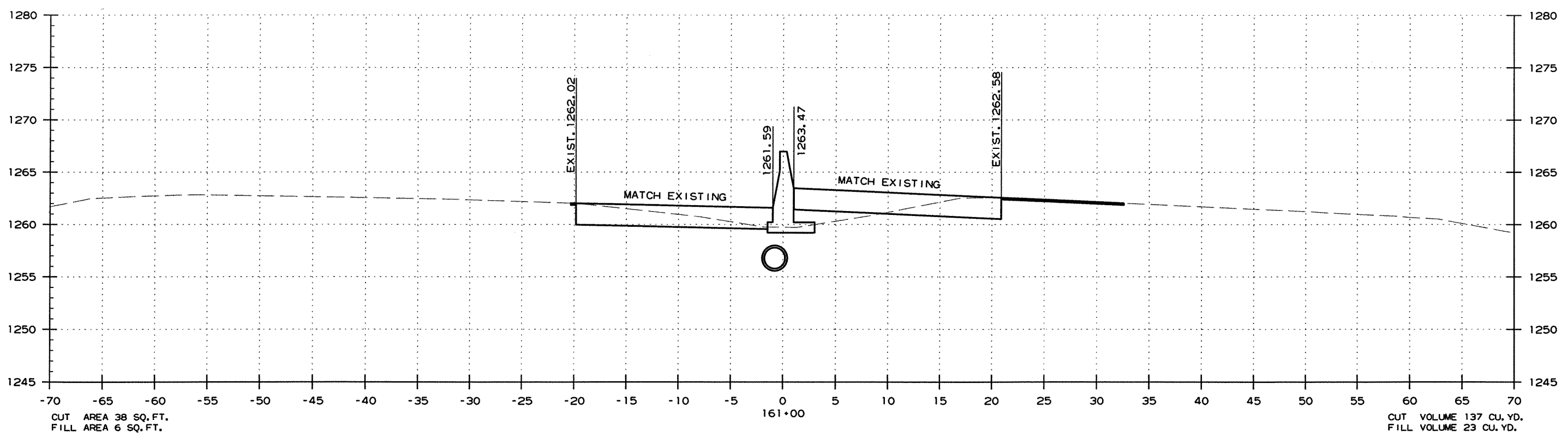
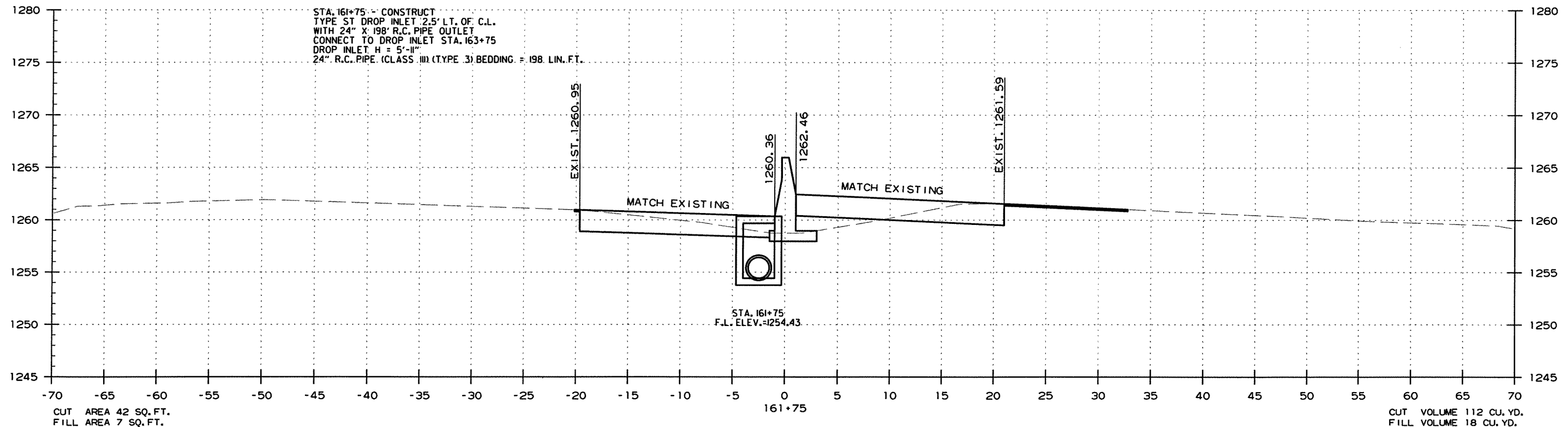
CROSS SECTION STA. 159+27 TO STA. 160+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040583		91	98

