

061215

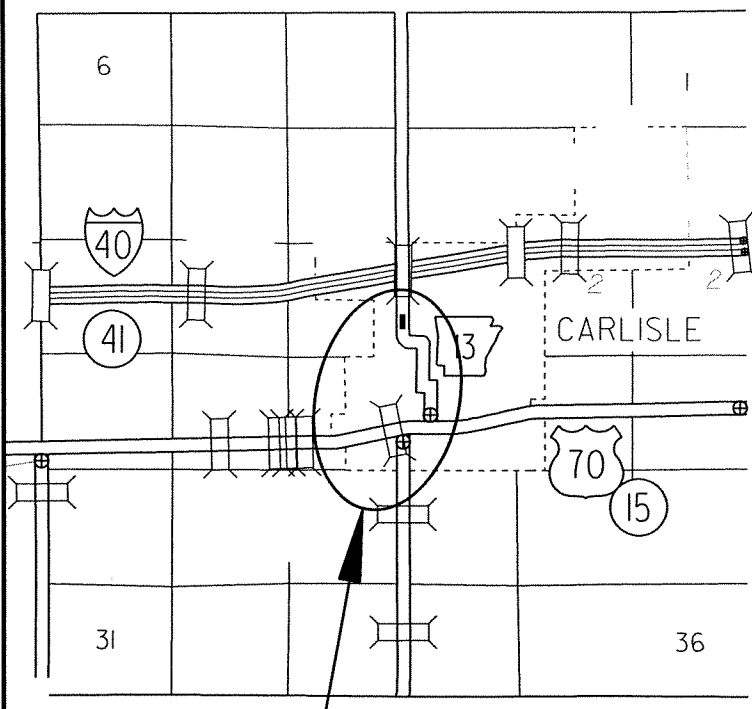
r061215.dgn 1/20/2011

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.	061215		1	85

② I-40 - SOUTH (CARLISLE)(S)

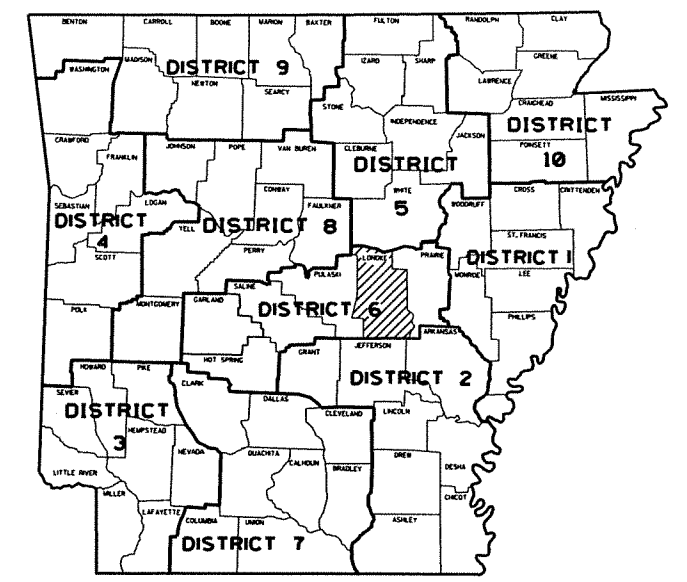
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

I-40 - SOUTH (CARLISLE) (S)
LONOKE COUNTY
ROUTE 13 SECTION 10
F.A.P. NO. STP-0043(27)
JOB 061215



VICINITY MAP

PROJECT LOCATION

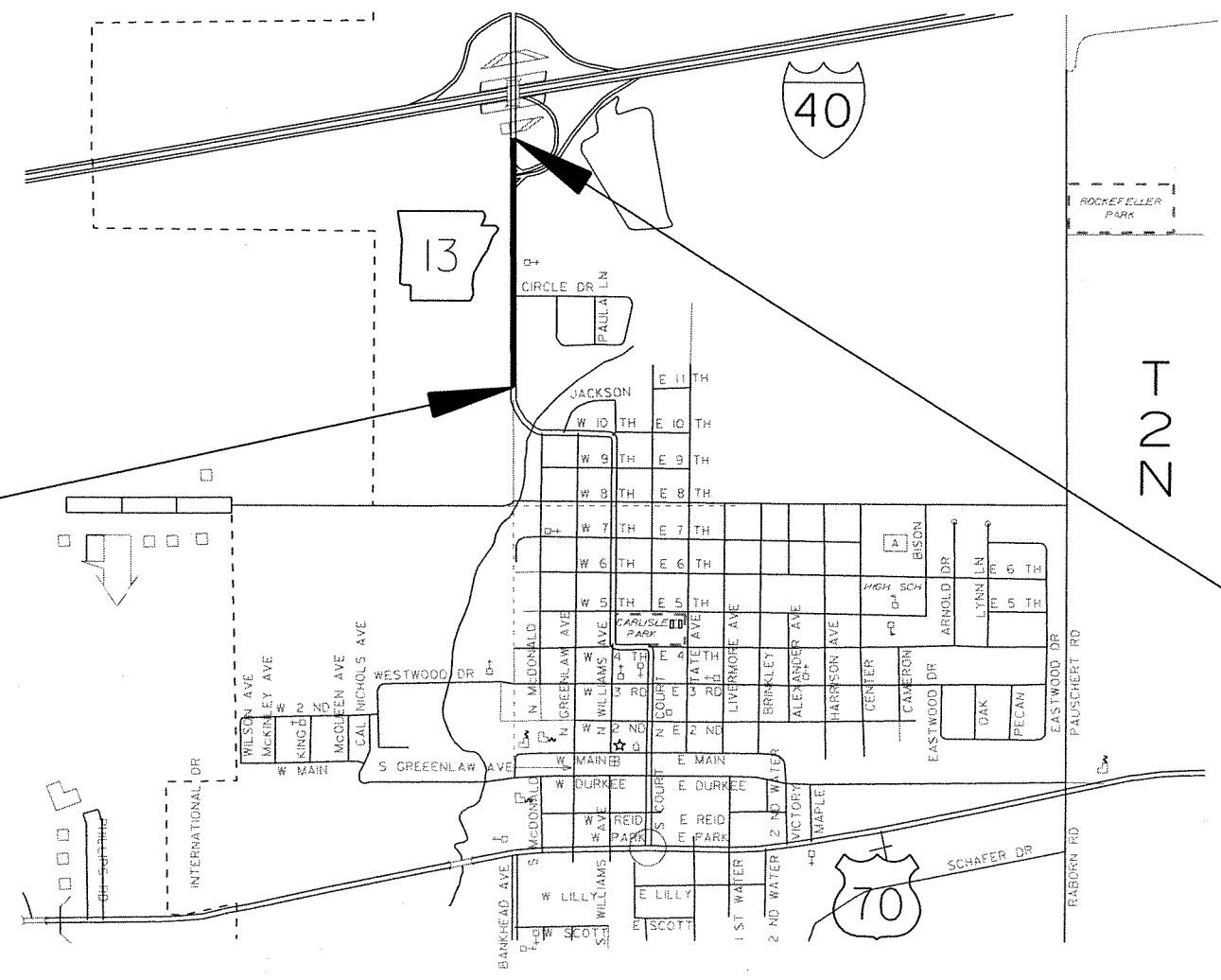


ARKANSAS HWY. DIST. 6

• DESIGN TRAFFIC DATA •

DESIGN YEAR	-----	2031
2011 ADT	-----	4,500
2031 ADT	-----	6,000
2031 DHV	-----	660
DIRECTIONAL DISTRIBUTION	-----	60%
TRUCKS	-----	8%
DESIGN SPEED	-----	40 MPH

NOT TO SCALE
R7W



BEGIN JOB 061215
STA. 154+00
LOG MILE = 1.074

END JOB 061215
STA. 176+12



APPROVED



DEPUTY DIRECTOR
AND CHIEF ENGINEER

P.E. JOB 061215
NON - PART.

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N34° 47' 34"	N34° 47' 45"	N34° 47' 56"
LON.	W91° 45' 03"	W91° 45' 02"	W91° 45' 02"

GROSS LENGTH OF PROJECT 2212.00 FEET OR 0.419 MILES
NET LENGTH OF ROADWAY 2212.00 FEET OR 0.419 MILES
NET LENGTH OF BRIDGES 00.00 FEET OR 0.000 MILES
NET LENGTH OF PROJECT 2212.00 FEET OR 0.419 MILES

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2 INDEX OF SHEETS, GOV. SPECS. & GEN. 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	SPECIAL DETAILS		
5 - 8	TEMPORARY EROSION CONTROL DETAILS		
9 - 12	MAINTENANCE OF TRAFFIC DETAILS		
13 - 14	PERMANENT PAVEMENT MARKING DETAILS		
15 - 18	QUANTITY SHEETS		
19	SUMMARY OF QUANTITIES AND REVISIONS		
20 - 22	SURVEY CONTROL DETAILS		
23 - 26	PLAN AND PROFILE SHEETS		
27	CURBING DETAILS		
28	DETAILS OF DRIVEWAYS & ISLANDS	CG-1	11-29-07
29	FLARED END SECTION	DR-1	11-29-07
30	FLARED END SECTION	FES-1	10-18-96
31	DETAILS OF DROP INLETS & JUNCTION BOXES	FES-2	10-18-96
32	DETAILS OF DROP INLETS (TYPE C)	FPC-9	11-16-01
33	DETAILS OF DROP INLET (TYPE MO)	FPC-9E	8-22-02
34	MAILBOX DETAILS	FPC-9M	8-22-02
35	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	MB-1	11-18-04
36	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	5-18-00
37	PAVEMENT MARKING DETAILS	PCM-1	3-30-00
38	DETAILS OF PIPE UNDERDRAIN	PM-1	11-17-10
39	DETAILS OF SPECIAL ITEMS	PU-1	4-10-03
40	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	SI-1	4-17-08
41	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	11-17-10
42	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
43	TEMPORARY EROSION CONTROL DEVICES	TC-3	10-15-09
44	TEMPORARY EROSION CONTROL DEVICES	TEC-1	11-18-98
45	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
46	WHEELCHAIR RAMP NEW CONSTRUCTION AND ALTERATIONS	TEC-3	11-03-94
47 - 85	CROSS SECTIONS	WR-1	11-10-05

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

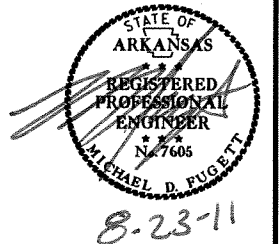
GOVERNING SPECIFICATIONS

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)
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
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
JOB 061215	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061215	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061215	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061215	INTERNET BIDDING
JOB 061215	PLASTIC PIPE
JOB 061215	SITE USE (A + C METHOD)
JOB 061215	SOIL STABILIZATION
JOB 061215	STORM WATER POLLUTION PREVENTION PLAN
JOB 061215	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061215	UTILITY ADJUSTMENTS
JOB 061215	WARM MIX ASPHALT

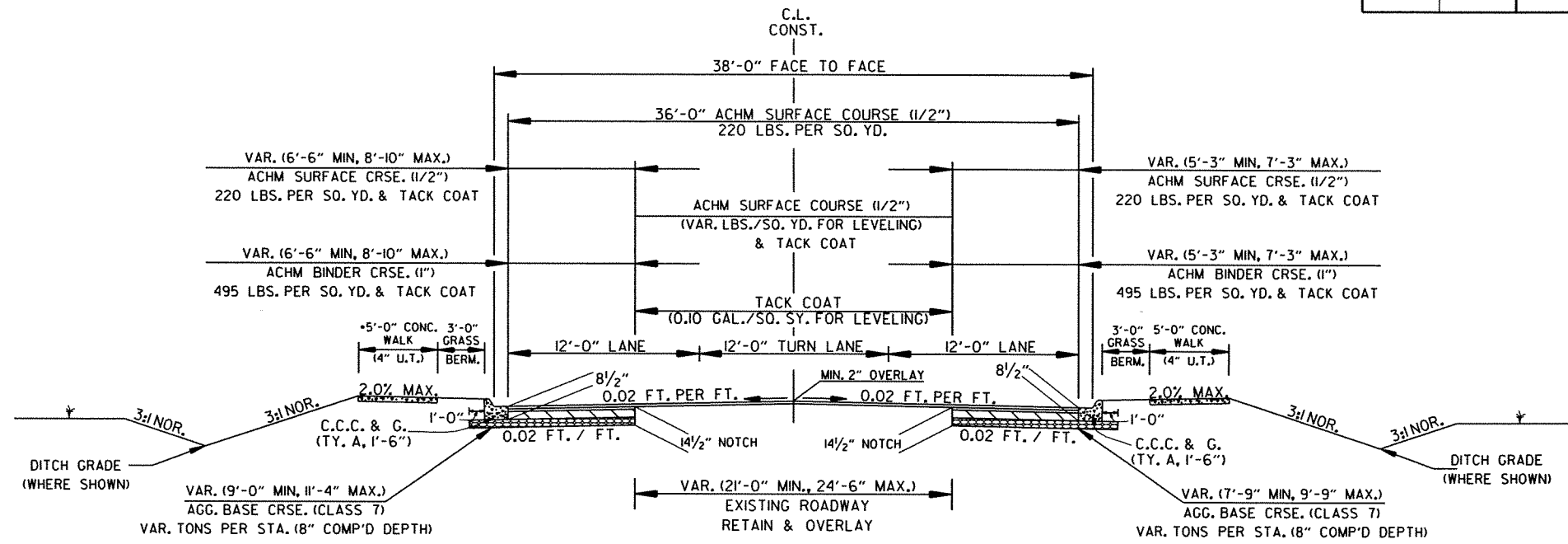
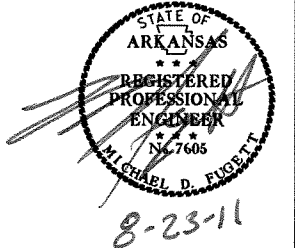
GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- 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.



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② TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT

- MAIN LANES
- SIDEWALKS TO BE BUILT ON THE LEFT SIDE FROM STA. 161+55 TO 174+50 ONLY.

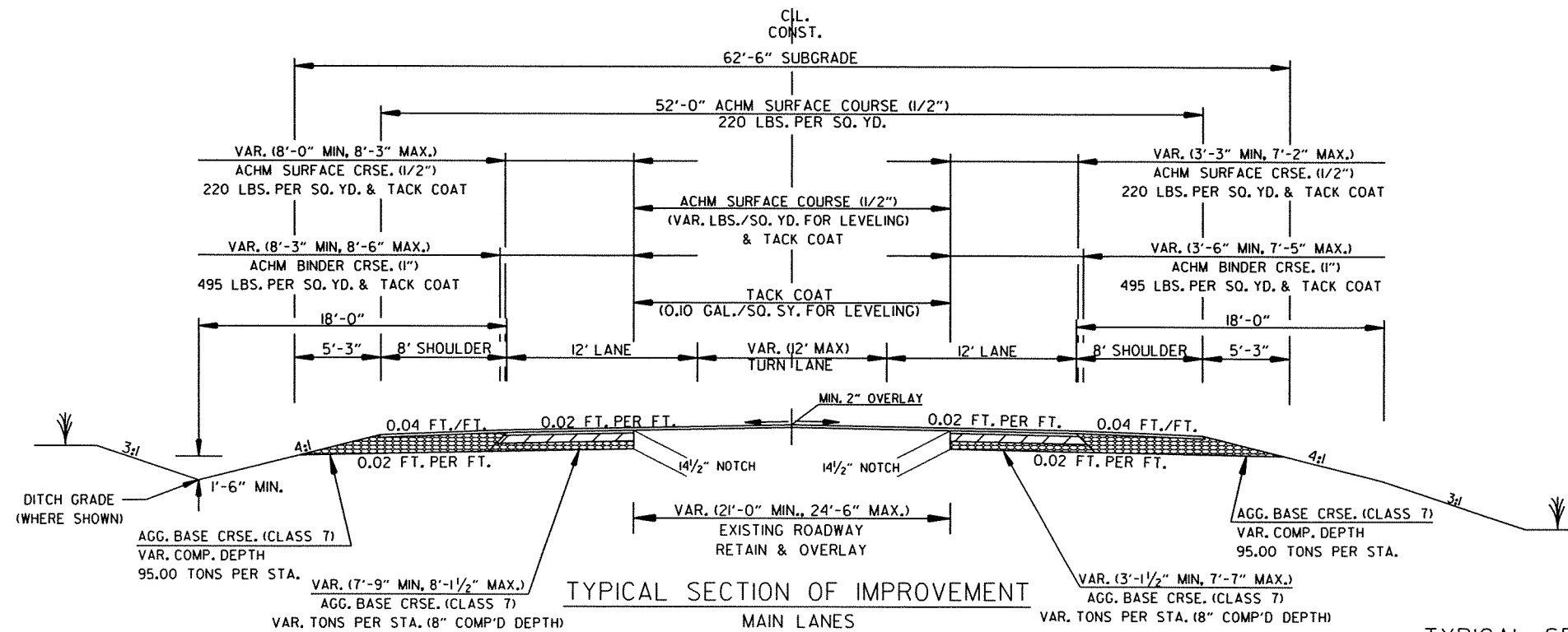
NOTES:
 PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

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 THICKNESS OF AGG. 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.



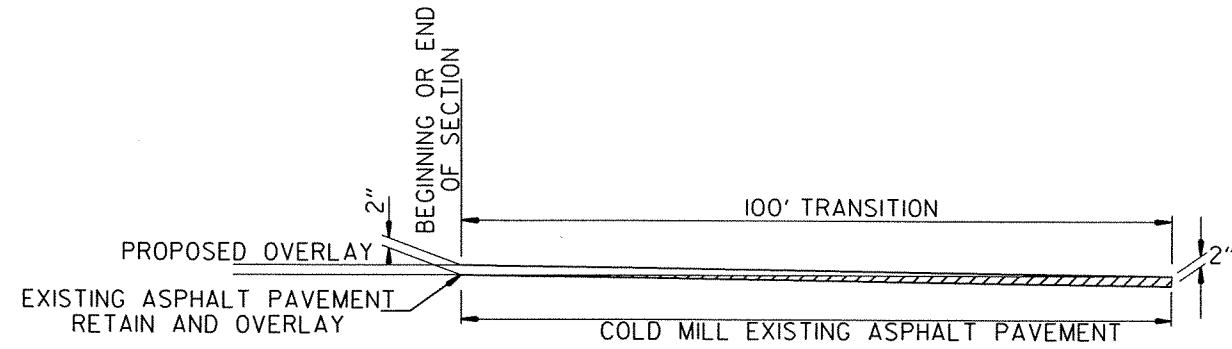
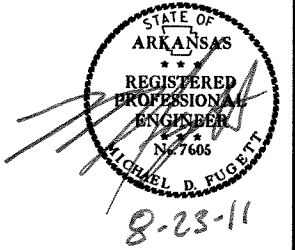
TYPICAL SECTION OF IMPROVEMENT

MAIN LANES

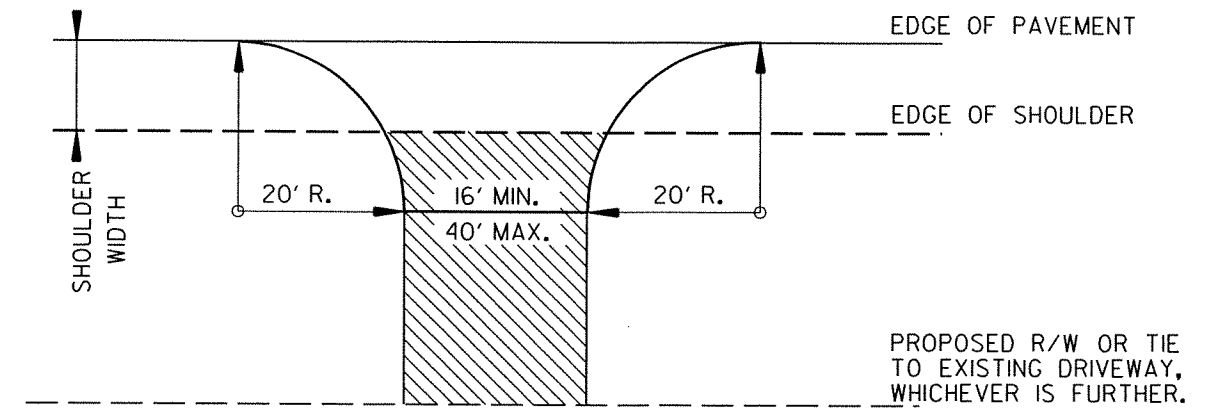
TYPICAL SECTIONS FOR IMPROVEMENT

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2 SPECIAL DETAILS

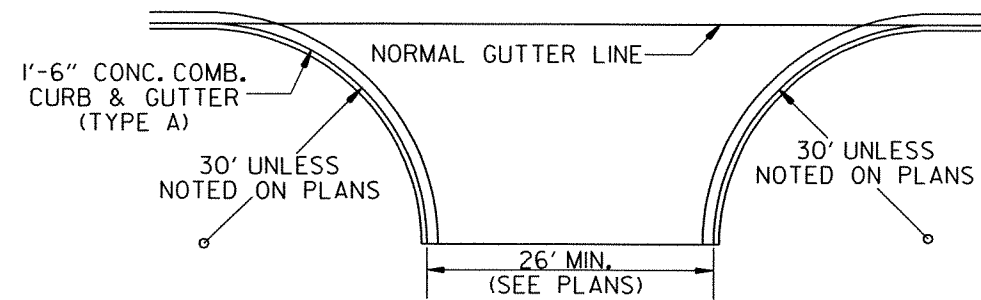


**COLD MILLING DETAIL
AT EXISTING PAVEMENT TIE-INS**
NOTE: 50' PER 1" OF OVERLAY FOR MAIN LANES



DETAIL FOR DRIVEWAY TURNOUTS

 ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ.YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP.DEPTH.



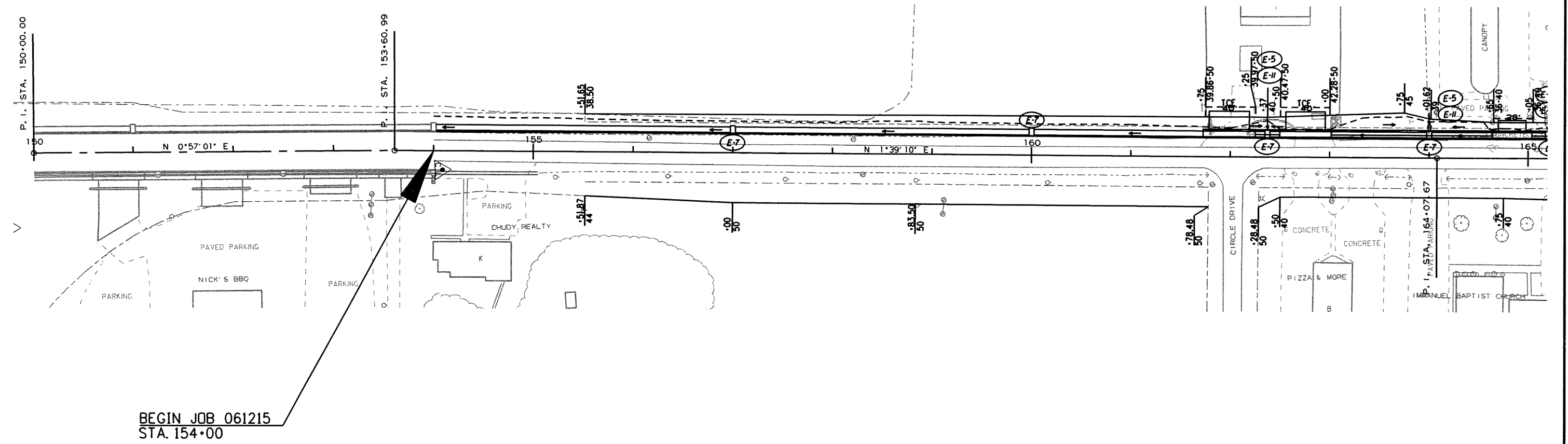
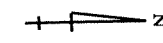
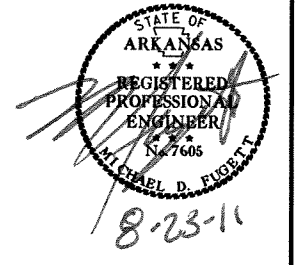
**DETAIL OF TURNOUTS
ASPHALT STREETS, COUNTY ROADS
& STATE HIGHWAYS**

NOTE: THE TYPICAL SECTION FOR THE CITY STREET CONNECTIONS IN THE CURB & GUTTER SECTION SHALL MATCH THE PROPOSED WIDENING SECTION SHOWN FOR THE MAIN LANES, UNLESS OTHERWISE NOTED ON THE PLANS, ALL CITY STREET RADII WILL BE 30'.

(E-5)	SAND BAG DITCH CHECKS
(E-7)	DROP INLET SILT FENCE
(E-11)	SILT FENCE
LEGEND	

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② TEMPORARY EROSION CONTROL DETAILS



BEGIN JOB 061215
STA. 154+00

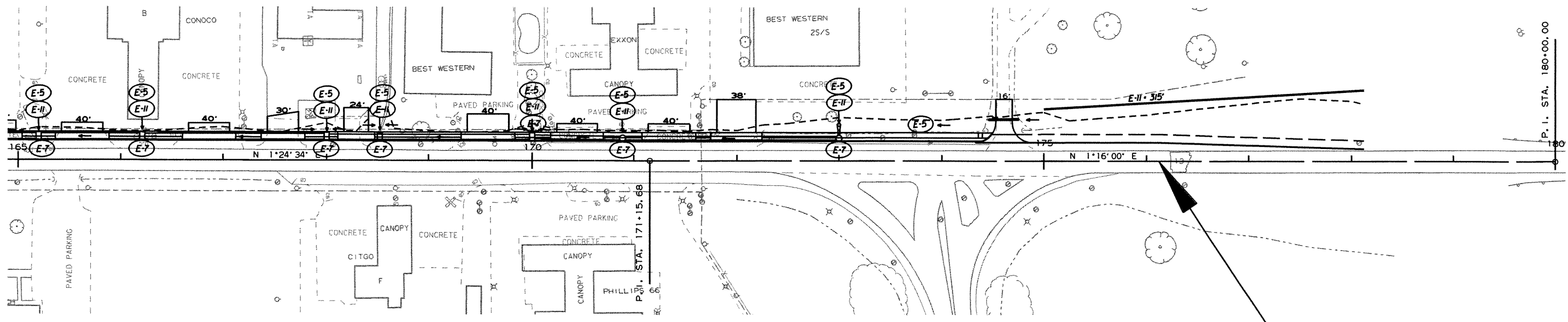
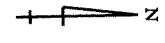
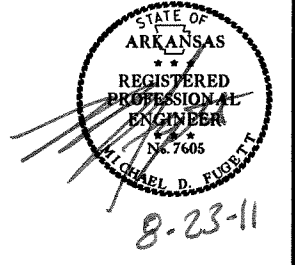
EROSION CONTROL REVISIONS

DATE	REVISION MADE

(E-5)	SAND BAG DITCH CHECKS
(E-7)	DROP INLET SILT FENCE
(E-11)	SILT FENCE
LEGEND	

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2 TEMPORARY EROSION CONTROL DETAILS



END JOB 061215
STA. 176+12

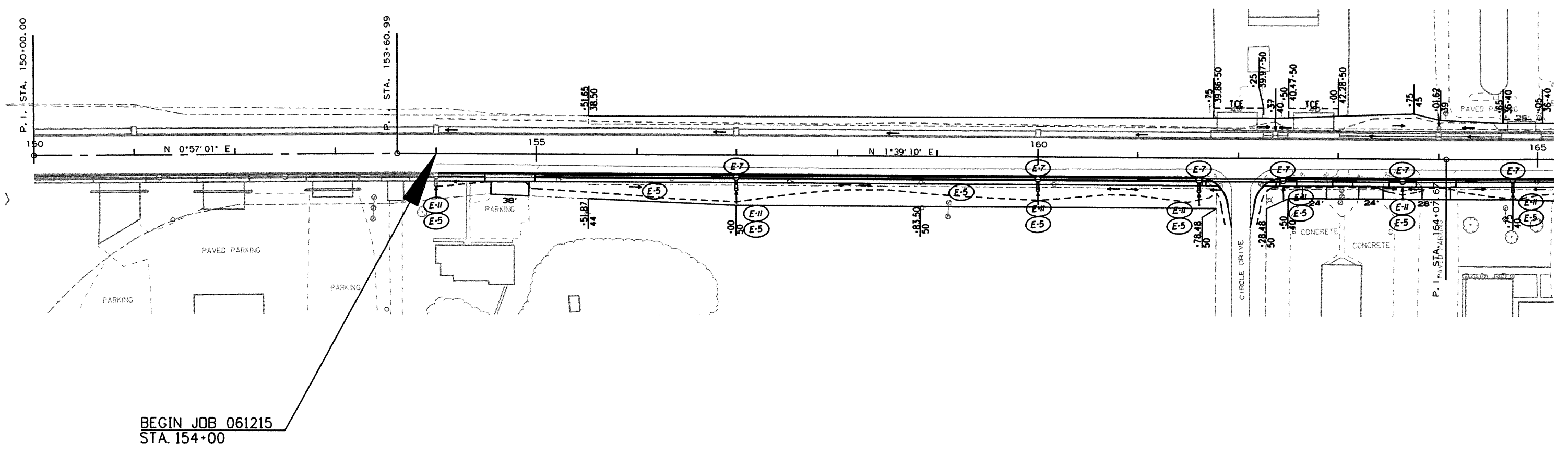
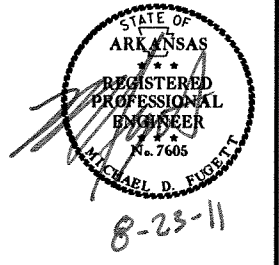
EROSION CONTROL REVISIONS

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(E-5)	SAND BAG DITCH CHECKS
(E-7)	DROP INLET SILT FENCE
(E-11)	SILT FENCE
LEGEND	

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2 TEMPORARY EROSION CONTROL DETAILS



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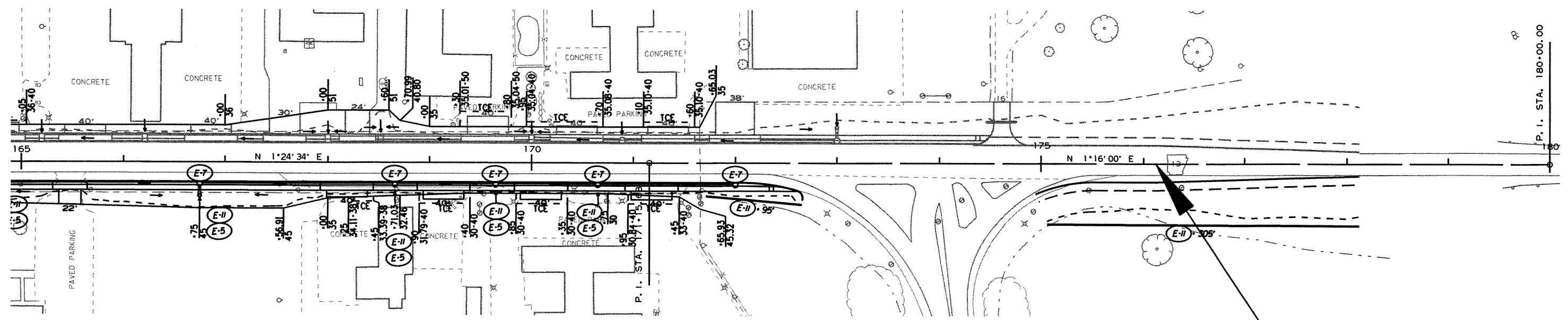
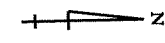
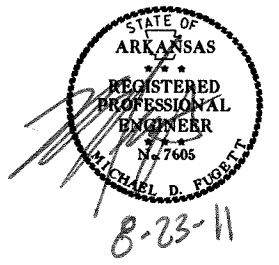
EROSION CONTROL REVISIONS

DATE	REVISION MADE

- (E-5) SAND BAG DITCH CHECKS
 - (E-7) DROP INLET SILT FENCE
 - (E-II) SILT FENCE
- LEGEND

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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② TEMPORARY EROSION CONTROL DETAILS



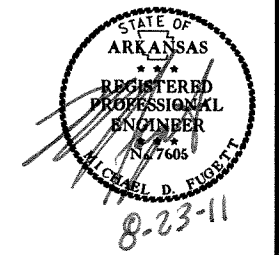
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EROSION CONTROL REVISIONS

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2 MAINTENANCE OF TRAFFIC DETAILS



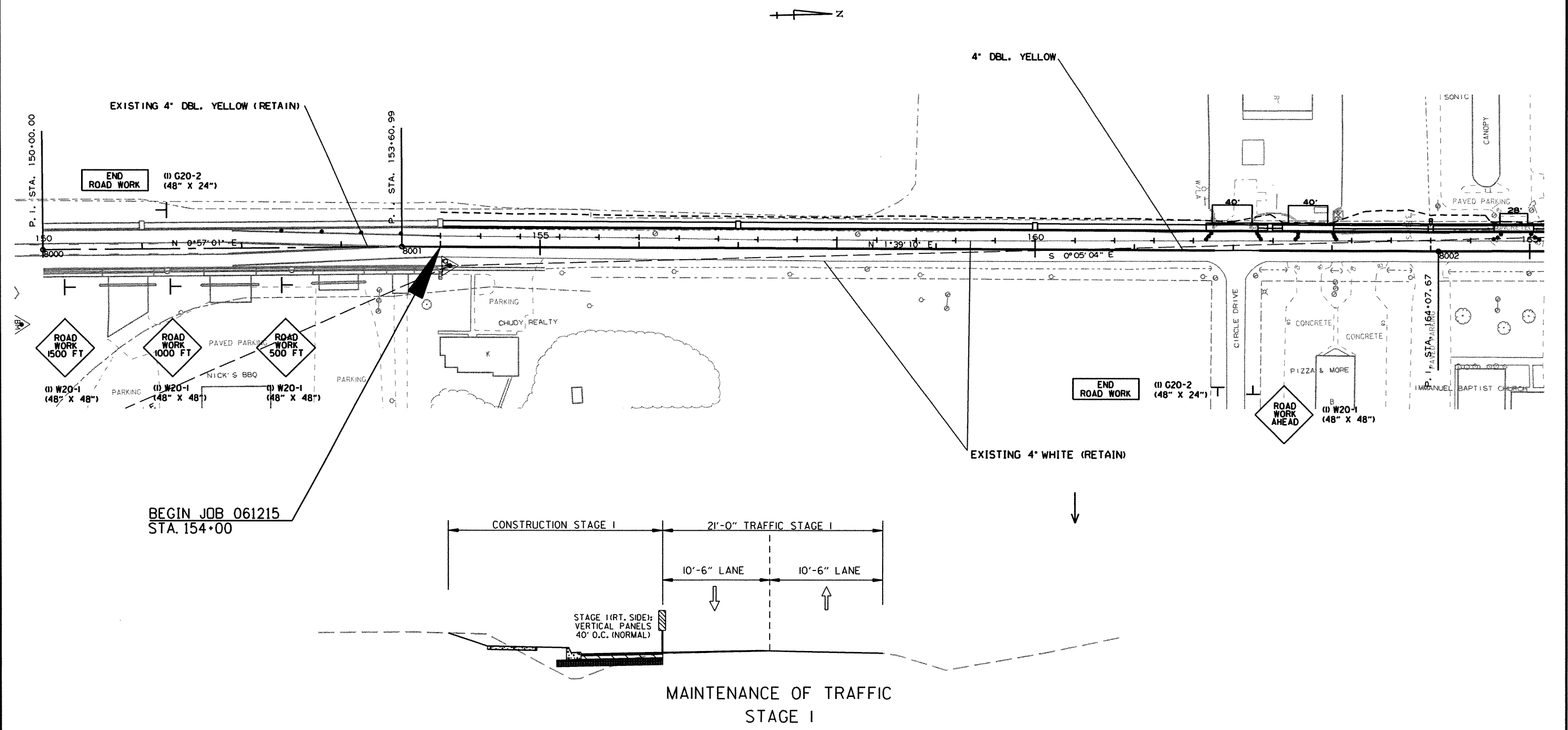
STAGE 1:
 INSTALL ADVANCE WARNING SIGNS @ BEGINNING AND END OF PROJECT.
 PLACE W20-1 (AHEAD) SIGNS ON ALL INTERSECTING STREETS. DELINEATE DRIVEWAYS AND STREETS ON THE SIDE BEING WIDENED WITH TRAFFIC DRUMS (6 PER DRIVEWAY). MAINTAIN TRAFFIC USING VERTICAL PANELS AT 40' D.C. IN CURB AND GUTTER SECTION ON THE SIDE BEING WIDENED. CONSTRUCT THE NOTCH AND WIDEN SECTION OF HWY. 13 ON THE LEFT SIDE, UP TO THE FINAL 2" OF SURFACE COURSE.

STAGE 2:
 SHIFT TRAFFIC ONTO LANES CONSTRUCTED IN STAGE 1 AND REMOVE ALL CONFLICTING STAGE 1 CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS. DELINEATING WORK ZONE USING TRAFFIC DRUMS AND VERTICAL PANELS 40' D.C. IN CURB AND GUTTER SECTION. DELINEATING DRIVEWAYS AND STREETS WITH TRAFFIC DRUMS (6 PER DRIVE). CONSTRUCT THE NOTCH AND WIDEN SECTION OF HWY. 13 ON THE RIGHT SIDE, UP TO THE FINAL 2" OF SURFACE COURSE. CONSTRUCT THE FINAL 2" ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED AND APPLY FINAL STRIPING AS SHOWN ON THE PERMANENT PAVEMENT MARKING DETAILS.

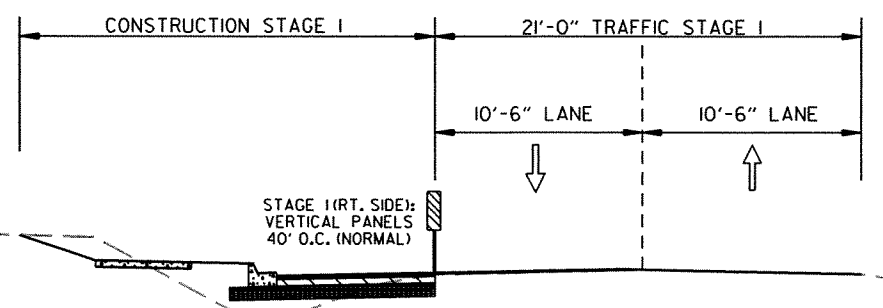
MAINTENANCE OF TRAFFIC QUANTITIES: STAGE I
 SIGNS - 170 LIN. FT.
 TRAFFIC DRUMS - 76 EACH
 VERTICAL PANELS - 45 EACH
 CONSTRUCTION PAVEMENT MARKINGS - 4,331 LIN. FT.

NOTE: PLACE VERTICAL PANELS 40' D.C. IN CURB & GUTTER SECTION.

NOTE: R4-1 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



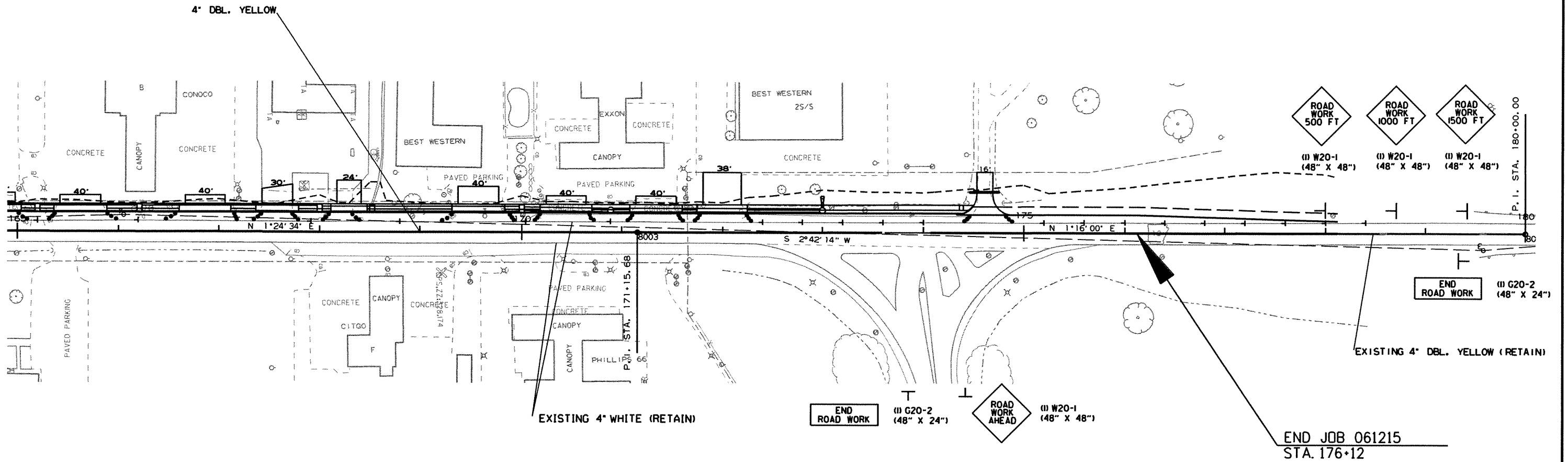
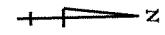
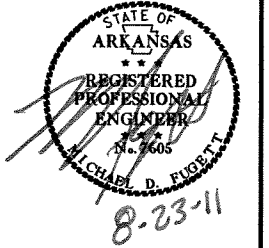
BEGIN JOB 061215
 STA. 154+00



MAINTENANCE OF TRAFFIC
 STAGE I

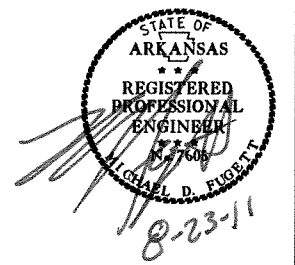
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② MAINTENANCE OF TRAFFIC DETAILS



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② MAINTENANCE OF TRAFFIC DETAILS



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 PLACE W20-1 (AHEAD) SIGNS ON ALL INTERSECTING STREETS. DELINEATE DRIVEWAYS AND STREETS ON THE SIDE BEING WIDENED WITH TRAFFIC DRUMS (6 PER DRIVEWAY). MAINTAIN TRAFFIC USING VERTICAL PANELS AT 40' D.C. IN CURB AND GUTTER SECTION ON THE SIDE BEING WIDENED. CONSTRUCT THE NOTCH AND WIDEN SECTION OF HWY. 13 ON THE LEFT SIDE, UP TO THE FINAL 2" OF SURFACE COURSE.

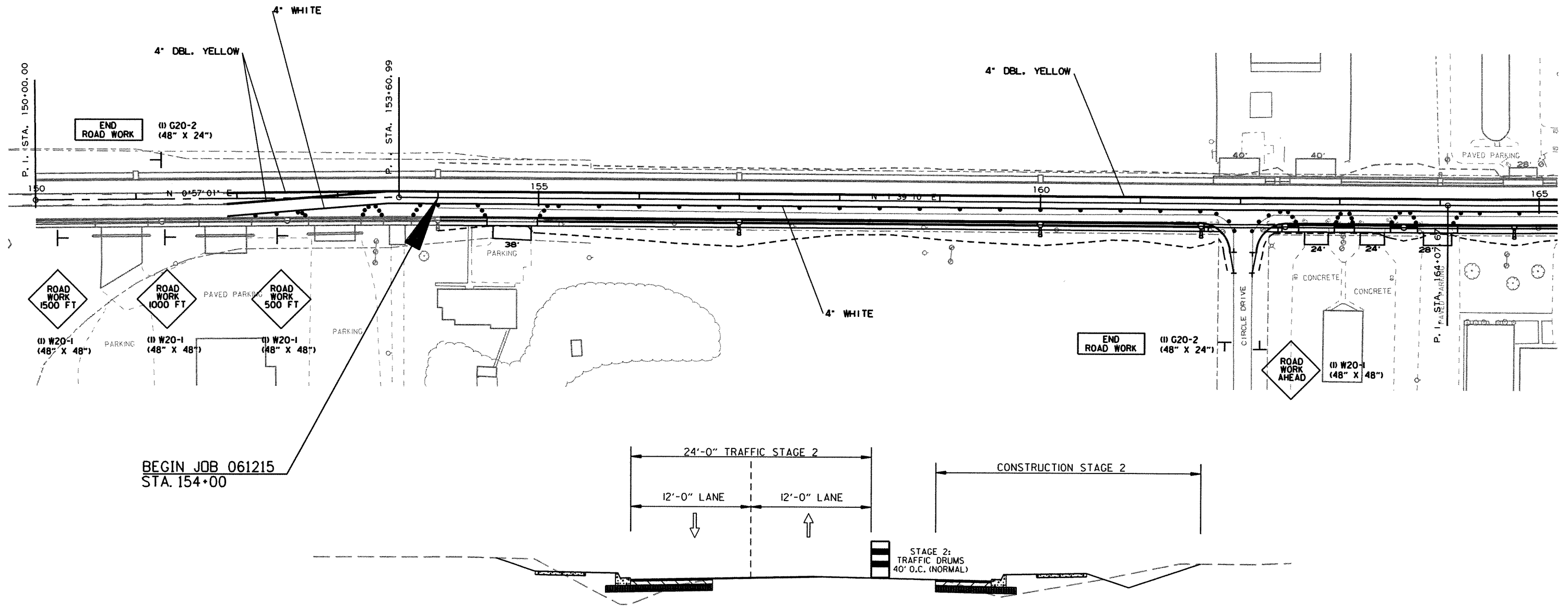
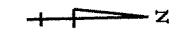
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 SHIFT TRAFFIC ONTO LANES CONSTRUCTED IN STAGE 1 AND REMOVE ALL CONFLICTING STAGE 1 CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS. DELINEATING WORK ZONE USING TRAFFIC DRUMS AND VERTICAL PANELS 40' D.C. IN CURB AND GUTTER SECTION. DELINEATING DRIVEWAYS AND STREETS WITH TRAFFIC DRUMS (6 PER DRIVE). CONSTRUCT THE NOTCH AND WIDEN SECTION OF HWY. 13 ON THE RIGHT SIDE, UP TO THE FINAL 2" OF SURFACE COURSE. CONSTRUCT THE FINAL 2" ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED AND APPLY FINAL STRIPING AS SHOWN ON THE PERMANENT PAVEMENT MARKING DETAILS.

MAINTENANCE OF TRAFFIC ADDITIONAL QUANTITIES: STAGE II

TRAFFIC DRUMS - 70 EACH
 CONSTRUCTION PAVEMENT MARKINGS - 7,926 LIN. FT.
 REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS - 4,291 LIN. FT.
 REMOVAL OF PERMANENT PAVEMENT MARKINGS - 3,571 LIN. FT.

NOTE: PLACE TRAFFIC DRUMS 40' D.C. IN CURB & GUTTER SECTION.

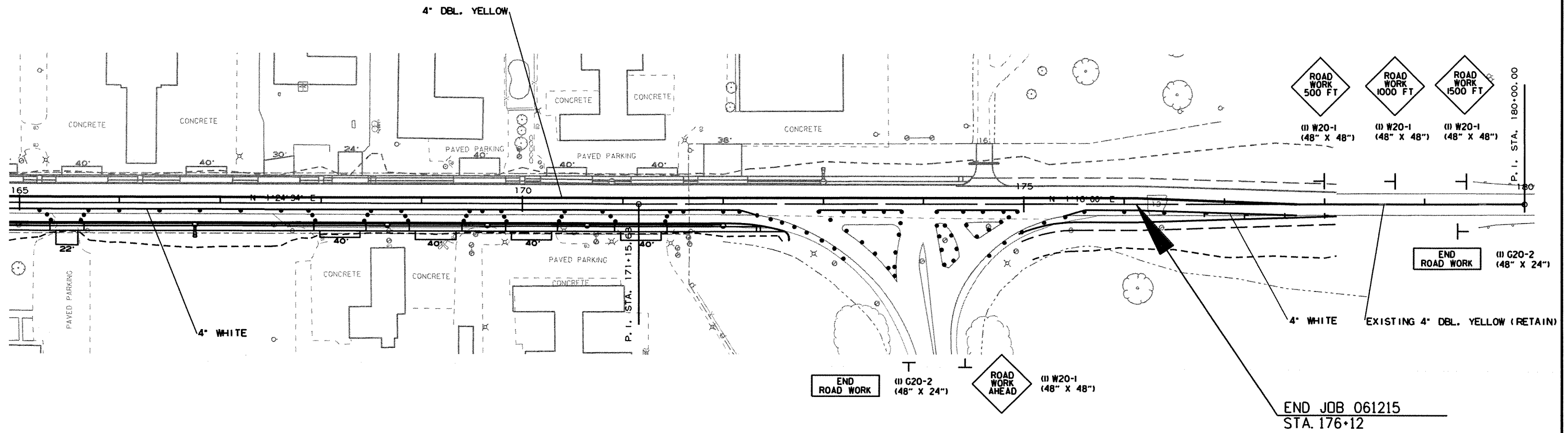
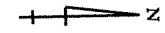
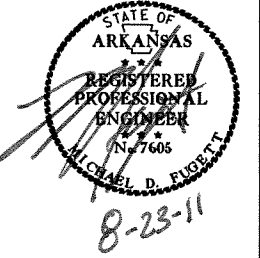
NOTE: R4-1 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



MAINTENANCE OF TRAFFIC
 STAGE 2

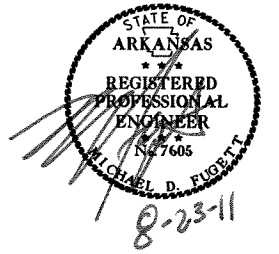
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 061215							12	85

② MAINTENANCE OF TRAFFIC DETAILS



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.	061215		13	85

② PERMANENT PAVEMENT MARKING DETAILS

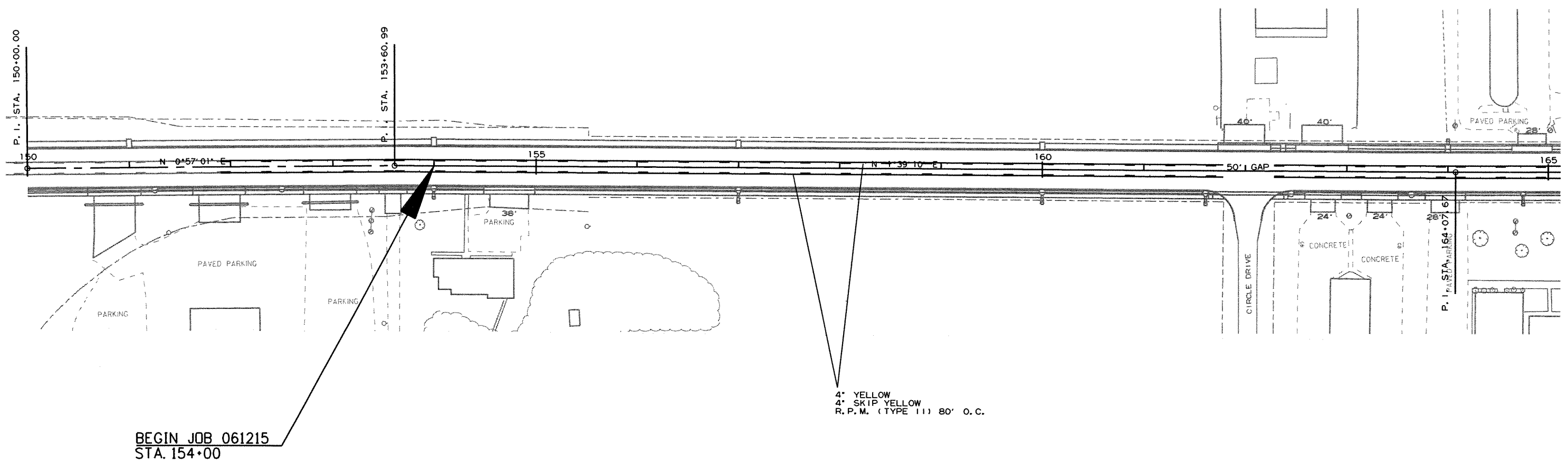
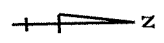


RAISED PAVEMENT MARKERS (TYPE II)(YELLOW/YELLOW) ARE TO BE PLACED ON EACH SIDE OF THE CENTER TURN LANE AT 80' INTERVALS.

REFER TO THE PERMANENT PAVEMENT MARKING DETAILS, STD. DRWG. PM-1, AND THE LATEST EDITION OF THE MUTCD FOR ADDITIONAL PAVEMENT MARKING DETAILS.

