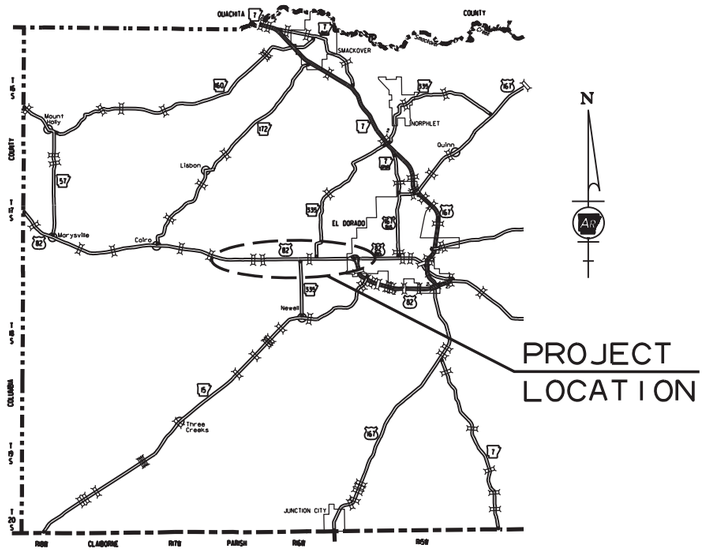
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	1	331
				(2) AIRPORT DR. - HWY. 82B (WIDENING) (S)				



VICINITY MAP

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

AIRPORT DR. - HWY. 82B (WIDENING) (S)

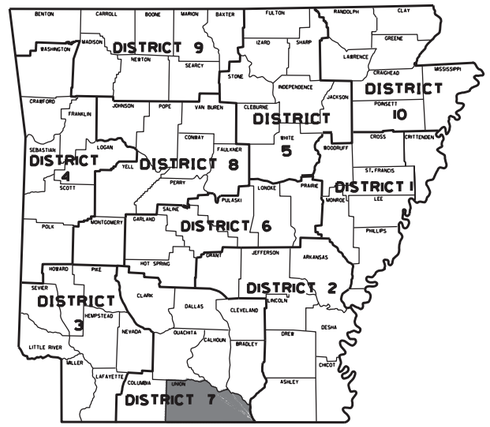
UNION COUNTY

ROUTE 82 SECTION 5

JOB CA0706

FED. AID PROJ. ACNHPP-0070(36)

NOT TO SCALE

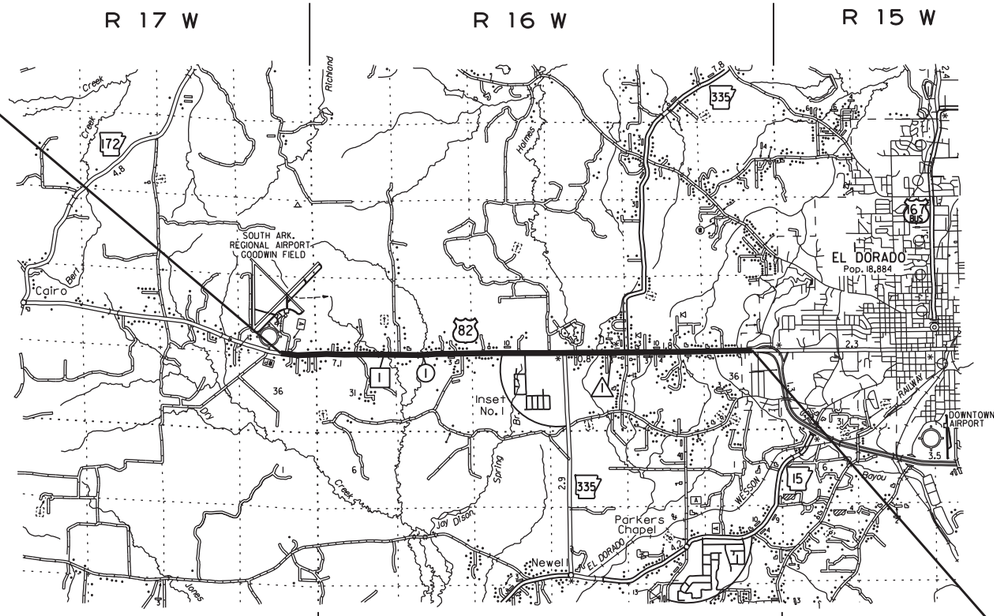


ARK. HWY. DIST. NO. 7

DESIGN TRAFFIC DATA

DESIGN YEAR	2040
2020 ADT	5,600
2040 ADT	7,300
2040 DHV	803
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	20%
DESIGN SPEED (RURAL)	60 MPH
DESIGN SPEED (URBAN)	45 MPH

STA. 97+22.79
BEGIN JOB CA0706
LOG MILE 10.74



STA. 420+60.00
END JOB CA0706

N

STRUCTURES OVER 20'-0" SPAN

[1] STA. 171+53 IN PLACE
DBL. 10' X 8' X 51' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 35' LT. & 36' RT.
FOR A COMPLETED LENGTH OF 122'
050 = 616 C.F.S. D.A. = 1.45 SQUARE MILES
SPAN = 22'-2"

BRIDGE DATA

(1) STA. 195+77.50 BRIDGE END
BRIDGE NO. 07410 OVER CORNIE BAYOU
100' CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT
(30'-40'-30')
75'-0" CLEAR ROADWAY
101' - 0" BRIDGE LENGTH
STA. 196+78.50 BRIDGE END
050 = 1370 C.F.S. D.A. = 3.47 SQUARE MILES

C.L. MEDIAN EQUATION

⚠ STA. 322+00.10 BACK =
STA. 322+00.00 AHEAD

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 33°12'34" LONGITUDE = W 92°48'45"	LATITUDE = N 33°12'31" LONGITUDE = W 92°45'35"	LATITUDE = N 33°12'29" LONGITUDE = W 92°42'25"

GROSS LENGTH OF PROJECT	32337.31	FEET	OR	6.124	MILES
NET " " ROADWAY	32214.14	"	"	6.101	"
NET " " BRIDGES	123.17	"	"	0.023	"
NET " " PROJECT	32337.31	"	"	6.124	"

APPROVED

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7836
M.E. BANKS

Banks, Emanuel
Jul 31 2020 1:26 PM

DEPUTY DIRECTOR
AND CHIEF ENGINEER

11/8/2011

ZBORDER.CEL

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.		CA0706	2	331

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG.NO.
1	TITLE SHEET		
2	INDEX OF SHEETS AND STANDARD DRAWINGS		
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
4 - 7	TYPICAL SECTIONS OF IMPROVEMENT		
8 - 13	SPECIAL DETAILS		
14 - 46	TEMPORARY EROSION CONTROL DETAILS		
47 - 71	MAINTENANCE OF TRAFFIC DETAILS		
72 - 73	PERMANENT PAVEMENT MARKING DETAILS		
74 - 83	QUANTITIES		
84	SCHEDULE OF BRIDGE QUANTITIES	07410	59628
85	SUMMARY OF QUANTITIES AND REVISIONS		
86 - 98	SURVEY CONTROL DETAILS		
99 - 133	PLAN AND PROFILE SHEETS		
134	LAYOUT OF BRIDGE HIGHWAY 82 OVER CORNIE BAYOU (SHEET 1 OF 2)	07410	59629
135	LAYOUT OF BRIDGE HIGHWAY 82 OVER CORNIE BAYOU (SHEET 2 OF 2)	07410	59630
136	DETAILS OF STAGE CONSTRUCTION	07410	59631
137	DETAILS OF BENT 1	07410	59632
138	DETAILS OF BENT 4	07410	59633
139	DETAILS OF INTERMEDIATE BENTS	07410	59634
140	DETAILS OF ELASTOMERIC BEARINGS	07410	59635
141	DETAILS OF 100'-0" CONTINOUS COMPOSITE INTEGRAL W-BEAM UNIT (SHEET 1 OF 6)	07410	59636
142	DETAILS OF 100'-0" CONTINOUS COMPOSITE INTEGRAL W-BEAM UNIT (SHEET 2 OF 6)	07410	59637
143	DETAILS OF 100'-0" CONTINOUS COMPOSITE INTEGRAL W-BEAM UNIT (SHEET 3 OF 6)	07410	59638
144	DETAILS OF 100'-0" CONTINOUS COMPOSITE INTEGRAL W-BEAM UNIT (SHEET 4 OF 6)	07410	59639
145	DETAILS OF 100'-0" CONTINOUS COMPOSITE INTEGRAL W-BEAM UNIT (SHEET 5 OF 6)	07410	59640
146	DETAILS OF 100'-0" CONTINOUS COMPOSITE INTEGRAL W-BEAM UNIT (SHEET 6 OF 6)	07410	59641
147	DETAILS OF TYPE SPECIAL APPROACH SLABS	07410	59642
148 - 331	CROSS SECTIONS		

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

BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55000	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	02-27-14
55001	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES	02-27-14
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55006	STANDARD GENERAL NOTES FOR STEEL BRIDGE STRUCTURES	09-02-15
55007	STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES	02-11-16
55010	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE	03-24-20
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55030C	STANDARD DETAILS FOR TYPE C APPROACH GUTTERS	02-27-14

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
CG-1	CURBING DETAILS	11-29-07
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	11-07-19
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9	DETAILS OF DROP INLETS & JUNCTION BOXES	11-16-01
FPC-9E	DETAILS OF DROP INLETS (TYPE C)	08-22-02
FPC-9M	DETAILS OF DROP INLET (TYPE MO)	08-22-02
FPC-9S	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	07-26-12
GR-6	GUARDRAL DETAILS	11-07-19
GR-7	GUARDRAL DETAILS	11-07-19
GR-8	GUARDRAL DETAILS	11-07-19
GR-9	GUARDRAL DETAILS	11-07-19
GR-10	GUARDRAL DETAILS	11-07-19
GR-11	GUARDRAL DETAILS	11-07-19
GR-12	GUARDRAL DETAILS	05-14-20
MB-1	MAILBOX DETAILS	11-18-04
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
RCB-3	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	10-12-95
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
TEC-4	TEMPORARY EROSION CONTROL DEVICES	07-26-12
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-3	CHAIN LINK FENCE	11-17-10
WF-4	WIRE FENCE TYPE C AND D	08-22-02
WR-1	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	11-10-05

2/28/2019

RI10574.DGN

INDEX OF SHEETS AND STANDARD DRAWINGS

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.		CA0706	3	331

(2) GOVERNING SPECIFICATIONS AND GENERAL NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFC 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 - TRAINING PROGRAM - JOB CA0706
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
210-1_____	UNCLASSIFIED EXCAVATION
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
404-3_____	DESIGN OF ASPHALT MIXTURES
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURNG DENSITY FOR ROLLING PATTERNS
505-1_____	PORTLAND CEMENT CONCRETE DRIVEWAY
600-2_____	INCIDENTAL CONSTRUCTION
603-1_____	LANE CLOSURE NOTIFICATION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
605-1_____	CONCRETE DITCH PAVING
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
617-1_____	GUARDRAIL TERMINAL (TYPE 2)
620-1_____	MULCH COVER
633-1_____	CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
634-1_____	CURBING
800-1_____	STRUCTURES
802-3_____	CONCRETE FOR STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
807-2_____	STEEL STRUCTURES
808-1_____	INSTALLATION OF ELASTOMERIC BEARINGS
808-2_____	ELASTOMERIC BEARINGS
JOB CA0706_	AIRPORT CLEARANCE REQUIREMENTS
JOB CA0706_	BIDDING REQUIREMENTS AND CONDITIONS
JOB CA0706_	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB CA0706_	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB CA0706_	CARGO PREFERENCE ACT REQUIREMENTS
JOB CA0706_	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB CA0706_	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB CA0706_	CONSTRUCTION PROJECT INFORMATION SIGN
JOB CA0706_	DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB CA0706_	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB CA0706_	ELECTRONIC DOCUMENT MANAGEMENT – CONNECTING ARKANSAS PROGRAM
JOB CA0706_	EMPLOYMENT REPORTING
JOB CA0706_	FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT
JOB CA0706_	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB CA0706_	MANDATORY ELECTRONIC CONTRACT
JOB CA0706_	NESTING SITES OF MIGRATORY BIRDS
JOB CA0706_	PARTNERING REQUIREMENTS
JOB CA0706_	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS (IRI)
JOB CA0706_	PLASTIC PIPE
JOB CA0706_	SHORING
JOB CA0706_	SHORING FOR CULVERTS
JOB CA0706_	SITE USE (A+C METHOD) – CALENDAR DAY CONTRACT
JOB CA0706_	SOIL STABILIZATION
JOB CA0706_	STORM WATER POLLUTION PREVENTION PLAN
JOB CA0706_	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB CA0706_	UTILITY ADJUSTMENTS
JOB CA0706_	VALUE ENGINEERING
JOB CA0706_	WARM MIX ASPHALT
JOB CA0706_	WELLHEAD PROTECTICN

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. 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.
4. 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.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. 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.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 23 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

2/28/2019

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	4	331

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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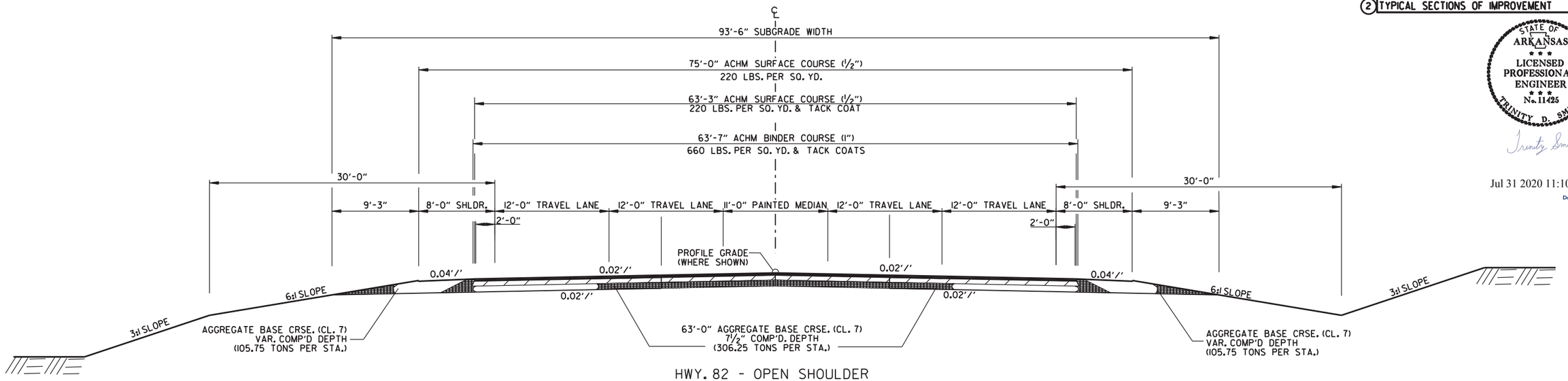


HWY. 82 - OPEN SHOULDER
FULL DEPTH SECTION

STA. 105+50.00 TO STA. 116+00.00
STA. 140+00.00 TO STA. 144+00.00
STA. 172+00.00 TO STA. 176+00.00
STA. 179+00.00 TO STA. 186+00.00
STA. 188+00.00 TO STA. 195+41.00
STA. 197+15.00 TO STA. 203+99.00
STA. 209+00.00 TO STA. 216+88.00
STA. 222+98.00 TO STA. 224+00.00
STA. 234+76.00 TO STA. 236+00.00
STA. 239+82.00 TO STA. 242+75.00
STA. 247+00.00 TO STA. 249+00.00
STA. 268+00.00 TO STA. 275+00.00
STA. 277+00.00 TO STA. 282+00.00

NOTE: STA. 97+22.79 TO STA. 105+50.00 - TAPER

NOTES:
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

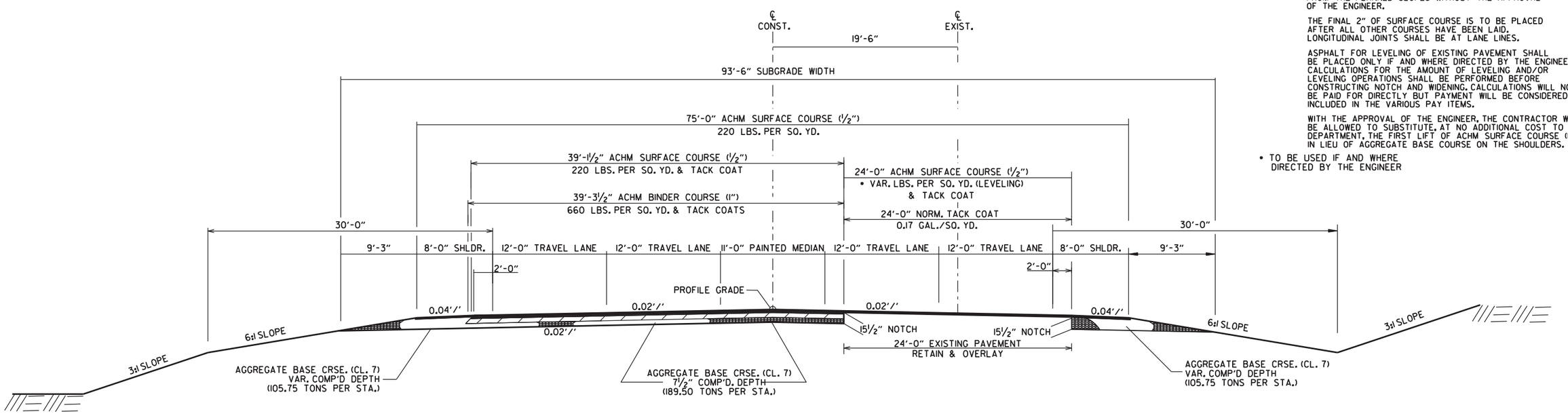
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT 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. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



HWY. 82 - OPEN SHOULDER
NOTCH AND WIDEN LEFT SECTION

STA. 116+00.00 TO STA. 140+00.00
STA. 144+00.00 TO STA. 172+00.00

NOTE: STA. 97+22.79 TO STA. 105+50.00 - TAPER

TYPICAL SECTIONS OF IMPROVEMENT

7/29/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	5	331

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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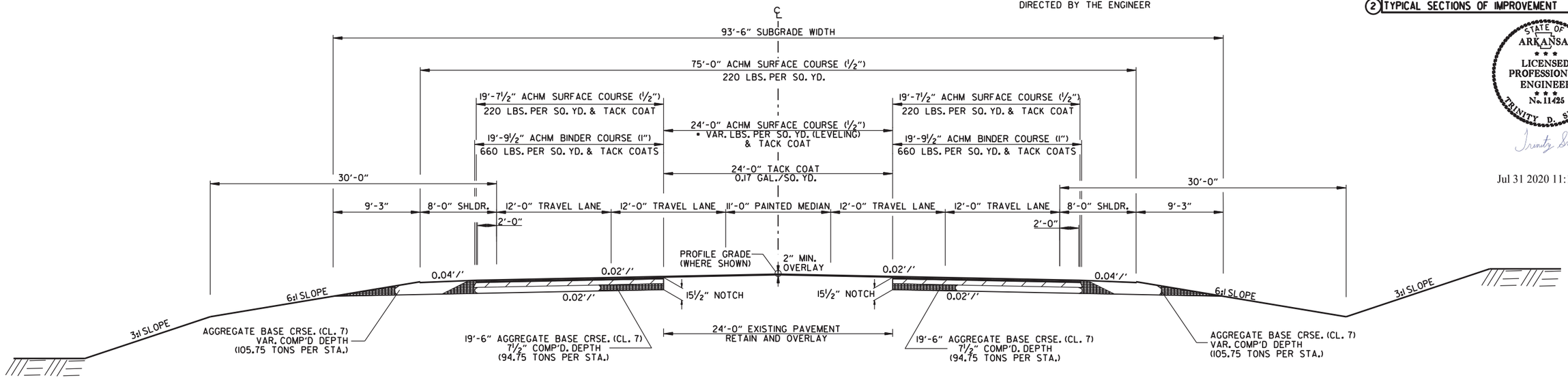
• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



HWY. 82 - OPEN SHOULDER
NOTCH AND WIDEN SECTION

STA. 176+00.00 TO STA. 179+00.00
STA. 186+00.00 TO STA. 188+00.00
STA. 216+88.00 TO STA. 222+98.00
STA. 224+00.00 TO STA. 234+76.00
STA. 236+00.00 TO STA. 239+82.00
STA. 242+75.00 TO STA. 247+00.00
STA. 249+00.00 TO STA. 255+00.00

NOTES:
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

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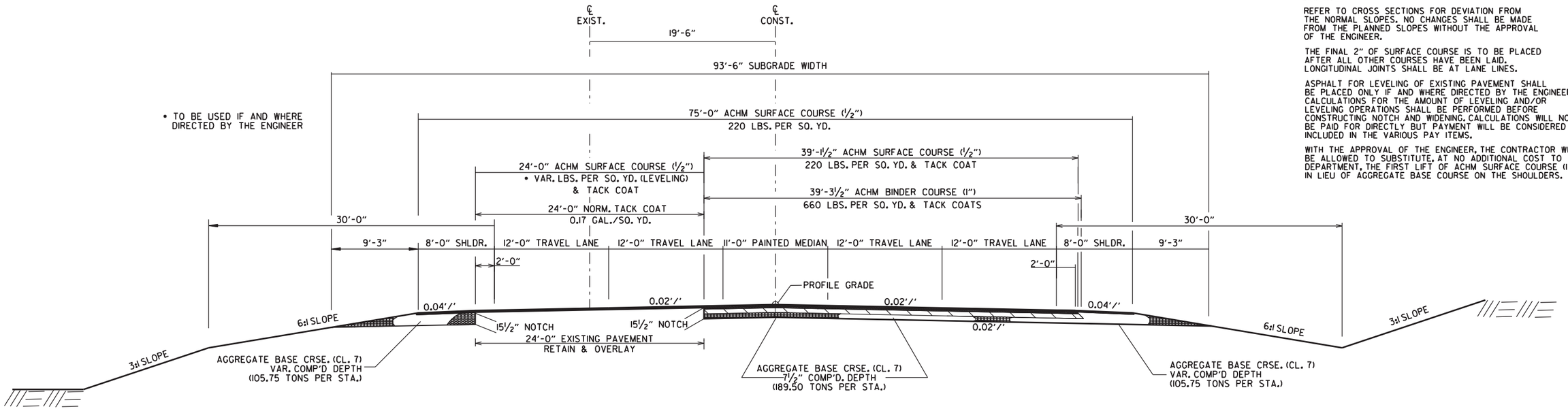
ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



HWY. 82 - OPEN SHOULDER
NOTCH AND WIDEN RIGHT SECTION

STA. 255+00.00 TO STA. 268+00.00
STA. 275+00.00 TO STA. 277+00.00

7/29/2020

RCA0706.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	6	331

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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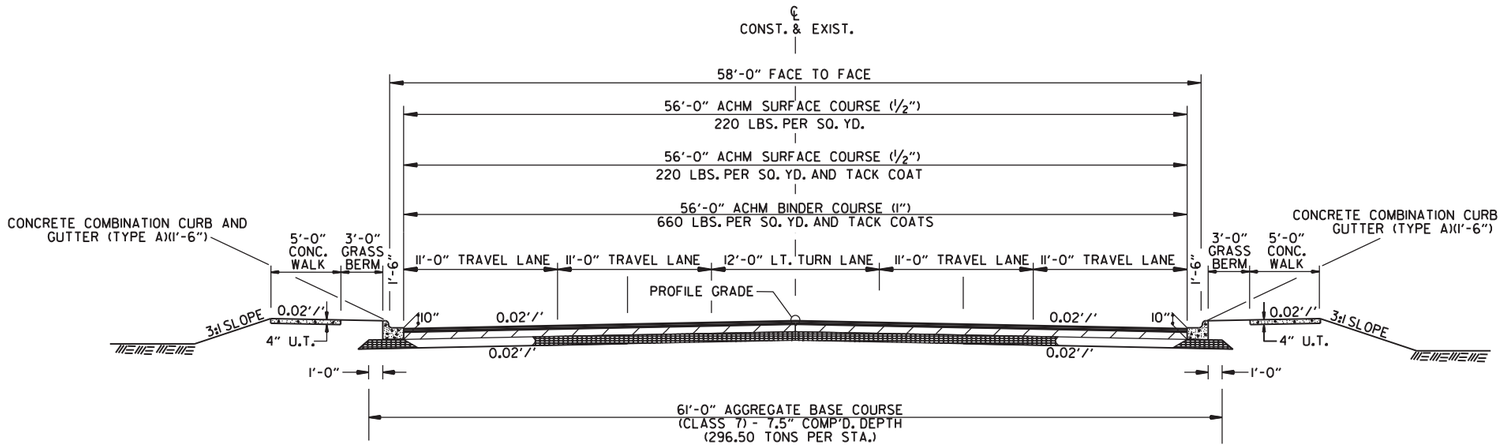


HWY. 82 - CURB AND GUTTER
FULL DEPTH SECTION

STA. 282+00.00 TO STA. 284+50.00
STA. 294+00.00 TO STA. 297+66.00
STA. 304+00.00 TO STA. 306+00.00
STA. 309+00.00 TO STA. 311+00.00
STA. 351+58.00 TO STA. 355+00.00
STA. 391+75.00 TO STA. 396+30.00
STA. 399+98.00 TO STA. 402+00.00

NOTES:
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

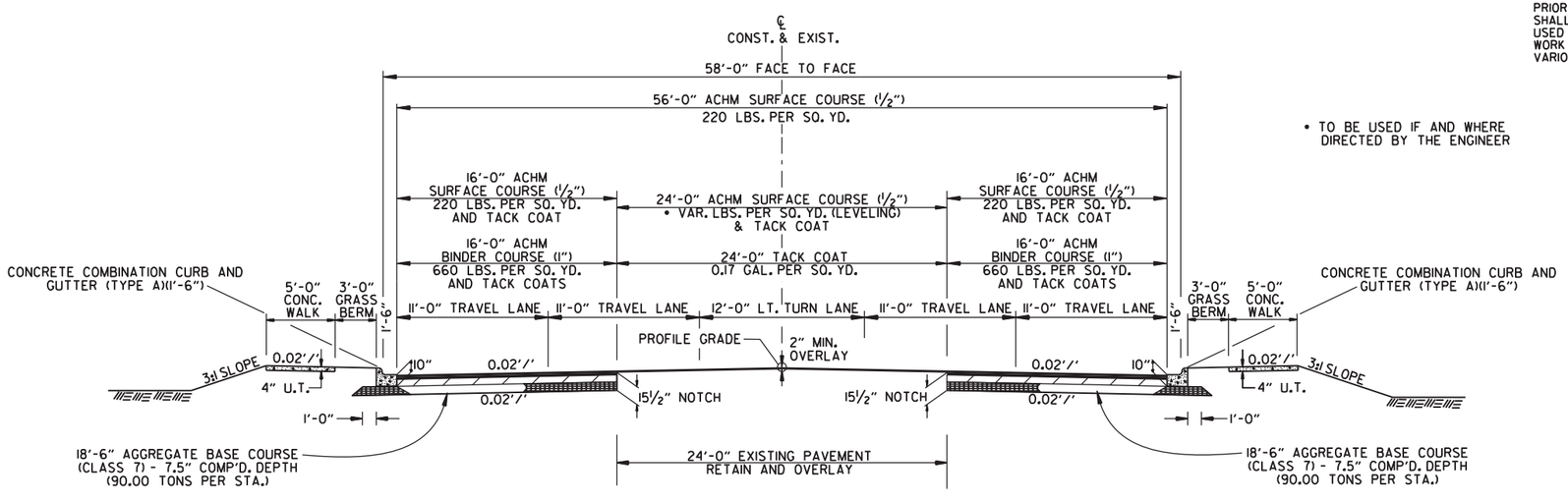
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT 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. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT, 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.



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 82 - CURB AND GUTTER
NOTCH AND WIDEN SECTION

STA. 284+50.00 TO STA. 294+00.00
STA. 297+66.00 TO STA. 304+00.00
STA. 306+00.00 TO STA. 309+00.00
STA. 311+00.00 TO STA. 351+58.00
STA. 355+00.00 TO STA. 391+75.00
STA. 396+30.00 TO STA. 399+98.00
STA. 402+00.00 TO STA. 418+80.00

NOTE: STA. 418+80.00 TO STA. 420+60.00 - TAPER

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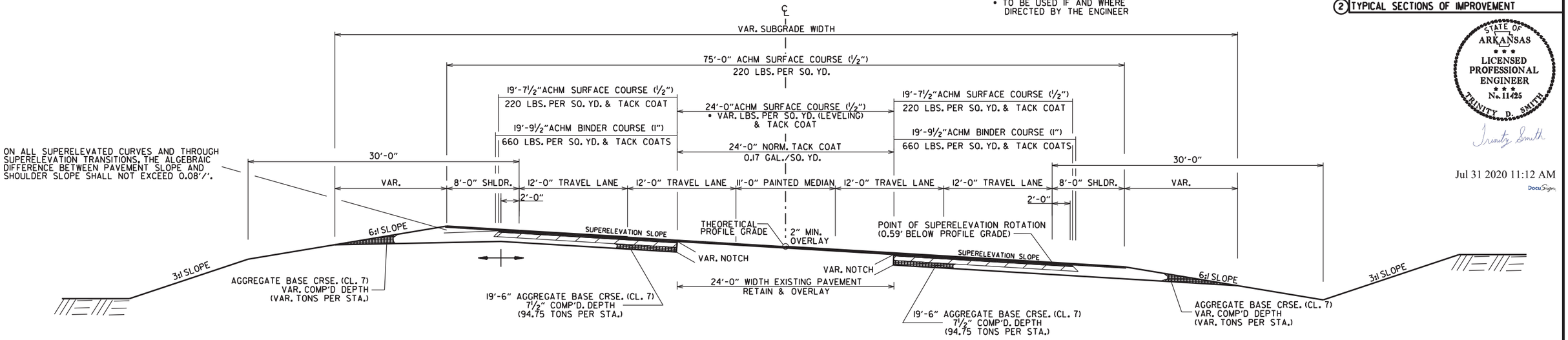
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	7	331

(2) TYPICAL SECTIONS OF IMPROVEMENT

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



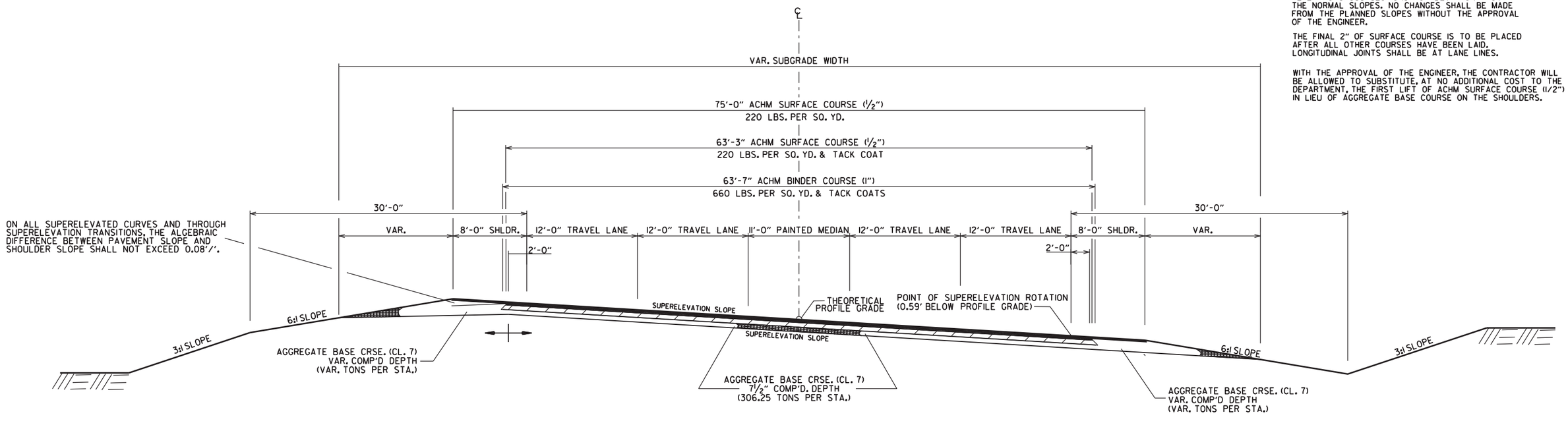
HWY. 82 - OPEN SHOULDER (SUPERELEVATION)
NOTCH AND WIDEN SECTION

NOTES:
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

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

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



HWY. 82 - OPEN SHOULDER (SUPERELEVATION)
FULL DEPTH SECTION

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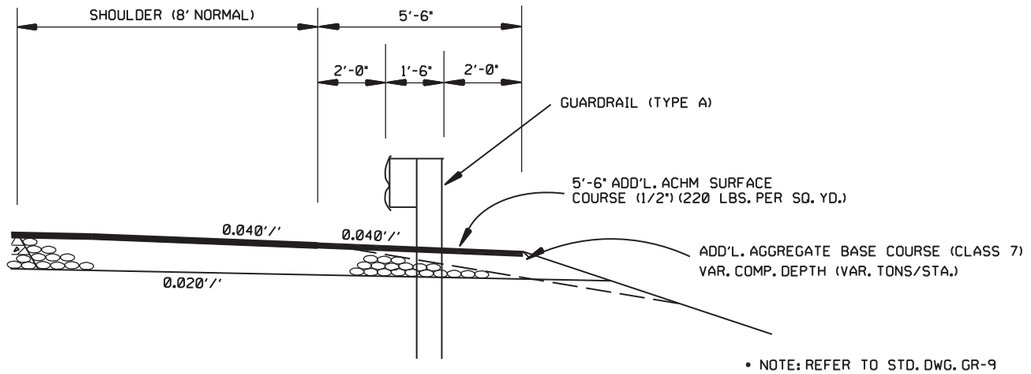
TYPICAL SECTIONS OF IMPROVEMENT

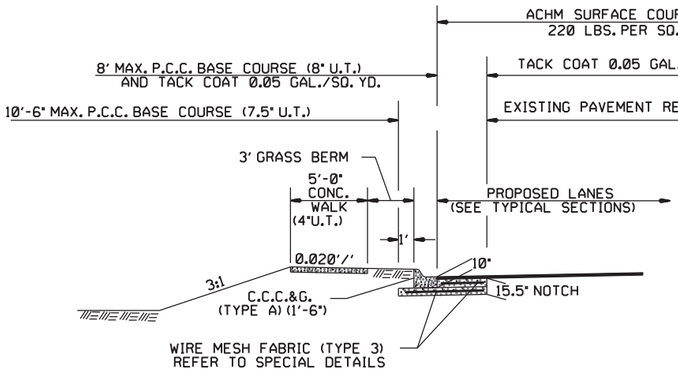
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	8	331

(2) SPECIAL DETAILS



• NOTE: REFER TO STD. DWG. GR-9 AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.

WIDENING FOR GUARDRAIL



P.C.C. BASE WIDENING DETAIL

P.C.C. BASE WIDENING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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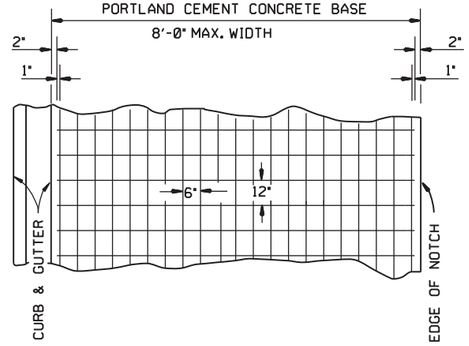
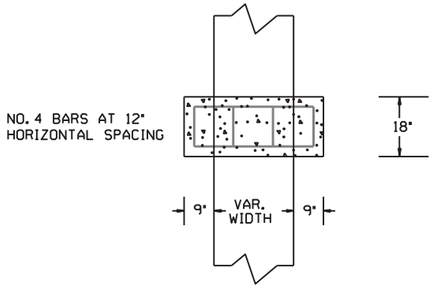


6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ.YD.

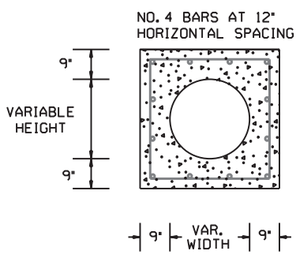
NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (7.5" U.T.) AND PORTLAND CEMENT CONCRETE BASE (8" U.T.)

DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

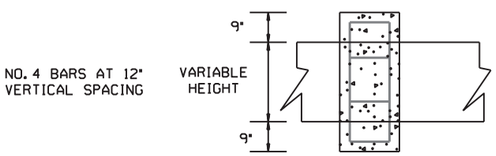


TOP VIEW



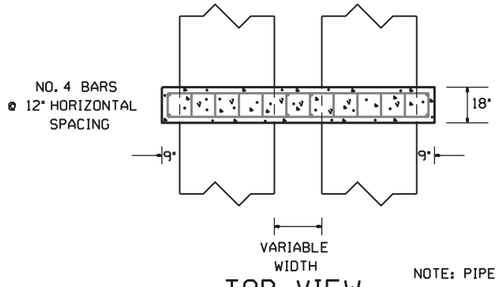
FRONT VIEW

MIN 3" COVER



SIDE VIEW

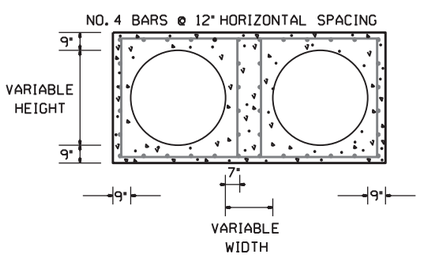
PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL



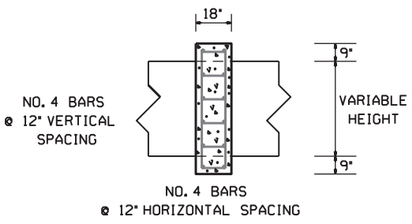
TOP VIEW

NOTE: PIPE COLLAR TO BE UTILIZED AS APPROVED BY THE ENGINEER.

MIN. 3" COVER



FRONT VIEW



SIDE VIEW

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL

7/2/2020

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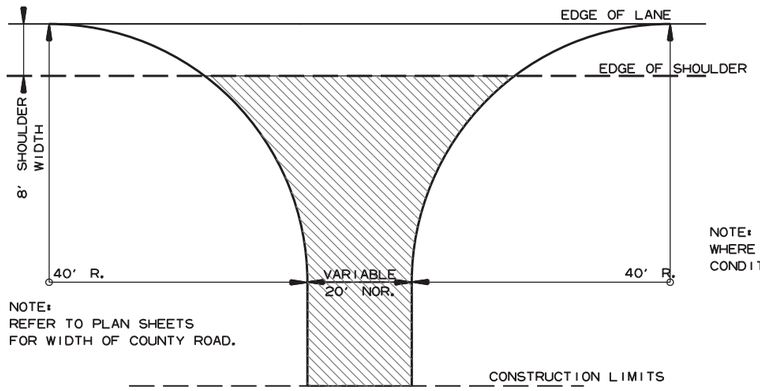
SPECIAL DETAILS

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.		CA0706	9	331

(2) SPECIAL DETAILS

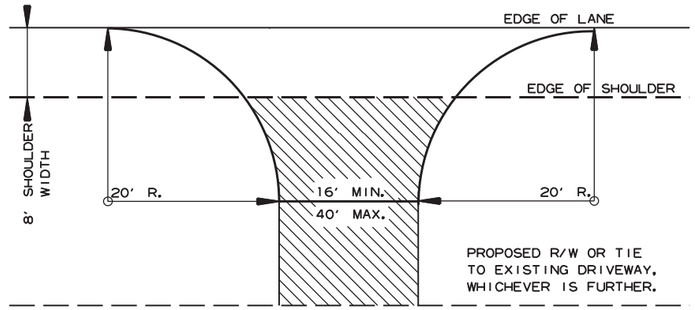


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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

DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING; OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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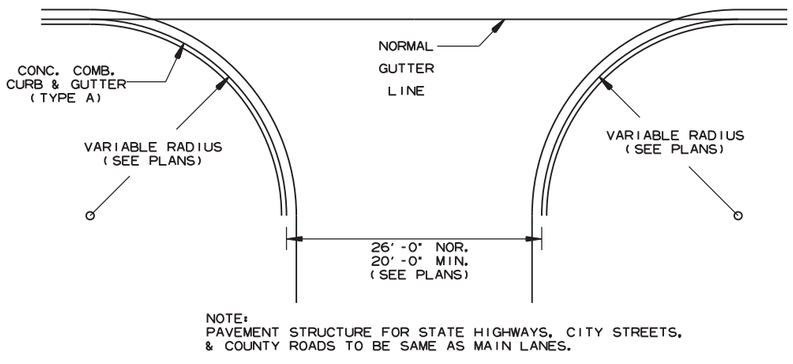
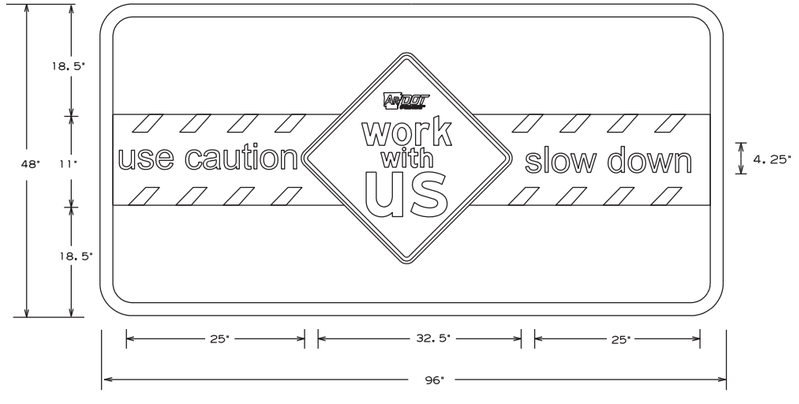


NOTE:
PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS, & COUNTY ROADS TO BE SAME AS MAIN LANES.

DETAIL OF TURNOUTS, ASPHALT STREETS, COUNTY ROADS & STATE HIGHWAYS CURB & GUTTER SECTION



1.5" WHITE BORDER, 1.5" RADII, GREEN BACKGROUND
"use caution/slow down" 4.25" NIVEAU GROTESK, REGULAR FONT
"work with us" FRUTIGER LT 75 BLACK FONT

NOTE: DIGITAL ART WORK FILE AVAILABLE FROM ARDOT MAINTENANCE DIVISION SIGN SHOP 501-569-2665.
THIS SIGN SHALL BE PLACED 500' PRECEDING THE FIRST ADVANCE WARNING SIGN, IN THE DIRECTION OF TRAFFIC.

WORK WITH US SIGN

7/2/2020

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(2) SPECIAL DETAILS

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Trinity Smith

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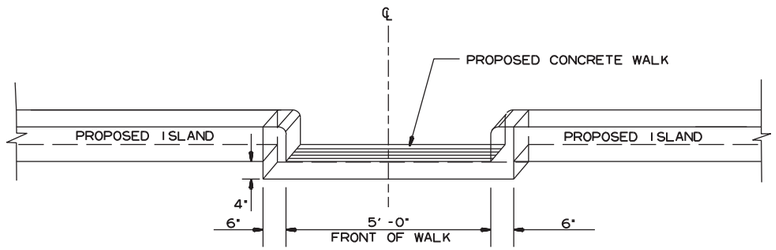
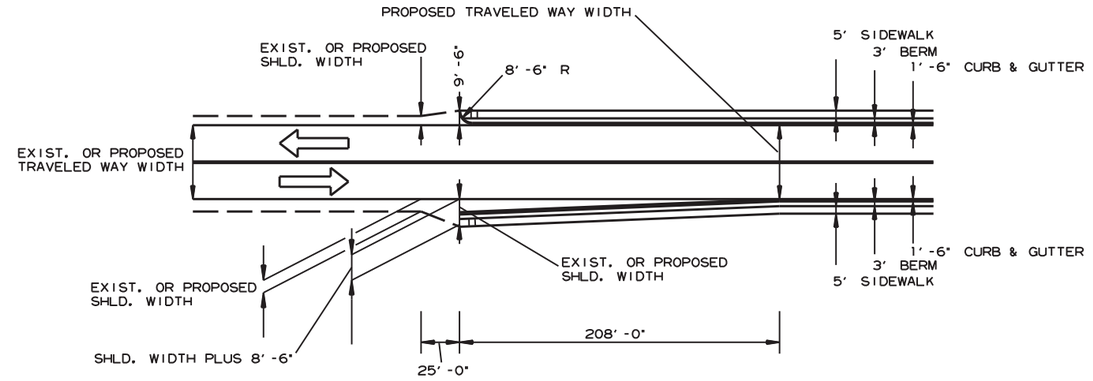


FACE SHALL MEET REQUIREMENTS OF TYPE B CURB

NOTE: CONCRETE WALK THROUGH ISLAND SHALL BE POURED MONOLITHICALLY. ALL MATERIALS REQUIRED TO CONSTRUCT CONCRETE WALK THRU ISLAND SHALL BE INCLUDED IN THE PRICE BID FOR CONCRETE ISLAND.

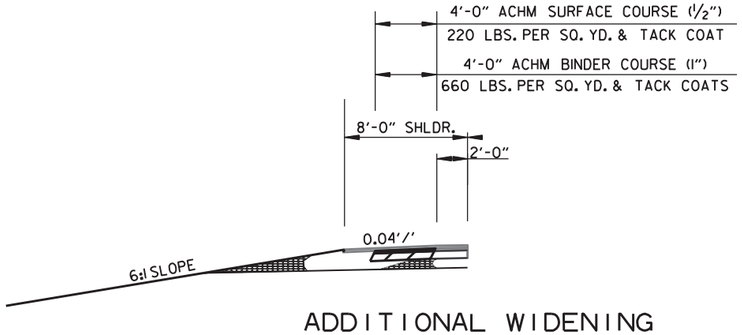
CONCRETE WALK THROUGH ISLAND



TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION

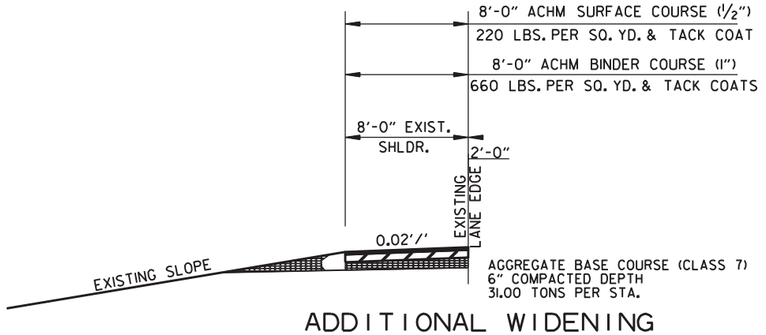
6.0" Radius, 1.3" Border, Black on Orange;
"Job XXXXXX" C 2K; "Start Date Mo Year" C 2K;
"Est Completion Mo Year" C 2K; "IDRIVE " Arial;
" ARKANSAS.COM " Arial;

CONSTRUCTION PROJECT INFORMATION SIGN



ADDITIONAL WIDENING FOR STAGE 2 MAINTENANCE OF TRAFFIC

STA. 187+75 TO STA. 194+25



ADDITIONAL WIDENING FOR STAGE 1 MAINTENANCE OF TRAFFIC

STA. 266+75 TO STA. 285+25

7/2/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	11	331

(2) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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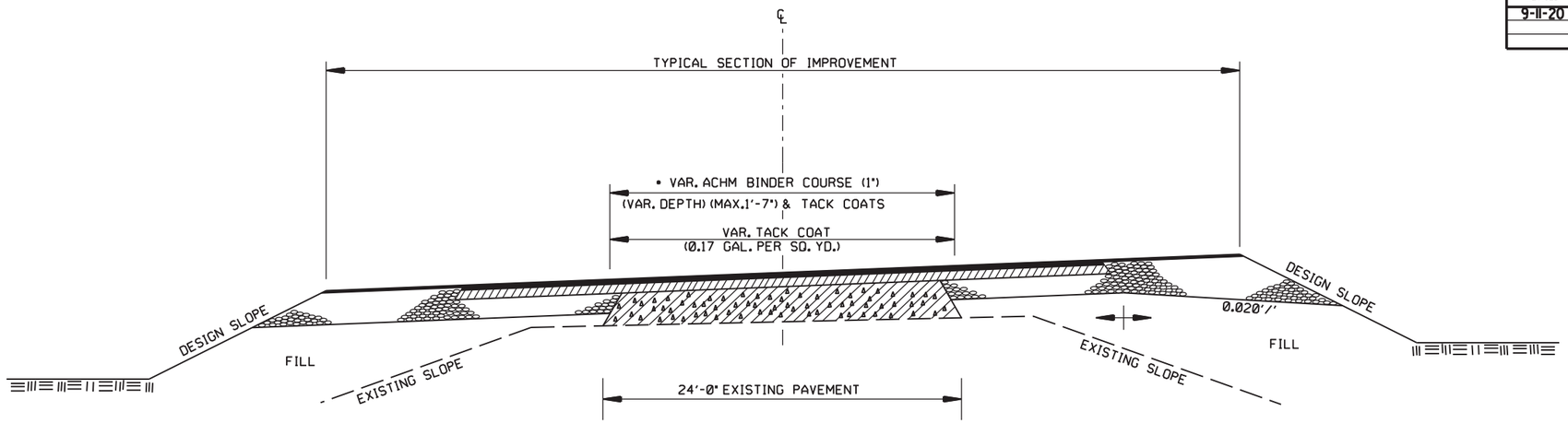


• 7" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BINDER COURSE (1")

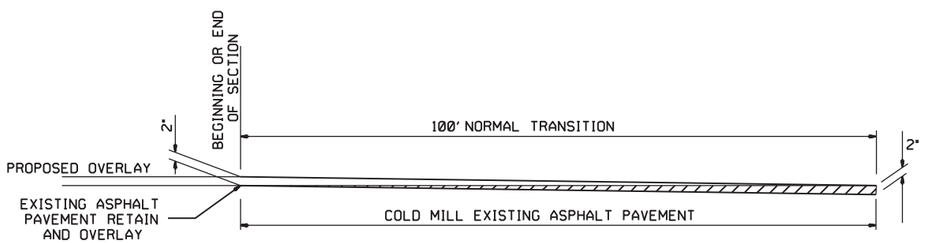
METHOD OF RAISING GRADE

NOTES:

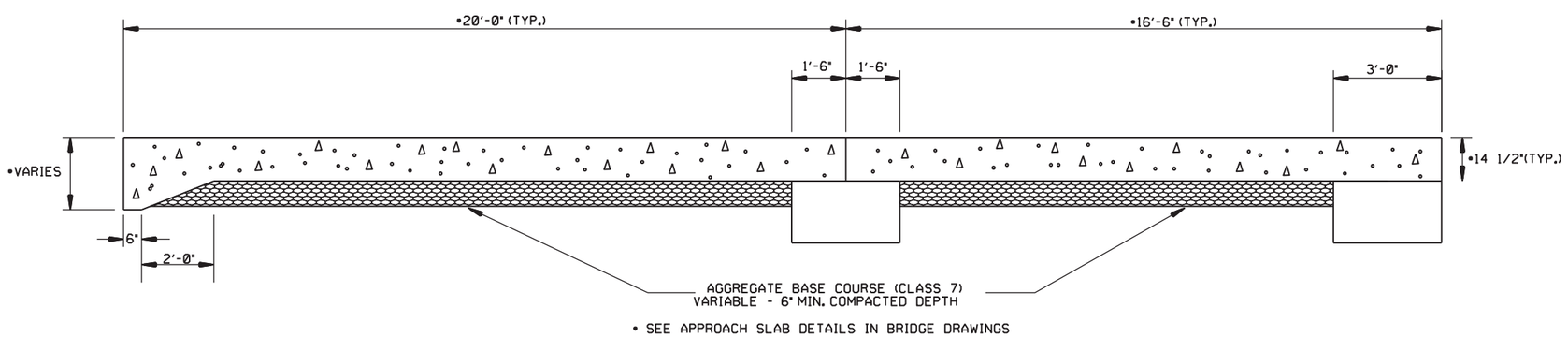
(1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.

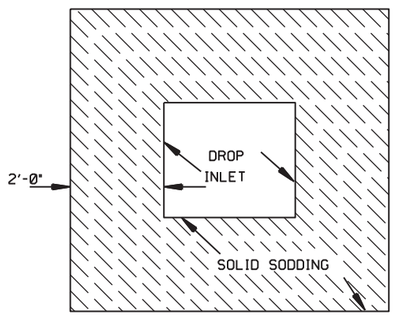


DETAIL FOR TRANSITIONS



• SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

SECTION OF APPROACH SLAB



DETAIL FOR SOLID SODDING AROUND DROP INLETS

7/2/2020

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SPECIAL DETAILS

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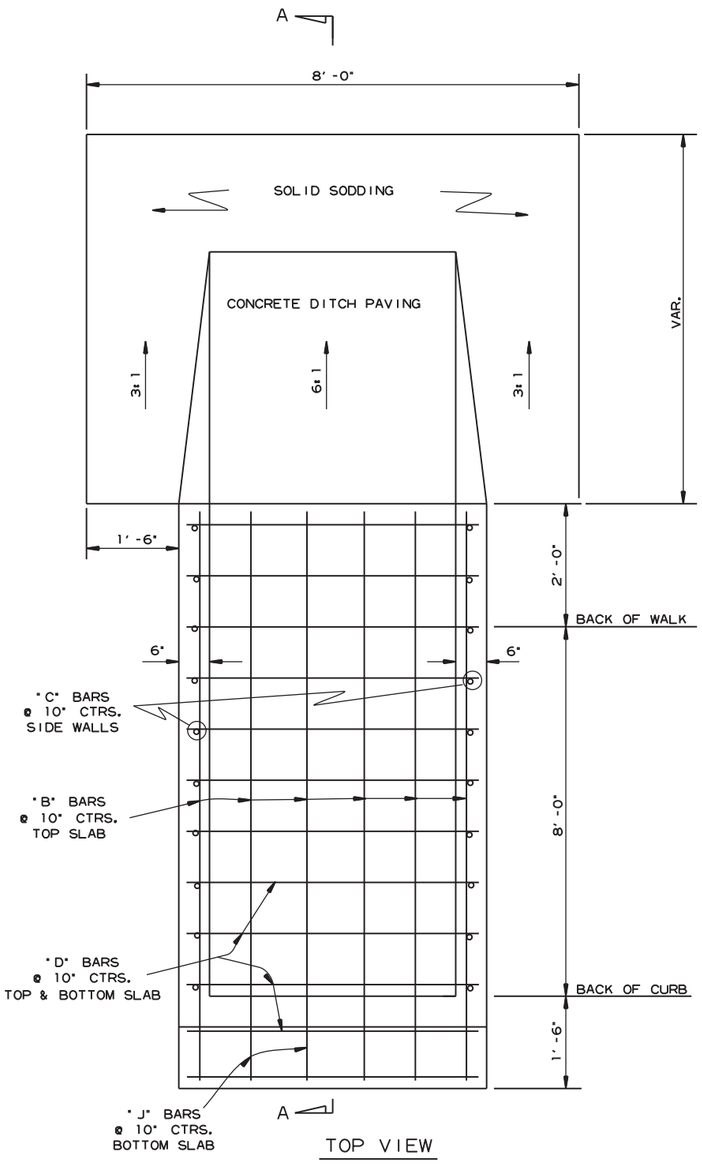
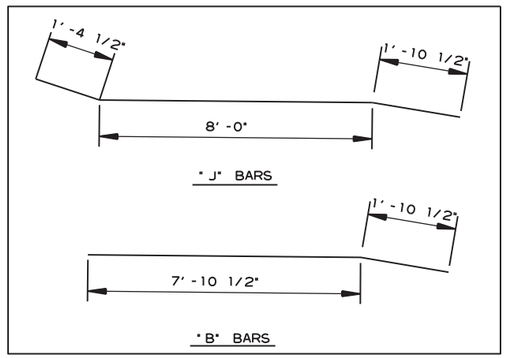
				6	ARK.			
				JOB NO.		CA0706	12	331

(2) SPECIAL DETAILS



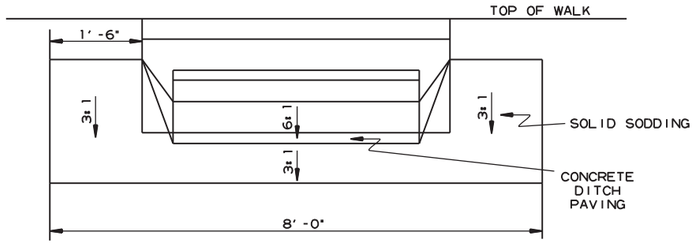
TOP VIEW

BAR DIAGRAM

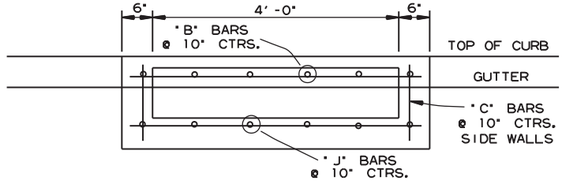


CLASS A CONC.	REINF. STEEL-RDWY. GRADE 60
CU. YDS.	POUND
2.53	207

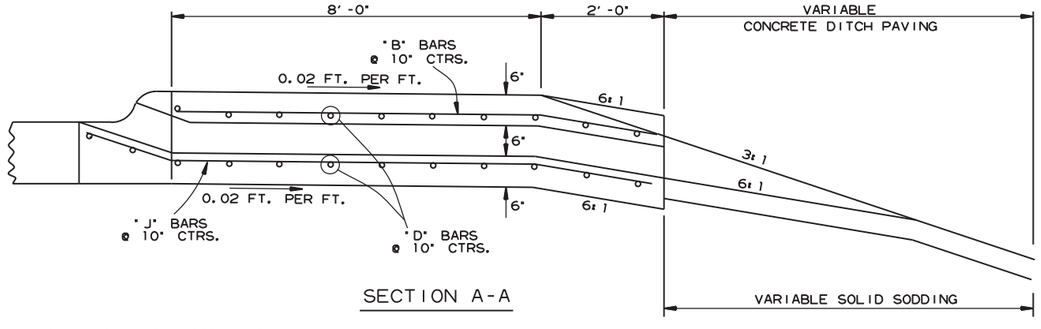
QUANTITIES FOR INFORMATION ONLY
DROP INLET (TYPE SPECIAL)



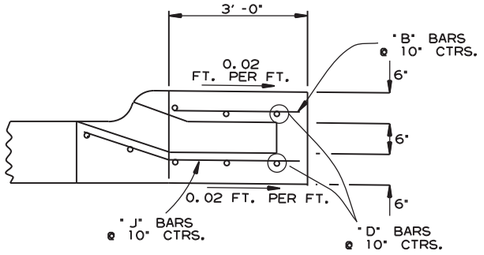
BACK VIEW



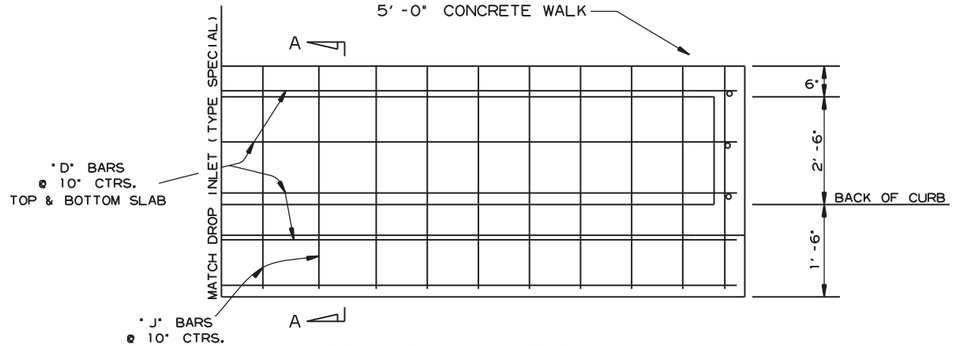
FRONT VIEW



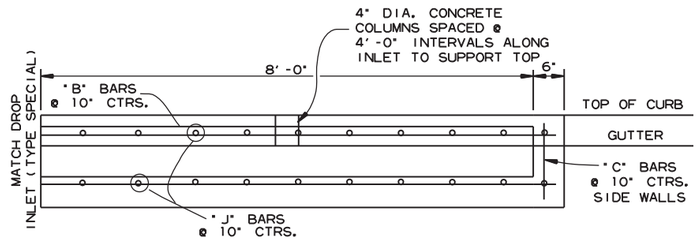
SECTION A-A



SECTION A-A - EXTENSION



TOP VIEW - EXTENSION



FRONT VIEW - EXTENSION

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. ALL REINF. BARS SHALL BE #4 AND HAVE 1 1/2" COVER.
3. DROP INLETS AND EXTENSIONS ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
4. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
5. 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.
6. CONCRETE DITCH PAVING & SOLID SODDING SHALL BE PAID FOR SEPARATELY.
7. CONSTRUCT EXTENSIONS UPSTREAM OF DROP INLET UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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DROP INLET (TYPE SPECIAL)

SPECIAL 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.		CA0706	13	331

(2) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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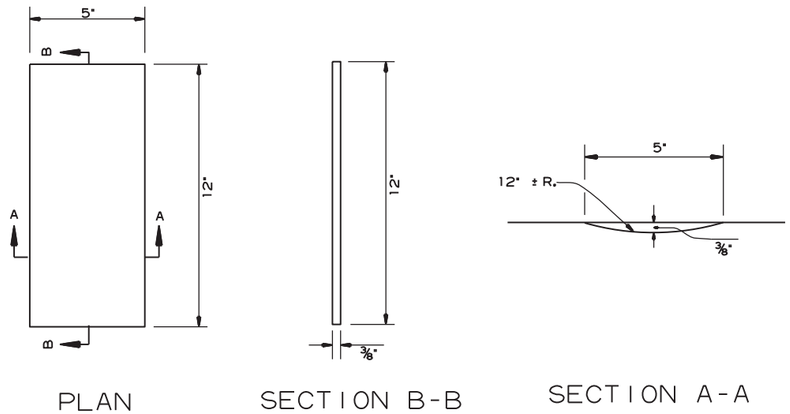
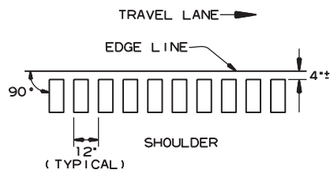
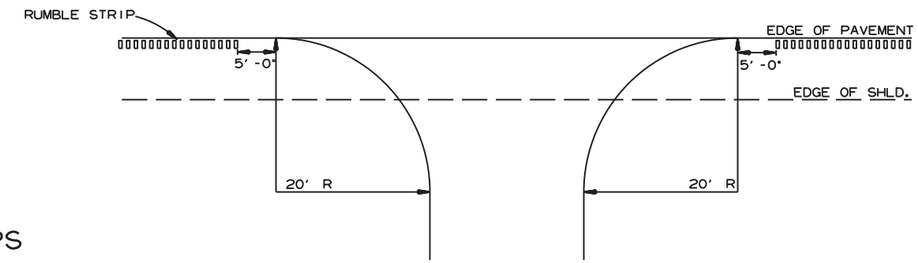


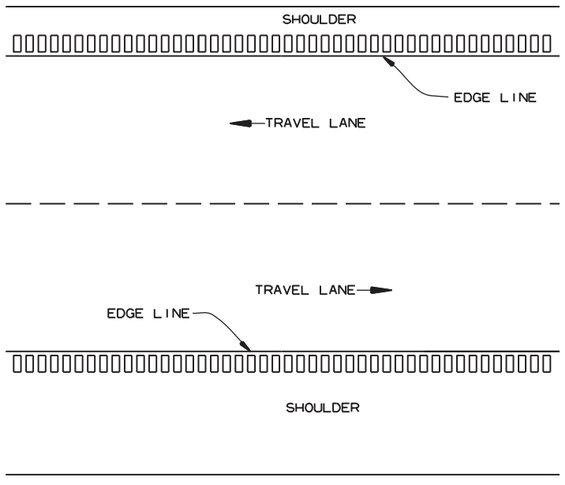
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



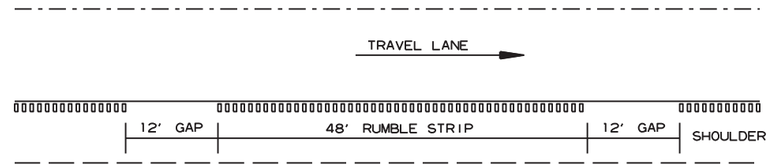
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.



NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

DETAIL FOR GAP PATTERN RUMBLE STRIP

7/2/2020

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SPECIAL 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.		CA0706	14	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION

6/26/2020

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		CA0706	15	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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6/26/2020

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CLEARING AND GRUBBING TEMPORARY EROSION CONTROL DETAILS

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	16	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		CA0706	17	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
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LEGEND

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

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CLEARING AND GRUBBING TEMPORARY EROSION 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.		CA0706	18	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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LEGEND

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REVISIONS

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6/26/2020

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CLEARING AND GRUBBING TEMPORARY EROSION CONTROL DETAILS

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				6	ARK.			
				JOB NO.		CA0706	19	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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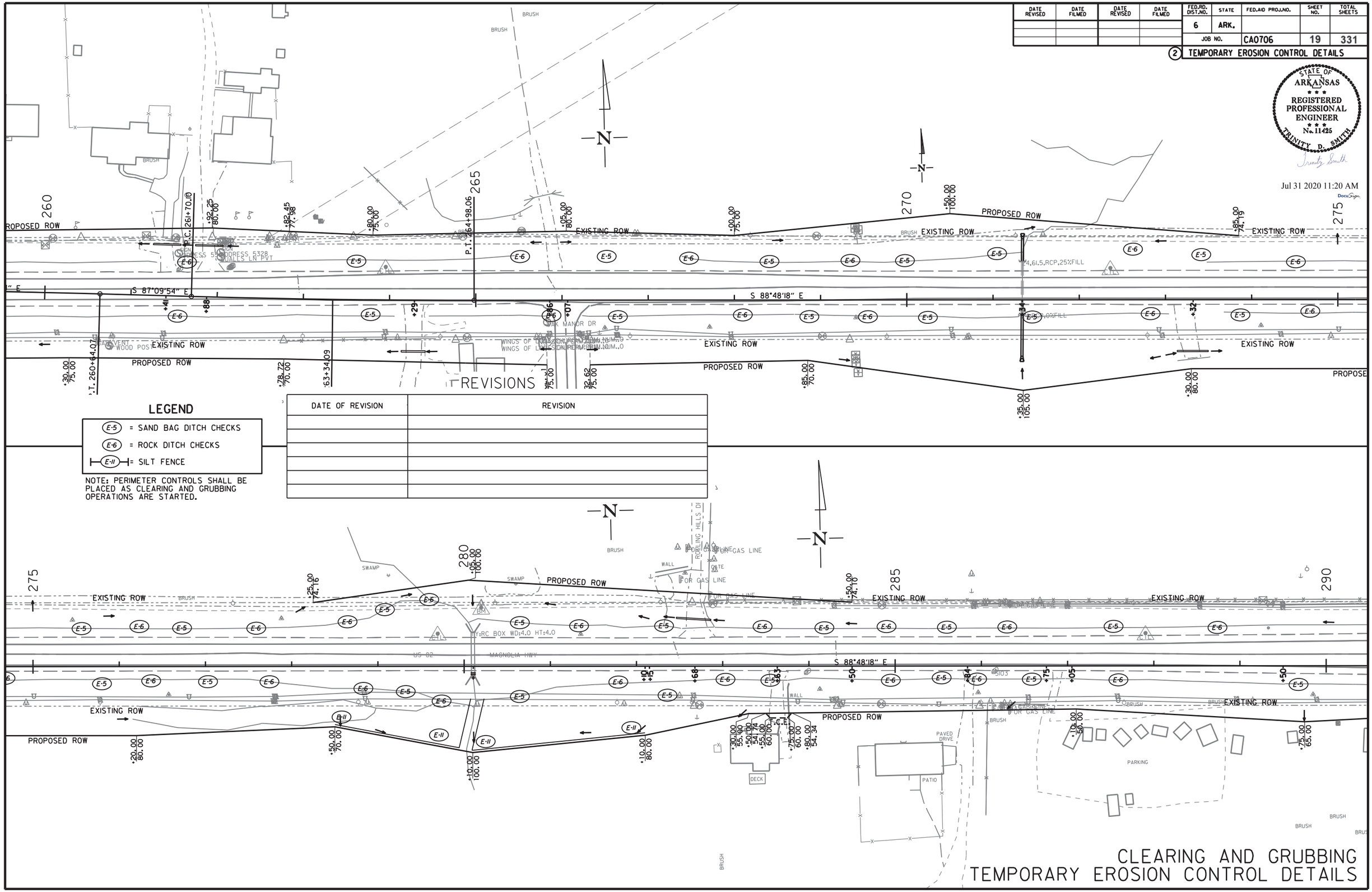

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DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	20	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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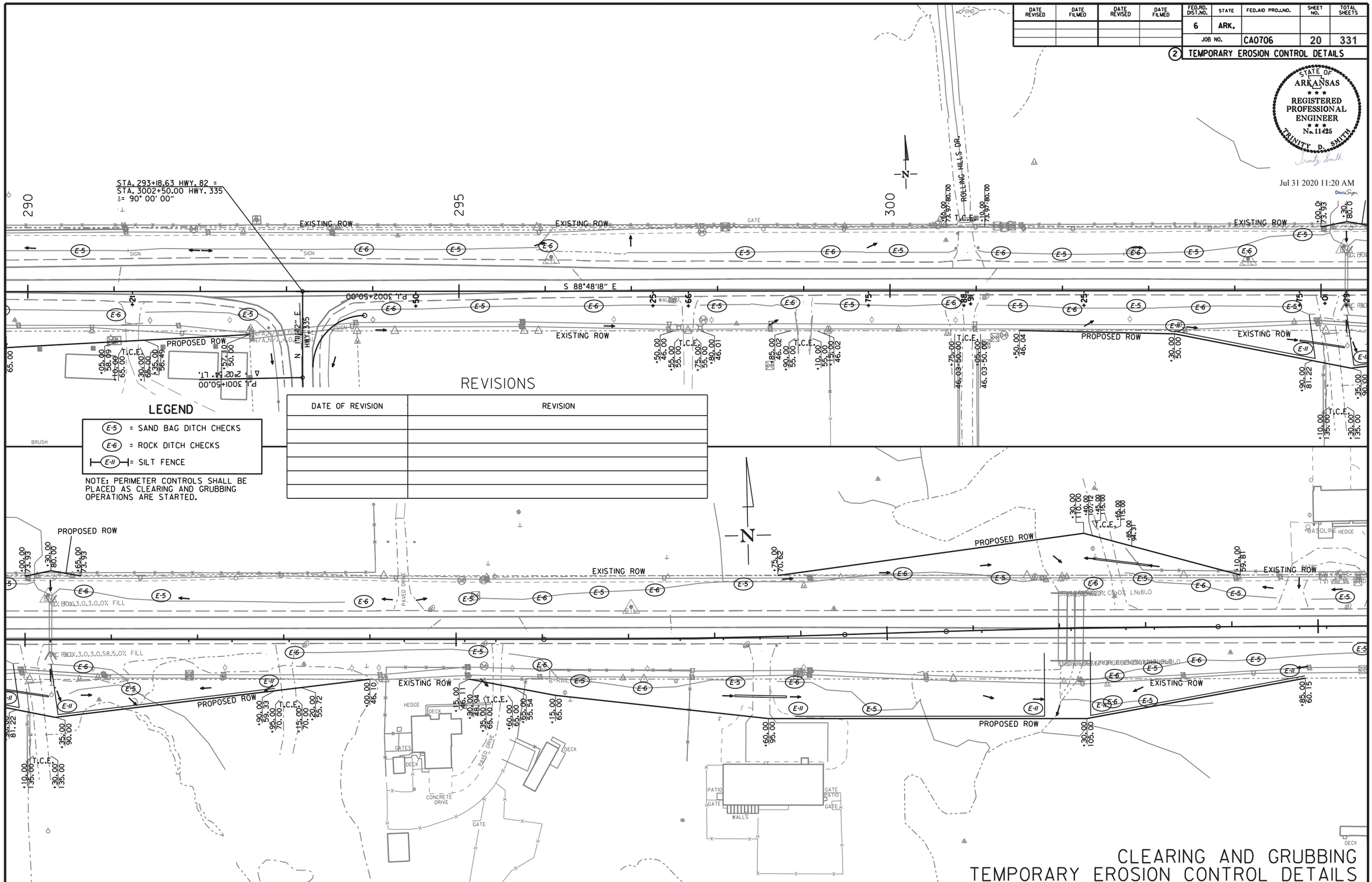

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REVISIONS

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	21	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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LEGEND

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NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DATE OF REVISION	REVISION

REVISIONS

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		CA0706	22	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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LEGEND

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NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION

6/26/2020

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		CA0706	23	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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LEGEND

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

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CLEARING AND GRUBBING TEMPORARY EROSION 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.		CA0706	24	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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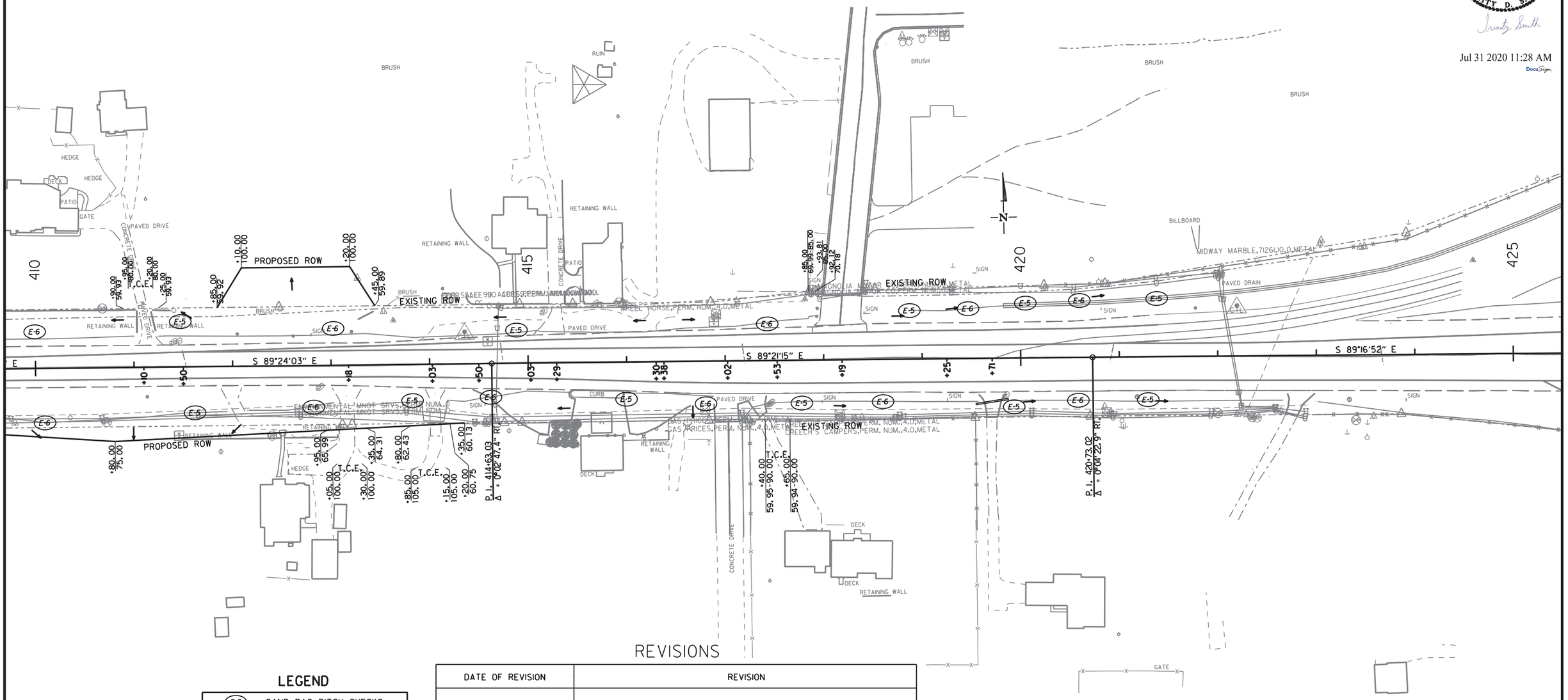

LEGEND

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		CA0706	25	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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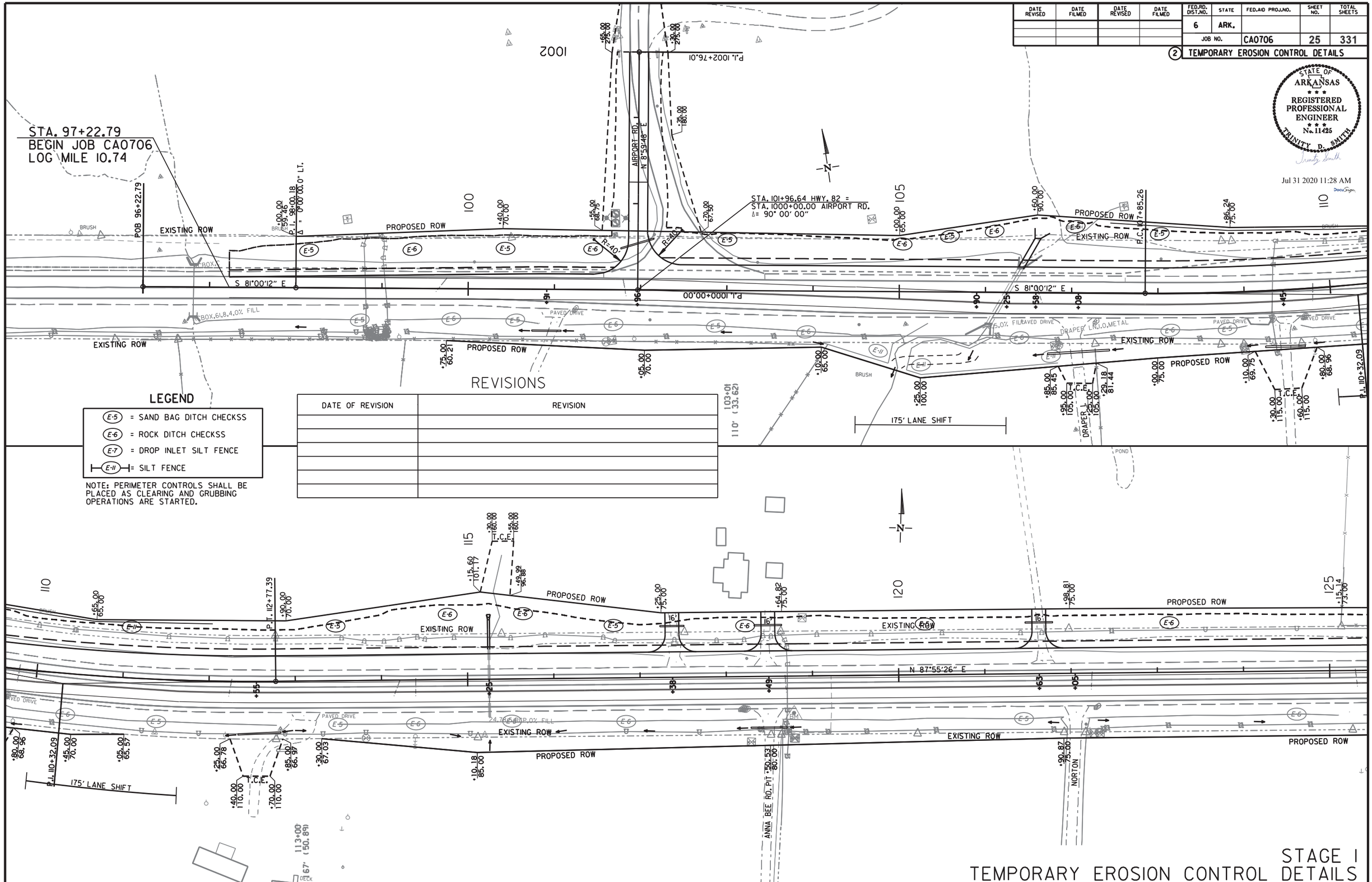

LEGEND

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- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	26	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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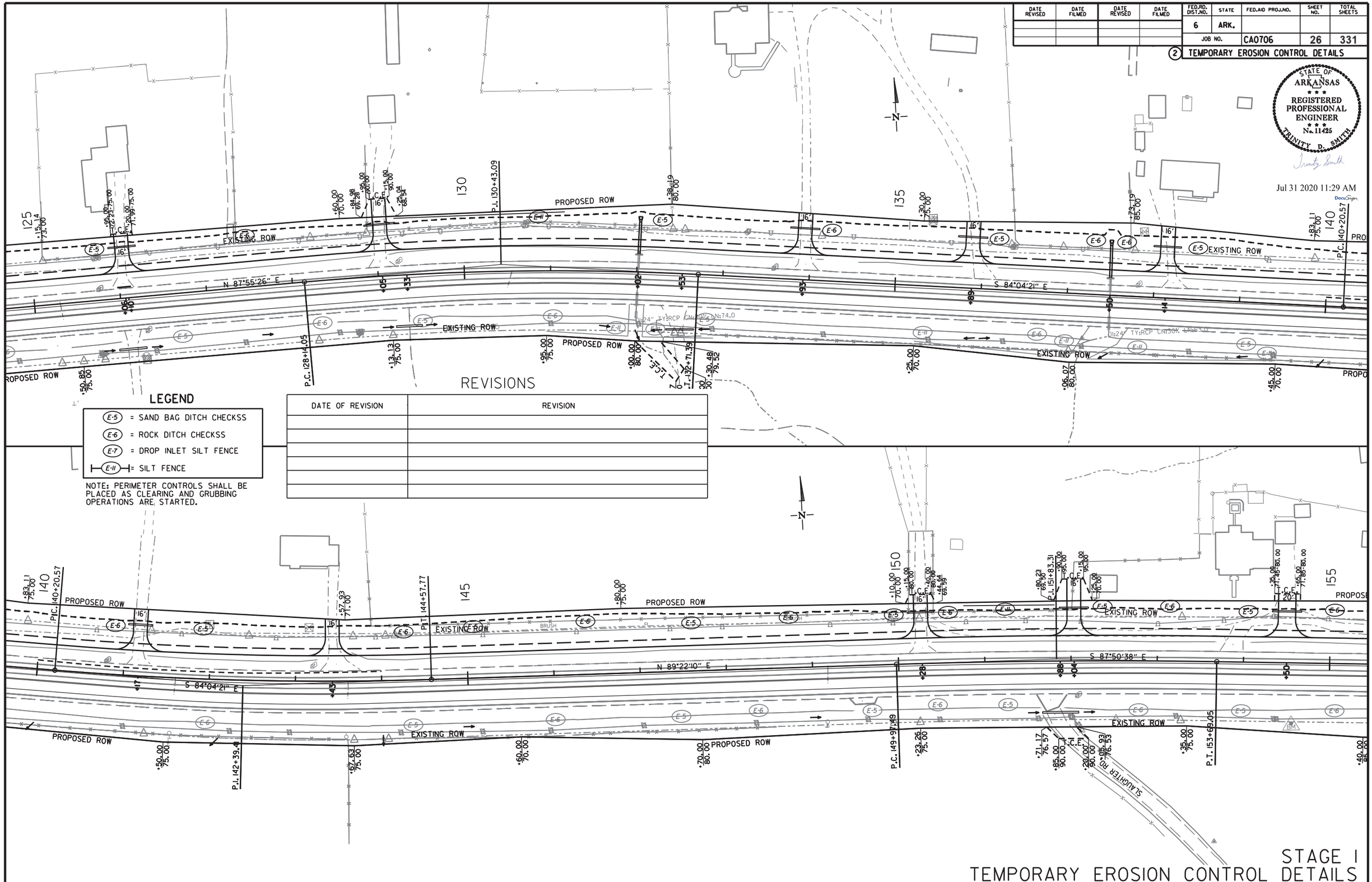

LEGEND

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REVISIONS

DATE OF REVISION	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

RCA0706.DGN

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	27	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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REVISIONS

DATE OF REVISION	REVISION

BRUSH
PROPOSED ROW
EXISTING ROW
S 87°50'38" E
S 87°39'53" E
S 87°49'59" E
P.I. = 157+99.95
Δ = 0° 0' 44.8" RT.
P.I. = 174+63.81
Δ = 10° 05.4" LT.
GUINN RD.
I.C.E. 40'
P.C. 184+01.50
FLOODPLAN LIMITS
50' VEGETATION BUFFER
RCA0706.DGN
6/26/2020

STAGE I
TEMPORARY EROSION 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.		CA0706	28	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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REVISIONS

DATE OF REVISION	REVISION

PROPOSED ROW
EXISTING ROW
P.I. 185+90.34
P.I. 190+91.46
P.I. 192+32.03
P.I. 203+34.44
P.C. 199+99.67
P.T. 187+79.11
P.T. 206+68.45
S 85°00'03" E
N 84°46'54" E
S 88°31'50" E
S 88°46'33" E
50' VEGETATION BUFFER
WATER TANK
RETAINING WALL
DECK
PATIO
BRUSH
SWAMP

6/26/2020
RCA0706.DGN

STAGE I
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

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(2) TEMPORARY EROSION CONTROL DETAILS

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No. 11425
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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

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STAGE I
TEMPORARY EROSION 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.		CA0706	30	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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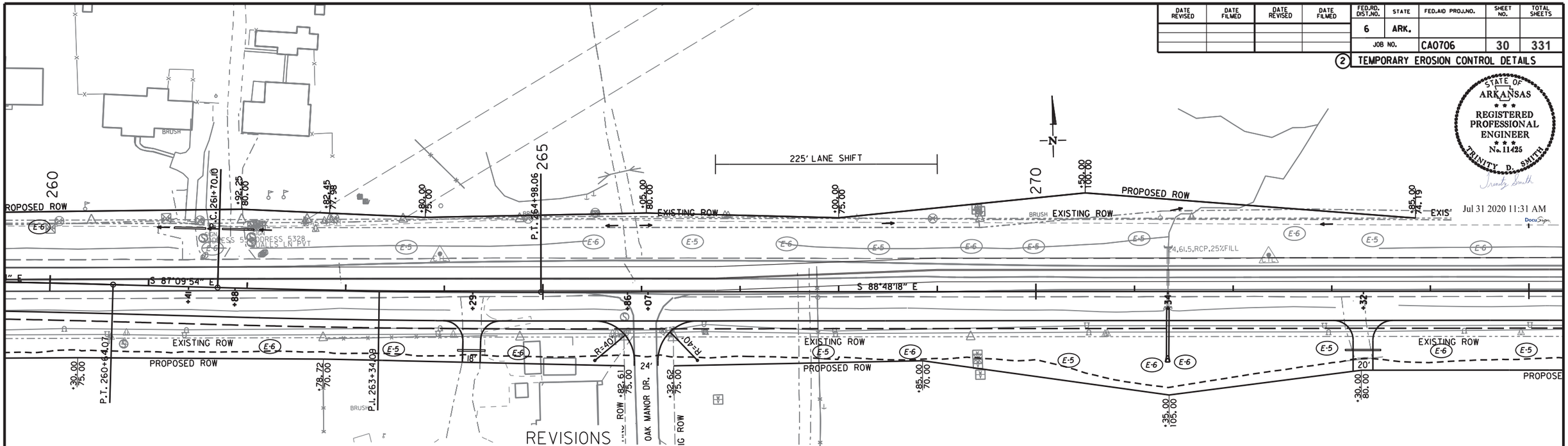
TRINITY D. SMITH

Jul 31 2020 11:31 AM



LEGEND

- (E-5) = SAND BAG DITCH CHECKSS
- (E-6) = ROCK DITCH CHECKSS
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION

6/26/2020

RCA0706.DGN

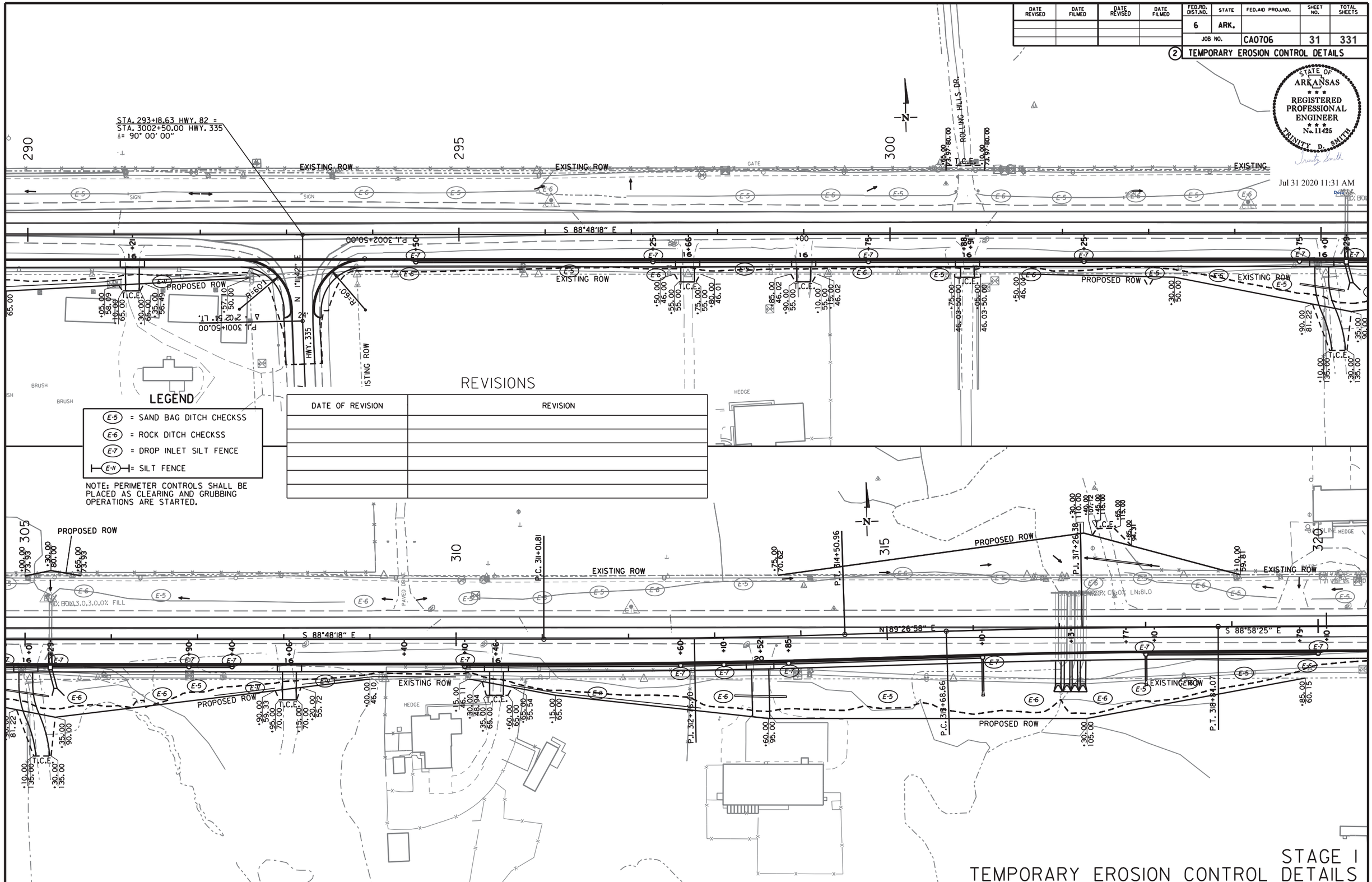
STAGE I
TEMPORARY EROSION CONTROL DETAILS

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.		CA0706	31	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:31 AM



LEGEND

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REVISIONS

DATE OF REVISION	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

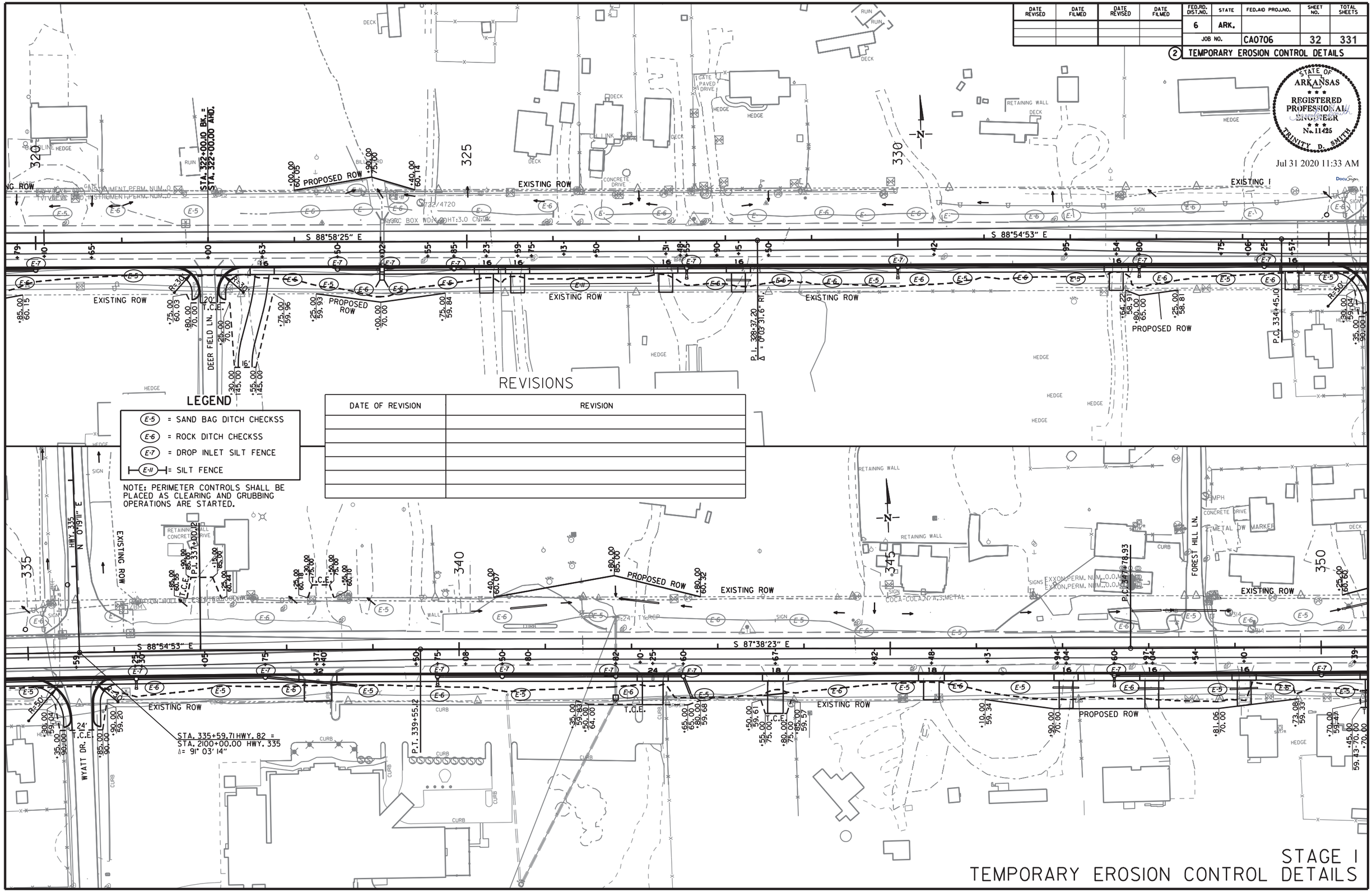
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	32	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:33 AM



LEGEND

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REVISIONS

DATE OF REVISION	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

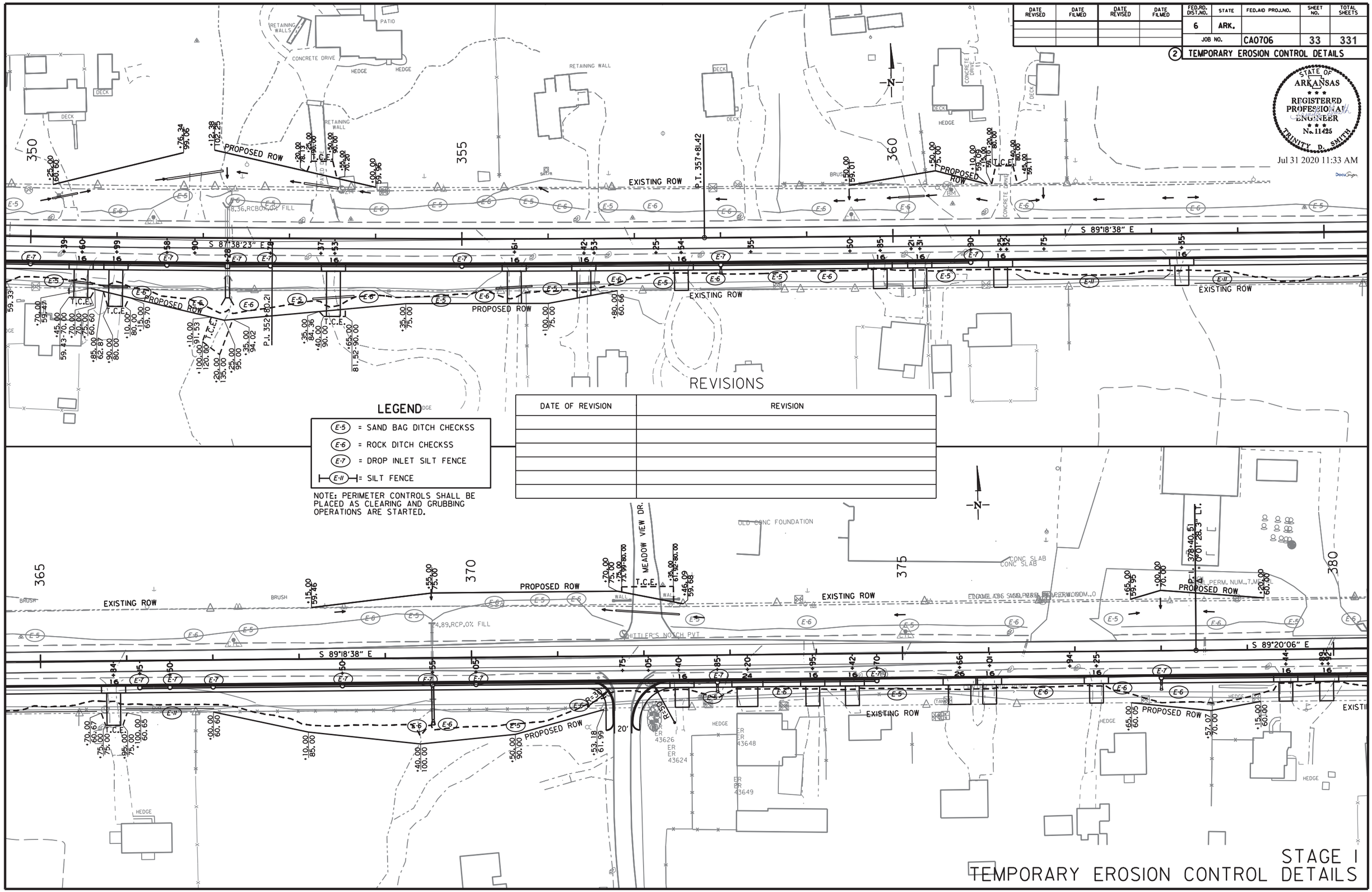
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	33	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:33 AM



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REVISIONS

DATE OF REVISION	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	34	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:34 AM
DocuSigned by:

LEGEND

- (E-5) = SAND BAG DITCH CHECKSS
- (E-6) = ROCK DITCH CHECKSS
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- (E-11) = SILT FENCE

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

RCA0706.DGN

STAGE I
TEMPORARY EROSION 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.		CA0706	35	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 11:34 AM

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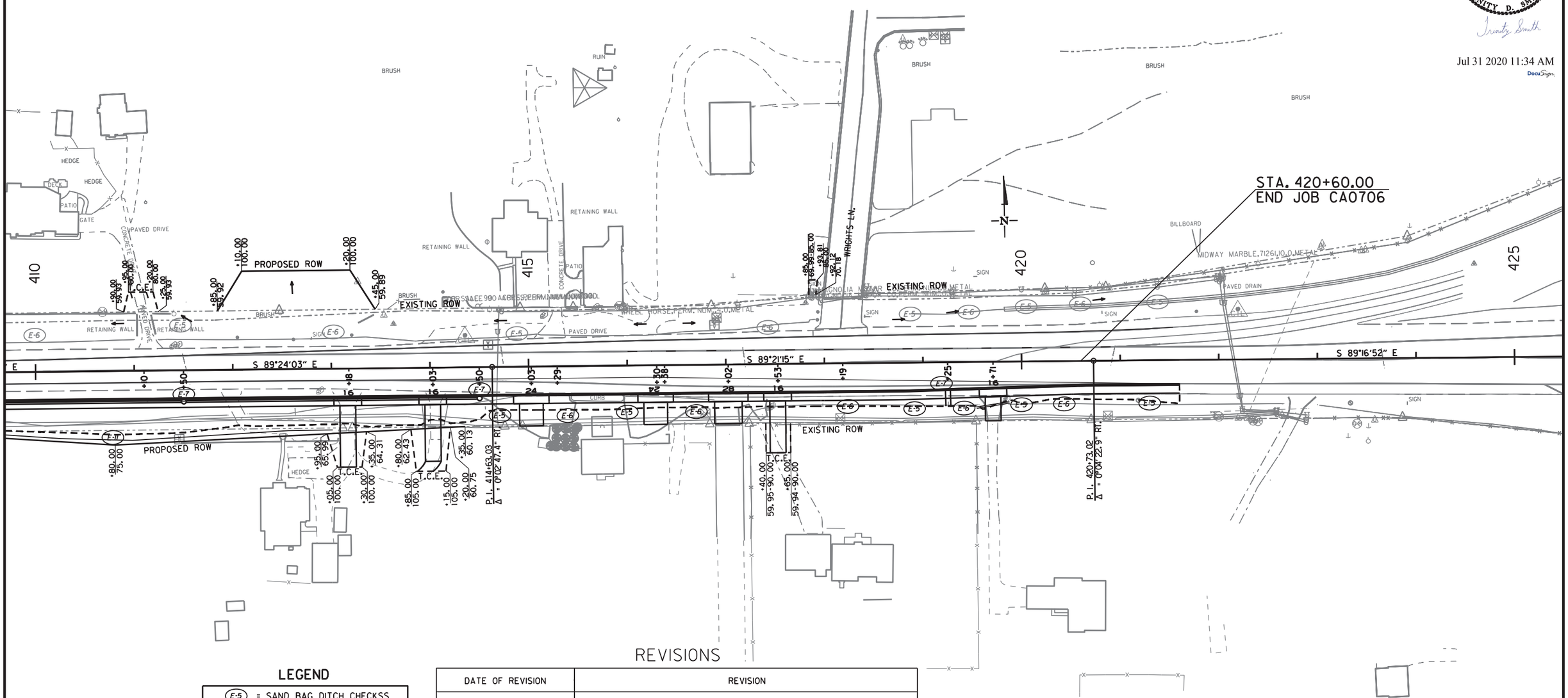

LEGEND

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NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

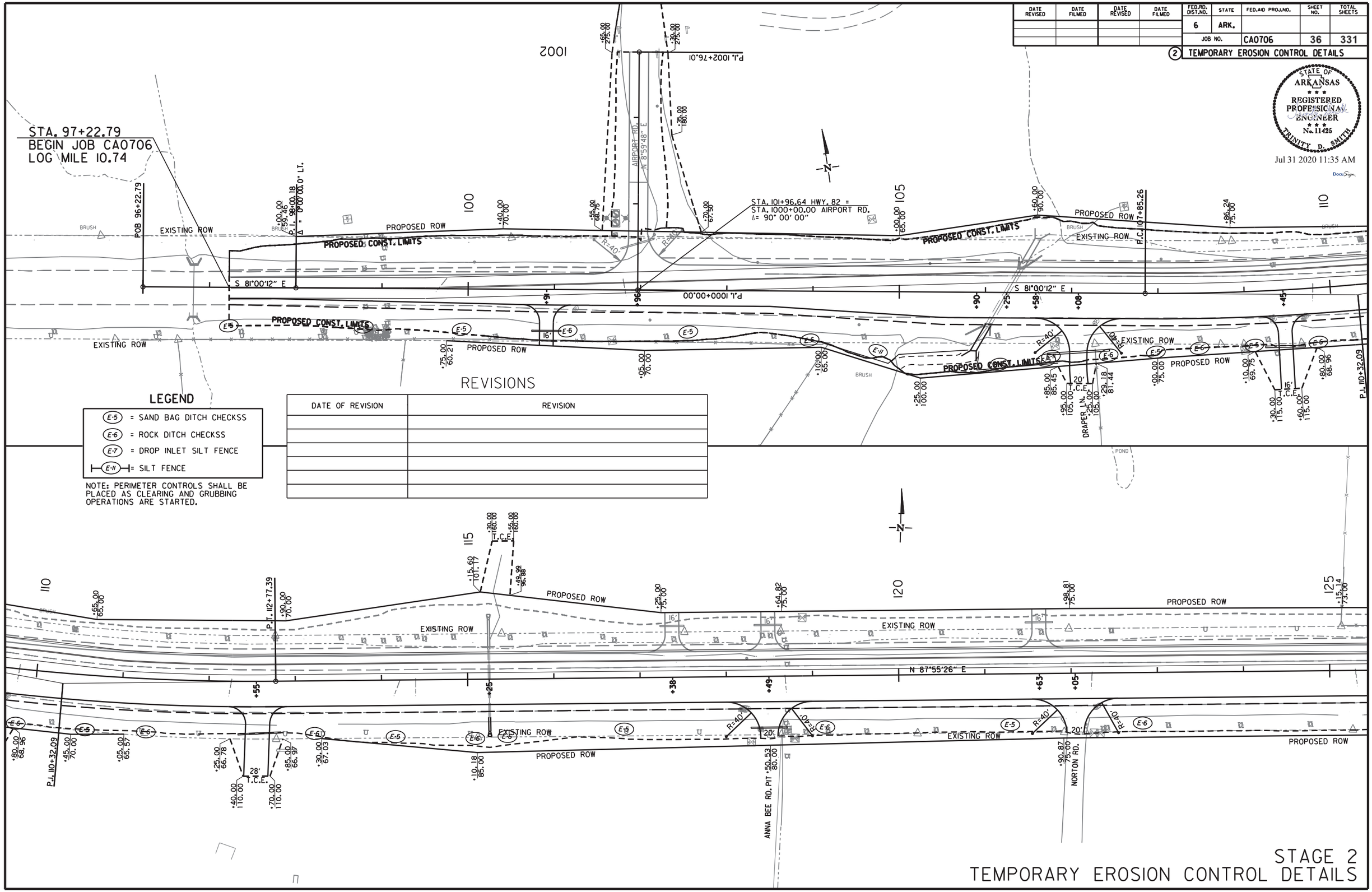
6/26/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	36	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:35 AM



LEGEND

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NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	37	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:35 AM

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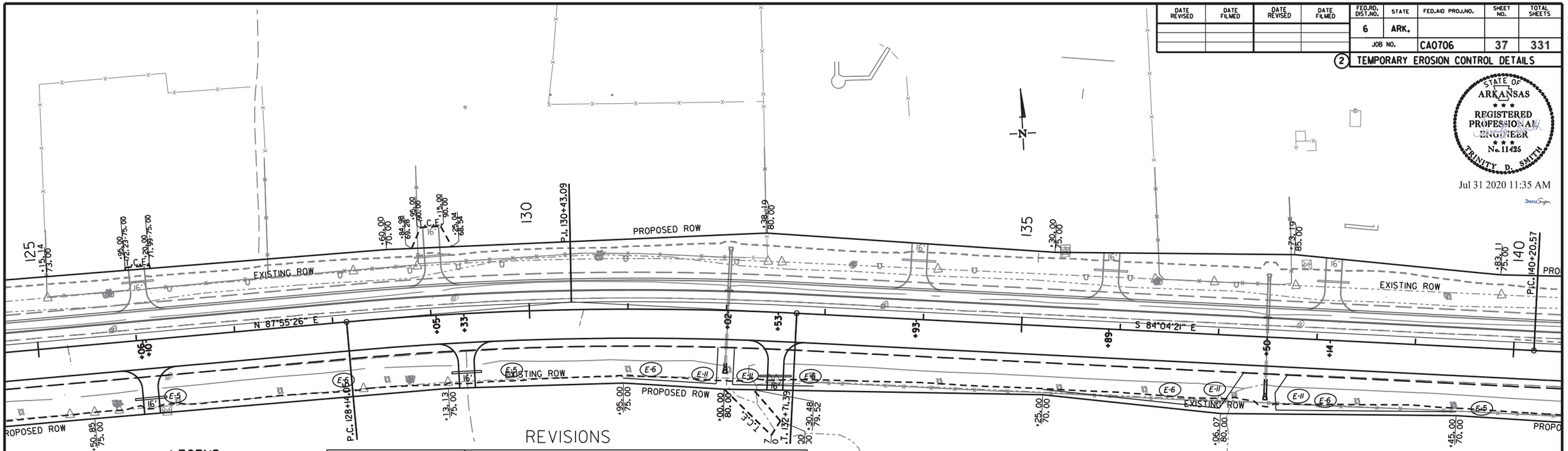

LEGEND

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	38	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:35 AM
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LEGEND

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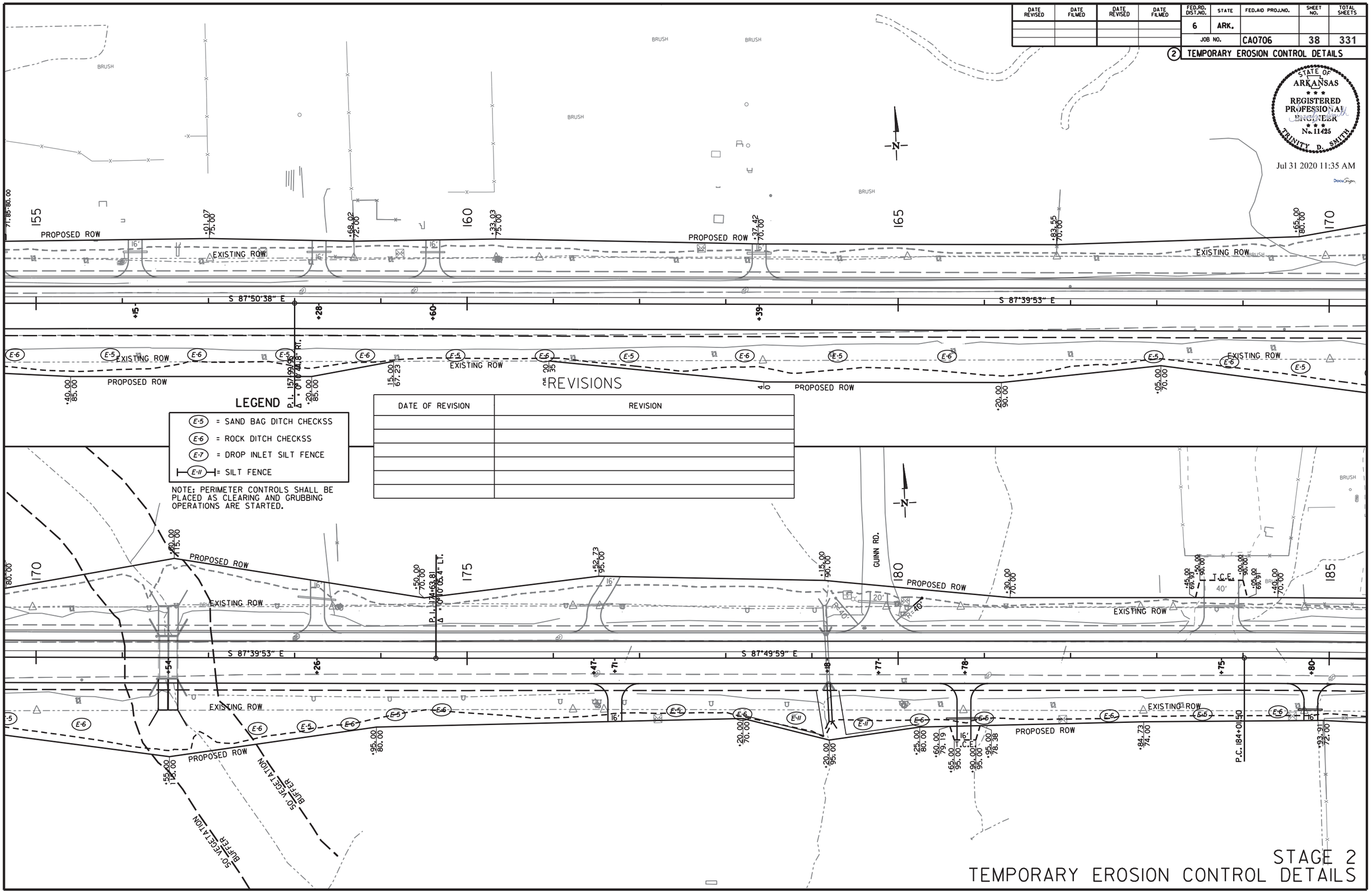
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION



6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	39	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:37 AM
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LEGEND

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	40	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:37 AM

LEGEND

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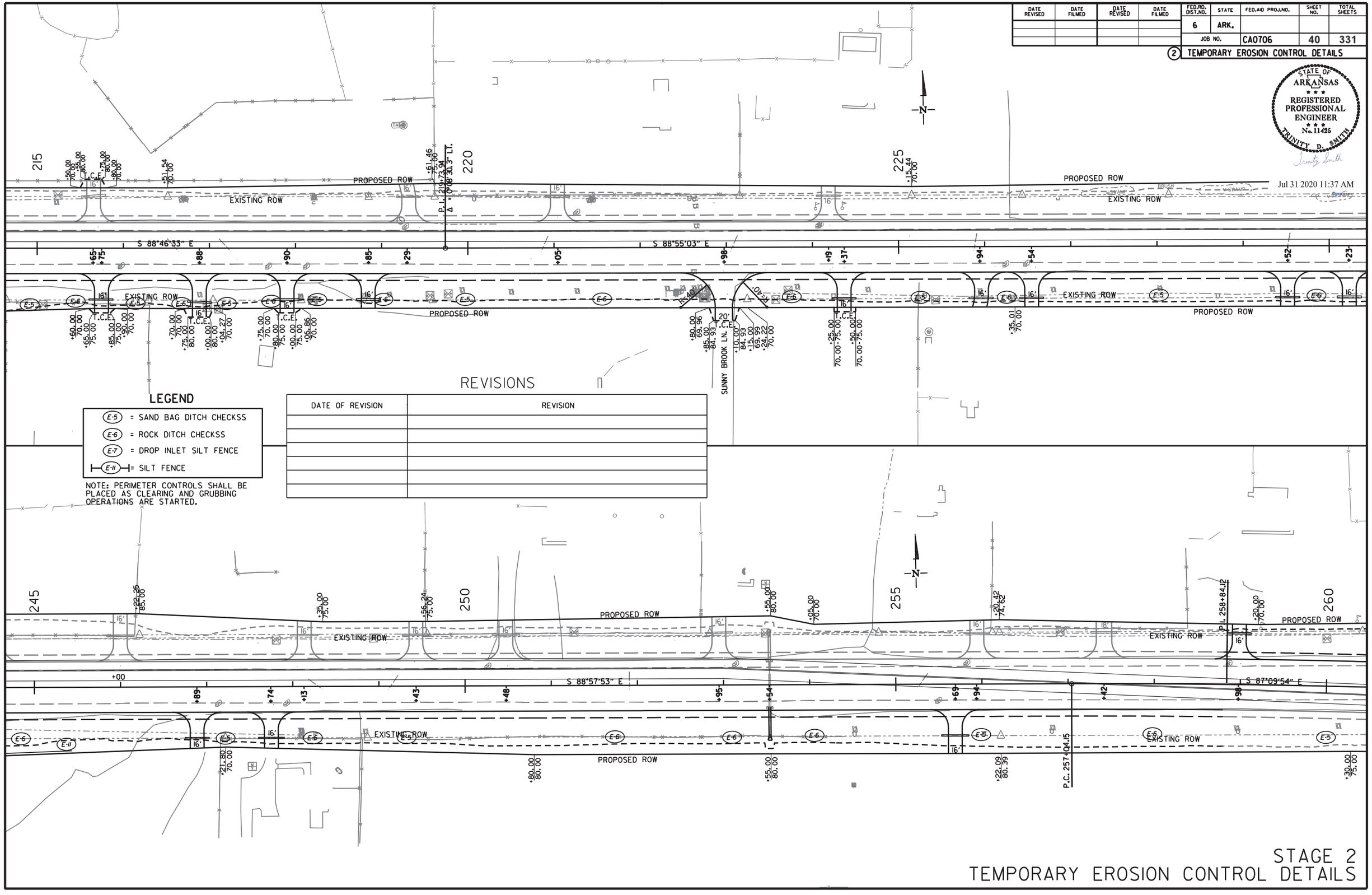
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

DATE OF REVISION	REVISION



6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

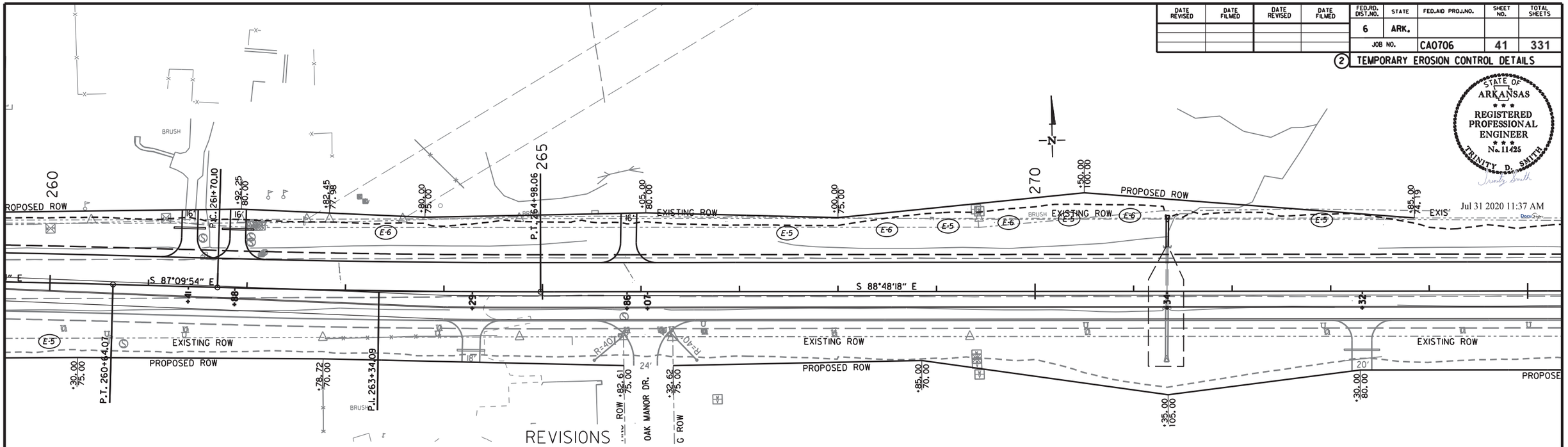
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	41	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:37 AM



LEGEND

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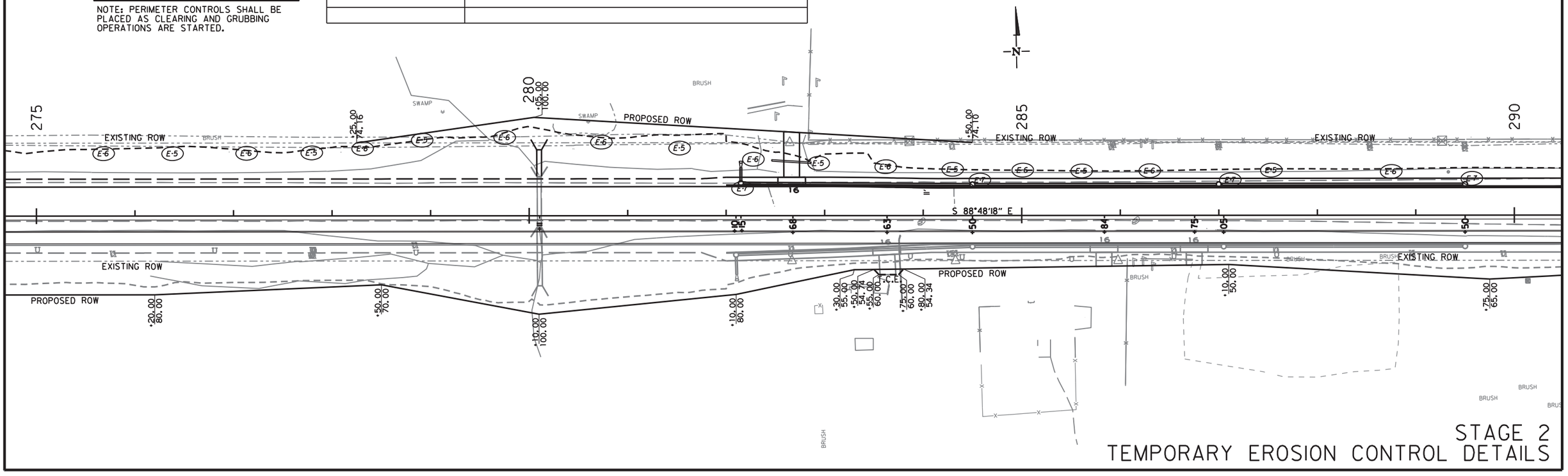
REVISIONS

DATE OF REVISION	REVISION



6/26/2020

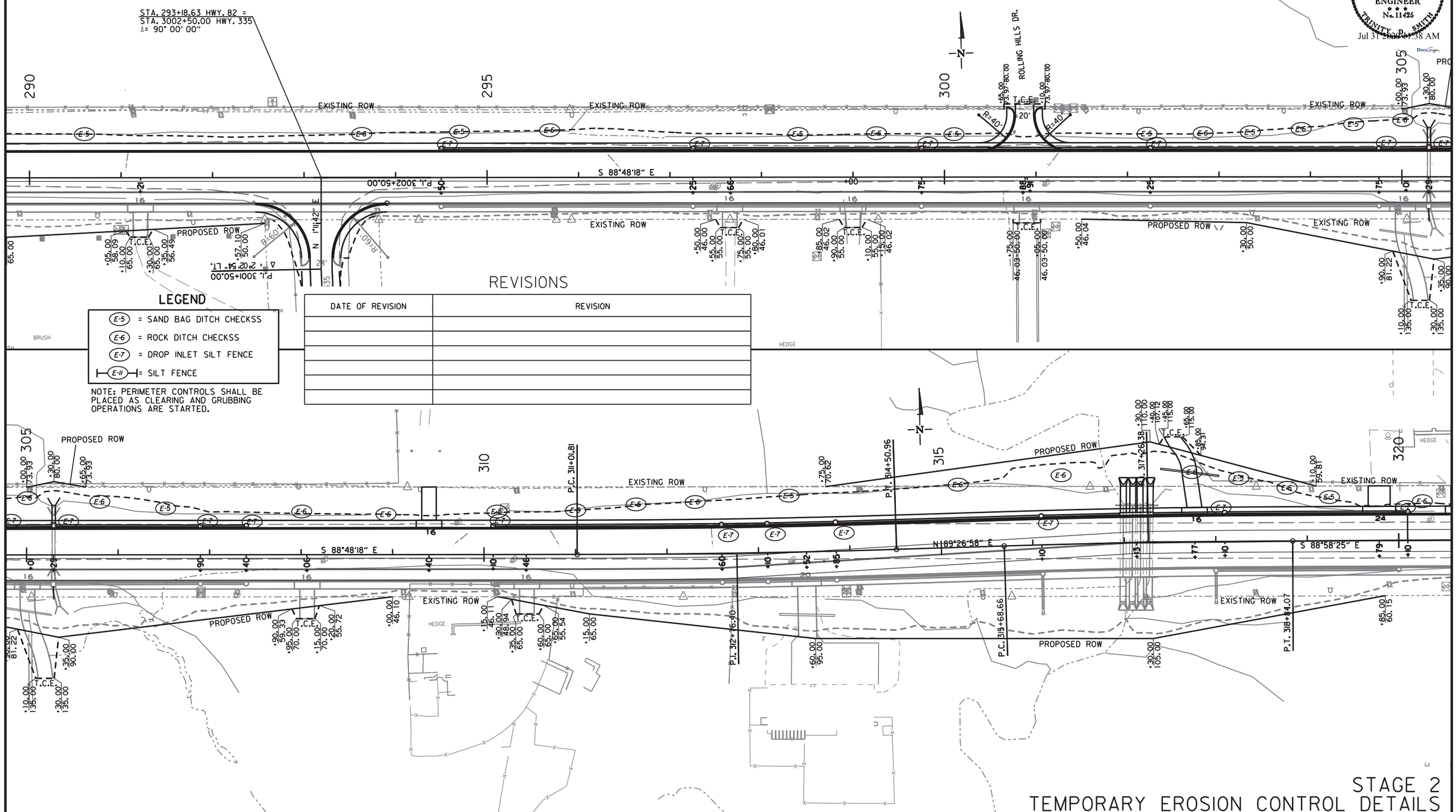
RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	42	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY P. SMITH
Jul 31 2020 11:38 AM



LEGEND

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REVISIONS

DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

6/26/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	43	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:39 AM

LEGEND

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REVISIONS

DATE OF REVISION	REVISION

STA. 335+59.71 HWY. 82 = STA. 2100+00.00 HWY. 335
Δ = 91° 03' 14"

P.I. 328+37.20
Δ = 0°03'31.6" RT

P.C. 334+45.10

P.C. 339+78.93

P.T. 339+55.2

STA. 322+00.00 BK. = STA. 322+00.00 AHD.

P.I. 337+00.12

EXISTING ROW

PROPOSED ROW

T.C.E.

S 88°58'25" E

S 88°54'53" E

S 87°38'23" E

N 0°19'11" E

HWY. 335

WYATT DR.

FOREST HILL LN.

2"METAL DW MARKER

BRUSH

HEDGE

CURB

6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	44	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:39 AM

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	45	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:44 AM

LEGEND

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REVISIONS

DATE OF REVISION	REVISION

6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	46	331

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 11:44 AM
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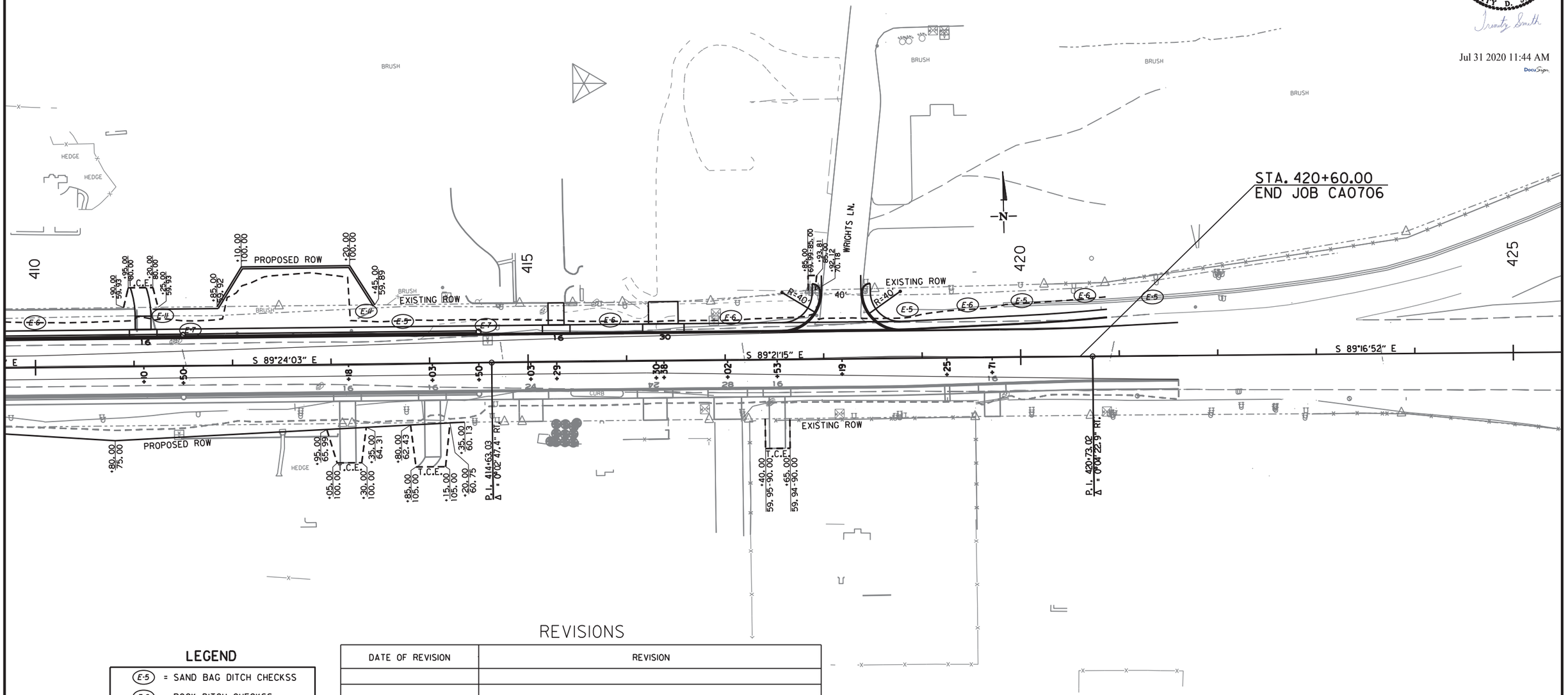

REVISIONS

DATE OF REVISION	REVISION

LEGEND

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6/26/2020

RCA0706.DGN

STAGE 2
TEMPORARY EROSION 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.		CA0706	47	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:44 AM

DocuSigned by:

STAGE 1
STA. 195+41 LT.
STA. 195+41 RT.

STAGE 2
STA. 360+50 LT.
STA. 360+50 RT.

ROAD CLOSED

(1) R11-2 (48" X 30")

8' BARR. TYP. III RT.
8' BARR. TYP. III LT.

STAGE 1
STA. 101+96 LT.
STA. 179+77 LT.
STA. 266+07 RT.
STA. 293+19 RT.
STA. 335+59 RT.
STA. 371+75 RT.

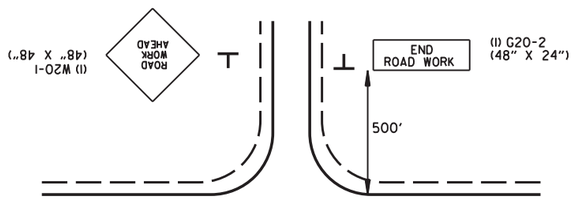
STAGE 2
STA. 107+08 RT.
STA. 118+49 RT.
STA. 120+05 RT.
STA. 151+88 RT.
STA. 222+98 RT.
STA. 300+88 LT.
STA. 335+59 LT.
STA. 348+54 LT.
STA. 372+05 LT.
STA. 418+19 LT.

ROAD CLOSED

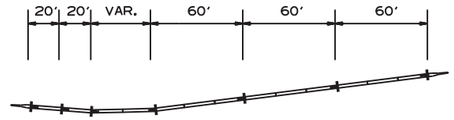
(1) R11-2 (48" X 30")

16' BARR. TYP. III RT.

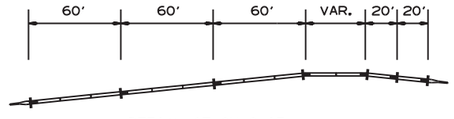
STA. 101+96 AIRPORT RD.
STA. 107+08 DRAPER LN.
STA. 118+49 ANNA BEE RD. PIT
STA. 122+05 NORTON RD.
STA. 151+88 SLAUGHTER RD.
STA. 179+77 GUINN RD.
STA. 222+98 SUNNY BROOK LN.
STA. 266+07 OAK MANOR DR.
STA. 293+19 HWY. 335
STA. 300+88 ROLLING HILLS DR.
STA. 335+59 HWY. 335
STA. 335+59 WYATT DR.
STA. 348+54 FOREST HILL LN.
STA. 371+75 MEADOW VIEW DR.
STA. 372+05 MEADOW VIEW DR.
STA. 418+19 WRIGHTS LN.



ADVANCE WARNING - SIDE ROADS (ALL ROADS)



DETAIL OF OM-3 AT PCCB INSTALLATION
OM-3 RT ON ENTRANCE = 4 EACH
OM-3 LT ON EXIT = 3 EACH



DETAIL OF OM-3 AT PCCB INSTALLATION
OM-3 RT ON ENTRANCE = 4 EACH
OM-3 LT ON EXIT = 3 EACH

RIGHT SHOULDER CLOSED — (1) W21-5a (36" x 36") — ALL STAGES IF AND WHERE DIRECTED BY THE ENGINEER

(1) W1-4aL (48" X 48") — ALL STAGES IF AND WHERE DIRECTED BY THE ENGINEER

(1) W1-4aR (48" X 48") — ALL STAGES IF AND WHERE DIRECTED BY THE ENGINEER

DO NOT PASS — (1) R4-1 (24" X 30") — ALL STAGES SPACES AT ½ MILE INTERVALS

BUMP — (1) W8-1 (30" X 30") — IF AND WHERE DIRECTED BY THE ENGINEER

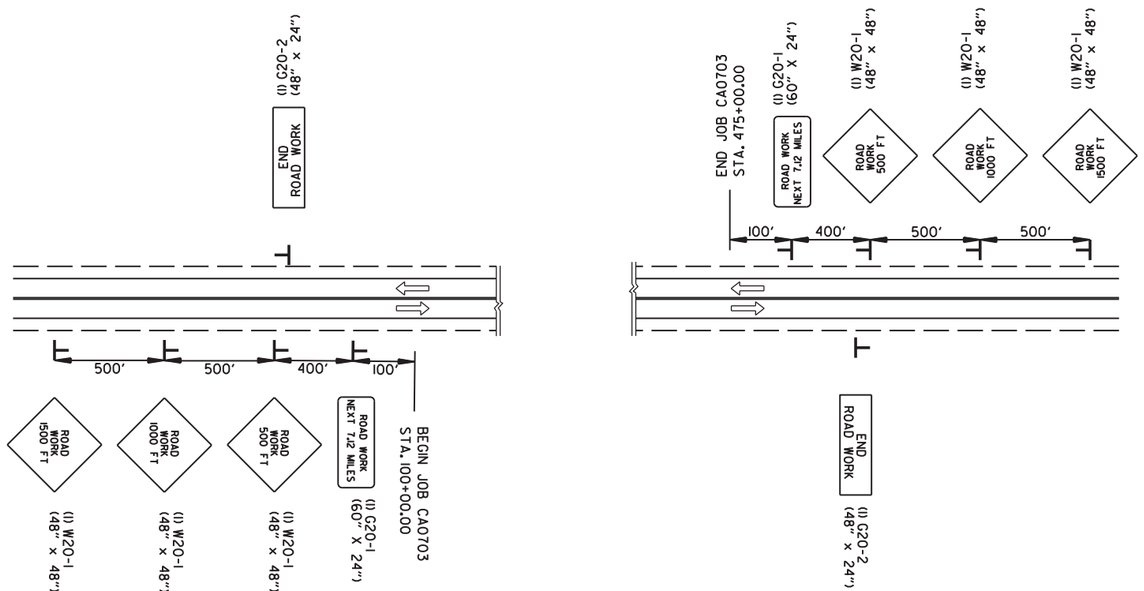
STAGE 1
STA. 101+96 LT.
STA. 179+77 LT.
STA. 266+07 RT.
STA. 293+19 RT.
STA. 335+59 RT.
STA. 371+75 RT.

STAGE 2
STA. 107+08 RT.
STA. 118+49 RT.
STA. 120+05 RT.
STA. 151+88 RT.
STA. 222+98 RT.
STA. 300+88 LT.
STA. 335+59 LT.
STA. 348+54 LT.
STA. 372+05 LT.
STA. 418+19 LT.

ROAD CLOSED

(1) R11-2 (48" X 30")

16' BARR. TYP. III LT.



ADVANCE WARNING (ALL STAGES)

7/30/2020

RCA0706.DGN

MAINTENANCE OF TRAFFIC DETAILS

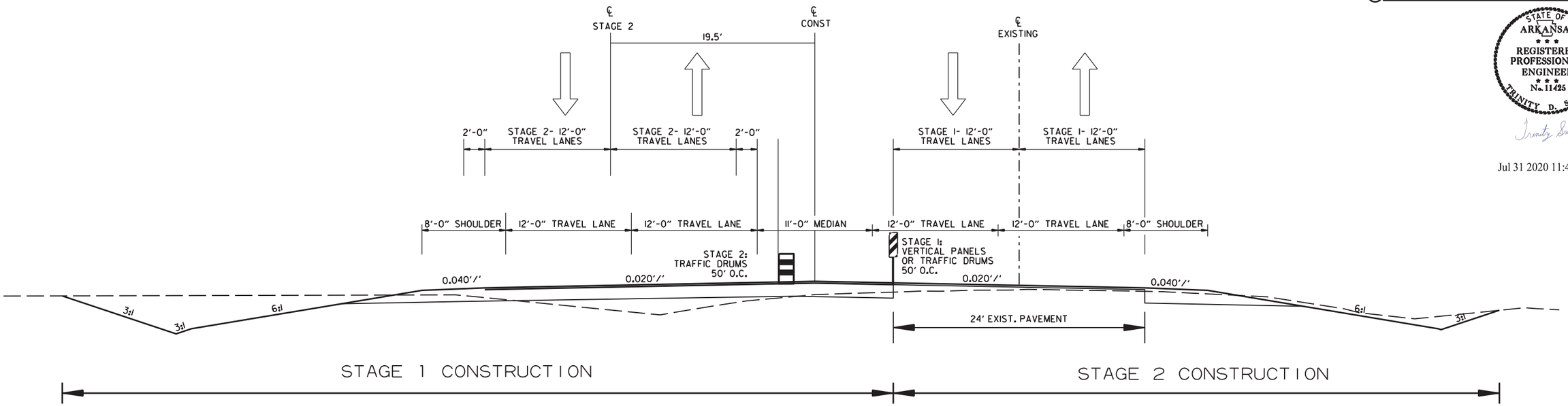
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	48	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 11:45 AM
DocuSign



STAGE CONSTRUCTION
STA. 97+22.79 TO STA. 258+80.00

CONSTRUCTION SEQUENCE

STAGE 1

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 45' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

APPLY LEVELING COURSE TO EXISTING LANES IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE LT. OF CENTERLINE AS SHOWN FROM STA. 97+22.79 TO STA. 258+80.00.CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE RT. OF CENTERLINE AS SHOWN FROM STA. 258+80.00 TO STA. 420+60.00. CONSTRUCT FULL DEPTH SHOULDERS FOR STAGE 2 MOT AS SHOWN.

STAGE 2

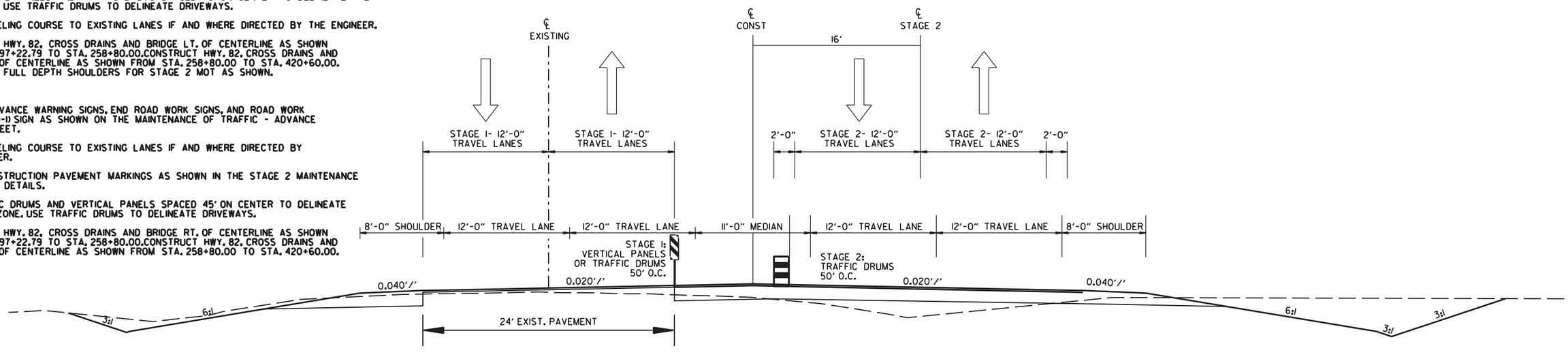
INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

APPLY LEVELING COURSE TO EXISTING LANES IF AND WHERE DIRECTED BY THE ENGINEER.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

USE TRAFFIC DRUMS AND VERTICAL PANELS SPACED 45' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE RT. OF CENTERLINE AS SHOWN FROM STA. 97+22.79 TO STA. 258+80.00.CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE LT. OF CENTERLINE AS SHOWN FROM STA. 258+80.00 TO STA. 420+60.00.



STAGE CONSTRUCTION
STA. 258+80.00 TO STA. 282+00.00

7/30/2020

RCA0706.DGN

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.		CA0706	49	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 11:45 AM
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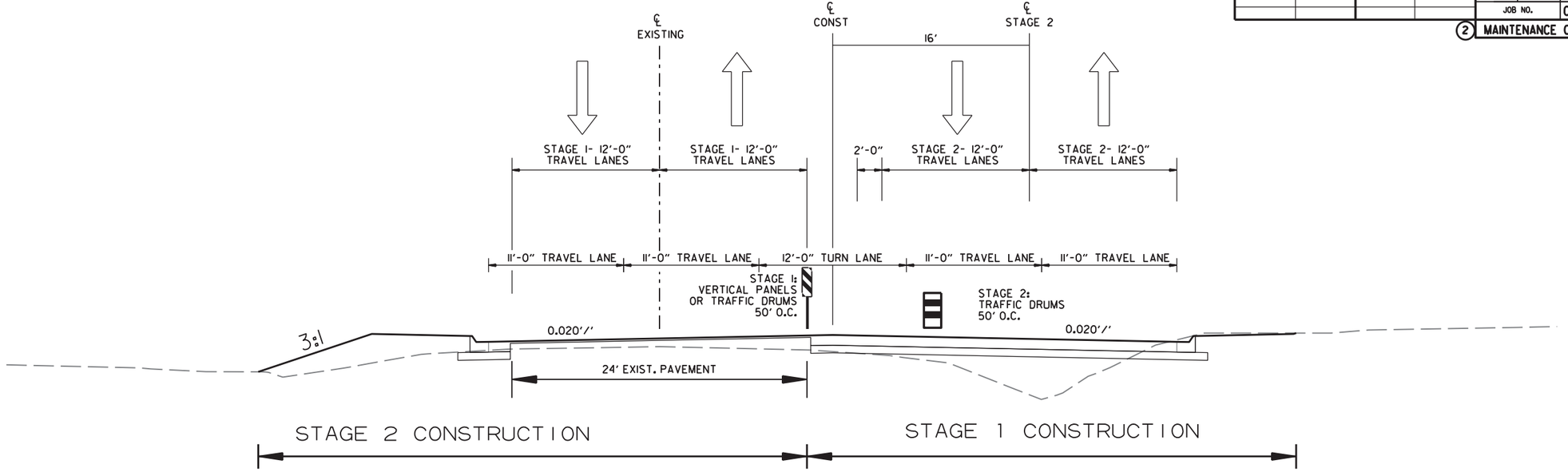
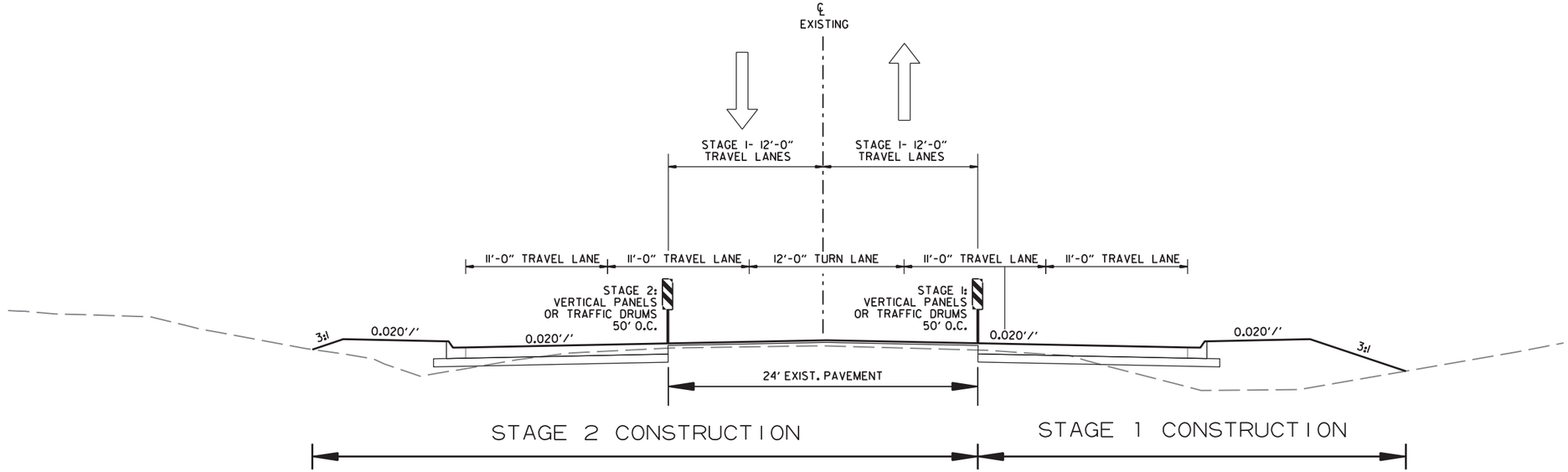


STAGE CONSTRUCTION
STA. 282+00.00 TO STA. 317+00.00



STAGE CONSTRUCTION
STA. 317+00.00 TO STA. 421+60.00

7/30/2020

RCA0706.DGN

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.		CA0706	50	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Trinity Smith
Jul 31 2020 11:45 AM
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STAGE 1

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 45' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE LT. OF CENTERLINE AS SHOWN FROM STA. 97+22.79 TO STA. 258+80.00.
CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE RT. OF CENTERLINE AS SHOWN FROM STA. 258+80.00 TO STA. 420+60.00.
CONSTRUCT FULL DEPTH SHOULDERS FOR STAGE 2 MOT AS SHOWN.

STAGE 1 QUANTITIES

SIGNS = 1251.5 SQ. FT.
TRAFFIC DRUMS = 2012 EA.
VERTICAL PANELS = 456 EA.
TYPE III BARRICADE - RT = 8 EA.
TYPE III BARRICADE - LT = 8 EA.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 2440 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 11 EA.

FURNISH AND INSTALL PRECAST CONCRETE BARRIER = 160 LIN. FT.
INCLUDES (1) T.I.A.B.

STA. 97+22.79
BEGIN JOB CA0706
LOG MILE 10.74

VERTICAL PANELS @ 45' O.C.

VERTICAL PANELS @ 45' O.C.

STA. 101+96.64 HWY. 82 =
STA. 1000+00.00 AIRPORT RD.
Δ = 90° 00' 00"

175' LANE SHIFT

TRAFFIC DRUMS @ 45' O.C.

VERTICAL PANELS @ 45' O.C.