② CROSS SECTIONS

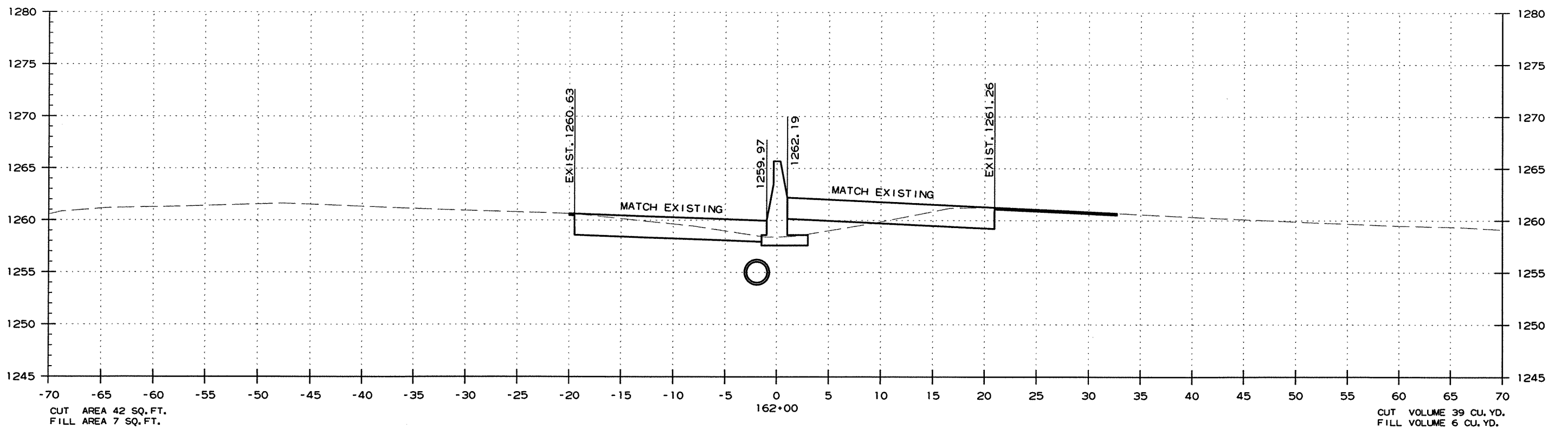
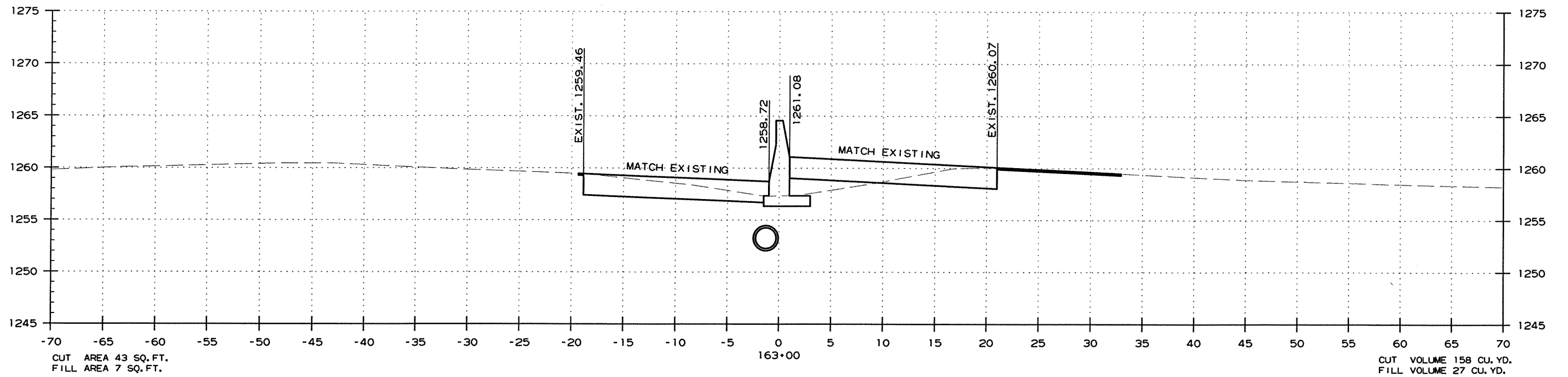