PERMANENT PAVEMENT MARKINGS

- THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 865 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 6000 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING WHITE (8") = 373 LIN. FT.
- REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10") = 25 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING (WORDS) = 1 EACH
- THERMOPLASTIC PAVEMENT MARKING (ARROWS) = 1 EACH
- RAISED PAVEMENT MARKER (TYPE II) = 59 EACH

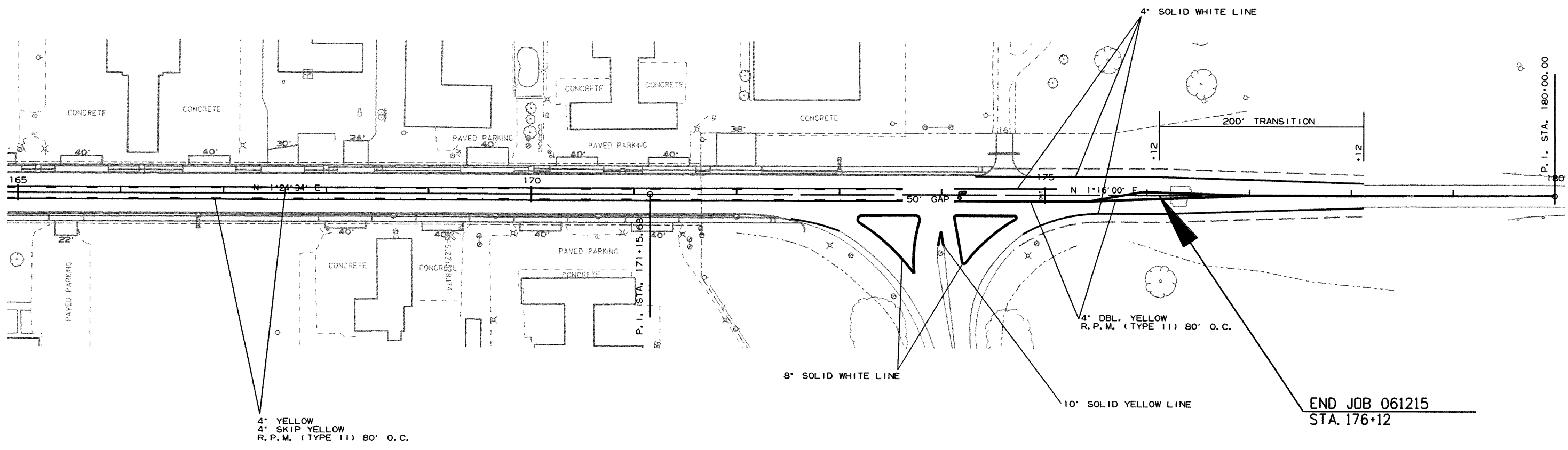
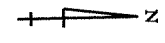
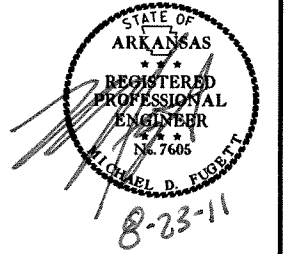


BEGIN JOB 061215
STA. 154+00

r061215.dgn 12/21/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		14	85
				JOB NO.		061215		

② PERMANENT PAVEMENT MARKING DETAILS



r061215.dgn 12/21/2010

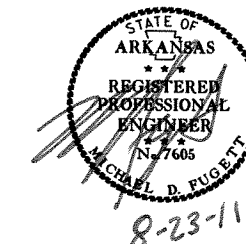
ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS
							NO.	SQ. FT.		
			LIN. FT. - EACH						EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0		
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0		
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0		
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	2	2	32.0		
G20-2	END ROAD WORK	48"x24"	4	4	4	4	4	32.0		
R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	10.0		
	VERTICAL PANELS		45	8		45	45		45	
	TRAFFIC DRUMS		76	146		146	146			146
TOTALS:								170.0	45	146

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		15	85
				JOB NO.	061215			

2 QUANTITY SHEET



CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKINGS					REFLECTORIZED PAINT PAVEMENT MARKINGS		
								TYPE II (YEL/YEL)	4"		8" WHITE	WORDS		ARROWS	10"
									WHITE	YELLOW					
	LIN. FT. - EACH			LIN. FT.			EACH	LIN. FT.			EACH	LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS		3571		3571											
CONSTRUCTION PAVEMENT MARKINGS	4331	7926			12257										
CONSTRUCTION PAVEMENT MARKINGS (WORDS)															
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)															
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		4291				4291									
REMOVABLE CONSTRUCTION PAV'T MARKINGS															
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			59				59								
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")			865					865							
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")			6000						6000						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")			373							373					
THERMOPLASTIC PAVEMENT MARKINGS WORDS			1								1				
THERMOPLASTIC PAVEMENT MARKINGS ARROWS			1									1			
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10")			25									25			
TOTALS:				3571	12257	4291	59	865	6000	373	1	1	25		

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

NOTE: THERMOPLASTIC PAVEMENT MARKINGS MAY BE SUBSTITUTED FOR INVERTED PROFILE PAVEMENT MARKINGS AT INTERSECTIONS, ISLANDS, TURNOUTS, AND OTHER SIMILAR LOCATIONS IF AND WHERE DIRECTED BY THE ENGINEER.

CONCRETE CURB

STATION	STATION	LOCATION	(TYPE D)
			LIN. FT.
165+82	166+66	LEFT OF MAIN LANES	112
168+39	168+94	RIGHT OF MAIN LANES	71
170+64	171+14	LEFT OF MAIN LANES	77
TOTAL:			260

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
157+00	TOP OF DROP INLET ON RT.	1
173+00	TOP OF DROP INLET ON LT.	1
TOTAL:		2

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

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	EACH
161+99	24" X 68' CMP SIDE DRAIN ON LT.	1	
162+00	SIDE DRAIN ON RT.	1	
162+75	24" X 48' CMP SIDE DRAIN ON LT.	1	
162+77	SIDE DRAIN ON RT.	1	
163+33	SIDE DRAIN ON RT.	1	
163+98	SIDE DRAIN ON RT.	1	
164+84	SIDE DRAIN ON LT.	1	
165+48	SIDE DRAIN ON RT.	1	
166+21	DROP INLET WITH PIPE INLET AND PIPE OUTLET ON LT.	2	1
167+58	24" X 40' CMP SIDE DRAIN ON LT.	1	
168+29	24" X 35' CMP SIDE DRAIN ON LT.	1	
169+57	SIDE DRAIN ON LT.	1	
170+44	SIDE DRAIN ON LT.	1	
171+34	SIDE DRAIN ON LT.	1	
172+00	SIDE DRAIN ON LT.	1	
174+61	SIDE DRAIN ON LT.	1	
TOTALS:		17	1

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

CONCRETE COMBINATION CURB AND GUTTER

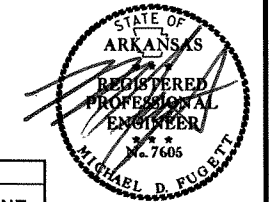
STATION	STATION	LOCATION	(TYPE A)(1' 6")
			LIN. FT.
154+00	174+50	LEFT OF MAIN LANES	2000
154+00	161+90	RIGHT OF MAIN LANES	783
162+16	172+66	RIGHT OF MAIN LANES	1016
TOTAL:			3799

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3
		SQ. YD.
161+68	LEFT OF MAIN LANES	5.4
162+37	LEFT OF MAIN LANES	5.4
172+38	LEFT OF MAIN LANES	9.4
174+40	RIGHT OF MAIN LANES	4.7
TOTAL:		24.9

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2 QUANTITY SHEET



9-1-11

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	DROP INLET SILT FENCE	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL	
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-7) LIN.FT.	(E-11) LIN.FT.	(E-14) CU.YD.	CU.YD.	CU. YD.	
ENTIRE PROJECT		STAGE 1									2.00	2.00	40.8	250	275	495		39
154+00	161+73	LEFT OF MAIN LANES	0.23	0.46	0.23	23.5	0.23											
162+00	172+00	SOLID SODDING BEHIND SIDE WALK ON LEFT				47.7												
162+25	174+45	SOLID SODDING 3' BERM ON LEFT				28.0												
172+19	178+18	LEFT OF MAIN LANES	0.30	0.60	0.30	30.6	0.30											
ENTIRE PROJECT		STAGE 2									1.65	1.65	33.7	325	275	620		46
154+00	161+81	RIGHT OF MAIN LANES	0.20	0.40	0.20	20.4	0.20											
154+00	161+73	SOLID SODDING 3' BERM ON RIGHT				27.3												
162+25	165+50	SOLID SODDING BEHIND SIDE WALK ON LEFT				14.3												
165+59	167+99	RIGHT OF MAIN LANES	0.04	0.08	0.04	4.1	0.04											
168+00	171+34	SOLID SODDING BEHIND SIDE WALK ON LEFT				9.9												
171+48	172+66	RIGHT OF MAIN LANES	0.01	0.02	0.01	1.0	0.01											
162+33	172+40	SOLID SODDING 3' BERM ON RIGHT				28.5												
175+00	178+12	RIGHT OF MAIN LANES	0.18	0.36	0.18	18.4	0.18											
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.													250			20	20	20
TOTALS:			0.96	1.92	0.96	253.7	0.96	12355	3.65	3.65	74.5	825	550	1115	20	20	105	

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.
- WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
- SAND BAG DITCH CHECKS.....25 BAGS / 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.

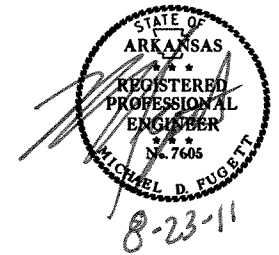
*QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB	CURB AND GUTTER	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	ROCK RIPRAP	SIGN FOUNDATIONS	POST	SIGNS	LUMINAIRE POLE AND FOUNDATION
			LIN.FT.	LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	EACH	EACH	EACH	EACH
161+75	162+24	LEFT OF MAIN LANES	30			113					
162+55	163+02	LEFT OF MAIN LANES	13			110					
162+61	163+48	RIGHT OF MAIN LANES	88			120				3	
163+80		RIGHT OF MAIN LANES - STEEL POST WITH CONCRETE FOUNDATION							1		
164+13		RIGHT OF MAIN LANES - STEEL POST WITH CONCRETE FOUNDATION							1		
164+15	165+27	LEFT OF MAIN LANES	38			52	50			1	
165+27	167+23	LEFT OF MAIN LANES	141			178		1		3	
167+41	168+41	LEFT OF MAIN LANES									
167+41	168+41	LEFT OF MAIN LANES	119			177					
167+79	169+51	RIGHT OF MAIN LANES	100			110					
169+30	169+84	LEFT OF MAIN LANES	38								
170+17	171+64	LEFT OF MAIN LANES	36		52	139		1		1	1
171+72	172+28	LEFT OF MAIN LANES		83		170				1	
TOTALS:			603	83	52	1169	50	2	2	9	1

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				6	ARK.			
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2 QUANTITY SHEET



STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III)	SIDE DRAIN	PIPE CULVERT STORM DRAIN (ALTERNATES)					FLARED END SECTIONS FOR R.C. PIPE CULVERTS	DROP INLETS		JUNCT. BOX (TYPE E)	YARD DRAIN	SOLID SODDING	WATER	
		18"		12"	18"	24"	30"	36"	51"X31"	59"X36"	18"					C
		LIN. FT.								EACH	EACH		SQ.YD.	M.GAL.		
157+00	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							296	1	1						
157+00	CONSTRUCT DROP INLET ON RT.	4					192			1				5	0.06	
160+00	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							296		1						
160+00	CONSTRUCT DROP INLET ON RT.	3					295		1	1				5	0.06	
161+61	CONSTRUCT DROP INLET ON RT.	3					156		1	1				5	0.06	
162+37	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							233		1						
162+45	CONSTRUCT DROP INLET ON RT.						79			1						
163+64	CONSTRUCT DROP INLET ON RT.					114			1	1				5	0.06	
164+00	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							159	1	1						
164+75	CONSTRUCT DROP INLET ON RT.	3				107			1	1				5	0.06	
165+20	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							116		1						
166+21	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							97		1						
166+75	CONSTRUCT DROP INLET ON RT.	4				196			1	1				5	0.06	
168+00	CONSTRUCT 7' X 4' TYPE C DROP INLET ON LT.							175		1						
168+52	CONSTRUCT 7' X 4' TYPE E JUNCTION BOX ON LT.							48			1					
168+66	CONSTRUCT DROP INLET ON RT.					187				1						
169+65	CONSTRUCT DROP INLET ON RT.					95				1						
170+00	CONSTRUCT 7' X 4' TYPE E JUNCTION BOX ON LT.							144		1						
170+65	CONSTRUCT DROP INLET ON RT.					96				1						
170+89	CONSTRUCT DROP INLET ON LT.							85		1						
172+00	CONSTRUCT DROP INLET ON RT.					131				1						
173+00	CONSTRUCT DROP INLET ON LT.	5				206			1	1				5	0.06	
ENTIRE PROJECT YARD DRAINS			600									6				
TOTALS:		22	600	509	417	928	85	192	1372	7	8	13	1	6	35	0.42

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR CONCRETE PIPE CULVERT DETAIL, REFER TO STD. DRWG. NO. PCC-1.
FOR METAL PIPE CULVERT DETAILS, REFER TO STD. DRWG. NO. PCM-1
FOR FLARED END SECTION DETAILS, REFER TO STD. DRWG. NOS. FES-1 & FES-2.
FOR DROP INLET DETAILS REFER TO STD. DRWG. NOS. FPC-9E, FPC-9M, AND FPC-9S.

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				
				TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 76-22 TON	
MAIN LANES																		
151+90	154+00	OVERLAY	210.0			56.0	1306.7	0.10	130.7						36.0	840.0	220.0	92.4
154+00	160+00	MAIN LANES - NOTCH	600.0	97.50	585.0	49.7	3313.3	0.30	994.0	18.8	1253.3	495.0	310.2	49.8	3320.0	220.0	365.2	
160+00	165+00	MAIN LANES - NOTCH	500.0	99.75	498.8	50.2	2788.9	0.30	836.7	19.2	1066.7	495.0	264.0	50.2	2788.9	220.0	306.8	
165+00	170+00	MAIN LANES - NOTCH	500.0	100.75	503.8	50.4	2800.0	0.30	840.0	19.4	1077.8	495.0	266.8	50.4	2800.0	220.0	308.0	
170+00	174+50	MAIN LANES - NOTCH	450.0	94.50	425.3	49.2	2460.0	0.30	738.0	18.2	910.0	495.0	225.2	49.2	2460.0	220.0	270.6	
174+50	175+17	MAIN LANES - NOTCH	67.0	153.50	102.8	63.9	475.7	0.30	142.7	12.2	90.8	495.0	22.5	63.9	475.7	220.0	52.3	
175+17	176+12	MAIN LANES - NOTCH	95.0	267.25	253.9	67.4	711.4	0.30	213.4	15.8	166.8	495.0	41.3	67.4	711.4	220.0	78.3	
176+12	178+12	TRANSITION	200.0	228.00	456.0	59.6	1324.4	0.30	397.3	7.8	173.3	495.0	42.9	59.6	1324.4	220.0	145.7	
178+12	179+12	OVERLAY	100.0			22.0	244.4	0.10	24.4					22.0	244.4	220.0	26.9	
162+03		CIRCLE DRIVE		VAR.	786.6	VAR.	317.5	0.30	95.3	VAR.	158.7	495.0	39.3	VAR.	317.5	220.0	34.9	
174+00		I-40 ON/OFF RAMP - OVERLAY				VAR.	6320.0	0.10	632.0					VAR.	702.2	220.0	77.2	
ADDITIONAL FOR LEVELING																		
154+00	178+12	LEVELING - MAIN LANES	2412.0			22.6	6056.8	0.10	605.7					22.6	6056.8	VAR.	666.2	
TOTALS:					3612.2				5650.2				1212.2				2424.5	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

QUANTITY SHEET

r061215.dgn 5/31/2011

DRIVEWAYS & TURNOUTS

STATION	SIDE	WIDTH FEET	MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY SQ. YD.	ACHM SURFACE COURSE (1/2" 220 LBS. PER SQ. YD. (PG 64-22))			SIDE DRAINS 18" LIN. FT.
			STATION	STATION		SQ. YD.	TON	TON	
154+74	RT.	38	154+41	155+07	44.40	56.7	6.2	23.2	
161+99	LT.	40	161+65	162+33	127.40				
162+75	LT.	40	162+41	163+09	126.50				
162+77	RT.	24	162+51	163+03	65.20				
163+33	RT.	24	163+07	163+59	65.10				
163+98	RT.	28	163+70	164+26	35.60	38.4	4.2	15.7	
164+84	LT.	28	164+56	165+12	68.30				
165+48	RT.	22	165+23	165+73	30.20	35.0	3.9	14.3	
165+62	LT.	40	165+28	165+96	84.00				
166+86	LT.	40	166+52	167+20	84.00				
167+58	LT.	30	167+29	167+87	94.60				
168+19	RT.	40	167+85	168+53	75.10				
168+29	LT.	24	168+03	168+55	94.70				
169+14	RT.	40	168+80	169+48	84.00				
169+57	LT.	40	169+23	169+91	46.20	79.0	8.7	32.3	
170+09	RT.	40	169+75	170+43	46.20	37.8	4.2	15.4	
170+44	LT.	40	170+10	170+78	46.20	37.8	4.2	15.4	
171+18	RT.	40	170+84	171+52	46.20	38.0	4.2	15.5	
171+34	LT.	40	171+00	171+68	46.20	37.8	4.2	15.4	
172+00	LT.	38	171+67	172+33	180.70				
174+61	LT.	16				85.6	9.4	35.0	30
* ENTIRE PROJECT TEMPORARY DRIVES								315.0	
TOTALS:					1490.80	49.2	497.2	30	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2") 94.7% MIN. AGGR. 5.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

* QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

** FOR INFORMATION ONLY

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS LIN. FT.
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			550
TOTAL:			550

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
* ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER		
TOTALS:		

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
	EACH	
* ENTIRE PROJECT		
TOTALS:		

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
* ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	
TOTAL:	

NOTE: QUANTITY IS ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.

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		
TOTALS:		

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH FEET	COLD MILLING ASPHALT PAVEMENT SQ. YD.
151+90	154+00	MAIN LANES	36	840.00
178+12	179+12	MAIN LANES	22	244.44
TOTAL:				1084.44

NOTE: AVERAGE MILLING DEPTH 1".

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SELECTED MATERIAL SM-4	* SOIL STABILIZATION
			CU. YD.	CU. YD.		TON
ENTIRE	PROJECT	STAGE 1-MAN LANES	932	1539		
ENTIRE	PROJECT	STAGE 2-MAN LANES	1313	820		
ENTIRE	PROJECT	APPROACHES	35	40		
		CIRCLE DRIVE	69	3		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				100
* ENTIRE	PROJECT	UNDERCUT IN ROADWAY DITCH- TO BE USED IF AND DIRECTED BY THE ENGINEER	1075		1075	
TOTALS:			3424	2402	1075	100

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

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

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH LIN. FT.	CONCRETE WALKS SQ. YD.
161+73	174+50	LEFT OF MAIN LANES	735	408
154+00	161+90	RIGHT OF MAIN LANES	718	399
162+16	172+66	RIGHT OF MAIN LANES	646	359
TOTAL:				1166

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
168+00	169+00	LEFT OF MAIN LANES	1	1
172+00	173+00	LEFT OF MAIN LANES	1	1
TOTALS:			2	2

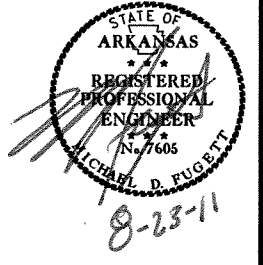
SOIL LOG

STATION	LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
159+00	5' RT CL	0-5	36	18	A-6(16)	BROWN
167+00	5' LT CL	0-5	26	10	A-4(5)	BROWN
175+00	5' LT CL	0-5	ND	NP	A-2-4(1)	RD/GR

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.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		18	85
JOB NO.						061215		

2 QUANTITY SHEET



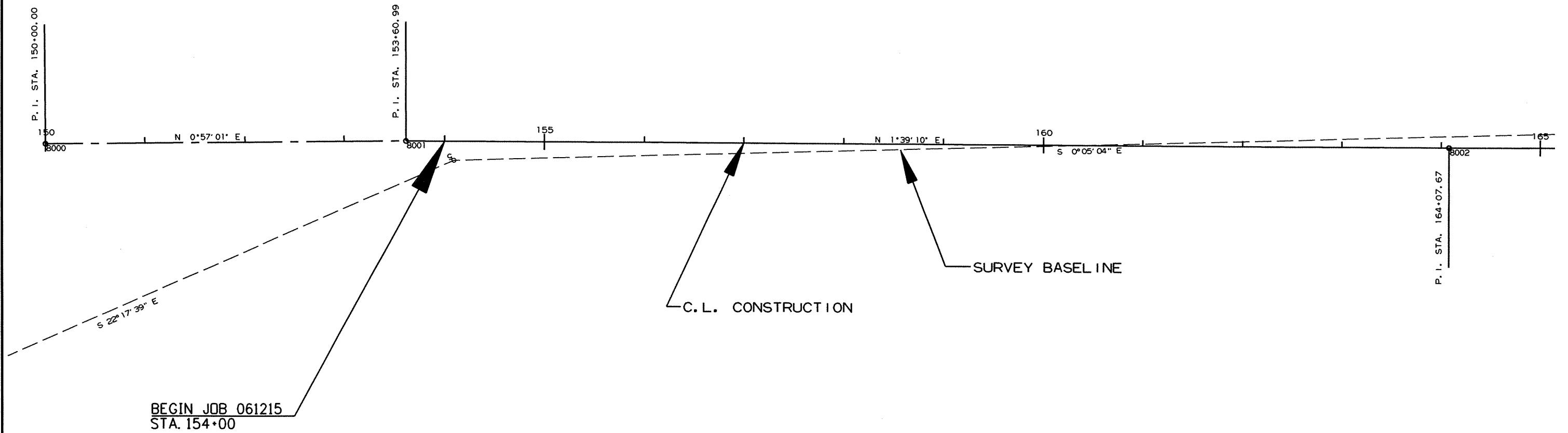
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							061215	20	85

② SURVEY CONTROL DETAILS



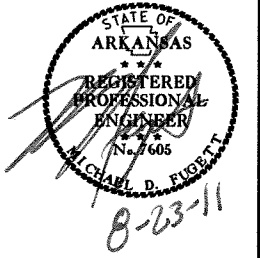
P. I. = 153+60.99
 $\Delta = 0^{\circ}42'08.1''$ RT.

P. I. = 164+07.67
 $\Delta = 0^{\circ}14'35.2''$ LT.

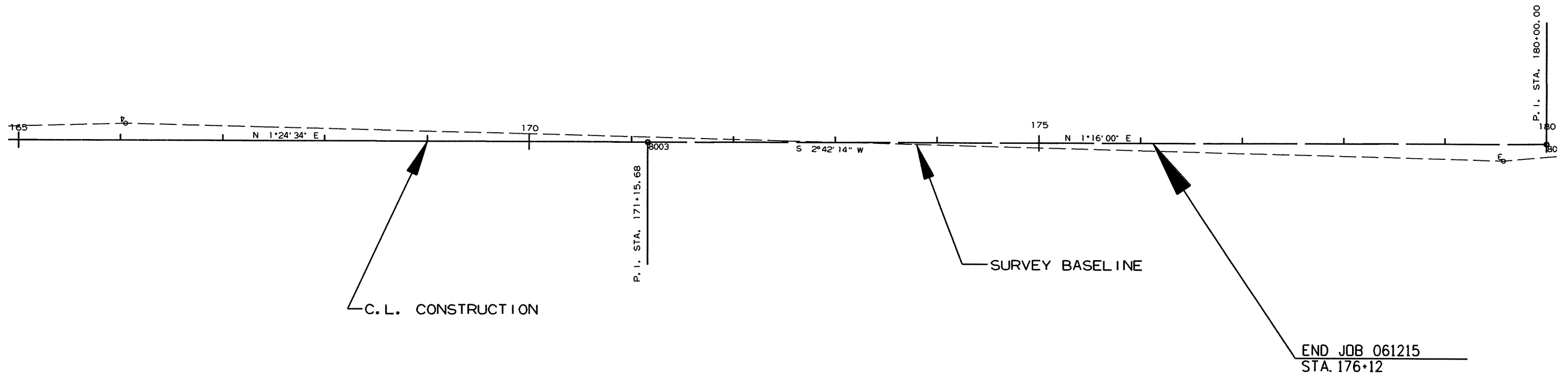


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		21	85
JOB NO. 061215								

② SURVEY CONTROL DETAILS

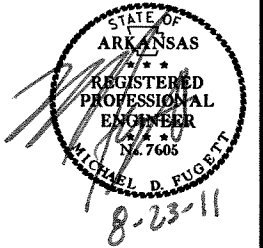


P. I. = 171+15.68
 $\Delta = 0^{\circ}08'33.9''$ LT.



DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 061215							22	85

2 SURVEY CONTROL DETAILS



NAME	NORTHING	EASTING	ELEVATION	PREFERENCE	DESCRIPTION
1	170235.2434	1387217.8580	259.4534	SU	REBAR+CAP
2	162857.3794	1387765.7251	230.1847	SU	REBAR+CAP
3	169872.7023	1387240.9514	258.9000	SU	REBAR+CAP
4	168521.1160	1387177.1206	235.1843	SU	REBAR+CAP
5	167324.7933	1387178.8847	230.6345	SU	REBAR+CAP
6	166655.4409	1387453.3257	225.9961	SU	REBAR+CAP
7	166135.6102	1387403.5885	227.1735	SU	REBAR+CAP
8	165433.0189	1387403.5806	227.3378	SU	REBAR+CAP
9	165500.2628	1386975.9960	224.1396	SU	REBAR+CAP
10	164426.9489	1386868.7402	226.0945	SU	REBAR+CAP
11	163631.0126	1386840.5750	223.8325	SU	REBAR+CAP
12	162823.0194	1386779.7177	219.9545	SU	REBAR+CAP
13	162638.8924	1387035.3074	223.6621	SU	REBAR+CAP
100	130051.2637	1386198.0093	213.9963	GPS	AHTD GPS 43001
101	132016.4180	1386324.0876	221.6481	GPS	AHTD GPS 43001
102	167928.5805	1337938.1944	237.3030	GPS	AHTD GPS 43001
103	169732.5585	1338053.7491	238.1065	GPS	AHTD GPS 43001
104	166893.6246	1435934.0130	227.5569	GPS	AHTD GPS 59000
105	164435.0129	1435855.1828	229.8236	GPS	AHTD GPS 59000
601	171413.4882	1388130.4269	242.6421	VPT	
602	171413.2767	1386544.2700	242.6684	VPT	
603	168131.9732	1388020.5010	235.5103	VPT	
604	168641.4651	1386844.3426	237.8865	VPT	
605	166461.3844	1388119.0690	235.2824	VPT	
606	166159.7607	1385797.2263	229.1993	VPT	
607	162462.6192	1387633.0306	227.3143	VPT	
608	162639.6625	1385888.2453	219.2378	VPT	
609	162625.9265	1389227.0154	226.7371	VPT	
610	166884.0702	1388555.7457	236.1950	VPT	
701	171484.8268	1387270.1690	240.6890	HPT	CPS
702	168835.8122	1387241.8197	236.1809	HPT	CPS
703	166166.8503	1387186.4041	226.4598	HPT	CNTR MH
704	162845.5326	1387057.0929	224.6804	HPT	CPS
900	164192.3265	1388710.8784	229.3565	BM	NGS F 108
901	171395.1814	1387299.0245	242.4540	BM	NGS WBA RESET
902	169961.9171	1387212.4495	260.5431	BM	CHSLD SQ S W C
903	168441.5210	1387148.3293	235.6950	BM	CHSLD SQ CONC
904	166892.4911	1387227.0005	229.5318	BM	CHSLD SQ
905	165861.6830	1387422.2366	228.0413	BM	CHSLD SQ CNTR
906	164719.8464	1387363.9750	229.1191	BM	CHSLD SQ CONC
907	163573.4297	1386976.8776	223.0929	BM	CHSLD SQ CONC
908	162786.2675	1386544.9864	218.0311	BM	CHSLD SQ
1100	166159.4936	1387126.7386	226.1707	TV	8 SPIKE
1101	166232.3922	1387234.4914	224.2051	TV	8 SPIKE
1102	166119.4085	1387001.9235	224.8451	TV	8 SPIKE
1103	165936.3890	1386948.3671	223.6087	TV	8 SPIKE
1104	165782.9482	1386854.4059	223.0217	TV	8 SPIKE
1105	165701.2357	1386803.9566	222.8623	TV	8 SPIKE
1106	165550.6666	1386730.4929	222.5079	TV	8 SPIKE
1107	165395.4276	1386695.7312	222.1181	TV	8 SPIKE
1108	165181.8122	1386642.1204	221.8162	TV	8 SPIKE
1109	164957.6397	1386707.4910	223.8620	TV	8 SPIKE
1110	164799.3999	1386681.1149	223.1137	TV	8 SPIKE
1111	164693.7442	1386654.9550	222.9203	TV	8 SPIKE
1112	164565.3403	1386626.0709	222.6479	TV	8 SPIKE
1113	164448.9598	1386439.9710	223.0180	TV	8 SPIKE
1114	166137.2859	1386621.1951	227.1766	TV	8 SPIKE
1115	166139.7301	1386072.7328	227.4724	TV	8 SPIKE
1116	164070.9487	1386569.6848	219.7298	TV	8 SPIKE
1117	163813.0455	1386468.6359	218.7109	TV	8 SPIKE
1118	163519.9409	1386798.9088	219.1384	TV	CPS
1119	163424.4879	1386821.4026	220.8054	TV	8 SPIKE
1120	163281.9973	1386810.7550	219.9969	TV	8 SPIKE
1121	163125.4066	1386794.4456	218.1807	TV	8 SPIKE
1122	162854.2449	1387054.0403	223.7477	TV	8 SPIKE

HWY. 13 - CONST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	150+00.00	166916.15	1387152.55
8001	PI	153+60.99	167277.10	1387158.54
8002	PI	164+07.67	168323.34	1387188.73
8003	PI	171+15.68	169031.13	1387206.14
8004	POE	180+00.00	169915.24	1387225.69

USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
 TO CONVERT TO GRID USE CAF = 1.0000222232.
 GRID DISTANCE = GROUND DISTANCE X CAF.
 GRID COORDINATES ARE STORED UNDER FILE NAME 060529G1.CTL
 HORIZONTAL DATUM: NAD 83
 VERTICAL DATUM: NAVD 88
 BASIS OF BEARINGS
 GRID NORTH, BASED ON GPS CONTROL AT POINT NUMBER 703,
 ARKANSAS STATE PLANE GRID COORDINATES NORTH ZONE,
 NORTHING 166170.5431, EASTING 1387217.2318.
 CONVERGENCE ANGLE 00°08'42.4" LEFT -
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

SURVEY CONTROL DETAILS

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. 061215							23	85

2 PLAN SHEETS

STA. 161+99 CONSTRUCT
APPROACH ON LT.

STA. 162+75 CONSTRUCT
APPROACH ON LT. - 5 CU. YDS.
UNCLASSIFIED EXCAVATION



STA. 164+84 CONSTRUCT
APPROACH ON LT.



STA. 154+00 LT-IN PLACE DI
RETAIN

STA. 151+00 LT-IN PLACE DI
RETAIN

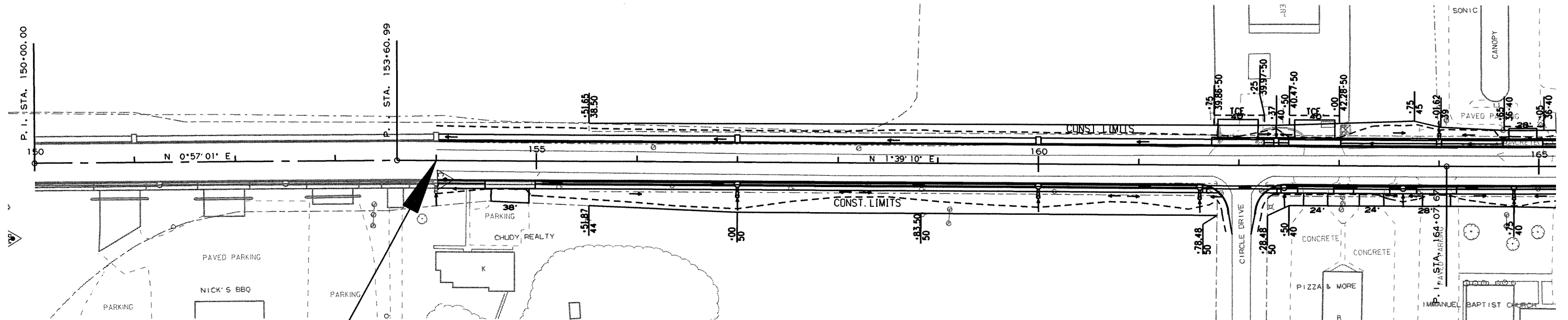
STA. 157+00 - CONSTRUCT
D.I. ON LT.
59" x 36" x 296' ARCH PIPE OUTLET
CONNECT TO EXISTING D.I. @ STA. 154+00 LT.
TY C = 7' x 4'
H = 5'-3"

STA. 160+00 - CONSTRUCT
D.I. ON LT.
59" x 36" x 296' ARCH PIPE OUTLET
CONNECT TO D.I. @ STA. 157+00 LT.
TY C = 7' x 4'
H = 5'-3"

STA. 162+37 - CONSTRUCT
D.I. ON LT. WITH OPENING IN THE BACK
& 59" x 36" x 233' ARCH PIPE OUTLET
CONNECT TO D.I. @ STA. 160+00 LT.
TY C = 7' x 4'
H = 5'-3"

STA. 164+00 - CONSTRUCT
D.I. ON LT. & R.C. STUB INLET
WITH FES.
& 59" x 36" x 159' ARCH PIPE OUTLET
CONNECT TO D.I. @ STA. 162+37 LT.
TY C = 7' x 4'
H = 5'-0"

P. I. = 153+60.99
Δ = 0°42'08.1" RT.



STA. 151+25 RT- IN PLACE DI
RETAIN

STA. 154+00 RT-IN PLACE DI
RETAIN

BEGIN JOB 061215
STA. 154+00

STA. 152+50 RT-IN PLACE DI
RETAIN

STA. 154+74 CONSTRUCT
APPROACH ON RT. - 5 CU. YDS.
UNCLASSIFIED EXCAVATION

STA. 157+00 - CONSTRUCT
D.I. ON RT. & 18" x 4' R.C. STUB INLET
WITH FES.
& 30" x 192' PIPE OUTLET
CONNECT TO EXISTING 30" PIPE @ STA. 155+05 RT.
TY C = 5' x 4'
TY MD = 5'
H = 3'-9"

STA. 160+00 - CONSTRUCT
D.I. ON RT. & 18" x 3' R.C. STUB INLET
WITH FES.
& 30" x 295' PIPE OUTLET
CONNECT TO D.I. @ STA. 157+00 RT.
TY C = 5' x 4'
TY MD = 5'
H = 3'-9"

STA. 161+61 - CONSTRUCT
D.I. ON RT. & 18" x 3' R.C. STUB INLET
WITH FES.
& 30" x 156' PIPE OUTLET
CONNECT TO D.I. @ STA. 160+00 RT.
TY C = 5' x 4'
TY MD = 5'
H = 3'-9"

STA. 162+45 - CONSTRUCT
D.I. ON RT. WITH OPENING IN BACK
& 30" x 79' PIPE OUTLET
CONNECT TO D.I. @ STA. 161+61 RT.
TY C = 5' x 4'
TY MD = 5'
H = 4'-6"

P. I. = 164+07.67
Δ = 0°14'35.2" LT.

STA. 163+64 - CONSTRUCT
D.I. ON RT. WITH OPENING IN BACK
& 24" x 114' PIPE OUTLET
CONNECT TO D.I. @ STA. 162+45 RT.
TY C = 5' x 4'
TY MD = 5'
H = 3'-9"

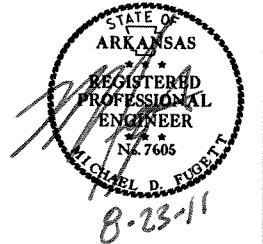
STA. 164+75 - CONSTRUCT
D.I. ON RT. & 18" x 3' R.C. STUB INLET
WITH FES.
& 24" x 107' PIPE OUTLET
CONNECT TO D.I. @ STA. 163+64 RT.
TY C = 4' x 4'
TY MD = 4'
H = 3'-9"

STA. 162+77 CONSTRUCT APPROACH ON RT. STA. 163+33 CONSTRUCT APPROACH ON RT. STA. 163+98 CONSTRUCT APPROACH ON RT.

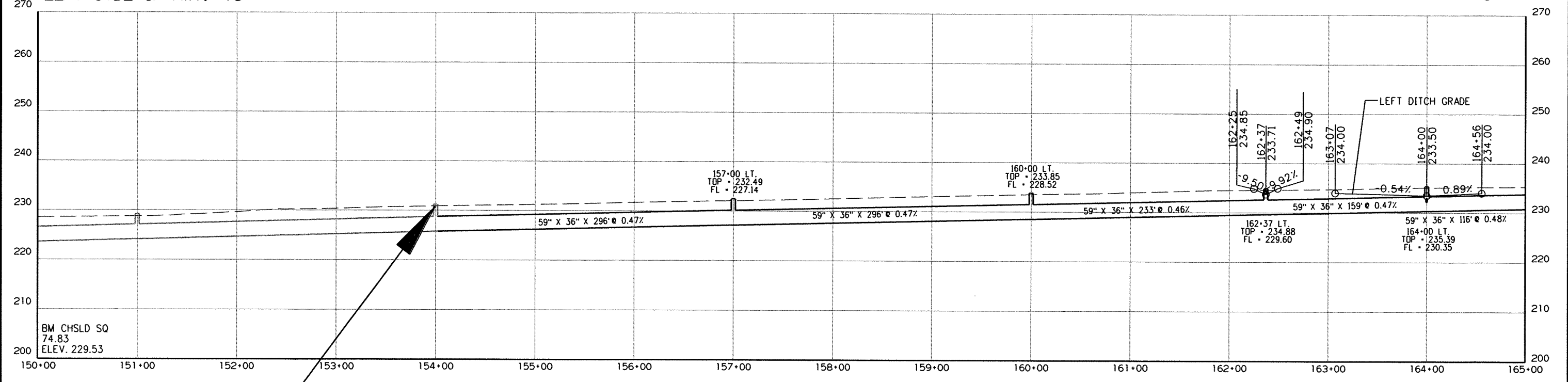
FOR ALL R.C. PIPE CULVERT INSTALLATIONS
USE TYPE 3 BEDDING UNLESS OTHERWISE
SPECIFIED. FOR ALL C.M. PIPE CULVERT
INSTALLATIONS USE TYPE 2 BEDDING UNLESS
OTHERWISE SPECIFIED.

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. 061215							24	85

2 PROFILE SHEETS

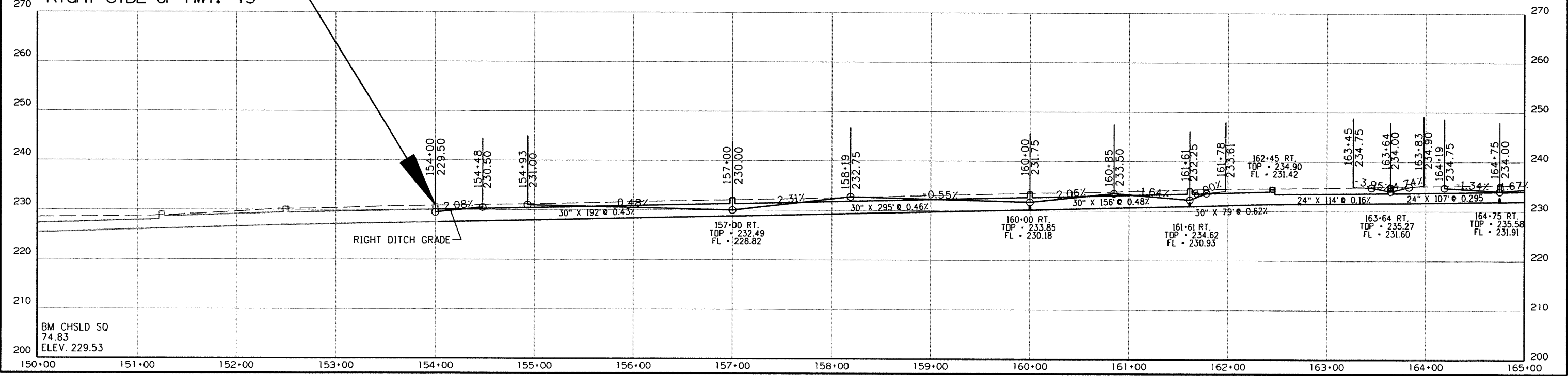


LEFT SIDE OF HWY. 13



BEGIN JOB 061215
STA. 154+00

RIGHT SIDE OF HWY. 13



r061215.dgn 12/21/2010

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.	061215		25	85

2 PLAN SHEETS



STA. 165+62 CONSTRUCT APPROACH ON LT. • 5 CU. YDS.
 STA. 167+58 CONSTRUCT APPROACH ON LT. • 5 CU. YDS. UNCLASSIFIED EXCAVATION
 STA. 168+29 CONSTRUCT APPROACH ON LT. • 5 CU. YDS. UNCLASSIFIED EXCAVATION
 STA. 170+44 CONSTRUCT APPROACH ON LT. • 5 CU. YDS.
 STA. 172+00 CONSTRUCT APPROACH ON LT.
 STA. 166+86 CONSTRUCT APPROACH ON LT. • 5 CU. YDS.
 STA. 169+57 CONSTRUCT APPROACH ON LT. • 10 CU. YDS. UNCLASSIFIED EXCAVATION
 STA. 171+34 CONSTRUCT APPROACH ON LT.
 STA. 174+61 IN PLACE 15" x 18" x 32' CMP PIPE CULVERT LT. SIDE DRAIN REMOVE AND INSTALL 18" x 30' PIPE CULVERT LT. SIDE DRAIN CONSTRUCT APPROACH • 15 CU. YDS.

STA. 165+20 - CONSTRUCT D.I. ON LT. WITH OPENING IN THE BACK & 59" x 36" x 116' ARCH PIPE OUTLET CONNECT TO D.I. @ STA. 164+00 LT. TY C = 7' x 4' H = 4'-9"

STA. 166+21 - CONSTRUCT D.I. ON LT. WITH OPENING IN THE BACK & 59" x 36" x 97' ARCH PIPE OUTLET CONNECT TO D.I. @ STA. 165+20 LT. TY C = 7' x 4' H = 4'-9"

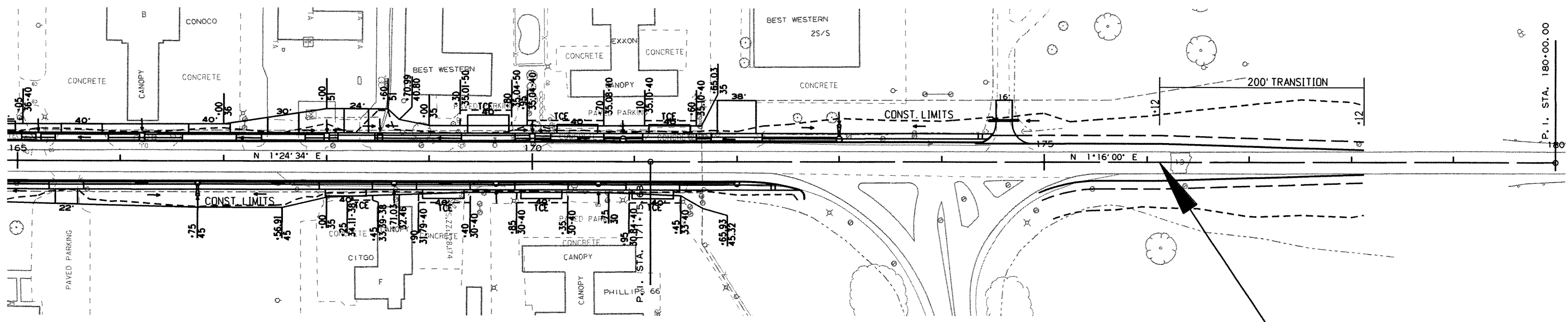
STA. 168+00 - CONSTRUCT D.I. ON LT. WITH OPENING IN THE BACK & 59" x 36" x 175' ARCH PIPE OUTLET CONNECT TO D.I. @ STA. 166+21 LT. TY C = 7' x 4' H = 4'-6"

STA. 168+52 - CONSTRUCT JUNCTION BOX ON LT. WITH OPENING IN THE BACK & 51" x 31" x 48' ARCH PIPE OUTLET CONNECT TO D.I. @ STA. 168+00 LT. TY E = 7' x 4' H = 4'-3"

STA. 170+00 - CONSTRUCT D.I. ON LT. WITH OPENING IN THE BACK & 51" x 31" x 144' ARCH PIPE OUTLET CONNECT TO JUNCTION BOX @ STA. 168+52 LT. TY C = 7' x 4' H = 4'-0"

STA. 170+89 - CONSTRUCT D.I. ON LT. WITH OPENING IN BACK & 36" x 85' PIPE OUTLET CONNECT TO D.I. @ STA. 170+00 LT. TY C = 5' x 4' TY MD = 5' H = 4'-0"

STA. 173+00 - CONSTRUCT D.I. ON LT. & 18" x 5' R.C. STUB INLET WITH FES. & 30" x 206' PIPE OUTLET CONNECT TO D.I. @ STA. 170+89 LT. TY C = 5' x 4' TY MD = 5' H = 4'-6"



STA. 166+75 - CONSTRUCT D.I. ON RT. & 18" x 4' R.C. STUB INLET WITH FES. & 24" x 196' PIPE OUTLET CONNECT TO D.I. @ STA. 164+75 RT. TY C = 4' x 4' TY MD = 4' H = 3'-9"

STA. 168+66 - CONSTRUCT D.I. ON RT. WITH OPENING IN BACK & 18" x 187' PIPE OUTLET CONNECT TO D.I. @ STA. 166+75 RT. TY C = 4' x 4' TY MD = 4' H = 3'-9"

STA. 169+65 - CONSTRUCT D.I. ON RT. WITH OPENING IN BACK & 18" x 95' PIPE OUTLET CONNECT TO D.I. @ STA. 168+66 RT. TY C = 4' x 4' TY MD = 4' H = 3'-9"

STA. 170+65 - CONSTRUCT D.I. ON RT. WITH OPENING IN BACK & 18" x 96' PIPE OUTLET CONNECT TO D.I. @ STA. 169+65 RT. TY C = 4' x 4' TY MD = 4' H = 3'-9"

STA. 172+00 - CONSTRUCT D.I. ON RT. 18" x 131' PIPE OUTLET CONNECT TO D.I. @ STA. 170+65 RT. TY C = 4' x 4' TY MD = 4' H = 3'-9"

P. I. = 171+15.68
 $\Delta = 0^{\circ}08'33.9''$ LT.

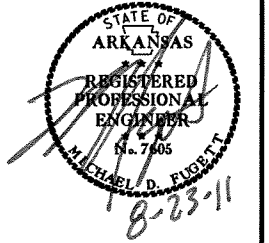
END JOB 061215
 STA. 176+12

STA. 165+48 CONSTRUCT APPROACH ON RT. • 5 CU. YDS. UNCLASSIFIED EXCAVATION
 STA. 168+19 CONSTRUCT APPROACH ON RT. • 5 CU. YDS.
 STA. 169+14 CONSTRUCT APPROACH ON RT. • 5 CU. YDS.
 STA. 171+18 CONSTRUCT APPROACH ON RT.
 STA. 170+09 CONSTRUCT APPROACH ON RT.