175' LANE SHIFT

7/30/2020

RCA0706.DGN

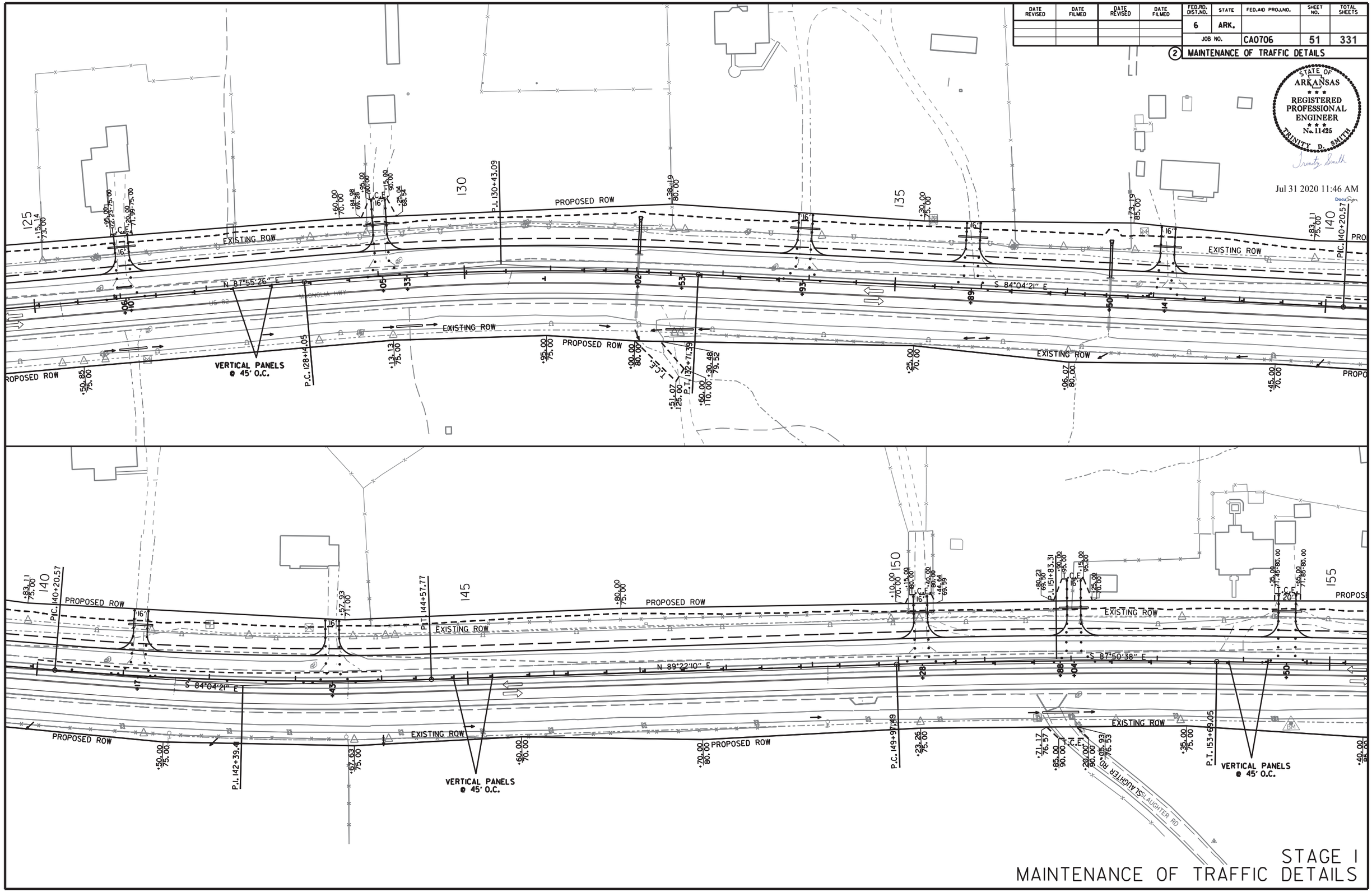
STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

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.		CA0706	51	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:46 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	52	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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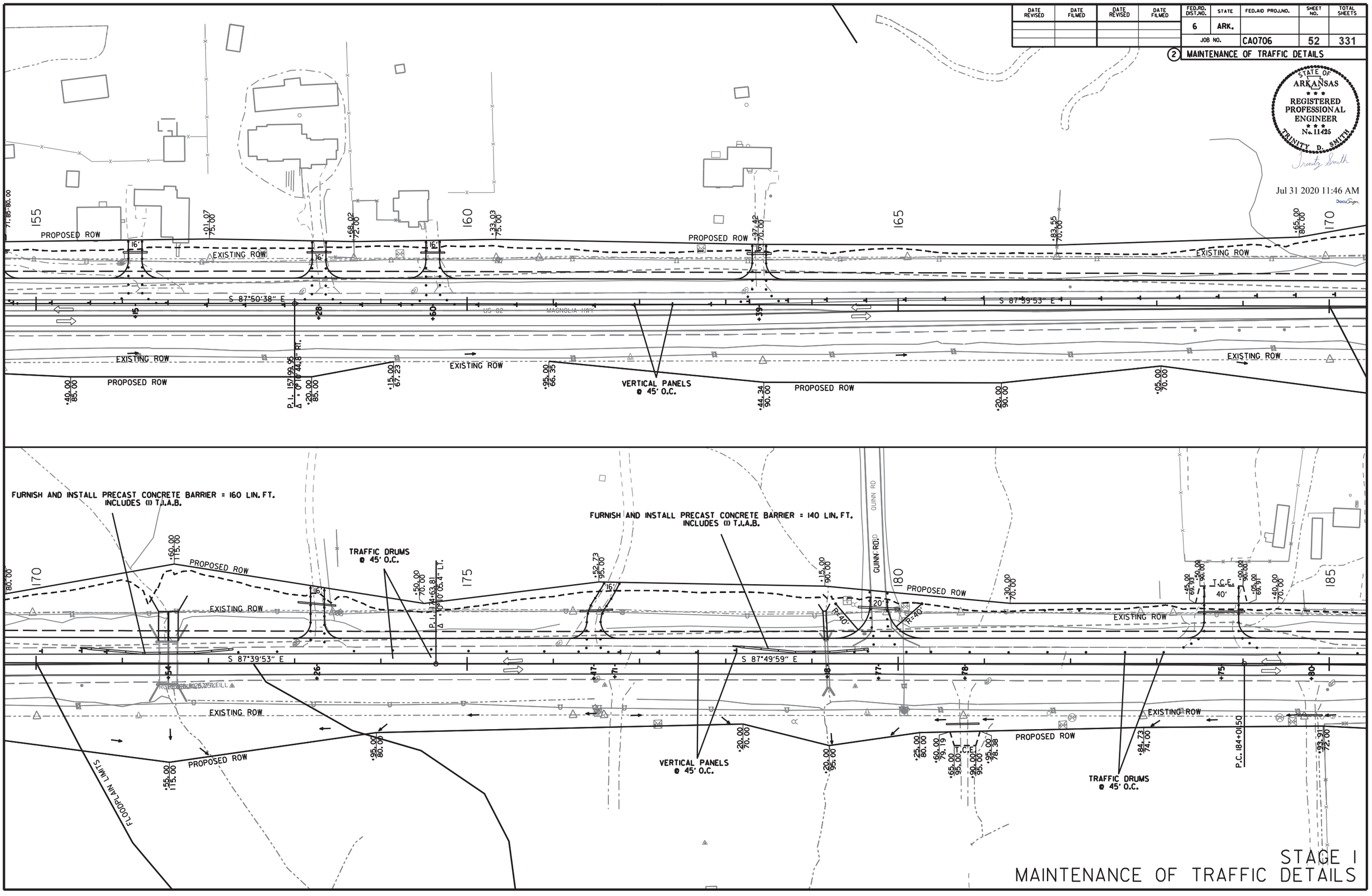
7/30/2020

RCA0706.DGN

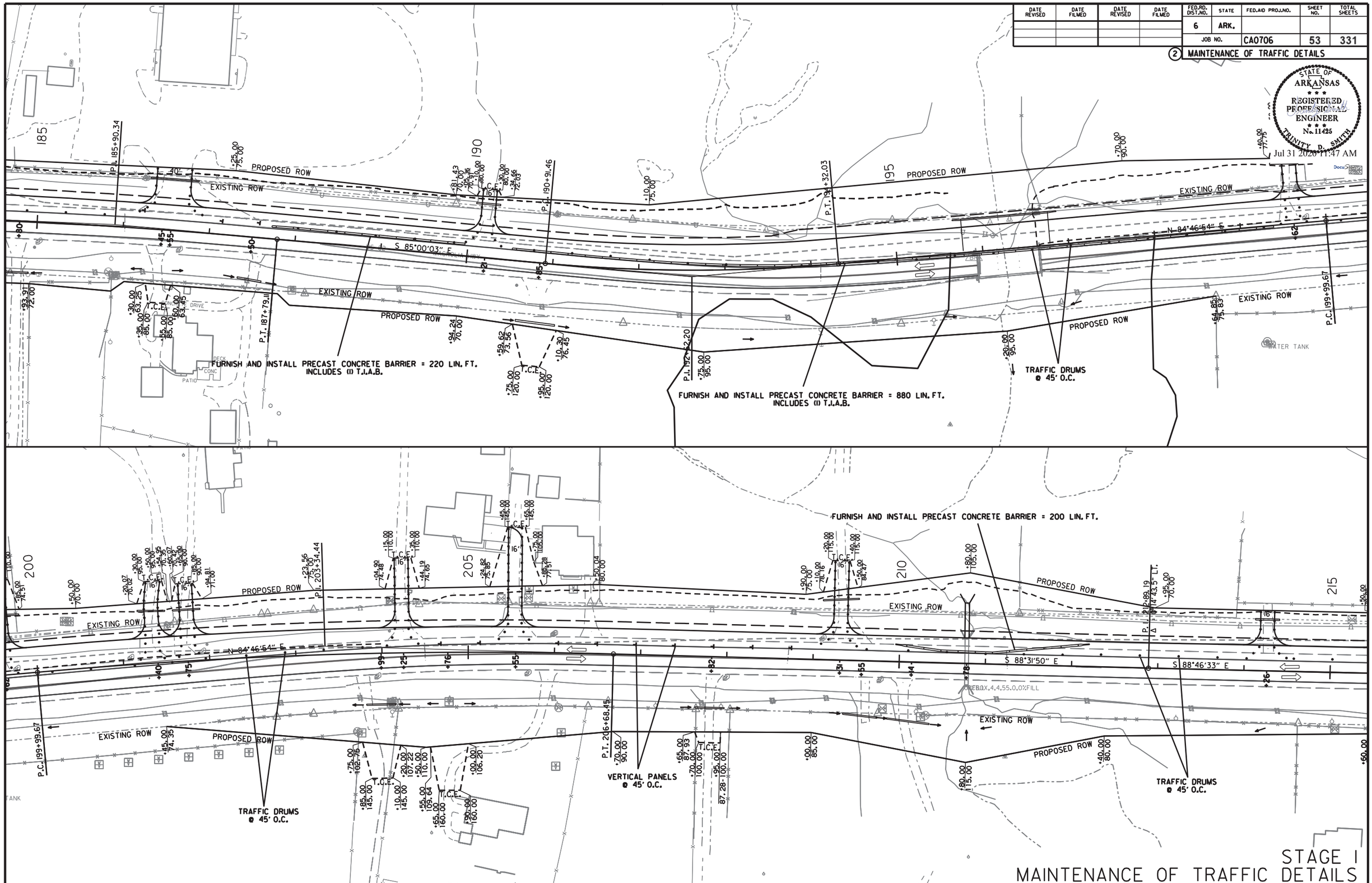


STAGE I
MAINTENANCE OF TRAFFIC DETAILS

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.		CA0706	53	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:47 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

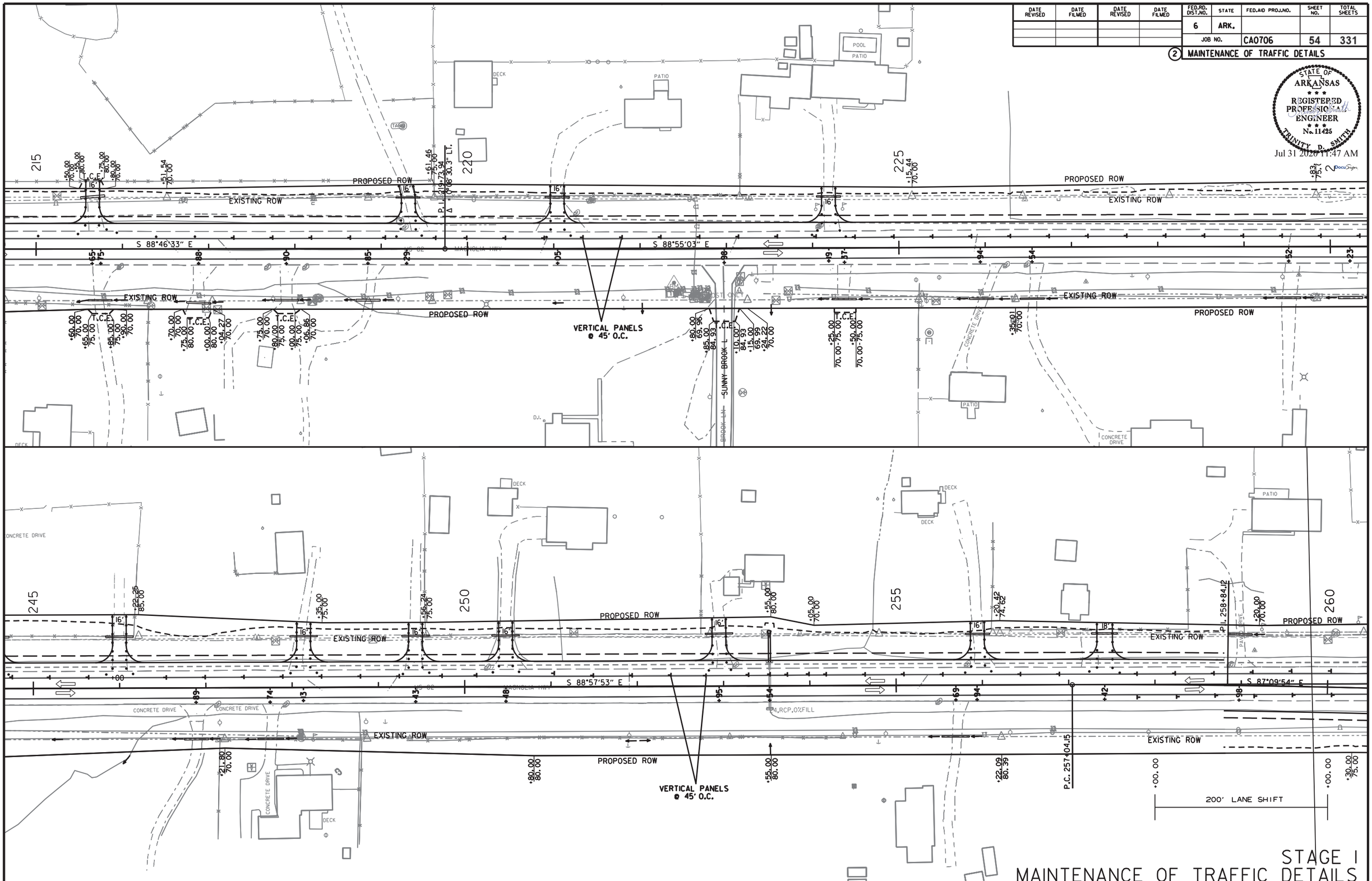
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	54	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:47 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

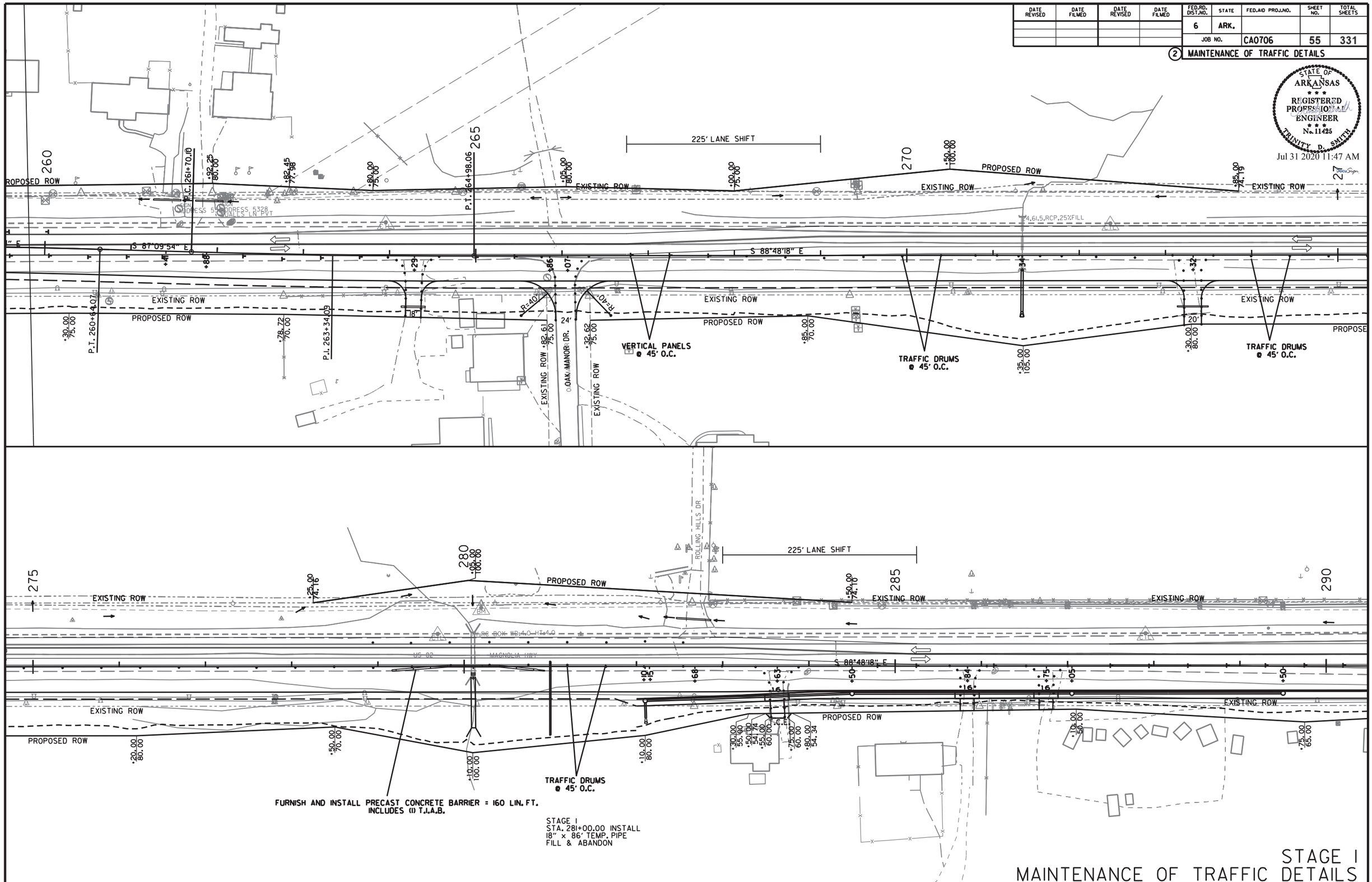
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	55	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:47 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

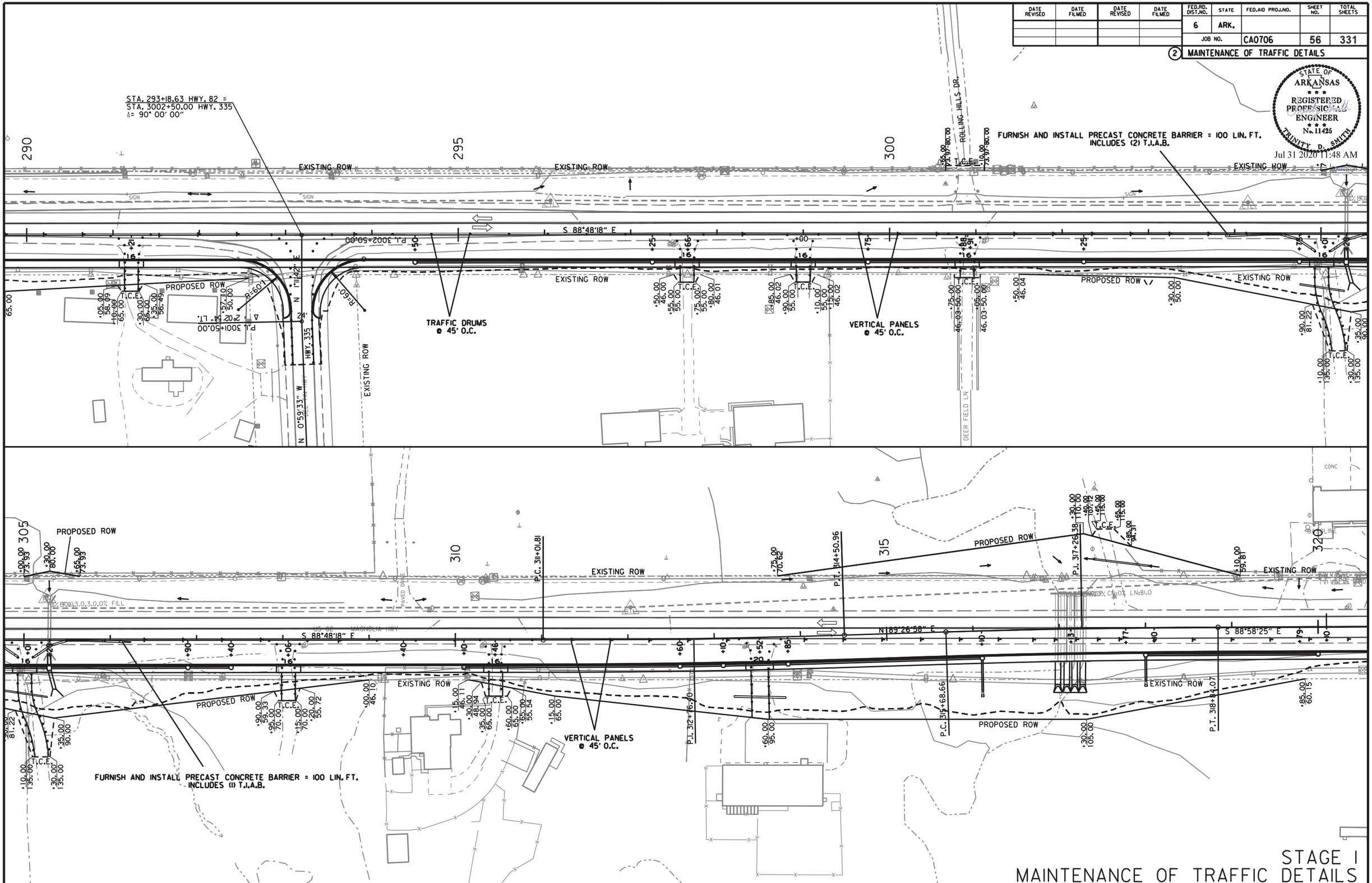
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	56	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:48 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	57	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:48 AM

7/30/2020

RCA0706.DGN

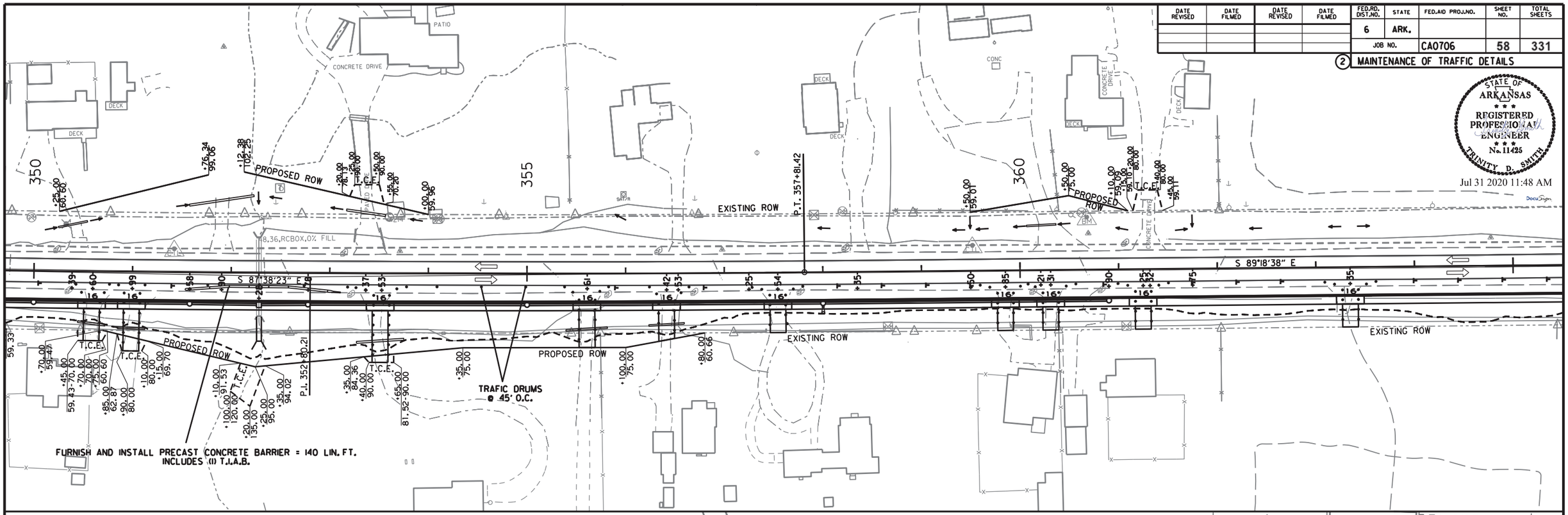
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

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.		CA0706	58	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:48 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

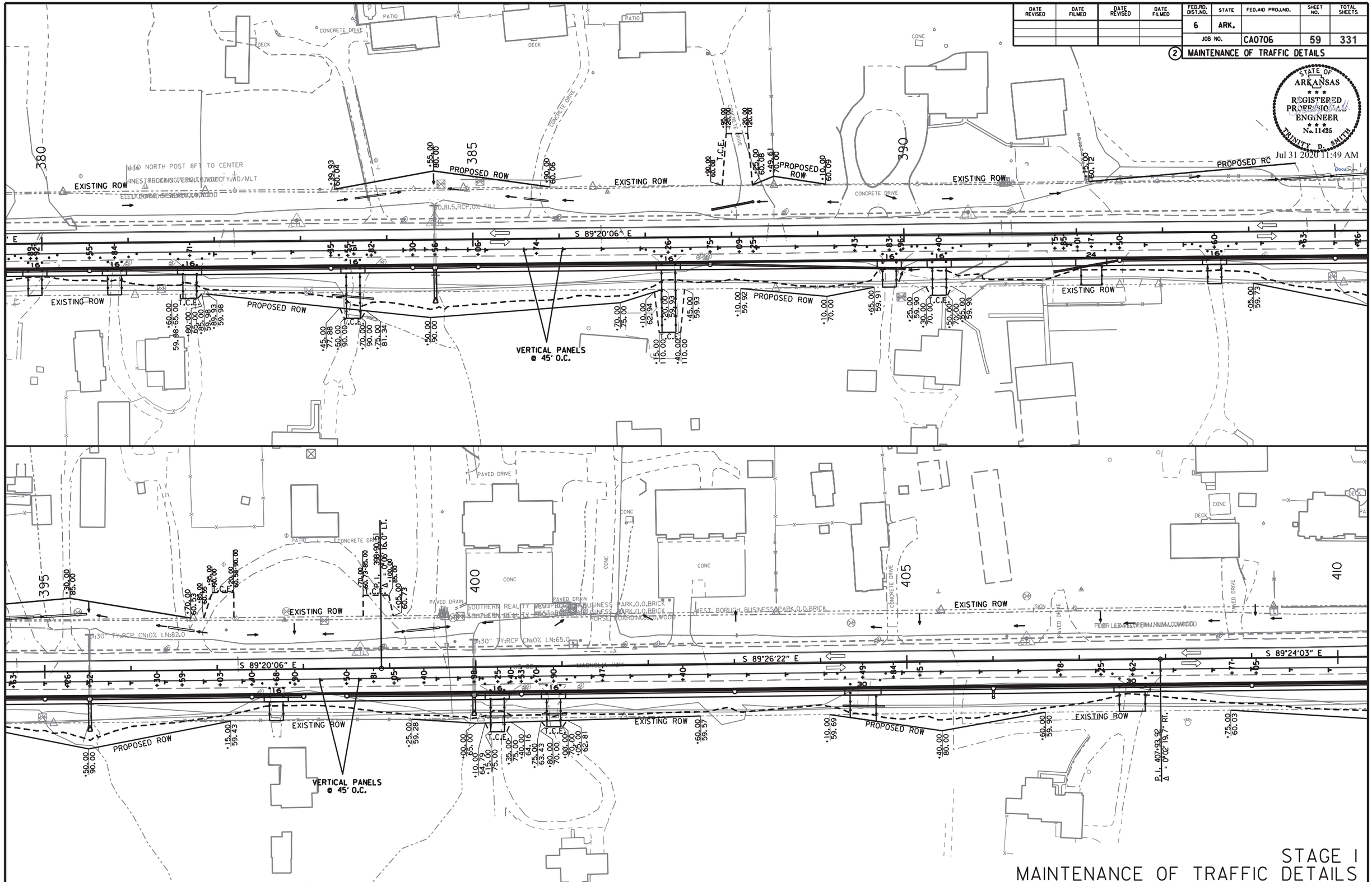
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	59	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:49 AM



STAGE I
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	60	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 11:50 AM

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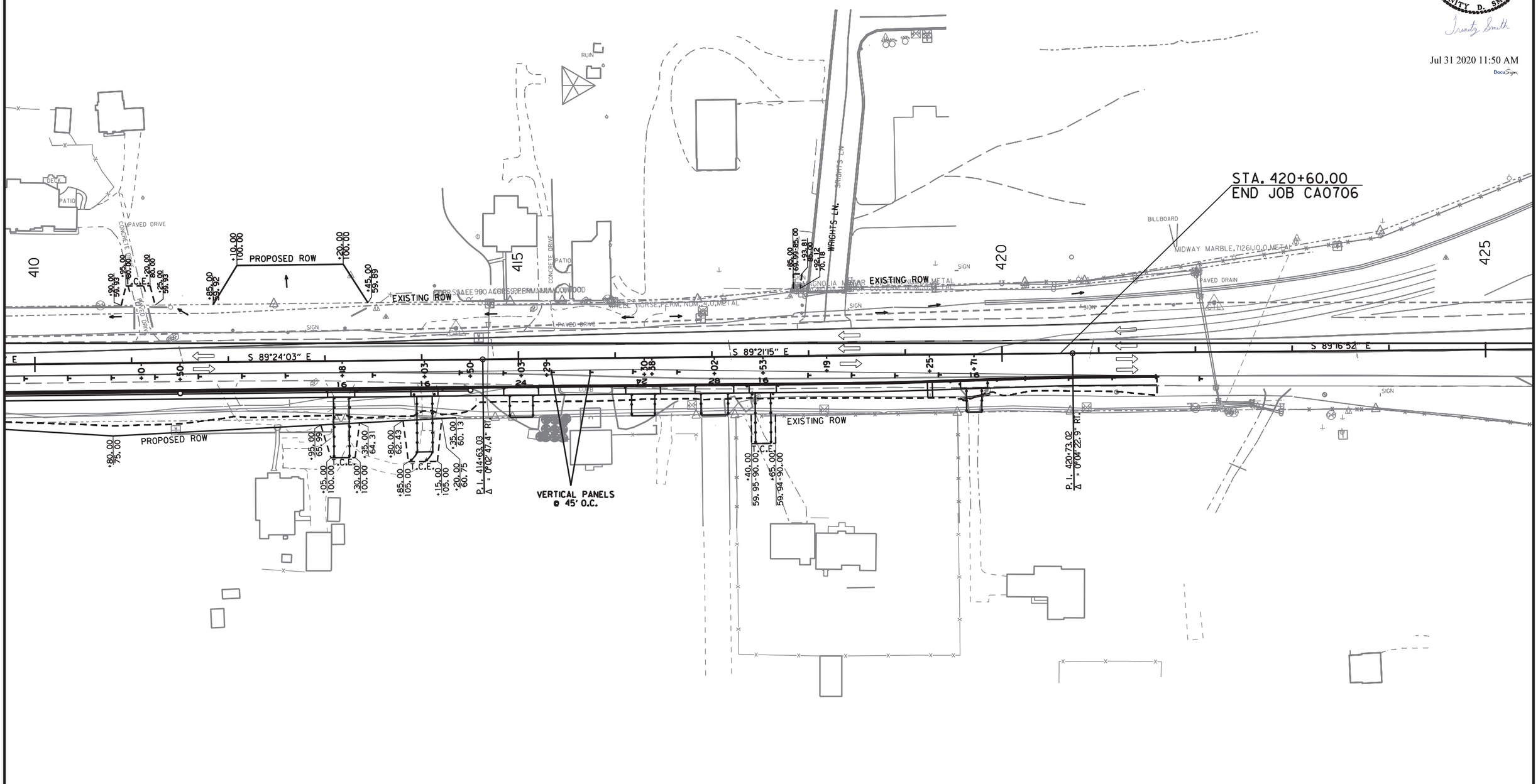

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	61	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 2

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

APPLY LEVELING COURSE TO EXISTING LANES IF AND WHERE DIRECTED BY THE ENGINEER.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

USE TRAFFIC DRUMS AND VERTICAL PANELS SPACED 45' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE RT. OF CENTERLINE AS SHOWN FROM STA. 97+22.79 TO STA. 258+80.00. CONSTRUCT HWY. 82, CROSS DRAINS AND BRIDGE LT. OF CENTERLINE AS SHOWN FROM STA. 258+80.00 TO STA. 420+60.00.

STAGE 2 QUANTITIES

SIGNS = 1373.5 SQ. FT.
TRAFFIC DRUMS = 780 EA.
VERTICAL PANELS = 479 EA.
TYPE III BARRICADE - RT = 22 EA.
TYPE III BARRICADE - LT = 22 EA.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 400 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER = 2440 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 4 EA.
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 11 EA.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Trinity Smith
Jul 31 2020 11:50 AM
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STA. 97+22.79
BEGIN JOB CA0706
LOG MILE 10.74

POB 96+22.79
EXISTING ROW
PROPOSED ROW
S 81°00'12" E
P.I. 98+00.18
Δ = 0°00'00.0" LT.
AIRPORT RD.
AIRPORT DR
N 8°59'48" E
R=40'
P.I. 1002+76.01
STA. 101+96.64 HWY. 82 = STA. 1000+00.00 AIRPORT RD.
Δ = 90° 00' 00"
P.I. 1000+00.00
P.C. 107+85.26
N 87°55'26" E
VERTICAL PANELS @ 45' O.C.
RELOCATING PRECAST CONCRETE BARRIER = 160 LIN. FT. INCLUDES (1) T.I.A.B.
DRAPER LN.
T.C.E.
P.I. 110+32.09
P.T. 112+77.39
TRAFFIC DRUMS @ 45' O.C.
ANNA BEE RD. PIT
NORTON RD.
N RD

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

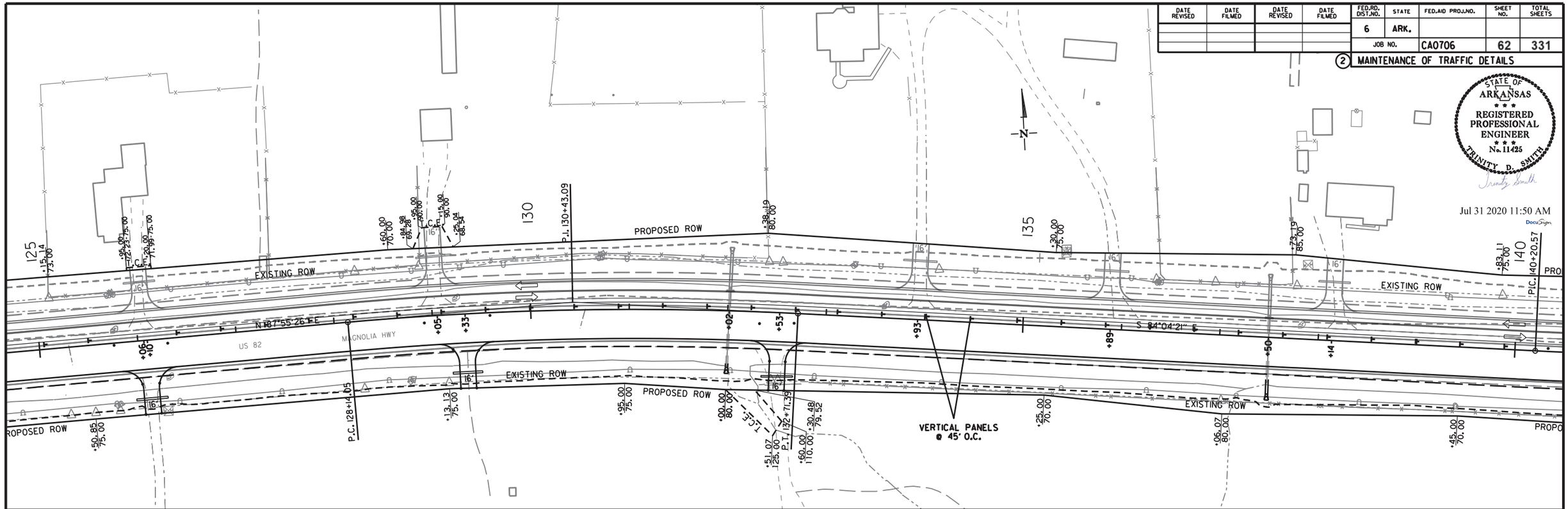
7/30/2020
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	62	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:50 AM



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

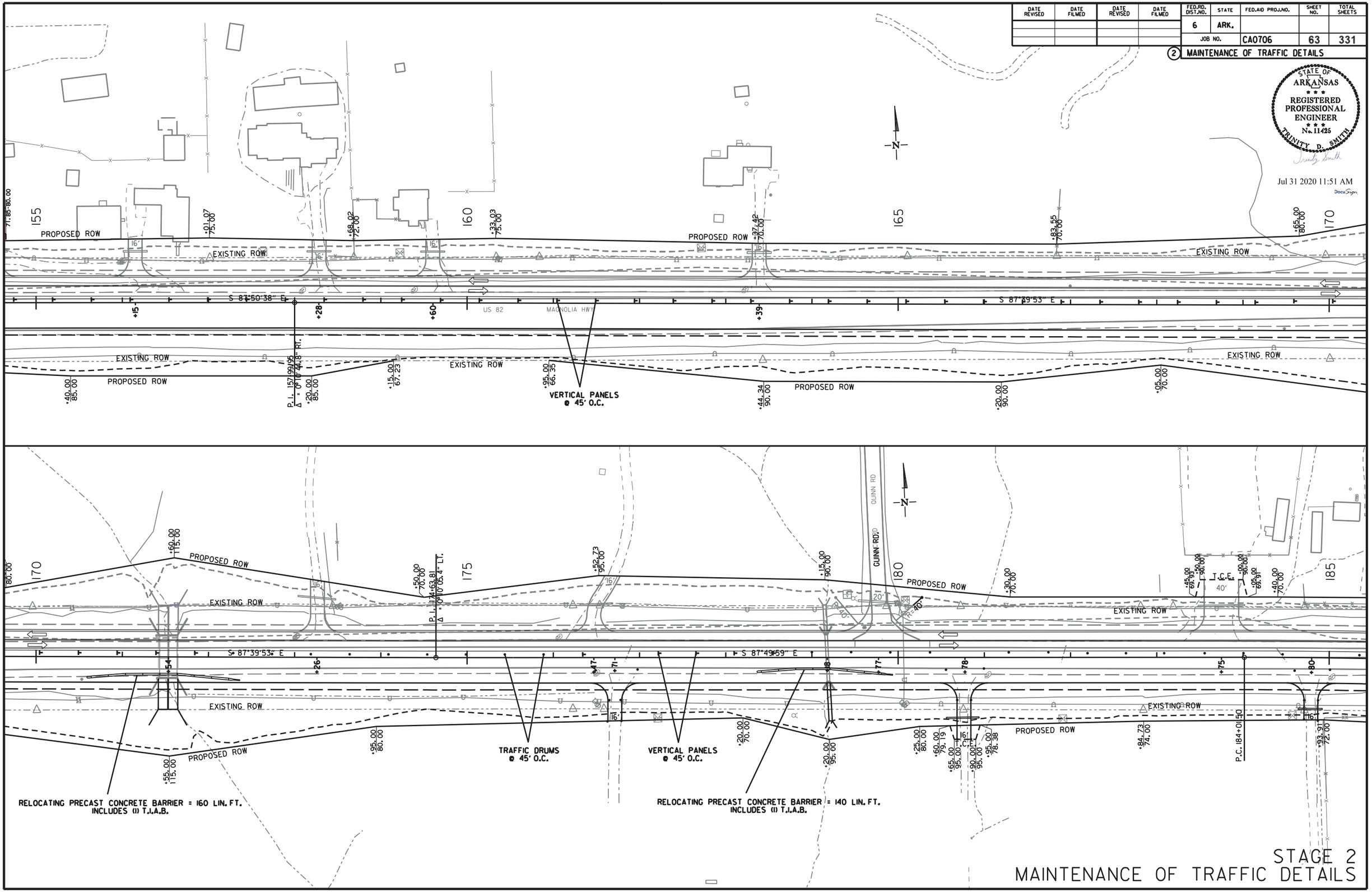
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	63	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Trinity Smith
Jul 31 2020 11:51 AM
DocuSign

7/30/2020

RCA0706.DGN



STAGE 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.		CA0706	64	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY P. SMITH
Jul 31 2020 11:51 AM

RELOCATING PRECAST CONCRETE BARRIER = 100 LIN. FT.
INCLUDES (1) T.I.A.B.

FURNISH AND INSTALL PRECAST CONCRETE BARRIER = 400 LIN. FT.
INCLUDES (1) T.I.A.B.

RELOCATING PRECAST CONCRETE BARRIER = 280 LIN. FT.
INCLUDES (1) T.I.A.B.

RELOCATING PRECAST CONCRETE BARRIER = 880 LIN. FT.
INCLUDES (1) T.I.A.B.

VERTICAL PANELS
@ 45' O.C.

RELOCATING PRECAST CONCRETE BARRIER = 200 LIN. FT.

125' LANE SHIFT

PROPOSED ROW

EXISTING ROW

7/30/2020

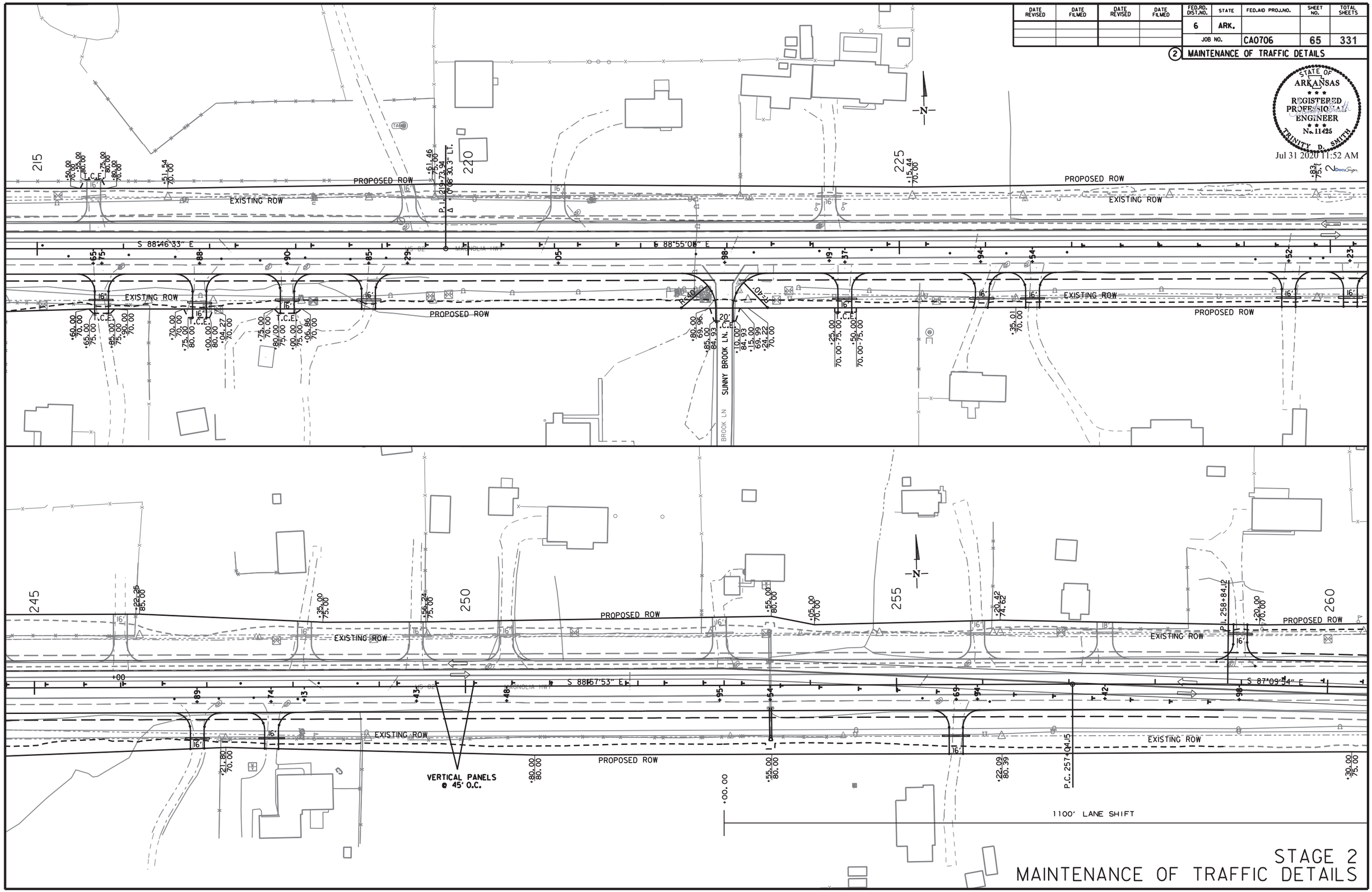
RCA0706.DGN

STAGE 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.		CA0706	65	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:52 AM



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

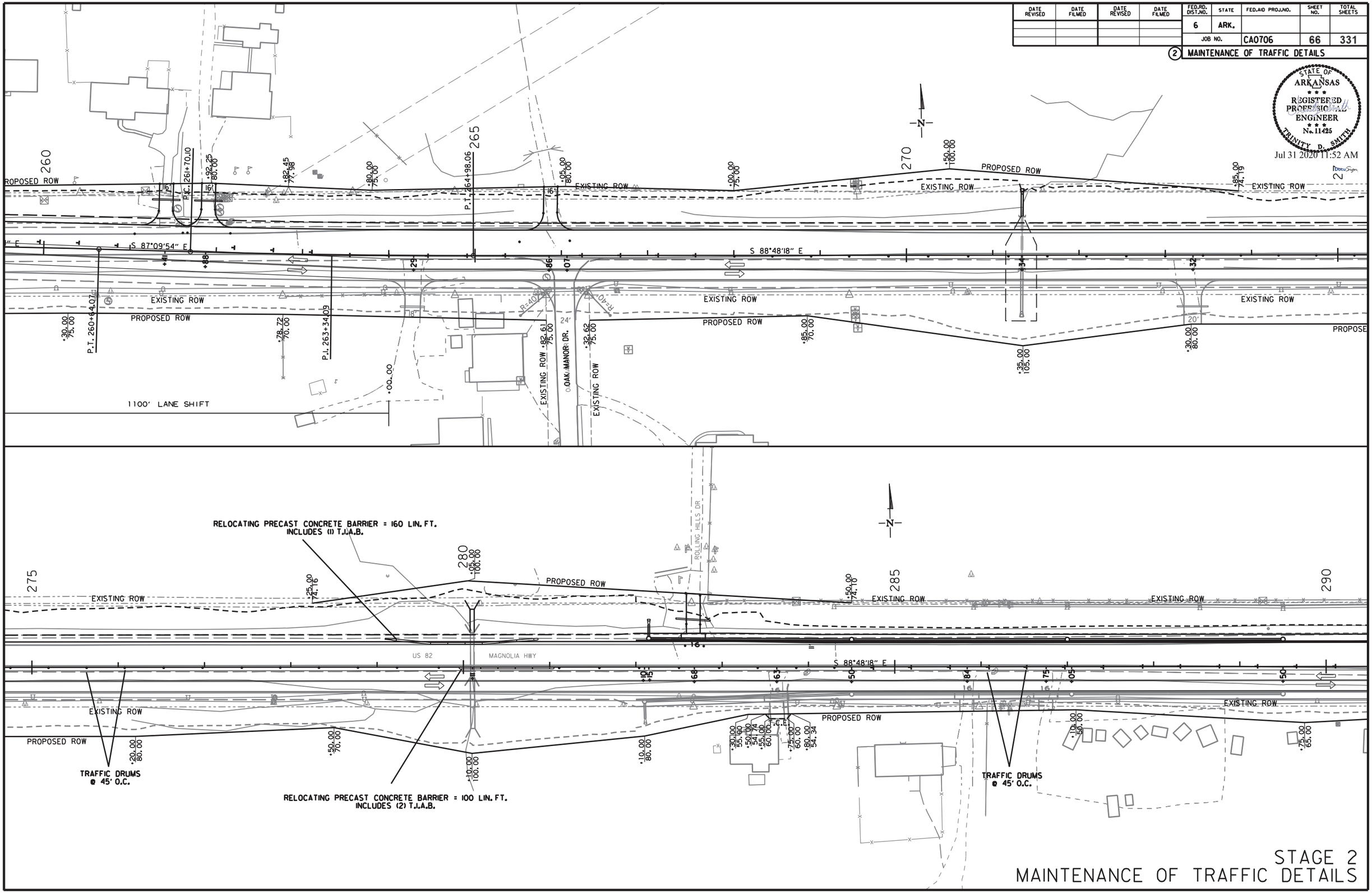
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	66	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:52 AM



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

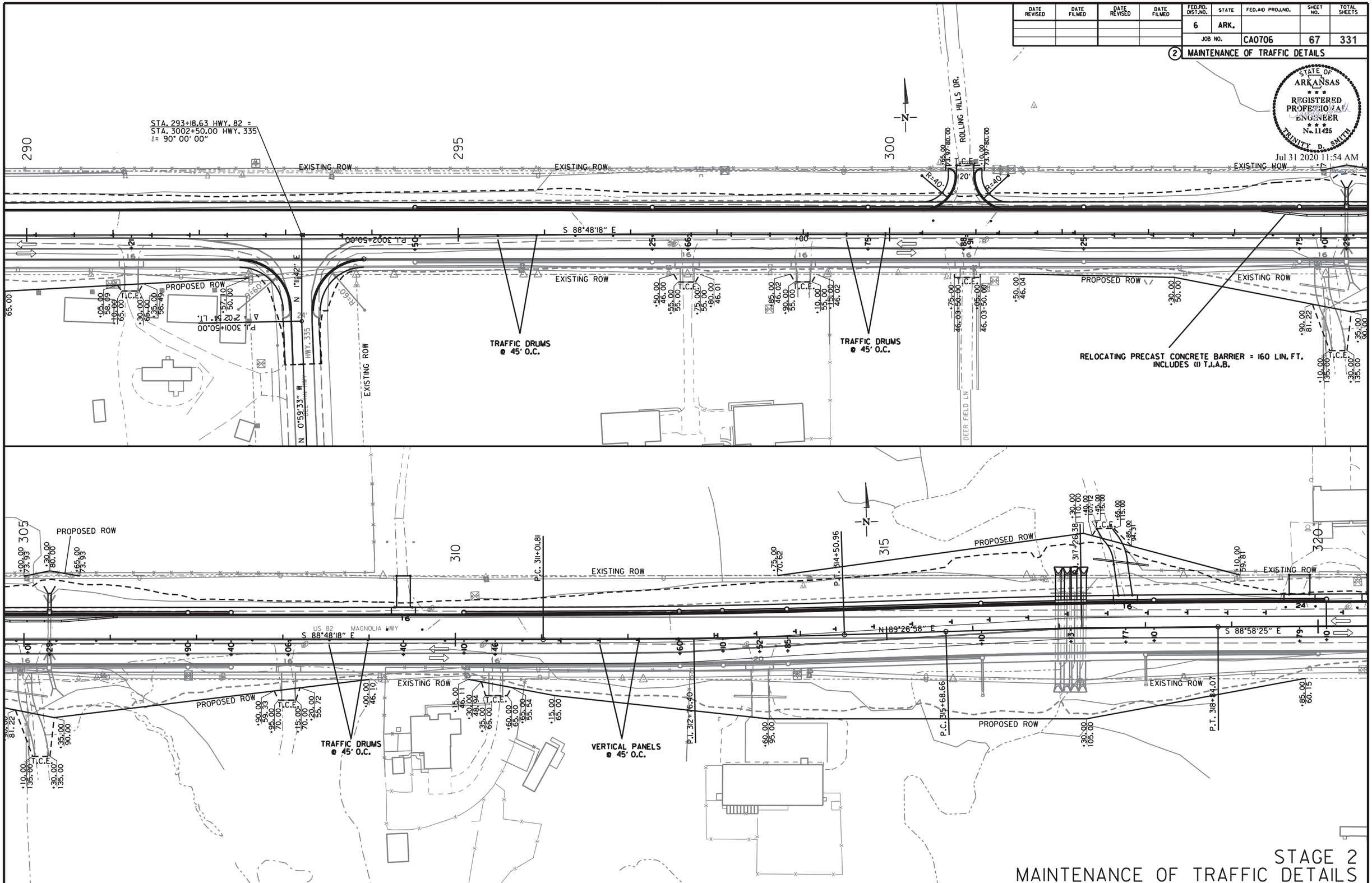
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	67	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Jul 31 2020 11:54 AM



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

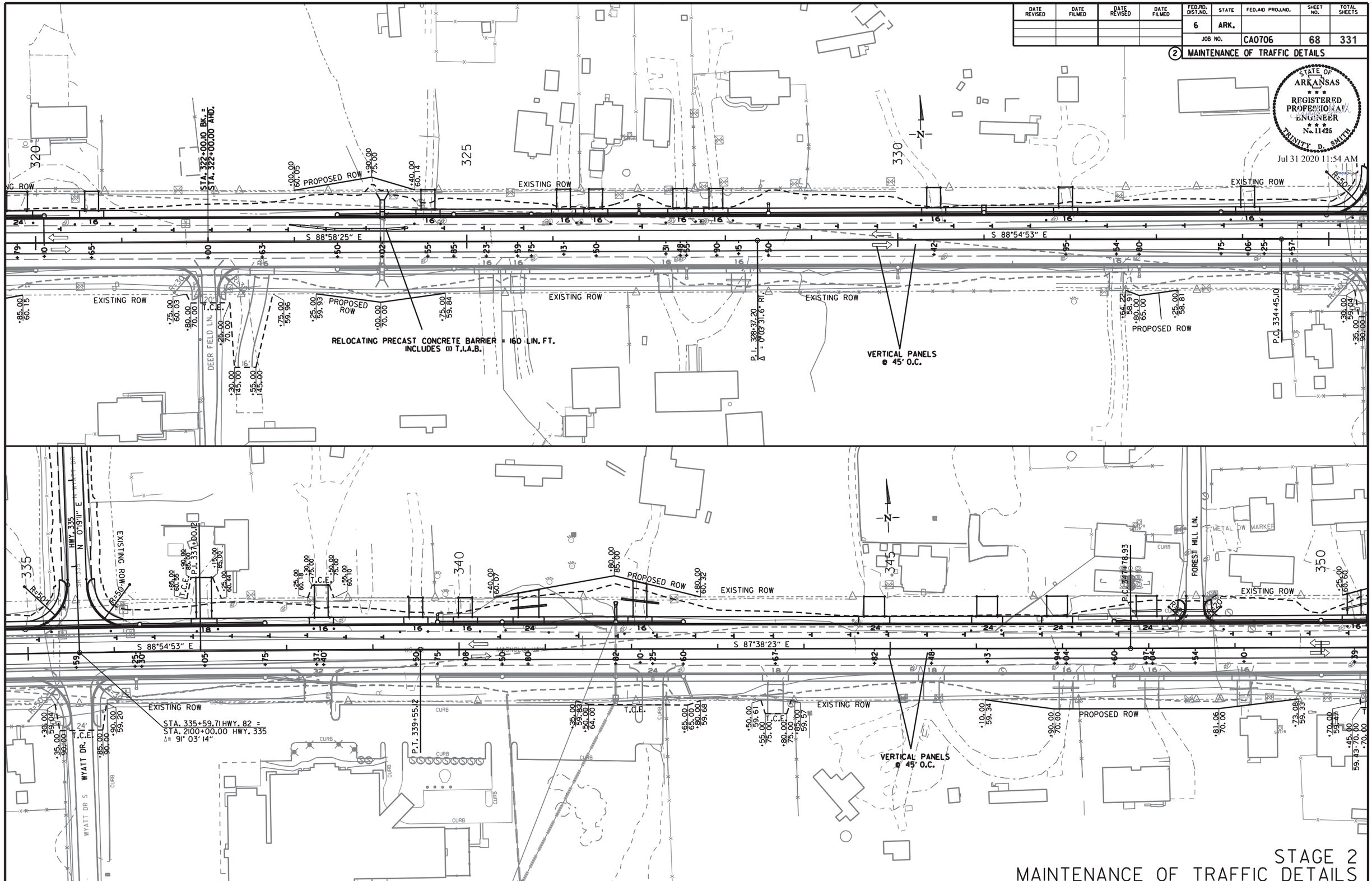
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	68	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:54 AM



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	69	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:55 AM
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350 355 360

PROPOSED ROW
EXISTING ROW
P.T. 357+81.42
T.C.E.
S 87°38'23" E
S 89°18'38" E
RELOCATING PRECAST CONCRETE BARRIER = 100 LIN. FT.
INCLUDES (2) T.I.A.B.
VERTICAL PANELS @ 45' O.C.

365 370 375 380

EXISTING ROW
PROPOSED ROW
S 89°18'38" E
S 89°20'06" E
R=40
R=30
MEADOW VIEW DR
VERTICAL PANELS @ 45' O.C.
P.I. = 0°01'28.3" LT.

7/30/2020

RCA0706.DGN

STAGE 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.		CA0706	70	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

PROPOSED RC Jul 31 2020 11:56 AM

EXISTING ROW
PROPOSED ROW
S 89°20'06" E
S 89°26'22" E
S 89°24'03" E
VERTICAL PANELS @ 45' O.C.
T.C.E.
MAGNOLIA HWY.
P.I. 398+90.51
Δ = 0°06'16.0" LT.

7/30/2020

RCA0706.DGN

STAGE 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.		CA0706	71	331

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 11:56 AM

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STA. 420+60.00
END JOB CA0706

WRIGHTS LN.

PROPOSED ROW

EXISTING ROW

VERTICAL PANELS @ 45' O.C.

S 89°24'03" E

S 89°21'15" E

S 89°16'52" E

P.I. 414+63.03
Δ = 0°02'47.4" RT.

P.I. 420+73.02
Δ = 0°04'22.9" RT.

T.C.E.

7/30/2020

RCA0706.DGN

STAGE 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.		CA0706	72	331

(2) PERMANENT PAVEMENT MARKING DETAILS

PERMANENT PAVEMENT MARKINGS - ENTIRE JOB

THERMOPLASTIC PAVEMENT MARKINGS WHITE (6") = 54429 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (6") = 106552 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS (ARROWS) = 5 EACH
THERMOPLASTIC PAVEMENT MARKINGS (WORDS) = 5 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) (80' O.C.) = 782 EACH
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) (80' O.C.) = 807 EACH

PERMANENT PAVEMENT MARKINGS STA. 110+70 TO STA. 418+34

THERMOPLASTIC PAVEMENT MARKINGS WHITE (6") = 50060 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (6") = 68996 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) (80' O.C.) = 770 EACH
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) (80' O.C.) = 767 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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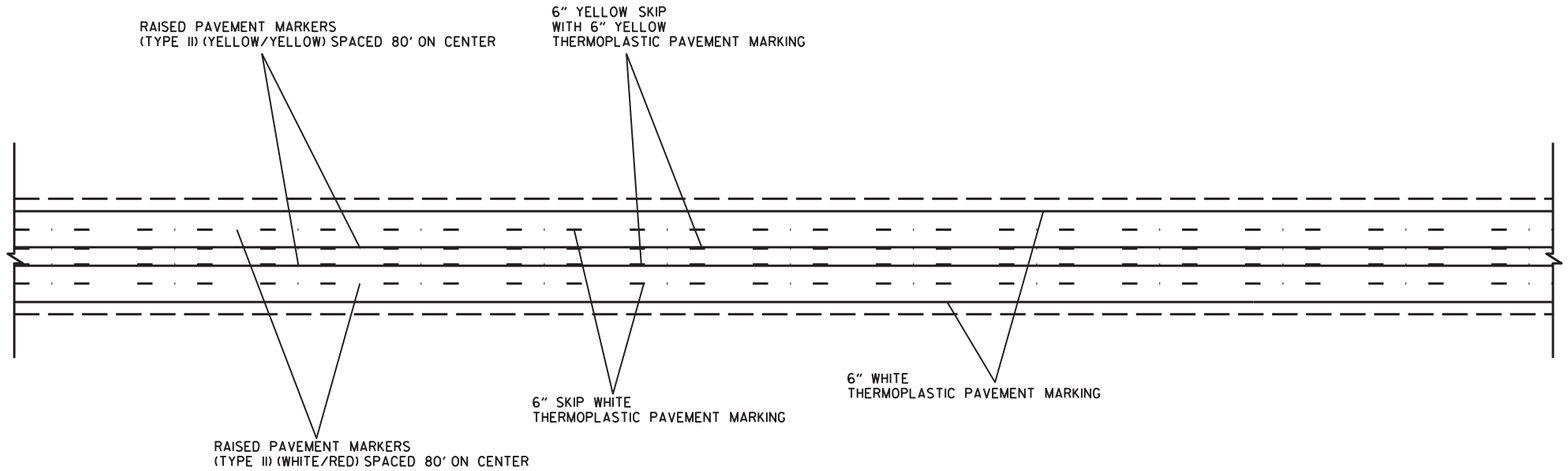
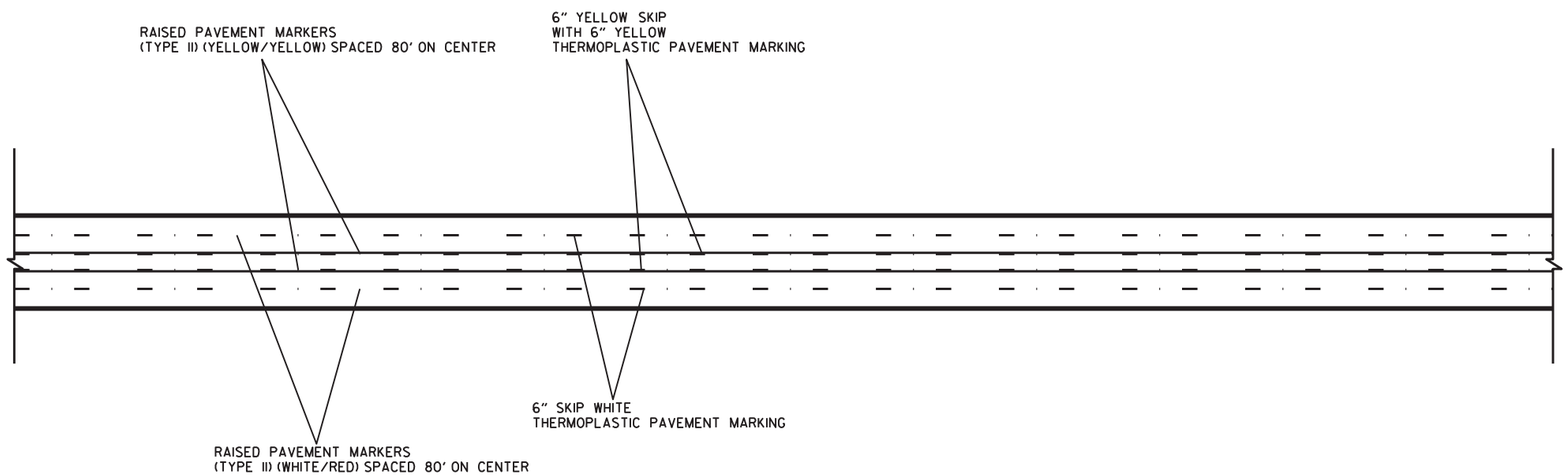


TYPICAL PERMANENT PAVEMENT MARKING LAYOUT
(OPEN SHOULDER)



TYPICAL PERMANENT PAVEMENT MARKING LAYOUT
(CURB AND GUTTER)

5/6/2020

RCA0706.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	73	331

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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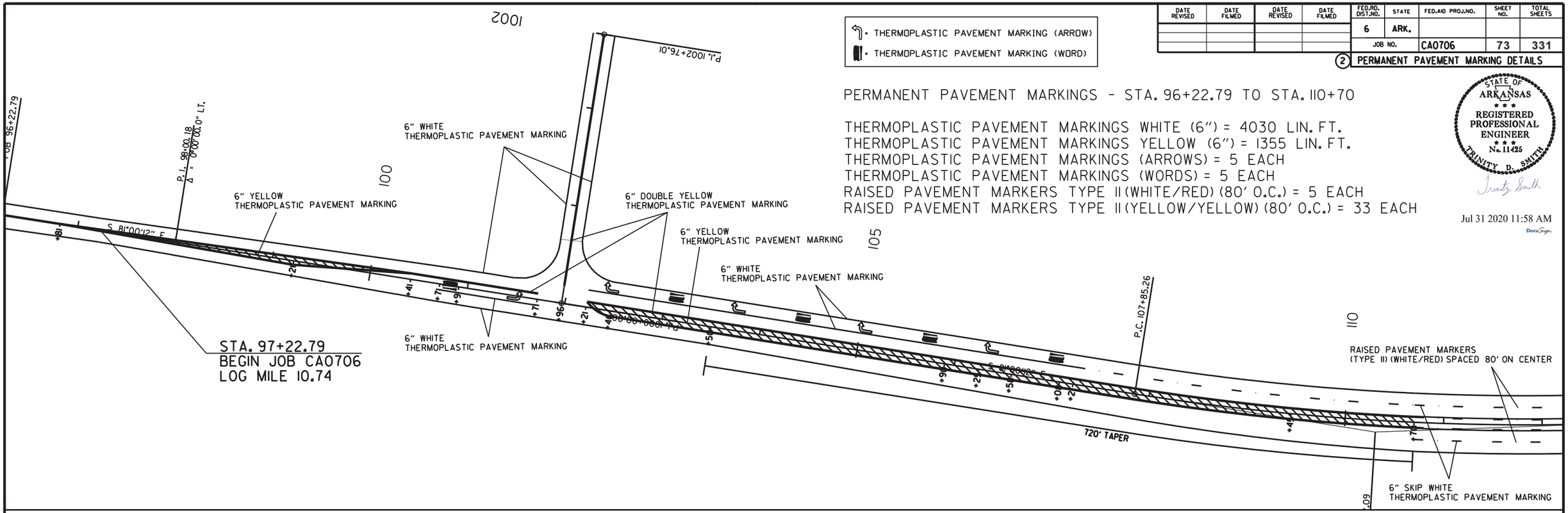
- THERMOPLASTIC PAVEMENT MARKING (ARROW)
- THERMOPLASTIC PAVEMENT MARKING (WORD)

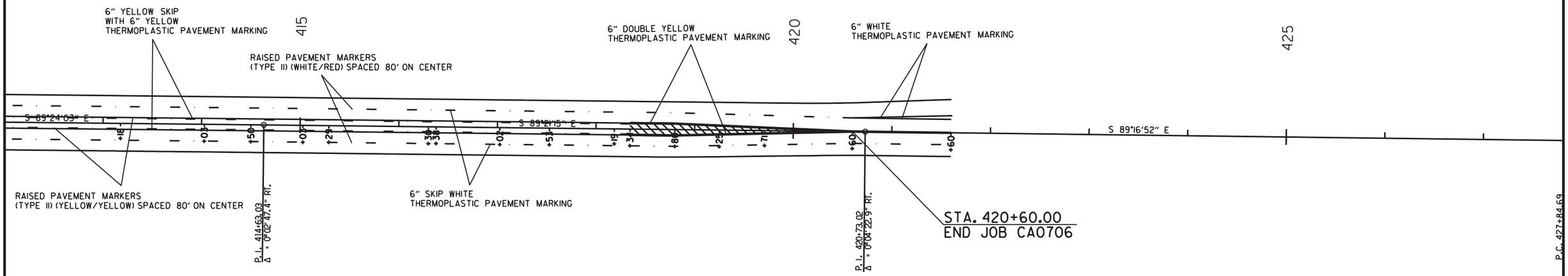
PERMANENT PAVEMENT MARKINGS - STA. 96+22.79 TO STA. 110+70

THERMOPLASTIC PAVEMENT MARKINGS WHITE (6") = 4030 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (6") = 1355 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS (ARROWS) = 5 EACH
THERMOPLASTIC PAVEMENT MARKINGS (WORDS) = 5 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) (80' O.C.) = 5 EACH
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) (80' O.C.) = 33 EACH



PERMANENT PAVEMENT MARKINGS - STA. 418+34 TO STA. 421+60

THERMOPLASTIC PAVEMENT MARKINGS WHITE (6") = 340 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (6") = 1355 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) (80' O.C.) = 7 EACH
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) (80' O.C.) = 7 EACH



5/6/2020

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	74	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING			
						TYPE II (WHITE/RED)	TYPE II (YELLOW/YELLOW)	6" WHITE	6" YELLOW	WORDS	ARROWS
	LIN. FT. - EACH			LIN. FT.		EACH		LIN. FT.		EACH	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	3000			3000							
CONSTRUCTION PAVEMENT MARKINGS	129473	129388			258861						
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			782			782					
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)			807				807				
THERMOPLASTIC PAVEMENT MARKING WHITE (6")			54429					54429			
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")			106552						106552		
THERMOPLASTIC PAVEMENT MARKING (WORDS)			5							5	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)			5								5
TOTALS:				**3000**	**258861**	**782**	**807**	**54429**	**106552**	**5**	**5**

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)
						NO.	SQ. FT.				RIGHT	LEFT					
			LIN. FT. - EACH					EACH					LIN. FT.			EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	32.0										
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	32.0										
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	32.0										
W20-1	ROAD WORK AHEAD	48"x48"	16	16	16	16	256.0										
G20-2	END ROAD WORK	48"x24"	18	18	18	18	144.0										
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	20.0										
W1-4AR	REVERSE CURVE RT.	48"x48"	4	4	4	4	64.0										
W1-4AL	REVERSE CURVE LT.	48"x48"	4	4	4	4	64.0										
R11-2	ROAD CLOSED	48"x30"	14	22	22	22	220.0										
OM-3L	OBJECT MARKER	12"x36"	44	33	44	44	132.0										
OM-3R	OBJECT MARKER	12"x36"	33	44	44	44	132.0										
R4-1	DO NOT PASS	24"x30"	24	24	24	24	120.0										
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	2	2	18.0										
W8-1	BUMP	30"x30"	2	2	2	2	12.5										
SPECIAL	WORK WITH US SIGN (USE CAUTION, SLOW DOWN)	96"x48"	2	2	2	2	64.0										
SPECIAL	CONSTRUCTION PROJECT INFORMATION SIGN	96"x48"	2	2	2	2	64.0										
	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE				10			10									
	VERTICAL PANELS		456	479	479				479								
	TRAFFIC DRUMS		2012	782	2012					2012							
	TYPE III BARRICADE-RT. (16')		8	22	22						352						
	TYPE III BARRICADE-LT. (16')		8	22	22							352					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		2440	400	2340								2840				
	RELOCATING PRECAST CONCRETE BARRER			2440	2440									2440			
	TEMPORARY IMPACT ATTENUATION BARRER		11	4	15										15		
	TEMPORARY IMPACT ATTENUATION BARRER (REPAIR)		11	4	15											15	
	TEMPORARY IMPACT ATTENUATION BARRER (RELOCATION)			11	11												11
TOTALS:							**1406.5**	**10**	**479**	**2012**	**352**	**352**	**2840**	**2440**	**15**	**15**	**11**

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

2/28/2019

RI10574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	75	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 12 2020 10:21 AM
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REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	BRICK COLUMNS	POSTS	WALLS	RETAINING WALLS	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	SIGN FOUNDATIONS	LUMINAIRE POLES	SIGNS	PLANTERS
			LIN. FT.	EACH	EACH	LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.	EACH	EACH	EACH	EACH
101+70		LT. OF HWY. 82								2		1	
102+20		LT. OF HWY. 82									1		
102+30		LT. OF HWY. 82									1		
102+50		LT. OF HWY. 82									1		
102+80		LT. OF HWY. 82									1		
130+00		LT. OF HWY. 82			1								
130+75		LT. OF HWY. 82			1								
135+20		LT. OF HWY. 82								2		1	
135+85		LT. OF HWY. 82								1		1	
136+05		LT. OF HWY. 82								1		1	
156+10		RT. OF HWY. 82								2		1	
176+34		LT. OF HWY. 82							148				
186+30		LT. OF HWY. 82								2		1	
186+45		RT. OF HWY. 82							46				
186+50		RT. OF HWY. 82			1						1		
186+70		RT. OF HWY. 82			1						1		
187+50		RT. OF HWY. 82			1						1		
187+55		RT. OF HWY. 82							45				
187+65		RT. OF HWY. 82			1						1		
189+90		LT. OF HWY. 82								3		2	
226+12		RT. OF HWY. 82							60				
224+00		LT. OF HWY. 82			1								
224+35		LT. OF HWY. 82			1								
233+00		RT. OF HWY. 82							86				
240+70		RT. OF HWY. 82							175				
246+75		RT. OF HWY. 82			1								
247+60		RT. OF HWY. 82			1								
247+78		RT. OF HWY. 82							80				
253+00		LT. OF HWY. 82							84				
258+85		LT. OF HWY. 82			1								
259+25		LT. OF HWY. 82			1								
260+35		LT. OF HWY. 82			1								
261+41		LT. OF HWY. 82							13				
265+70		RT. OF HWY. 82			1					2		1	1
283+80		RT. OF HWY. 82					40						
290+50		RT. OF HWY. 82			2								
291+45		RT. OF HWY. 82			1								
292+20		RT. OF HWY. 82			1								
292+55		RT. OF HWY. 82								1		1	
297+60		RT. OF HWY. 82									1		
297+70		RT. OF HWY. 82									1		
298+90		RT. OF HWY. 82									1		
299+30		RT. OF HWY. 82									1		
300+70		RT. OF HWY. 82			1								
301+05		RT. OF HWY. 82			1								
301+10		LT. OF HWY. 82									1		
307+00		RT. OF HWY. 82			1								
313+40		RT. OF HWY. 82		2									
313+52		RT. OF HWY. 83							201				
321+85		RT. OF HWY. 82			1								
322+10		RT. OF HWY. 82			1								
332+54		RT. OF HWY. 82							51				
336+00		LT. OF HWY. 82								1		1	
338+37		RT. OF HWY. 82	87						141				
340+80		RT. OF HWY. 82	126					28	657				
341+75		RT. OF HWY. 82								2		1	
342+25		RT. OF HWY. 82	102						148				
347+00		LT. OF HWY. 82						25	71				
347+97		LT. OF HWY. 82	53						213				
348+04		RT. OF HWY. 82							89				
353+50		LT. OF HWY. 82											1
361+32		LT. OF HWY. 82							90				
371+53	371+78	LT. OF HWY. 82				25							
372+20	372+45	LT. OF HWY. 82				25							
376+94		RT. OF HWY. 82							372				
379+44		RT. OF HWY. 82							59				
379+89		LT. OF HWY. 82							285				
380+10		RT. OF HWY. 82							59				
385+74		LT. OF HWY. 82							70				
388+25		LT. OF HWY. 82	153						278				
389+70		LT. OF HWY. 82						23	325				
391+08		RT. OF HWY. 82							67				
395+50		RT. OF HWY. 82								3		1	
400+00		LT. OF HWY. 82								2		1	
400+40		LT. OF HWY. 82							115				
401+47		LT. OF HWY. 82							118				
402+40		LT. OF HWY. 82							94				
404+84		LT. OF HWY. 82							25				
411+10		LT. OF HWY. 82							16				
415+70		RT. OF HWY. 82						40					
417+90		RT. OF HWY. 82								1		1	
417+92		LT. OF HWY. 82								2		1	
418+19		LT. OF HWY. 82	62						162	2		1	
TOTALS:			583	2	23	50	40	116	4443	29	13	17	2

NOTE: THE QUANTITY SHOWN ABOVE FOR THE REMOVAL AND DISPOSAL OF GUARDRAIL SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL GUARDRAIL TERMINALS AND TERMINAL ANCHOR POSTS.

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN CUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			2000	16
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			2000	16

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
96+22.79	97+22.79	MAIN LANES	40.00	444.44
420+60.00	421+60.00	MAIN LANES	55.36	615.11
TOTAL:				1059.55

NOTE: AVERAGE MILLING DEPTH 1".

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE C)	APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.	CU.YD.	POUND	TON
195+41.00	195+77.50	LT. OF HWY. 82	14.80		810	11.36
195+41.00	195+77.50	RT. OF HWY. 82	14.80		810	11.36
195+41.00	195+77.50	HWY. 82		120.50	14230	83.75
196+78.50	197+15.00	HWY. 82		120.50	14230	83.75
196+78.50	197+15.00	LT. OF HWY. 82	14.80		810	11.36
196+78.50	197+15.00	RT. OF HWY. 82	14.80		810	11.36
TOTALS:			59.20	241.00	31700	212.94

NOTE: USE T =17.5" FOR 8' SHOULDER.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
192+98.75	195+67.50	HWY. 82 - RT.	200	1	1
193+98.75	195+67.50	HWY. 82 - LT.	100	1	1
196+88.50	198+57.25	HWY. 82 - RT.	100	1	1
196+88.50	199+07.25	HWY. 82 - LT.	150	1	1
TOTALS:			550	4	4

2/28/2019

R110574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	76	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 12 2020 10:22 AM
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REMOVAL AND DISPOSAL OF CULVERTS (BOX 1 OF 2)

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
100+91	18" X 29' SIDE DRAIN RT.	1
107+08	24" X 25' SIDE DRAIN RT.	1
109+18	24" X 29' SIDE DRAIN RT.	1
109+45	18" X 29' SIDE DRAIN RT.	1
117+38	18" X 24' SIDE DRAIN LT.	1
118+49	18" X 20' SIDE DRAIN LT.	1
118+49	18" X 30' SIDE DRAIN RT.	1
121+63	18" X 23' SIDE DRAIN LT.	1
122+05	18" X 25' SIDE DRAIN RT.	1
125+24	18" X 24' SIDE DRAIN RT.	1
126+06	18" X 24' SIDE DRAIN LT.	1
126+10	24" X 25' SIDE DRAIN RT.	1
128+40	24" X 20' SIDE DRAIN RT.	1
129+05	18" X 18' SIDE DRAIN LT.	1
129+33	24" X 34' SIDE DRAIN RT.	1
132+53	18" X 29' SIDE DRAIN LT.	1
133+93	18" X 24' SIDE DRAIN LT.	1
135+89	18" X 41' SIDE DRAIN LT.	1
138+14	18" X 19' SIDE DRAIN LT.	1
141+17	18" X 25' SIDE DRAIN LT.	1
150+20	10" X 24' SIDE DRAIN LT.	1
151+88	24" X 28' SIDE DRAIN RT.	1
154+50	18" X 40' SIDE DRAIN LT.	1
156+15	18" X 66' SIDE DRAIN LT.	1
158+28	18" X 40' SIDE DRAIN LT.	1
159+60	18" X 25' SIDE DRAIN LT.	1
163+39	24" X 25' SIDE DRAIN LT.	1
173+26	18" X 24' SIDE DRAIN LT.	1
179+77	24" X 37' SIDE DRAIN LT.	1
180+78	18" X 34' SIDE DRAIN RT.	1
183+75	18" X 60' SIDE DRAIN LT.	1
184+80	18" X 25' SIDE DRAIN RT.	1
187+50	18" X 25' SIDE DRAIN RT.	1
190+85	24" X 24' SIDE DRAIN RT.	1
199+62	18" X 25' SIDE DRAIN LT.	1
201+40	24" X 36' SIDE DRAIN LT.	1
201+75	24" X 30' SIDE DRAIN LT.	1
203+99	18" X 25' SIDE DRAIN RT.	1
204+25	18" X 30' SIDE DRAIN LT.	1
205+55	8" X 18' SIDE DRAIN LT.	1
205+93	24" X 25' SIDE DRAIN RT.	1
206+42	8" X 27' SIDE DRAIN LT.	1
207+82	18" X 21' SIDE DRAIN RT.	1
209+31	18" X 53' SIDE DRAIN LT.	1
209+55	18" X 25' SIDE DRAIN RT.	1
210+14	18" X 25' SIDE DRAIN RT.	1
214+26	18" X 24' SIDE DRAIN LT.	1
215+65	24" X 24' SIDE DRAIN LT.	1
215+75	18" X 23' SIDE DRAIN RT.	1
216+88	18" X 25' SIDE DRAIN RT.	1
217+90	18" X 25' SIDE DRAIN RT.	1
218+85	24" X 24' SIDE DRAIN RT.	1
218+85	18" X 21' SIDE DRAIN RT.	1
219+29	18" X 33' SIDE DRAIN LT.	1
223+43	24" X 24' SIDE DRAIN RT.	1
224+37	18" X 29' SIDE DRAIN RT.	1
225+94	12" X 35' SIDE DRAIN RT.	1
226+54	24" X 25' SIDE DRAIN RT.	1
229+52	18" X 25' SIDE DRAIN RT.	1
230+23	24" X 24' SIDE DRAIN RT.	1
230+96	24" X 24' SIDE DRAIN RT.	1
231+91	24" X 24' SIDE DRAIN RT.	1
232+99	24" X 24' SIDE DRAIN RT.	1
234+76	24" X 24' SIDE DRAIN RT.	1
238+22	18' X 32' SIDE DRAIN RT.	1
238+80	24" X 25' SIDE DRAIN RT.	1
239+82	18" X 40' SIDE DRAIN LT.	1
240+65	24" X 24' SIDE DRAIN RT.	1
241+24	24" X 24' SIDE DRAIN RT.	1
242+75	18" X 24' SIDE DRAIN RT.	1
244+56	24" X 18' SIDE DRAIN LT.	1
246+00	24" X 25' SIDE DRAIN LT.	1
246+86	18" X 21' SIDE DRAIN RT.	1
247+74	18" X 24' SIDE DRAIN RT.	1
248+13	18" X 24' SIDE DRAIN LT.	1
249+43	18" X 29' SIDE DRAIN LT.	1
252+95	18" X 24' SIDE DRAIN LT.	1
255+69	18" X 24' SIDE DRAIN RT.	1
255+94	18" X 24' SIDE DRAIN LT.	1
257+42	18" X 24' SIDE DRAIN LT.	1
258+98	18" X 25' SIDE DRAIN LT.	1
261+41	18" X 25' SIDE DRAIN LT.	1
261+88	18" X 24' SIDE DRAIN LT.	1
SUBTOTAL (BOX 1 OF 2):		**83**

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

REMOVAL AND DISPOSAL OF CULVERTS (BOX 2 OF 2)

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
264+29	18" X 41' SIDE DRAIN RT.	1
266+05	18" X 36' SIDE DRAIN RT.	1
282+68	18" X 37' SIDE DRAIN LT.	1
283+63	18" X 24' SIDE DRAIN RT.	1
285+84	18" X 21' SIDE DRAIN RT.	1
286+75	18" X 20' SIDE DRAIN RT.	1
297+66	18" X 26' SIDE DRAIN RT.	1
299+00	18" X 24' SIDE DRAIN RT.	1
300+88	18" X 25' SIDE DRAIN LT.	1
300+91	18" X 43' SIDE DRAIN RT.	1
305+01	18" X 34' SIDE DRAIN RT.	1
305+29	18" X 52' SIDE DRAIN RT.	1
310+46	24" X 23' SIDE DRAIN RT.	1
313+52	24" X 41' SIDE DRAIN RT.	1
317+77	18" X 25' SIDE DRAIN LT.	1
319+79	24" X 41' SIDE DRAIN LT.	1
322+63	18" X 24' SIDE DRAIN RT.	1
324+55	18" X 30' SIDE DRAIN LT.	1
325+23	24" X 34' SIDE DRAIN RT.	1
325+59	18" X 25' SIDE DRAIN RT.	1
326+13	18" X 25' SIDE DRAIN LT.	1
326+50	18" X 25' SIDE DRAIN LT.	1
327+31	18" X 25' SIDE DRAIN RT.	1
327+48	18" X 25' SIDE DRAIN LT.	1
327+90	10" X 25' SIDE DRAIN LT.	1
330+42	18" X 25' SIDE DRAIN LT.	1
331+95	18" X 25' SIDE DRAIN LT.	1
332+54	24" X 30' SIDE DRAIN RT.	1
334+57	18" X 26' SIDE DRAIN RT.	1
335+60	18" X 49' SIDE DRAIN RT.	1
342+10	18" X 24' SIDE DRAIN LT.	1
342+25	18" X 73' SIDE DRAIN RT.	1
343+67	18" X 24' SIDE DRAIN RT.	1
347+97	18" X 37' SIDE DRAIN LT.	1
348+54	18" X 37' SIDE DRAIN LT.	1
350+39	18" X 25' SIDE DRAIN LT.	1
350+60	20" X 12" X 25' SIDE DRAIN RT.	1
350+99	18" X 26' SIDE DRAIN RT.	1
351+90	24" X 24' SIDE DRAIN LT.	1
353+37	24" X 29' SIDE DRAIN LT.	1
353+53	24" X 34' SIDE DRAIN RT.	1
355+61	18" X 25' SIDE DRAIN RT.	1
356+42	18" X 25' SIDE DRAIN RT.	1
356+53	18" X 20' SIDE DRAIN LT.	1
357+54	18" X 25' SIDE DRAIN RT.	1
358+35	18" X 25' SIDE DRAIN LT.	1
359+34	24" X 32' SIDE DRAIN LT.	1
359+85	24" X 24' SIDE DRAIN RT.	1
360+31	18" X 50' SIDE DRAIN RT.	1
361+32	24" X 40' SIDE DRAIN LT.	1
365+84	18" X 16' SIDE DRAIN RT.	1
372+05	24" X 54' SIDE DRAIN LT.	1
377+25	18" X 25' SIDE DRAIN RT.	1
379+44	18" X 24' SIDE DRAIN RT.	1
379+89	18" X 73' SIDE DRAIN LT.	1
379+92	18" X 24' SIDE DRAIN RT.	1
380+84	18" X 24' SIDE DRAIN RT.	1
381+71	18" X 25' SIDE DRAIN RT.	1
383+61	18" X 24' SIDE DRAIN RT.	1
383+82	18" X 25' SIDE DRAIN LT.	1
385+74	18" X 26' SIDE DRAIN LT.	1
387+26	18" X 37' SIDE DRAIN RT.	1
391+09	18" X 37' SIDE DRAIN RT.	1
392+01	12" X 99' SIDE DRAIN LT.	1
392+17	18" X 132' SIDE DRAIN RT.	1
393+60	24" X 25' SIDE DRAIN RT.	1
394+63	18" X 53' SIDE DRAIN LT.	1
395+26	24" X 34' SIDE DRAIN LT.	1
396+59	24" X 45' SIDE DRAIN LT.	1
399+40	18" X 50' SIDE DRAIN LT.	1
400+25	18" X 32' SIDE DRAIN RT.	1
400+40	24" X 109' SIDE DRAIN LT.	1
400+90	18" X 25' SIDE DRAIN RT.	1
401+47	24" X 30' SIDE DRAIN LT.	1
402+40	18" X 90' SIDE DRAIN LT.	1
404+49	18" X 25' SIDE DRAIN RT.	1
404+89	18" X 25' SIDE DRAIN LT.	1
405+58	18" X 25' SIDE DRAIN RT.	1
406+78	18" X 55' SIDE DRAIN LT.	1
408+77	18" X 33' SIDE DRAIN LT.	1
411+10	12" X 25' SIDE DRAIN LT.	1
412+05	12" X 20' SIDE DRAIN RT.	1
413+18	18" X 24' SIDE DRAIN RT.	1
418+19	18" X 55' SIDE DRAIN LT.	1
419+71	18" X 31' SIDE DRAIN RT.	1
SUBTOTAL (BOX 2 OF 2):		**35**
SUBTOTAL (BOX 1 OF 2):		**33**
TOTAL:		**168**

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
97+22.79	420+60.00	STAGE 1-MAIN LANES	28444	83268	
97+22.79	420+60.00	STAGE 2-MAIN LANES	26754	68538	
ENTIRE	PROJECT	APPROACHES	995	10991	
ENTIRE	PROJECT	TEMPORARY APPROACHES		2200	
1000+18.00	1002+76.01	AIRPORT DR.	793		
2100+28.00	2103+00.00	HWY 335 NORTH	27	331	
195+77.50	196+78.50	BRIDGE EXCAVATION	310		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			500
		DIRECTED BY THE ENGINEER			
TOTALS:			**57323**	**165328**	**500**

* QUANTITY ESTIMATED.

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
98+00.00	101+00.00	HWY. 82 - L.T.	300.00	200.07
103+00.00	105+00.00	HWY. 82 - L.T.	200.00	177.78
112+00.00	129+33.00	HWY. 82 - L.T.	1733.00	1540.44
132+00.00	151+88.00	HWY. 82 - L.T.	1988.00	1767.11
154+00.00	167+00.00	HWY. 82 - L.T.	1300.00	1155.56
169+00.00	171+75.00	HWY. 82 - L.T.	275.00	244.44
201+75.00	204+76.00	HWY. 82 - L.T.	301.00	267.56
217+00.00	278+00.00	HWY. 82 - L.T.	6100.00	5422.22
302+00.00	317+35.00	HWY. 82 - L.T.	1535.00	1364.44
339+75.00	344+00.00	HWY. 82 - L.T.	425.00	377.78
347+97.00	350+00.00	HWY. 82 - L.T.	203.00	180.44
359+00.00	368+00.00	HWY. 82 - L.T.	900.00	800.00
380+55.00	383+00.00	HWY. 82 - L.T.	245.00	217.78
394+63.00	395+00.00	HWY. 82 - L.T.	37.00	32.89
405+00.00	408+77.00	HWY. 82 - L.T.	377.00	335.11
417+00.00	421+00.00	HWY. 82 - L.T.	400.00	355.56
99+00.00	105+00.00	HWY. 82 - R.T.	600.00	533.33
114+00.00	171+75.00	HWY. 82 - R.T.	5775.00	5133.33
184+80.00	190+00.00	HWY. 82 - R.T.	520.00	462.22
200+00.00	210+00.00	HWY. 82 - R.T.	1000.00	888.89
224+00.00	277+00.00	HWY. 82 - R.T.	5300.00	4711.11
304+00.00	306+90.00	HWY. 82 - R.T.	290.00	257.78
313+00.00	317+35.00	HWY. 82 - R.T.	435.00	386.67
342+60.00	343+00.00	HWY. 82 - R.T.	40.00	35.56
346+00.00	349+10.00	HWY. 82 - R.T.	310.00	275.56
378+00.00	379+00.00	HWY. 82 - R.T.	100.00	88.89
389+00.00	392+00.00	HWY. 82 - R.T.	300.00	266.67
418+00.00	421+00.00	HWY. 82 - R.T.	300.00	266.67
TOTAL:				**27812.46**

NOTE: AVERAGE WIDTH = 8'-0"

REMOVAL AND DISPOSAL 0F FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
99+75	104+15	HWY. 82 RT.	426	1
132+30	143+61	HWY. 82 RT.	1121	1
136+35	137+70	HWY. 82 LT.	135	
143+61	148+56	HWY. 82 RT.	500	
143+88	150+13	HWY. 82 LT.	624	
150+42	152+03	HWY. 82 LT.	181	
187+79	190+95	HWY. 82 RT.	325	1
203+09	203+70	HWY. 82 RT.	60	
204+06	206+34	HWY. 82 RT.	254	1
206+34	207+66	HWY. 82 RT.	134	
208+05	209+48	HWY. 82 RT.	143	
210+24	214+63	HWY. 82 RT.	445	
211+37	213+90	HWY. 82 LT.	255	
214+63	216+30	HWY. 82 RT.	167	1
219+61	223+16	HWY. 82 LT.	338	1
233+14	234+69	HWY. 82 RT.	155	
247+16	248+80	HWY. 82 RT.	164	
248+80	254+40	HWY. 82 RT.	560	
256+11	258+38	HWY. 82 LT.	228	
262+80	264+55	HWY. 82 LT.	175	
282+83	284+02	HWY. 82 LT.	119	
286+07	286+67	HWY. 82 RT.	60	
305+20	305+43	HWY. 82 LT.	25	
309+19	312+69	HWY. 82 RT.	433	1
342+40	343+89	HWY. 82 RT.	150	1
359+61	360+38	HWY. 82 LT.	52	
367+00	371+53	HWY. 82 RT.	461	
388+10	389+65	HWY. 82 RT.	156	
399+25	399+85	HWY. 82 RT.	60	
417+24	417+40	HWY. 82 RT.	26	
TOTALS:			**7932**	**8**

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
105+00.00	105+72.59	HWY. 82 RT.	72.59	6.50	52.43	32.26	0.41
105+00.00	106+57.77	HWY. 82 LT.	157.77	6.50	113.95	70.12	0.88
105+89.86	108+00.00	HWY. 82 RT.	210.14	6.50	151.77	93.40	1.18
106+74.44	108+00.00	HWY. 82 LT.	125.56	6.50	90.68	55.80	0.70
171+75.20	173+50.00	HWY. 82 RT.	174.80	6.50	126.24	77.69	0.98
171+75.44	174+00.00	HWY. 82 LT.	224.56	6.50	162.18	99.80	1.26
178+00.00	179+15.47	HWY. 82 RT.	115.47	6.50	83.40	51.32	0.65
210+85.74	217+00.00	HWY. 82 LT.	614.26	6.50	443.63	273.00	3.44
210+87.71	213+00.00	HWY. 82 RT.	212.29	6.50	153.32	94.35	1.19
214+50.00	217+25.00	HWY. 82 RT.	275.00	6.50	198.61	122.22	1.54
277+00.00	280+02.58	HWY. 82 RT.	302.58	6.50	218.53	134.48	1.69
278+00.00	280+01.72	HWY. 82 LT.	201.72	6.50	145.69	89.65	1.13
317+35.00	318+50.00	HWY. 82 LT.	115.00	6.50	83.06	51.11	0.64
317+35.00	320+00.00	HWY. 82 RT.	265.00	6.50	191.39	117.78	1.48
350+00.00	352+20.20	HWY. 82 LT.	220.20	6.50	159.03	97.87	1.23
350+00.00	352+21.39	HWY. 82 RT.	221.39	6.50	159.89	98.40	1.24
352+34.82	354+00.00	HWY. 82 RT.	165.18	6.50	119.30	73.41	0.92
352+35.94	354+00.00	HWY. 82 RT.	164.06	6.50	118.49	72.92	0.92
355+25.00	356+55.00	HWY. 82 RT.	130.00	6.50	93.89	57.78	0.73
371+60.00	373+00.00	HWY. 82 LT.	140.00	6.50	101.11	62.22	0.78
383+00.00	386+00.00	HWY. 82 LT.	300.00	6.50	216.67	133.33	1.68
383+00.00	384+55.85	HWY. 82 RT.	155.85	6.50	112.56	69.27	0.87
395+52.10	397+00.00	HWY. 82 LT.	147.90	6.50	106.82	65.73	0.83
404+00.00	407+50.00	HWY. 82 RT.	350.00	6.50	252.78	155.56	1.96
TOTALS:					**3655.42**	**2249.47**	**28.33**

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
97+23	420+60	HWY. 82 LT. & RT.	324	324
TOTALS:			**324**	**324**

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	1860
ENGINEER	
TOTAL:	**1860**

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

2/28/2019

RI10574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	77	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 12 2020 10:22 AM
DocuSign

CONCRETE WALKS (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ.YD.
282+00	282+46	LT. OF HWY. 82	46	26
282+90	300+64	LT. OF HWY. 82	1774	986
301+12	309+18	LT. OF HWY. 82	806	448
309+62	317+55	LT. OF HWY. 82	793	441
317+99	319+53	LT. OF HWY. 82	154	86
320+05	320+43	LT. OF HWY. 82	38	21
320+87	324+33	LT. OF HWY. 82	346	192
324+77	325+91	LT. OF HWY. 82	114	63
326+72	327+26	LT. OF HWY. 82	54	30
328+12	330+20	LT. OF HWY. 82	208	116
330+64	331+73	LT. OF HWY. 82	109	61
332+17	333+84	LT. OF HWY. 82	167	93
334+28	336+82	LT. OF HWY. 82	254	141
337+28	338+18	LT. OF HWY. 82	90	50
338+62	339+28	LT. OF HWY. 82	66	37
339+72	339+86	LT. OF HWY. 82	14	8
340+30	340+54	LT. OF HWY. 82	24	13
341+06	341+88	LT. OF HWY. 82	82	46
342+32	344+56	LT. OF HWY. 82	224	124
345+08	345+87	LT. OF HWY. 82	79	44
346+39	346+68	LT. OF HWY. 82	29	16
347+20	347+71	LT. OF HWY. 82	51	28
348+23	348+30	LT. OF HWY. 82	7	4
348+78	350+17	LT. OF HWY. 82	139	77
350+61	351+68	LT. OF HWY. 82	107	59
352+12	353+15	LT. OF HWY. 82	103	57
353+59	356+31	LT. OF HWY. 82	272	151
356+75	358+13	LT. OF HWY. 82	138	77
358+57	359+98	LT. OF HWY. 82	141	78
360+44	361+10	LT. OF HWY. 82	66	37
361+54	371+75	LT. OF HWY. 82	1021	567
372+35	376+60	LT. OF HWY. 82	425	236
377+28	379+55	LT. OF HWY. 82	227	126
380+23	383+60	LT. OF HWY. 82	337	187
384+04	385+52	LT. OF HWY. 82	148	82
385+96	387+87	LT. OF HWY. 82	191	106
388+31	389+21	LT. OF HWY. 82	90	50
389+65	389+71	LT. OF HWY. 82	6	3
390+21	391+75	LT. OF HWY. 82	154	86
392+27	394+38	LT. OF HWY. 82	211	117
394+88	395+04	LT. OF HWY. 82	16	9
395+48	396+37	LT. OF HWY. 82	89	49
397+25	398+59	LT. OF HWY. 82	134	74
399+03	399+12	LT. OF HWY. 82	9	5
399+68	400+14	LT. OF HWY. 82	46	26
400+66	401+22	LT. OF HWY. 82	56	31
401+72	402+16	LT. OF HWY. 82	44	24
402+64	404+62	LT. OF HWY. 82	198	110
405+06	406+54	LT. OF HWY. 82	148	82
407+02	408+55	LT. OF HWY. 82	153	85
408+99	410+88	LT. OF HWY. 82	189	105
411+32	415+07	LT. OF HWY. 82	375	208
415+51	416+09	LT. OF HWY. 82	58	32
416+67	417+85	LT. OF HWY. 82	118	66
418+53	420+60	LT. OF HWY. 82	207	115
SUBTOTAL (BOX 1 OF 2):				6191

CONCRETE WALKS (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ. YD.
308+28	310+24	RT. OF HWY. 82	196	109
310+68	313+28	RT. OF HWY. 82	260	144
313+76	321+76	RT. OF HWY. 82	800	444
322+24	322+41	RT. OF HWY. 82	17	9
322+85	325+01	RT. OF HWY. 82	216	120
325+81	327+09	RT. OF HWY. 82	128	71
327+53	327+93	RT. OF HWY. 82	40	22
328+37	332+32	RT. OF HWY. 82	395	219
332+76	334+35	RT. OF HWY. 82	159	88
334+79	335+33	RT. OF HWY. 82	54	30
335+85	338+07	RT. OF HWY. 82	222	123
338+67	341+99	RT. OF HWY. 82	332	184
342+51	343+44	RT. OF HWY. 82	93	52
343+90	345+25	RT. OF HWY. 82	135	75
345+71	346+82	RT. OF HWY. 82	111	62
347+26	347+82	RT. OF HWY. 82	56	31
348+26	348+88	RT. OF HWY. 82	62	34
349+32	350+38	RT. OF HWY. 82	106	59
351+21	353+31	RT. OF HWY. 82	210	117
353+75	355+39	RT. OF HWY. 82	164	91
355+83	356+20	RT. OF HWY. 82	37	21
356+64	357+32	RT. OF HWY. 82	68	38
357+76	359+63	RT. OF HWY. 82	187	104
360+07	360+09	RT. OF HWY. 82	2	1
360+53	361+03	RT. OF HWY. 82	50	28
361+47	363+13	RT. OF HWY. 82	166	92
363+57	365+62	RT. OF HWY. 82	205	114
366+06	371+51	RT. OF HWY. 82	545	303
371+99	372+06	RT. OF HWY. 82	7	4
372+74	372+94	RT. OF HWY. 82	20	11
373+46	373+73	RT. OF HWY. 82	27	15
374+17	374+20	RT. OF HWY. 82	3	2
374+64	375+40	RT. OF HWY. 82	76	42
376+23	377+03	RT. OF HWY. 82	80	44
377+47	379+22	RT. OF HWY. 82	175	97
379+66	379+70	RT. OF HWY. 82	4	2
380+14	380+62	RT. OF HWY. 82	48	27
381+06	381+49	RT. OF HWY. 82	43	24
381+93	383+39	RT. OF HWY. 82	146	81
383+83	387+04	RT. OF HWY. 82	321	178
387+48	389+61	RT. OF HWY. 82	213	118
390+05	390+18	RT. OF HWY. 82	13	7
390+62	391+91	RT. OF HWY. 82	129	72
392+43	393+38	RT. OF HWY. 82	95	53
393+82	397+46	RT. OF HWY. 82	364	202
397+90	400+03	RT. OF HWY. 82	213	118
400+47	400+68	RT. OF HWY. 82	21	12
401+12	404+20	RT. OF HWY. 82	308	171
404+78	407+33	RT. OF HWY. 82	255	142
407+91	412+96	RT. OF HWY. 82	505	281
413+40	413+81	RT. OF HWY. 82	41	23
414+25	414+77	RT. OF HWY. 82	52	29
415+29	416+04	RT. OF HWY. 82	75	42
416+56	416+74	RT. OF HWY. 82	18	10
417+30	417+31	RT. OF HWY. 82	1	1
417+75	419+49	RT. OF HWY. 82	174	97
419+93	420+60	RT. OF HWY. 82	67	37
SUBTOTAL (BOX 2 OF 2):				4727
SUBTOTAL (BOX 1 OF 2):				6191
TOTAL:				10918

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	WIRE FENCE (TYPE D-1)	* 4' CHAIN LINK FENCE	* 5' CHAIN LINK FENCE	* 16'-0" GATES
			LIN. FT.					EACH
99+75	104+15	HWY. 82 RT.		448				1
132+30	143+61	HWY. 82 RT.		1140				1
136+35	137+70	HWY. 82 LT.			187			
143+61	148+56	HWY. 82 RT.		498				
143+88	150+13	HWY. 82 LT.		650				
150+42	152+03	HWY. 82 LT.			213			
184+95	190+95	HWY. 82 RT.	488					2
203+09	203+70	HWY. 82 RT.	71					
204+06	206+34	HWY. 82 RT.				316		1
206+34	207+66	HWY. 82 RT.		155				
208+05	209+48	HWY. 82 RT.		173				
210+24	214+63	HWY. 82 RT.		440				
211+37	213+90	HWY. 82 LT.			293			
214+63	216+30	HWY. 82 RT.			169			
219+61	223+16	HWY. 82 LT.					362	1
233+14	234+69	HWY. 82 RT.				155		
247+16	248+80	HWY. 82 RT.				171		1
248+80	254+40	HWY. 82 RT.		560				
256+11	258+38	HWY. 82 LT.					227	1
262+80	264+55	HWY. 82 RT.	157					
282+83	284+02	HWY. 82 LT.					126	
286+07	286+67	HWY. 82 RT.		53				
305+20	305+43	HWY. 82 LT.					24	
309+18	312+69	HWY. 82 RT.				432		1
342+40	343+89	HWY. 82 RT.				157		
359+61	360+12	HWY. 82 LT.					74	
367+00	371+53	HWY. 82 RT.	416					
388+10	389+65	HWY. 82 RT.		114				
399+25	399+85	HWY. 82 RT.				59		
417+24	417+40	HWY. 82 RT.				10		
TOTALS:			1132	4231	862	1300	813	9

* DENOTES ALTERNATE BID ITEM.

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")	SOLID SODDING	WATER
			LIN. FT.	SQ. YD.	M. GAL.
282+00	300+78	LT. OF HWY. 82	1878	626.00	7.89
300+98	335+46	LT. OF HWY. 82	3448	1149.33	14.48
335+70	371+87	LT. OF HWY. 82	3617	1205.67	15.19
372+21	417+97	LT. OF HWY. 82	4576	1525.33	19.22
418+39	420+60	LT. OF HWY. 82	221	73.67	0.93
282+00	293+06	RT. OF HWY. 82	1106	368.67	4.65
293+32	321+90	RT. OF HWY. 82	2858	952.67	12.00
322+12	335+48	RT. OF HWY. 82	1336	445.33	5.61
335+74	371+64	RT. OF HWY. 82	3590	1196.67	15.08
371+86	420+60	RT. OF HWY. 82	4874	1624.67	20.47
TOTALS:			27504	9168.01	115.52

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	PORTLAND CEMENT CONCRETE BASE AVG. WID.	8" U.T.	7.5" U.T.
			FEET	FEET	SQ. YD.	SQ. YD.
282+00.00	289+43.00	LT. OF MAIN LANES	743.00	VAR.	183.53	389.92
296+21.00	314+66.00	LT. OF MAIN LANES	1845.00	VAR.	447.01	959.51
413+78.00	418+38.00	LT. OF MAIN LANES	460.00	VAR.	168.98	296.76
416+45.00	420+60.00	RT. OF MAIN LANES	415.00	VAR.	187.93	303.21
TOTALS:					987.45	1949.40

2/28/2019

RI10574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	77A	331

(2) QUANTITIES

STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No. 11425 TRINITY D. SMITH

Trinity Smith

Jul 31 2020 12:03 PM

DocuSign

DRIVEWAYS & TURNOUTS (BOX 1 OF 2)

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS				STANDARD DRAWINGS
										18"	24"	21"X15"	28"X20"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.				
100+91	RT.	HWY. 82	16				73.30	8.06	29.93	34				PCC-1, PCM-1, PCP-1, PCP-2
107+08	RT.	HWY. 82	20				188.06	20.69	76.79		72			PCC-1, PCM-1, PCP-1, PCP-2
109+45	RT.	HWY. 82	16				141.37	15.55	57.73		46			PCC-1, PCM-1, PCP-1, PCP-2
112+55	RT.	HWY. 82	28				231.85	25.50	94.67	50				PCC-1, PCM-1, PCP-1, PCP-2
117+38	LT.	HWY. 82	16				70.05	7.71	28.60	28				PCC-1, PCM-1, PCP-1, PCP-2
118+49	LT.	HWY. 82	16				70.06	7.71	28.61	32				PCC-1, PCM-1, PCP-1, PCP-2
118+49	RT.	HWY. 82	20				110.53	12.16	45.13	42				PCC-1, PCM-1, PCP-1, PCP-2
121+63	LT.	HWY. 82	16				70.06	7.71	28.61	32				PCC-1, PCM-1, PCP-1, PCP-2
122+05	RT.	HWY. 82	20				31.94	3.51	13.04	25				PCC-1, PCM-1, PCP-1, PCP-2
126+06	LT.	HWY. 82	16				70.06	7.71	28.61	32				PCC-1, PCM-1, PCP-1, PCP-2
126+10	RT.	HWY. 82	16				70.06	7.71	28.61		32			PCC-1, PCM-1, PCP-1, PCP-2
129+05	LT.	HWY. 82	16				96.91	10.66	39.57	36				PCC-1, PCM-1, PCP-1, PCP-2
129+33	RT.	HWY. 82	16				70.70	7.78	28.87		30			PCC-1, PCM-1, PCP-1, PCP-2
132+53	RT.	HWY. 82	16				76.96	8.47	31.43	32				PCC-1, PCM-1, PCP-1, PCP-2
133+93	LT.	HWY. 82	16				74.10	8.15	30.26	34				PCC-1, PCM-1, PCP-1, PCP-2
135+89	LT.	HWY. 82	16				74.29	8.17	30.34	34				PCC-1, PCM-1, PCP-1, PCP-2
138+14	LT.	HWY. 82	16				84.41	9.29	34.47	32				PCC-1, PCM-1, PCP-1, PCP-2
141+17	LT.	HWY. 82	16				74.53	8.20	30.43			28		PCC-1, PCM-1, PCP-3
143+43	LT.	HWY. 82	16				64.29	7.07	26.25					
150+28	LT.	HWY. 82	16				79.02	8.69	32.27	30				PCC-1, PCM-1, PCP-1, PCP-2
151+88	RT.	HWY. 82	20				160.44	17.65	65.51		42			PCC-1, PCM-1, PCP-1, PCP-2
152+04	LT.	HWY. 82	16				105.69	11.63	43.16	34				PCC-1, PCM-1, PCP-1, PCP-2
154+50	LT.	HWY. 82	20				97.85	10.76	39.96	34				PCC-1, PCM-1, PCP-1, PCP-2
156+15	LT.	HWY. 82	16				68.02	7.48	27.77			28		PCC-1, PCM-1, PCP-3
158+28	LT.	HWY. 82	16				65.87	7.25	26.90	28				PCC-1, PCM-1, PCP-1, PCP-2
159+60	LT.	HWY. 82	16				67.65	7.44	27.62	17				PCC-1, PCM-1, PCP-1, PCP-2
163+39	LT.	HWY. 82	16				70.17	7.72	28.65				28	PCC-1, PCM-1, PCP-3
173+26	LT.	HWY. 82	16				96.68	10.63	39.48	44				PCC-1, PCM-1, PCP-1, PCP-2
176+47	LT.	HWY. 82	16				79.24	8.72	32.36	38				PCC-1, PCM-1, PCP-1, PCP-2
176+71	RT.	HWY. 82	16				67.27	7.40	27.47					
179+77	LT.	HWY. 82	20				118.79	13.07	48.51		48			PCC-1, PCM-1, PCP-1, PCP-2
180+78	RT.	HWY. 82	16				105.62	11.62	43.13	38				PCC-1, PCM-1, PCP-1, PCP-2
183+75	LT.	HWY. 82	40				236.77	26.04	96.68	56				PCC-1, PCM-1, PCP-1, PCP-2
184+80	RT.	HWY. 82	16				65.37	7.19	26.69	28				PCC-1, PCM-1, PCP-1, PCP-2
186+45	RT.	HWY. 82	16				49.28	5.42	20.12					
186+55	LT.	HWY. 82	40				161.66	17.78	66.01	56				PCC-1, PCM-1, PCP-1, PCP-2
187+50	LT.	HWY. 82	16				49.23	5.42	20.10			28		PCC-1, PCM-1, PCP-3
190+21	LT.	HWY. 82	16				78.95	8.68	32.24	32				PCC-1, PCM-1, PCP-1, PCP-2
190+85	RT.	HWY. 82	16				150.17	16.52	61.32		46			PCC-1, PCM-1, PCP-1, PCP-2
199+62	LT.	HWY. 82	16				132.29	14.55	54.02	44				PCC-1, PCM-1, PCP-1, PCP-2
201+40	LT.	HWY. 82	16				106.21	11.68	43.37		32			PCC-1, PCM-1, PCP-1, PCP-2
201+75	LT.	HWY. 82	16				96.84	10.65	39.54		32			PCC-1, PCM-1, PCP-1, PCP-2
203+99	RT.	HWY. 82	16				194.38	21.38	79.37	38				PCC-1, PCM-1, PCP-1, PCP-2
204+25	LT.	HWY. 82	16				132.41	14.57	54.07	30				PCC-1, PCM-1, PCP-1, PCP-2
204+76	RT.	HWY. 82	16				221.05	24.32	90.26					
205+55	LT.	HWY. 82	16				202.35	22.26	82.63	46				PCC-1, PCM-1, PCP-1, PCP-2
207+82	RT.	HWY. 82	16				114.51	12.60	46.76	34				PCC-1, PCM-1, PCP-1, PCP-2
209+31	LT.	HWY. 82	16				141.17	15.53	57.64	46				PCC-1, PCM-1, PCP-1, PCP-2
209+55	RT.	HWY. 82	16				104.34	11.48	42.61	40				PCC-1, PCM-1, PCP-1, PCP-2
210+14	RT.	HWY. 82	16				122.47	13.47	50.01	50				PCC-1, PCM-1, PCP-1, PCP-2
214+26	LT.	HWY. 82	16				61.17	6.73	24.98			28		PCC-1, PCM-1, PCP-3
215+65	LT.	HWY. 82	16				78.95	8.68	32.24				28	PCC-1, PCM-1, PCP-3
215+75	RT.	HWY. 82	16				70.06	7.71	28.61	28				PCC-1, PCM-1, PCP-1, PCP-2
216+88	RT.	HWY. 82	16				78.95	8.68	32.24	28				PCC-1, PCM-1, PCP-1, PCP-2
217+90	RT.	HWY. 82	16				69.53	7.65	28.39			28		PCC-1, PCM-1, PCP-3
218+85	RT.	HWY. 82	16				60.84	6.69	24.84			28		PCC-1, PCM-1, PCP-3
219+29	LT.	HWY. 82	16				69.73	7.67	28.47	28				PCC-1, PCM-1, PCP-1, PCP-2
221+05	LT.	HWY. 82	16				67.82	7.46	27.69			28		PCC-1, PCM-1, PCP-3
222+98	RT.	HWY. 82	20				139.66	15.36	57.03					
224+19	LT.	HWY. 82	16				62.21	6.84	25.40			28		PCC-1, PCM-1, PCP-3
224+37	RT.	HWY. 82	16				70.06	7.71	28.61			28		PCC-1, PCM-1, PCP-3
225+94	RT.	HWY. 82	16				61.30	6.74	25.03			28		PCC-1, PCM-1, PCP-3
226+54	RT.	HWY. 82	16				61.17	6.73	24.98			28		PCC-1, PCM-1, PCP-3
229+52	RT.	HWY. 82	16				61.17	6.73	24.98			28		PCC-1, PCM-1, PCP-3
230+23	RT.	HWY. 82	16				61.17	6.73	24.98				28	PCC-1, PCM-1, PCP-3
230+96	RT.	HWY. 82	16				61.17	6.73	24.98				28	PCC-1, PCM-1, PCP-3
231+91	RT.	HWY. 82	16				63.50	6.99	25.93				28	PCC-1, PCM-1, PCP-3
232+99	RT.	HWY. 82	16				69.73	7.67	28.47		30			PCC-1, PCM-1, PCP-1, PCP-2
234+76	RT.	HWY. 82	16				70.06	7.71	28.61		28			PCC-1, PCM-1, PCP-1, PCP-2
236+83	LT.	HWY. 82	18				78.40	8.62	32.01					
237+77	RT.	HWY. 82	16				77.80	8.56	31.77					
238+22	RT.	HWY. 82	16				77.46	8.52	31.63	32				PCC-1, PCM-1, PCP-1, PCP-2
238+80	RT.	HWY. 82	16				71.15	7.83	29.05		28			PCC-1, PCM-1, PCP-1, PCP-2
239+82	LT.	HWY. 82	16				70.06	7.71	28.61	32				PCC-1, PCM-1, PCP-1, PCP-2
240+65	RT.	HWY. 82	20				85.07	9.36	34.74		32			PCC-1, PCM-1, PCP-1, PCP-2
241+24	RT.	HWY. 82	16				73.39	8.07	29.97		30			PCC-1, PCM-1, PCP-1, PCP-2
242+75	RT.	HWY. 82	16				86.13	9.47	35.17	38				PCC-1, PCM-1, PCP-1, PCP-2
244+56	LT.	HWY. 82	16				87.84	9.66	35.87		32			PCC-1, PCM-1, PCP-1, PCP-2
246+00	LT.	HWY. 82	16				87.84	9.66	35.87		32			PCC-1, PCM-1, PCP-1, PCP-2
246+89	RT.	HWY. 82	16				63.27	6.96	25.84				28	PCC-1, PCM-1, PCP-3
247+74	RT.	HWY. 82	16				63.81	7.02	26.06	30				PCC-1, PCM-1, PCP-1, PCP-2
248+13	LT.	HWY. 82	16				71.88	7.91	29.35	32				PCC-1, PCM-1, PCP-1, PCP-2
249+43	LT.	HWY. 82	16				70.06	7.71	28.61	32				PCC-1, PCM-1, PCP-1, PCP-2
250+48	LT.	HWY. 82	16				72.11	7.93	29.44	32				PCC-1, PCM-1, PCP-1, PCP-2
252+95	LT.	HWY. 82	16				77.62	8.54	31.69	32				PCC-1, PCM-1, PCP-1, PCP-2
255+69	RT.	HWY. 82	16				79.50	8.75	32.46	32				PCC-1, PCM-1, PCP-1, PCP-2
255+94	LT.	HWY. 82	16				77.62	8.54	31.69			28		PCC-1, PCM-1, PCP-3
257+42	LT.	HWY. 82	18				72.50	7.98	29.60			28		PCC-1, PCM-1, PCP-3
258+98	LT.	HWY. 82	16				61.41	6.76	25.08			28		PCC-1, PCM-1, PCP-3
261+41	LT.	HWY. 82	16				75.31	8.28	30.75	32				PCC-1, PCM-1, PCP-1, PCP-2
261+88	LT.	HWY. 82	16				77.16	8.49	31.51	32				PCC-1, PCM-1, PCP-1, PCP-2
264+29	RT.	HWY. 82	18				71.68	7.88	29.27			28		PCC-1, PCM-1, PCP-3
265+86	LT.	HWY. 82	16				78.37	8.62	32.00					
266+07	RT.	HWY. 82	24				134.26	14.77	54.82	36				PCC-1, PCM-1, PCP-1, PCP-2
273+32	RT.	HWY. 82	20				99.05	10.90	40.45	28				PCC-1, PCM-1, PCP-1, PCP-2
282+68	LT.	HWY. 82	16	282+46	282+90	120.51				40				PCC-1, PCM-1, PCP-1, PCP-2
283+63	RT.	HWY. 82	16	283+41	283+85	75.22								
285+84	RT.	HWY. 82	16	285+62	286+06	64.25								
286+75	RT.	HWY. 82	16	286+53	286+97	62.13								
291+21	RT.	HWY. 82	16	290+99	291+43	87.98								
297+66	RT.	HWY. 82	16	297+44	297+88	70.22								
299+00	RT.	HWY. 82	16	298+78	299+22	70.22								
300+88	LT.	HWY. 82	20	300+64	301+12		69.34	7.63	28.31					
300+91	RT.	HWY. 82	16	300+69	301+13	61.31								
305+01	RT.	HWY. 82	16	304+79	305+23	215.96				52				PCC-1, PCM-1, PCP-1, PCP-2
308+06	RT.	HWY. 82	16	307+84	308+28	96.89								
309+40	LT.	HWY. 82	16	309+18	309+62	103.82								
310+46	RT.	HWY. 82	16	310+24	310+68	88.00								
313+52	RT.	HWY. 82	20	313+28	313+76	167.83					60			PCC-1, PCM-1, PCP-1, PCP-2
317+77	LT.	HWY. 82	16	317+55	317+99		186.20	20.48	76.03	64				PCC-1, PCM-1, PCP-1, PCP-2
319+79	LT.	HWY. 82	24	319+53	320+05	105.85								
320+65	LT.	HWY. 82	16	320+43	320+87	78.93								
SUBTOTALS (BOX 1 OF 2):						**1469.12**	**8919.83**	**981.23**	**3642.29**	**1866**	**652**	**448**	**168**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2")....................94.8% MIN. AGGR..................5.2% 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

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.

DRIVEWAYS & TURNOUTS (BOX 2 OF 2)

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS				STANDARD DRAWINGS
										18"	24"	21"X15"	28"X20"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.				
322+00	RT.	HWY. 82	20	321+76	322+24		69.43	7.64	28.35					
322+63	RT.	HWY. 82	16	322+41	322+85		210.17	23.12	85.82					
324+55	LT.	HWY. 82	16	324+33	324+77	79.36								
325+23	RT.	HWY. 82	16	325+01	325+45	78.75								
325+59	RT.	HWY. 82	16	325+37	325+81	78.72								
326+13	LT.	HWY. 82	16	325+91	326+35	79.52								
326+50	LT.	HWY. 82	16	326+28	326+72	79.55								
327+31	RT.	HWY. 82	16	327+09	327+53	78.47								
327+48	LT.	HWY. 82	16	327+26	327+70	79.66								
327+90	LT.	HWY. 82	16	327+68	328+12	79.71								
328+15	RT.	HWY. 82	16	327+93	328+37	78.42						28		PCC-1, PCM-1, PCP-3
330+42	LT.	HWY. 82	16	330+20	330+64	80.35								
331+95	LT.	HWY. 82	16	331+73	332+17	80.82								
332+54	RT.	HWY. 82	16	332+32	332+76	77.19								
334+06	LT.	HWY. 82	16	333+84	334+28	81.33								
334+57	RT.	HWY. 82	16	334+35	334+79	76.99								
335+59	RT.	HWY. 82	24	335+33	335+85		105.05	11.56	42.90					
337+05	LT.	HWY. 82	18	336+82	337+28	135.87								
338+37	RT.	HWY. 82	32	338+07	338+67	186.66								
338+40	LT.	HWY. 82	16	338+18	338+62	78.74								
339+50	LT.	HWY. 82	16	339+28	339+72	78.47								
340+08	LT.	HWY. 82	16	339+86	340+30	79.18								
340+80	LT.	HWY. 82	24	340+54	341+06	124.67								
342+10	LT.	HWY. 82	16	341+88	342+32	109.83				44				PCC-1, PCM-1, PCP-1, PCP-2
342+25	RT.	HWY. 82	24	341+99	342+51	118.86								
343+67	RT.	HWY. 82	18	343+44	343+90	115.87						28		PCC-1, PCM-1, PCP-3
344+82	LT.	HWY. 82	24	344+56	345+08	107.58								
345+48	RT.	HWY. 82	18	345+25	345+71	84.69								
346+13	LT.	HWY. 82	24	345+87	346+39	107.58								
346+94	LT.	HWY. 82	24	346+68	347+20	108.19								
347+04	RT.	HWY. 82	16	346+82	347+26	96.28				30				PCC-1, PCM-1, PCP-1, PCP-2
347+97	LT.	HWY. 82	24	347+71	348+23	108.43						28		PCC-1, PCM-1, PCP-3
348+04	RT.	HWY. 82	16	347+82	348+26	96.66				30				PCC-1, PCM-1, PCP-1, PCP-2
348+54	LT.	HWY. 82	20	348+30	348+78		71.18	7.83	29.07			50		PCC-1, PCM-1, PCP-3
349+10	RT.	HWY. 82	16	348+88	349+32	90.81				32				PCC-1, PCM-1, PCP-1, PCP-2
350+39	LT.	HWY. 82	16	350+17	350+61	86.38				30				PCC-1, PCM-1, PCP-1, PCP-2
350+60	RT.	HWY. 82	16	350+38	350+82	96.92						28		PCC-1, PCM-1, PCP-3
350+99	RT.	HWY. 82	16	350+77	351+21	114.77				28				PCC-1, PCM-1, PCP-1, PCP-2
351+90	LT.	HWY. 82	16	351+68	352+12	150.99					66			PCC-1, PCM-1, PCP-1, PCP-2
353+37	LT.	HWY. 82	16	353+15	353+59	132.44					40			PCC-1, PCM-1, PCP-1, PCP-2
353+53	RT.	HWY. 82	16	353+31	353+75	132.43					48			PCC-1, PCM-1, PCP-1, PCP-2
355+61	RT.	HWY. 82	16	355+39	355+83	105.63				42				PCC-1, PCM-1, PCP-1, PCP-2
356+42	RT.	HWY. 82	16	356+20	356+64	92.57				36				PCC-1, PCM-1, PCP-1, PCP-2
356+53	LT.	HWY. 82	16	356+31	356+75	78.03								
357+54	RT.	HWY. 82	16	357+32	357+76	80.62								
358+35	LT.	HWY. 82	16	358+13	358+57	77.31								
359+85	RT.	HWY. 82	16	359+63	360+07	80.82								
360+21	LT.	HWY. 82	18	359+98	360+44	106.77				30				PCC-1, PCM-1, PCP-1, PCP-2
360+31	RT.	HWY. 82	16	360+09	360+53	80.82								
361+25	RT.	HWY. 82	16	361+03	361+47	80.76								
361+32	LT.	HWY. 82	16	361+10	361+54	114.67								
363+35	RT.	HWY. 82	16	363+13	363+57	80.51								
365+84	RT.	HWY. 82	16	365+62	366+06	105.76								
371+75	RT.	HWY. 82	20	371+51	371+99		113.78	12.52	46.46					
372+05	LT.	HWY. 82	32	371+75	372+35		96.00	10.56	39.20					
372+40	RT.	HWY. 82	40	372+06	372+74	161.86								
373+20	RT.	HWY. 82	24	372+94	373+46	106.97								
373+95	RT.	HWY. 82	16	373+73	374+17	79.61								
374+42	RT.	HWY. 82	16	374+20	374+64	79.48								
375+66	RT.	HWY. 82	25	375+40	375+93	110.00								
376+01	RT.	HWY. 82	16	375+79	376+23	79.20								
376+94	LT.	HWY. 82	40	376+60	377+28	160.00								
377+25	RT.	HWY. 82	16	377+03	377+47	79.20								
379+44	RT.	HWY. 82	16	379+22	379+66	79.09								
379+89	LT.	HWY. 82	40	379+55	380+23	160.44								
379+92	RT.	HWY. 82	16	379+70	380+14	79.09								
380+84	RT.	HWY. 82	16	380+62	381+06	79.06								
381+71	RT.	HWY. 82	16	381+49	381+93	87.98								
383+61	RT.	HWY. 82	16	383+39	383+83	132.43				48				PCC-1, PCM-1, PCP-1, PCP-2
383+82	LT.	HWY. 82	16	383+60	384+04	91.91				36				PCC-1, PCM-1, PCP-1, PCP-2
385+74	LT.	HWY. 82	16	385+52	385+96	83.50				28				PCC-1, PCM-1, PCP-1, PCP-2
387+26	RT.	HWY. 82	16	387+04	387+48	168.00								
388+09	LT.	HWY. 82	16	387+87	388+31	185.76								
389+43	LT.	HWY. 82	16	389+21	389+65	79.25								
389+83	RT.	HWY. 82	16	389+61	390+05	78.91								
389+96	LT.	HWY. 82	22	389+71	390+21	99.66								
390+40	RT.	HWY. 82	16	390+18	390+62	96.87								
392+01	LT.	HWY. 82	24	391+75	392+27	106.49								
392+17	RT.	HWY. 82	24	391+91	392+43	105.90								
393+60	RT.	HWY. 82	16	393+38	393+82	78.68								
394+63	LT.	HWY. 82	22	394+38	394+88	147.62				50				PCC-1, PCM-1, PCP-1, PCP-2
395+26	LT.	HWY. 82	16	395+04	395+48	122.06					50			PCC-1, PCM-1, PCP-1, PCP-2
396+59	LT.	HWY. 82	16	396+37	396+81	83.45					30			PCC-1, PCM-1, PCP-1, PCP-2
397+03	LT.	HWY. 82	16	396+81	397+25	133.23								
397+68	RT.	HWY. 82	16	397+46	397+90	77.99								
398+81	LT.	HWY. 82	16	398+59	399+03	126.01								
399+40	LT.	HWY. 82	28	399+12	399+68	121.99						38		PCC-1, PCM-1, PCP-3
400+25	RT.	HWY. 82	16	400+03	400+47	105.76						30		PCC-1, PCM-1, PCP-3
400+40	LT.	HWY. 82	24	400+14	400+66	107.82								
400+90	RT.	HWY. 82	16	400+68	401+12	96.87				32				PCC-1, PCM-1, PCP-1, PCP-2
401+47	LT.	HWY. 82	22	401+22	401+72	100.69								
402+40	LT.	HWY. 82	20	402+16	402+64	93.65								
404+49	RT.	HWY. 82	30	404+20	404+78	145.66				48				PCC-1, PCM-1, PCP-1, PCP-2
404+84	LT.	HWY. 82	16	404+62	405+06	79.52								
406+78	LT.	HWY. 82	20	406+54	407+02	92.87								
407+62	RT.	HWY. 82	30	407+33	407+91	126.49								
408+77	LT.	HWY. 82	16	408+55	408+99	79.07								
411+10	LT.	HWY. 82	16	410+88	411+32	115.50								
413+18	RT.	HWY. 82	16	412+96	413+40	150.20								
414+03	RT.	HWY. 82	16	413+81	414+25	164.62								
415+03	RT.	HWY. 82	24	414+77	415+29	106.51								
415+29	LT.	HWY. 82	16	415+07	415+51	78.93								
416+30	RT.	HWY. 82	24	416+04	416+56	106.25								
416+38	LT.	HWY. 82	30	416+09	416+67	126.46								
417+02	RT.	HWY. 82	28	416+74	417+30	119.69								
417+53	RT.	HWY. 82	16	417+31	417+75	132.43								
418+19	LT.	HWY. 82	40	417+85	418+53		136.08	14.97	55.57					
419+71	RT.	HWY. 82	16	419+49	419+93	83.22						28		PCC-1, PCM-1, PCP-3
* ENTIRE	PROJECT	TEMPORARY DRIVES							2200.00					
SUBTOTALS (BOX 2 OF 2):						**10409.31**	**801.69**	**88.20**	**2527.37**	**544**	**234**	**258**		
SUBTOTALS (BOX 1 OF 2):						**1469.12**	**8919.83**	**981.23**	**3642.29**	**1866**	**652**	**448**	**168**	
TOTALS:						**11878.43**	**9721.52**	**1069.43**	**6169.66**	**2410**	**886**	**706**	**168**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2")....................94.8% MIN. AGGR..................5.2% 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

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.

2/28/2019

R110574.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	78	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 12:03 PM
DocuSign

SOIL LOG (BOX 1 OF 2)

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
123+00	33	12	32.80	92	48	15.00	25' LT.	0-5	22	6	A-4(2)	BROWN
203+00	33	12	31.30	92	46	41.20	27' LT.	0-5	29	12	A-6(9)	BROWN
259+00	33	12	30.30	92	45	35.10	27' LT.	0-5	28	9	A-4(7)	BROWN
379+00	33	12	29.20	92	43	14.00	25' LT.	0-5	29	13	A-6(4)	BROWN
99+00	33	12	33.60	92	48	44.50	06' RT.	0-5	22	5	A-4(1)	BR/GR
99+00	33	12	33.60	92	48	44.50	15' RT.	0-5	ND	NP	A-4(0)	BR/GR
99+00	33	12	33.40	92	48	44.50	24' RT.	0-5	20	5	A-4(0)	BROWN
107+00	33	12	32.50	92	48	33.80	06' LT.	0-5	29	12	A-6(4)	BR/GR
107+00	33	12	32.50	92	48	33.80	15' LT.	0-5	20	5	A-4(0)	BR/GR
107+00	33	12	32.70	92	48	33.80	25' LT.	0-2Z	N/A	N/A	NO TEST	BROWN
115+00	33	12	31.80	92	48	24.50	18' RT.	0-5	18	4	A-4(0)	GRAY
115+00	33	12	31.70	92	48	24.50	27' RT.	0-5	22	6	A-4(1)	BR/GR
115+00	33	12	31.60	92	48	24.50	37' RT.	0-5	22	5	A-4(1)	BROWN
123+00	33	12	32.40	92	48	15.00	06' LT.	0-5	25	8	A-4(4)	BR/GR
123+00	33	12	32.60	92	48	15.00	15' LT.	0-5	22	7	A-4(1)	GRAY
123+00	33	12	32.80	92	48	15.00	25' LT.	0-5	28	11	A-6(6)	BROWN
131+00	33	12	32.30	92	48	5.60	18' RT.	0-5	25	8	A-4(2)	BR/GR
131+00	33	12	32.30	92	48	5.70	27' RT.	0-5	24	8	A-4(1)	BR/GR
131+00	33	12	32.20	92	48	5.70	37' RT.	0-5	24	8	A-4(1)	BROWN
139+00	33	12	32.00	92	47	56.10	06' LT.	0-5	21	5	A-4(1)	BROWN
139+00	33	12	32.10	92	47	56.10	15' LT.	0-5	19	4	A-4(0)	BROWN
139+00	33	12	32.20	92	47	56.10	25' LT.	0-5	26	9	A-4(4)	BROWN
147+00	33	12	31.40	92	47	46.70	18' RT.	0-5	28	9	A-4(2)	BR/GR
147+00	33	12	31.50	92	47	46.70	27' RT.	0-5	29	11	A-6(3)	BR/GR
147+00	33	12	31.40	92	47	46.70	36' RT.	0-5	28	11	A-6(4)	BROWN
155+00	33	12	31.70	92	47	37.30	06' LT.	0-5	ND	NP	A-4(0)	BROWN
155+00	33	12	31.80	92	47	37.30	15' LT.	0-5	ND	NP	A-4(0)	BR/GR
155+00	33	12	31.90	92	47	37.30	25' LT.	0-5	ND	NP	A-4(0)	BROWN
163+00	33	12	31.20	92	47	27.80	18' RT.	0-5	ND	NP	A-4(0)	BR/GR
163+00	33	12	31.10	92	47	27.90	27' RT.	0-5	18	2	A-4(0)	BR/GR
163+00	33	12	31.10	92	47	27.90	35' RT.	0-5	ND	NP	A-4(0)	BROWN
171+00	33	12	31.30	92	47	18.50	06' LT.	0-5	18	3	A-4(0)	GRAY
171+00	33	12	31.30	92	47	18.50	15' LT.	0-5	23	7	A-4(1)	GRAY
171+00	33	12	31.40	92	47	18.50	25' LT.	0-5	ND	NP	A-4(0)	BROWN
179+00	33	12	30.90	92	47	9.20	06' RT.	0-5	ND	NP	A-4(0)	BROWN
179+00	33	12	30.80	92	47	9.20	15' RT.	0-5	ND	NP	A-4(0)	BROWN
179+00	33	12	30.70	92	47	9.20	27' RT.	0-5	17	2	A-4(0)	BROWN
187+00	33	12	30.60	92	46	59.90	06' LT.	0-5	21	5	A-4(0)	BROWN
187+00	33	12	30.80	92	46	59.90	15' LT.	0-5	16	1	A-4(0)	BROWN
195+00	33	12	30.10	92	46	50.90	06' RT.	0-5	ND	NP	A-4(0)	GRAY
195+00	33	12	30.10	92	46	50.80	15' RT.	0-5	18	3	A-4(0)	GRAY
203+00	33	12	31.20	92	46	41.20	15' LT.	0-5	29	17	A-6(9)	BROWN
203+00	33	12	31.30	92	46	41.20	27' LT.	0-5	58	37	A-7-6(40)	BROWN
211+00	33	12	31.10	92	46	31.60	15' RT.	0-2Z	N/A	N/A	NO TEST	BROWN
211+00	33	12	31.00	92	46	31.70	27' RT.	0-5	ND	NP	A-4(0)	BROWN
219+00	33	12	31.10	92	46	22.10	06' LT.	0-5	23	5	A-4(0)	BR/RD
219+00	33	12	31.10	92	46	22.10	15' LT.	0-5	28	15	A-6(4)	BR/RD
219+00	33	12	31.20	92	46	22.20	27' LT.	0-5	25	7	A-4(2)	BROWN
227+00	33	12	30.80	92	46	12.70	06' RT.	0-5	26	10	A-4(5)	GRAY
227+00	33	12	30.80	92	46	12.70	15' RT.	0-5	21	5	A-4(1)	GRAY
227+00	33	12	30.70	92	46	12.70	27' RT.	0-5	29	15	A-6(9)	BR/GR
235+00	33	12	30.90	92	46	3.20	06' LT.	0-5	24	9	A-4(4)	BROWN
235+00	33	12	31.00	92	46	3.20	15' LT.	0-5	ND	NP	A-4(0)	BR/GR
235+00	33	12	31.10	92	46	3.20	27' LT.	0-5	26	9	A-4(5)	BROWN
243+00	33	12	30.60	92	45	54.00	06' RT.	0-5	24	7	A-4(2)	GRAY

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

SOIL LOG (BOX 2 OF 2)

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
243+00	33	12	30.50	92	45	53.90	15' RT.	0-5	ND	NP	A-4(0)	BR/GR
243+00	33	12	30.40	92	45	53.90	25' RT.	0-5	21	4	A-4(0)	BROWN
251+00	33	12	30.60	92	45	44.30	06' LT.	0-5	26	9	A-4(3)	RD/BR
251+00	33	12	30.80	92	45	44.40	15' LT.	0-5	31	14	A-6(6)	RD/BR
251+00	33	12	30.90	92	45	44.40	25' LT.	0-5	25	9	A-4(3)	BROWN
259+00	33	12	30.40	92	45	35.10	06' RT.	0-5	20	4	A-4(0)	BROWN
259+00	33	12	30.40	92	45	35.10	15' RT.	0-5	19	5	A-4(0)	BROWN
259+00	33	12	30.30	92	45	35.10	27' RT.	0-5	25	7	A-4(4)	BROWN
267+00	33	12	30.60	92	45	25.50	18' LT.	0-5	25	9	A-4(4)	BROWN
267+00	33	12	30.70	92	45	25.50	27' LT.	0-5	22	7	A-4(3)	BR/GR
267+00	33	12	30.80	92	45	25.50	38' LT.	0-5	23	6	A-4(2)	BR/GR
275+00	33	12	30.20	92	45	16.10	06' RT.	0-5	25	10	A-4(4)	BR/GR
275+00	33	12	30.20	92	45	16.10	15' RT.	0-5	ND	NP	A-4(0)	BROWN
275+00	33	12	30.10	92	45	16.00	25' RT.	0-5	21	2	A-4(0)	BROWN
283+00	33	12	30.30	92	45	7.00	06' LT.	0-5	26	7	A-4(3)	BR/GR
283+00	33	12	30.40	92	45	7.00	15' LT.	0-5	19	4	A-4(0)	BR/GR
283+00	33	12	30.50	92	45	7.00	27' LT.	0-5	22	4	A-4(0)	BR/GR
291+00	33	12	29.90	92	44	57.80	15' RT.	0-5	20	3	A-4(0)	BROWN
291+00	33	12	29.80	92	44	57.70	27' RT.	0-5	ND	NP	A-4(0)	BROWN
299+00	33	12	30.20	92	44	48.20	06' LT.	0-5	27	9	A-4(3)	BROWN
299+00	33	12	30.20	92	44	48.20	15' LT.	0-5	19	4	A-4(0)	BR/GR
299+00	33	12	30.30	92	44	48.20	25' LT.	0-5	25	7	A-4(1)	BROWN
307+00	33	12	29.80	92	44	38.50	15' RT.	0-5	21	5	A-4(0)	BR/GR
307+00	33	12	29.70	92	44	38.50	25' RT.	0-5	25	10	A-4(3)	BROWN
315+00	33	12	29.70	92	44	29.40	06' LT.	0-5	ND	NP	A-4(0)	BROWN
315+00	33	12	30.00	92	44	29.40	15' LT.	0-5	ND	NP	A-4(0)	BROWN
315+00	33	12	30.10	92	44	29.40	25' LT.	0-5	21	4	A-4(0)	BROWN
323+00	33	12	29.60	92	44	19.70	06' RT.	0-5	21	4	A-4(0)	BROWN
323+00	33	12	29.60	92	44	19.70	15' RT.	0-5	23	6	A-4(2)	BROWN
323+00	33	12	29.50	92	44	19.70	25' RT.	0-5	ND	NP	A-4(0)	BROWN
331+00	33	12	29.50	92	44	10.40	06' LT.	0-5	ND	NP	A-4(0)	BROWN
331+00	33	12	29.80	92	44	10.40	15' LT.	0-5	27	11	A-4(0)	BR/GR
340+00	33	12	29.30	92	43	59.80	15' RT.	0-5	22	5	A-4(0)	BROWN
340+00	33	12	29.20	92	43	59.80	25' RT.	0-5	ND	NP	A-4(0)	BROWN
347+00	33	12	29.40	92	43	50.80	06' LT.	0-5	33	18	A-6(10)	BR/GR
347+00	33	12	29.40	92	43	50.90	15' LT.	0-5	32	19	A-6(10)	BR/GR
355+00	33	12	28.90	92	43	42.20	06' RT.	0-3.5	ND	NP	A-4(0)	BROWN
355+00	33	12	28.90	92	43	42.20	15' RT.	0-5	ND	NP	A-4(0)	BROWN
363+00	33	12	28.90	92	43	32.70	06' LT.	0-5	21	4	A-2-4(0)	BROWN
363+00	33	12	29.10	92	43	32.70	15' LT.	0-5	18	1	A-2-4(0)	BR/GR
371+00	33	12	28.70	92	43	23.30	18' RT.	0-5	23	5	A-2-4(0)	BR/GR
371+00	33	12	28.70	92	43	23.40	27' RT.	0-5	17	2	A-4(0)	BR/GR
371+00	33	12	28.70	92	43	23.30	35' RT.	0-5	17	2	A-4(0)	BROWN
379+00	33	12	29.00	92	43	14.00	06' LT.	0-5	25	12	A-6(1)	BROWN
379+00	33	12	29.10	92	43	14.10	15' LT.	0-5	25	7	A-2-4(0)	BROWN
379+00	33	12	29.20	92	43	14.00	25' LT.	0-5	28	12	A-6(2)	BROWN
387+00	33	12	28.80	92	43	4.40	06' RT.	0-5	ND	NP	A-4(0)	BROWN
387+00	33	12	28.70	92	43	4.40	15' RT.	0-5	ND	NP	A-2-4(0)	BROWN
395+00	33	12	28.70	92	42	55.10	06' LT.	0-4Z	ND	NP	A-1-B(0)	BR/GR
395+00	33	12	29.00	92	42	55.10	15' LT.	0-5	ND	NP	A-4(0)	BROWN
403+00	33	12	28.70	92	42	45.50	06' RT.	0-4Z	ND	NP	A-2-4(0)	BROWN
403+00	33	12	28.70	92	42	45.50	15' RT.	0-5	ND	NP	A-4(0)	BR/GR
403+00	33	12	28.60	92	42	45.50	25' RT.	0-5	ND	NP	A-4(0)	BROWN

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

2/28/2019

R110574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	79	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Sep 12 2020 10:22 AM

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STRUCTURES (BOX 1 OF 2)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	(CLASS III) 24"	(CLASS III) 30"	(CLASS III) 66"	(CLASS V) 30"	SIDE DRAIN 12"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	66"	TEMPORARY CULVERTS 18"	DROP INLETS TYPE C	TYPE E	TYPE MO	TYPE ST	EXT. 4'	EXT. 8'	JUNCT. BOXES (TYPE E)	YARD DRAINS	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE ROADWAY	REINF. STEEL ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.								EACH				LIN. FT.	EACH								LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
	HWY. 82																														
106+25	EXTEND 5' X 5' R.C. BOX CULVERT																						5	5	76	48.64	5088	29	14	0.18	RCB-1, RCB-2, RCB-3, R-130X-0, W-X303-1, W-X30
115+25	EXTEND 24" R.C. PIPE CULVERT LT. & RT.		60							2																			16	0.20	PCC-1, FES-1, FES-2
132+01	EXTEND 24" R.C. PIPE CULVERT LT. & RT.		48							2																			16	0.20	PCC-1, FES-1, FES-2
137+49	EXTEND 24" R.C. PIPE CULVERT LT. & RT.		60							2																			16	0.20	PCC-1, FES-1, FES-2
179+18	EXTEND 3' X 3' R.C. BOX CULVERT																						3	3	80	27.62	2372	21	11	0.14	RCB-1, RCB-2, RCB-3, R-1004-A
210+78	EXTEND 4' X 4' R.C. BOX CULVERT																						4	4	79	36.45	4021	23	13	0.16	RCB-1, RCB-2, RCB-3, R-100X-0, W-X003-1
242+93	EXTEND 30" R.C. PIPE CULVERT LT. & RT.			70								2																	26	0.33	PCC-1, FES-1, FES-2
253+54	EXTEND 24" R.C. PIPE CULVERT LT. & RT.		74							2																			16	0.20	PCC-1, FES-1, FES-2
271+34	EXTEND 24" R.C. PIPE CULVERT LT. & RT.		84							2																			16	0.20	PCC-1, FES-1, FES-2
280+11	EXTEND 4' X 4' R.C. BOX CULVERT																						4	4	88	39.66	4442	24	13	0.16	RCB-1, RCB-2, RCB-3, R-100X-0, W-X003-1
281+00	INSTALL 18" TEMPORARY PIPE													86																	PCC-1, PCM-1, PCP-1, PCP-2
282+10	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.	20								1							1			1									5	0.06	FPC-9E, FPC-9M, PCC-1 FES-1, FES-2
282+15	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON LT.	16								1							1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 FES-1, FES-2
284+50	CONSTRUCT DROP INLET ON RT.							236									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
284+50	CONSTRUCT DROP INLET ON LT.							231									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
287+00	CONSTRUCT DROP INLET ON LT.							246									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
287+05	CONSTRUCT DROP INLET ON RT.							251									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
289+50	CONSTRUCT DROP INLET ON RT.							241									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
289+50	CONSTRUCT DROP INLET ON LT.							246									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
294+50	CONSTRUCT DROP INLET ON RT.							271									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
294+50	CONSTRUCT DROP INLET ON LT.							271									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
297+25	CONSTRUCT DROP INLET ON RT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
297+25	CONSTRUCT DROP INLET ON LT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
299+75	CONSTRUCT DROP INLET ON RT.							246									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
299+75	CONSTRUCT DROP INLET ON LT.							246									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
302+26	CONSTRUCT DROP INLET ON RT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
302+25	CONSTRUCT DROP INLET ON LT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
304+75	CONSTRUCT DROP INLET ON RT.							50									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
304+75	CONSTRUCT DROP INLET ON LT.							51									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
305+29	CONSTRUCT DROP INLET & 3' X 3' R.C. BOX CULVERT OUTLET ON RT.														1					1			3	3	24	12.39	956	8	13	0.16	FPC-9, FPC-9E, FPC-9M, RCB-1, RCB-2, RCB-3, R-1004-A
305+30	CONSTRUCT DROP INLET & 3' X 3' R.C. BOX CULVERT INTLET ON LT.														1					1			3	3	21	11.5'	881	8	13	0.16	FPC-9, FPC-9E, FPC-9M, RCB-1, RCB-2, RCB-3, R-1004-A
305+30	EXTEND 3' X 3' R.C. BOX CULVERT RT.																						3	3	15	9.94	729	2			FPC-9E, FPC-9M, RCB-1, RCB-2, RCB-3, R-1004-A
306+90	CONSTRUCT DROP INLET ON RT.							157									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
306+90	CONSTRUCT DROP INLET ON LT.							156									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
307+40	CONSTRUCT DROP INLET ON RT.							46									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
307+40	CONSTRUCT DROP INLET ON LT.							46									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
310+10	CONSTRUCT DROP INLET ON RT.							246									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
310+10	CONSTRUCT DROP INLET ON LT.							246									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
312+60	CONSTRUCT DROP INLET ON RT.							46									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
312+60	CONSTRUCT DROP INLET ON LT.							71									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
313+10	CONSTRUCT DROP INLET ON RT.							71									1			1									2		FPC-9E, FPC-9M, PCC-1 PCM-1
313+10	CONSTRUCT DROP INLET ON LT.							71									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
313+85	CONSTRUCT DROP INLET ON RT.							221									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
313+85	CONSTRUCT DROP INLET ON LT.							221									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
316+10	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.	38								1							1												5	0.06	FPC-9E, FPC-9M, PCC-1 FES-1, FES-2
316+10	CONSTRUCT DROP INLET ON LT.							85									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
317+13	CONSTRUCT JUNCTION BOX W/ QUAD. 66" R.C. PIPE INLET ON LT.				120								4								1								4	0.05	PCC-1, FES-1, FES-2
317+13	EXTEND QUAD. 66" R.C. PIPE RT.				112								4																4	0.05	PCC-1, FES-1, FES-2
318+00	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.	30								1							1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 FES-1, FES-2
318+10	CONSTRUCT DROP INLET ON LT.							77									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
320+00	CONSTRUCT DROP INLET ON RT.							196									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
320+10	CONSTRUCT DROP INLET ON LT.							196									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
323+50	CONSTRUCT DROP INLET ON RT.							48									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
323+50	CONSTRUCT DROP INLET ON LT.							48									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
324+02	CONSTRUCT DROP INLET ON RT.														1					1									2	0.03	FPC-9, FPC-9E, FPC-9M
324+02	CONSTRUCT DROP INLET ON LT.														1					1									2	0.03	FPC-9, FPC-9E, FPC-9M
324+02	EXTEND 4' X 3' R.C. BOX CULVERT LT. & RT.																						4	3	42	19.66	2085	15	11	0.14	RCB-1, RCB-2, RCB-3, R-100X-0, W-X003-1
324+85	CONSTRUCT DROP INLET ON RT.								79								1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
324+85	CONSTRUCT DROP INLET ON LT.							79									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
325+75	CONSTRUCT DROP INLET ON LT.							86									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
327+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.	4						121			1						1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
327+55	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	6							266		1						1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
328+50	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.	6						146			1						1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
330+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	6						241			1						1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
331+00	CONSTRUCT DROP INLET ON LT.							246									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
332+80	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	6						276			1						1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
333+75	CONSTRUCT DROP INLET ON LT.							271									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
334+25	CONSTRUCT DROP INLET ON RT.							141									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
336+25	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	6						196		1							1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
336+30	CONSTRUCT DROP INLET ON LT.							251									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
337+75	CONSTRUCT DROP INLET ON RT.							146									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
337+75	CONSTRUCT DROP INLET ON LT.							141									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
338+80	CONSTRUCT YARD DRAIN ON RT.						103															1									FPC-9, PCC-1
339+75	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	3						71			1						1												5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
339+75	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	2						71			1						1												5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
340+50	CONSTRUCT DROP INLET ON RT.							128									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
340+50	CONSTRUCT DROP INLET ON LT.							128									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
341+82	CONSTRUCT DROP INLET ON RT.								21								1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
341+82	EXTEND 24" R.C. PIPE CULVERT RT.		6																												PCC-1
341+82	CONSTRUCT DROP INLET ON RT.															1													2	0.03	FPC-9
341+82	EXTEND 24" R.C. PIPE CULVERT LT.		4																												PCC-1
341+82	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.		16								1						1												8	0.10	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
342+60	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	20						74		1							1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
342+60	CONSTRUCT DROP INLET ON LT.							74									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
347+60	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	6						236		1							1		1										5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
347+60	CONSTRUCT DROP INLET ON LT.							236									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
350+00	CONSTRUCT DROP INLET ON RT.							154									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
350+00	CONSTRUCT DROP INLET ON LT.							154									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
351+58	CONSTRUCT DROP INLET ON RT.							66									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
351+58	CONSTRUCT DROP INLET ON LT.							66									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
352+28	CONSTRUCT DROP INLET ON RT.														1					1									2	0.03	FPC-9, FPC-9E, FPC-9M
352+28	CONSTRUCT DROP INLET ON LT.														1					1									2	0.03	FPC-9, FPC-9E, FPC-9M
352+28	EXTEND 4' X 3' R.C. BOX CULVERT LT. & RT.																						4	3	58	24.76	2792	18	11	0.14	RCB-1, RCB-2, RCB-3, R-100X-0, W-X003-1
352+78	CONSTRUCT DROP INLET ON RT.							46									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
352+78	CONSTRUCT DROP INLET ON LT.								46								1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
355+00	CONSTRUCT DROP INLET ON RT.							218									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
355+00	CONSTRUCT DROP INLET ON LT.								218								1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
357+25	CONSTRUCT DROP INLET ON LT.								221								1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
358+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	4						296			1						1			1									5	0.06	FPC-9E, FPC-9M, PCC-1 PCM-1, FES-1, FES-2
359+50	CONSTRUCT DROP INLET ON LT.								220								1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
360+90	CONSTRUCT DROP INLET ON RT.							286									1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
361+75	CONSTRUCT DROP INLET ON LT.								219								1		1										2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
366+00	CONSTRUCT DROP INLET ON LT.							46									1												2	0.03	FPC-9E, FPC-9M, PCC-1 PCM-1
SUBTOTALS (BOX 1 OF 2):		173	352	70	232		103	10509	1290	15	11	2	8	86	6	1	77		41	25	1	1	33	31	483	230.69	23366	148	428	5.62	

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.