CROSS SECTION STA. 161+00 TO STA. 161+75

3/6/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							92	98

② CROSS SECTIONS



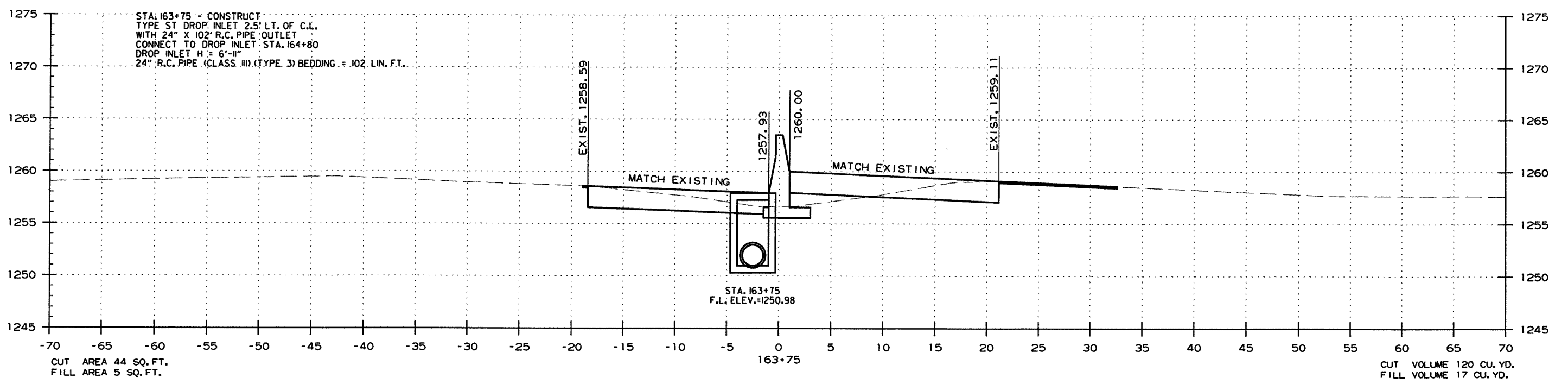
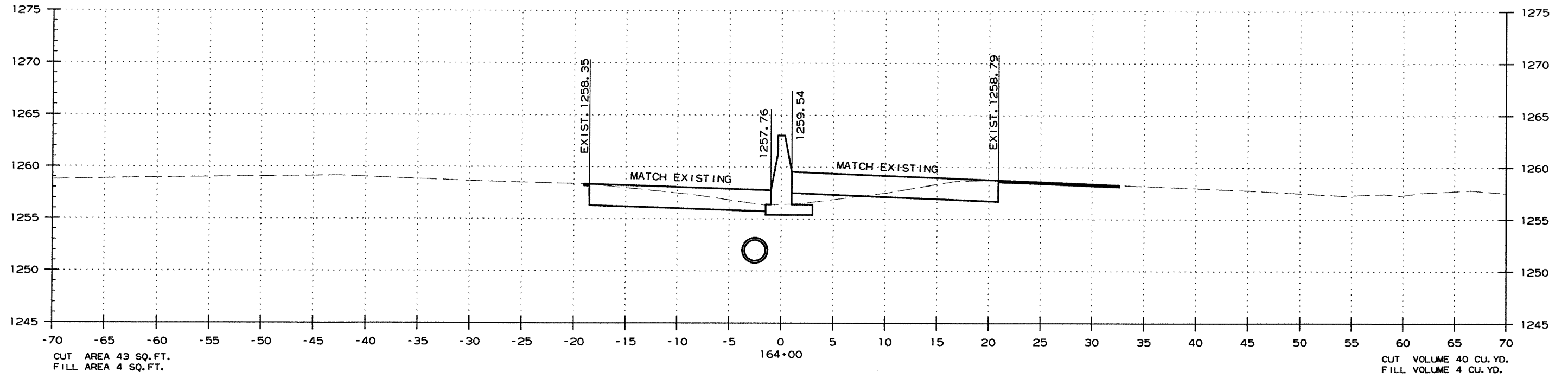
CROSS SECTION STA. 162+00 TO STA. 163+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							93	98