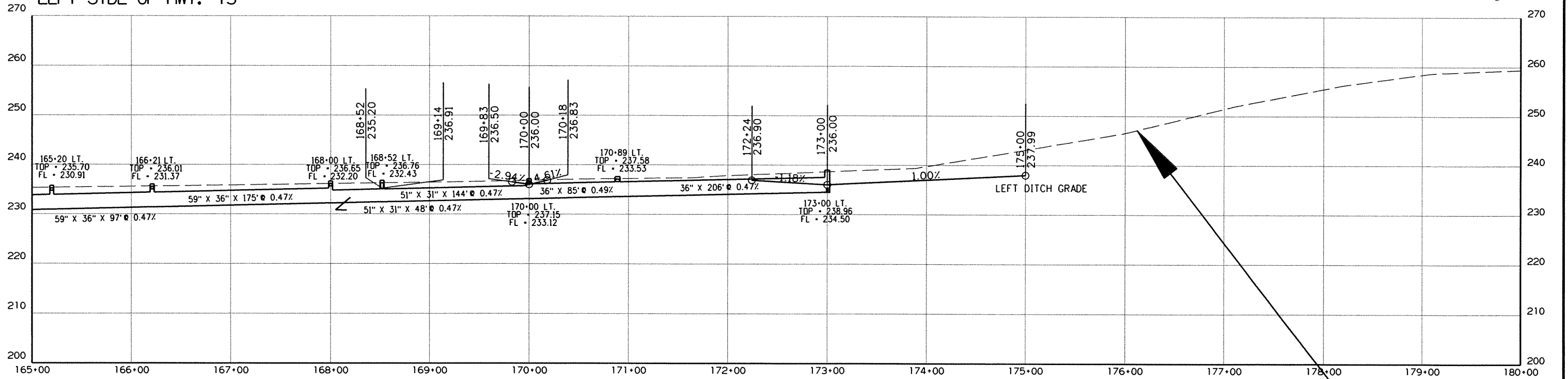
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

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. 061215							26	85

② PROFILE SHEETS

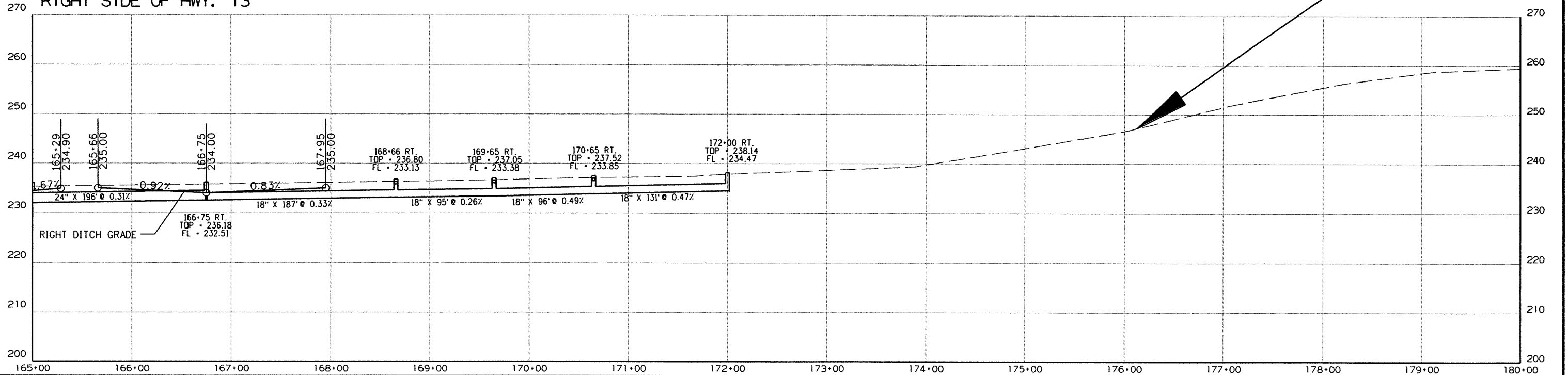


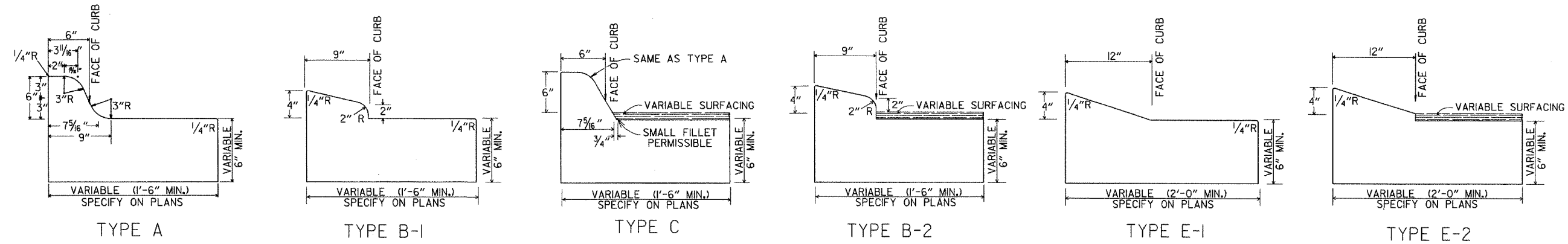
LEFT SIDE OF HWY. 13



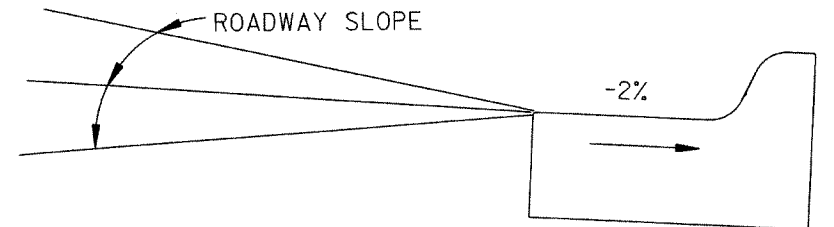
END JOB 061215
STA. 176+12

RIGHT SIDE OF HWY. 13

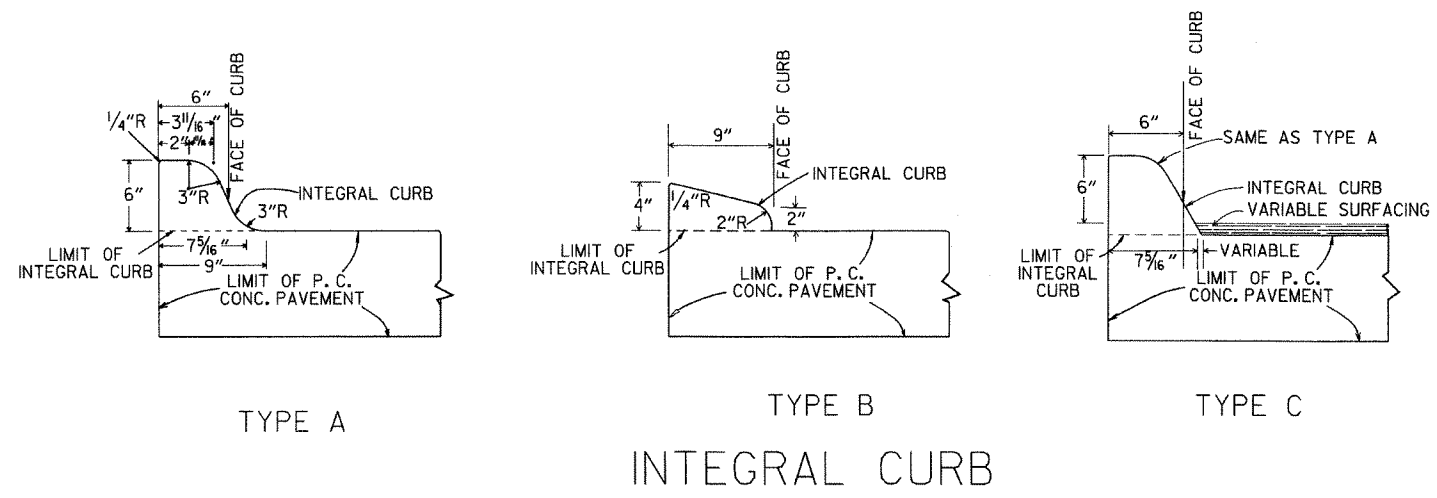




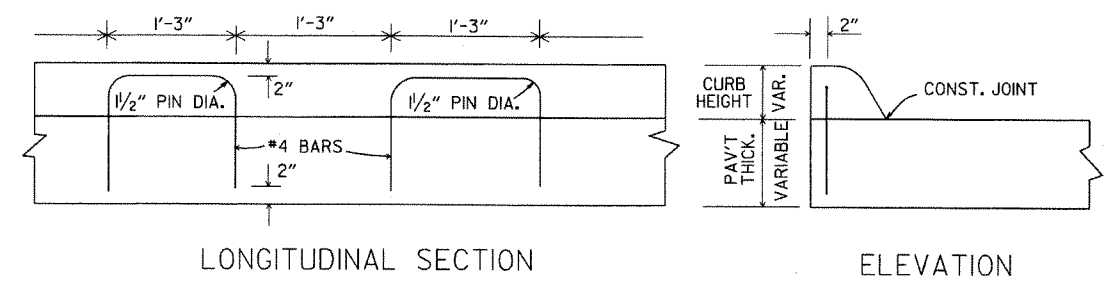
CONCRETE COMBINATION CURB AND GUTTER



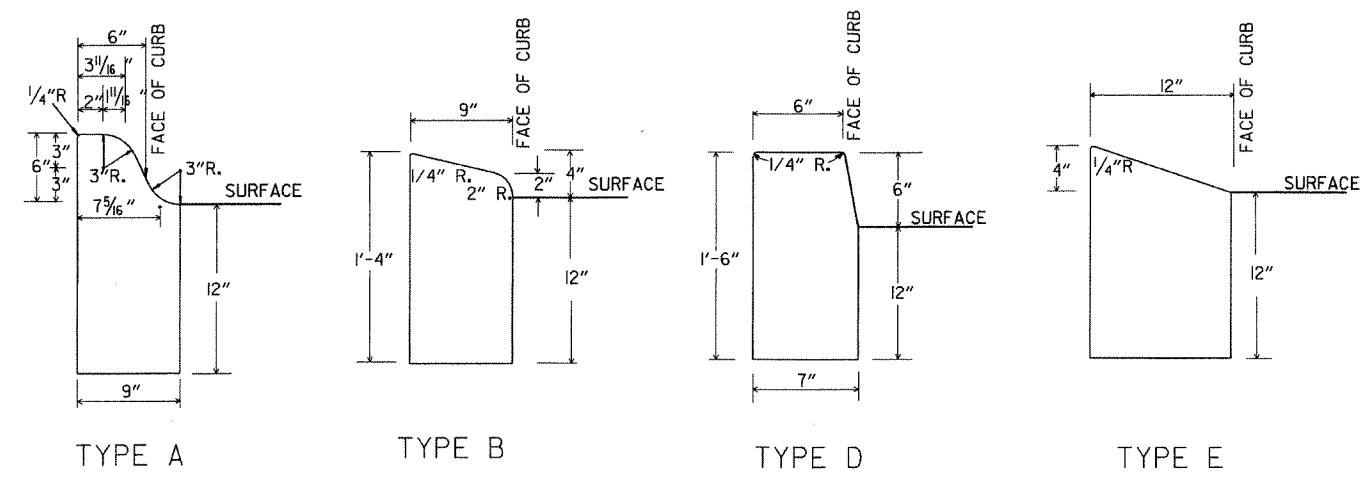
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



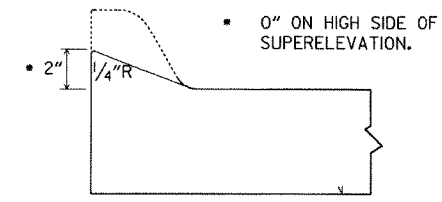
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

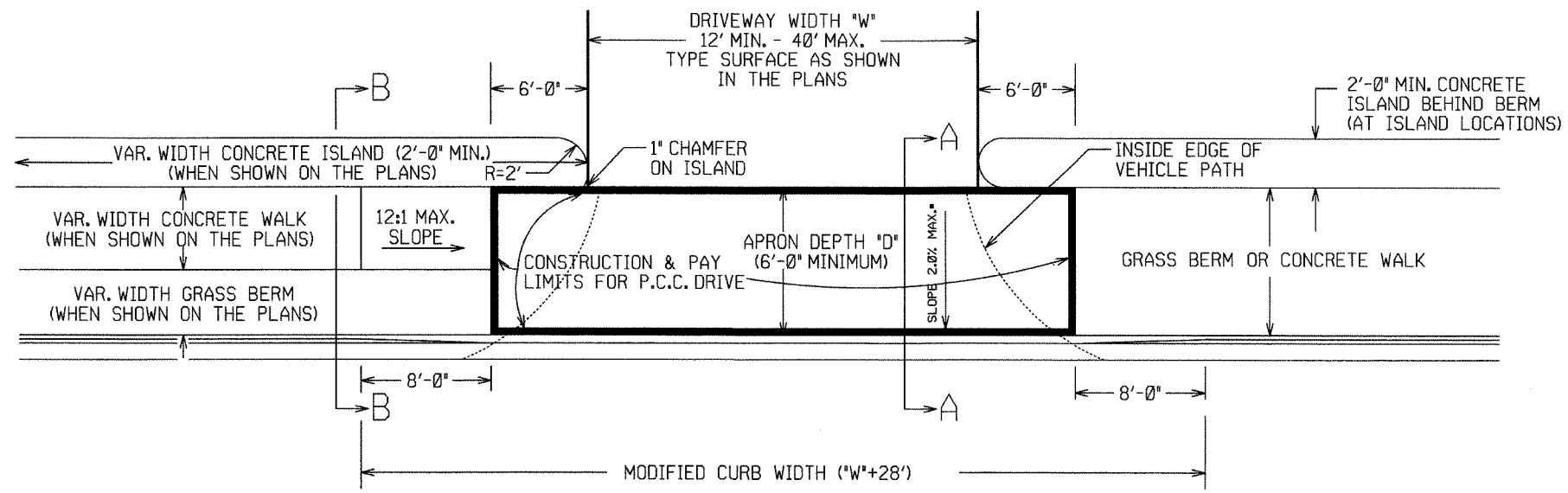
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	8-5-93
8-5-93	CORRECTED GUTTER SLOPE	10-1-92
10-1-92	ADDED DETAILS OF GUTTER SLOPE	5-24-90
5-24-90	ADDED DETAILS OF MODIFIED CURB	11-30-89
11-30-89	VARIABLE DEPTH TYPE A & B	630-7-15-88
7-15-88	REVISED MODIFIED CURB	500-11-73
11-1-73	REVISED MODIFIED CURB	512-10-2-72
10-2-72	REVISED AND REDRAWN	

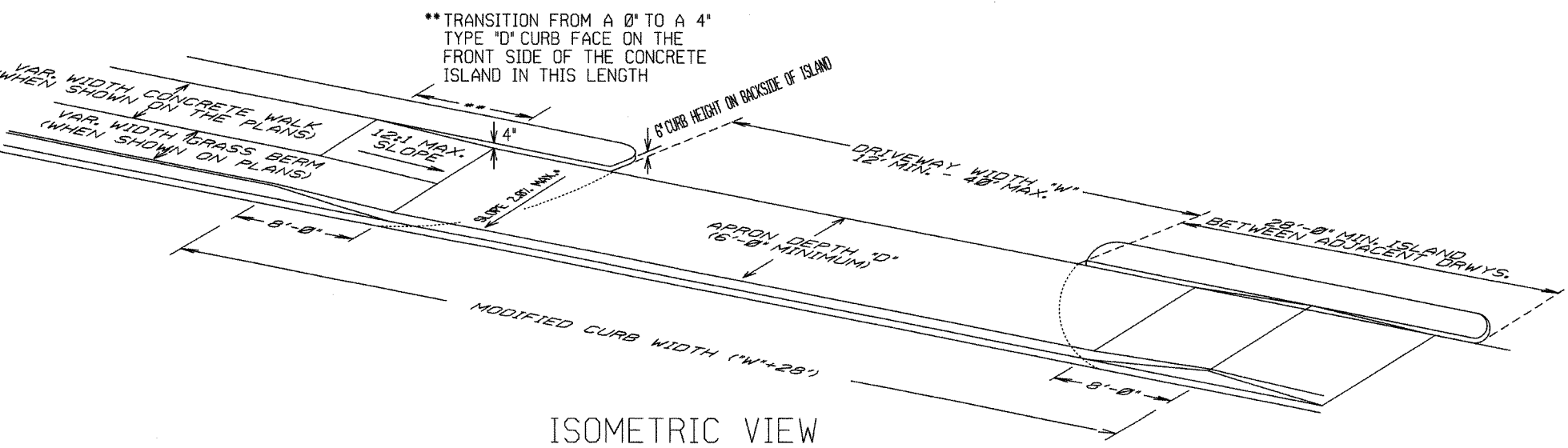
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

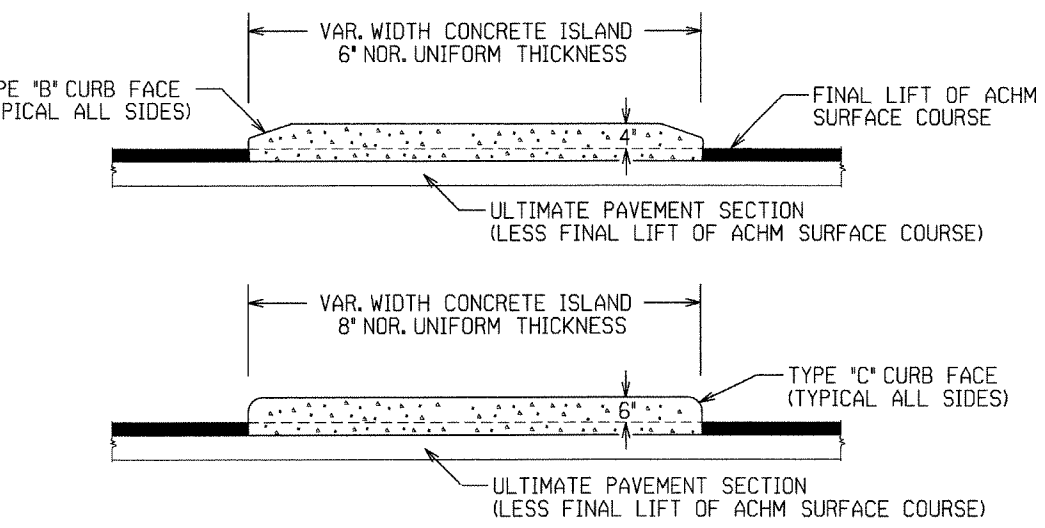
STANDARD DRAWING CG-1



PLAN VIEW

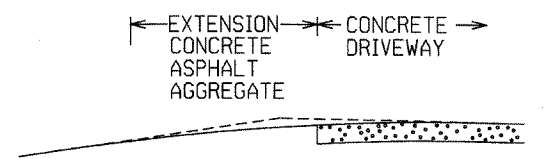


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".

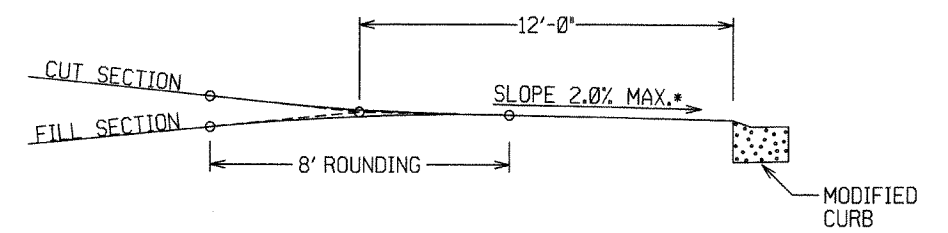


EXTENSION TYPICAL SECTIONS

- 1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY
- 2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")
- 3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE
- 4: AGGREGATE - 6" AGGREGATE BASE COURSE

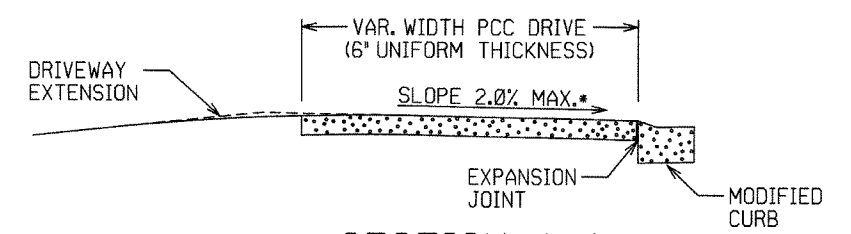
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

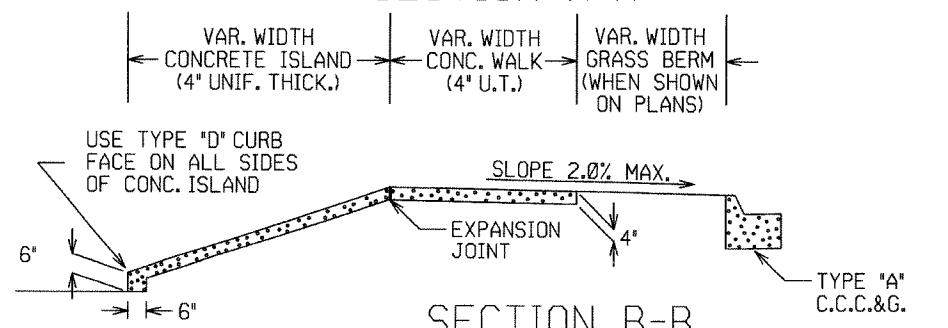


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



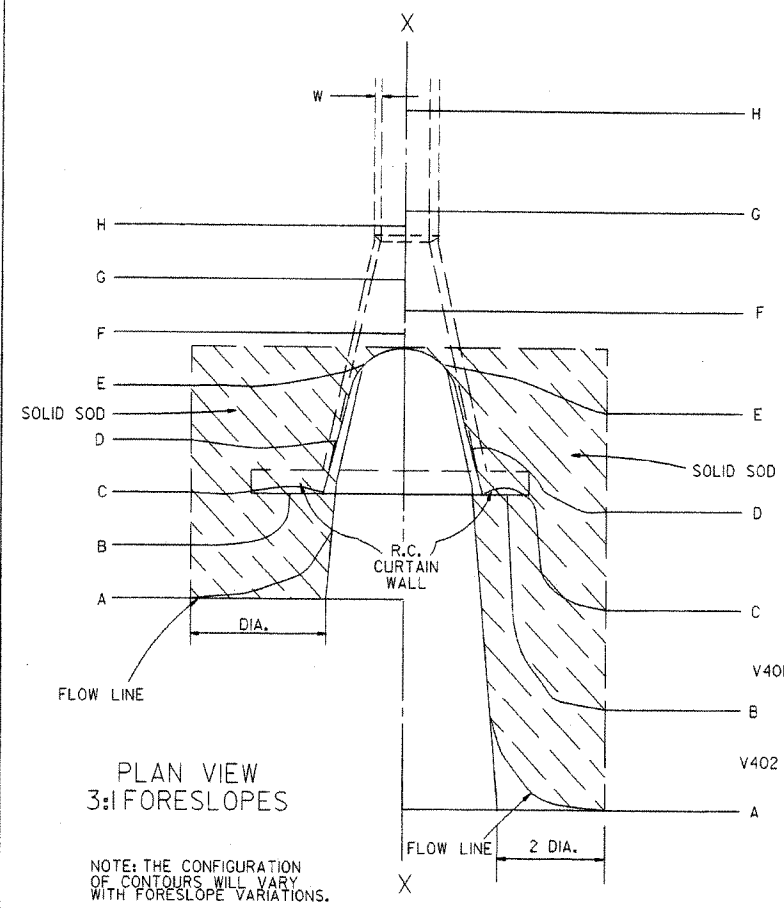
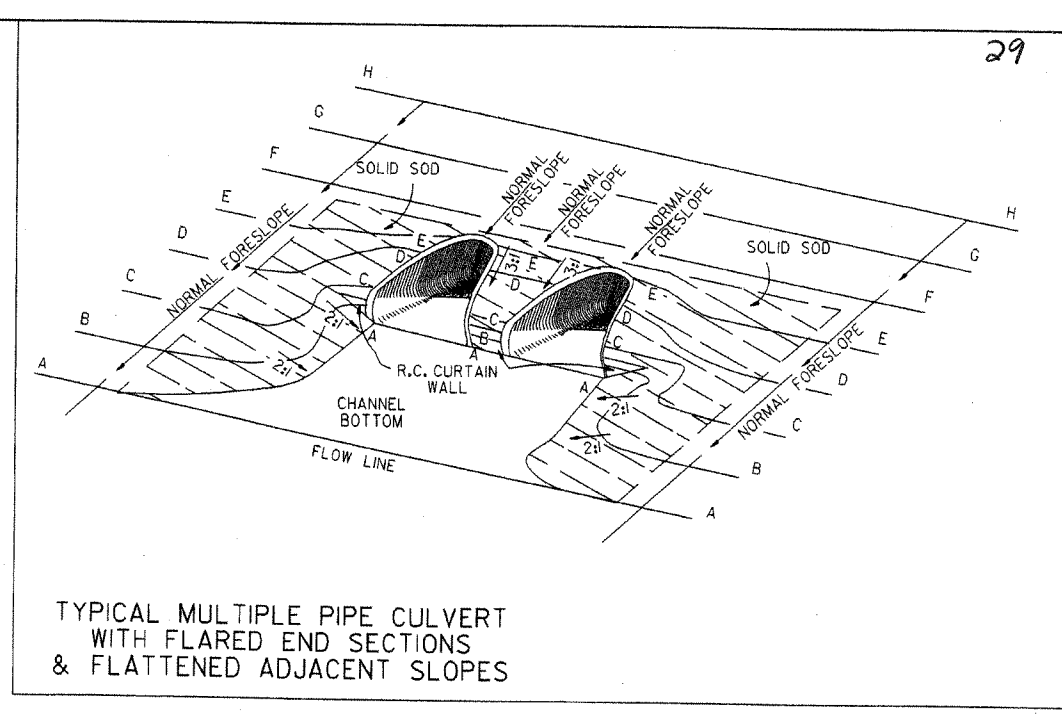
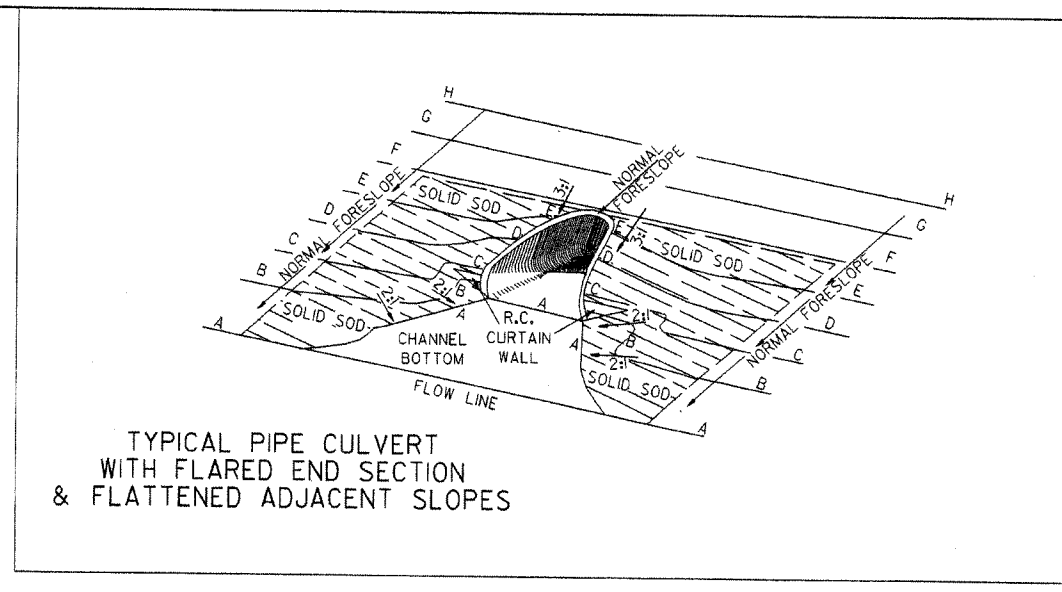
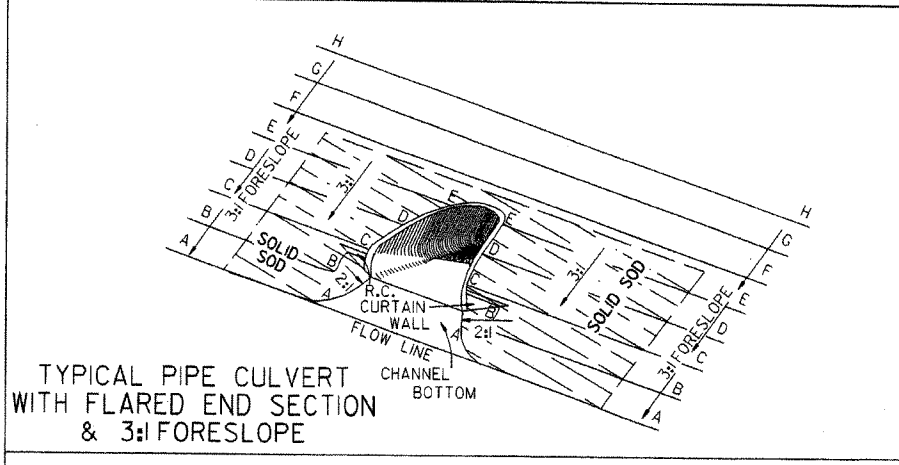
SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

DATE	REV	DESCRIPTION
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED
		DATE REV DATE FILMED DESCRIPTION

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1

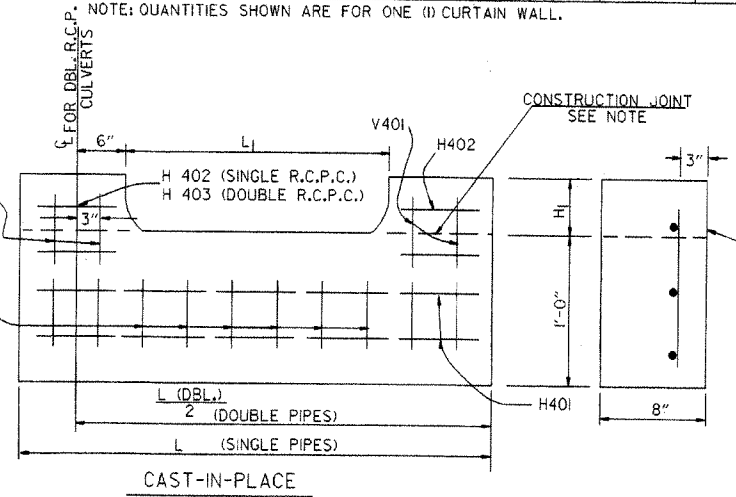


PLAN VIEW FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

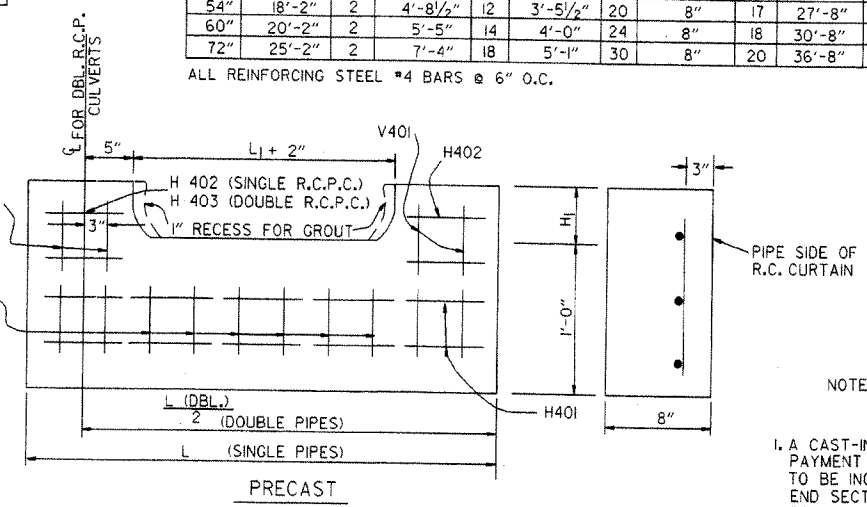
PIPE DIA.	H ₁	L ₁	L	L (DBL.) / 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.

R.C. CURTAIN WALL DETAILS



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11 1/2"	4	1'-7 1/2"	8	8"	8	12'-2"	2	1'-11 1/2"	4	8"	2	1'-7 1/2"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8 1/2"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8 1/2"	12	8"	18
30"	10'-8"	2	2'-4 1/2"	4	1'-11 1/2"	10	8"	12	17'-8"	2	2'-4 1/2"	4	8"	2	1'-11 1/2"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9 1/2"	8	2'-9 1/2"	16	8"	15	23'-8"	2	3'-9 1/2"	8	8"	4	2'-9 1/2"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5 1/2"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

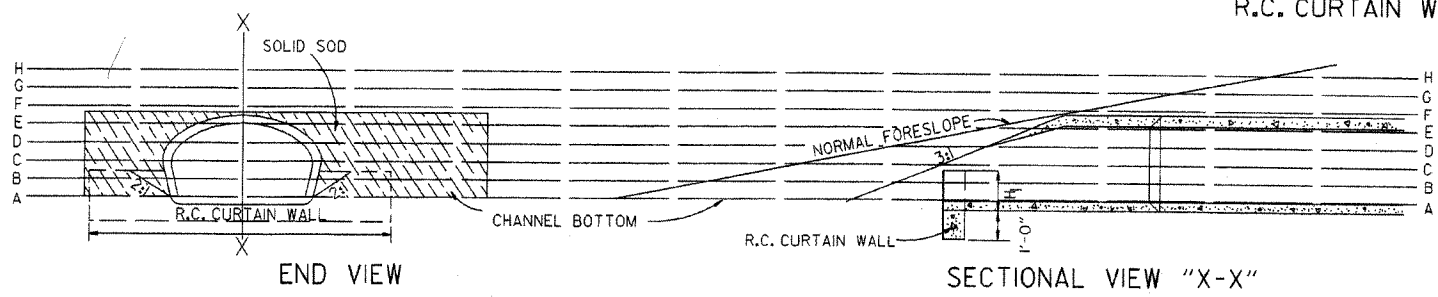
ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

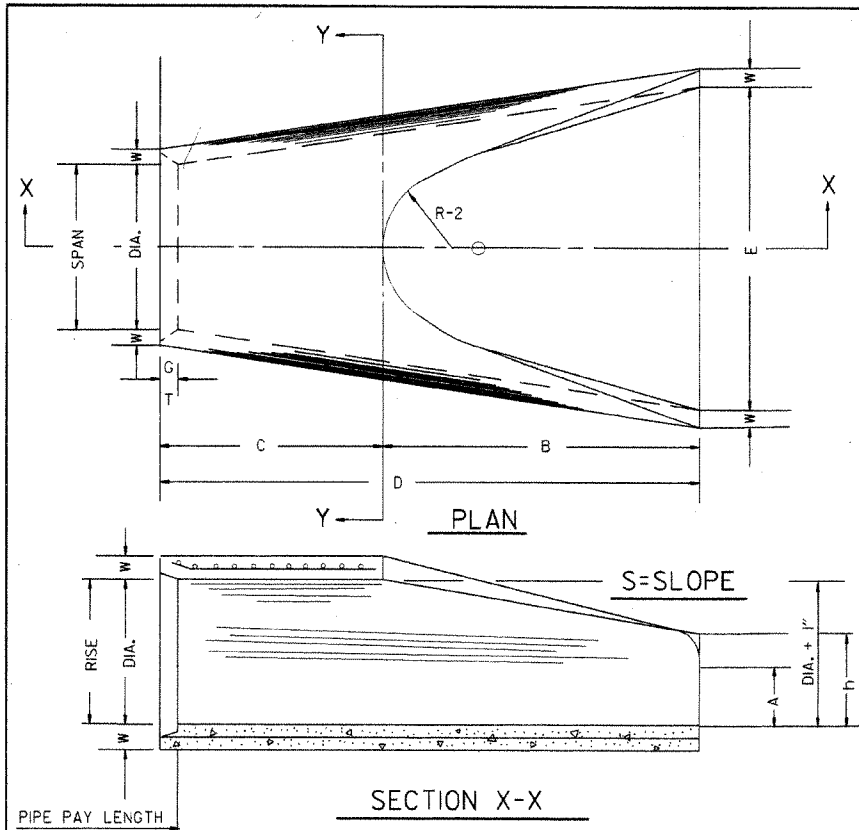
PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- GENERAL NOTES
- A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
 - CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
 - WELDED WIRE MESH 3 x 3 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



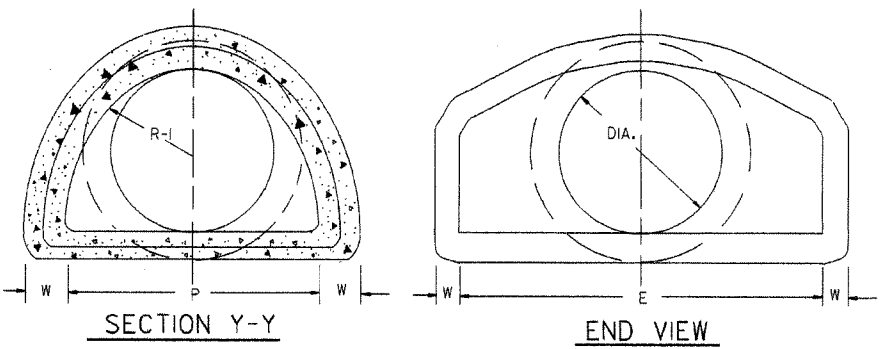
10-18-98	ADDED NOTE TO SOLID SODDING		
10-12-95	CORRECTED SPELLING	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 3/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 3/8"	24 3/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 3/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-0"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 3/8"	38 5/8"	24"	5"	13250	4'-6"

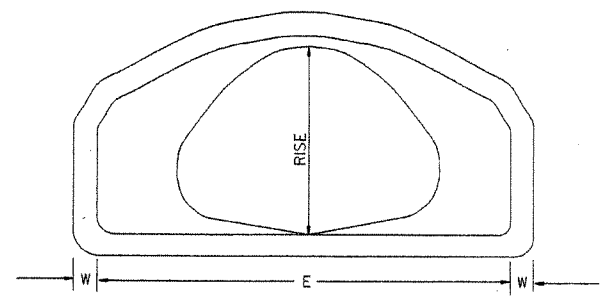


NOTE: TONGUE END ON UPSTREAM SECTION GROOVE END ON DOWNSTREAM SECTION

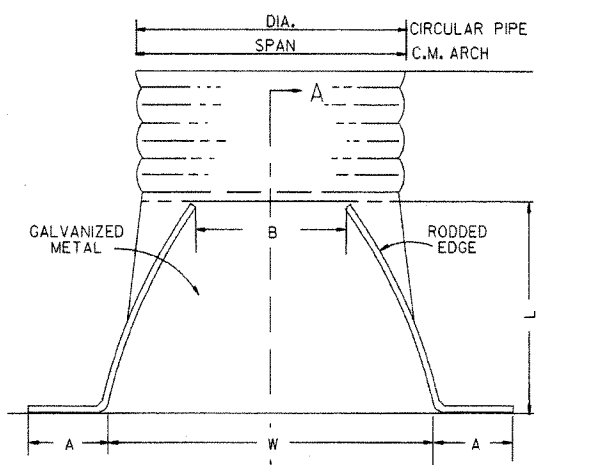
ARCH PIPE

EQUIV. DIA.	* SPAN		* RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 3/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 3/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 3/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 3/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 5/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/4:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 3/8"	24"	5"	2 1/4:1

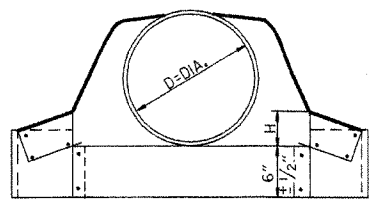
* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW CONCRETE ARCH PIPE



PLAN



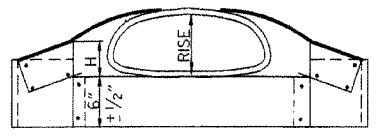
CIRCULAR PIPE

CIRCULAR PIPE

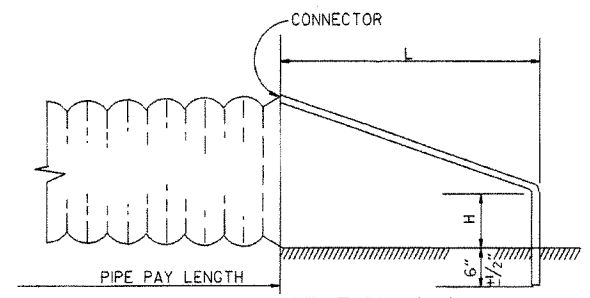
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S
12	16	6	6	6	21	24	2 1/2:1
15	16	7	8	6	26	30	2 1/2:1
18	16	8	10	6	31	36	2 1/2:1
21	16	9	12	6	36	42	2 1/2:1
24	16	10	13	6	41	48	2 1/2:1
30	14	12	16	8	51	60	2 1/2:1
36	14	14	19	9	60	72	2 1/2:1
42	12	16	22	11	69	84	2 1/2:1
48	12	18	27	12	78	90	2 1/2:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1 1/2:1
66	12	18	36	12	87	120	1 1/2:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S	GAUGE
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	16	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13	21	9	53	85	2 1/2:1	12
48"	57	38	18	26	12	63	90	2 1/2:1	12
54"	64	43	18	30	12	70	102	2 1/4:1	12
60"	71	47	18	33	12	77	114	2 1/4:1	12



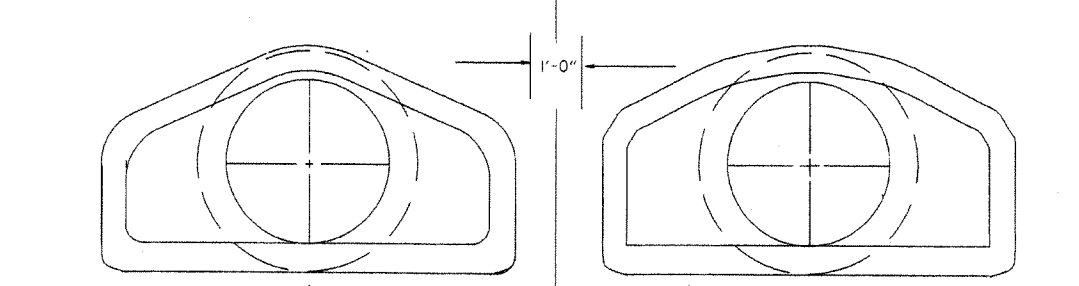
C.M. ARCH PIPE



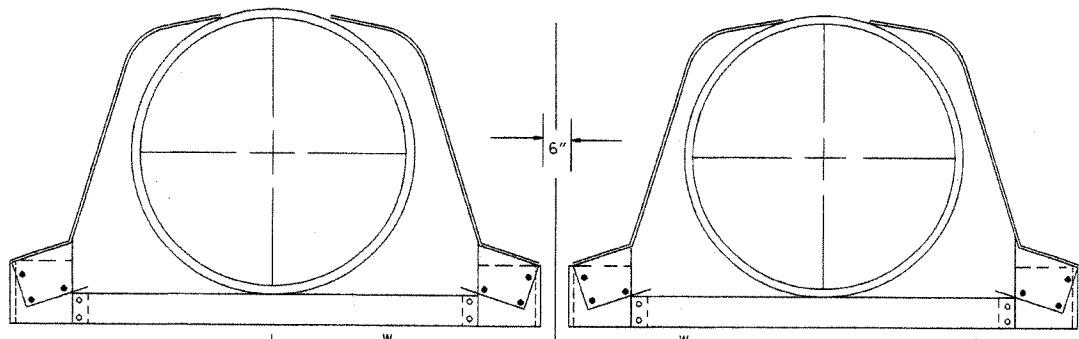
SECTION A-A

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

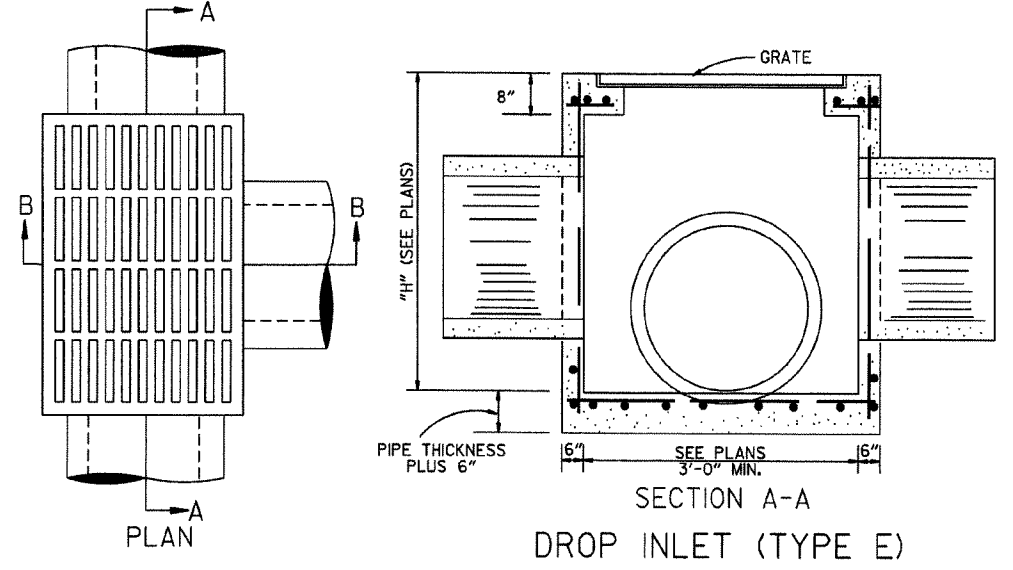
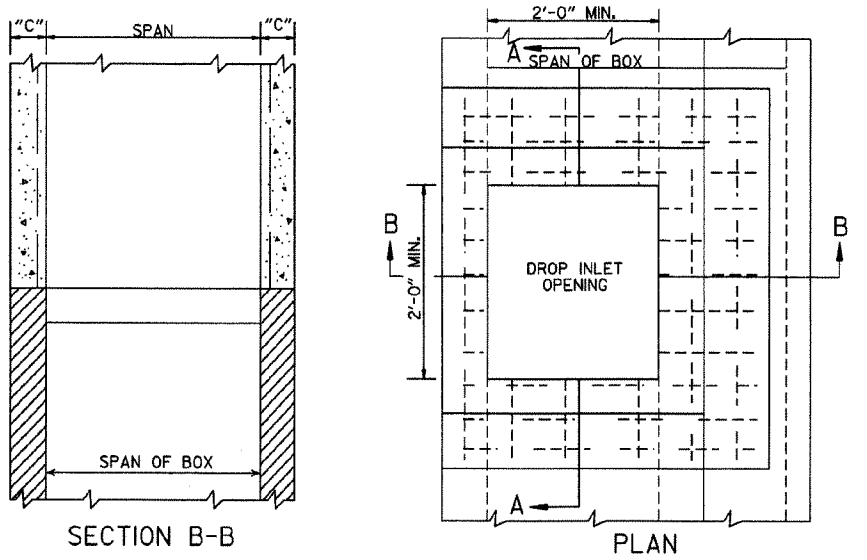


MULTIPLE R.C. PIPE CULVERTS

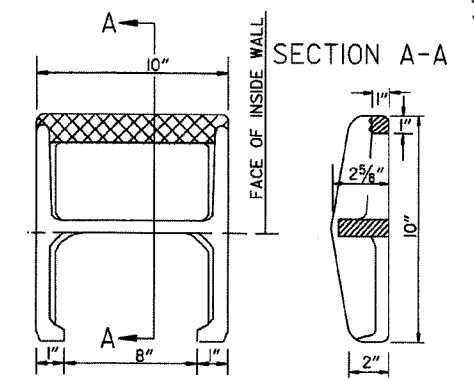


MULTIPLE C.M. PIPE CULVERTS

10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74	FLARED END SECTION
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73	
10-2-72	REVISED AND REDRAWN	760-10-2-72	STANDARD DRAWING FES-2
DATE	REVISION	FILMED	

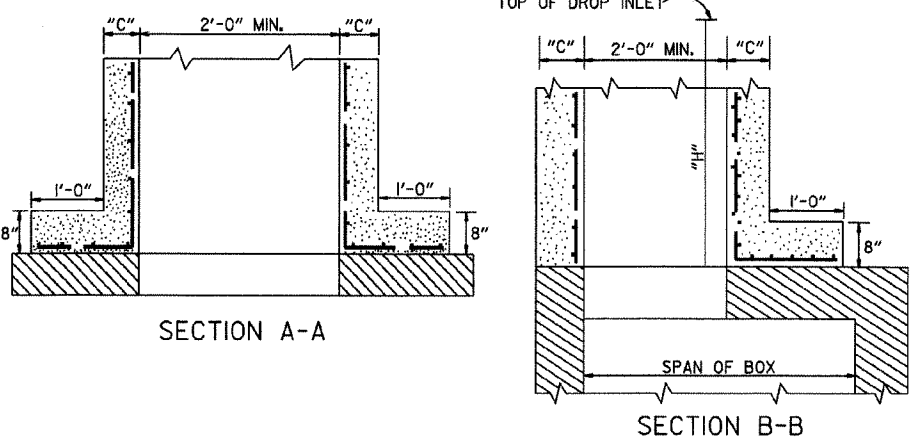


NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

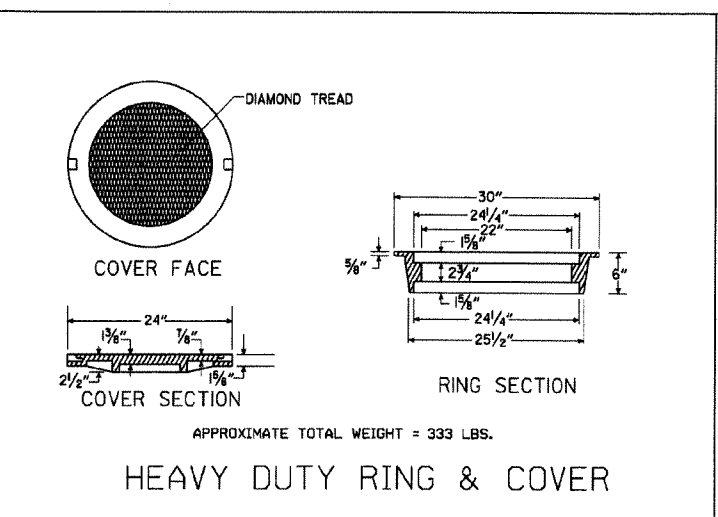


APPROX. WEIGHT = 11 LBS. (CAST IRON)
 PLAN
 NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

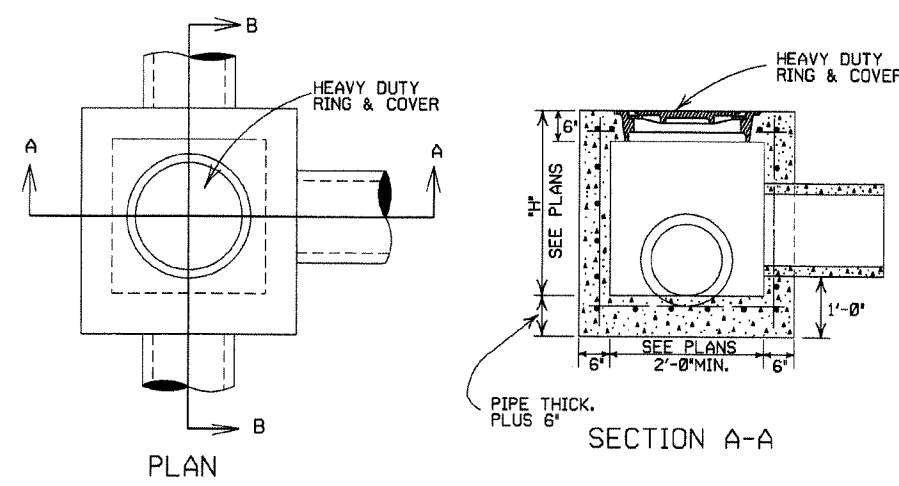


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



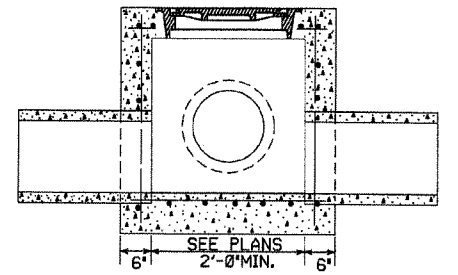
HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

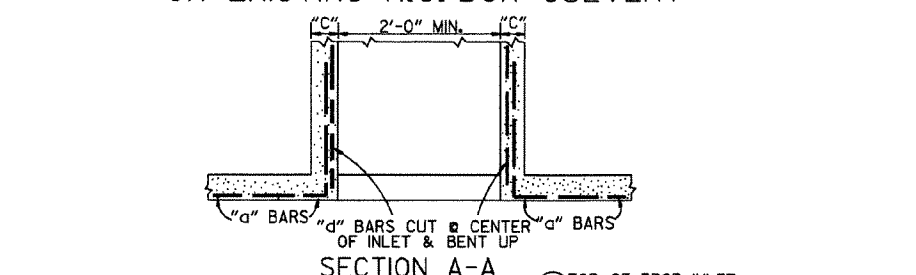


JUNCTION BOX (TYPE E)

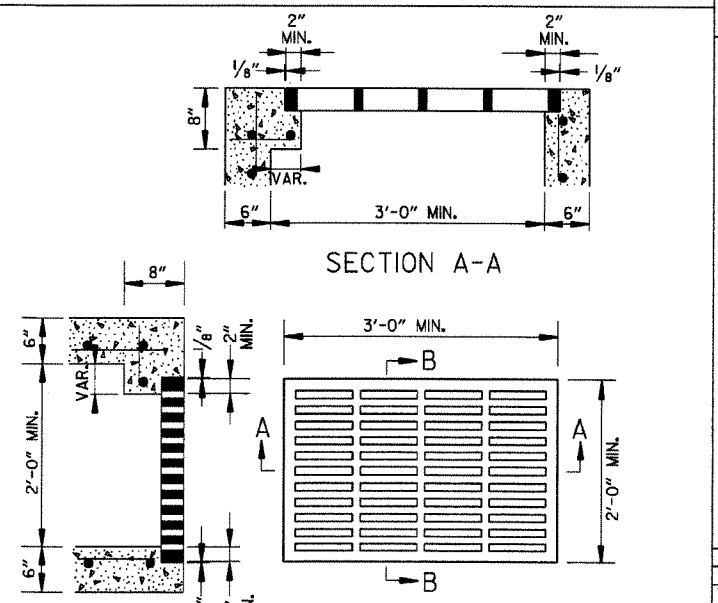
NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1/2" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

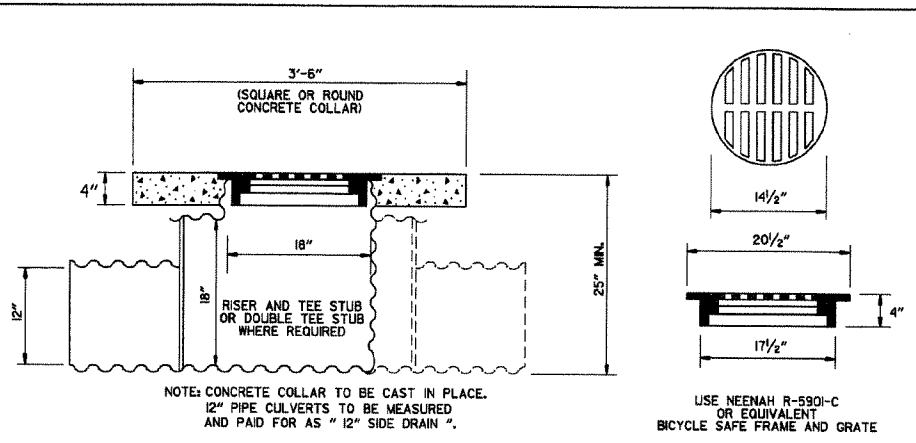


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT



GRATE FOR TYPE E DROP INLET

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.



DETAIL OF YARD DRAIN

- GENERAL NOTES:
1. ALL EXPOSED CORNERS SHALL BE 3/4" CHAMFERED.
 2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
 3. EXPANSION JOINT MATERIAL SHALL BE 3/4" PREFORMED FIBER.
 4. GRATE OR 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. GRATE MAY BE USED WITHOUT FRAME.
 5. GRATE AND FRAME SHALL NOT BE PAINTED.
 6. GRATE SHALL BE BICYCLE SAFE.
 7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
 8. 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 M105 CLASS 35B & AASHTO M306.
 9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
 10. 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.

DATE	REV.	REVISION	DATE FILMED
11-16-01		ADDED NOTE 10	
1-12-00		REVISED HEAVY DUTY RING & COVER	
7-02-98		CHANGED GRATE DETAIL, DELETED DI (TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97		ADDED DIMENSION TO TYPE IV-A	
10-18-96		ADDED DETAIL OF YARD DRAIN	
8-15-91		DELETE TYPE IV GRATE	
7-15-88		REVISED STEP DETAIL	
5-20-83		REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83		ADDED GENERAL NOTE NO. 4	
3-2-81		ADDED TYPE IV-A GRATE	
5-22-74		DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72		REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

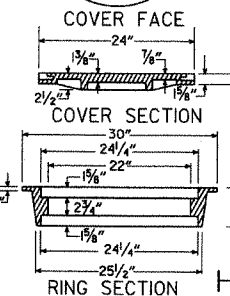
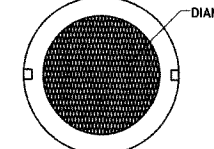
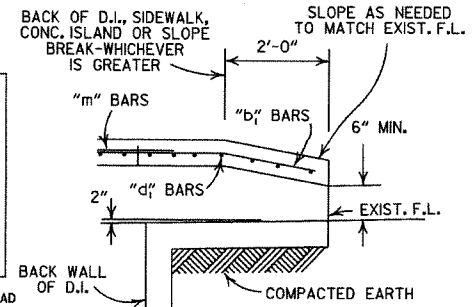
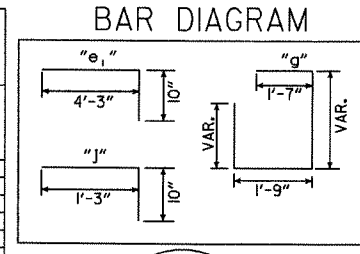
4'-0" LENGTH DROP INLET DROP INLET EXTENSION

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0"		PLUS OR MINUS PER LIN. FT. OF HEIGHT		4'-0"		8'-0"	
		CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22				
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28				
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
						0.04	3		

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

INSIDE DIA. PIPE INCHES	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8



APPROXIMATE TOTAL WEIGHT = 333 LBS.