2/28/2019

R110574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	80	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Sep 12 2020 10:22 AM

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STRUCTURES (BOX 2 OF 2)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	24"	30"	60"	(CLASS V) 30"	SIDE DRAIN 12"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	60"	TEMPORARY CULVERTS 18"	DROP INLETS TYPE C	E	MO	ST	EXT. 4'	8'	JUNCT. BOXES (TYPE E)	YARD DRAINS	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.								EACH				LIN. FT.	EACH									LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
															HWY. 82																
366+15	CONSTRUCT DROP INLET ON RT.							31									1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
366+50	CONSTRUCT DROP INLET ON RT.							46									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
366+50	CONSTRUCT DROP INLET ON LT.							46									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
367+00	CONSTRUCT DROP INLET ON RT.							146									1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
367+00	CONSTRUCT DROP INLET ON LT.							146									1												2		FPC-9E, FPC-9M, PCC-1, PCM-1
368+50	CONSTRUCT DROP INLET ON RT.							101									1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
368+50	CONSTRUCT DROP INLET ON LT.							100									1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
369+55	EXTEND 24" R.C. PIPE CULVERT LT. & RT.		4																												PCC-1
369+55	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.		40							1							1												8	0.10	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
369+55	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.		24							1							1												8	0.10	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
370+05	CONSTRUCT DROP INLET ON RT.							46									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
370+05	CONSTRUCT DROP INLET ON LT.							47									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
372+85	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	4						276		1							1			1									5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
373+00	CONSTRUCT DROP INLET ON LT.							291									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
374+70	CONSTRUCT DROP INLET ON RT.							181									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
375+00	CONSTRUCT DROP INLET ON LT.							196									1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
378+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	8						251		1							1			1									5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
378+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.	8						296		1							1			1									5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
380+55	CONSTRUCT DROP INLET ON RT.							276									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
381+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.	2						251		1							1				1								5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
383+35	CONSTRUCT DROP INLET ON RT.							91									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
383+55	CONSTRUCT DROP INLET ON LT.							71									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
384+30	CONSTRUCT DROP INLET ON RT.							21									1				1								2	0.20	FPC-9E, FPC-9M, PCC-1, PCM-1
384+30	CONSTRUCT DROP INLET ON LT.							21									1				1								2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
384+56	EXTEND 30" R.C. PIPE CULVERT LT. & RT.			4																											PCC-1
384+56	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.			34								1					1												13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
384+56	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.			20								1					1												13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
385+06	CONSTRUCT DROP INLET ON RT.							45									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
385+06	CONSTRUCT DROP INLET ON LT.							46									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
387+75	CONSTRUCT DROP INLET ON RT.							265									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
387+75	CONSTRUCT DROP INLET ON LT.							265									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
388+25	CONSTRUCT YARD DRAIN ON LT.						48														1										FPC-9, PCC-1
390+00	CONSTRUCT YARD DRAIN ON RT.						222														1										FPC-9, PCC-1
391+75	CONSTRUCT YARD DRAIN ON RT.						73														1										FPC-9, PCC-1
391+85	CONSTRUCT YARD DRAIN ON LT.						64														1										FPC-9, PCC-1
392+50	CONSTRUCT DROP INLET ON RT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
392+50	CONSTRUCT DROP INLET ON LT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
395+00	CONSTRUCT DROP INLET ON RT.							47									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
395+00	CONSTRUCT DROP INLET ON LT.							48									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
395+52	EXTEND 30" R.C. PIPE CULVERT LT. & RT.		4																												PCC-1
395+52	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.			30								1					1												13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
395+52	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.			24								1					1												13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
396+30	CONSTRUCT DROP INLET ON LT.								73								1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
397+40	CONSTRUCT DROP INLET ON RT.							184									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
397+40	CONSTRUCT DROP INLET ON LT.								106								1												2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
397+90	CONSTRUCT DROP INLET ON LT.								45								1				1								2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
398+00	CONSTRUCT DROP INLET ON RT.							56									1				1								2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
398+50	CONSTRUCT DROP INLET ON RT.							143									1				1								2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
399+05	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.	2						89		1							1				1								5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
399+98	CONSTRUCT 30" R.C. PIPE CULVERT					60																									PCC-1
399+98	CONSTRUCT DROP INLET W/ R.C. PIPE OUTLET ON RT.			16								1					1												13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
399+98	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.			12								1					1												13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
400+53	CONSTRUCT DROP INLET ON RT.							51									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
400+70	CONSTRUCT DROP INLET ON LT.								68								1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
403+00	CONSTRUCT DROP INLET ON RT.							243									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
403+00	CONSTRUCT DROP INLET ON LT.								226								1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
405+15	CONSTRUCT DROP INLET ON LT.								210								1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
406+00	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON RT.	4						296		1							1			1									5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
407+25	CONSTRUCT DROP INLET ON LT.								204								1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
409+00	CONSTRUCT DROP INLET ON RT.							296									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
409+05	CONSTRUCT DROP INLET W/ R.C. PIPE INLET ON LT.	6						175		1							1			1									5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
411+50	CONSTRUCT DROP INLET ON RT.							246									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
411+50	CONSTRUCT DROP INLET ON LT.							241									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
414+50	CONSTRUCT DROP INLET ON RT.							296									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
414+50	CONSTRUCT DROP INLET ON LT.							296									1			1									2	0.03	FPC-9E, FPC-9M, PCC-1, PCM-1
419+25	CONSTRUCT DROP INLET ON RT.																	1												2	0.03	FPC-9S
419+25	CONSTRUCT DROP INLET ON LT.																	1												2	0.03	FPC-9S
SUBTOTALS (BOX 2 OF 2):		**34**	**72**	**140**		**60**	**407**	**6751**	**932**	**7**	**2**	**6**					**57**	**2**	**31**	**10**		**4**							**217**	**3**	
SUBTOTALS (BOX 1 OF 2):		**173**	**306**	**70**	**232**		**103**	**10509**	**1290**	**15**	**11**	**2**	**8**	**86**	**6**	**1**	**77**		**41**	**25**	**1**	**1**	**33**	**31**	**483**	**230.69**	**23366**	**148**	**428**	**5.62**	
															STRUCTURES OVER 20' SPAN																
171+53	EXTEND DBL. 10' X 8' R.C. BOX CULVERT																					10	8	71	167.61	22946	82	29	0.37	RCB-1, RCB-2, RCB-3, R-200X-0, W-X003-1
SUBTOTALS:																									**167.61**	**22946**	**82**	**29**	**0.37**	
TOTALS:		**207**	**378**	**210**	**232**	**60**	**510**	**17260**	**2222**	**22**	**13**	**8**	**8**	**86**	**6**	**1**	**134**	**2**	**72**	**35**	**1**	**5**	**33**	**31**	**483**	**398.30**	**46312**	**230**	**674**	**8.99**	

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.

2/28/2019

RI10574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	81	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50
DIRECTED BY THE ENGINEER	
TOTAL:	**50**

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
118+78	HWY. 82 HEADWALL ON RT.	1
150+13	HWY. 82 HEADWALL ON LT.	1
154+56	HWY. 82 HEADWALL ON RT.	1
171+74	HWY. 82 HEADWALL ON LT.	1
195+90	HWY. 82 BRIDGE END ON RT.	1
222+39	HWY. 82 HEADWALL ON RT.	1
256+14	HWY. 82 HEADWALL ON LT.	1
280+20	HWY. 82 HEADWALL ON LT.	1
305+27	HWY. 82 HEADWALL ON LT.	1
336+28	HWY. 82 HEADWALL ON LT.	1
360+68	HWY. 82 HEADWALL ON LT.	1
384+56	HWY. 82 HEADWALL ON LT.	1
408+02	HWY. 82 HEADWALL ON RT.	1
TOTAL:		**13**

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
	EACH		
ENTIRE PROJECT	176	122	27
TOTALS:	**176**	**122**	**27**

FLOWABLE SELECT MATERIAL

STATION	LOCATION	CU. YD.
281+00	HWY. 82 - FILL TEMP. PIPE	5.63
TOTAL:		**5.63**

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
97+23	195+78	LT. OF HWY. 82	8415
196+79	282+00	LT. OF HWY. 82	7117
97+23	195+78	RT. OF HWY. 82	8867
196+79	282+00	RT. OF HWY. 82	6683
TOTAL:			**31082**

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

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3
		SQ.YD.
282+04	LT. OF HWY. 82	9.4
282+04	RT. OF HWY. 82	9.4
292+47	RT. OF HWY. 82	24.9
293+91	RT. OF HWY. 82	24.9
300+38	LT. OF HWY. 82	20.3
301+38	LT. OF HWY. 82	20.3
321+61	RT. OF HWY. 82	18.9
322+40	RT. OF HWY. 82	18.9
334+97	LT. OF HWY. 82	22.8
335+00	RT. OF HWY. 82	22.8
336+03	RT. OF HWY. 82	18.9
336+19	LT. OF HWY. 82	22.8
371+34	RT. OF HWY. 82	18.9
371+47	LT. OF HWY. 82	20.3
372+24	RT. OF HWY. 82	22.8
372+61	LT. OF HWY. 82	20.3
417+58	LT. OF HWY. 82	20.3
418+78	LT. OF HWY. 82	20.3
420+78	LT. OF HWY. 82	9.4
420+78	RT. OF HWY. 82	9.4
TOTAL:		**376.0**

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	160	320
DIRECTED BY THE ENGINEER		
TOTALS:	**160**	**320**

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL: SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY EROSION CONTROL: TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	TRIANGULAR SILT DIKE	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						30.00	30.00	612.0	5984	885		8481		881
ENTIRE	PROJECT	STAGE 1						16.32	16.32	332.9	2684	411	1104	3930		445
ENTIRE	PROJECT	STAGE 2	25.11	50.22	25.11	2561.2	25.11	15.07	15.07	307.4	2640	438	1152	4200		464
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			6.28	12.56	6.28	640.6	6.28	15.35	15.35	313.1	1496	221	564	4153	3000	316
TOTALS:			**31.39**	**62.78**	**31.39**	**3201.8**	**31.39**	**76.74**	**76.74**	**1565.4**	**12804**	**1955**	**2820**	**20764**	**3000**	**2106**

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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 ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

2/28/2019

R110574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	82	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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BASE AND SURFACING (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	TOTAL PG 70-22
			FEET			TOTAL WID. FEET	SQ.YD.	GA..LON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																								
96+22.79	97+22.79	HWY. 82 - TRANSITION	100.00						40.00	444.44	75.55	75.55									40.00	444.44	220.00	48.89	48.89
97+22.79	100+82.79	HWY. 82 - 360' LANE TAPER	360.00	241.75	870.31	27.47	1098.80	54.94				54.94	9.21	368.40	660.00	121.57	9.05	362.00	220.00	39.82	46.00	1840.00	220.00	202.40	242.22
100+82.79	101+96.64	HWY. 82 - NOTCH AND WIDEN	113.85	253.76	288.91	34.49	436.30	21.82				21.82	11.67	147.63	660.00	48.72	11.15	141.05	220.00	15.52	54.00	683.10	220.00	75.14	90.66
101+96.64	103+50.00	HWY. 82 - NOTCH AND WIDEN	153.36	292.01	447.82	58.93	1004.17	50.21				50.21	19.76	336.71	660.00	111.11	19.41	330.75	220.00	36.38	63.50	1082.04	220.00	119.02	155.40
103+50.00	104+95.00	HWY. 82 - 200' LANE TAPER	145.00	295.63	428.67	64.55	1039.97	52.00				52.00	20.29	326.89	660.00	107.87	23.97	386.18	220.00	42.48	67.67	1090.24	220.00	119.93	162.41
104+95.00	105+50.00	HWY. 82 - 200' LANE TAPER FULL DEPTH	55.00	497.51	273.63	179.76	1098.53	54.93				54.93	60.05	366.97	660.00	121.10	59.66	364.59	220.00	40.10	71.34	435.97	220.00	47.96	88.06
105+50.00	116+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	1050.00	517.75	5436.38	190.41	22214.50	1110.73				1110.73	63.58	7417.67	660.00	2447.83	63.25	7379.17	220.00	811.71	75.00	8750.00	220.00	962.50	1774.21
116+00.00	140+00.00	HWY. 82 - NOTCH AND WIDEN RIGHT	2400.00	401.00	7986.98	83.41	22242.67	1112.13				1112.13	27.87	7432.00	660.00	2452.56	27.67	7378.67	220.00	811.65	75.00	20000.00	220.00	2200.00	3011.65
140+00.00	144+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	400.00	517.75	2071.00	190.41	8462.67	423.13				423.13	63.58	2825.78	660.00	932.51	63.25	2811.11	220.00	309.22	75.00	3333.33	220.00	366.67	675.89
144+00.00	172+00.00	HWY. 82 - NOTCH AND WIDEN RIGHT	2800.00	401.00	9585.45	89.18	27744.89	1387.24				1387.24	29.83	9280.44	660.00	3062.55	29.52	9184.00	220.00	1010.24	75.00	23333.33	220.00	2566.67	3576.91
172+00.00	176+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	400.00	517.75	2071.00	190.41	8462.67	423.13				423.13	63.58	2825.78	660.00	932.51	63.25	2811.11	220.00	309.22	75.00	3333.33	220.00	366.67	675.89
176+00.00	179+00.00	HWY. 82 - NOTCH AND WIDEN	300.00	401.00	1165.36	118.60	3953.33	197.67				197.67	39.68	1322.67	660.00	436.48	39.24	1308.00	220.00	143.88	75.00	2500.00	220.00	275.00	418.88
179+00.00	186+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	700.00	517.75	3624.25	190.41	14809.67	740.48				740.48	63.58	4945.11	660.00	1631.89	63.25	4919.44	220.00	541.14	75.00	5833.33	220.00	641.67	1182.81
186+00.00	188+00.00	HWY. 82 - NOTCH AND WIDEN	200.00	401.00	775.96	118.30	2628.89	131.44				131.44	39.58	879.56	660.00	290.25	39.14	869.78	220.00	95.68	75.00	1666.67	220.00	183.33	279.01
188+00.00	195+41.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	741.00	517.75	3836.53	190.41	15677.09	783.85				783.85	63.58	5234.75	660.00	1727.47	63.25	5207.58	220.00	572.83	75.00	6175.00	220.00	679.25	1252.08
197+15.00	203+99.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	684.00	517.75	3541.41	190.41	14471.16	723.56				723.56	63.58	4832.08	660.00	1594.59	63.25	4807.00	220.00	528.77	75.00	5700.00	220.00	627.00	1155.77
203+99.00	209+00.00	HWY. 82 - NOTCH AND WIDEN	501.00	388.32	1945.49	118.53	6598.17	329.91				329.91	39.66	2207.74	660.00	728.55	39.21	2182.69	220.00	240.10	75.00	4175.00	220.00	459.25	699.35
209+00.00	216+88.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	788.00	517.75	4079.87	190.41	16671.45	833.57				833.57	63.58	5566.78	660.00	1837.04	63.25	5537.89	220.00	609.17	75.00	6566.67	220.00	722.33	1331.50
216+88.00	222+98.00	HWY. 82 - NOTCH AND WIDEN	610.00	401.00	2366.68	118.32	8019.47	400.97				400.97	39.59	2683.32	660.00	885.50	39.14	2652.82	220.00	291.81	75.00	5083.33	220.00	559.17	850.98
222+98.00	224+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	102.00	517.75	528.11	190.41	2157.98	107.90				107.90	63.58	720.57	660.00	237.79	63.25	716.83	220.00	78.85	75.00	850.00	220.00	93.50	172.35
224+00.00	234+76.00	HWY. 82 - NOTCH AND WIDEN	1076.00	401.00	4176.41	118.42	14157.77	707.89				707.89	39.62	4736.79	660.00	1563.14	39.18	4684.19	220.00	515.26	75.00	8966.67	220.00	986.33	1501.59
234+76.00	236+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	124.00	517.75	642.01	190.41	2623.43	131.17				131.17	63.58	875.99	660.00	289.08	63.25	871.44	220.00	95.86	75.00	1033.33	220.00	113.67	209.53
236+00.00	239+82.00	HWY. 82 - NOTCH AND WIDEN	382.00	401.00	1479.51	117.90	5004.20	250.21				250.21	39.45	1674.43	660.00	552.56	39.00	1655.33	220.00	182.09	75.00	3183.33	220.00	350.17	532.26
239+82.00	242+75.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	293.00	517.75	1517.01	190.41	6198.90	309.95				309.95	63.58	2069.88	660.00	683.06	63.25	2059.14	220.00	226.51	75.00	2441.67	220.00	268.58	495.09
242+75.00	247+00.00	HWY. 82 - NOTCH AND WIDEN	425.00	401.00	1648.95	118.33	5587.81	279.39				279.39	39.59	1869.53	660.00	616.94	39.15	1848.75	220.00	203.36	75.00	3541.67	220.00	389.58	592.94
247+00.00	249+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	200.00	517.75	1035.50	190.41	4231.33	211.57				211.57	63.58	1412.89	660.00	466.25	63.25	1405.56	220.00	154.61	75.00	1666.67	220.00	183.33	337.94
249+00.00	255+00.00	HWY. 82 - NOTCH AND WIDEN	600.00	401.00	2325.25	118.05	7870.00	393.50				393.50	39.50	2633.33	660.00	869.00	39.05	2603.33	220.00	286.37	75.00	5000.00	220.00	550.00	836.37
255+00.00	268+00.00	HWY. 82 - NOTCH AND WIDEN LEFT	1300.00	401.00	4598.31	109.05	15751.67	787.58				787.58	38.49	5270.78	660.00	1739.36	36.07	5210.11	220.00	573.11	75.00	10833.33	220.00	1191.67	1764.78
268+00.00	275+00.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	700.00	517.75	3624.25	190.41	14809.67	740.48				740.48	63.58	4945.11	660.00	1631.89	63.25	4919.44	220.00	541.14	75.00	5833.33	220.00	641.67	1182.81
275+00.00	277+00.00	HWY. 82 - NOTCH AND WIDEN LEFT	200.00	401.00	736.27	118.06	2623.56	131.18				131.18	39.50	877.78	660.00	289.67	39.06	868.00	220.00	95.48	75.00	1666.67	220.00	183.33	278.81
277+00.00	281+75.00	HWY. 82 - OPEN SHOULDER FULL DEPTH	475.00	517.75	2459.31	190.41	10049.42	502.47				502.47	63.58	3355.61	660.00	1107.35	63.25	3338.19	220.00	367.20	75.00	3958.33	220.00	435.42	802.62
281+75.00	282+00.00	HWY. 82 - SHOULDER TRANSITION FULL DEPTH	25.00	568.00	142.00	190.41	528.92	26.45				26.45	63.58	176.61	660.00	58.28	63.25	175.69	220.00	19.33	80.00	222.22	220.00	24.44	43.77
282+00.00	284+08.00	HWY. 82 - 208' CURB TRANSITION FULL DEPTH	208.00	321.00	667.68	161.37	3729.44	186.47				186.47	54.29	1254.70	660.00	414.05	52.79	1220.04	220.00	134.20	57.50	1328.89	220.00	146.18	280.38
284+08.00	284+50.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	42.00	296.50	115.30	161.94	755.72	37.79				37.79	53.96	251.91	660.00	83.13	53.96	251.91	220.00	27.71	56.00	261.33	220.00	28.75	56.46
284+50.00	294+00.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	950.00	180.00	1606.35	80.58	8505.67	425.28				425.28	26.86	2835.22	660.00	935.62	26.86	2835.22	220.00	311.87	56.00	5911.11	220.00	650.22	962.09
294+00.00	297+66.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	366.00	296.50	1058.50	164.13	6674.62	333.73				333.73	54.71	2224.87	660.00	734.21	54.71	2224.87	220.00	244.74	56.00	2277.33	220.00	250.51	495.25
297+66.00	304+00.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	634.00	180.00	1010.83	89.16	6280.83	314.04				314.04	29.72	2093.61	660.00	690.89	29.72	2093.61	220.00	230.30	56.00	3944.89	220.00	433.94	664.24
304+00.00	306+00.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	200.00	296.50	551.01	162.54	3612.00	180.60				180.60	54.18	1204.00	660.00	397.32	54.18	1204.00	220.00	132.44	56.00	1244.44	220.00	136.89	269.33
306+00.00	309+00.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	300.00	180.00	475.36	88.32	2944.00	147.20				147.20	29.44	981.33	660.00	323.84	29.44	981.33	220.00	107.95	56.00	1866.67	220.00	205.33	313.28
309+00.00	311+00.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	200.00	296.50	551.54	162.72	3616.00	180.80				180.80	54.24	1205.33	660.00	397.76	54.24	1205.33	220.00	132.59	56.00	1244.44	220.00	136.89	269.48
311+00.00	322+00.10	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	1100.10	180.00	1865.54	332.52	40645.03	2032.25				2032.25	110.84	13548.34	660.00	4470.95	110.84	13548.34	220.00	1490.32	56.00	6845.07	220.00	752.96	2243.28
322+00.00	351+58.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	2958.00	180.00	5324.40	125.13	41126.06	2056.30				2056.30	41.71	13708.69	660.00	4523.87	41.71	13708.69	220.00	1507.96	56.00	18405.33	220.00	2024.59	3532.55
351+58.00	355+00.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	342.00	296.50	1014.03	168.00	6384.00	319.20				319.20	56.00	2128.00	660.00	702.24	56.00	2128.00	220.00	234.08	56.00	2128.00	220.00	234.08	468.16
355+00.00	391+75.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	3675.00	180.00	6615.00	92.25	37668.75	1883.44				1883.44	30.75	12556.25	660.00	4143.56	30.75	12556.25	220.00	1381.19	56.00	22866.67	220.00	2515.33	3896.52
391+75.00	396+30.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	455.00	296.50	1349.08	168.00	8493.33	424.67				424.67	56.00	2831.11	660.00	934.27	56.00	2831.11	220.00	311.42	56.00	2831.11	220.00	311.42	622.84
396+30.00	399+98.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	368.00	180.00	662.40	96.09	3929.01	196.45				196.45	32.03	1309.67	660.00	432.19	32.03	1309.67	220.00	144.06	56.00	2289.78	220.00	251.88	395.94
399+98.00	402+00.00	HWY. 82 - CURB AND GUTTER FULL DEPTH	202.00	296.50	598.93	168.00	3770.67	188.53				188.53	56.00	1256.89	660.00	414.77	56.00	1256.89	220.00	138.26	56.00	1256.89	220.00	138.26	276.52
402+00.00	418+80.00	HWY. 82 - CURB AND GUTTER NOTCHAND WIDEN	1680.00	180.00	2805.65	70.62	13182.40	659.12				659.12	23.54	4394.13	660.00	1450.06	23.54	4394.13	220.00	483.35	56.00	10453.33	220.00	1149.87	1633.22
418+80.00	420+60.00	HWY. 82 - 180' LANE TAPER	180.00																		54.50	1090.00	220.00	119.90	119.90
420+60.00	421+60.00	HWY. 82 - TRANSITION	100.00						55.36	615.11	104.57	104.57									55.36	615.11	220.00	67.66	67.66
ADDITIONAL FOR GUARDRAIL																									
192+55.75	192+88.75	GUARDRAIL WIDENING TRANSITION RT.	33.00	10.70	3.53																2.75	10.08	220.00	1.11	1.11
192+88.75	195+67.50	GUARDRAIL WIDENING RT.	278.75	21.39	59.62																5.50	170.35	220.00	18.74	18.74
193+55.75	193+88.75	GUARDRAIL WIDENING TRANSITION LT.	33.00	10.70	3.53																2.75	10.08	220.00	1.11	1.11
193+88.75	195+67.50	GUARDRAIL WIDENING LT.	178.75	21.39	38.23																5.50	109.24	220.00	12.02	12.02
196+88.50	198+67.25	GUARDRAIL WIDENING RT.	178.75	21.39	38.23																5.50	109.24	220.00	12.02	12.02
196+88.50	199+17.25	GUARDRAIL WIDENING LT.	228.75	21.39	48.93																5.50	139.79	220.00	15.38	15.38
198+67.25	199+00.25	GUARDRAIL WIDENING TRANSITION RT.	33.00	10.70	3.53																2.75	10.08	220.00	1.11	1.11
199+17.25	199+50.25	GUARDRAIL WIDENING TRANSITION LT.	33.00	10.70	3.53																2.75	10.08	220.00	1.11	1.11
SUBTOTALS (BOX 1 OF 2)					**102179.32**		**459546.59**	**22977.32**		**1059.55**	**180.12**	**23157.44**		**153403.63**		**50623.20**		**152739.22**		**16801.33**		**238652.33**		**26251.80**	**43053.13**

2/28/2019

R110574.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	83	331

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 12 2020 10:23 AM
DocuSign

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						TOTAL GALLONS	ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)				AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	TOTAL PG 70-22
			FEET			TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	FEET			TON	FEET			TON	TON
ADDITION FOR LEVELING AND METHOD OF RAISING GRADE																									
97+22.79	104+95.00	LEVELING	772.21						24.00	2059.23	350.07	350.07					24.00	2059.23	VAR.	645.48					645.48
104+95.00	107+00.00	METHOD OF RAISING GRADE	205.00			24.00	546.67	27.33	24.00	546.67	92.93	120.26	24.00	546.67	VAR.	875.16									
111+00.00	116+00.00	METHOD OF RAISING GRADE	500.00			24.00	1333.33	66.67	24.00	1333.33	226.67	293.34	24.00	1333.33	VAR.	1702.80									
116+00.00	140+00.00	LEVELING	2400.00						24.00	6400.00	1088.00	1088.00					24.00	6400.00	VAR.	2041.38					2041.38
140+00.00	144+00.00	METHOD OF RAISING GRADE	400.00			24.00	1066.67	53.33	24.00	1066.67	181.33	234.66	24.00	1066.67	VAR.	4094.64									
144+00.00	172+00.00	LEVELING	2800.00						24.00	7466.67	1269.33	1269.33					24.00	7466.67	VAR.	1580.04					1580.04
172+00.00	176+00.00	METHOD OF RAISING GRADE	400.00			24.00	1066.67	53.33	24.00	1066.67	181.33	234.66	24.00	1066.67	VAR.	607.86									
176+00.00	179+00.00	LEVELING	300.00						24.00	800.00	136.00	136.00					24.00	800.00	VAR.	344.52					344.52
179+00.00	186+00.00	METHOD OF RAISING GRADE	700.00			24.00	1866.67	93.33	24.00	1866.67	317.33	410.66	24.00	1866.67	VAR.	1490.94									
186+00.00	188+00.00	LEVELING	200.00						24.00	533.33	90.67	90.67					24.00	533.33	VAR.	277.20					277.20
188+00.00	193+00.00	METHOD OF RAISING GRADE	500.00			24.00	1333.33	66.67	24.00	1333.33	226.67	293.34	24.00	1333.33	VAR.	247.50									
201+00.00	203+99.00	METHOD OF RAISING GRADE	299.00			24.00	797.33	39.87	24.00	797.33	135.55	175.42	24.00	797.33	VAR.	542.52									
203+99.00	209+00.00	LEVELING	501.00						24.00	1336.00	227.12	227.12					24.00	1336.00	VAR.	728.64					728.64
209+00.00	216+88.00	METHOD OF RAISING GRADE	788.00			24.00	2101.33	105.07	24.00	2101.33	357.23	462.30	24.00	2101.33	VAR.	524.70									
216+88.00	222+98.00	LEVELING	610.00						24.00	1626.67	276.53	276.53					24.00	1626.67	VAR.	277.20					277.20
222+98.00	224+00.00	METHOD OF RAISING GRADE	102.00			24.00	272.00	13.60	24.00	272.00	46.24	59.84	24.00	272.00	VAR.	93.06									
224+00.00	234+76.00	LEVELING	1076.00						24.00	2869.33	487.79	487.79					24.00	2869.33	VAR.	1336.50					1336.50
234+76.00	236+00.00	METHOD OF RAISING GRADE	124.00			24.00	330.67	16.53	24.00	330.67	56.21	72.74	24.00	330.67	VAR.	99.00									
236+00.00	239+82.00	LEVELING	382.00						24.00	1018.67	173.17	173.17					24.00	1018.67	VAR.	522.72					522.72
239+82.00	242+75.00	METHOD OF RAISING GRADE	293.00			24.00	781.33	39.07	24.00	781.33	132.83	171.90	24.00	781.33	VAR.	350.46									
242+75.00	247+00.00	LEVELING	425.00						24.00	1133.33	192.67	192.67					24.00	1133.33	VAR.	694.98					694.98
247+00.00	249+00.00	METHOD OF RAISING GRADE	200.00			24.00	533.33	26.67	24.00	533.33	90.67	117.34	24.00	533.33	VAR.	156.42									
249+00.00	268+00.00	LEVELING	1900.00						24.00	5066.67	861.33	861.33					24.00	5066.67	VAR.	968.22					968.22
268+00.00	275+00.00	METHOD OF RAISING GRADE	700.00			24.00	1866.67	93.33	24.00	1866.67	317.33	410.66	24.00	1866.67	VAR.	500.94									
275+00.00	277+00.00	LEVELING	200.00						24.00	533.33	90.67	90.67					24.00	533.33	VAR.	431.64					431.64
277+00.00	279+00.00	METHOD OF RAISING GRADE	200.00			24.00	533.33	26.67	24.00	533.33	90.67	117.34	24.00	533.33	VAR.	370.26									
283+63.00	285+00.00	METHOD OF RAISING GRADE	137.00			24.00	365.33	18.27	24.00	365.33	62.11	80.38	24.00	365.33	VAR.	152.46									
285+00.00	294+00.00	LEVELING	900.00						24.00	2400.00	408.00	408.00					24.00	2400.00	VAR.	1348.38					1348.38
294+00.00	297+00.00	METHOD OF RAISING GRADE	300.00			24.00	800.00	40.00	24.00	800.00	136.00	176.00	24.00	800.00	VAR.	546.48									
297+00.00	304+00.00	LEVELING	700.00						24.00	1866.67	317.33	317.33					24.00	1866.67	VAR.	1126.62					1126.62
304+00.00	306+00.00	METHOD OF RAISING GRADE	200.00			24.00	533.33	26.67	24.00	533.33	90.67	117.34	24.00	533.33	VAR.	306.90									
306+00.00	351+58.00	LEVELING	4558.00						24.00	12154.67	2066.29	2066.29					24.00	12154.67	VAR.	3698.64					3698.64
351+58.00	355+00.00	METHOD OF RAISING GRADE	342.00			24.00	912.00	45.60	24.00	912.00	155.04	200.64	24.00	912.00	VAR.	568.26									
355+00.00	391+75.00	LEVELING	3675.00						24.00	9800.00	1666.00	1666.00					24.00	9800.00	VAR.	3090.78					3090.78
391+75.00	393+00.00	METHOD OF RAISING GRADE	125.00			24.00	333.33	16.67	24.00	333.33	56.67	73.34	24.00	333.33	VAR.	150.48									
393+00.00	420+60.00	LEVELING	2760.00						24.00	7360.00	1251.20	1251.20					24.00	7360.00	VAR.	3635.28					3635.28
ADDITION FOR WIDENING FOR MAINTENANCE OF TRAFFIC																									
105+00.00	111+00.00	ADDITIONAL WIDENING FOR STAGE 2	600.00										4.00	266.67	660.00	88.00	4.00	266.67	220.00	29.33					29.33
187+75.00	194+25.00	ADDITIONAL WIDENING FOR STAGE 2	650.00										4.00	288.89	660.00	95.33	4.00	288.89	220.00	31.78					31.78
266+75.00	285+25.00	ADDITIONAL WIDENING FOR STAGE 1	1850.00	31.00	573.50								8.00	1644.44	660.00	542.67	8.00	1644.44	220.00	180.89					180.89
ADDITION FOR SUPERELEVATION																									
103+80.26	109+20.26	SUPERELEVATION TRANSITION	540.00	92.00	496.80																				
109+20.26	111+42.39	MAXIMUM SUPERELEVATION	222.13	184.00	408.72																				
111+42.39	116+82.39	SUPERELEVATION TRANSITION	540.00	92.00	496.80																				
124+09.05	129+49.05	SUPERELEVATION TRANSITION	540.00	82.50	445.50																				
129+49.05	131+36.39	MAXIMUM SUPERELEVATION	187.34	165.00	309.11																				
131+36.39	136+76.39	SUPERELEVATION TRANSITION	540.00	82.50	445.50																				
137+50.71	142+38.67	SUPERELEVATION TRANSITION	487.96	74.25	362.31																				
142+38.67	142+39.67	MAXIMUM SUPERELEVATION	1.00	148.50	1.49																				
142+39.67	147+27.63	SUPERELEVATION TRANSITION	487.96	74.25	362.31																				
147+27.63	151+82.77	SUPERELEVATION TRANSITION	455.14	58.38	265.71																				
151+82.77	151+83.77	MAXIMUM SUPERELEVATION	1.00	116.75	1.17																				
151+83.77	156+38.91	SUPERELEVATION TRANSITION	455.14	58.38	265.71																				
182+24.62	185+89.81	SUPERELEVATION TRANSITION	365.19	57.38	209.55																				
185+89.81	185+90.81	MAXIMUM SUPERELEVATION	1.00	114.75	1.15																				
185+90.81	189+56.00	SUPERELEVATION TRANSITION	365.19	57.38	209.55																				
189+56.00	192+61.25	SUPERELEVATION TRANSITION	305.25	78.38	239.25																				
192+61.25	192+62.25	MAXIMUM SUPERELEVATION	1.00	156.75	1.57																				
192+62.25	195+67.50	SUPERELEVATION TRANSITION	305.25	78.38	239.25																				
196+88.50	202+28.50	SUPERELEVATION TRANSITION	540.00	67.38	363.85																				
202+28.50	205+33.45	MAXIMUM SUPERELEVATION	304.95	134.75	410.92																				
205+33.45	210+73.45	SUPERELEVATION TRANSITION	540.00	67.38	363.85																				
SUBTOTALS (BOX 2 OF 2)					**6473.57**		**17373.32**	**868.68**		**81797.89**	**13905.65**	**14774.33**		**19573.32**		**14106.84**		**66624.57**		**22990.22**					**22990.22**
SUBTOTALS (BOX 1 OF 2):					**102179.32**		**459546.59**	**22977.32**		**1059.55**	**180.12**	**23157.44**		**153403.63**		**50623.20**		**152739.22**		**16801.33**		**238652.33**		**26251.80**	**43053.13**
TOTALS:					**108652.89**		**476919.91**	**23846.00**		**82857.44**	**14085.77**	**37931.77**		**172976.95**		**64730.04**		**219363.79**		**39791.55**		**238652.33**		**26251.80**	**66043.35**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22

65065.65

39903.41

2/28/2019

RI10574.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	84	331
(1)		07410 - QUANTITIES - 59628		

SCHEDULE OF BRIDGE QUANTITIES-JOB NO. CA0706

BRIDGE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	SS & 802	SP, SS, & 802	803	SS & 804	SS & 804	SS & 805	SS & 805	SS & 805	SS & 805	SP, SS, & 807	808	812	816	816
		ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	EPOXY COATED REINFORCING STEEL (GRADE 60)	REINFORCING STEEL-BRIDGE (GRADE 60)	STEEL SHELL PILING (16" DIAMETER)	STEEL SHELL PILING (18" DIAMETER)	PILE ENCASEMENT	PREBORING	STRUCTURAL STEEL IN BEAM SPANS (M 270, GR. 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
		UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	CU. IN.	EACH	SQ. YD.	CU. YD.
07410 HIGHWAY 82 OVER CORNIE BAYOU	BENT 1			11	24.58			815	2,500	350			100				228	228
	BENT 2				27.89				2,925		350	92			2392.8			
	BENT 3				27.89				2,925		350	97			2392.8			
	BENT 4			8	24.58			815	2,500	350			100				417	217
	100'-0" CONT. COMP. INTEGRAL W-BEAM UNIT					259.21	18.8	59,390						99,450		1		
	SITE NO. 1 (BRIDGE NO. 02605)		1															
TOTALS FOR JOB NO. CA0706				19	104.94	259.21	18.8	61,020	10,850	700	700	189	200	99,450	4785.6	1	645	445

TOM GERARD
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Ellis, Rick
Jul 31 2020 8:53 AM
DocuSign
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
AIRPORT DR. - HWY. 82B (WIDENING) (S)
UNION COUNTY

ROUTE 82 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DHP DATE: 5/12/17 FILENAME: bca0706_ql.dgn
CHECKED BY: TMG DATE: 7/31/2020 SCALE: No Scale
DESIGNED BY: - DATE: -

BRIDGE NO. 07410 DRAWING NO. 59628

PRINT DATE: 7/31/2020

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		324	STATION
201	GRUBBING		324	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		583	LIN. FT.
202	REMOVAL AND DISPOSAL OF BRICK COLUMNS		2	EACH
202	REMOVAL AND DISPOSAL OF FENCE		7932	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES		8	EACH
202	REMOVAL AND DISPOSAL OF POSTS		23	EACH
202	REMOVAL AND DISPOSAL OF WALLS		50	LIN. FT.
202	REMOVAL AND DISPOSAL OF RETAINING WALLS		40	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		116	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		4443	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		29	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		168	EACH
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLES		13	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		17	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS		2	EACH
206	FLOWABLE SELECT MATERIAL		6	CU. YD.
SS & 210	UNCLASSIFIED EXCAVATION		57323	CU. YD.
210	COMPACTED EMBANKMENT		165328	CU. YD.
SP & 210	SOIL STABILIZATION		500	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		115035	TON
309	PORTLAND CEMENT CONCRETE BASE (8" UNIFORM THICKNESS)		987	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (7 1/2" UNIFORM THICKNESS)		1949	SQ. YD.
SS & 401	TACK COAT		38252	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		51882	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")		2848	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		63623	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		56	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")		3434	TON
412	COLD MILLING ASPHALT PAVEMENT		1060	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		160	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		50	TON
504	APPROACH SLABS		241.00	CU. YD.
504	APPROACH GUTTERS		59.20	CU. YD.
SS & 505	PORTLAND CEMENT CONCRETE DRIVEWAY		11878.43	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SS & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	18" TEMPORARY CULVERT		86	LIN. FT.
SS & 604	SIGNS		1407	SQ. FT.
SP, SS, & 604	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE		10	EACH
SS & 604	BARRICADES		704	LIN. FT.
SS & 604	TRAFFIC DRUMS		2012	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		2840	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		2440	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS		258861	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		3000	LIN. FT.
SS & 604	VERTICAL PANELS		479	EACH
SS & 605	CONCRETE DITCH PAVING (TYPE B)		3655	SQ. YD.
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		207	LIN. FT.
* 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	17260	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	17260	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		424	LIN. FT.
* 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	2222	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	2222	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		210	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		60	LIN. FT.
606	66" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		232	LIN. FT.
SS & 606	12" SIDE DRAIN		510	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN		2410	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN		886	LIN. FT.
SS & 606	21" X 15" SIDE DRAIN		706	LIN. FT.
SS & 606	28" X 20" SIDE DRAIN		168	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		22	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		13	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		8	EACH
606	66" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		8	EACH
606	SELECTED PIPE BEDDING		1860	CU. YD.
SS & 609	DROP INLETS (TYPE C)		6	EACH
SS & 609	DROP INLETS (TYPE E)		1	EACH
SS & 609	DROP INLETS (TYPE MO)		134	EACH
SS & 609	DROP INLETS (TYPE ST)		2	EACH
SS & 609	JUNCTION BOXES (TYPE E)		1	EACH
SS & 609	DROP INLET EXTENSIONS (4')		72	EACH
SS & 609	DROP INLET EXTENSIONS (8')		35	EACH
SS & 609	YARD DRAINS		5	EACH
SS & 611	4" PIPE UNDERDRAINS		2000	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS		16	EACH
SS & 617	GUARDRAIL (TYPE A)		550	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)		4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL		4	EACH
619	WIRE FENCE (TYPE C)		1132	LIN. FT.
619	WIRE FENCE (TYPE D)		4231	LIN. FT.
619	WIRE FENCE (TYPE D-1)		862	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	1300	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	1300	LIN. FT.
* 619	5' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	813	LIN. FT.
* 619	5' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	813	LIN. FT.
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	9	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	9	EACH
620	LIME		63	TON
620	SEEDING		31.39	ACRE
SS & 620	MULCH COVER		108.13	ACRE
620	WATER		4920.0	M. GAL.
621	TEMPORARY SEEDING		76.74	ACRE
621	SILT FENCE		20764	LIN. FT.
621	SAND BAG DITCH CHECKS		12804	BAG
621	DROP INLET SILT FENCE		2820	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL		2106	CU. YD.
621	ROCK DITCH CHECKS		1955	CU. YD.
621	TRIANGULAR SILT DIKE		3000	LIN. FT.
623	SECOND SEEDING APPLICATION		31.39	ACRE
624	SOLID SODDING		11417	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)		27812	SQ. YD.
SS & 633	CONCRETE WALKS		10918	SQ. YD.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		27504	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		176	EACH
637	MAILBOX SUPPORTS (SINGLE)		122	EACH
637	MAILBOX SUPPORTS (DOUBLE)		27	EACH
641	WHEELCHAIR RAMPS (TYPE 3)		376	SQ. YD.
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		31082	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")		54429	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		106552	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		5	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		5	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)		1589	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER		15	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		15	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)		11	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		148	CU. YD.
802	CLASS S CONCRETE-ROADWAY		230.69	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		55066	POUND
	STRUCTURES OVER 20' SPAN			
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)		1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL		1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE		19	CU. YD.
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		82	CU. YD.
SS & 802	CLASS S CONCRETE-ROADWAY		167.61	CU. YD.
SS & 802	CLASS S CONCRETE-BRIDGE		104.94	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE		259.21	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT		18.8	GAL.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		22946	POUND
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)		10850	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)		61020	POUND
SS & 805	STEEL SHELL PILING (16" DIAMETER)		700	LIN. FT.
SS & 805	STEEL SHELL PILING (18" DIAMETER)		700	LIN. FT.
SS & 805	PREBORING		200	LIN. FT.
SS & 805	PILE ENCASEMENT		189	LIN. FT.
SP, SS, & 807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50W)		99450	POUND
SS & 808	ELASTOMERIC BEARINGS		4785.6	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)		1	EACH
816	FILTER BLANKET		645	SQ. YD.
816	DUMPED RIPRAP		445	CU. YD.

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
9/11/2020	REVISED PLAN NOTES AND QUANTITIES FOR STRUCTURES, ADDED P.C.C BASE WIDENING DETAILS AND QUANTITIES, ADDED "REMOVAL AND DISPOSAL OF CURB AND GUTTER," REMOVAL AND DISPOSAL OF CONCRETE ISLANDS," AND "REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS" PAY ITEMS, REVISED CURB AND GUTTER QUANTITIES TO REFLECT MODIFIED CURB THROUGH DRIVEWAYS.	8, 11, 75-77, 79-80, 82-83, 85, 117, 119-120, 125-126, 254, 266, 303, 305-306

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.		85	331

(2) SUMMARY OF QUANTITIES AND REVISIONS

JOB NO. C40706

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11435
TERRY D. SMITH

Sep 12 2020 10:23 AM

DocuSigned by:

SURVEY CONTROL COORDINATES
Project Name: sca0706
Date: 3/25/2014
Coordinate System: Arkansas State Plane Coordinates
Based on AHTD GPS PTS : *100-110*
Projected to Ground Coordinates
Units: U.S. Survey Foot

COORDINATES LISTED BELOW ARE GROUND (Localized) COORDINATES !!!!

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	1508477.6318	0.0130	1115939.5408	0.0110	236.44	0.026	CTL	AHTD STD. MON STAMPED PN: 1
2	1507458.4488	0.0280	1115144.2512	0.0210	239.42	0.026	CTL	AHTD STD. MON STAMPED PN: 2
3	1508113.9377	0.0190	1114902.6524	0.0140	220.26	0.026	CTL	AHTD STD. MON STAMPED PN: 3
4	1508553.0077	0.0100	1114700.2453	0.0080	222.20	0.026	CTL	AHTD STD. MON STAMPED PN: 4
5	1508960.5619	0.0090	1114004.8107	0.0080	234.87	0.025	CTL	AHTD STD. MON STAMPED PN: 5
6	1509369.0012	0.0170	1113561.8658	0.0150	250.89	0.025	CTL	AHTD STD. MON STAMPED PN: 6
7	1509649.7826	0.0050	1112817.7836	0.0040	278.41	0.025	CTL	AHTD STD. MON STAMPED PN: 7
8	1509626.0398	0.0110	1111985.3343	0.0060	282.06	0.025	CTL	AHTD STD. MON STAMPED PN: 8
9	1509732.9708	0.0100	1111217.2194	0.0110	283.92	0.024	CTL	AHTD STD. MON STAMPED PN: 9
10	1509765.5045	0.0160	1110468.0933	0.0140	269.05	0.024	CTL	AHTD STD. MON STAMPED PN: 10
11	1509784.3324	0.0100	1109317.1569	0.0100	250.64	0.024	CTL	AHTD STD. MON STAMPED PN: 11
12	1509746.5757	0.0070	1108570.4097	0.0060	259.01	0.023	CTL	AHTD STD. MON STAMPED PN: 12
13	1509748.0367	0.0220	1107799.8728	0.0140	255.76	0.023	CTL	AHTD STD. MON STAMPED PN: 13
14	1509750.8627	0.0050	1107162.4377	0.0040	261.03	0.023	CTL	AHTD STD. MON STAMPED PN: 14
15	1509760.2976	0.0110	1106442.2893	0.0070	238.36	0.023	CTL	AHTD STD. MON STAMPED PN: 15
16	1509777.5804	0.0090	1105625.6099	0.0060	227.00	0.023	CTL	AHTD STD. MON STAMPED PN: 16
17	1509781.1104	0.0050	1104819.9713	0.0040	213.33	0.022	CTL	AHTD STD. MON STAMPED PN: 17
18	1509838.3459	0.0240	1104071.7642	0.0170	245.46	0.022	CTL	AHTD STD. MON STAMPED PN: 18
19	1509843.3418	0.0210	1103318.6971	0.0150	268.92	0.021	CTL	AHTD STD. MON STAMPED PN: 19
20	1509850.0338	0.0120	1102530.4304	0.0110	228.39	0.021	CTL	AHTD STD. MON STAMPED PN: 20
21	1509863.3286	0.0140	1101751.9696	0.0130	231.41	0.021	CTL	AHTD STD. MON STAMPED PN: 21
22	1509875.0085	0.0120	1100945.9390	0.0080	246.31	0.020	CTL	AHTD STD. MON STAMPED PN: 22
23	1509877.3045	0.0040	1100168.8951	0.0030	258.42	0.020	CTL	AHTD STD. MON STAMPED PN: 23
24	1509909.3992	0.0060	1099407.7912	0.0040	254.92	0.019	CTL	AHTD STD. MON STAMPED PN: 24
25	1509911.0062	0.0150	1098652.6371	0.0120	268.71	0.019	CTL	AHTD STD. MON STAMPED PN: 25
26	1509953.5058	0.0090	1097813.1388	0.0060	267.37	0.019	CTL	AHTD STD. MON STAMPED PN: 26
27	1510077.5367	0.0140	1097028.6541	0.0070	267.26	0.019	CTL	AHTD STD. MON STAMPED PN: 27
28	1510094.8075	0.0080	1096239.6863	0.0060	297.36	0.018	CTL	AHTD STD. MON STAMPED PN: 28
29	1510085.0986	0.0050	1095455.3946	0.0050	307.48	0.018	CTL	AHTD STD. MON STAMPED PN: 29
30	1510086.8536	0.0140	1094658.7629	0.0130	297.75	0.017	CTL	AHTD STD. MON STAMPED PN: 30
31	1510091.6485	0.0100	1093885.7950	0.0080	274.72	0.017	CTL	AHTD STD. MON STAMPED PN: 31
32	1510103.7274	0.0150	1093094.3053	0.0170	286.25	0.017	CTL	AHTD STD. MON STAMPED PN: 32
33	1510111.0133	0.0100	1092315.6275	0.0080	282.48	0.016	CTL	AHTD STD. MON STAMPED PN: 33
34	1510121.2483	0.0060	1091523.3888	0.0070	293.78	0.016	CTL	AHTD STD. MON STAMPED PN: 34
35	1510128.1072	0.0040	1090743.9810	0.0030	279.61	0.015	CTL	AHTD STD. MON STAMPED PN: 35
36	1510140.2711	0.0080	1089971.8481	0.0060	273.22	0.015	CTL	AHTD STD. MON STAMPED PN: 36
37	1510154.3339	0.0110	1089162.5535	0.0100	249.70	0.015	CTL	AHTD STD. MON STAMPED PN: 37
38	1510187.0776	0.0190	1088355.5360	0.0140	260.32	0.014	CTL	AHTD STD. MON STAMPED PN: 38
39	1510230.7312	0.0100	1086785.1864	0.0060	232.65	0.014	CTL	AHTD STD. MON STAMPED PN: 39
40	1510259.0270	0.0060	1085224.9048	0.0050	218.74	0.013	CTL	AHTD STD. MON STAMPED PN: 40
41	1510274.7208	0.0100	1084437.4131	0.0080	224.17	0.013	CTL	AHTD STD. MON STAMPED PN: 41
42	1510294.3667	0.0170	1083629.2705	0.0200	245.90	0.013	CTL	AHTD STD. MON STAMPED PN: 42
43	1510309.6135	0.0140	1082812.8520	0.0130	247.40	0.012	CTL	AHTD STD. MON STAMPED PN: 43
44	1510326.6904	0.0070	1081992.0586	0.0050	233.00	0.012	CTL	AHTD STD. MON STAMPED PN: 44
45	1510340.8742	0.0180	1081258.8444	0.0140	250.42	0.012	CTL	AHTD STD. MON STAMPED PN: 45
46	1510360.2681	0.0150	1080418.5751	0.0100	259.16	0.011	CTL	AHTD STD. MON STAMPED PN: 46
47	1510374.9179	0.0200	1079643.3372	0.0160	256.41	0.011	CTL	AHTD STD. MON STAMPED PN: 47
48	1510388.4758	0.0190	1078885.0232	0.0160	252.41	0.010	CTL	AHTD STD. MON STAMPED PN: 48
49	1510400.9247	0.0200	1078121.9973	0.0100	249.90	0.010	CTL	AHTD STD. MON STAMPED PN: 49
50	1510416.8345	0.0080	1077299.5148	0.0060	251.14	0.010	CTL	AHTD STD. MON STAMPED PN: 50
51	1510436.6373	0.0120	1076507.2001	0.0090	249.07	0.009	CTL	AHTD STD. MON STAMPED PN: 51
52	1510464.0781	0.0070	1075714.8364	0.0060	238.11	0.009	CTL	AHTD STD. MON STAMPED PN: 52
53	1510466.3531	0.0100	1074887.1181	0.0090	217.25	0.008	CTL	AHTD STD. MON STAMPED PN: 53
54	1510449.7672	0.0110	1074135.1290	0.0100	214.43	0.008	CTL	AHTD STD. MON STAMPED PN: 54
55	1510382.3148	0.0030	1073337.4643	0.0020	204.15	0.007	CTL	AHTD STD. MON STAMPED PN: 55
56	1510443.1053	0.0140	1072536.6857	0.0120	215.59	0.007	CTL	AHTD STD. MON STAMPED PN: 56
57	1510496.6908	0.0250	1071089.3201	0.0170	207.23	0.004	CTL	AHTD STD. MON STAMPED PN: 57
58	1510557.0732	0.0050	1069432.9133	0.0050	230.56	0.003	CTL	AHTD STD. MON STAMPED PN: 58
59	1510559.5462	0.0090	1068653.9765	0.0080	245.55	0.005	CTL	AHTD STD. MON STAMPED PN: 59
60	1510600.3928	0.0130	1067870.2967	0.0080	244.38	0.006	CTL	AHTD STD. MON STAMPED PN: 60
61	1510669.4672	0.0230	1067114.3557	0.0160	246.32	0.006	CTL	AHTD STD. MON STAMPED PN: 61
62	1510653.4793	0.0100	1066352.2907	0.0070	251.82	0.007	CTL	AHTD STD. MON STAMPED PN: 62
63	1510624.1176	0.0090	1065577.4808	0.0080	247.19	0.007	CTL	AHTD STD. MON STAMPED PN: 63
64	1510656.8563	0.0070	1064801.0660	0.0040	234.14	0.008	CTL	AHTD STD. MON STAMPED PN: 64
65	1510779.1312	0.0170	1064033.0661	0.0120	227.79	0.009	CTL	AHTD STD. MON STAMPED PN: 65
66	1510900.4491	0.0120	1063252.4783	0.0100	232.48	0.009	CTL	AHTD STD. MON STAMPED PN: 66
67	1511124.8940	0.0090	1062507.0181	0.0070	240.48	0.010	CTL	AHTD STD. MON STAMPED PN: 67
68	1511341.9950	0.0220	1061902.1557	0.0140	237.10	0.010	CTL	AHTD STD. MON STAMPED PN: 68
69	1509887.2874	0.0160	1108760.2220	0.0150	260.27	0.002	CTL	AHTD STD. MON STAMPED PN: 69
70	1510336.9703	0.0120	1108730.6533	0.0100	273.93	0.003	CTL	AHTD STD. MON STAMPED PN: 70
71	1511022.7209	0.0110	1108790.4597	0.0100	279.22	0.003	CTL	AHTD STD. MON STAMPED PN: 71
72	1511434.2902	0.0160	1108746.1661	0.0130	276.07	0.003	CTL	AHTD STD. MON STAMPED PN: 72
73	1511857.2203	0.0060	1108752.3011	0.0050	264.65	0.003	CTL	AHTD STD. MON STAMPED PN: 73
74	1512391.7973	0.0120	1108736.4572	0.0110	237.70	0.005	CTL	AHTD STD. MON STAMPED PN: 74
75	1513154.5723	0.0090	1108702.1420	0.0160	226.86	0.005	CTL	AHTD STD. MON STAMPED PN: 75
76	1513758.8707	0.0090	1108738.3482	0.0070	217.52	0.005	CTL	AHTD STD. MON STAMPED PN: 76
77	1511600.8408	0.0388	1061173.0723	0.0570	232.72	0.002	CTL	AHTD STD. MON STAMPED PN: 77
78	1511826.1522	0.0534	1060540.0144	0.0700	235.01	0.002	CTL	AHTD STD. MON STAMPED PN: 78
79	1512113.3699	0.0643	1059897.7724	0.0780	220.46	0.002	CTL	AHTD STD. MON STAMPED PN: 79
80	1512417.9361	0.0677	1059254.5700	0.0820	227.26	0.003	CTL	AHTD STD. MON STAMPED PN: 80
81	1512705.8377	0.0659	1058602.8639	0.0830	236.65	0.002	CTL	AHTD STD. MON STAMPED PN: 81
82	1512987.6889	0.0526	1057905.9549	0.0780	224.04	0.002	CTL	AHTD STD. MON STAMPED PN: 82
83	1513170.6306	0.0384	1057387.0221	0.0710	226.68	0.002	CTL	AHTD STD. MON STAMPED PN: 83
84	1513262.2518	0.0215	1056835.3268	0.0490	229.62	0.002	CTL	AHTD STD. MON STAMPED PN: 84
85	1513463.4443	0.0159	1055426.0393	0.0370	247.24	0.001	CTL	AHTD STD. MON STAMPED PN: 85
86	1513689.7868	0.0159	1053852.5060	0.0370	252.27	0.002	CTL	AHTD STD. MON STAMPED PN: 86
100	1510276.0117	0.0000	1086048.2088	0.0000	229.71	0.014	GPS	AHTD GPS MON. WYATT AZ
101	1510134.6898	0.0000	1087619.7244	0.0000	257.55	0.014	GPS	AHTD GPS MON. WYATT 1941
102	1504715.3651	0.0000	1100383.2752	0.0000	245.01	0.011	GPS	AHTD GPS MON. 700024
103	1505705.7306	0.0000	1117024.3852	0.0000	256.07	0.027	GPS	AHTD GPS MON. 700030
104	1506786.1290	0.0000	1115578.4329	0.0000	232.05	0.026	GPS	AHTD GPS MON. 700030A
105	1509896.9913	0.0000	1103014.5159	0.0000	262.37	0.021	GPS	AHTD GPS MON. 700031
106	1509861.2279	0.0000	1101319.6984	0.0000	249.51	0.020	GPS	AHTD GPS MON. 700031A
107	1510473.1190	0.0000	1072421.5748	0.0000	213.37	0.006	GPS	AHTD GPS MON. 700032
108	1510550.9393	0.0000	1070301.5223	0.0000	211.47	0.004	GPS	AHTD GPS MON. 700032A
109	1513343.9006	0.0000	1056275.1785	0.0000	239.86	0.010	GPS	AHTD GPS MON. 700033
110	1513586.7105	0.0000	1054565.5206	0.0000	260.64	0.010	GPS	AHTD GPS MON. 700033A
905	1509813.3191	30.0000	1108698.7766	30.0000	260.96	0.023	BM	CONC. PAD FOR SIGNAL
906	1507729.4680	30.0000	1115280.1334	30.0000	215.87	0.026	BM	CONCRETE HEADWALL
907	1509401.9709	30.0000	1113569.2347	30.0000	252.63	0.025	BM	CONCRETE STEPS TO CHURCH
908	1509666.3054	30.0000	1111744.0355	30.0000	281.96	0.025	BM	CONCRETE BRIDGE
909	1509765.5165	30.0000	1110461.6113	30.0000	269.33	0.024	BM	CONCRETE BRIDGE
950	1509834.6849	30.0000	1106052.0759	30.0000	232.83	0.023	BM	CHISELED SQUARE IN
951	1509841.5858	30.0000	1103486.0026	30.0000	265.98	0.021	BM	NE BONNET BOLT ON FH SE OF INTERSECTION OF COOPER DR AND HWY 82
952	1509871.4376	30.0000	1100546.2107	30.0000	256.55	0.020	BM	CHISELED SQUARE IN 12" CONCRETE HEADWALL
953	1509949.7738	30.0000	1097946.6356	30.0000	271.80	0.019	BM	CONCRETE WALL AT THE BOTTOM OF BRIDGE PIERS
954	1509981.4435	30.0000	1094819.9284	30.0000	301.62	0.017	BM	7" WOOD POST WITH FIBER
955	1510109.0024	30.0000	1092475.6280	30.0000	278.05	0.016	BM	8" CONCRETE HEADWALL
956	1510166.2858	30.0000	1090088.3600	30.0000	281.75	0.015	BM	FIRE HYDRANDT
957	1510244.3321	30.0000	1087650.2655	30.0000	256.46	0.014	BM	FIRE HYDRANDT
958	1510286.9517	30.0000	1084549.1540	30.0000	220.48	0.013	BM	10"CONCRETE HEADWALL
959	1510355.8211	30.0000	1082043.0321	30.0000	232.44	0.012	BM	10"CONCRETE HEADWALL
960	1510377.6529	30.0000	1079636.8343	30.0000	256.44	0.010	BM	8"CONCRETE HEADWALL
961	1510372.5909	30.0000	1076261.7714	30.0000	248.39	0.009	BM	CONCRETE PAD WITH LARGE AT&T COMMUNICATION BOX
962	1510386.5848	30.0000	1073615.8958	30.0000	205.09	0.007	BM	CONCRETE BRIDGE END NORTHWEST CORNER
963	1510496.0258	30.0000	1071205.2720	30.0000	206.83	0.004	BM	10" CONCRETE HEADWALL
964	1510609.7748	30.0000	1069044.5089	30.0000	237.66	0.004	BM	9"WOODEN FENCE POST WITH 4 STRAND BARBWIRE FENCE
965	1510579.6440	30.0000	1065917.3677	30.0000	249.10	0.007	BM	EAST END OF 18" CMP
966	1510826.2248	30.0000	1062860.3969	30.0000	223.55	0.009		CHISELED SQUARE ON HEADWALL
967	1511545.2791	30.0000	1061421.6711	30.0000	227.15	0.010		CHISELED SQUARE ON HEADWALL
968	1512476.8416	30.0000	1058710.2411	30.0000	238.22	0.000		5/8" REBAR
969	1513307.5659	30.0000	1055998.1431	30.0000	244.45	0.000		CONCRETE HEADWALL
990	1549508.8854	30.0000	1108995.0958	30.0000	190.23	0.000	BM	NGS FIRST ORDER BM N 138
991	1510470.9070	30.0000	1069485.2768	30.0000	228.16	0.000	BM	NGS SECOND ORDER BM P 121
992	1511828.6605	30.0000	1108724.6263	30.0000	273.48	0.024	BM	NGS SECOND ORDER BM EL DORADO

PROPOSED C.L.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	96+22.79	1510811.9826	1063676.7448
8001	PI	98+00.18	1510784.2424	1063851.9533
8002	PC	107+85.26	1510630.1959	1064824.9200
8004	PT	112+77.39	1510600.5383	1065315.3820
8005	PC	128+14.05	1510656.2042	1066851.0340
8007	PT	132+71.39	1510640.8485	1067307.7417
8008	PC	140+20.57	1510563.4814	1068052.9226
8010	PT	144+57.77	1510543.2908	1068489.4197
8011	PC	149+97.49	1510549.2311	1069029.0981
8013	PT	153+69.05	1510544.2854	1069400.5945
8014	PI	157+99.95	1510528.0740	1069831.1857
8015	PI	174+63.81	1510460.2785	1071493.6663
8016	PC	184+01.50	1510424.8218	1072430.6812
8018	PT	187+79.11	1510401.2252	1072807.5155
8019	PC	190+91.46	1510374.0069	1073118.6765
8021	PT	194+32.03	1510374.6572	1073458.8025
8022	PC	199+99.67	1510426.2834	1074024.0878
8024	PT	206+68.45	1510448.1450	1074692.1258
8025	PI	212+89.19	1510432.2256	1075312.6697
8026	PI	219+73.94	1510417.5971	1075997.2563
8027	PI	243+44.34	1510372.8203	1078367.2392
8028	PC	257+04.15	1510348.2517	1079726.8196
8030	PT	260+64.07	1510336.0986	1080086.5248
8031	PC	261+70.10	1510330.8547	1080192.4236
8033	PT	264+98.06	1510319.3236	1080520.1753
8034	PC	311+01.81	1510223.3068	1085122.9229
8036	PT	314+50.96	1510221.3435	1085472.0537
8037	PC	315+68.66	1510222.4747	1085589.7405
8039	PT	318+84.07	1510221.1653	1085905.1467
8040	PI	a 328+37.20	1510204.0901	1086858.2130
8041	PC	a 334+45.10	1510192.5772	1087466.0043
8043	PT	a 339+55.12	1510177.2448	1087975.7897
8044	PC	a 347+78.92	1510143.3187	1088798.8918
8046	PT	a 357+81.42	1510116.6430	1089800.9993
8047	PI	a 378+40.51	1510091.8674	1091859.9422
8048	PI	a 398+90.51	1510068.0788	1093909.7997
8049	PI	a 407+93.92	1510059.2421	1094813.1657
8050	PI	a 414+63.03	1510052.2441	1095482.2387
8051	PI	a 420+73.02	1510045.3695	1096092.1917
8052	PC	a 427+84.69	1510036.4419	1096803.8086
8054	PT	a 433+06.26	1510021.9883	1097325.1555
8055	POE	a 438+19.19	1509999.9964	1097837.6126

AIRPORT DR.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8056	POB	1000+00.00	1510722.2447	1064243.5344
8057	POE	1002+76.01	1510994.8631	1064286.6972

HWY. 335 SOUTH

POINT NO.	TYPE	STATION	NORTHING	EASTING
8058	POB	3000+00.00	1510010.4973	1083340.6393
8059	PI	3001+50.00	1510160.5190	1083338.0412
8060	POE	3002+50.00	1510260.4973	1083340.1268

HWY. 335 NORTH

POINT NO.	TYPE	STATION	NORTHING	EASTING
8061	POB	2100+00.00	1510190.1201	1087580.5890
8062	POE	2103+00.00	1510490.1204	1087582.2632

*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap stamped: *"(include all common information here)"* plus other markings indicated in the point description of the individual point. AHTD monuments will be stamped "Arkansas Hwy & Trans Dept" with "PN: ###" & "Job ######". Monuments that are set by Consultants will be stamped "Arkansas Hwy & Trans Dept" with "PN:###", "Job######", & "PS####". The consultant Professional Surveyor in charge will stamp his/her PS license number on the cap.

**Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped: *"(include all common information here)"* plus other markings indicated in the point description of the individual point. These monuments will be stamped "Ark. State Hwy Trans. Dept.", "GPS Survey', & "Point No. ######".

SX, SY, SZ – Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares analysis of the control network. See the AASHTO SDMS Technical Data Guide data tag definition for SX:, SY:, and SZ: for additional information. The se values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.001 is defined as fixed (no adjustment) in the least square analysis process. A value of 30 is defined as location by handheld GPS device or scaled from USGS Quadmap.

Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project datum with 3-wire level techiniques.

All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

Positional Accuracy:
Horizontal - GPS (1.0 cm± 1PPM) *PN: 100-110*
Horizontal - Primary (2.0cm± 20PPM): *PN:1-86*
Horizontal - Secondary (3 cm ± 50PPM):
Vertical - NGS 1st Order (±4mm x vdist in km) *PN:990*
Vertical - NGS 2nd Order (±6mm x vdist in km) *PN:991 & 992*
Vertical - NGS 3rd Order (±8mm x vdist in km) *PN:1-915 (in the above example)*

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0302 - South Zone
The adjustment year is based on metadata in the SDMS Control file
A project CAF of: 1.000009213 has been used to compute the above coordinates.
The project CAF shall have a minimum precision of 9 digits right of the decimal.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM: N 138 & P121
A project Elevation Factor of: 0.999988183 2 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 247.05 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points: 1-86, 100-110, 905-909, 950-969, 990-992 From NGS BM:

Basis of Bearing: Grid Bearings based on AHTD GPS points: *100-110*
Convergence Angle is: 0°24'20.00" Left at PN: 35
LT: 33-12-29 N LG: 92-43-28 W
Grid Azimuth = Astronomical Azimuth - Convergence Angle

Note: Information in Italics is for clarification only. It is not to be part of the actual Control Table or Control Detail Sheets.

SURVEY CONTROL DETAILS

DATE REVISED	DATE PLOTTED	DATE REVISED	DATE PLOTTED

② SURVEY CONTROL DETAILS

FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	CA0706	86	331

JOB NO.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11435
TIMOTHY D. SMITH

Jul 31 2020 12:06 PM
DougGo

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.		CA0706	87	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jul 31 2020 12:07 PM
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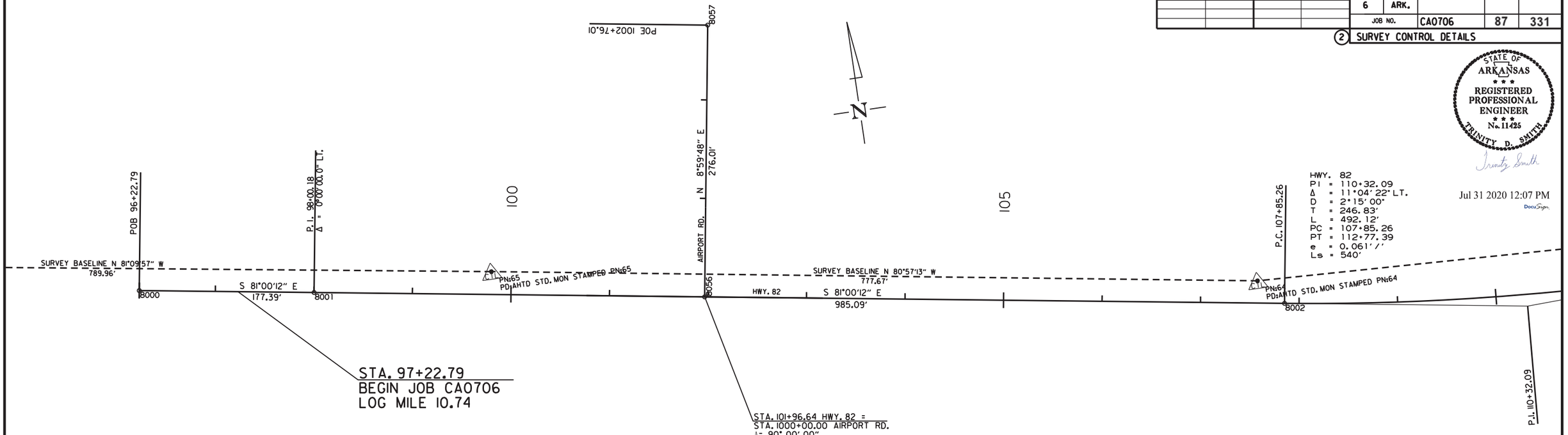

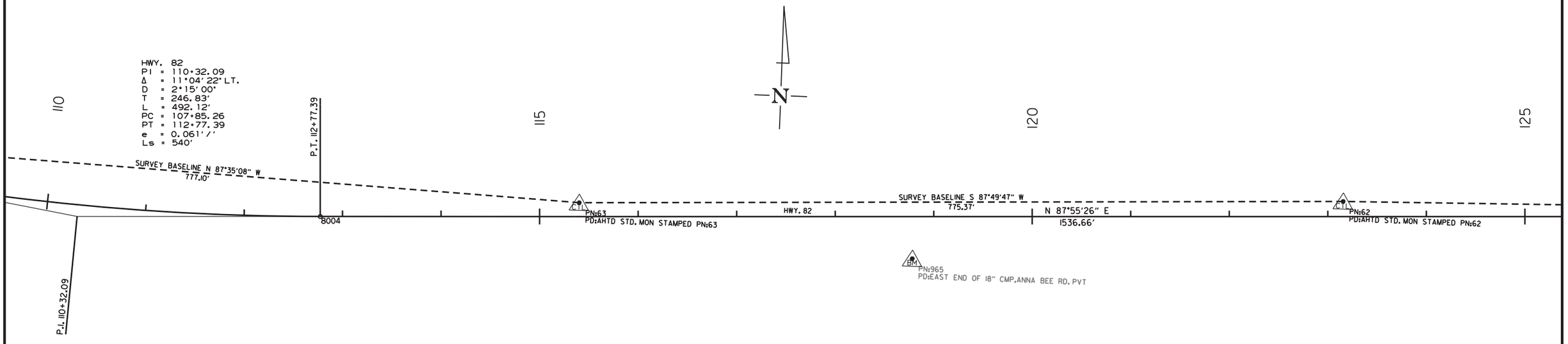

7/29/2020

RCA0706.DGN

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.		CA0706	88	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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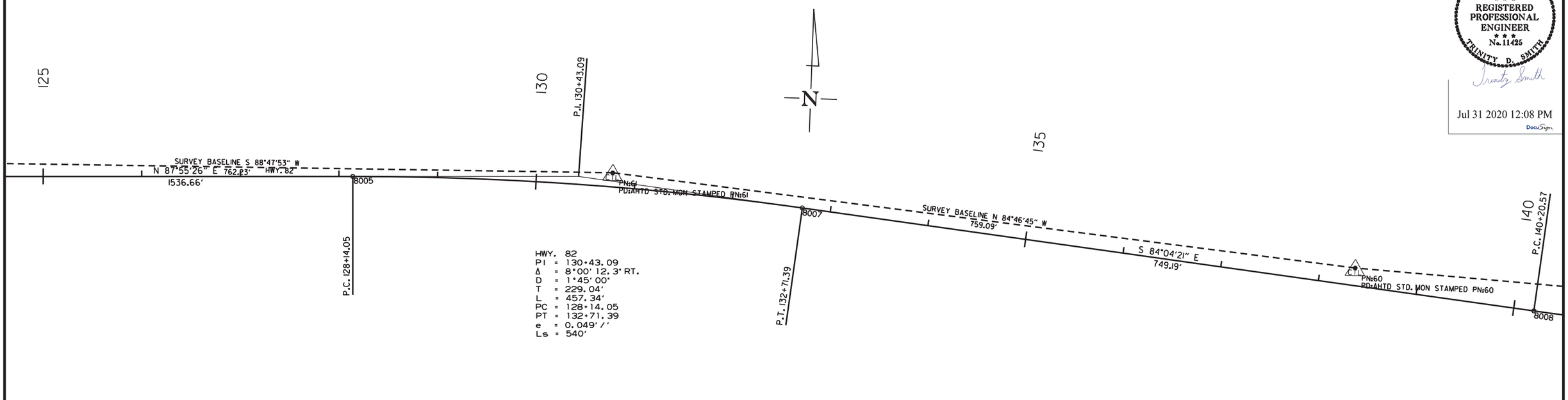

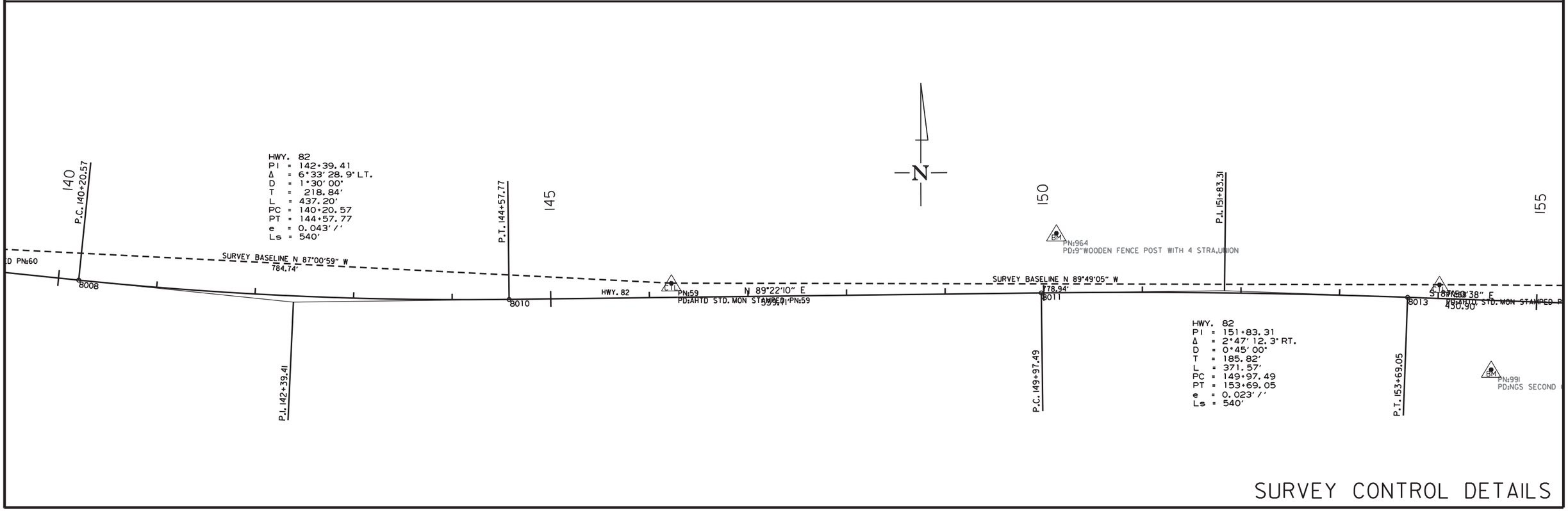

SURVEY CONTROL DETAILS

7/29/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	89	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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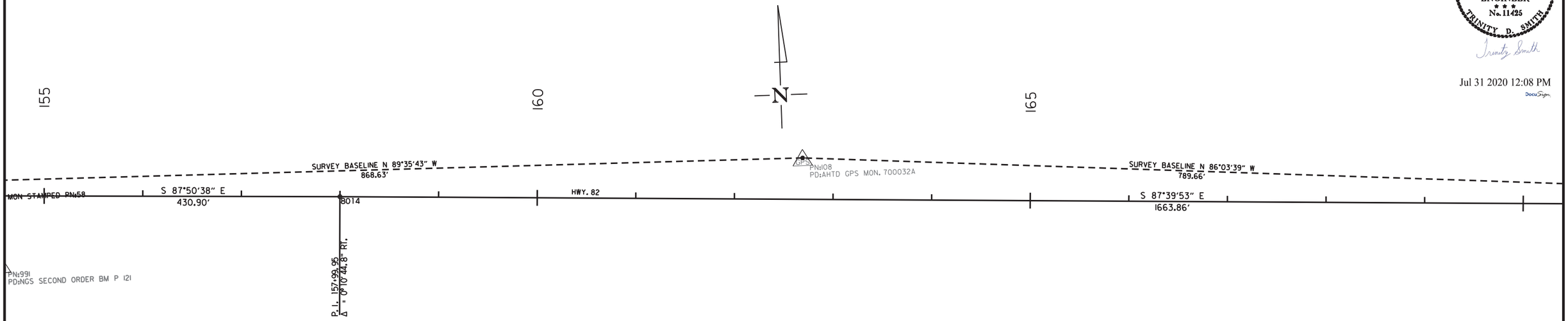

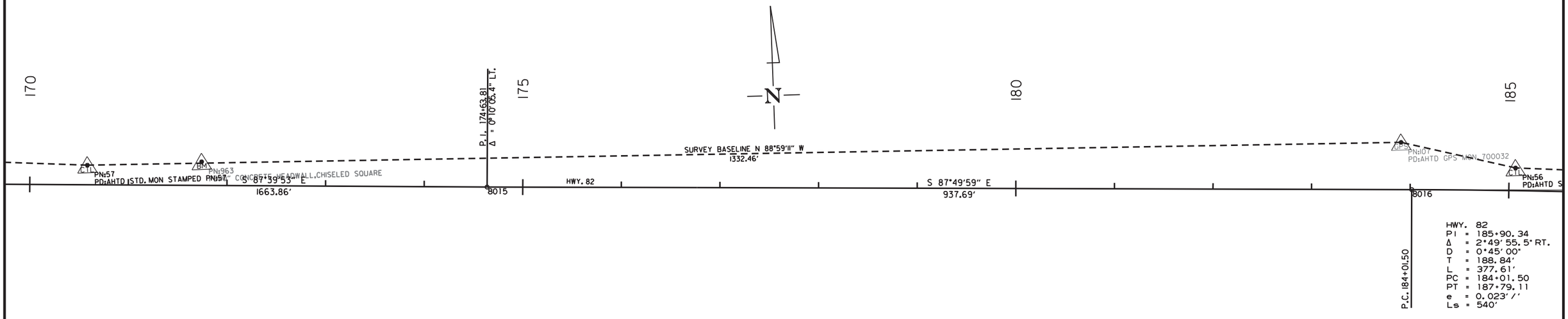

SURVEY CONTROL DETAILS

7/29/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	90	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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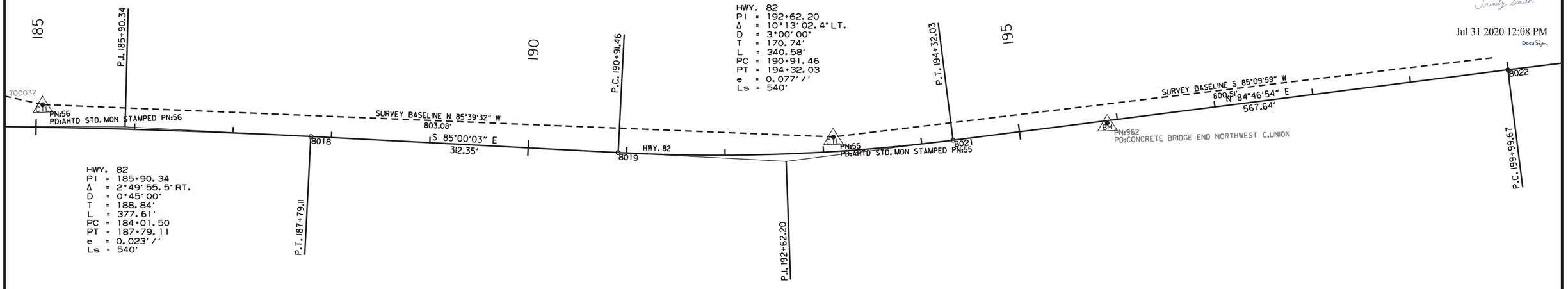

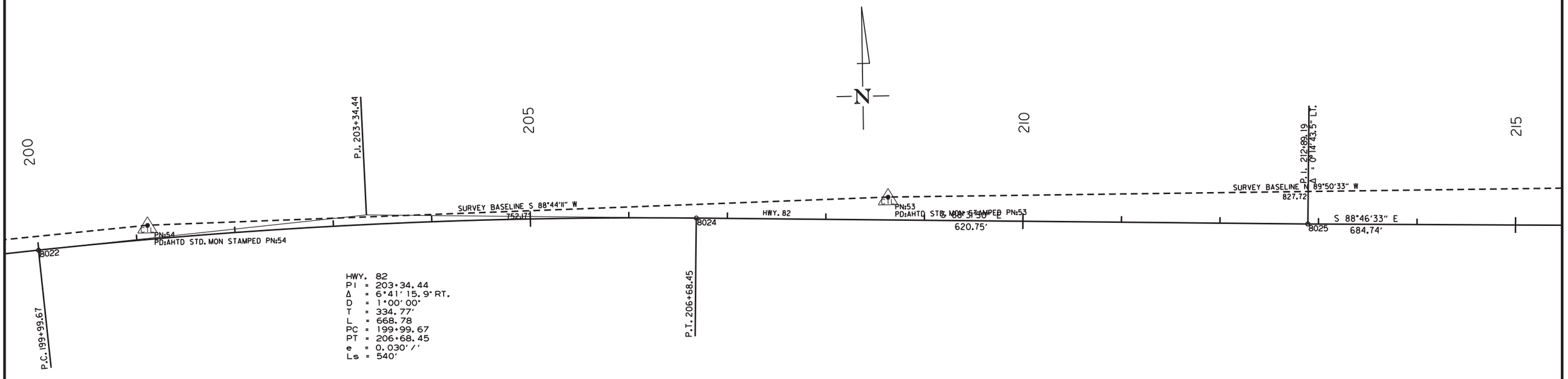

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		CA0706	91	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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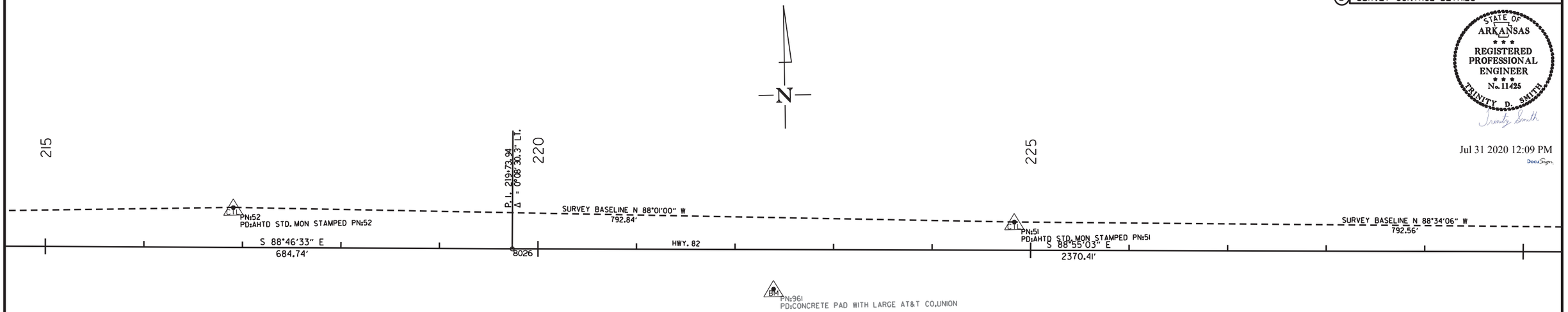

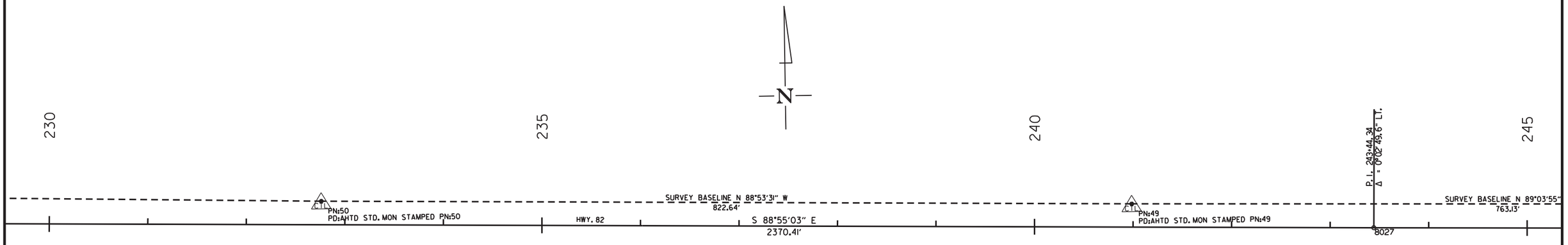

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RCA0706.DGN

SURVEY CONTROL DETAILS

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	92	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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245 250 255

LINE N 89°03'55" W
763.13'

PN:48
PD:AHTD STD. MON STAMPED PN:48

S 88°57'53" E
1359.80'

SURVEY BASELINE N 88°58'33" W
758.44'

HWY. 82

PN:47
PD:AHTD STD. MON STAMPED PN:47

8028

P.C. 257+04.15

P.I. 258+84.12

SURVEY BASELINE N 88°55'
775.38'

HWY. 82
PI = 258+84.12
Δ = 1°47'58.7" RT.
D = 0°30'00"
T = 179.98'
L = 359.93'
PC = 257+04.15
PT = 260+64.07
NO SUPERELEVATION

260 265 270 275

HWY. 82
PI = 263+34.09
Δ = 1°38'23.4" LT.
D = 0°30'00"
T = 163.99'
L = 327.97'
PC = 261+70.10
PT = 264+98.06
NO SUPERELEVATION

P.C. 261+70.10

P.T. 264+98.06

BASELINE N 88°55'03" W
775.38'

PN:46
PD:AHTD STD. MON STAMPED PN:46

SURVEY BASELINE N 88°40'40" W
840.49'

PN:45
PD:AHTD STD. MON STAMPED PN:45

SUR

S 87°09'54" E
106.03'

8030

8031

8033

HWY. 82

S 88°48'18" E
4603.75'

P.T. 260+64.07

P.I. 263+34.09

HWY. 82
PI = 258+84.12
Δ = 1°47'58.7" RT.
D = 0°30'00"
T = 179.98'
L = 359.93'
PC = 257+04.15
PT = 260+64.07
NO SUPERELEVATION

7/29/2020

RCA0706.DGN

SURVEY CONTROL DETAILS

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6	ARK.			
JOB NO.		CA0706	93	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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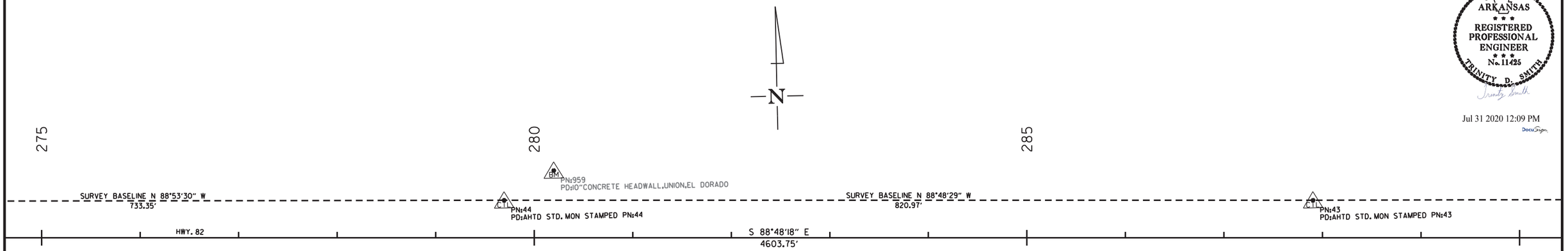

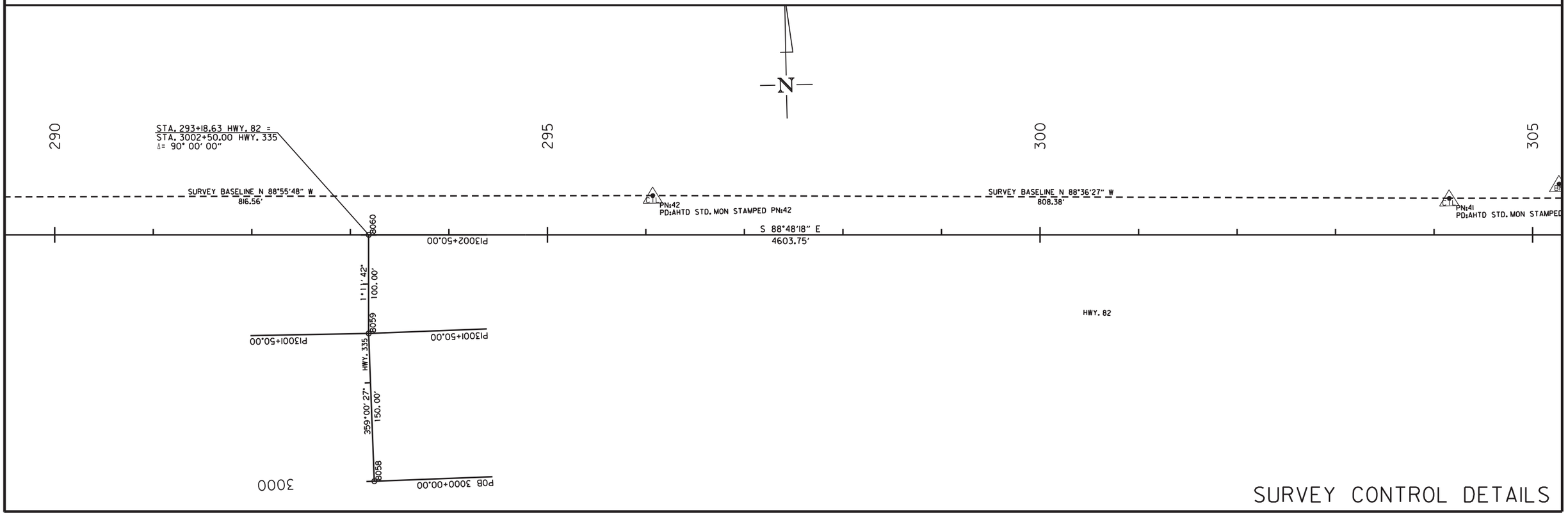

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SURVEY CONTROL DETAILS

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	94	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Trinity Smith
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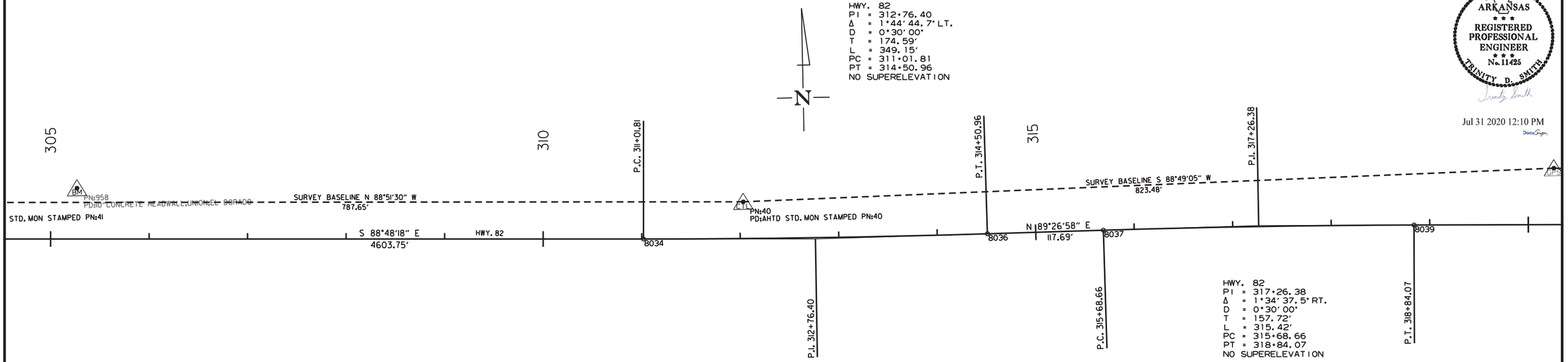

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SURVEY CONTROL DETAILS

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.		CA0706	95	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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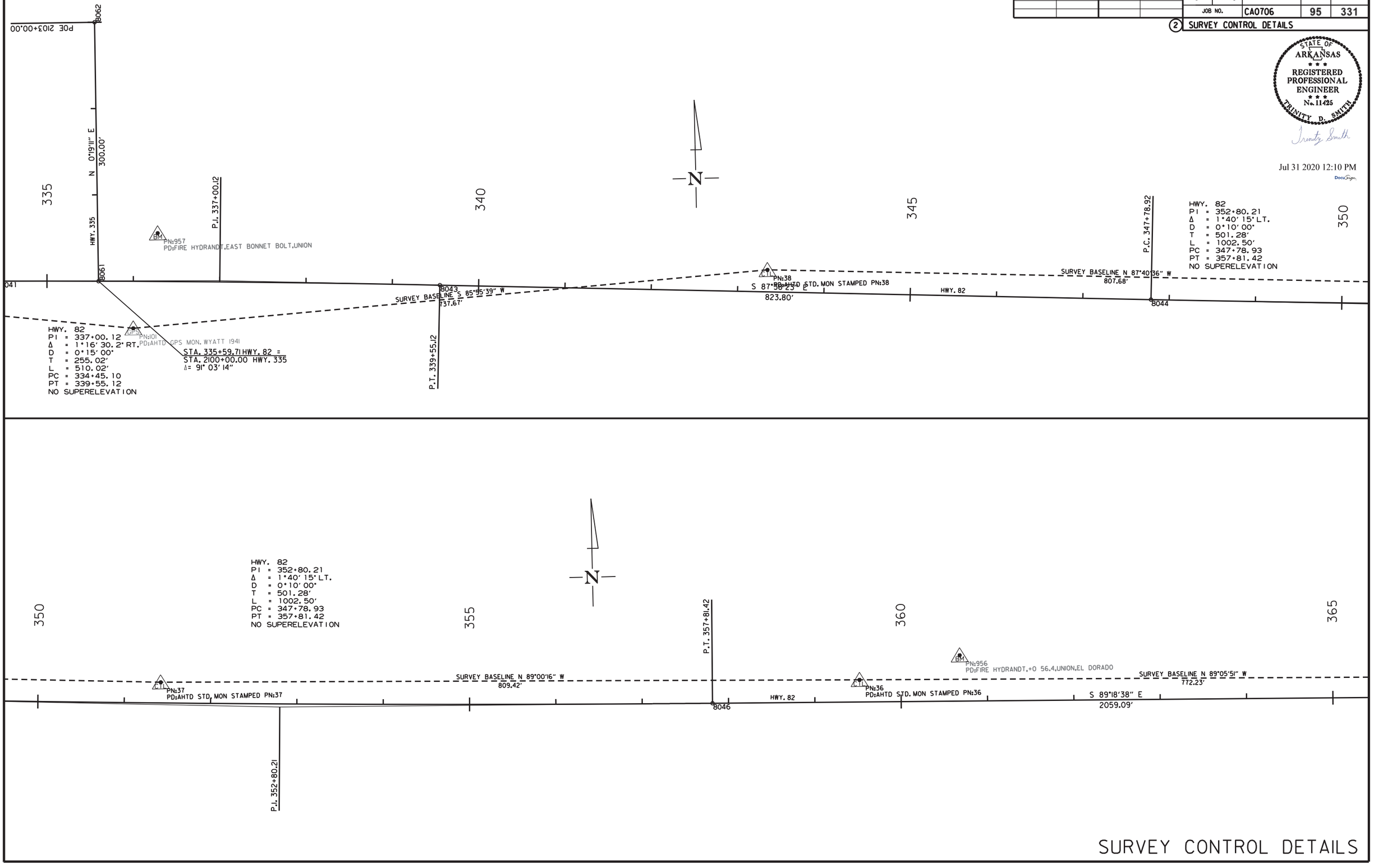

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SURVEY CONTROL DETAILS

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
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(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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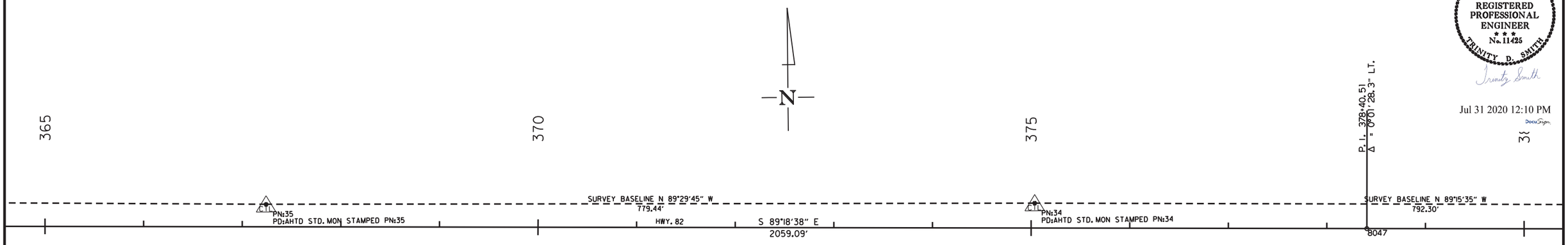

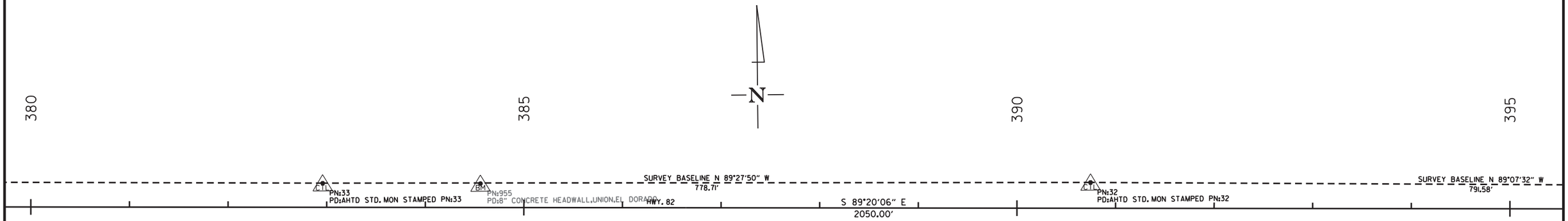

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SURVEY CONTROL DETAILS

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(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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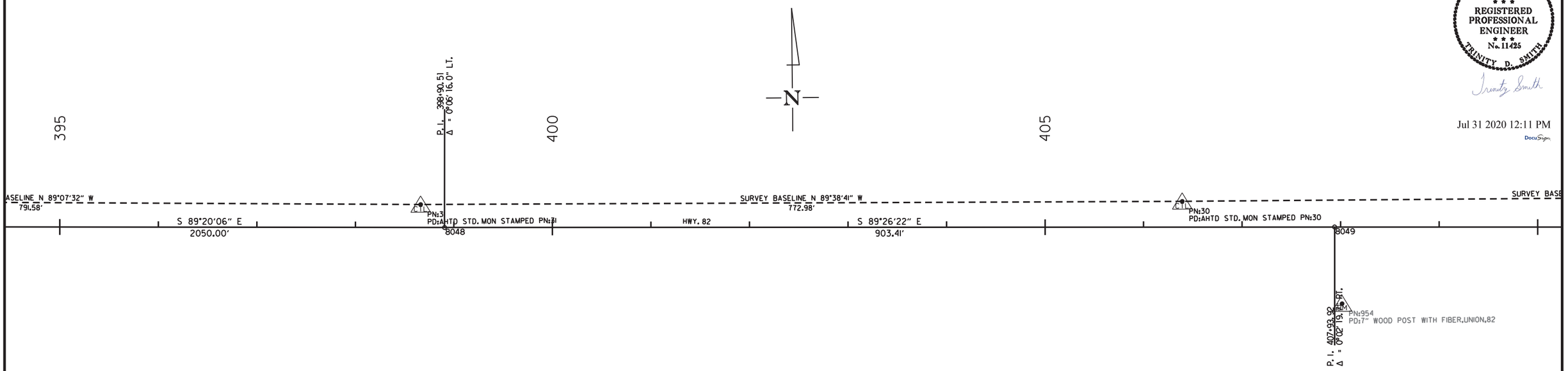

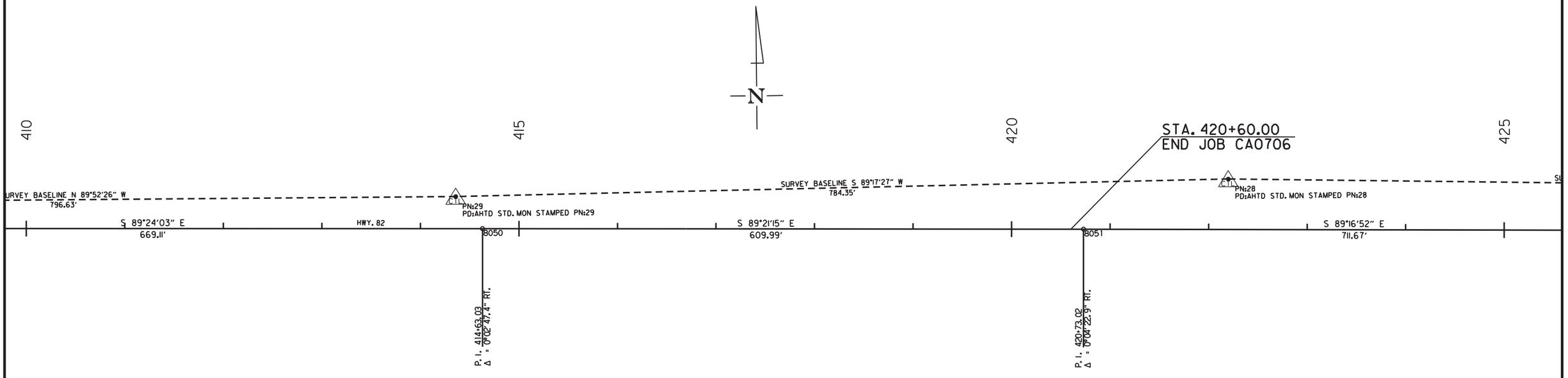

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SURVEY CONTROL DETAILS

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	98	331

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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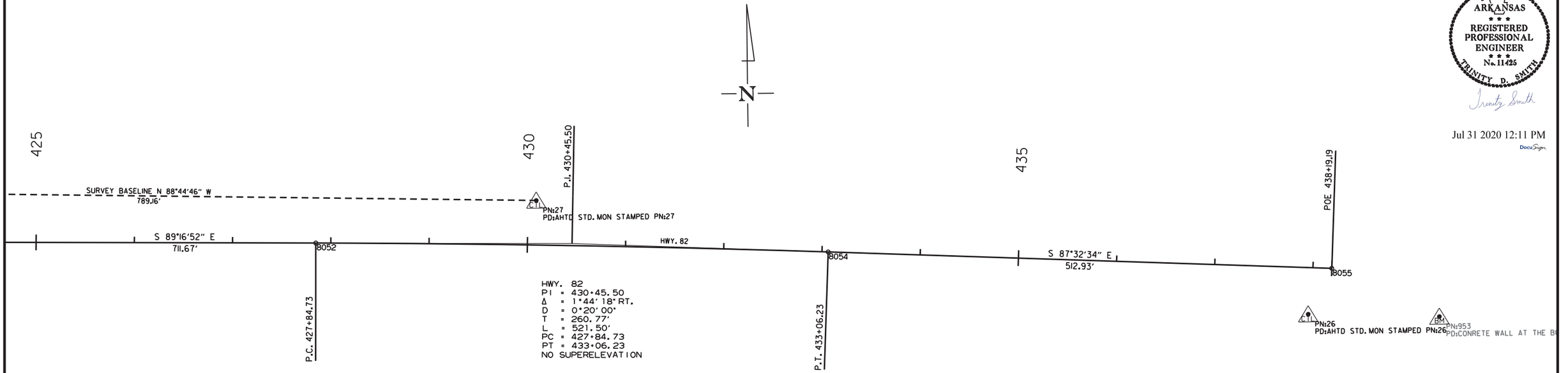

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SURVEY CONTROL DETAILS

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.		CA0706	99	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH

Trinity Smith

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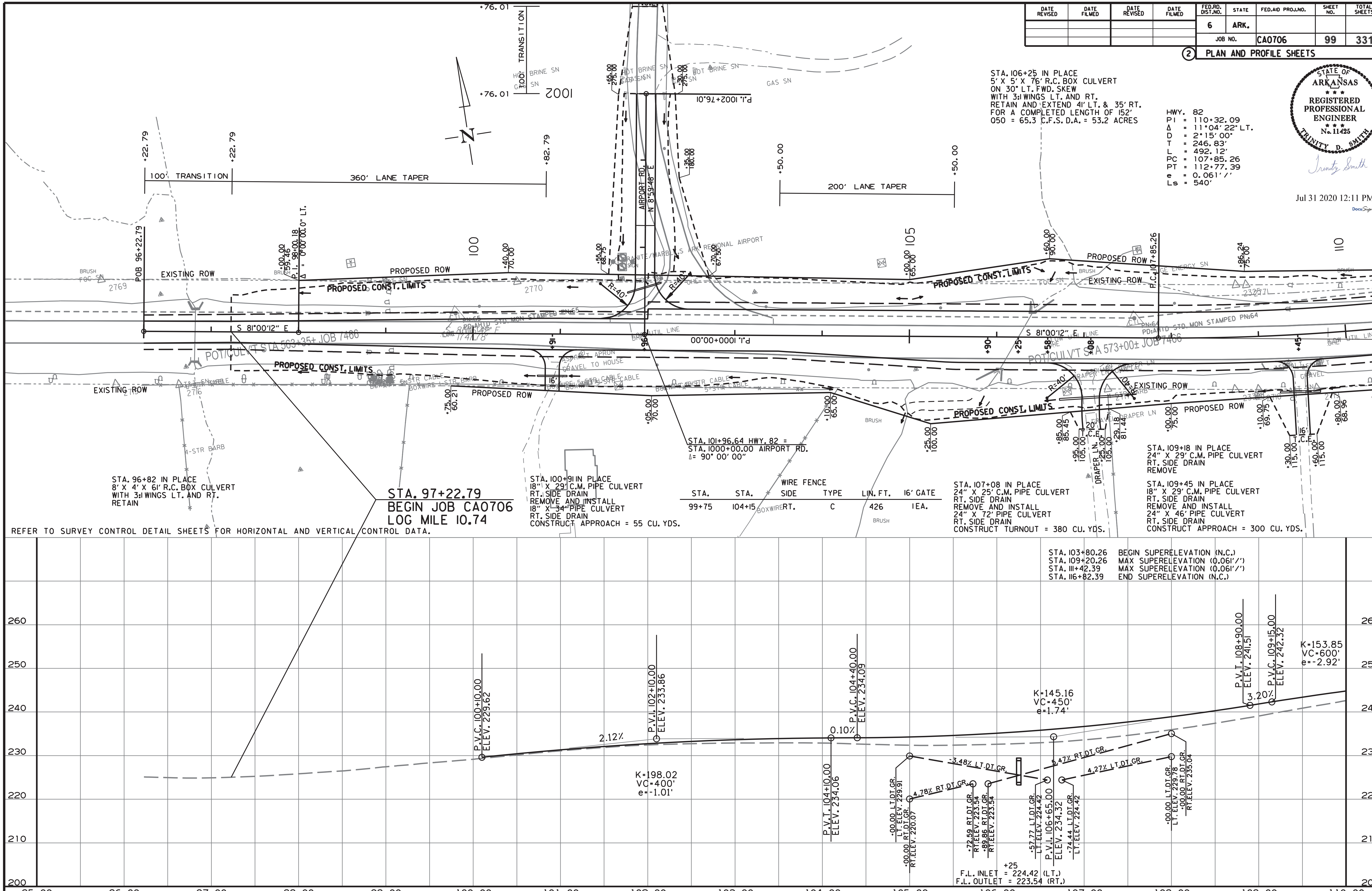

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
99+75	104+15	RT.	C	426	1 EA.

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RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	100	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 12:12 PM

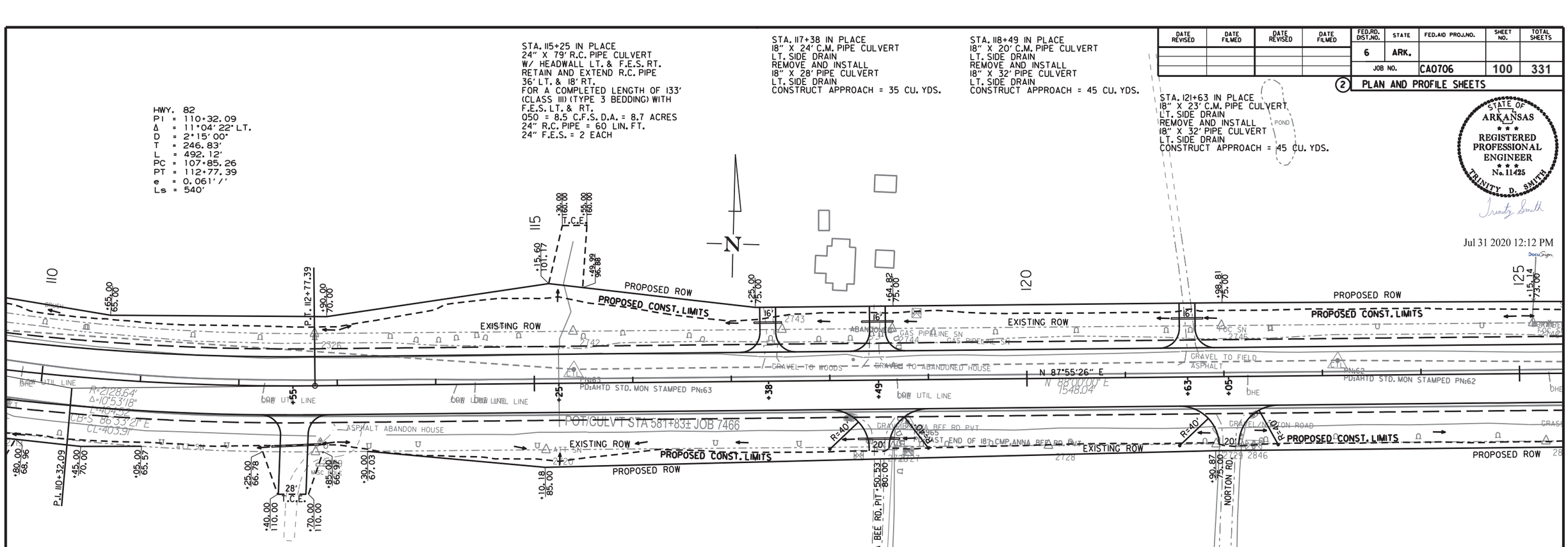
HWY. 82
PI = 110+32.09
Δ = 11°04' 22" LT.
D = 2°15' 00"
T = 246.83'
L = 492.12'
PC = 107+85.26
PT = 112+77.39
e = 0.061'/'
Ls = 540'

STA. 115+25 IN PLACE
24" X 79' R.C. PIPE CULVERT
W/ HEADWALL LT. & F.E.S. RT.
RETAIN AND EXTEND R.C. PIPE
36' LT. & 18' RT.
FOR A COMPLETED LENGTH OF 133'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
050 = 8.5 C.F.S. D.A. = 8.7 ACRES
24" R.C. PIPE = 60 LIN. FT.
24" F.E.S. = 2 EACH

STA. 117+38 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 118+49 IN PLACE
18" X 20' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 121+63 IN PLACE
18" X 23' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.



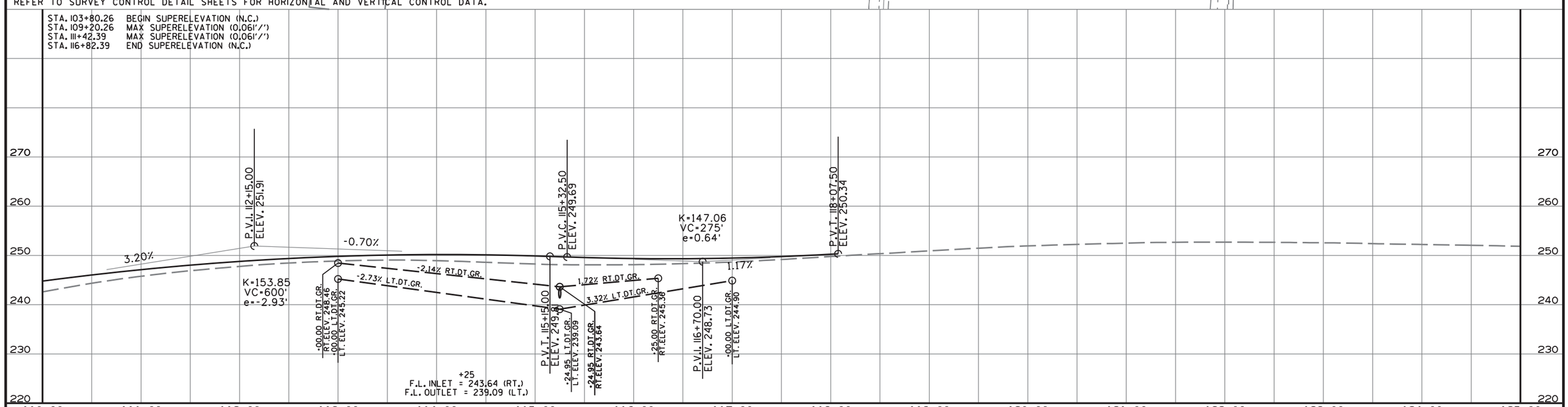
STA. 112+55 INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 235 CU. YDS.

STA. 118+49 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 70 CU. YDS.

STA. 122+05 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE
CONSTRUCT TURNOUT = 65 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 103+80.26 BEGIN SUPERELEVATION (N.C.)
STA. 109+20.26 MAX SUPERELEVATION (0.061'/')
STA. 111+42.39 MAX SUPERELEVATION (0.061'/')
STA. 116+82.39 END SUPERELEVATION (N.C.)



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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	101	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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STA. 126+06 IN PLACE
18" X 24' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 129+05 IN PLACE
18" X 18' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.

STA. 132+01 IN PLACE
24" X 75' R.C. PIPE CULVERT
W/ HEADWALL LT. & F.E.S. RT.
RETAIN AND EXTEND R.C. PIPE
38' LT. & 4' RT.
FOR A COMPLETED LENGTH OF 117'
(CLASS IV) (TYPE 3 BEDDING) WITH F.E.S. LT. & RT.
Q50 = 16.2 C.F.S. D.A. = 7.0 ACRES
24" R.C. PIPE = 48 LIN. FT.
24" F.E.S. = 2 EACH

STA. 133+93 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 135+89 IN PLACE
18" X 41' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 138+14 IN PLACE
18" X 19' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

HWY. 82
PI = 130+43.09
Δ = 8°00' 12.3" RT.
D = 1°45' 00"
T = 229.04'
L = 457.34'
PC = 128+14.05
PT = 132+71.39
e = 0.049'/'
Ls = 540'

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
132+30	143+61	RT.	C	1121	1EA.
136+35	137+70	LT.	D-1	135	

STA. 125+24 IN PLACE
18" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 126+10 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 128+40 IN PLACE
24" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

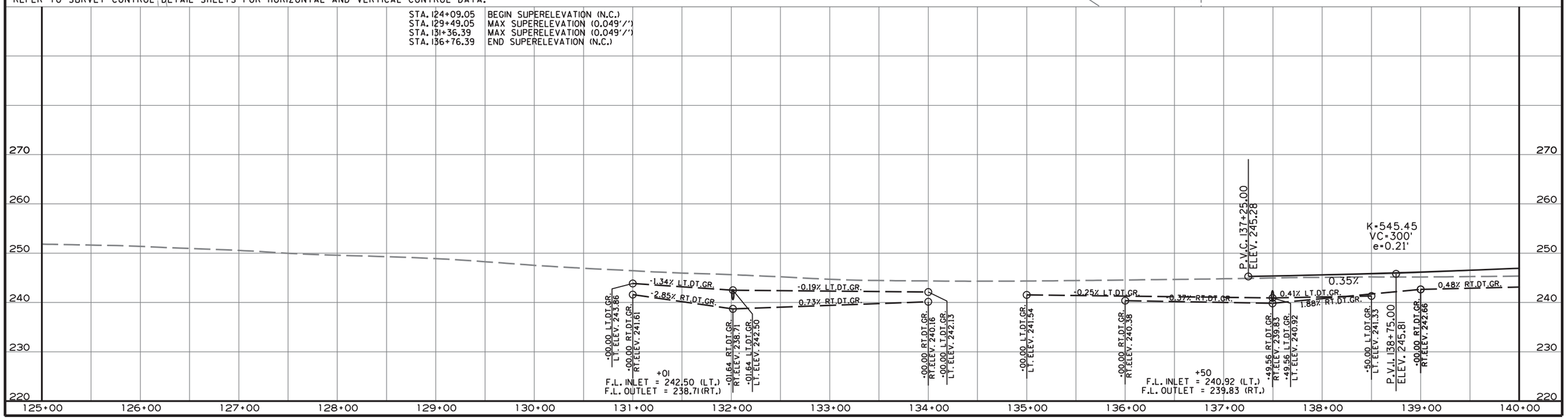
STA. 129+33 IN PLACE
24" X 34' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 132+53 IN PLACE
18" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 137+49 IN PLACE
24" X 63' R.C. PIPE CULVERT
W/ HEADWALL LT. & F.E.S. RT.
RETAIN AND EXTEND R.C. PIPE
38' LT. & 16' RT.
FOR A COMPLETED LENGTH OF 117'
(CLASS IV) (TYPE 3 BEDDING) WITH F.E.S. LT. & RT.
Q50 = 6.6 C.F.S. D.A. = 2.5 ACRES
24" R.C. PIPE = 60 LIN. FT.
24" F.E.S. = 2 EACH

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 124+09.05	BEGIN SUPERELEVATION (N.C.)
STA. 129+49.05	MAX SUPERELEVATION (0.049'/')
STA. 131+36.39	MAX SUPERELEVATION (0.049'/')
STA. 136+76.39	END SUPERELEVATION (N.C.)



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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	102	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 141+17 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH C.M. PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 143+43
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 150+28 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 152+04 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.

STA. 154+50 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

HWY. 82
PI = 142+39.41
Δ = 6°33'28.9" LT.
D = 1°30'00"
T = 218.84'
L = 437.20'
PC = 140+20.57
PT = 144+57.77
e = 0.043'/'
Ls = 540'

HWY. 82
PI = 151+83.31
Δ = 2°47'12.3" RT.
D = 0°45'00"
T = 185.82'
L = 371.57'
PC = 149+97.49
PT = 153+69.05
e = 0.023'/'
Ls = 540'

STA. 151+88 IN PLACE
24" X 28' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

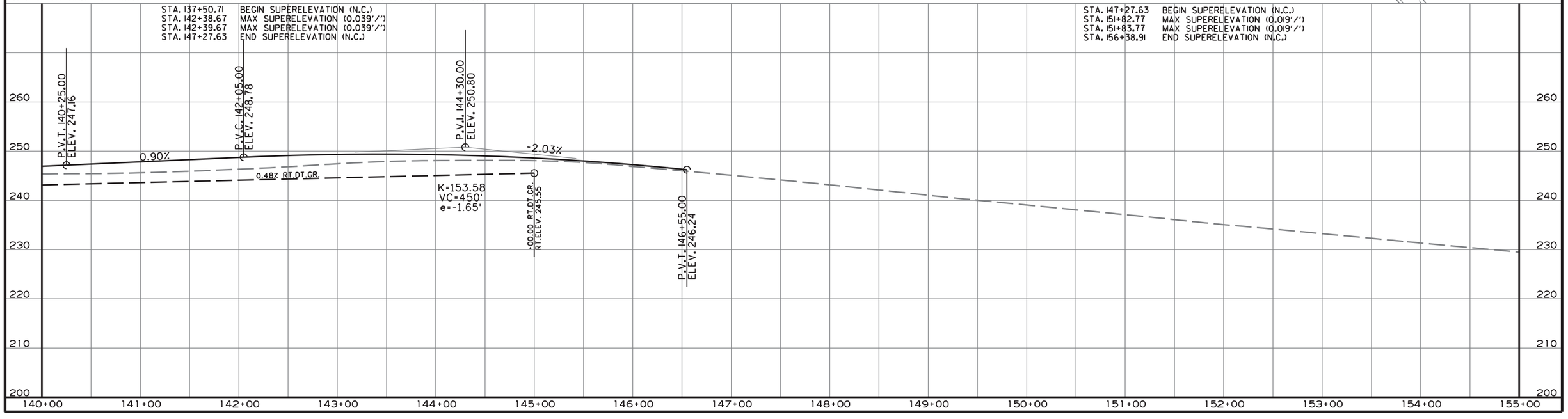
WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
143+61	148+56	RT.	C	500	
143+88	150+13	LT.	C	624	
150+42	152+03	LT.	D	181	

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 137+50.71 BEGIN SUPERELEVATION (N.C.)
STA. 142+38.67 MAX SUPERELEVATION (0.039'/')
STA. 142+39.67 MAX SUPERELEVATION (0.039'/')
STA. 147+27.63 END SUPERELEVATION (N.C.)

STA. 147+27.63 BEGIN SUPERELEVATION (N.C.)
STA. 151+82.77 MAX SUPERELEVATION (0.019'/')
STA. 151+83.77 MAX SUPERELEVATION (0.019'/')
STA. 156+38.91 END SUPERELEVATION (N.C.)



7/28/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	103	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Trinity Smith
Jul 31 2020 12:13 PM
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STA. 156+15 IN PLACE
18" X 66' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 158+28 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 159+60 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 163+39 IN PLACE
24" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

BRUSH
MISC POLE
GATE
PLANTER
BOXWIRE 2-STR BARB
FLOODPLAIN LIMITS
PROPOSED ROW
PROPOSED CONST. LIMITS
EXISTING ROW
16'
155
160
165
170
+71.85=80.00
+91.07 75.00
+68.02 72.00
+33.03 75.00
+37.42 70.00
+83.55 78.00
+65.00 80.00
2764
2765
2766
2768
2448
2787
2789
2794
2795
JOHNSON USED CAR,O.O.M.E.INC.
ATT SN
CATV FOC SN
GRAVEL TO HOUSE
ASPHALT APRON
PNHOB
POWATD GPS MON. "GOOSE"
ASPHALT
S 87°50'38" E
S 87°39'53" E
S 07°56'27" E
2294.73'
N 2°20'
+15
+28
+60
+39
MON STAMPED PNHS
EDINGS SECOND ORDER BM P 121
P.I. = 157+99.96
Δ = 6° 0' 44.8" RT.
+40.00 85.00
+20.00 85.00
+15.00 67.23
+95.00 66.35
+44.34 90.00
+20.00 90.00
+95.00 70.00

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 147+27.63 BEGIN SUPERELEVATION (N.C.)
STA. 151+82.77 MAX SUPERELEVATION (0.019'/')
STA. 151+83.77 MAX SUPERELEVATION (0.019'/')
STA. 156+38.91 END SUPERELEVATION (N.C.)

-2.19% RT.DT.GR.
-1.85% RT.DT.GR.
-2.00% RT.DT.GR.
-1.37% RT.DT.GR.
-2.07% LT.DT.GR.
-2.38% RT.DT.GR.
-00.00 RT.DT.GR. RT.ELEV. 219.79
-00.00 RT.DT.GR. RT.ELEV. 217.60
-00.00 RT.DT.GR. RT.ELEV. 215.75
-00.00 RT.DT.GR. RT.ELEV. 211.75
-00.00 RT.DT.GR. RT.ELEV. 210.38
-00.00 RT.DT.GR. RT.ELEV. 203.97
-00.00 LT.DT.GR. LT. ELEV. 203.94
P.V.C. 169+70.00 ELEV. 208.41

240 230 220 210 200 190 180

155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	104	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 12:13 PM

STA. 171+53 IN PLACE
DBL. 10' X 8' X 51' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 35' LT. & 36' RT.
FOR A COMPLETED LENGTH OF 122'
050 = 616 C.F.S. D.A. = 1.45 SQUARE MILES

STA. 173+26 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 125 CU. YDS.

STA. 176+47 INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 179+18 IN PLACE
3' X 3' X 56' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 34' LT. & 46' RT.
FOR A COMPLETED LENGTH OF 136'
050 = 35.1 C.F.S. D.A. = 38.2 ACRES

STA. 179+77 IN PLACE
24" X 37' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 105 CU. YDS.

STA. 183+75 IN PLACE
18" X 60' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 56' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.

STA. 176+71
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 180+78 IN PLACE
18" X 34' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.

STA. 184+80 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 82
PI = 185+90.34
Δ = 2°49'55.5" RT.
D = 0°45'00"
T = 188.84'
L = 377.61'
PC = 184+01.50
PT = 187+79.11
e = 0.023'/'
Ls = 540'

STA. 182+24.62 BEGIN SUPERELEVATION (N.C.)
STA. 185+89.81 MAX SUPERELEVATION (0.016'/')
STA. 185+90.81 MAX SUPERELEVATION (0.016'/')
STA. 189+56.00 END SUPERELEVATION (N.C.)

K=136.36
VC=300'
e=0.83'

K=157.89
VC=450'
e=-1.60'

K=139.53
VC=300'
e=0.81'

K=158.73
VC=600'
e=-2.84'

050 H.W. = 203.2

P.V.I. 171+20.00 ELEV. 208.18
P.V.T. 172+70.00 ELEV. 211.26
P.V.C. 173+45.00 ELEV. 212.79
P.V.I. 175+70.00 ELEV. 217.41
P.V.T. 177+95.00 ELEV. 215.61
P.V.C. 179+55.00 ELEV. 214.33
P.V.I. 181+05.00 ELEV. 213.13
P.V.T. 182+55.00 ELEV. 215.15
P.V.C. 183+65.00 ELEV. 216.64

+53 F.L. INLET = 197.09 (LT.) F.L. OUTLET = 196.08 (RT.)
+18 F.L. INLET = 207.14 (LT.) F.L. OUTLET = 201.37 (RT.)

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	105	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 186+55 INSTALL
18" X 56' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.

STA. 190+21 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
187+79	190+95	RT.	C	325	1EA.

HWY. 82
PI = 192+62.20
Δ = 10°13'02.4" LT.
D = 3°00'00"
T = 170.74'
L = 340.58'
PC = 190+91.46
PT = 194+32.03
e = 0.077'/'
Ls = 540'

STA. 199+62 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 215 CU. YDS.

BR. END STA. 196+78.50

BR. END STA. 195+77.50

FLOODPLAIN LIMITS

CORNIE BAYOU

PROPOSED ROW

PROPOSED CONST. LIMITS

EXISTING ROW

HWY. 82
PI = 185+90.34
Δ = 2°49'55.1" RT.
D = 0°45'00"
T = 188.84'
L = 377.61'
PC = 184+01.50
PT = 187+79.11
e = 0.023'/'
Ls = 540'

STA. 186+45
CONSTRUCT APPROACH = 20 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 187+50 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 190+85 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 270 CU. YDS.

STA. 195+92.25 TO STA. 196+66.58 - IN PLACE
BR. NO. 02605
75' X 28'-0" CLEAR ROADWAY WIDTH
REMOVAL OF EXISTING BRIDGE STRUCTURE
(SITE NO. 1) = 1.00 LUMP SUM

STA. 195+77.50 BRIDGE END
BRIDGE NO. 07410 OVER CORNIE BAYOU
100' CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT
(30'-40'-30')
75'-0" CLEAR ROADWAY
101'-0" BRIDGE LENGTH
STA. 196+78.50 BRIDGE END
050 = 1370 C.F.S. D.A. = 3.47 SQUARE MILES

POT/BR END STA 662+54.5± JOB 7466

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 182+24.62 BEGIN SUPERELEVATION (N.C.)
STA. 185+89.81 MAX SUPERELEVATION (0.016'/')
STA. 185+90.81 MAX SUPERELEVATION (0.016'/')
STA. 189+56.00 END SUPERELEVATION (N.C.)

STA. 189+56.00 BEGIN SUPERELEVATION (N.C.)
STA. 192+61.25 MAX SUPERELEVATION (0.044'/')
STA. 192+62.25 MAX SUPERELEVATION (0.044'/')
STA. 195+67.50 END SUPERELEVATION (N.C.)

STA. 196+88.50 BEGIN SUPERELEVATION (N.C.)
STA. 202+28.50 MAX SUPERELEVATION (0.030'/')
STA. 205+33.45 MAX SUPERELEVATION (0.030'/')
STA. 210+73.45 END SUPERELEVATION (N.C.)

P.V.I. 186+65.00 ELEV. 220.69
K=158.73 VC=600' e=-2.84'
-50.00 LT.DT.GR. LT. ELEV. 213.50
-2.43%
-3.00% LT.DT.GR.
P.V.C. 189+70.00 ELEV. 213.26
P.V.T. 189+65.00 ELEV. 213.38
-00.00 LT.DT.GR. LT. ELEV. 206.00
-1.91% LT.DT.GR.
K=139.44 VC=350' e=1.10'
P.V.I. 191+45.00 ELEV. 209.00
-00.00 LT.DT.GR. LT. ELEV. 202.18
P.V.T. 193+20.00 ELEV. 209.13
-00.00 RT.DT.GR. RT. ELEV. 200.47
-0.19% RT.DT.GR.
-00.00 RT.DT.GR. RT. ELEV. 200.08
0.08%
BR. END STA. 195+77.50
P.V.C. 196+05.00 ELEV. 209.35
BR. END STA. 196+78.50
BRIDGE NO. 07410
050 H.W. = 203.4
K=151.31 VC=400' e=1.32'
P.V.I. 198+05.00 ELEV. 209.50
-00.00 RT.DT.GR. RT. ELEV. 205.71
2.54% RT.DT.GR.
-00.00 RT.DT.GR. RT. ELEV. 208.25

JAY DISON SPRING BRANCH AT STA. 195+95 TO STA. 196+70 IS CLASSIFIED AS PERENNIAL. THE TOP OF CHANNEL ELEVATION IS 200 MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

230 220 210 200 190 180 170

185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	106	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 201+40 IN PLACE
24" X 36' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.

STA. 201+75 IN PLACE
24" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 204+25 IN PLACE
18" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 120 CU. YDS.

STA. 205+55 IN PLACE
8' X 18' S.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 340 CU. YDS.

STA. 206+42 IN PLACE
8' X 27' S.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 209+31 IN PLACE
18" X 53' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 225 CU. YDS.

STA. 210+78 IN PLACE
4' X 4' X 55' R.C. BOX CULVERT
WITH 31 WINGS LT. AND RT.
RETAIN AND EXTEND 42' LT. & 37' RT.
FOR A COMPLETED LENGTH OF 134'
Q50 = 85.1 C.F.S. D.A. = 39.7 ACRES

STA. 214+26 IN PLACE
18" X 24' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
203+09	203+70	RT.	C	60	
204+06	206+34	RT.	4' CHAIN LINK	264	1 EA.
206+34	207+66	RT.	C	134	
208+05	209+48	RT.	C	143	
210+24	214+63	RT.	C	445	
211+37	213+90	LT.	4' CHAIN LINK	255	

HWY. 82
PI = 203+34.44
Δ = 6°41' 15.9" RT.
D = 1°00' 00"
T = 334.77'
L = 668.78
PC = 199+99.67
PT = 206+68.45
e = 0.030'/'
Ls = 540'

STA. 203+99 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS. COMP. EMB.
155 CU. YDS. UNCL. EXC.

STA. 204+76
CONSTRUCT APPROACH = 70 CU. YDS. COMP. EMB.
225 CU. YDS. UNCL. EXC.

STA. 205+93 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 207+82 IN PLACE
18" X 21' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS. COMP. EMB.
15 CU. YDS. UNCL. EXC.

STA. 209+55 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.

STA. 210+14 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 190 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 196+88.50 BEGIN SUPERELEVATION (N.C.)
STA. 202+28.50 MAX SUPERELEVATION (0.030'/')
STA. 205+33.45 MAX SUPERELEVATION (0.030'/')
STA. 210+73.45 END SUPERELEVATION (N.C.)

P.V.T. 200+05.00
ELEV. 214.95
2.72%
P.V.C. 200+60.00
ELEV. 216.45
3.29% RT.DT.GR.
-00.00 RT.DT.GR.
RT.ELEV. 208.25
-75.00 RT.DT.GR.
RT.ELEV. 214.00
2.11% RT.DT.GR.
-00.00 RT.DT.GR.
RT.ELEV. 216.64
P.V.I. 203+85.00
ELEV. 225.30
1.30%
K=161.69
VC=650'
e=-3.27'
P.V.R.C. 207+10.00
ELEV. 221.07
-00.00 RT.DT.GR.
RT.ELEV. 215.38
-00.00 LT.DT.GR.
LT. ELEV. 213.05
-2.33% RT.DT.GR.
-2.52% LT.DT.GR.
K=136.79
VC=725'
e=4.80'
P.V.I. 210+72.50
ELEV. 216.36
-76.75 RT.DT.GR.
RT.ELEV. 211.41
-68.77 LT.DT.GR.
LT. ELEV. 208.80
-85.74 LT.DT.GR.
LT. ELEV. 208.80
-8.71 RT.DT.GR.
RT.ELEV. 211.41
+79
F.L. INLET = 211.41 (RT.)
F.L. OUTLET = 208.80 (LT.)
6.69% LT.DT.GR.
-00.00 LT.DT.GR.
LT. ELEV. 216.44
3.39% RT.DT.GR.
-00.00 RT.DT.GR.
RT.ELEV. 218.60
3.77% LT.DT.GR.
-00.00 RT.DT.GR.
RT.ELEV. 223.15
2.20% RT.DT.GR.
-50.00 RT.DT.GR.
RT.ELEV. 224.25
6.00% RT.DT.GR.
P.V.T. 214+35.00
ELEV. 230.86
4.00%

250
240
230
220
210
200
190
200+00
201+00
202+00
203+00
204+00
205+00
206+00
207+00
208+00
209+00
210+00
211+00
212+00
213+00
214+00
215+00

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	107	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 215+65 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
214+63	216+30	RT.	C	167	1EA.
219+61	223+16	LT.	4' CHAIN LINK	338	1EA.

STA. 219+29 IN PLACE
18" X 33' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 221+05 INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 224+19 INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 216+88 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 218+85 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 218+85 IN PLACE
18" X 21' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 223+43 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 225+94 IN PLACE
12" X 35' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 215+75 IN PLACE
18" X 23' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 217+90 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

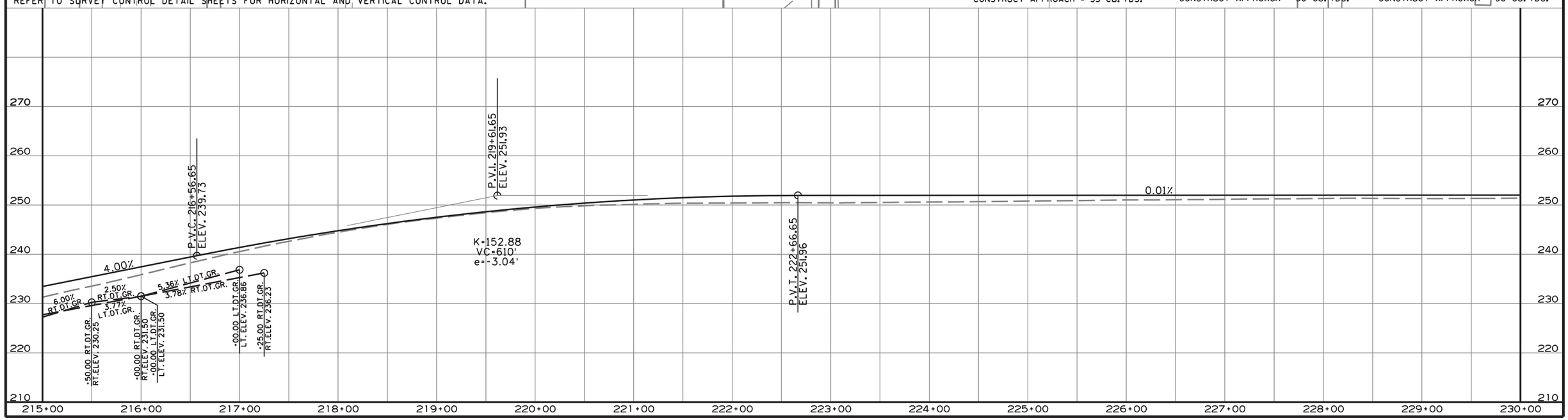
STA. 222+98
CONSTRUCT TURNOUT = 60 CU. YDS.

STA. 224+37 IN PLACE
18" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 226+54 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 229+52 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	108	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
233+14	234+69	RT.	C	155	

STA. 236+83
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 239+82 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 242+93 IN PLACE
30" X 58' R.C. PIPE CULVERT W/ HEADWALL LT. & RT.
RETAIN & EXTEND
30' LT. & 32' RT. ON 15° RT. FWD. SKEW
FOR A COMPLETED LENGTH OF 120'
(CLASS III) (TYPE I BEDDING) WITH
F.E.S. LT. & RT.
Q50 = 13.3 C.F.S. D.A. = 10.4 ACRES
30" R.C. PIPE = 70 LIN. FT.
30" F.E.S. = 2 EACH

STA. 244+56 IN PLACE
24" X 18' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

PROPOSED ROW
PROPOSED CONST. LIMITS
EXISTING ROW
S 88°55'03" E
S 88°56'23" E
S 88°57'53" E
P.I. = 243+40.34
Δ = 1°00'00" LT.
D = 19.6' LT.
POTHOLE V.T STA 709+58± JOB 7466

STA. 230+23 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 230+96 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20' X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 231+91 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 232+99 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 234+76 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 237+77
CONSTRUCT APPROACH = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 238+22 INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

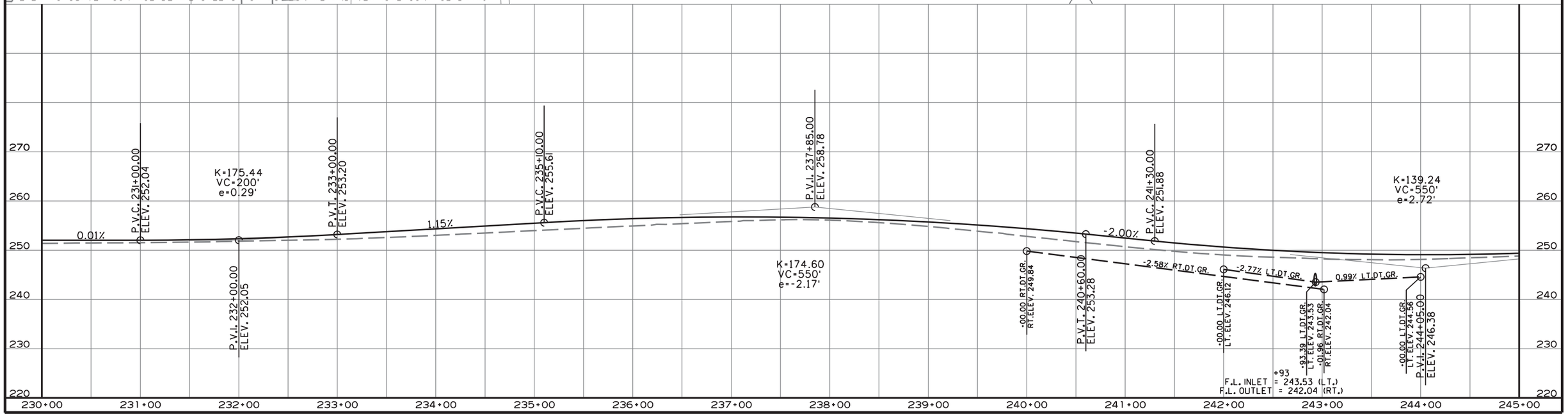
STA. 238+80 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 240+65 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 241+24 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 242+75 IN PLACE
18" X 24' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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TRINITY D. SMITH

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STA. 246+00 IN PLACE
24" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 246+89 IN PLACE
18" X 21' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
20" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 247+74 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 248+13 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 249+43 IN PLACE
18" X 29' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 250+48 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 253+54 IN PLACE
24" X 54' R.C. PIPE CULVERT W/ HEADWALL LT. AND RT.
RETAIN AND EXTEND
32' LT. & 34' RT.
FOR A COMPLETED LENGTH OF 120'
(CLASS IV) (TYPE 3 BEDDING) WITH F.E.S. LT. & RT.
050 = 9.86 C.F.S. D.A. = 8.4 ACRES
24" R.C. PIPE = 74 LIN. FT.
24" F.E.S. = 2 EACH

STA. 252+95 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 255+69 IN PLACE
18" X 24' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 255+94 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 257+42 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 258+98 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
247+16	248+80	RT.	4' CHAIN LINK	164	
248+80	254+40	RT.	C	560	
256+11	258+38	LT.	5' CHAIN LINK	228	

HWY. 82
PI = 258+84.12
Δ = 1°47' 58.7" RT.
D = 0°30' 00"
T = 179.98'
L = 359.93'
PC = 257+04.15
PT = 260+64.07
NO SUPERELEVATION

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

K=139.24
VC=550'
e=2.72'
P.V.T. 246+80.00
ELEV. 251.74
1.95%
P.V.C. 248+70.00
ELEV. 255.44
P.V.I. 250+45.00
ELEV. 258.86
-0.20%
K=162.79
VC=350'
e=-0.94'
P.V.T. 252+20.00
ELEV. 258.51
-00.00 LT.DT.GR.
LT. ELEV. 254.00
-50.00 RT.DT.GR.
RT.ELEV. 253.89
-0.55% RT.DT.GR.
-0.58% LT.DT.GR.
-53.51 LT.DT.GR.
LT. ELEV. 253.11
-53.51 RT.DT.GR.
RT.ELEV. 253.32
0.01% RT.DT.GR.
-0.22% LT.DT.GR.
-60.00 LT.DT.GR.
LT. ELEV. 252.88
-00.00 RT.DT.GR.
RT.ELEV. 253.33
+54
F.L. INLET = 253.32 (RT.)
F.L. OUTLET = 253.11 (LT.)

270 260 250 240 230 220

245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00 257+00 258+00 259+00 260+00

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(2) PLAN AND PROFILE SHEETS

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TRINITY D. SMITH

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STA. 261+41 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 261+88 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 265+86
CONSTRUCT APPROACH = 45 CU. YDS.

HWY. 82
PI = 263+34.09
Δ = 1°38' 23.4" LT.
D = 0°30' 00"
T = 163.99'
L = 327.97'
PC = 261+70.10
PT = 264+98.06
NO SUPERELEVATION

STA. 271+34 IN PLACE
24" X 62' R.C. PIPE CULVERT W/ HEADWALL LT. & RT.
RETAIN AND EXTEND
26' LT. & 50' RT.
FOR A COMPLETED LENGTH OF 138'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
Q50 = 8.5 C.F.S. D.A. = 4.2 ACRES
24" R.C. PIPE = 84 LIN. FT.
24" F.E.S. = 2 EACH

HWY. 82
PI = 258+84.12
Δ = 1°47' 58.7" RT.
D = 0°30' 00"
T = 179.98'
L = 359.93'
PC = 257+04.15
PT = 260+64.07
NO SUPERELEVATION

STA. 264+29 IN PLACE
18" X 41' S.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" x 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 266+05 IN PLACE
18" X 36' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT TURNOUT = 55 CU. YDS.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
262+80	264+55	RT.	D-1	175	1EA.

STA. 273+32 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

P.C. 261+70.10
P.I. 263+34.09
P.T. 260+64.07
P.I. 264+98.06
P.I. STA 733+81± JOB 7466
POT/CULV'T STA 738+00± JOB 7466
P.V.C. 265+65.00 ELEV. 261.62
P.V.I. 267+15.00 ELEV. 262.38
P.V.T. 268+65.00 ELEV. 260.43
P.V.C. 272+50.00 ELEV. 255.43
P.V.I. 274+00.00 ELEV. 253.48
0.51%
-1.22% RT.DT.GR.
-1.30%
-2.52% RT.DT.GR.
-2.46% RT.DT.GR.
-3.25% LT.DT.GR.
1.51% RT.DT.GR.
1.38% LT.DT.GR.
-2.90%
-2.88% LT.DT.GR.
K=165.75
VC=300'
e=-0.68'
K=187.50
VC=300'
e=-0.60'
+34
F.L. INLET = 247.67 (RT.)
F.L. OUTLET = 245.75 (LT.)

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STA. 280+11 IN PLACE
4' X 4' X 52' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 28' LT. & 60' RT.
FOR A COMPLETED LENGTH OF 140'
050 = 30.7 C.F.S. D.A. = 29.6 ACRES

STA. 282+15 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 16' STUB OUTLET W/ F.E.S. LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 7"
18" R.C. PIPE = 16 LIN. FT.
18" F.E.S. = 1 EACH

STA. 284+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 231' PIPE OUTLET
CONNECT TO D.I. @ STA. 282+15 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 7"

STA. 287+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 284+50 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 5"

STA. 289+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 287+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 282+04.00 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 9.4 SQ. YDS.

STA. 282+68 IN PLACE
18" X 37' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.

N

BRUSH

SWAMP

PROPOSED ROW

EXISTING ROW

PROPOSED CONST. LIMITS

H2S PIPELINE

BOX WIRE FOR GAS LINE

6' CH LINK 3-STR BARB

CONC SAFE SN PN:959

PD:10 CONCRETE HEADWALL,UNION,EL DORADO

PD:AHTD STD. MON STAMPED PN:44

PD:AHTD STD. MON STAMPED PN:43

TRAVEL TO WOODS

TRAVEL TO HOUSE

TRAVEL TO FIELD

DBW UTIL LINE

FOC ATT SN

AT&T SN

S 88°48'18" E

2857

2873

2875

STA. 282+04.00 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 9.4 SQ. YDS.

STA. 282+10 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 20' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 6"
18" R.C. PIPE = 20 LIN. FT.
18" F.E.S. = 1 EACH

25' SHLDR. TAPER

90' LANE TAPER

208'-0" CURB TRANSITION

STA. 283+63 IN PLACE
18" X 24' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 285+84 IN PLACE
18" X 21' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 286+75 IN PLACE
18" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 284+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 236' PIPE OUTLET
CONNECT TO D.I. @ STA. 282+10 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 7"

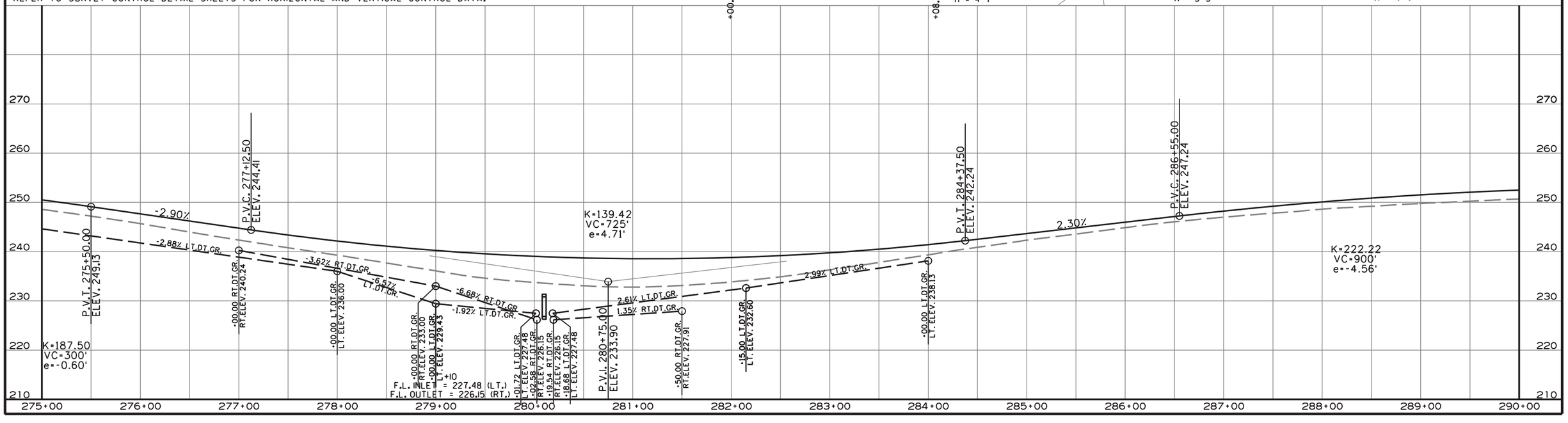
STA. 287+05 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 251' PIPE OUTLET
CONNECT TO D.I. @ STA. 284+50 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 5"

STA. 289+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 241' PIPE OUTLET
CONNECT TO D.I. @ STA. 287+05 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
282+83	284+02	LT.	5' CHAIN LINK C	119	
286+07	286+67	RT.		60	

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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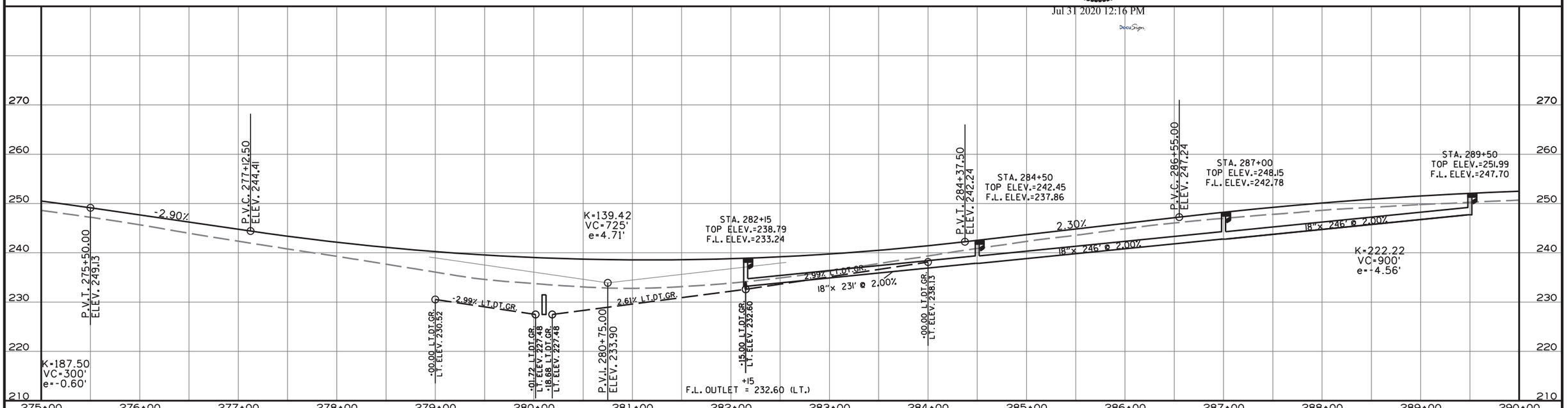

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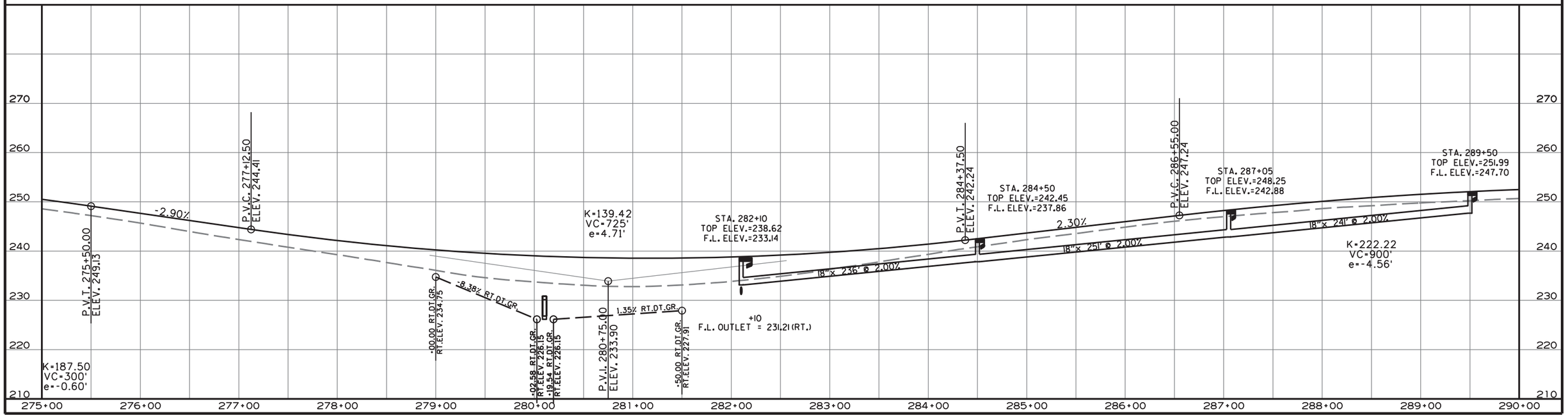

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STA. 300+88 IN PLACE
18" X 25' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT TURNOUT = 30 CU. YDS.

STA. 294+50 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 271' PIPE OUTLET
CONNECT TO D.I. @ STA. 297+25 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 297+25 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 299+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 2"

STA. 299+75 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 302+25 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 6"

STA. 302+25 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 304+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 9"

STA. 304+75 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 51' PIPE OUTLET
CONNECT TO D.I. @ STA. 305+29 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 293+18.63 HWY. 82
TIE 28' RT. OF HWY. 82 =
STA. 3002+50.00 HWY. 335
Δ = 90° 00' 00"

STA. 300+38 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 20.3 SQ. YDS.

STA. 301+38 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 20.3 SQ. YDS.

ROLLING HILLS DR.

EXISTING ROW

PROPOSED CONST. LIMITS

PROPOSED ROW

S 88°48'01" E
5367.60'

S 88°48'18" E

P.I. 3002+50.00

HWY. 335

STA. 294+50 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 271' PIPE OUTLET
CONNECT TO D.I. @ STA. 297+25 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 297+25 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 299+75 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 2"

STA. 299+75 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 302+25 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 6"

STA. 302+25 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 304+75 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 9"

STA. 304+75 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 50' PIPE OUTLET
CONNECT TO D.I. @ STA. 305+29 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 292+47 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 24.9 SQ. YDS.

STA. 292+91 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 24.9 SQ. YDS.