② CROSS SECTIONS

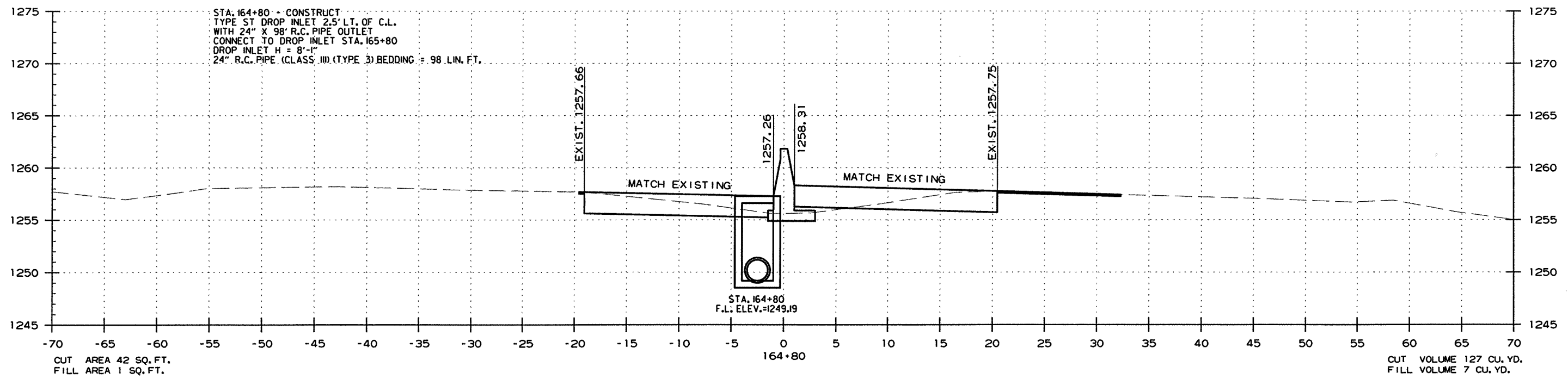
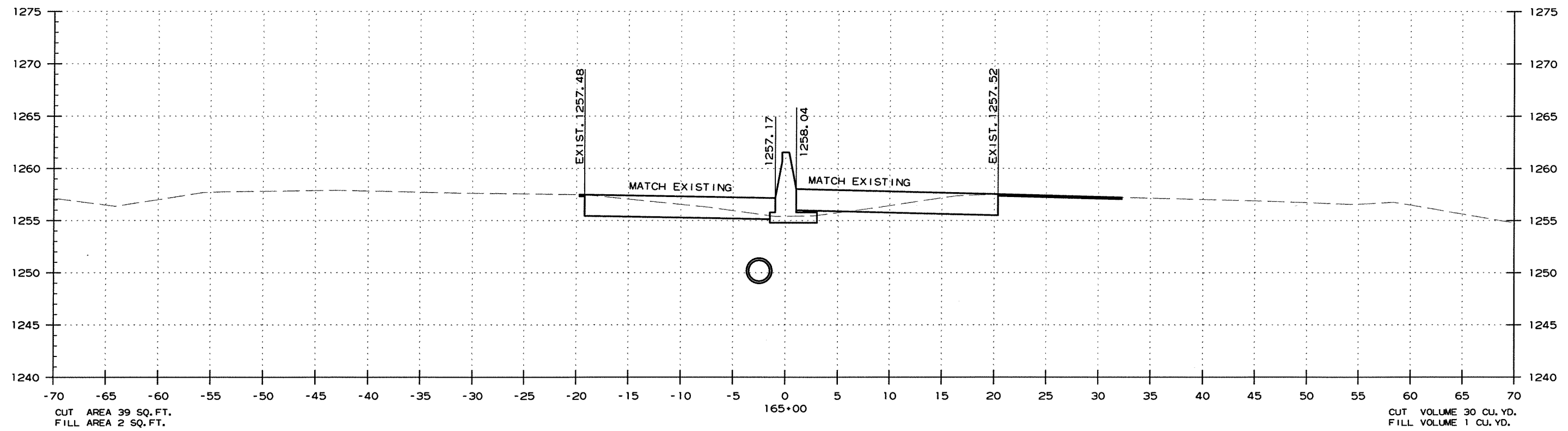