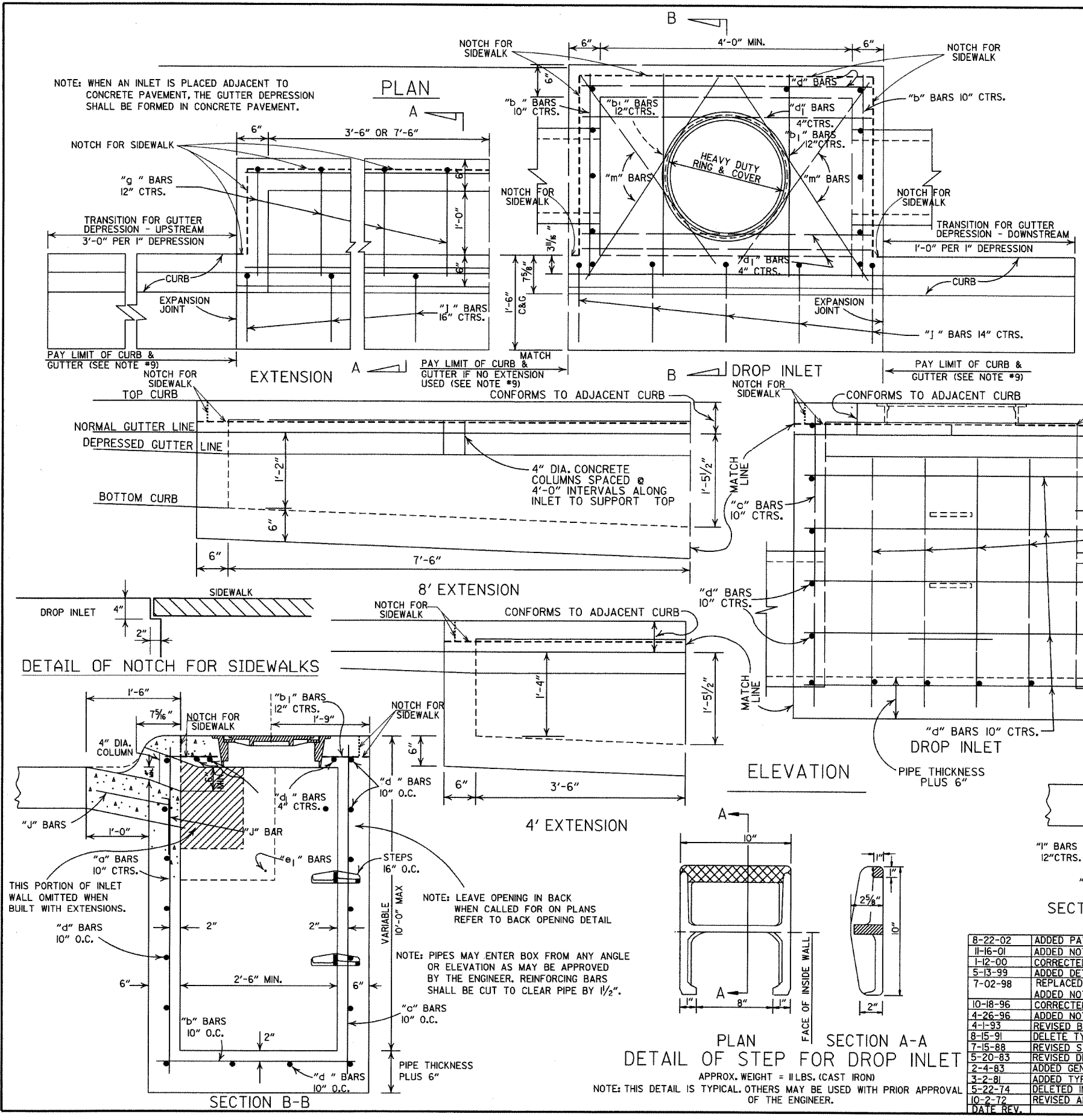
HEAVY DUTY RING & COVER

- GENERAL NOTES:
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
 - STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
 - ALL REINF. BARS SHALL BE #4 AND HAVE 1/2" COVER.
 - DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
 - THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
 - WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
 - HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
 - DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
 - PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
 - 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 M105 CLASS 35B & AASHTO M306.
 - HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
 - 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
 - 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.

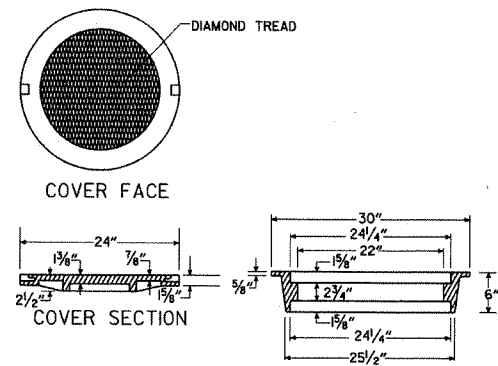
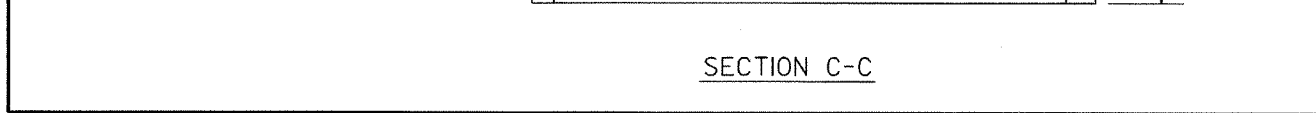
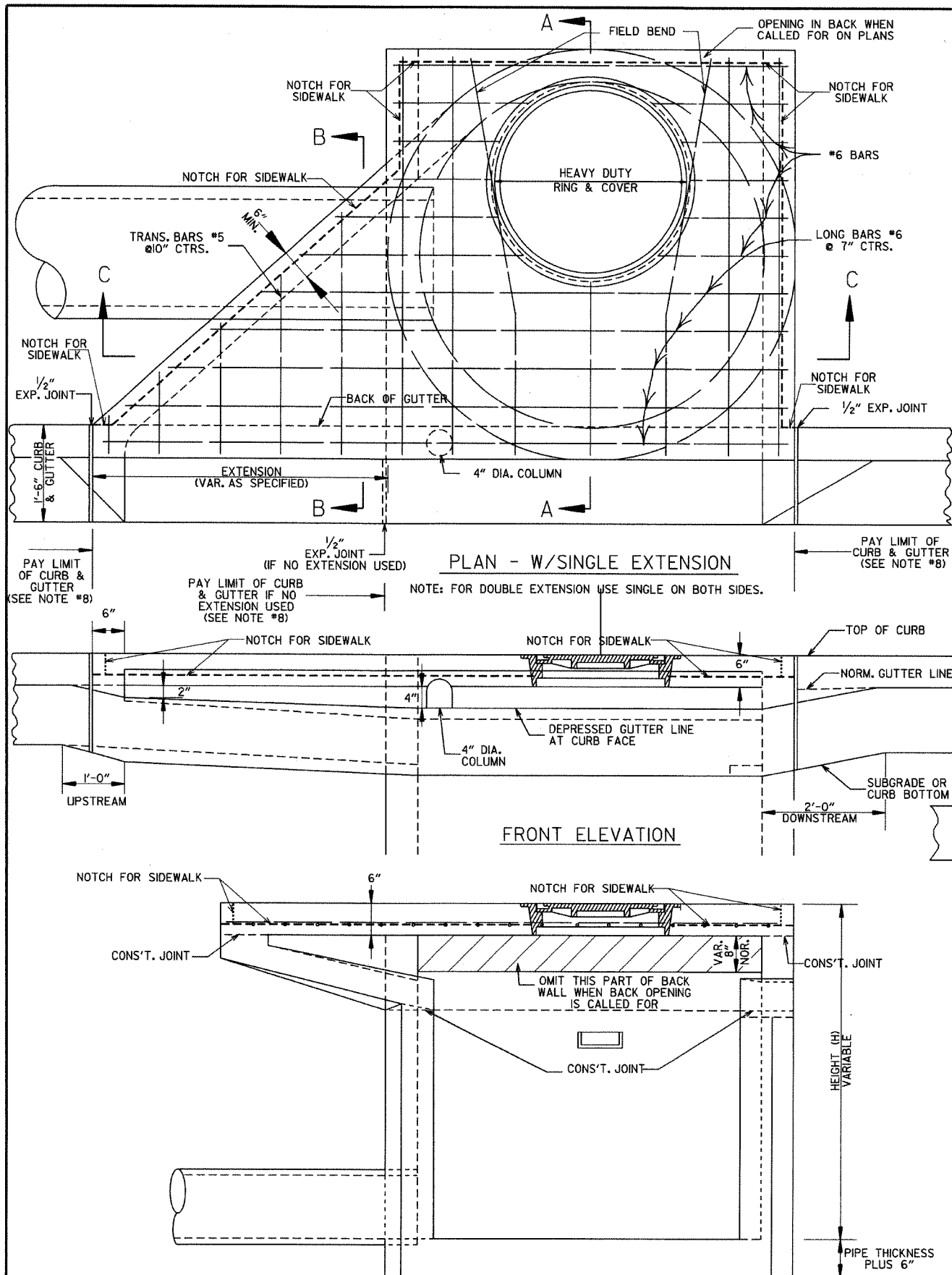
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

STANDARD DRAWING FPC-9E

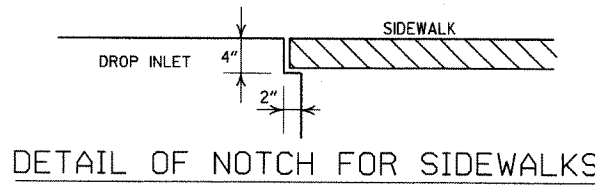


DATE	REV.	REVISION	DATE FILMED
8-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01		ADDED NOTE 13; REVISED SECTION B-B	
1-12-00		CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99		ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98		REPLACED RING & COVER W/HEAVY DUTY RING & COVER	
		ADDED NOTES 9,10,&11	
10-18-96		CORRECTED SPELLING	
4-26-96		ADDED NOTE 8 & REVISED (4'x8') EXTENSION TITLES	10-18-96
4-1-93		REVISED BACK OPENING & NOTE	
8-15-91		DELETE TYPE IV GRATE	
7-15-88		REVISED STEP DETAIL	
5-20-83		REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83		ADDED GENERAL NOTE NO. 4	
3-2-81		ADDED TYPE IV-A GRATE	
5-22-74		DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72		REVISED AND REDRAWN	

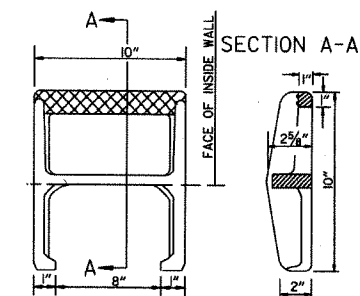


HEAVY DUTY RING & COVER
APPROXIMATE TOTAL WEIGHT = 333 LBS.

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 M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.

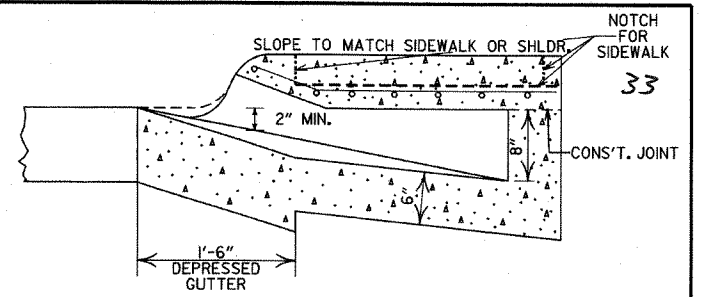


DETAIL OF NOTCH FOR SIDEWALKS

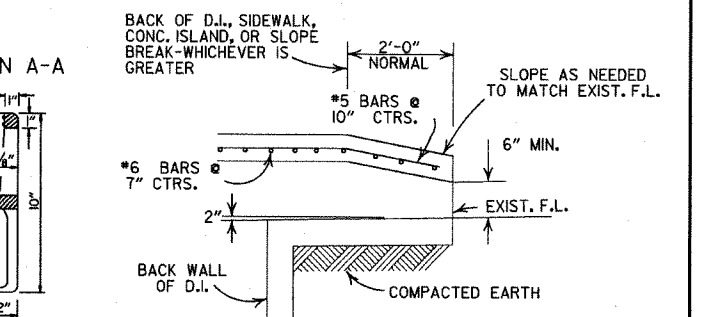


SECTION A-A
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B



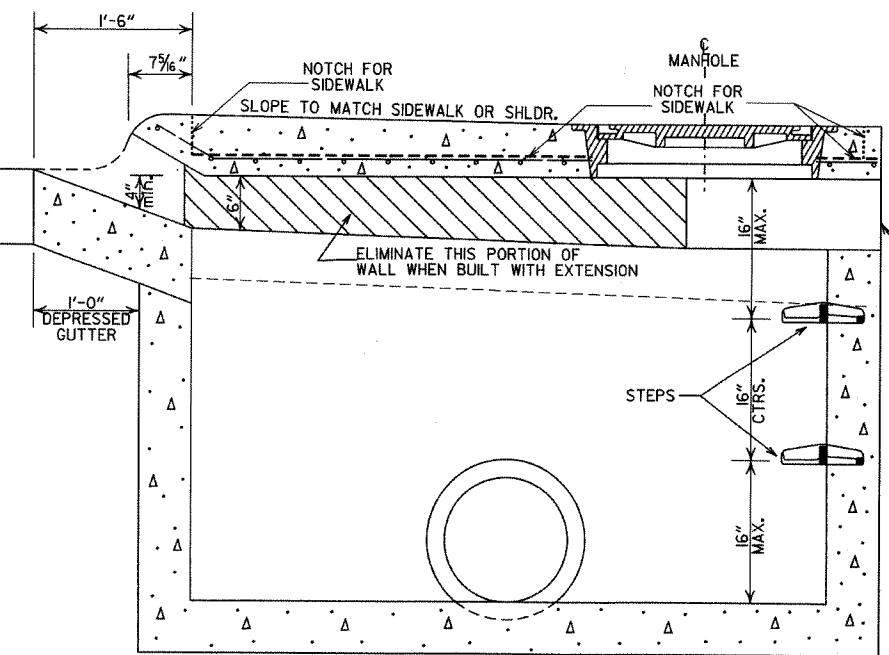
BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
 2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
 3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1/2" COVER.
 4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
 5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
 6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
 7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
 8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
 9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
 10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
 11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
 12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
 13. 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.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

MINIMUM WALL THICKNESS			
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4" I.D.	12" THRU 27"	6"	5"
5" I.D.	30" THRU 42"	8"	6"
6" I.D.	48" THRU 54"	8"	7"



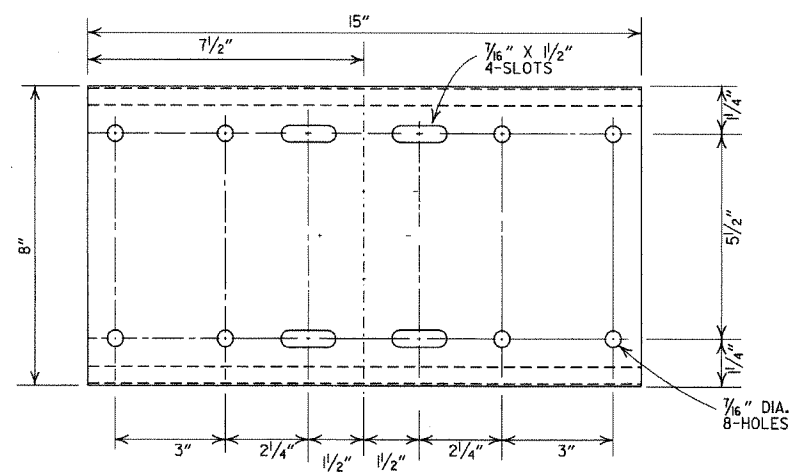
SECTION A-A

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-98	ADDED NOTE 11 (AN) OPENING DIMENSION	
10-22-95	CORRECTED #6 BAR SPACING	
12-20-95	CORRECTED DIAMETER OF 1 1/2 IN BOX	
12-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-1-94	REVISED GENERAL NOTES	11-3-94
8-15-93	REV. BACK OPEN DETAIL & NOTE	4-3-93
8-15-93	REVISED NOTES 11, 12 & ADDED BK. OPEN DETAIL	1-30-93
11-30-89	ADDED NOTE NO. 12	1-30-89
1-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5-13-88
1-16-88	ADDED EXTEND NOTE TO SECTION A-A	8-18-76-88
1-12-87	MODIFIED WALL THICKNESS	7-6-82-87
	ISSUED	4-26-81

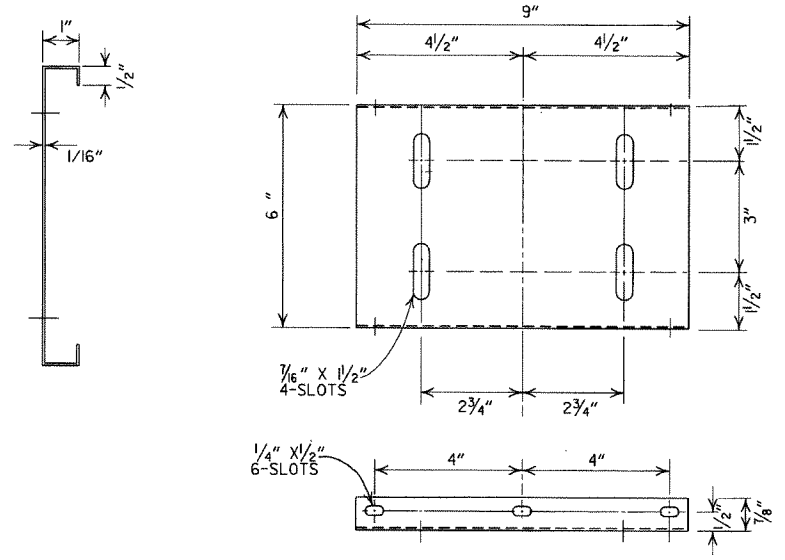
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

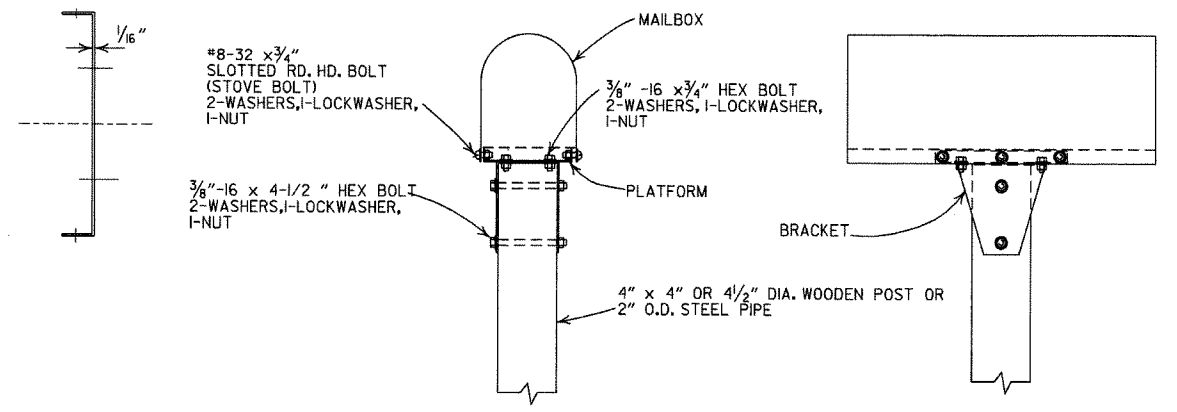
STANDARD DRAWING FPC-9M



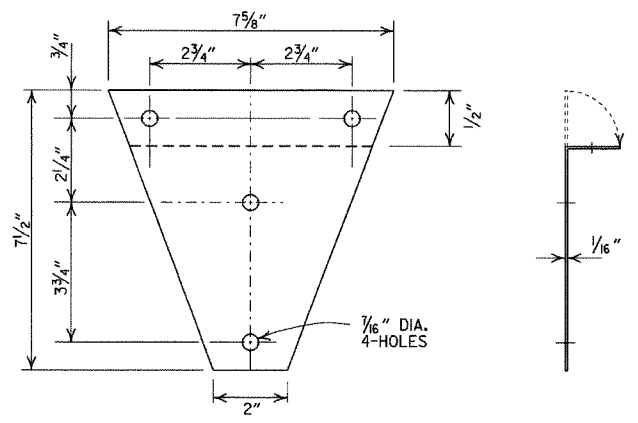
SHELF



PLATFORM

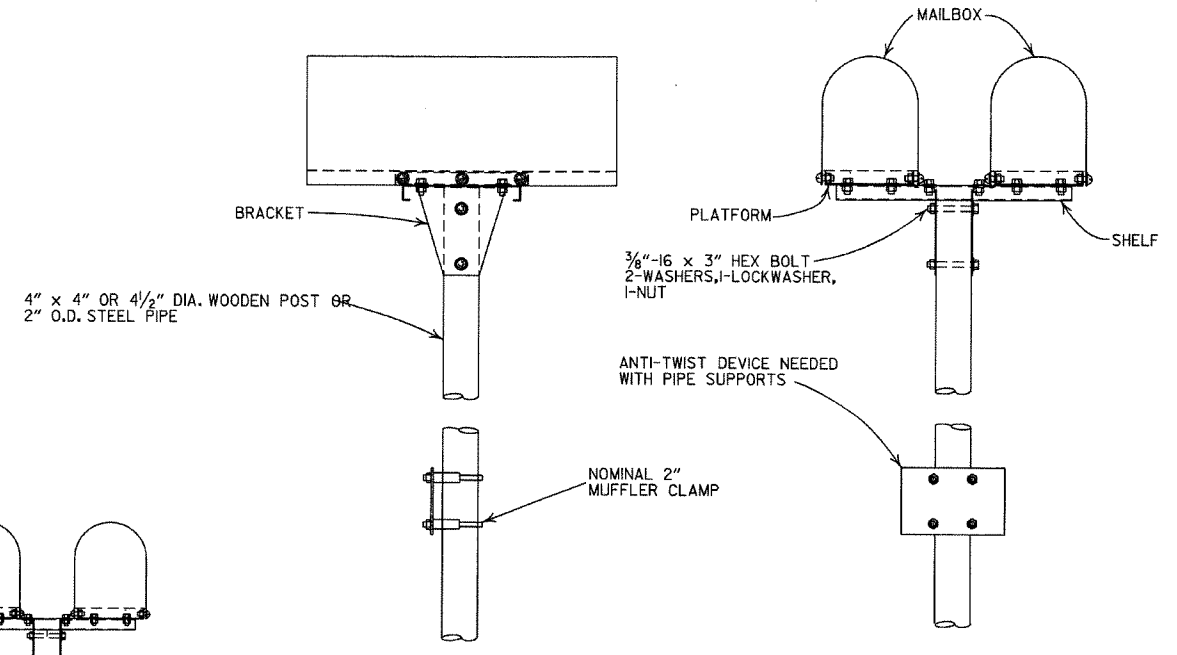


SINGLE INSTALLATION

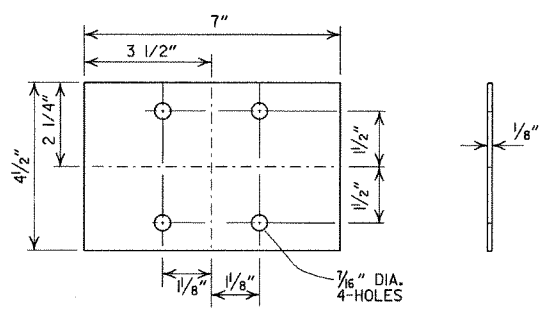


BRACKET

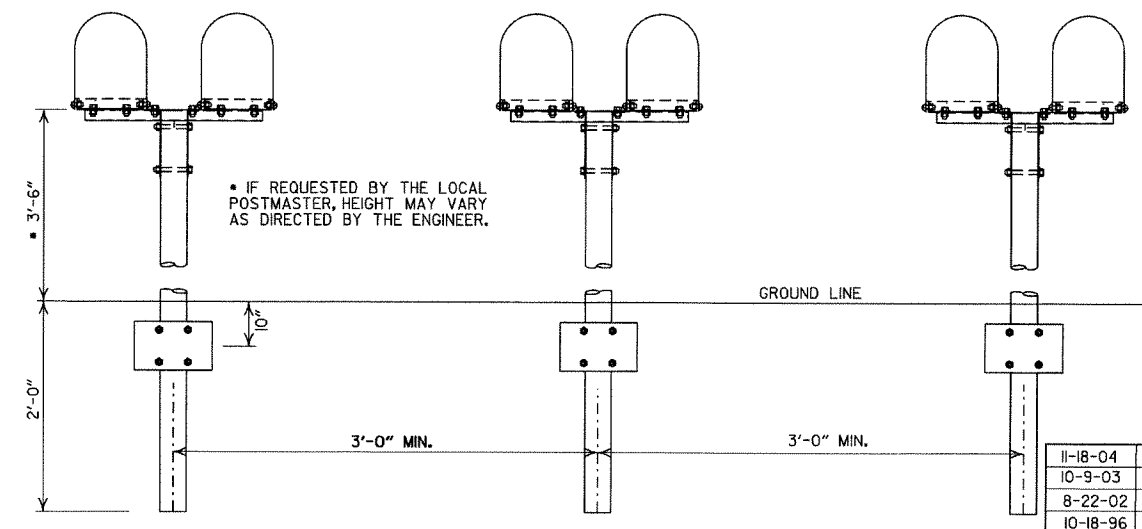
- GENERAL NOTES
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF 3/4" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 3/4" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
 4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
 5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
 6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



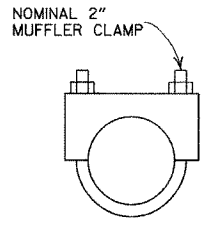
DOUBLE INSTALLATION



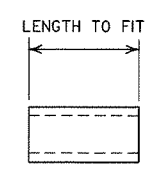
ANTI-TWIST PLATE



SPACING FOR MULTIPLE POST INSTALLATION



CLAMP



SPACER

11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	120-7-15-88	ISSUED
DATE	FILMED	REVISION

ARKANSAS STATE HIGHWAY COMMISSION

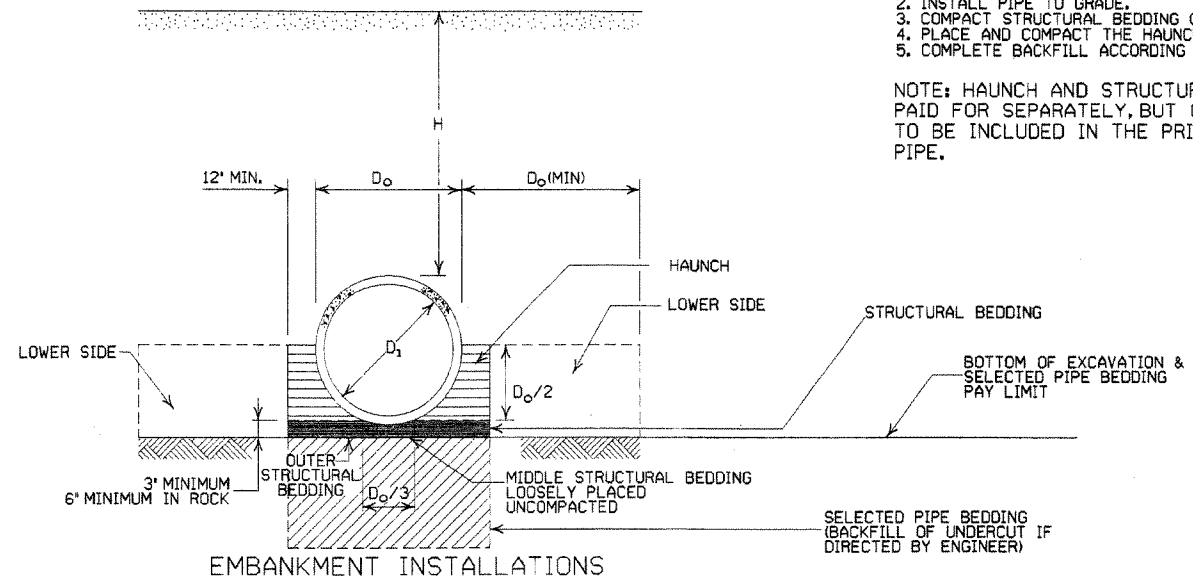
MAILBOX DETAILS

STANDARD DRAWING MB-1

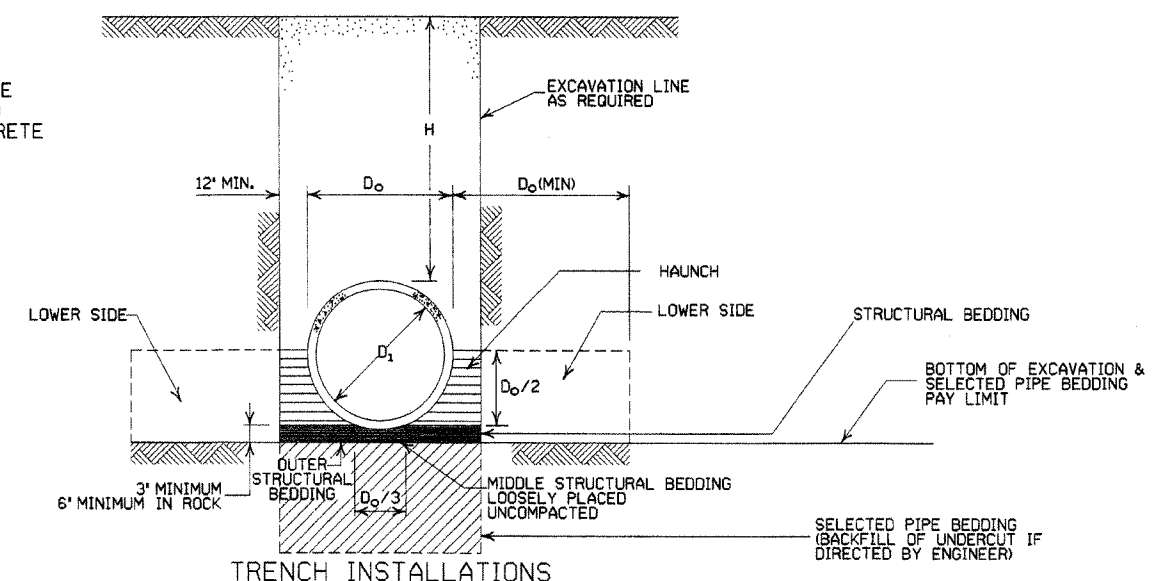
CONSTRUCTION SEQUENCE

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 SPECIFICATIONS.

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.



1. MATERIAL IN THE LOWER SIDE, HAUNCH, AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.



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.

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA. INCHES	*SPAN		*RISE	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD 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 3/4	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 1/4	77
108	138	138	87 1/8	87
120	154	154	96 1/8	97
132	168 1/4	169	106 1/2	107

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

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-3) OR TYPE 1 INSTALLATION MATERIAL
TYPE 3	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.

MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	17	27	41
TYPE 3	13	20	32

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

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.
8. 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.'
9. 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.'

- LEGEND -

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

DATE	REVISION	DATE FILMED
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

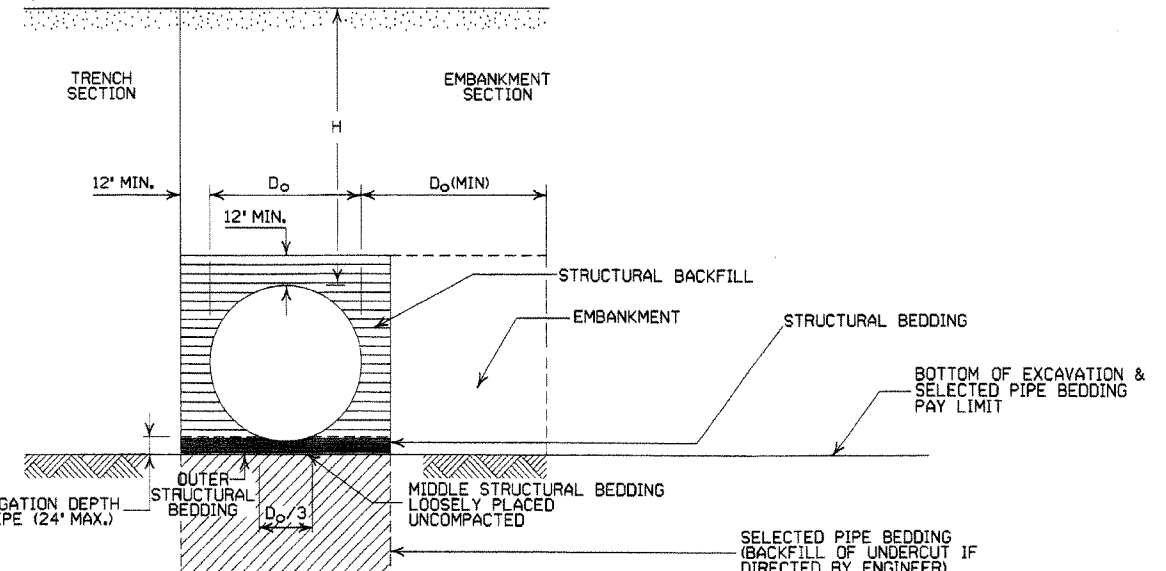
STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND) H-20 LOADING

PIPE DIAMETER (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)							
		METAL THICKNESS IN INCHES							
		0.064	0.079	0.109	0.138	0.168	0.138	0.168	0.168
2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL									
12	12	84	91						
15	12	67	73						
18	12	56	61						
24	12	42	46	59					
30	12	34	36	47					
36	12		30	39	41				
42	12		43	46	67	48	70	50	73
48	12		37	45	58	46	61	47	64
3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION** RIVETED, WELDED, HELICAL, OR BOLTED									
36	12	48	60	78	88	89	111	101	131
42	12	41	51	67	72	71	90	79	102
48	12	36	45	64	64	61	77	68	85
54	12	32	40	52	59	55	71	59	79
60	12	29	36	49	53	51	64	54	71
66	12	26	33	47	49	49	58	51	64
72	12	24	30	44	47	47	53	49	59
78	12		28	41	46	49	47	47	54
84	12		26	38	45	45	46	46	51
90	12		24	35	43	43	45	45	
96	12		22	31	38	38	42	42	
102	24			30	35	35	39	39	
108	24			28	34	34	37	37	
114	24			27	32	32	35	35	

* MAX. FILL CAN BE INCREASED IN THESE DIAMETER PIPES BY USING THE NEXT LARGER CORRUGATION, REFER TO 'CORRUGATED METAL PIPE', REVISED 1970, PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, F.H.W.A., B.P.R.

** WHERE THE STANDARD 2 1/2 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER A 3 x 1 OR 5 x 1 CORRUGATION PIPE OF THE SAME DIAMETER MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION



IN SOIL-MIN. TWICE CORRUGATION DEPTH
IN ROCK-MIN. 1/2' PER FOOT OF FILL OVER PIPE (24' MAX.)

TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

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. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-3)

* AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL

NOTE: STRUCTURAL BACKFILL 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 METAL PIPE.

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.'
8. 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 STRUCTURAL BACKFILL), 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.'

- LEGEND -

- D_o = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- [Symbol] = STRUCTURAL BACKFILL MATERIAL
- [Symbol] = UNDISTURBED SOIL
- ELONG. = ELONGATED
- EQUIV. DIA. = EQUIVALENT DIAMETER
- H = FILL COVER HEIGHT OVER PIPE (FEET)

CORRUGATED ALUMINUM PIPE (ROUND) H-20 LOADING

PIPE DIAMETER (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL						
12	12	45	45			
18	12	30	30	52		
24	12	22	22	39	41	
30	12	18	18	31	32	34
36	12		15	26	27	28
42	12		26	43	43	44
48	12			40	41	43
54	12			35	37	38
60	12				33	34
66	12				30	31
72	12					29

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8
0.188	0.1838		7
0.218	0.2145		5
0.249	0.2451		3
0.280	0.2758		1

CORRUGATED METAL PIPE ARCHES (H - 20 LOADING)

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE FOR 2 TONS PER SQ. FT. (INCHES)	STEEL				ALUMINUM			
				MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHTS ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.		MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHTS ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.			
					2 TONS	3 TONS ¹		2 TONS	3 TONS ¹		
2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL											
15	17x13	3	12	0.064	13	15+	0.060	15			
18	21x15	3	12	0.064	12	15+	0.060	14			
21	24x18	3	12	0.064	10	15+	0.060	12		15+	
24	28x20	3	12	0.064	10	15	0.060	10		15+	
30	35x24	3	12	0.079	9	14	0.075	9	14		
36	42x29	3 1/2	12	0.079	9	13	0.075	9	13		
42	49x33	4	12	0.079	8	12	0.105	8	12		
48	57x38	5	12	0.109	8	12	0.135	8	12		
54	64x43	6	12	0.109	8	12	0.135	8	12		
60	71x47	7	12	0.138	8	12	0.164	8	12		
66	77x52	8	12	0.168	8	12	0.164	8	12		
72	83x57	9	12	0.168	9	13		8	12		
3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION** RIVETED, WELDED, OR HELICAL											
36	40x31	5	12	0.079	15	15+					
42	46x36	6	12	0.079	15	15+					
48	53x41	7	12	0.079	15	15+					
54	60x46	8	12	0.079	15	15+					
60	66x51	9	12	0.079	15	15+					
66	73x55	12	12	0.079	15	15+					
72	81x59	14	18	0.079	15	15+					
78	87x63	14	18	0.079	14	15+					
84	95x67	16	18	0.109	13	15+					
90	103x71	16	24	0.109	12	15+					
96	112x75	18	24	0.109	11	15+					
102	117x79	18	24	0.109	10	15					
108	128x83	18	24	0.138	9	14					

¹ WHERE BEARING PRESSURE EXCEEDING 2 TONS PER SQUARE FOOT IS REQUIRED FOR GIVEN FILL HEIGHTS, THE FOUNDATION MATERIAL SHALL BE INVESTIGATED TO DETERMINE THE BEARING CAPACITY.

** WHERE THE STANDARD 2 1/2 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A 3 x 1 OR 5 x 1 CORRUGATION PIPE OF THE SAME DIAMETER MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

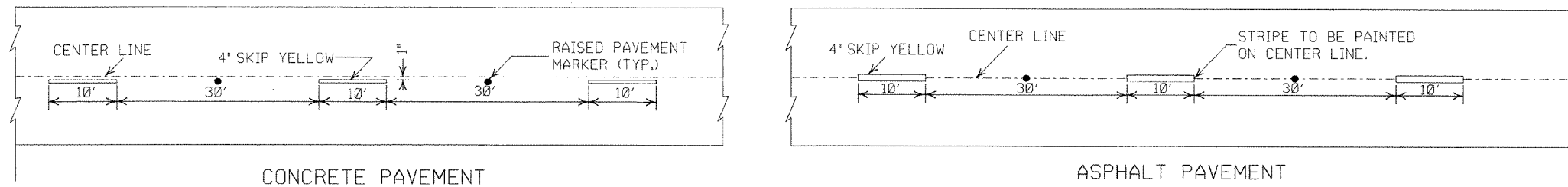
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

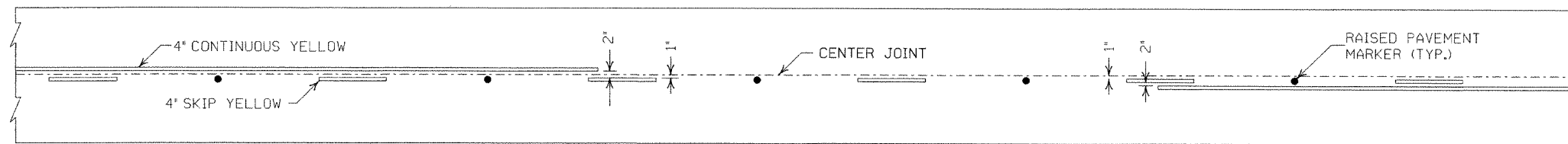
STANDARD DRAWING PCM-1

NOTES:

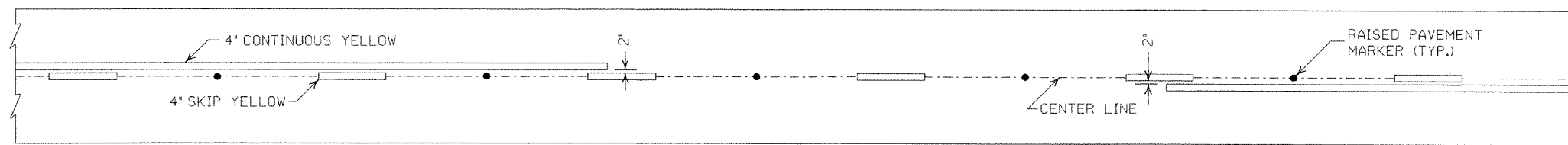
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.'
4. RAISED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



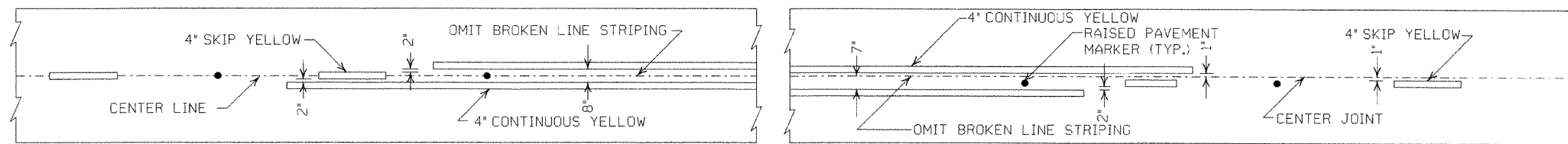
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



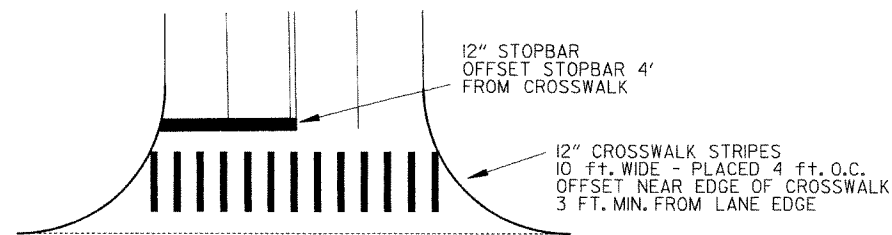
SOLID LINE STRIPING ON ASPHALT PAVEMENT



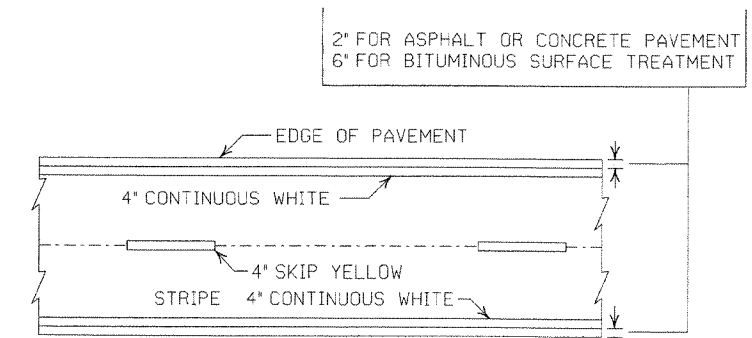
ASPHALT PAVEMENT

CONCRETE PAVEMENT

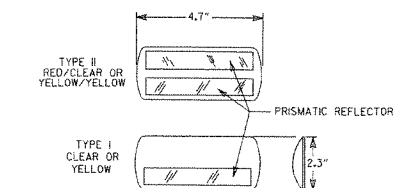
STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS



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.

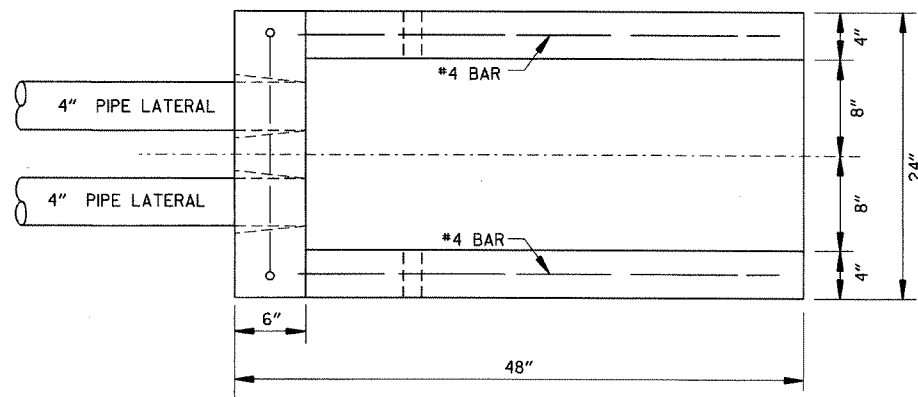
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES', LATEST REVISION.

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.

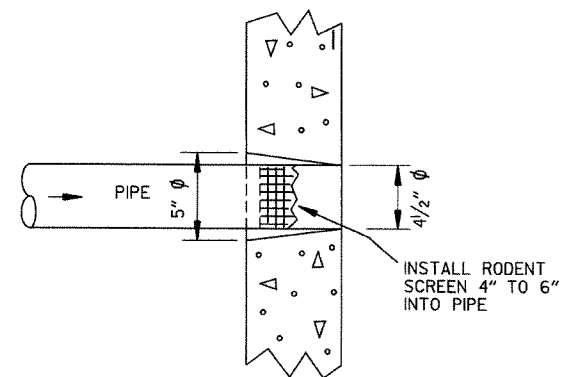
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

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

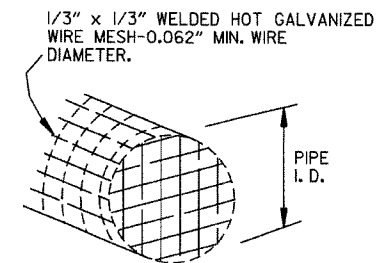
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH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



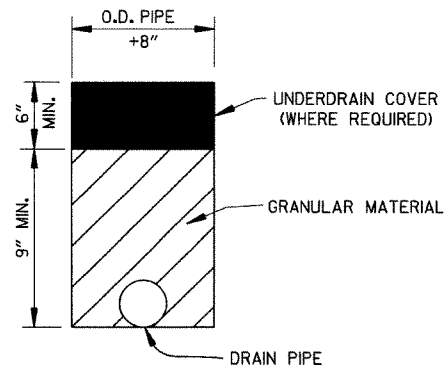
PLAN VIEW



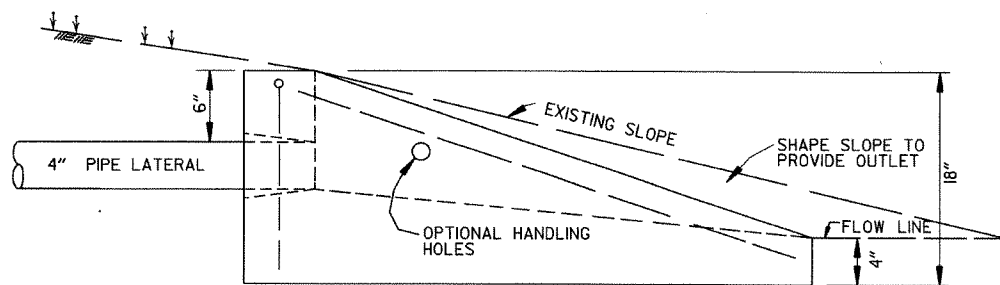
DETAIL OF HOLE FOR 4" PIPE



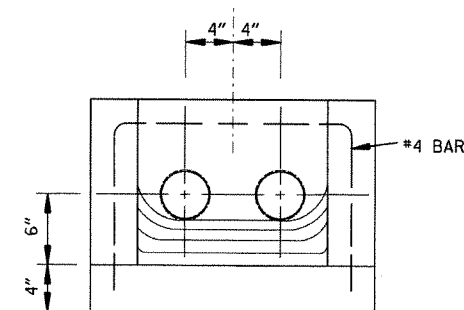
DETAIL OF RODENT SCREEN



DETAILS OF PIPE UNDERDRAIN



SIDE VIEW

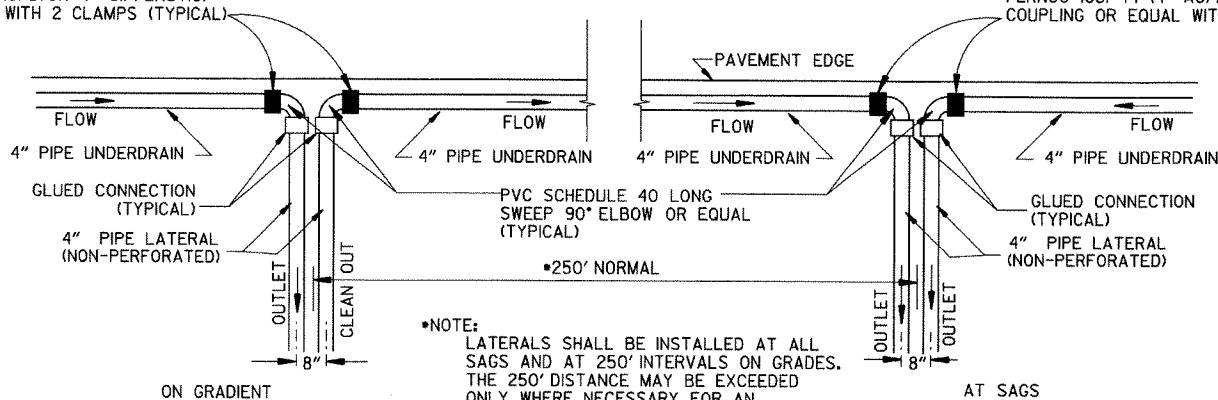


FRONT VIEW

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

UNDERDRAIN OUTLET PROTECTORS

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

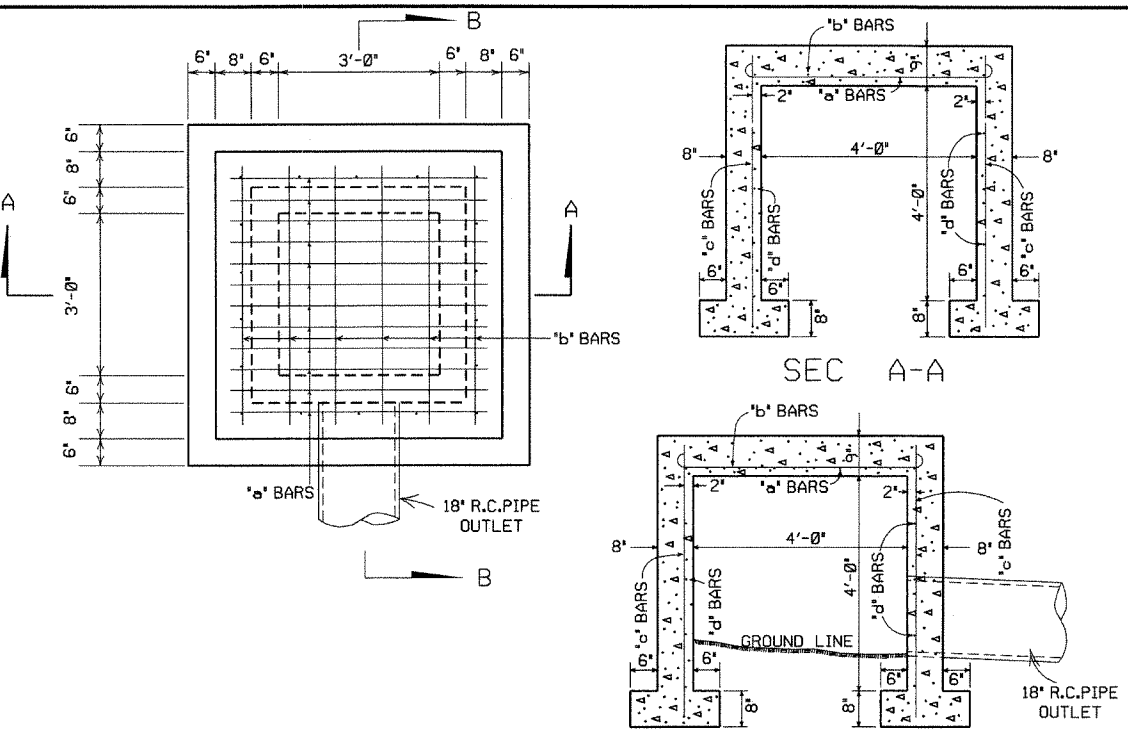
NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

DATE	REVISION	DATE FILMED
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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1



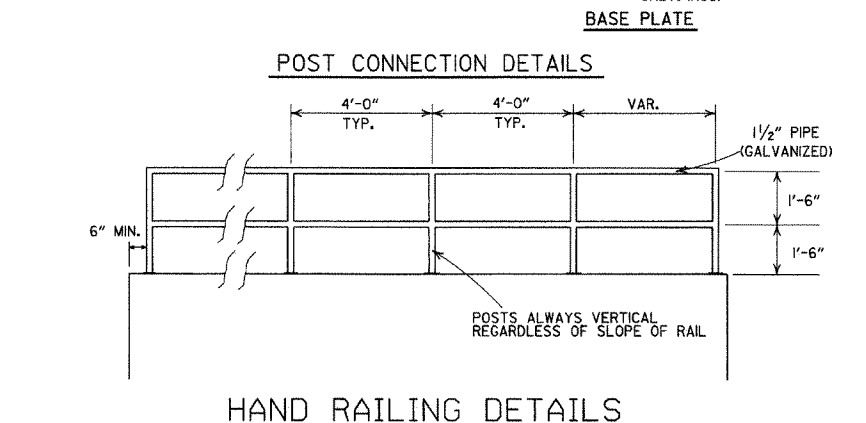
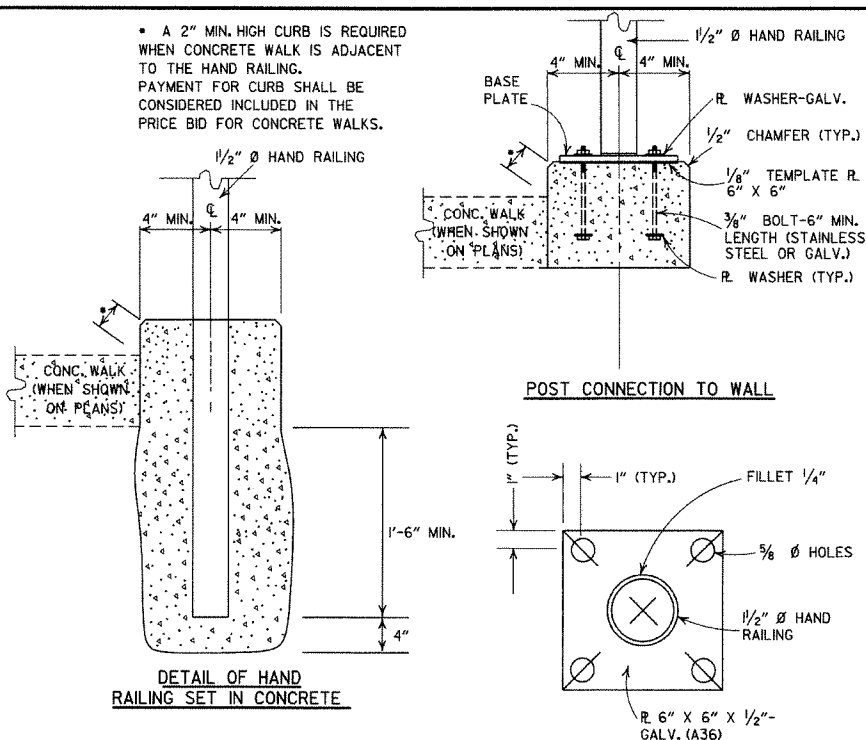
STEEL SCHEDULE

BAR	NUMBER	LENGTH	SPACING
'a'	11	6'-0"	5'
'b'	6	6'-0"	10'
'c'	16	5'-1"	12'
'd'	16	5'-0"	12'

QUANTITIES
 CONCRETE 3.40 CU. YDS.
 REINFORCING STEEL 176 LB.