STA. 291+21
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 293+18
CONSTRUCT TURNOUT = 75 CU. YDS.

STA. 297+66 IN PLACE
18" X 26' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 299+00 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 300+91 IN PLACE
18" X 43' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 305+01 IN PLACE
18" X 34' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 52' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 290 CU. YDS.

7/28/2020

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PLAN SHEETS

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.		CA0706	114	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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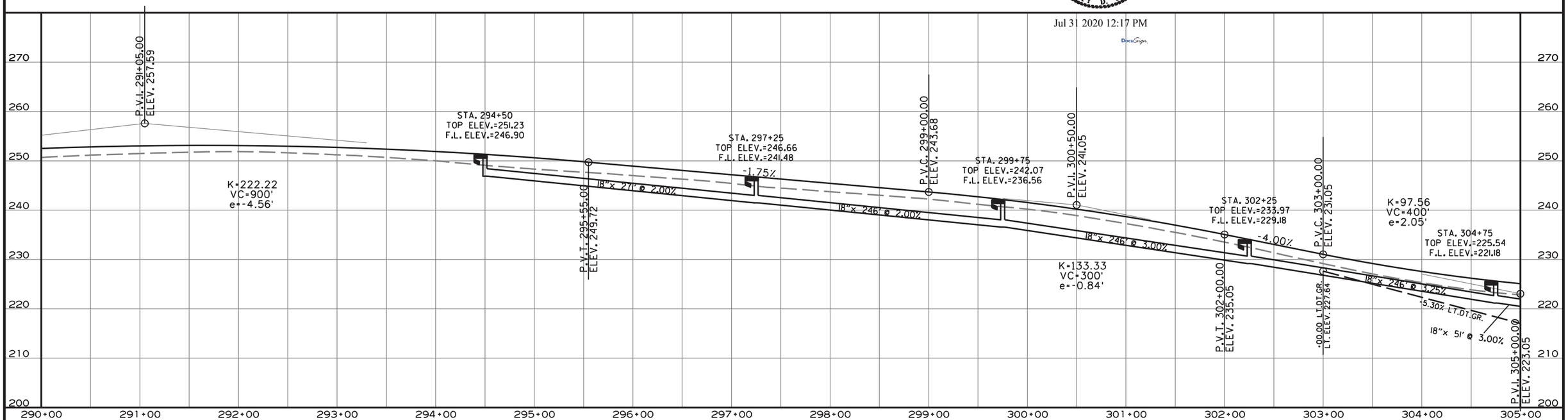
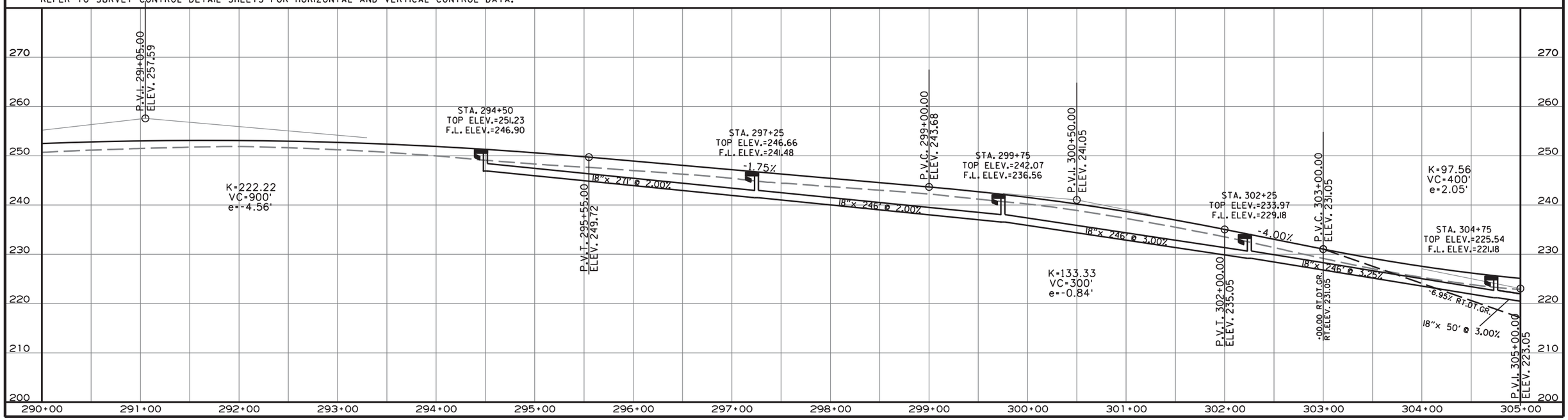


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



7/28/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	115	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
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STA. 317+77 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 64' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 410 CU. YDS.

STA. 319+79 IN PLACE
24" X 41' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 317+13 IN PLACE
QUAD 66" X 81' R.C. PIPE CULVERT
WITH HEADWALL LT. & RT.
REMOVE 15' LT. AND CONSTRUCT
JUNCTION BOX 31.58' TO LT.
W/ QUAD 66" X 30' R.C. PIPE STUB INLET W/ F.E.S. LT.
& EXTEND 26' RT. W/ F.E.S. RT.
(CLASS III) (TYPE 3 BEDDING)
050 = 1142 C.F.S. D.A. = 0.81 ACRES
66" R.C. PIPE = 232 LIN. FT.
66" F.E.S. = 8 EACH

STA. 309+40
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 305+30 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 3' X 3' X 21' R.C. BOX CULV'T INLET
TY C = 4' X 5'
TY MO = 6' I.D.
H = 8' 10"

STA. 305+30 IN PLACE
3' X 3' X 59' R.C. BOX CULVERT
REMOVE 15' LT. AND EXTEND 15' RT.
CONNECT TO D.I. @ STA. 305+30 LT.
CONNECT TO D.I. @ STA. 305+29 RT.
FOR A COMPLETED LENGTH OF 59'
050 = 35.1 C.F.S. D.A. = 29.8 ACRES

STA. 307+40 - CONSTRUCT
D.I. ON LT. WITH
18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 306+90 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 306+90 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 156' PIPE OUTLET
CONNECT TO D.I. @ STA. 305+29 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 310+10 - CONSTRUCT
D.I. ON LT.
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 312+60 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 312+60 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 313+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 313+10 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 71' PIPE OUTLET
CONNECT TO D.I. @ STA. 313+85 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 313+85 - CONSTRUCT
D.I. ON LT.
W/ 18" X 221' PIPE OUTLET
CONNECT TO D.I. @ STA. 316+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 6"

STA. 316+10 - CONSTRUCT
D.I. ON LT.
W/ 18" X 85' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 317+13 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 11' 3"

STA. 318+10 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 77' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 317+13 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

HWY. 82
PI = 312+76.40
Δ = 1°44'44.7" LT.
D = 0°30'00"
T = 174.59'
L = 349.15'
PC = 311+01.81
PT = 314+50.96
NO SUPERELEVATION

HWY. 82
PI = 317+26.38
Δ = 1°34'37.5" RT.
D = 0°30'00"
T = 157.72'
L = 315.42'
PC = 315+68.66
PT = 318+84.07
NO SUPERELEVATION

STA. 305+29 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 3' X 3' X 24' R.C. BOX CULV'T OUTLET
15° RT. FWD. SKEW
TY C = 4' X 5'
TY MO = 6' I.D.
H = 9' 4"

STA. 305+29 IN PLACE
18" X 52' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 306+90 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 167' PIPE OUTLET
CONNECT TO D.I. @ STA. 305+29 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 308+06
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 307+40 - CONSTRUCT
D.I. ON RT. WITH
18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 306+90 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 310+10 - CONSTRUCT
D.I. ON RT. W/
18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 312+60 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 310+46 IN PLACE
24" X 23' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 312+60 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 313+10 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 313+10 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION &
10" X 71' PIPE OUTLET
CONNECT TO D.I. @ STA. 313+85 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 313+52 IN PLACE
24" X 41' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 60' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 290 CU. YDS.

STA. 313+85 - CONSTRUCT
D.I. ON RT. W/
18" X 221' PIPE OUTLET
CONNECT TO D.I. @ STA. 316+10 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 6"

STA. 316+10 - CONSTRUCT
D.I. ON RT. W/
18" X 38' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 11' 3"
18" R.C. PIPE = 38 LIN. FT.
18" F.E.S. = 1 EACH

STA. 318+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 30' STUB OUTLET W/ F.E.S.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 1"
18" R.C. PIPE = 30 LIN. FT.
18" F.E.S. = 1 EACH

STA. 320+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 318+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
305+20	305+43	LT.	5' CHAIN LINK	25	
310+11	310+79	RT.	4' CHAIN LINK	70	1 EA.
310+79	312+69	RT.	C	193	

PROPOSED ROW
PROPOSED CONST. LIMITS
EXISTING ROW
PROPOSED CONST. LIMITS
PROPOSED ROW
EXISTING ROW
PROPOSED CONST. LIMITS
PROPOSED ROW
EXISTING ROW
PROPOSED CONST. LIMITS
PROPOSED ROW
EXISTING ROW
PROP

7/28/2020

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PLAN SHEETS

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.		CA0706	116	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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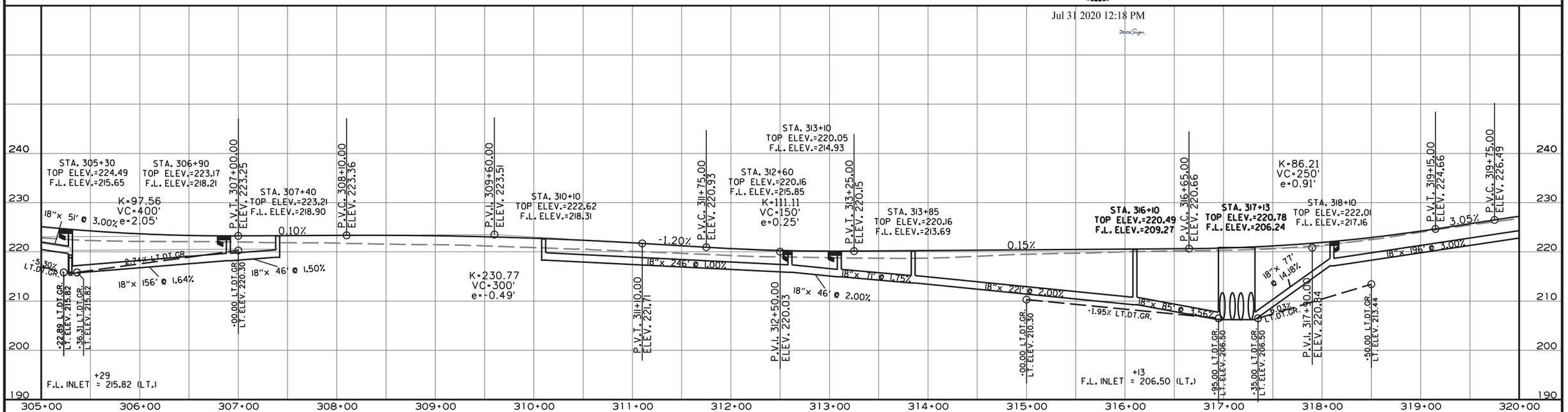
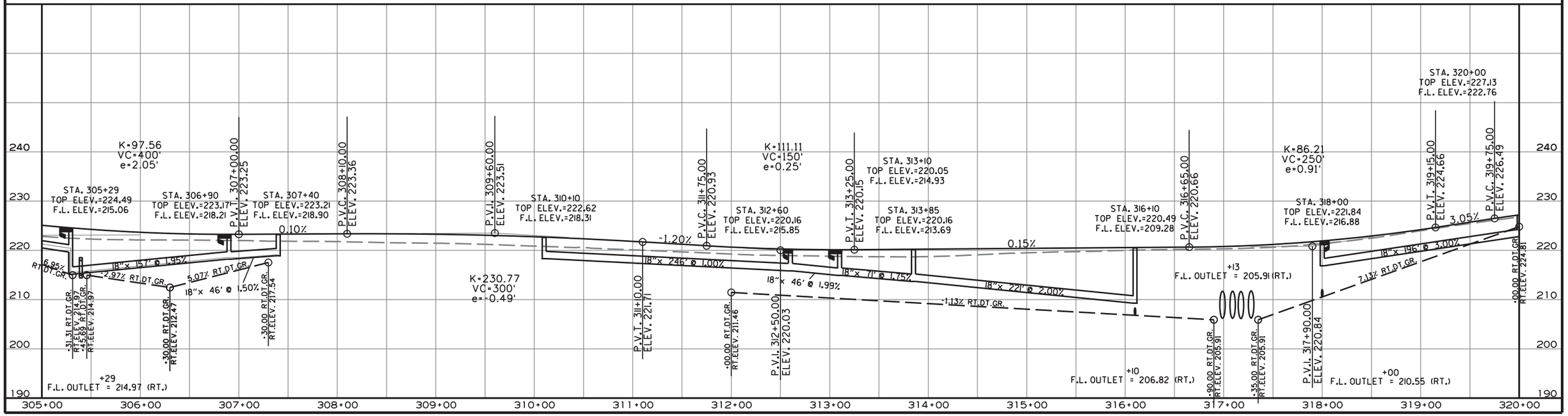


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	117	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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STA. 320+65
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 320+10 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 318+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 323+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 48' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+02 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 324+02 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION
TY C = 4' X 5'
TY MO = 4' I.D.
H = 6' 7"

STA. 324+02 IN PLACE
4' X 3' X 52' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 23' LT. & 19' RT.
FOR A COMPLETED LENGTH OF 94'
Q50 = 37.6 C.F.S. D.A. = 22.1 ACRES

STA. 324+55 IN PLACE
18" X 30' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 324+85 - CONSTRUCT
D.I. ON LT. WITH
18" X 79' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+02 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 325+75 - CONSTRUCT
D.I. ON LT. WITH
18" X 86' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+85 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 326+13 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 326+50 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 327+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 4' STUB INLET W/ F.E.S. LT.
& 18" X 121' PIPE OUTLET
CONNECT TO D.I. @ STA. 325+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 6"
18" R.C. PIPE = 4 LIN. FT.
18" F.E.S. = 1 EACH

STA. 327+48 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 327+90 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 15 CU. YDS. UNCL. EXC.

STA. 328+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. LT.
& 18" X 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 327+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1 EACH

STA. 330+42 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 331+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION & BACK OPENING
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 328+50 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 331+95 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 333+75 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 271' PIPE OUTLET
CONNECT TO D.I. @ STA. 331+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 334+06
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 321+61 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 18.9 SQ. YDS.

STA. 322+00
CONSTRUCT TURNOUT = 10 CU. YDS. UNCL. EXC.

STA. 322+40 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 18.9 SQ. YDS.

STA. 322+63 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
70 CU. YDS. UNCL. EXC.

STA. 323+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 48' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+02 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 324+02 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION
TY C = 4' X 5'
TY MO = 4' I.D.
H = 5' 8"

STA. 324+85 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 24" X 79' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+02 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 6"

STA. 325+23 IN PLACE
24" X 34' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 325+55 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. RT.
& 24" X 266' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+85 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1 EACH

STA. 325+59 IN PLACE
18" X 25' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 327+31 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 330+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. RT.
& 18" X 241' PIPE OUTLET
CONNECT TO D.I. @ STA. 327+55 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 0"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1 EACH

STA. 328+15 IN PLACE
18" X 22' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 332+80 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. RT.
& 18" X 276' PIPE OUTLET
CONNECT TO D.I. @ STA. 330+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 0"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1 EACH

STA. 332+54 IN PLACE
24" X 30' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 334+25 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 141' PIPE OUTLET
CONNECT TO D.I. @ STA. 332+80 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 10"

STA. 334+57 IN PLACE
18" X 26' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

HWY. 82
PI = 337+00.12
Δ = 1°16'30.2" RT.
D = 0°15'00"
T = 255.02'
L = 510.02'
PC = 334+45.10
PT = 339+55.12
NO SUPERELEVATION

PLAN SHEETS

9/11/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	118	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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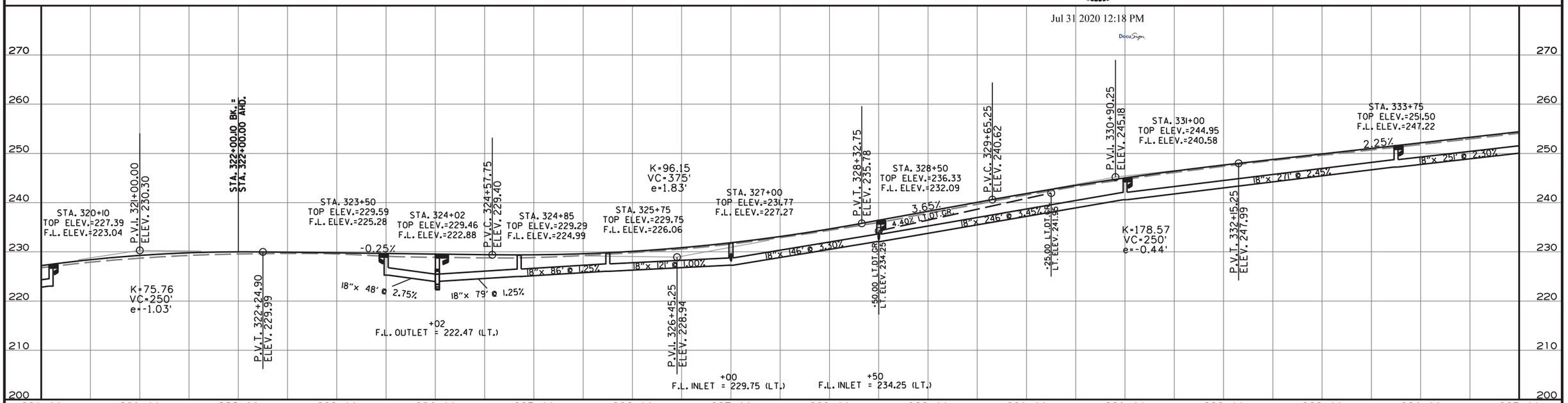
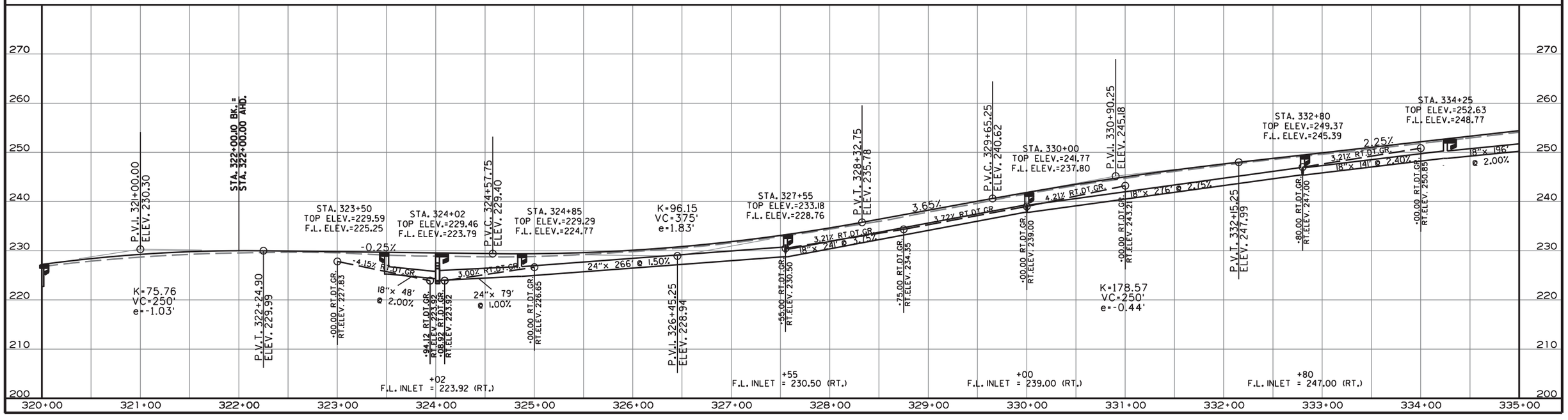


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



7/28/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9-11-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	119	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 12 2020 10:24 AM
DocuSigned by:

STA. 334+97 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 22.8 SQ. YDS.

STA. 337+05
CONSTRUCT APPROACH = 80 CU. YDS.

STA. 338+40
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 339+50
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 340+07
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 340+81 INSTALL
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 336+30 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 25I' PIPE OUTLET
CONNECT TO D.I. @ STA. 333+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 337+75 - CONSTRUCT
D.I. ON LT. WITH
18" X 141' PIPE OUTLET
CONNECT TO D.I. @ STA. 336+30 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 0"

STA. 339+75 - CONSTRUCT
D.I. ON LT. WITH
18" X 2' STUB INLET W/ F.E.S. LT.
& 18" X 71' PIPE OUTLET
CONNECT TO D.I. @ STA. 340+50 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"
18" R.C. PIPE = 2 LIN. FT.
18" F.E.S. = 1EACH

STA. 340+50 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION WITH
18" X 128' PIPE OUTLET
CONNECT TO D.I. @ STA. 341+82 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 11"

STA. 341+82 - CONSTRUCT
D.I. ON LT. WITH
24" X 16' STUB INLET W/ F.E.S. LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 0"

STA. 342+10 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.

STA. 342+60 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 74' PIPE OUTLET
CONNECT TO D.I. @ STA. 341+82 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 11"

STA. 344+82
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 346+13
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 346+94
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 336+19 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 22.8 SQ. YDS.

STA. 341+82 IN PLACE
24" X 98' R.C. PIPE CULVERT
WITH HEADWALL LT.
REMOVE 9' LT. AND 30' RT. AND
CONNECT TO D.I. @ STA. 341+82 LT.
CONNECT TO D.I. @ STA. 341+82 RT.
FOR A COMPLETED LENGTH OF 59'
(CLASS III) (TYPE 3 BEDDING)
050 = 16.5 C.F.S. D.A. = 5.2 ACRES
24" R.C. PIPE = 4 LIN. FT.

STA. 347+97 IN PLACE
18" X 37' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 347+60 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 236' PIPE OUTLET
CONNECT TO D.I. @ STA. 350+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 348+54 IN PLACE
18" X 37' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 50' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 15 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 350+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 154' PIPE OUTLET
CONNECT TO D.I. @ STA. 351+58 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 7"

PROPOSED CONST. LIMITS
EXISTING ROW
PROPOSED ROW
S 88°54'53" E
S 87°38'23" E
HWY. 335
HWY. 82
SEC 27 N 0°19'11" E
R=50'
R=225'
Δ=01°15'01"
L=524.49'
CB=S 88°21'14" E
CL=524.48'
STA. 335+59.71 HWY. 82 =
STA. 2100+00.00 HWY. 335
HWY. 82
PI = 337+00.12
Δ = 1°16'30.2" RT.
D = 0°15'00"
T = 255.02'
L = 510.02'
PC = 334+45.10
PT = 339+55.12
NO SUPERELEVATION
P.I. 337+00.12
P.C.C. 334+78.93
P.T. 339+55.12
T.C.E. 702
T.C.E. 2455
T.C.E. 2541
T.C.E. 2594
T.C.E. 2972
WYATT DR.
FOREST HILL LN.
EXISTING ROW 2552

STA. 335+00 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 22.8 SQ. YDS.

STA. 336+03 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 18.9 SQ. YDS.

STA. 336+25 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. RT.
& 18" X 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 334+25 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1EACH

STA. 337+75 - CONSTRUCT
D.I. ON RT. WITH
18" X 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 336+25 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 338+80 - CONSTRUCT
YARD DRAIN ON RT. WITH
12" X 103' PIPE OUTLET
CONNECT TO D.I. @ STA. 337+75 RT.
H = 2' 5"

STA. 339+75 - CONSTRUCT
D.I. ON RT. WITH
18" X 3' STUB INLET W/ F.E.S. RT.
& 18" X 71' PIPE OUTLET
CONNECT TO D.I. @ STA. 340+50 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"
18" R.C. PIPE = 3 LIN. FT.
18" F.E.S. = 1EACH

STA. 340+50 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION WITH
18" X 128' PIPE OUTLET
CONNECT TO D.I. @ STA. 341+82 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 11"

STA. 341+82 - CONSTRUCT
D.I. ON RT. WITH
24" X 21' PIPE OUTLET
CONNECT TO D.I. @ STA. 341+82 56' RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 10' 6"

STA. 341+82 - IN PLACE
TYPE SPECIAL D.I. 61' RT.
REMOVE AND CONSTRUCT
TYPE E D.I. 56' RT.
H = 10' 6"

STA. 342+60 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 20' STUB INLET W/ F.E.S. RT.
& 18" X 74' PIPE OUTLET
CONNECT TO D.I. @ STA. 341+82 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 9"
18" R.C. PIPE = 20 LIN. FT.
18" F.E.S. = 1EACH

STA. 341+82 IN PLACE
24" X 236' R.C. PIPE CULVERT
RETAIN AND EXTEND 4' LT.
TO D.I. @ STA. 341+82 56' RT.
FOR A COMPLETED LENGTH OF 236'
(CLASS III) (TYPE 3 BEDDING)
050 = 16.5 C.F.S. D.A. = 5.2 ACRES
24" R.C. PIPE = 6 LIN. FT.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
342+40	343+89	RT.	D	150	1EA.

STA. 347+60 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
W/ 18" X 6' STUB INLET
& 18" X 236' PIPE OUTLET
CONNECT TO D.I. @ STA. 350+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1EACH

STA. 345+48
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 347+04 INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 348+04 INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 349+10 INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 335+60 IN PLACE
18" X 49' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT TURNOUT = 5 CU. YDS.

STA. 338+36
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 342+25 IN PLACE
18" X 73' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 343+67 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

PLAN SHEETS

9/11/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9-11-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	120	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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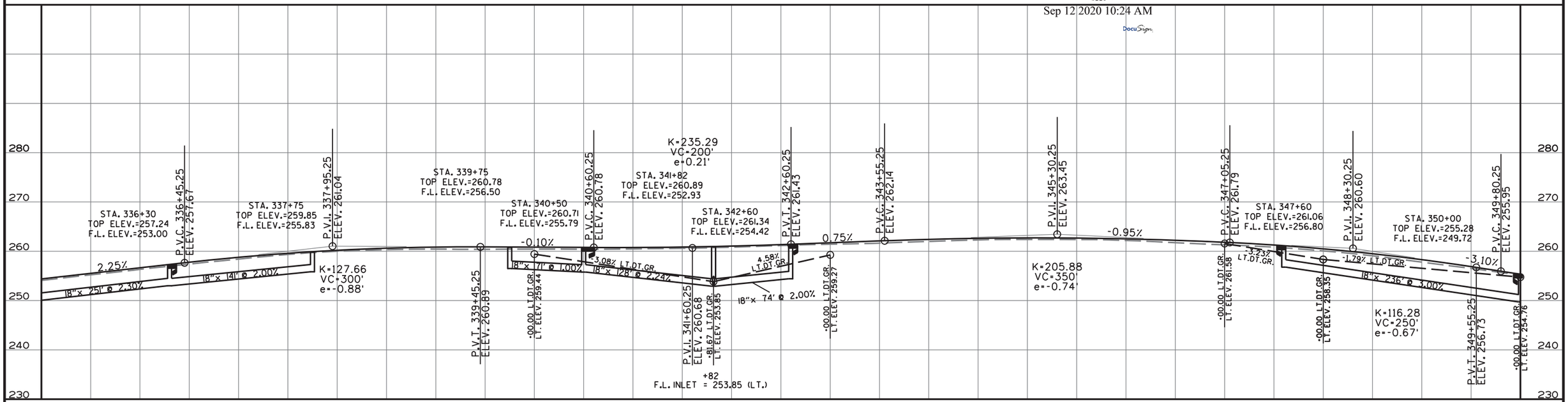

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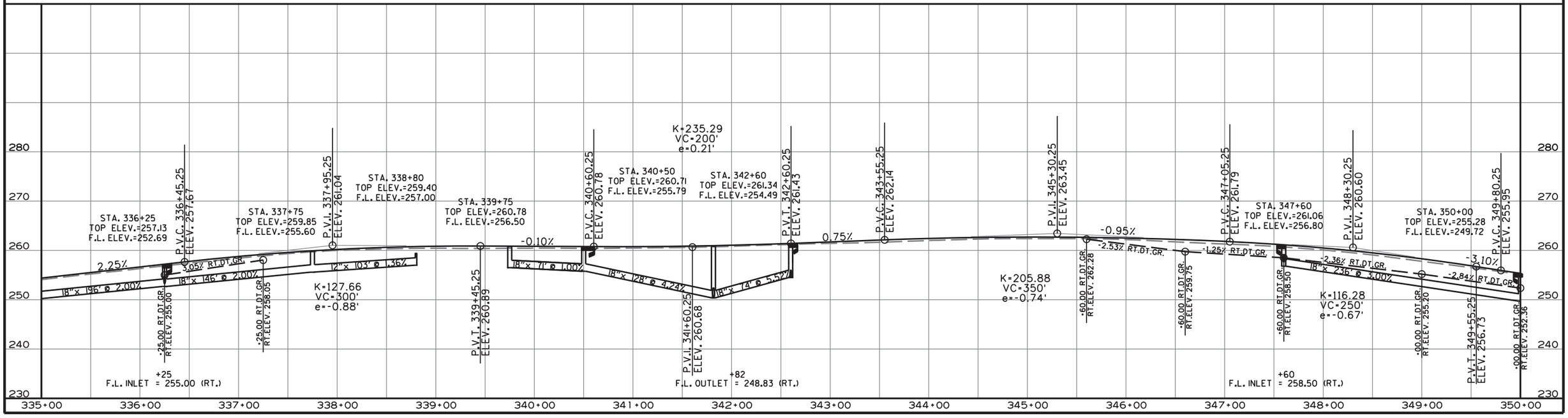

9/11/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	121	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 350+39 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 351+90 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 66' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 445 CU. YDS.

STA. 353+37 IN PLACE
24" X 29' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 115 CU. YDS.

STA. 356+53 IN PLACE
18" X 20' SPECIAL PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 358+35 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 360+21 INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 351+58 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 66' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+28 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 10"

STA. 352+28 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION
TY C = 4' X 5'
TY MO = 4' I.D.
H = 13' 6"

STA. 352+78 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 24" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+28 LT.
TY C = 4' X 5'
TY MO = 4' I.D.
H = 8' 0"

STA. 355+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 24" X 218' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+78 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 8"

STA. 357+25 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 24" X 221' PIPE OUTLET
CONNECT TO D.I. @ STA. 355+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 6"

STA. 359+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION AND BACK OPENING
& 24" X 220' PIPE OUTLET
CONNECT TO D.I. @ STA. 357+25 LT.
TY C = 5' X 4'
TY MO = 6' I.D.
H = 5' 1"

STA. 361+32 IN PLACE
24" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 45 CU. YDS. UNCL. EXC.

STA. 352+28 IN PLACE
4' X 3' X 81' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 32' LT. & 26' RT.
FOR A COMPLETED LENGTH OF 139'
Q50 = 515 C.F.S. D.A. = 17 ACRES

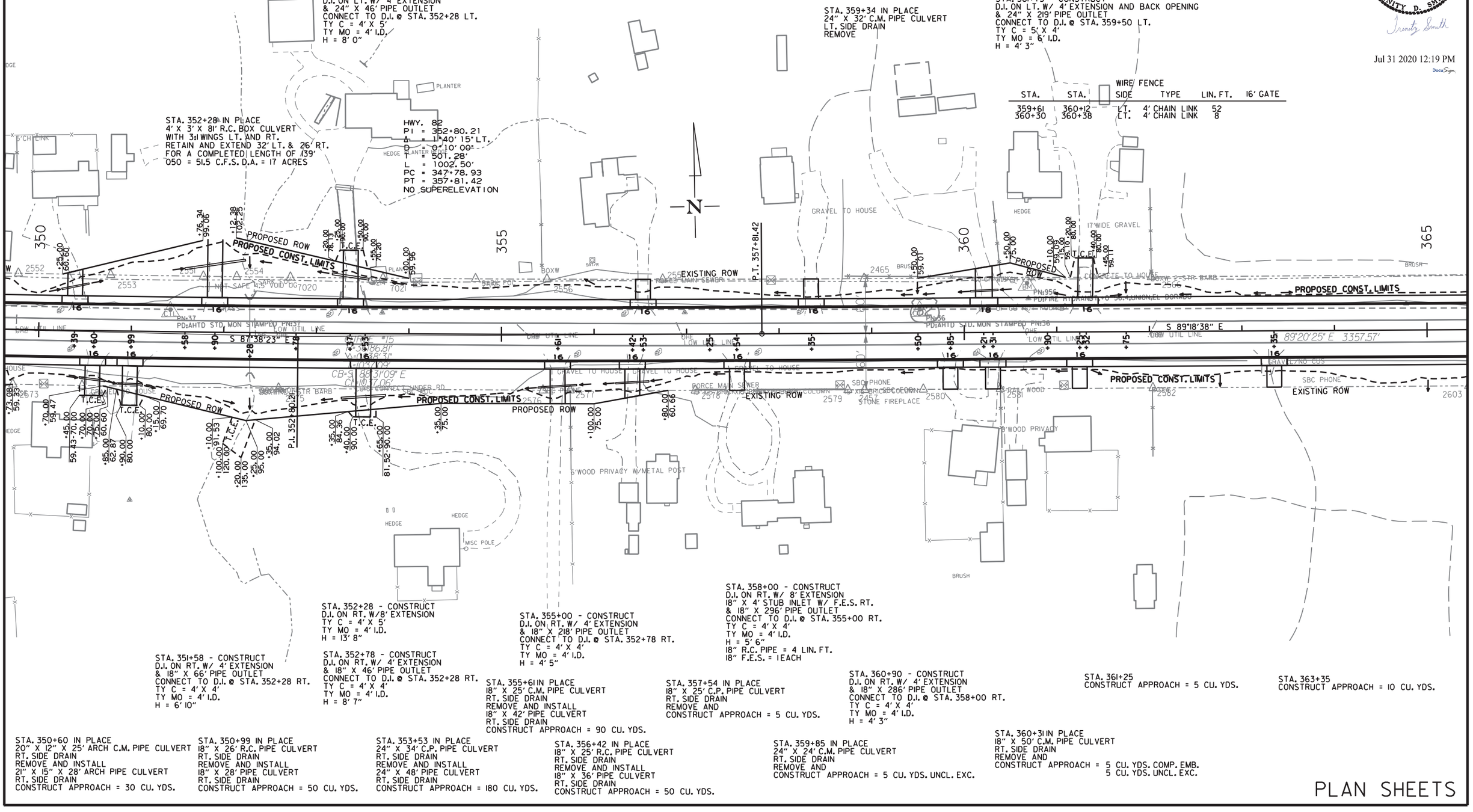
HWY. 82
PI = 352+80.21
Δ = 11°40' 15" LT.
D = 0° 10' 00"
T = 501.28'
L = 1002.50'
PC = 347+78.93
PT = 357+81.42
NO SUPERELEVATION

STA. 359+34 IN PLACE
24" X 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 361+75 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION AND BACK OPENING
& 24" X 219' PIPE OUTLET
CONNECT TO D.I. @ STA. 359+50 LT.
TY C = 5' X 4'
TY MO = 6' I.D.
H = 4' 3"

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
359+61	360+12	LT.	4' CHAIN LINK	52	
360+30	360+38	LT.	4' CHAIN LINK	8	



STA. 351+58 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 66' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+28 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 10"

STA. 352+28 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION
TY C = 4' X 5'
TY MO = 4' I.D.
H = 13' 8"

STA. 352+78 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+28 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 7"

STA. 355+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 218' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+78 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"

STA. 358+00 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
18" X 4' STUB INLET W/ F.E.S. RT.
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 355+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 6"
18" R.C. PIPE = 4 LIN. FT.
18" F.E.S. = 1EACH

STA. 355+61 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.

STA. 357+54 IN PLACE
18" X 25' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 360+90 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 286' PIPE OUTLET
CONNECT TO D.I. @ STA. 358+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 361+25
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 363+35
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 350+60 IN PLACE
20" X 12" X 25' ARCH C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 350+99 IN PLACE
18" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 353+53 IN PLACE
24" X 34' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 180 CU. YDS.

STA. 356+42 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 359+85 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 360+31 IN PLACE
18" X 50' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

7/28/2020

RCA0706.DGN

PLAN SHEETS

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.		CA0706	122	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 12:20

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

7/28/2020

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jul 31 2020 12:20 PM

STA. 366+00 - CONSTRUCT
D.I. ON LT. WITH BACK OPENING
18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 366+50 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 366+50 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION WITH BACK OPENING
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 367+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 7"

STA. 367+00 - CONSTRUCT
D.I. ON LT. WITH
18" X 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 368+50 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 368+50 - CONSTRUCT
D.I. ON LT. WITH
18" X 100' PIPE OUTLET
CONNECT TO D.I. @ STA. 369+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 4"

STA. 369+55 - CONSTRUCT
D.I. ON LT. WITH
24" X 24' STUB INLET W/ F.E.S. LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 11' 10"
24" R.C. PIPE = 24 LIN. FT.
24" F.E.S. = 1EACH

STA. 369+55 IN PLACE
24" X 89' R.C. PIPE CULVERT
W/ HEADWALL LT. & RT.
REMOVE 11' LT. & 19' RT. AND
CONNECT TO D.I. @ 369+55 LT.
CONNECT TO D.I. @ 369+55 RT.
FOR A COMPLETED LENGTH OF 59'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
050 = 17.6 C.F.S. D.A. = 5.8 ACRES
24" R.C. PIPE = 4 LIN. FT.

STA. 370+05 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 47' PIPE OUTLET
CONNECT TO D.I. @ STA. 369+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 9' 11"

STA. 372+05 IN PLACE
24" X 54' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 82' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 55 CU. YDS.

STA. 373+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 291' PIPE OUTLET
CONNECT TO D.I. @ STA. 370+05 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 3"

STA. 375+00 - CONSTRUCT
D.I. ON LT. WITH
18" X 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 373+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 376+94
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

STA. 378+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 8' STUB INLET W/ F.E.S. LT.
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 381+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"
18" R.C. PIPE = 8 LIN. FT.
18" F.E.S. = 1EACH

STA. 379+89 IN PLACE
18" X 73' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
367+00	371+53	RT.	C	461	

STA. 371+47 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 20.3 SQ. YDS.

STA. 372+61 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 20.3 SQ. YDS.

STA. 371+34 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 18.9 SQ. YDS.

STA. 372+24 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON RT.
= 22.8 SQ. YDS.

STA. 366+50 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION WITH
18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 367+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 6"

STA. 368+50 - CONSTRUCT
D.I. ON RT. WITH
18" X 101' PIPE OUTLET
CONNECT TO D.I. @ STA. 369+55 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 11"

STA. 370+05 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 369+55 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 11' 7"

STA. 372+85 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
18" X 4' STUB INLET W/ F.E.S. RT.
& 18" X 276' PIPE OUTLET
CONNECT TO D.I. @ STA. 370+05 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 8"
18" R.C. PIPE = 4 LIN. FT.
18" F.E.S. = 1EACH

STA. 374+70 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 181' PIPE OUTLET
CONNECT TO D.I. @ STA. 372+85 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 378+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 8' STUB INLET W/ F.E.S. RT.
& 18" X 251' PIPE OUTLET
CONNECT TO D.I. @ STA. 380+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"
18" R.C. PIPE = 8 LIN. FT.
18" F.E.S. = 1EACH

STA. 366+15 - CONSTRUCT
D.I. ON RT. WITH
18" X 31' PIPE OUTLET
CONNECT TO D.I. @ STA. 366+50 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 367+00 - CONSTRUCT
D.I. ON RT. WITH
18" X 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 368+50 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 369+55 - CONSTRUCT
D.I. ON RT. WITH
24" X 40' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 13' 5"
24" R.C. PIPE = 40 LIN. FT.
24" F.E.S. = 1EACH

STA. 371+75
CONSTRUCT TURNOUT = 10 CU. YDS.

STA. 372+40
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 373+20
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 373+95
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 374+42
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 375+66
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 376+01
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 377+25 IN PLACE
18" X 25' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 379+44 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 15 CU. YDS. UNCL. EXC.

STA. 379+92 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 365+84 IN PLACE
18" X 16' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 30 CU. YDS.

PROPOSED CONST. LIMITS
EXISTING ROW
PROPOSED ROW
MEADOW VIEW DR.
PHONE NOT LEGIBLE
SLOW CHILDREN AT PLAY
UNDER CONSTRUCTION
BRUSH
MISC POLE
CONC
FORCE MAIN SEWER
SBC PHONE
SARK PHONE CO. FOC
PN:35 PD:AHTD STD. MON STAMPED "365"
PN:34 PD:AHTD STD. MON STAMPED "370"
S 89°18'38" E
S 89°20'06" E
N

7/28/2020

RCA0706.DGN

PLAN SHEETS

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.		CA0706	124	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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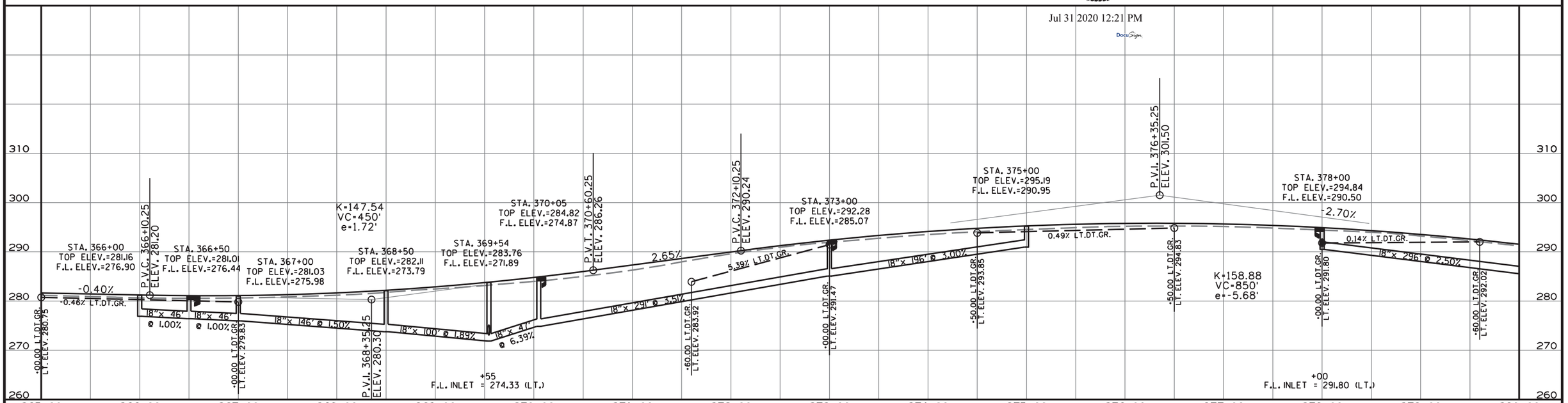
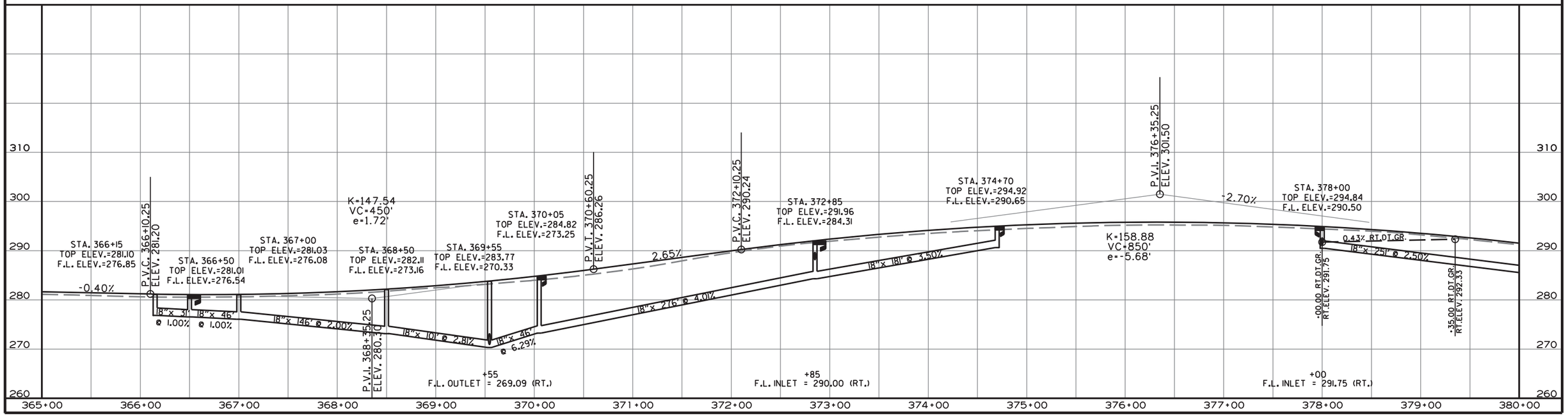


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



7/28/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9-11-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	125	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Sep 12 2020 10:24 AM

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STA. 381+00 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
18" X 2' STUB INLET W/ F.E.S. LT.
& 18" X 25I' PIPE OUTLET
CONNECT TO D.I. @ STA. 383+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 9"
18" R.C. PIPE = 2 LIN. FT.
18" F.E.S. = 1EACH

STA. 383+55 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 71' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+30 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 4"

STA. 384+30 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION WITH
18" X 21' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+56 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 9"

STA. 384+56 - CONSTRUCT
D.I. ON LT. WITH
30" X 20' STUB INLET W/ F.E.S. LT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 9' 0"
30" R.C. PIPE = 20 LIN. FT.
30" F.E.S. = 1EACH

STA. 384+56 IN PLACE
30" X 82' R.C. PIPE CULVERT
W/ HEADWALL LT. & RT.
REMOVE II" LT. & I2" RT. AND
CONNECT TO D.I. @ STA. 384+56 LT.
CONNECT TO D.I. @ STA. 384+56 RT.
FOR A COMPLETED LENGTH OF 59'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
050 = 25.0 C.F.S. D.A. = 7.8 ACRES
30" R.C. PIPE = 4 LIN. FT.

STA. 385+06 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+56 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' I"

STA. 385+74 IN PLACE
18" X 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 387+75 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 265' PIPE OUTLET
CONNECT TO D.I. @ STA. 385+06 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 388+08
CONSTRUCT APPROACH = II5 CU. YDS. UNCL. EXC.

STA. 388+25 - CONSTRUCT
YARD DRAIN ON LT. WITH
I2" X 48' PIPE OUTLET
CONNECT TO D.I. @ STA. 387+75 LT.
H = 2' 5"

STA. 389+43
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

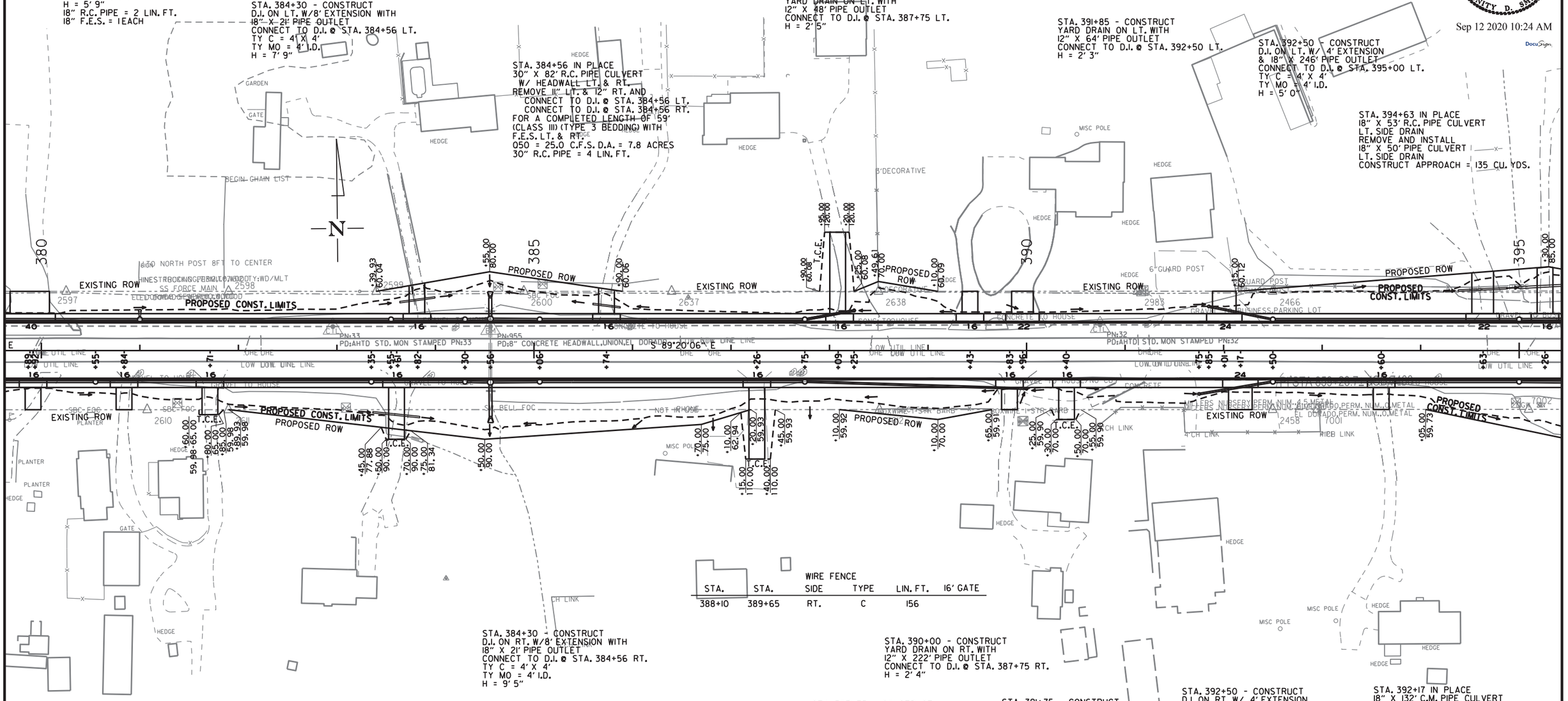
STA. 389+96
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 391+85 - CONSTRUCT
YARD DRAIN ON LT. WITH
I2" X 64' PIPE OUTLET
CONNECT TO D.I. @ STA. 392+50 LT.
H = 2' 3"

STA. 392+01 IN PLACE
I2" X 99' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 392+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 395+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 394+63 IN PLACE
18" X 53' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 135 CU. YDS.



STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
388+10	389+65	RT.	C	156	

WIRE FENCE

STA. 384+30 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION WITH
18" X 21' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+56 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 9' 5"

STA. 390+00 - CONSTRUCT
YARD DRAIN ON RT. WITH
I2" X 222' PIPE OUTLET
CONNECT TO D.I. @ STA. 387+75 RT.
H = 2' 4"

STA. 380+55 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 276' PIPE OUTLET
CONNECT TO D.I. @ STA. 383+35 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' I0"

STA. 383+35 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 9I' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+30 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 6"

STA. 384+56 - CONSTRUCT
D.I. ON RT. WITH
30" X 34' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = II' 3"
30" R.C. PIPE = 34 LIN. FT.
30" F.E.S. = 1EACH

STA. 385+06 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 45' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+56 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' I"

STA. 387+75 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 265' PIPE OUTLET
CONNECT TO D.I. @ STA. 385+06 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 391+75 - CONSTRUCT
YARD DRAIN ON RT. WITH
I2" X 73' PIPE OUTLET
CONNECT TO D.I. @ STA. 392+50 RT.
H = 2' I"

STA. 392+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 395+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 392+17 IN PLACE
18" X 132' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 393+60 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 380+84 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 381+71 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 383+61 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.

STA. 387+26 IN PLACE
18" X 37' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 100 CU. YDS.

STA. 389+83
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 390+40
CONSTRUCT APPROACH = 35 CU. YDS. UNCL. EXC.

STA. 391+09 IN PLACE
18" X 37' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

9/11/2020

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PLAN SHEETS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	126	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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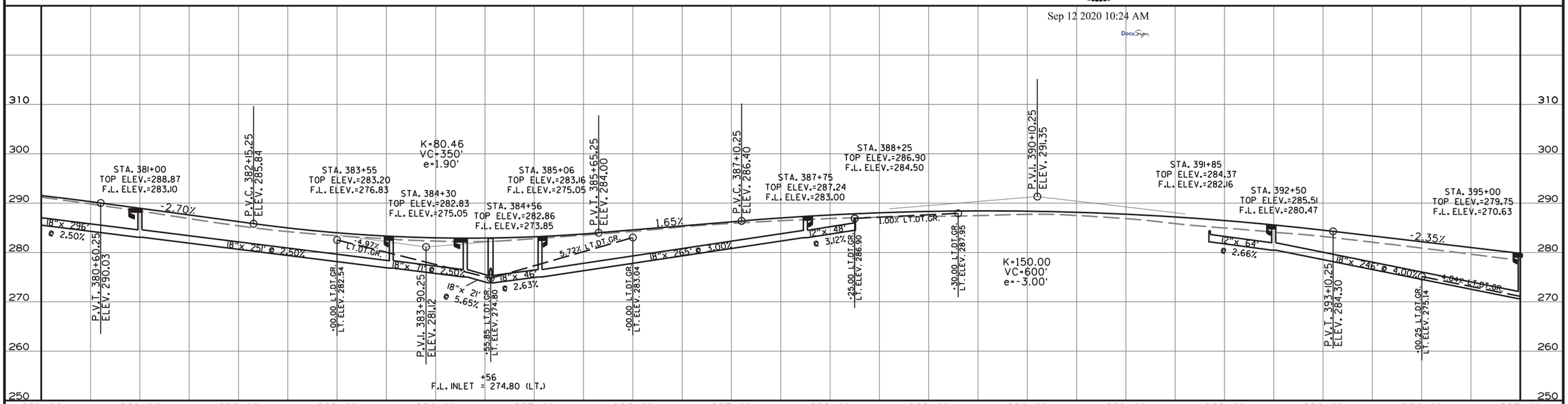
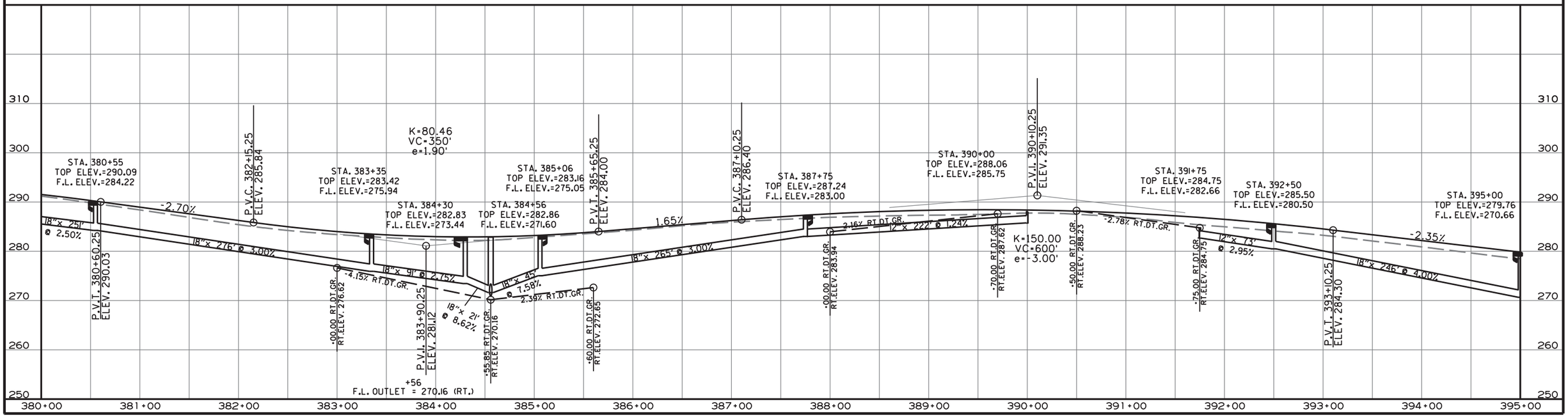


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	127	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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STA. 395+26 IN PLACE
24" X 34' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 175 CU. YDS.

STA. 396+59 IN PLACE
24" X 45' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 397+03
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
10 CU. YDS. UNCL. EXC.

STA. 398+81
CONSTRUCT APPROACH = 5 CU. YDS. COMP. EMB.
35 CU. YDS. UNCL. EXC.

STA. 395+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 48' PIPE OUTLET
CONNECT TO D.I. @ STA. 395+52 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 9' 1"

STA. 396+30 - CONSTRUCT
D.I. ON LT. WITH
24" X 73' PIPE OUTLET
CONNECT TO D.I. @ STA. 395+52 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 3"

STA. 397+90 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION WITH BACK OPENING &
24" X 45' PIPE OUTLET
CONNECT TO D.I. @ STA. 397+40 LT.
TY C = 5' X 4'
TY MO = 6' I.D.
H = 4' 5"

STA. 399+40 IN PLACE
18" X 50' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 38' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 400+40 IN PLACE
24" X 109' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 401+47 IN PLACE
24" X 30' R.C. PIPE CULVERT
LT. SIDE DRAIN
RETAIN AND
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 402+40 IN PLACE
18" X 90' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 404+84 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.

STA. 406+78 IN PLACE
18" X 55' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 408+77 IN PLACE
18" X 33' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 395+52 - CONSTRUCT
D.I. ON LT. WITH
30" X 24' STUB INLET W/ F.E.S. LT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 10' 1"
30" R.C. PIPE = 24 LIN. FT.
30" F.E.S. = 1EACH

STA. 395+52 IN PLACE
24" X 83' R.C. PIPE CULVERT
W/ HEADWALL LT. & RT.
REMOVE 14' LT. & 10' RT.
CONNECT TO D.I. @ STA. 395+52 LT.
CONNECT TO D.I. @ STA. 395+52 RT.
FOR A COMPLETED LENGTH OF 59'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
050 = 45.4 C.F.S. D.A. = 16.0 ACRES
24" R.C. PIPE = 4 LIN. FT.

STA. 397+40 - CONSTRUCT
D.I. ON LT. WITH BACK OPENING
24" X 106' PIPE OUTLET
CONNECT TO D.I. @ STA. 396+30 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 399+05 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION
18" X 2' STUB INLET W/ F.E.S. LT.
& 18" X 89' PIPE OUTLET
CONNECT TO D.I. @ STA. 399+98 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"
18" R.C. PIPE = 2 LIN. FT.
18" F.E.S. = 1EACH

STA. 399+98 - CONSTRUCT
D.I. ON LT. WITH
30" X 12' STUB INLET W/ F.E.S. LT.
30° LT. FWD. SKEW
TY C = 4' X 4'
TY MO = 5' I.D.
H = 5' 9"
30" R.C. PIPE = 12 LIN. FT.
30" F.E.S. = 1EACH

STA. 399+98 IN PLACE
30" X 66' R.C. PIPE CULVERT
W/ HEADWALL LT. & RT.
REMOVE AND CONSTRUCT
30" X 59' R.C. PIPE CULVERT
CONNECT TO D.I. @ STA. 399+98 LT.
CONNECT TO D.I. @ STA. 399+98 RT.
(CLASS V) (TYPE 3 BEDDING)
050 = 24.2 C.F.S. D.A. = 12.6 ACRES
30" R.C. PIPE = 60 LIN. FT.

STA. 400+70 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 24" X 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 399+98 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 6"

STA. 403+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 24" X 226' PIPE OUTLET
CONNECT TO D.I. @ STA. 400+70 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 1"

STA. 405+15 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION & BACK OPENING
24" X 210' PIPE OUTLET
CONNECT TO D.I. @ STA. 403+00 LT.
TY C = 5' X 4'
TY MO = 6' I.D.
H = 9' 8"

STA. 407+25 - CONSTRUCT
D.I. ON LT. WITH BACK OPENING &
24" X 204' PIPE OUTLET
CONNECT TO D.I. @ STA. 405+15 LT.
TY C = 5' X 4'
TY MO = 6' I.D.
H = 11' 7"

STA. 409+05 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. LT.
& 18" X 175' PIPE OUTLET
CONNECT TO D.I. @ STA. 407+25 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 10' 6"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1EACH

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
399+25	399+85	RT.	4' CHAIN LINK	60	

STA. 395+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 47' PIPE OUTLET
CONNECT TO D.I. @ STA. 395+52 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 9' 1"

STA. 395+52 - CONSTRUCT
D.I. ON LT. WITH
30" X 30' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 11' 2"
30" R.C. PIPE = 30 LIN. FT.
30" F.E.S. = 1EACH

STA. 397+40 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 184' PIPE OUTLET
CONNECT TO D.I. @ STA. 395+52 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 398+00 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION WITH
18" X 56' PIPE OUTLET
CONNECT TO D.I. @ STA. 397+40 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 398+50 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION WITH
18" X 143' PIPE OUTLET
CONNECT TO D.I. @ STA. 399+98 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 399+98 - CONSTRUCT
D.I. ON RT. WITH
30" X 16' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 6' 9"
30" R.C. PIPE = 16 LIN. FT.
30" F.E.S. = 1EACH

STA. 400+53 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 51' PIPE OUTLET
CONNECT TO D.I. @ STA. 399+98 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 11"

STA. 403+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 243' PIPE OUTLET
CONNECT TO D.I. @ STA. 400+53 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 10"

STA. 406+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 4' STUB INLET W/ F.E.S. LT.
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 403+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 10' 11"
18" R.C. PIPE = 4 LIN. FT.
18" F.E.S. = 1EACH

STA. 409+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 406+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 10' 6"

STA. 407+62
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 397+68
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 400+25 IN PLACE
18" X 32' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 30' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 400+90 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 404+49 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 405+58 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 5 CU. YDS.

7/28/2020

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PLAN SHEETS

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.		CA0706	128	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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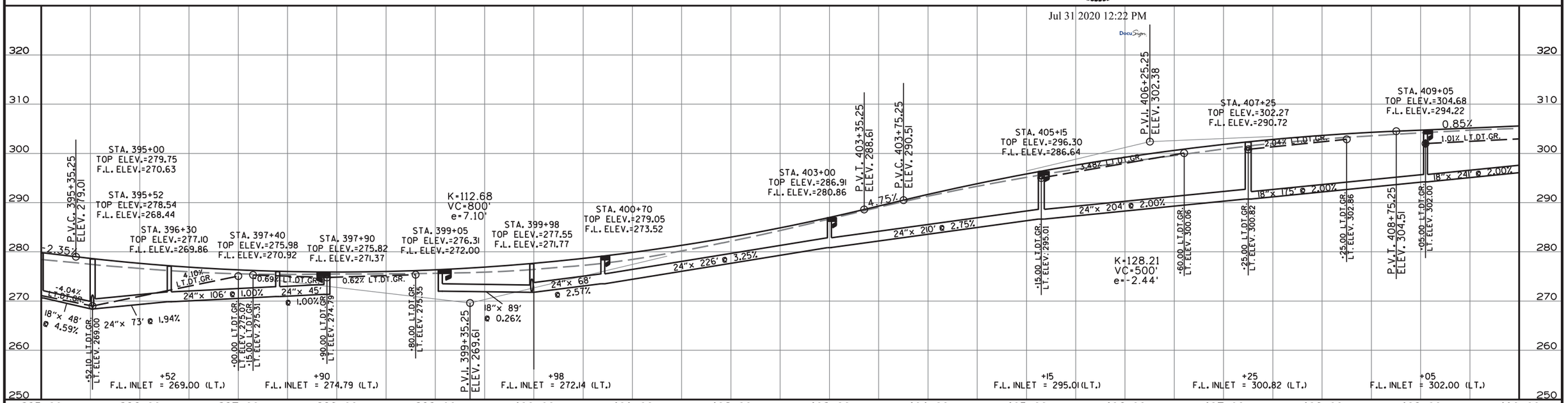

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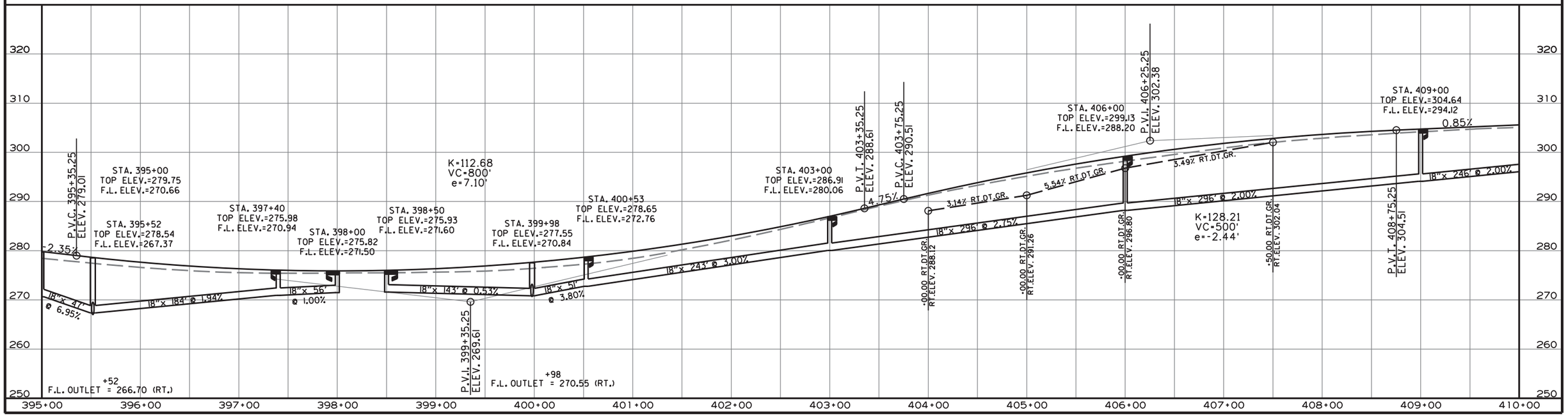

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				JOB NO.		CA0706	129	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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STA. 411+10 IN PLACE
12" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 415+29
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 416+38
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 418+19 IN PLACE
18" X 55' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT TURNOUT = 20 CU. YDS.

STA. 411+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 241' PIPE OUTLET
CONNECT TO D.I. @ STA. 409+05 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 9"

STA. 414+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 411+50 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 419+25 - CONSTRUCT
D.I. ON LT.
TYPE SPECIAL

STA. 417+58 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 20.3 SQ. YDS.

STA. 418+78 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 20.3 SQ. YDS.

STA. 420+78 CONSTRUCT
TYPE 3 WHELLCHAIR RAMP ON LT.
= 9.4 SQ. YDS.

STA. 420+60.00
END JOB CA0706

PROPOSED ROW
EXISTING ROW
PROPOSED CONST. LIMITS
WRIGHTS LN.
VINE ST
45' LANE TAPER
100' TRANSITION
180' LANE TAPER
BILLBOARD
MISC POLE
PAVED DRAIN
LOW UTIL LINE
GRAVEL DW NOT IN USE
GRAVEL TO HOUSE
GRAVEL DW
CONC DW
CURB
SIGN
TOWER
GATE
HEDGE
BRUSH
WATER TESTER
WATER SN
SBC FOC SN
ATT FOC SN
5'CH LINK
4'CH LINK
6'WOOD
CENTERPOINT UGC SN
MIDWAY MARBLE,7126I,IO,O,METAL
PI STA 38+15.8± (39+76.4±) JOB 7629
PI STA 33+86.7± JOB 76

P.I. 414+63.03
Δ = 0°02'47.4" RT.

P.I. 420+73.02
Δ = 0°04'22.9" RT.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE
417+24	417+40	RT.	4' CHAIN LINK	26	

STA. 412+05 IN PLACE
12" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 411+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 409+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 9"

STA. 414+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 411+50 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 419+25 - CONSTRUCT
D.I. ON RT.
TYPE SPECIAL

STA. 419+71 IN PLACE
18" X 31' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 413+18 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 115 CU. YDS.

STA. 414+03
CONSTRUCT APPROACH = 110 CU. YDS.

STA. 415+03
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 416+30
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 417+02
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 417+53
CONSTRUCT APPROACH = 25 CU. YDS.

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PLAN SHEETS

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				6	ARK.			
				JOB NO.		CA0706	130	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH

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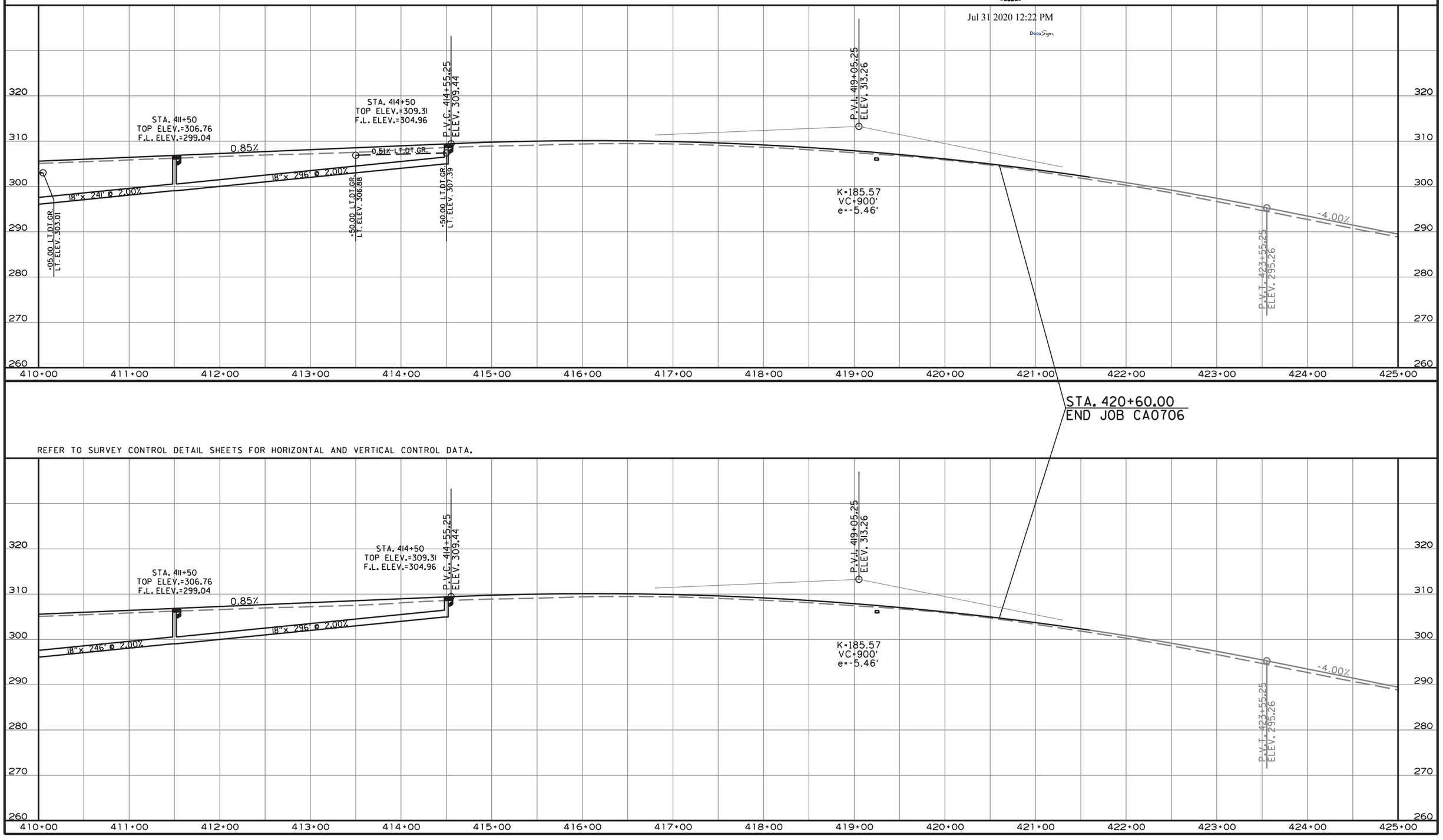

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

7/28/2020

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				6	ARK.			
				JOB NO.		CA0706	131	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
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Trinity Smith

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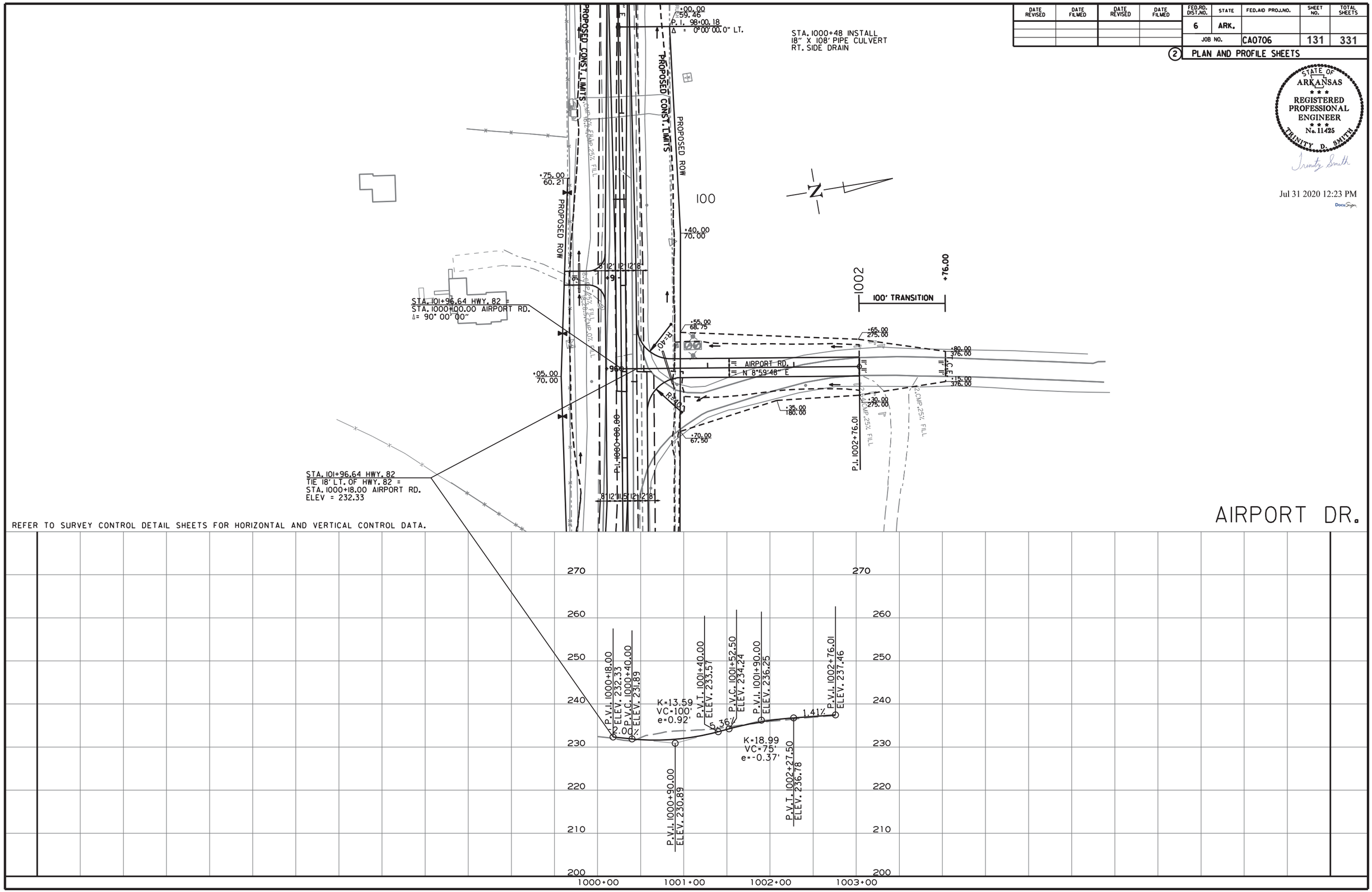

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RCA0706.DGN 7/28/2020

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.		CA0706	132	331

(2) PLAN AND PROFILE SHEETS

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No. 11425
TRINITY D. SMITH

Trinity Smith

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HWY. 335 SOUTH

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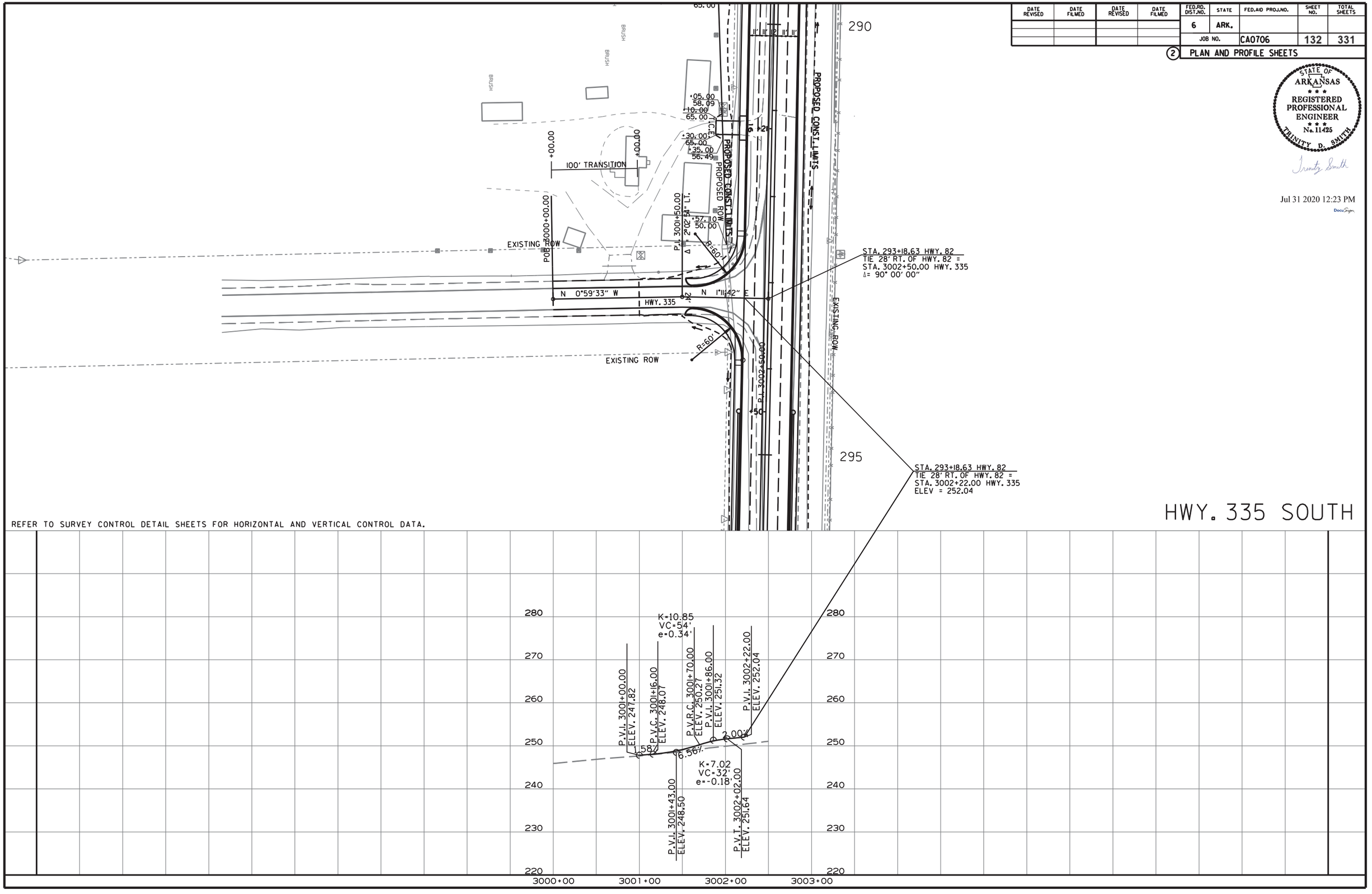

7/28/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	133	331

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
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No. 11425
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HWY. 335 NORTH

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

7/28/2020

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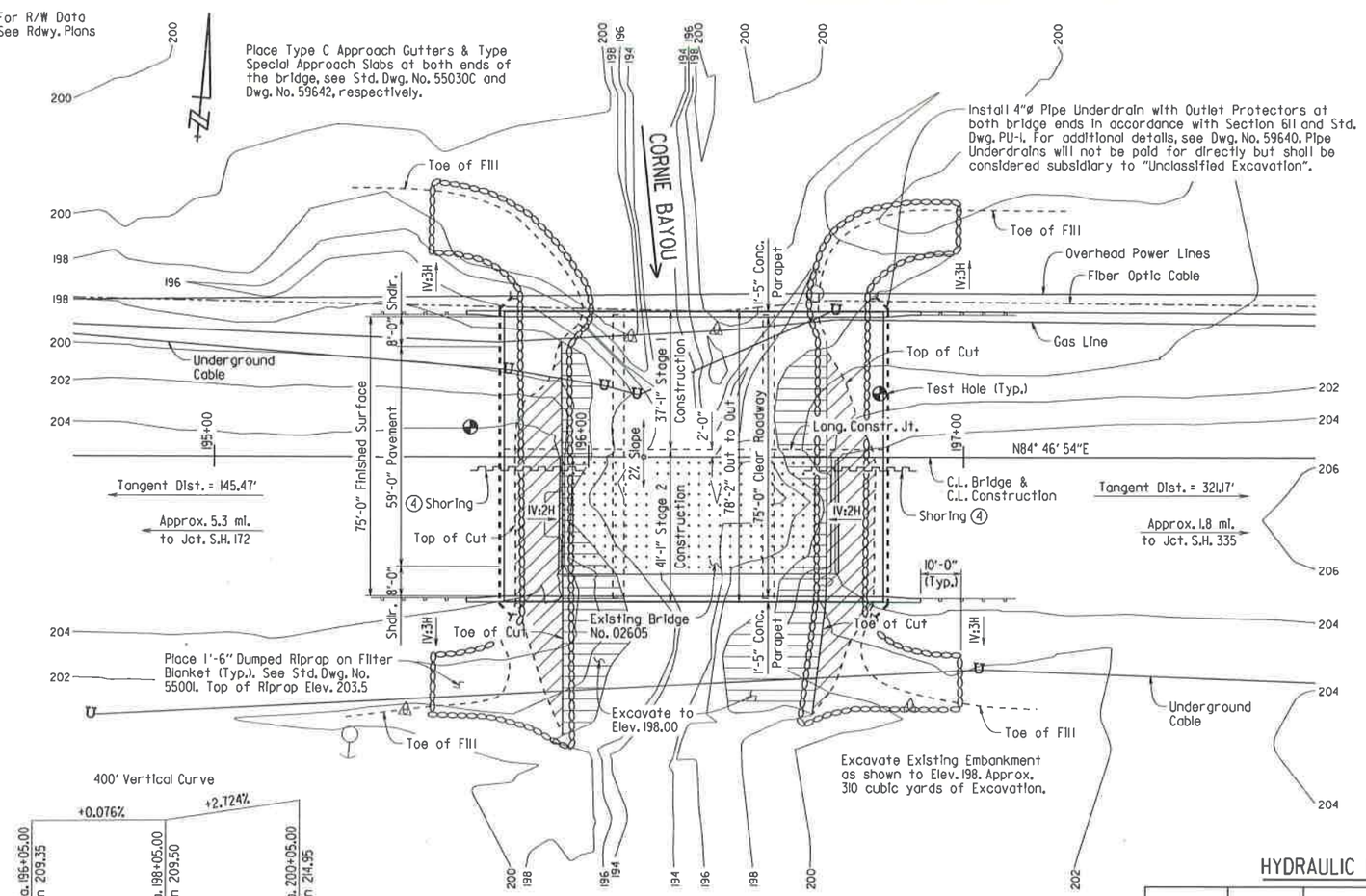
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	134	331
				①	07410 - LAYOUT - 59629			



PLAN

Theoretical elevation along C.L. Bridge

VERTICAL ALIGNMENT DATA

No Scale

③ Measured from C.L. Deck @ C.L. Bent to Low Cap Seat.

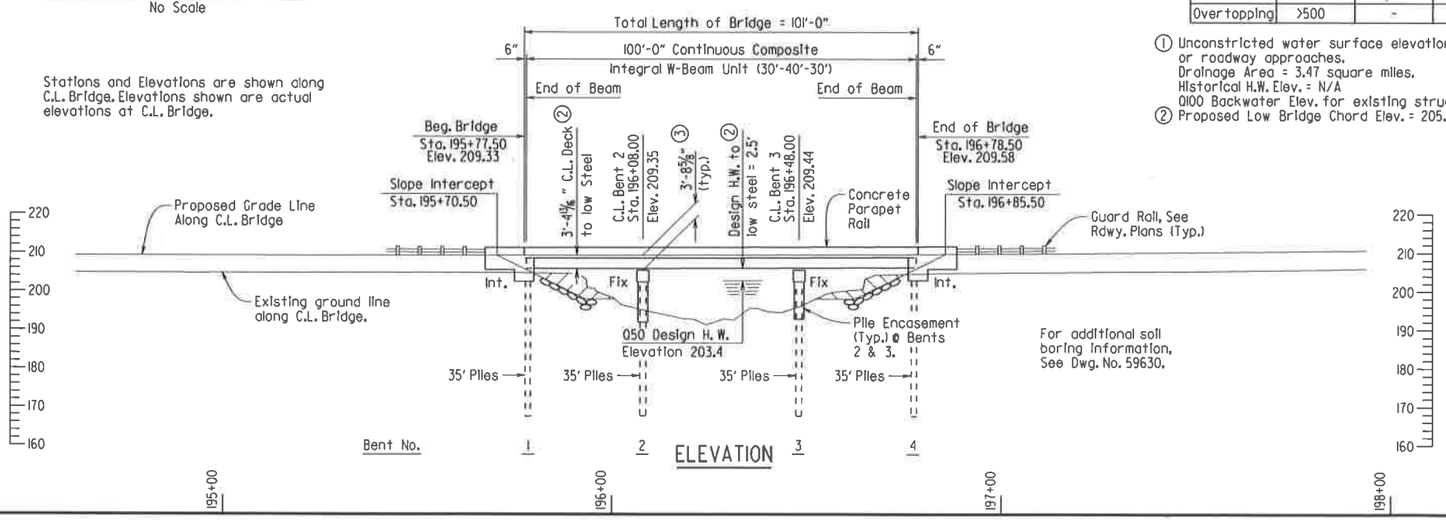
④ Shoring, if necessary. See Special Provision Job No. CA0706 "Shoring".

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	①NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	1,370	202.5	203.4
Base	100	1,640	202.9	204.1
Extreme	500	2,350	203.8	205.6
Overtopping	>500	-	-	-

① Unconstricted water surface elevation without structure or roadway approaches.
Drainage Area = 3.47 square miles.
Historical H.W. Elev. = N/A
0100 Backwater Elev. for existing structure = 204.0 ft.

② Proposed Low Bridge Chord Elev. = 205.93 ft. @ Sta. 195+79.83



Stations and Elevations are shown along C.L. Bridge. Elevations shown are actual elevations at C.L. Bridge.

For additional soil boring information, See Dwg. No. 59630.

ELEVATION

GENERAL NOTES

BENCH MARK: Vertical Control Data are shown on the Survery Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted on the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, 6th Edition (2012), with 2013 Interim revisions.

LIVE LOADING: HL-93

SEISMIC ZONE: 1 S_{D1} =0.128 SITE CLASS = D

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL SHELL PILING: All piling in Bents 1 and 4 shall be 16" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 140 tons per pile. Piling in Bents 2 and 3 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 220 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer. Lengths of piling shown are assumed for estimating quantities only. Piling in Bents 1 and 4 shall be driven after embankment to bottom of cap is in place. Actual piling lengths are to be determined in the field. No additional payment will be made for cutoff or build-up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural ground. See Standard Drawing Number 55021 for additional information. Corrugated alternate pile encasement will not be allowed.

PREBORING: Preboring is required for all piling at Bents 1 and 4. Prebored holes at Bents 1 and 4 shall have a diameter 6" greater than the diameter of the pile for a depth 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of temporary casing or other approved methods. Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the item "Preboring".

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". It is estimated that a minimum rated hammer energy required to obtain the ultimate bearing capacity will be 20,000 ft.-lbs. per blow for all piles at Bents 1 and 4 and 45,000 ft.-lbs. per blow for all piles at Bents 2 and 3.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class S Tined Roadway Surface Finish.

DETAIL DRAWINGS:	DRAWING NO.
Stage Construction	59631
End Bents	59632-59633
Intermediate Bents	59634
Elastomeric Bearings	59635
100'-0" Continuous Composite Integral W-Beam Unit	59636-59641
Concrete Filled Steel Shell Piling	55021
Type C Approach Gutters	55030C
Type Special Approach Slabs	59642
General Notes	55006
Details for Steel Bridge Structures	55007

EXISTING BRIDGE: Existing Bridge No. 02605 (Log Mile 12.60) is 31.5' wide (27.9' Roadway) and 75.0' long and consists of three Reinforced Concrete Slab Spans at 25'-0" supported by trestle bents with concrete piles.

REMOVAL AND SALVAGE: After Stage 1 Construction is complete and open to traffic, the Contractor shall remove existing Bridge No. 02605 in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-14-18
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE
HIGHWAY 82 OVER CORNIE BAYOU
AIRPORT DR. - HWY. 82B (WIDENING) (S)
UNION COUNTY

ROUTE 82 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION

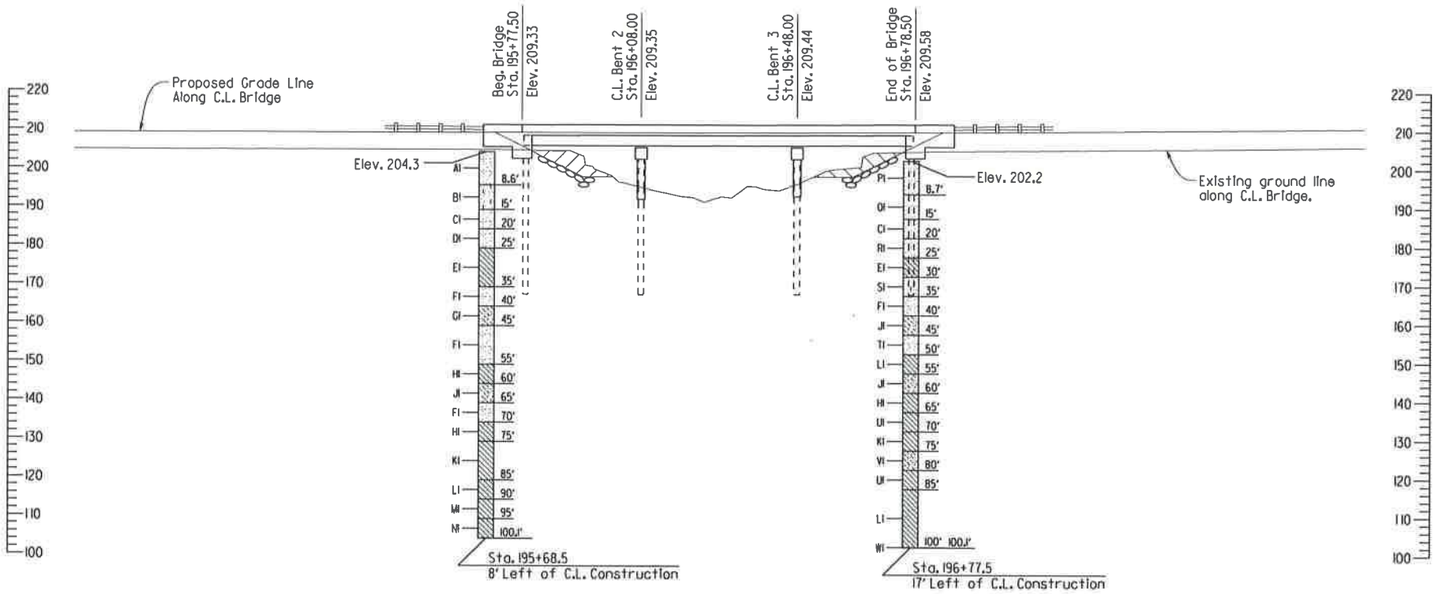
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 2/19/16
CHECKED BY: DHP DATE: 10-23-18
DESIGNED BY: CMW DATE: 2/16
FILENAME: bca0706_ll.dgn
SCALE: 1" = 20'

BRIDGE NO. 07410 DRAWING NO. 59629

PRINT DATE: 10/23/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	135	331
				①		07410 - LAYOUT - 59630		



Bent No.	1	2	3	4

ELEVATION OF SOIL BORINGS

BORING LEGEND

AI-Moist, Very Loose, Light Gray Sand
BI-Moist, Medium Dense, Light Gray Silty Sand
CI-Moist, Medium Dense, Light Gray Sand with Some Clay
DI-Moist, Dense, Light Gray Sand
EI-Moist, Very Stiff, Light Gray Sandy Clay
FI-Moist, Very Dense, Light Gray Sand
GI-Moist, Dense, Light Gray Clayey Sand
HI-Moist, Very Hard, Light Gray Sandy Clay
JI-Moist, Very Dense, Light Gray Clayey Sand
KI-Moist, Hard, Light Gray Clay with Some Sand
LI-Moist, Hard, Light Gray Sandy Clay
MI-Moist, Very Hard, Light Gray Clay with Some Sand
NI-Moist, Hard, Light Gray Sandy Clay with Some Lignitic Clay
PI-Moist, Loose, Light Gray Sand
OI-Wet, Loose, Light Gray Sand
RI-Moist, Medium Dense, Light Gray Sand
SI-Moist, Very Dense, Light Gray Silty Sand
TI-Moist, Very Dense, Light Gray Sand with Trace Gravel
UI-Moist, Hard, Light Gray Clay
VI-Moist, Very Dense, Light Gray Sand with Clay
WI-Cemented Sand

"N" VALUES

Sta. 195+68.5 - 8' Left of C.L. Construction	Sta. 196+77.5 - 17' Left of C.L. Construction
4.1- 5.1, N=4	4.2- 5.2, N=7
9.1- 10.1, N=13	9.2- 10.2, N=10
15.5- 16.5, N=13	15.5- 16.5, N=16
20.5- 21.5, N=33	20.5- 21.5, N=25
25.5- 26.5, N=30	25.5- 26.5, N=28
30.5- 31.5, N=30	30.5- 31.5, N=54
35.5- 36.5, N=65	35.5- 36.5, N=74
40.5- 41.5, N=46	40.5- 41.5, N=55
45.5- 46.5, N=66	45.5- 46.5, N=52
50.5- 51.3, N=81(10")	50.5- 51.5, N=48
55.5- 56.5, N=65	55.5- 56.5, N=71
60.5- 61.5, N=54	60.5- 61.5, N=75
65.5- 66.5, N=85	65.5- 66.5, N=45
70.5- 71.5, N=61	70.5- 71.5, N=55
75.5- 76.5, N=66	75.5- 76.5, N=52
80.5- 81.5, N=48	80.5- 81.5, N=60
85.5- 86.5, N=50	85.5- 86.5, N=46
90.5- 91.5, N=65	90.5- 91.5, N=54
95.5- 96.5, N=60	95.5- 96.5, N=53
100-100.0, N=60(0")	100-100.1, N=60(1")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
11-19-18

BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE
HIGHWAY 82 OVER CORNIE BAYOU
AIRPORT DR. - HWY. 82B (WIDENING) (S)
UNION COUNTY

ROUTE 82 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 2/19/16 FILENAME: bca0706_ll.dgn
CHECKED BY: DHP DATE: 10-23-18 SCALE: 1" = 20'
DESIGNED BY: CMW DATE: 2/16

BRIDGE NO. 07410 DRAWING NO. 59630

PRINT DATE: 10/11/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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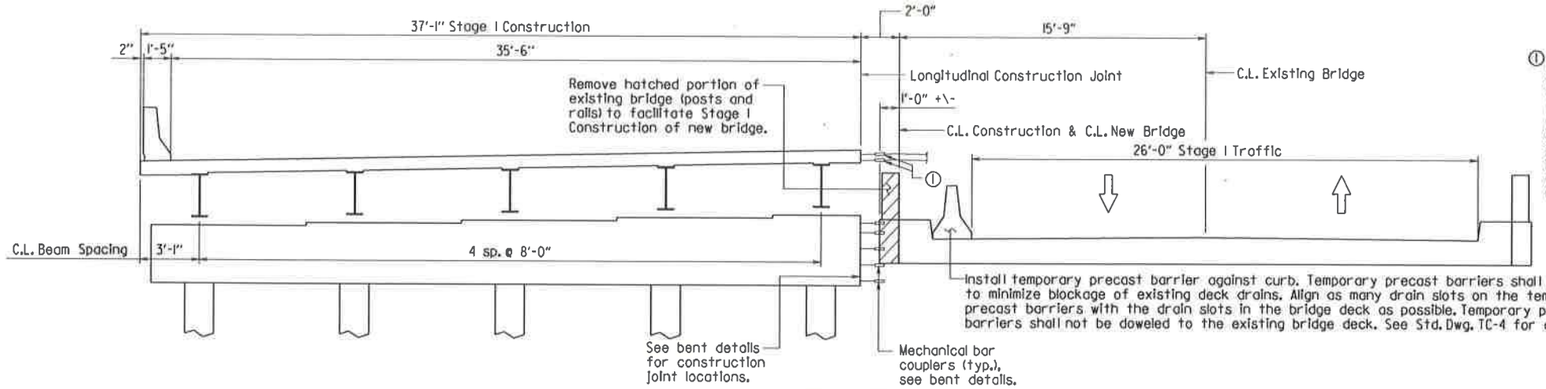
				JOB NO.		CA0706	136	331

① 07410 - STAGE CONSTRUCTION - 59631



STAGE 1 CONSTRUCTION

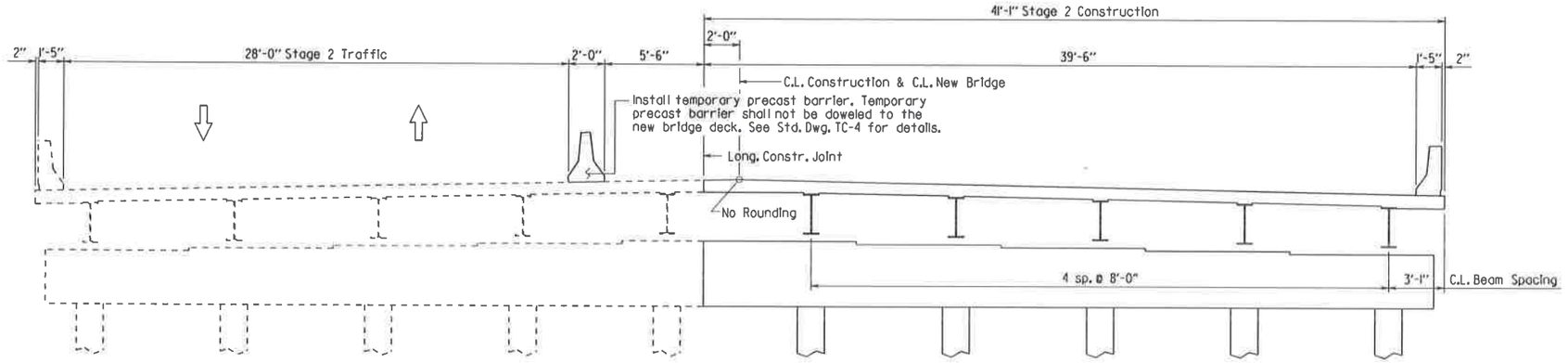
Looking Ahead

① Epoxy coated mechanical bar couplers may be used in lieu of lap splicing slab bars between stages. Mechanical bar couplers shall be listed on the Department's Qualified Products List (QPL) and shall be installed according to the manufacturer's recommendations. They shall develop at least 125% of the specified yield strength of the bar. If mechanical bar couplers are installed during Stage 1 Construction, they shall be adequately protected from damage until the Stage 2 slab reinforcing is installed. Mechanical bar couplers will not be paid for separately but shall be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

NOTES:

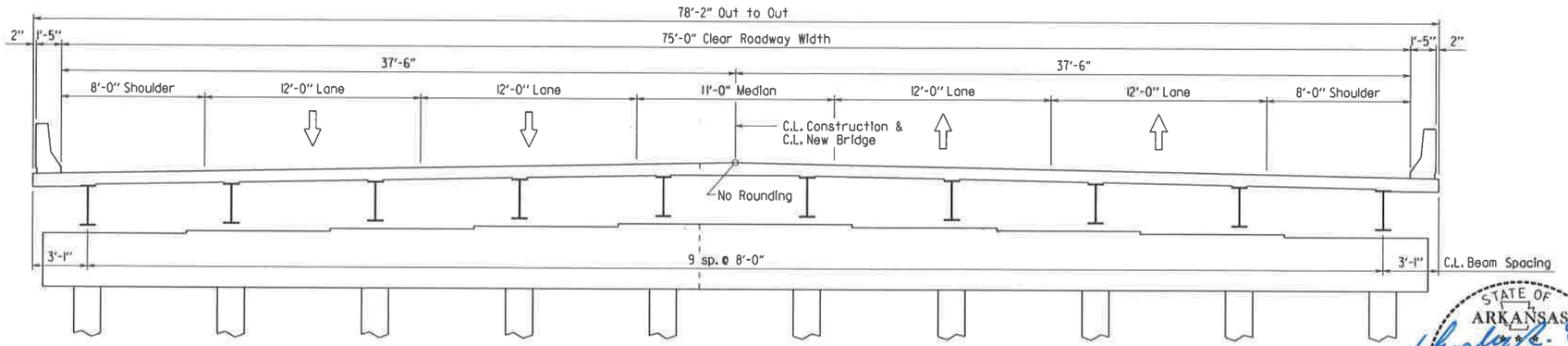
Details which relate to Maintenance of Traffic are shown on bridge plans for information only. See Roadway plans for Maintenance of Traffic.

For additional information, see Layout.



STAGE 2 CONSTRUCTION

Looking Ahead



CONSTRUCTION COMPLETE

Looking Ahead

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-14-18
CHARLES R. ELLIS

BRIDGE ENGINEER

DETAILS OF STAGE CONSTRUCTION
CORNIE BAYOU
UNION COUNTY

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

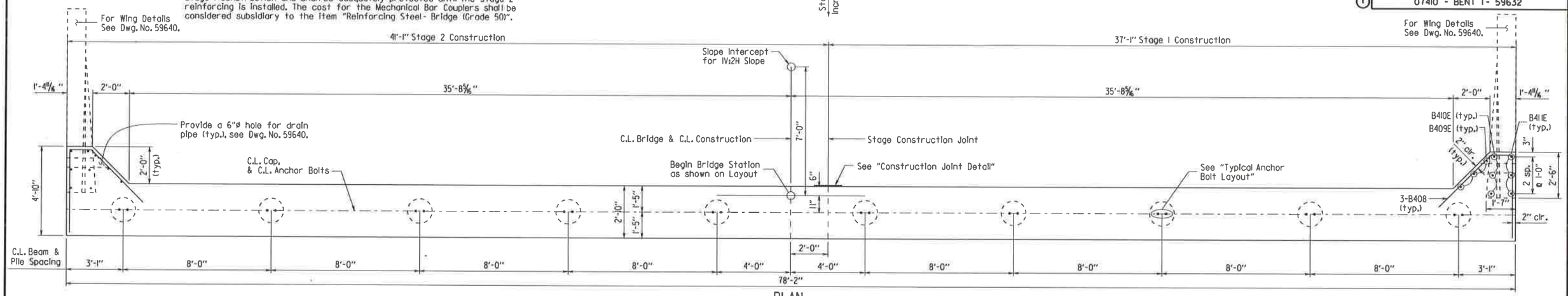
DRAWN BY: KWY DATE: 5/5/16 FILENAME: bca0706_sc.dgn
CHECKED BY: DHP DATE: 10-23-18 SCALE: 1/4" = 1'-0"
DESIGNED BY: CMW DATE: 5/16

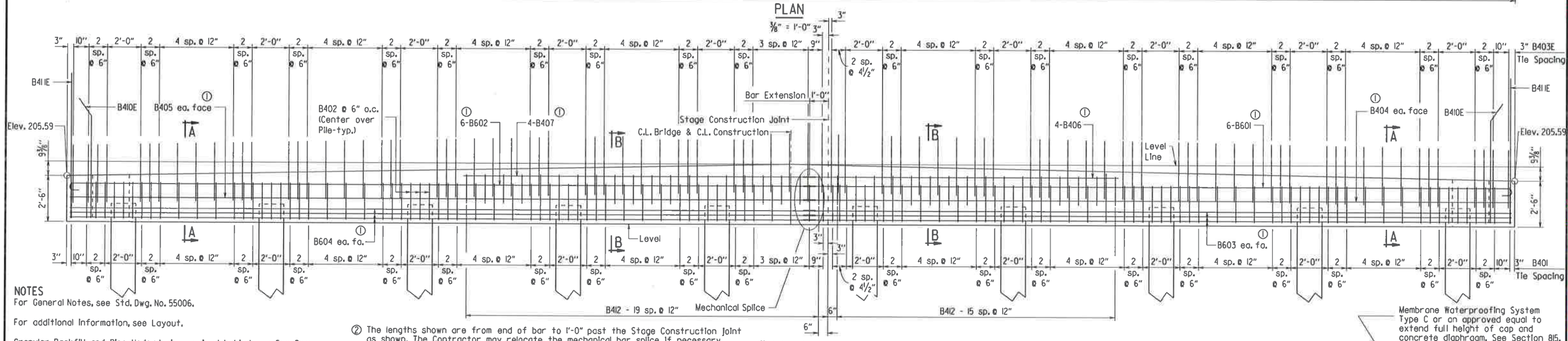
BRIDGE NO. 07410 DRAWING NO. 59631

PRINT DATE: 10/11/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	137	331
				①	07410 - BENT 1 - 59632			

① These bars have mechanical bar couplers. Bar couplers shall be listed on the Department's Qualified Products List (QPL) and shall be installed according to the manufacturer's recommendations. They shall develop at least 125% of the specified yield strength of the bar and maintain a minimum of 2" clear from the formwork. Couplers shall be installed during Stage I Construction and shall be adequately protected until the Stage 2 reinforcing is installed. The cost for the Mechanical Bar Couplers shall be considered subsidiary to the item "Reinforcing Steel- Bridge (Grade 50)".





NOTES

For General Notes, see Std. Dwg. No. 55006.

For additional information, see Layout.

Granular Backfill and Pipe Underdrain required behind cap. See Dwg. No. 59640 for details.

B409E, B410E, and B411E shall have a 2'-4" embedment into the cap.

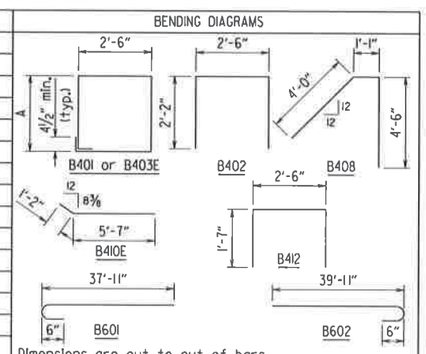
B403E bars shall have a 1'-6" embedment into the cap.

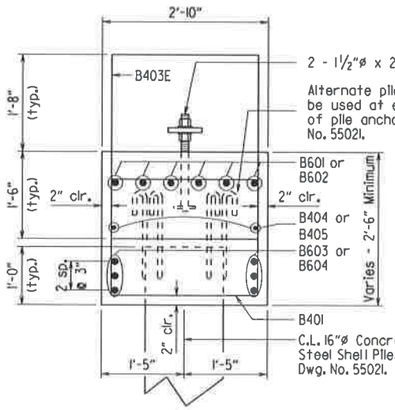
② The lengths shown are from end of bar to 1'-0" past the Stage Construction Joint as shown. The Contractor may relocate the mechanical bar splice if necessary and site conditions allow. Individual lengths shall be determined in the field by the Contractor.

BAR LIST

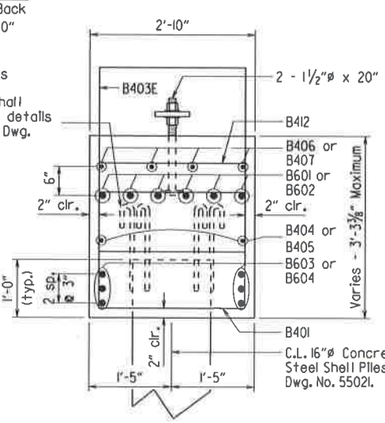
MARK	NO. REQ'D.	LENGTH	A	P.D.
B401	90	9'-8"	2'-2"	2"
B402	30	6'-8"		2"
B403E	90	11'-8"	3'-2"	2"
B404 ②	2	37'-11"		Str.
B405 ②	2	39'-11"		Str.
B406 ②	4	16'-8"		Str.
B407 ②	4	18'-8"		Str.
B408	6	9'-6"		2"
B409E	6	3'-11"		Str.
B410E	6	6'-9"		2"
B411E	6	7'-11"		Str.
B412	36	5'-6"		2"
B601 ②	6	38'-7"		4½"
B602 ②	6	40'-7"		4½"
B603 ②	6	37'-11"		Str.
B604 ②	6	39'-11"		Str.

BENDING DIAGRAMS

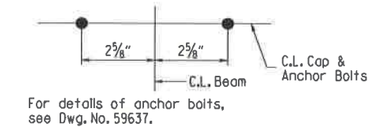




SECTION A-A
¾" = 1'-0"



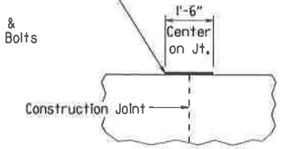
SECTION B-B
¾" = 1'-0"



For details of anchor bolts, see Dwg. No. 59637.

TYPICAL ANCHOR BOLT LAYOUT
No Scale

Membrane Waterproofing System Type C or an approved equal to extend full height of cap and concrete diaphragm. See Section 815. No direct payment shall be made for this work. Payment will be subsidiary to the item "Class S Concrete-Bridge".



CONSTRUCTION JOINT DETAIL
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
11-14-16
BRIDGE ENGINEER

DETAILS OF BENT 1
CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

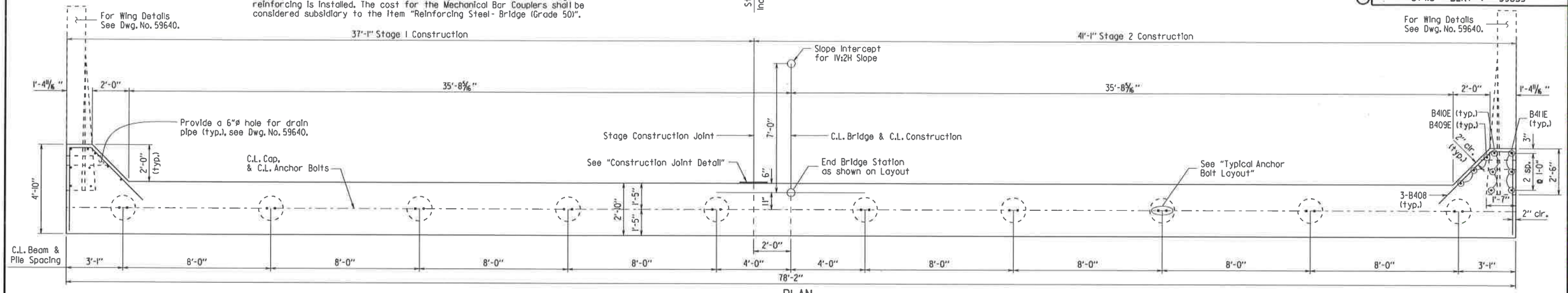
DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_b1.dgn
CHECKED BY: DHP DATE: 10-27-16 SCALE: As Shown
DESIGNED BY: DHP DATE: 9-16

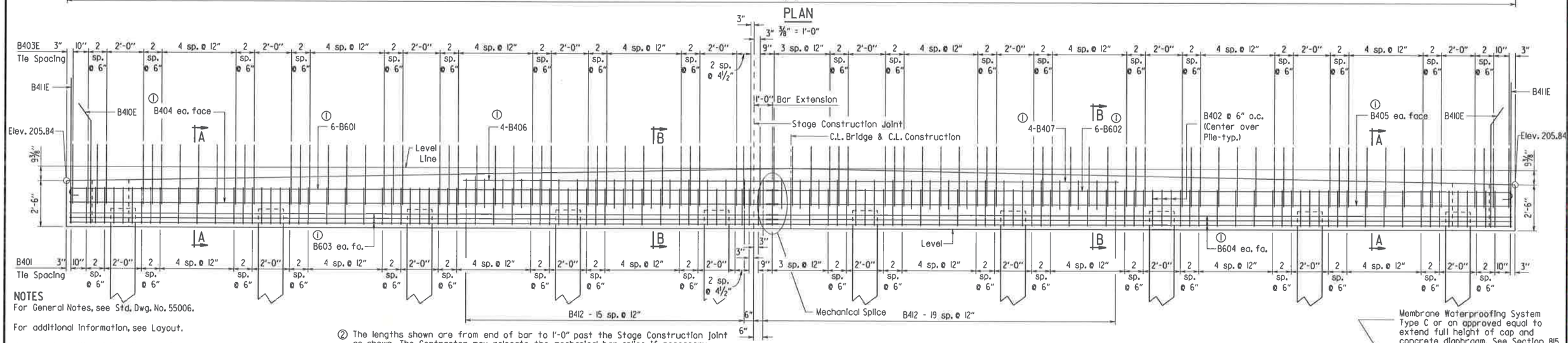
BRIDGE NO. 07410 DRAWING NO. 59632

PRINT DATE: 10/11/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	138	331
				①		07410 - BENT 4 - 59633		

① These bars have mechanical bar couplers. Bar couplers shall be listed on the Department's Qualified Products List (QPL) and shall be installed according to the manufacturer's recommendations. They shall develop at least 125% of the specified yield strength of the bar and maintain a minimum of 2" clear from the formwork. Couplers shall be installed during Stage 1 Construction and shall be adequately protected until the Stage 2 reinforcing is installed. The cost for the Mechanical Bar Couplers shall be considered subsidiary to the item "Reinforcing Steel- Bridge (Grade 50)".





NOTES

For General Notes, see Std. Dwg. No. 55006.

For additional information, see Layout.

Granular Backfill and Pipe Underdrain required behind cap. See Dwg. No. 59640 for details.

B409E, B410E, and B411E shall have a 2'-4" embedment into the cap.

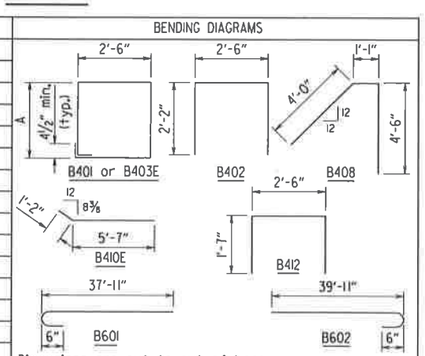
B403E bars shall have a 1'-6" embedment into the cap.

② The lengths shown are from end of bar to 1'-0" past the Stage Construction Joint as shown. The Contractor may relocate the mechanical bar splice if necessary and site conditions allow. Individual lengths shall be determined in the field by the Contractor.

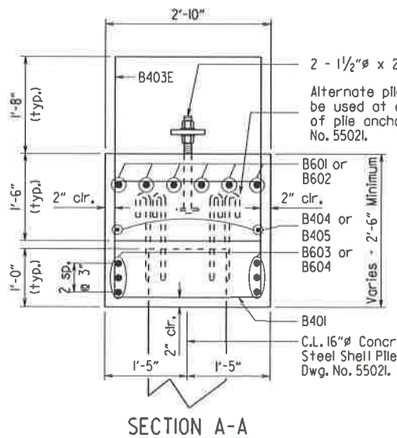
BAR LIST

MARK	NO. REQ'D.	LENGTH	A	P.D.
B401	90	9'-8"	2'-2"	2"
B402	30	6'-8"		2"
B403E	90	11'-8"	3'-2"	2"
B404 ②	2	37'-11"		Str.
B405 ②	2	39'-11"		Str.
B406 ②	4	16'-8"		Str.
B407 ②	4	18'-8"		Str.
B408	6	9'-6"		2"
B409E	6	3'-11"		Str.
B410E	6	6'-9"		2"
B411E	6	7'-11"		Str.
B412	36	5'-6"		2"
B601 ②	6	38'-7"		4½"
B602 ②	6	40'-7"		4½"
B603 ②	6	37'-11"		Str.
B604 ②	6	39'-11"		Str.

BENDING DIAGRAMS

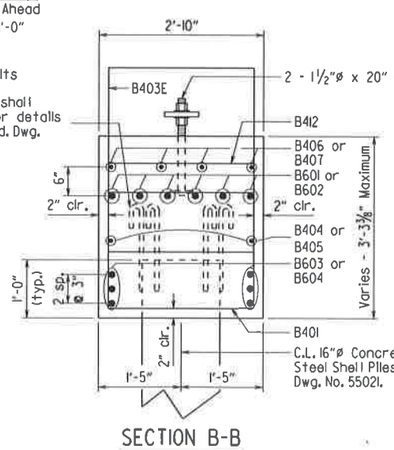


Dimensions are out to out of bars.
Bars with "E" designation shall be epoxy coated.

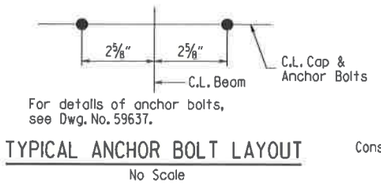


SECTION A-A
¾" = 1'-0"

ELEVATION
Looking Ahead
⅜" = 1'-0"



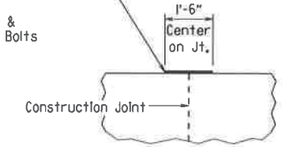
SECTION B-B
¾" = 1'-0"



For details of anchor bolts, see Dwg. No. 59637.

TYPICAL ANCHOR BOLT LAYOUT
No Scale

Membrane Waterproofing System Type C or an approved equal to extend full height of cap and concrete diaphragm. See Section 815. No direct payment shall be made for this work. Payment will be subsidiary to the item "Class S Concrete-Bridge".



CONSTRUCTION JOINT DETAIL
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
11-14-18
BRIDGE ENGINEER

DETAILS OF BENT 4
CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

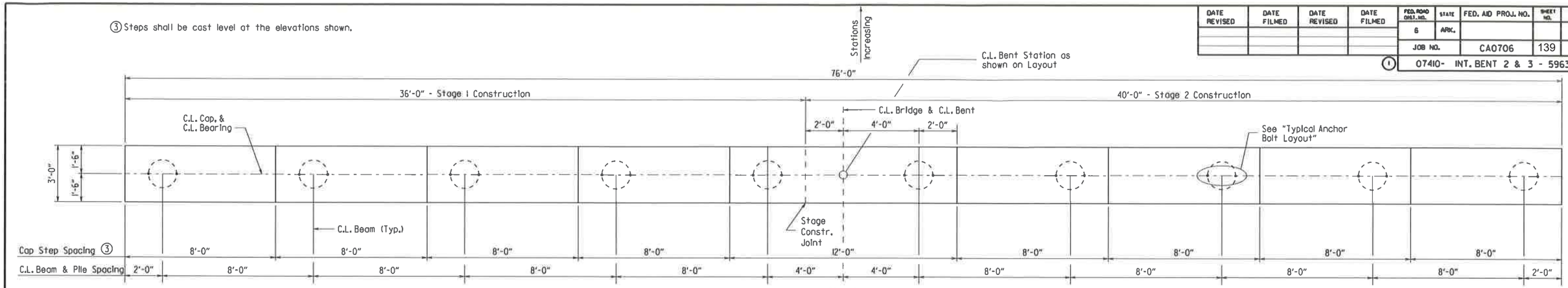
DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_bl.dgn
CHECKED BY: DHP DATE: 10-23-18 SCALE: As Shown
DESIGNED BY: DHP DATE: 9-16

BRIDGE NO. 07410 DRAWING NO. 59633

PRINT DATE: 10/18/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	139	331
				①	07410-	INT. BENT 2 & 3 - 59634		

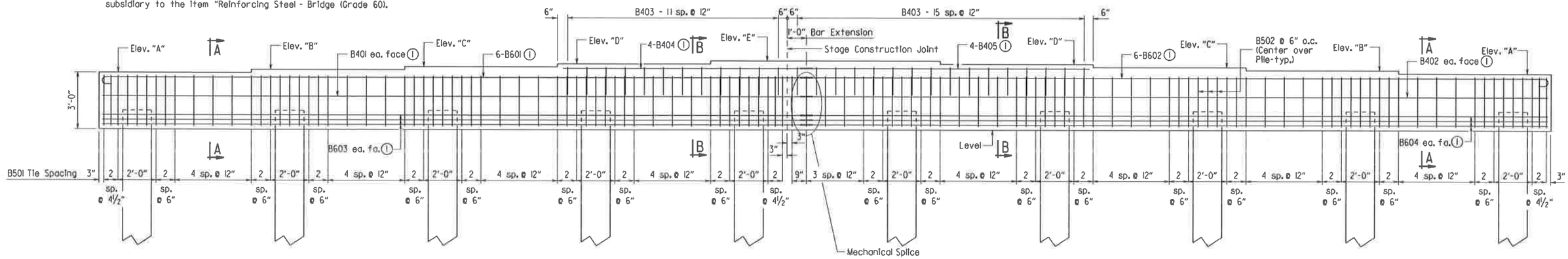
③ Steps shall be cast level at the elevations shown.



PLAN

3/8" = 1'-0"

① These bars have mechanical bar couplers. Bar couplers shall be listed on the Department's Qualified Products List (QPL) and shall be installed according to the manufacturer's recommendations. They shall develop at least 125% of the specified yield strength of the bar and maintain a minimum of 2" clear from the formwork. Couplers shall be installed during Stage 1 construction and shall be adequately protected until the Stage 2 reinforcing is installed. The cost for the Mechanical Bar Couplers shall be considered subsidiary to the item "Reinforcing Steel - Bridge (Grade 60).



ELEVATION

Looking Ahead

3/8" = 1'-0"

NOTES

For General Notes, see Std. Dwg. No. 55006.

For additional information, see Layout.

② The lengths shown are from end of bar to 1'-0" past the Stage Construction Joint as shown. The Contractor may relocate the mechanical bar splice if necessary and site conditions allow. Individual lengths shall be determined in the field by the Contractor.

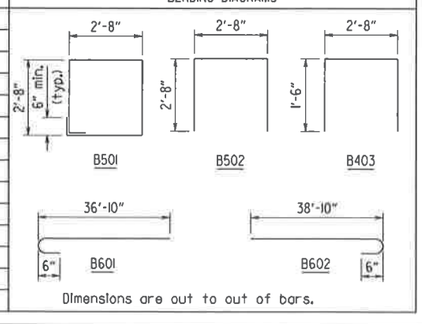
TABLE OF VARIABLES

Bent	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"
2	205.63	205.79	205.95	206.11	206.27
3	205.72	205.88	206.04	206.20	206.36

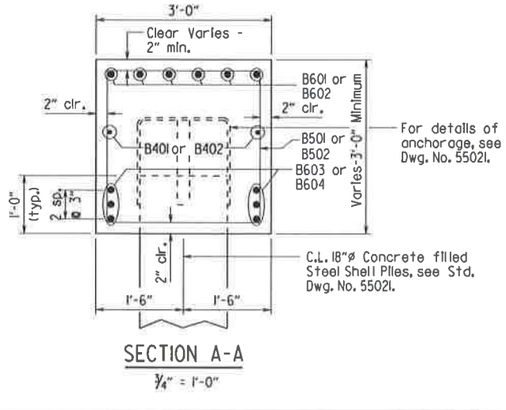
BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.
②B401	2	36'-10"	Str.
②B402	2	38'-10"	Str.
B403	28	5'-6"	2"
②B404	4	12'-10"	Str.
②B405	4	14'-10"	Str.
B501	88	1'-2"	2½"
B502	30	7'-10"	2½"
②B601	6	37'-6"	4½"
②B602	6	39'-6"	4½"
②B603	6	36'-10"	Str.
②B604	6	38'-10"	Str.

BENDING DIAGRAMS

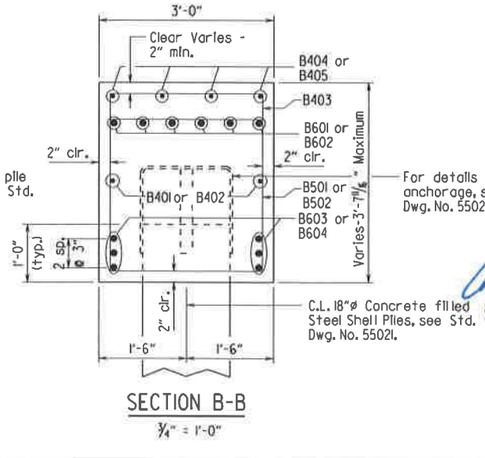


Dimensions are out to out of bars.



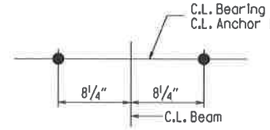
SECTION A-A

¾" = 1'-0"



SECTION B-B

¾" = 1'-0"



For details of elastomeric bearings, see Dwg. No 59635.

TYPICAL ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-19-18
CHARLES R. ELLIS

BRIDGE ENGINEER

DETAILS OF INTERMEDIATE BENTS CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

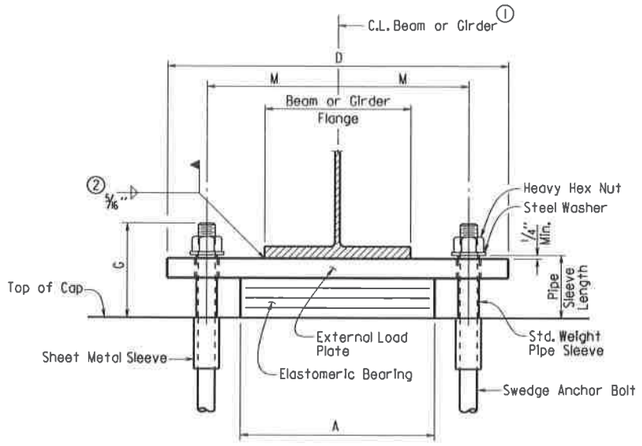
LITTLE ROCK, ARK.

DRAWN BY: DHP DATE: 10-27-16
CHECKED BY: BWS DATE: 11-8-18
DESIGNED BY: DHP DATE: 9-16
FILENAME: bca0706_b2.dgn
SCALE: As Shown

BRIDGE NO. 07410 DRAWING NO. 59634

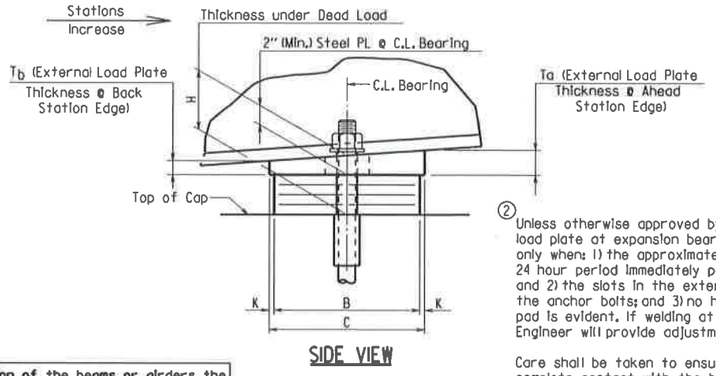
PRINT DATE: 10/11/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	140	331
				①		07410 - ELASTO. BEARINGS - 59635		



FRONT VIEW

① C.L Elastomeric Pad shall be aligned with C.L. Beam or Girder.



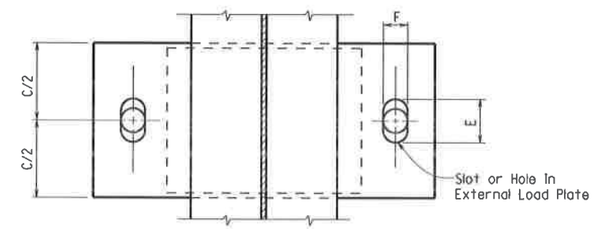
SIDE VIEW

The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in the "Table of Fabricator Variables".

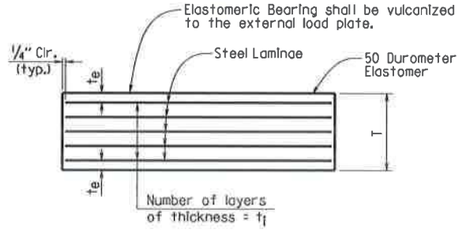
Prior to erection of the beams or girders, the Contractor shall verify the orientation of the bearings with respect to Ta and Tb.

② Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the beam or girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.

Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.



PLAN VIEW

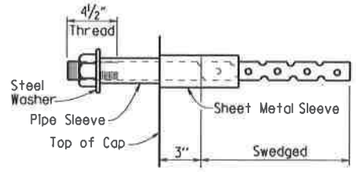


t_e = Thickness of elastomer cover on top and bottom of pad

t_l = Thickness of elastomer between steel laminae

N = Number of elastomer layers of thickness t_l

ELASTOMERIC BEARING



ANCHOR BOLT DETAIL

Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the concrete. Bolts placed in drilled holes shall be accurately set and fixed using a OPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the Item "Structural Steel in Beam Spans (M 270, Gr. 50W)"

TABLE OF FABRICATOR VARIABLES

③ Maximum Design Load = Service I Limit State

BRIDGE NO.	LOCATION BENT NO(S).	LOCATION BEAM OR GIRDER NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	③ MAXIMUM DESIGN LOAD (KIPS)	ELASTOMERIC PAD G	ELASTOMERIC PAD H	A	B	N	t_l	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE C	D	E	F	K	M	T_a	T_b	ANCHOR BOLT ANCHOR BOLT (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
07410	2	All	Fix	10	122	7¼"	3 15/16"	12"	11"	2	½"	¼"	3 @ 12 ga.	1 15/16"	12"	22"	2¼"	2¼"	½"	8¼"	2.01"	1.99"	1½" x 24"	55	1½" x 4⅛"	3" x 6"	3"
	3	All	Fix	10	122	7¼"	3 15/16"	12"	11"	2	½"	¼"	3 @ 12 ga.	1 15/16"	12"	22"	2¼"	2¼"	½"	8¼"	2.02"	1.98"	1½" x 24"	55	1½" x 4⅛"	3" x 6"	3"

GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 and shall be paid for at the unit price bid for "Elastomeric Bearings".

External load plates shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A500, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

External load plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M 270, Gr. 50W)". External load plates will not be measured and paid for separately, but will be considered incidental to the unit price bid for "Elastomeric Bearings".

Bearings shall be seated in accordance with Subsection 808.08. This work and materials are considered subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

STATE OF ARKANSAS
Charles R. Ellis
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-9-18
CHARLES R. ELLIS
BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_el.dgn

CHECKED BY: DHP DATE: 10-23-18 SCALE: No Scale

DESIGNED BY: DHP DATE: 9-16

BRIDGE NO. 07410 DRAWING NO. 59635

PRINT DATE: 10/11/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	141	331
				①		07410 - 100'-0" UNIT - 59636		

Class I Protective Surface Treatment shall be applied to the Roadway Surface and to the Roadway Face and top of the Concrete Parapet Rail.

Bar positions or clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size and number to prevent displacement during construction. See Subsection 804.06. Placement of slab bolsters or high-chairs with full -length lower runners directly on removable deck forms will not be allowed.

Slab Reinforcing:

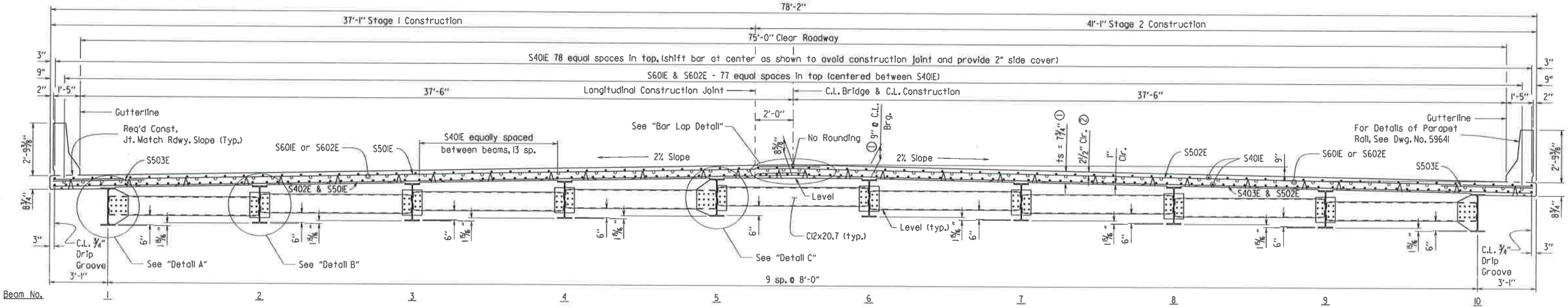
Longitudinal: S401E top & bottom as shown
S601E as shown over Int. supports and S602E as shown over end supports.
See "Reinforcing Plan & Pouring Sequence", Dwg. No. 59639.

Transverse: Stage 1
S501E @ 6" in top
S402E @ 12" in bottom — Alternate
S501E @ 12" in bottom —
S503E @ 6" in top of overhangs (bundled with #5 bars)

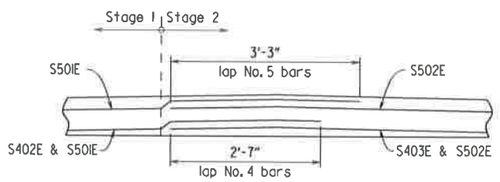
Stage 2
S502E @ 6" in top
S403E @ 12" in bottom — Alternate
S502E @ 12" in bottom —
S503E @ 6" in top of overhangs (bundled with #5 bars)

① See "Adjustment for Slab Thickness Tolerance" on Std. Dwg. No. 55007.

② Tolerance: Minus = 1/4"; Plus equal to the amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance" on Std. Dwg. No. 55007.



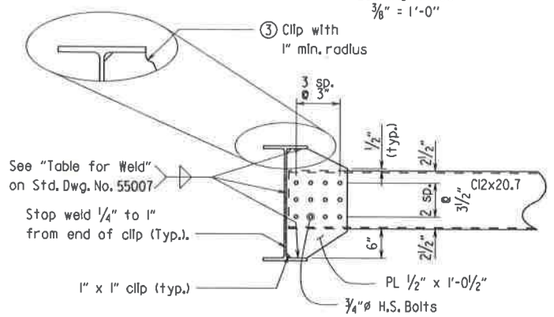
TYPICAL ROADWAY SECTION



BAR LAP DETAIL

NO SCALE

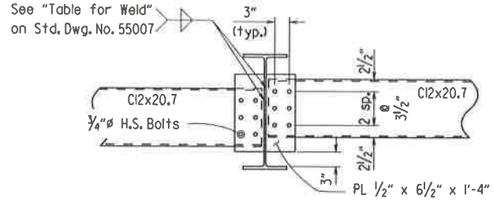
Looking Ahead
3/8" = 1'-0"



DETAIL A

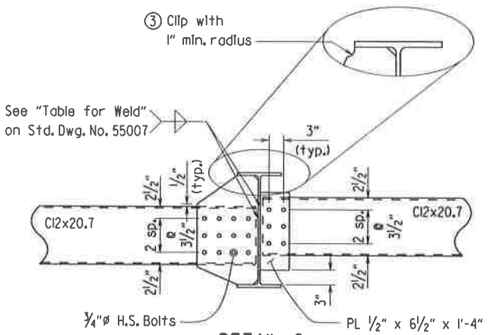
NO SCALE

③ If permanent steel deck forms are used, the Fabricator shall clip the plates as necessary to accommodate deck form supports.



DETAIL B

NO SCALE



DETAIL C

NO SCALE

PRINT DATE: 11/13/2018

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-14-18
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS OF 100'-0" CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT CORNIE BAYOU

ROUTE SEC.

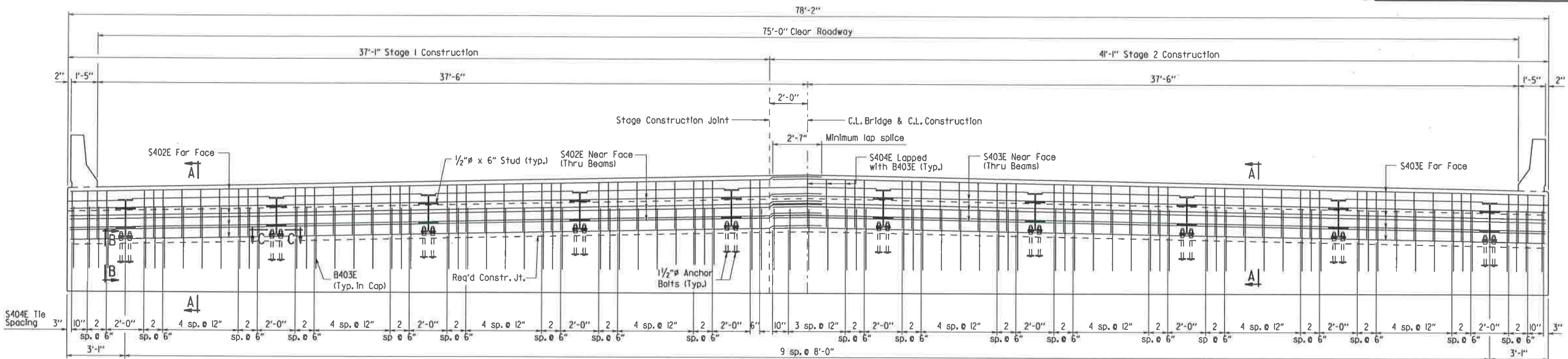
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_sl.dgn
CHECKED BY: DHP DATE: 11-13-18 SCALE: As Shown
DESIGNED BY: DHP DATE: 9-16

BRIDGE NO. 07410 DRAWING NO. 59636

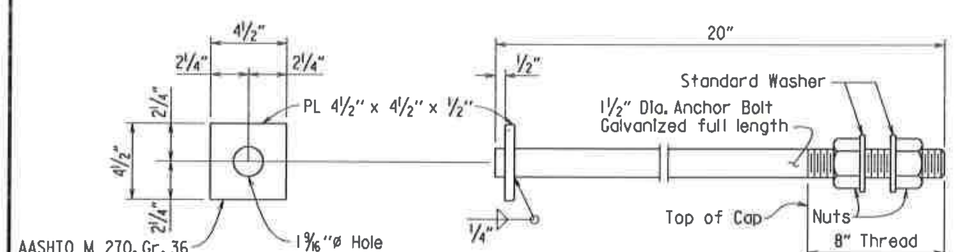
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	142	331

① 07410 - 100'-0" UNIT - 59637



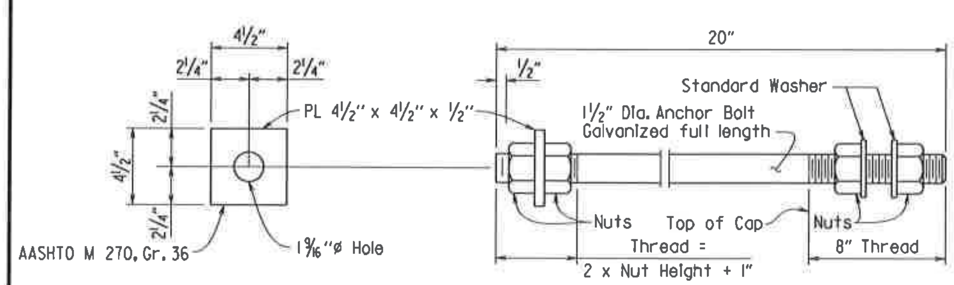
TYPICAL ROADWAY SECTION AT END BENTS

Looking Ahead - Bent 4
Bent 1 - Similiar
3/8" = 1'-0"



ANCHOR BOLT DETAIL

NO SCALE



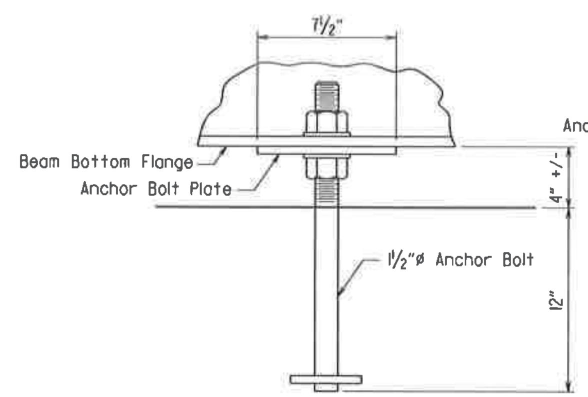
ANCHOR BOLT DETAIL

NO SCALE

Anchor bolts shall comply with AASHTO M 314, Grade 55, with Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts and Washers for bolts shall be as specified in Subsection 807.07.

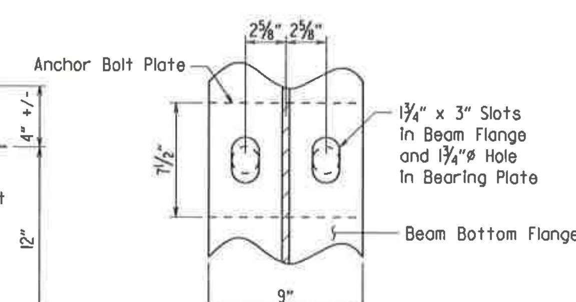
Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.

Plates, bolts, nuts, and washers shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M 270, Gr. 50W)".



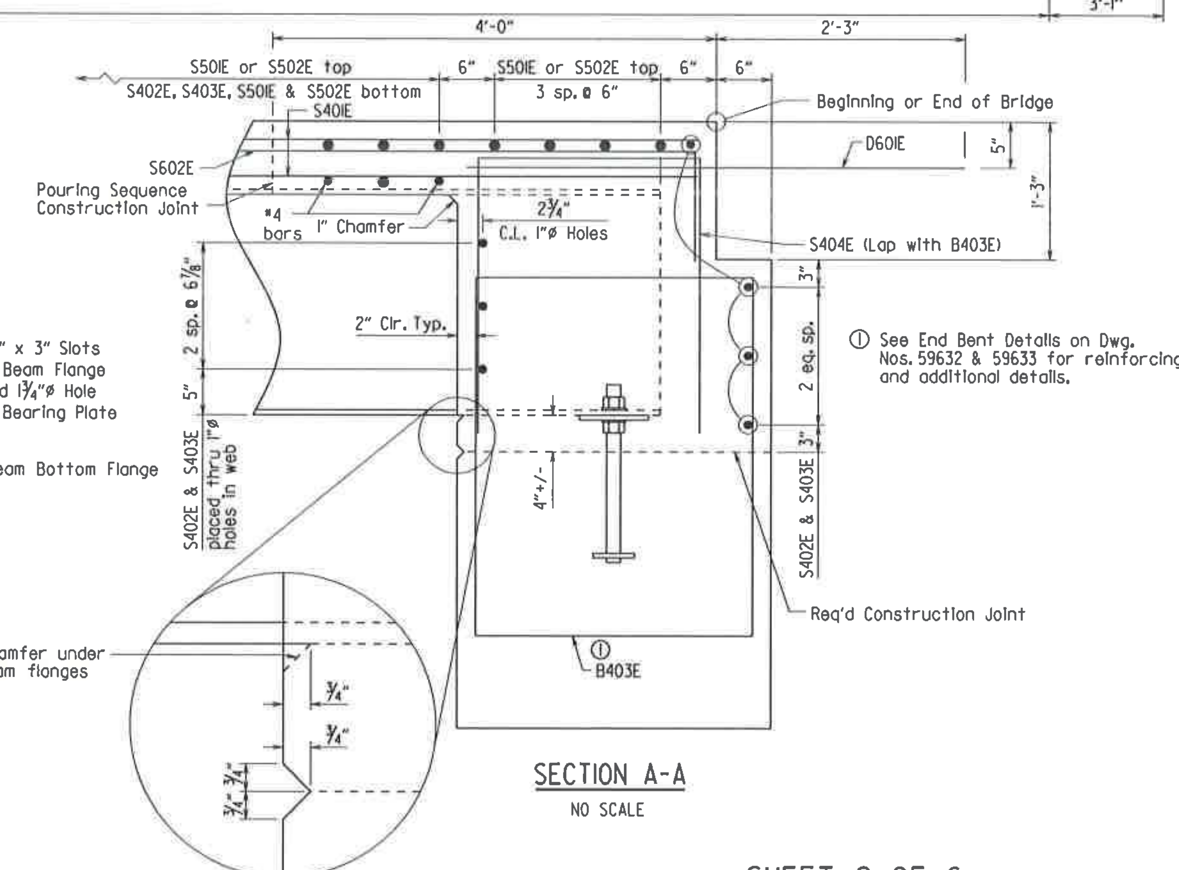
SECTION B-B

NO SCALE



SECTION C-C

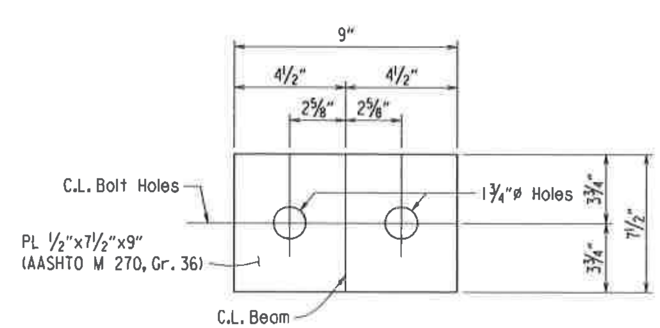
NO SCALE



SECTION A-A

NO SCALE

① See End Bent Details on Dwg. Nos. 59632 & 59633 for reinforcing and additional details.



BEARING PLATE DETAIL

NO SCALE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
11-14-18

BRIDGE ENGINEER

SHEET 2 OF 6
DETAILS OF 100'-0" CONTINUOUS
COMPOSITE INTEGRAL W-BEAM UNIT
CORNIE BAYOU

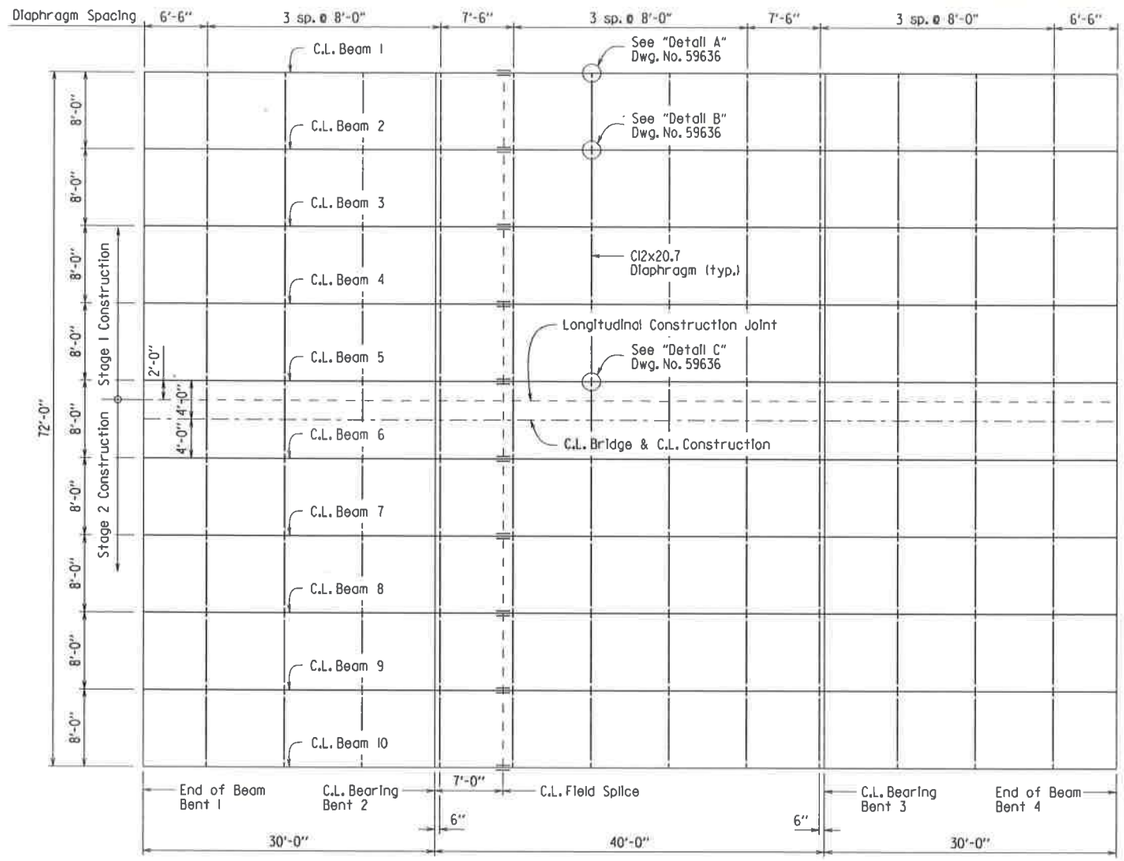
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP	DATE: 10/26/16	FILENAME: bca0706_sl.dgn	
CHECKED BY: DHT	DATE: 11-13-18	SCALE: As Shown	
DESIGNED BY: DHP	DATE: 9-16		
BRIDGE NO. 07410		DRAWING NO. 59637	

PRINT DATE: 11/13/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	143	331
				07410 - 100'-0" UNIT - 59638				

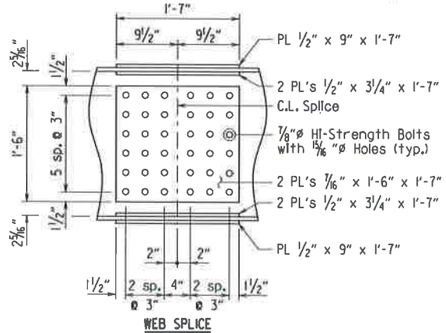


FRAMING PLAN

1/8" = 1'-0"

TYPICAL BEAM ELEVATION

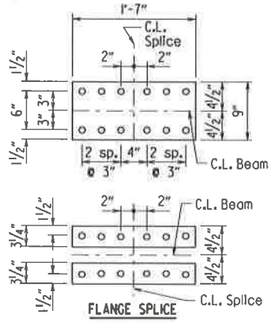
NO SCALE



WEB SPLICE

DETAILS OF FIELD SPLICE

NO SCALE



FLANGE SPLICE

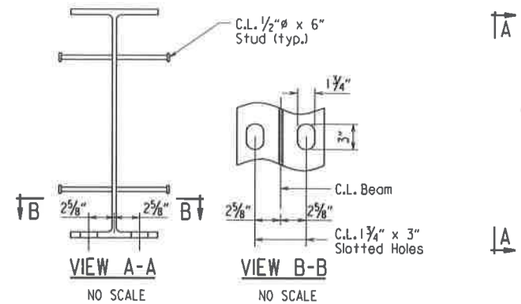
Notes:

All Structural Steel shall be AASHTO M 270, Gr. 50W unless otherwise noted, and shall be paid for as "Structural Steel In Beam Spans (M 270, Gr. 50W)".

Bolted field splices may either be eliminated or shop welded splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

For Standard General Notes and Details, see Std. Dwg. Nos. 55006 & 55007.

For additional information, see Layout.