CROSS SECTION STA. 163+75 TO STA. 164+00

3/6/2012 R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							94	98

2 CROSS SECTIONS



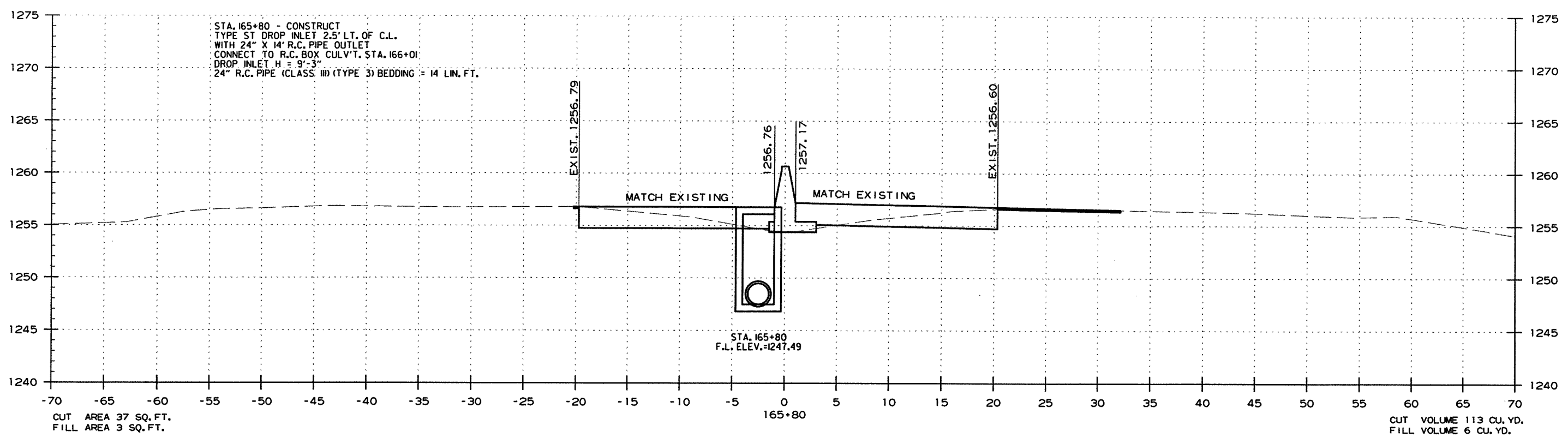
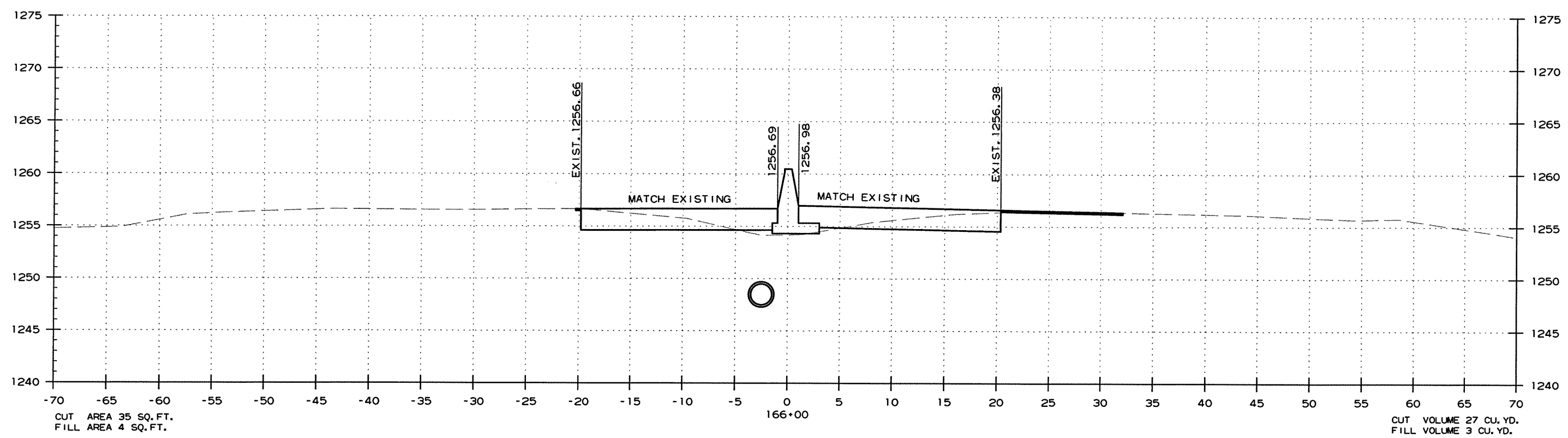
CROSS SECTION STA. 164+80 TO STA. 165+00