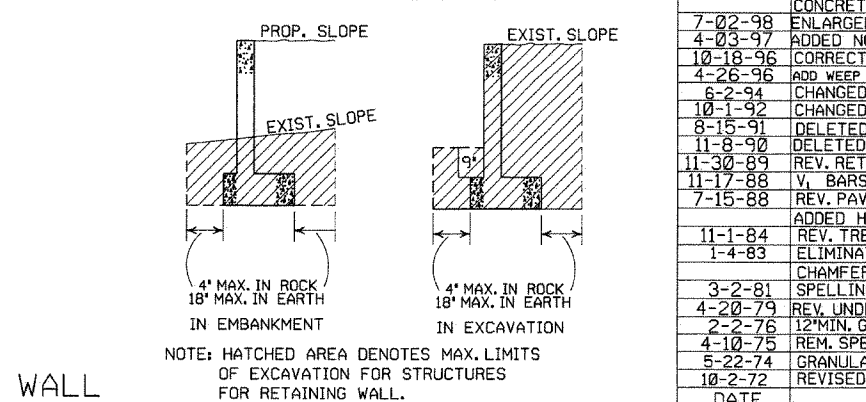
GENERAL NOTE:
 THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



STEEL SCHEDULE

'c'	'd'	'h'	'a'	'b'	V1 BARS	F1 BARS	H1	V2	F2	
SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SPAC.	SPAC.	NO.	REQ'D.	
8"	8"	1'-0"	8"	2'-0"	#4	12"	#4	18"	18"	5
8"	8"	2'-0"	8"	2'-0"	#4	12"	#4	18"	18"	5
8"	8"	3'-0"	8"	2'-0"	#4	12"	#4	18"	18"	5
8"	8"	4'-0"	1'-2"	2'-6"	#4	12"	#4	12"	18"	5
8"	8"	5'-0"	1'-8"	3'-0"	#4	9"	#4	9"	18"	5
8"	8"	6'-0"	2'-2"	3'-6"	#4	6"	#4	6"	18"	6
12"	8"	7'-0"	2'-4"	4'-0"	#4	8"	#4	8"	18"	6
12"	8"	8'-0"	2'-10"	4'-6"	#4	6"	#4	6"	18"	6
15"	10"	9'-0"	2'-11"	5'-0"	#4	5"	#4	5"	18"	6
17"	10"	10'-0"	3'-3"	5'-6"	#5	6"	#5	6"	18"	7



REINFORCED CONCRETE RETAINING WALL

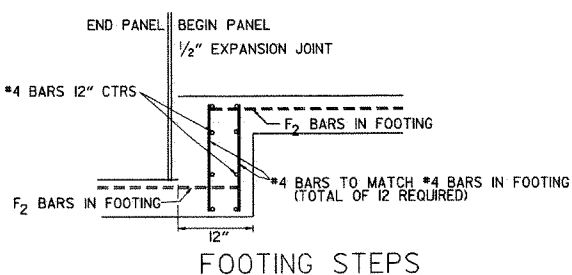
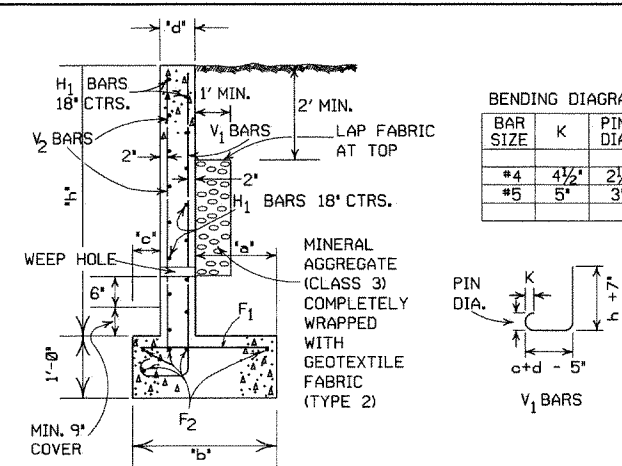
GENERAL NOTES

THE PAY ITEMS FOR THE CONSTRUCTION OF REINFORCED CONCRETE RETAINING WALL SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL AND EXCAVATION FOR STRUCTURES.

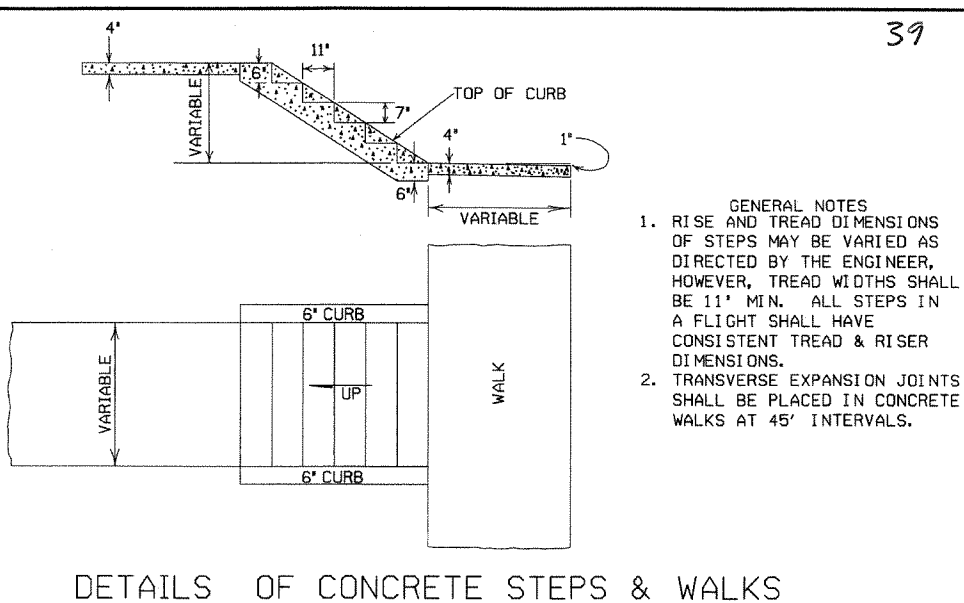
MINERAL AGGREGATE WRAPPED WITH GEOTEXTILE FABRIC (CONTINUOUS) TO BE PLACED 1'-0" IN WIDTH AND 1'-0" IN HEIGHT AS A SUBSIDIARY ITEM TO THE VARIOUS PAY ITEMS.

3" WEEP HOLES (MAX. SPACING 10'-0" CTRS.) TO BE PLACED WHERE SPECIFIED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PLACE CONTRACTION JOINTS ON 20' CENTERS AND EXPANSION JOINTS ON 60' CENTERS.

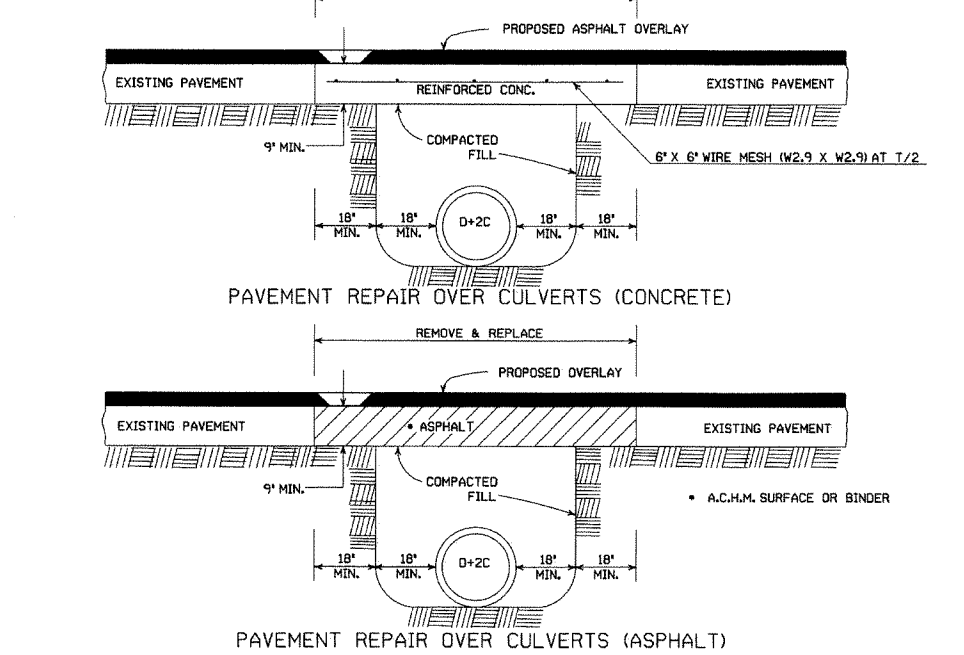
ALL EXPOSED EDGES TO BE CHAMFERED 3/4".



FOOTING STEPS



DETAILS OF CONCRETE STEPS & WALKS



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)


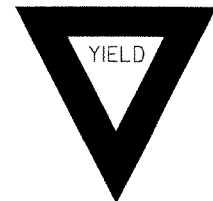
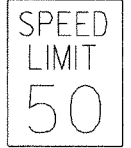
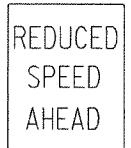

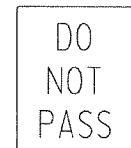

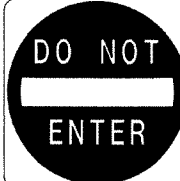
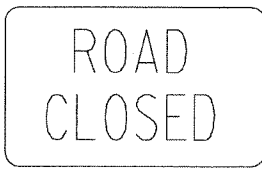
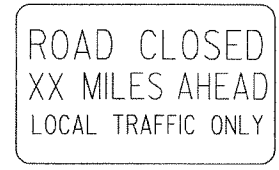
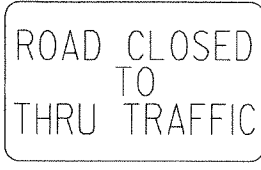
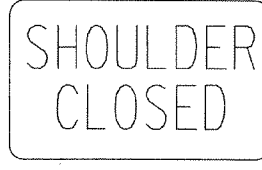
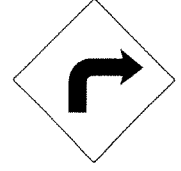
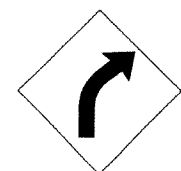




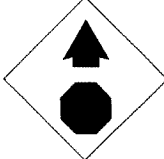
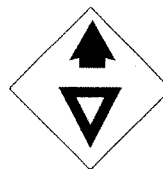
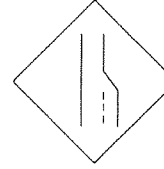



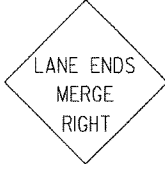


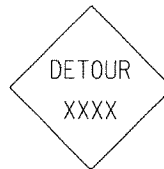
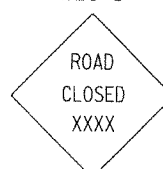


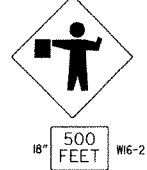


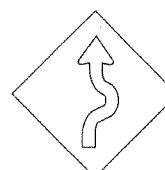
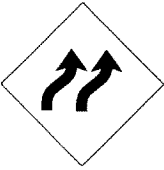


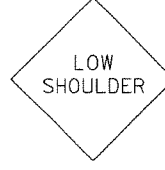
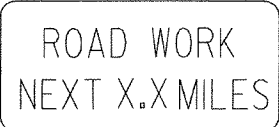
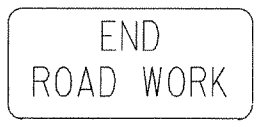
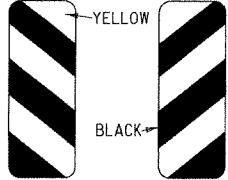


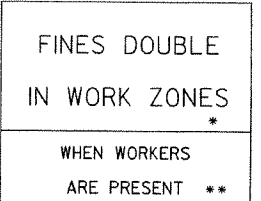
DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

DATE	REVISION	DATE FILMED
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC)	
10-9-03	REVISED REINFORCED CONC SPRING BOX	
4-10-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
8-22-02	REVISED RETAINING WALL DRAWING	
11-16-01	ADDED HAND RAILING DETAIL	
11-18-98	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V1 BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
11-1-84	ADDED HDWL MODS. DEL. PIPE UNDERDRAINS	
1-4-83	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
	ELIMINATED CONC. CLASS & ADDED	682-1-4-83
3-2-81	CHAMFER NOTE	
4-20-79	SPELLING OF "UNDERDRAIN"	721-3-2-81
2-2-76	REV. UNDERDRAIN DET. & PAVEMENT REPAIR	674-4-20-79
4-10-75	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
5-22-74	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
10-2-72	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

<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>18" 500 FEET 24" W16-2</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>

ADVANCE DISTANCES (XXXX)

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

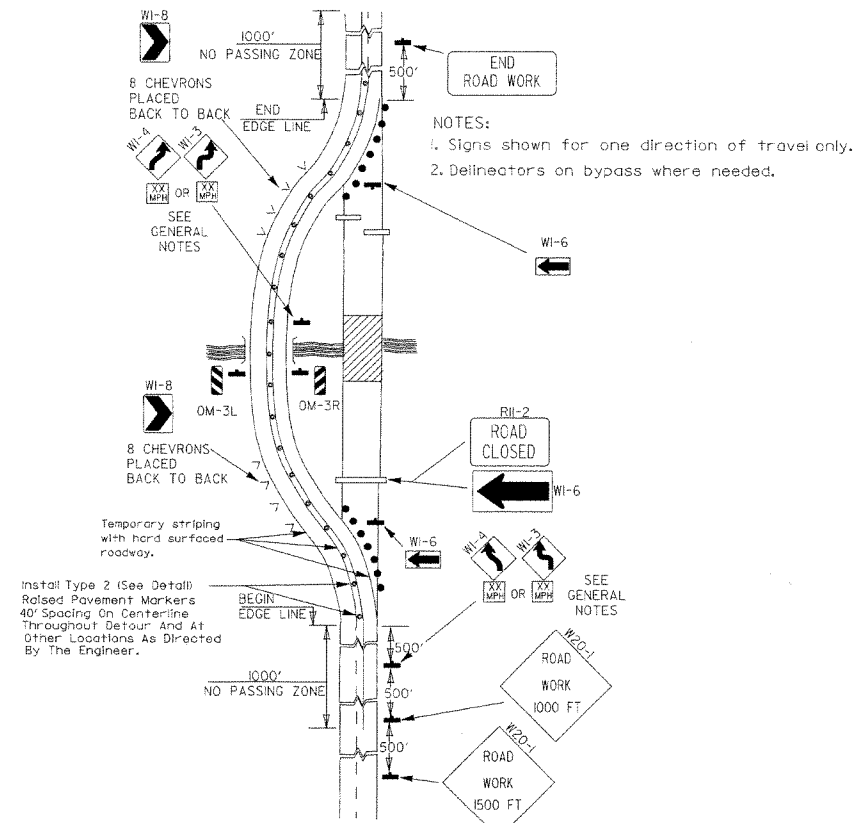
GENERAL NOTES:

- 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.

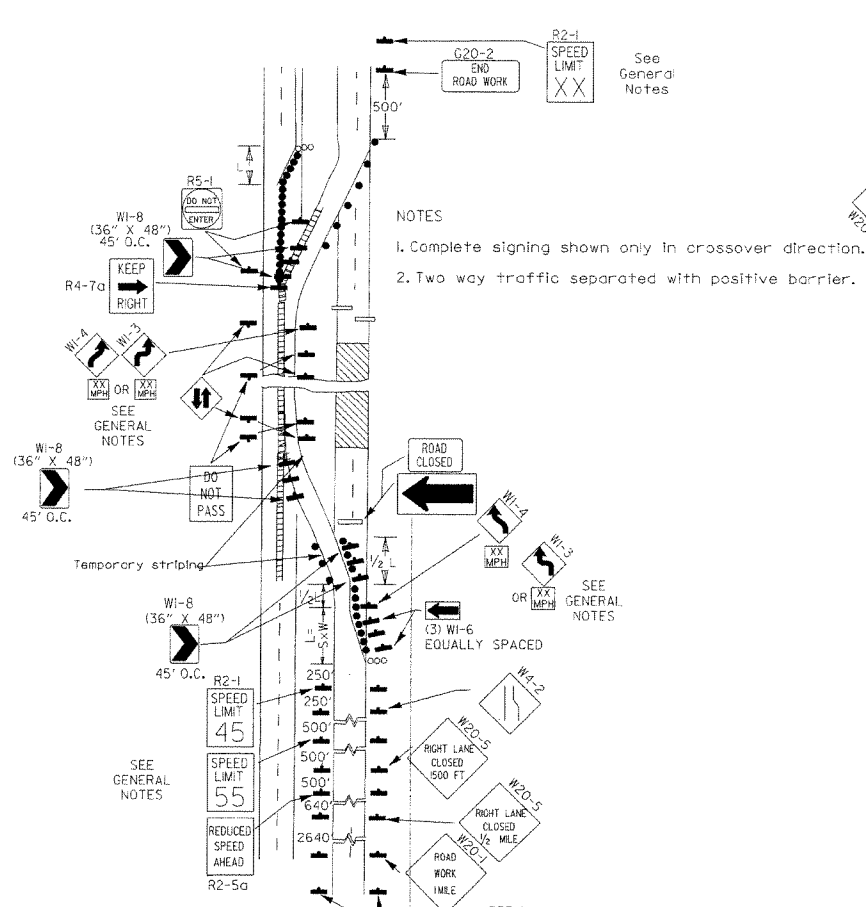
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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	
8-18-04	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

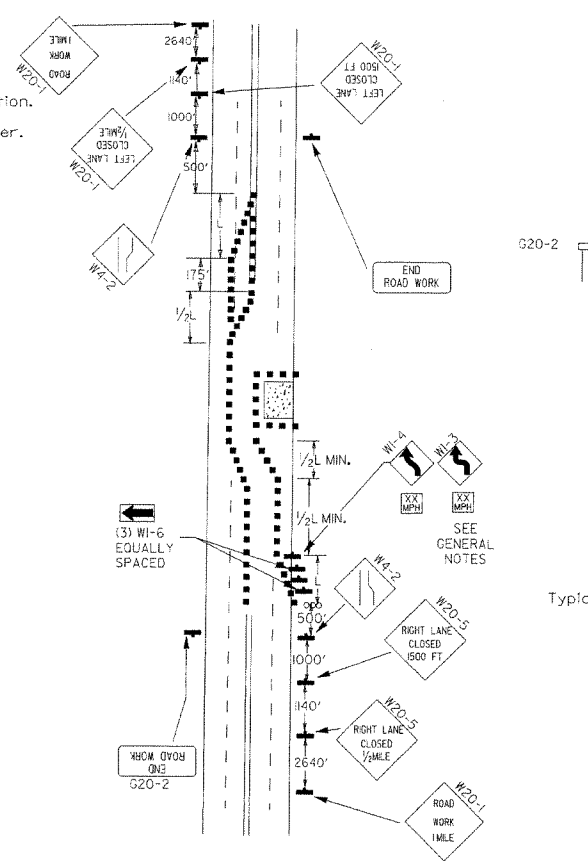
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



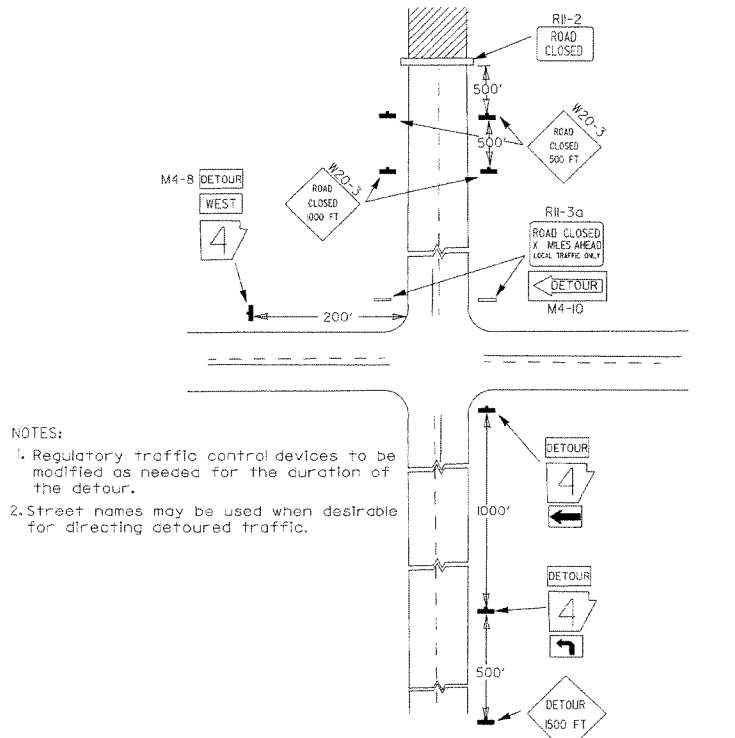
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



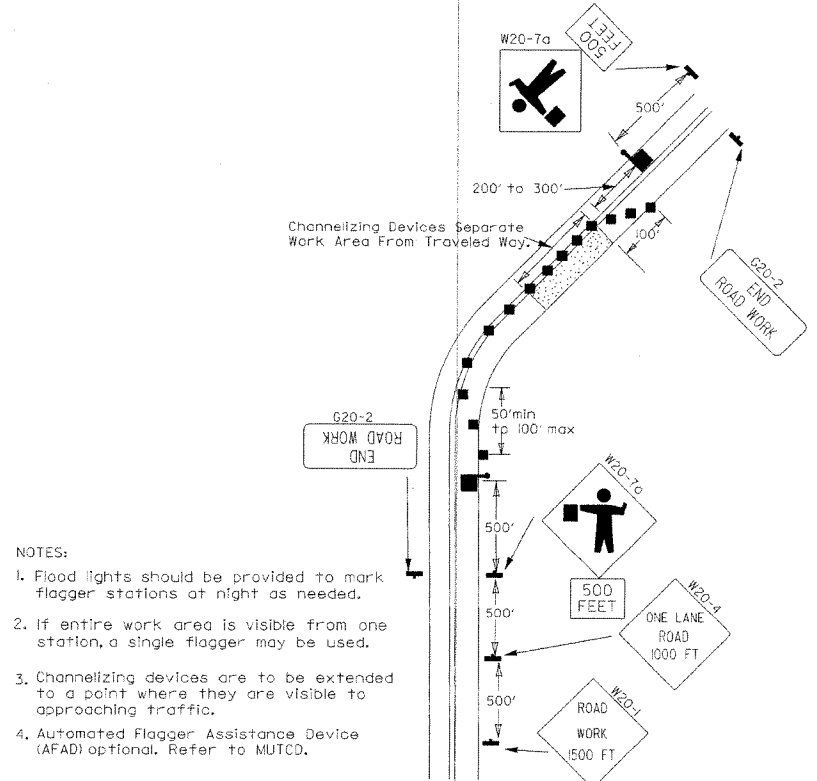
(B) Typical application - 4-lane divided roadway where one roadway is closed.



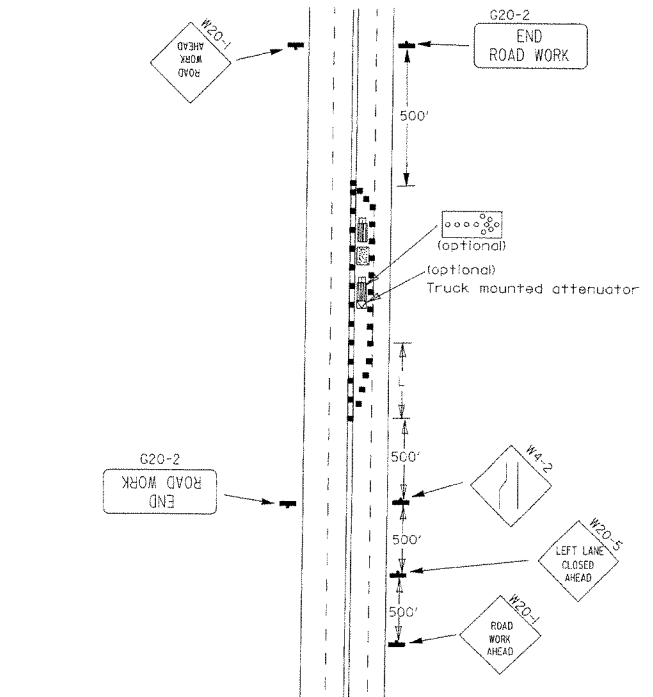
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



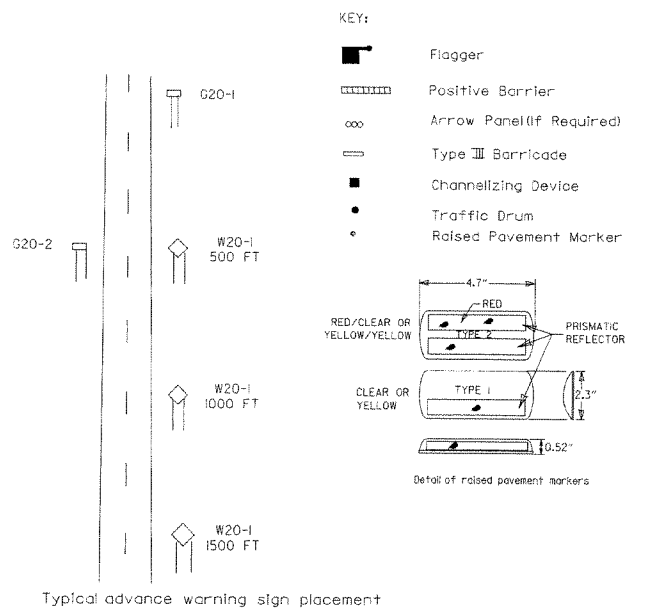
(D) Typical application - roadway closed beyond detour point.



(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.

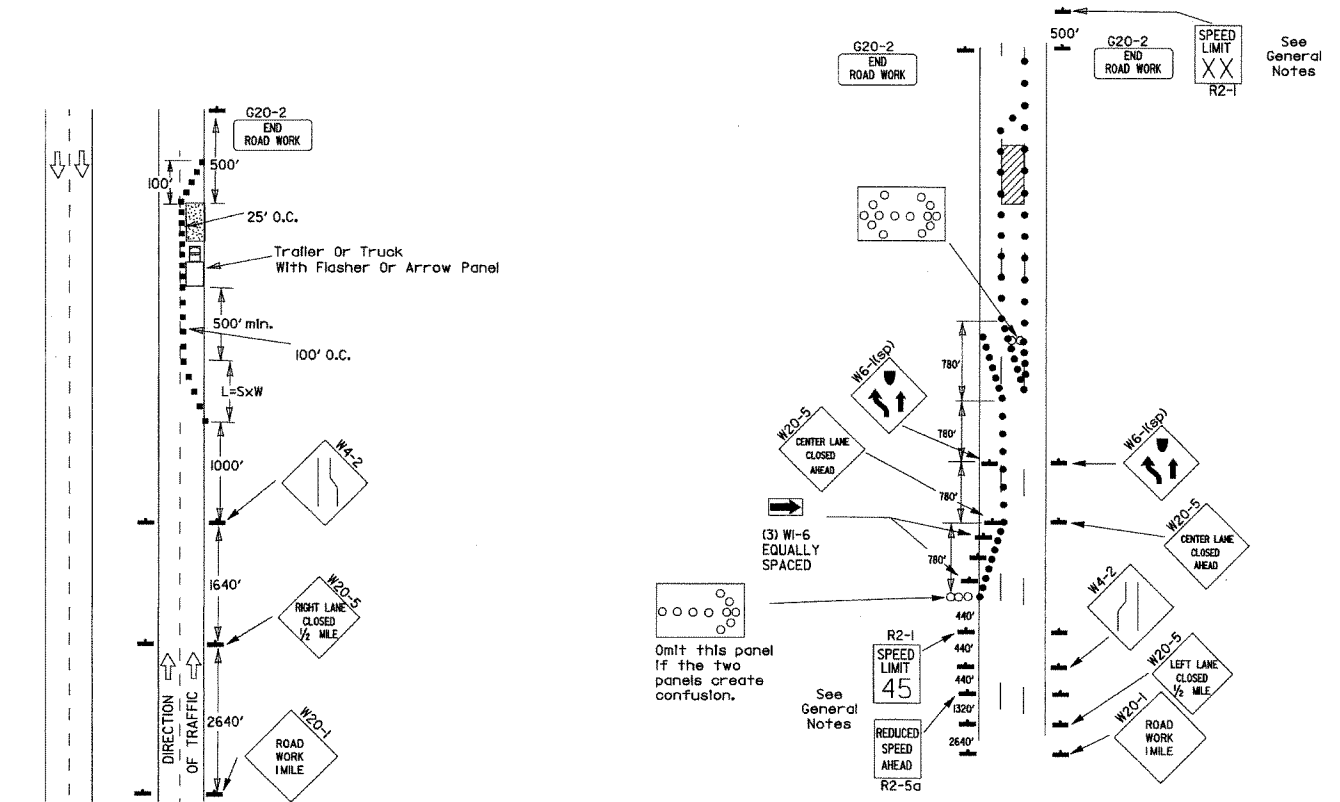


Taper formulae:
 $L = S \times W$ for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
 Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.
 W = Width of offset.

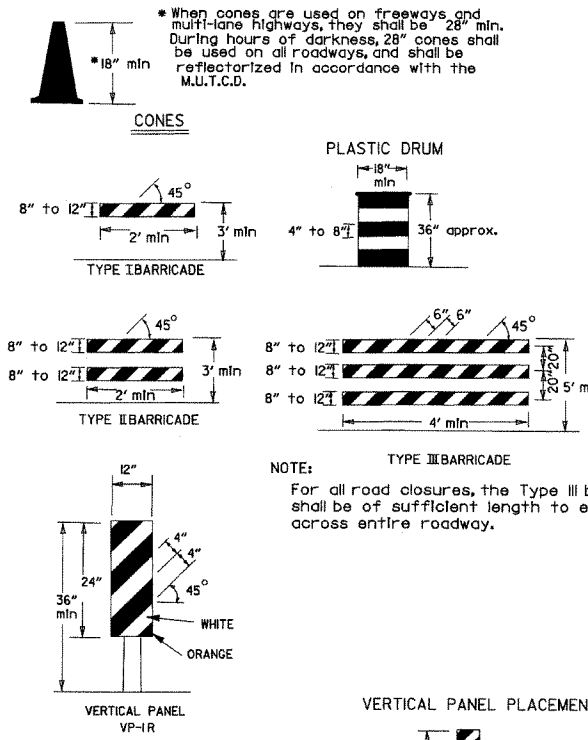
- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A 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(45) 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(65) 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(55) 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.

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	
8-15-91	DRAWN AND PLACED IN USE	

Channellizing devices



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

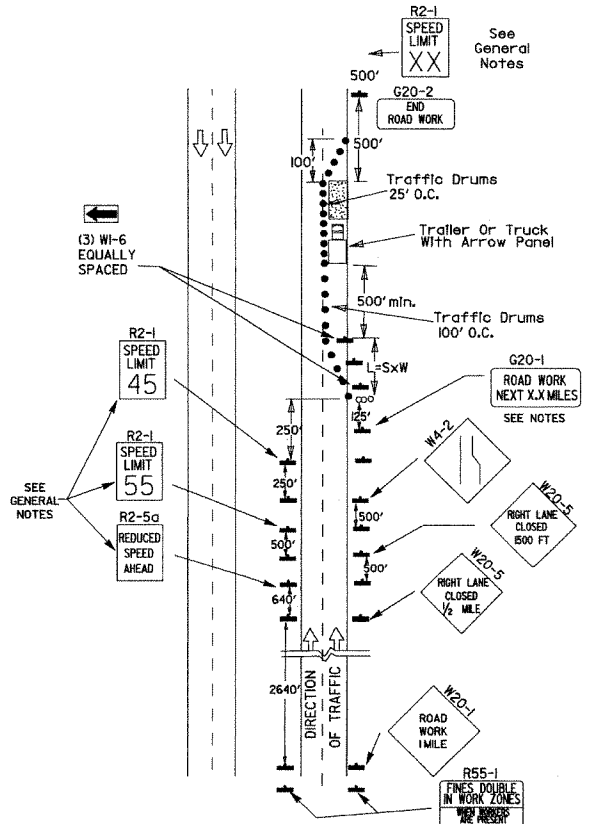


(B) Typical application - 3-lane oneway roadway where center lane is closed.

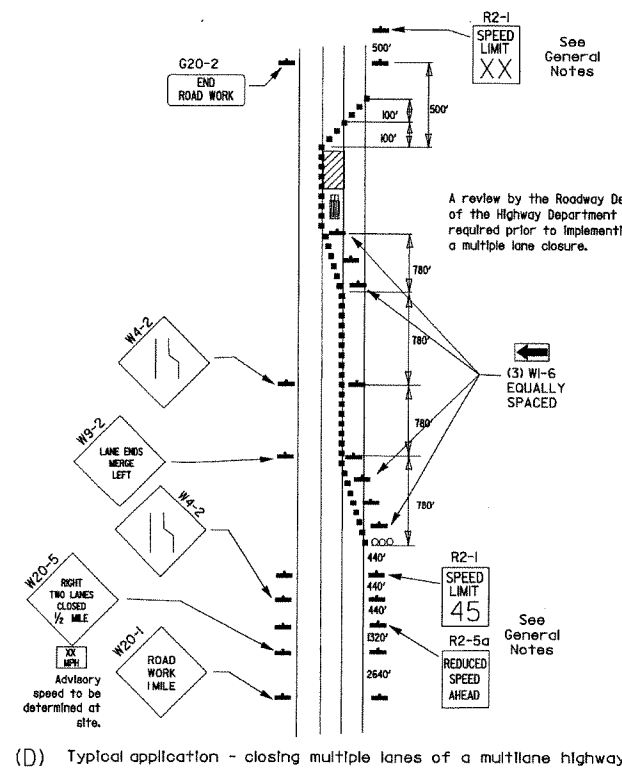
- KEY:
- Arrow Panel (if Required)
 - Channellizing Device
 - Traffic drum

GENERAL NOTES:

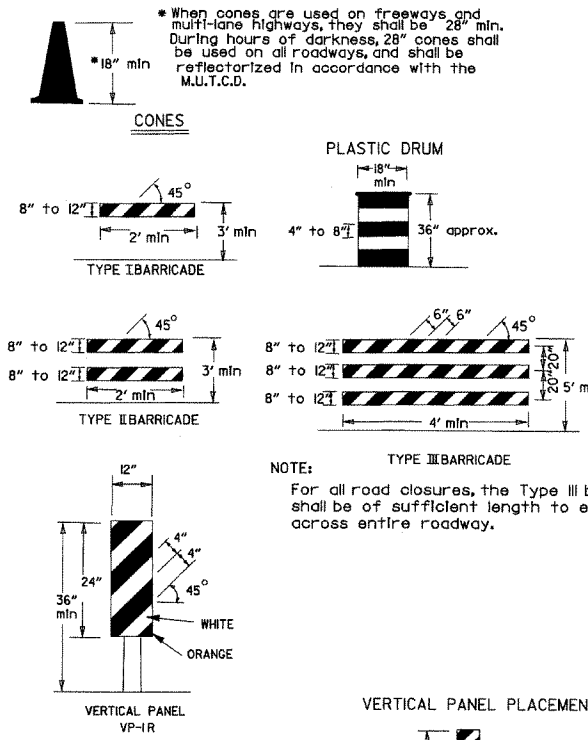
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1XX shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1XX shall be installed to match original speed limit.
4. The maximum spacing between channellizing 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.
5. Warning lights and/or flags may be mounted to signs or channellizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. 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 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
10. 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.



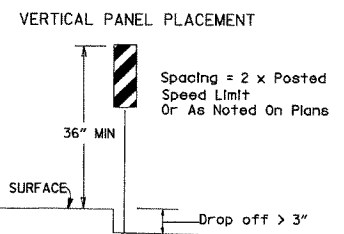
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



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



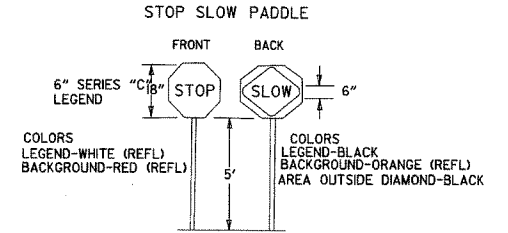
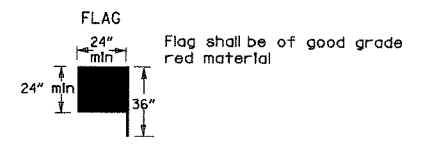
NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



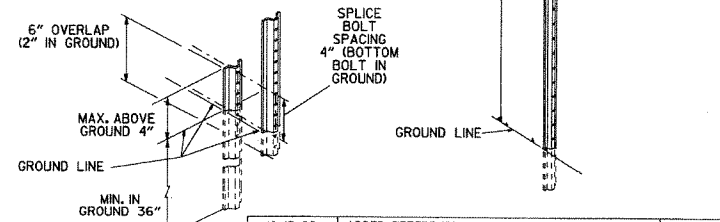
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
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-1 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.



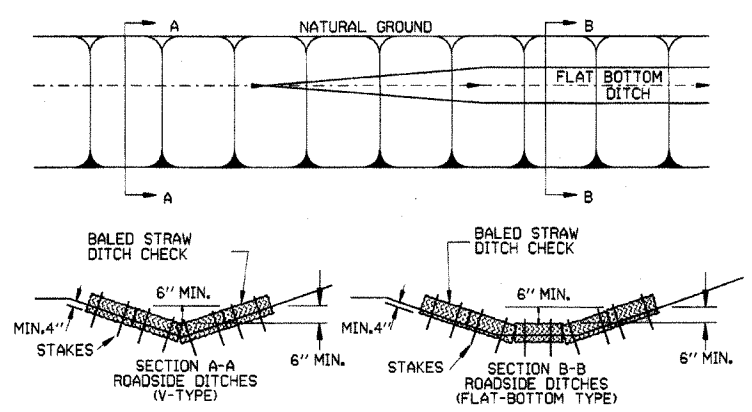
NOTES:
USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)
NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.
SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



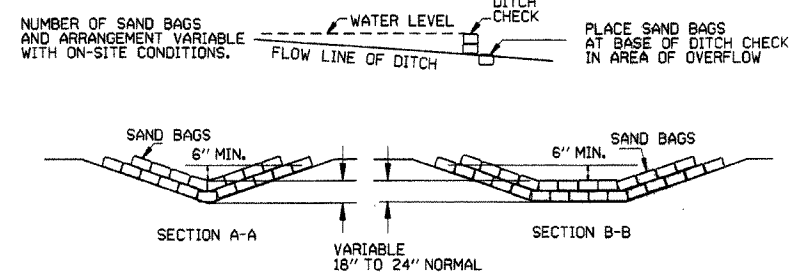
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED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

GENERAL NOTES

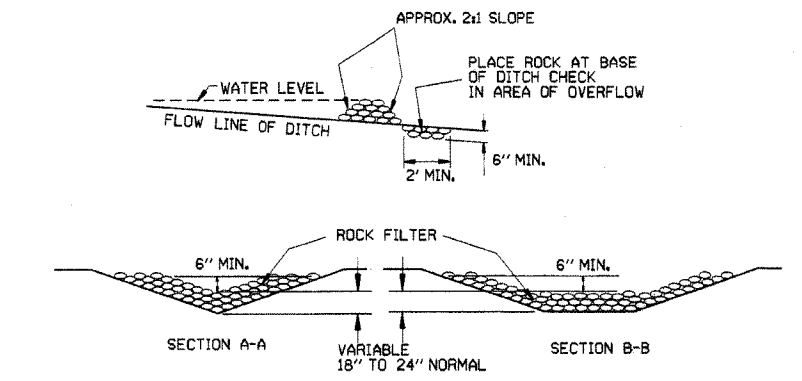
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.



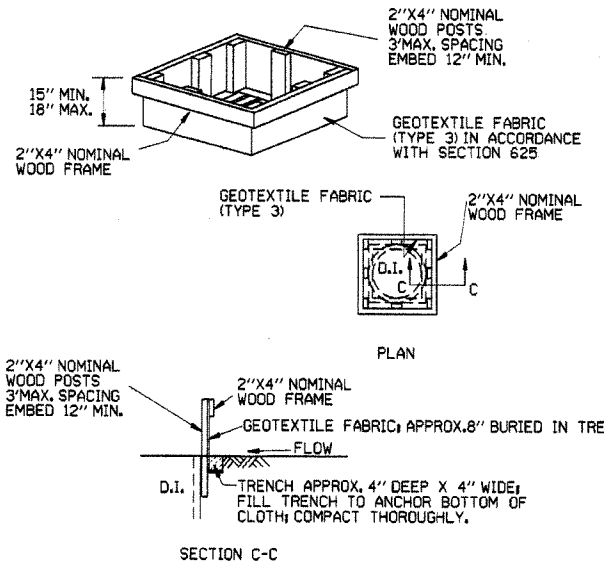
BALED STRAW DITCH CHECK (E-1)



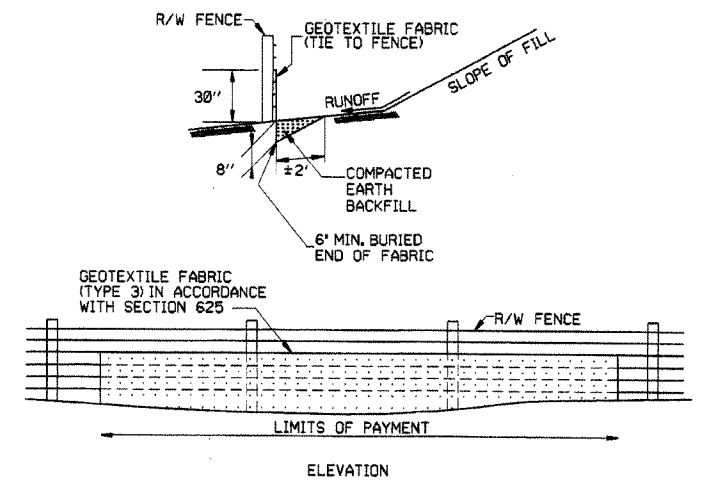
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



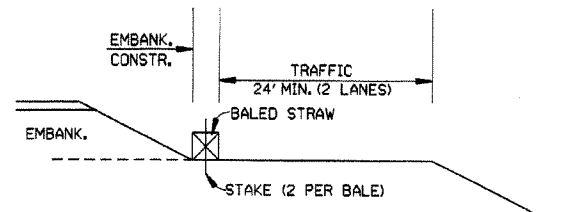
DROP INLET SILT FENCE (E-7)



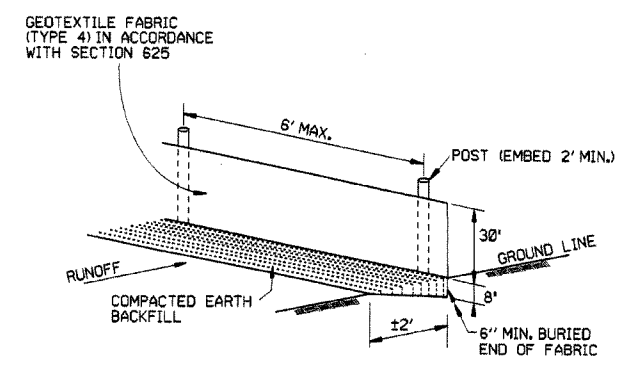
SILT FENCE ON R/W FENCE (E-4)

- 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.

- GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
 2. NO GAPS SHALL BE LEFT BETWEEN BALES.
 3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



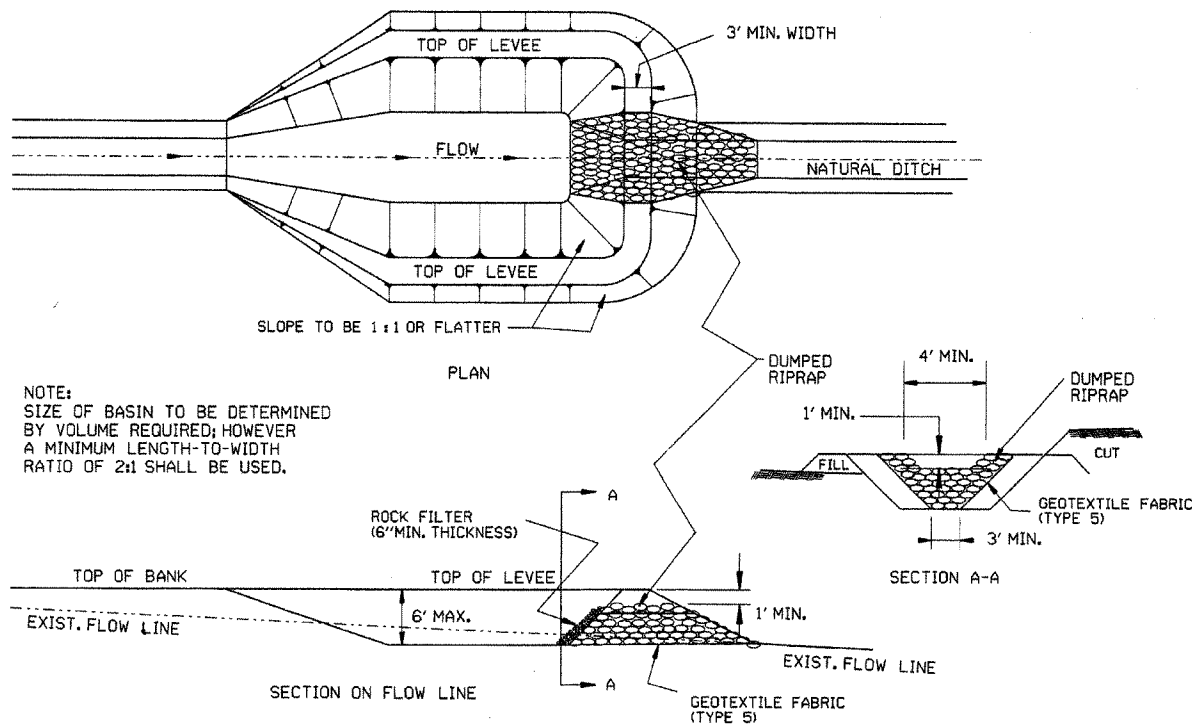
SILT FENCE (E-11)

- 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.