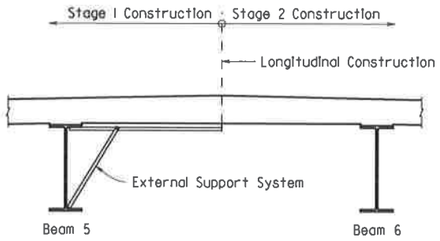


VIEW A-A

NO SCALE

VIEW B-B

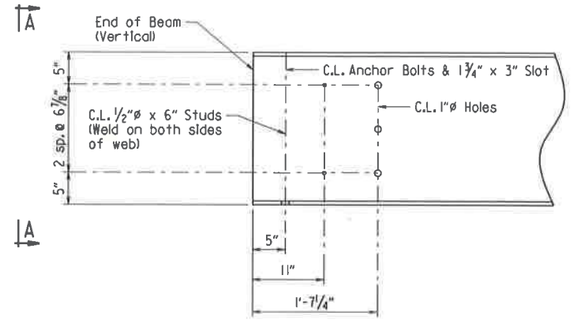
NO SCALE



Stage 1 external supports in this bay shall remain in place until after completion of the Stage 2 deck pour. See Subsection 802.15 for additional information regarding their removal.

DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

Looking Ahead
No Scale



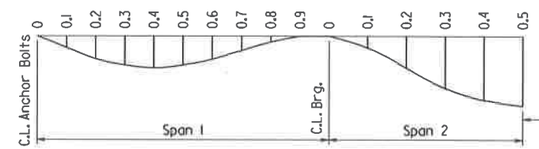
DETAIL OF BEAM END

NO SCALE

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet	
		2-9	1 & 10	2-9	1 & 10	2-9	1 & 10
1	0	0	0	0	0	0	0
	0.1	0.004	0.004	0.046	0.040	0.047	0.043
	0.2	0.008	0.007	0.085	0.074	0.087	0.080
	0.3	0.010	0.009	0.110	0.096	0.112	0.104
	0.4	0.011	0.010	0.119	0.104	0.121	0.113
	0.5	0.010	0.009	0.111	0.097	0.113	0.105
	0.6	0.008	0.007	0.089	0.078	0.091	0.084
	0.7	0.005	0.005	0.058	0.051	0.059	0.055
	0.8	0.002	0.002	0.026	0.023	0.026	0.025
	0.9	0.000	0.000	0.002	0.002	0.002	0.002
	0	0	0	0	0	0	0
2	0.1	0.004	0.004	0.044	0.038	0.045	0.041
	0.2	0.011	0.010	0.117	0.102	0.119	0.111
	0.3	0.018	0.016	0.189	0.165	0.192	0.180
	0.4	0.022	0.020	0.241	0.211	0.245	0.229
	0.5	0.024	0.022	0.260	0.227	0.265	0.246

Symmetrical about C.L. of Unit



Camber for Dead Load Deflection plus Vertical curve +/-¼" tolerance. Deflections shown are along C.L. Beam from a chord from C.L. Anchor Bolt to C.L. Anchor Bolt.

DEAD LOAD DEFLECTION DIAGRAM

NO SCALE

STATE OF ARKANSAS
Charles R. Ellis
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-19-18
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS OF 100'-0" CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT
CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

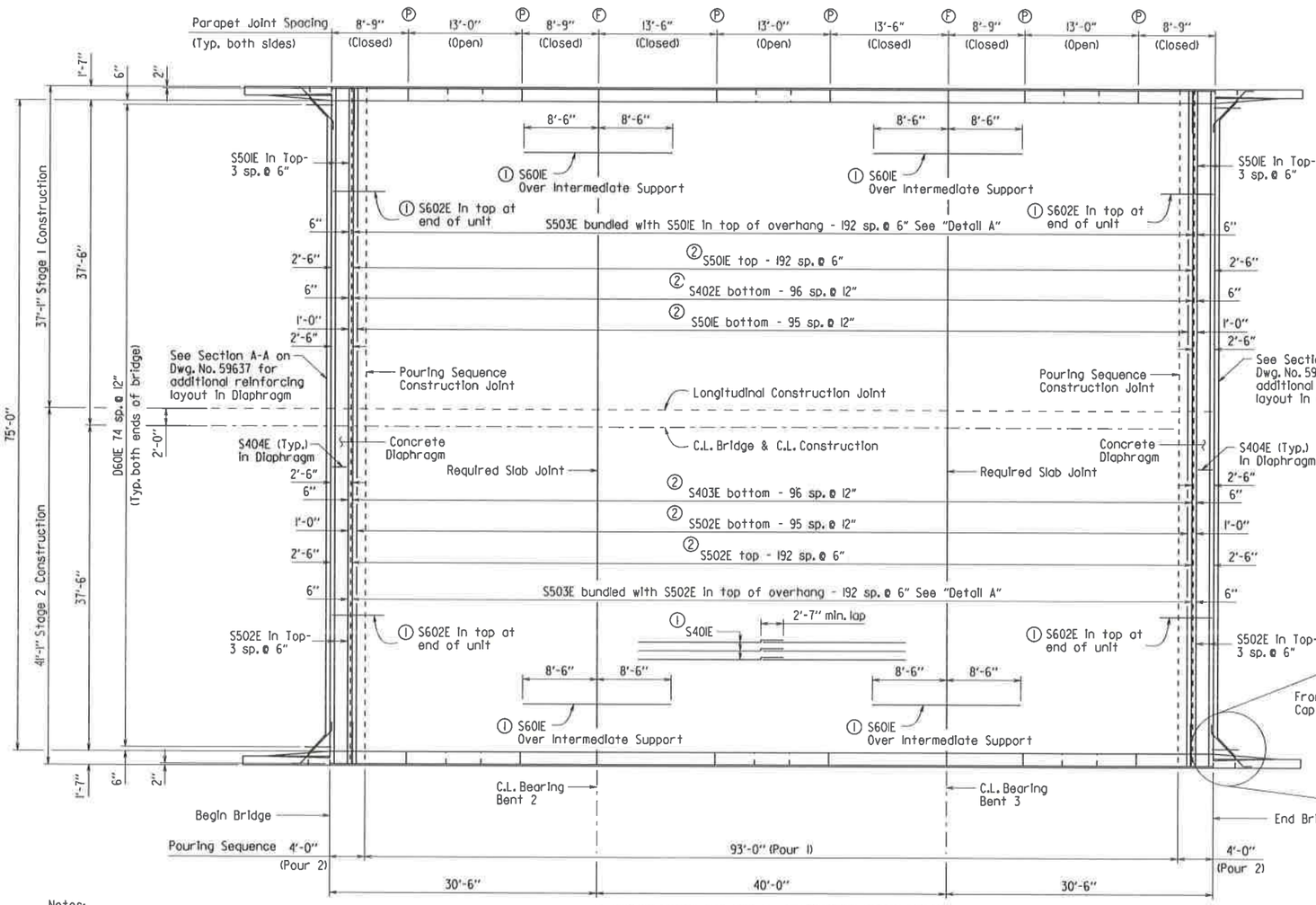
LITTLE ROCK, ARK.

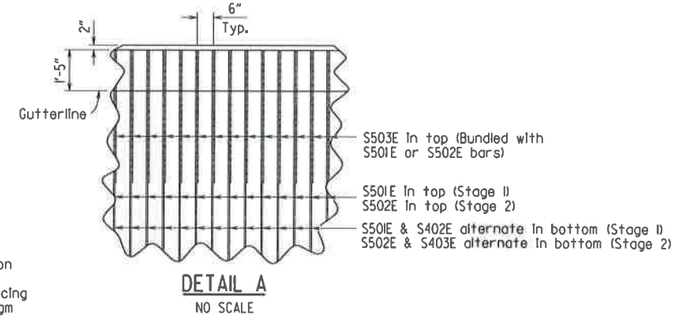
DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_sl.dgn
CHECKED BY: DHP DATE: 10-23-18 SCALE: As Shown
DESIGNED BY: DHP DATE: 9-16

BRIDGE NO. 07410 DRAWING NO. 59638

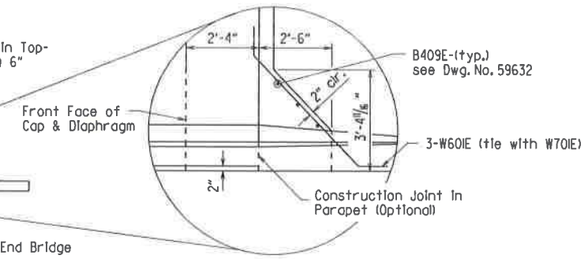
PRINT DATE: 10/23/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	144	331
				① 07410 - 100'-0" UNIT - 59639				





DETAIL A
NO SCALE



REINFORCING PLAN & POURING SEQUENCE
1/8" = 1'-0"

Notes:

Rails and wings are included in span construction and are included in span quantities.

For Bar List and Parapet Details, See Dwg. No. 59641.

Locations of full and partial depth parapet joints shown are typical for both sides of roadway.

Slab Pouring Sequence Notes:
Pours with the same number may be placed simultaneously or separately. Pour (1) must be placed before Pours (2) can be placed. 72 hours shall elapse between adjacent pours. 72 hours shall elapse between the end of the deck pour and the start of the parapet pour.

Concrete Diaphragms at end bents shall be poured monolithically with the deck.

Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Concrete in the bridge superstructure unit shall be placed, consolidated and screeded for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

① Placed as shown in "Typical Roadway Section", Dwg. No. 59636.

② For lap splice at Longitudinal Construction Joint, see "Bar Lap Detail", Dwg. No. 59636.

STATE OF ARKANSAS
Charles R. Ellis
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-9-18
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS OF 100'-0" CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT CORNIE BAYOU

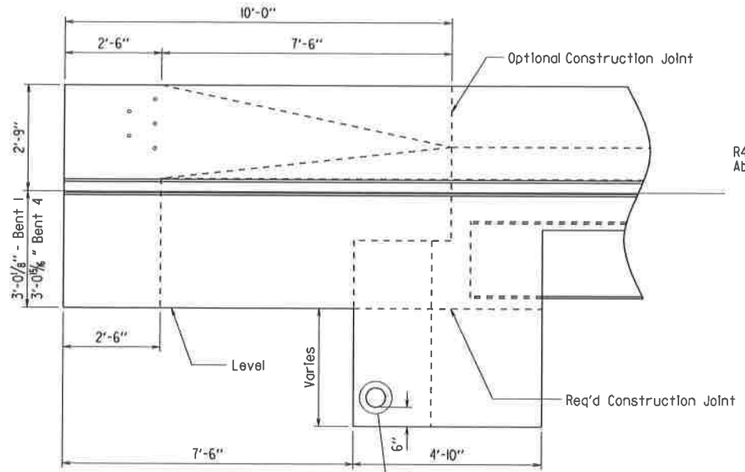
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

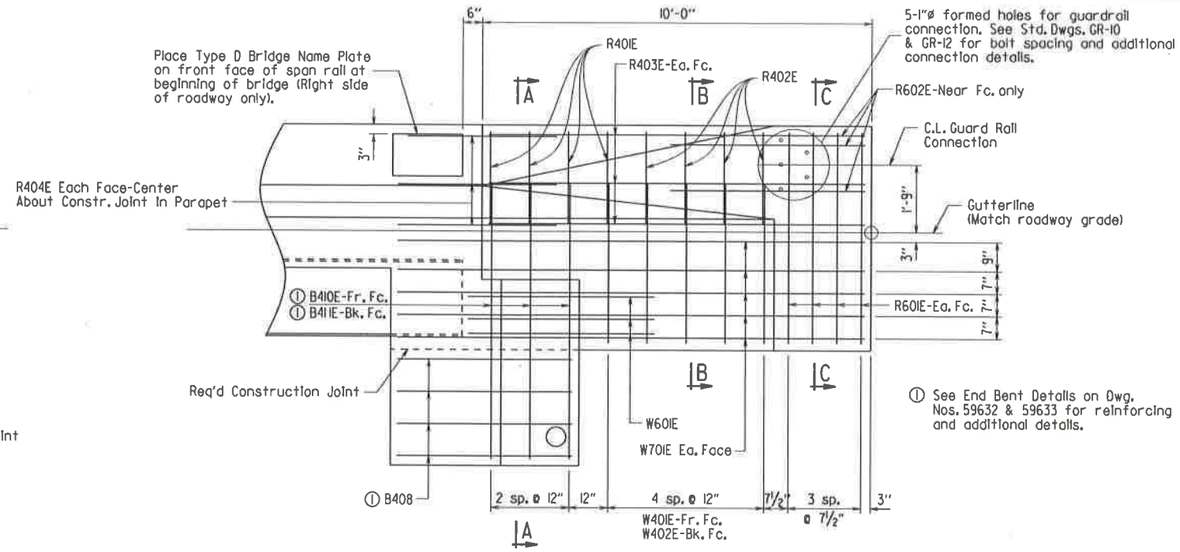
DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_sl.dgn
CHECKED BY: DHP DATE: 10-23-18 SCALE: As Shown
DESIGNED BY: DHP DATE: 9-16
BRIDGE NO. 07410 DRAWING NO. 59639

PRINT DATE: 10/23/2018

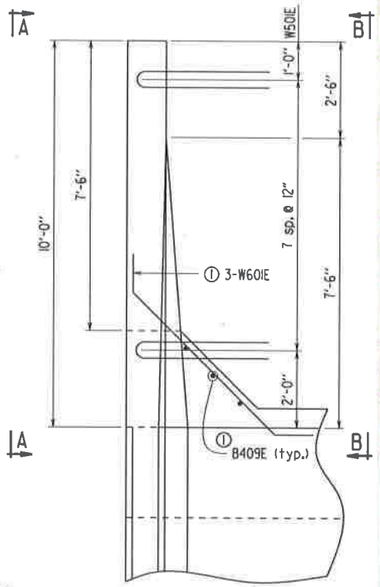
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	145	331
				① 07410 - 100'-0" UNIT - 59640				



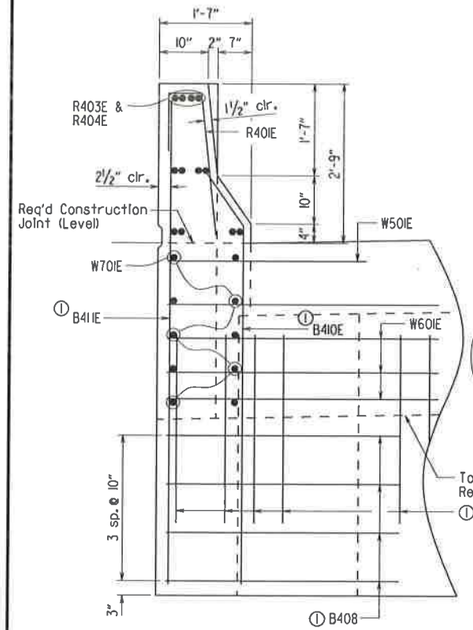
VIEW A-A
½" = 1'-0"



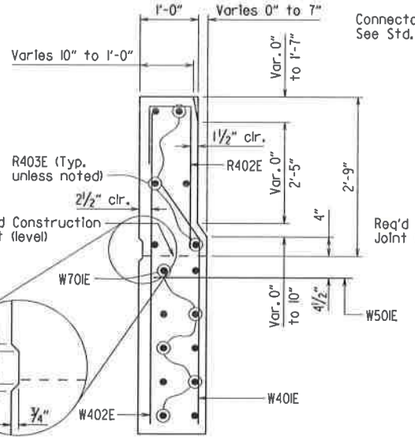
VIEW B-B
½" = 1'-0"



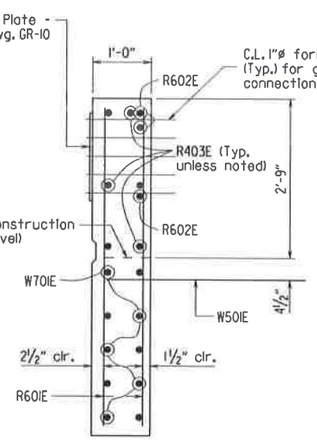
PLAN OF RAIL
½" = 1'-0"



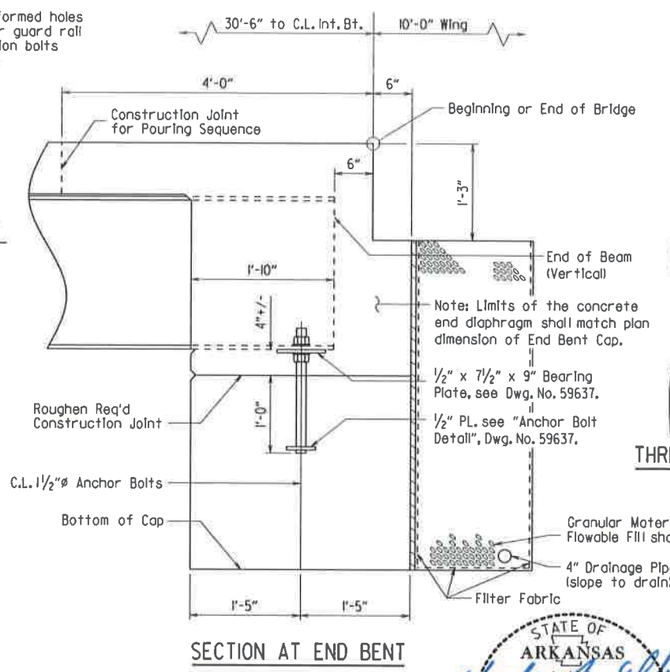
SECTION A-A
¾" = 1'-0"



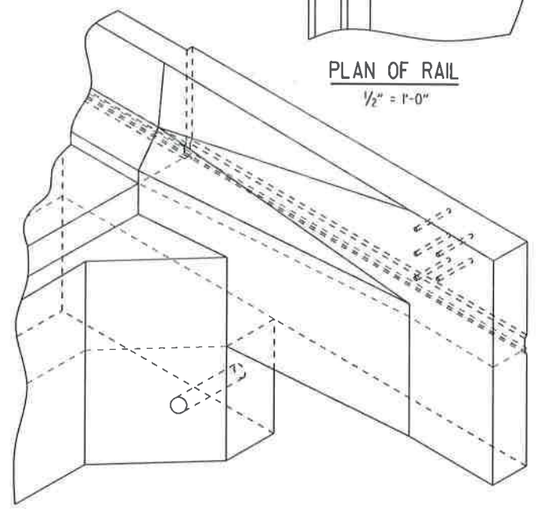
SECTION B-B
¾" = 1'-0"



SECTION C-C
¾" = 1'-0"



SECTION AT END BENT
NO SCALE



THREE DIMENSIONAL VIEW OF WING AT INTEGRAL END BENT
NO SCALE

STATE OF ARKANSAS
Charles R. Ellis
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-13-18
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS OF 100'-0" CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT
CORNIE BAYOU

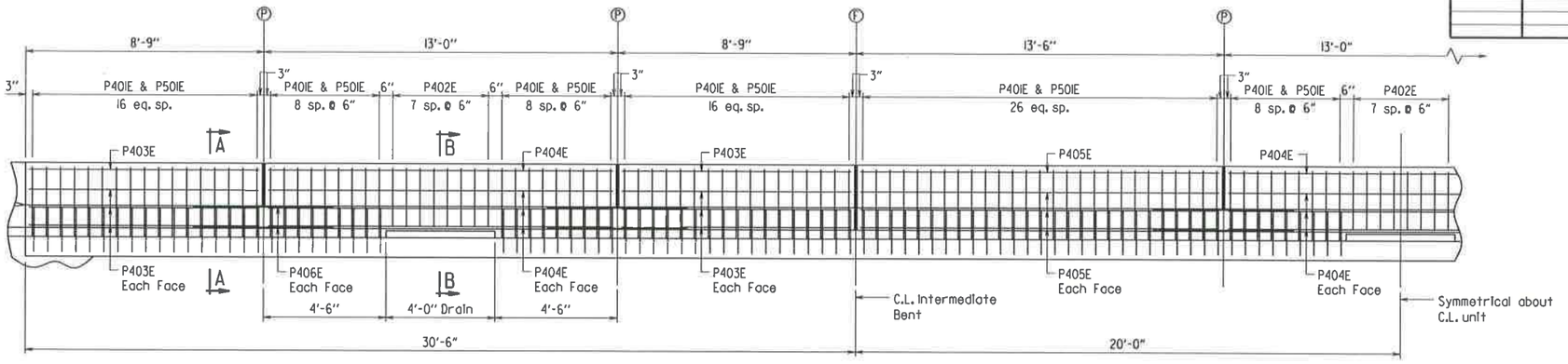
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_sl.dgn
CHECKED BY: DHP DATE: 11-13-18 SCALE: As Shown
DESIGNED BY: DHP DATE: 9-16
BRIDGE NO. 07410 DRAWING NO. 59640

PRINT DATE: 11/13/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	146	331
				①	07410 - 100'-0" UNIT - 59641			

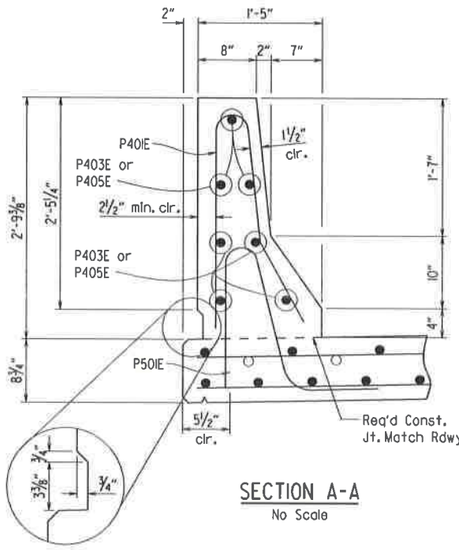


Ⓕ C.L. Full Depth. Parapet Joint 1¼" to 1" max.) as shown in "Reinforcing Plan and Pouring Sequence", Dwg. No. 59639. Stop 4" from top of slab.

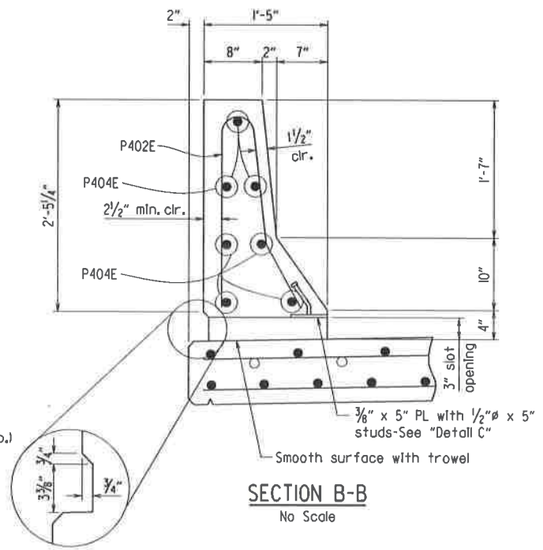
Ⓟ C.L. Partial Depth Parapet Joint 1¼" to 1" max.) as shown in "Reinforcing Plan and Pouring Sequence", Dwg. No. 59639. Stop 1'-2" from top of slab.

PARAPET RAIL REINFORCING

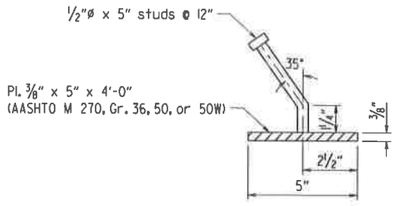
⅜" = 1'-0"



SECTION A-A
No Scale

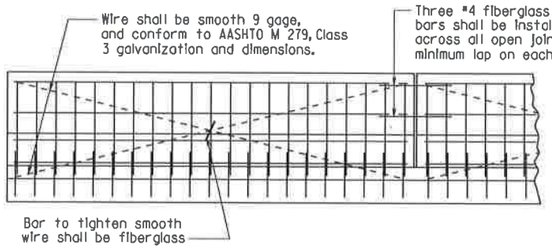


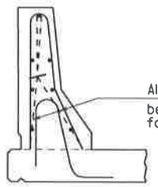
SECTION B-B
No Scale



DETAIL C
No Scale

Note:
Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". The surfaces of the ⅜" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly but will be included in the item for structural steel.





All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surface may be given a light brush finish or a class 3 Textured Coating Finish, in place of the Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

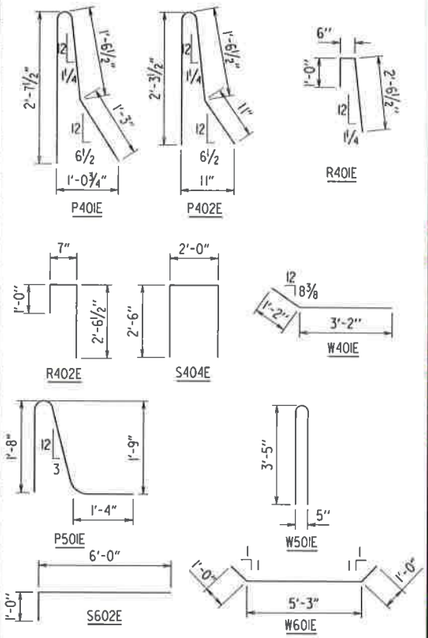
No Scale

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
D601E	150	4'-6"	Str.
P401E	352	5'-6"	3"
P402E	48	4'-10"	3"
P403E	56	8'-5"	Str.
P404E	42	12'-8"	Str.
P405E	28	13'-2"	Str.
P406E	48	5'-6"	Str.
P501E	352	4'-10"	3¾"
R401E	16	3'-11"	2"
R402E	16	4'-0"	2"
R403E	24	9'-8"	Str.
R404E	24	2'-7"	Str.
R601E	32	5'-5"	Str.
R602E	12	5'-0"	Str.
S401E	645	35'-6"	Str.
S402E	111	41'-8"	Str.
S403E	111	40'-9"	Str.
S404E	180	6'-10"	2"
S501E	297	40'-4"	Str.
S502E	297	40'-9"	Str.
S503E	386	4'-10"	Str.
S601E	156	17'-0"	Str.
S602E	156	6'-10"	4½"
W401E	20	4'-4"	2"
W402E	20	5'-5"	Str.
W501E	32	7'-1"	3¾"
W601E	12	7'-3"	4½"
W701E	40	12'-0"	Str.

BENDING DIAGRAMS

Dimensions are out to out of bars.



Bars with "E" designation shall be epoxy coated.

STATE OF ARKANSAS
Charles R. Ellis
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-14-18
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS OF 100'-0" CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 10/26/16 FILENAME: bca0706_sl.dgn
CHECKED BY: DHP DATE: 10-23-18 SCALE: No Scale
DESIGNED BY: DHP DATE: 9-16

BRIDGE NO. 07410 DRAWING NO. 59641

PRINT DATE: 10/23/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	147	331
				①		07410 - APPROACH SLABS - 59642		

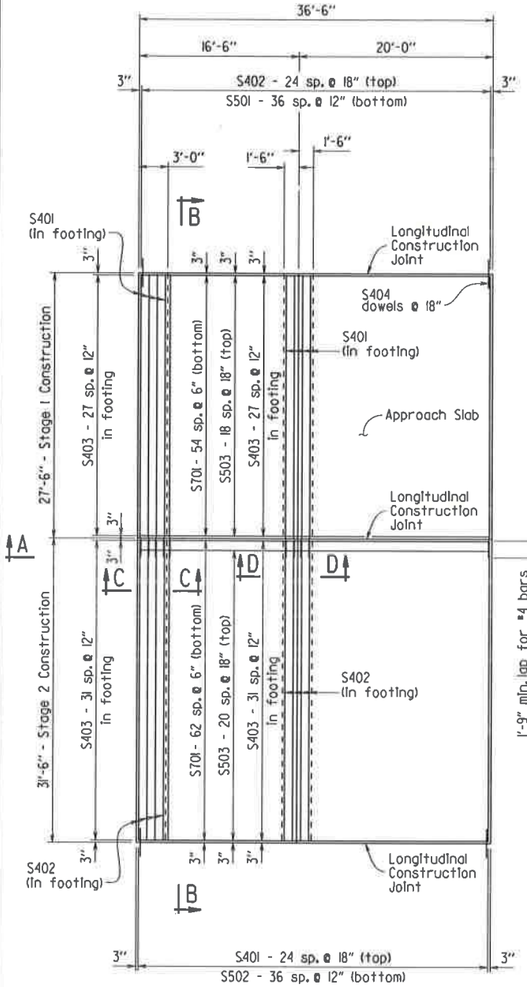
General Notes

All concrete shall be Class S (AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

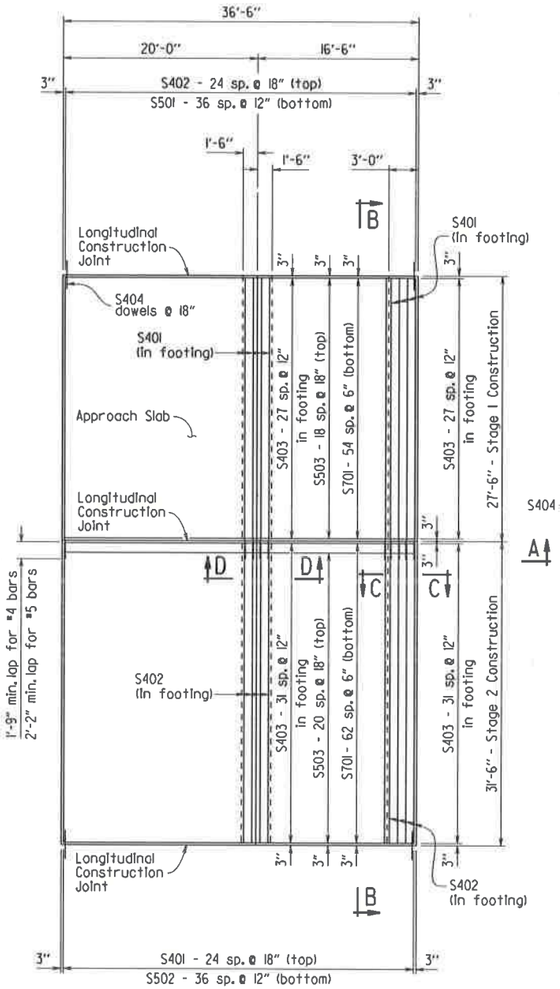
Approach Slabs will be measured and paid for in accordance with Section 504.

① The ½" Preformed Joint AASHTO Type I shall be eliminated between concrete faces where dowel bars are used to tie approach slabs and gutters to the bent components. See End Bent details.



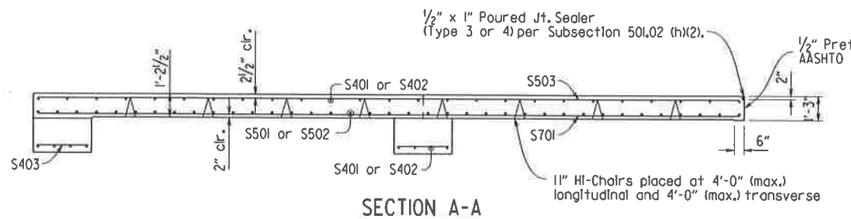
PLAN OF APPROACH SLAB BENT 1

⅛" = 1'-0"



PLAN OF APPROACH SLAB BENT 4

⅛" = 1'-0"



SECTION A-A

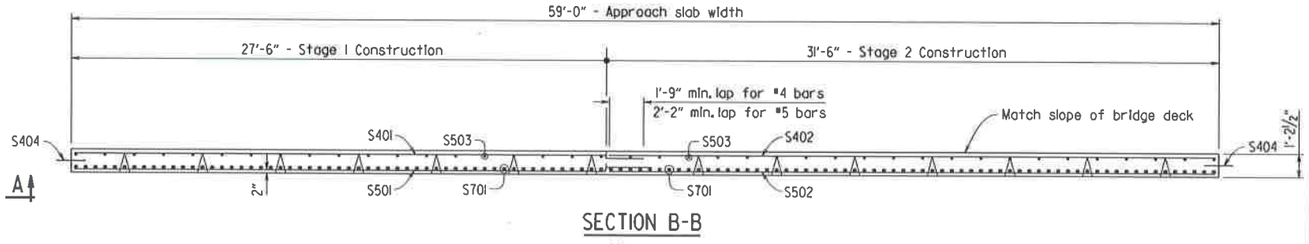
¼" = 1'-0"

BAR LIST (PER SLAB)

MARK	NO. REQ'D.	LENGTH	P.D.
S401	33	29'-3"	Str.
S402	33	31'-2"	Str.
S403	120	2'-8"	Str.
S404	50	3'-0"	Str.
S501	37	29'-8"	Str.
S502	37	31'-2"	Str.
S503	40	36'-2"	Str.
S701	118	36'-2"	Str.

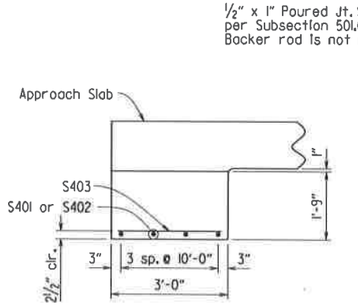
REINFORCING STEEL (lbs.)	CONCRETE (cubic yds.)
14,230	120.50

TABLE OF QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB



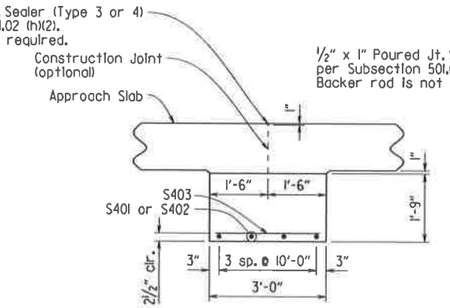
SECTION B-B

¼" = 1'-0"



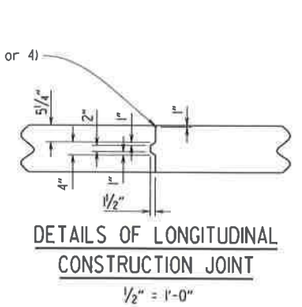
SECTION C-C

½" = 1'-0"



SECTION D-D

½" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

½" = 1'-0"

Note:

Surface finish for Approach Slabs shall match that used on the bridge deck.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-14-18
CHARLES R. ELLIS

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL APPROACH SLABS CORNIE BAYOU

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 4/26/17 FILENAME: bca0706_as.dgn

CHECKED BY: DHP DATE: 10-23-18 SCALE: As Shown

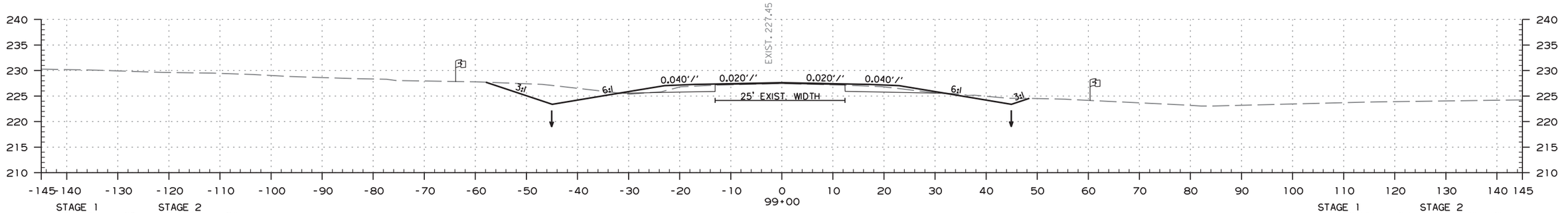
DESIGNED BY: STD. DATE:

BRIDGE NO. 07410 DRAWING NO. 59642

PRINT DATE: 10/23/2018

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.		CA0706	148	331

(2) CROSS SECTIONS

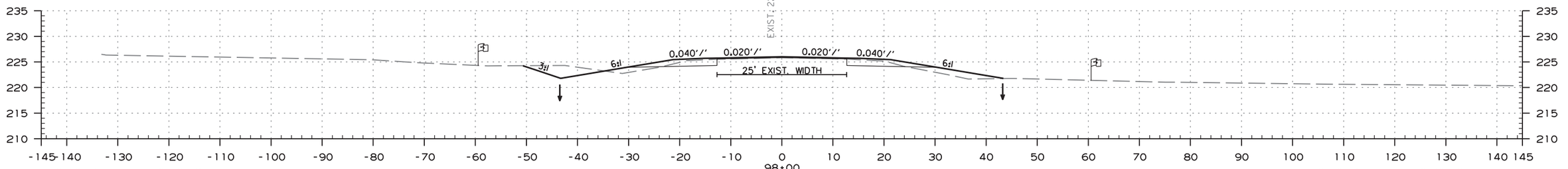


STAGE 1
AREA CUT 60
AREA FILL 1

STAGE 2
AREA CUT 24
AREA FILL 0

STAGE 1
CUT VOLUME 167
FILL VOLUME 13

STAGE 2
CUT VOLUME 65
FILL VOLUME 26



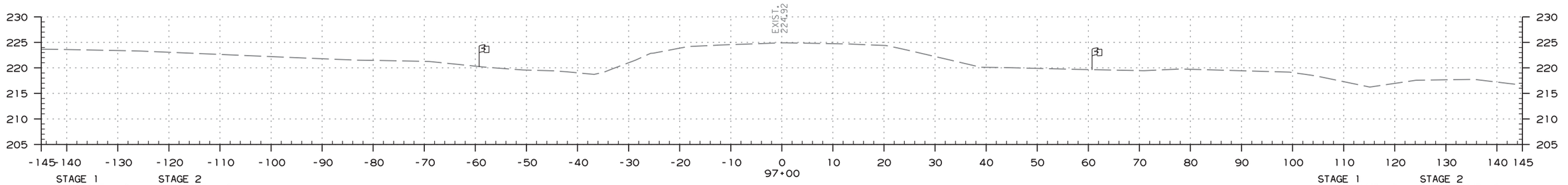
STAGE 1
AREA CUT 30
AREA FILL 6

STAGE 2
AREA CUT 11
AREA FILL 14

STA. 97+22.79 - END 100' TRANSITION
BEGIN JOB CA0706
BEGIN 360' LANE TAPER

STAGE 1
CUT VOLUME 56
FILL VOLUME 11

STAGE 2
CUT VOLUME 20
FILL VOLUME 26

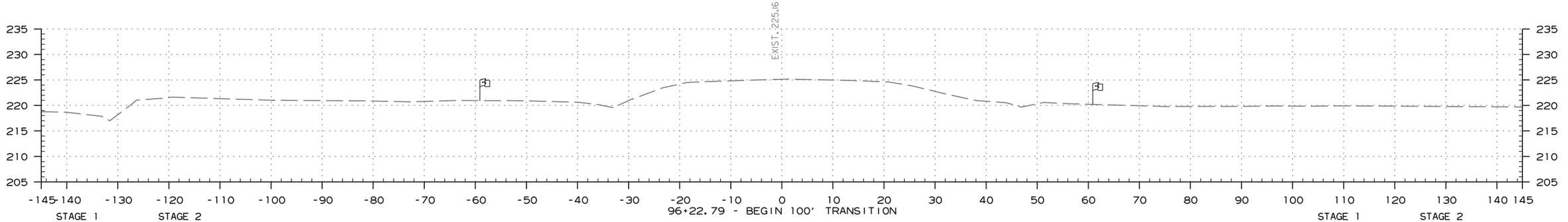


STAGE 1
AREA CUT 0
AREA FILL 0

STAGE 2
AREA CUT 0
AREA FILL 0

STAGE 1
CUT VOLUME 0
FILL VOLUME 0

STAGE 2
CUT VOLUME 0
FILL VOLUME 0



STAGE 1
AREA CUT 0
AREA FILL 0

STAGE 2
AREA CUT 0
AREA FILL 0

STAGE 1
CUT VOLUME 0
FILL VOLUME 0

STAGE 2
CUT VOLUME 0
FILL VOLUME 0

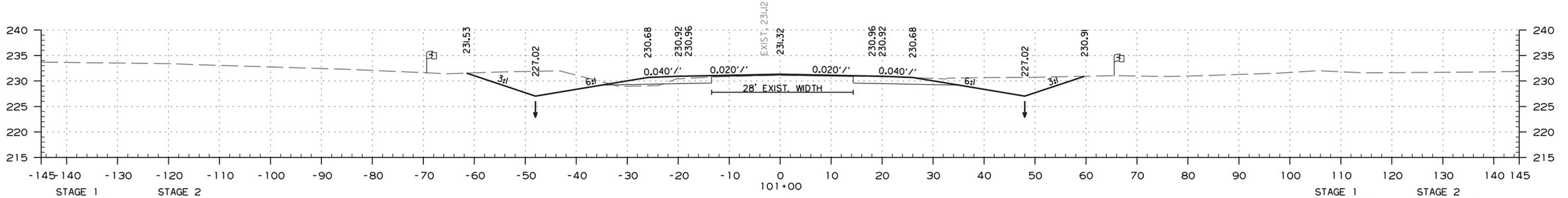
STA. 96+22.79 TO STA. 99+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	149	331

(2) CROSS SECTIONS

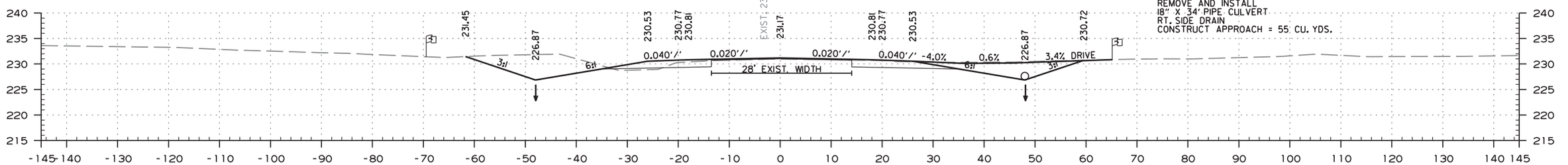


STAGE 1
AREA CUT 85
AREA FILL 3

STAGE 2
AREA CUT 82
AREA FILL 0

STAGE 1
CUT VOLUME 29
FILL VOLUME 1

STAGE 2
CUT VOLUME 27
FILL VOLUME 0



STA. 100+91 IN PLACE
18" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

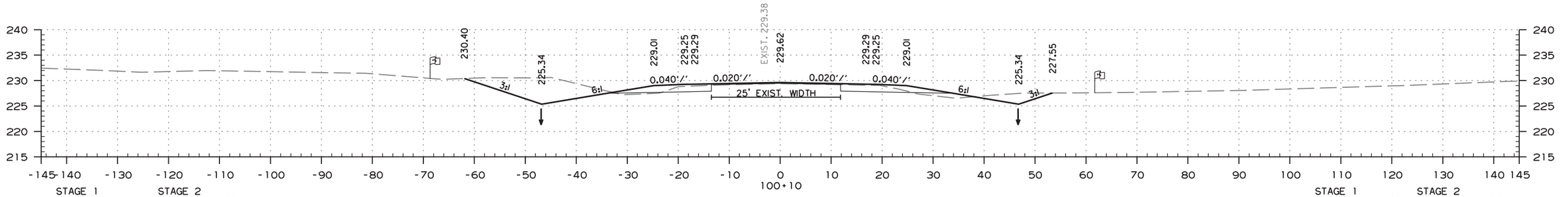
STAGE 1
AREA CUT 87
AREA FILL 3

STAGE 2
AREA CUT 79
AREA FILL 9

STAGE 1
CUT VOLUME 264
FILL VOLUME 8

STAGE 2
CUT VOLUME 165
FILL VOLUME 9

STA. 100+82.79 - END 360' LANE TAPER

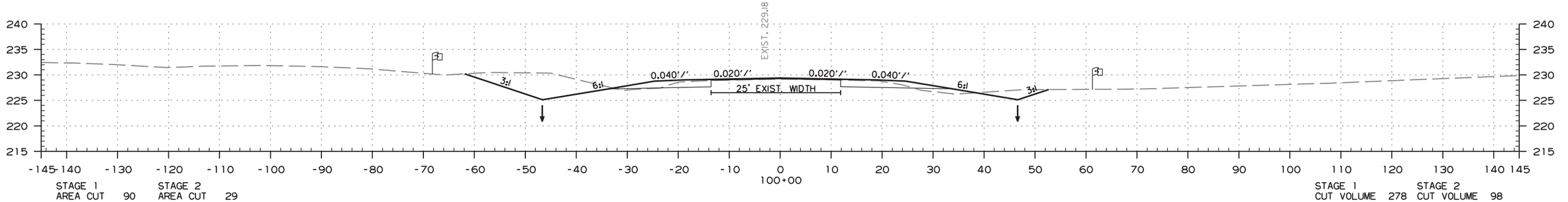


STAGE 1
AREA CUT 89
AREA FILL 2

STAGE 2
AREA CUT 31
AREA FILL 6

STAGE 1
CUT VOLUME 33
FILL VOLUME 1

STAGE 2
CUT VOLUME 11
FILL VOLUME 2



STAGE 1
AREA CUT 90
AREA FILL 2

STAGE 2
AREA CUT 29
AREA FILL 7

STAGE 1
CUT VOLUME 278
FILL VOLUME 6

STAGE 2
CUT VOLUME 98
FILL VOLUME 13

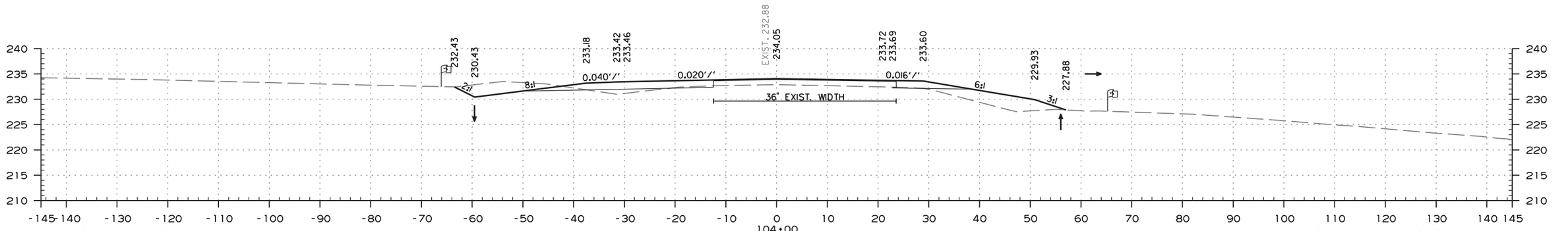
STA. 100+00 TO STA. 101+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	150	331

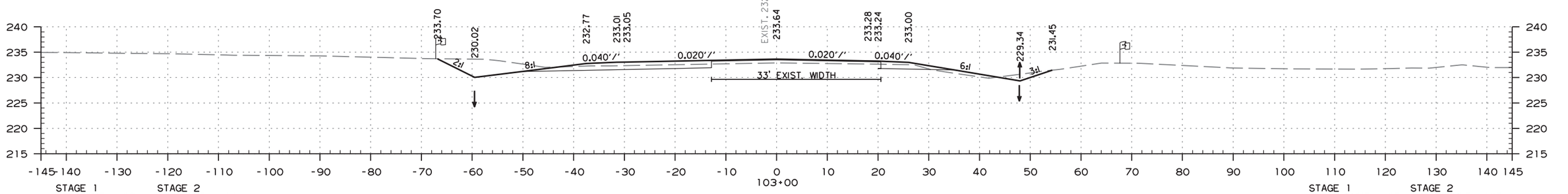
(2) CROSS SECTIONS



STAGE 1 AREA CUT 41 AREA FILL 8
STAGE 2 AREA CUT 1 AREA FILL 48

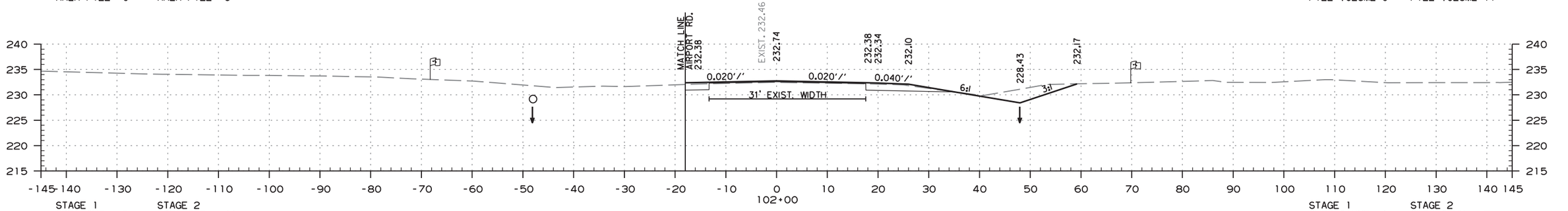
STA. 103+80.26 BEGIN SUPERELEVATION
STA. 103+50.00 - BEGIN 200' LANE TAPER

STAGE 1 CUT VOLUME 202 FILL VOLUME 15
STAGE 2 CUT VOLUME 28 FILL VOLUME 100



STAGE 1 AREA CUT 68 AREA FILL 0
STAGE 2 AREA CUT 14 AREA FILL 6

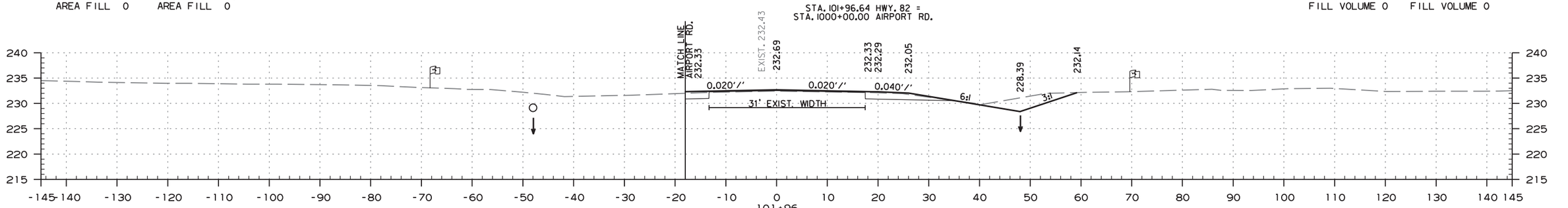
STAGE 1 CUT VOLUME 135 FILL VOLUME 0
STAGE 2 CUT VOLUME 107 FILL VOLUME 11



STAGE 1 AREA CUT 5 AREA FILL 0
STAGE 2 AREA CUT 44 AREA FILL 0

STAGE 1 CUT VOLUME 1 FILL VOLUME 0
STAGE 2 CUT VOLUME 7 FILL VOLUME 0

STA. 101+96.64 HWY. 82 =
STA. 1000+00.00 AIRPORT RD.



STAGE 1 AREA CUT 5 AREA FILL 0
STAGE 2 AREA CUT 44 AREA FILL 0

STAGE 1 CUT VOLUME 160 FILL VOLUME 5
STAGE 2 CUT VOLUME 224 FILL VOLUME 0

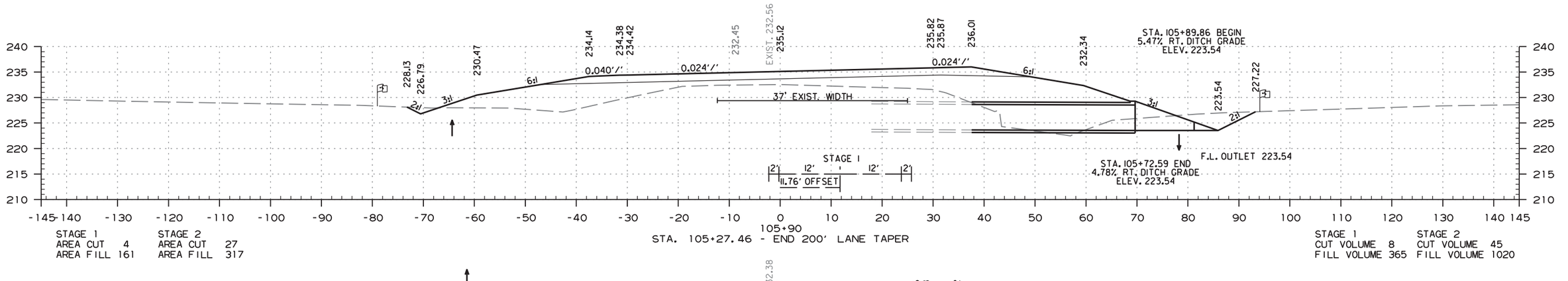
STA. 101+96.46 TO STA. 104+00

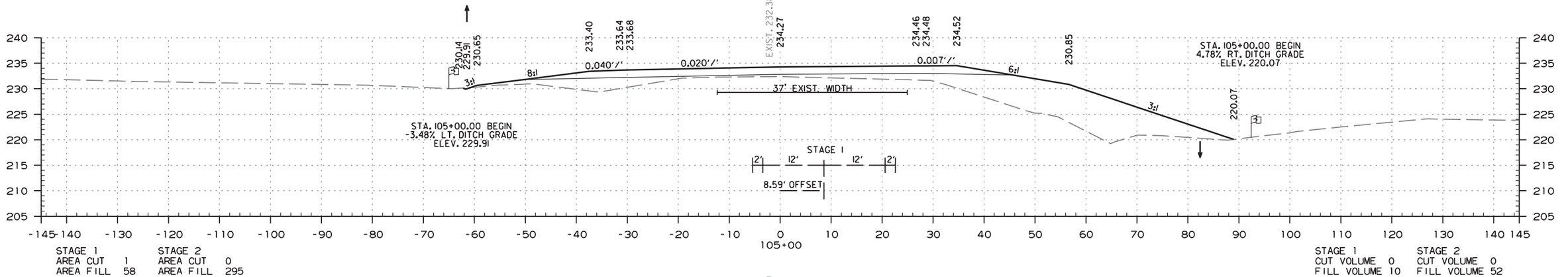
7/30/2020

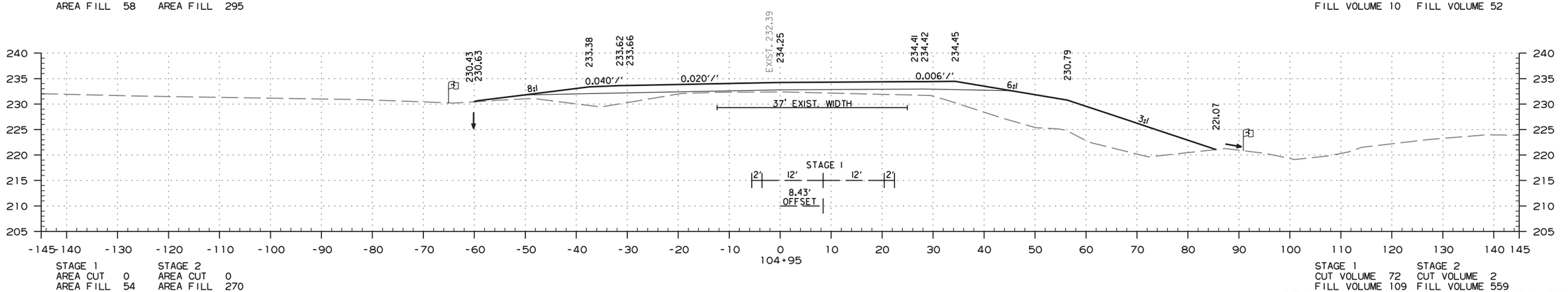
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	151	331

(2) CROSS SECTIONS







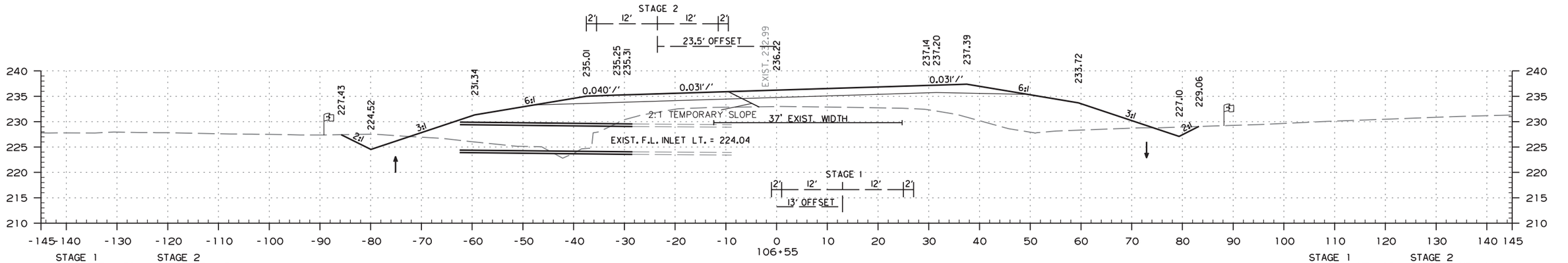
STA. 104+95 TO STA. 105+89.80

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	152	331

(2) CROSS SECTIONS



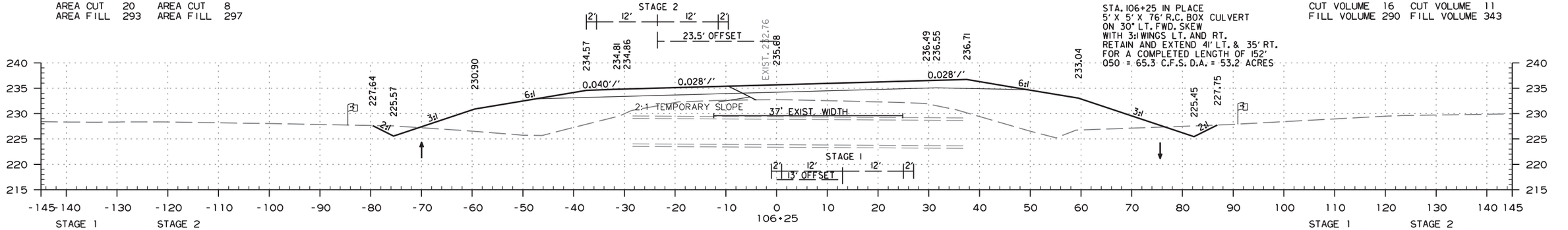
STAGE 1
AREA CUT 20
AREA FILL 293

STAGE 2
AREA CUT 8
AREA FILL 297

STAGE 1
CUT VOLUME 16
FILL VOLUME 290

STAGE 2
CUT VOLUME 11
FILL VOLUME 343

STA. 106+25 IN PLACE
5' X 5' X 76' R.C. BOX CULVERT
ON 30° LT. FWD. SKEW
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 41' LT. & 35' RT.
FOR A COMPLETED LENGTH OF 152'
050 = 65.3 C.F.S. D.A. = 53.2 ACRES

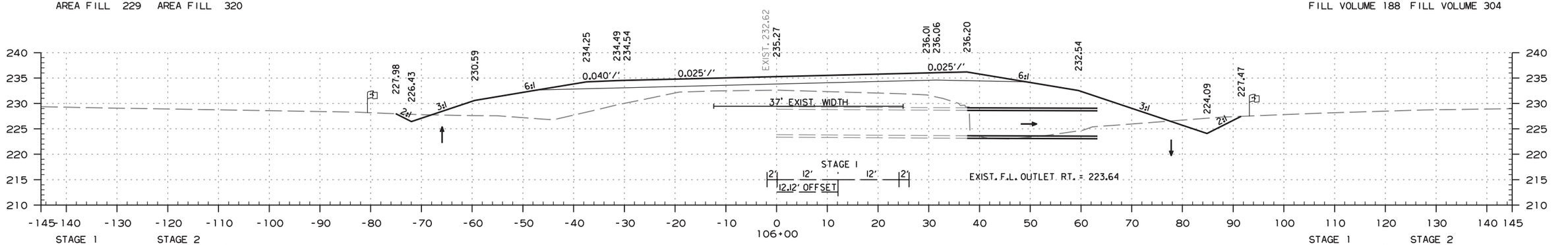


STAGE 1
AREA CUT 9
AREA FILL 229

STAGE 2
AREA CUT 11
AREA FILL 320

STAGE 1
CUT VOLUME 6
FILL VOLUME 188

STAGE 2
CUT VOLUME 15
FILL VOLUME 304



STAGE 1
AREA CUT 5
AREA FILL 176

STAGE 2
AREA CUT 21
AREA FILL 337

STAGE 1
CUT VOLUME 2
FILL VOLUME 62

STAGE 2
CUT VOLUME 9
FILL VOLUME 121

STA. 106+00 TO STA. 106+55

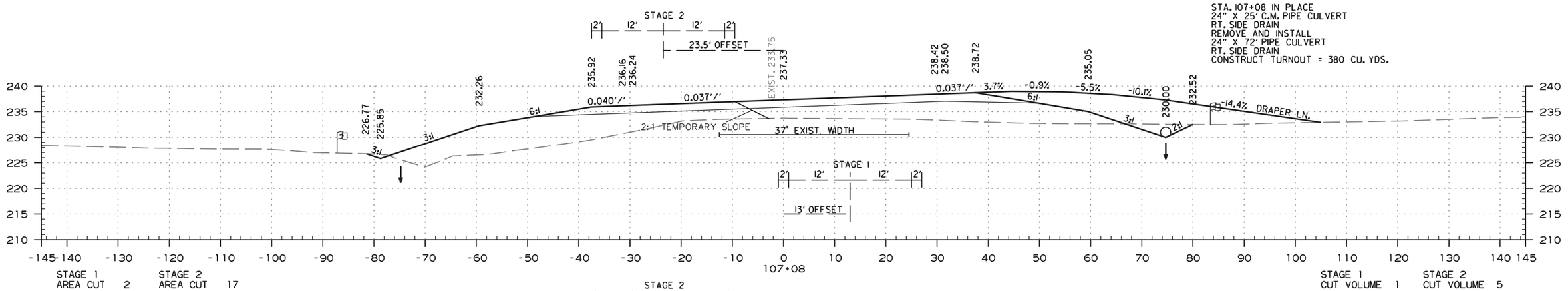
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	153	331

(2) CROSS SECTIONS



STA. 106+58.45 TO STA. 107+07.85

7/30/2020

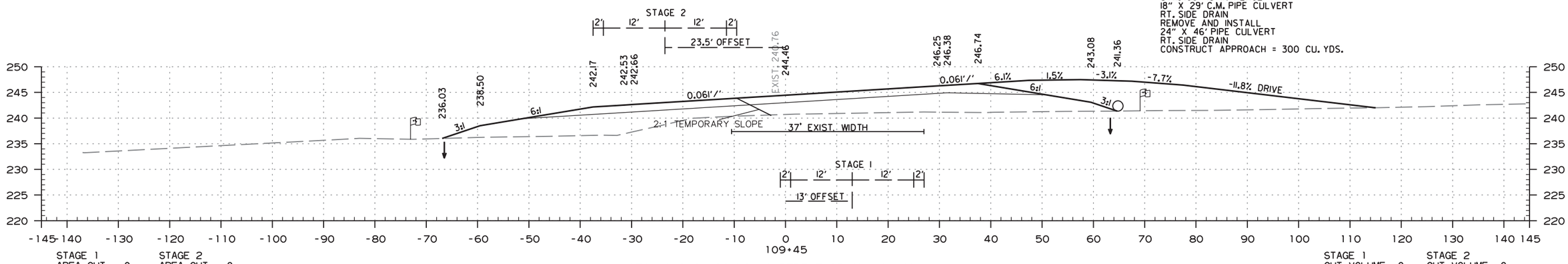
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	154	331

(2) CROSS SECTIONS

STA. 109+18 IN PLACE
24" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

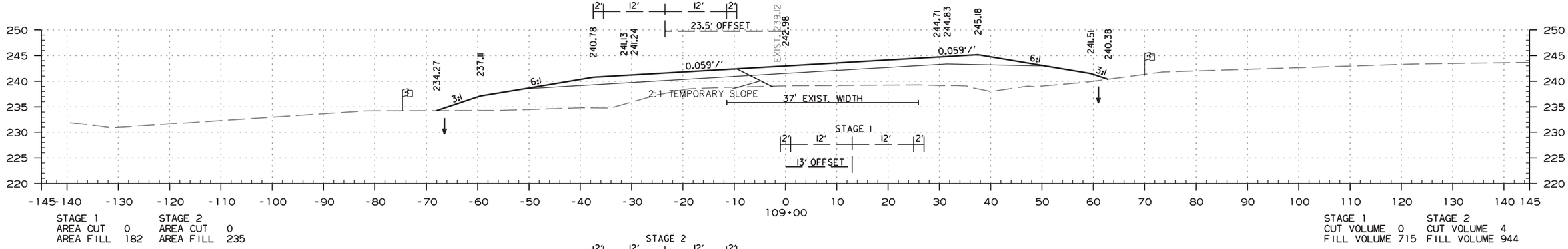
STA. 109+45 IN PLACE
18" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 300 CU. YDS.



STAGE 1 AREA CUT 0 AREA FILL 168
STAGE 2 AREA CUT 0 AREA FILL 208

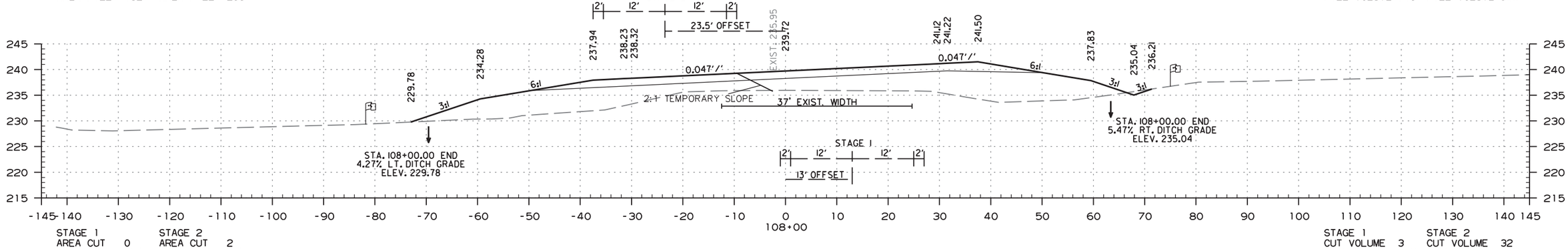
STA. 109+20.26 MAX SUPERELEVATION (0.061'/')

STAGE 1 CUT VOLUME 0 FILL VOLUME 292
STAGE 2 CUT VOLUME 0 FILL VOLUME 369



STAGE 1 AREA CUT 0 AREA FILL 182
STAGE 2 AREA CUT 0 AREA FILL 235

STAGE 1 CUT VOLUME 0 FILL VOLUME 715
STAGE 2 CUT VOLUME 4 FILL VOLUME 944



STAGE 1 AREA CUT 0 AREA FILL 204
STAGE 2 AREA CUT 2 AREA FILL 275

STAGE 1 CUT VOLUME 3 FILL VOLUME 818
STAGE 2 CUT VOLUME 32 FILL VOLUME 842

STA. 108+00 TO STA. 109+45

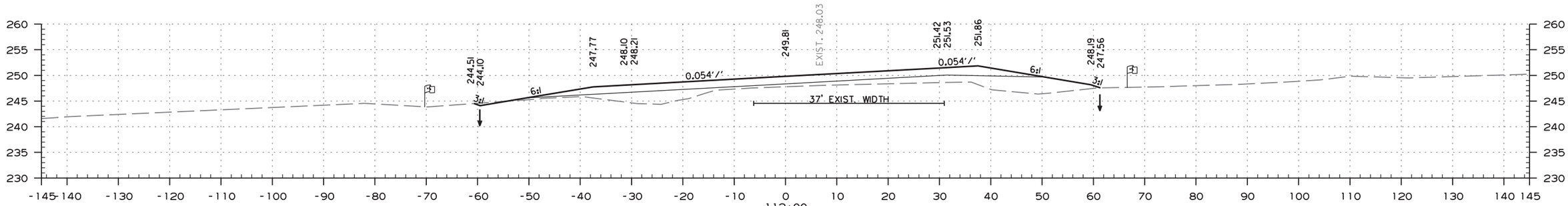
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	155	331

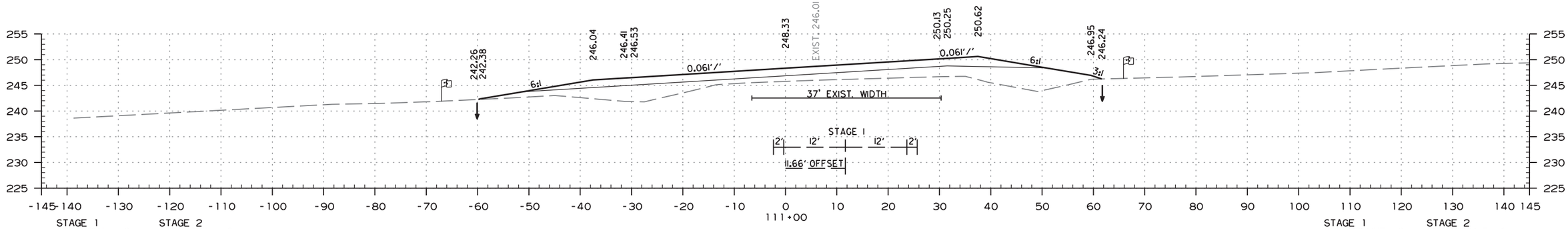
(2) CROSS SECTIONS



STAGE 1 AREA CUT 2 AREA FILL 49
STAGE 2 AREA CUT 0 AREA FILL 68

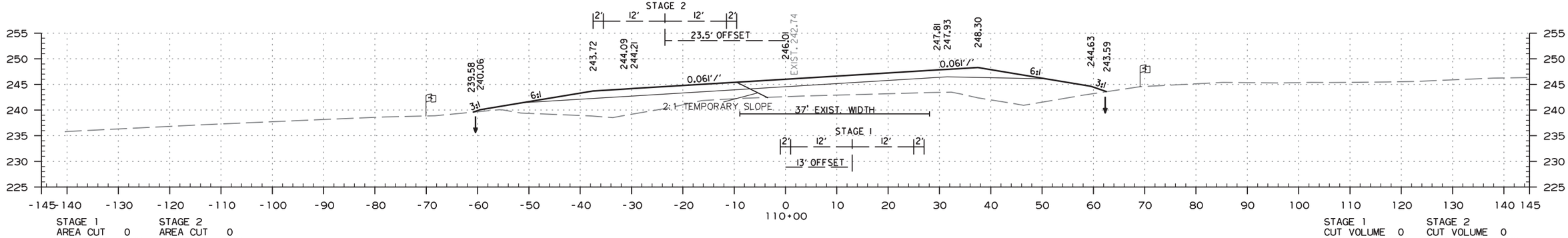
STA. 111+42.39 MAX SUPERELEVATION (0.061'/')

STAGE 1 CUT VOLUME 4 FILL VOLUME 250
STAGE 2 CUT VOLUME 0 FILL VOLUME 298



STAGE 1 AREA CUT 0 AREA FILL 86
STAGE 2 AREA CUT 0 AREA FILL 93

STAGE 1 CUT VOLUME 0 FILL VOLUME 385
STAGE 2 CUT VOLUME 0 FILL VOLUME 550



STAGE 1 AREA CUT 0 AREA FILL 122
STAGE 2 AREA CUT 0 AREA FILL 204

STAGE 1 CUT VOLUME 0 FILL VOLUME 295
STAGE 2 CUT VOLUME 0 FILL VOLUME 420

STA. 110+00 TO STA. 112+00

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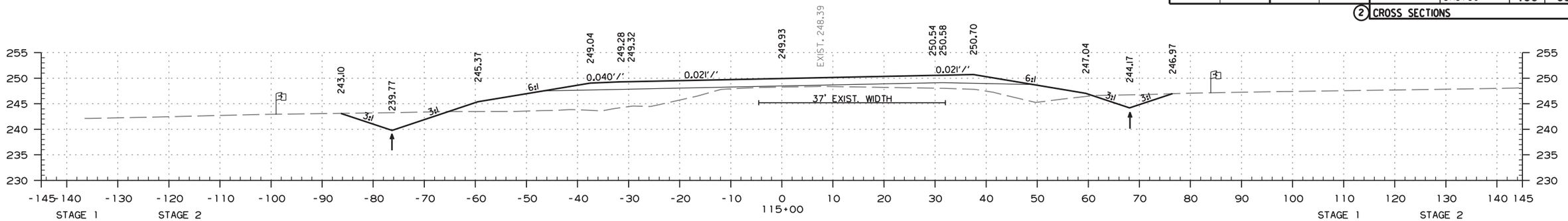
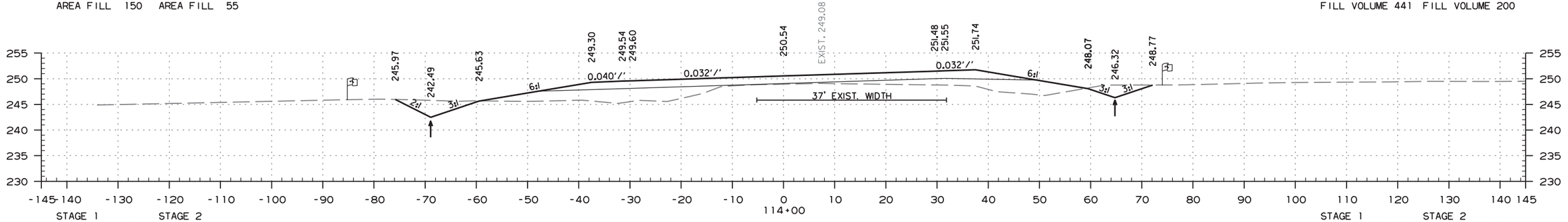
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	156	331

(2) CROSS SECTIONS



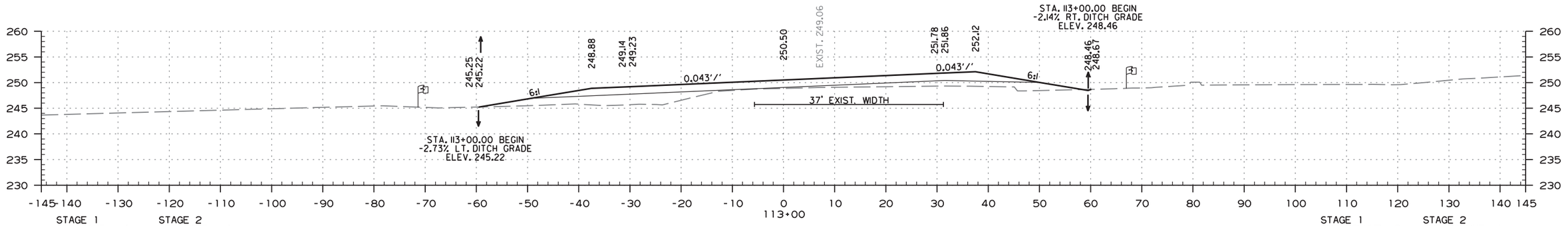
STAGE 1 AREA CUT 37 AREA FILL 150
STAGE 2 AREA CUT 20 AREA FILL 55

STAGE 1 CUT VOLUME 119 FILL VOLUME 441
STAGE 2 CUT VOLUME 67 FILL VOLUME 200



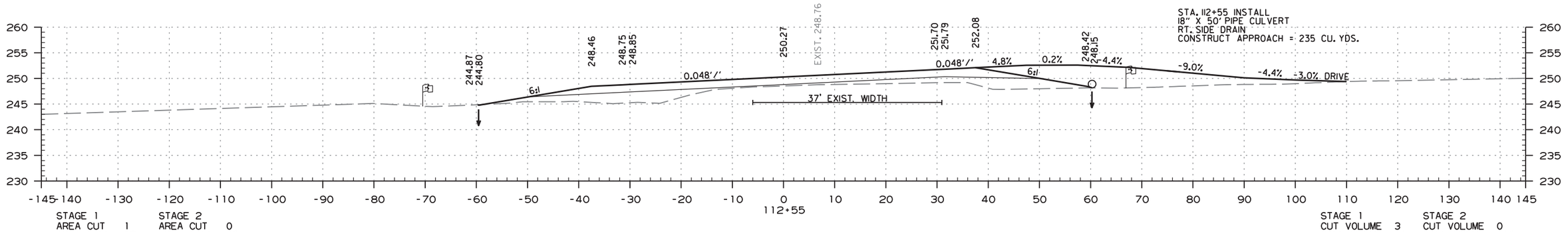
STAGE 1 AREA CUT 27 AREA FILL 88
STAGE 2 AREA CUT 16 AREA FILL 53

STAGE 1 CUT VOLUME 52 FILL VOLUME 287
STAGE 2 CUT VOLUME 31 FILL VOLUME 154



STAGE 1 AREA CUT 1 AREA FILL 67
STAGE 2 AREA CUT 1 AREA FILL 30

STAGE 1 CUT VOLUME 2 FILL VOLUME 108
STAGE 2 CUT VOLUME 1 FILL VOLUME 63



STAGE 1 AREA CUT 1 AREA FILL 63
STAGE 2 AREA CUT 0 AREA FILL 46

STAGE 1 CUT VOLUME 3 FILL VOLUME 114
STAGE 2 CUT VOLUME 0 FILL VOLUME 116

STA. 112+55 TO STA. 115+00

7/30/2020

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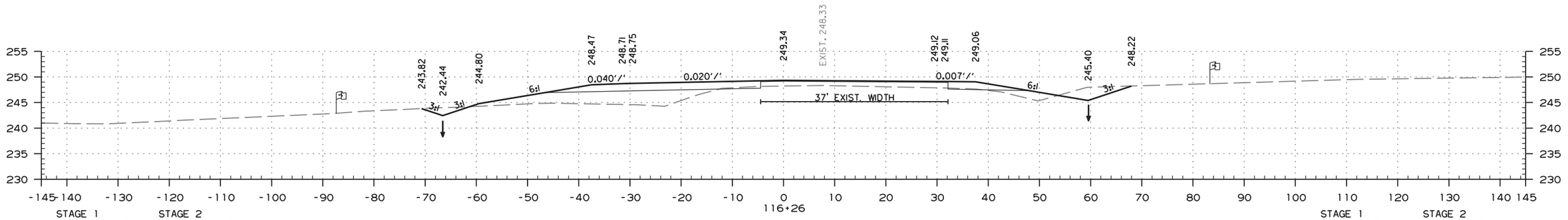
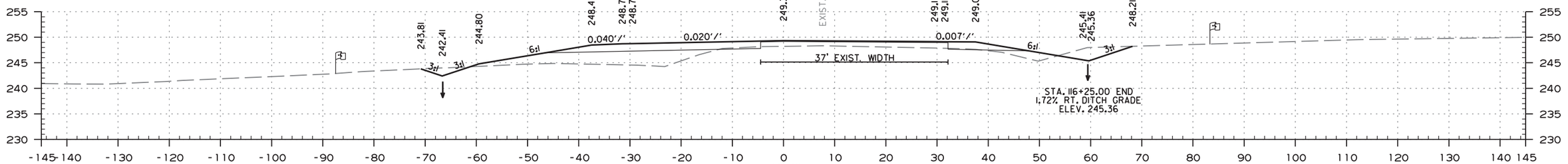
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	157	331

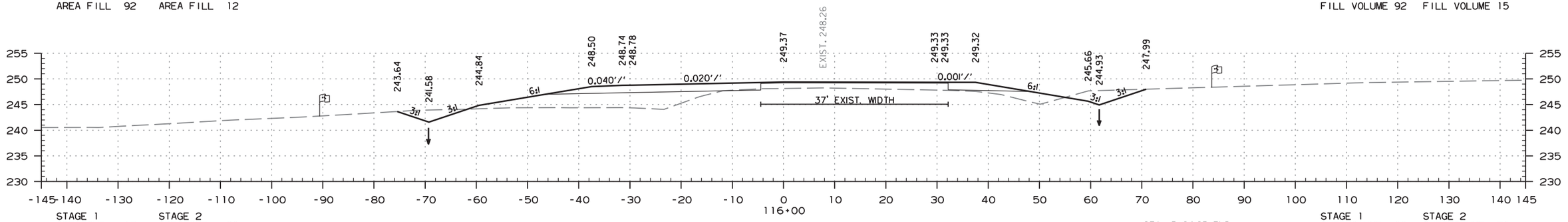
(2) CROSS SECTIONS



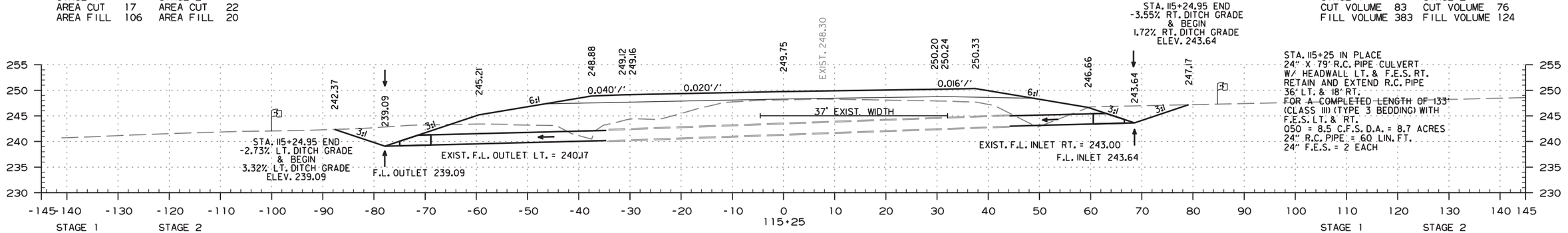
STAGE 1 AREA CUT 9 AREA FILL 92
STAGE 2 AREA CUT 20 AREA FILL 12
STAGE 1 CUT VOLUME 0 FILL VOLUME 3
STAGE 2 CUT VOLUME 1 FILL VOLUME 0



STAGE 1 AREA CUT 10 AREA FILL 92
STAGE 2 AREA CUT 20 AREA FILL 12
STAGE 1 CUT VOLUME 13 FILL VOLUME 92
STAGE 2 CUT VOLUME 19 FILL VOLUME 15



STAGE 1 AREA CUT 17 AREA FILL 106
STAGE 2 AREA CUT 22 AREA FILL 20
STAGE 1 CUT VOLUME 83 FILL VOLUME 383
STAGE 2 CUT VOLUME 76 FILL VOLUME 124



STA. 115+25 IN PLACE
24" X 79' R.C. PIPE CULVERT
W/ HEADWALL LT. & F.E.S. RT.
RETAIN AND EXTEND R.C. PIPE
36' LT. & 18' RT.
FOR A COMPLETED LENGTH OF 133'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
Q50 = 8.5 C.F.S. D.A. = 8.7 ACRES
24" R.C. PIPE = 60 LIN. FT.
24" F.E.S. = 2 EACH

STAGE 1 AREA CUT 43 AREA FILL 170
STAGE 2 AREA CUT 33 AREA FILL 69
STAGE 1 CUT VOLUME 37 FILL VOLUME 148
STAGE 2 CUT VOLUME 25 FILL VOLUME 57

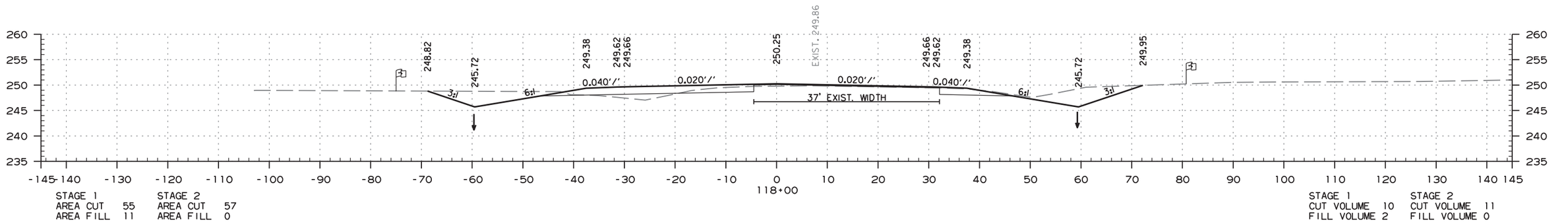
STA. 115+24.95 TO STA. 116+26

7/30/2020

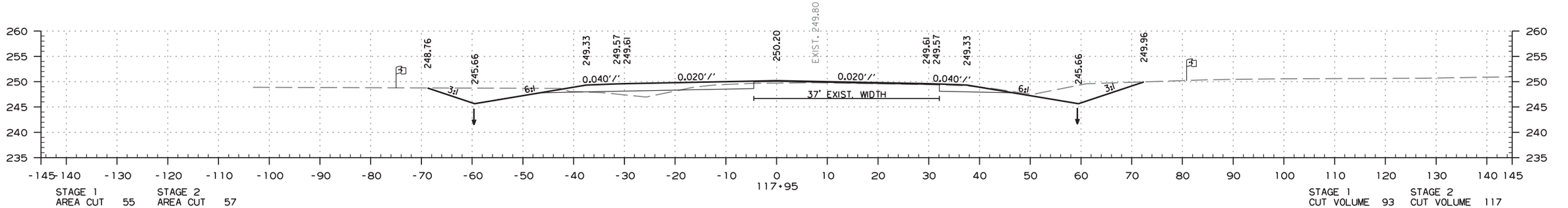
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	158	331

(2) CROSS SECTIONS

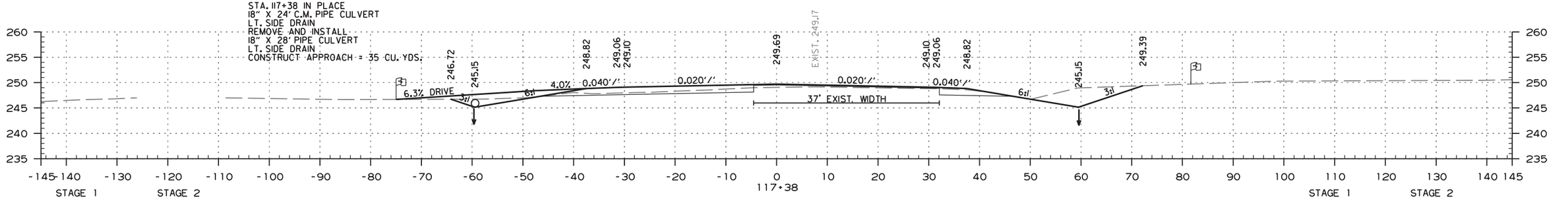


STAGE 1 AREA CUT 55 AREA FILL 11
STAGE 2 AREA CUT 57 AREA FILL 0
STAGE 1 CUT VOLUME 10 FILL VOLUME 2
STAGE 2 CUT VOLUME 11 FILL VOLUME 0

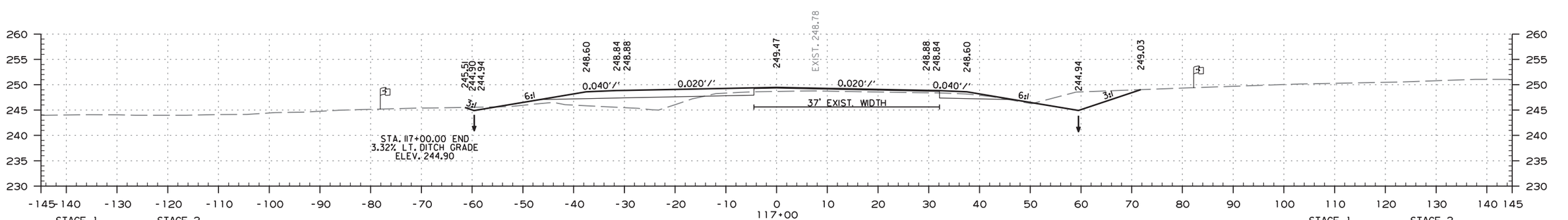


STAGE 1 AREA CUT 55 AREA FILL 11
STAGE 2 AREA CUT 57 AREA FILL 0
STAGE 1 CUT VOLUME 93 FILL VOLUME 12
STAGE 2 CUT VOLUME 117 FILL VOLUME 1

STA. 117+38 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



STAGE 1 AREA CUT 33 AREA FILL 0
STAGE 2 AREA CUT 54 AREA FILL 1
STAGE 1 CUT VOLUME 28 FILL VOLUME 37
STAGE 2 CUT VOLUME 72 FILL VOLUME 1



STAGE 1 AREA CUT 7 AREA FILL 52
STAGE 2 AREA CUT 48 AREA FILL 1
STA. 116+82.39 END SUPERELEVATION (N.C.)
STAGE 1 CUT VOLUME 22 FILL VOLUME 197
STAGE 2 CUT VOLUME 93 FILL VOLUME 18

STA. 117+00 TO STA. 118+00

7/30/2020

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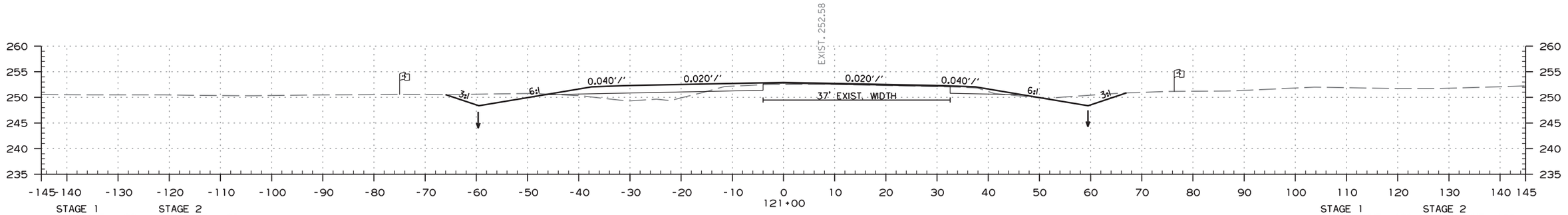
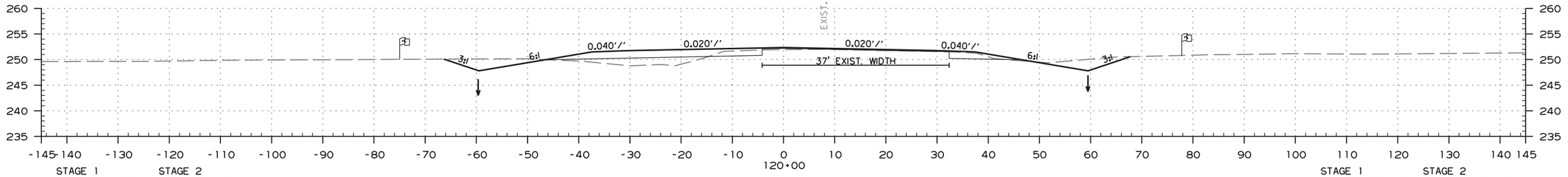
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	159	331

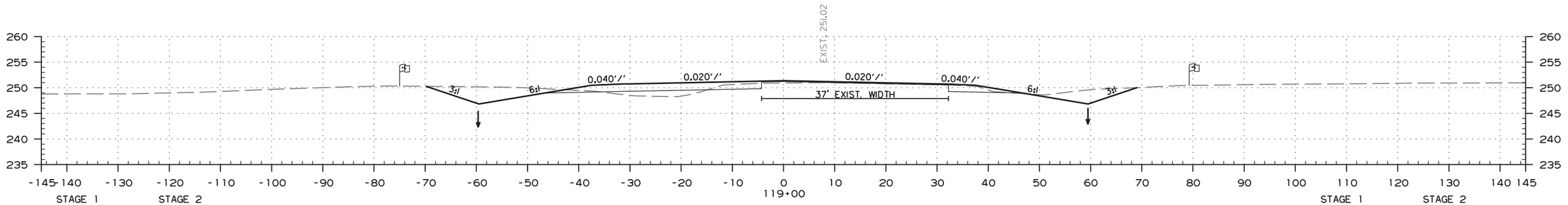
(2) CROSS SECTIONS



STAGE 1 AREA CUT 33 AREA FILL 28
STAGE 2 AREA CUT 25 AREA FILL 1
STAGE 1 CUT VOLUME 122 FILL VOLUME 106
STAGE 2 CUT VOLUME 100 FILL VOLUME 4



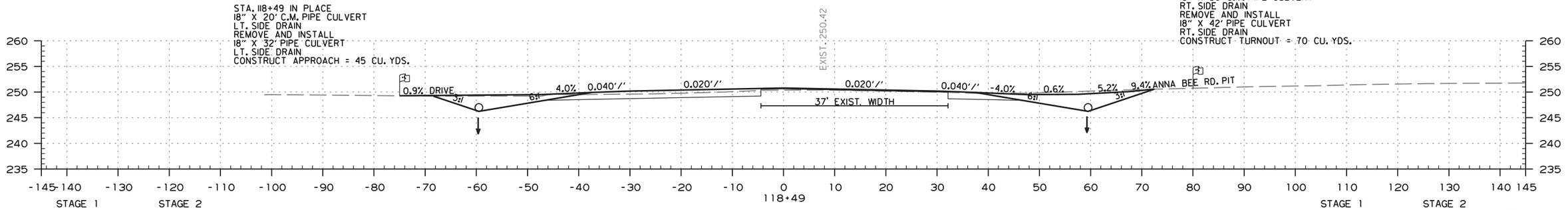
STAGE 1 AREA CUT 33 AREA FILL 29
STAGE 2 AREA CUT 29 AREA FILL 1
STAGE 1 CUT VOLUME 170 FILL VOLUME 85
STAGE 2 CUT VOLUME 120 FILL VOLUME 4



STAGE 1 AREA CUT 59 AREA FILL 17
STAGE 2 AREA CUT 36 AREA FILL 1
STAGE 1 CUT VOLUME 128 FILL VOLUME 16
STAGE 2 CUT VOLUME 108 FILL VOLUME 1

STA. 118+49 IN PLACE
18" X 20' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 118+49 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 70 CU. YDS.



STAGE 1 AREA CUT 77 AREA FILL 0
STAGE 2 AREA CUT 78 AREA FILL 0
STAGE 1 CUT VOLUME 120 FILL VOLUME 10
STAGE 2 CUT VOLUME 123 FILL VOLUME 0

STA. 118+49.45 TO STA. 121+00

7/30/2020

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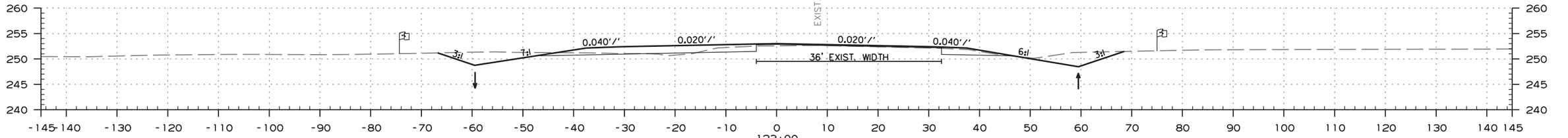
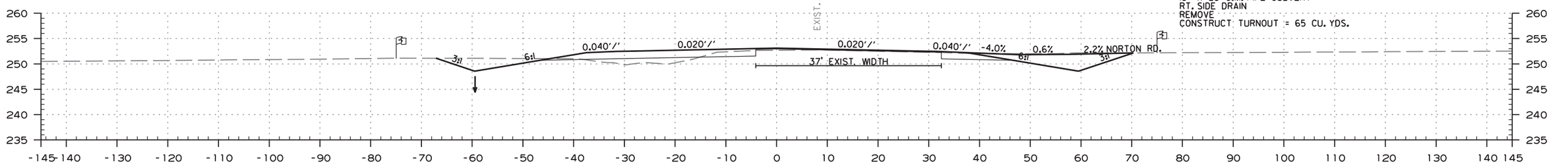
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	160	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 50 AREA FILL 2
STAGE 2 AREA CUT 37 AREA FILL 1

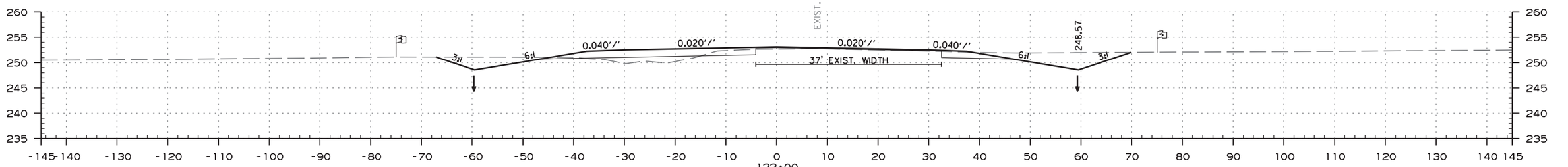
STAGE 1 CUT VOLUME 158 FILL VOLUME 35
STAGE 2 CUT VOLUME 185 FILL VOLUME 2



STA. 122+05 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE
CONSTRUCT TURNOUT = 65 CU. YDS.

STAGE 1 AREA CUT 40 AREA FILL 18
STAGE 2 AREA CUT 68 AREA FILL 0

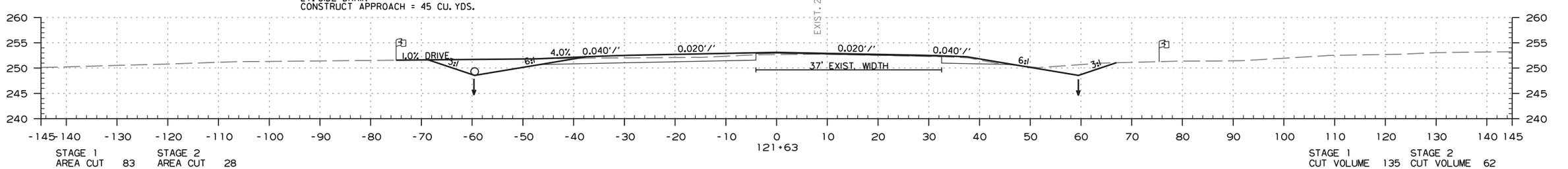
STAGE 1 CUT VOLUME 7 FILL VOLUME 3
STAGE 2 CUT VOLUME 12 FILL VOLUME 0



STAGE 1 AREA CUT 40 AREA FILL 17
STAGE 2 AREA CUT 64 AREA FILL 0

STA. 121+63 IN PLACE
18" X 23' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STAGE 1 CUT VOLUME 84 FILL VOLUME 12
STAGE 2 CUT VOLUME 63 FILL VOLUME 1



STAGE 1 AREA CUT 83 AREA FILL 0
STAGE 2 AREA CUT 28 AREA FILL 1

STAGE 1 CUT VOLUME 135 FILL VOLUME 33
STAGE 2 CUT VOLUME 62 FILL VOLUME 2

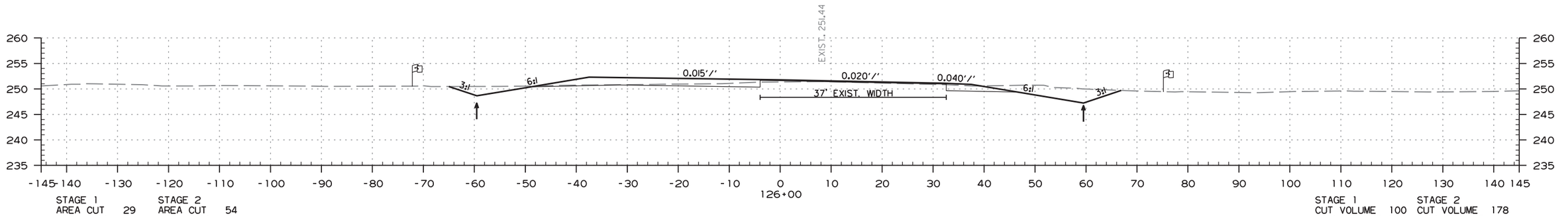
STA. 121+63.18 TO STA. 123+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	161	331

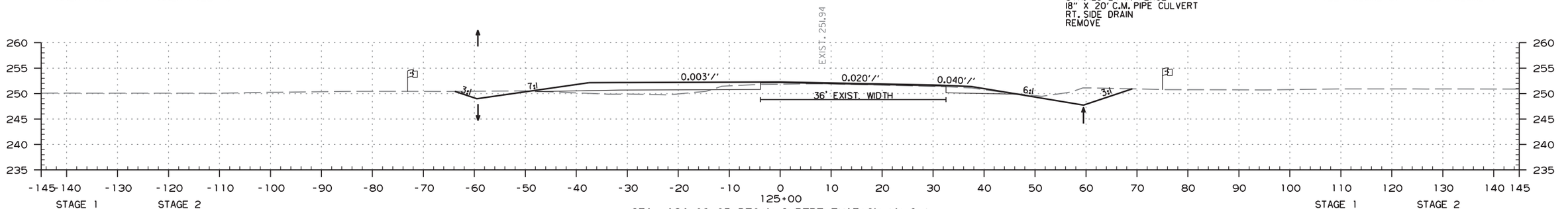
(2) CROSS SECTIONS



STAGE 1 AREA CUT 29 AREA FILL 0
STAGE 2 AREA CUT 54 AREA FILL 0

STAGE 1 CUT VOLUME 100 FILL VOLUME 37
STAGE 2 CUT VOLUME 178 FILL VOLUME 0

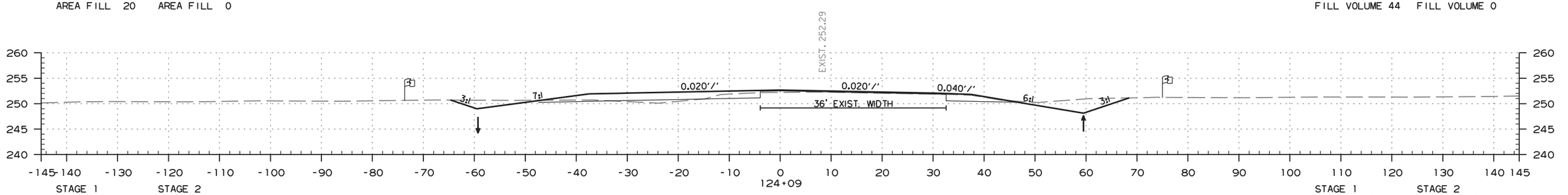
STA. 125+24 IN PLACE
18" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE



STAGE 1 AREA CUT 25 AREA FILL 20
STAGE 2 AREA CUT 42 AREA FILL 0

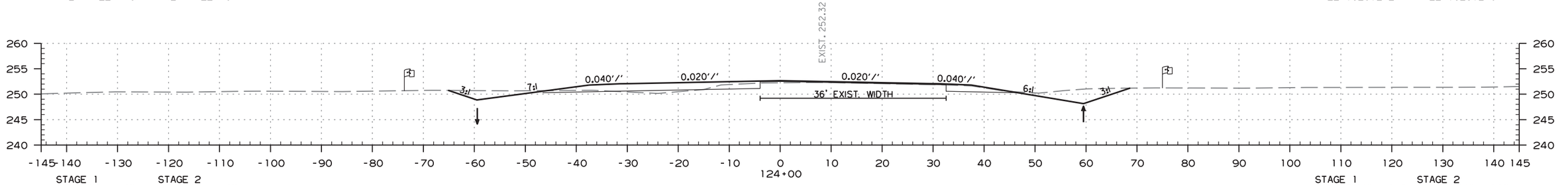
STA. 124+09.05 BEGIN SUPERELEVATION (N.C.)

STAGE 1 CUT VOLUME 108 FILL VOLUME 44
STAGE 2 CUT VOLUME 140 FILL VOLUME 0



STAGE 1 AREA CUT 39 AREA FILL 6
STAGE 2 AREA CUT 41 AREA FILL 0

STAGE 1 CUT VOLUME 14 FILL VOLUME 2
STAGE 2 CUT VOLUME 14 FILL VOLUME 0



STAGE 1 AREA CUT 42 AREA FILL 5
STAGE 2 AREA CUT 42 AREA FILL 0

STAGE 1 CUT VOLUME 170 FILL VOLUME 13
STAGE 2 CUT VOLUME 146 FILL VOLUME 2

STA. 124+00 TO STA. 126+00

7/30/2020

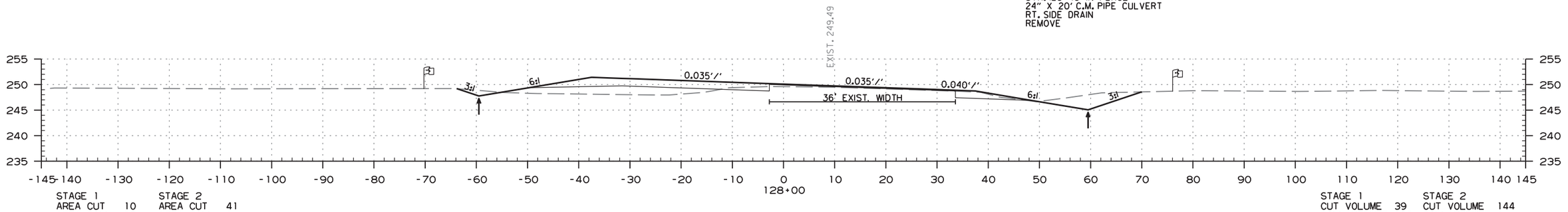
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	162	331

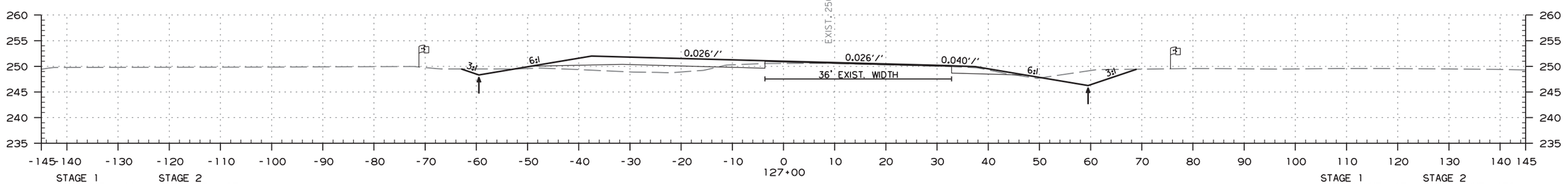
(2) CROSS SECTIONS

STA. 128+40 IN PLACE
24" X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE



STAGE 1 AREA CUT 10 AREA FILL 52
STAGE 2 AREA CUT 41 AREA FILL 1

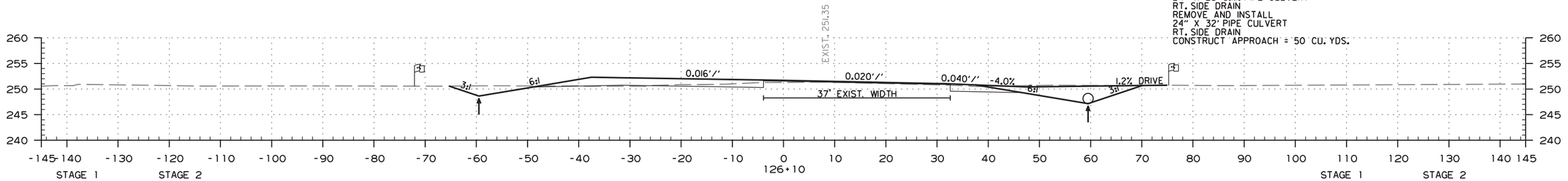
STAGE 1 CUT VOLUME 39 FILL VOLUME 165
STAGE 2 CUT VOLUME 144 FILL VOLUME 4



STAGE 1 AREA CUT 11 AREA FILL 37
STAGE 2 AREA CUT 37 AREA FILL 1

STAGE 1 CUT VOLUME 67 FILL VOLUME 65
STAGE 2 CUT VOLUME 173 FILL VOLUME 2

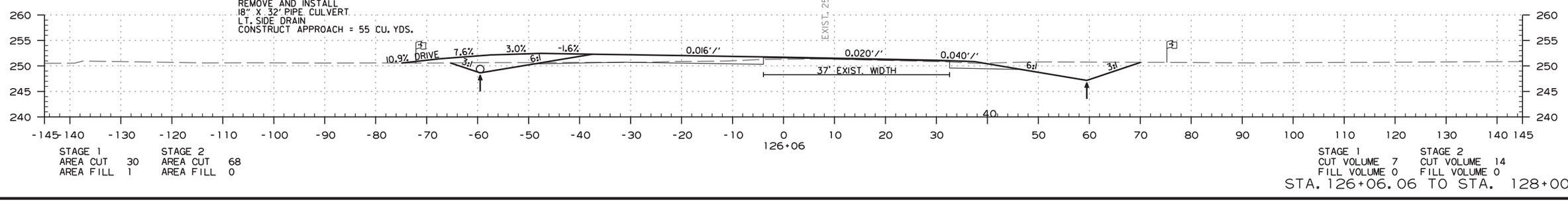
STA. 126+10 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.



STAGE 1 AREA CUT 29 AREA FILL 2
STAGE 2 AREA CUT 67 AREA FILL 0

STAGE 1 CUT VOLUME 4 FILL VOLUME 0
STAGE 2 CUT VOLUME 0 FILL VOLUME 0

STA. 126+06 IN PLACE
18" X 24' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.



STAGE 1 AREA CUT 30 AREA FILL 1
STAGE 2 AREA CUT 68 AREA FILL 0

STAGE 1 CUT VOLUME 7 FILL VOLUME 0
STAGE 2 CUT VOLUME 14 FILL VOLUME 0

STA. 126+06.06 TO STA. 128+00

7/30/2020

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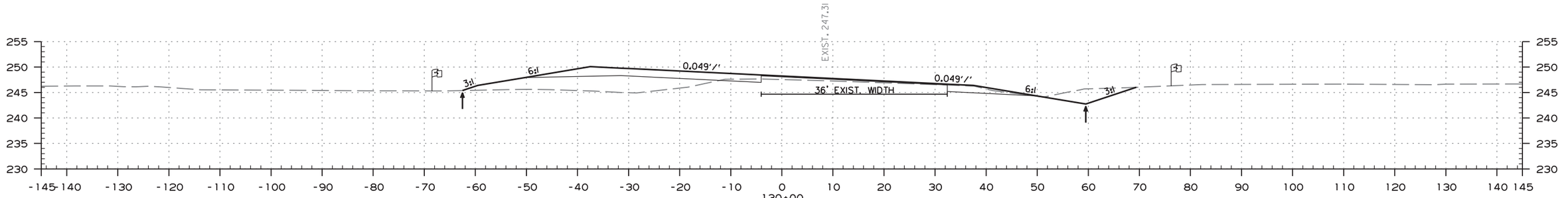
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	163	331

(2) CROSS SECTIONS

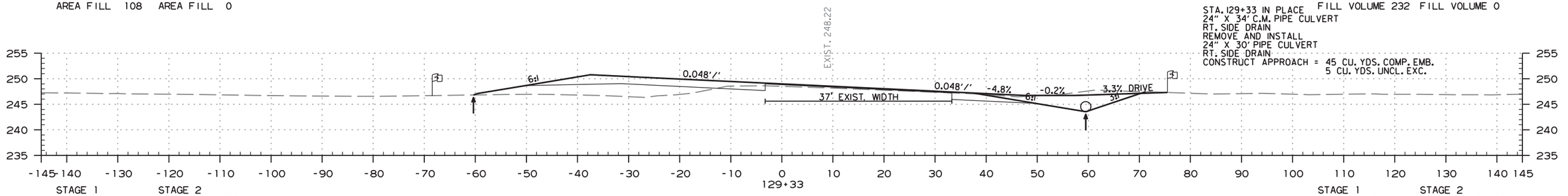


STAGE 1 AREA CUT 4 AREA FILL 108
STAGE 2 AREA CUT 40 AREA FILL 0

STA. 129+49.05 MAX SUPERELEVATION (0.049'/')

STAGE 1 CUT VOLUME 12 FILL VOLUME 232
STAGE 2 CUT VOLUME 139 FILL VOLUME 0

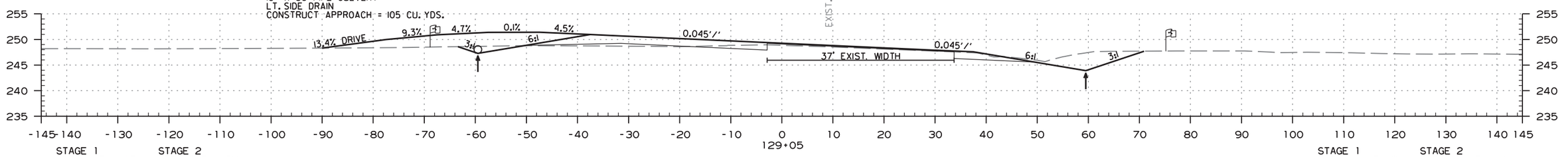
STA. 129+33 IN PLACE
24" X 34' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 6 AREA FILL 79
STAGE 2 AREA CUT 72 AREA FILL 0

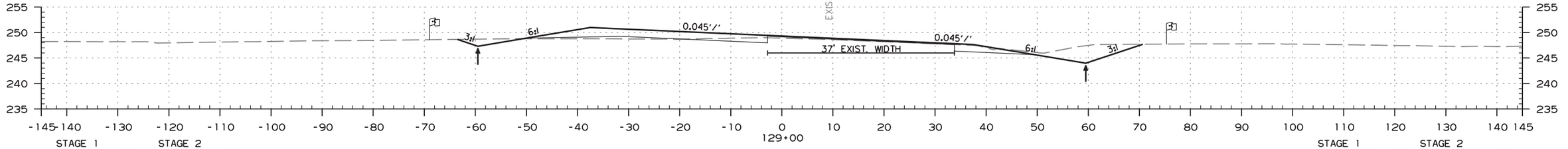
STAGE 1 CUT VOLUME 12 FILL VOLUME 46
STAGE 2 CUT VOLUME 65 FILL VOLUME 0

STA. 129+05 IN PLACE
18" X 18' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.



STAGE 1 AREA CUT 17 AREA FILL 9
STAGE 2 AREA CUT 53 AREA FILL 0

STAGE 1 CUT VOLUME 3 FILL VOLUME 2
STAGE 2 CUT VOLUME 10 FILL VOLUME 0



STAGE 1 AREA CUT 18 AREA FILL 9
STAGE 2 AREA CUT 53 AREA FILL 0

STAGE 1 CUT VOLUME 52 FILL VOLUME 113
STAGE 2 CUT VOLUME 174 FILL VOLUME 2

STA. 129+00 TO STA. 130+00

7/30/2020

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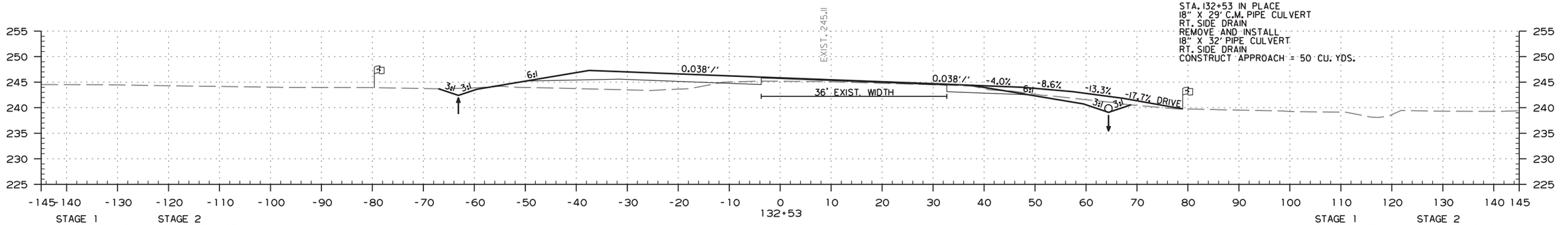
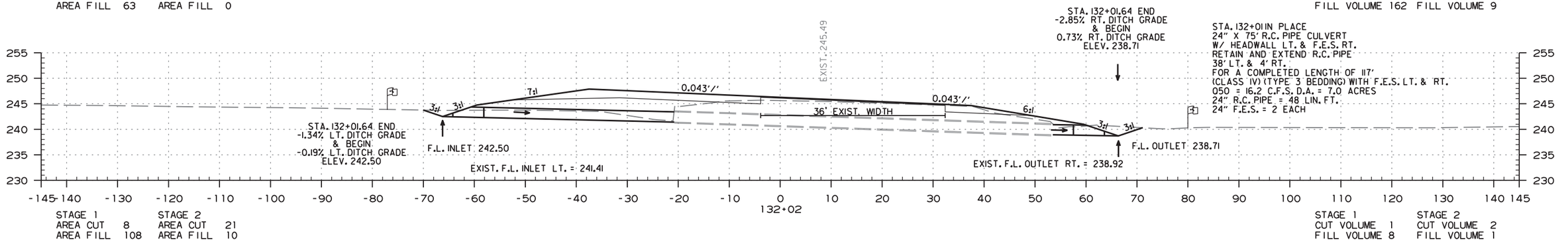
				6	ARK.			
				JOB NO.		CA0706	164	331

(2) CROSS SECTIONS



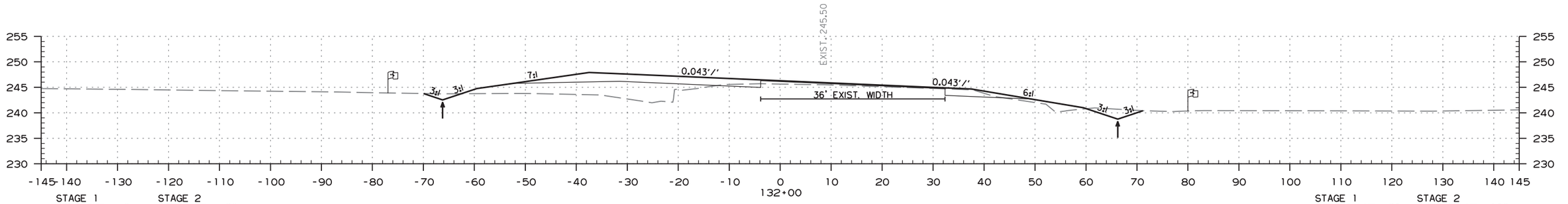
STAGE 1 AREA CUT 9 AREA FILL 63
STAGE 2 AREA CUT 32 AREA FILL 0

STAGE 1 CUT VOLUME 16 FILL VOLUME 162
STAGE 2 CUT VOLUME 50 FILL VOLUME 9



STAGE 1 AREA CUT 8 AREA FILL 108
STAGE 2 AREA CUT 21 AREA FILL 10

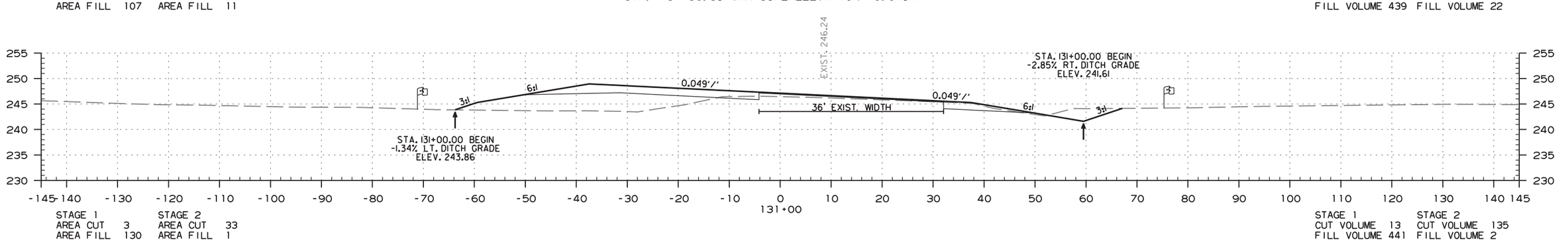
STAGE 1 CUT VOLUME 1 FILL VOLUME 8
STAGE 2 CUT VOLUME 2 FILL VOLUME 1



STAGE 1 AREA CUT 8 AREA FILL 107
STAGE 2 AREA CUT 22 AREA FILL 11

STA. 131+36.39 MAX SUPERELEVATION (0.049'/')

STAGE 1 CUT VOLUME 20 FILL VOLUME 439
STAGE 2 CUT VOLUME 102 FILL VOLUME 22



STAGE 1 AREA CUT 3 AREA FILL 130
STAGE 2 AREA CUT 33 AREA FILL 1

STAGE 1 CUT VOLUME 13 FILL VOLUME 441
STAGE 2 CUT VOLUME 135 FILL VOLUME 2

STA. 131+00 TO STA. 132+52.90

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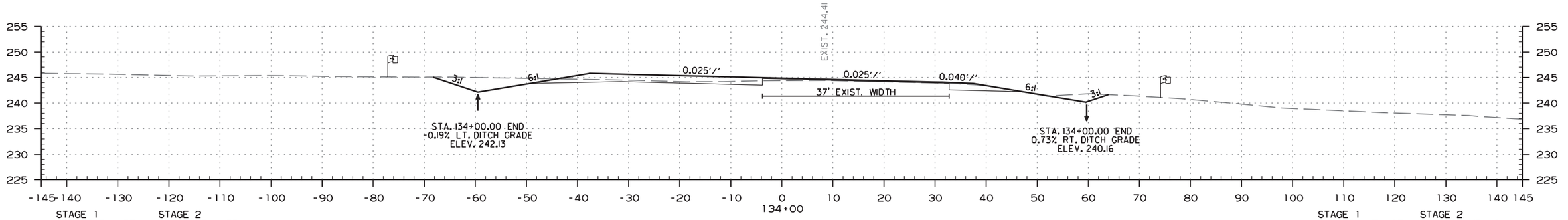
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	165	331

(2) CROSS SECTIONS



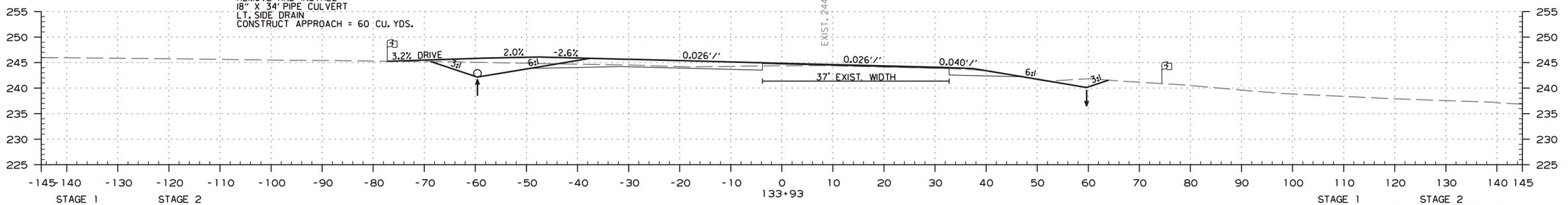
STAGE 1
AREA CUT 55
AREA FILL 0

STAGE 2
AREA CUT 22
AREA FILL 1

STAGE 1
CUT VOLUME 15
FILL VOLUME 0

STAGE 2
CUT VOLUME 6
FILL VOLUME 0

STA. 133+93 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

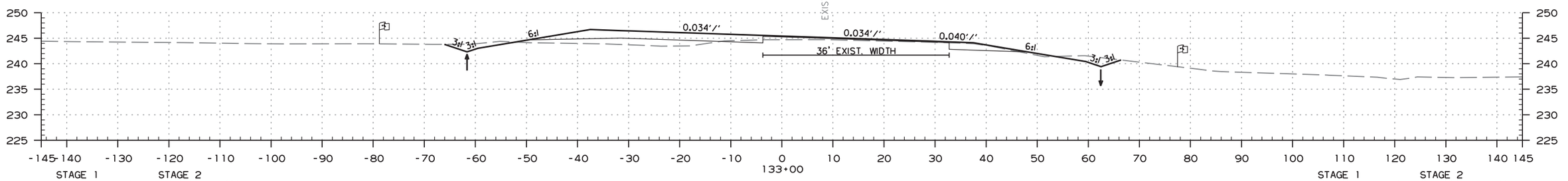


STAGE 1
AREA CUT 57
AREA FILL 0

STAGE 2
AREA CUT 22
AREA FILL 1

STAGE 1
CUT VOLUME 121
FILL VOLUME 64

STAGE 2
CUT VOLUME 78
FILL VOLUME 5



STAGE 1
AREA CUT 13
AREA FILL 37

STAGE 2
AREA CUT 23
AREA FILL 2

STAGE 1
CUT VOLUME 19
FILL VOLUME 87

STAGE 2
CUT VOLUME 48
FILL VOLUME 2

STA. 133+00 TO STA. 134+00

7/30/2020

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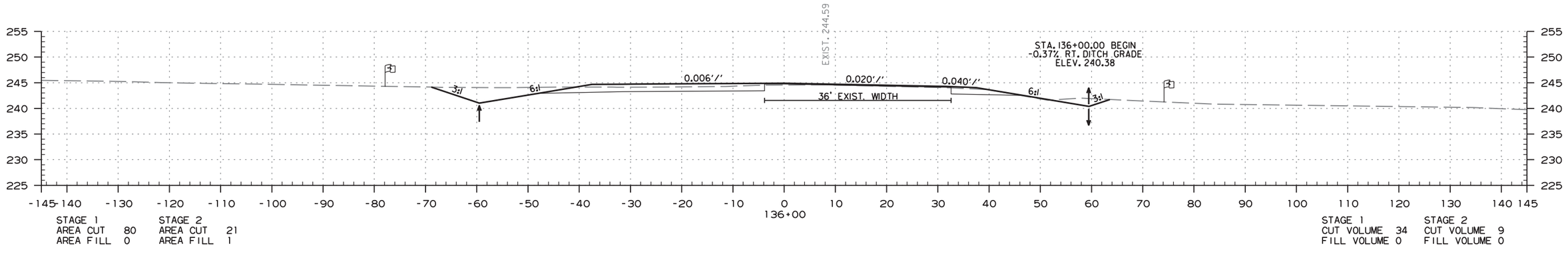
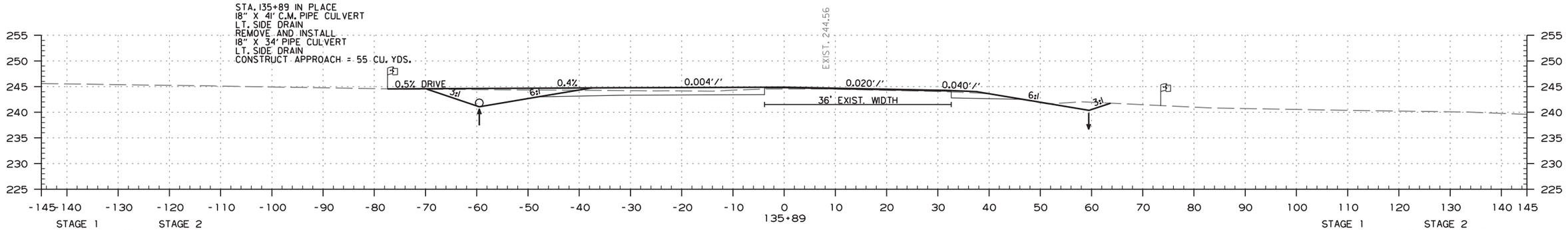
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	166	331

(2) CROSS SECTIONS



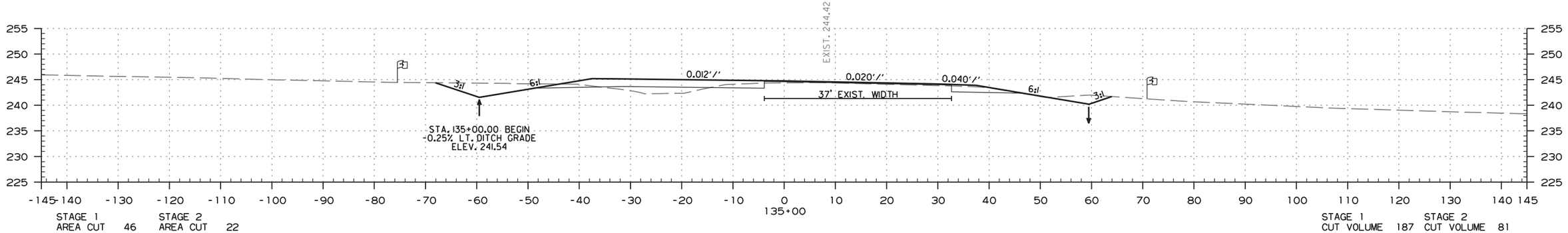
STAGE 1 AREA CUT 80 AREA FILL 0
STAGE 2 AREA CUT 21 AREA FILL 1

STAGE 1 CUT VOLUME 34 FILL VOLUME 0
STAGE 2 CUT VOLUME 9 FILL VOLUME 0



STAGE 1 AREA CUT 86 AREA FILL 0
STAGE 2 AREA CUT 21 AREA FILL 1

STAGE 1 CUT VOLUME 218 FILL VOLUME 30
STAGE 2 CUT VOLUME 71 FILL VOLUME 3



STAGE 1 AREA CUT 46 AREA FILL 18
STAGE 2 AREA CUT 22 AREA FILL 1

STAGE 1 CUT VOLUME 187 FILL VOLUME 33
STAGE 2 CUT VOLUME 81 FILL VOLUME 4

STA. 135+00 TO STA. 136+00

7/30/2020

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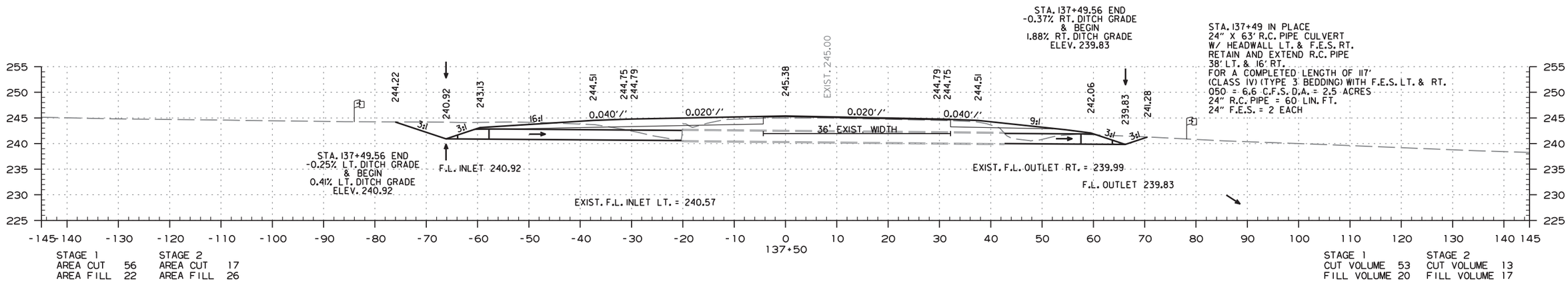
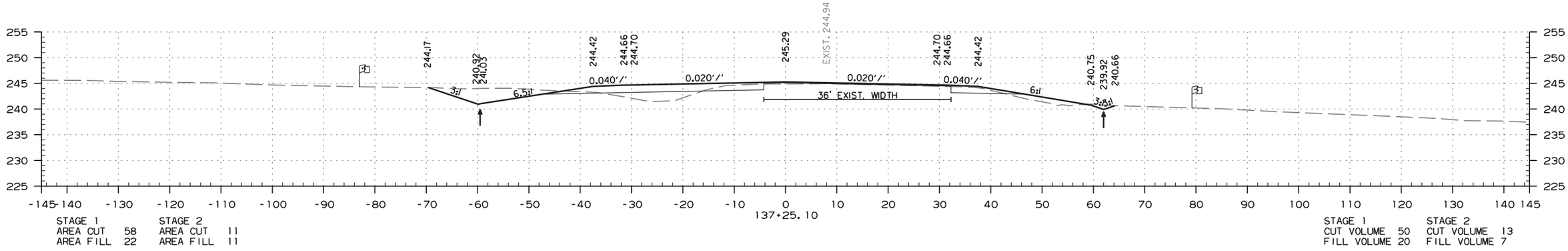
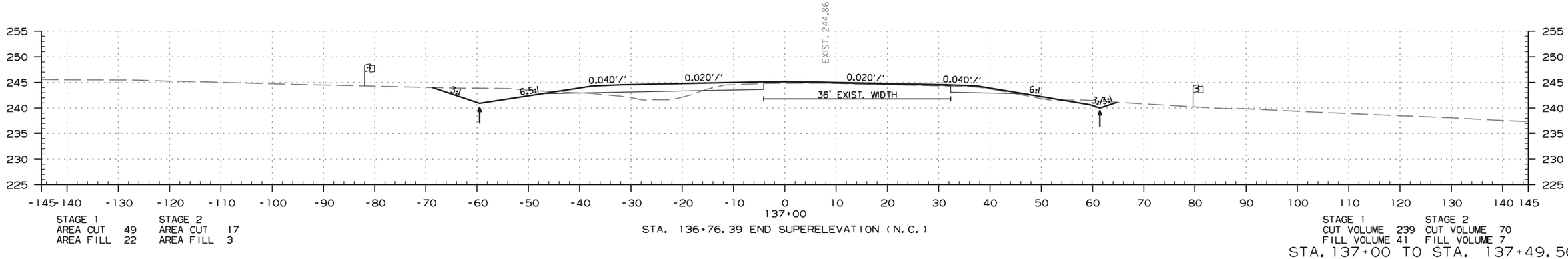
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	167	331

(2) CROSS SECTIONS







STA. 136+76.39 END SUPERELEVATION (N.C.)

STA. 137+00 TO STA. 137+49.56

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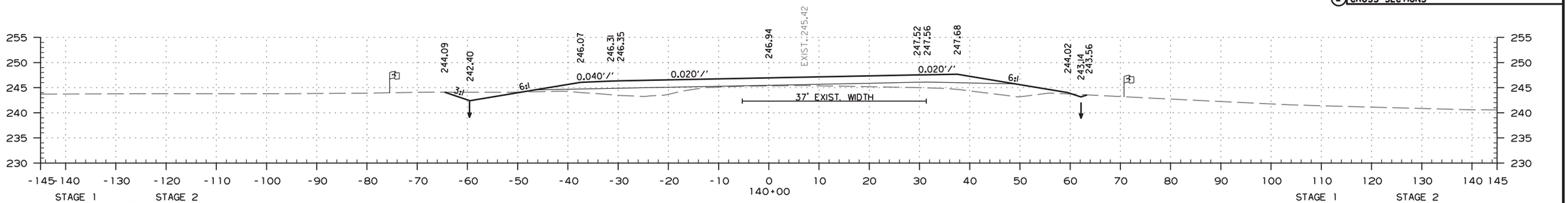
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	168	331

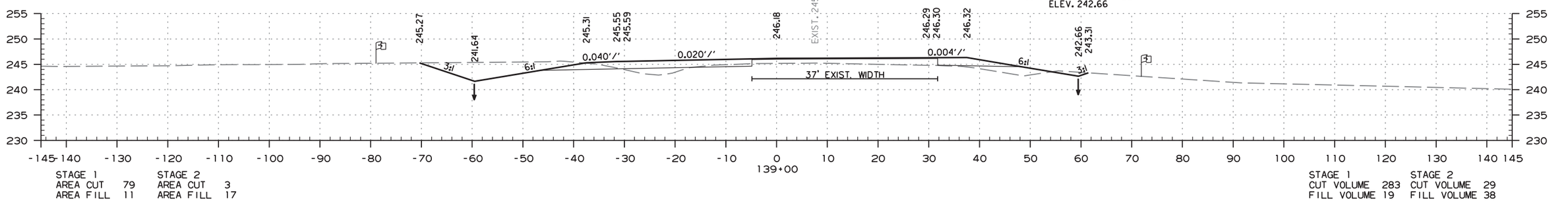
(2) CROSS SECTIONS



STAGE 1 AREA CUT 13 AREA FILL 34
STAGE 2 AREA CUT 1 AREA FILL 44

STAGE 1 CUT VOLUME 170 FILL VOLUME 83
STAGE 2 CUT VOLUME 7 FILL VOLUME 113

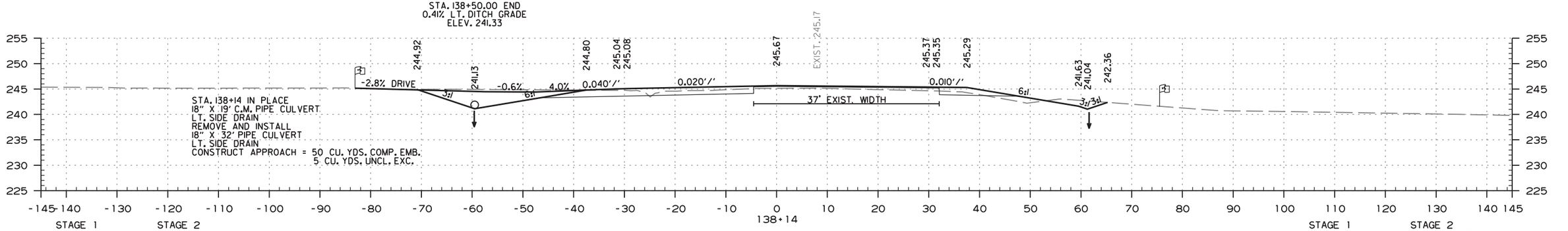
STA. 139+00.00 END
1.88% RT. DITCH GRADE
& BEGIN
0.48% RT. DITCH GRADE
ELEV. 242.66



STAGE 1 AREA CUT 79 AREA FILL 11
STAGE 2 AREA CUT 3 AREA FILL 17

STAGE 1 CUT VOLUME 283 FILL VOLUME 19
STAGE 2 CUT VOLUME 29 FILL VOLUME 38

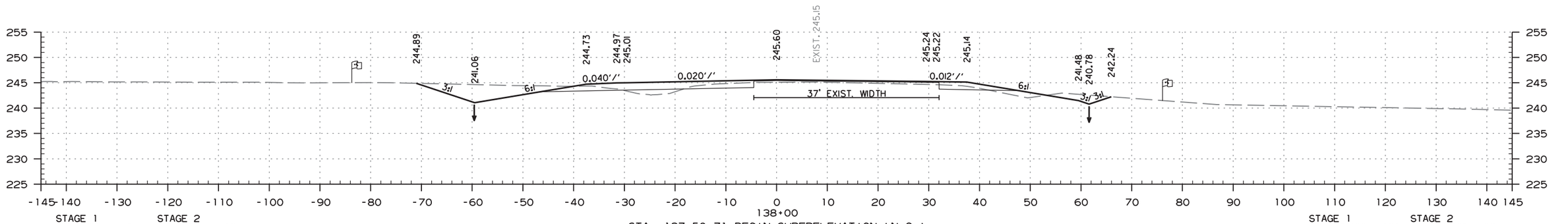
STA. 138+50.00 END
0.41% LT. DITCH GRADE
ELEV. 241.33



STA. 138+14 IN PLACE
18" X 19' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STAGE 1 AREA CUT 99 AREA FILL 1
STAGE 2 AREA CUT 15 AREA FILL 7

STAGE 1 CUT VOLUME 45 FILL VOLUME 2
STAGE 2 CUT VOLUME 9 FILL VOLUME 4



STA. 137+50.71 BEGIN SUPERELEVATION (N.C.)

STAGE 1 AREA CUT 75 AREA FILL 8
STAGE 2 AREA CUT 18 AREA FILL 7

STAGE 1 CUT VOLUME 121 FILL VOLUME 28
STAGE 2 CUT VOLUME 32 FILL VOLUME 31

STA. 138+00 TO STA. 140+00

7/30/2020

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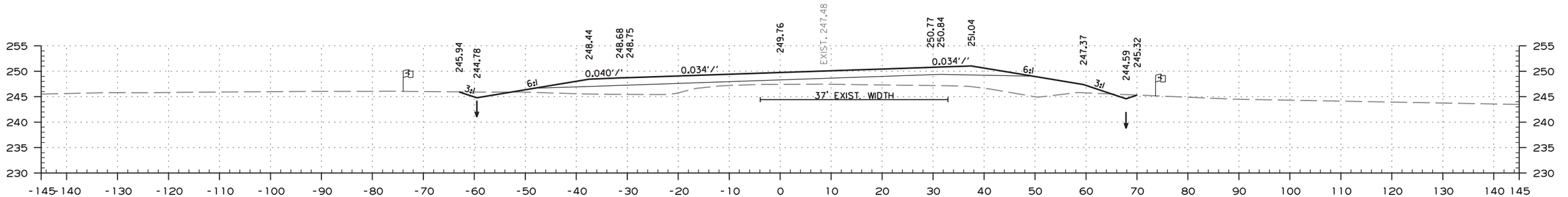
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	169	331

(2) CROSS SECTIONS

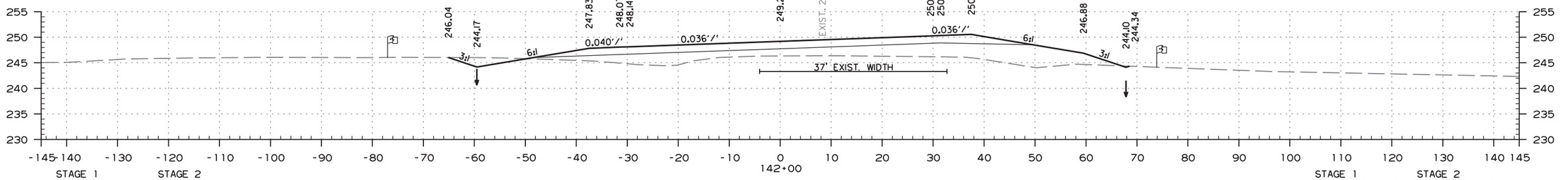


143+00

STAGE 1 AREA CUT 6 AREA FILL 57
STAGE 2 AREA CUT 2 AREA FILL 86

STA. 142+39.67 MAX SUPERELEVATION (0.039 '/')
STA. 142+38.67 MAX SUPERELEVATION (0.039 '/')

STAGE 1 CUT VOLUME 39 FILL VOLUME 213
STAGE 2 CUT VOLUME 6 FILL VOLUME 356

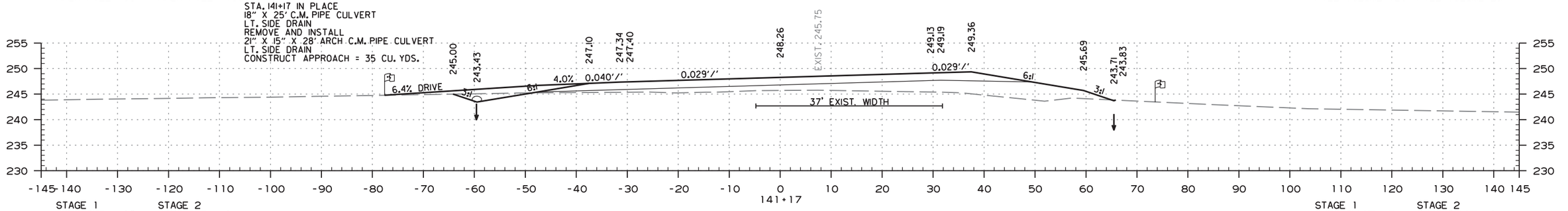


142+00

STAGE 1 AREA CUT 15 AREA FILL 58
STAGE 2 AREA CUT 1 AREA FILL 106

STAGE 1 CUT VOLUME 43 FILL VOLUME 126
STAGE 2 CUT VOLUME 3 FILL VOLUME 297

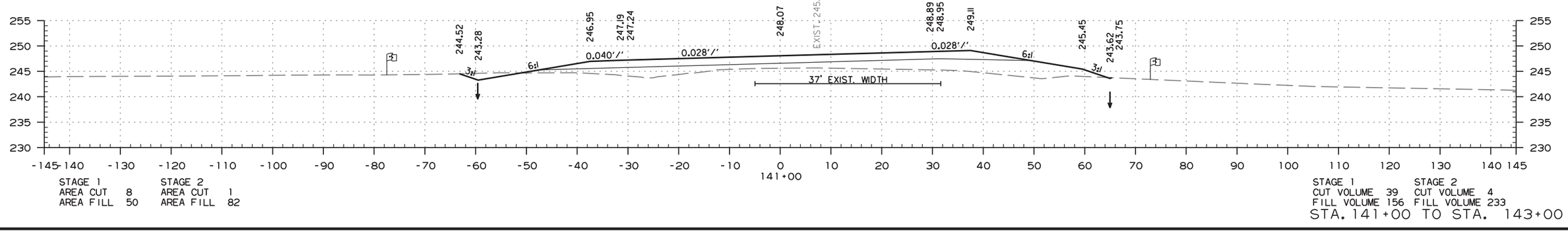
STA. 141+17 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH C.M. PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



141+17

STAGE 1 AREA CUT 13 AREA FILL 24
STAGE 2 AREA CUT 1 AREA FILL 87

STAGE 1 CUT VOLUME 7 FILL VOLUME 23
STAGE 2 CUT VOLUME 1 FILL VOLUME 53



141+00

STAGE 1 AREA CUT 8 AREA FILL 50
STAGE 2 AREA CUT 1 AREA FILL 82

STAGE 1 CUT VOLUME 39 FILL VOLUME 156
STAGE 2 CUT VOLUME 4 FILL VOLUME 233

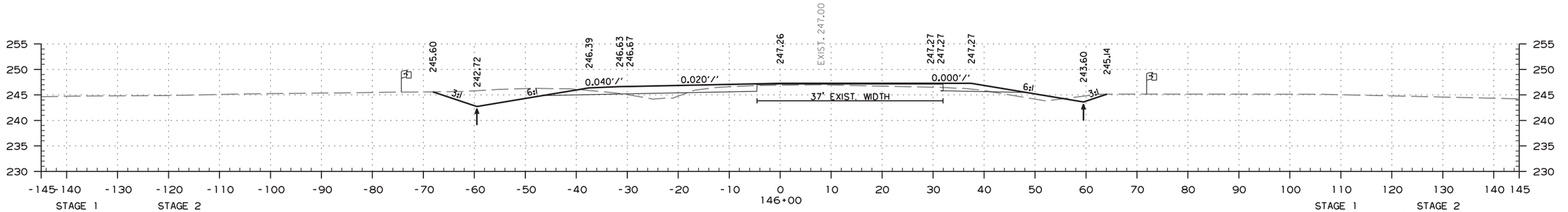
STA. 141+00 TO STA. 143+00

7/30/2020

RCA0706.DGN

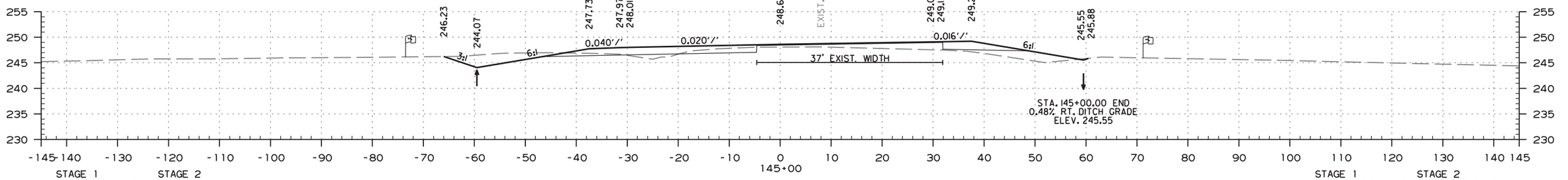
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	170	331

(2) CROSS SECTIONS



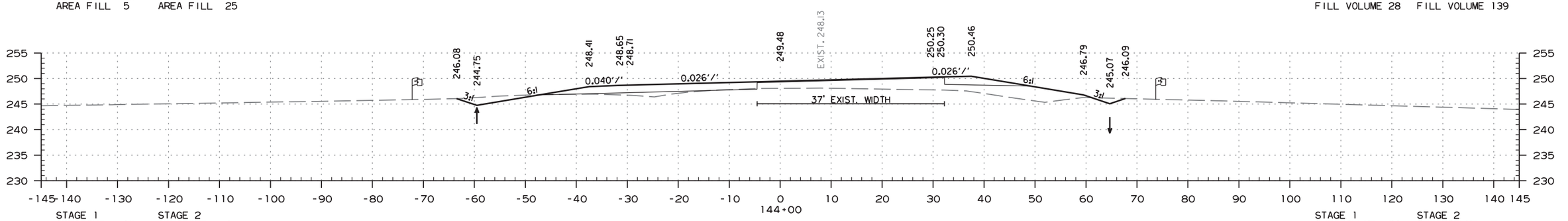
STAGE 1 AREA CUT 68 AREA FILL 9
STAGE 2 AREA CUT 9 AREA FILL 9

STAGE 1 CUT VOLUME 215 FILL VOLUME 26
STAGE 2 CUT VOLUME 19 FILL VOLUME 63



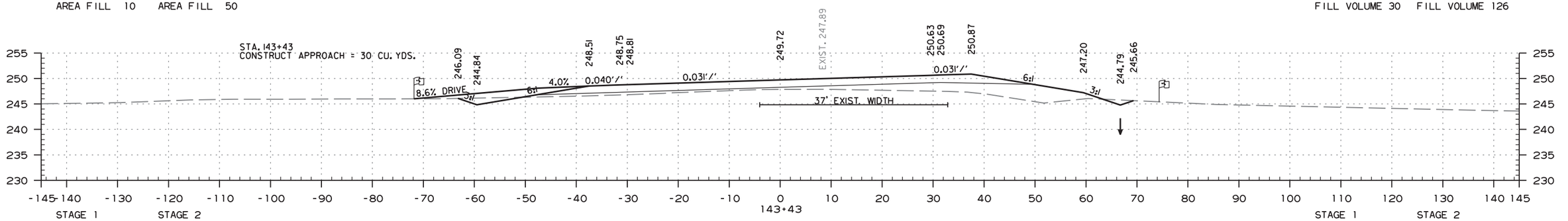
STAGE 1 AREA CUT 48 AREA FILL 5
STAGE 2 AREA CUT 1 AREA FILL 25

STAGE 1 CUT VOLUME 117 FILL VOLUME 28
STAGE 2 CUT VOLUME 9 FILL VOLUME 139



STAGE 1 AREA CUT 15 AREA FILL 10
STAGE 2 AREA CUT 4 AREA FILL 50

STAGE 1 CUT VOLUME 24 FILL VOLUME 30
STAGE 2 CUT VOLUME 7 FILL VOLUME 126



STAGE 1 AREA CUT 8 AREA FILL 18
STAGE 2 AREA CUT 3 AREA FILL 69

STAGE 1 CUT VOLUME 11 FILL VOLUME 60
STAGE 2 CUT VOLUME 4 FILL VOLUME 123

STA. 143+42.90 TO STA. 146+00

7/30/2020

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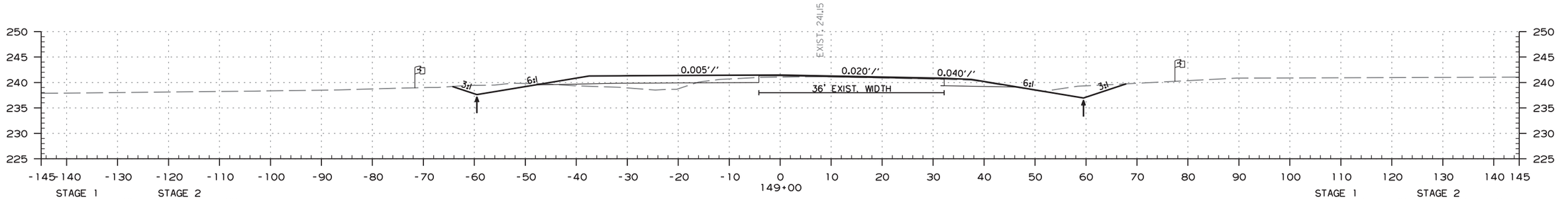
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

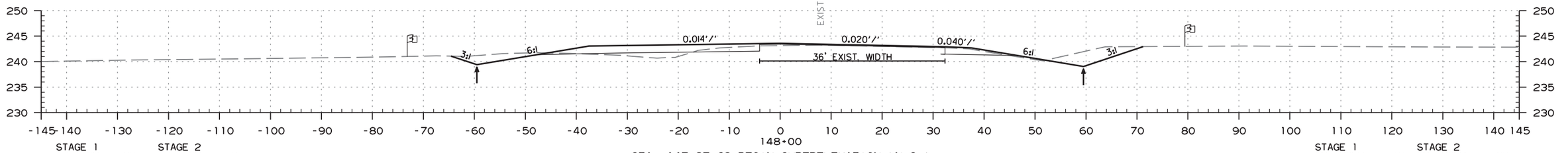
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	171	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 26 AREA FILL 21
STAGE 2 AREA CUT 32 AREA FILL 1

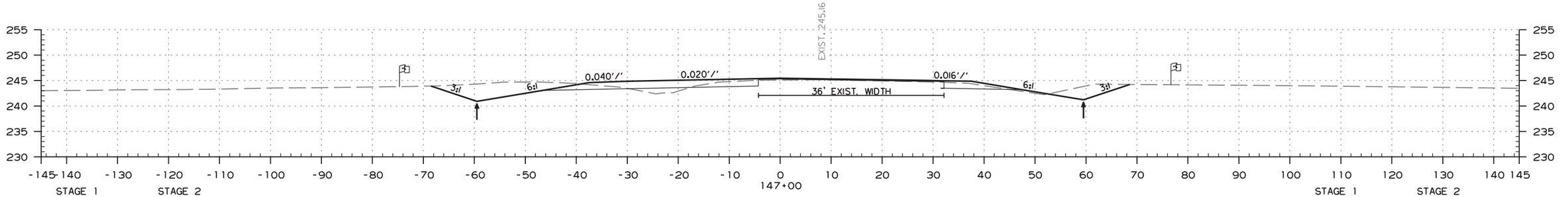
STAGE 1 CUT VOLUME 102 FILL VOLUME 63
STAGE 2 CUT VOLUME 137 FILL VOLUME 4



STAGE 1 AREA CUT 29 AREA FILL 13
STAGE 2 AREA CUT 42 AREA FILL 1

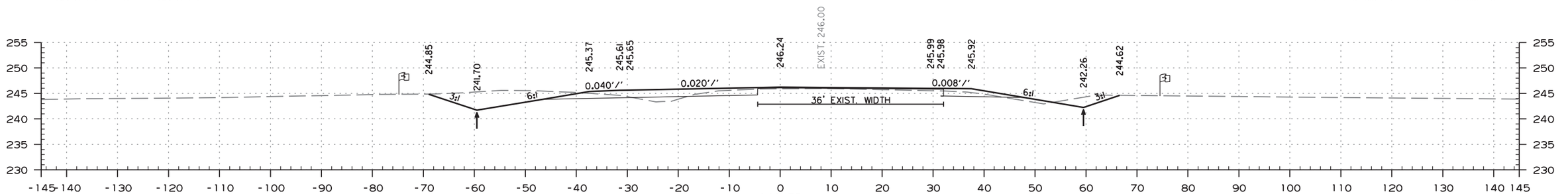
STA. 147+27.63 BEGIN SUPERELEVATION (N.C.)
STA. 147+27.63 END SUPERELEVATION (N.C.)