3/6/2012

R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	95	98

2 CROSS SECTIONS

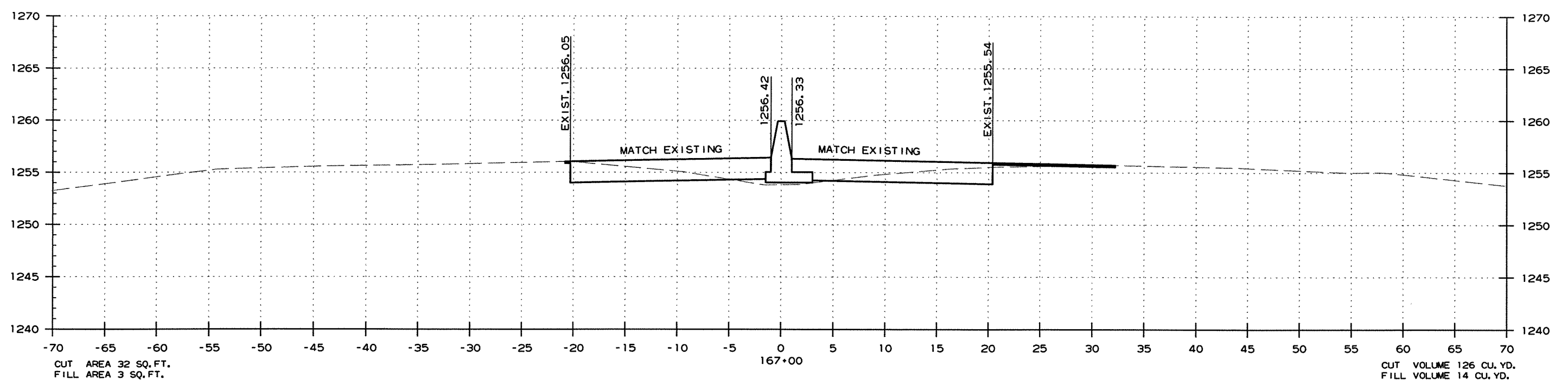
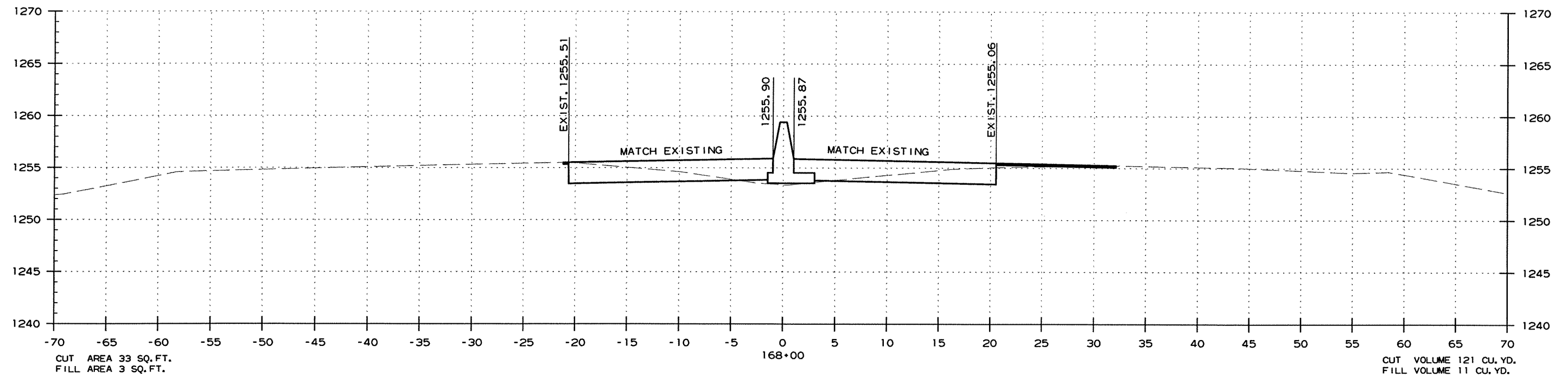