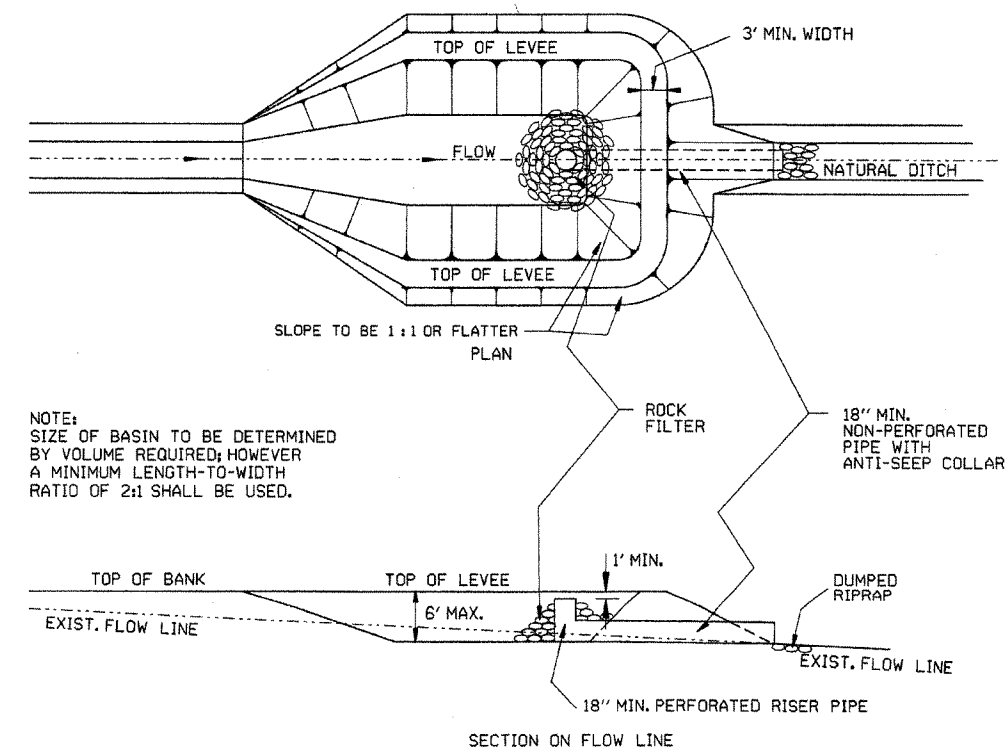
11-18-98	ADDED NOTES	11-18-98	ARKANSAS STATE HIGHWAY COMMISSION
7-02-96	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	Rev. E-4 & E-11 Min. 13' Buried End of Fabric		
6-2-94	Revised E-1, 4, 7, & 11 Deleted E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	

TEMPORARY EROSION CONTROL DEVICES

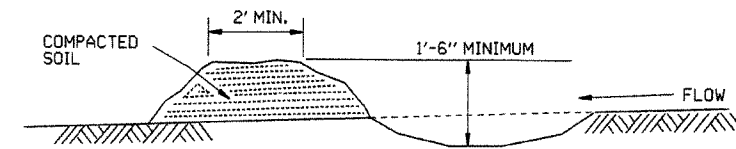
STANDARD DRAWING TEC-1



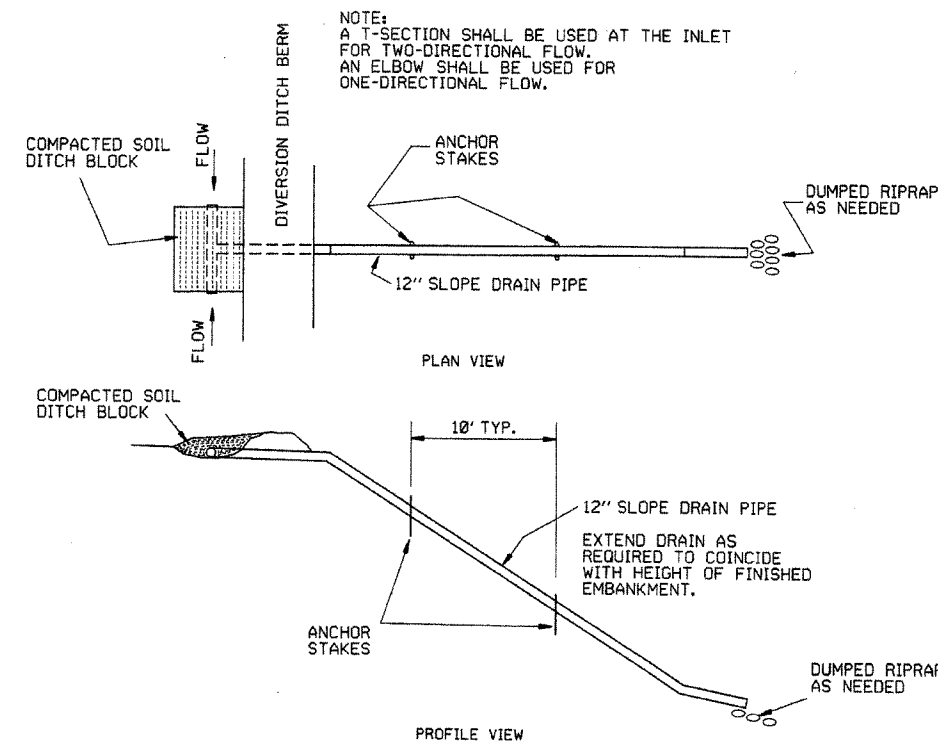
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



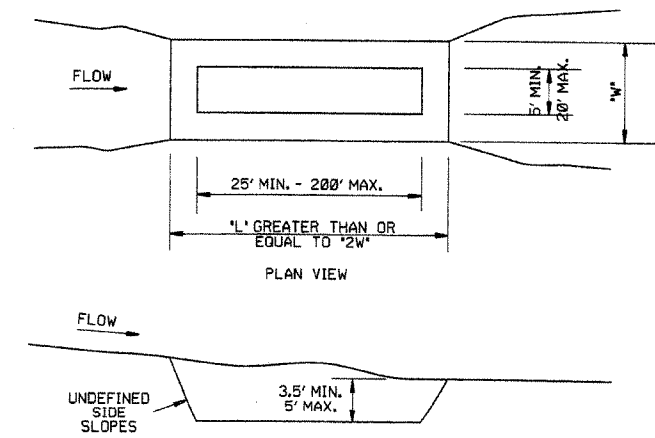
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



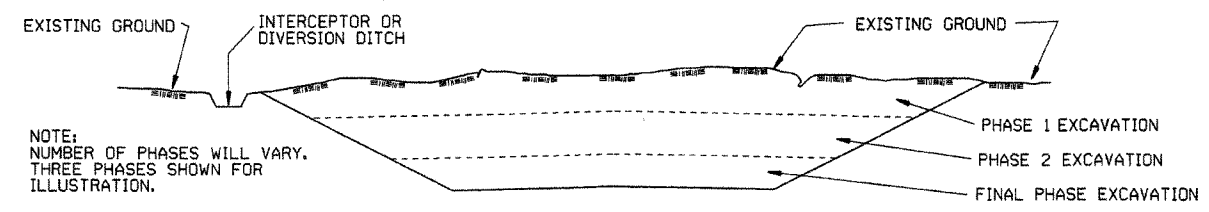
SEDIMENT BASIN (E-14)

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

CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
 2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

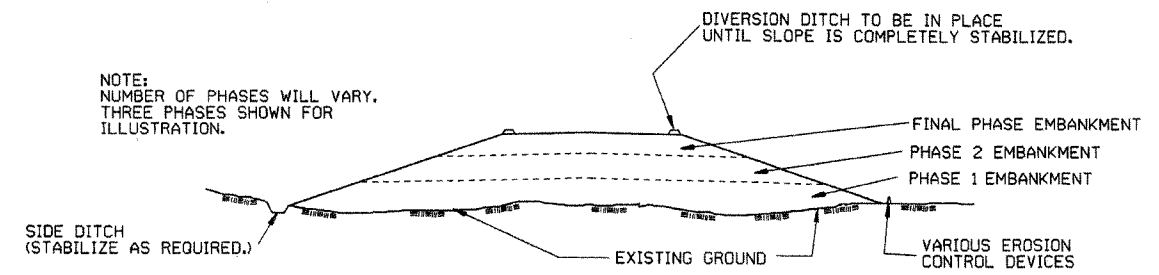
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

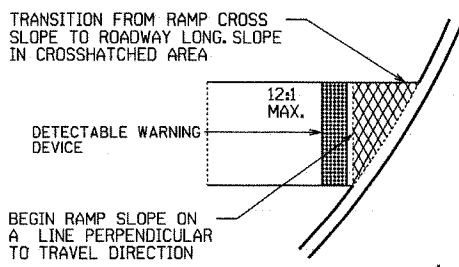
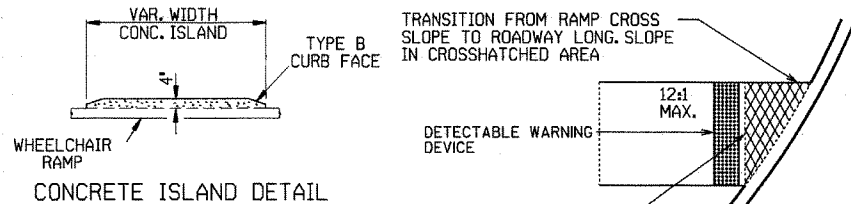
GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

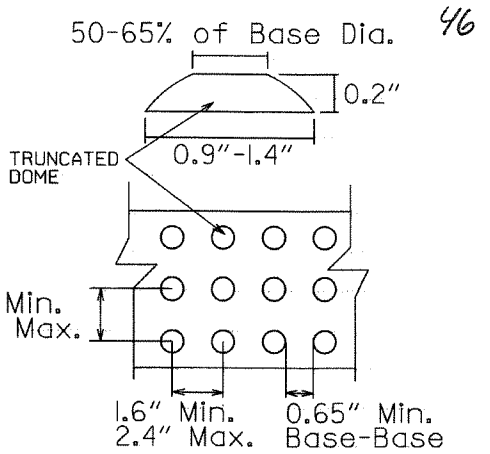
ARKANSAS STATE HIGHWAY COMMISSION		
TEMPORARY EROSION CONTROL DEVICES		
STANDARD DRAWING TEC-3		
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94
DATE	REVISION	FILMED



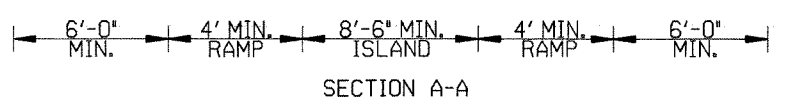
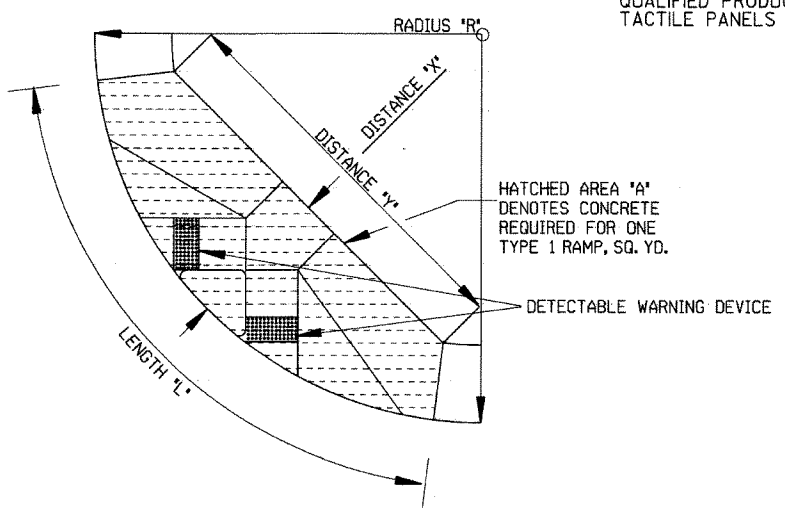
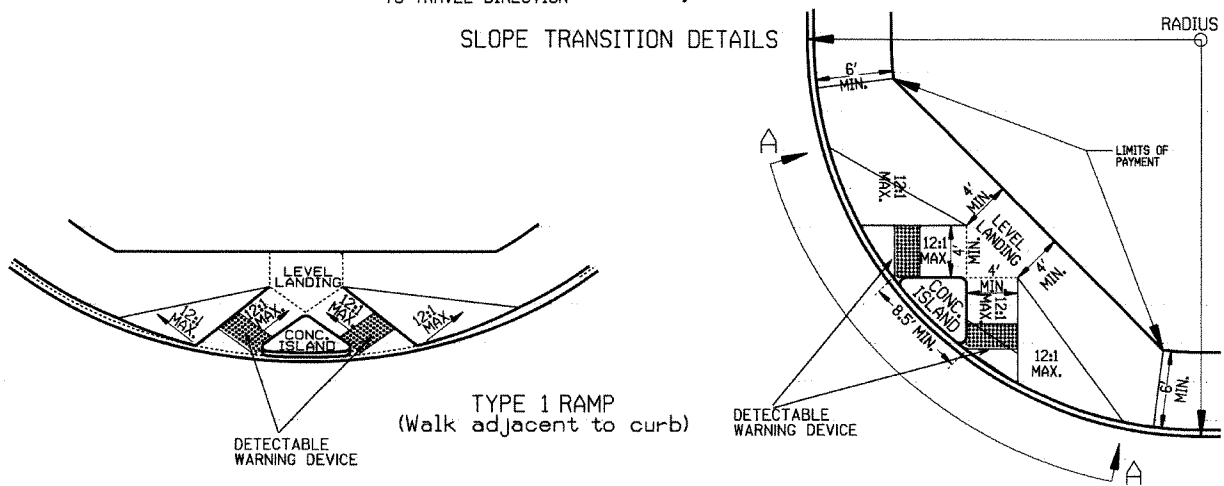
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS R'	DISTANCE Y'	DISTANCE X'	LENGTH L'	RAMP AREA SQ. YD.
15	11.87	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

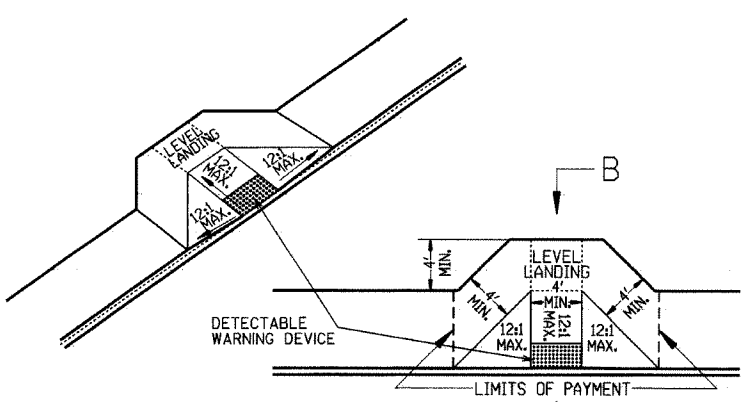
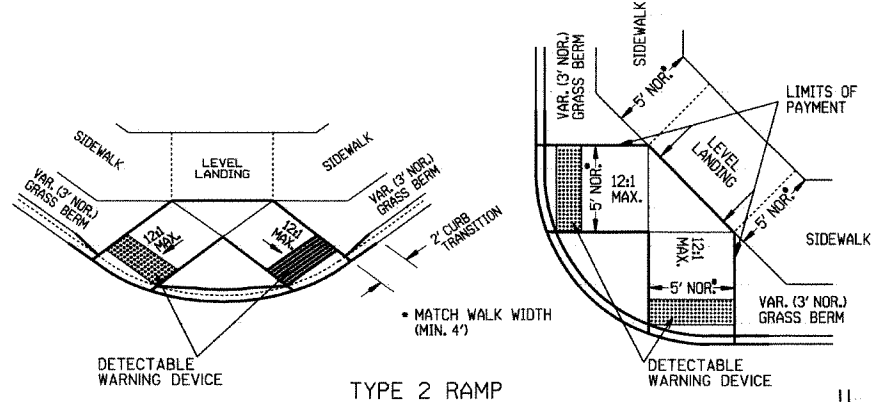
GENERAL NOTES FOR DETECTABLE WARNING DEVICES
 THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
 TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
 DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
 DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
 DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL



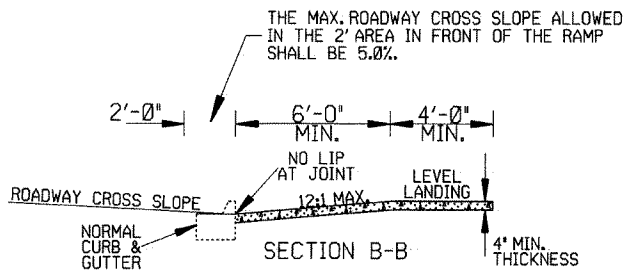
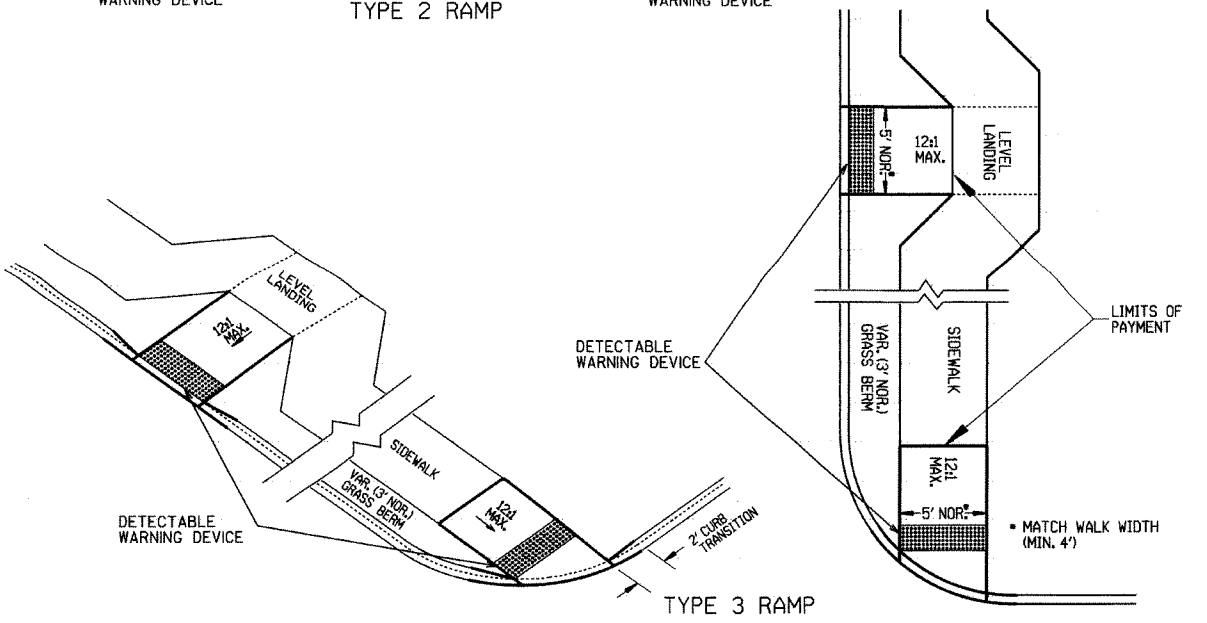
NOTE:
 THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.



RAMP SELECTION CRITERIA

CHOICE	TYPE	DESCRIPTION
FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED. AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.



DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM 10:1 MAX. SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCL. "CONC. ISLD." IN PAY ITEM	
6-02-76	ISSUED-P.H.D.	299-7-28-76

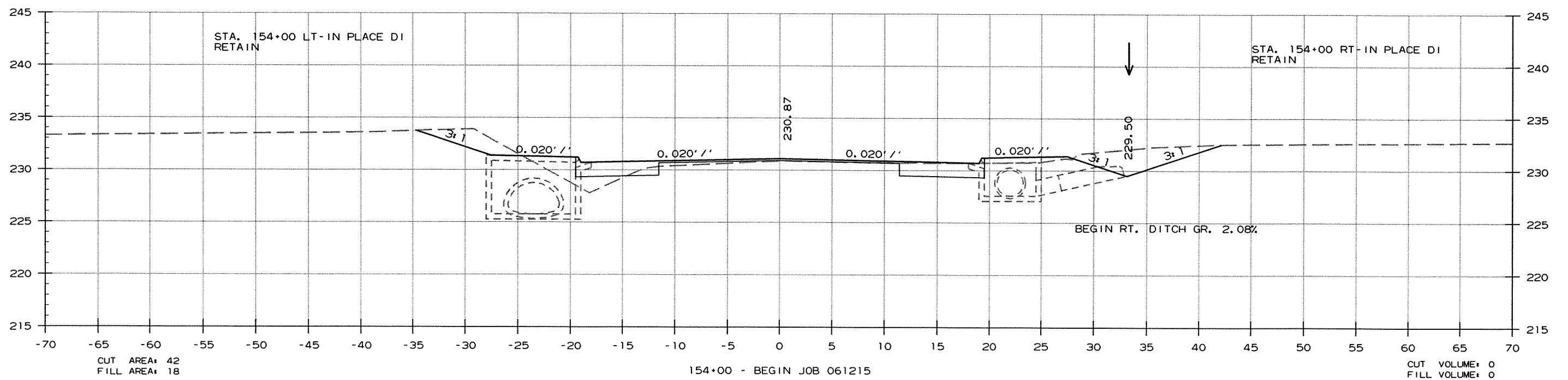
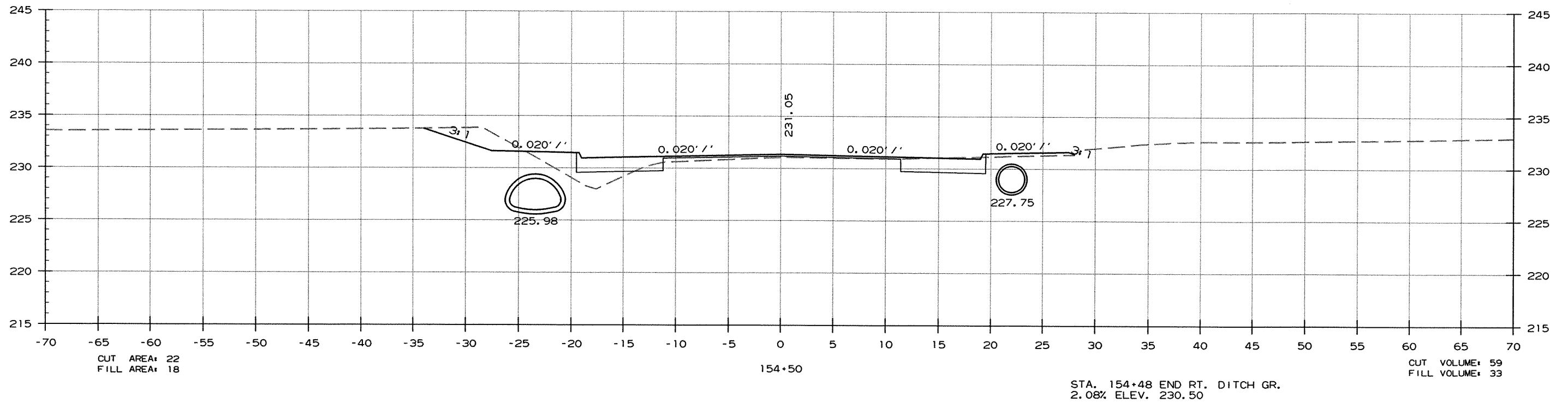
ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
 NEW CONSTRUCTION
 AND ALTERATIONS

STANDARD DRAWING WR-1

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. 061215	47	85

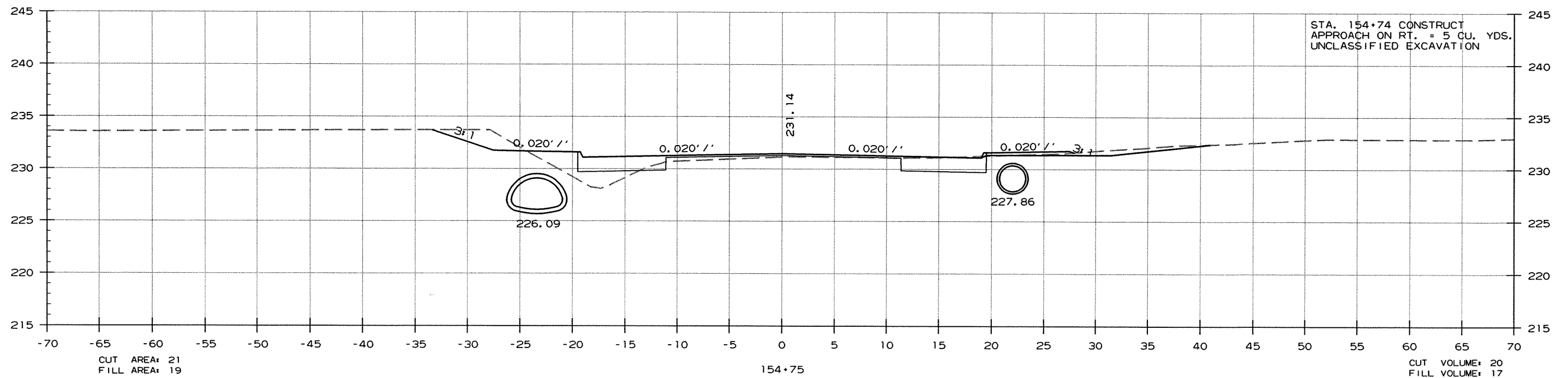
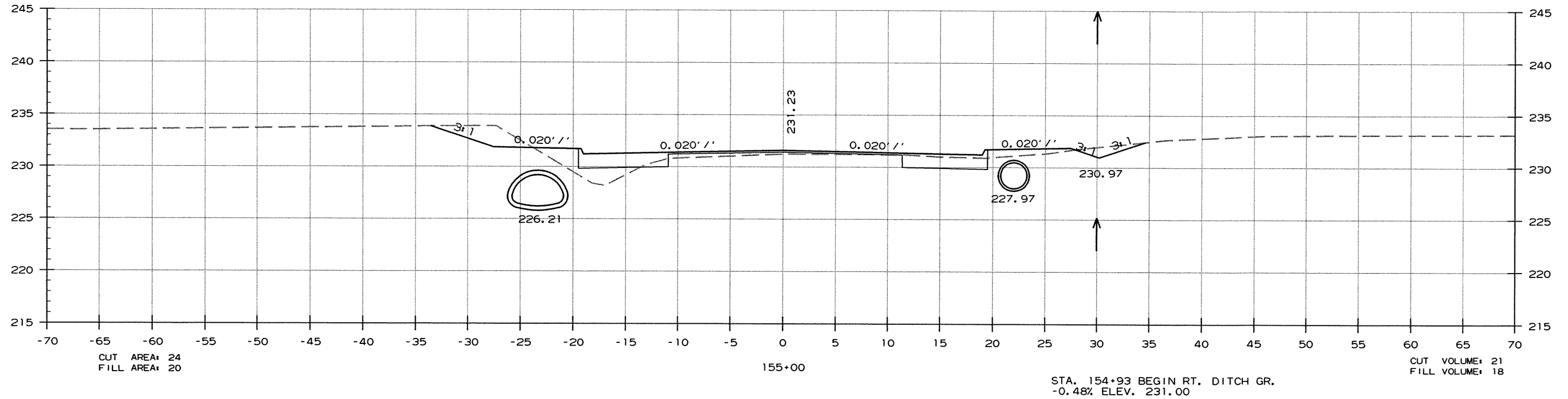
2 CROSS SECTIONS



CROSS SECTIONS STA. 154+00 TO STA. 154+50

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. 061215							48	85

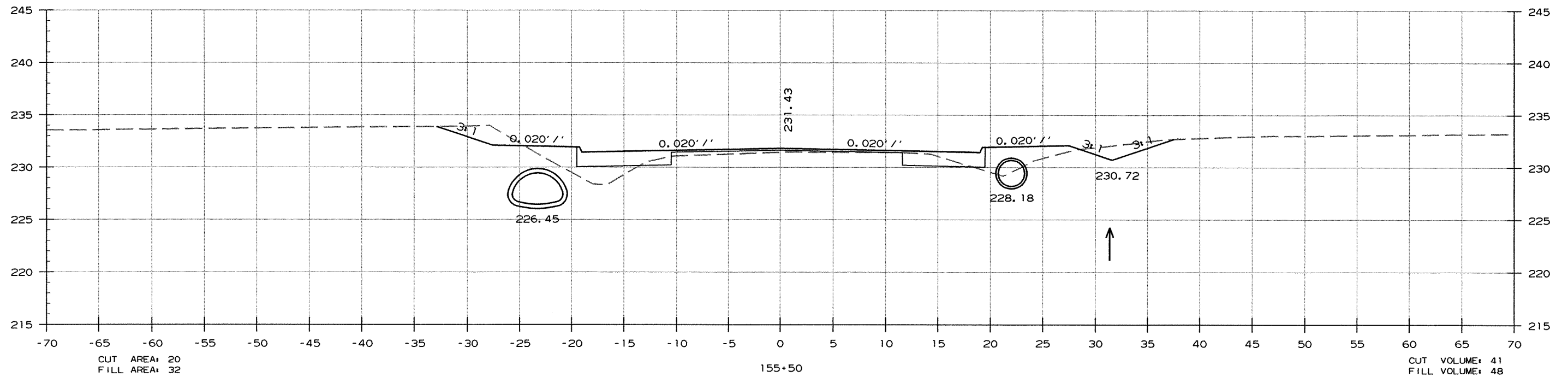
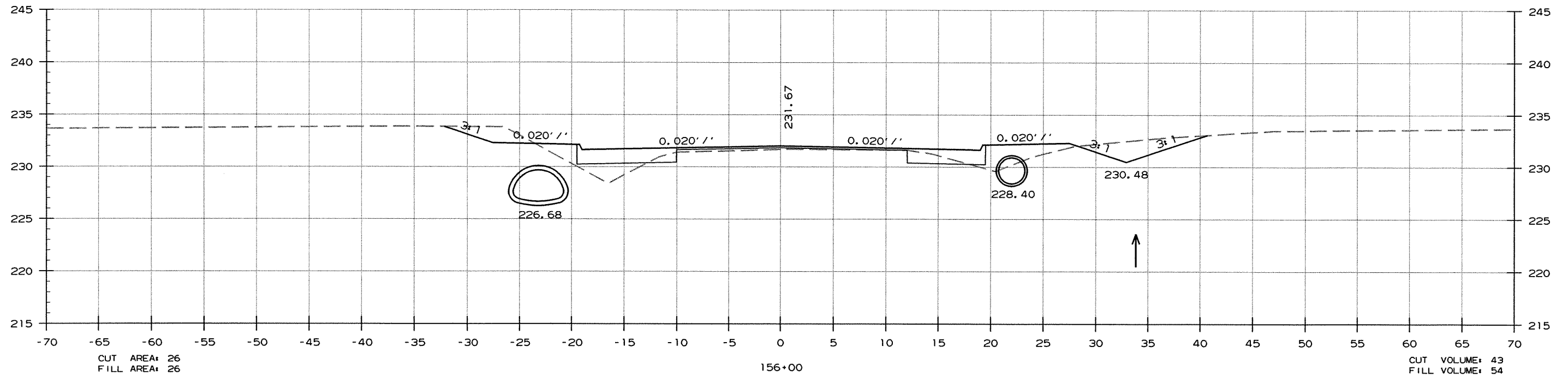
② CROSS SECTIONS



CROSS SECTIONS STA. 154+75 TO STA. 155+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. 061215	49	85

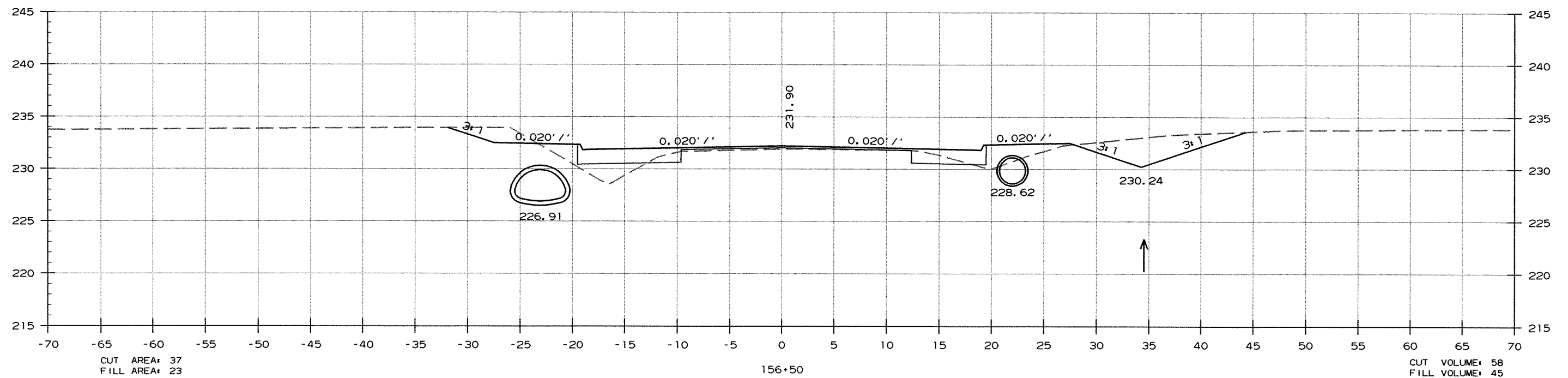
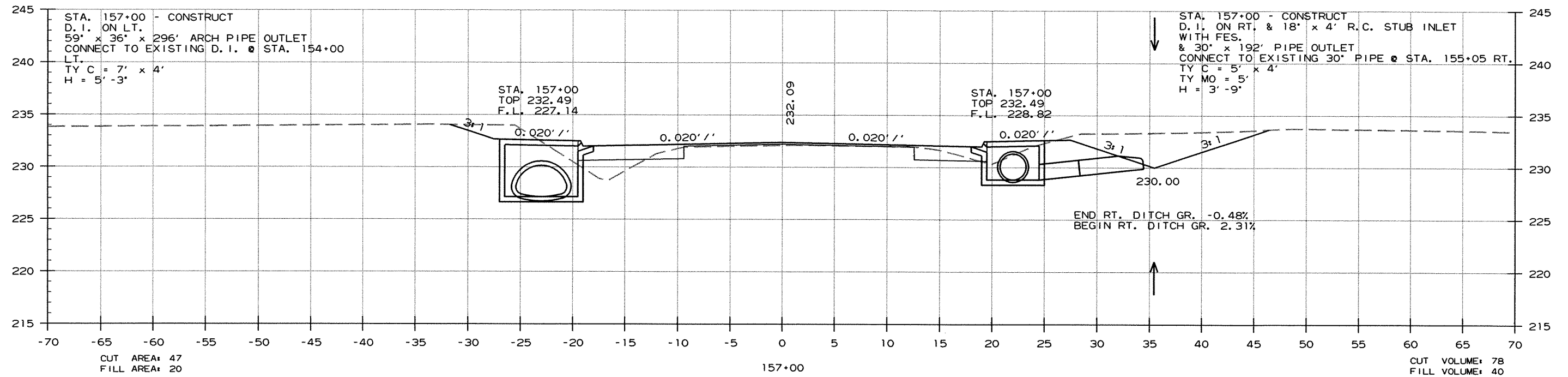
2 CROSS SECTIONS



CROSS SECTIONS STA. 155+50 TO STA. 156+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. 061215	50	85

2 CROSS SECTIONS

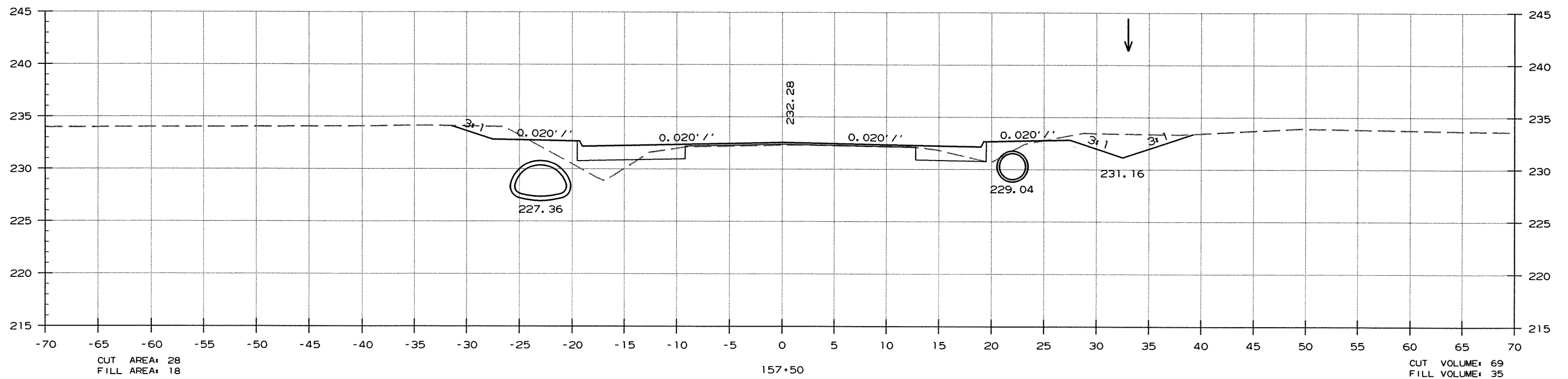
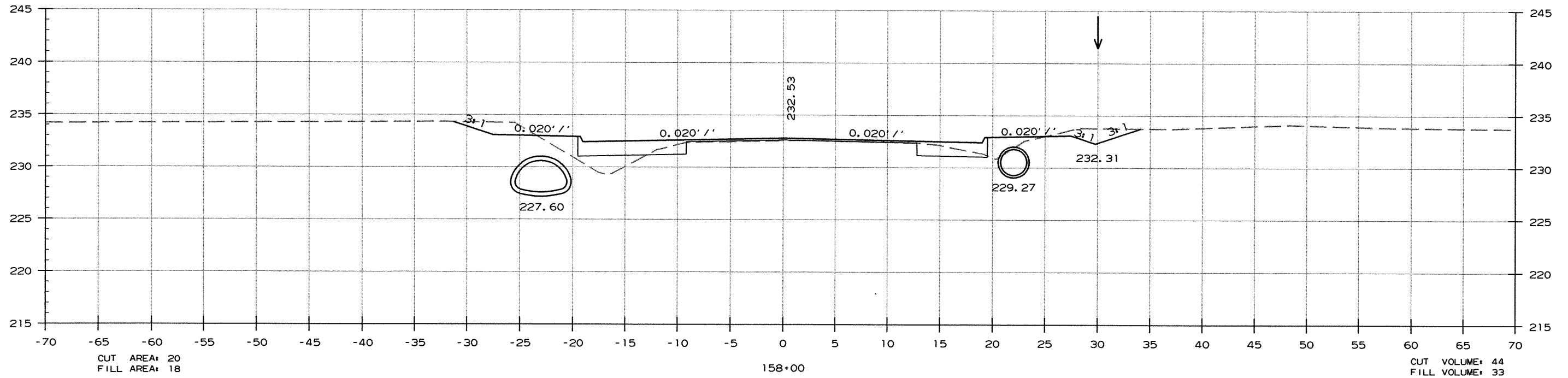


CROSS SECTIONS STA. 156+50 TO STA. 157+00

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. 061215	51	85

② CROSS SECTIONS

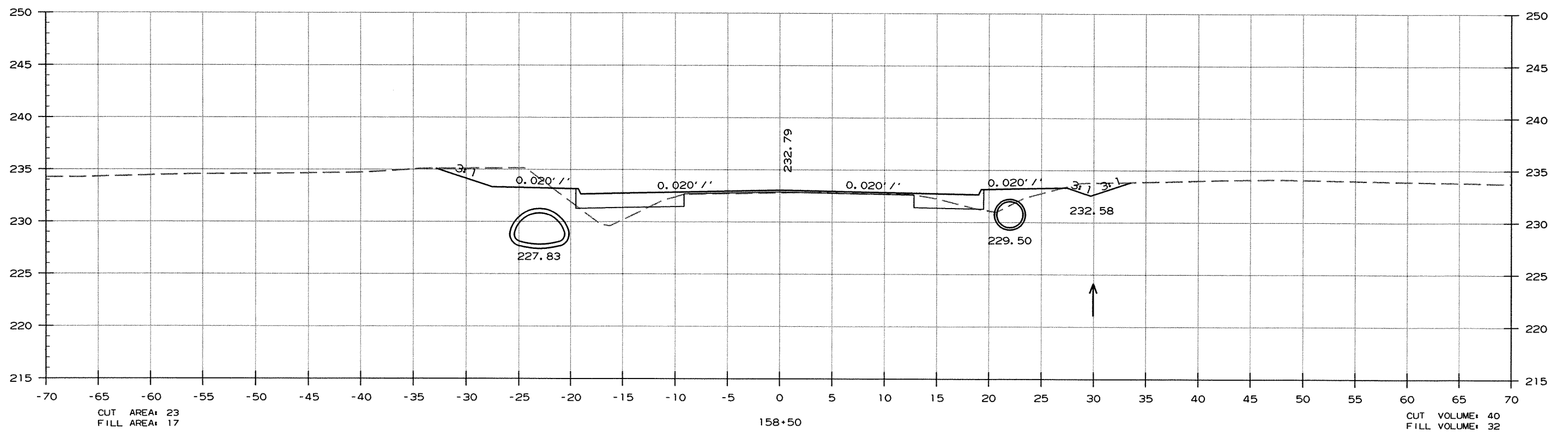
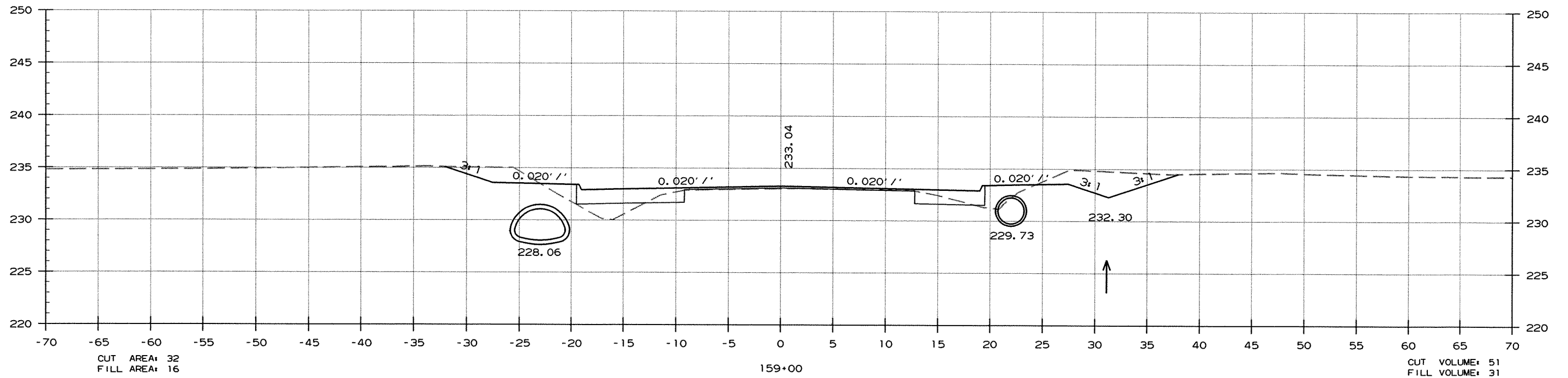
STA. 158+19 END RT. DITCH GR. 2.31% ELEV. 232.75
 BEGIN RT. DITCH GR. -0.55%



CROSS SECTIONS STA. 157+50 TO STA. 158+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. 061215	52	85

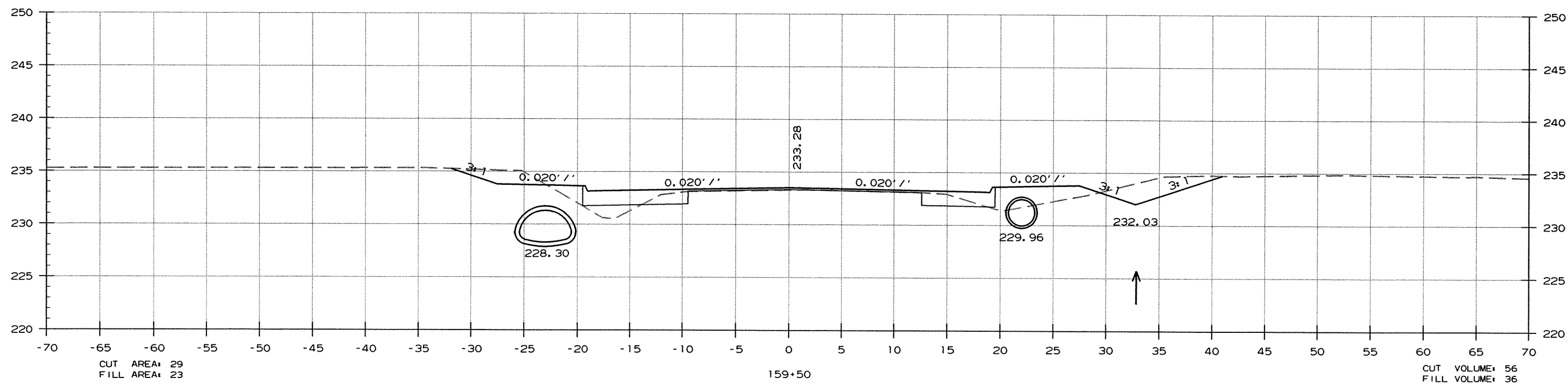
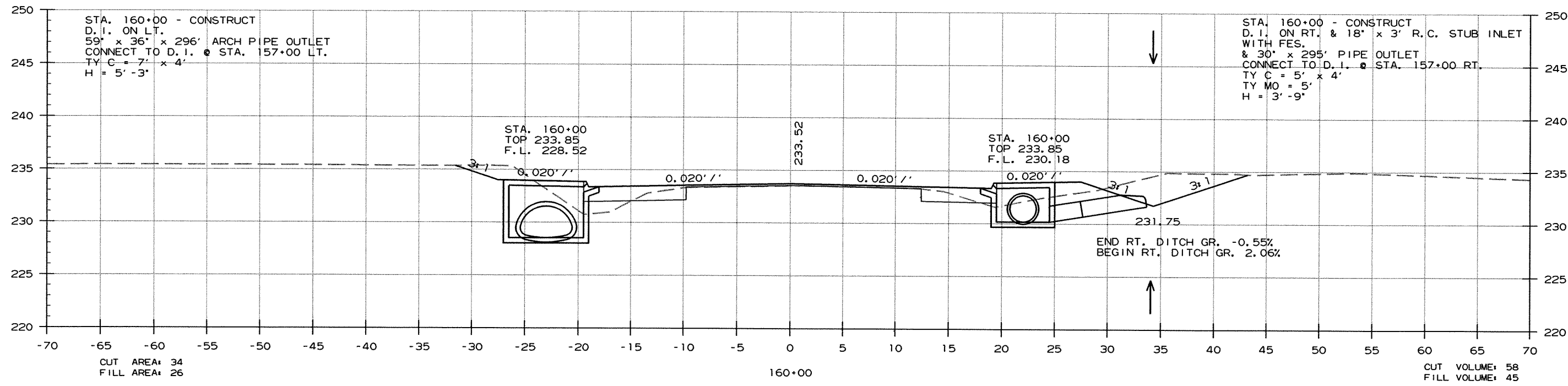
② CROSS SECTIONS



CROSS SECTIONS STA. 158+50 TO STA. 159+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		53	85

② CROSS SECTIONS

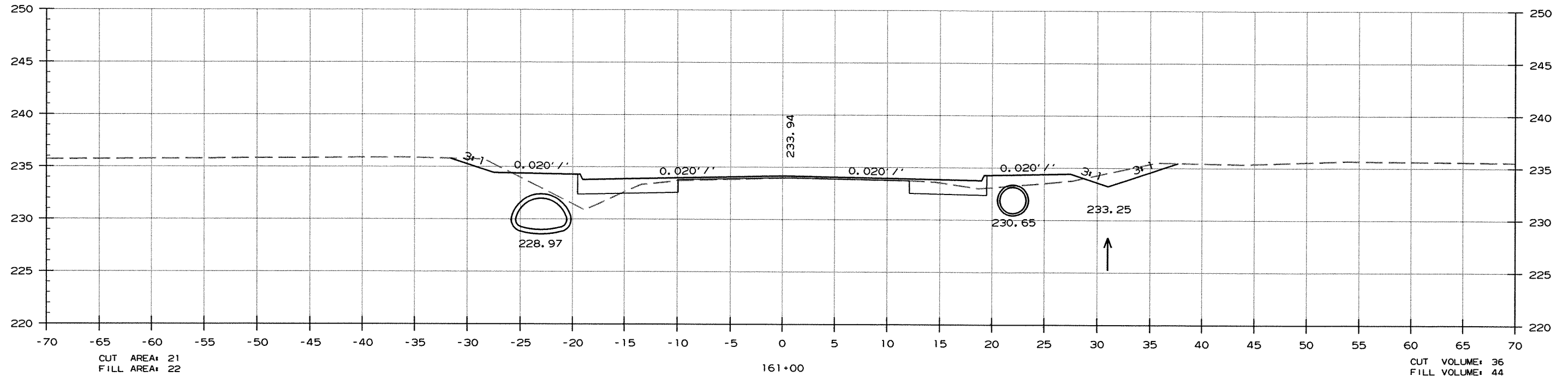


CROSS SECTIONS STA. 159+50 TO STA. 160+00

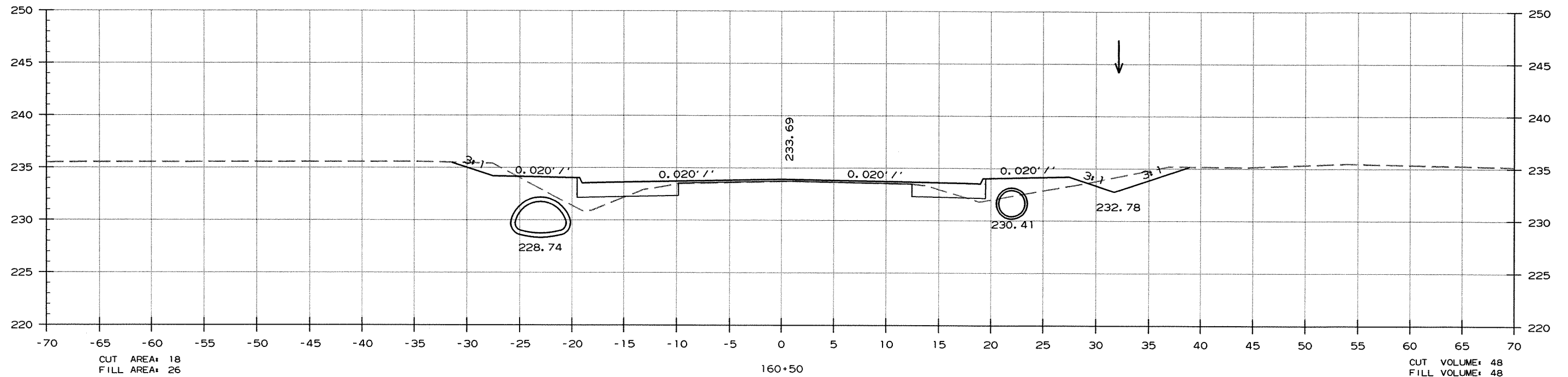
r061215.dgn 1/20/2011

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. 061215	54	85

2 CROSS SECTIONS



STA. 160+85 END RT. DITCH GR. 2.06% ELEV. 233.50
BEGIN RT. DITCH GR. -1.64%

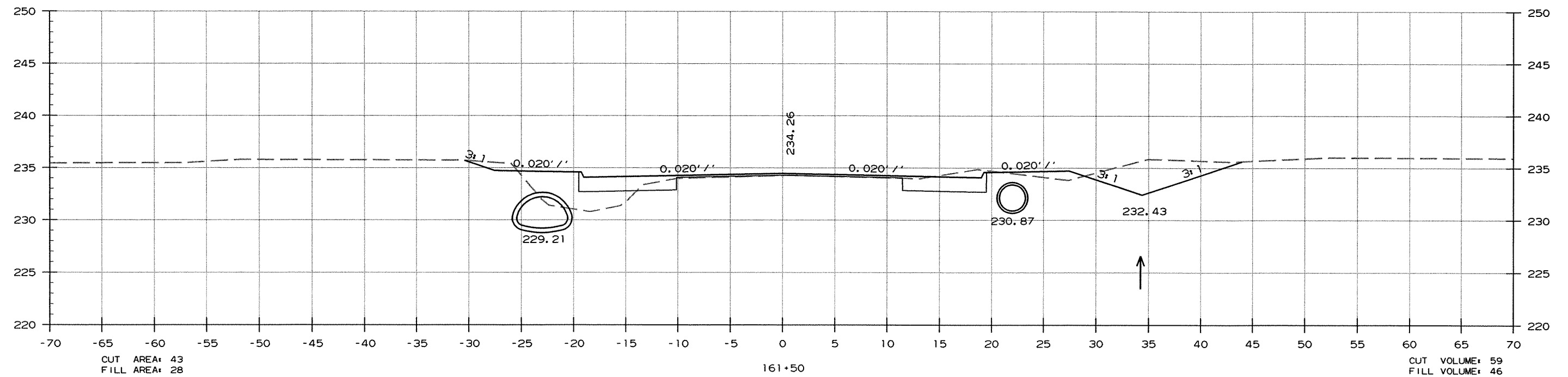
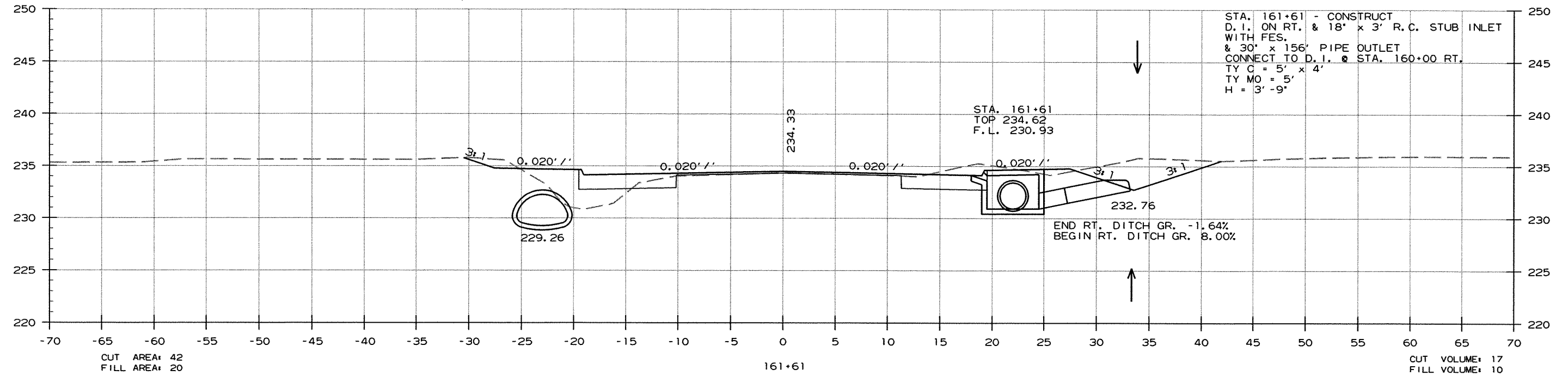