STAGE 1 CUT VOLUME 194 FILL VOLUME 39
STAGE 2 CUT VOLUME 139 FILL VOLUME 6



STAGE 1 AREA CUT 76 AREA FILL 8
STAGE 2 AREA CUT 33 AREA FILL 2

STAGE 1 CUT VOLUME 131 FILL VOLUME 12
STAGE 2 CUT VOLUME 45 FILL VOLUME 5



STAGE 1 AREA CUT 81 AREA FILL 6
STAGE 2 AREA CUT 21 AREA FILL 4

STAGE 1 CUT VOLUME 152 FILL VOLUME 15
STAGE 2 CUT VOLUME 31 FILL VOLUME 13

STA. 146+54.90 TO STA. 149+00

7/30/2020

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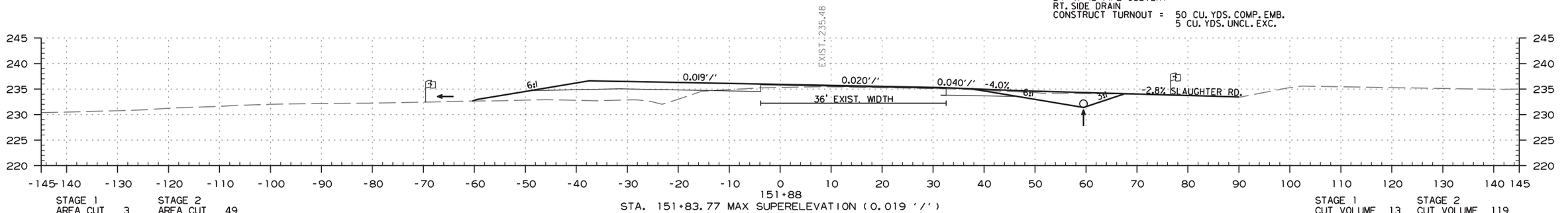
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	172	331

(2) CROSS SECTIONS

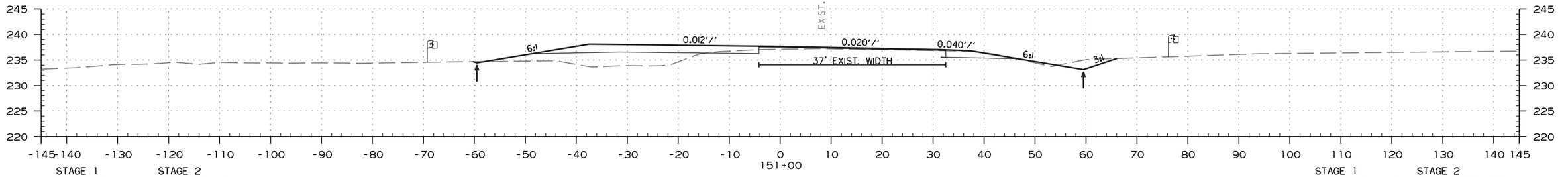
STA. 151+88 IN PLACE
24" X 28' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 3 AREA FILL 79
STAGE 2 AREA CUT 49 AREA FILL 0

STA. 151+83.77 MAX SUPERELEVATION (0.019 '/')
STA. 151+82.77 MAX SUPERELEVATION (0.019 '/')

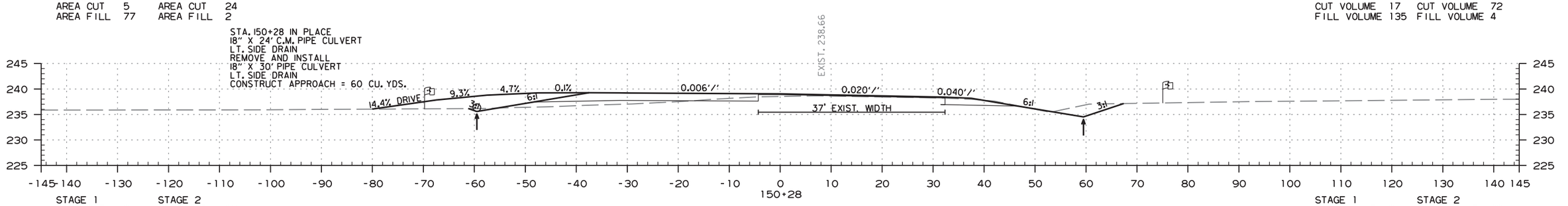
STAGE 1 CUT VOLUME 13 FILL VOLUME 254
STAGE 2 CUT VOLUME 119 FILL VOLUME 3



STAGE 1 AREA CUT 5 AREA FILL 77
STAGE 2 AREA CUT 24 AREA FILL 2

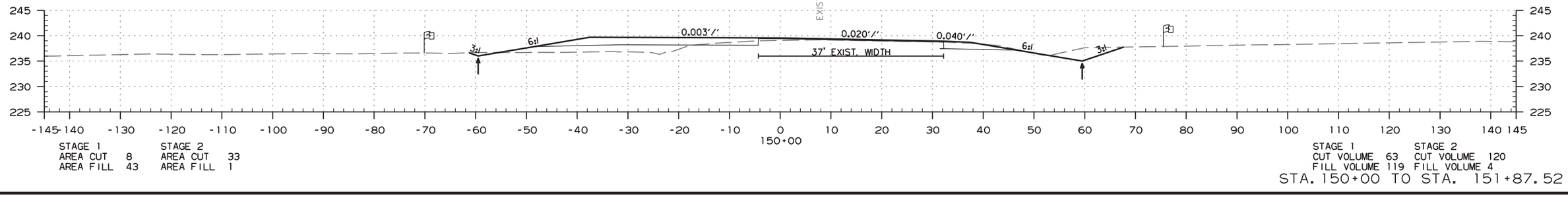
STAGE 1 CUT VOLUME 17 FILL VOLUME 135
STAGE 2 CUT VOLUME 72 FILL VOLUME 4

STA. 150+28 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.



STAGE 1 AREA CUT 8 AREA FILL 24
STAGE 2 AREA CUT 30 AREA FILL 1

STAGE 1 CUT VOLUME 8 FILL VOLUME 35
STAGE 2 CUT VOLUME 33 FILL VOLUME 1



STAGE 1 AREA CUT 8 AREA FILL 43
STAGE 2 AREA CUT 33 AREA FILL 1

STAGE 1 CUT VOLUME 63 FILL VOLUME 119
STAGE 2 CUT VOLUME 120 FILL VOLUME 4

STA. 150+00 TO STA. 151+87.52

7/30/2020

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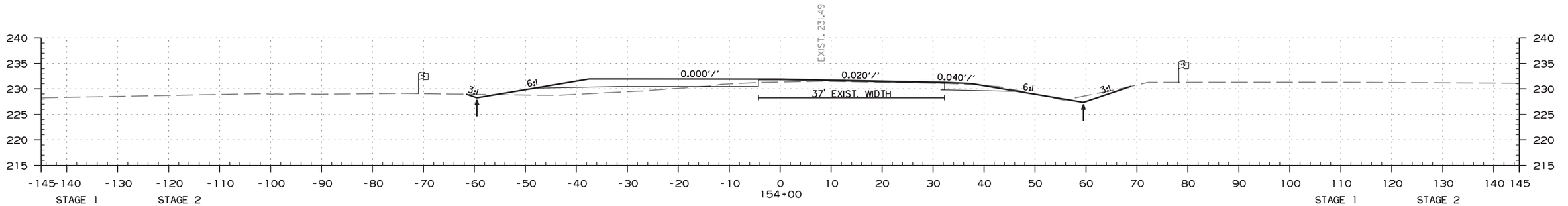
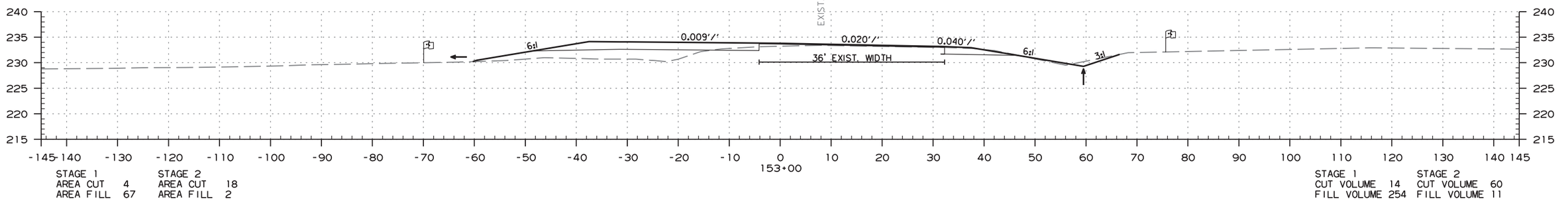
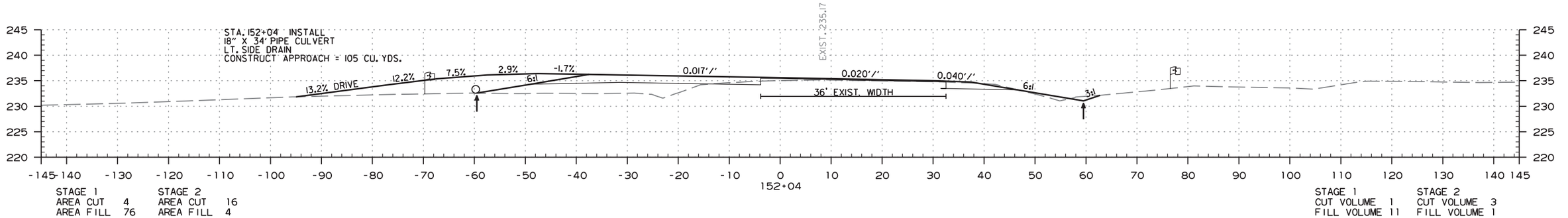
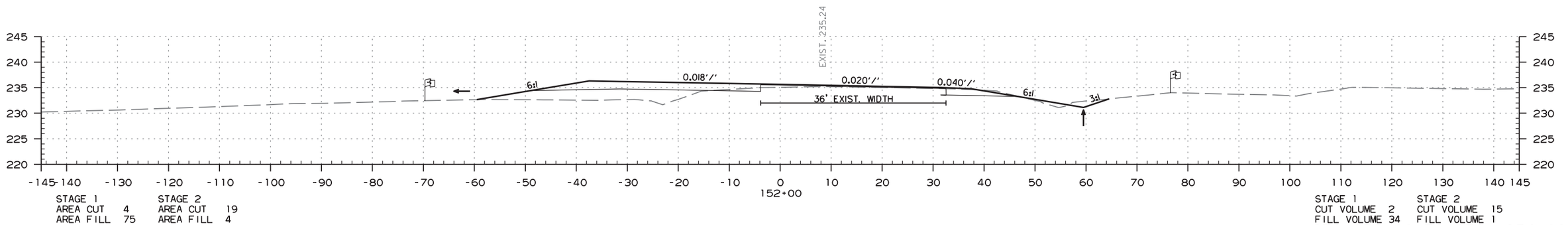
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	173	331

(2) CROSS SECTIONS









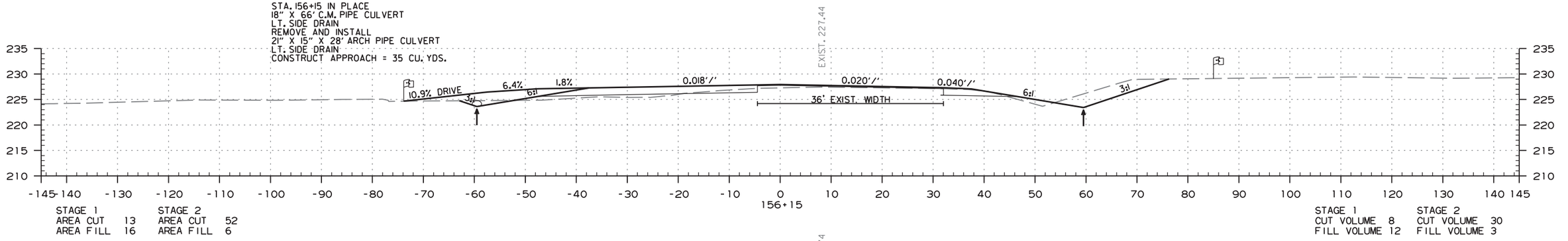
STA. 152+00 TO STA. 154+00

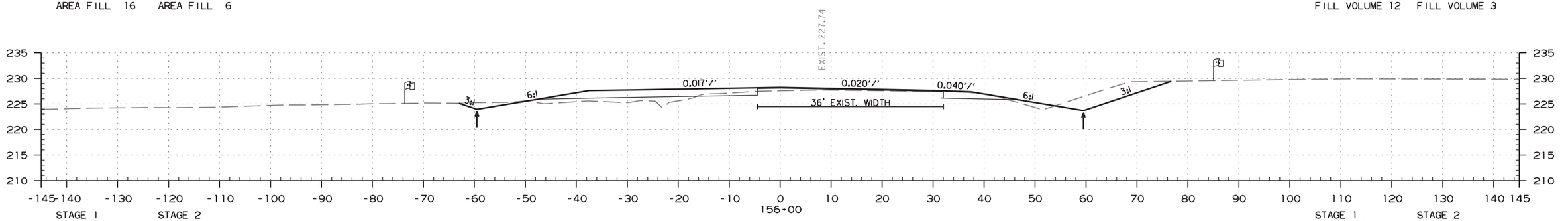
7/30/2020

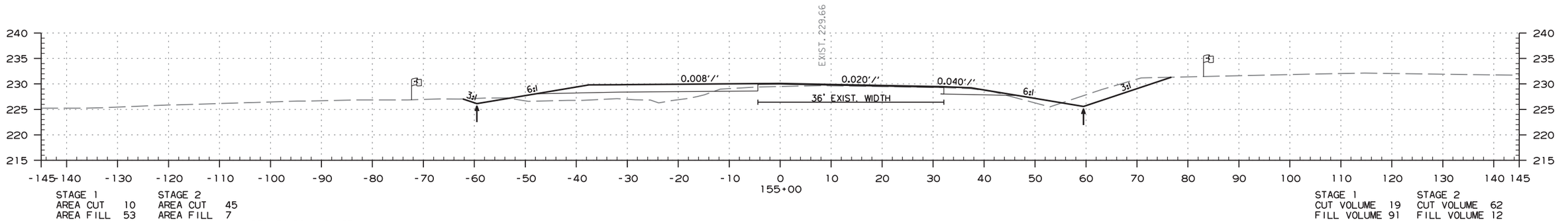
RCA0706.DGN

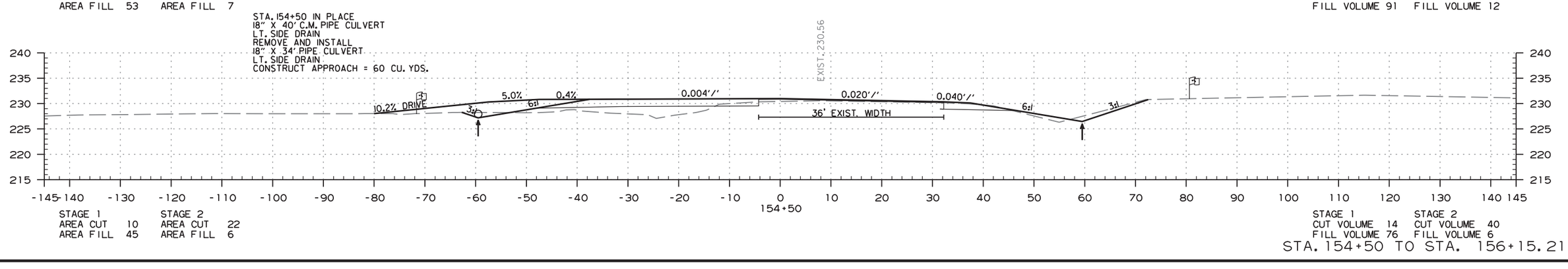
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	174	331

(2) CROSS SECTIONS









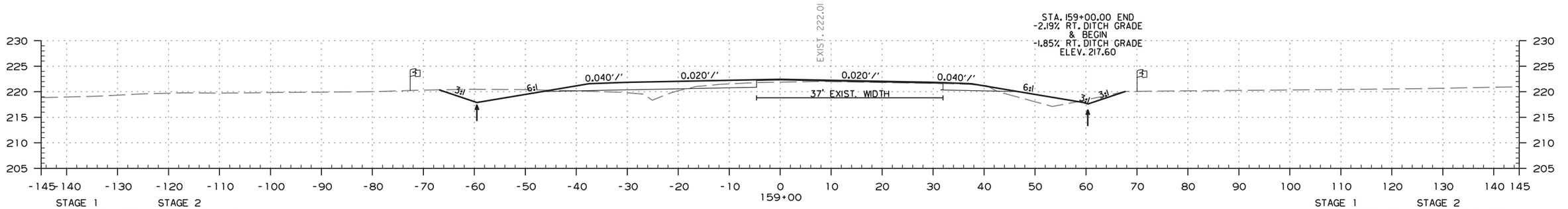
STA. 154+50 TO STA. 156+15.21

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	175	331

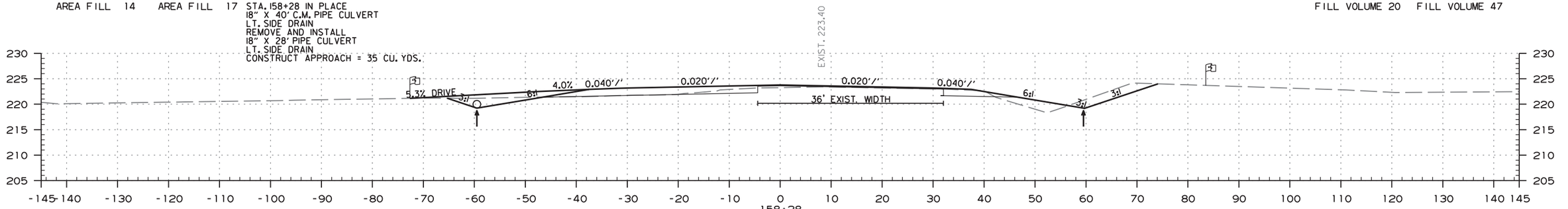
(2) CROSS SECTIONS



STAGE 1 AREA CUT 38 AREA FILL 14
STAGE 2 AREA CUT 15 AREA FILL 17

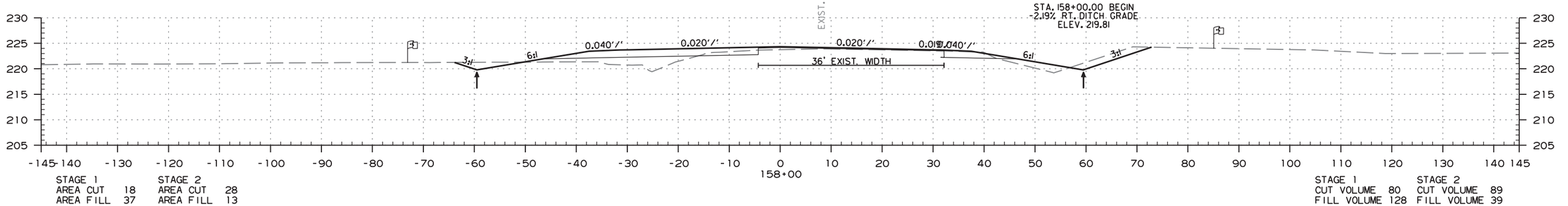
STAGE 1 CUT VOLUME 87 FILL VOLUME 20
STAGE 2 CUT VOLUME 67 FILL VOLUME 47

STA. 158+28 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



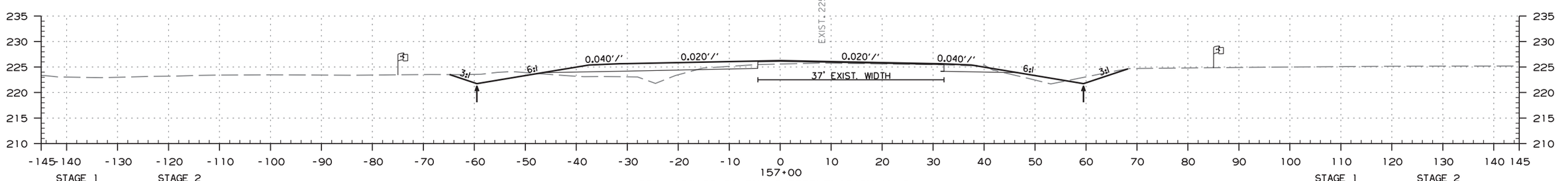
STAGE 1 AREA CUT 27 AREA FILL 1
STAGE 2 AREA CUT 35 AREA FILL 18

STAGE 1 CUT VOLUME 23 FILL VOLUME 20
STAGE 2 CUT VOLUME 33 FILL VOLUME 16



STAGE 1 AREA CUT 18 AREA FILL 37
STAGE 2 AREA CUT 28 AREA FILL 13

STAGE 1 CUT VOLUME 80 FILL VOLUME 128
STAGE 2 CUT VOLUME 89 FILL VOLUME 39



STAGE 1 AREA CUT 25 AREA FILL 32
STAGE 2 AREA CUT 20 AREA FILL 8

STA. 156+38.91 END SUPERELEVATION (N.C.)

STAGE 1 CUT VOLUME 60 FILL VOLUME 76
STAGE 2 CUT VOLUME 113 FILL VOLUME 22

STA. 157+00 TO STA. 159+00

7/30/2020

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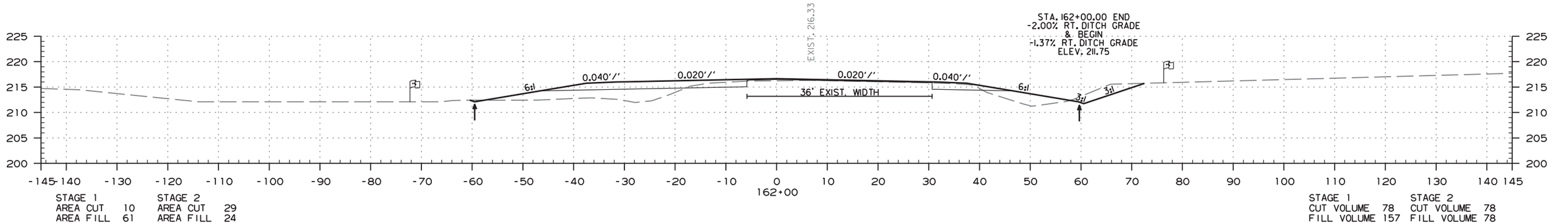
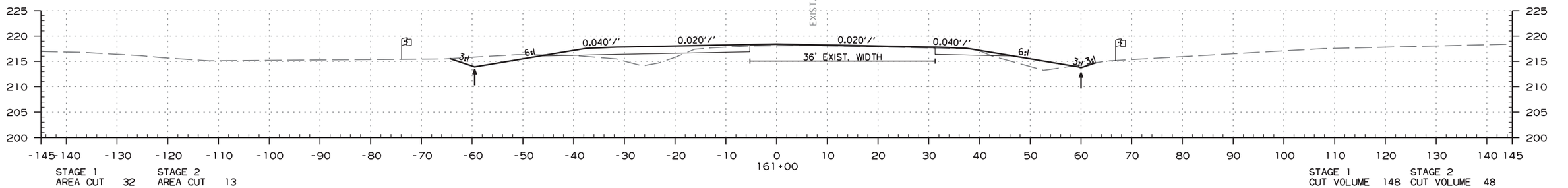
				6	ARK.			
				JOB NO.		CA0706	176	331

(2) CROSS SECTIONS



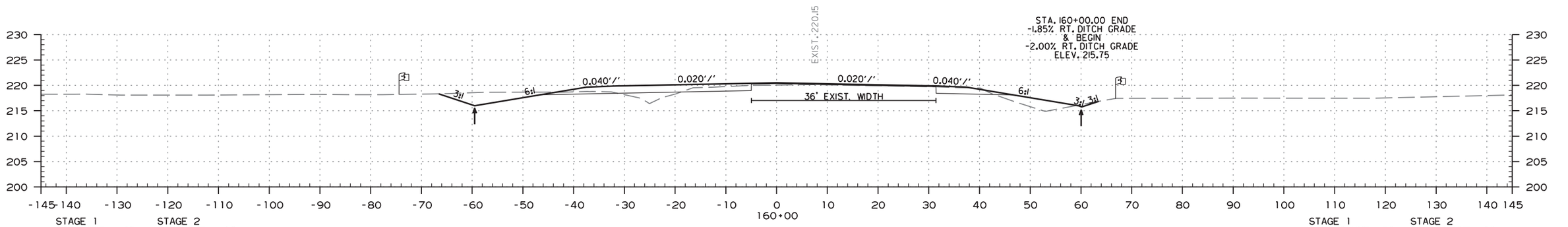
STAGE 1 AREA CUT 10 AREA FILL 61
STAGE 2 AREA CUT 29 AREA FILL 24

STAGE 1 CUT VOLUME 78 FILL VOLUME 157
STAGE 2 CUT VOLUME 78 FILL VOLUME 78



STAGE 1 AREA CUT 32 AREA FILL 24
STAGE 2 AREA CUT 13 AREA FILL 17

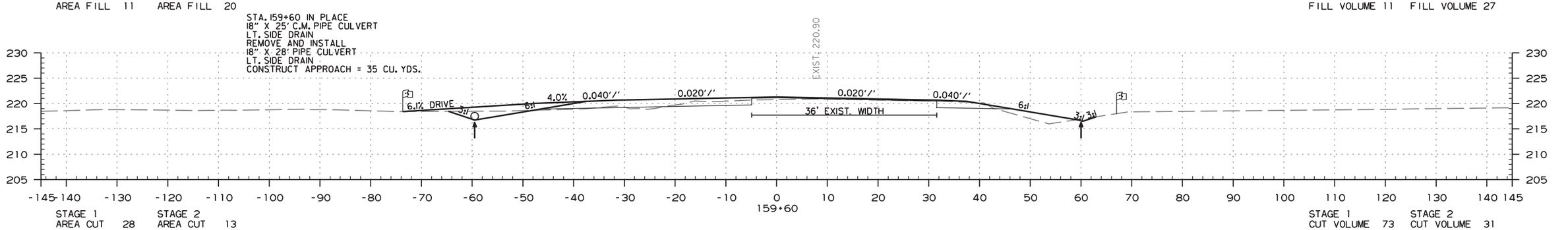
STAGE 1 CUT VOLUME 148 FILL VOLUME 65
STAGE 2 CUT VOLUME 48 FILL VOLUME 69



STAGE 1 AREA CUT 48 AREA FILL 11
STAGE 2 AREA CUT 13 AREA FILL 20

STAGE 1 CUT VOLUME 56 FILL VOLUME 11
STAGE 2 CUT VOLUME 19 FILL VOLUME 27

STA. 159+60 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



STAGE 1 AREA CUT 28 AREA FILL 4
STAGE 2 AREA CUT 13 AREA FILL 16

STAGE 1 CUT VOLUME 73 FILL VOLUME 20
STAGE 2 CUT VOLUME 31 FILL VOLUME 37

STA. 159+60.36 TO STA. 162+00

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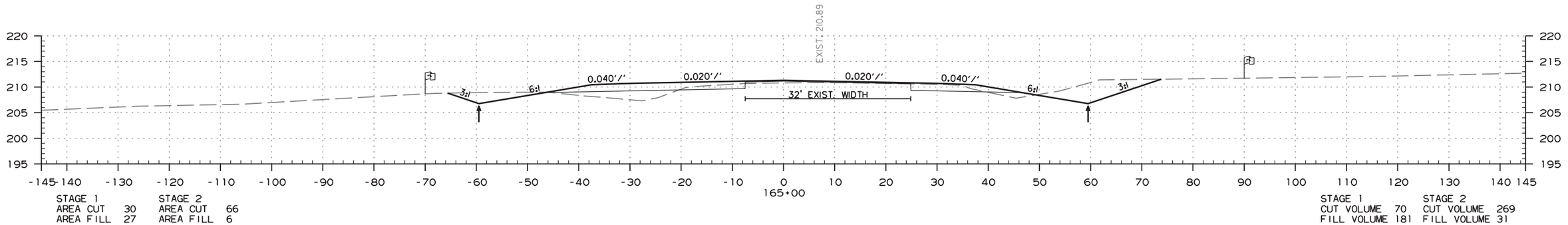
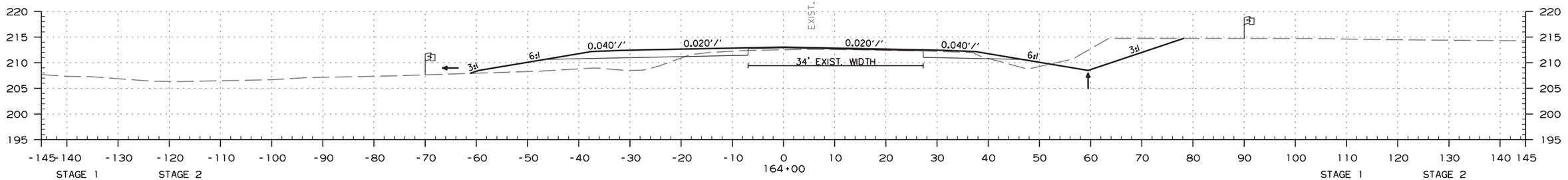
				6	ARK.			
				JOB NO.		CA0706	177	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 30 AREA FILL 27
STAGE 2 AREA CUT 66 AREA FILL 6

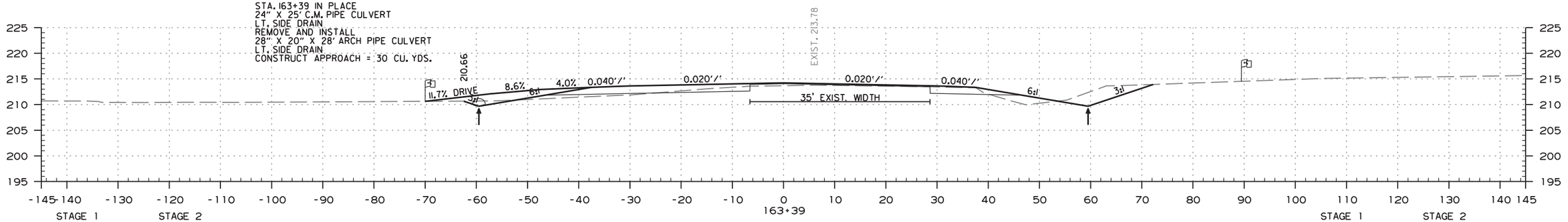
STAGE 1 CUT VOLUME 70 FILL VOLUME 181
STAGE 2 CUT VOLUME 269 FILL VOLUME 31



STAGE 1 AREA CUT 8 AREA FILL 71
STAGE 2 AREA CUT 79 AREA FILL 11

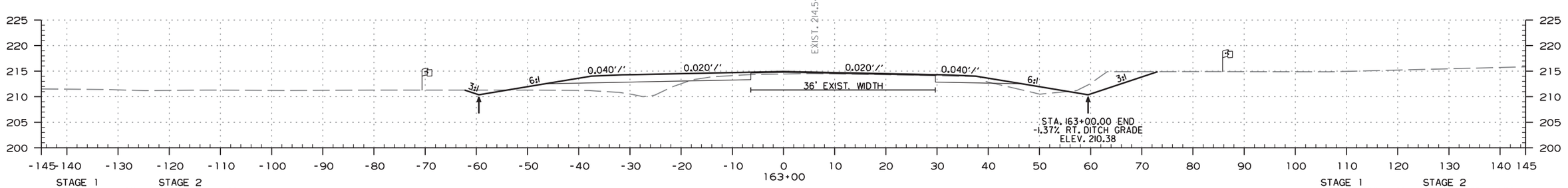
STAGE 1 CUT VOLUME 26 FILL VOLUME 93
STAGE 2 CUT VOLUME 137 FILL VOLUME 26

STA. 163+39 IN PLACE
24" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.



STAGE 1 AREA CUT 15 AREA FILL 11
STAGE 2 AREA CUT 42 AREA FILL 12

STAGE 1 CUT VOLUME 20 FILL VOLUME 46
STAGE 2 CUT VOLUME 60 FILL VOLUME 17



STAGE 1 AREA CUT 12 AREA FILL 52
STAGE 2 AREA CUT 41 AREA FILL 12

STAGE 1 CUT VOLUME 41 FILL VOLUME 209
STAGE 2 CUT VOLUME 130 FILL VOLUME 67

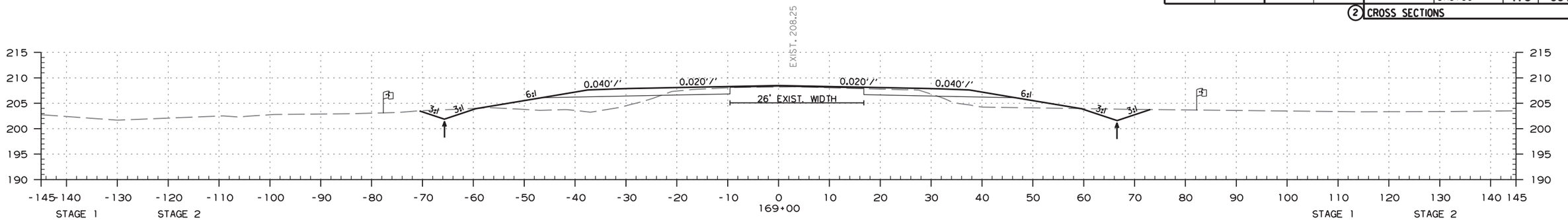
STA. 163+00 TO STA. 165+00

7/30/2020

RCA0706.DGN

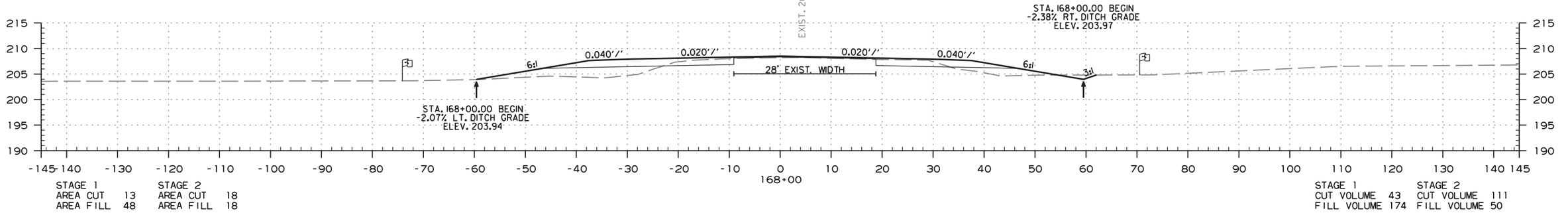
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	178	331

(2) CROSS SECTIONS



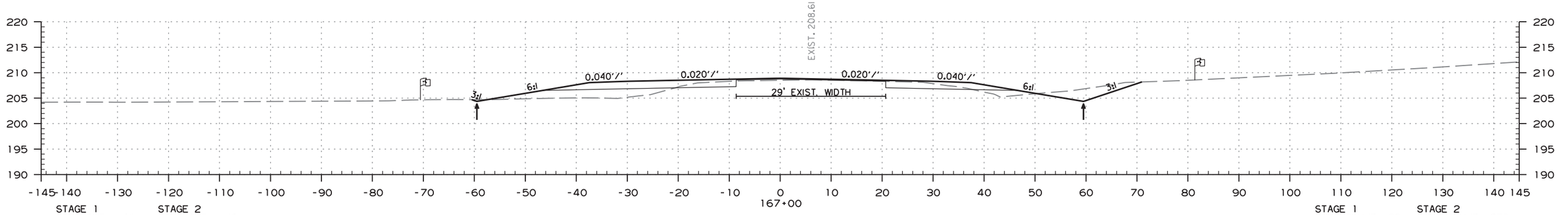
STAGE 1 AREA CUT 23 AREA FILL 64
STAGE 2 AREA CUT 30 AREA FILL 36

STAGE 1 CUT VOLUME 67 FILL VOLUME 207
STAGE 2 CUT VOLUME 89 FILL VOLUME 100



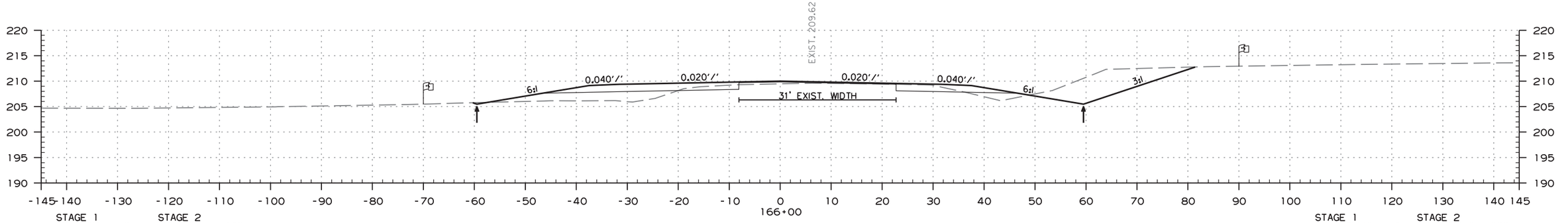
STAGE 1 AREA CUT 13 AREA FILL 48
STAGE 2 AREA CUT 18 AREA FILL 18

STAGE 1 CUT VOLUME 43 FILL VOLUME 174
STAGE 2 CUT VOLUME 111 FILL VOLUME 50



STAGE 1 AREA CUT 10 AREA FILL 46
STAGE 2 AREA CUT 42 AREA FILL 9

STAGE 1 CUT VOLUME 33 FILL VOLUME 176
STAGE 2 CUT VOLUME 278 FILL VOLUME 35



STAGE 1 AREA CUT 8 AREA FILL 49
STAGE 2 AREA CUT 108 AREA FILL 10

STAGE 1 CUT VOLUME 70 FILL VOLUME 141
STAGE 2 CUT VOLUME 322 FILL VOLUME 30

STA. 166+00 TO STA. 169+00

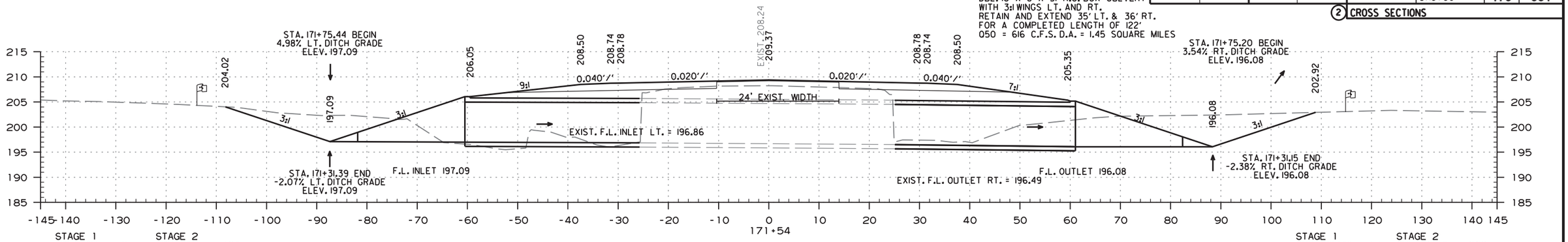
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	179	331

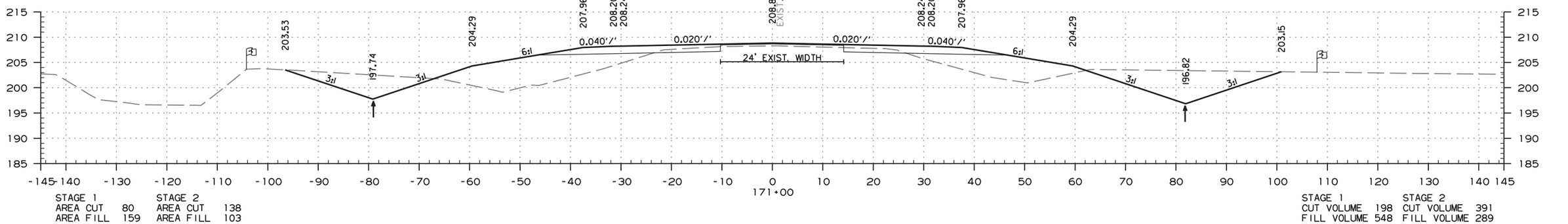
(2) CROSS SECTIONS

STA. 171+53 IN PLACE
DBL. 10' X 8' X 51' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 35' LT. & 36' RT.
FOR A COMPLETED LENGTH OF 122'
050 = 616 C.F.S. D.A. = 1.45 SQUARE MILES



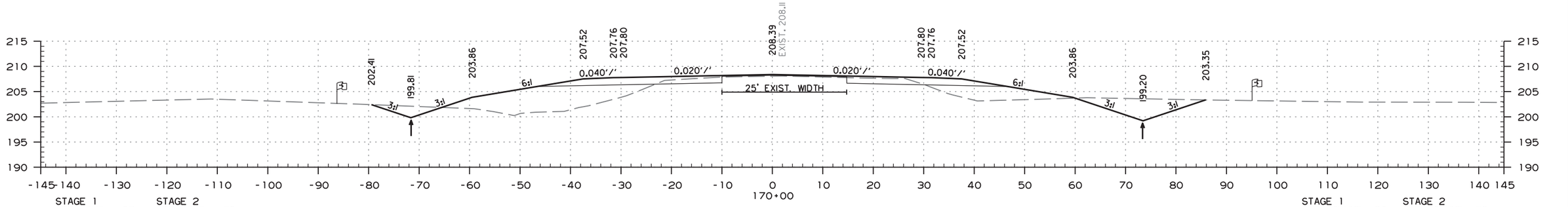
STAGE 1 AREA CUT 91 AREA FILL 419
STAGE 2 AREA CUT 124 AREA FILL 310

STAGE 1 CUT VOLUME 171 FILL VOLUME 578
STAGE 2 CUT VOLUME 262 FILL VOLUME 413



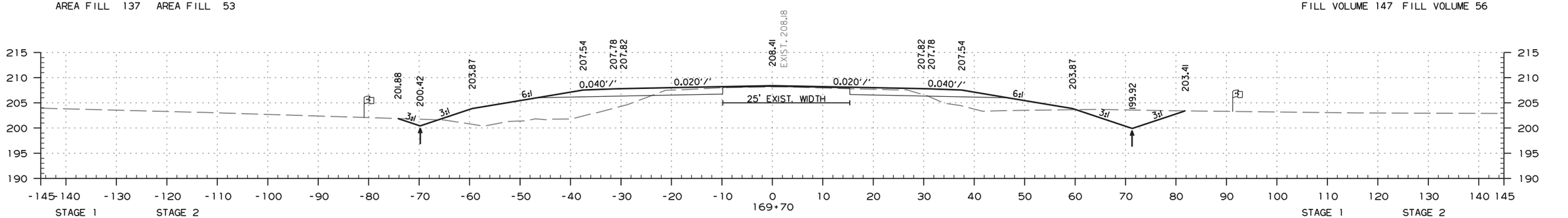
STAGE 1 AREA CUT 80 AREA FILL 159
STAGE 2 AREA CUT 138 AREA FILL 103

STAGE 1 CUT VOLUME 198 FILL VOLUME 548
STAGE 2 CUT VOLUME 391 FILL VOLUME 289



STAGE 1 AREA CUT 27 AREA FILL 137
STAGE 2 AREA CUT 73 AREA FILL 53

STAGE 1 CUT VOLUME 26 FILL VOLUME 147
STAGE 2 CUT VOLUME 72 FILL VOLUME 56



STAGE 1 AREA CUT 19 AREA FILL 127
STAGE 2 AREA CUT 56 AREA FILL 48

STAGE 1 CUT VOLUME 54 FILL VOLUME 248
STAGE 2 CUT VOLUME 111 FILL VOLUME 109

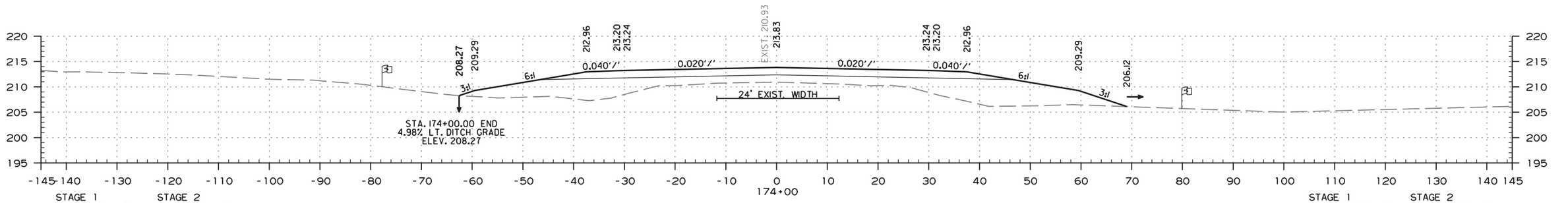
STA. 169+70.10 TO STA. 171+53.61

7/30/2020

RCA0706.DGN

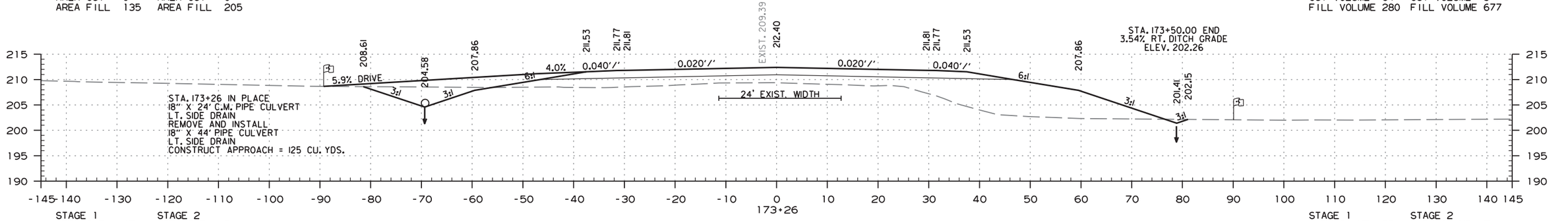
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	180	331

(2) CROSS SECTIONS



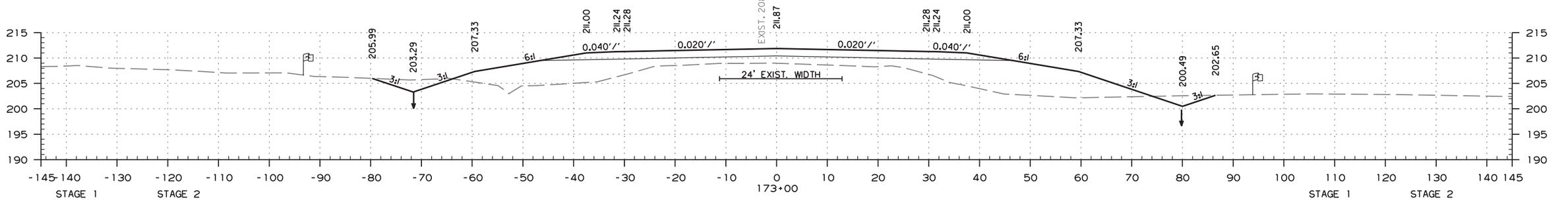
STAGE 1 AREA CUT 0 AREA FILL 135
STAGE 2 AREA CUT 0 AREA FILL 205

STAGE 1 CUT VOLUME 64 FILL VOLUME 280
STAGE 2 CUT VOLUME 3 FILL VOLUME 677



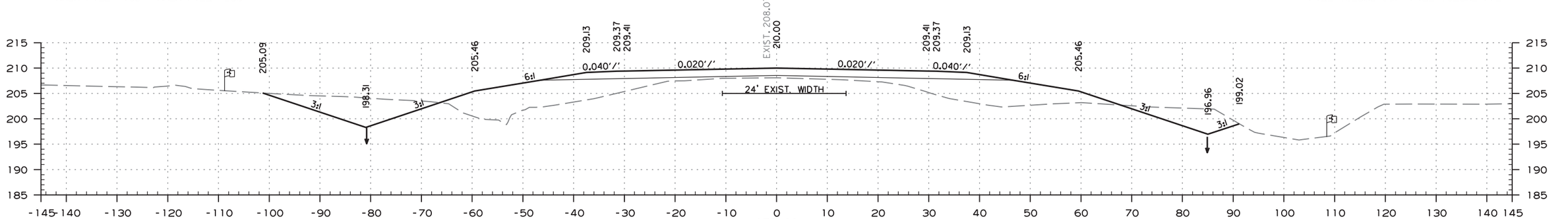
STAGE 1 AREA CUT 47 AREA FILL 69
STAGE 2 AREA CUT 2 AREA FILL 289

STAGE 1 CUT VOLUME 32 FILL VOLUME 112
STAGE 2 CUT VOLUME 7 FILL VOLUME 267



STAGE 1 AREA CUT 19 AREA FILL 163
STAGE 2 AREA CUT 13 AREA FILL 266

STAGE 1 CUT VOLUME 222 FILL VOLUME 637
STAGE 2 CUT VOLUME 133 FILL VOLUME 772



STAGE 1 AREA CUT 101 AREA FILL 181
STAGE 2 AREA CUT 59 AREA FILL 151

STAGE 1 CUT VOLUME 164 FILL VOLUME 511
STAGE 2 CUT VOLUME 156 FILL VOLUME 393

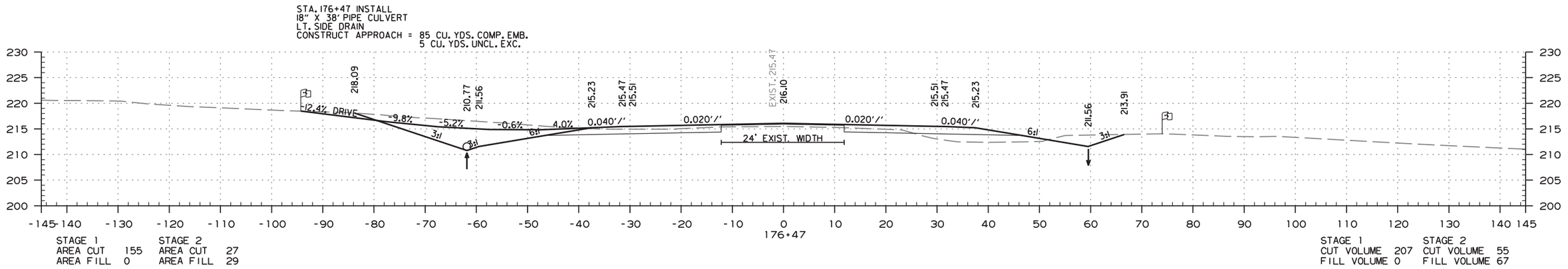
STA. 172+00 TO STA. 174+00

7/30/2020

RCA0706.DGN

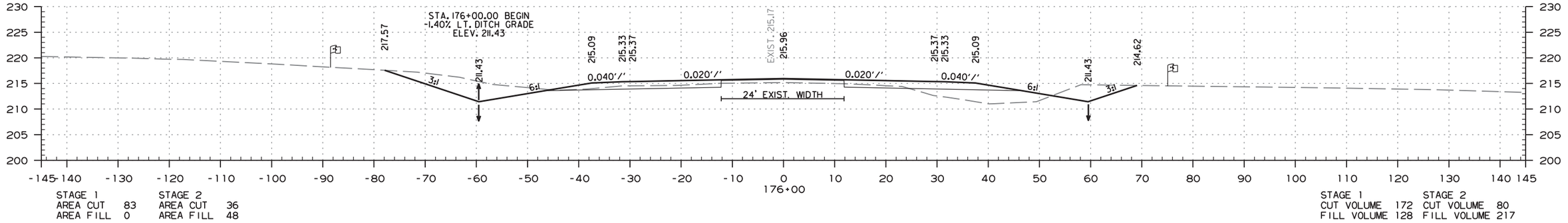
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	181	331

(2) CROSS SECTIONS



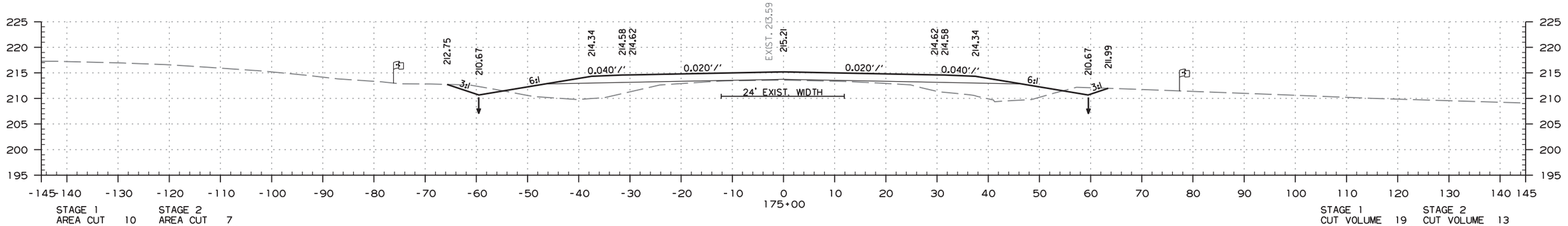
STAGE 1 AREA CUT 155 AREA FILL 0
STAGE 2 AREA CUT 27 AREA FILL 29

STAGE 1 CUT VOLUME 207 FILL VOLUME 0
STAGE 2 CUT VOLUME 55 FILL VOLUME 67



STAGE 1 AREA CUT 83 AREA FILL 0
STAGE 2 AREA CUT 36 AREA FILL 48

STAGE 1 CUT VOLUME 172 FILL VOLUME 128
STAGE 2 CUT VOLUME 80 FILL VOLUME 217



STAGE 1 AREA CUT 10 AREA FILL 69
STAGE 2 AREA CUT 7 AREA FILL 69

STAGE 1 CUT VOLUME 19 FILL VOLUME 378
STAGE 2 CUT VOLUME 13 FILL VOLUME 507

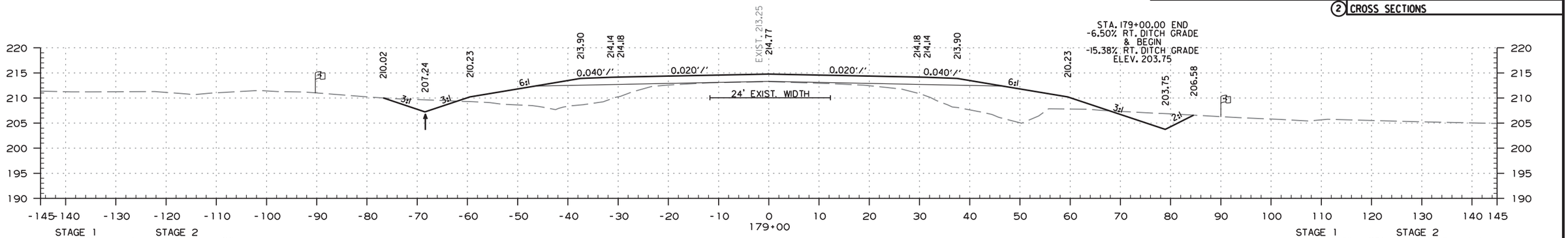
STA. 175+00 TO STA. 176+47.01

7/30/2020

RCA0706.DGN

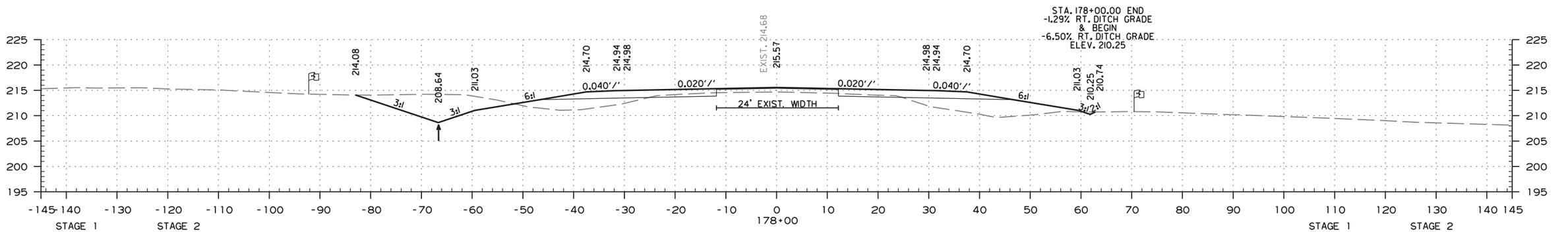
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	182	331

(2) CROSS SECTIONS



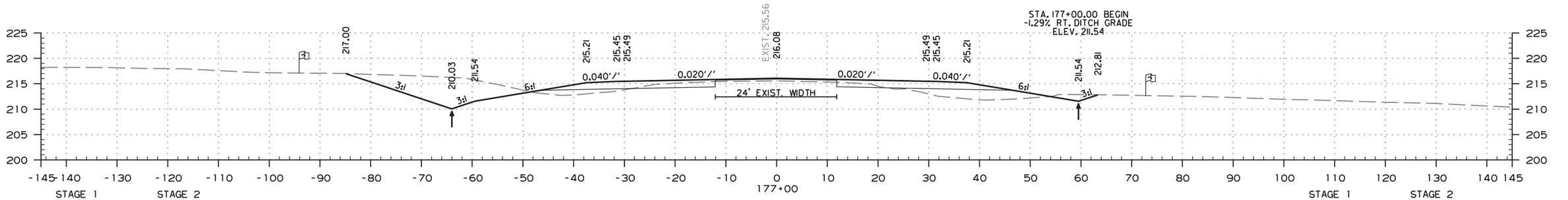
STAGE 1 AREA CUT 17 AREA FILL 110
STAGE 2 AREA CUT 26 AREA FILL 156

STAGE 1 CUT VOLUME 206 FILL VOLUME 274
STAGE 2 CUT VOLUME 57 FILL VOLUME 422



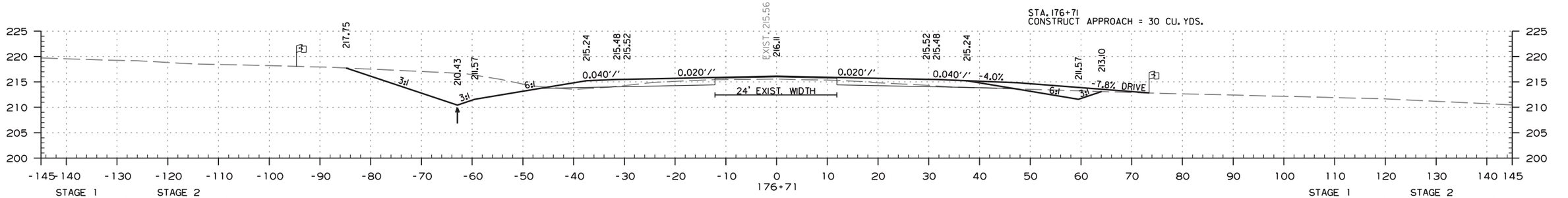
STAGE 1 AREA CUT 94 AREA FILL 38
STAGE 2 AREA CUT 5 AREA FILL 72

STAGE 1 CUT VOLUME 406 FILL VOLUME 96
STAGE 2 CUT VOLUME 33 FILL VOLUME 204



STAGE 1 AREA CUT 125 AREA FILL 14
STAGE 2 AREA CUT 13 AREA FILL 38

STAGE 1 CUT VOLUME 140 FILL VOLUME 9
STAGE 2 CUT VOLUME 20 FILL VOLUME 21



STAGE 1 AREA CUT 135 AREA FILL 2
STAGE 2 AREA CUT 25 AREA FILL 1

STAGE 1 CUT VOLUME 129 FILL VOLUME 1
STAGE 2 CUT VOLUME 23 FILL VOLUME 13

STA. 176+71.37 TO STA. 179+00

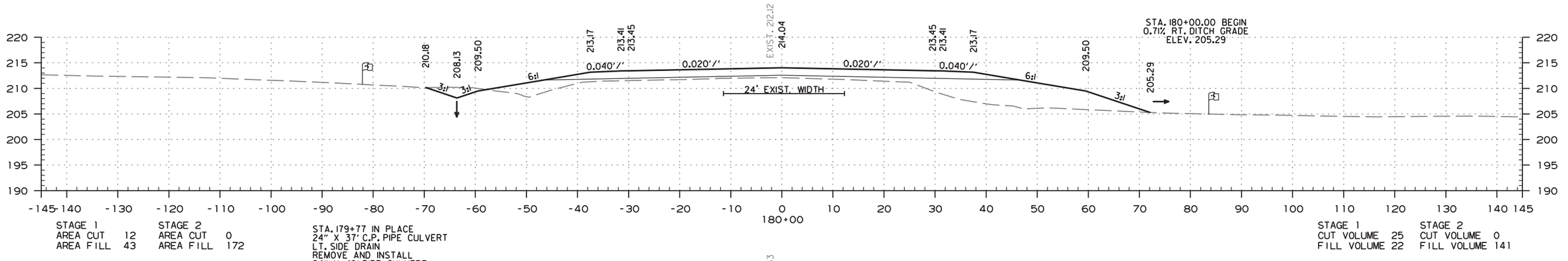
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	183	331

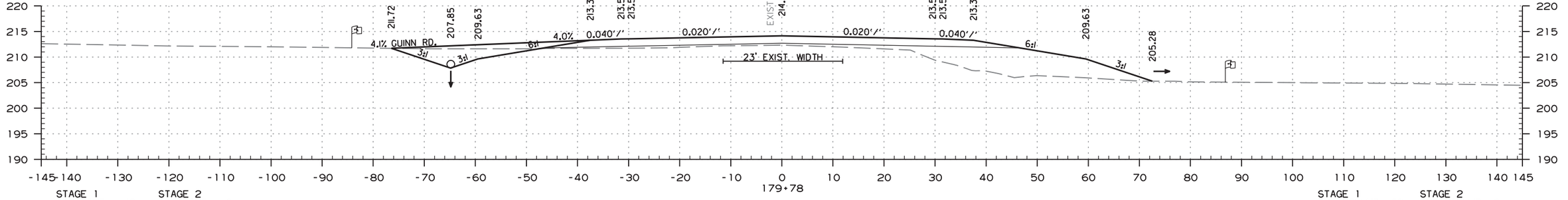
(2) CROSS SECTIONS



STAGE 1 AREA CUT 12 AREA FILL 43
STAGE 2 AREA CUT 0 AREA FILL 172

STAGE 1 CUT VOLUME 25 FILL VOLUME 22
STAGE 2 CUT VOLUME 0 FILL VOLUME 141

STA. 179+77 IN PLACE
24" X 37' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 105 CU. YDS.

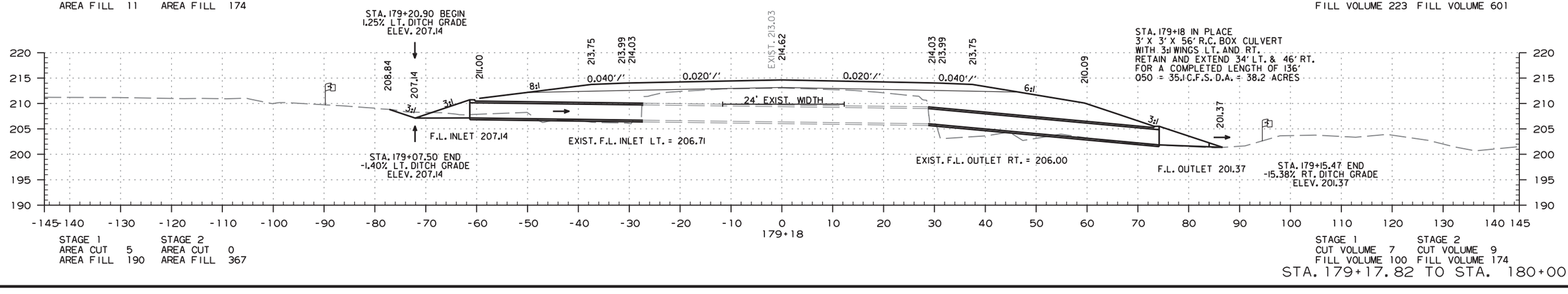


STAGE 1 AREA CUT 49 AREA FILL 11
STAGE 2 AREA CUT 0 AREA FILL 174

STAGE 1 CUT VOLUME 60 FILL VOLUME 223
STAGE 2 CUT VOLUME 0 FILL VOLUME 601

STA. 179+20.90 BEGIN
1.25% LT. DITCH GRADE
ELEV. 207.14

STA. 179+18 IN PLACE
3' X 3' X 56' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
RETAIN AND EXTEND 34' LT. & 46' RT.
FOR A COMPLETED LENGTH OF 136'
050 = 35.1 C.F.S. D.A. = 38.2 ACRES



STA. 179+07.50 END
-1.40% LT. DITCH GRADE
ELEV. 207.14

STA. 179+15.47 END
-15.38% RT. DITCH GRADE
ELEV. 201.37

STAGE 1 AREA CUT 5 AREA FILL 190
STAGE 2 AREA CUT 0 AREA FILL 367

STAGE 1 CUT VOLUME 7 FILL VOLUME 100
STAGE 2 CUT VOLUME 9 FILL VOLUME 174

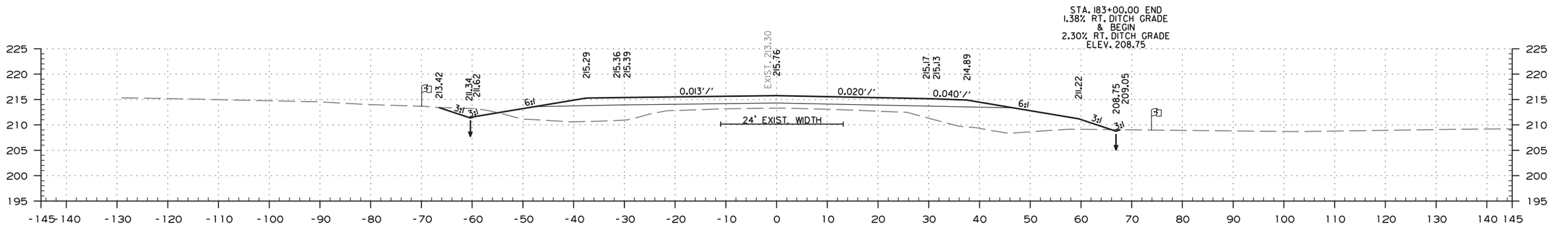
STA. 179+17.82 TO STA. 180+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	184	331

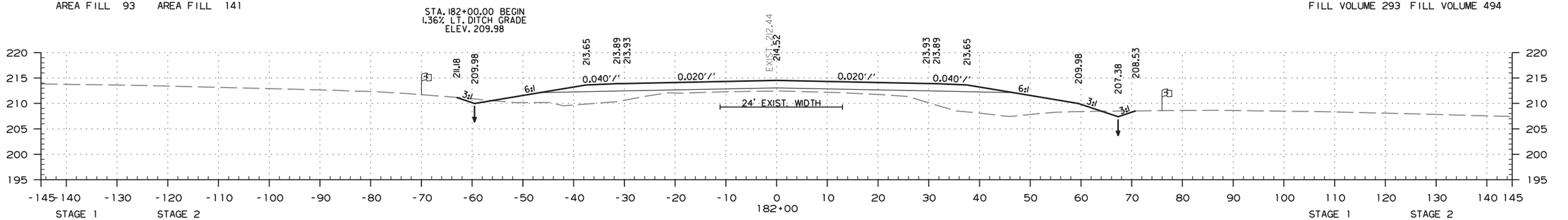
(2) CROSS SECTIONS



STAGE 1 AREA CUT 11 AREA FILL 93
STAGE 2 AREA CUT 1 AREA FILL 141

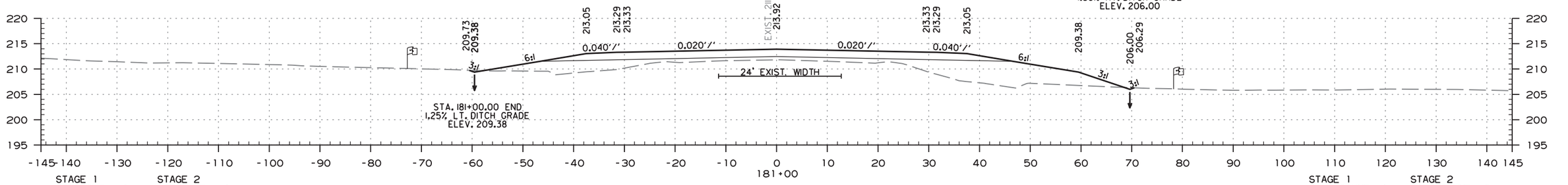
STA. 182+24.62 BEGIN SUPERELEVATION (N.C.)

STAGE 1 CUT VOLUME 26 FILL VOLUME 293
STAGE 2 CUT VOLUME 9 FILL VOLUME 494



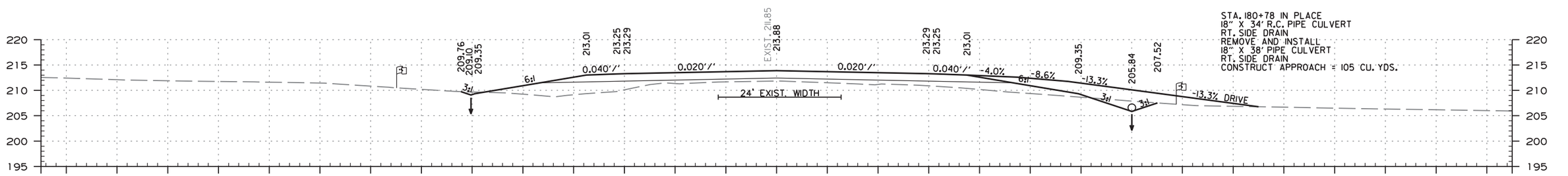
STAGE 1 AREA CUT 3 AREA FILL 65
STAGE 2 AREA CUT 4 AREA FILL 126

STAGE 1 CUT VOLUME 7 FILL VOLUME 239
STAGE 2 CUT VOLUME 9 FILL VOLUME 500



STAGE 1 AREA CUT 1 AREA FILL 64
STAGE 2 AREA CUT 1 AREA FILL 144

STAGE 1 CUT VOLUME 1 FILL VOLUME 53
STAGE 2 CUT VOLUME 6 FILL VOLUME 81



STAGE 1 AREA CUT 1 AREA FILL 67
STAGE 2 AREA CUT 13 AREA FILL 54

STAGE 1 CUT VOLUME 19 FILL VOLUME 159
STAGE 2 CUT VOLUME 19 FILL VOLUME 326

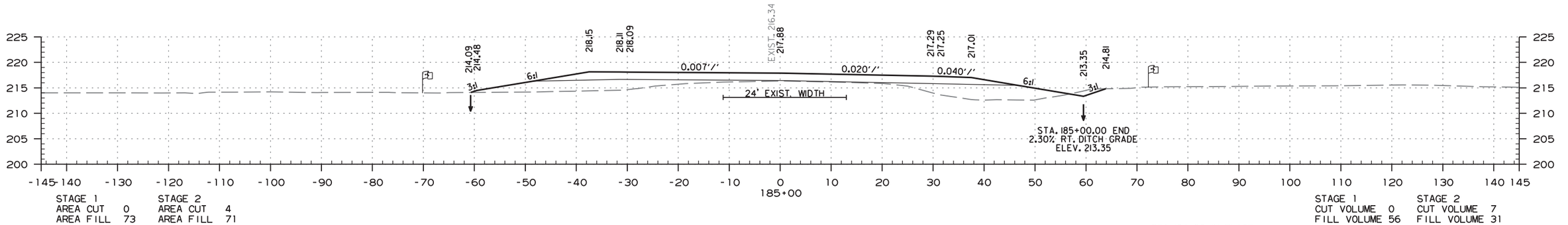
STA. 180+77.50 TO STA. 183+00

7/30/2020

RCA0706.DGN

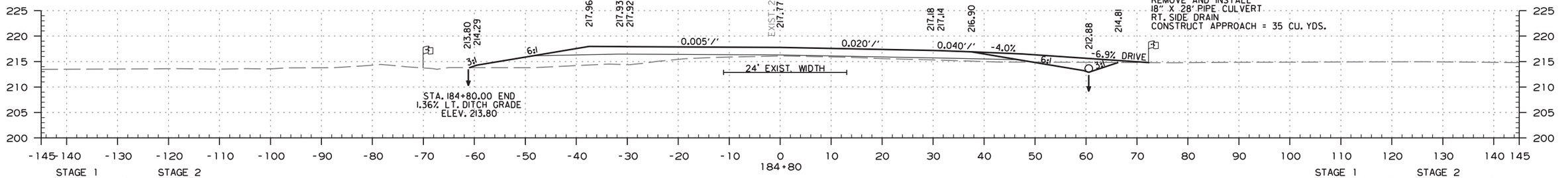
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	185	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 0 AREA FILL 73
STAGE 2 AREA CUT 4 AREA FILL 71

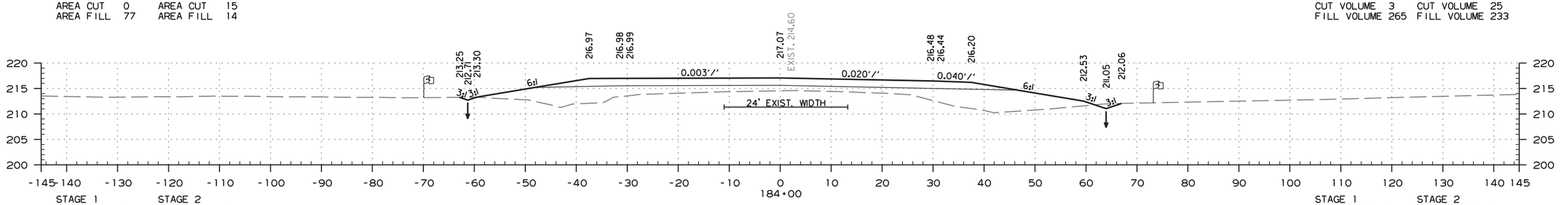
STAGE 1 CUT VOLUME 0 FILL VOLUME 56
STAGE 2 CUT VOLUME 7 FILL VOLUME 31



STA. 184+80 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STAGE 1 AREA CUT 0 AREA FILL 77
STAGE 2 AREA CUT 15 AREA FILL 14

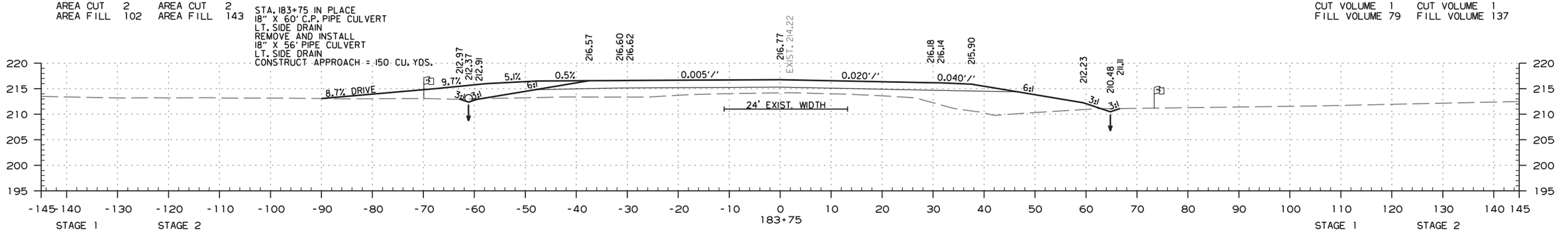
STAGE 1 CUT VOLUME 3 FILL VOLUME 265
STAGE 2 CUT VOLUME 25 FILL VOLUME 233



STAGE 1 AREA CUT 2 AREA FILL 102
STAGE 2 AREA CUT 2 AREA FILL 143

STA. 183+75 IN PLACE
18" X 60' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 56' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.

STAGE 1 CUT VOLUME 1 FILL VOLUME 79
STAGE 2 CUT VOLUME 1 FILL VOLUME 137



STAGE 1 AREA CUT 1 AREA FILL 69
STAGE 2 AREA CUT 1 AREA FILL 153

STAGE 1 CUT VOLUME 17 FILL VOLUME 225
STAGE 2 CUT VOLUME 3 FILL VOLUME 408

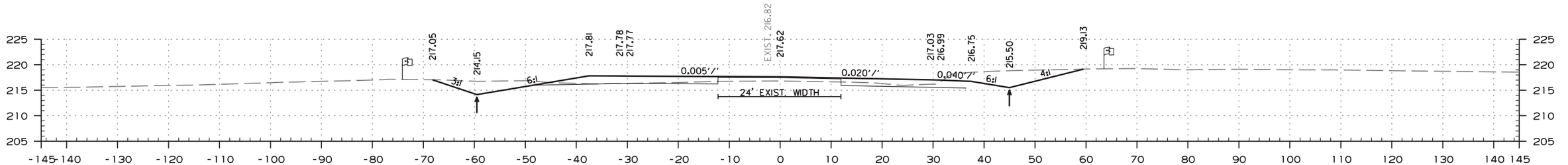
STA. 183+75 TO STA. 185+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	186	331

(2) CROSS SECTIONS



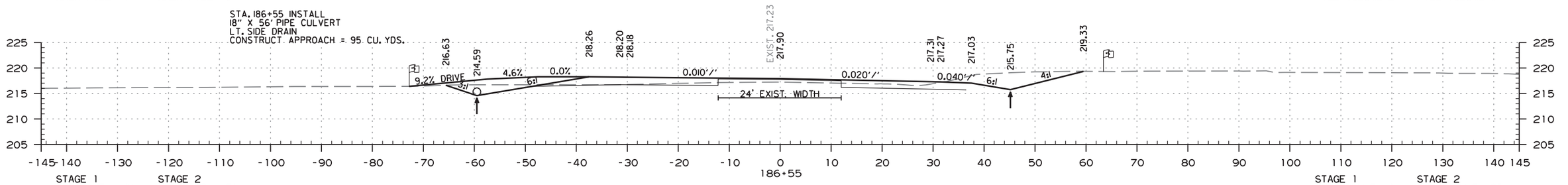
STAGE 1
AREA CUT 39
AREA FILL 1

STAGE 2
AREA CUT 69
AREA FILL 0

STAGE 1
CUT VOLUME 56
FILL VOLUME 2

STAGE 2
CUT VOLUME 117
FILL VOLUME 0

STA. 186+55 INSTALL
18" X 56' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.



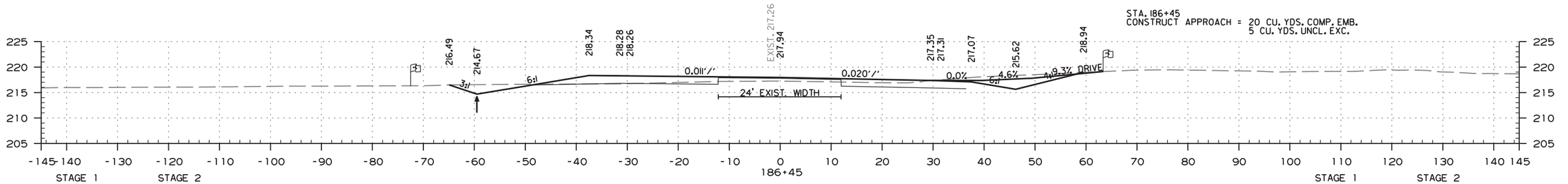
STAGE 1
AREA CUT 28
AREA FILL 1

STAGE 2
AREA CUT 71
AREA FILL 0

STAGE 1
CUT VOLUME 9
FILL VOLUME 0

STAGE 2
CUT VOLUME 25
FILL VOLUME 0

STA. 186+45
CONSTRUCT APPROACH = 20 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

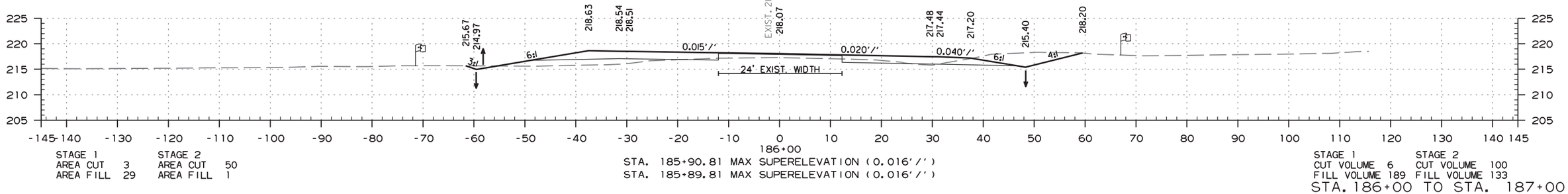


STAGE 1
AREA CUT 21
AREA FILL 1

STAGE 2
AREA CUT 64
AREA FILL 0

STAGE 1
CUT VOLUME 20
FILL VOLUME 25

STAGE 2
CUT VOLUME 95
FILL VOLUME 1



STAGE 1
AREA CUT 3
AREA FILL 29

STAGE 2
AREA CUT 50
AREA FILL 1

STA. 185+90.81 MAX SUPERELEVATION (0.016'/')
STA. 185+89.81 MAX SUPERELEVATION (0.016'/')

STAGE 1
CUT VOLUME 6
FILL VOLUME 189

STAGE 2
CUT VOLUME 100
FILL VOLUME 133

STA. 186+00 TO STA. 187+00

7/30/2020

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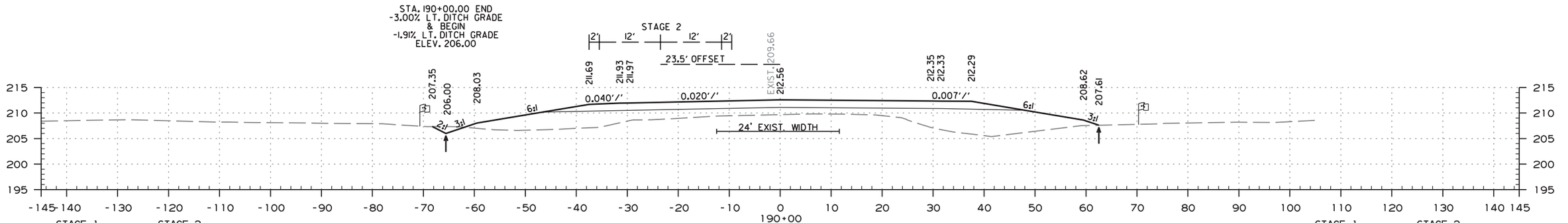
				6	ARK.			
				JOB NO.		CA0706	187	331

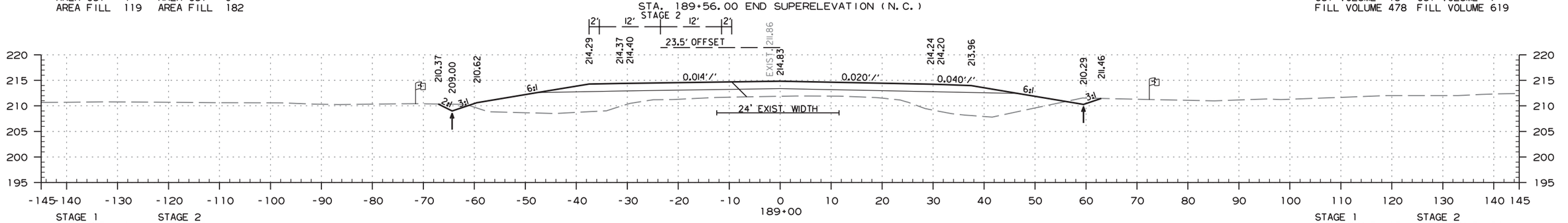
(2) CROSS SECTIONS



STAGE 1 AREA CUT 4 AREA FILL 119
STAGE 2 AREA CUT 0 AREA FILL 182

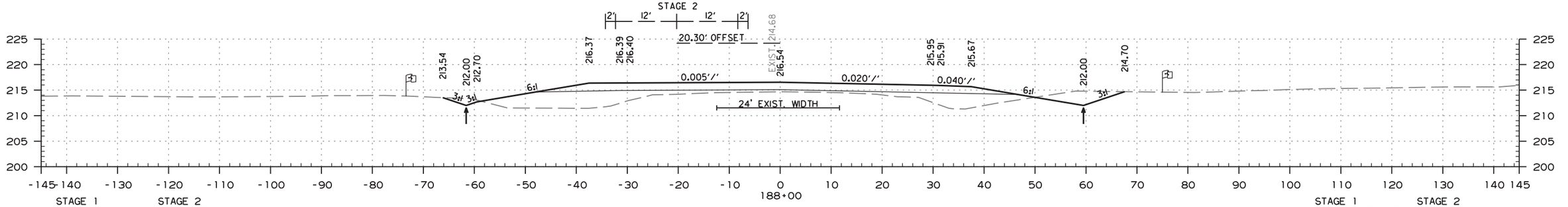
STAGE 1 CUT VOLUME 15 FILL VOLUME 478
STAGE 2 CUT VOLUME 7 FILL VOLUME 619

STA. 189+56.00 BEGIN SUPERELEVATION (N.C.)
STA. 189+56.00 END SUPERELEVATION (N.C.)



STAGE 1 AREA CUT 4 AREA FILL 139
STAGE 2 AREA CUT 4 AREA FILL 152

STAGE 1 CUT VOLUME 17 FILL VOLUME 430
STAGE 2 CUT VOLUME 56 FILL VOLUME 381

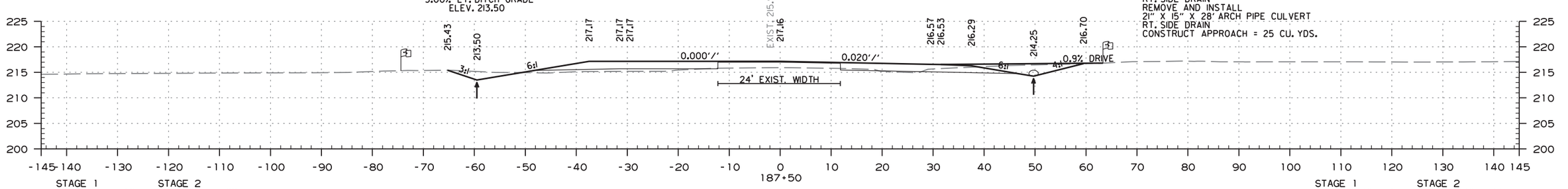


STAGE 1 AREA CUT 5 AREA FILL 93
STAGE 2 AREA CUT 26 AREA FILL 54

STAGE 1 CUT VOLUME 16 FILL VOLUME 100
STAGE 2 CUT VOLUME 59 FILL VOLUME 51

STA. 187+50.00 BEGIN
-3.00% LT. DITCH GRADE
ELEV. 213.50

STA. 187+50 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.



STAGE 1 AREA CUT 12 AREA FILL 15
STAGE 2 AREA CUT 38 AREA FILL 1

STAGE 1 CUT VOLUME 47 FILL VOLUME 15
STAGE 2 CUT VOLUME 99 FILL VOLUME 1

STA. 187+49.94 TO STA. 190+00

7/30/2020

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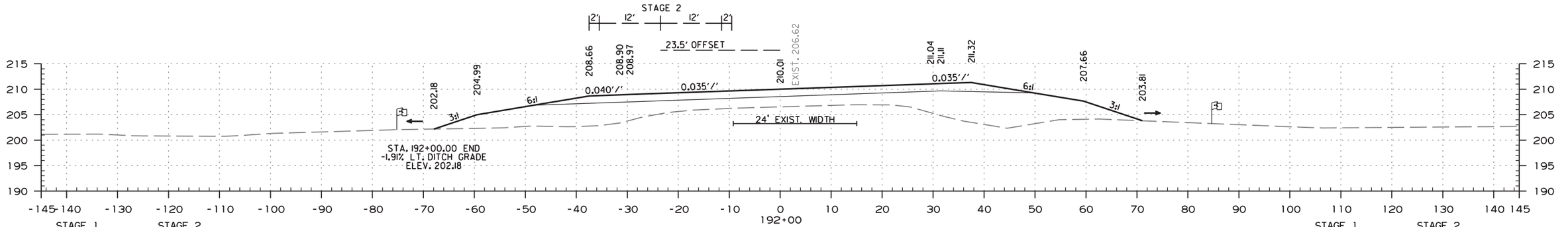
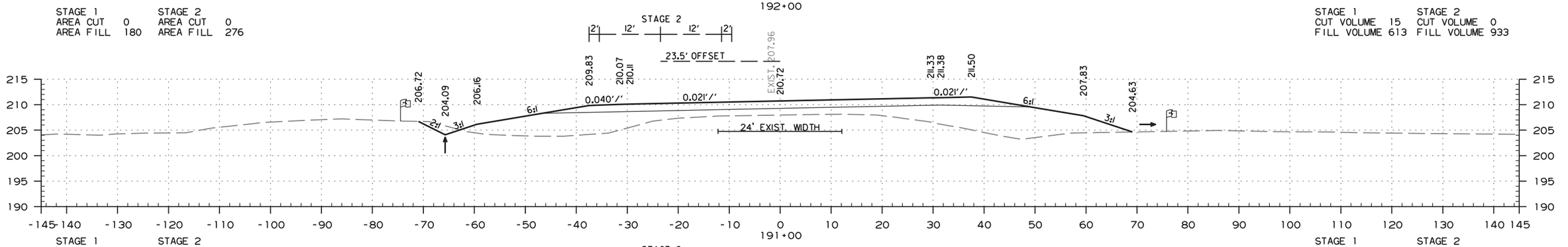
				6	ARK.			
				JOB NO.		CA0706	188	331

(2) CROSS SECTIONS



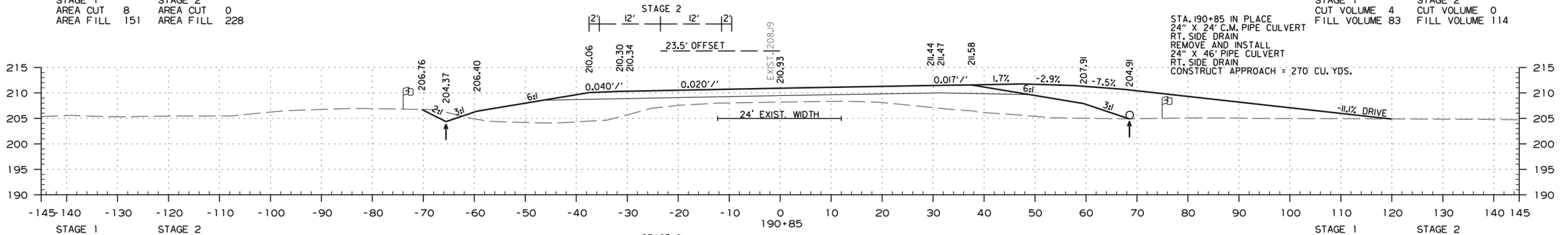
STAGE 1 AREA CUT 0 AREA FILL 180
STAGE 2 AREA CUT 0 AREA FILL 276

STAGE 1 CUT VOLUME 15 FILL VOLUME 613
STAGE 2 CUT VOLUME 0 FILL VOLUME 933



STAGE 1 AREA CUT 8 AREA FILL 151
STAGE 2 AREA CUT 0 AREA FILL 228

STAGE 1 CUT VOLUME 4 FILL VOLUME 83
STAGE 2 CUT VOLUME 0 FILL VOLUME 114

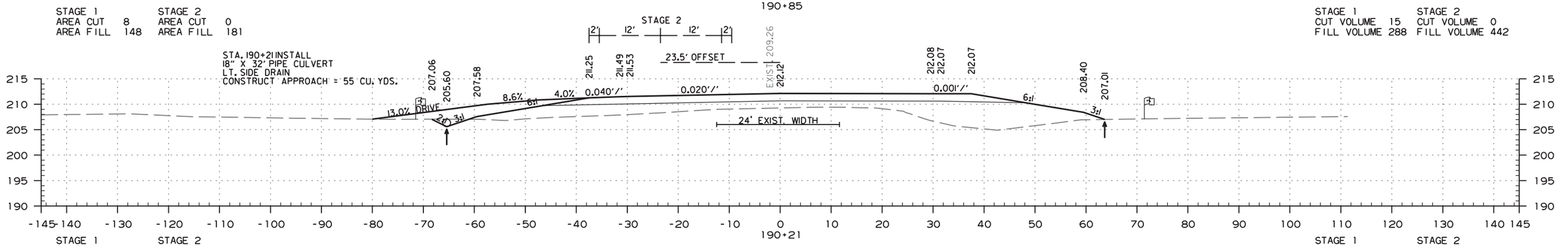


STA. 190+85 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 270 CU. YDS.

STAGE 1 AREA CUT 8 AREA FILL 148
STAGE 2 AREA CUT 0 AREA FILL 181

STAGE 1 CUT VOLUME 15 FILL VOLUME 288
STAGE 2 CUT VOLUME 0 FILL VOLUME 442

STA. 190+21 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.



STAGE 1 AREA CUT 5 AREA FILL 95
STAGE 2 AREA CUT 0 AREA FILL 192

STAGE 1 CUT VOLUME 4 FILL VOLUME 83
STAGE 2 CUT VOLUME 0 FILL VOLUME 145

STA. 190+20.75 TO STA. 192+00

7/30/2020

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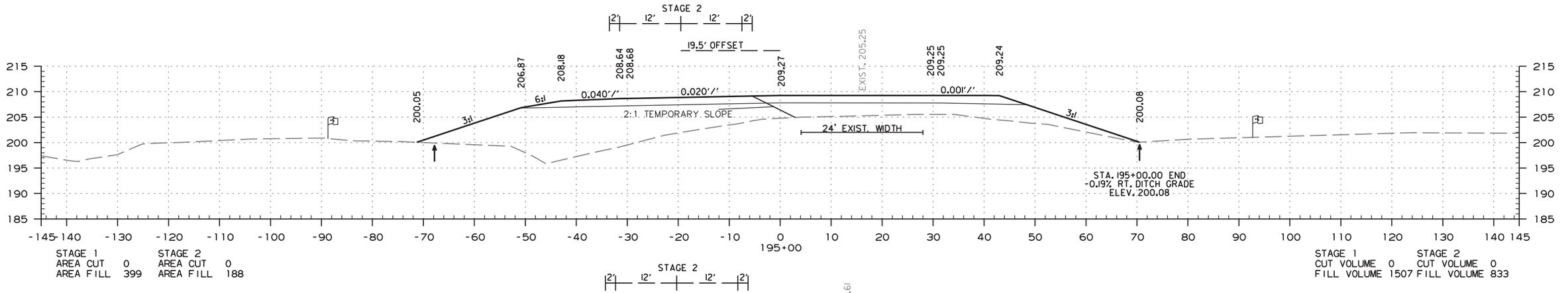
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	189	331

(2) CROSS SECTIONS



7/30/2020

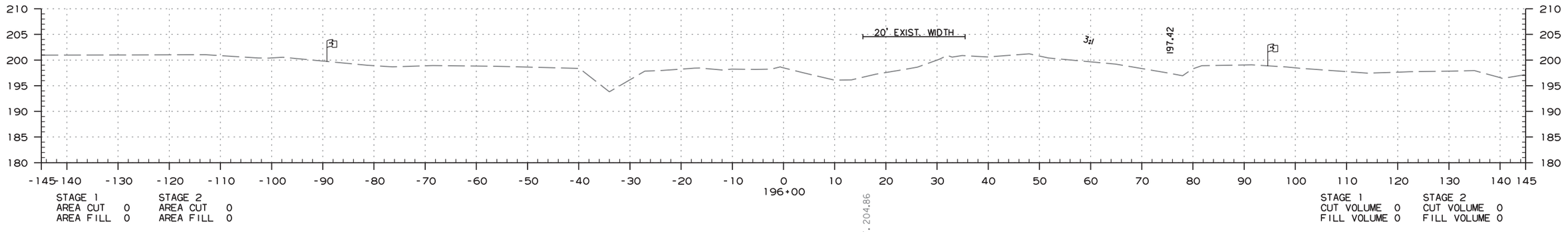
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	190	331

(2) CROSS SECTIONS

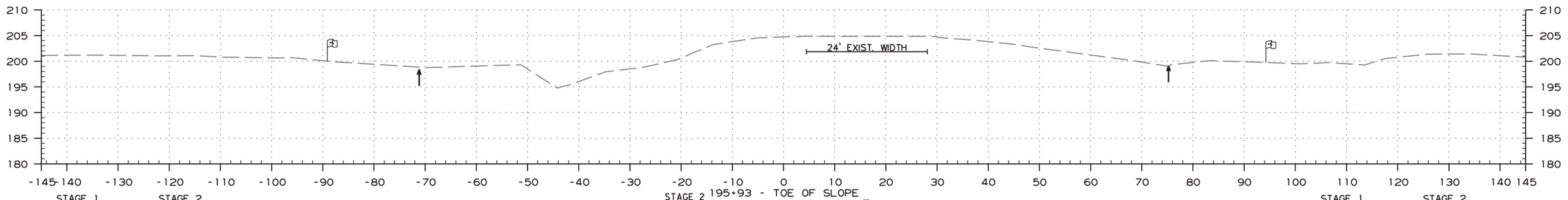
STA. 195+77.50 BRIDGE END
BRIDGE NO. 07410 OVER CORNIE BAYOU
100' CONTINUOUS COMPOSITE INTEGRAL W-BEAM UNIT
(30'-40'-30')
75'-0" CLEAR ROADWAY
101' - 0" BRIDGE LENGTH
STA. 196+78.50 BRIDGE END
050 = 1370 C.F.S. D.A. = 3.47 SQUARE MILES

STA. 195+92.25 TO STA. 196+66.58 - IN PLACE
BR. NO. 02605
75' X 28'-0" CLEAR ROADWAY WIDTH
REMOVAL OF EXISTING BRIDGE STRUCTURE
(SITE NO. 1) = 1.00 LUMP SUM



STAGE 1 AREA CUT 0 AREA FILL 0
STAGE 2 AREA CUT 0 AREA FILL 0

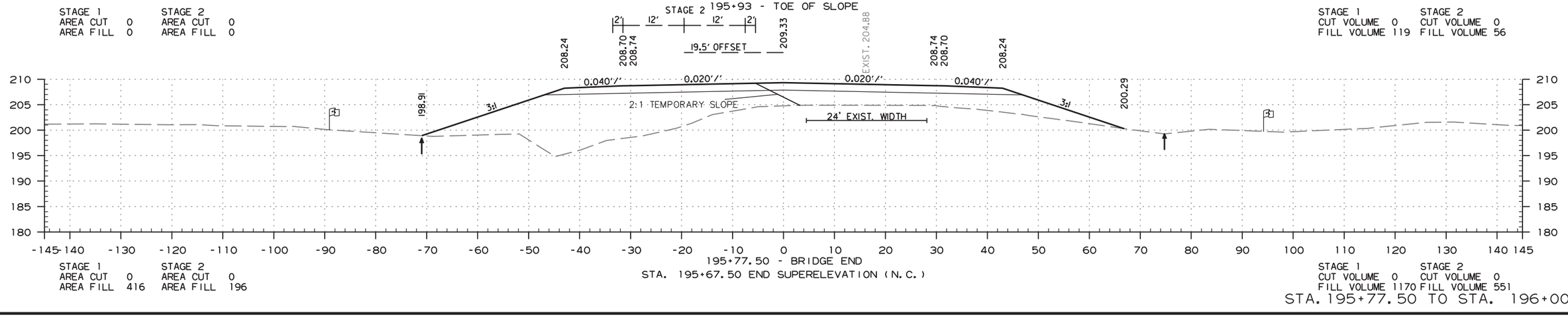
STAGE 1 CUT VOLUME 0 FILL VOLUME 0
STAGE 2 CUT VOLUME 0 FILL VOLUME 0



STAGE 1 AREA CUT 0 AREA FILL 0
STAGE 2 AREA CUT 0 AREA FILL 0

STAGE 1 CUT VOLUME 0 FILL VOLUME 119
STAGE 2 CUT VOLUME 0 FILL VOLUME 56

STAGE 2 195+93 - TOE OF SLOPE



STAGE 1 AREA CUT 0 AREA FILL 416
STAGE 2 AREA CUT 0 AREA FILL 196

195+77.50 - BRIDGE END
STA. 195+67.50 END SUPERELEVATION (N.C.)

STAGE 1 CUT VOLUME 0 FILL VOLUME 1170
STAGE 2 CUT VOLUME 0 FILL VOLUME 551

STA. 195+77.50 TO STA. 196+00

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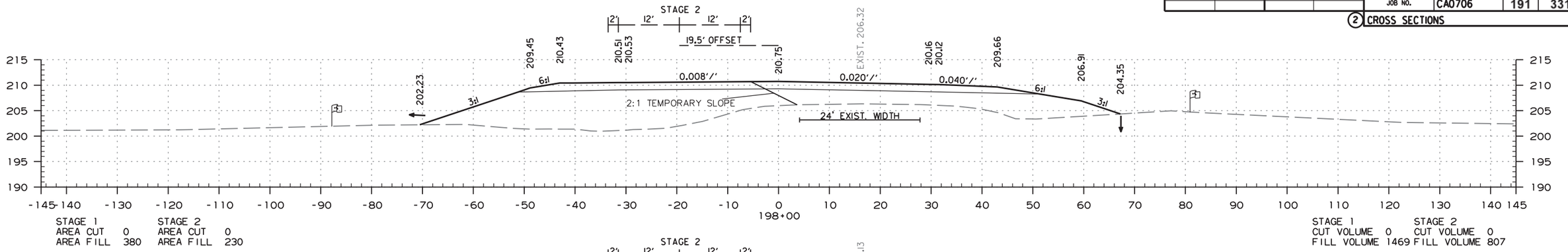
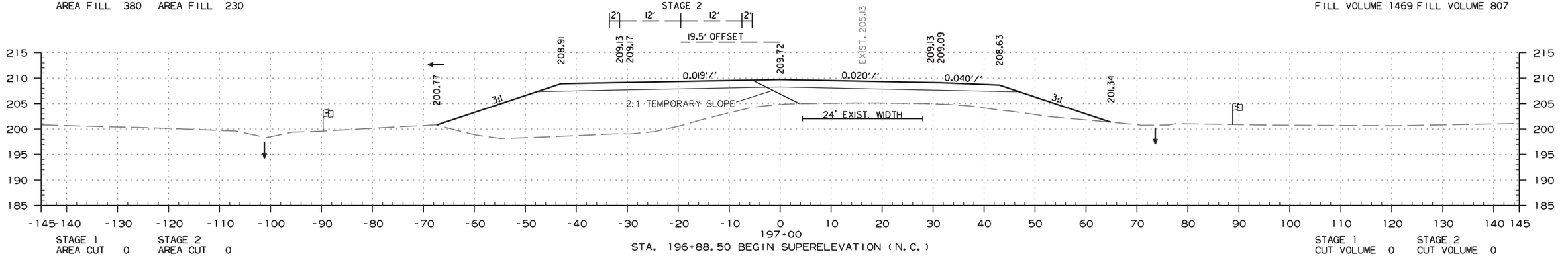
				6	ARK.			
				JOB NO.		CA0706	191	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 0 AREA FILL 380
STAGE 2 AREA CUT 0 AREA FILL 230

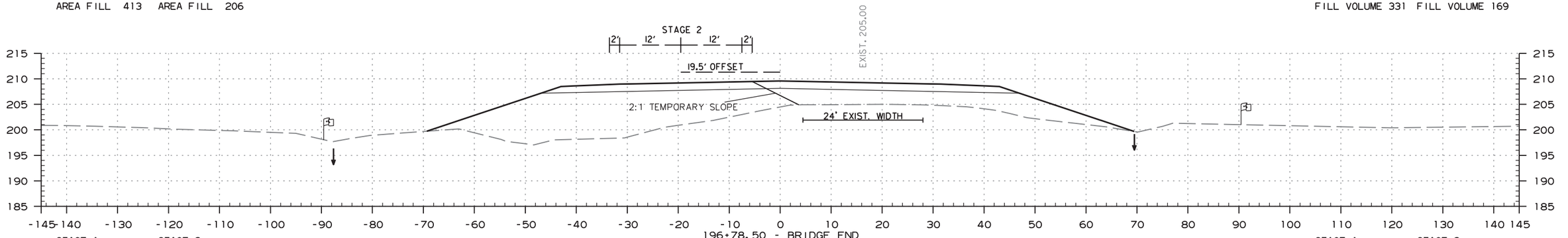
STAGE 1 CUT VOLUME 0 FILL VOLUME 1469
STAGE 2 CUT VOLUME 0 FILL VOLUME 807



STAGE 1 AREA CUT 0 AREA FILL 413
STAGE 2 AREA CUT 0 AREA FILL 206

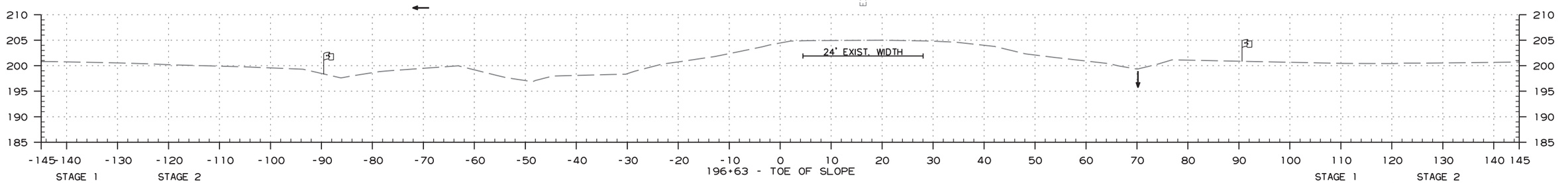
STAGE 1 CUT VOLUME 0 FILL VOLUME 331
STAGE 2 CUT VOLUME 0 FILL VOLUME 169

STA. 196+88.50 BEGIN SUPERELEVATION (N.C.)



STAGE 1 AREA CUT 0 AREA FILL 419
STAGE 2 AREA CUT 0 AREA FILL 219

STAGE 1 CUT VOLUME 0 FILL VOLUME 120
STAGE 2 CUT VOLUME 0 FILL VOLUME 10



STAGE 1 AREA CUT 0 AREA FILL 0
STAGE 2 AREA CUT 0 AREA FILL 0

STAGE 1 CUT VOLUME 0 FILL VOLUME 0
STAGE 2 CUT VOLUME 0 FILL VOLUME 0

STA. 196+76.10 TO STA. 198+00

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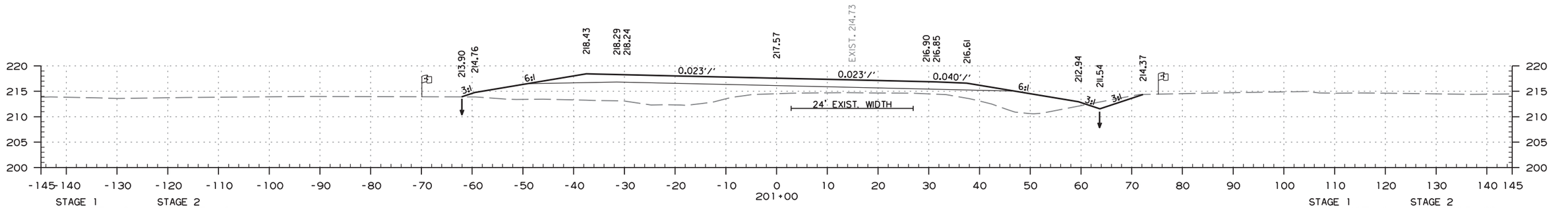
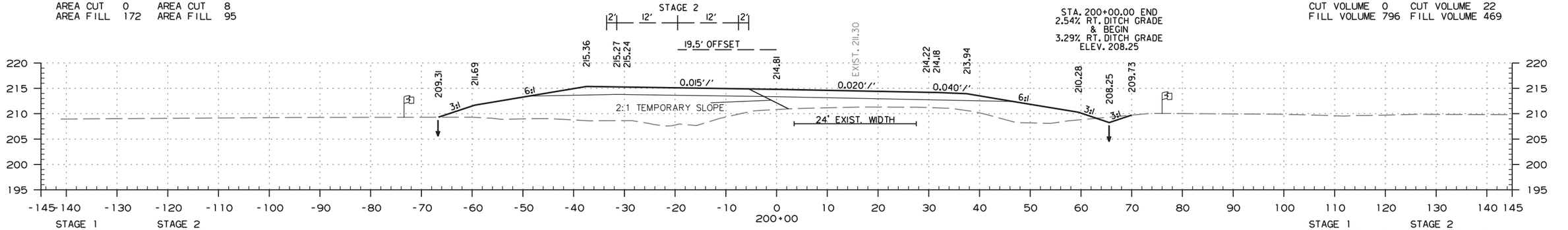
				6	ARK.			
				JOB NO.		CA0706	192	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 0 AREA FILL 172
STAGE 2 AREA CUT 8 AREA FILL 95

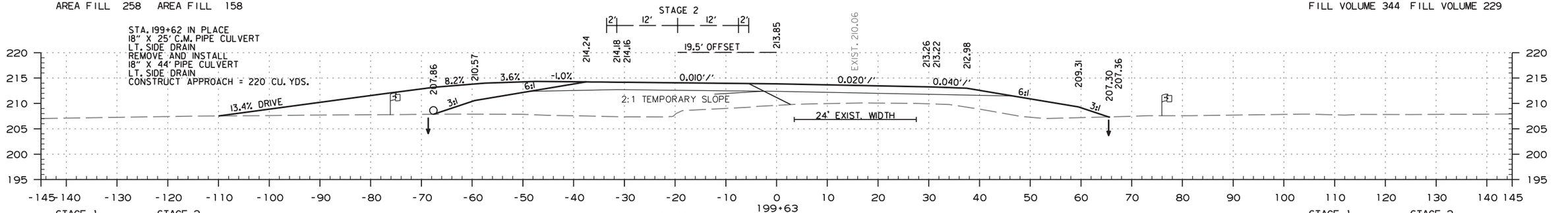
STAGE 1 CUT VOLUME 0 FILL VOLUME 796
STAGE 2 CUT VOLUME 22 FILL VOLUME 469



STA. 200+00.00 END
2.54% RT. DITCH GRADE
& BEGIN
3.29% RT. DITCH GRADE
ELEV. 208.25

STAGE 1 AREA CUT 0 AREA FILL 258
STAGE 2 AREA CUT 4 AREA FILL 158

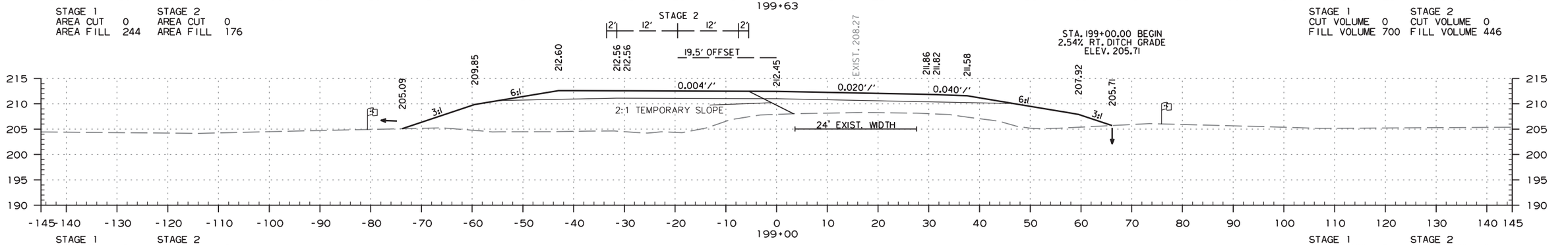
STAGE 1 CUT VOLUME 0 FILL VOLUME 344
STAGE 2 CUT VOLUME 3 FILL VOLUME 229



STA. 199+62 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 220 CU. YDS.

STAGE 1 AREA CUT 0 AREA FILL 244
STAGE 2 AREA CUT 0 AREA FILL 176

STAGE 1 CUT VOLUME 0 FILL VOLUME 700
STAGE 2 CUT VOLUME 0 FILL VOLUME 446



STA. 199+00.00 BEGIN
2.54% RT. DITCH GRADE
ELEV. 205.71

STAGE 1 AREA CUT 0 AREA FILL 356
STAGE 2 AREA CUT 0 AREA FILL 206

STAGE 1 CUT VOLUME 0 FILL VOLUME 1363
STAGE 2 CUT VOLUME 0 FILL VOLUME 807

STA. 199+00 TO STA. 201+00

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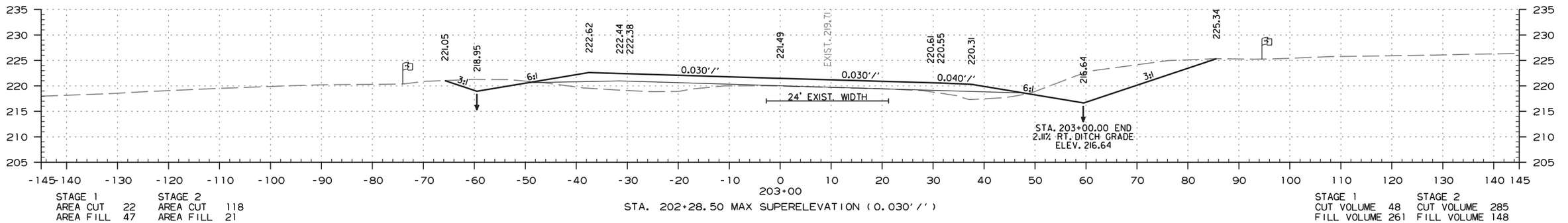
				6	ARK.			
				JOB NO.		CA0706	193	331

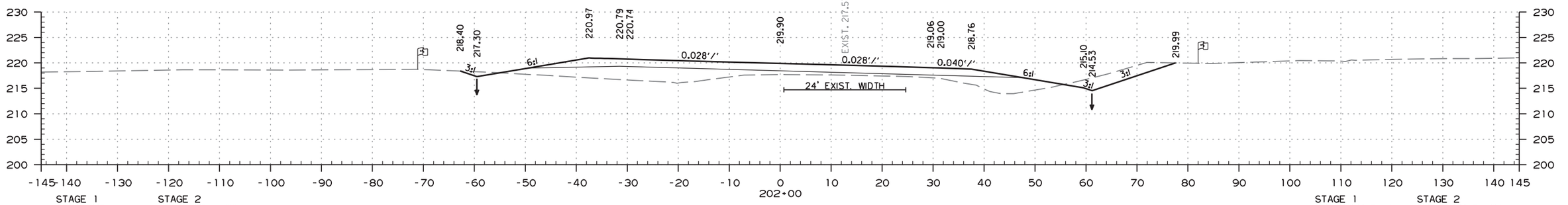
(2) CROSS SECTIONS



STAGE 1 AREA CUT 22 AREA FILL 47
STAGE 2 AREA CUT 118 AREA FILL 21

STA. 202+28.50 MAX SUPERELEVATION (0.030'/')

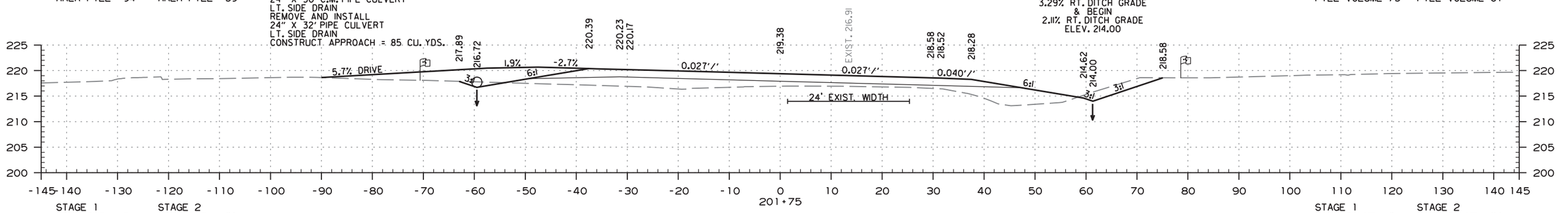
STAGE 1 CUT VOLUME 48 FILL VOLUME 261
STAGE 2 CUT VOLUME 285 FILL VOLUME 148



STAGE 1 AREA CUT 4 AREA FILL 94
STAGE 2 AREA CUT 36 AREA FILL 59

STA. 201+75 IN PLACE
24" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

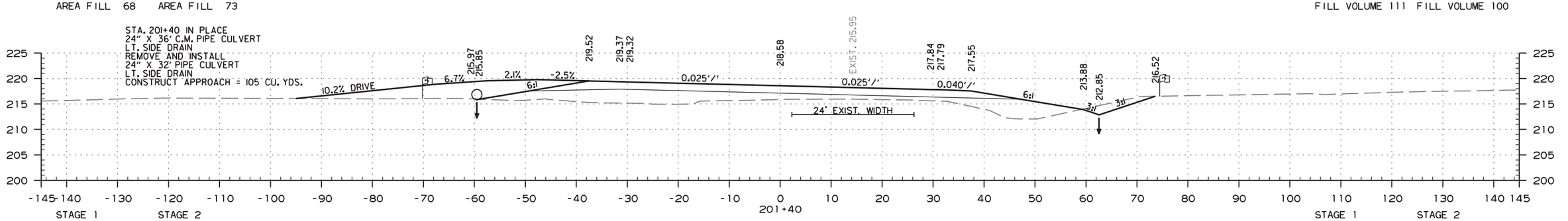
STAGE 1 CUT VOLUME 4 FILL VOLUME 75
STAGE 2 CUT VOLUME 26 FILL VOLUME 61



STAGE 1 AREA CUT 5 AREA FILL 68
STAGE 2 AREA CUT 21 AREA FILL 73

STAGE 1 CUT VOLUME 3 FILL VOLUME 111
STAGE 2 CUT VOLUME 24 FILL VOLUME 100

STA. 201+40 IN PLACE
24" X 36' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.



STAGE 1 AREA CUT 0 AREA FILL 103
STAGE 2 AREA CUT 16 AREA FILL 81

STAGE 1 CUT VOLUME 0 FILL VOLUME 204
STAGE 2 CUT VOLUME 18 FILL VOLUME 130

STA. 201+40 TO STA. 203+00

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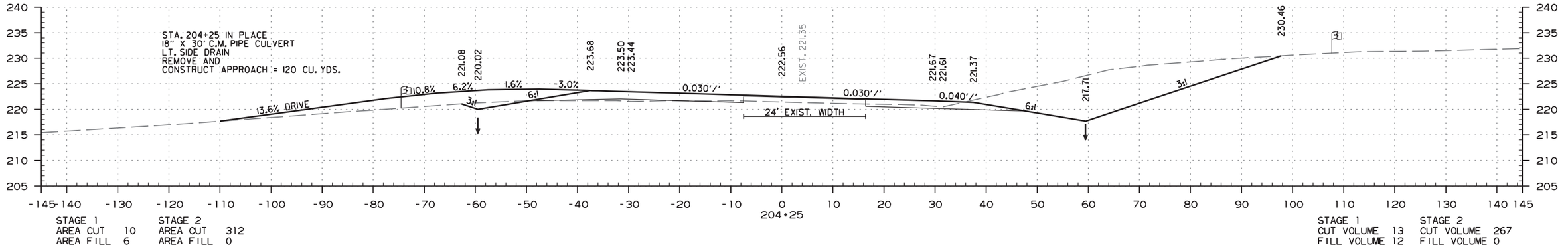
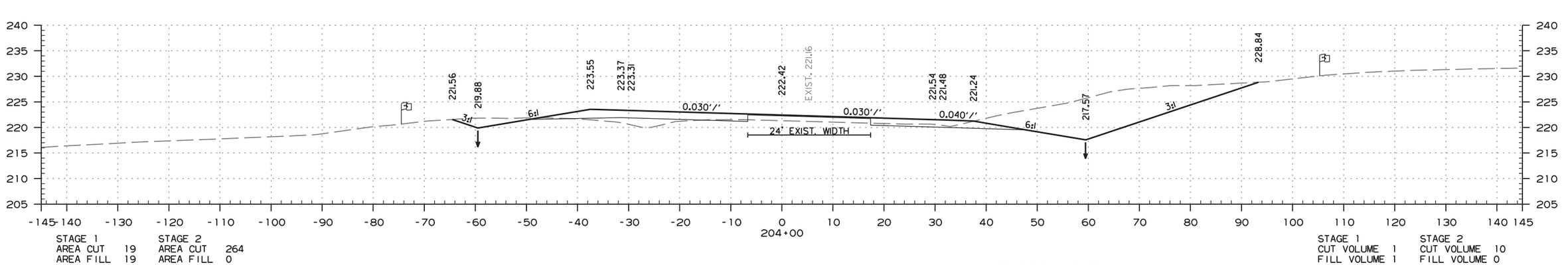
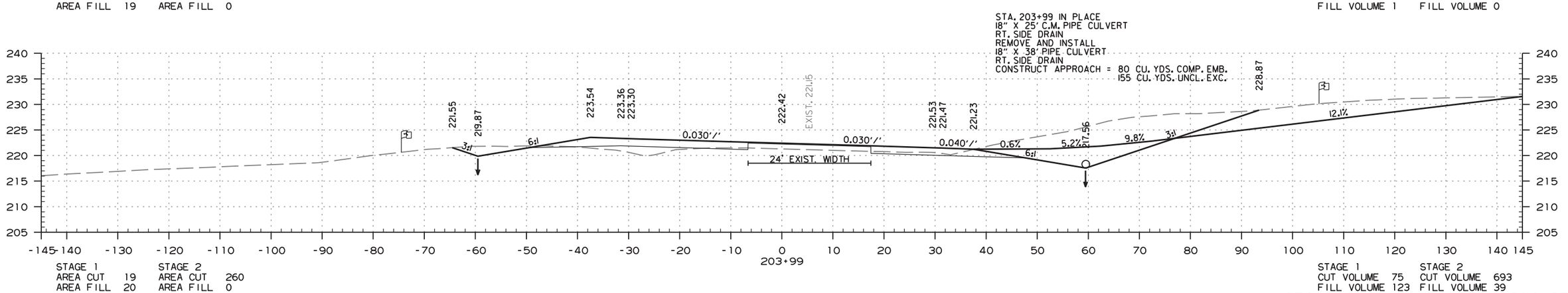
				6	ARK.			
				JOB NO.		CA0706	194	331

(2) CROSS SECTIONS







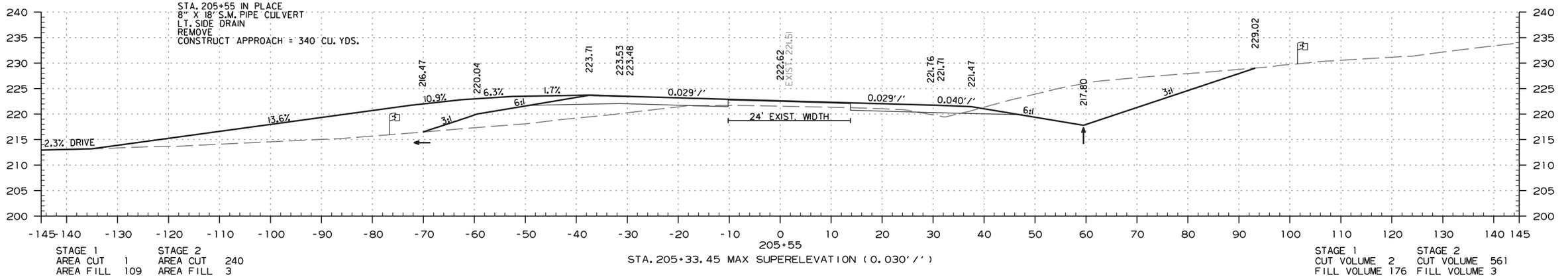
STA. 203+98.90 TO STA. 204+25

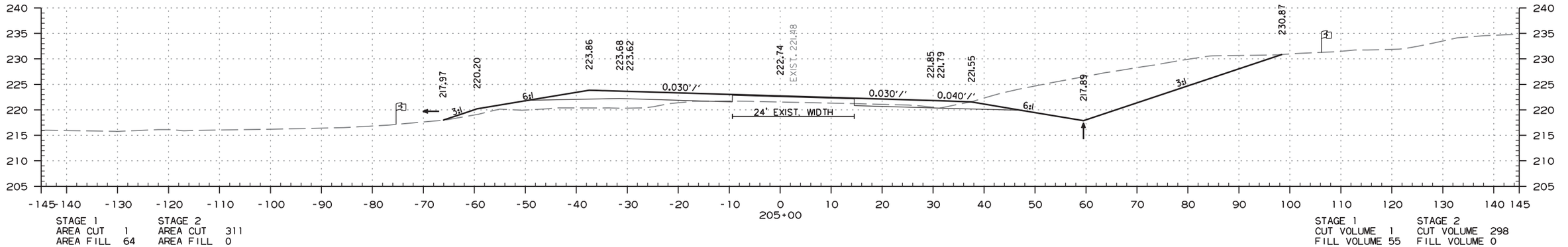
7/30/2020

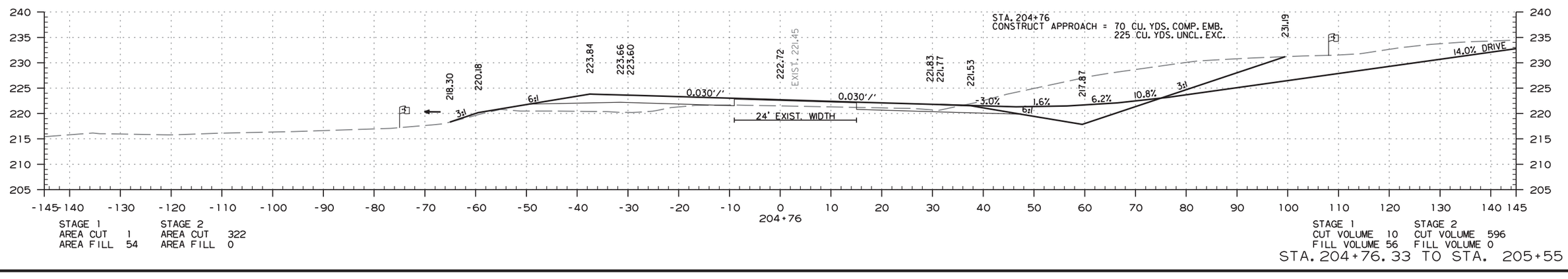
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	195	331

(2) CROSS SECTIONS







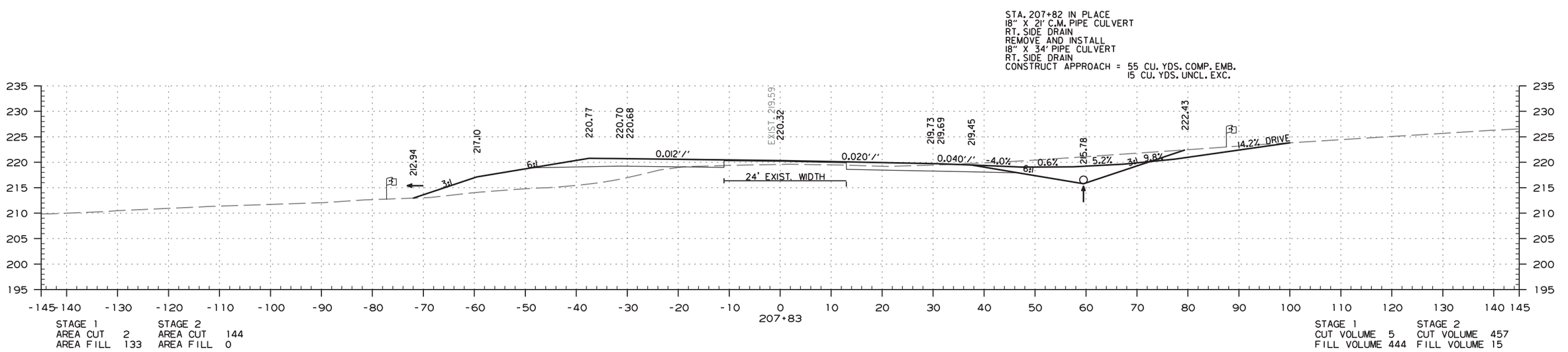
STA. 204+76.33 TO STA. 205+55

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	196	331

(2) CROSS SECTIONS



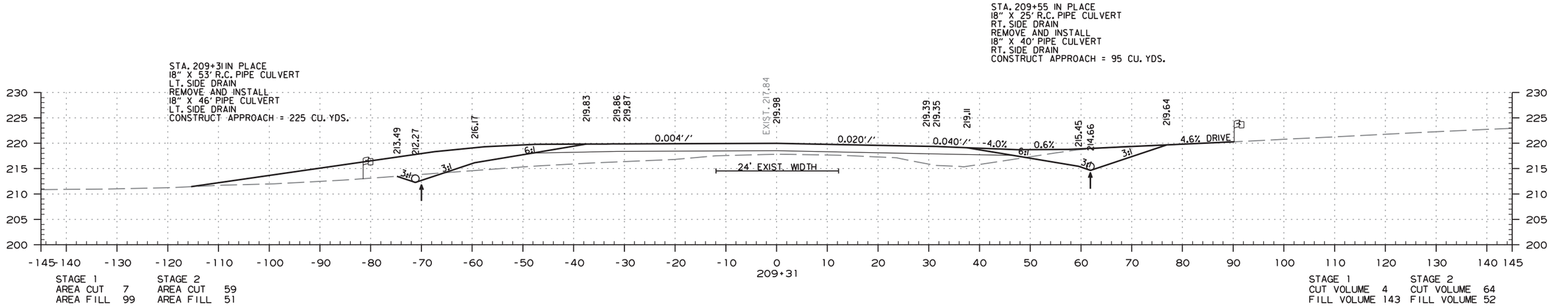
STA. 206+00 TO STA. 207+82.50

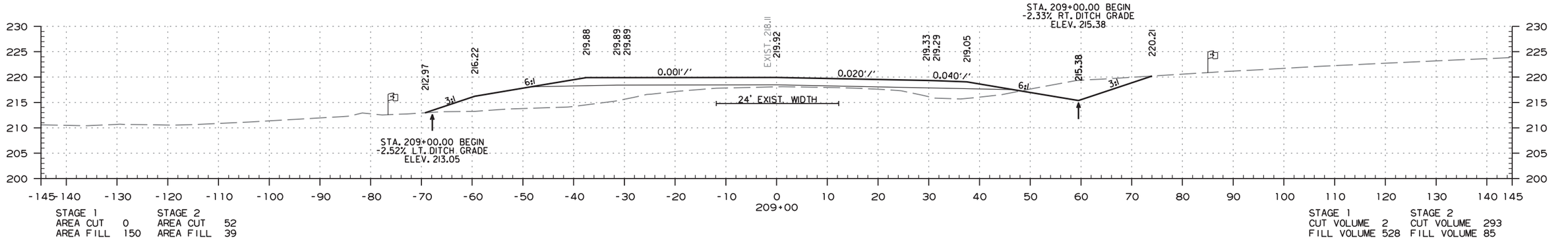
7/30/2020

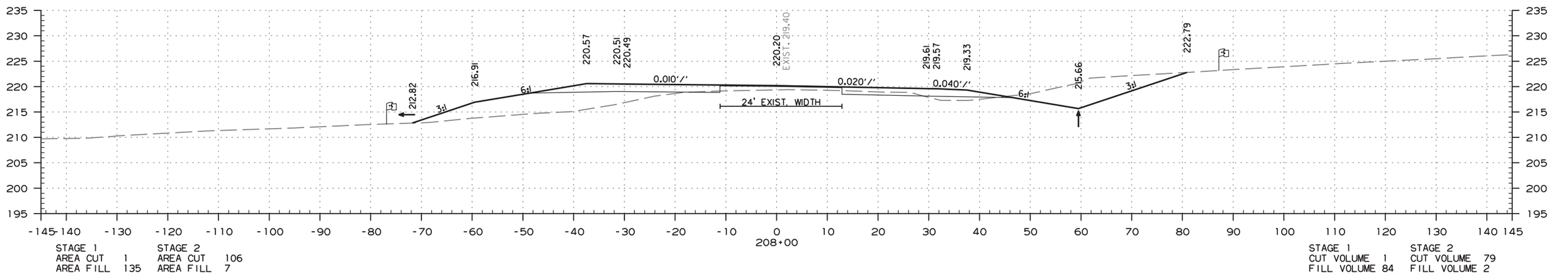
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	197	331

(2) CROSS SECTIONS







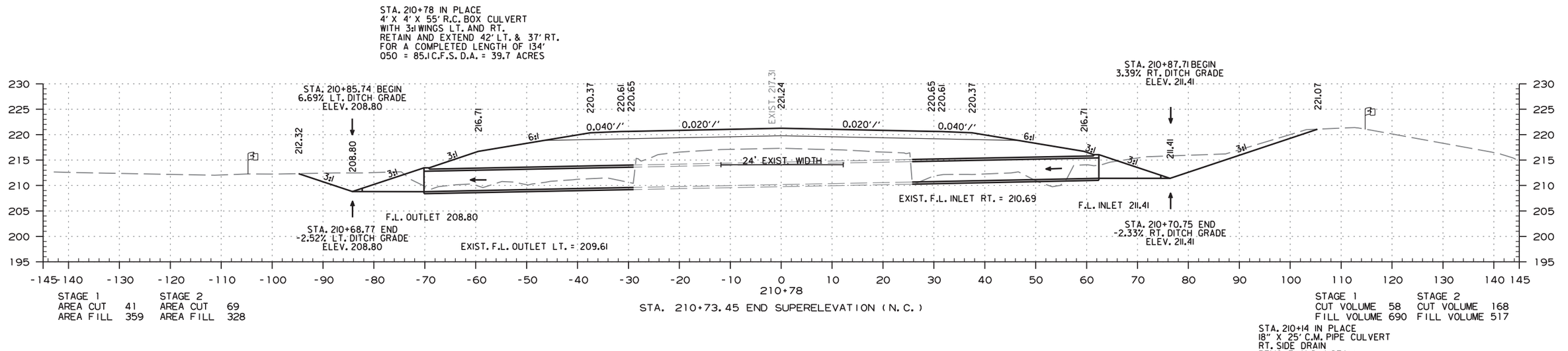
STA. 208+00 TO STA. 209+31.11

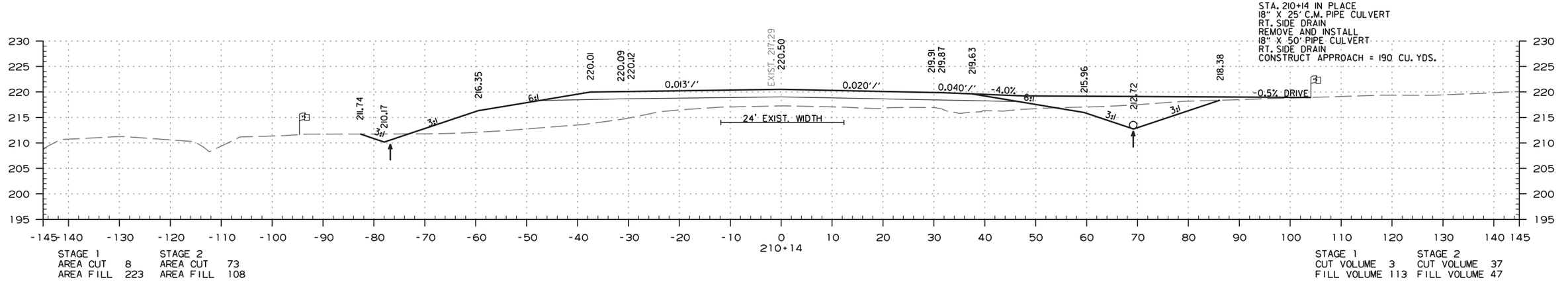
7/30/2020

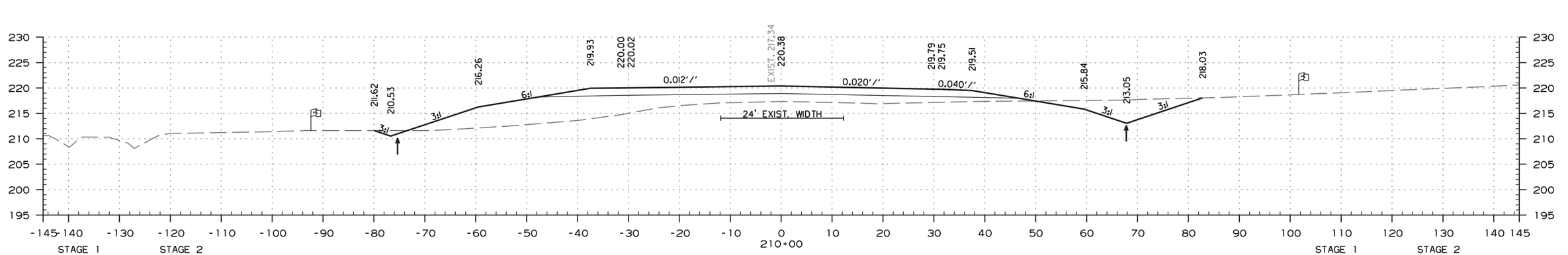
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	198	331

(2) CROSS SECTIONS







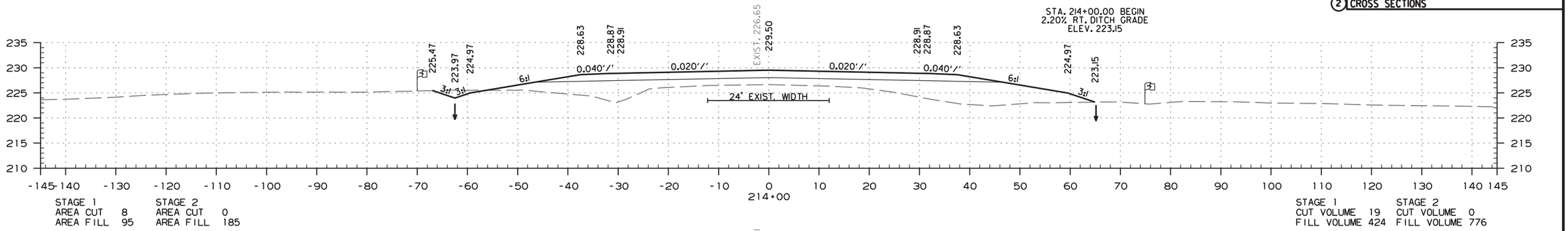
STA. 210+00 TO STA. 210+78.29

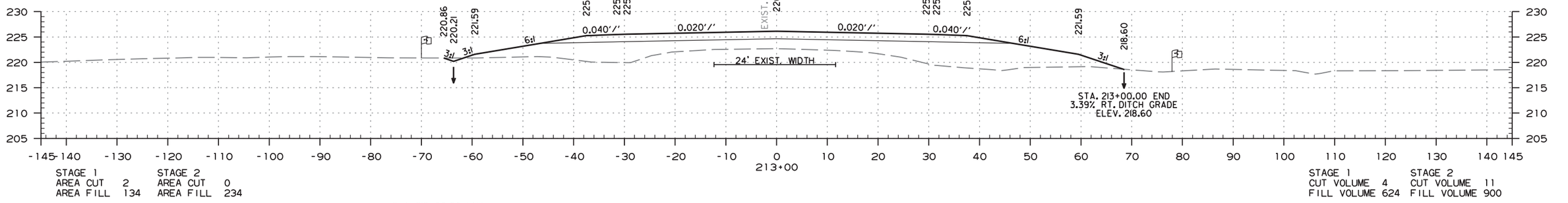
7/30/2020

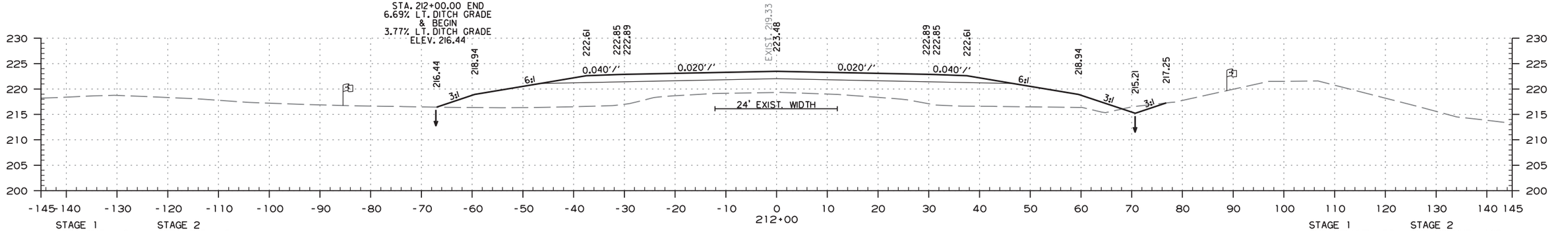
RCA0706.DGN

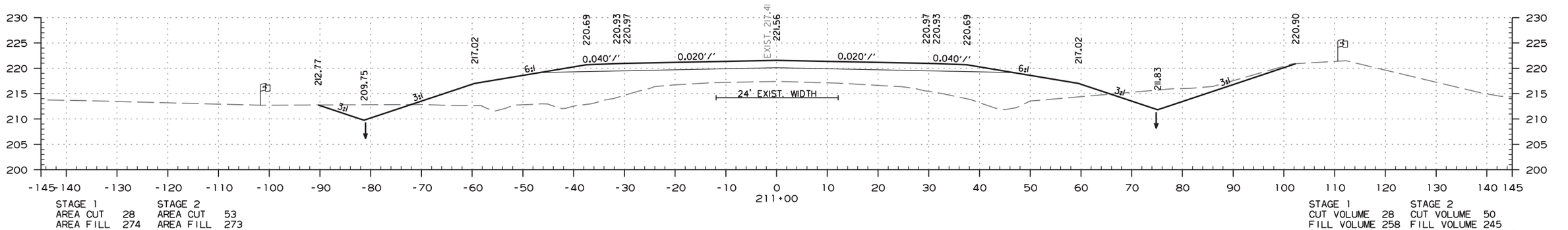
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	199	331

(2) CROSS SECTIONS









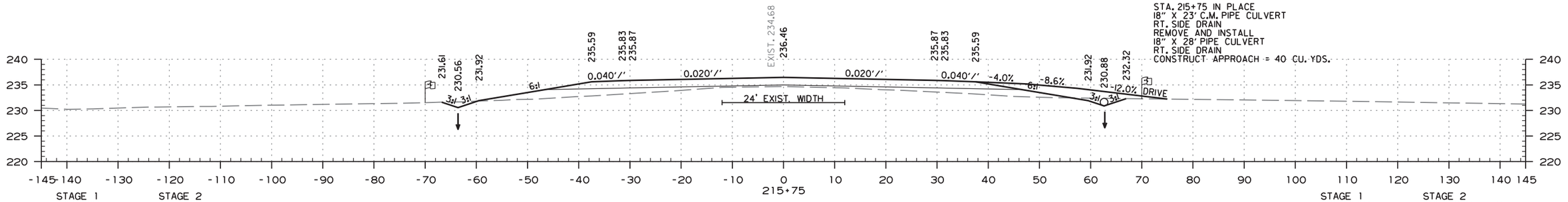
STA. 211+00 TO STA. 214+00

7/30/2020

RCA0706.DGN

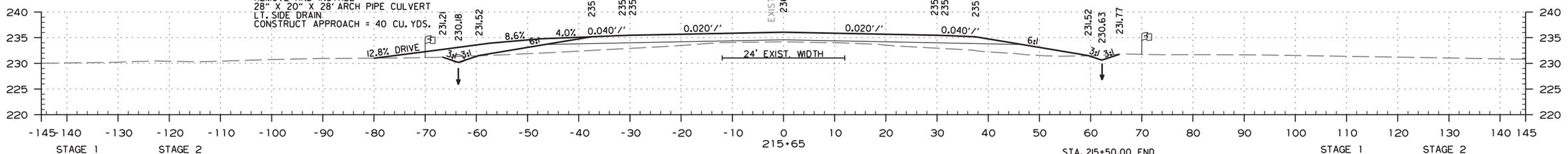
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	200	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 4 AREA FILL 48
STAGE 2 AREA CUT 7 AREA FILL 36

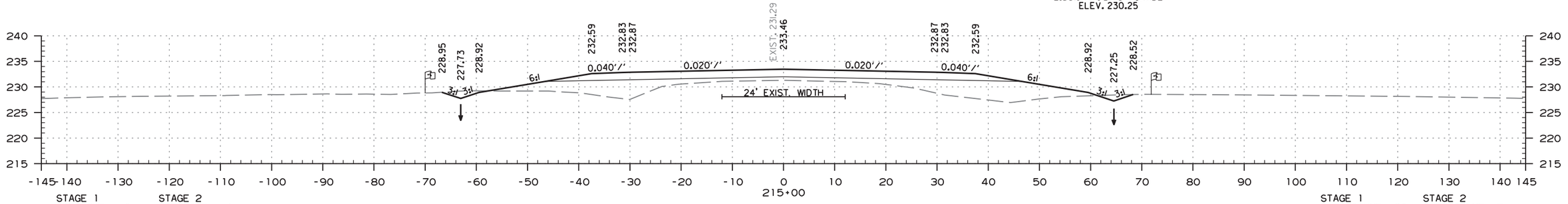
STAGE 1 CUT VOLUME 1 FILL VOLUME 18
STAGE 2 CUT VOLUME 2 FILL VOLUME 16



STAGE 1 AREA CUT 4 AREA FILL 47
STAGE 2 AREA CUT 3 AREA FILL 51

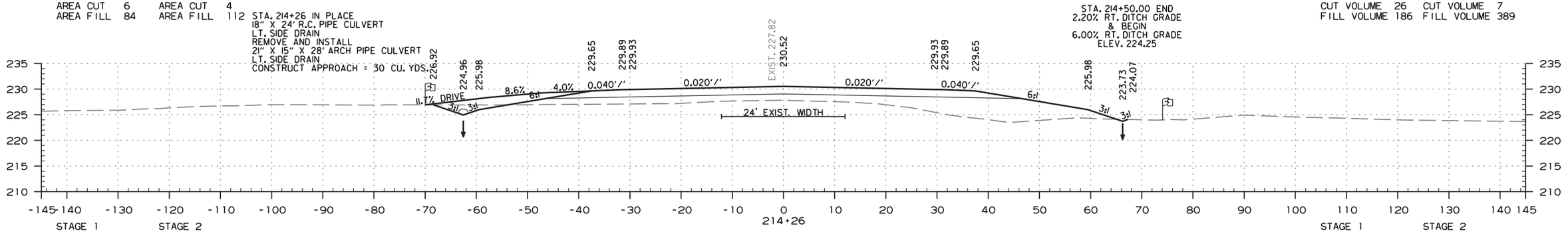
STA. 215+50.00 END
6.00% RT. DITCH GRADE
& BEGIN
2.50% RT. DITCH GRADE
ELEV. 230.25

STAGE 1 CUT VOLUME 12 FILL VOLUME 158
STAGE 2 CUT VOLUME 8 FILL VOLUME 196



STAGE 1 AREA CUT 6 AREA FILL 84
STAGE 2 AREA CUT 4 AREA FILL 112

STAGE 1 CUT VOLUME 26 FILL VOLUME 186
STAGE 2 CUT VOLUME 7 FILL VOLUME 389



STAGE 1 AREA CUT 13 AREA FILL 52
STAGE 2 AREA CUT 1 AREA FILL 172

STA. 214+50.00 END
2.20% RT. DITCH GRADE
& BEGIN
6.00% RT. DITCH GRADE
ELEV. 224.25

STAGE 1 CUT VOLUME 10 FILL VOLUME 71
STAGE 2 CUT VOLUME 0 FILL VOLUME 172

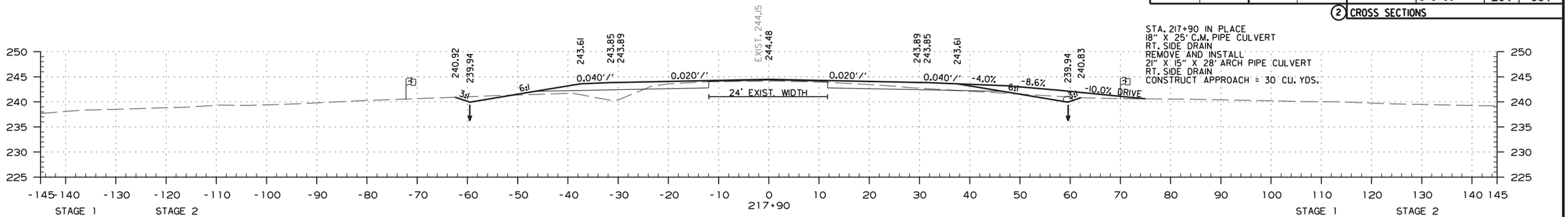
STA. 214+26.40 TO STA. 215+75

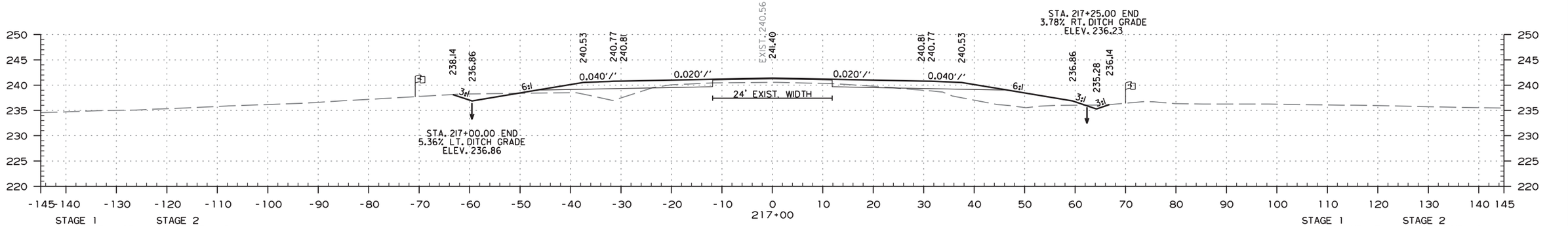
7/30/2020

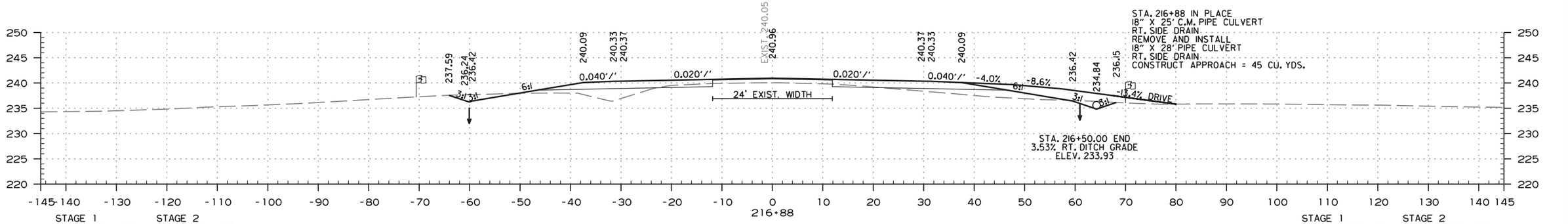
RCA0706.DGN

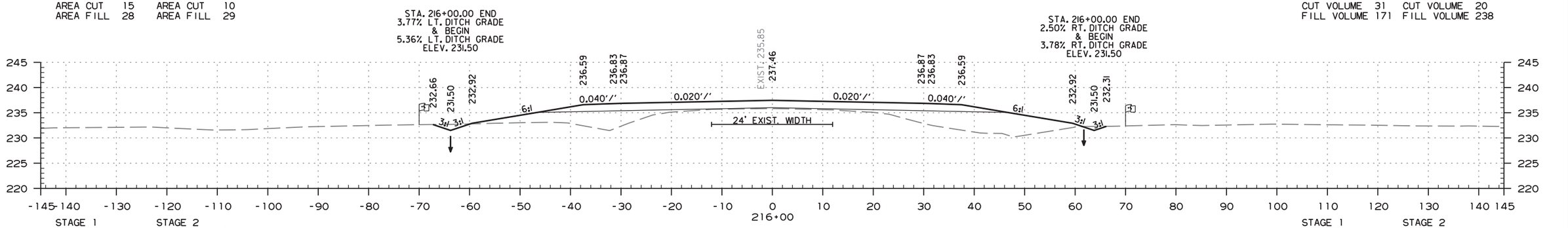
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	201	331