CROSS SECTION STA. 165+80 TO STA. 166+00

3/6/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							96	98

2 CROSS SECTIONS

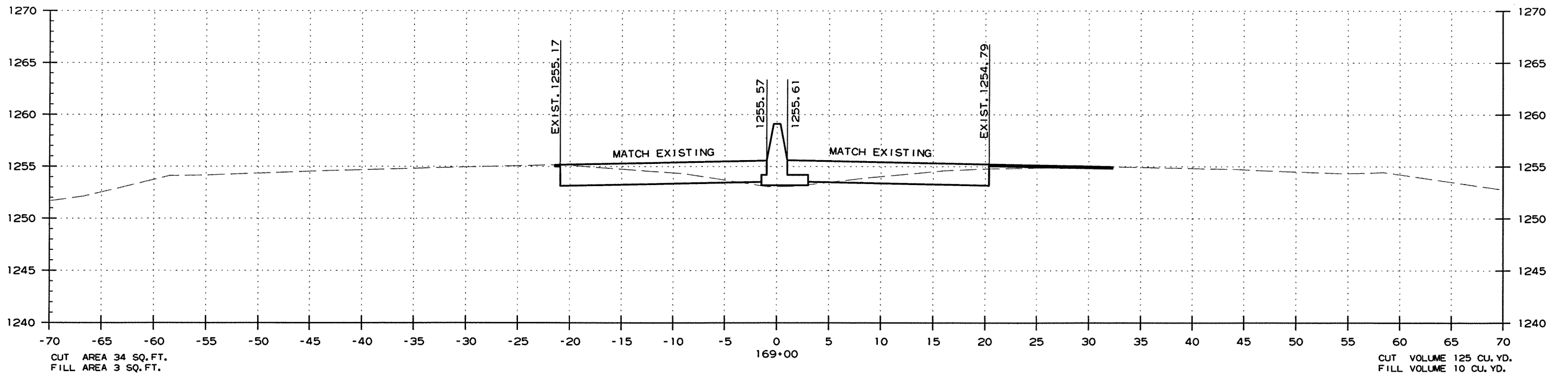
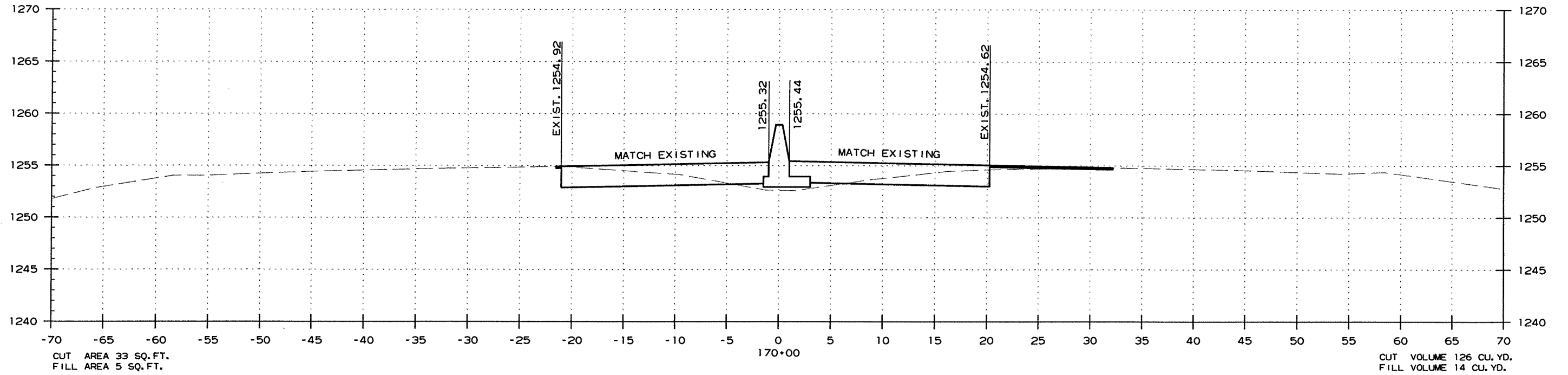