CROSS SECTIONS STA. 160+50 TO STA. 161+00

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. 061215							55	85

2 CROSS SECTIONS

STA. 161+78 END RT. DITCH GR. 8.00% ELEV. 233.61

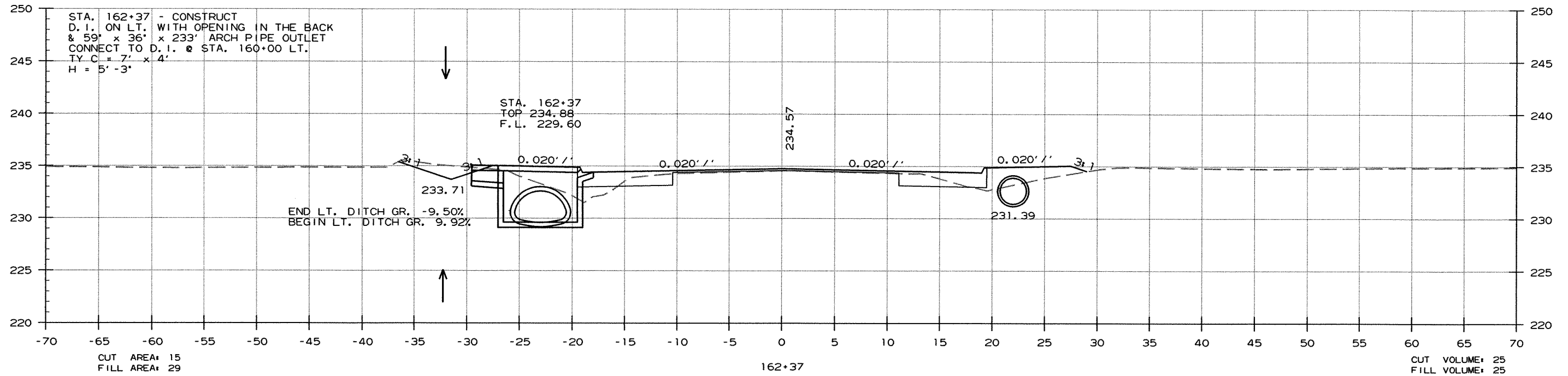


CROSS SECTIONS STA. 161+50 TO STA. 161+61

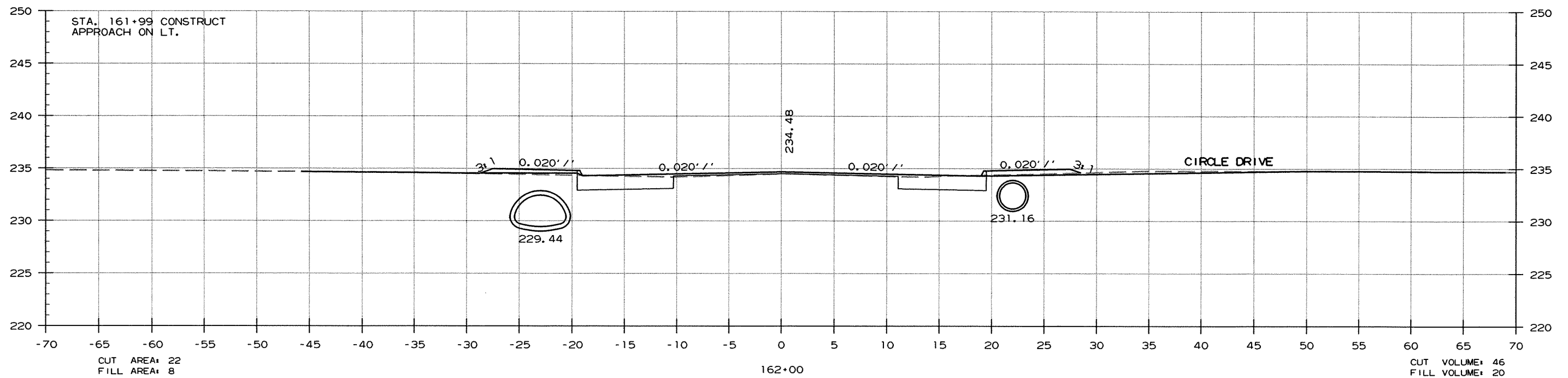
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061215	56	85

② CROSS SECTIONS

STA. 162+49 END LT. DITCH GR.
9.92% ELEV. 234.90



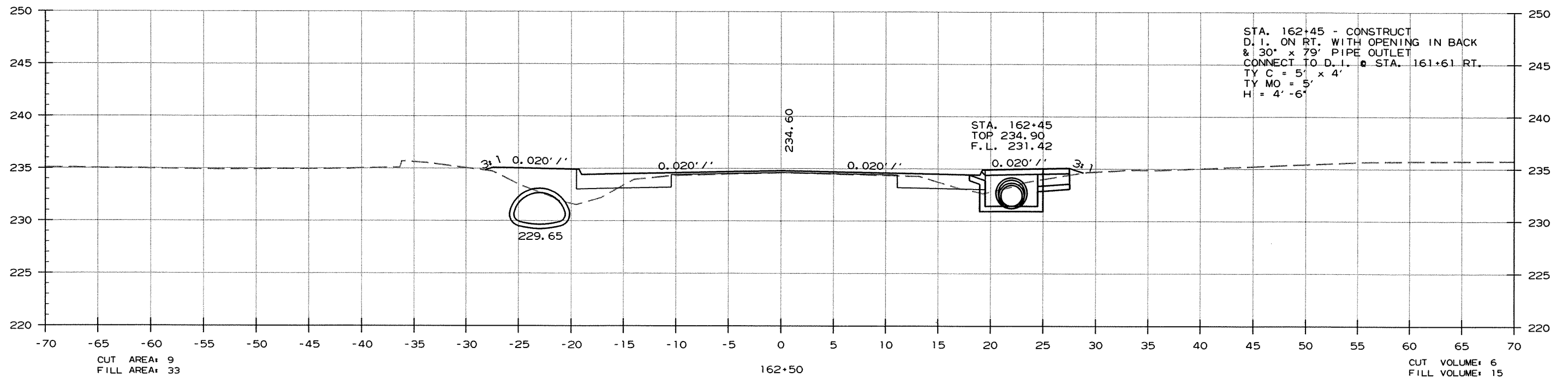
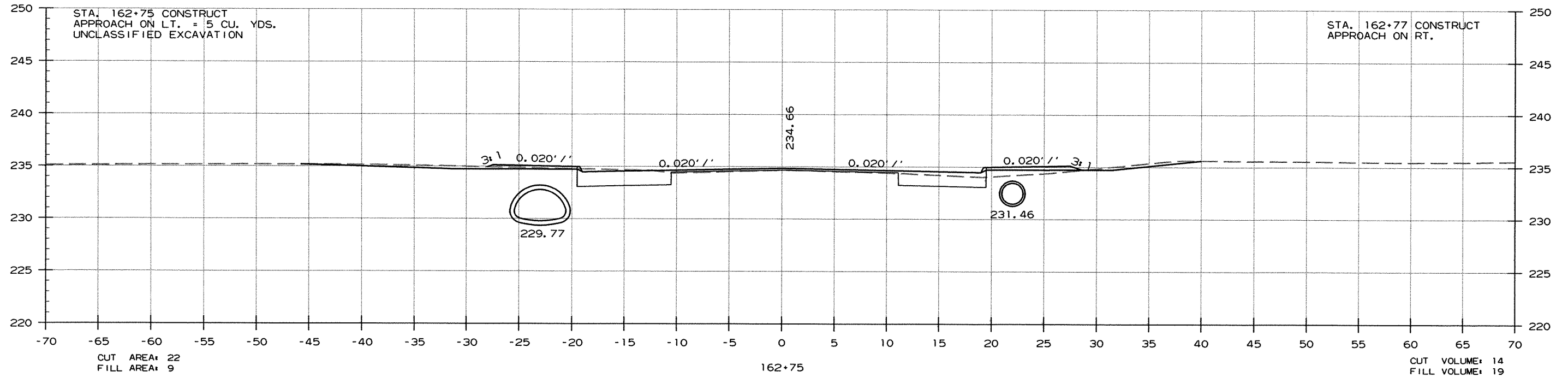
STA. 162+25 BEGIN LT. DITCH GR.
-9.50% ELEV. 234.85



CROSS SECTIONS STA. 162+00 TO STA. 162+37

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. 061215	57	85

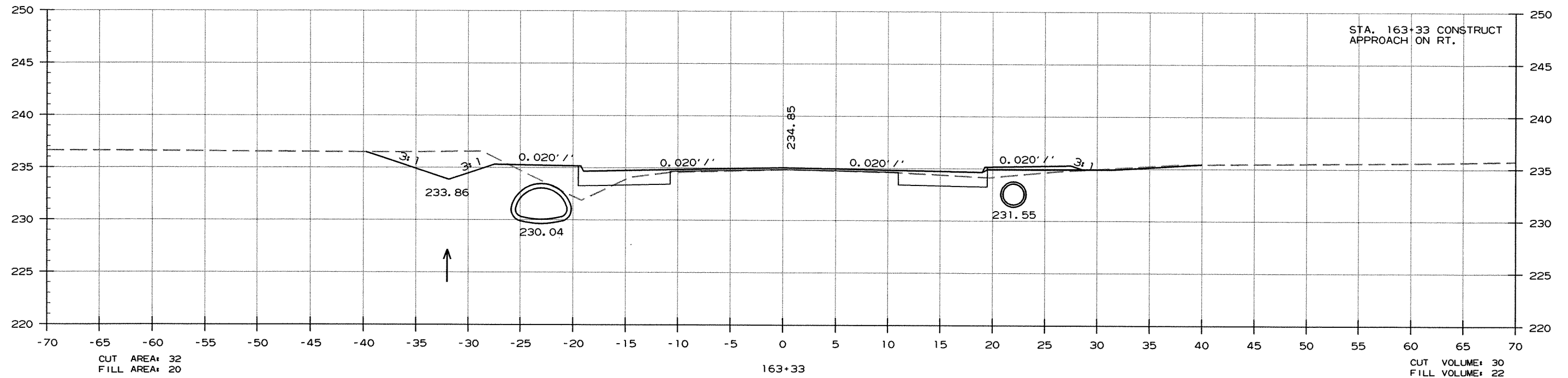
② CROSS SECTIONS



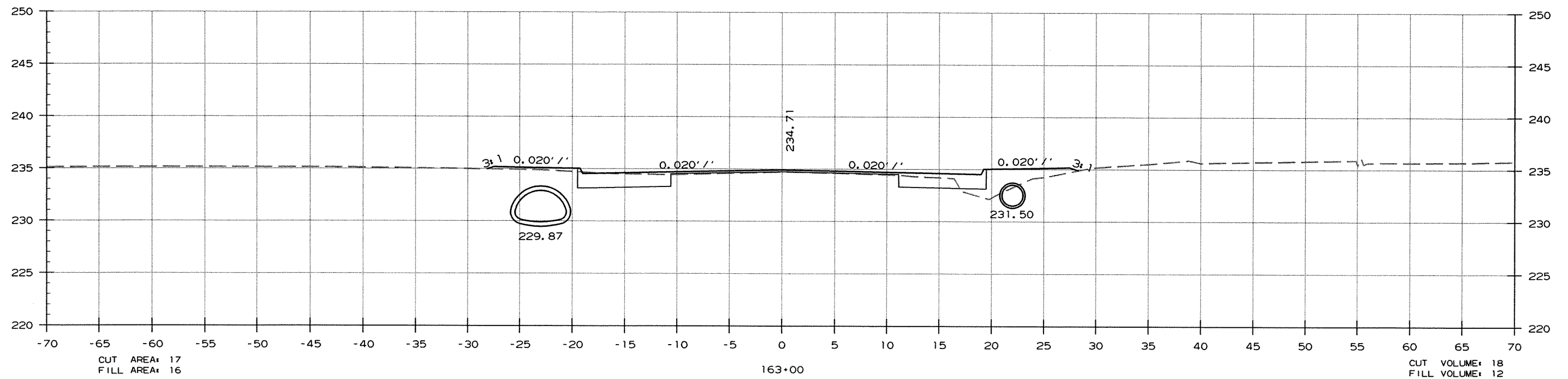
CROSS SECTIONS STA. 162+50 TO STA. 162+75

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. 061215	58	85

② CROSS SECTIONS



STA. 163+07 BEGIN LT. DITCH GR.
-0.54% ELEV. 234.00

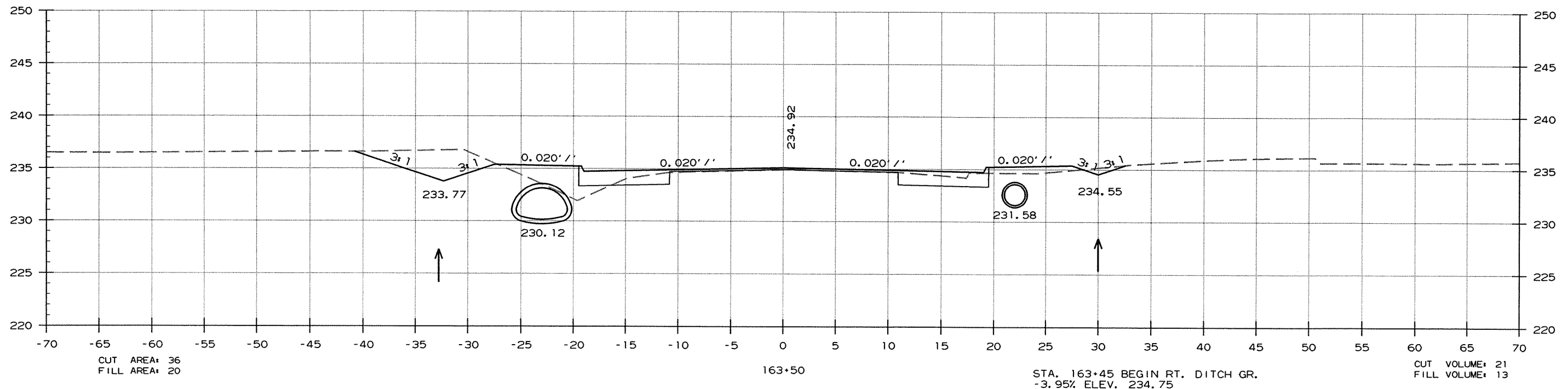
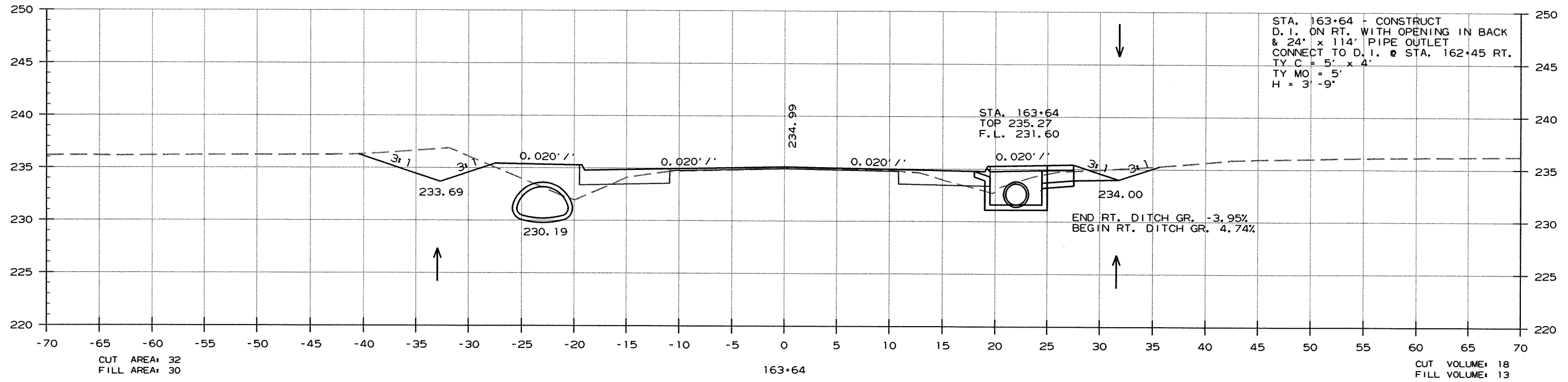


CROSS SECTIONS STA. 163+00 TO STA. 163+33

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		59	85
				JOB NO. 061215				

② CROSS SECTIONS

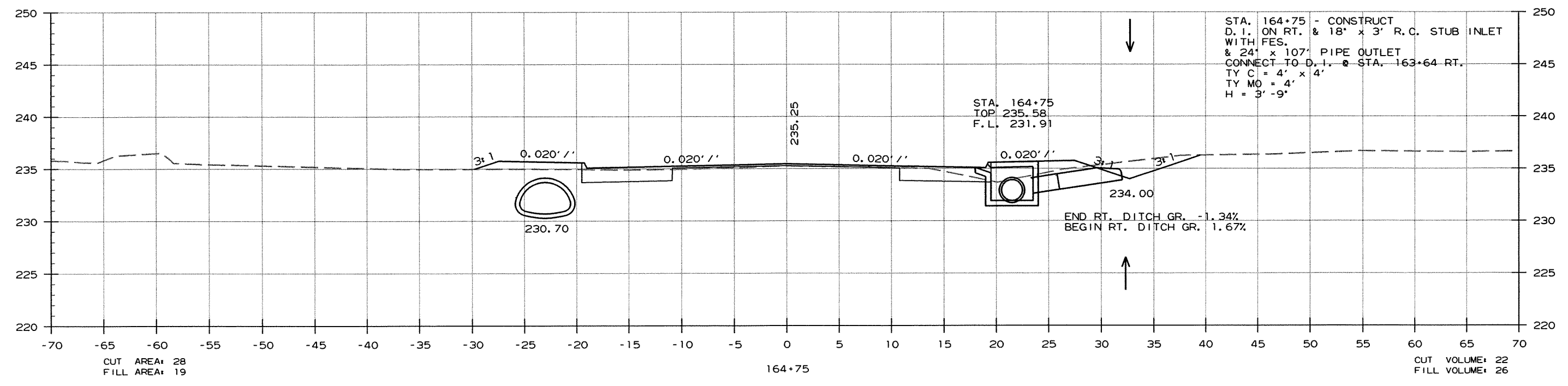
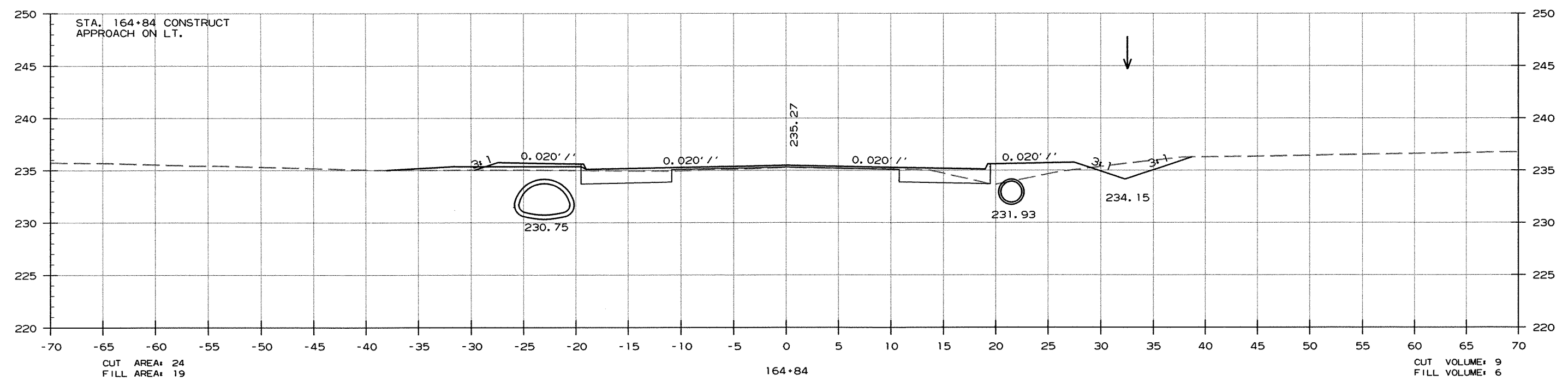
STA. 163+83 END RT. DITCH GR.
4.74% ELEV. 234.90



CROSS SECTIONS STA. 163+50 TO STA. 163+64

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.	061215		61	85

2 CROSS SECTIONS

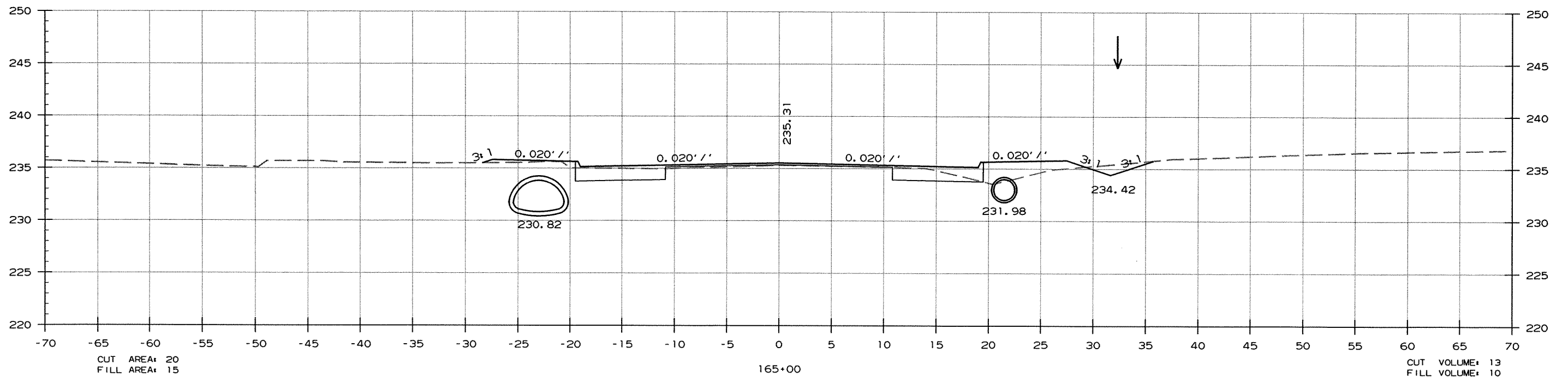
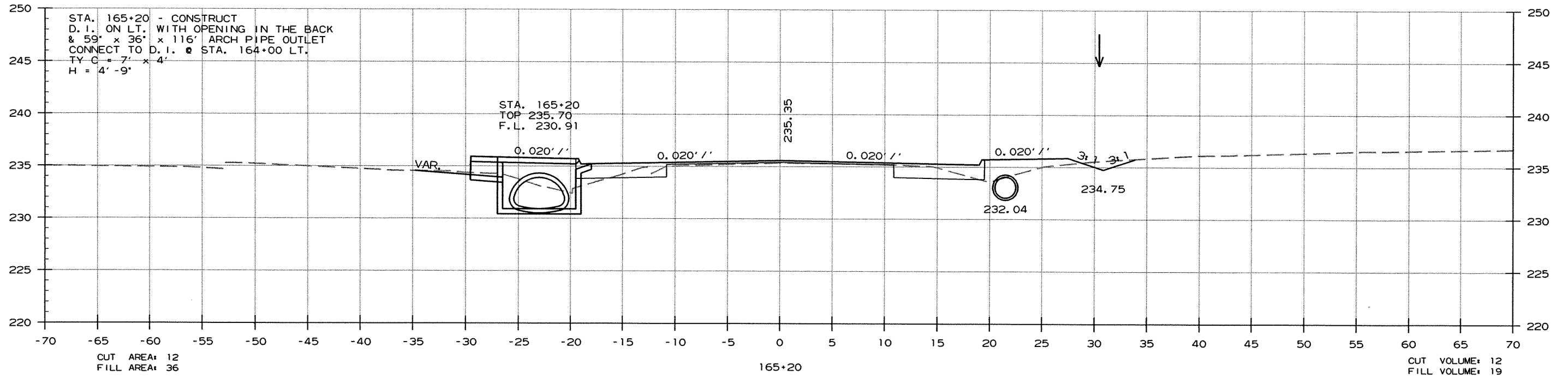


CROSS SECTIONS STA. 164+75 TO STA. 164+84

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. 061215	62	85

2 CROSS SECTIONS

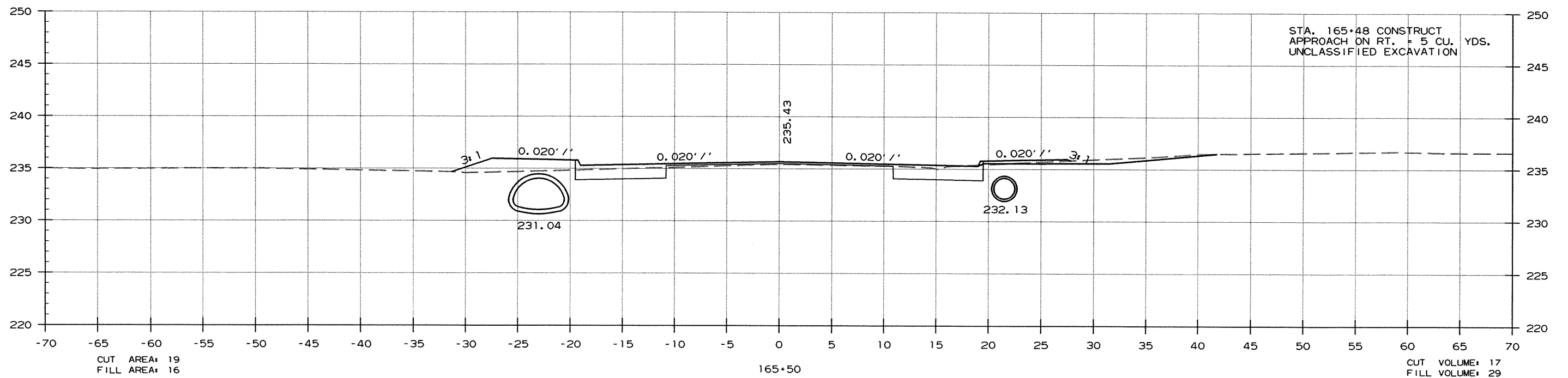
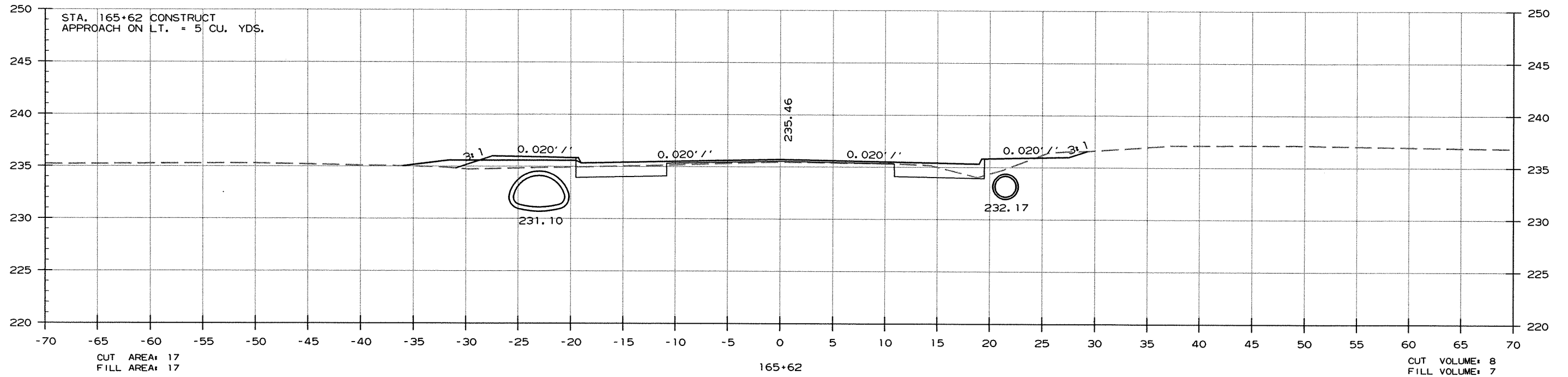
STA. 165+29 END RT. DITCH GR.
1.67% ELEV. 234.90



CROSS SECTIONS STA. 165+00 TO STA. 165+20

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. 061215	63	85

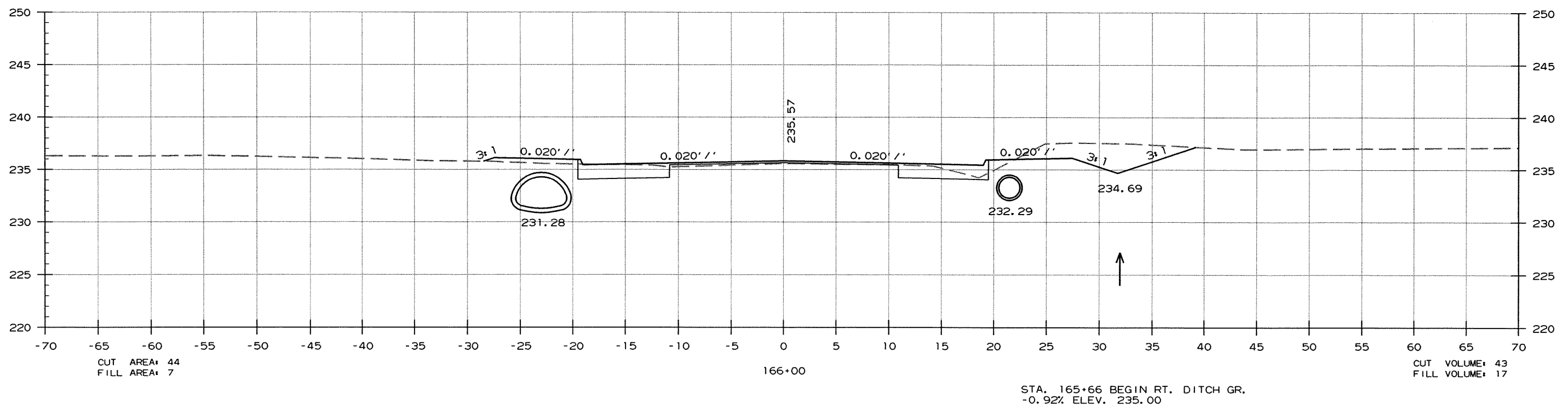
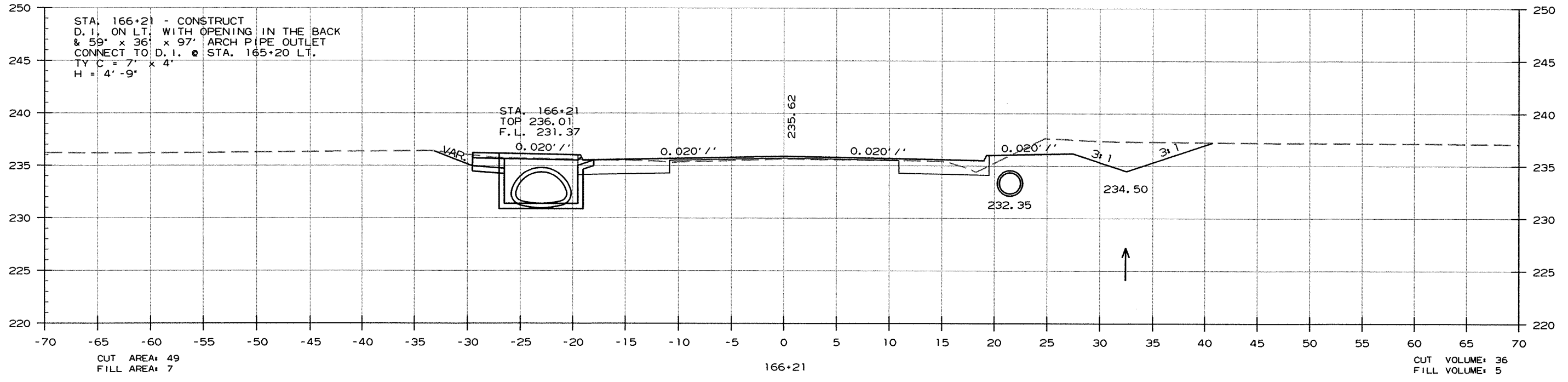
② CROSS SECTIONS



CROSS SECTIONS STA. 165+50 TO STA. 165+62

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. 061215	64	85

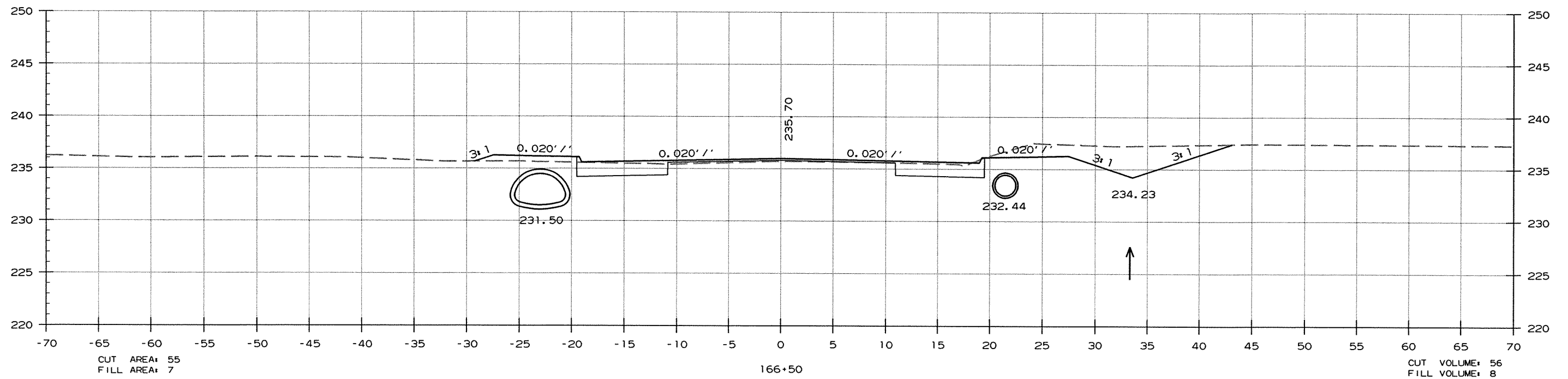
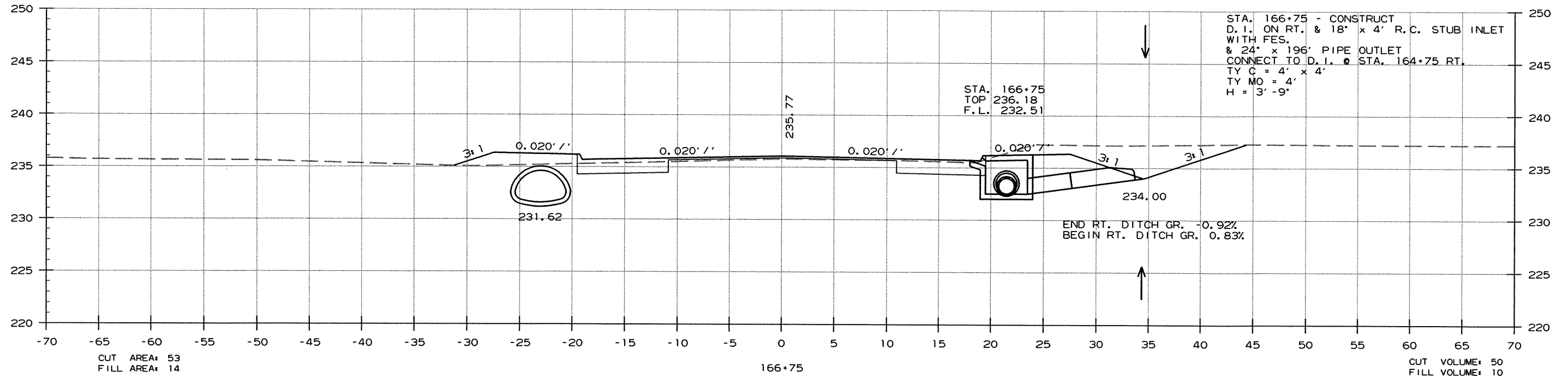
2 CROSS SECTIONS



CROSS SECTIONS STA. 166+00 TO STA. 166+21

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		65	85
JOB NO. 061215								

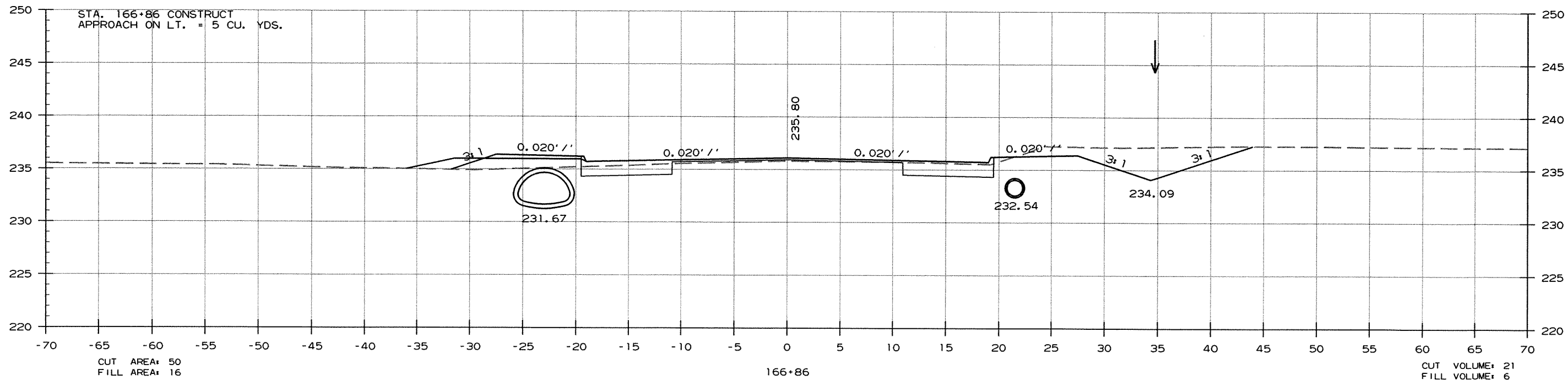
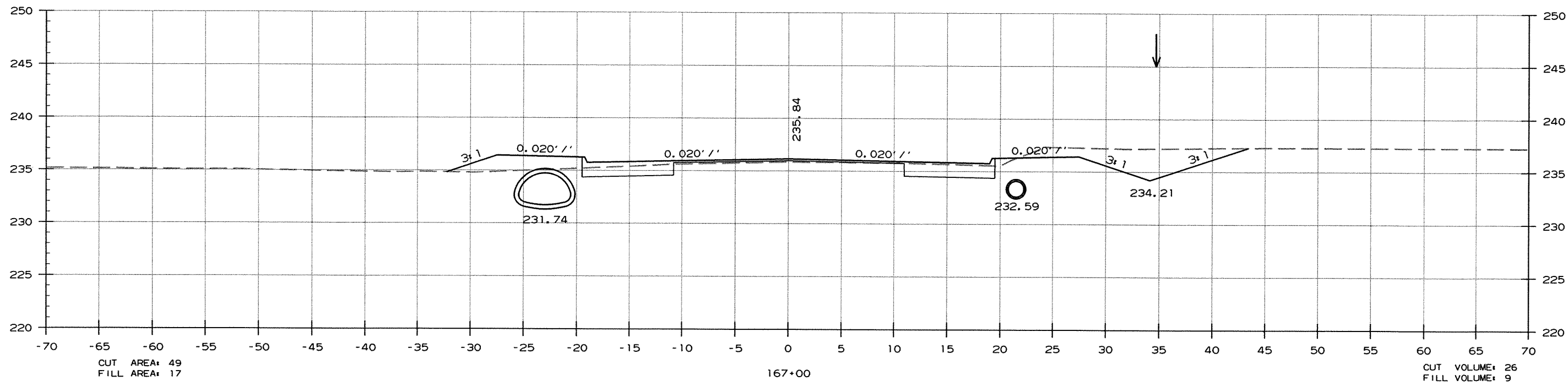
2 CROSS SECTIONS



CROSS SECTIONS STA. 166+50 TO STA. 166+75

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		66	85
				JOB NO.	061215			

2 CROSS SECTIONS



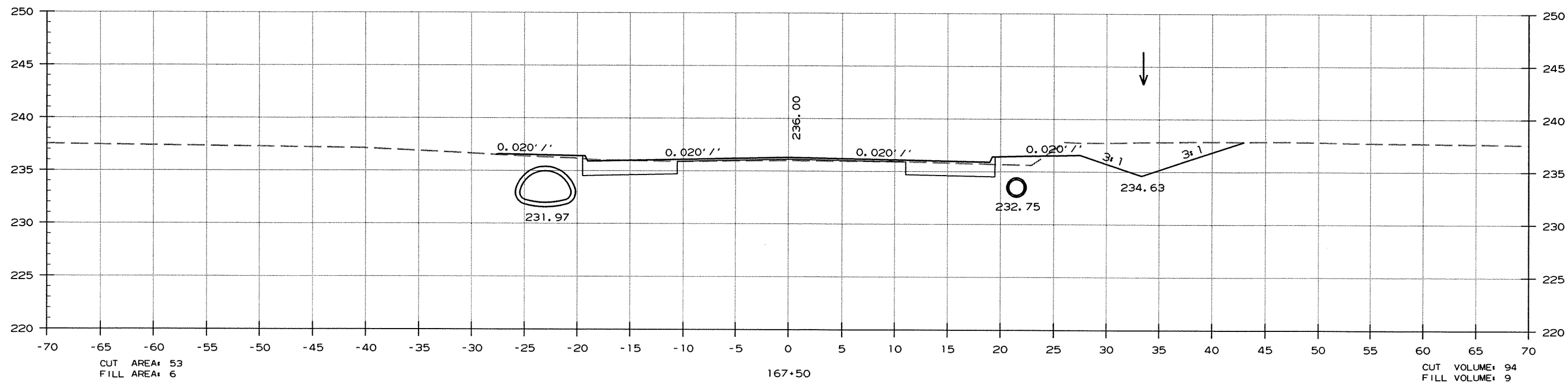
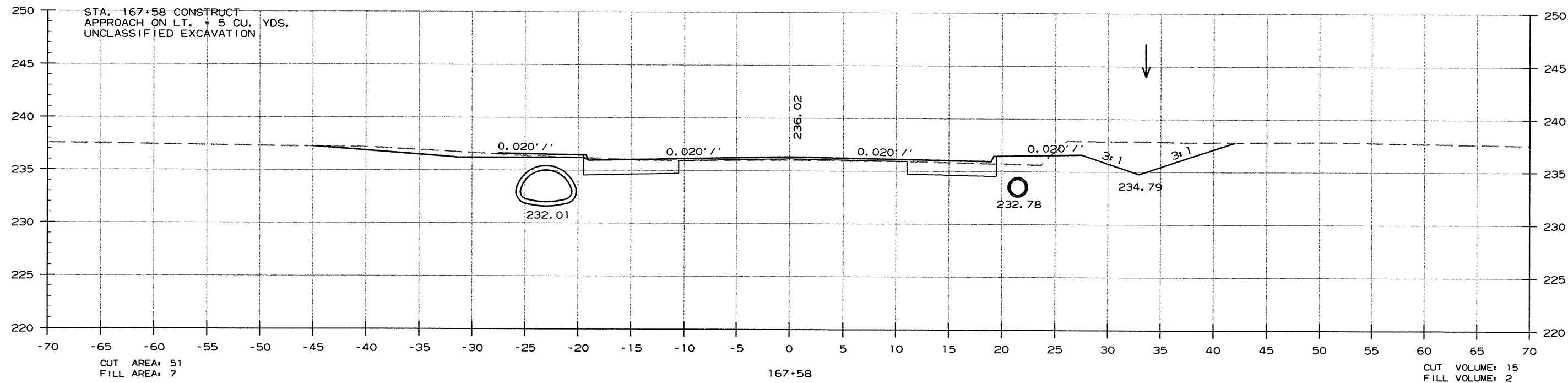
CROSS SECTIONS STA. 166+86 TO STA. 167+00

r061215.dgn 1/20/2011

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. 061215	67	85

2 CROSS SECTIONS

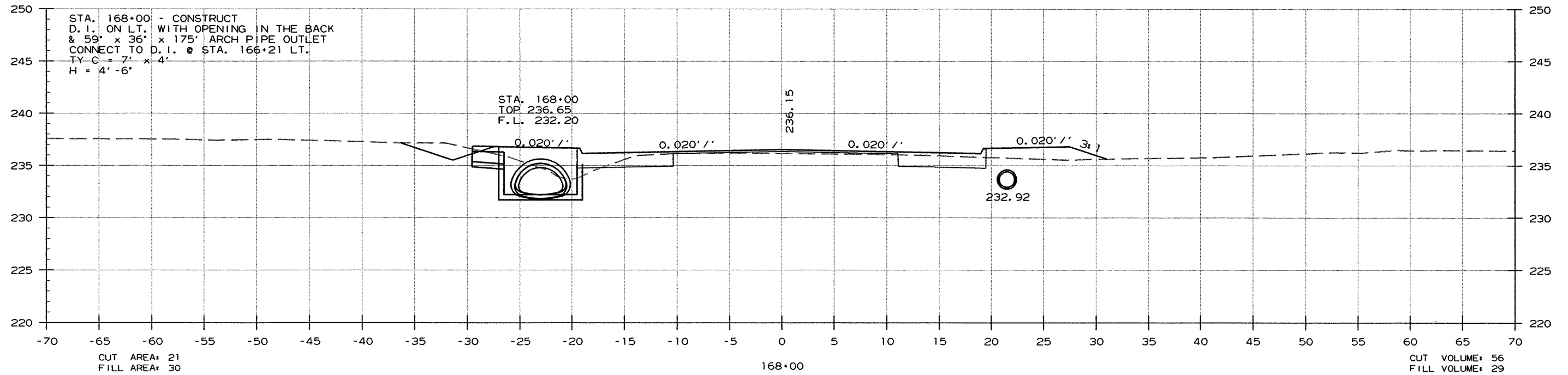
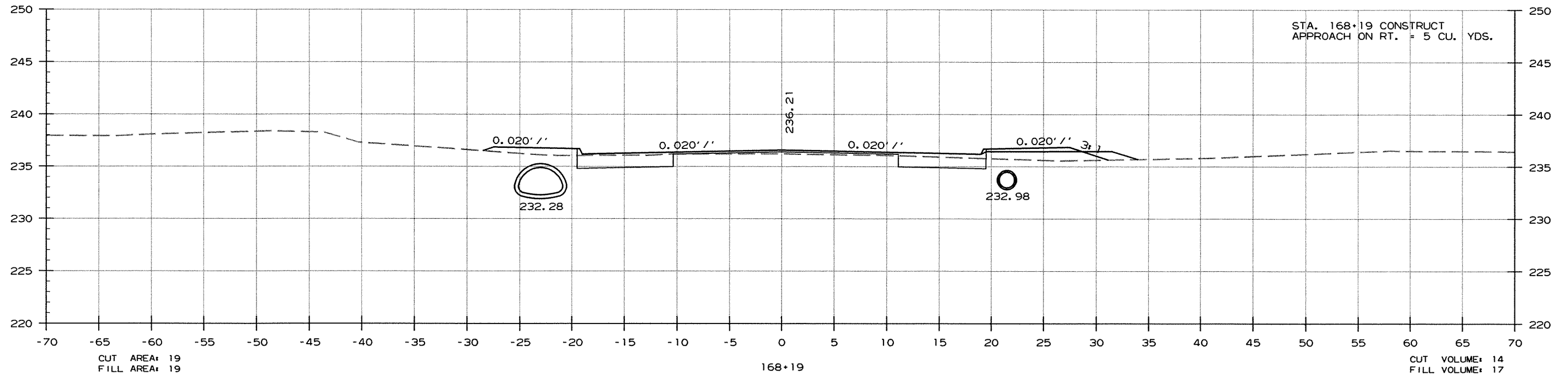
STA. 167+95 END RT. DITCH GR.
0.83% ELEV. 235.00



CROSS SECTIONS STA. 167+50 TO STA. 167+58

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. 061215							68	85

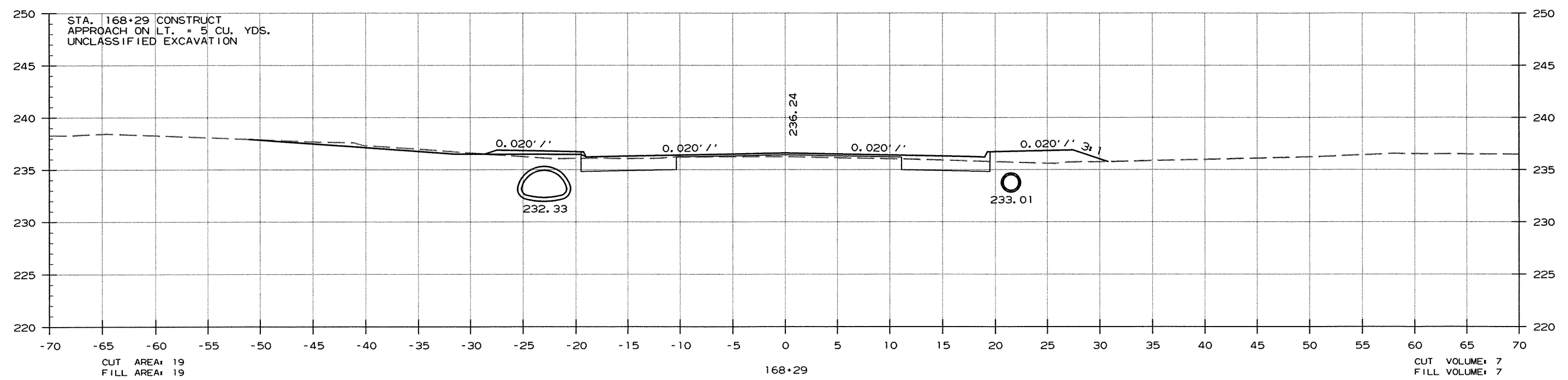
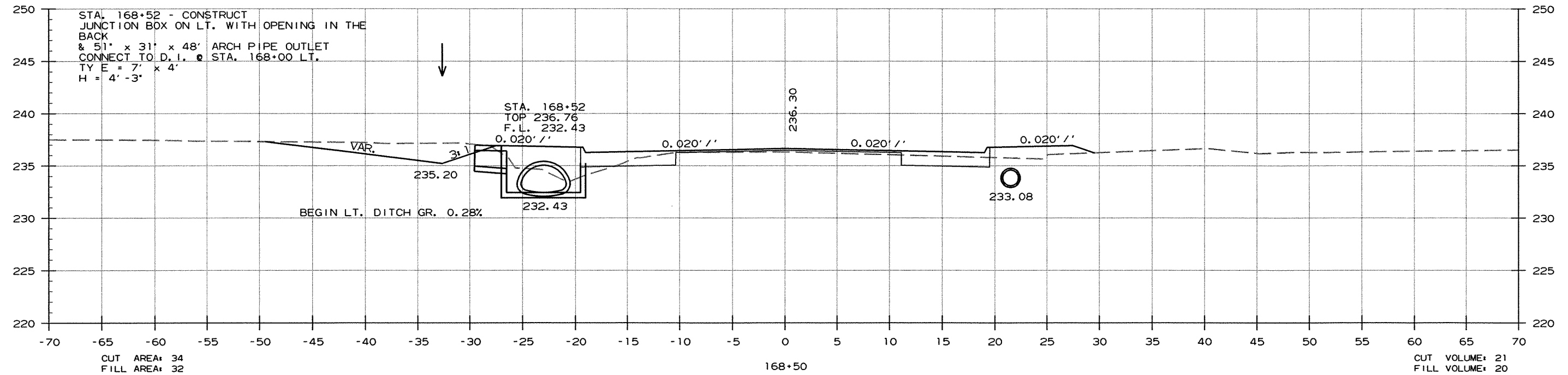
② CROSS SECTIONS



CROSS SECTIONS STA. 168+00 TO STA. 168+19

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.	061215	69

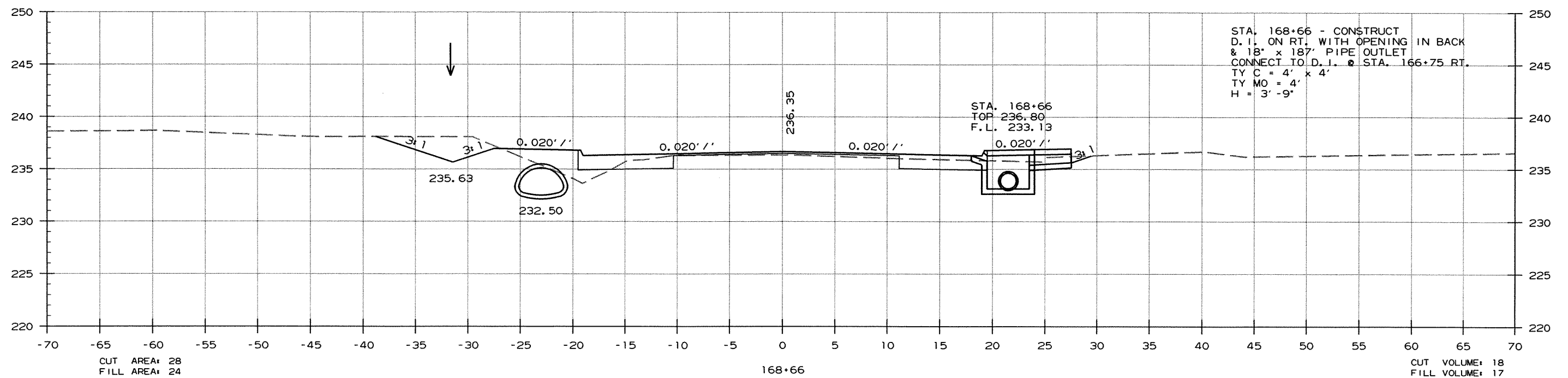
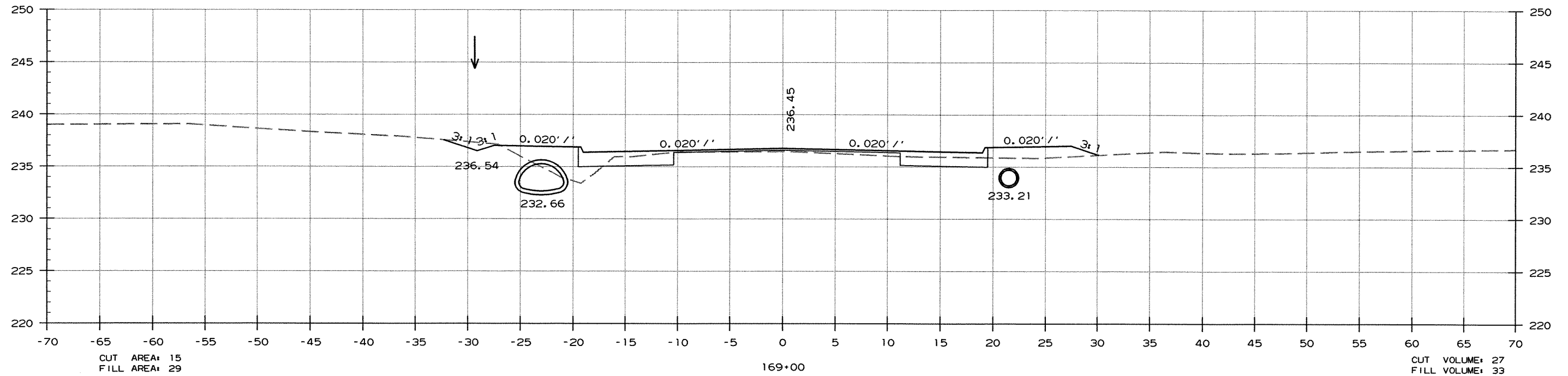
② CROSS SECTIONS