(2) CROSS SECTIONS









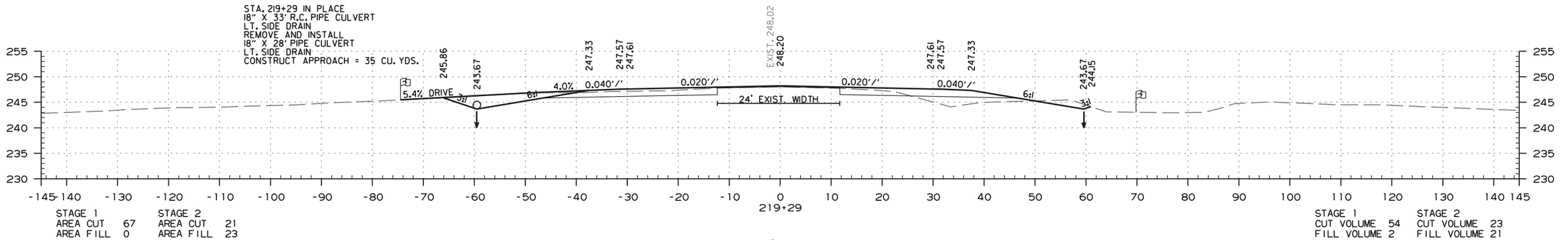
STA. 216+00 TO STA. 217+90

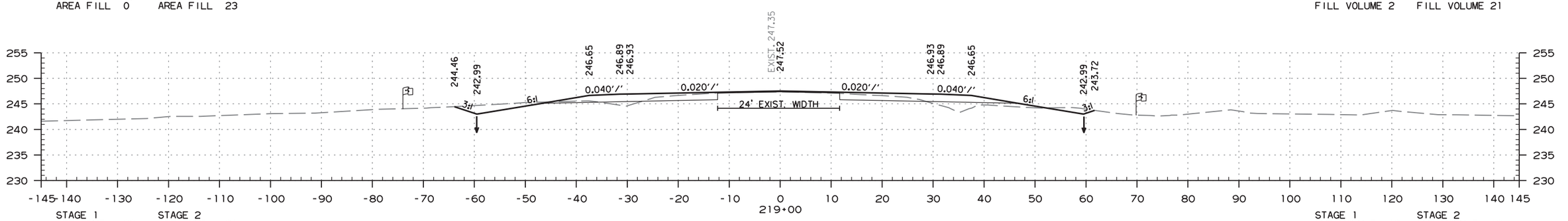
7/30/2020

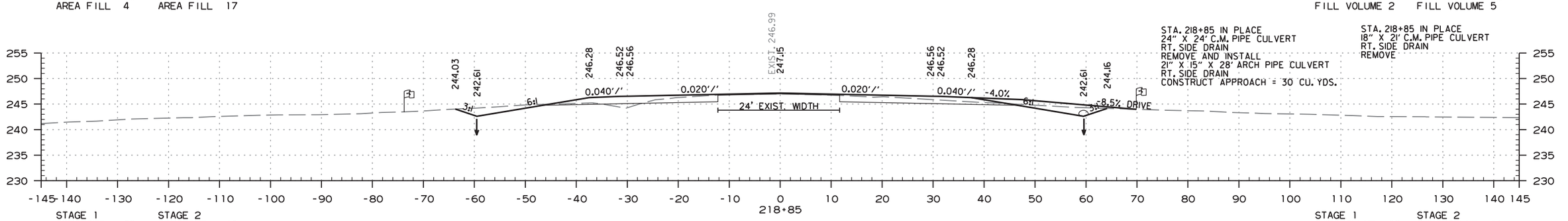
RCA0706.DGN

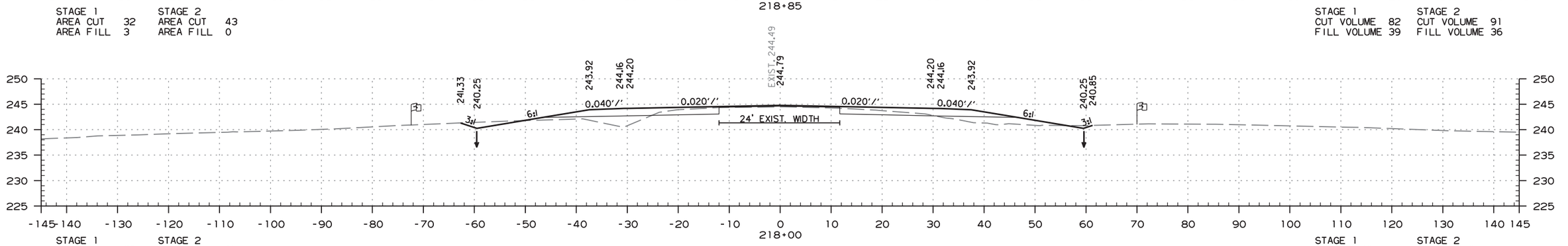
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	202	331

(2) CROSS SECTIONS









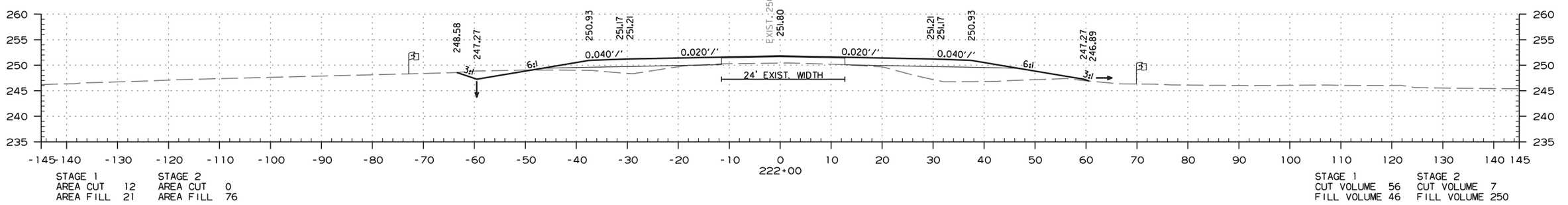
STA. 218+00 TO STA. 219+29.49

7/30/2020

RCA0706.DGN

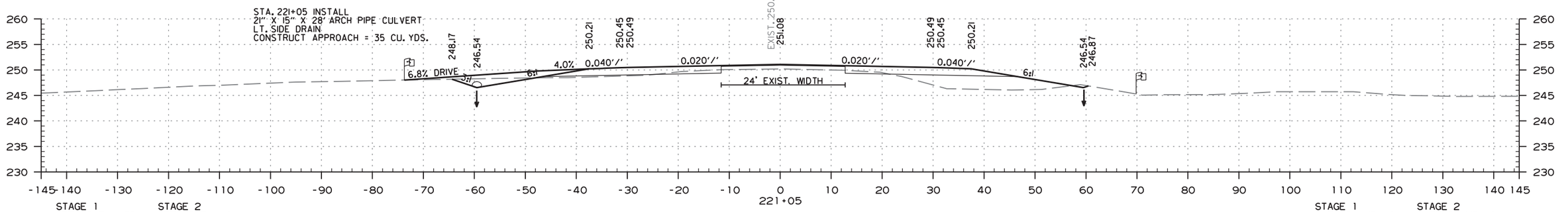
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	203	331

(2) CROSS SECTIONS



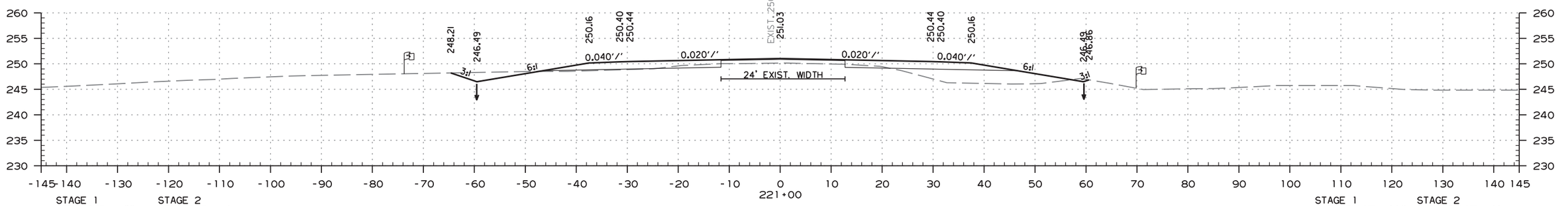
STAGE 1 AREA CUT 12 AREA FILL 21
STAGE 2 AREA CUT 0 AREA FILL 76

STAGE 1 CUT VOLUME 56 FILL VOLUME 46
STAGE 2 CUT VOLUME 7 FILL VOLUME 250



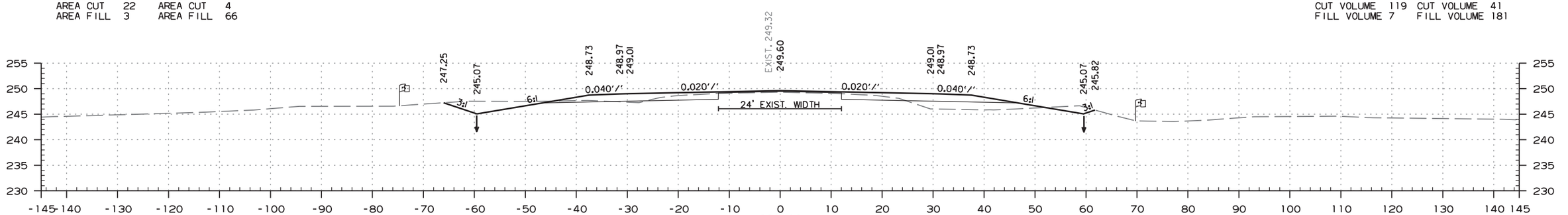
STAGE 1 AREA CUT 20 AREA FILL 5
STAGE 2 AREA CUT 4 AREA FILL 66

STAGE 1 CUT VOLUME 4 FILL VOLUME 1
STAGE 2 CUT VOLUME 1 FILL VOLUME 12



STAGE 1 AREA CUT 22 AREA FILL 3
STAGE 2 AREA CUT 4 AREA FILL 66

STAGE 1 CUT VOLUME 119 FILL VOLUME 7
STAGE 2 CUT VOLUME 41 FILL VOLUME 181



STAGE 1 AREA CUT 42 AREA FILL 1
STAGE 2 AREA CUT 18 AREA FILL 32

STAGE 1 CUT VOLUME 143 FILL VOLUME 1
STAGE 2 CUT VOLUME 51 FILL VOLUME 72

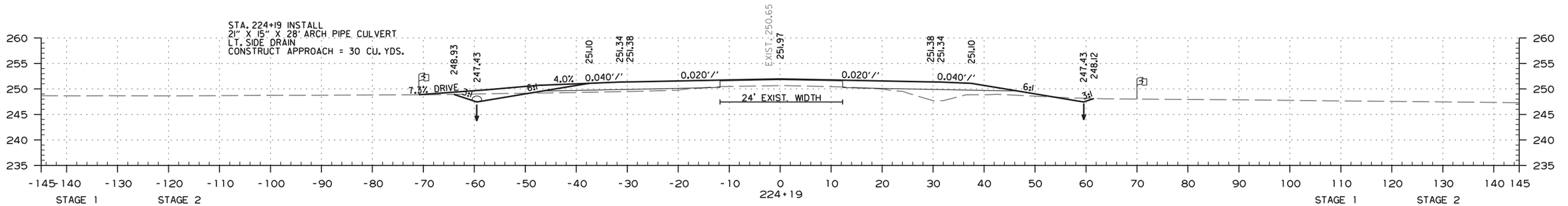
STA. 220+00 TO STA. 222+00

7/30/2020

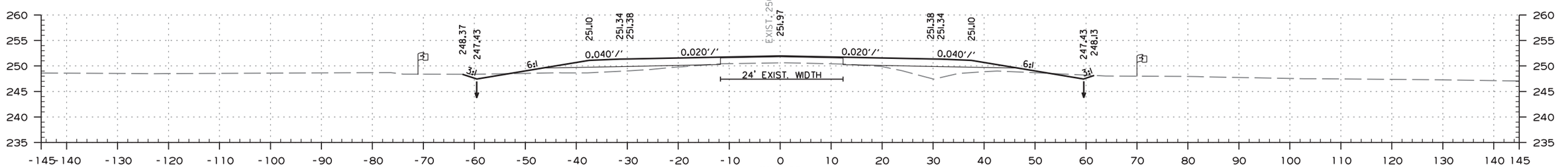
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	204	331

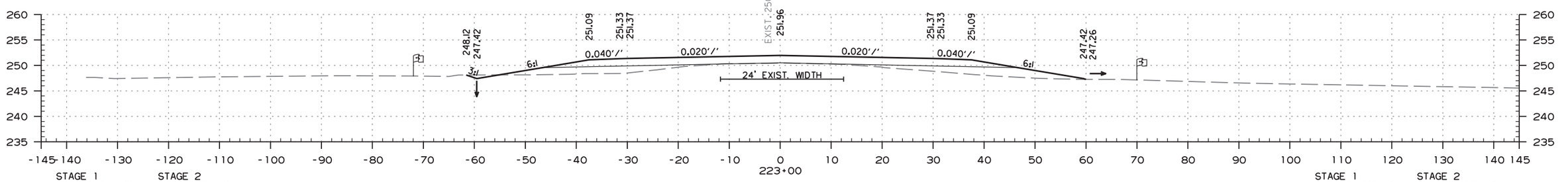
(2) CROSS SECTIONS



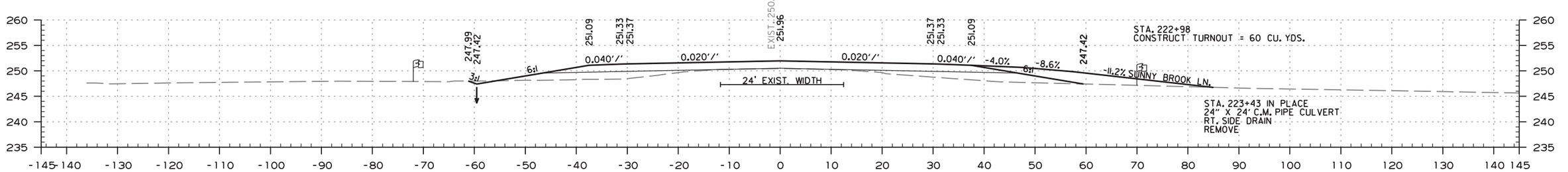
STAGE 1 AREA CUT 12 AREA FILL 12
STAGE 2 AREA CUT 3 AREA FILL 33
STAGE 1 CUT VOLUME 6 FILL VOLUME 14
STAGE 2 CUT VOLUME 2 FILL VOLUME 24



STAGE 1 AREA CUT 5 AREA FILL 27
STAGE 2 AREA CUT 4 AREA FILL 35
STAGE 1 CUT VOLUME 13 FILL VOLUME 126
STAGE 2 CUT VOLUME 7 FILL VOLUME 156



STAGE 1 AREA CUT 2 AREA FILL 41
STAGE 2 AREA CUT 0 AREA FILL 49
STAGE 1 CUT VOLUME 0 FILL VOLUME 3
STAGE 2 CUT VOLUME 0 FILL VOLUME 4



STAGE 1 AREA CUT 2 AREA FILL 41
STAGE 2 AREA CUT 0 AREA FILL 48
STAGE 1 CUT VOLUME 25 FILL VOLUME 113
STAGE 2 CUT VOLUME 0 FILL VOLUME 225

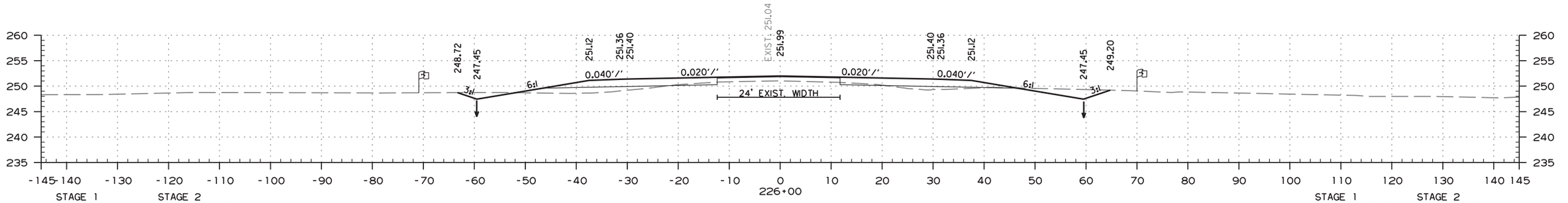
STA. 222+97.50 TO STA. 224+18.71

7/30/2020

RCA0706.DGN

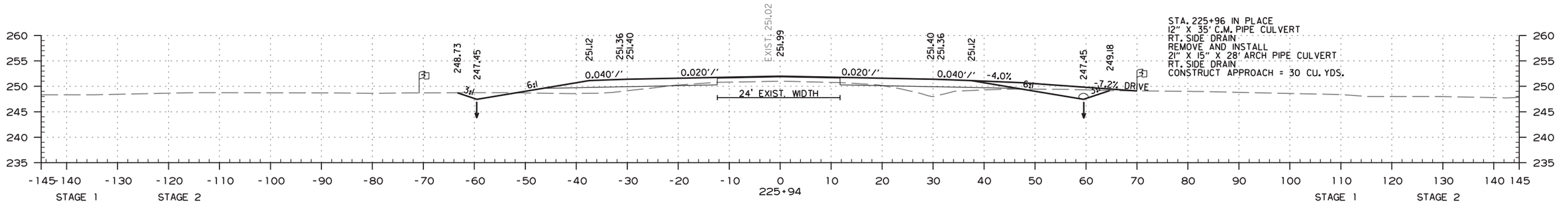
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	205	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 10 AREA FILL 23
STAGE 2 AREA CUT 20 AREA FILL 8

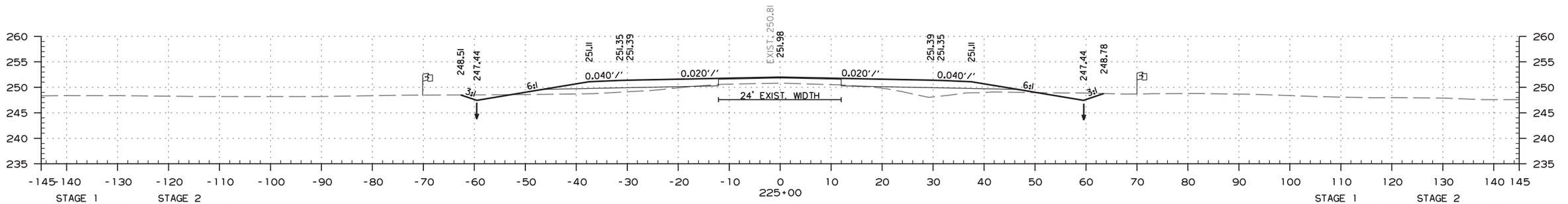
STAGE 1 CUT VOLUME 2 FILL VOLUME 5
STAGE 2 CUT VOLUME 4 FILL VOLUME 3



STA. 225+96 IN PLACE
12" X 35' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

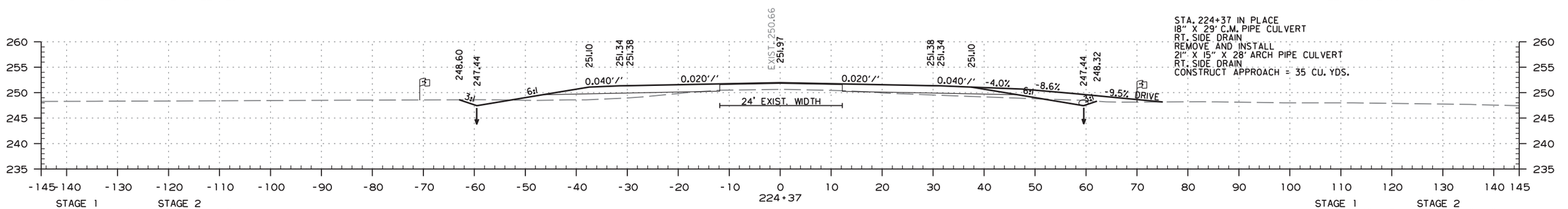
STAGE 1 AREA CUT 10 AREA FILL 24
STAGE 2 AREA CUT 19 AREA FILL 20

STAGE 1 CUT VOLUME 28 FILL VOLUME 85
STAGE 2 CUT VOLUME 50 FILL VOLUME 85



STAGE 1 AREA CUT 6 AREA FILL 25
STAGE 2 AREA CUT 10 AREA FILL 29

STAGE 1 CUT VOLUME 15 FILL VOLUME 63
STAGE 2 CUT VOLUME 19 FILL VOLUME 49



STA. 224+37 IN PLACE
18" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STAGE 1 AREA CUT 7 AREA FILL 29
STAGE 2 AREA CUT 6 AREA FILL 13

STAGE 1 CUT VOLUME 6 FILL VOLUME 14
STAGE 2 CUT VOLUME 3 FILL VOLUME 15

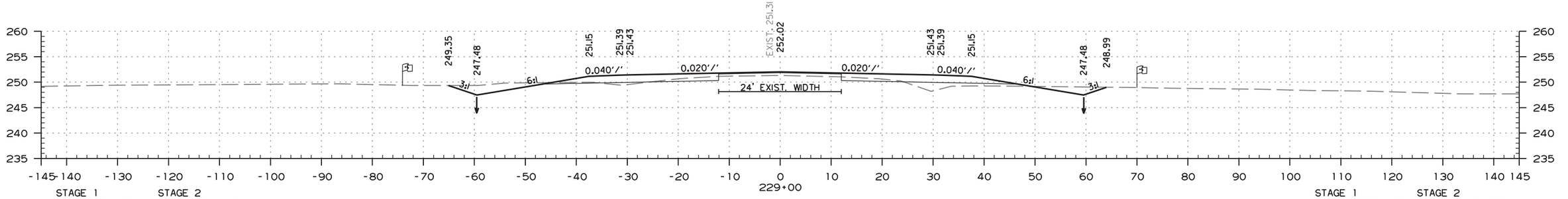
STA. 224+36.94 TO STA. 226+00

7/30/2020

RCA0706.DGN

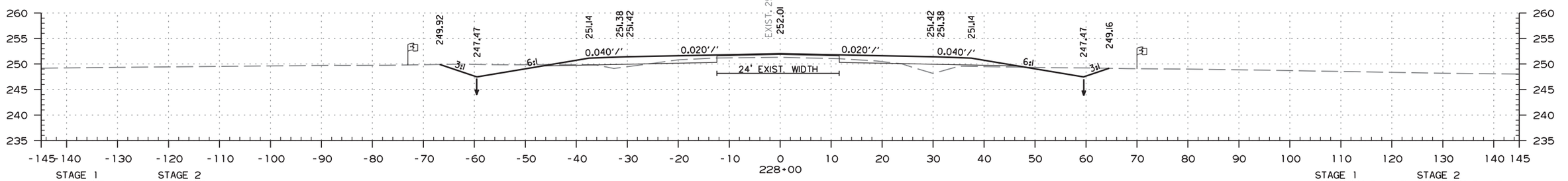
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	206	331

(2) CROSS SECTIONS



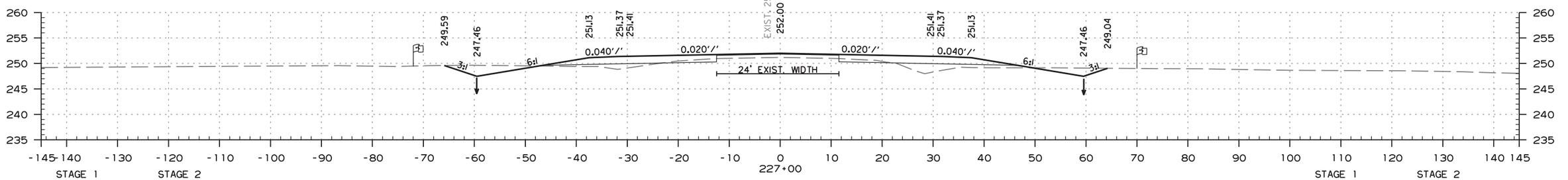
STAGE 1 AREA CUT 29 AREA FILL 3
STAGE 2 AREA CUT 17 AREA FILL 17

STAGE 1 CUT VOLUME 120 FILL VOLUME 13
STAGE 2 CUT VOLUME 67 FILL VOLUME 57



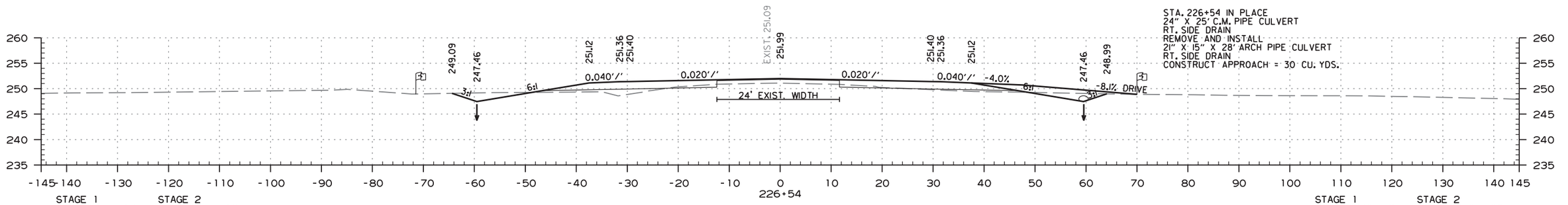
STAGE 1 AREA CUT 36 AREA FILL 4
STAGE 2 AREA CUT 19 AREA FILL 14

STAGE 1 CUT VOLUME 113 FILL VOLUME 28
STAGE 2 CUT VOLUME 67 FILL VOLUME 67



STAGE 1 AREA CUT 25 AREA FILL 11
STAGE 2 AREA CUT 17 AREA FILL 22

STAGE 1 CUT VOLUME 36 FILL VOLUME 21
STAGE 2 CUT VOLUME 28 FILL VOLUME 23



STA. 226+54 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STAGE 1 AREA CUT 17 AREA FILL 14
STAGE 2 AREA CUT 16 AREA FILL 5

STAGE 1 CUT VOLUME 27 FILL VOLUME 37
STAGE 2 CUT VOLUME 36 FILL VOLUME 13

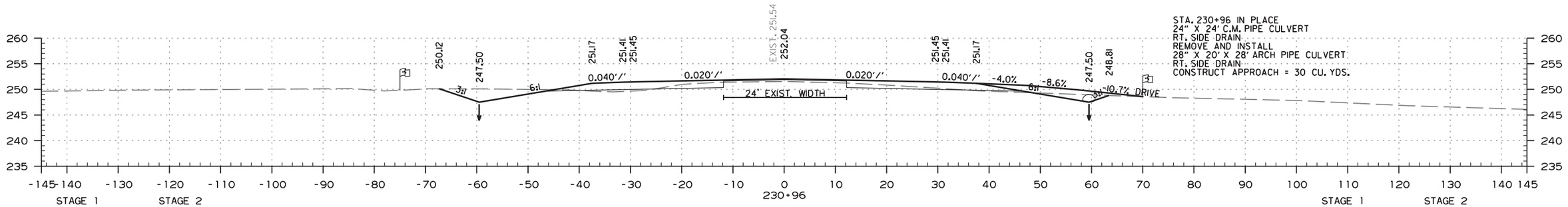
STA. 226+54.37 TO STA. 229+00

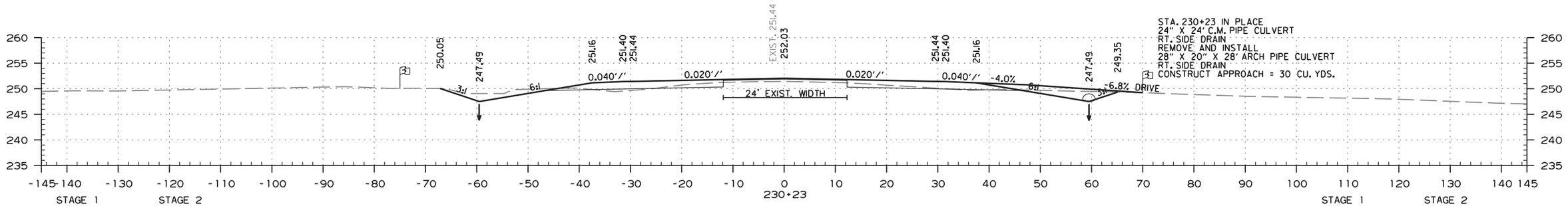
7/30/2020

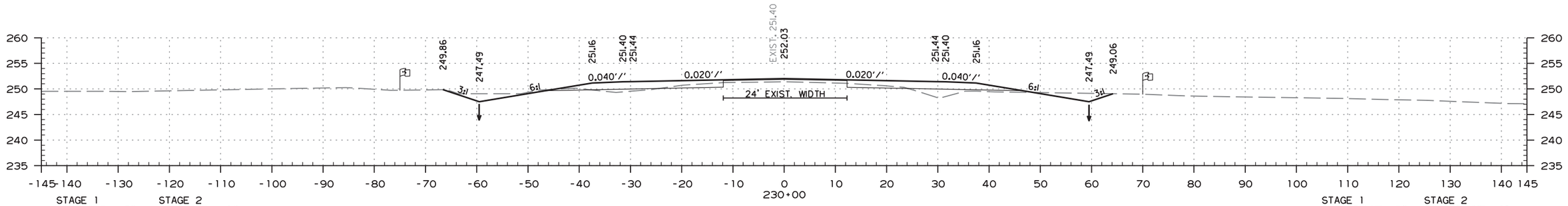
RCA0706.DGN

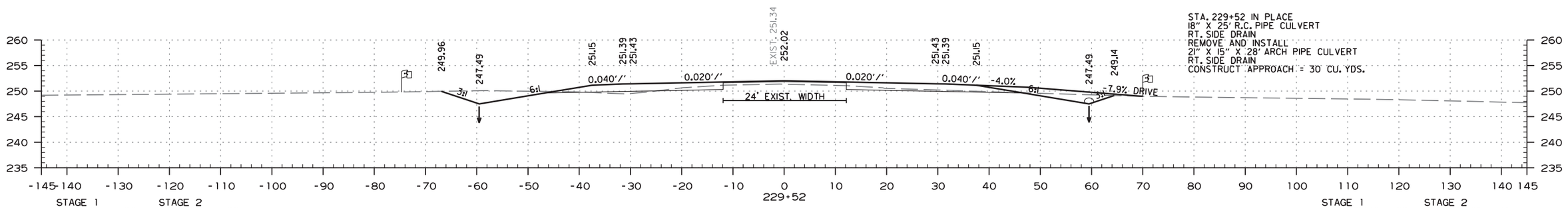
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	207	331

(2) CROSS SECTIONS









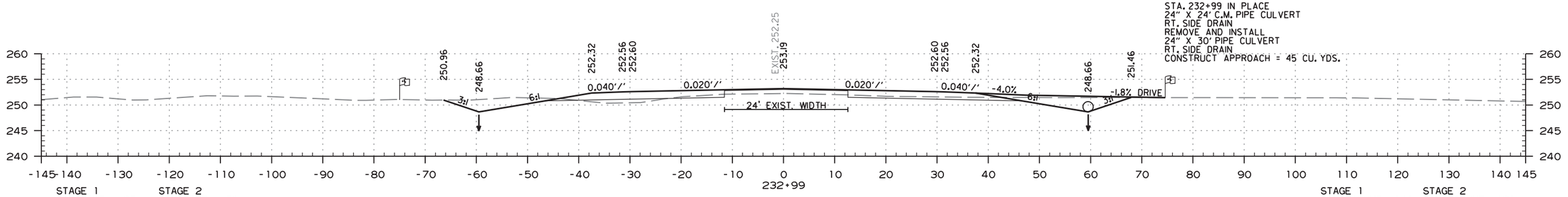
STA. 229+51.80 TO STA. 230+95.95

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	208	331

(2) CROSS SECTIONS

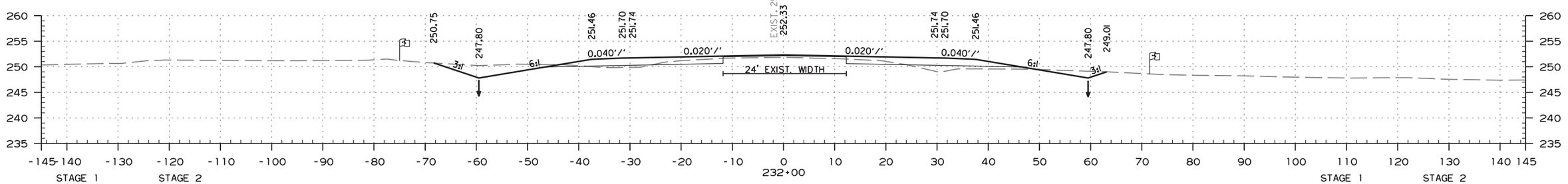


STAGE 1 AREA CUT 35 AREA FILL 9

STAGE 2 AREA CUT 50 AREA FILL 0

STAGE 1 CUT VOLUME 143 FILL VOLUME 24

STAGE 2 CUT VOLUME 121 FILL VOLUME 28

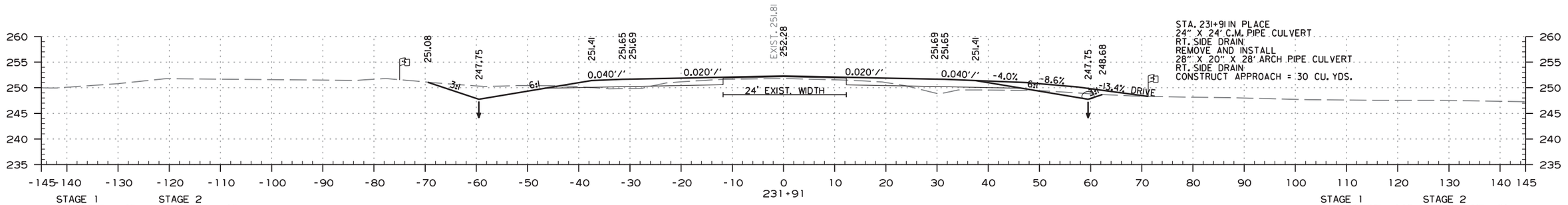


STAGE 1 AREA CUT 43 AREA FILL 4

STAGE 2 AREA CUT 16 AREA FILL 15

STAGE 1 CUT VOLUME 15 FILL VOLUME 1

STAGE 2 CUT VOLUME 5 FILL VOLUME 5

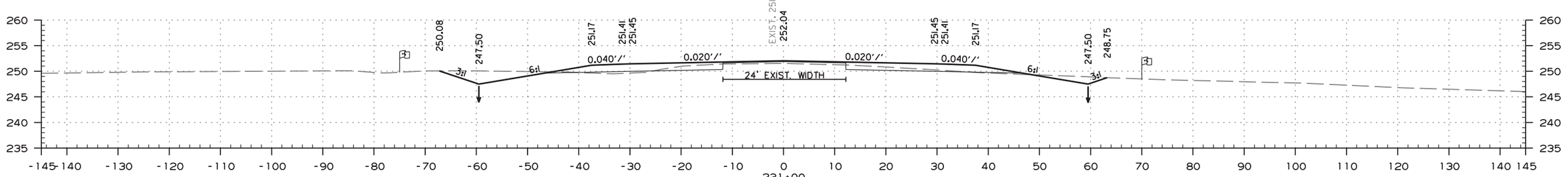


STAGE 1 AREA CUT 45 AREA FILL 4

STAGE 2 AREA CUT 15 AREA FILL 15

STAGE 1 CUT VOLUME 142 FILL VOLUME 13

STAGE 2 CUT VOLUME 61 FILL VOLUME 29



STAGE 1 AREA CUT 39 AREA FILL 4

STAGE 2 AREA CUT 21 AREA FILL 2

STAGE 1 CUT VOLUME 6 FILL VOLUME 1

STAGE 2 CUT VOLUME 3 FILL VOLUME 0

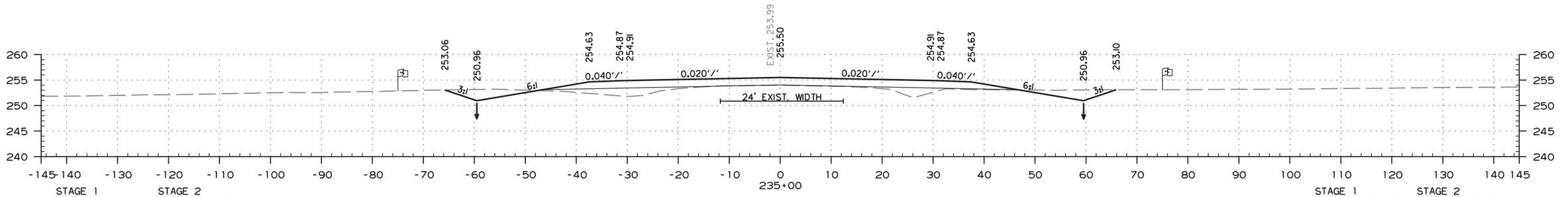
STA. 231+00 TO STA. 232+99.45

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	209	331

(2) CROSS SECTIONS



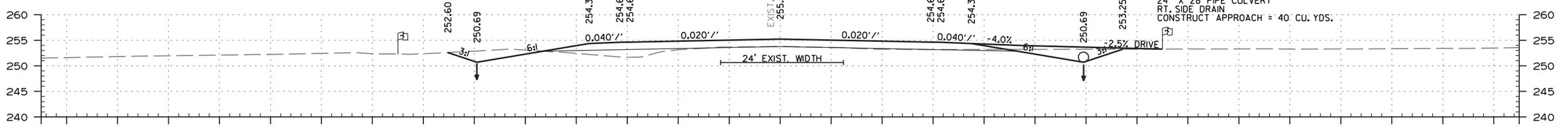
STAGE 1
AREA CUT 21
AREA FILL 26

STAGE 2
AREA CUT 20
AREA FILL 15

STAGE 1
CUT VOLUME 20
FILL VOLUME 21

STAGE 2
CUT VOLUME 23
FILL VOLUME 8

STA. 234+76 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

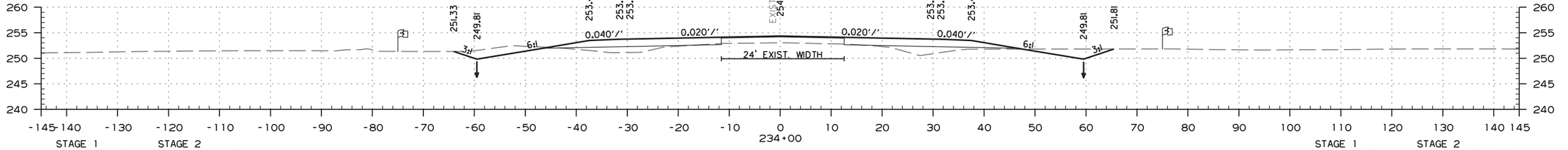


STAGE 1
AREA CUT 24
AREA FILL 22

STAGE 2
AREA CUT 32
AREA FILL 2

STAGE 1
CUT VOLUME 63
FILL VOLUME 53

STAGE 2
CUT VOLUME 70
FILL VOLUME 31

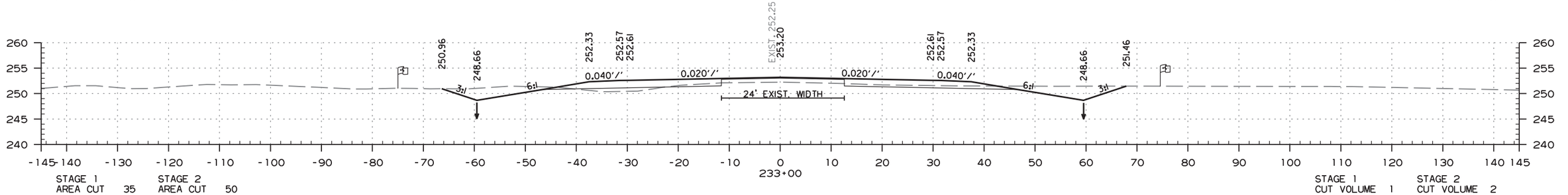


STAGE 1
AREA CUT 21
AREA FILL 16

STAGE 2
AREA CUT 18
AREA FILL 20

STAGE 1
CUT VOLUME 104
FILL VOLUME 46

STAGE 2
CUT VOLUME 126
FILL VOLUME 37



STAGE 1
AREA CUT 35
AREA FILL 9

STAGE 2
AREA CUT 50
AREA FILL 0

STAGE 1
CUT VOLUME 1
FILL VOLUME 0

STAGE 2
CUT VOLUME 2
FILL VOLUME 0

STA. 233+00 TO STA. 235+00

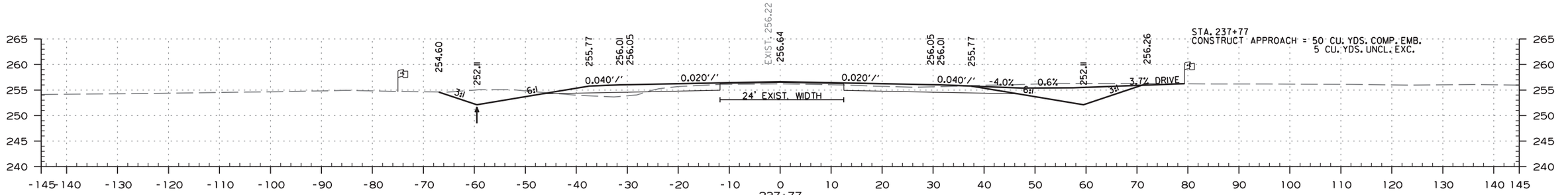
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

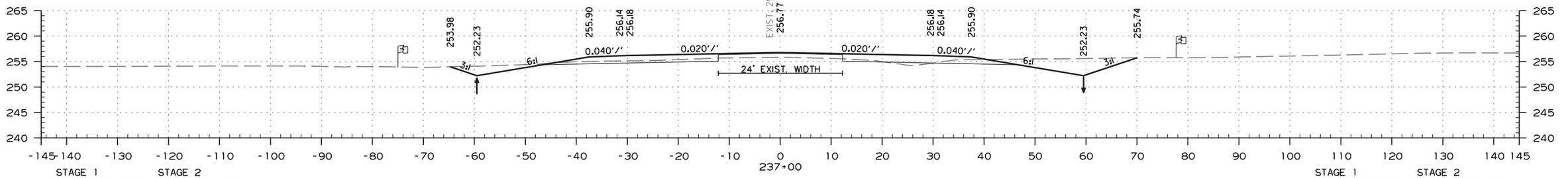
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	210	331

(2) CROSS SECTIONS



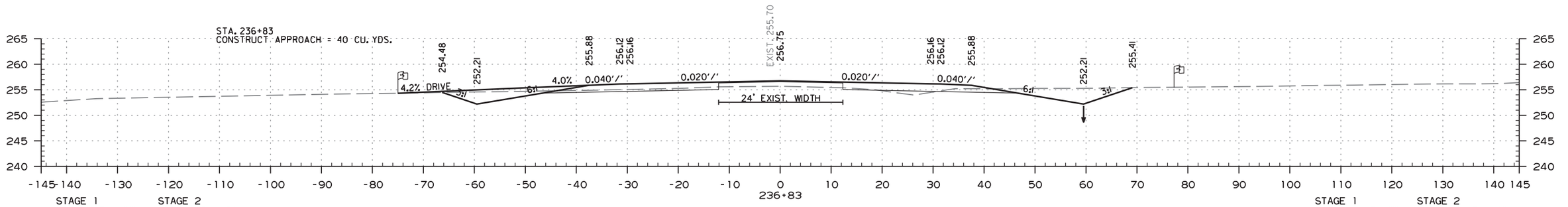
STAGE 1 AREA CUT 46 AREA FILL 9
STAGE 2 AREA CUT 106 AREA FILL 0

STAGE 1 CUT VOLUME 114 FILL VOLUME 13
STAGE 2 CUT VOLUME 238 FILL VOLUME 4



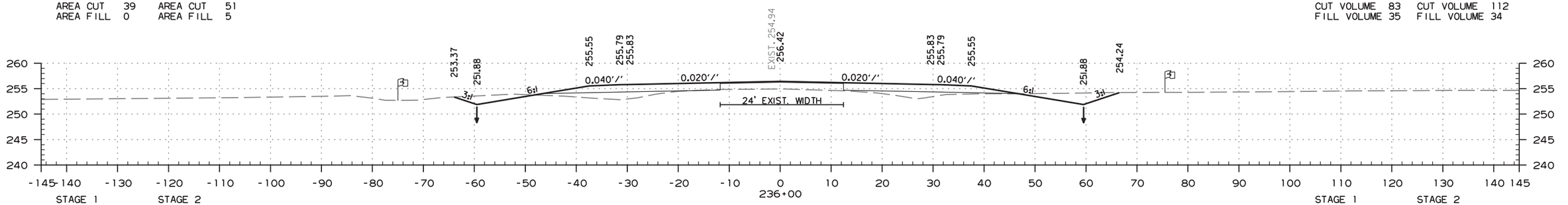
STAGE 1 AREA CUT 34 AREA FILL 0
STAGE 2 AREA CUT 61 AREA FILL 3

STAGE 1 CUT VOLUME 23 FILL VOLUME 0
STAGE 2 CUT VOLUME 35 FILL VOLUME 3



STAGE 1 AREA CUT 39 AREA FILL 0
STAGE 2 AREA CUT 51 AREA FILL 5

STAGE 1 CUT VOLUME 83 FILL VOLUME 35
STAGE 2 CUT VOLUME 112 FILL VOLUME 34



STAGE 1 AREA CUT 15 AREA FILL 23
STAGE 2 AREA CUT 22 AREA FILL 17

STAGE 1 CUT VOLUME 67 FILL VOLUME 91
STAGE 2 CUT VOLUME 78 FILL VOLUME 59

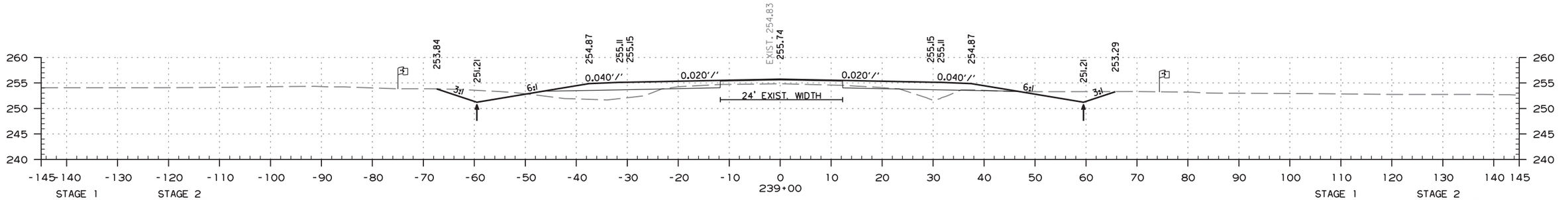
STA. 236+00 TO STA. 237+77.18

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	211	331

(2) CROSS SECTIONS

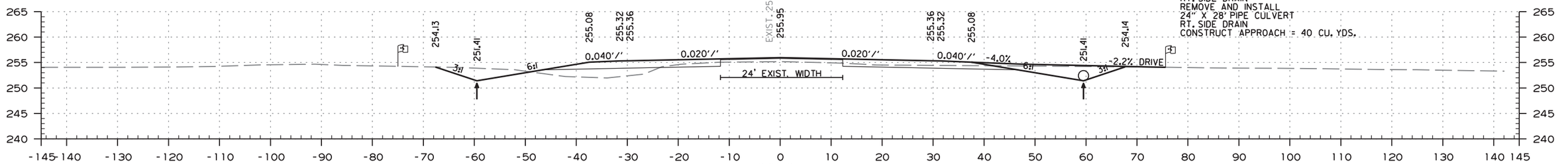


STAGE 1 AREA CUT 27 AREA FILL 35

STAGE 2 AREA CUT 23 AREA FILL 13

STAGE 1 CUT VOLUME 21 FILL VOLUME 25

STAGE 2 CUT VOLUME 29 FILL VOLUME 5



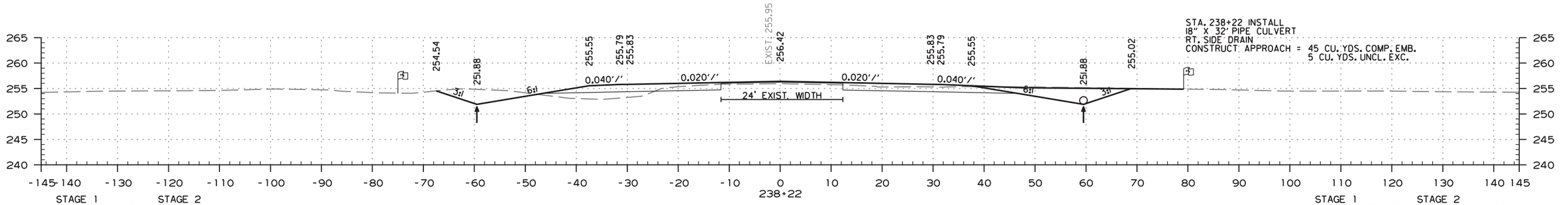
STA. 238+80 IN PLACE
24" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STAGE 1 AREA CUT 31 AREA FILL 32

STAGE 2 AREA CUT 55 AREA FILL 0

STAGE 1 CUT VOLUME 78 FILL VOLUME 58

STAGE 2 CUT VOLUME 144 FILL VOLUME 0



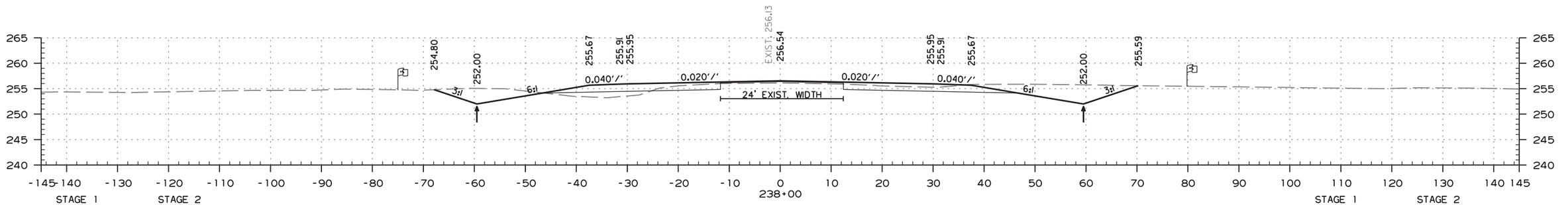
STA. 238+22 INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STAGE 1 AREA CUT 42 AREA FILL 22

STAGE 2 AREA CUT 79 AREA FILL 0

STAGE 1 CUT VOLUME 36 FILL VOLUME 15

STAGE 2 CUT VOLUME 70 FILL VOLUME 0



STAGE 1 AREA CUT 47 AREA FILL 16

STAGE 2 AREA CUT 94 AREA FILL 0

STAGE 1 CUT VOLUME 40 FILL VOLUME 11

STAGE 2 CUT VOLUME 85 FILL VOLUME 0

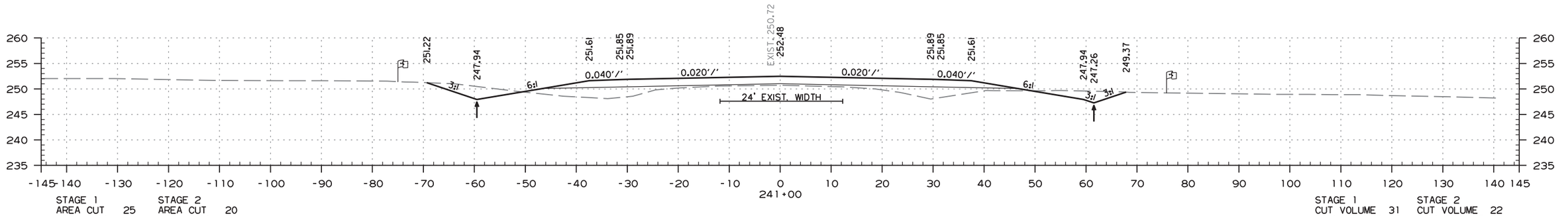
STA. 238+00 TO STA. 239+00

7/30/2020

RCA0706.DGN

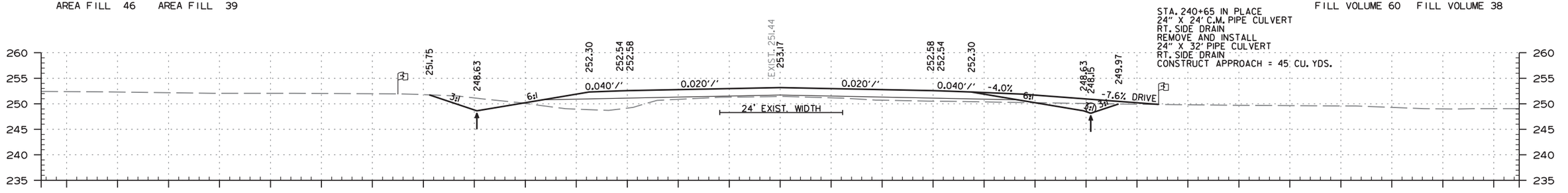
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	212	331

(2) CROSS SECTIONS



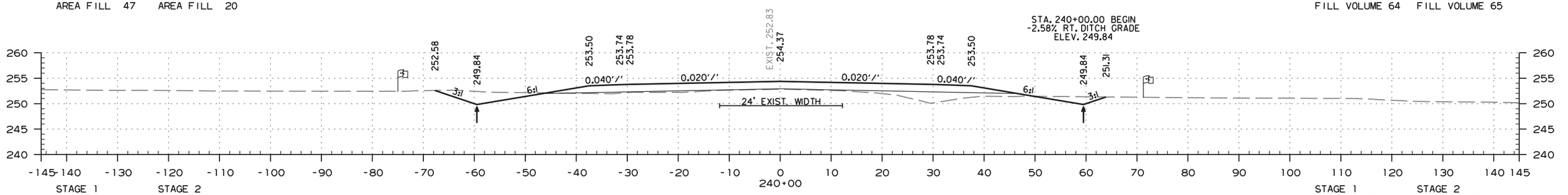
STAGE 1 AREA CUT 25 AREA FILL 46
STAGE 2 AREA CUT 20 AREA FILL 39

STAGE 1 CUT VOLUME 31 FILL VOLUME 60
STAGE 2 CUT VOLUME 22 FILL VOLUME 38



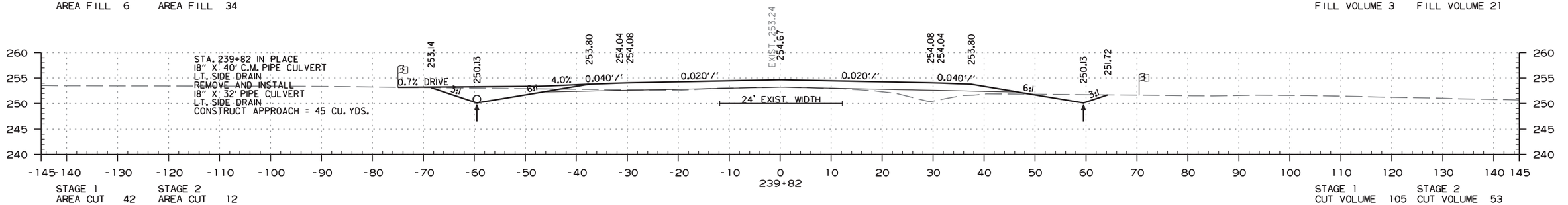
STAGE 1 AREA CUT 23 AREA FILL 47
STAGE 2 AREA CUT 14 AREA FILL 20

STAGE 1 CUT VOLUME 61 FILL VOLUME 64
STAGE 2 CUT VOLUME 30 FILL VOLUME 65



STAGE 1 AREA CUT 28 AREA FILL 6
STAGE 2 AREA CUT 11 AREA FILL 34

STAGE 1 CUT VOLUME 23 FILL VOLUME 3
STAGE 2 CUT VOLUME 8 FILL VOLUME 21



STAGE 1 AREA CUT 42 AREA FILL 2
STAGE 2 AREA CUT 12 AREA FILL 30

STAGE 1 CUT VOLUME 105 FILL VOLUME 56
STAGE 2 CUT VOLUME 53 FILL VOLUME 65

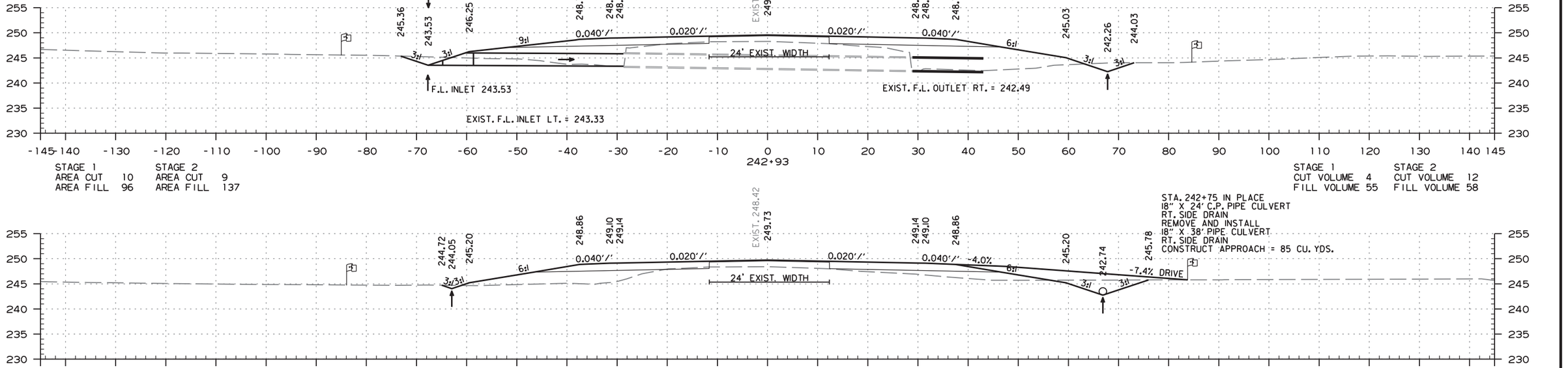
STA. 239+81.50 TO STA. 241+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	213	331

(2) CROSS SECTIONS



STA. 241+23.64 TO STA. 242+93.39

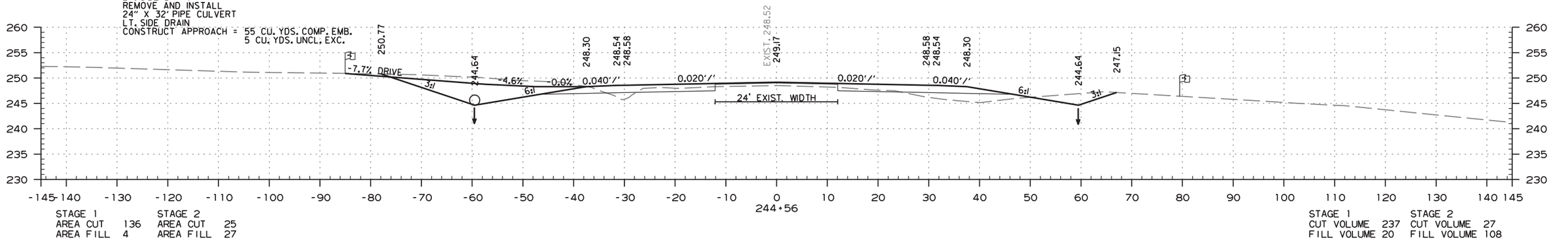
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	214	331

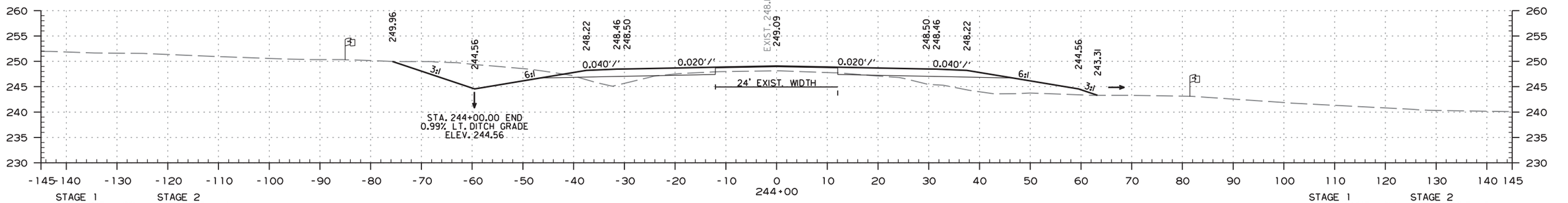
(2) CROSS SECTIONS

STA. 244+56 IN PLACE
24" X 18' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.



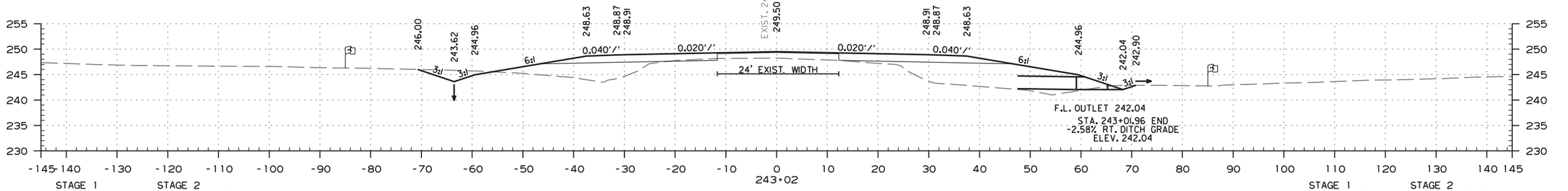
STAGE 1 AREA CUT 136 AREA FILL 4
STAGE 2 AREA CUT 25 AREA FILL 27

STAGE 1 CUT VOLUME 237 FILL VOLUME 20
STAGE 2 CUT VOLUME 27 FILL VOLUME 108



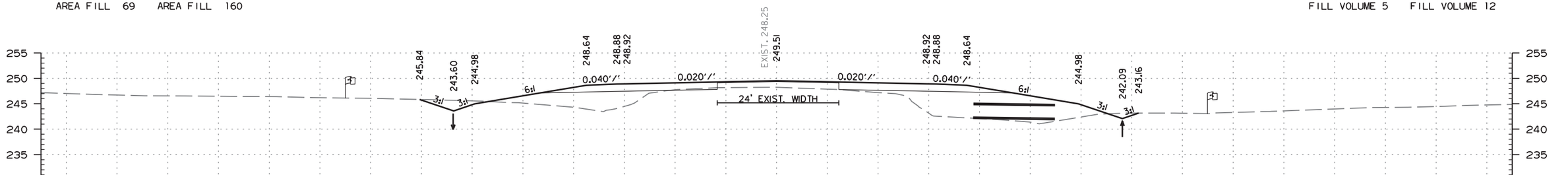
STAGE 1 AREA CUT 93 AREA FILL 15
STAGE 2 AREA CUT 1 AREA FILL 77

STAGE 1 CUT VOLUME 200 FILL VOLUME 152
STAGE 2 CUT VOLUME 5 FILL VOLUME 430



STAGE 1 AREA CUT 17 AREA FILL 69
STAGE 2 AREA CUT 2 AREA FILL 160

STAGE 1 CUT VOLUME 1 FILL VOLUME 5
STAGE 2 CUT VOLUME 0 FILL VOLUME 12



STAGE 1 AREA CUT 15 AREA FILL 73
STAGE 2 AREA CUT 3 AREA FILL 168

STAGE 1 CUT VOLUME 3 FILL VOLUME 22
STAGE 2 CUT VOLUME 2 FILL VOLUME 40

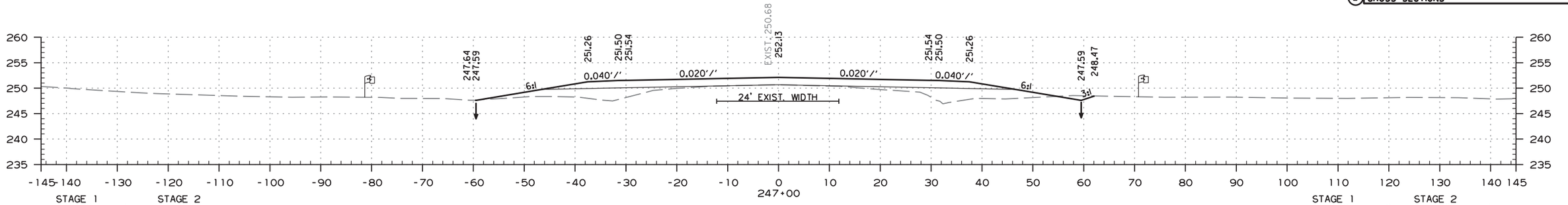
STA. 243+00 TO STA. 244+56.09

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	215	331

(2) CROSS SECTIONS



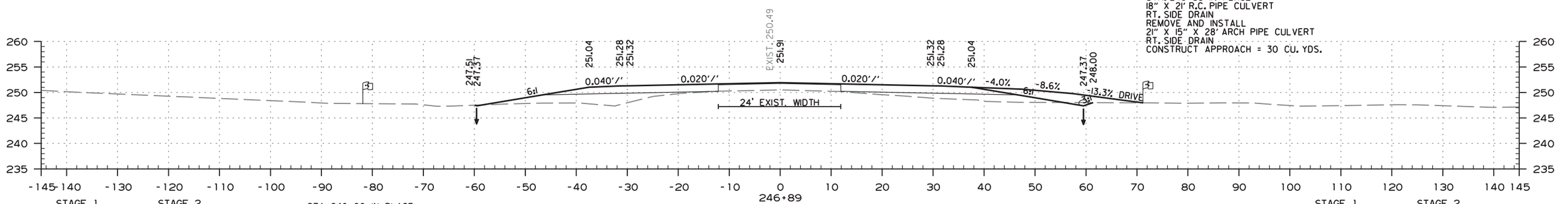
STAGE 1
AREA CUT 1
AREA FILL 49

STAGE 2
AREA CUT 4
AREA FILL 55

STAGE 1
CUT VOLUME 0
FILL VOLUME 20

STAGE 2
CUT VOLUME 1
FILL VOLUME 19

STA. 246+89 IN PLACE
18" X 21' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.



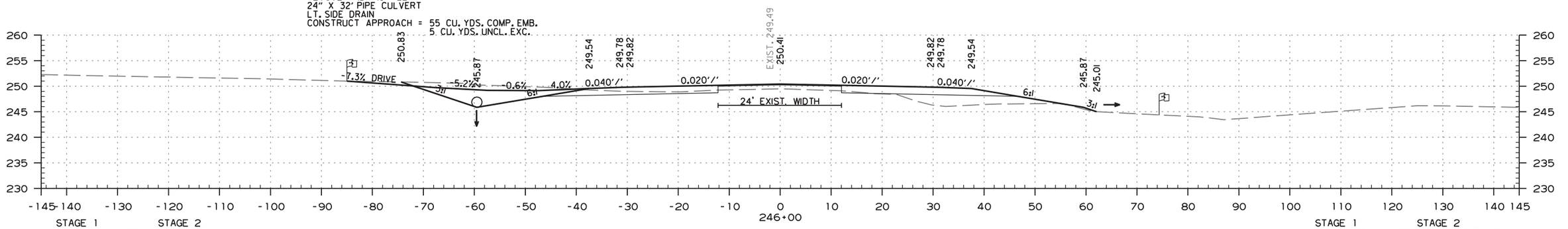
STAGE 1
AREA CUT 1
AREA FILL 51

STAGE 2
AREA CUT 2
AREA FILL 36

STA. 246+00 IN PLACE
24" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STAGE 1
CUT VOLUME 168
FILL VOLUME 84

STAGE 2
CUT VOLUME 5
FILL VOLUME 137

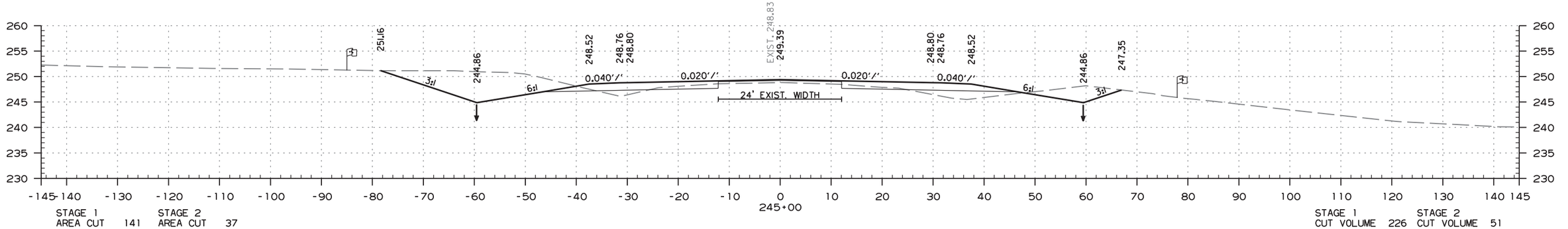


STAGE 1
AREA CUT 101
AREA FILL 0

STAGE 2
AREA CUT 1
AREA FILL 47

STAGE 1
CUT VOLUME 448
FILL VOLUME 11

STAGE 2
CUT VOLUME 70
FILL VOLUME 128



STAGE 1
AREA CUT 141
AREA FILL 6

STAGE 2
AREA CUT 37
AREA FILL 22

STAGE 1
CUT VOLUME 226
FILL VOLUME 8

STAGE 2
CUT VOLUME 51
FILL VOLUME 40

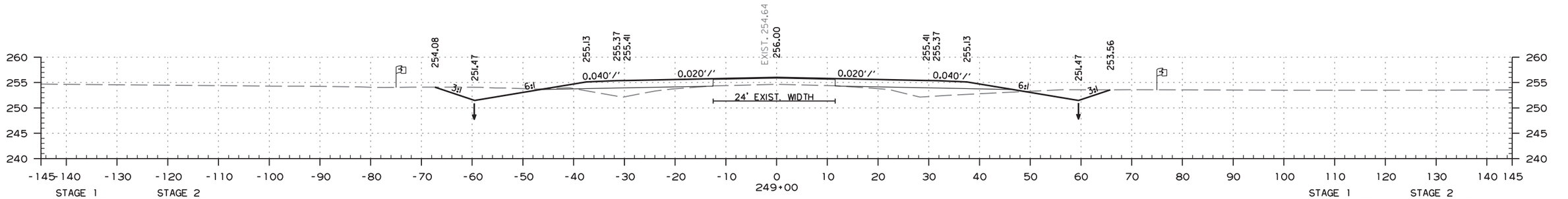
STA. 245+00 TO STA. 247+00

7/30/2020

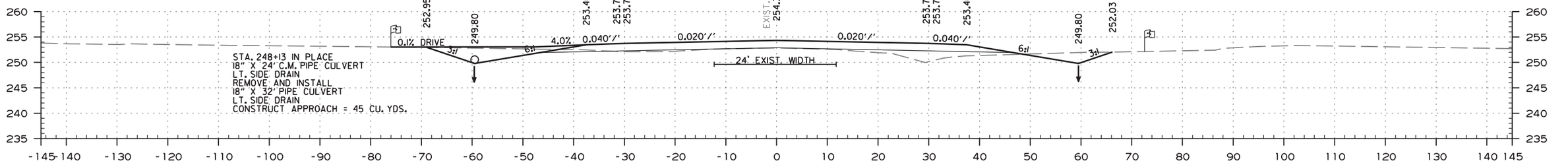
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	216	331

(2) CROSS SECTIONS

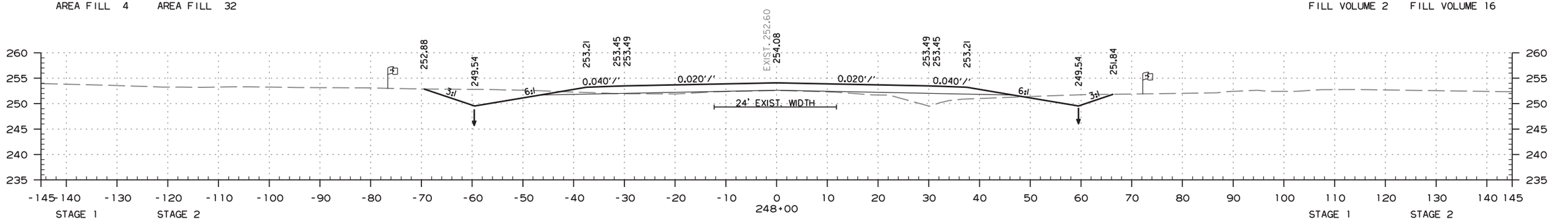


STAGE 1 AREA CUT 29 AREA FILL 20
STAGE 2 AREA CUT 19 AREA FILL 31
STAGE 1 CUT VOLUME 118 FILL VOLUME 39
STAGE 2 CUT VOLUME 61 FILL VOLUME 102

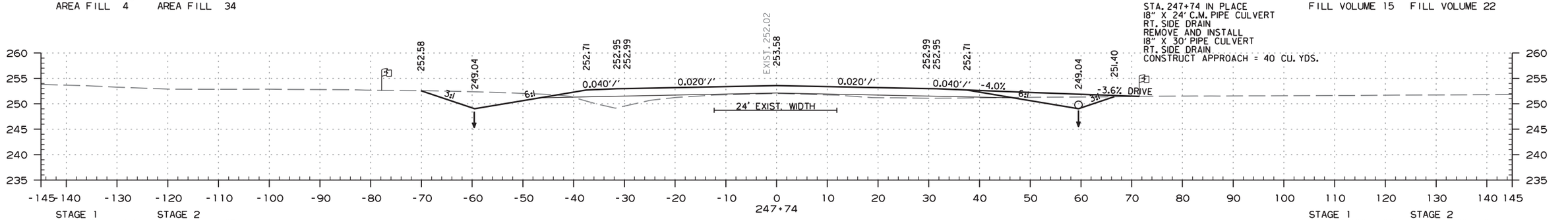


STA. 248+13 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STAGE 1 AREA CUT 44 AREA FILL 4
STAGE 2 AREA CUT 19 AREA FILL 32
STAGE 1 CUT VOLUME 22 FILL VOLUME 2
STAGE 2 CUT VOLUME 9 FILL VOLUME 16



STAGE 1 AREA CUT 49 AREA FILL 4
STAGE 2 AREA CUT 19 AREA FILL 34
STAGE 1 CUT VOLUME 46 FILL VOLUME 15
STAGE 2 CUT VOLUME 20 FILL VOLUME 22



STA. 247+74 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STAGE 1 AREA CUT 47 AREA FILL 28
STAGE 2 AREA CUT 23 AREA FILL 11
STAGE 1 CUT VOLUME 66 FILL VOLUME 106
STAGE 2 CUT VOLUME 37 FILL VOLUME 90

STA. 247+74.46 TO STA. 249+00

7/30/2020

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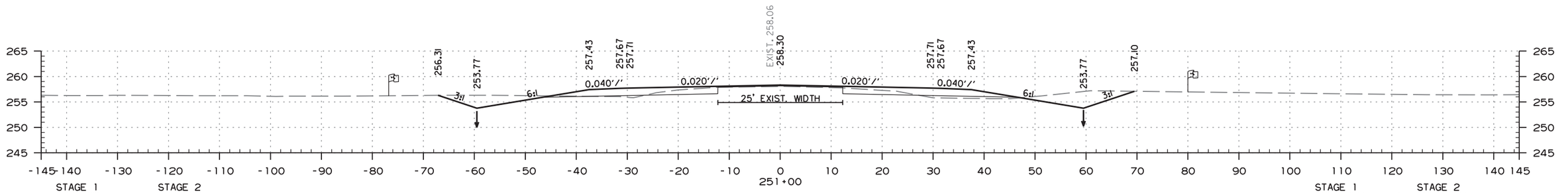
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	217	331

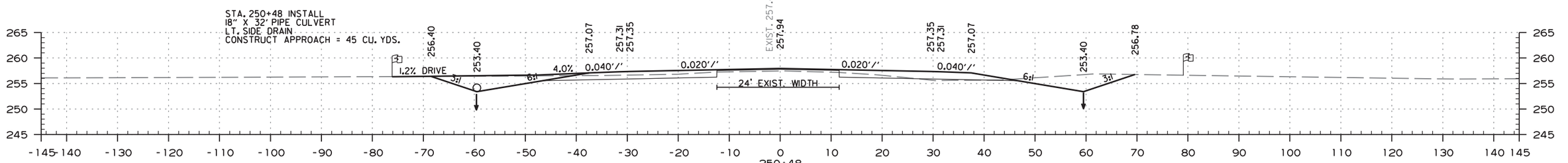
(2) CROSS SECTIONS



STAGE 1 AREA CUT 41 AREA FILL 2
STAGE 2 AREA CUT 48 AREA FILL 7

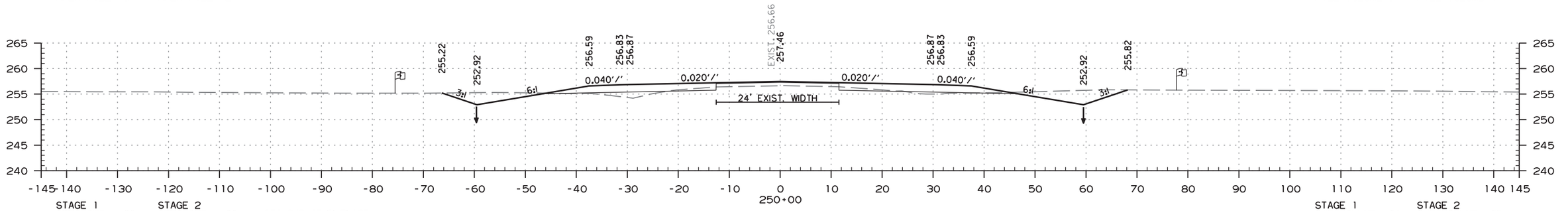
STAGE 1 CUT VOLUME 105 FILL VOLUME 2
STAGE 2 CUT VOLUME 94 FILL VOLUME 9

STA. 250+48 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.



STAGE 1 AREA CUT 68 AREA FILL 0
STAGE 2 AREA CUT 50 AREA FILL 2

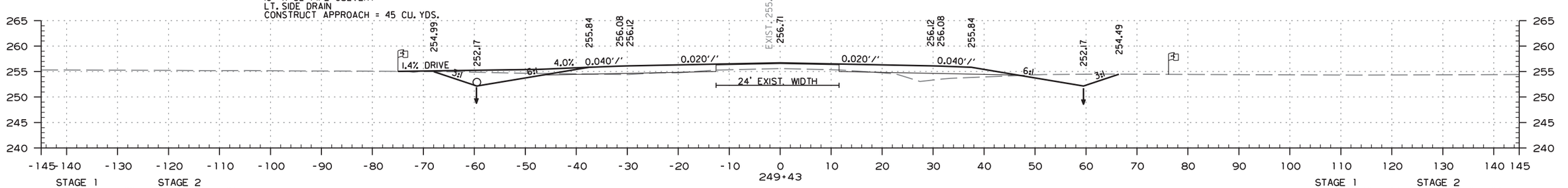
STAGE 1 CUT VOLUME 85 FILL VOLUME 9
STAGE 2 CUT VOLUME 78 FILL VOLUME 4



STAGE 1 AREA CUT 28 AREA FILL 10
STAGE 2 AREA CUT 38 AREA FILL 3

STAGE 1 CUT VOLUME 64 FILL VOLUME 13
STAGE 2 CUT VOLUME 65 FILL VOLUME 23

STA. 249+43 IN PLACE
18" X 29' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.



STAGE 1 AREA CUT 33 AREA FILL 2
STAGE 2 AREA CUT 24 AREA FILL 19

STAGE 1 CUT VOLUME 49 FILL VOLUME 18
STAGE 2 CUT VOLUME 34 FILL VOLUME 40

STA. 249+43.17 TO STA. 251+00

7/30/2020

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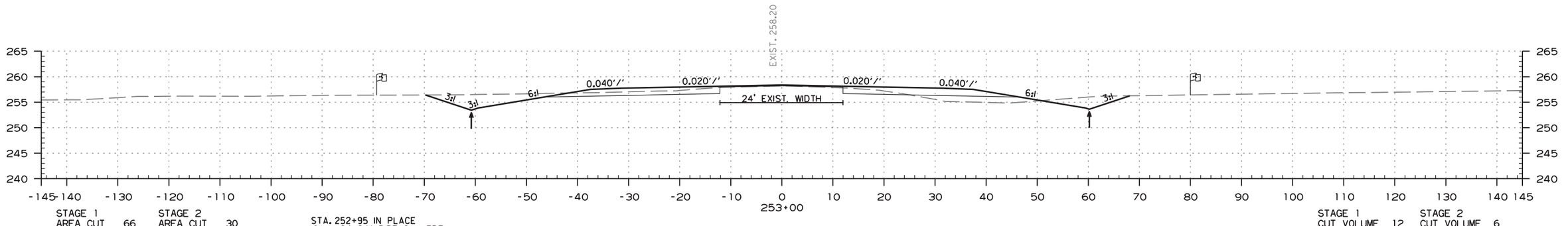
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	218	331

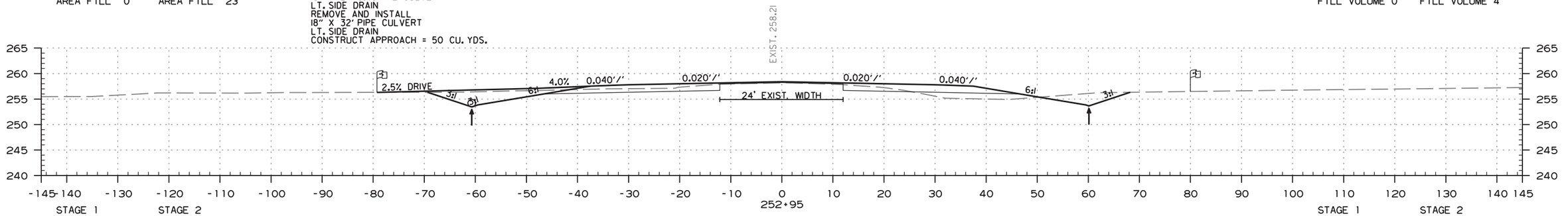
(2) CROSS SECTIONS



STAGE 1 AREA CUT 66 AREA FILL 0
STAGE 2 AREA CUT 30 AREA FILL 23

STA. 252+95 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

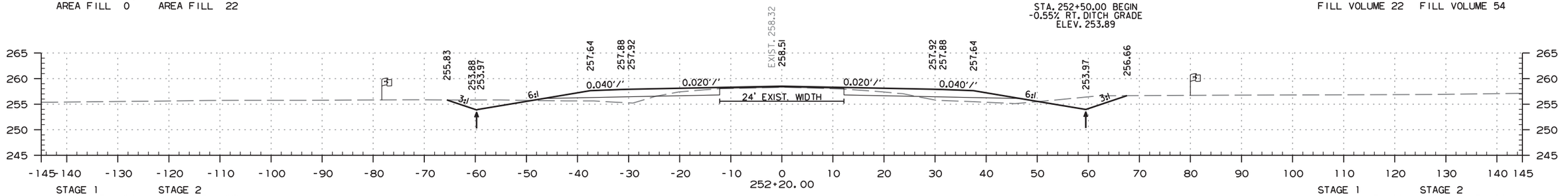
STAGE 1 CUT VOLUME 12 FILL VOLUME 0
STAGE 2 CUT VOLUME 6 FILL VOLUME 4



STAGE 1 AREA CUT 64 AREA FILL 0
STAGE 2 AREA CUT 32 AREA FILL 22

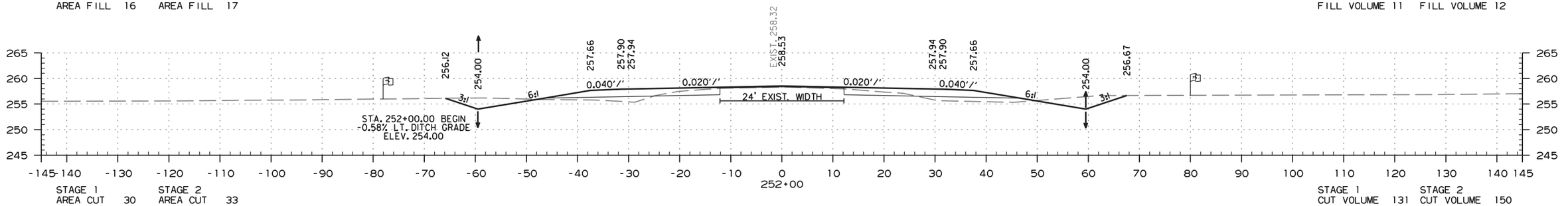
STAGE 1 CUT VOLUME 125 FILL VOLUME 22
STAGE 2 CUT VOLUME 89 FILL VOLUME 54

STA. 252+50.00 BEGIN
-0.55% RT. DITCH GRADE
ELEV. 253.89



STAGE 1 AREA CUT 26 AREA FILL 16
STAGE 2 AREA CUT 32 AREA FILL 17

STAGE 1 CUT VOLUME 21 FILL VOLUME 11
STAGE 2 CUT VOLUME 24 FILL VOLUME 12



STA. 252+00.00 BEGIN
-0.58% LT. DITCH GRADE
ELEV. 254.00

STAGE 1 AREA CUT 30 AREA FILL 13
STAGE 2 AREA CUT 33 AREA FILL 16

STAGE 1 CUT VOLUME 131 FILL VOLUME 28
STAGE 2 CUT VOLUME 150 FILL VOLUME 43

STA. 252+00 TO STA. 253+00

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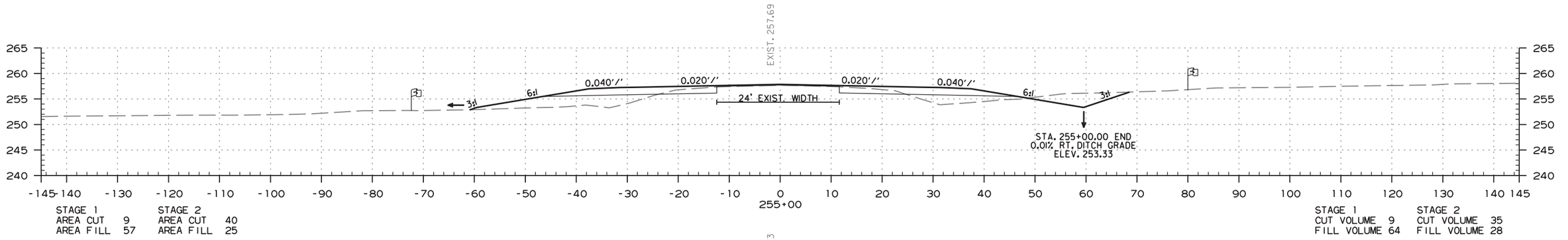
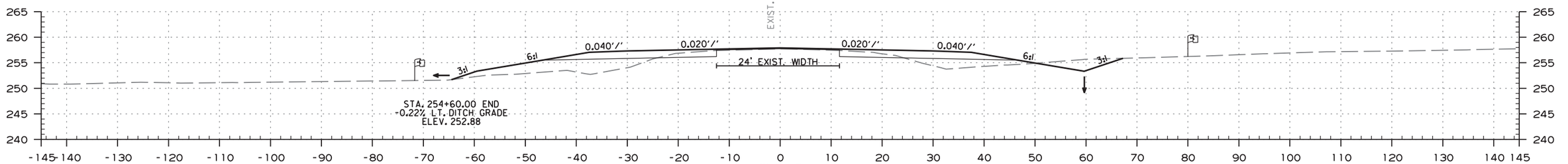
				6	ARK.			
				JOB NO.		CA0706	219	331

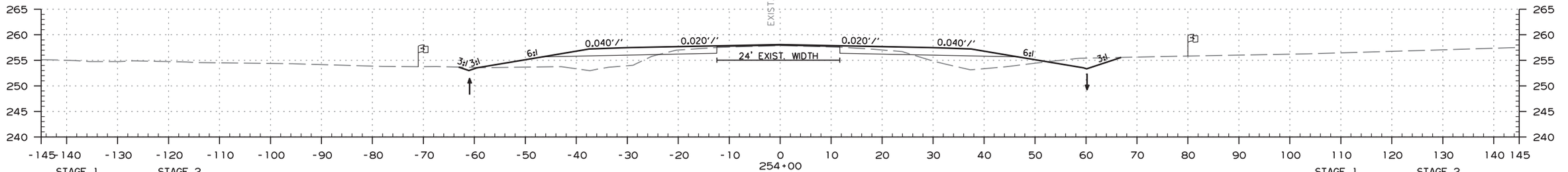
(2) CROSS SECTIONS



STAGE 1 AREA CUT 9 AREA FILL 57
STAGE 2 AREA CUT 40 AREA FILL 25
STAGE 1 CUT VOLUME 9 FILL VOLUME 64
STAGE 2 CUT VOLUME 35 FILL VOLUME 28

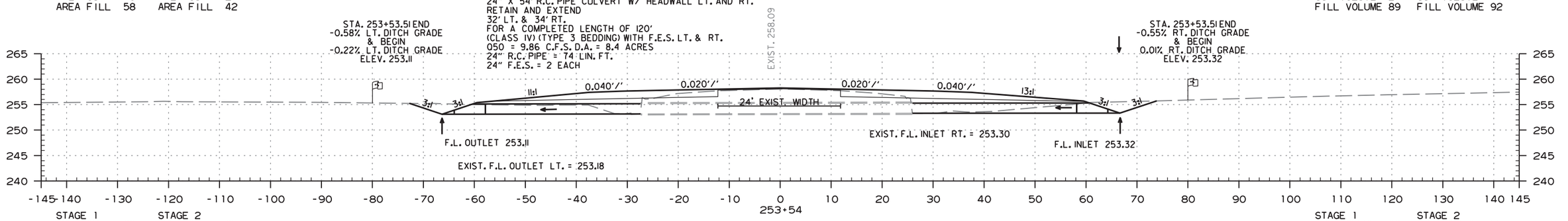


STAGE 1 AREA CUT 9 AREA FILL 70
STAGE 2 AREA CUT 30 AREA FILL 30
STAGE 1 CUT VOLUME 26 FILL VOLUME 173
STAGE 2 CUT VOLUME 77 FILL VOLUME 97



STAGE 1 AREA CUT 10 AREA FILL 58
STAGE 2 AREA CUT 27 AREA FILL 42
STAGE 1 CUT VOLUME 27 FILL VOLUME 89
STAGE 2 CUT VOLUME 44 FILL VOLUME 92

STA. 253+54 IN PLACE
24" X 54' R.C. PIPE CULVERT W/ HEADWALL LT. AND RT.
RETAIN AND EXTEND
32' LT. & 34' RT.
FOR A COMPLETED LENGTH OF 120'
(CLASS IV) (TYPE 3 BEDDING) WITH F.E.S. LT. & RT.
Q50 = 9.86 C.F.S. D.A. = 8.4 ACRES
24" R.C. PIPE = 74 LIN. FT.
24" F.E.S. = 2 EACH



STAGE 1 AREA CUT 22 AREA FILL 47
STAGE 2 AREA CUT 25 AREA FILL 66
STAGE 1 CUT VOLUME 88 FILL VOLUME 47
STAGE 2 CUT VOLUME 55 FILL VOLUME 89

STA. 253+53.51 TO STA. 255+00

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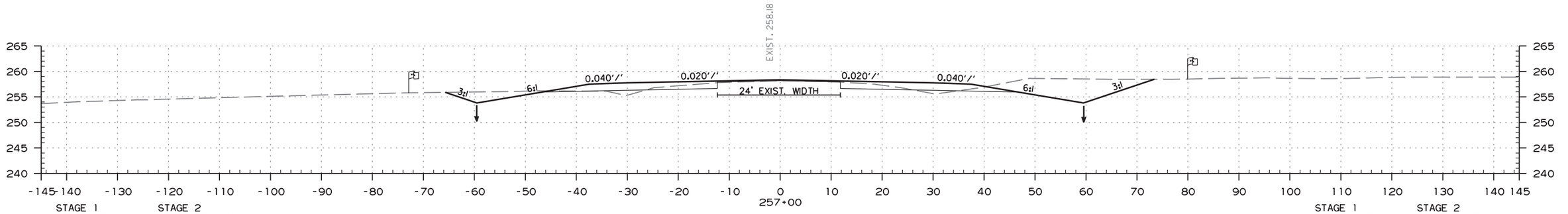
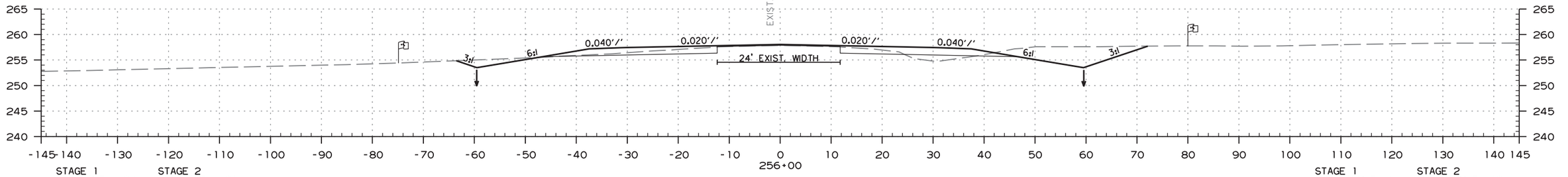
				6	ARK.			
				JOB NO.		CA0706	220	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 33 AREA FILL 4
STAGE 2 AREA CUT 104 AREA FILL 3

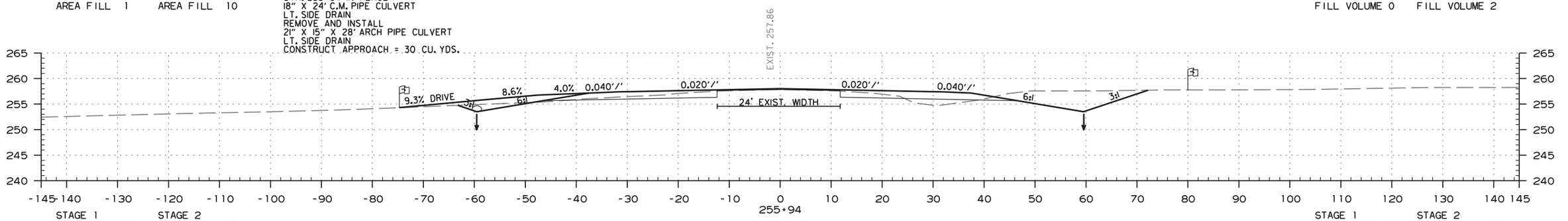
STAGE 1 CUT VOLUME 117 FILL VOLUME 9
STAGE 2 CUT VOLUME 343 FILL VOLUME 24



STAGE 1 AREA CUT 30 AREA FILL 1
STAGE 2 AREA CUT 81 AREA FILL 10

STA. 255+94 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

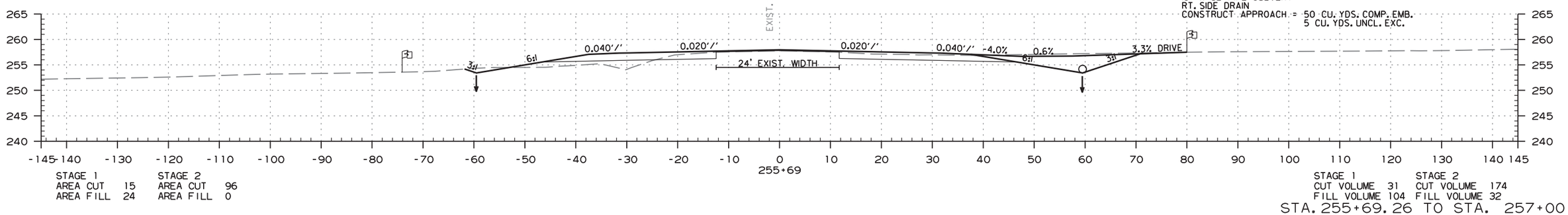
STAGE 1 CUT VOLUME 6 FILL VOLUME 0
STAGE 2 CUT VOLUME 18 FILL VOLUME 2



STAGE 1 AREA CUT 28 AREA FILL 1
STAGE 2 AREA CUT 81 AREA FILL 11

STAGE 1 CUT VOLUME 20 FILL VOLUME 12
STAGE 2 CUT VOLUME 82 FILL VOLUME 5

STA. 255+69 IN PLACE
18" X 24' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 15 AREA FILL 24
STAGE 2 AREA CUT 96 AREA FILL 0

STAGE 1 CUT VOLUME 31 FILL VOLUME 104
STAGE 2 CUT VOLUME 174 FILL VOLUME 32

STA. 255+69.26 TO STA. 257+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

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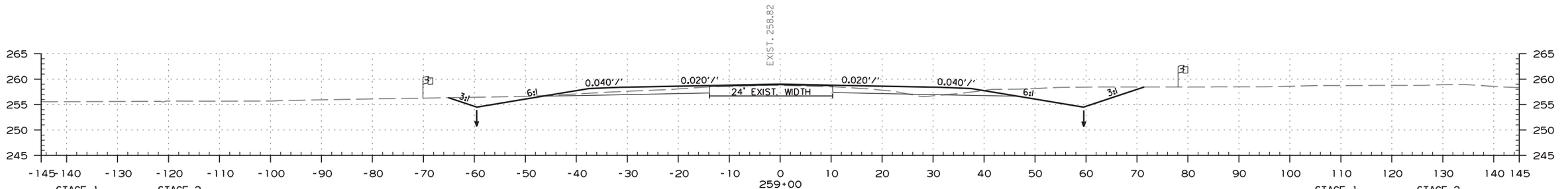
6	ARK.			
JOB NO.		CA0706	221	331

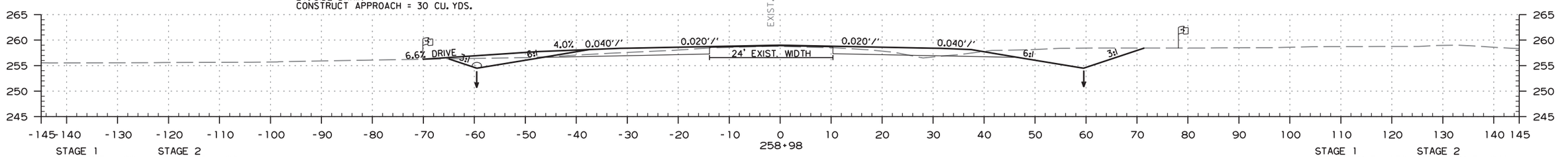
(2) CROSS SECTIONS



STAGE 1 AREA CUT 82 AREA FILL 2
STAGE 2 AREA CUT 39 AREA FILL 0

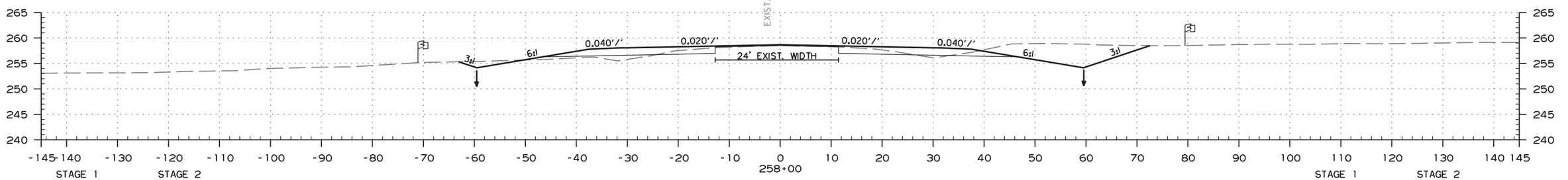
STA. 258+98 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STAGE 1 CUT VOLUME 6 FILL VOLUME 0
STAGE 2 CUT VOLUME 3 FILL VOLUME 0



STAGE 1 AREA CUT 82 AREA FILL 2
STAGE 2 AREA CUT 38 AREA FILL 0

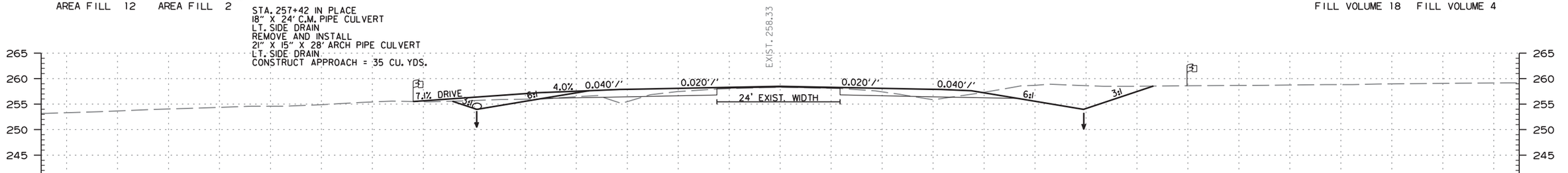
STAGE 1 CUT VOLUME 178 FILL VOLUME 25
STAGE 2 CUT VOLUME 261 FILL VOLUME 4



STAGE 1 AREA CUT 16 AREA FILL 12
STAGE 2 AREA CUT 106 AREA FILL 2

STA. 257+42 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STAGE 1 CUT VOLUME 47 FILL VOLUME 18
STAGE 2 CUT VOLUME 227 FILL VOLUME 4



STAGE 1 AREA CUT 28 AREA FILL 5
STAGE 2 AREA CUT 105 AREA FILL 2

STAGE 1 CUT VOLUME 47 FILL VOLUME 7
STAGE 2 CUT VOLUME 163 FILL VOLUME 4

STA. 257+41.79 TO STA. 259+00

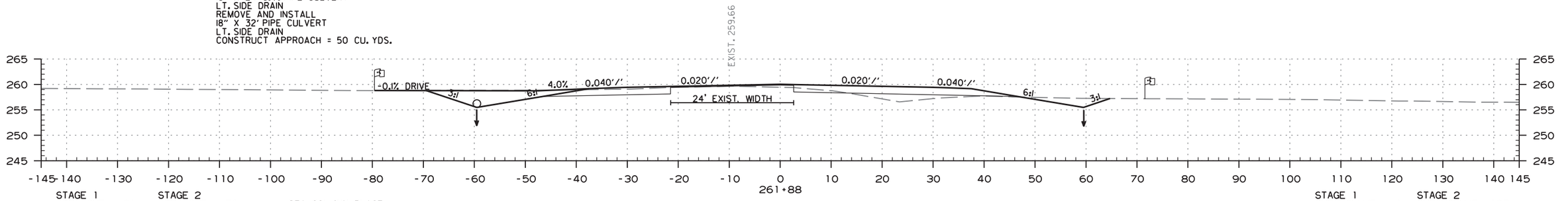
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	222	331

(2) CROSS SECTIONS

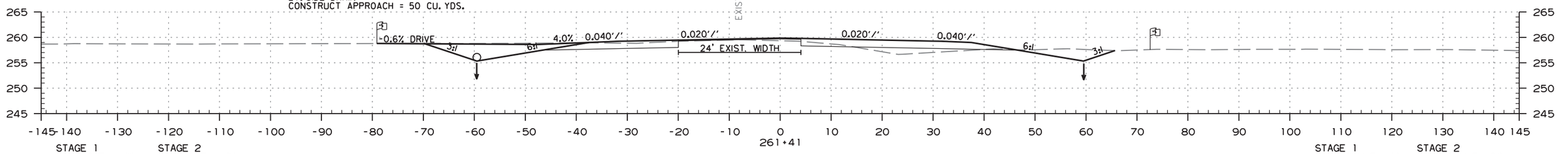
STA. 261+88 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.



STAGE 1 AREA CUT 21 AREA FILL 19
STAGE 2 AREA CUT 76 AREA FILL 0

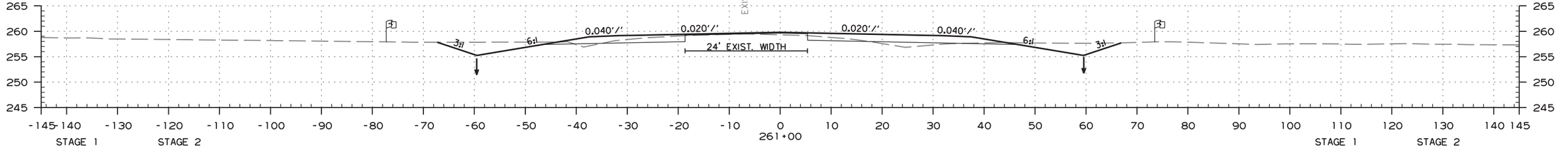
STAGE 1 CUT VOLUME 44 FILL VOLUME 31
STAGE 2 CUT VOLUME 137 FILL VOLUME 0

STA. 261+41 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.



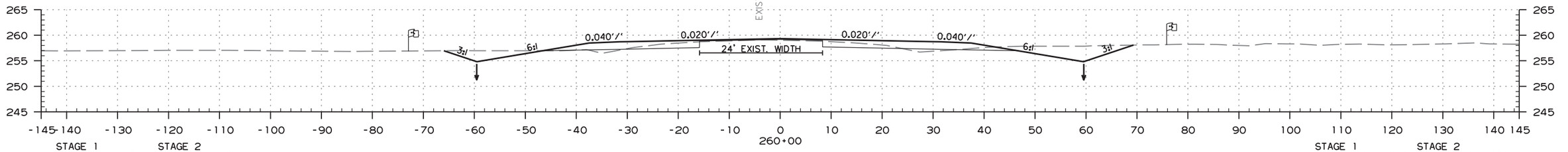
STAGE 1 AREA CUT 29 AREA FILL 17
STAGE 2 AREA CUT 81 AREA FILL 0

STAGE 1 CUT VOLUME 49 FILL VOLUME 19
STAGE 2 CUT VOLUME 96 FILL VOLUME 2



STAGE 1 AREA CUT 35 AREA FILL 8
STAGE 2 AREA CUT 45 AREA FILL 2

STAGE 1 CUT VOLUME 172 FILL VOLUME 22
STAGE 2 CUT VOLUME 143 FILL VOLUME 9



STAGE 1 AREA CUT 58 AREA FILL 4
STAGE 2 AREA CUT 32 AREA FILL 3

STAGE 1 CUT VOLUME 259 FILL VOLUME 11
STAGE 2 CUT VOLUME 131 FILL VOLUME 6

STA. 260+00 TO STA. 261+87.76

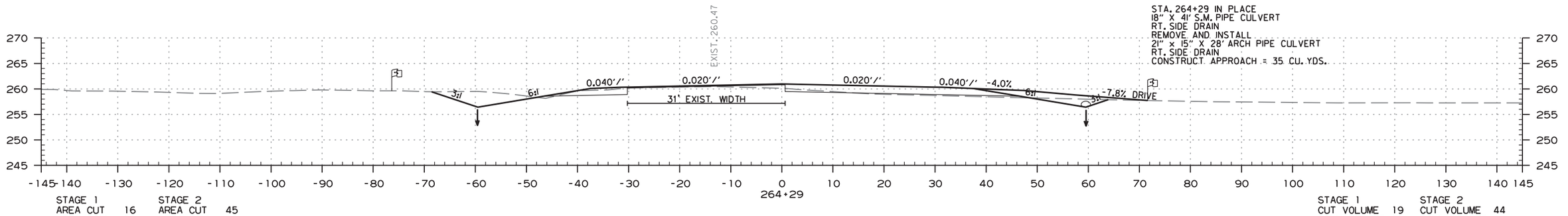
7/30/2020

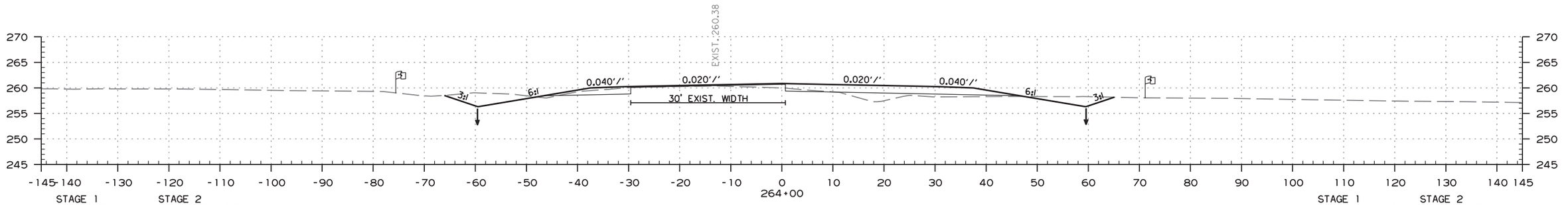
RCA0706.DGN

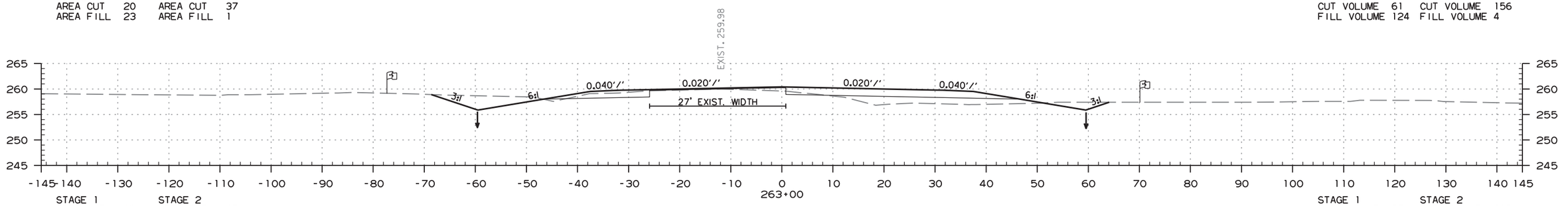
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

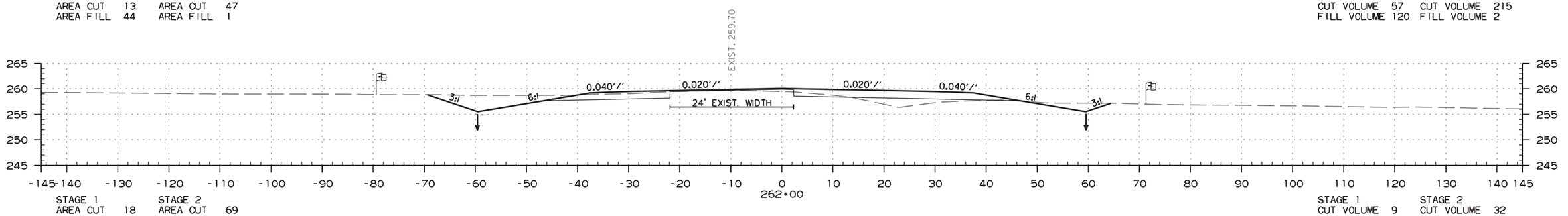
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	223	331

(2) CROSS SECTIONS









STA. 262+00 TO STA. 264+28.90

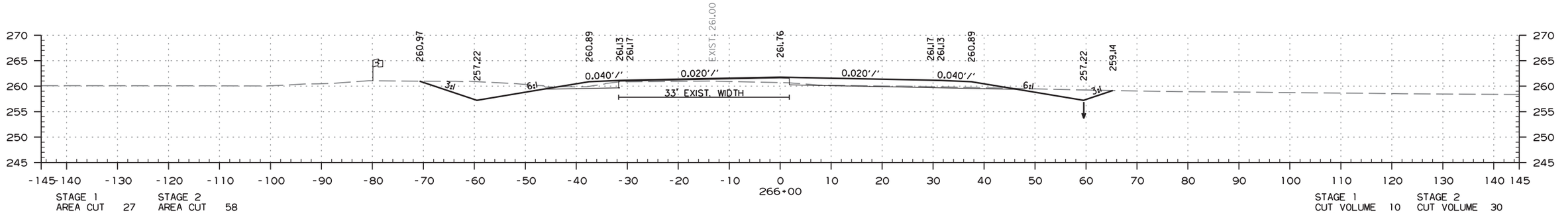
7/30/2020

RCA0706.DGN

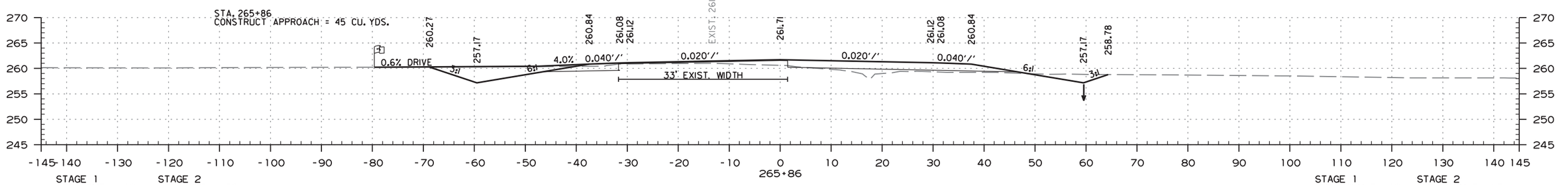
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	224	331

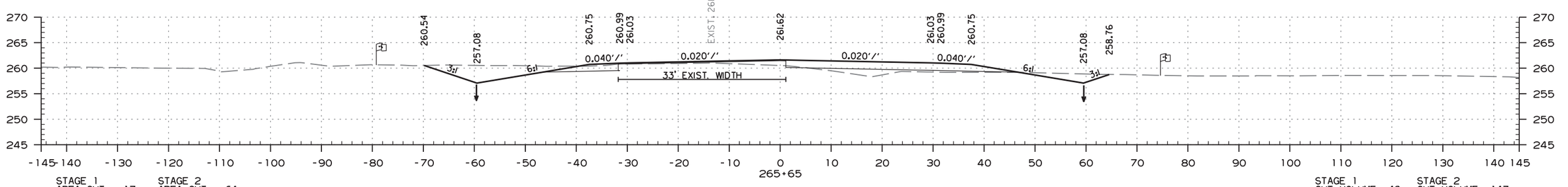
(2) CROSS SECTIONS



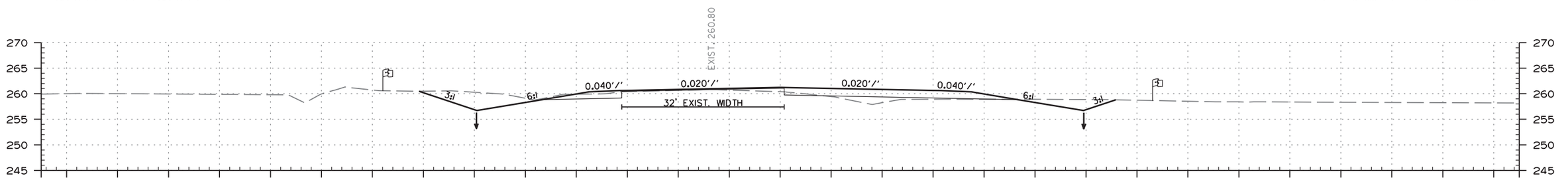
STAGE 1 AREA CUT 27 AREA FILL 0
STAGE 2 AREA CUT 58 AREA FILL 0
STAGE 1 CUT VOLUME 10 FILL VOLUME 5
STAGE 2 CUT VOLUME 30 FILL VOLUME 0



STAGE 1 AREA CUT 13 AREA FILL 18
STAGE 2 AREA CUT 56 AREA FILL 0
STAGE 1 CUT VOLUME 12 FILL VOLUME 14
STAGE 2 CUT VOLUME 47 FILL VOLUME 0



STAGE 1 AREA CUT 17 AREA FILL 19
STAGE 2 AREA CUT 64 AREA FILL 0
STAGE 1 CUT VOLUME 49 FILL VOLUME 42
STAGE 2 CUT VOLUME 147 FILL VOLUME 0



STAGE 1 AREA CUT 24 AREA FILL 16
STAGE 2 AREA CUT 58 AREA FILL 0
STAGE 1 CUT VOLUME 53 FILL VOLUME 29
STAGE 2 CUT VOLUME 135 FILL VOLUME 1

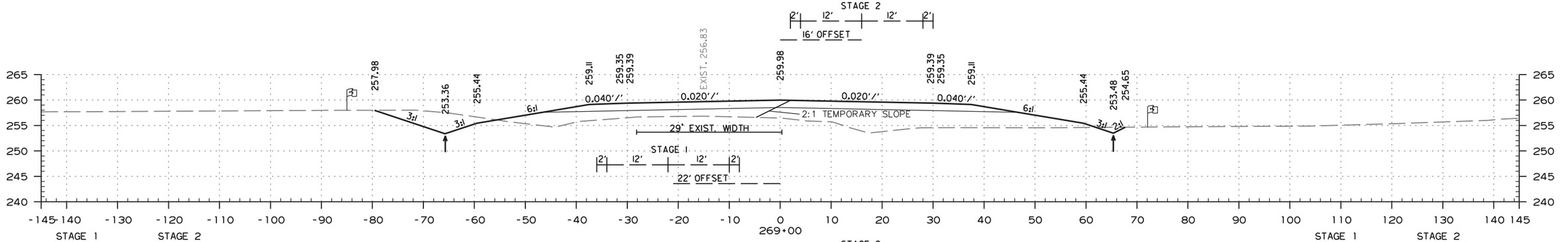
STA. 265+00 TO STA. 266+00

7/30/2020

RCA0706.DGN

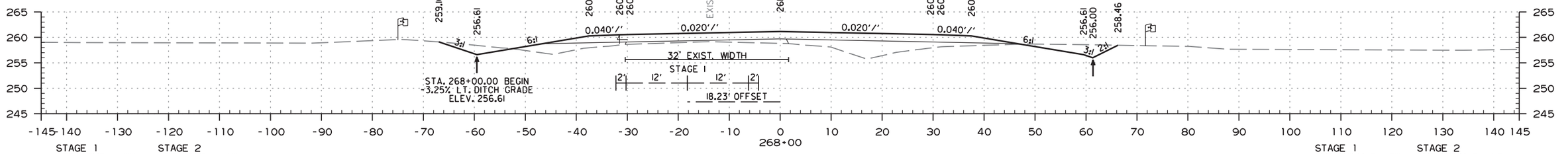
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	225	331

(2) CROSS SECTIONS



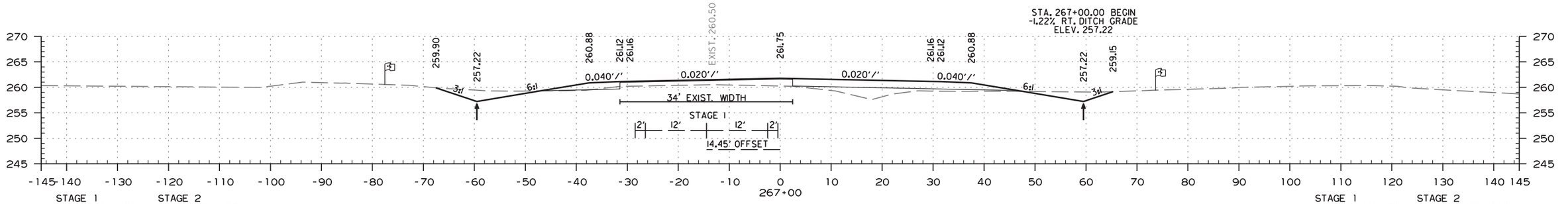
STAGE 1 AREA CUT 3 AREA FILL 182
STAGE 2 AREA CUT 50 AREA FILL 91

STAGE 1 CUT VOLUME 48 FILL VOLUME 457
STAGE 2 CUT VOLUME 117 FILL VOLUME 217



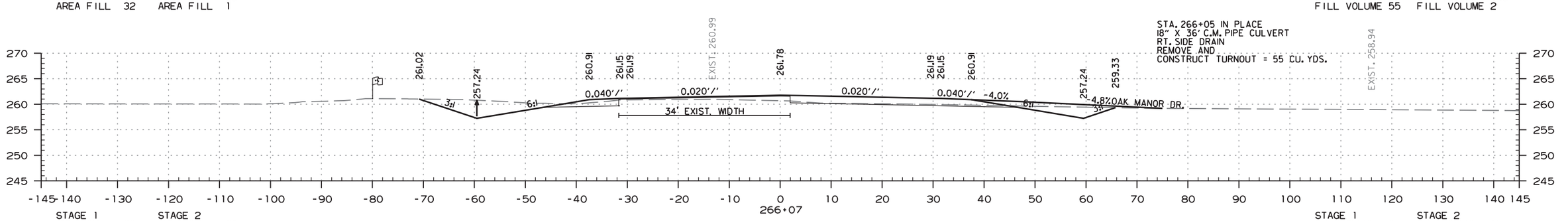
STAGE 1 AREA CUT 23 AREA FILL 65
STAGE 2 AREA CUT 13 AREA FILL 26

STAGE 1 CUT VOLUME 72 FILL VOLUME 180
STAGE 2 CUT VOLUME 67 FILL VOLUME 50



STAGE 1 AREA CUT 16 AREA FILL 32
STAGE 2 AREA CUT 23 AREA FILL 1

STAGE 1 CUT VOLUME 83 FILL VOLUME 55
STAGE 2 CUT VOLUME 143 FILL VOLUME 2



STAGE 1 AREA CUT 32 AREA FILL 0
STAGE 2 AREA CUT 60 AREA FILL 0

STAGE 1 CUT VOLUME 8 FILL VOLUME 0
STAGE 2 CUT VOLUME 15 FILL VOLUME 0

STA. 266+06.61 TO STA. 269+00

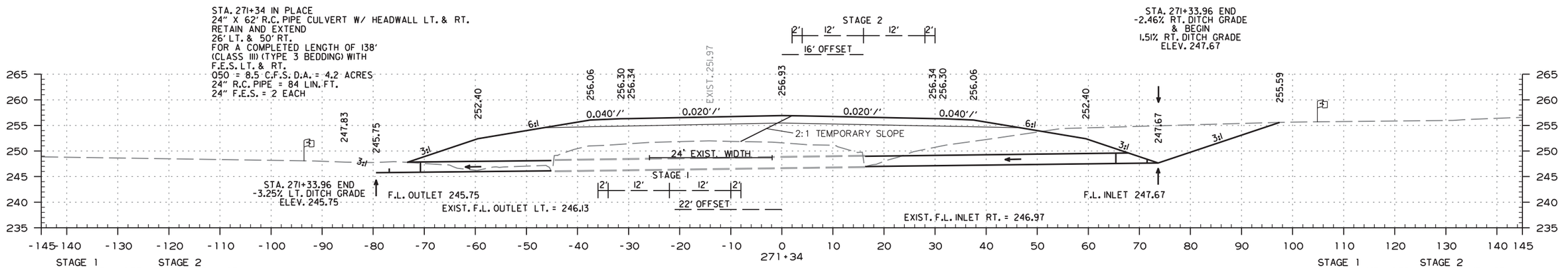
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	226	331

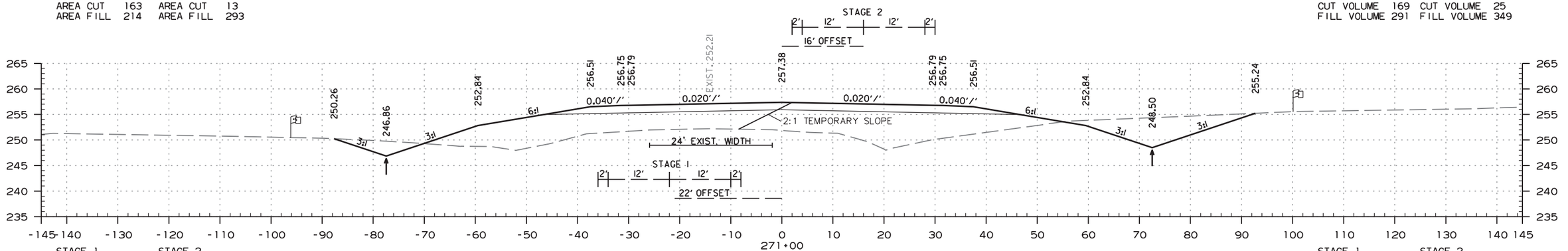
(2) CROSS SECTIONS

STA. 271+34 IN PLACE
24" X 62' R.C. PIPE CULVERT W/ HEADWALL LT. & RT.
RETAIN AND EXTEND
26' LT. & 50' RT.
FOR A COMPLETED LENGTH OF 138'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
050 = 8.5 C.F.S. D.A. = 4.2 ACRES
24" R.C. PIPE = 84 LIN. FT.
24" F.E.S. = 2 EACH



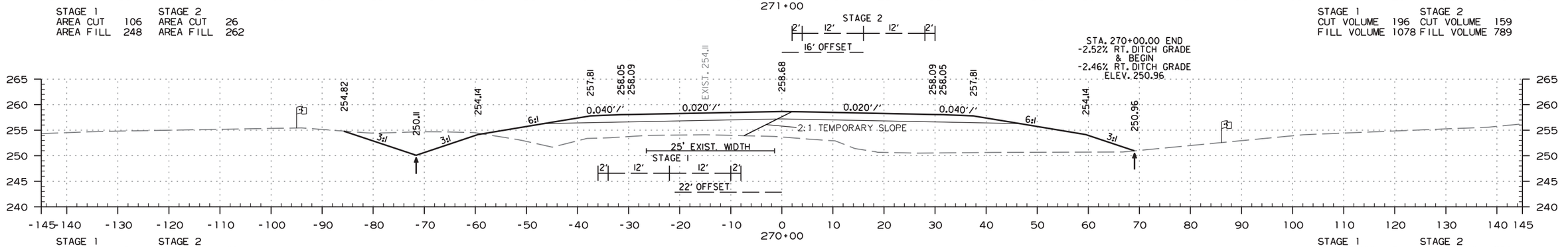
STAGE 1 AREA CUT 163 AREA FILL 214
STAGE 2 AREA CUT 13 AREA FILL 293

STAGE 1 CUT VOLUME 169 FILL VOLUME 291
STAGE 2 CUT VOLUME 25 FILL VOLUME 349



STAGE 1 AREA CUT 106 AREA FILL 248
STAGE 2 AREA CUT 26 AREA FILL 262

STAGE 1 CUT VOLUME 196 FILL VOLUME 1078
STAGE 2 CUT VOLUME 159 FILL VOLUME 789



STAGE 1 AREA CUT 0 AREA FILL 334
STAGE 2 AREA CUT 60 AREA FILL 164

STAGE 1 CUT VOLUME 6 FILL VOLUME 956
STAGE 2 CUT VOLUME 204 FILL VOLUME 472

STA. 270+00 TO STA. 271+33.96

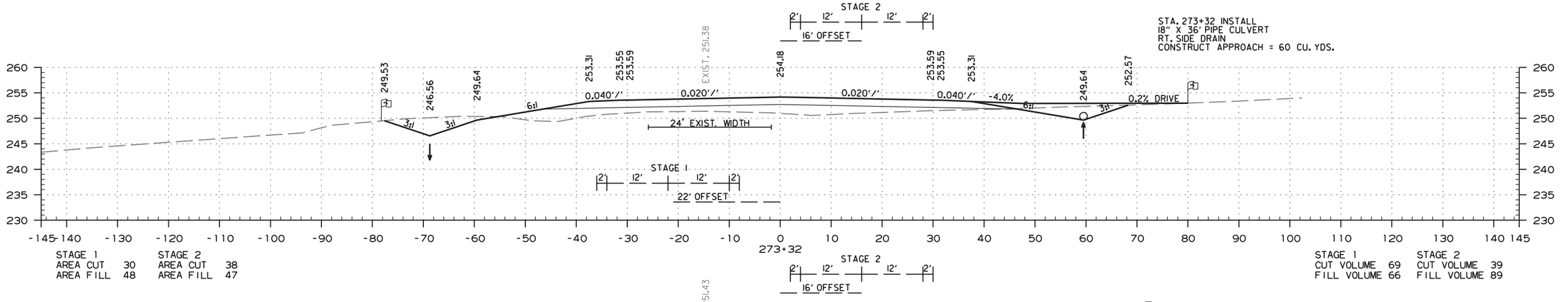
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	227	331

(2) CROSS SECTIONS



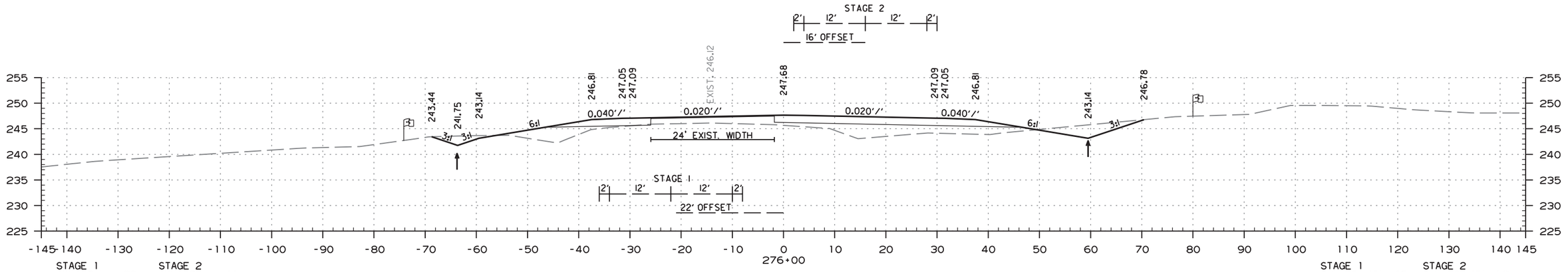
STA. 272+00 TO STA. 273+32.08

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	228	331

(2) CROSS SECTIONS

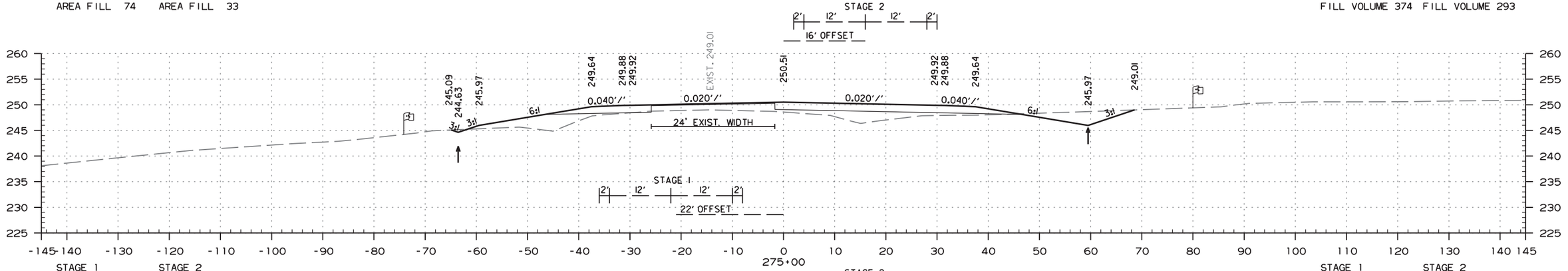


STAGE 1
AREA CUT 28
AREA FILL 74

STAGE 2
AREA CUT 11
AREA FILL 33

STAGE 1
CUT VOLUME 467
FILL VOLUME 374

STAGE 2
CUT VOLUME 52
FILL VOLUME 293

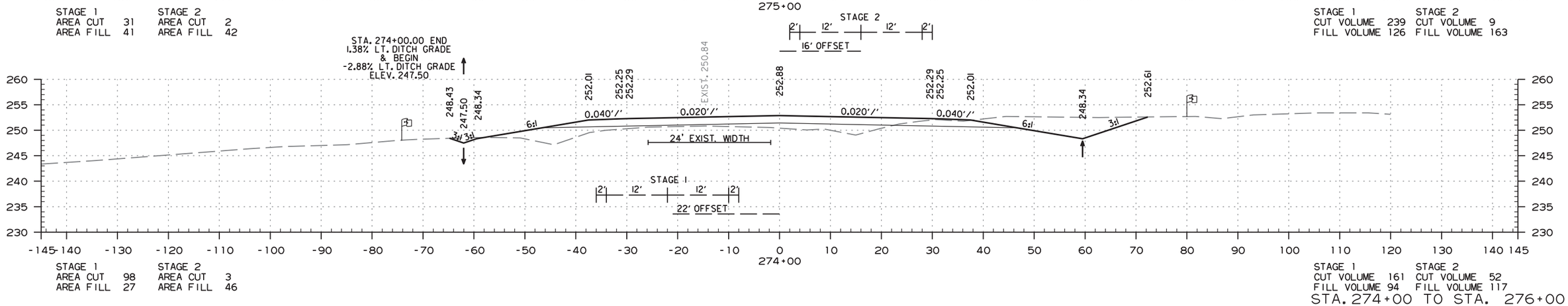


STAGE 1
AREA CUT 31
AREA FILL 41

STAGE 2
AREA CUT 2
AREA FILL 42

STAGE 1
CUT VOLUME 239
FILL VOLUME 126

STAGE 2
CUT VOLUME 9
FILL VOLUME 163



STAGE 1
AREA CUT 98
AREA FILL 27

STAGE 2
AREA CUT 3
AREA FILL 46

STAGE 1
CUT VOLUME 161
FILL VOLUME 94

STAGE 2
CUT VOLUME 52
FILL VOLUME 117

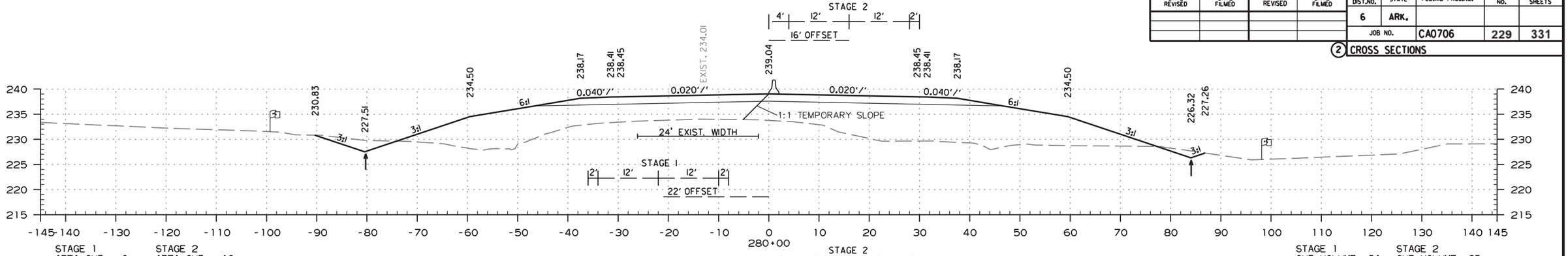
STA. 274+00 TO STA. 276+00

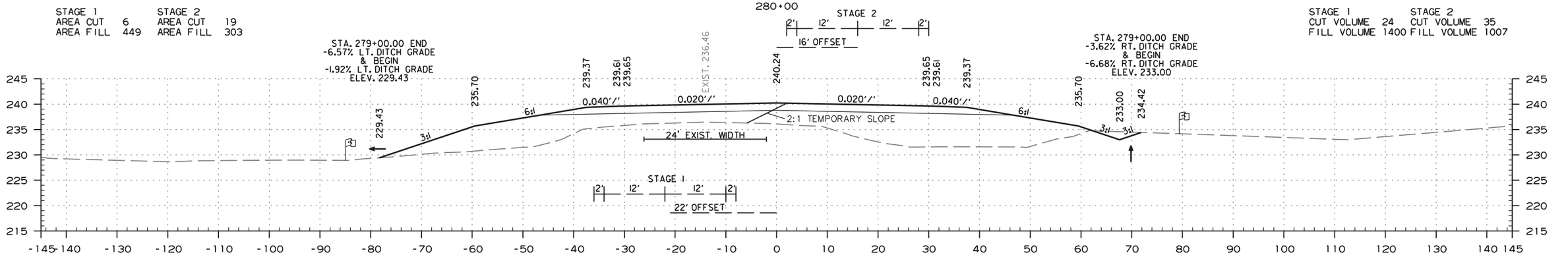
7/30/2020

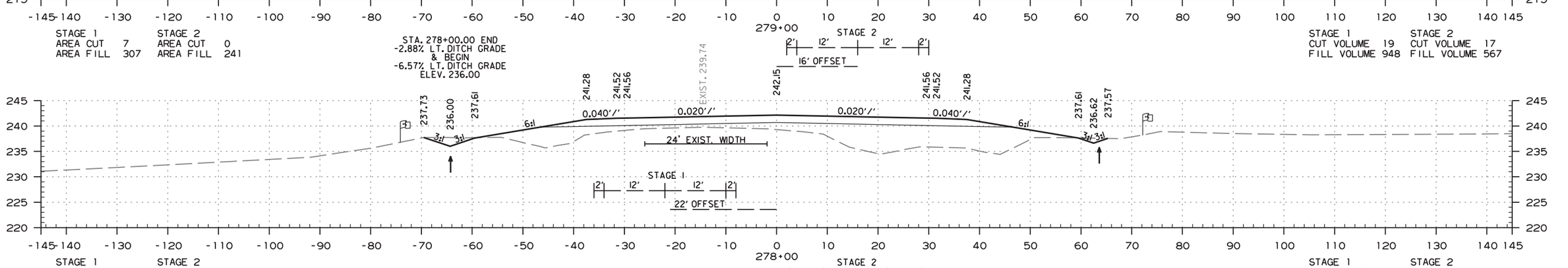
RCA0706.DGN

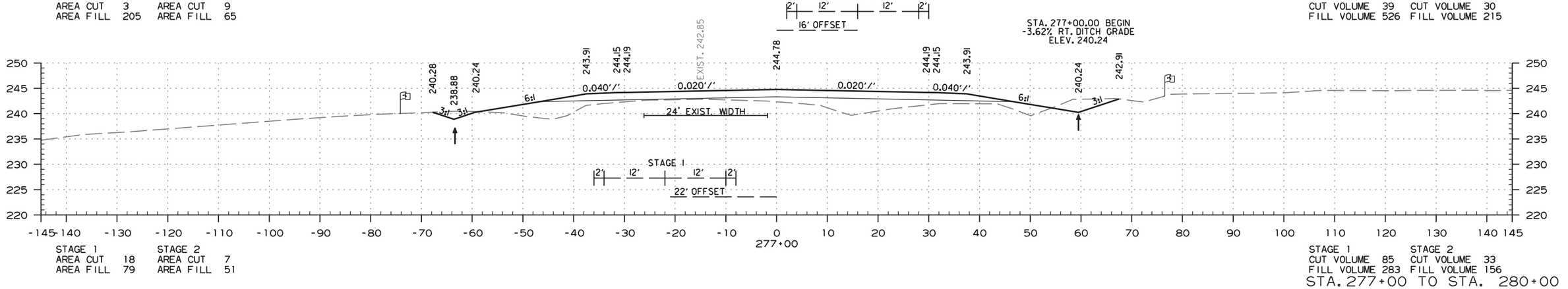
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	229	331

(2) CROSS SECTIONS









STA. 277+00 TO STA. 280+00

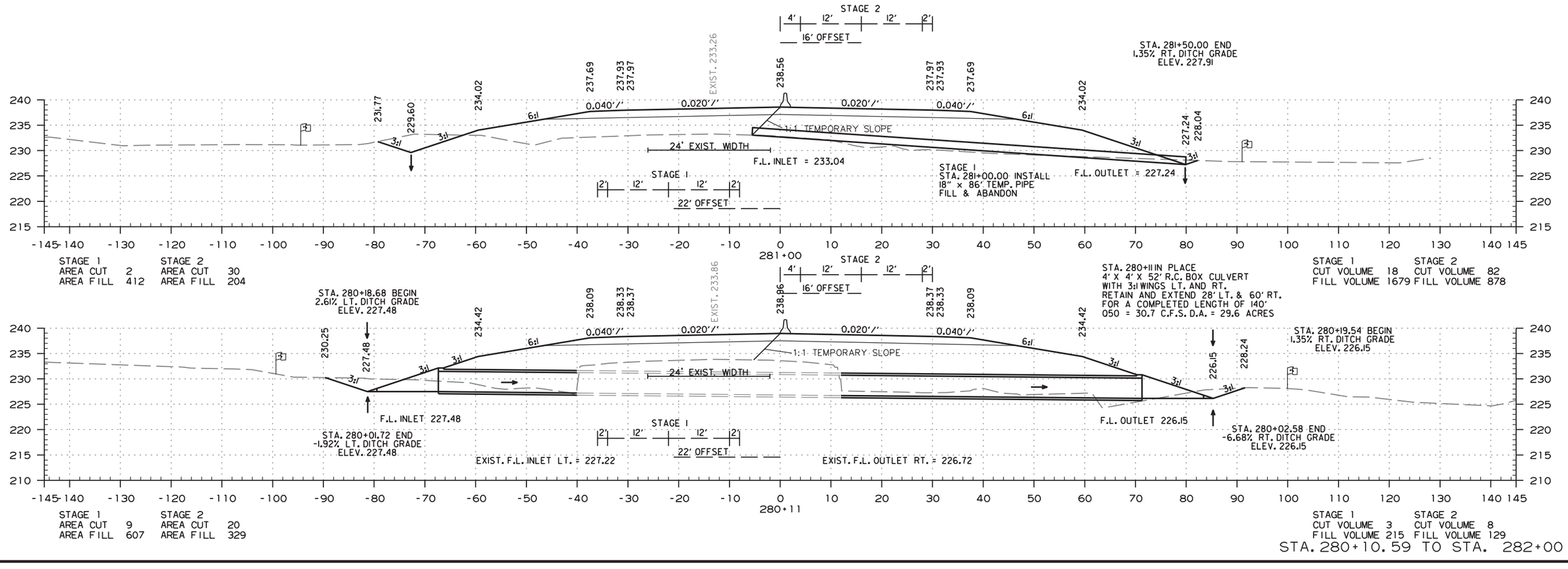
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	230	331

(2) CROSS SECTIONS



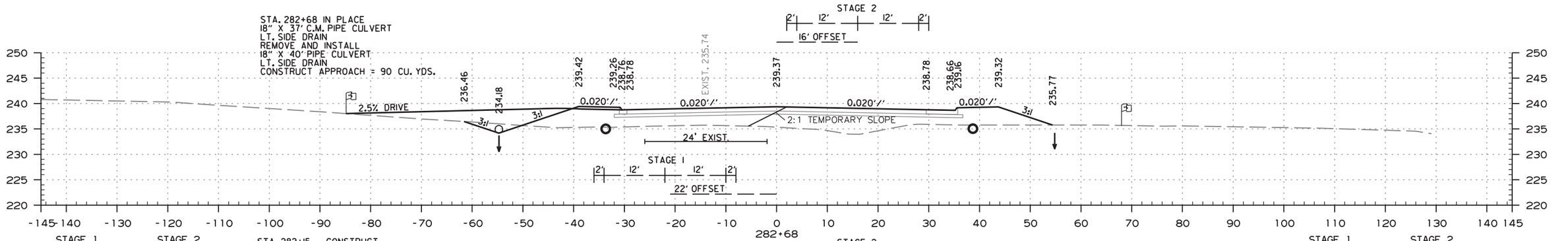
STA. 280+10.59 TO STA. 282+00

7/30/2020

RCA0706.DGN

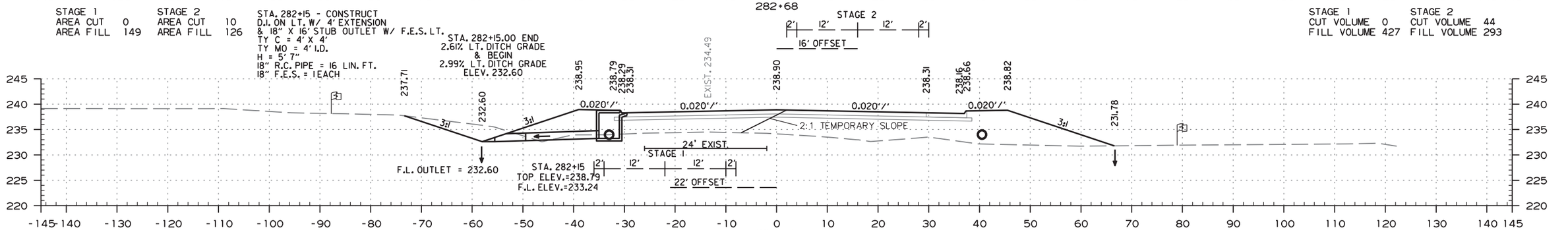
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	231	331

(2) CROSS SECTIONS



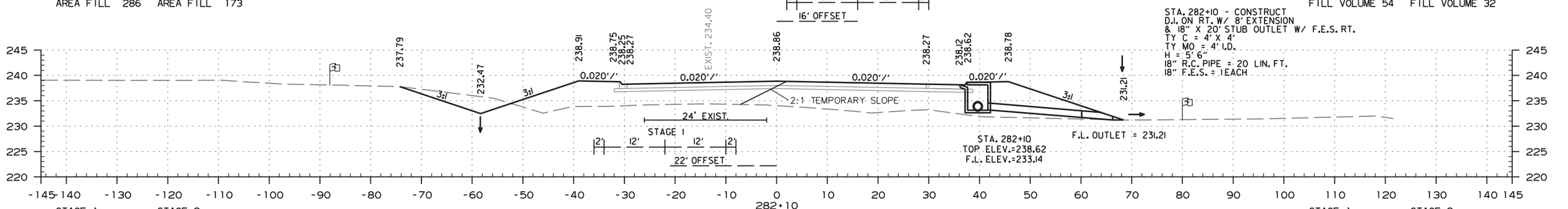
STAGE 1 AREA CUT 0 AREA FILL 149
STAGE 2 AREA CUT 10 AREA FILL 126

STAGE 1 CUT VOLUME 0 FILL VOLUME 427
STAGE 2 CUT VOLUME 44 FILL VOLUME 293



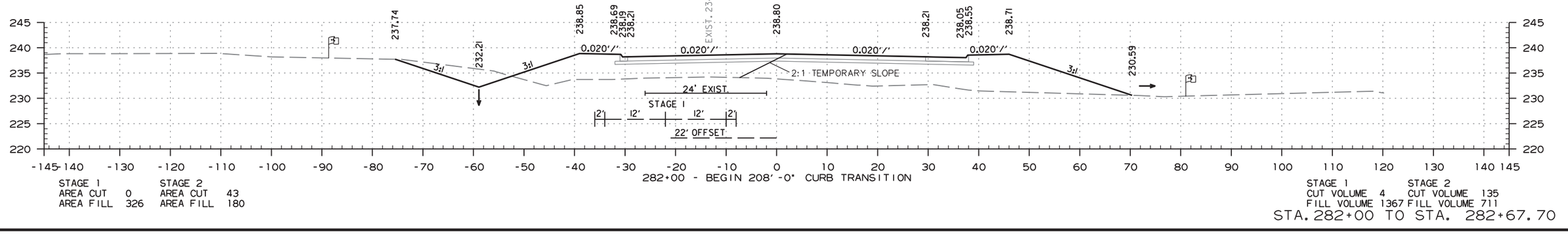
STAGE 1 AREA CUT 0 AREA FILL 286
STAGE 2 AREA CUT 35 AREA FILL 173

STAGE 1 CUT VOLUME 0 FILL VOLUME 54
STAGE 2 CUT VOLUME 7 FILL VOLUME 32



STAGE 1 AREA CUT 0 AREA FILL 300
STAGE 2 AREA CUT 38 AREA FILL 175

STAGE 1 CUT VOLUME 0 FILL VOLUME 116
STAGE 2 CUT VOLUME 15 FILL VOLUME 66



STAGE 1 AREA CUT 0 AREA FILL 326
STAGE 2 AREA CUT 43 AREA FILL 180

STAGE 1 CUT VOLUME 4 FILL VOLUME 1367
STAGE 2 CUT VOLUME 135 FILL VOLUME 711

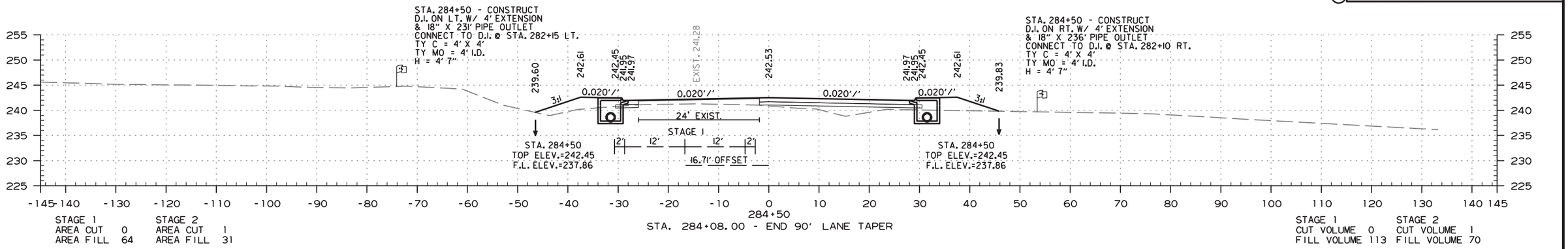
STA. 282+00 TO STA. 282+67.70

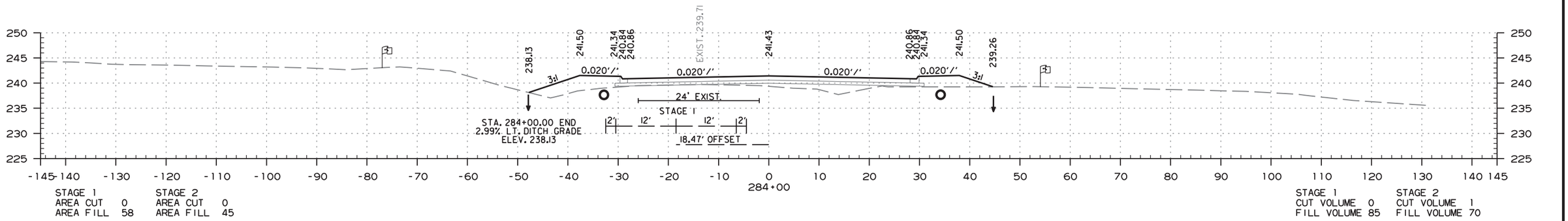
7/30/2020

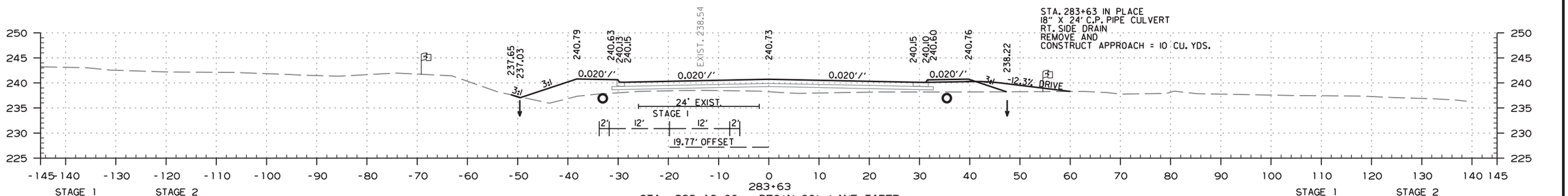
RCA0706.DGN

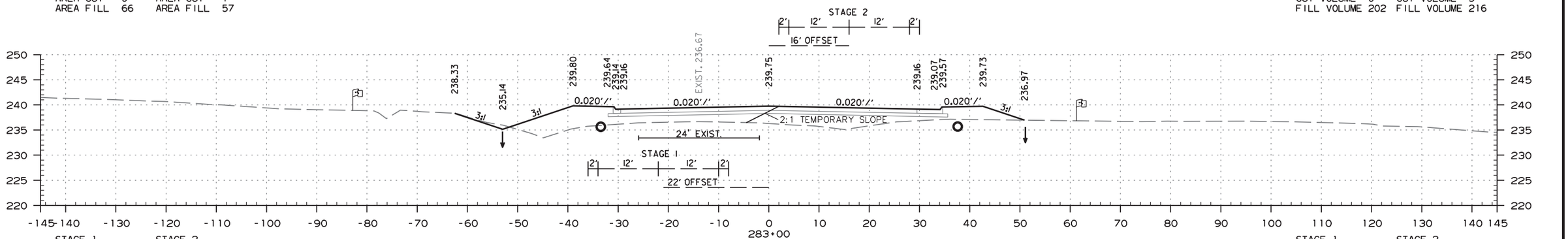
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	232	331