CROSS SECTION STA. 167+00 TO STA. 168+00

3/6/2012
R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040583	97	98

② CROSS SECTIONS



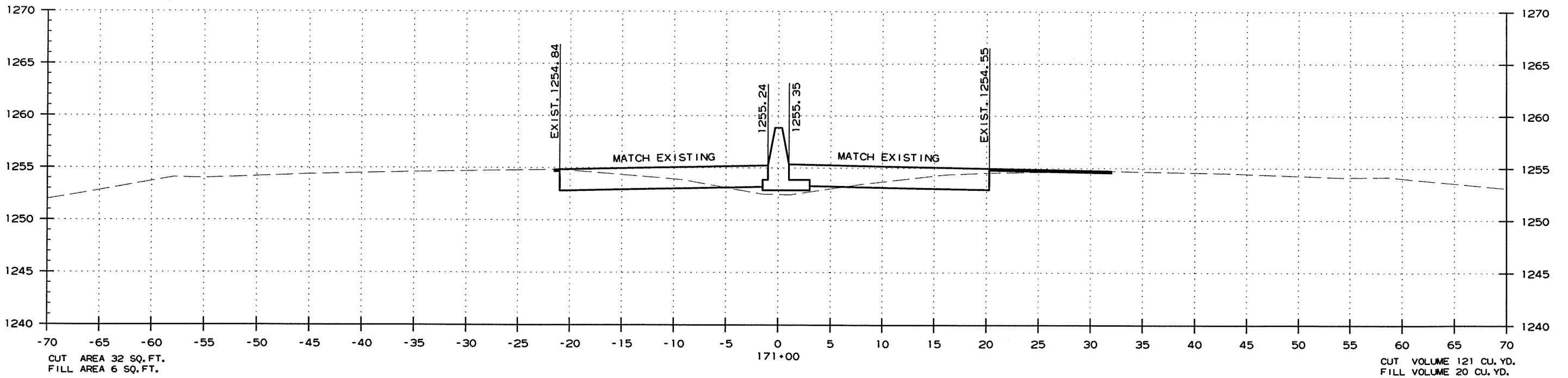
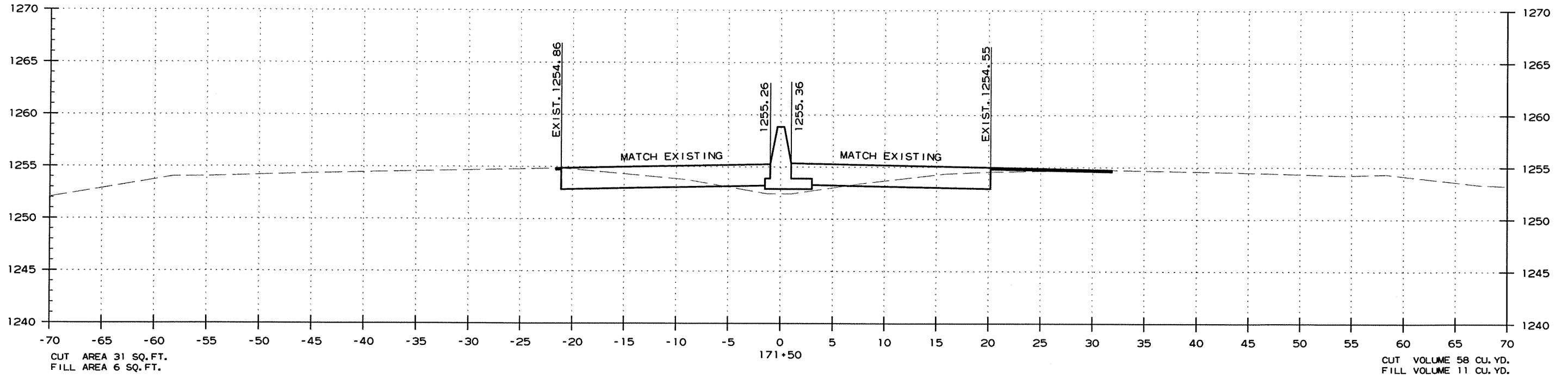
CROSS SECTION STA. 169+00 TO STA. 170+00

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R040583.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040583							98	98

② CROSS SECTIONS



CROSS SECTION STA. 171+00 TO STA. 171+50

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R040583.DGN