CROSS SECTIONS STA. 168+29 TO STA. 168+50

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. 061215	70	85

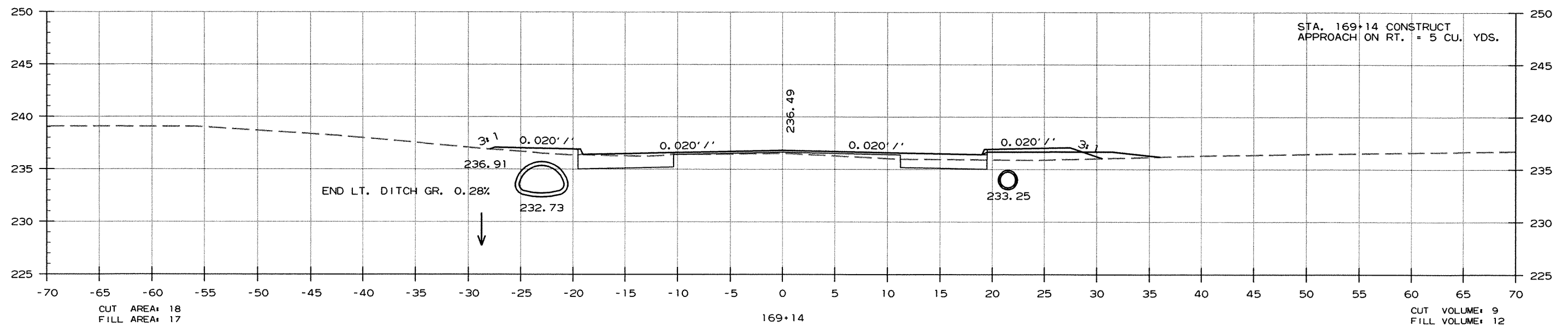
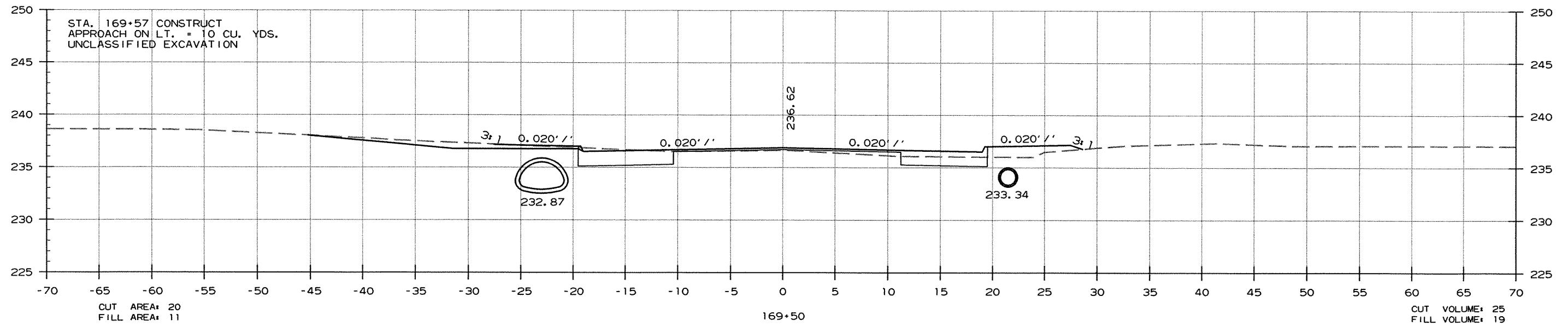
② CROSS SECTIONS



CROSS SECTIONS STA. 168+66 TO STA. 169+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. 061215	71	85

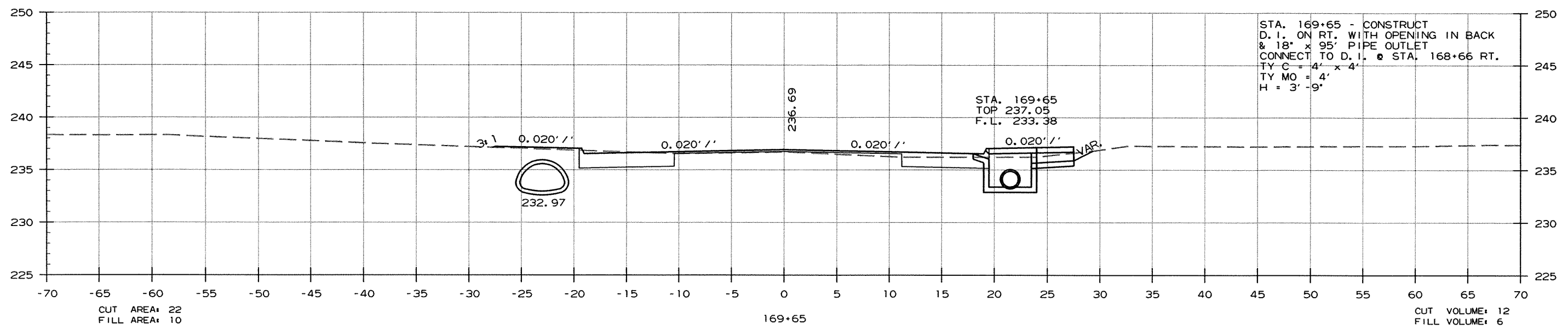
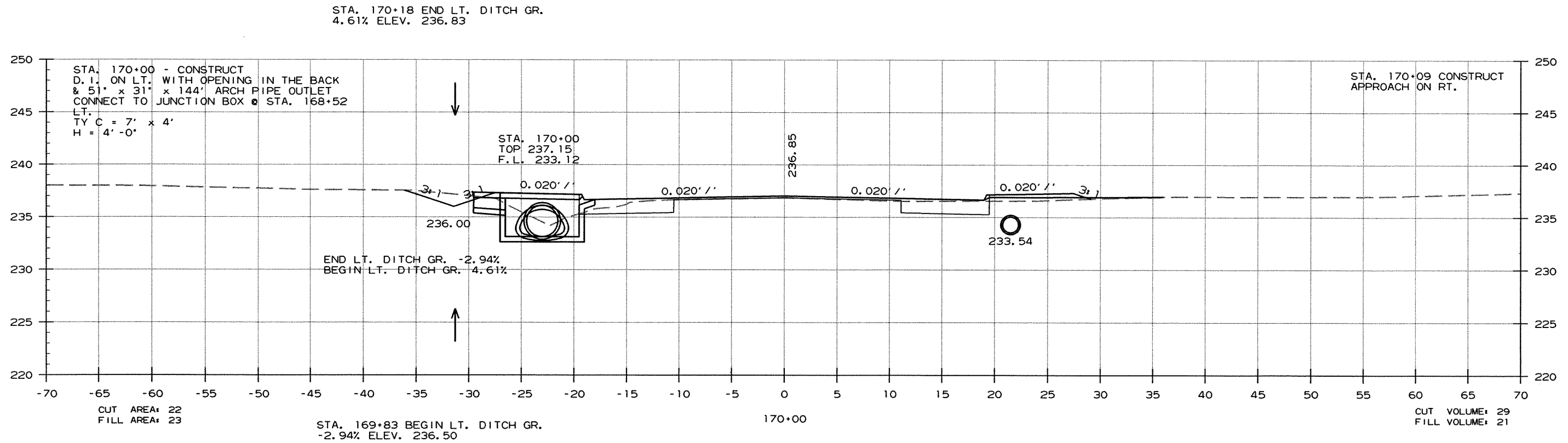
2 CROSS SECTIONS



CROSS SECTIONS STA. 169+14 TO STA. 169+50

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.	061215	72

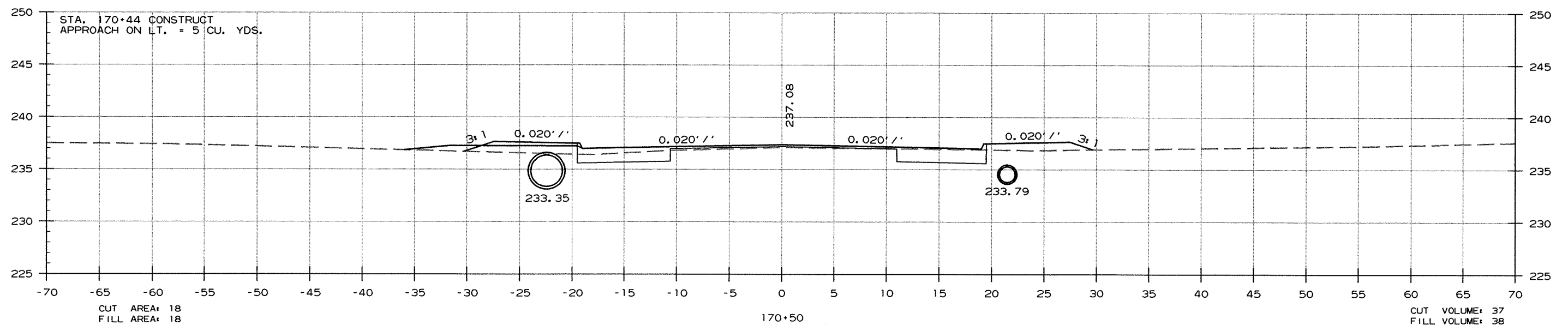
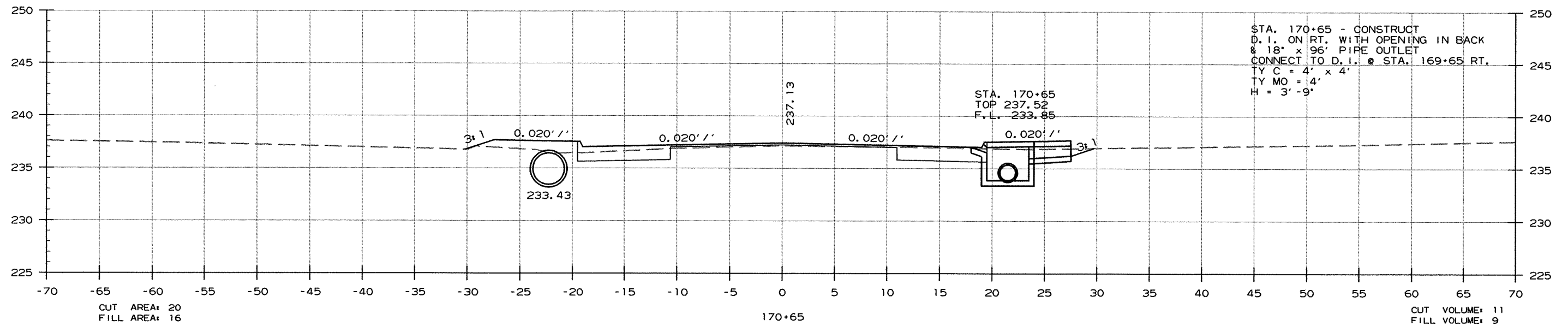
② CROSS SECTIONS



CROSS SECTIONS STA. 169+65 TO STA. 170+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. 061215							73	85

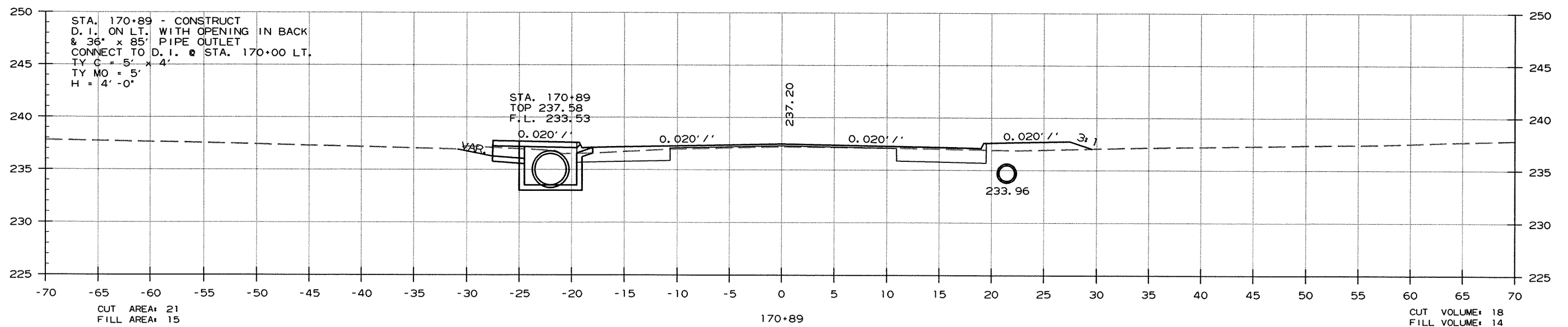
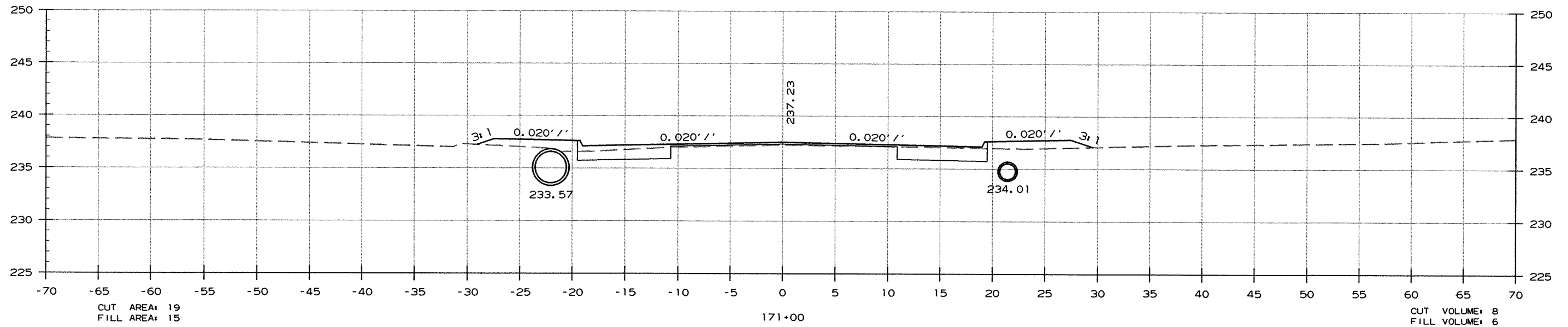
② CROSS SECTIONS



CROSS SECTIONS STA. 170+50 TO STA. 170+65

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. 061215	74	85

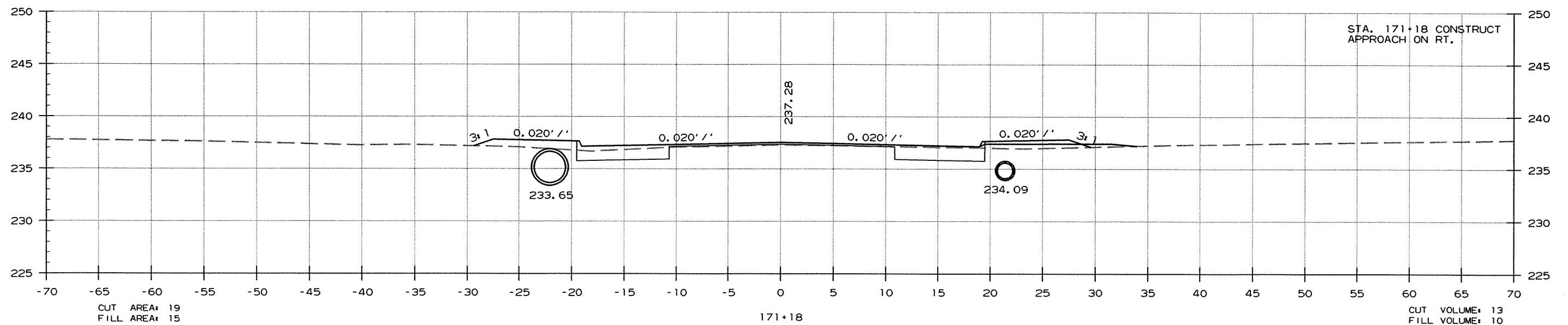
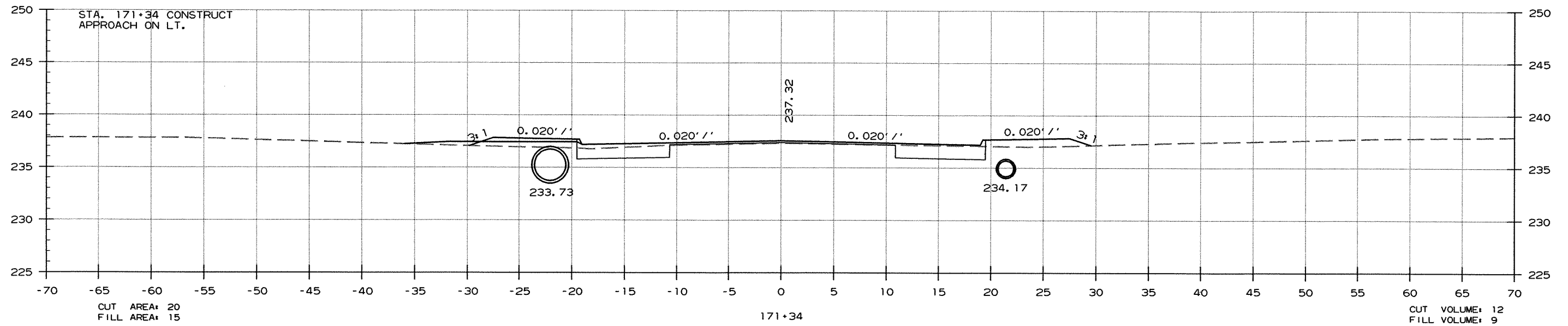
② CROSS SECTIONS



CROSS SECTIONS STA. 170+87 TO STA. 171+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. 061215	75	85

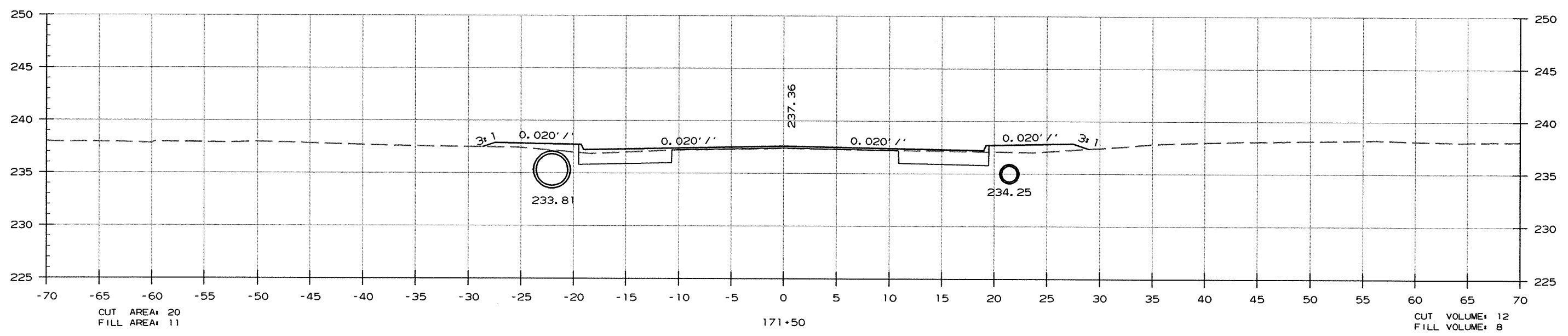
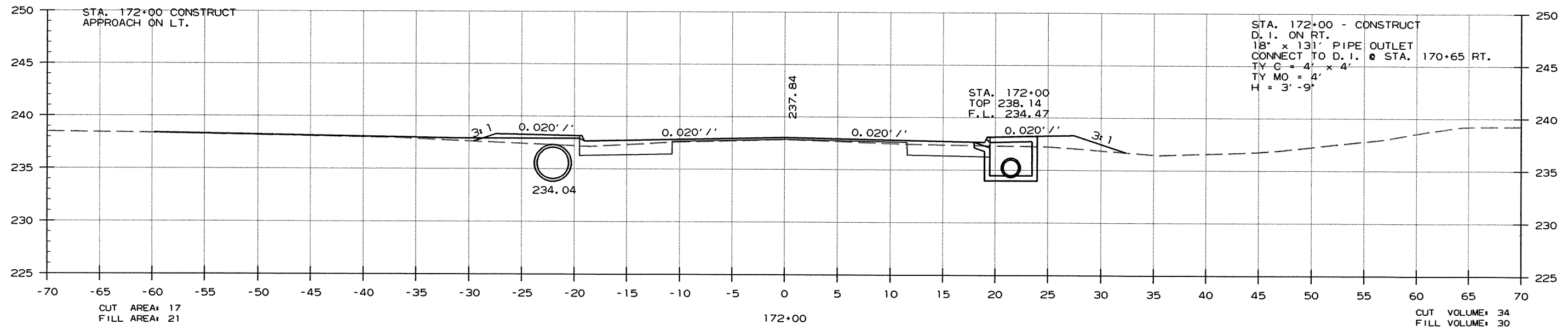
② CROSS SECTIONS



CROSS SECTIONS STA. 171+18 TO STA. 171+34

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		76	85
				JOB NO. 061215				

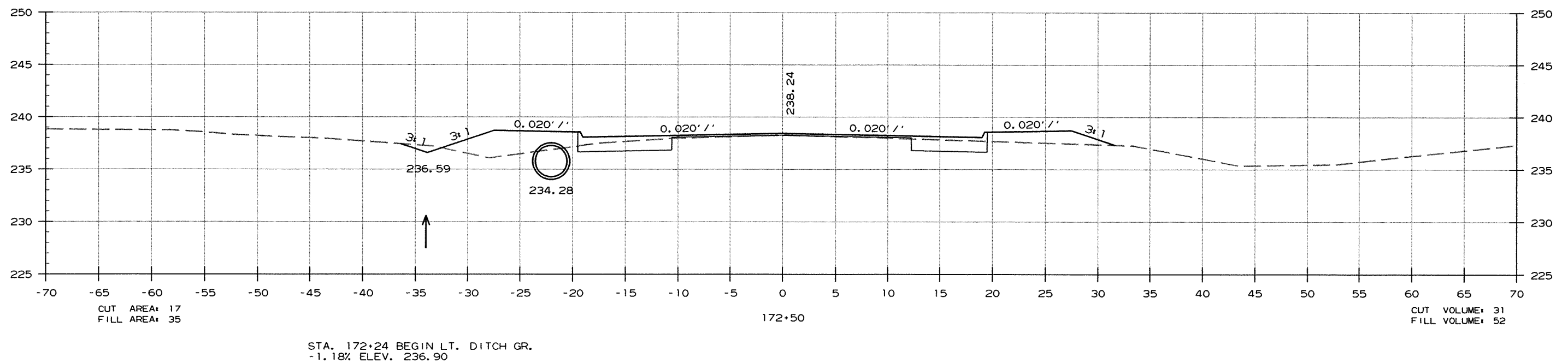
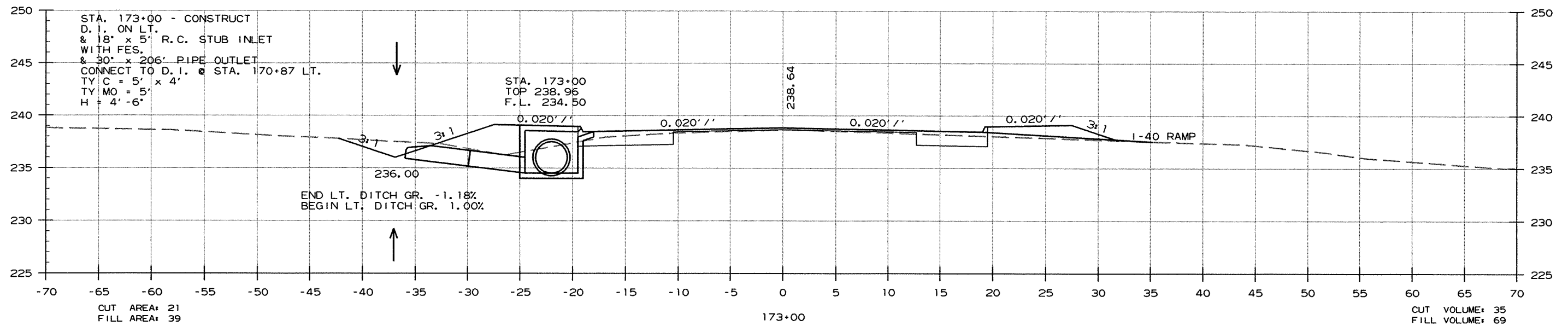
2 CROSS SECTIONS



CROSS SECTIONS STA. 171+50 TO STA. 172+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. 061215	77	85

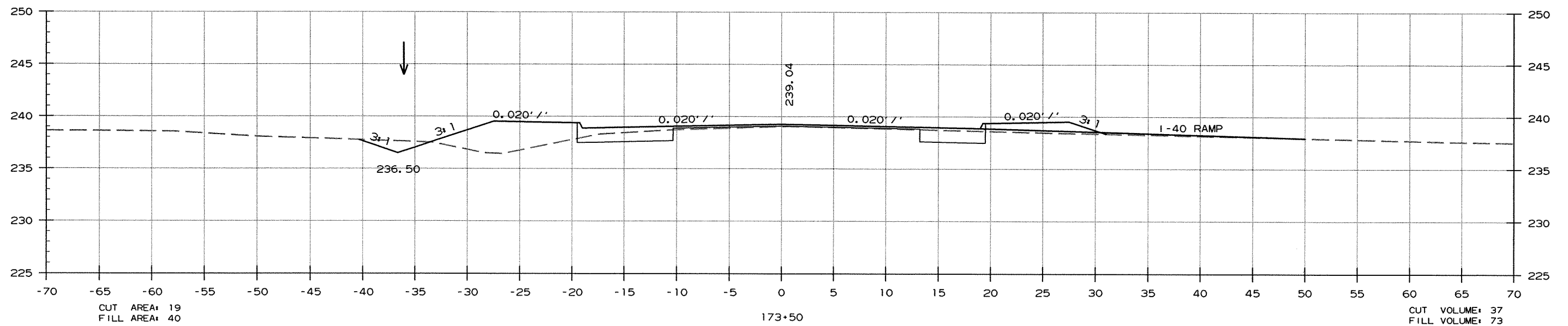
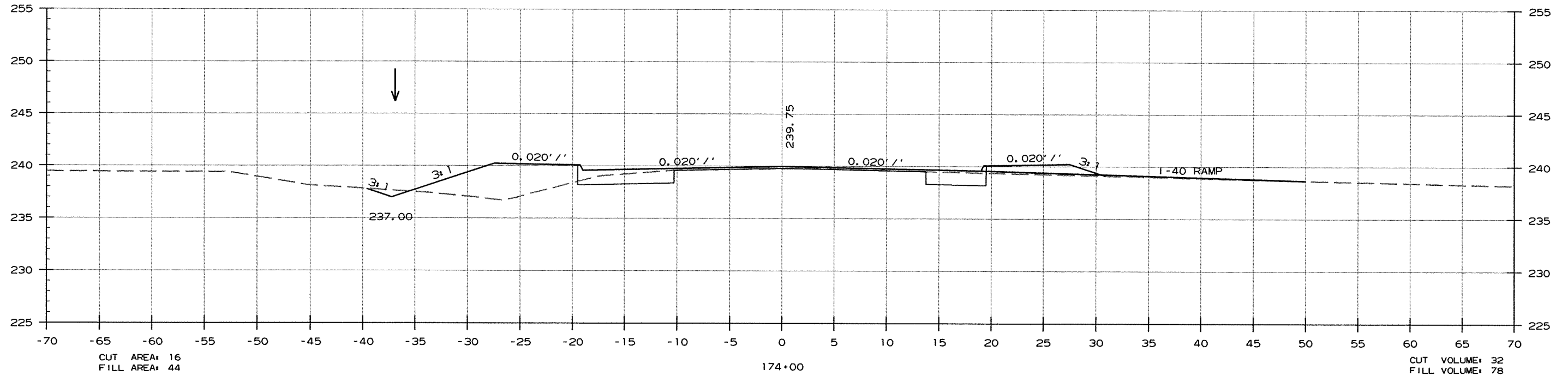
② CROSS SECTIONS



CROSS SECTIONS STA. 172+50 TO STA. 173+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. 061215	78	85

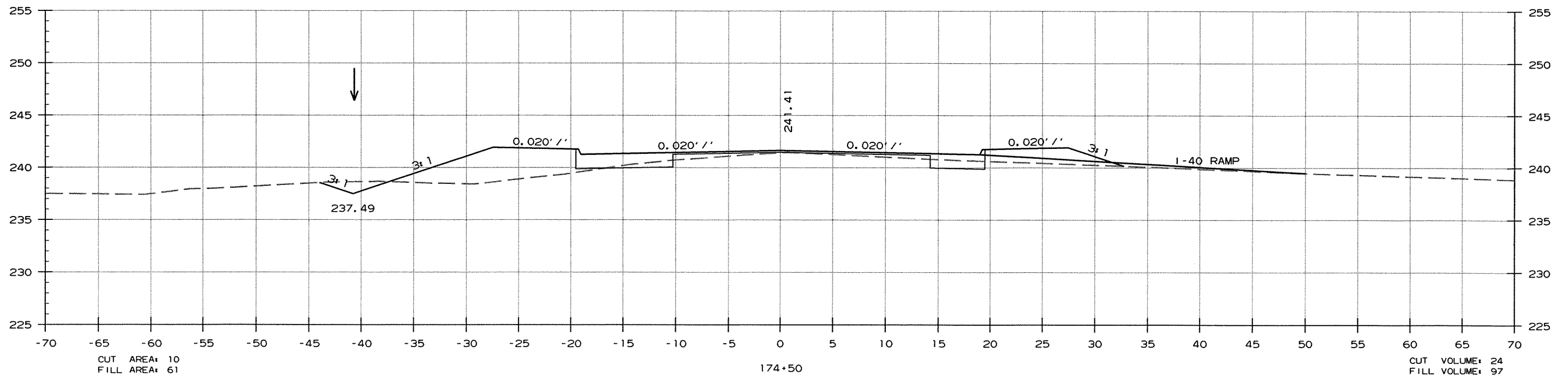
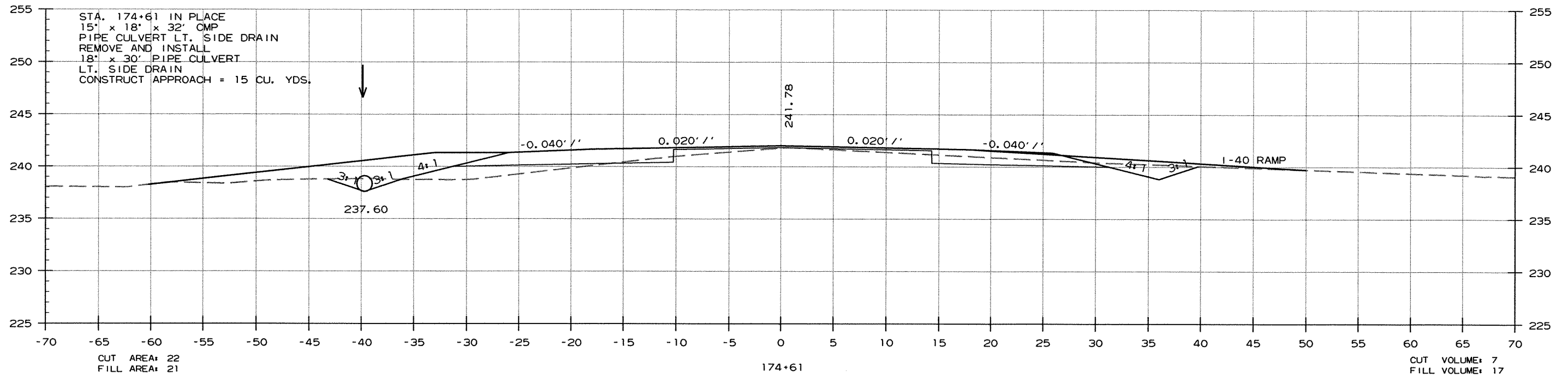
2 CROSS SECTIONS



CROSS SECTIONS STA. 173+50 TO STA. 174+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. 061215	79	85

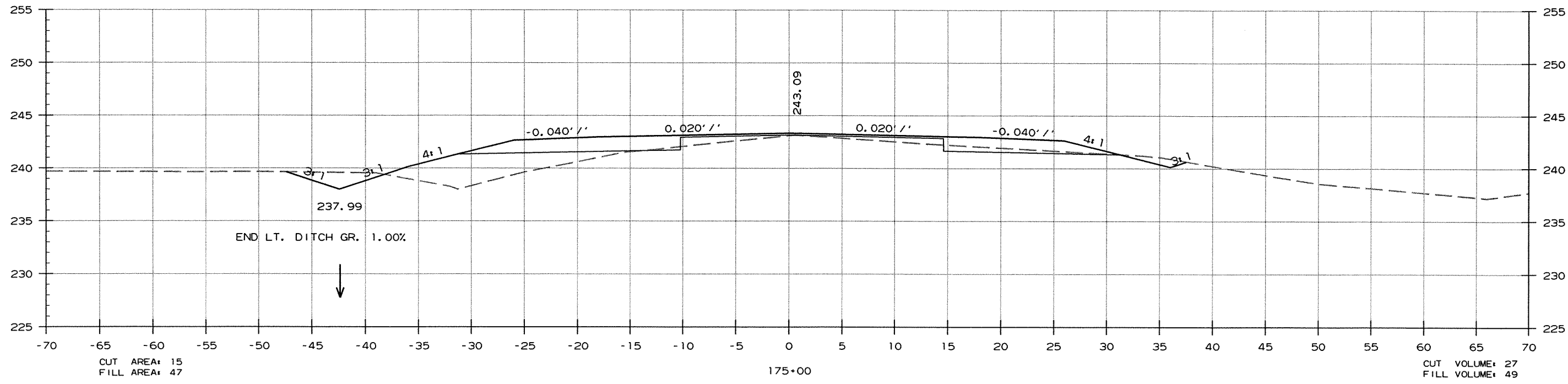
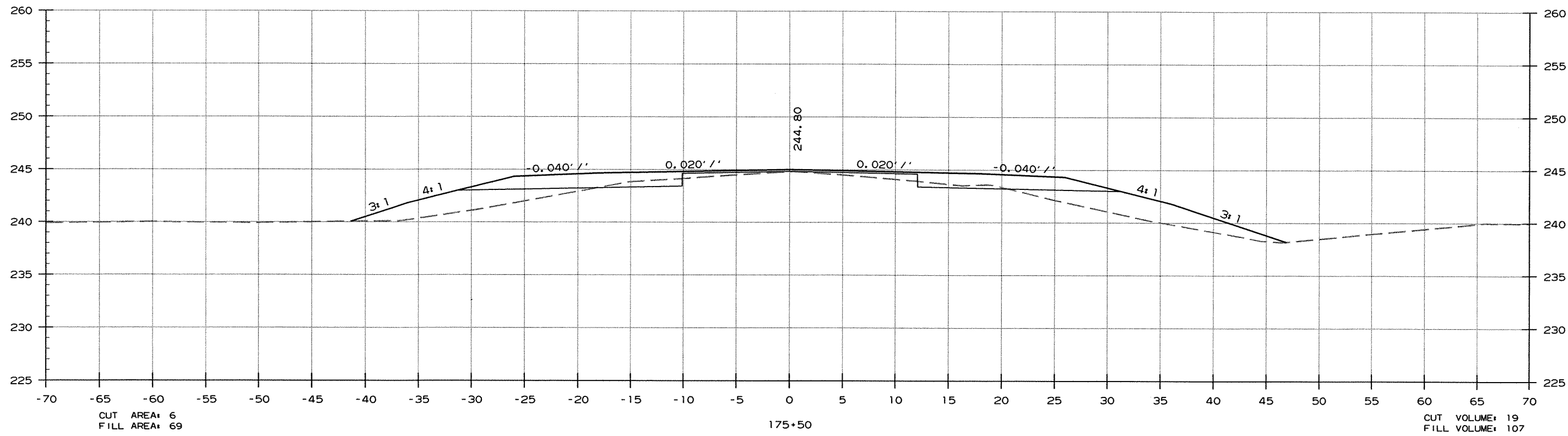
② CROSS SECTIONS



CROSS SECTIONS STA. 174+50 TO STA. 174+61

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. 061215	80	85

② CROSS SECTIONS

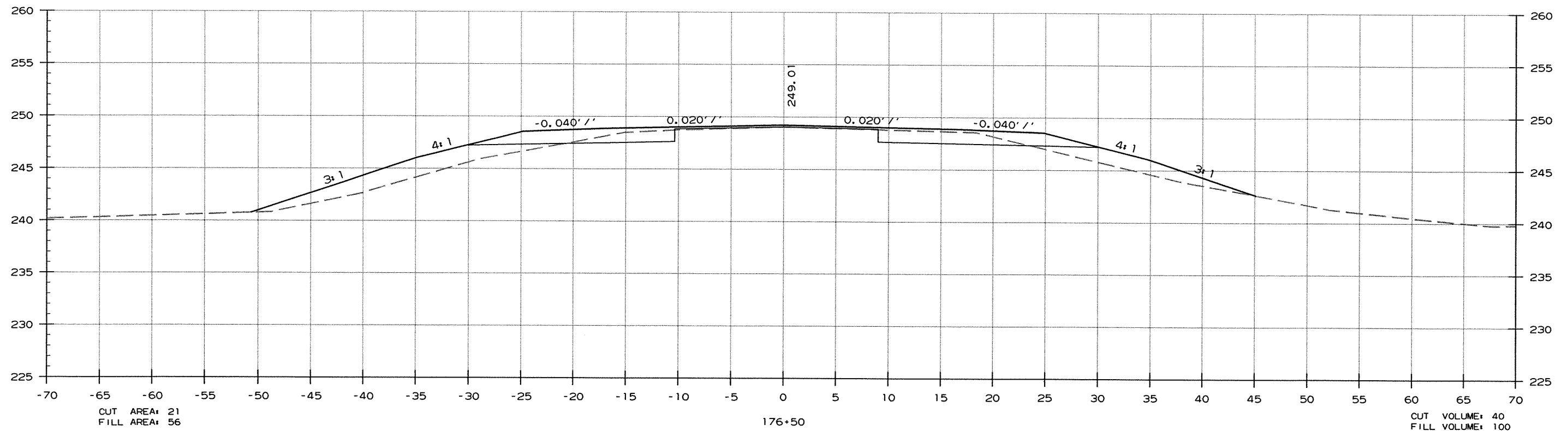


CROSS SECTIONS STA. 175+00 TO STA. 175+50

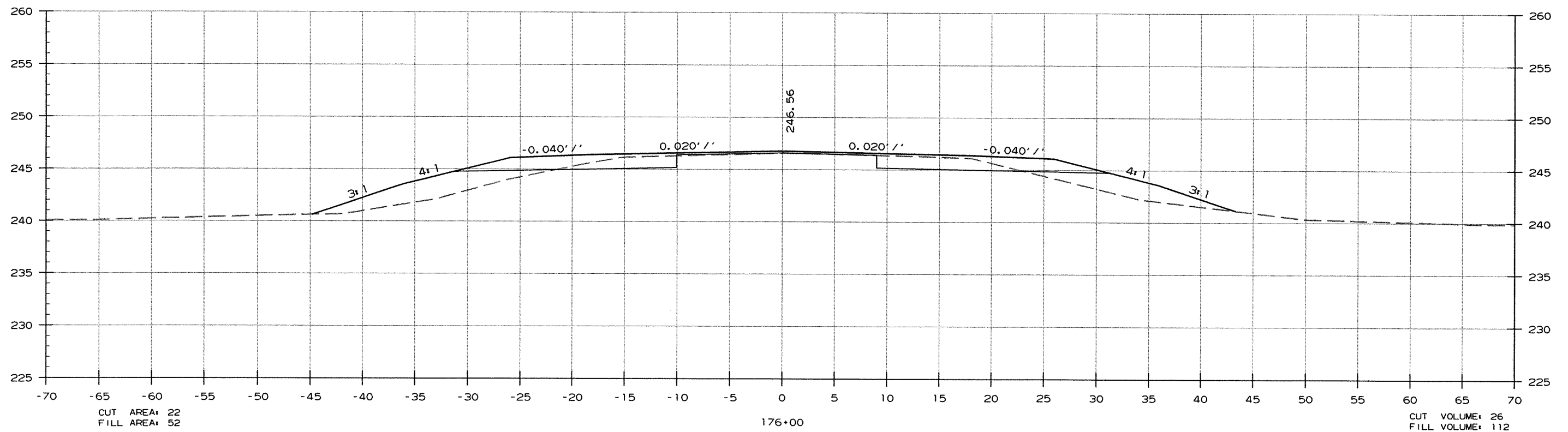
r061215.dgn 1/20/2011

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. 061215	81	85

② CROSS SECTIONS



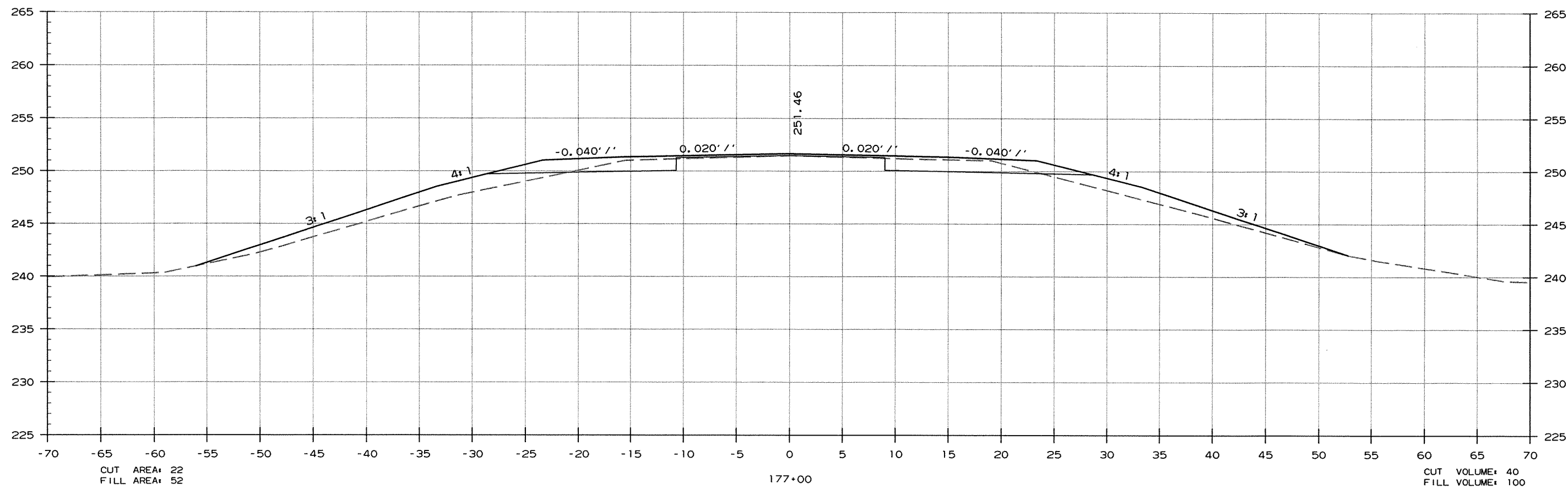
STA. 176+12 - END JOB 061215
BEGIN 200' TRANSITION



CROSS SECTIONS STA. 176+00 TO STA. 176+50

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.		061215	82	85

2 CROSS SECTIONS



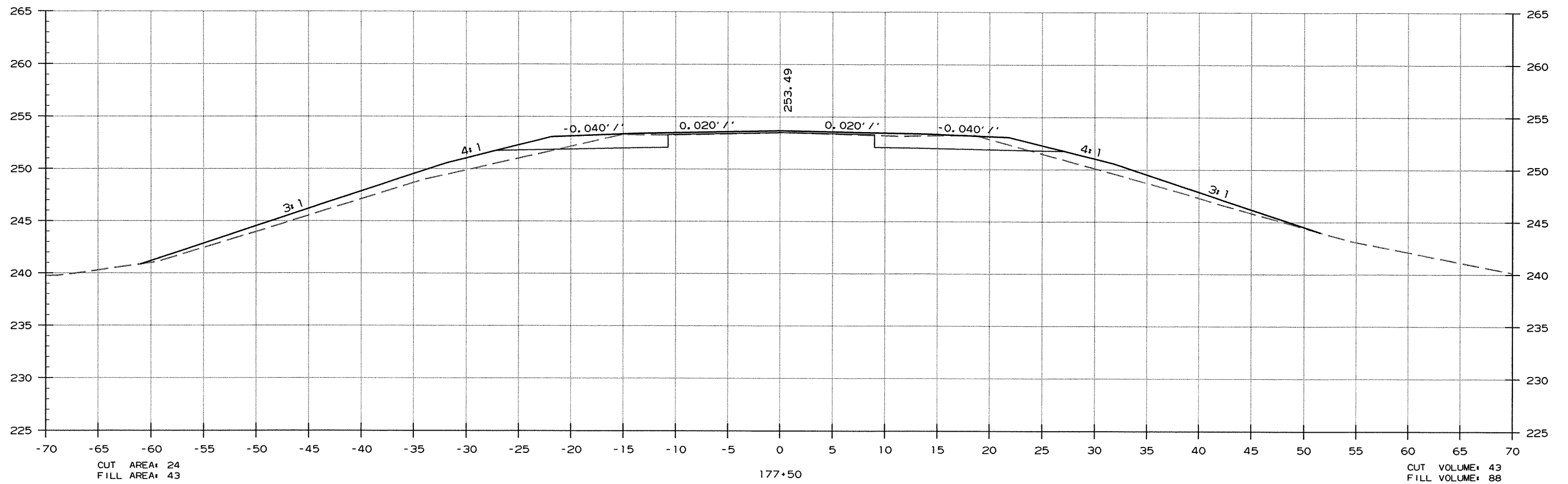
CUT AREA: 22
FILL AREA: 52

CUT VOLUME: 40
FILL VOLUME: 100

CROSS SECTIONS STA. 177+00 TO STA. 177+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.		061215	83	85

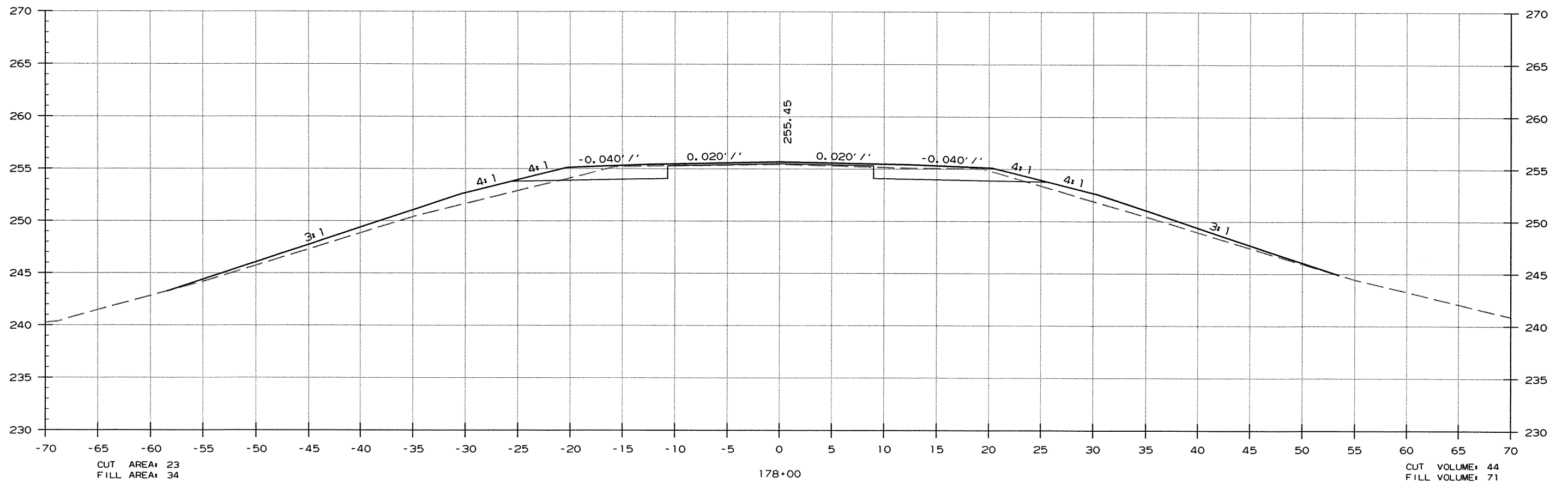
② CROSS SECTIONS



CROSS SECTIONS STA. 177+50 TO STA. 177+50

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.		061215	84	85

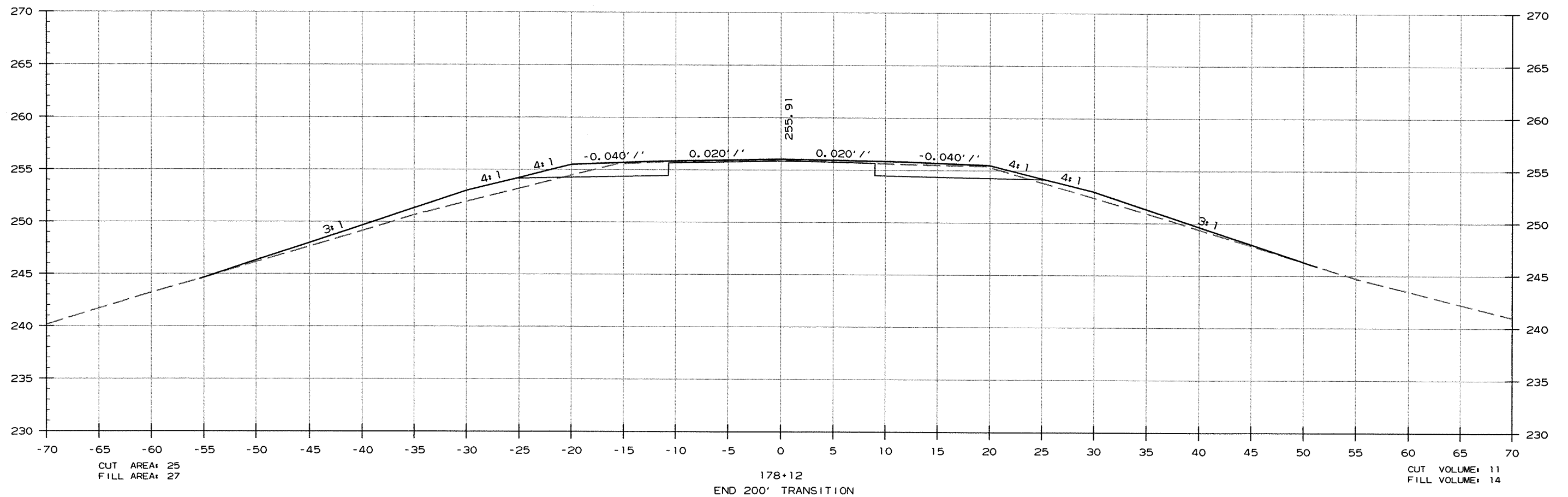
② CROSS SECTIONS



CROSS SECTIONS STA. 178+00 TO STA. 178+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.	061215	85

② CROSS SECTIONS



CROSS SECTIONS STA. 178+12 TO STA. 178+12