(2) CROSS SECTIONS







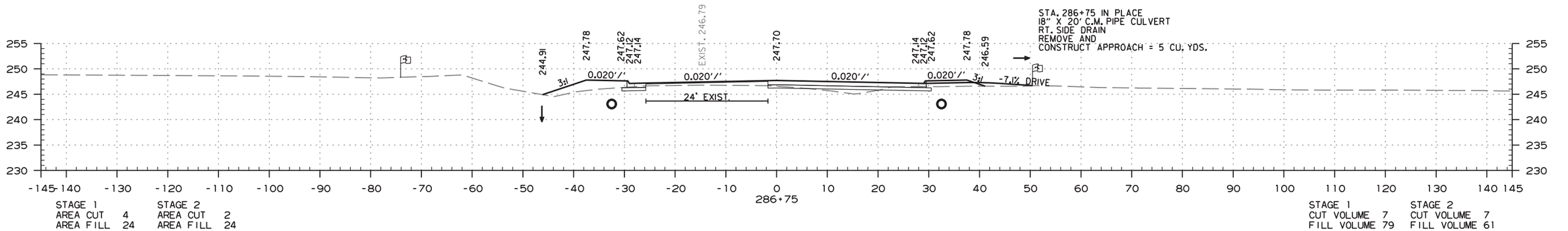


7/30/2020

RCA0706.DGN

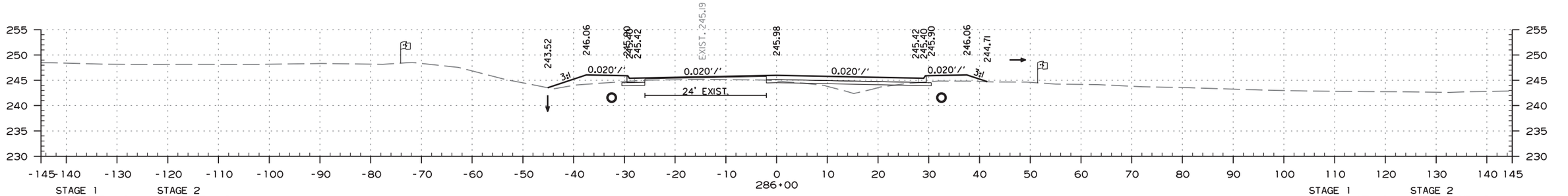
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	233	331

(2) CROSS SECTIONS



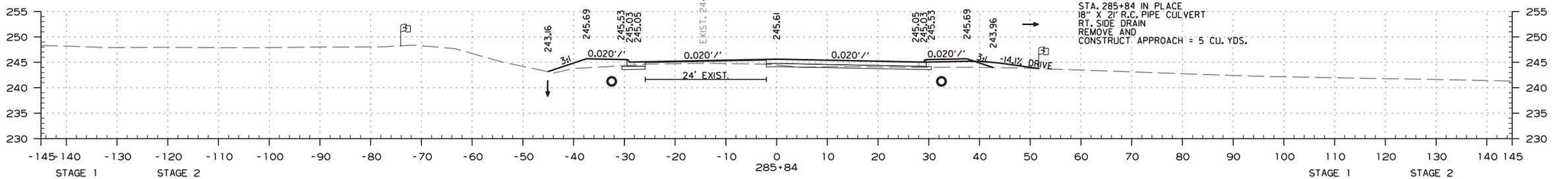
STAGE 1 AREA CUT 4 AREA FILL 24
STAGE 2 AREA CUT 2 AREA FILL 24

STAGE 1 CUT VOLUME 7 FILL VOLUME 79
STAGE 2 CUT VOLUME 7 FILL VOLUME 61



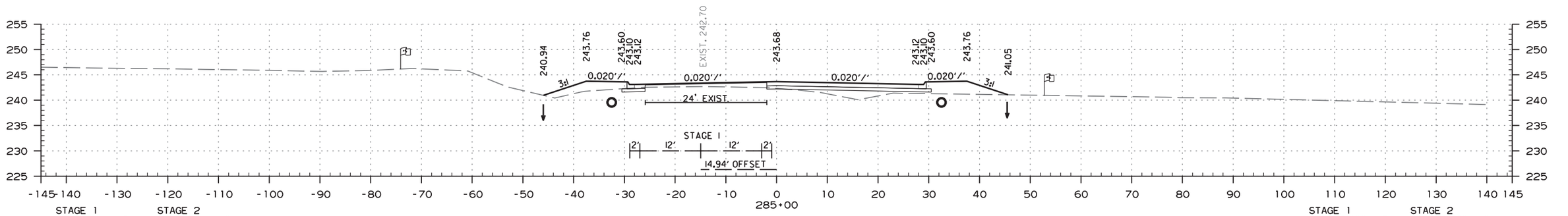
STAGE 1 AREA CUT 1 AREA FILL 33
STAGE 2 AREA CUT 3 AREA FILL 20

STAGE 1 CUT VOLUME 1 FILL VOLUME 15
STAGE 2 CUT VOLUME 2 FILL VOLUME 12



STAGE 1 AREA CUT 1 AREA FILL 19
STAGE 2 AREA CUT 3 AREA FILL 19

STAGE 1 CUT VOLUME 2 FILL VOLUME 121
STAGE 2 CUT VOLUME 8 FILL VOLUME 68



STAGE 1 AREA CUT 0 AREA FILL 59
STAGE 2 AREA CUT 2 AREA FILL 25

STAGE 1 CUT VOLUME 0 FILL VOLUME 114
STAGE 2 CUT VOLUME 3 FILL VOLUME 52

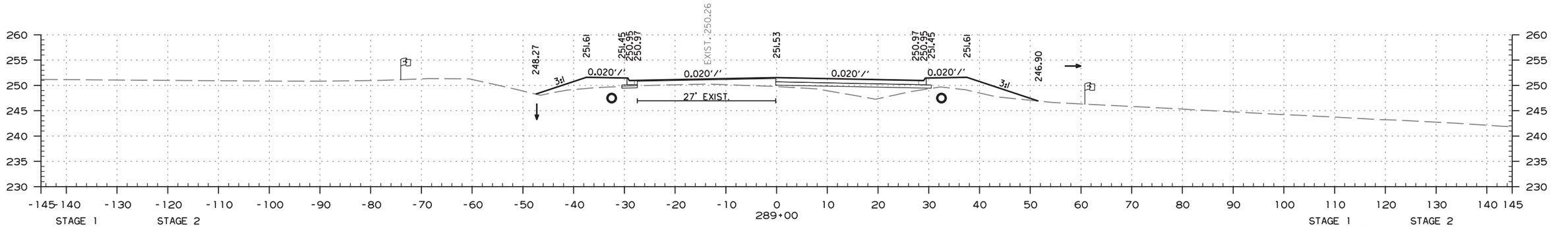
STA. 285+00 TO STA. 286+75.47

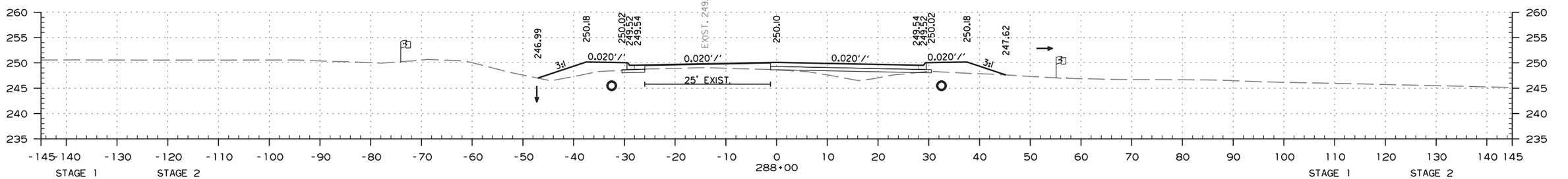
7/30/2020

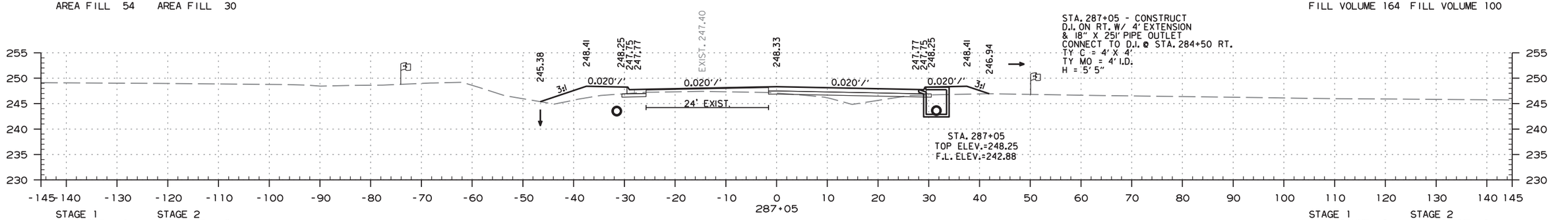
RCA0706.DGN

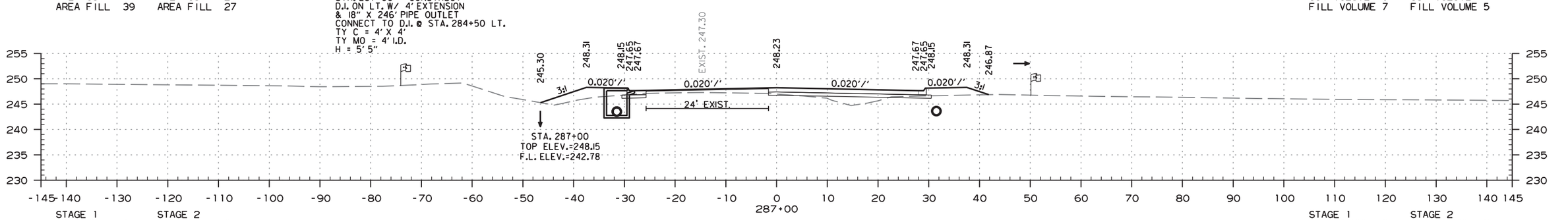
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	234	331

(2) CROSS SECTIONS









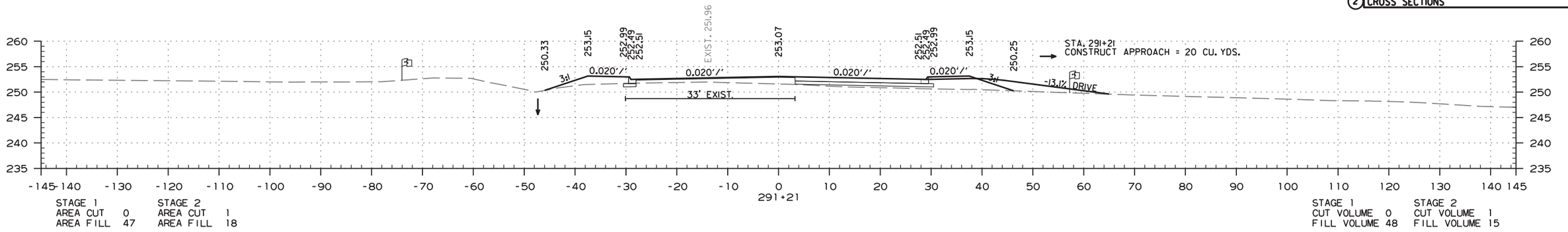
STA. 287+00 TO STA. 289+00

7/30/2020

RCA0706.DGN

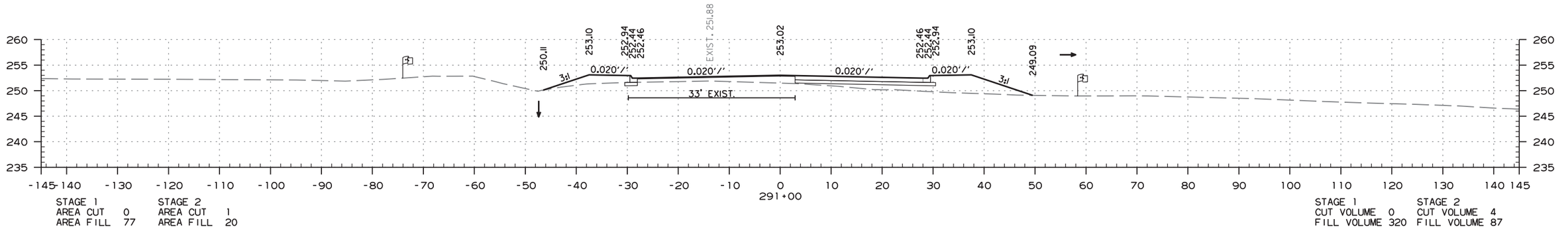
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	235	331

(2) CROSS SECTIONS



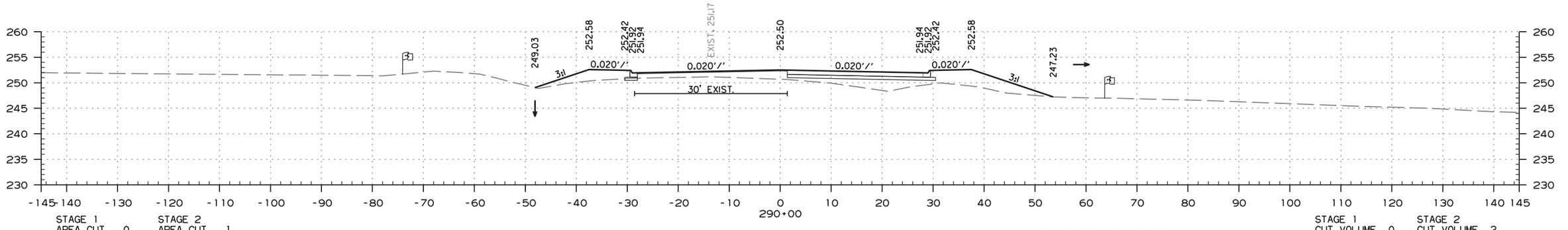
STAGE 1 AREA CUT 0 AREA FILL 47 — STAGE 2 AREA CUT 1 AREA FILL 18

STAGE 1 CUT VOLUME 0 FILL VOLUME 48 — STAGE 2 CUT VOLUME 1 FILL VOLUME 15



STAGE 1 AREA CUT 0 AREA FILL 77 — STAGE 2 AREA CUT 1 AREA FILL 20

STAGE 1 CUT VOLUME 0 FILL VOLUME 320 — STAGE 2 CUT VOLUME 4 FILL VOLUME 87

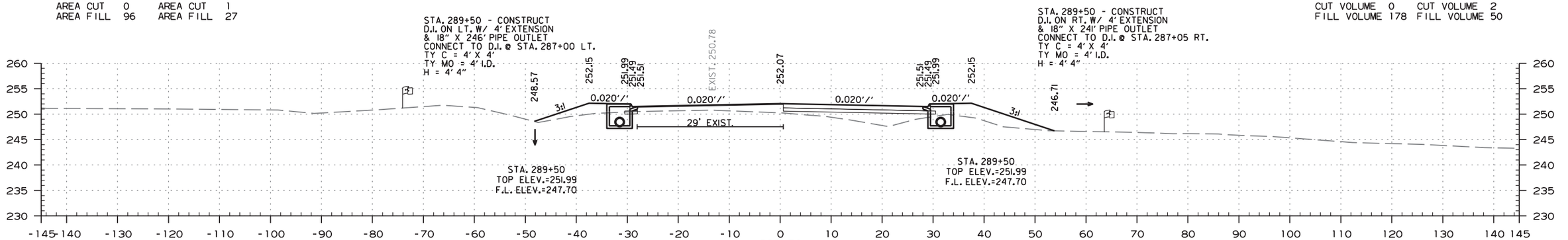


STAGE 1 AREA CUT 0 AREA FILL 96 — STAGE 2 AREA CUT 1 AREA FILL 27

STAGE 1 CUT VOLUME 0 FILL VOLUME 178 — STAGE 2 CUT VOLUME 2 FILL VOLUME 50

STA. 289+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 287+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 289+50 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 241' PIPE OUTLET
CONNECT TO D.I. @ STA. 287+05 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"



STA. 289+50
TOP ELEV.=251.99
F.L. ELEV.=247.70

STA. 289+50
TOP ELEV.=251.99
F.L. ELEV.=247.70

STAGE 1 AREA CUT 0 AREA FILL 96 — STAGE 2 AREA CUT 1 AREA FILL 27

STAGE 1 CUT VOLUME 0 FILL VOLUME 163 — STAGE 2 CUT VOLUME 2 FILL VOLUME 50

STA. 289+50 TO STA. 291+21.24

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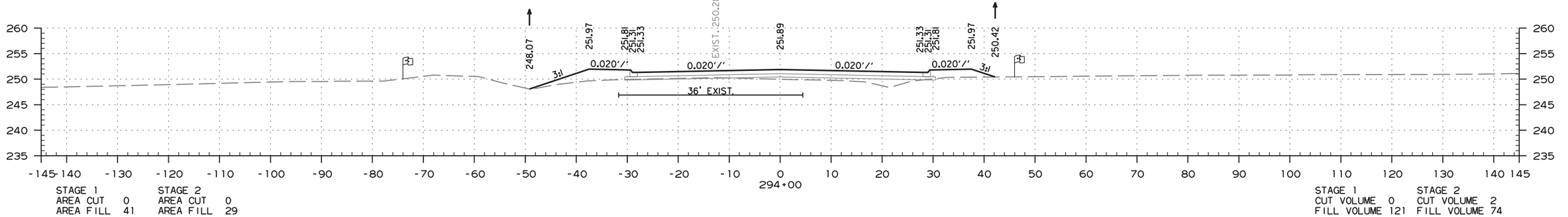
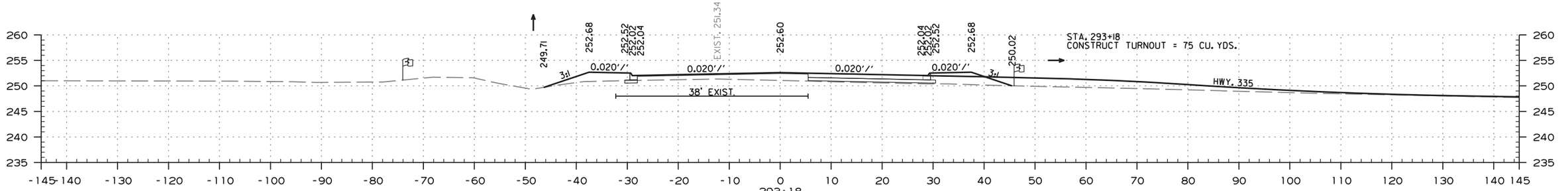
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	236	331

(2) CROSS SECTIONS



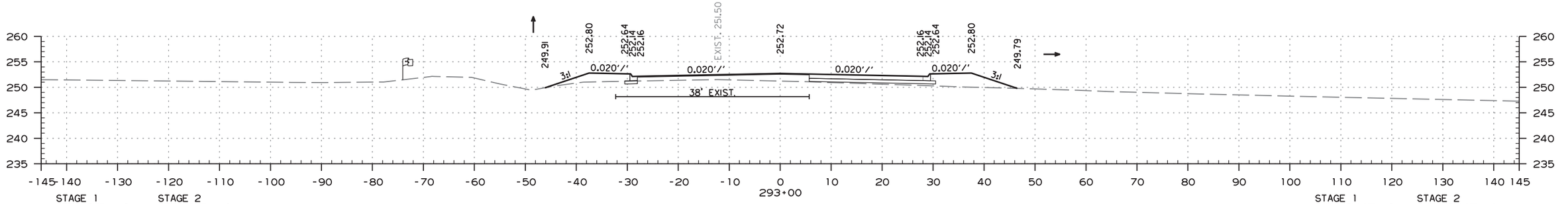
STAGE 1 AREA CUT 0 AREA FILL 41
STAGE 2 AREA CUT 0 AREA FILL 29

STAGE 1 CUT VOLUME 0 FILL VOLUME 121
STAGE 2 CUT VOLUME 2 FILL VOLUME 74



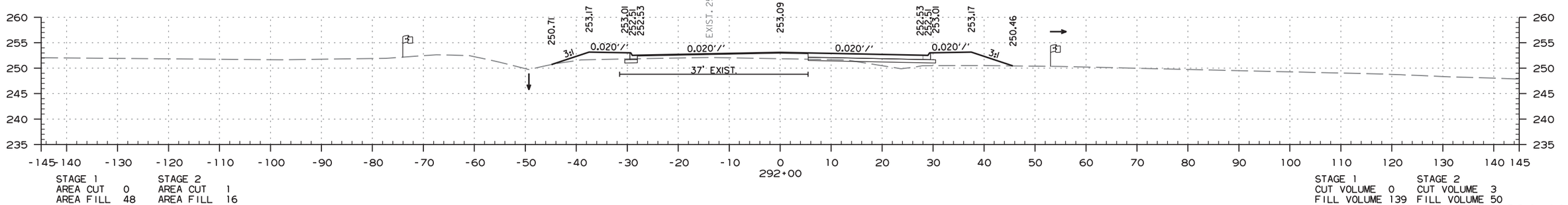
STAGE 1 AREA CUT 0 AREA FILL 39
STAGE 2 AREA CUT 1 AREA FILL 20

STAGE 1 CUT VOLUME 0 FILL VOLUME 28
STAGE 2 CUT VOLUME 1 FILL VOLUME 13



STAGE 1 AREA CUT 0 AREA FILL 46
STAGE 2 AREA CUT 1 AREA FILL 19

STAGE 1 CUT VOLUME 0 FILL VOLUME 174
STAGE 2 CUT VOLUME 4 FILL VOLUME 65



STAGE 1 AREA CUT 0 AREA FILL 48
STAGE 2 AREA CUT 1 AREA FILL 16

STAGE 1 CUT VOLUME 0 FILL VOLUME 139
STAGE 2 CUT VOLUME 3 FILL VOLUME 50

STA. 292+00 TO STA. 294+00

7/30/2020

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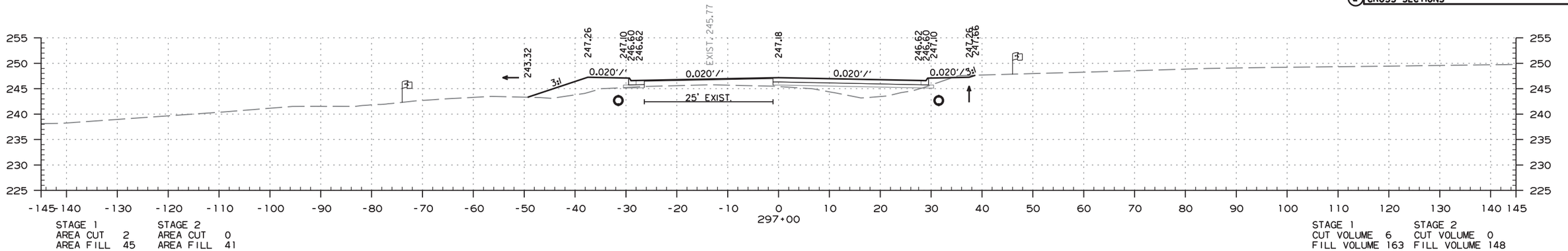
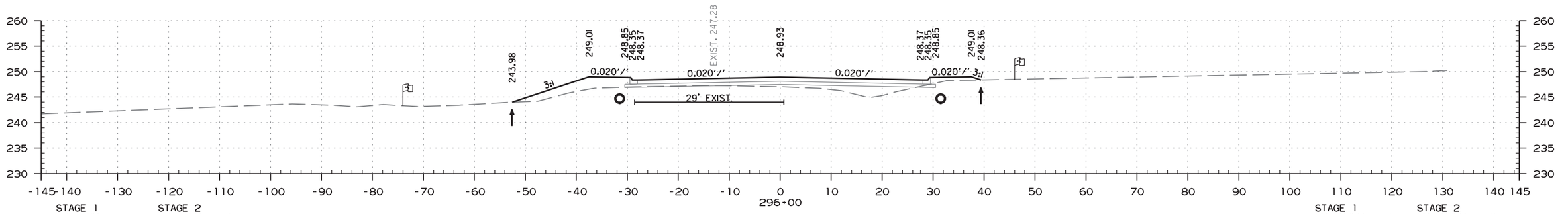
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	237	331

(2) CROSS SECTIONS



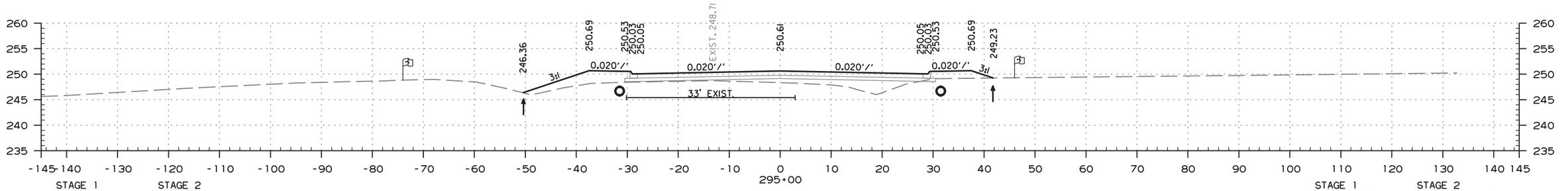
STAGE 1 AREA CUT 2 AREA FILL 45
STAGE 2 AREA CUT 0 AREA FILL 41

STAGE 1 CUT VOLUME 6 FILL VOLUME 163
STAGE 2 CUT VOLUME 0 FILL VOLUME 148



STAGE 1 AREA CUT 1 AREA FILL 43
STAGE 2 AREA CUT 0 AREA FILL 39

STAGE 1 CUT VOLUME 4 FILL VOLUME 185
STAGE 2 CUT VOLUME 0 FILL VOLUME 143

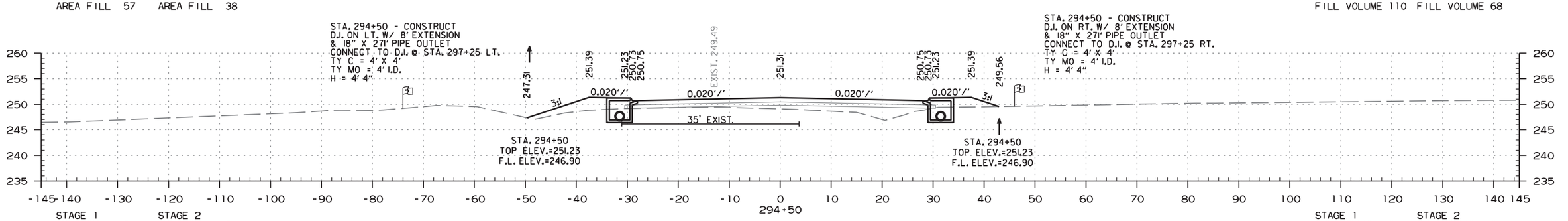


STAGE 1 AREA CUT 1 AREA FILL 57
STAGE 2 AREA CUT 0 AREA FILL 38

STAGE 1 CUT VOLUME 1 FILL VOLUME 110
STAGE 2 CUT VOLUME 0 FILL VOLUME 68

STA. 294+50 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 27I' PIPE OUTLET
CONNECT TO D.I. @ STA. 297+25 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"

STA. 294+50 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 27I' PIPE OUTLET
CONNECT TO D.I. @ STA. 297+25 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"



STA. 294+50
TOP ELEV.=251.23
F.L. ELEV.=246.90

STA. 294+50
TOP ELEV.=251.23
F.L. ELEV.=246.90

STAGE 1 AREA CUT 0 AREA FILL 62
STAGE 2 AREA CUT 0 AREA FILL 35

STAGE 1 CUT VOLUME 0 FILL VOLUME 95
STAGE 2 CUT VOLUME 0 FILL VOLUME 59

STA. 294+50 TO STA. 297+00

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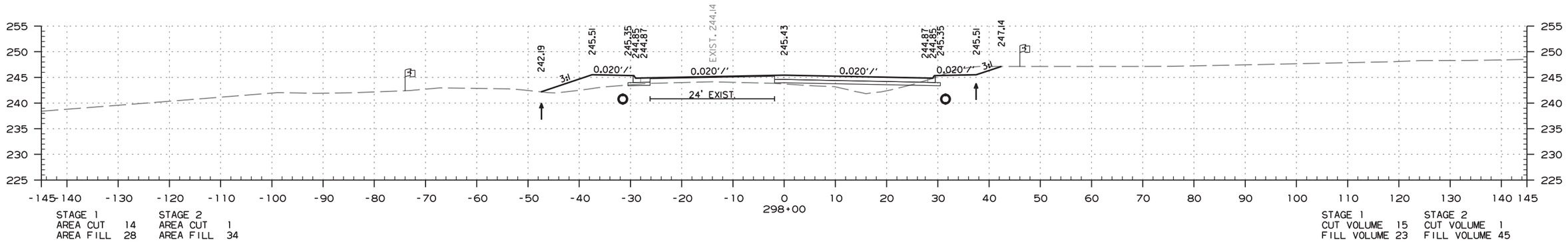
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	238	331

(2) CROSS SECTIONS



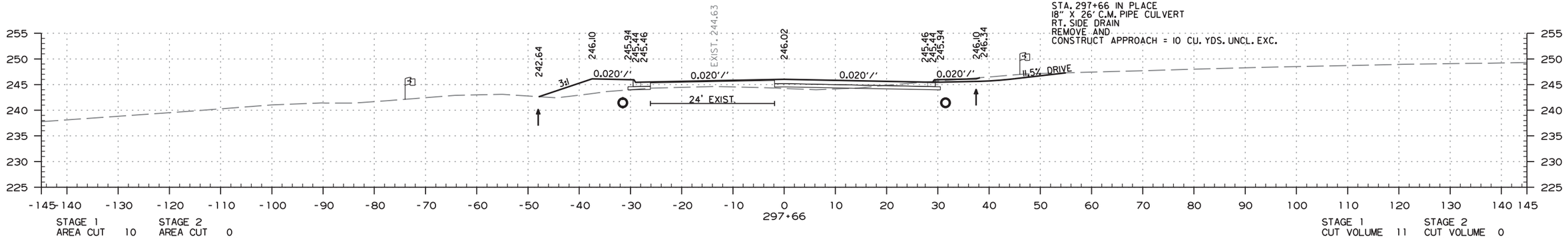
STAGE 1
AREA CUT 14
AREA FILL 28

STAGE 2
AREA CUT 1
AREA FILL 34

STAGE 1
CUT VOLUME 15
FILL VOLUME 23

STAGE 2
CUT VOLUME 1
FILL VOLUME 45

STA. 297+66 IN PLACE
18" X 26' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.



STAGE 1
AREA CUT 10
AREA FILL 9

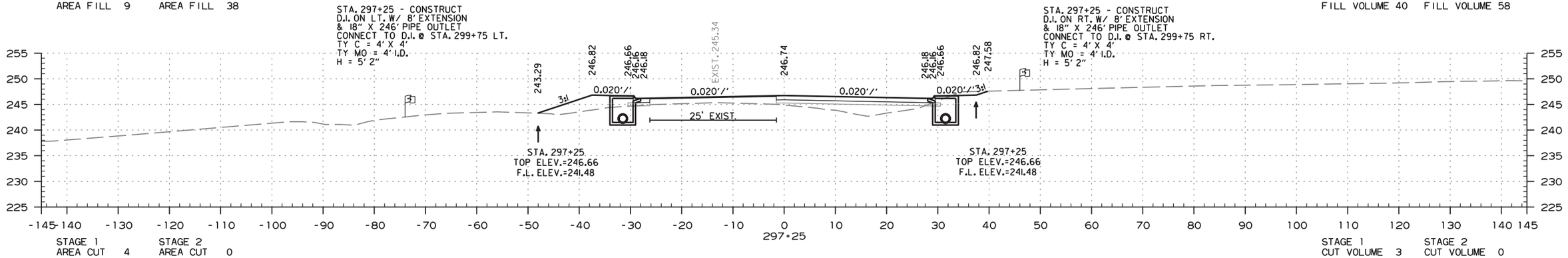
STAGE 2
AREA CUT 0
AREA FILL 38

STAGE 1
CUT VOLUME 11
FILL VOLUME 40

STAGE 2
CUT VOLUME 0
FILL VOLUME 58

STA. 297+25 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 299+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 2"

STA. 297+25 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 299+75 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 2"



STA. 297+25
TOP ELEV.=246.66
F.L. ELEV.=241.48

STA. 297+25
TOP ELEV.=246.66
F.L. ELEV.=241.48

STAGE 1
AREA CUT 4
AREA FILL 44

STAGE 2
AREA CUT 0
AREA FILL 39

STAGE 1
CUT VOLUME 3
FILL VOLUME 41

STAGE 2
CUT VOLUME 0
FILL VOLUME 37

STA. 297+25 TO STA. 298+00

7/30/2020

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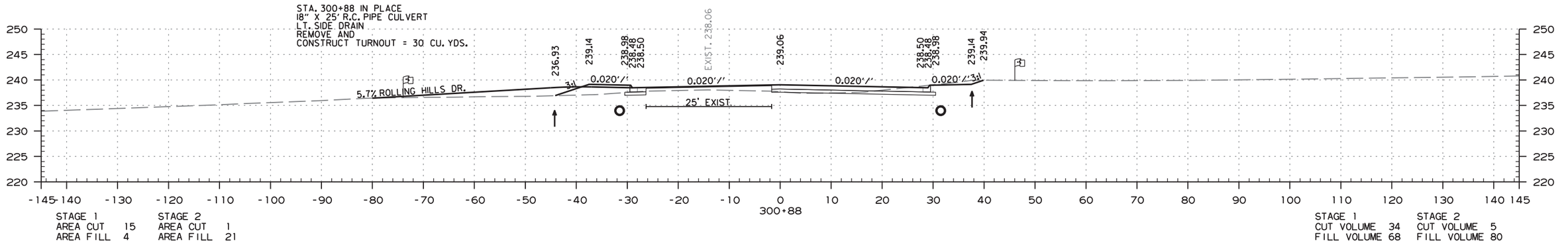
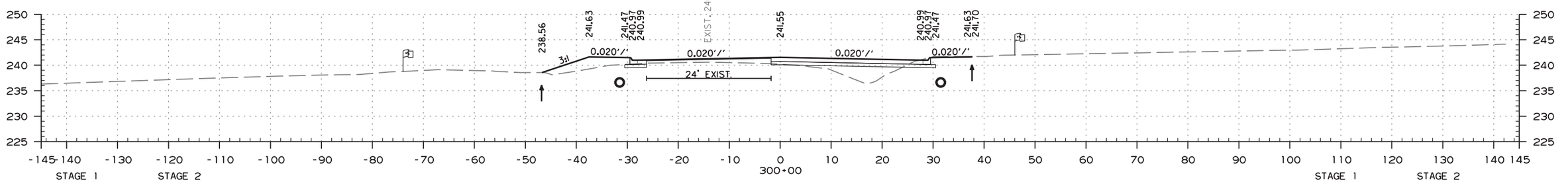
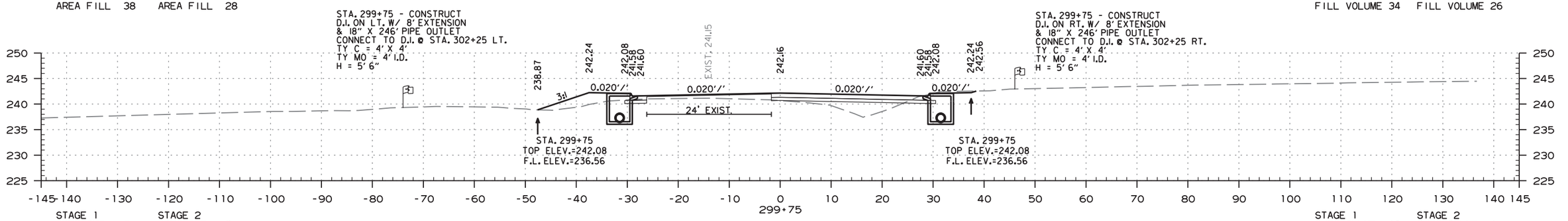
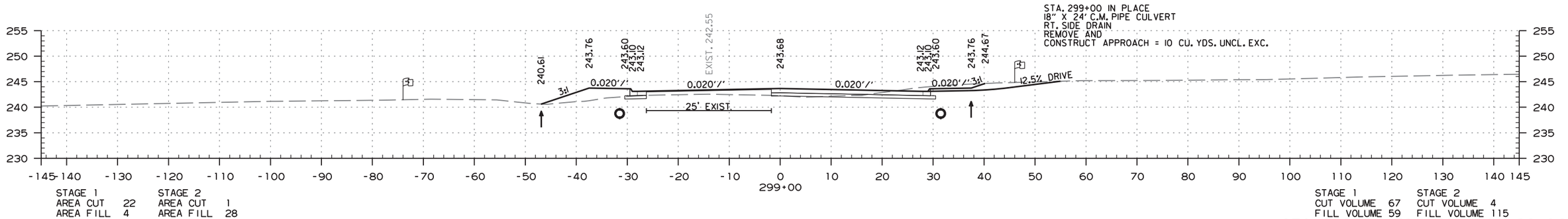
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	239	331

(2) CROSS SECTIONS









STA. 299+00 TO STA. 300+88.16

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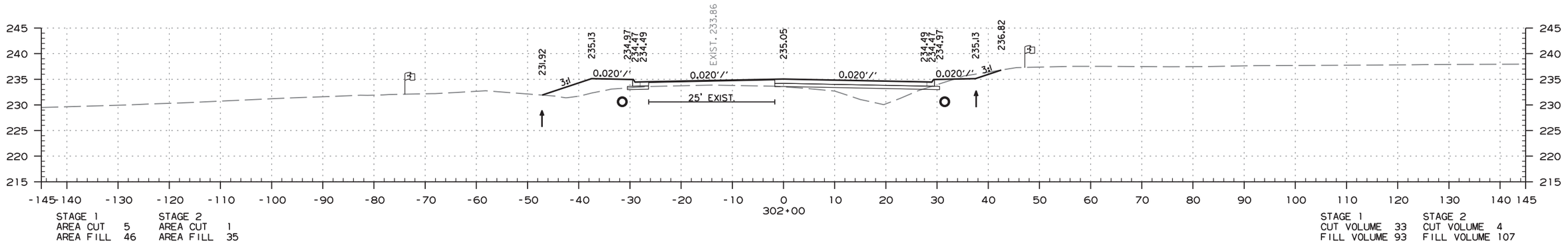
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	240	331

(2) CROSS SECTIONS

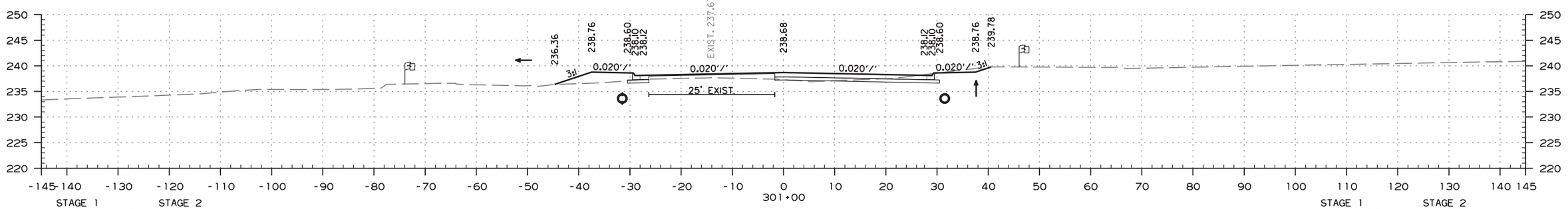


STAGE 1
AREA CUT 5
AREA FILL 46

STAGE 2
AREA CUT 1
AREA FILL 35

STAGE 1
CUT VOLUME 33
FILL VOLUME 93

STAGE 2
CUT VOLUME 4
FILL VOLUME 107

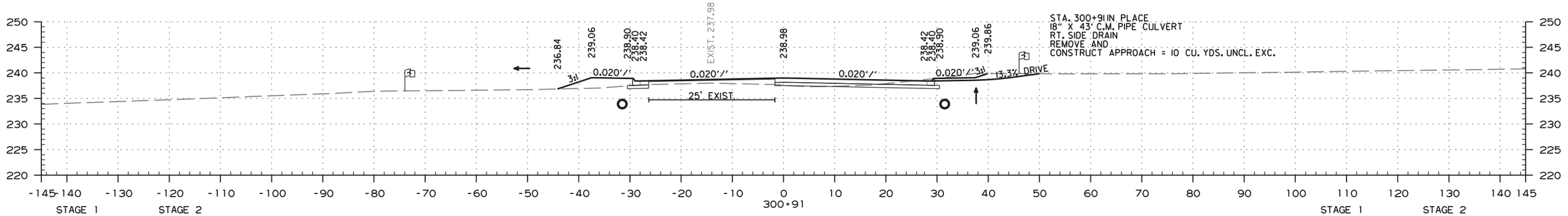


STAGE 1
AREA CUT 13
AREA FILL 4

STAGE 2
AREA CUT 1
AREA FILL 23

STAGE 1
CUT VOLUME 5
FILL VOLUME 1

STAGE 2
CUT VOLUME 1
FILL VOLUME 8



STAGE 1
AREA CUT 15
AREA FILL 4

STAGE 2
AREA CUT 1
AREA FILL 22

STAGE 1
CUT VOLUME 2
FILL VOLUME 1

STAGE 2
CUT VOLUME 1
FILL VOLUME 2

STA. 300+90.52 TO STA. 302+00

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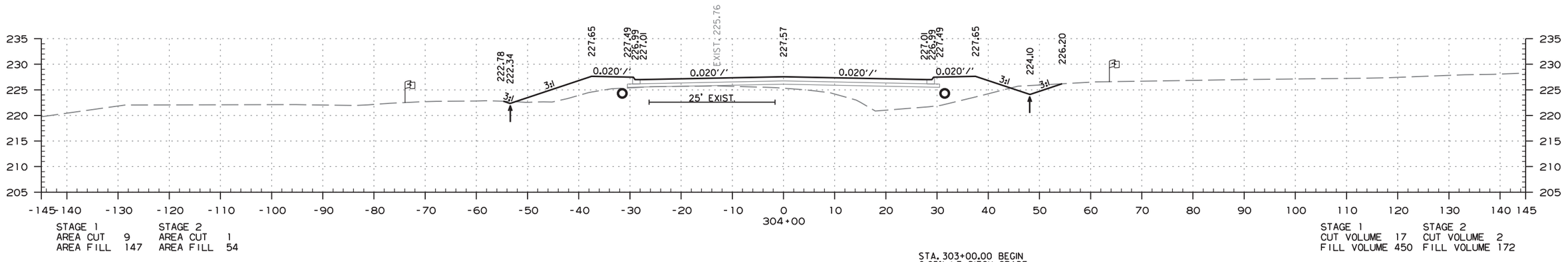
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	241	331

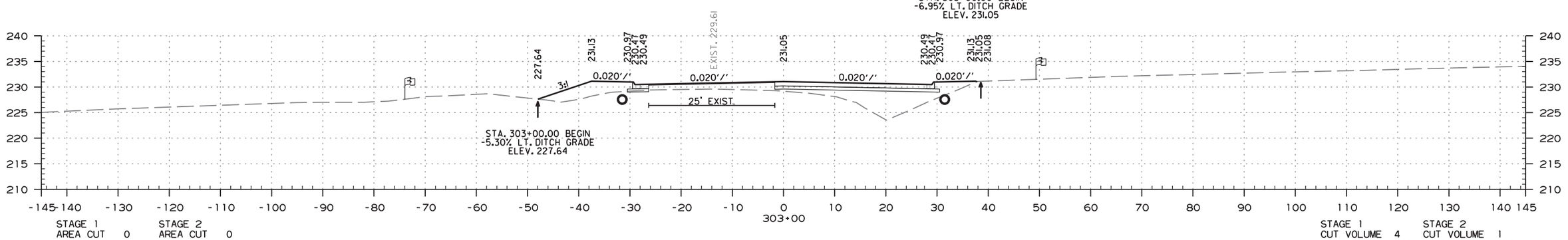
(2) CROSS SECTIONS



STAGE 1 AREA CUT 9 AREA FILL 147
STAGE 2 AREA CUT 1 AREA FILL 54

STAGE 1 CUT VOLUME 17 FILL VOLUME 450
STAGE 2 CUT VOLUME 2 FILL VOLUME 172

STA. 303+00.00 BEGIN
-6.95% LT. DITCH GRADE
ELEV. 231.05



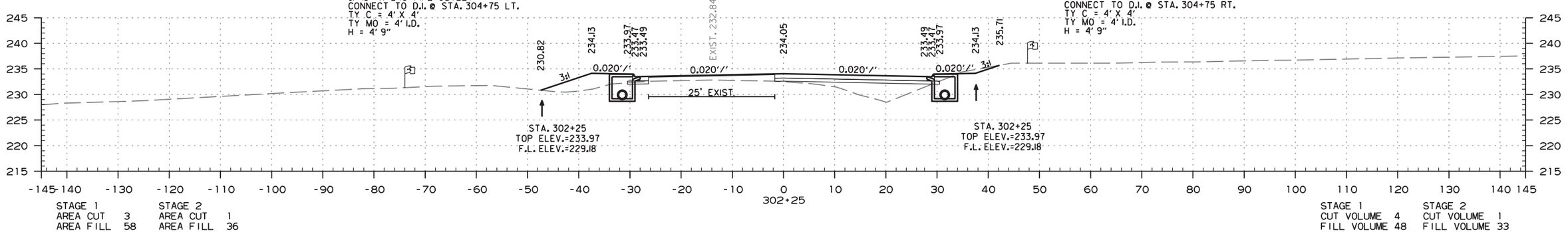
STA. 303+00.00 BEGIN
-5.30% LT. DITCH GRADE
ELEV. 227.64

STAGE 1 AREA CUT 0 AREA FILL 96
STAGE 2 AREA CUT 0 AREA FILL 39

STAGE 1 CUT VOLUME 4 FILL VOLUME 214
STAGE 2 CUT VOLUME 1 FILL VOLUME 104

STA. 302+25 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 304+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 9"

STA. 302+25 - CONSTRUCT
D.I. ON RT. W/ 8' EXTENSION
& 18" X 246' PIPE OUTLET
CONNECT TO D.I. @ STA. 304+75 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 9"



STA. 302+25
TOP ELEV.=233.97
F.L. ELEV.=229.18

STA. 302+25
TOP ELEV.=233.97
F.L. ELEV.=229.18

STAGE 1 AREA CUT 3 AREA FILL 58
STAGE 2 AREA CUT 1 AREA FILL 36

STAGE 1 CUT VOLUME 4 FILL VOLUME 48
STAGE 2 CUT VOLUME 1 FILL VOLUME 33

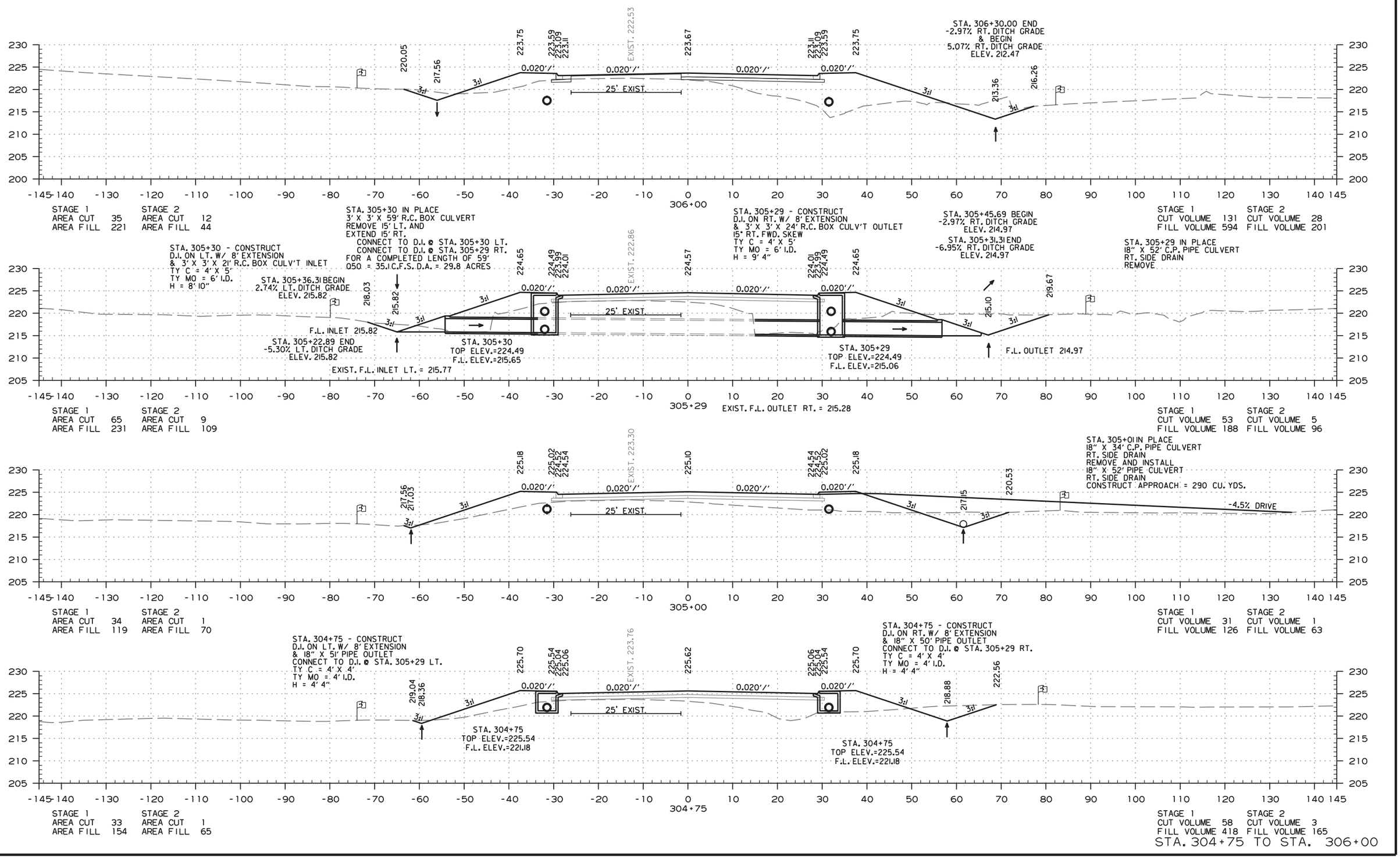
STA. 302+25 TO STA. 304+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	242	331

(2) CROSS SECTIONS



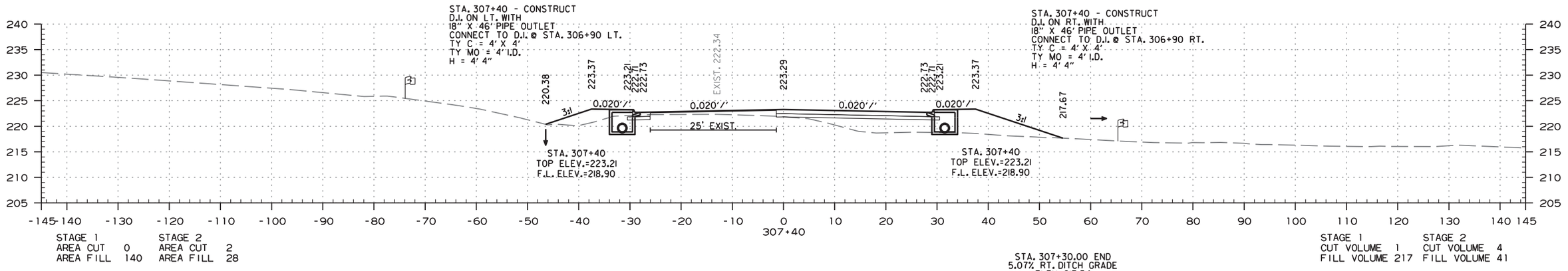
STA. 304+75 TO STA. 306+00

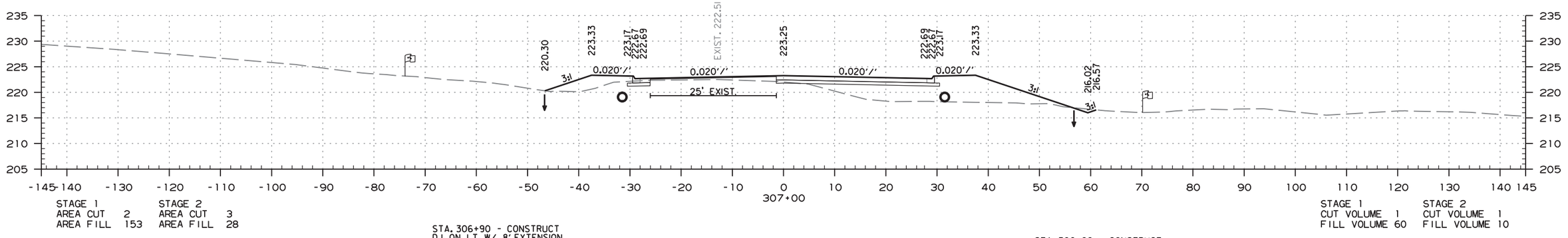
7/30/2020

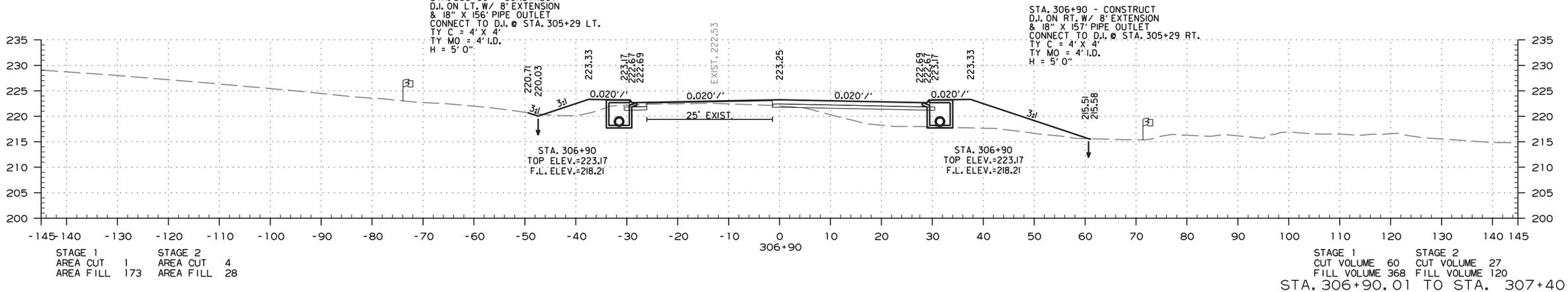
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	243	331

(2) CROSS SECTIONS







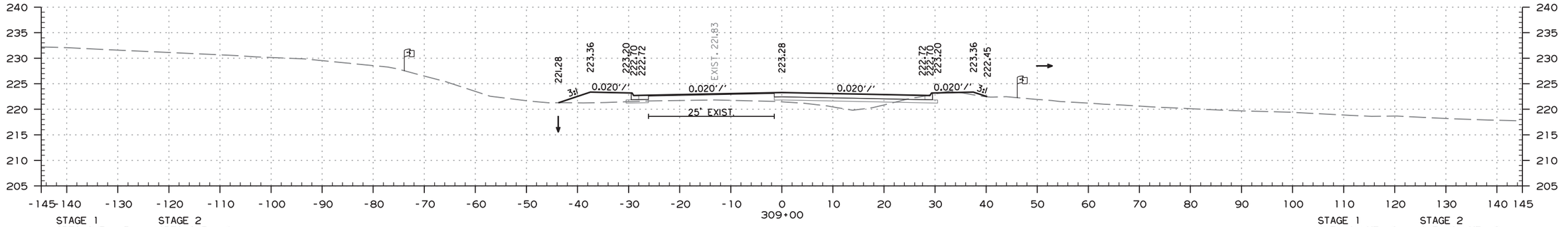
STA. 306+90.01 TO STA. 307+40

7/30/2020

RCA0706.DGN

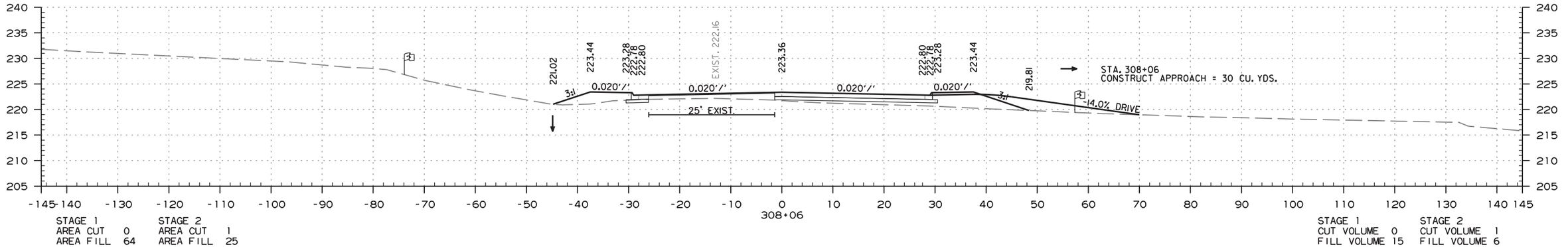
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	244	331

(2) CROSS SECTIONS



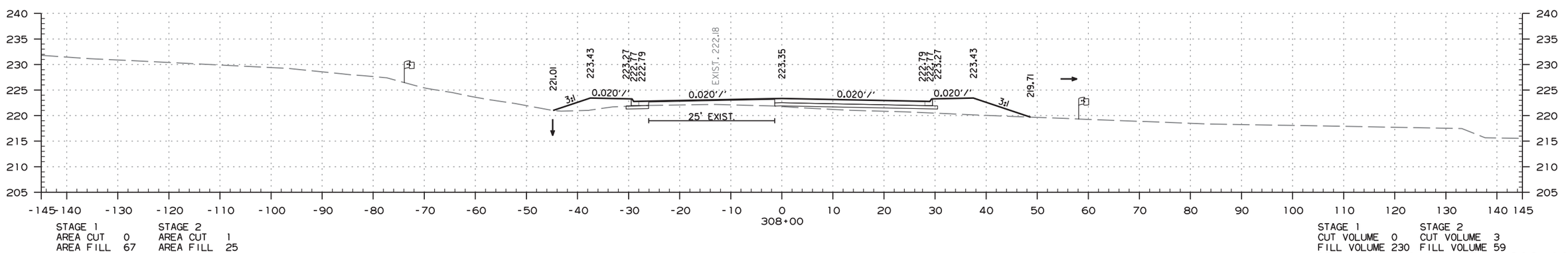
STAGE 1 AREA CUT 5 AREA FILL 29
STAGE 2 AREA CUT 0 AREA FILL 23

STAGE 1 CUT VOLUME 9 FILL VOLUME 162
STAGE 2 CUT VOLUME 2 FILL VOLUME 84



STAGE 1 AREA CUT 0 AREA FILL 64
STAGE 2 AREA CUT 1 AREA FILL 25

STAGE 1 CUT VOLUME 0 FILL VOLUME 15
STAGE 2 CUT VOLUME 1 FILL VOLUME 6



STAGE 1 AREA CUT 0 AREA FILL 67
STAGE 2 AREA CUT 1 AREA FILL 25

STAGE 1 CUT VOLUME 0 FILL VOLUME 230
STAGE 2 CUT VOLUME 3 FILL VOLUME 59

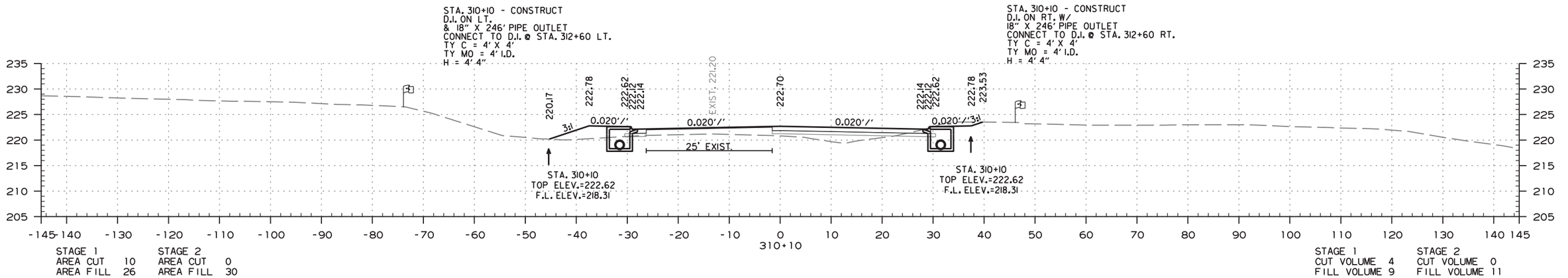
STA. 308+00 TO STA. 309+00

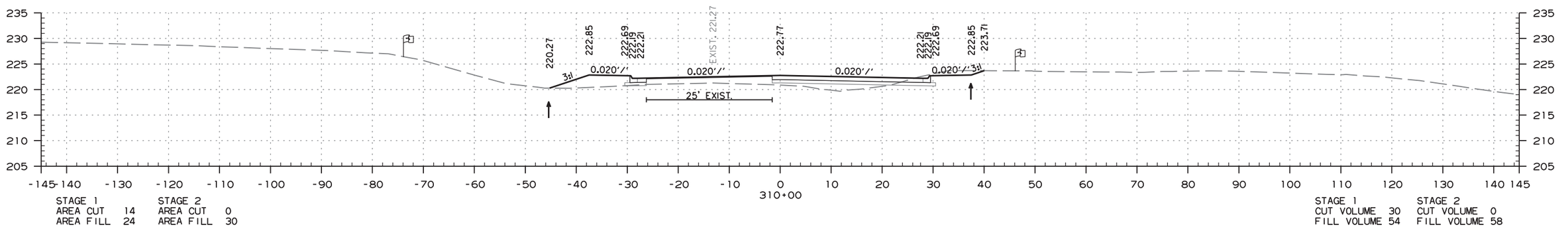
7/30/2020

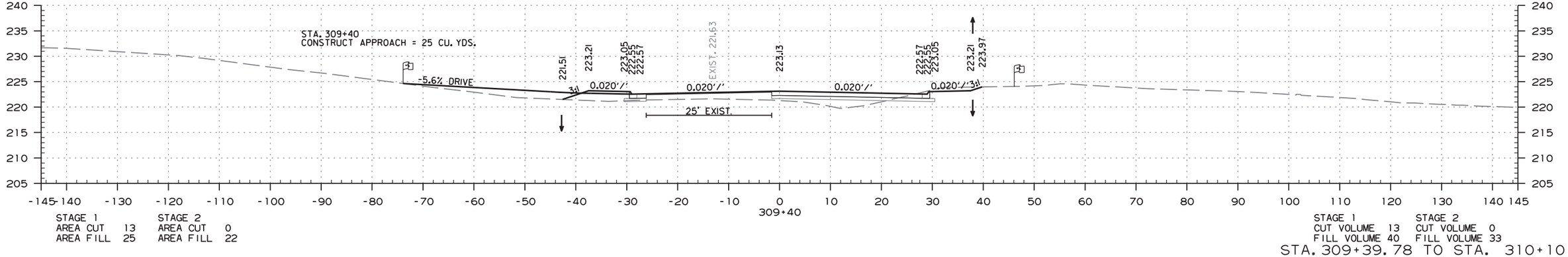
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	245	331

(2) CROSS SECTIONS







STA. 309+39.78 TO STA. 310+10

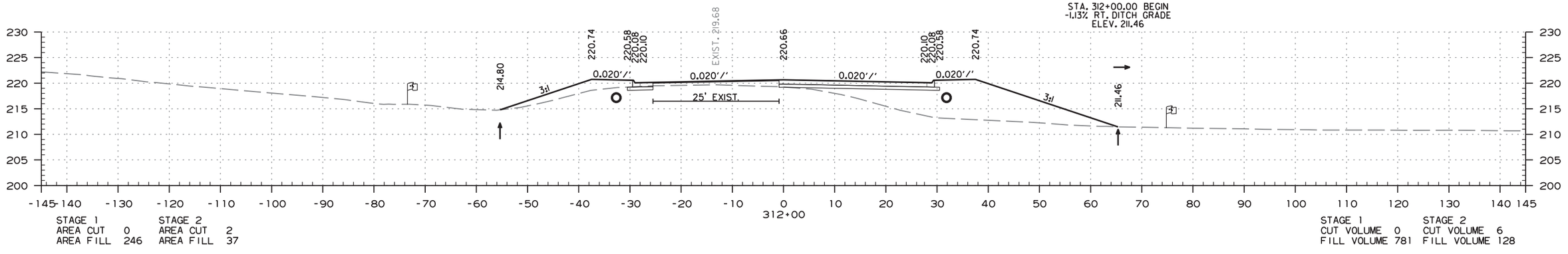
7/30/2020

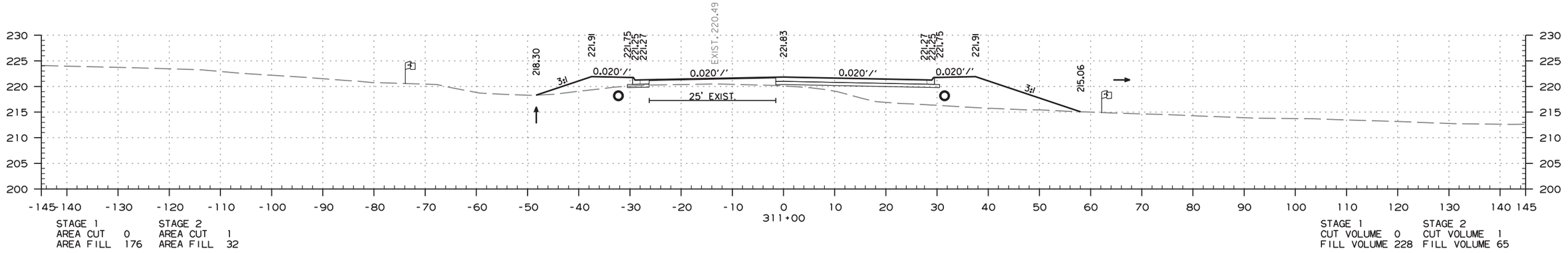
RCA0706.DGN

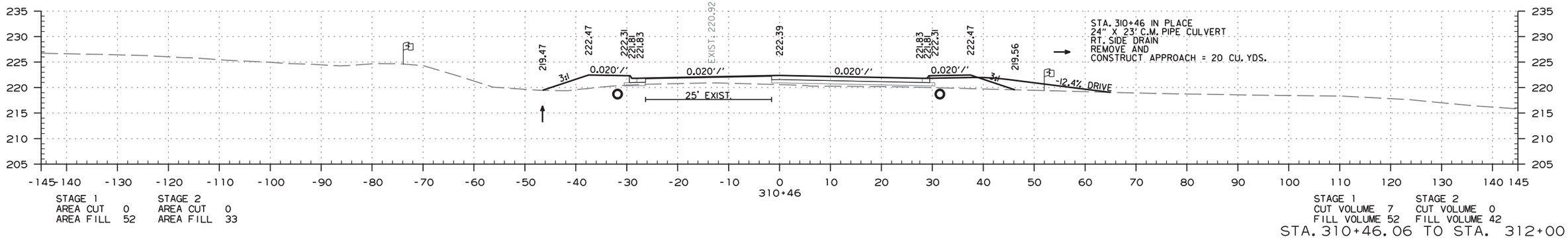
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	246	331

(2) CROSS SECTIONS







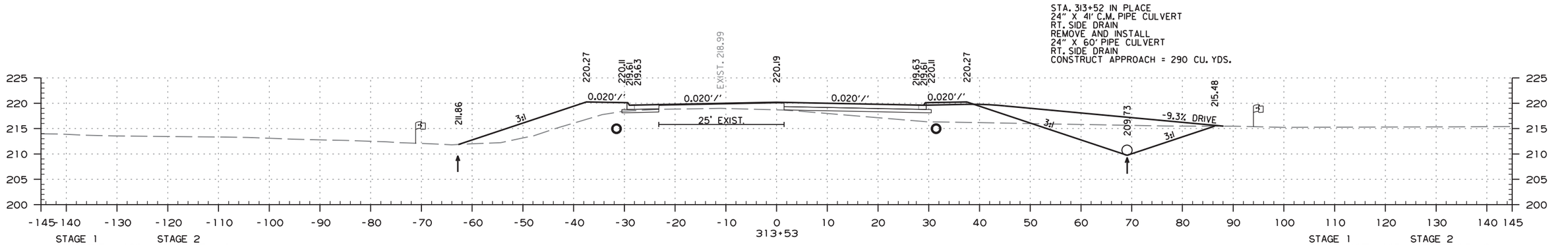
STA. 310+46.06 TO STA. 312+00

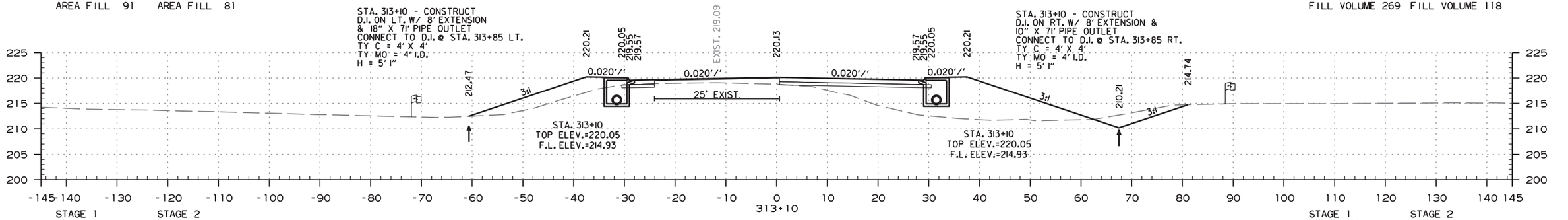
7/30/2020

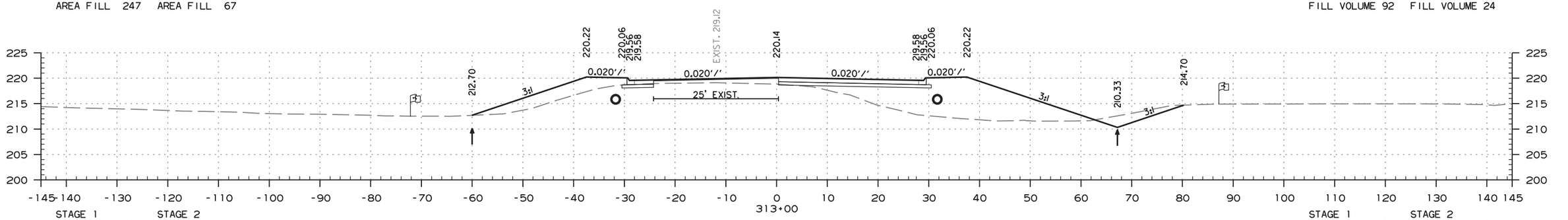
RCA0706.DGN

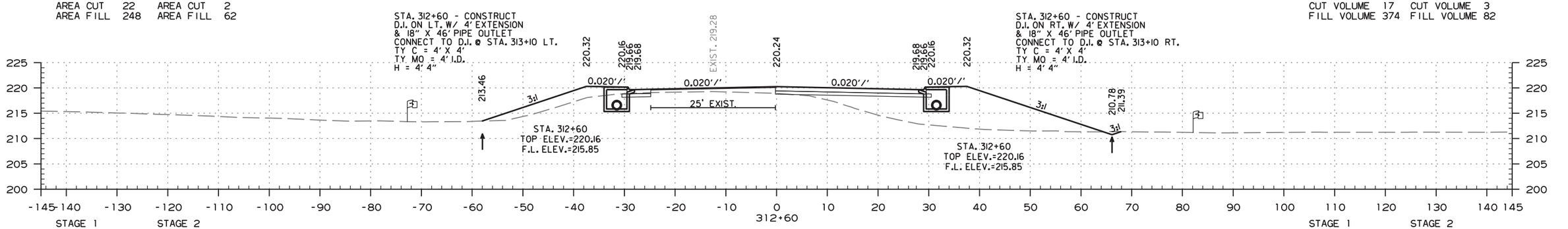
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	247	331

(2) CROSS SECTIONS









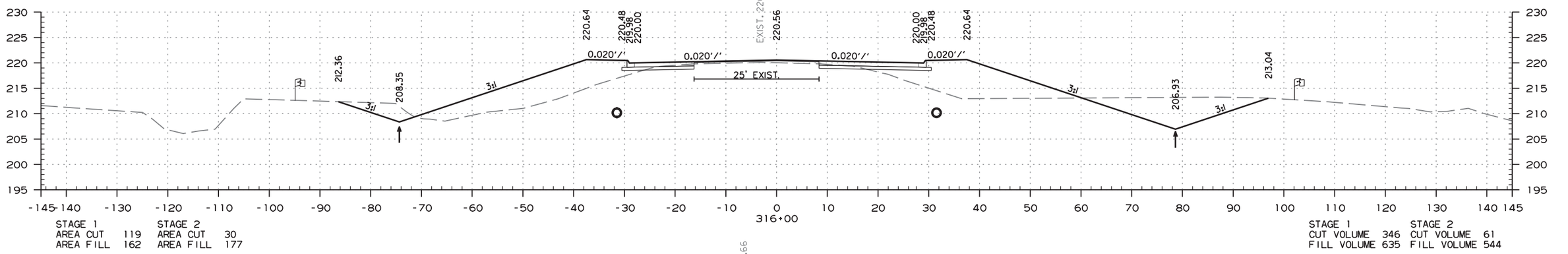
STA. 312+60 TO STA. 313+52.50

7/30/2020

RCA0706.DGN

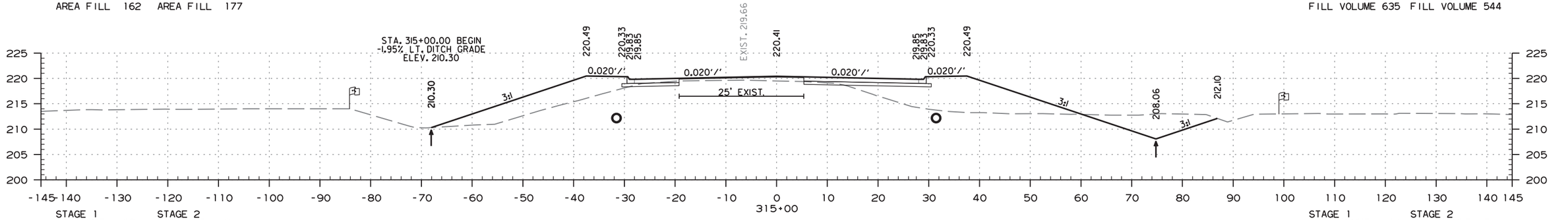
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	248	331

(2) CROSS SECTIONS



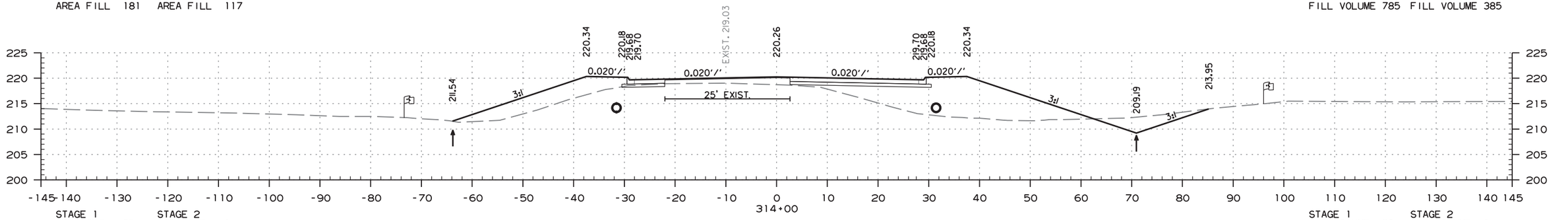
STAGE 1 AREA CUT 119 AREA FILL 162
STAGE 2 AREA CUT 30 AREA FILL 177

STAGE 1 CUT VOLUME 346 FILL VOLUME 635
STAGE 2 CUT VOLUME 61 FILL VOLUME 544



STAGE 1 AREA CUT 68 AREA FILL 181
STAGE 2 AREA CUT 3 AREA FILL 117

STAGE 1 CUT VOLUME 191 FILL VOLUME 785
STAGE 2 CUT VOLUME 7 FILL VOLUME 385

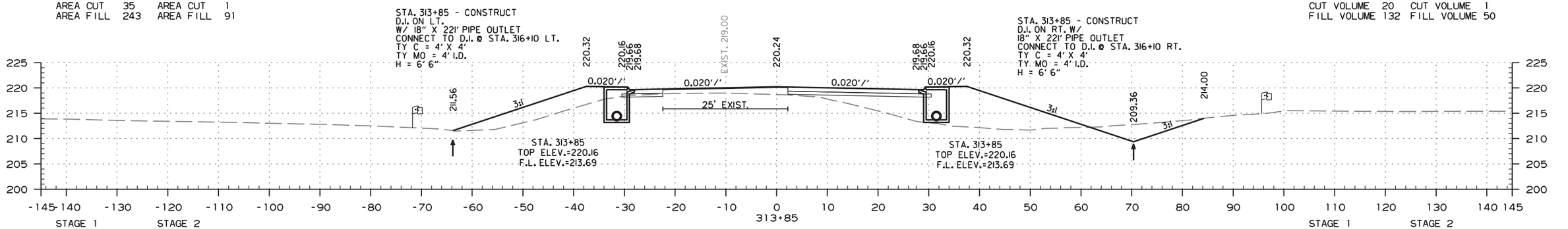


STAGE 1 AREA CUT 35 AREA FILL 243
STAGE 2 AREA CUT 1 AREA FILL 91

STAGE 1 CUT VOLUME 20 FILL VOLUME 132
STAGE 2 CUT VOLUME 1 FILL VOLUME 50

STA. 313+85 - CONSTRUCT
D.I. ON LT.
W/ 18" X 22I' PIPE OUTLET
CONNECT TO D.I. @ STA. 316+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 6"

STA. 313+85 - CONSTRUCT
D.I. ON RT. W/
18" X 22I' PIPE OUTLET
CONNECT TO D.I. @ STA. 316+10 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 6"



STA. 313+85
TOP ELEV.=220.16
F.L. ELEV.=213.69

STA. 313+85
TOP ELEV.=220.16
F.L. ELEV.=213.69

STAGE 1 AREA CUT 38 AREA FILL 232
STAGE 2 AREA CUT 1 AREA FILL 88

STAGE 1 CUT VOLUME 85 FILL VOLUME 191
STAGE 2 CUT VOLUME 1 FILL VOLUME 100

STA. 313+85 TO STA. 316+00

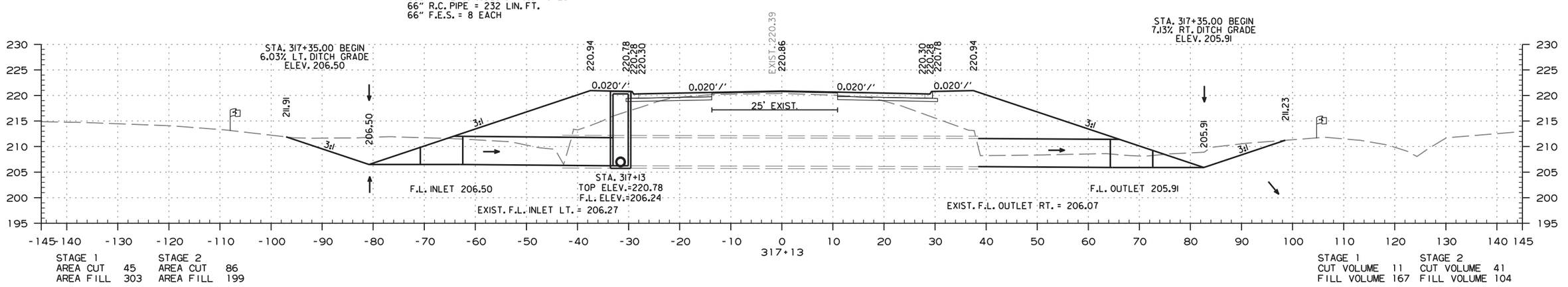
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	249	331

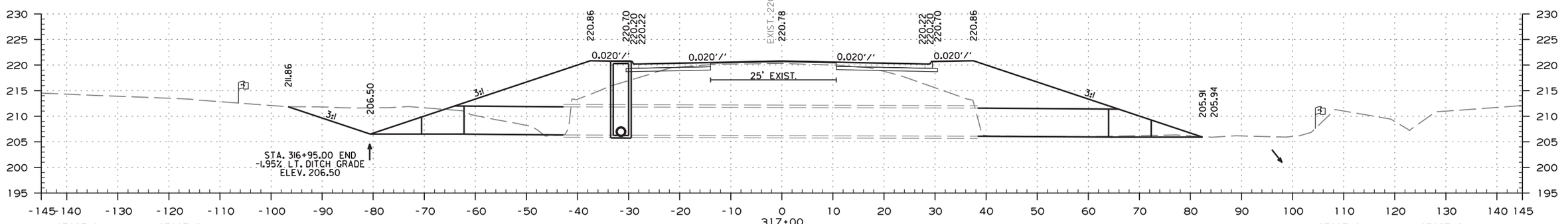
(2) CROSS SECTIONS

STA. 317+13 IN PLACE
QUAD 66" X 81' R.C. PIPE CULVERT
WITH HEADWALL LT. & RT.
REMOVE 15' LT. AND CONSTRUCT
JUNCTION BOX 31.58' TO LT.
W/ QUAD 66" X 30' R.C. PIPE STUB INLET W/ F.E.S. LT.
& EXTEND 26' RT. W/ F.E.S. RT.
(CLASS III) (TYPE 3 BEDDING)
050 = 1142 C.F.S. D.A. = 0.81 ACRES
66" R.C. PIPE = 232 LIN. FT.
66" F.E.S. = 8 EACH



STAGE 1 AREA CUT 45 AREA FILL 303
STAGE 2 AREA CUT 86 AREA FILL 199

STAGE 1 CUT VOLUME 11 FILL VOLUME 167
STAGE 2 CUT VOLUME 41 FILL VOLUME 104



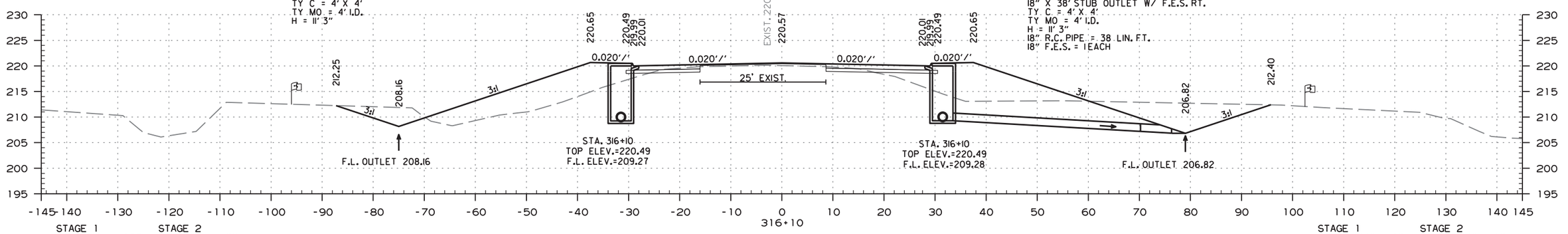
STAGE 1 AREA CUT 2 AREA FILL 389
STAGE 2 AREA CUT 85 AREA FILL 235

STA. 316+90.00 END
-1.13% RT. DITCH GRADE
ELEV. 205.91

STAGE 1 CUT VOLUME 183 FILL VOLUME 912
STAGE 2 CUT VOLUME 207 FILL VOLUME 693

STA. 316+10 - CONSTRUCT
D.I. ON LT.
W/ 18" X 85' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 317+13 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 11' 3"

STA. 316+10 - CONSTRUCT
D.I. ON RT. W/
18" X 38' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 11' 3"
18" R.C. PIPE = 38 LIN. FT.
18" F.E.S. = 1 EACH



STAGE 1 AREA CUT 108 AREA FILL 158
STAGE 2 AREA CUT 39 AREA FILL 181

STAGE 1 CUT VOLUME 42 FILL VOLUME 59
STAGE 2 CUT VOLUME 13 FILL VOLUME 66

STA. 316+09.94 TO STA. 317+13.38

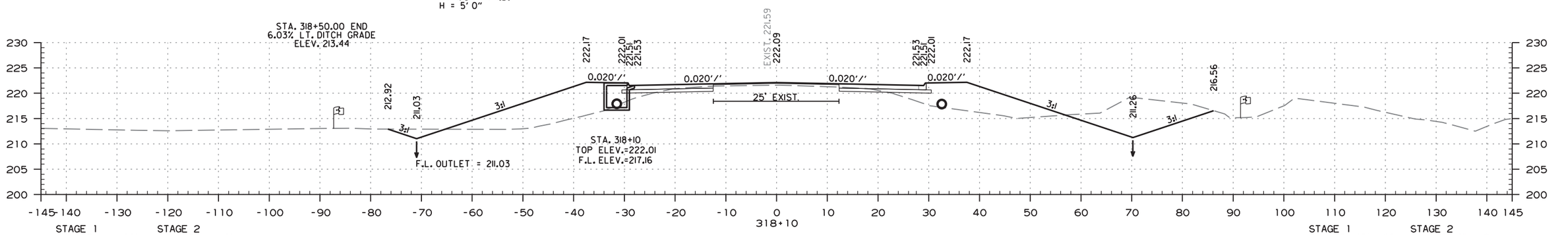
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	250	331

(2) CROSS SECTIONS

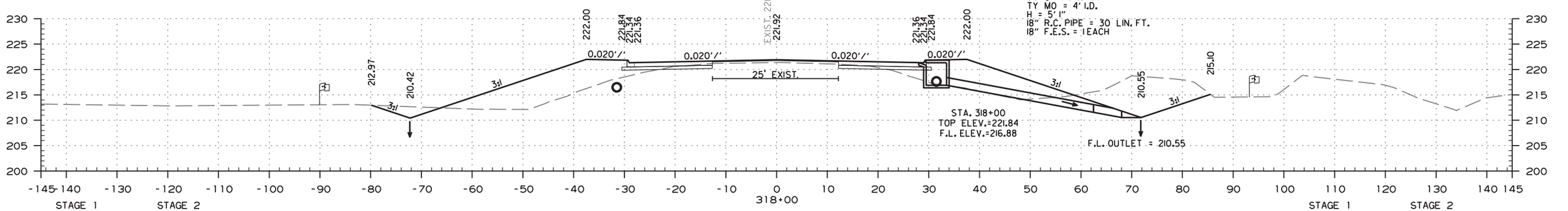
STA. 318+10 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 77' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 317+13 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"



STAGE 1 AREA CUT 115 AREA FILL 115
STAGE 2 AREA CUT 15 AREA FILL 161

STAGE 1 CUT VOLUME 44 FILL VOLUME 45
STAGE 2 CUT VOLUME 6 FILL VOLUME 60

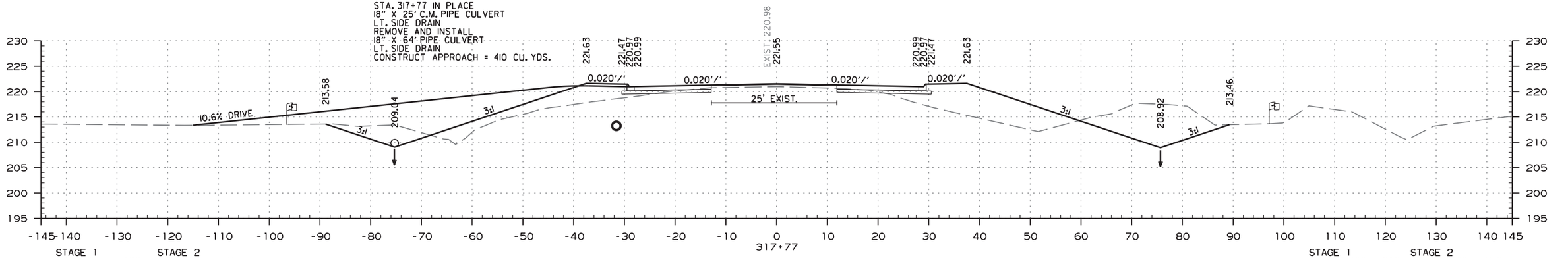
STA. 318+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 30' STUB OUTLET W/ F.E.S.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 1"
18" R.C. PIPE = 30 LIN. FT.
18" F.E.S. = 1EACH



STAGE 1 AREA CUT 122 AREA FILL 129
STAGE 2 AREA CUT 19 AREA FILL 162

STAGE 1 CUT VOLUME 111 FILL VOLUME 120
STAGE 2 CUT VOLUME 28 FILL VOLUME 42

STA. 317+77 IN PLACE
18" X 25' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 64' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 410 CU. YDS.



STAGE 1 AREA CUT 139 AREA FILL 152
STAGE 2 AREA CUT 46 AREA FILL 98

STAGE 1 CUT VOLUME 218 FILL VOLUME 539
STAGE 2 CUT VOLUME 156 FILL VOLUME 352

STA. 317+77.13 TO STA. 318+10

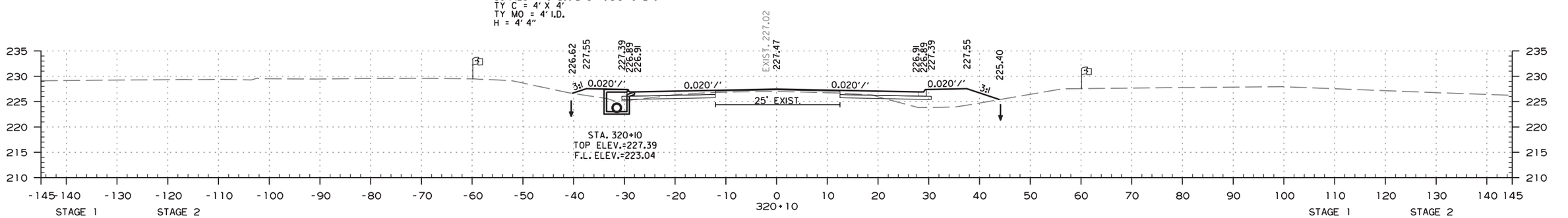
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	251	331

(2) CROSS SECTIONS

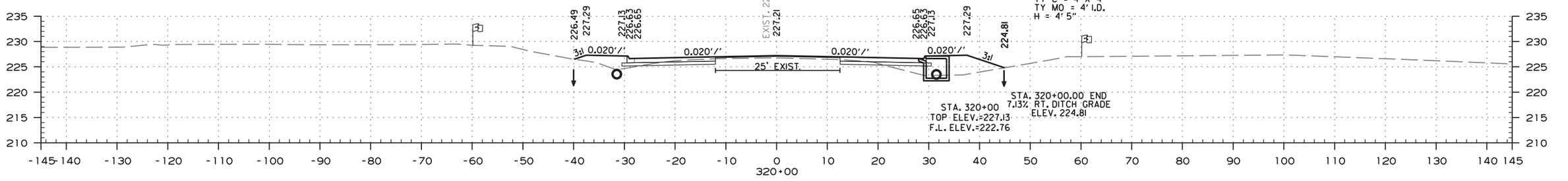
STA. 320+10 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 318+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"



STAGE 1 AREA CUT 3 AREA FILL 49
STAGE 2 AREA CUT 5 AREA FILL 18

STAGE 1 CUT VOLUME 1 FILL VOLUME 19
STAGE 2 CUT VOLUME 2 FILL VOLUME 7

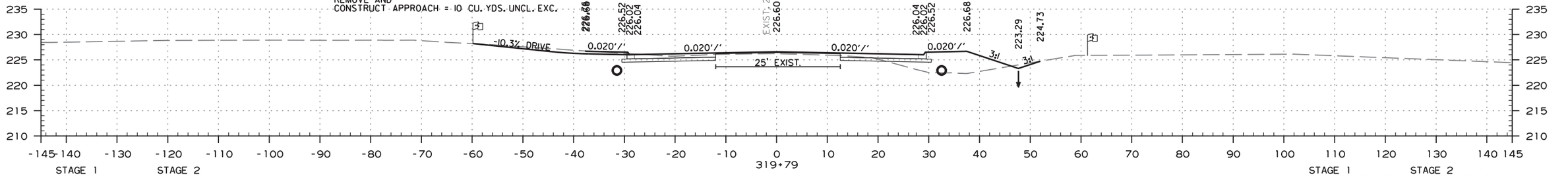
STA. 320+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 318+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"



AREA CUT 3 AREA CUT 6
AREA FILL 55 AREA FILL 19

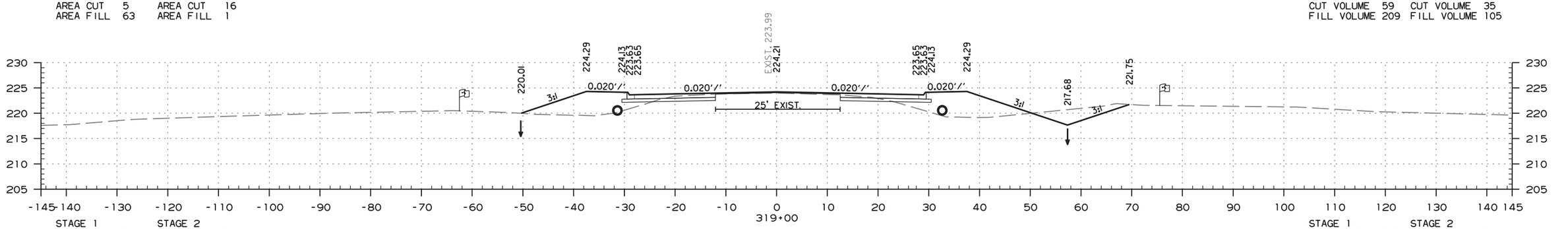
CUT VOLUME 3 CUT VOLUME 9
FILL VOLUME 46 FILL VOLUME 8

STA. 319+79 IN PLACE
24" X 41' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 5 AREA FILL 63
STAGE 2 AREA CUT 16 AREA FILL 1

STAGE 1 CUT VOLUME 59 FILL VOLUME 209
STAGE 2 CUT VOLUME 35 FILL VOLUME 105



STAGE 1 AREA CUT 35 AREA FILL 80
STAGE 2 AREA CUT 8 AREA FILL 71

STAGE 1 CUT VOLUME 250 FILL VOLUME 325
STAGE 2 CUT VOLUME 38 FILL VOLUME 387

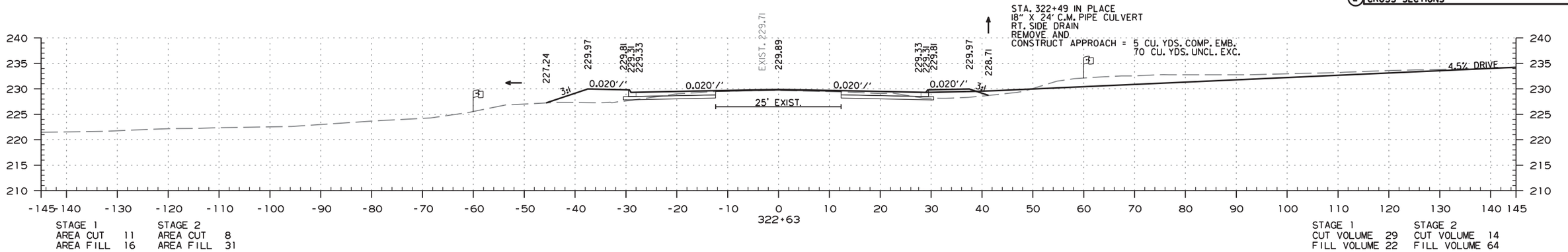
STA. 319+00 TO STA. 320+10

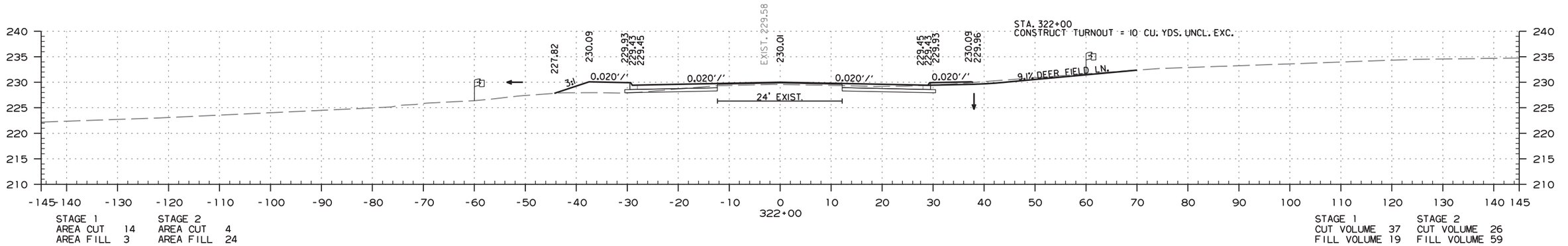
7/30/2020

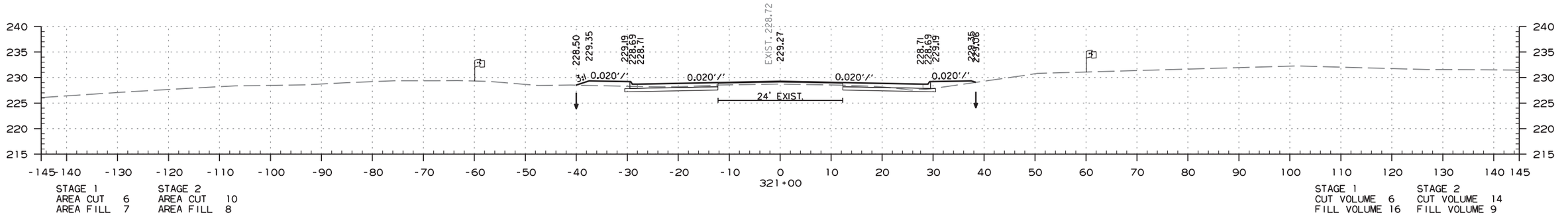
RCA0706.DGN

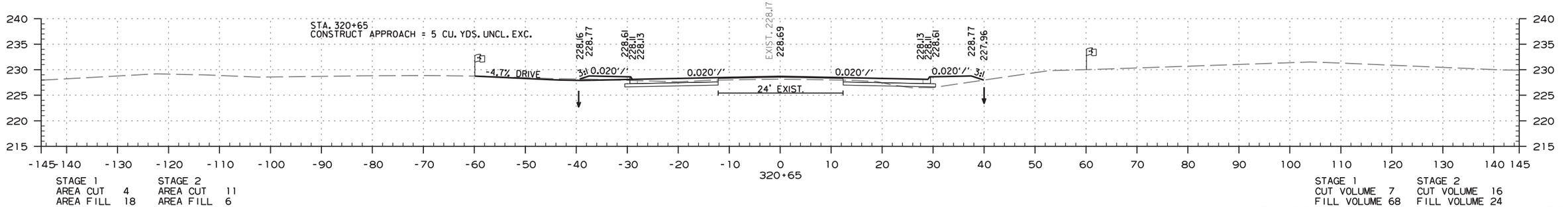
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	252	331

(2) CROSS SECTIONS









STA. 320+64.82 TO STA. 322+62.72

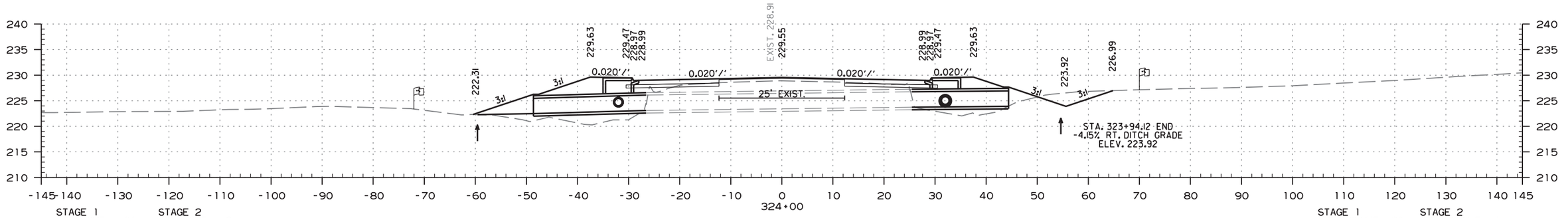
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

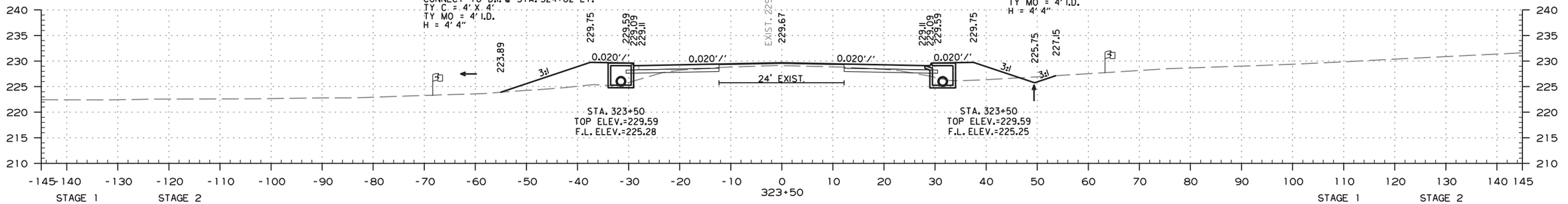
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	253	331

(2) CROSS SECTIONS



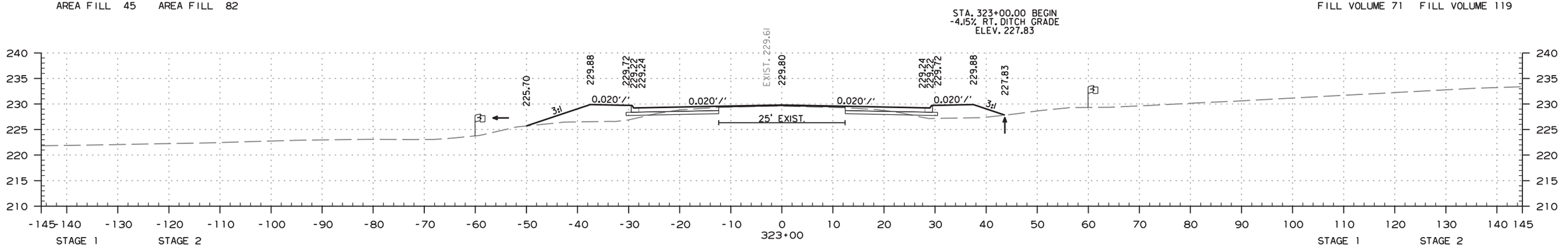
STAGE 1 AREA CUT 24 AREA FILL 124
STAGE 2 AREA CUT 2 AREA FILL 193

STAGE 1 CUT VOLUME 29 FILL VOLUME 156
STAGE 2 CUT VOLUME 4 FILL VOLUME 255



STAGE 1 AREA CUT 7 AREA FILL 45
STAGE 2 AREA CUT 2 AREA FILL 82

STAGE 1 CUT VOLUME 12 FILL VOLUME 71
STAGE 2 CUT VOLUME 8 FILL VOLUME 119



STAGE 1 AREA CUT 6 AREA FILL 32
STAGE 2 AREA CUT 7 AREA FILL 47

STAGE 1 CUT VOLUME 12 FILL VOLUME 33
STAGE 2 CUT VOLUME 10 FILL VOLUME 53

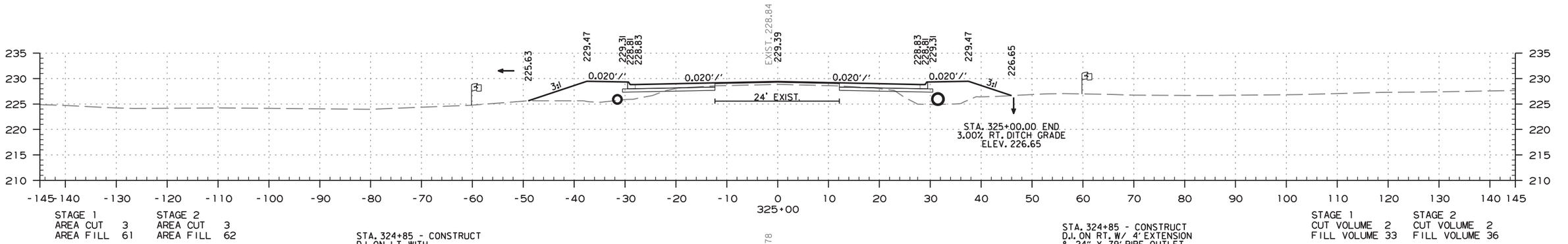
STA. 323+00.00 TO STA. 324+00

7/30/2020

RCA0706.DGN

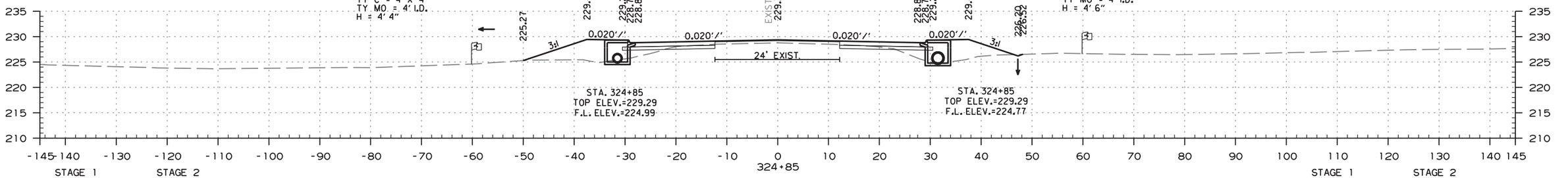
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	254	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 3 AREA FILL 61 — STAGE 2 AREA CUT 3 AREA FILL 62

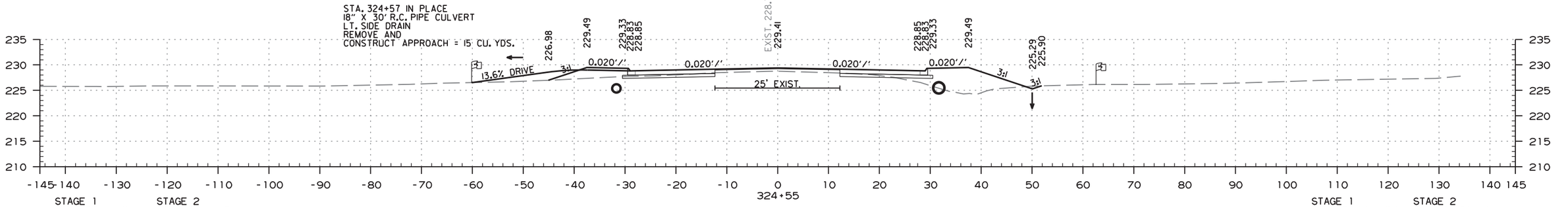
STAGE 1 CUT VOLUME 2 FILL VOLUME 33 — STAGE 2 CUT VOLUME 2 FILL VOLUME 36



STAGE 1 AREA CUT 3 AREA FILL 59 — STAGE 2 AREA CUT 3 AREA FILL 66

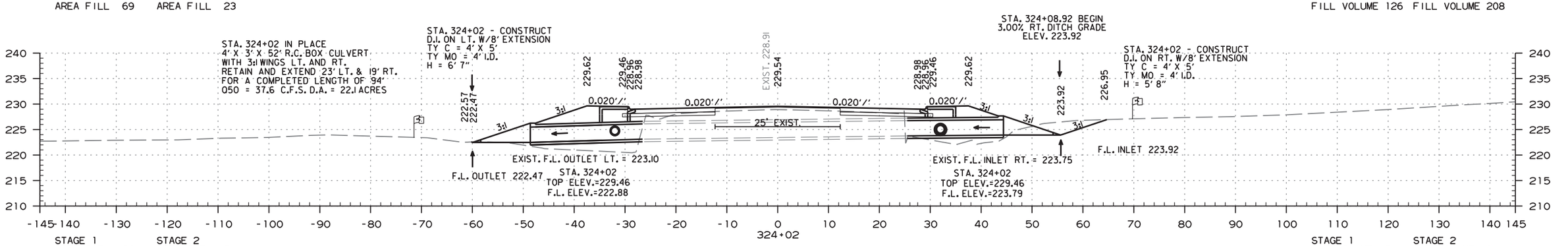
STA. 324+85 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 24" X 79' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+02 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 6"

STAGE 1 CUT VOLUME 3 FILL VOLUME 71 — STAGE 2 CUT VOLUME 3 FILL VOLUME 49



STAGE 1 AREA CUT 3 AREA FILL 69 — STAGE 2 AREA CUT 3 AREA FILL 23

STAGE 1 CUT VOLUME 27 FILL VOLUME 126 — STAGE 2 CUT VOLUME 5 FILL VOLUME 208



STAGE 1 AREA CUT 24 AREA FILL 128 — STAGE 2 AREA CUT 2 AREA FILL 189

STAGE 1 CUT VOLUME 2 FILL VOLUME 9 — STAGE 2 CUT VOLUME 1 FILL VOLUME 14

STA. 324+01.83 TO STA. 325+00

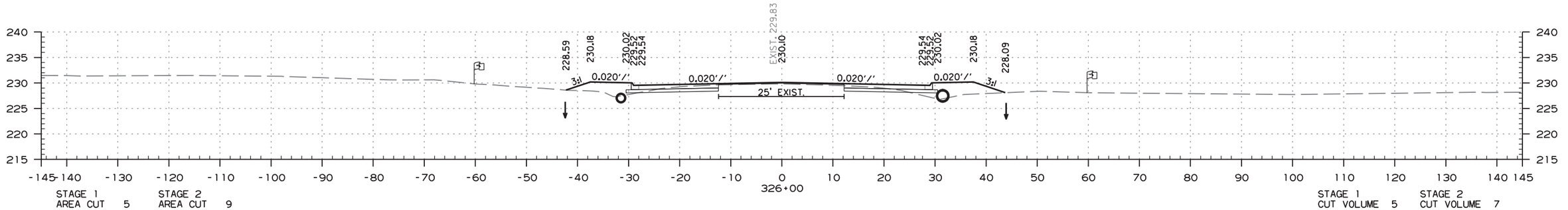
9/11/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	255	331

(2) CROSS SECTIONS



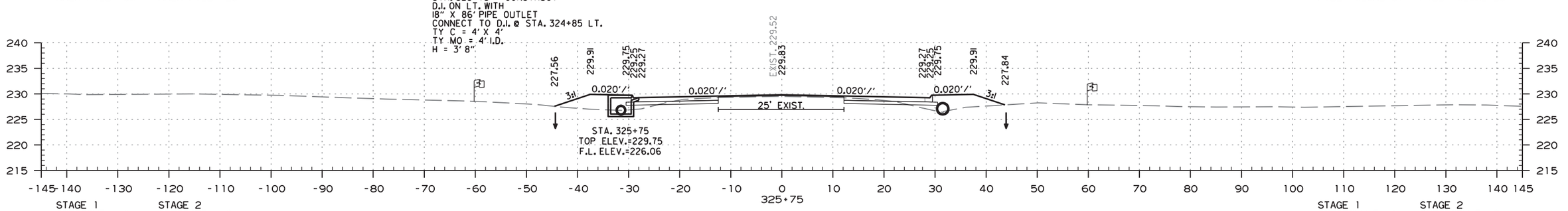
STAGE 1
AREA CUT 5
AREA FILL 33

STAGE 2
AREA CUT 9
AREA FILL 23

STAGE 1
CUT VOLUME 5
FILL VOLUME 31

STAGE 2
CUT VOLUME 7
FILL VOLUME 28

STA. 325+75 - CONSTRUCT
D.I. ON LT. WITH
18" X 86' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+85 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 8"



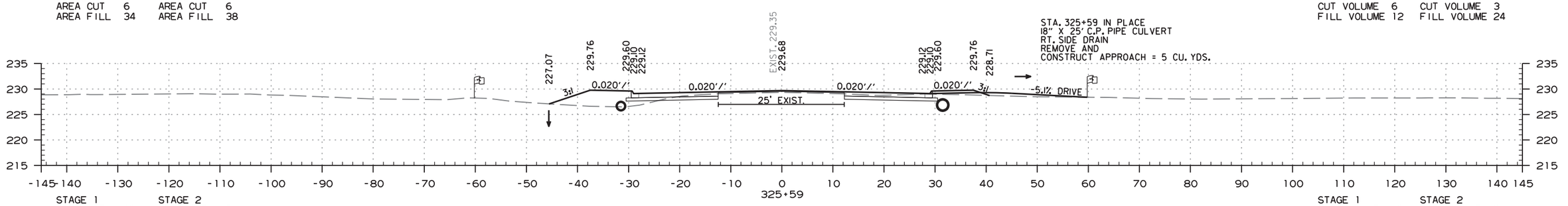
STAGE 1
AREA CUT 6
AREA FILL 34

STAGE 2
AREA CUT 6
AREA FILL 38

STAGE 1
CUT VOLUME 6
FILL VOLUME 12

STAGE 2
CUT VOLUME 3
FILL VOLUME 24

STA. 325+59 IN PLACE
18" X 25' C.P. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.



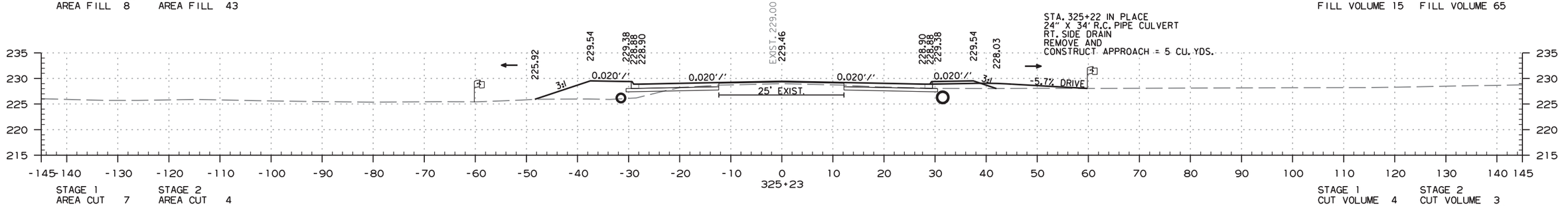
STAGE 1
AREA CUT 13
AREA FILL 8

STAGE 2
AREA CUT 5
AREA FILL 43

STAGE 1
CUT VOLUME 13
FILL VOLUME 15

STAGE 2
CUT VOLUME 6
FILL VOLUME 65

STA. 325+22 IN PLACE
24" X 34' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 5 CU. YDS.



STAGE 1
AREA CUT 7
AREA FILL 15

STAGE 2
AREA CUT 4
AREA FILL 54

STAGE 1
CUT VOLUME 4
FILL VOLUME 32

STAGE 2
CUT VOLUME 3
FILL VOLUME 49

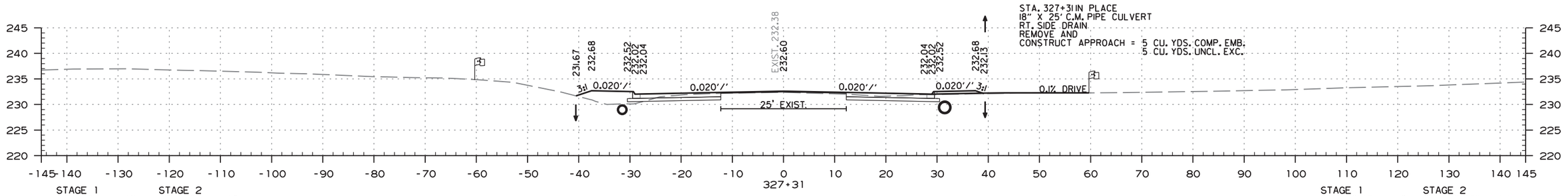
STA. 325+22.68 TO STA. 326+00

7/30/2020

RCA0706.DGN

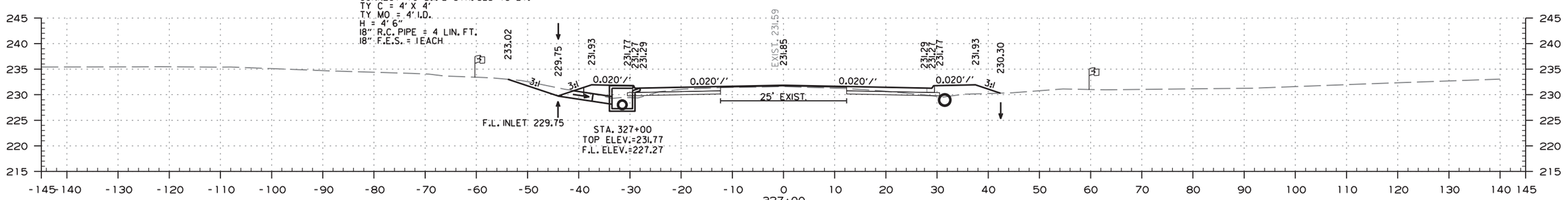
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	256	331

(2) CROSS SECTIONS



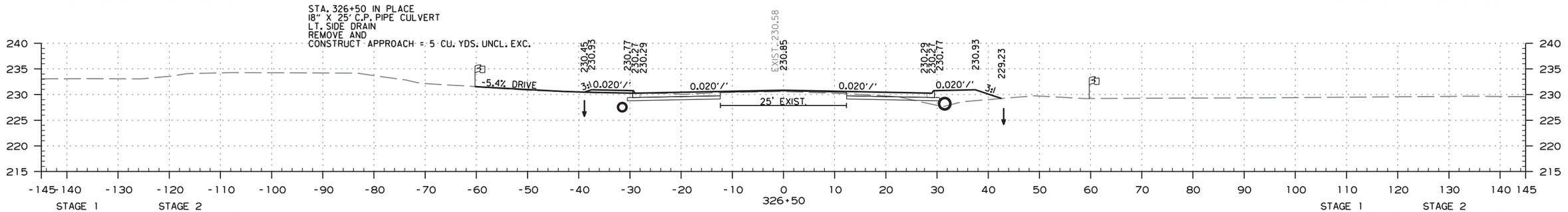
STAGE 1 AREA CUT 13 AREA FILL 5
STAGE 2 AREA CUT 10 AREA FILL 23

STAGE 1 CUT VOLUME 10 FILL VOLUME 15
STAGE 2 CUT VOLUME 17 FILL VOLUME 26



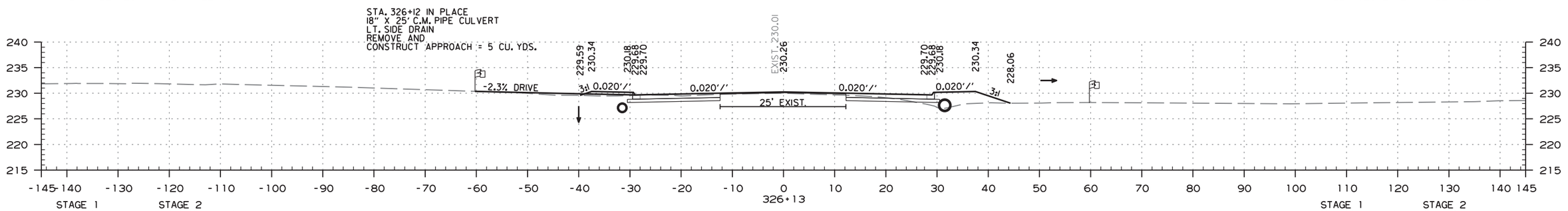
STAGE 1 AREA CUT 5 AREA FILL 21
STAGE 2 AREA CUT 20 AREA FILL 23

STAGE 1 CUT VOLUME 9 FILL VOLUME 46
STAGE 2 CUT VOLUME 33 FILL VOLUME 26



STAGE 1 AREA CUT 5 AREA FILL 29
STAGE 2 AREA CUT 16 AREA FILL 5

STAGE 1 CUT VOLUME 7 FILL VOLUME 42
STAGE 2 CUT VOLUME 22 FILL VOLUME 8



STAGE 1 AREA CUT 5 AREA FILL 32
STAGE 2 AREA CUT 16 AREA FILL 7

STAGE 1 CUT VOLUME 2 FILL VOLUME 16
STAGE 2 CUT VOLUME 6 FILL VOLUME 7

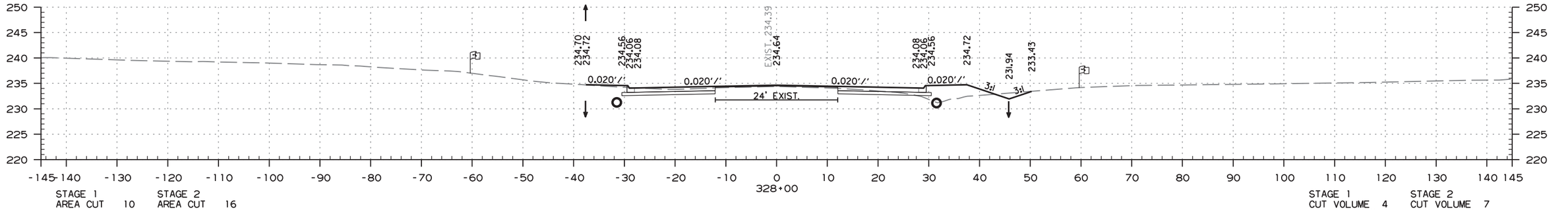
STA. 326+12.55 TO STA. 327+30.96

7/30/2020

RCA0706.DGN

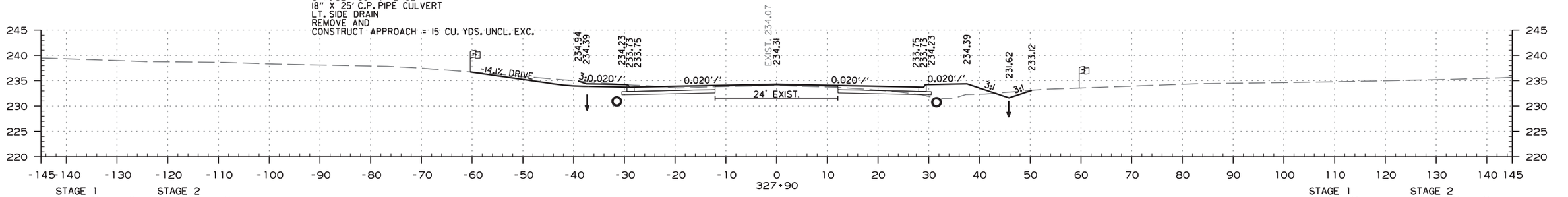
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	257	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 10 AREA FILL 30
STAGE 2 AREA CUT 16 AREA FILL 2
STAGE 1 CUT VOLUME 4 FILL VOLUME 11
STAGE 2 CUT VOLUME 7 FILL VOLUME 1

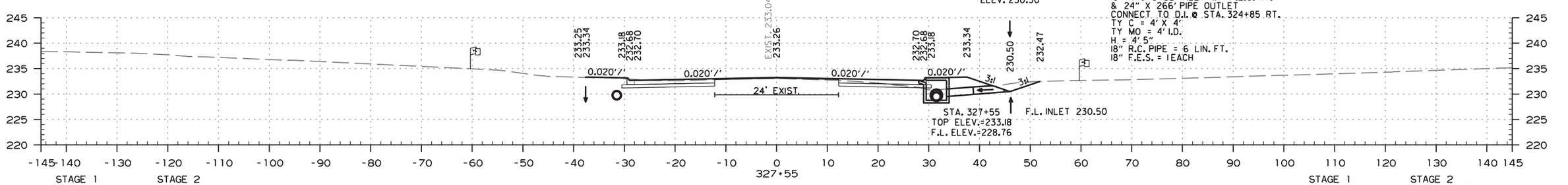
STA. 327+89 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 15 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 10 AREA FILL 28
STAGE 2 AREA CUT 21 AREA FILL 0
STAGE 1 CUT VOLUME 15 FILL VOLUME 16
STAGE 2 CUT VOLUME 25 FILL VOLUME 1

STA. 327+55.00 BEGIN
3.21% RT. DITCH GRADE
ELEV. 230.50

STA. 327+55 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. RT.
& 24" X 266' PIPE OUTLET
CONNECT TO D.I. @ STA. 324+85 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1EACH

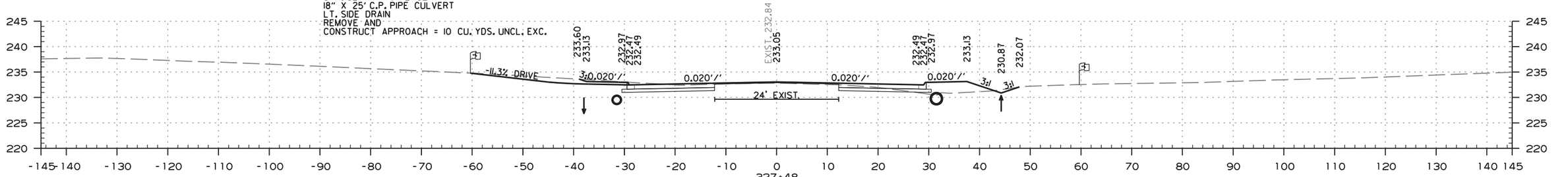


STA. 327+55
TOP ELEV.=233.18
F.L. ELEV.=228.76

F.L. INLET 230.50

STAGE 1 AREA CUT 13 AREA FILL 24
STAGE 2 AREA CUT 18 AREA FILL 1
STAGE 1 CUT VOLUME 3 FILL VOLUME 6
STAGE 2 CUT VOLUME 5 FILL VOLUME 1

STA. 327+47 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 10 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 7 AREA FILL 25
STAGE 2 AREA CUT 22 AREA FILL 0
STAGE 1 CUT VOLUME 6 FILL VOLUME 9
STAGE 2 CUT VOLUME 10 FILL VOLUME 7

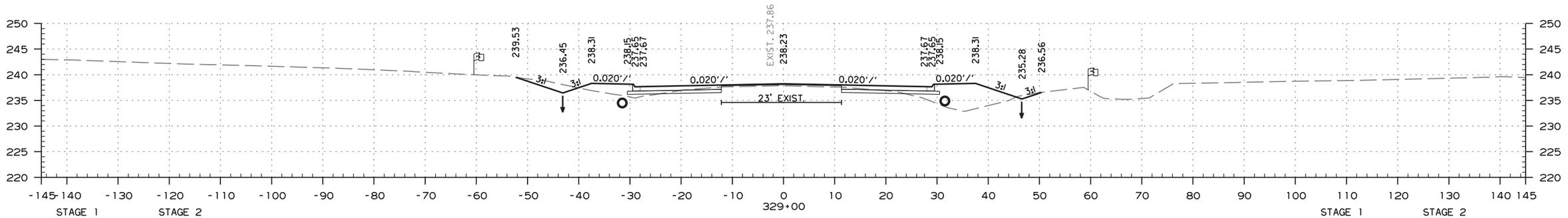
STA. 327+47.59 TO STA. 328+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	258	331

(2) CROSS SECTIONS



STAGE 1
AREA CUT 6
AREA FILL 65

STAGE 2
AREA CUT 15
AREA FILL 21

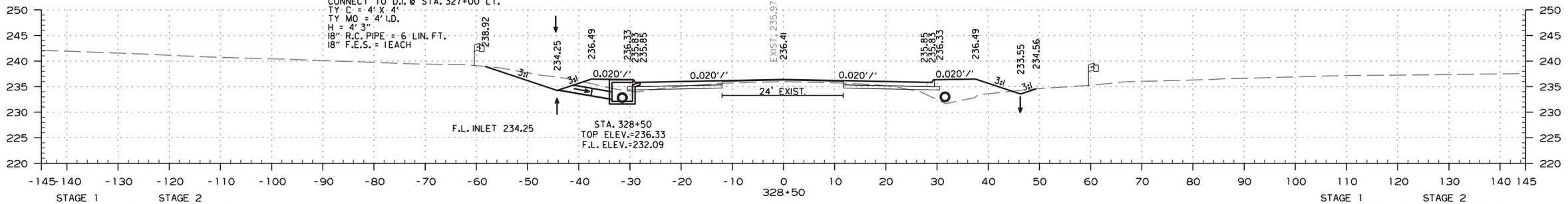
STAGE 1
CUT VOLUME 11
FILL VOLUME 106

STAGE 2
CUT VOLUME 41
FILL VOLUME 35

STA. 328+50 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. LT.
& 18" X 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 327+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1EACH

STA. 328+50.00 BEGIN
4.40% LT. DITCH GRADE
ELEV. 234.25

STA. 328+75.00 END
3.21% RT. DITCH GRADE
& BEGIN
3.72% RT. DITCH GRADE
ELEV. 234.35

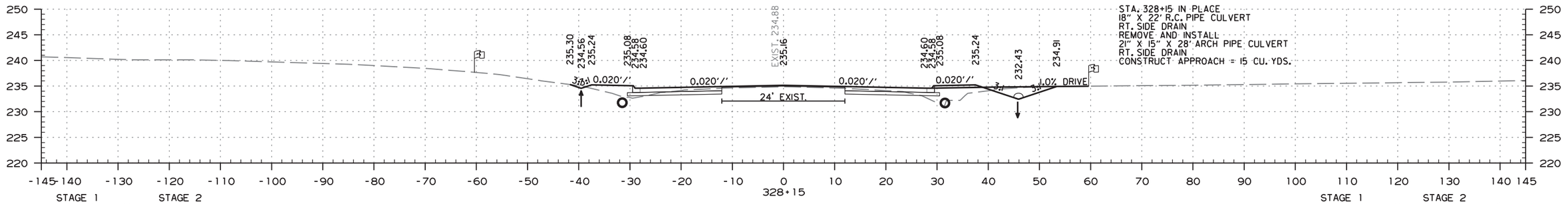


STAGE 1
AREA CUT 6
AREA FILL 50

STAGE 2
AREA CUT 29
AREA FILL 17

STAGE 1
CUT VOLUME 18
FILL VOLUME 50

STAGE 2
CUT VOLUME 23
FILL VOLUME 21



STA. 328+15 IN PLACE
18" X 22' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STAGE 1
AREA CUT 21
AREA FILL 27

STAGE 2
AREA CUT 7
AREA FILL 15

STAGE 1
CUT VOLUME 9
FILL VOLUME 16

STAGE 2
CUT VOLUME 6
FILL VOLUME 5

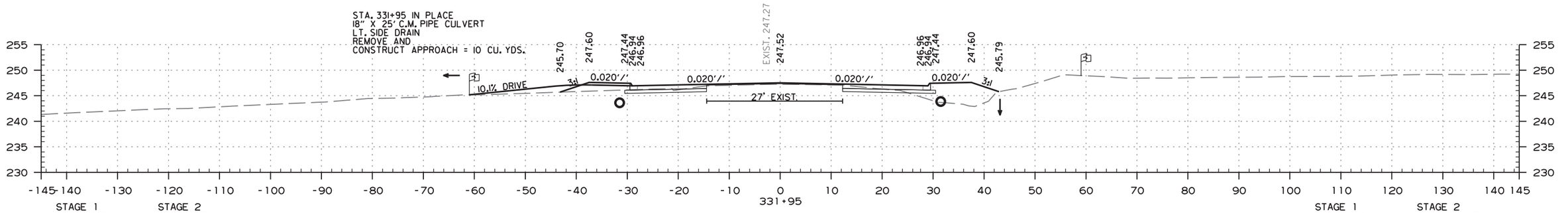
STA. 328+15.26 TO STA. 329+00

7/30/2020

RCA0706.DGN

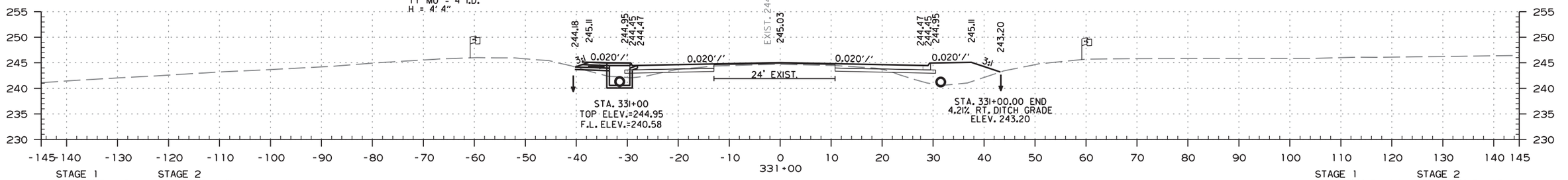
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	259	331

(2) CROSS SECTIONS



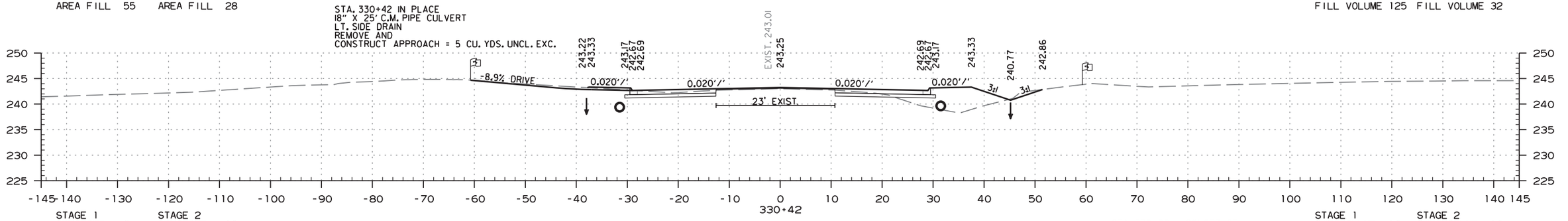
STAGE 1 AREA CUT 5 AREA FILL 51
STAGE 2 AREA CUT 6 AREA FILL 17

STAGE 1 CUT VOLUME 18 FILL VOLUME 186
STAGE 2 CUT VOLUME 16 FILL VOLUME 79



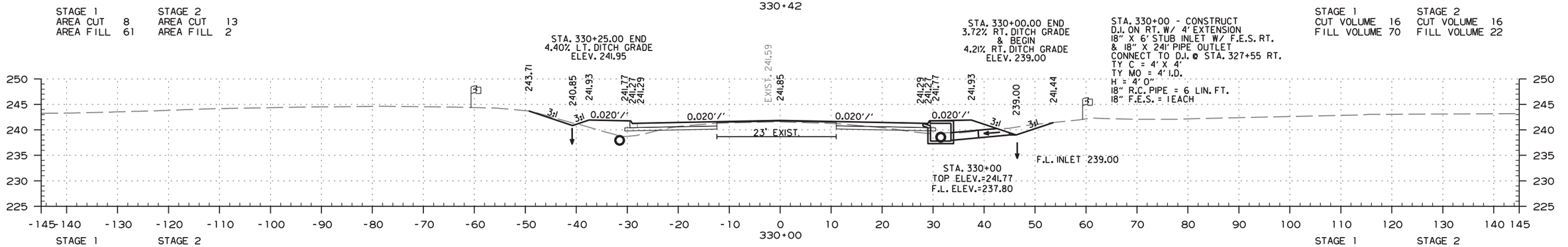
STAGE 1 AREA CUT 5 AREA FILL 55
STAGE 2 AREA CUT 3 AREA FILL 28

STAGE 1 CUT VOLUME 14 FILL VOLUME 125
STAGE 2 CUT VOLUME 17 FILL VOLUME 32



STAGE 1 AREA CUT 8 AREA FILL 61
STAGE 2 AREA CUT 13 AREA FILL 2

STAGE 1 CUT VOLUME 16 FILL VOLUME 70
STAGE 2 CUT VOLUME 16 FILL VOLUME 22



STAGE 1 AREA CUT 13 AREA FILL 29
STAGE 2 AREA CUT 8 AREA FILL 26

STAGE 1 CUT VOLUME 35 FILL VOLUME 174
STAGE 2 CUT VOLUME 43 FILL VOLUME 87

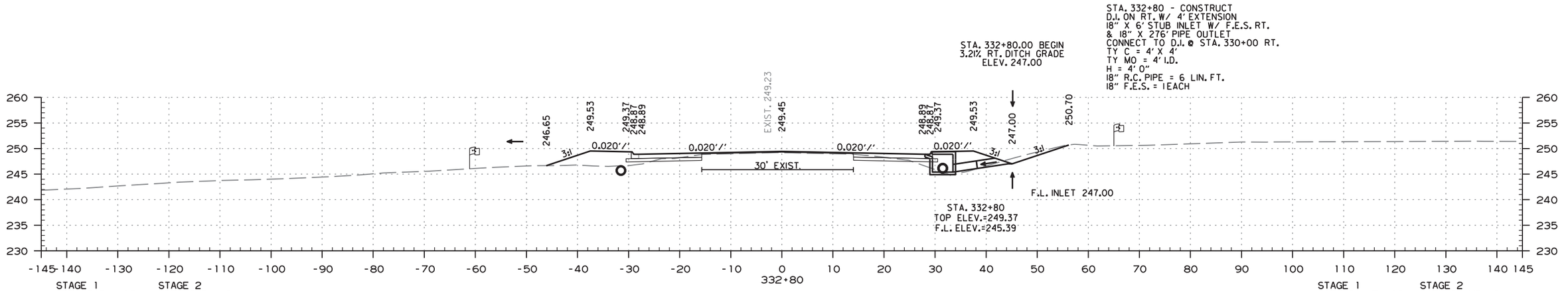
STA. 330+00 TO STA. 331+95.03

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	260	331

(2) CROSS SECTIONS



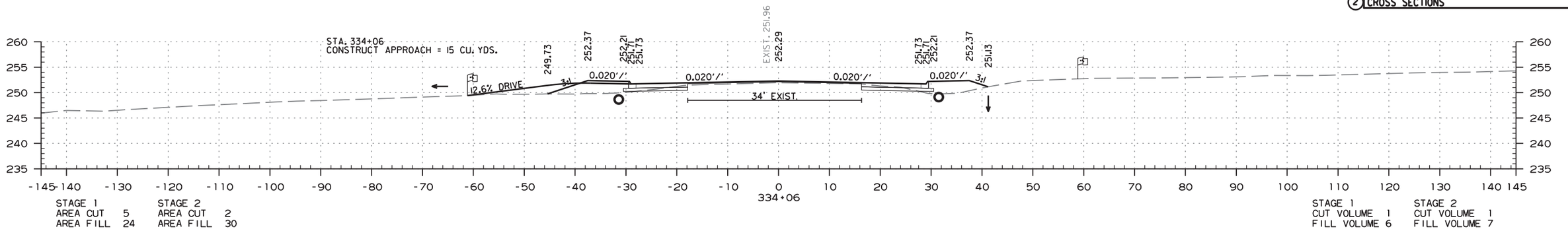
STA. 332+00 TO STA. 332+80

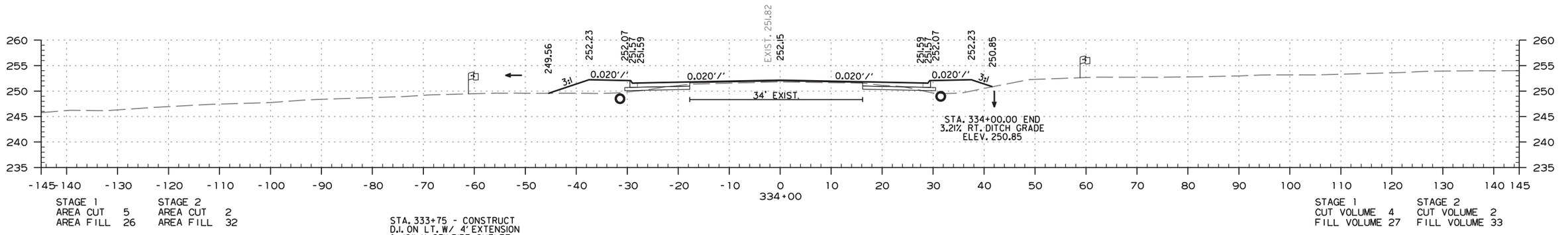
7/30/2020

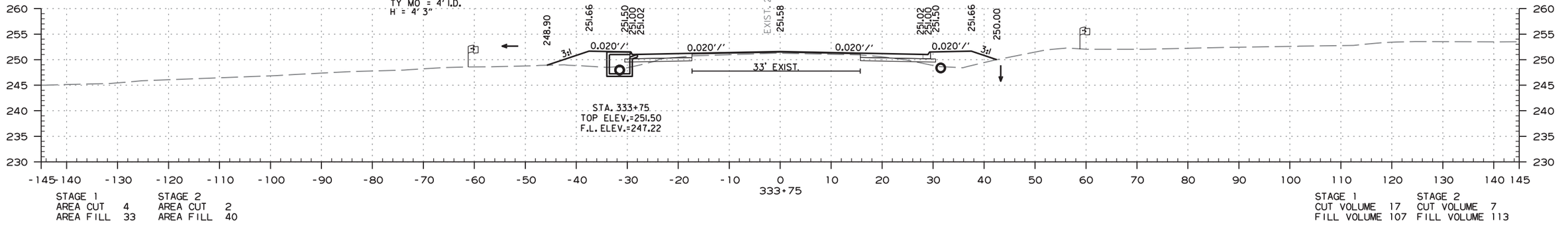
RCA0706.DGN

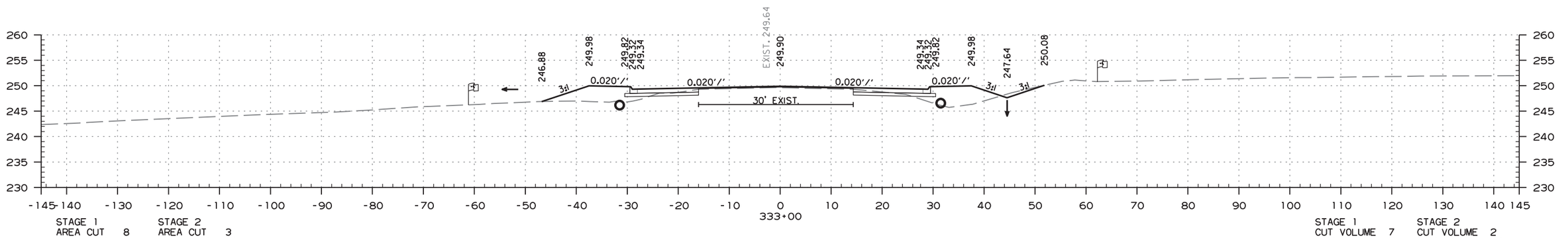
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	261	331

(2) CROSS SECTIONS









STA. 333+00 TO STA. 334+06.25

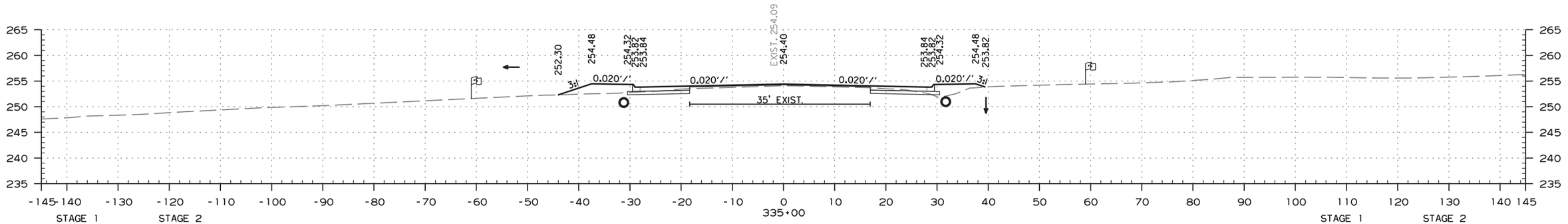
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	262	331

(2) CROSS SECTIONS

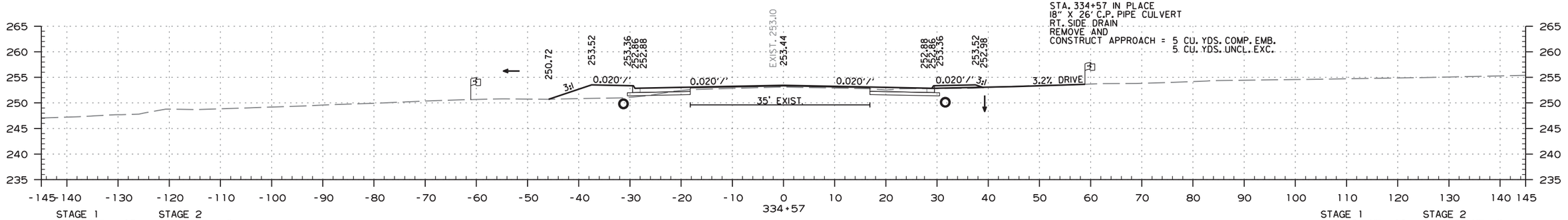


STAGE 1
AREA CUT 5
AREA FILL 15

STAGE 2
AREA CUT 4
AREA FILL 20

STAGE 1
CUT VOLUME 14
FILL VOLUME 16

STAGE 2
CUT VOLUME 5
FILL VOLUME 41

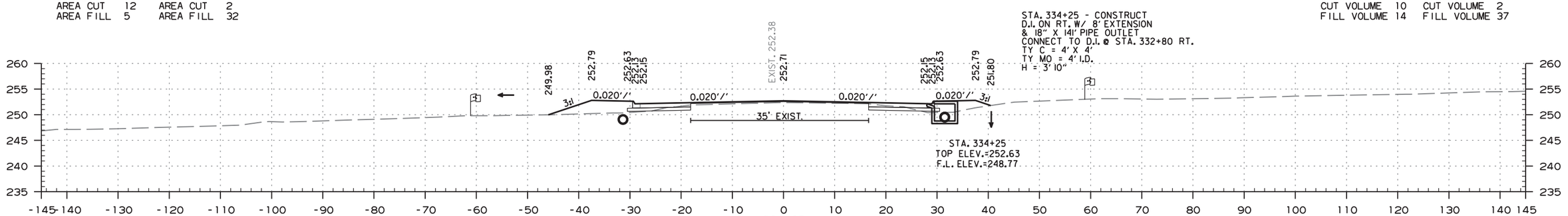


STAGE 1
AREA CUT 12
AREA FILL 5

STAGE 2
AREA CUT 2
AREA FILL 32

STAGE 1
CUT VOLUME 10
FILL VOLUME 14

STAGE 2
CUT VOLUME 2
FILL VOLUME 37



STAGE 1
AREA CUT 5
AREA FILL 19

STAGE 2
AREA CUT 2
AREA FILL 31

STAGE 1
CUT VOLUME 4
FILL VOLUME 15

STAGE 2
CUT VOLUME 1
FILL VOLUME 11

STA. 334+25 TO STA. 335+00

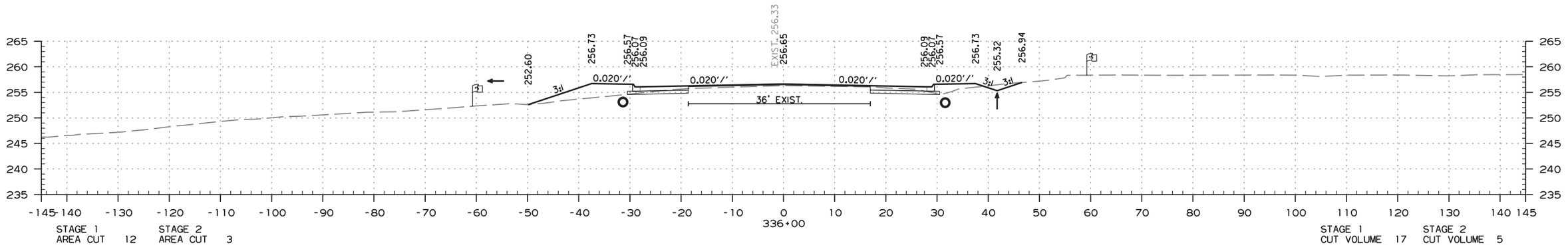
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

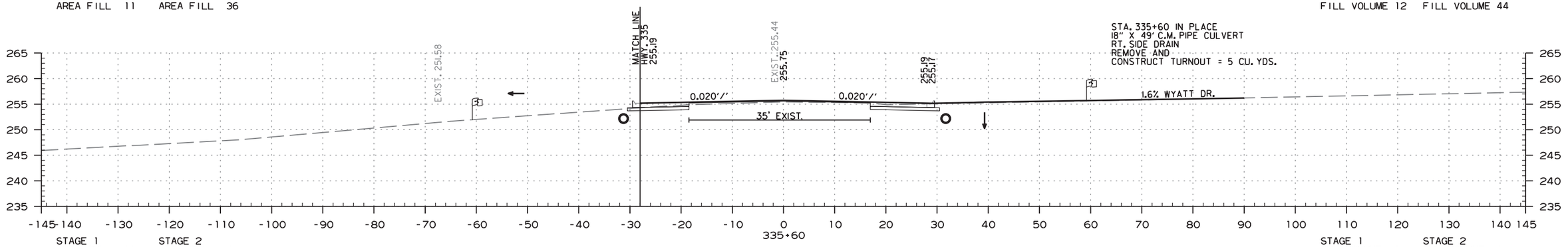
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	263	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 12 AREA FILL 11
STAGE 2 AREA CUT 3 AREA FILL 36

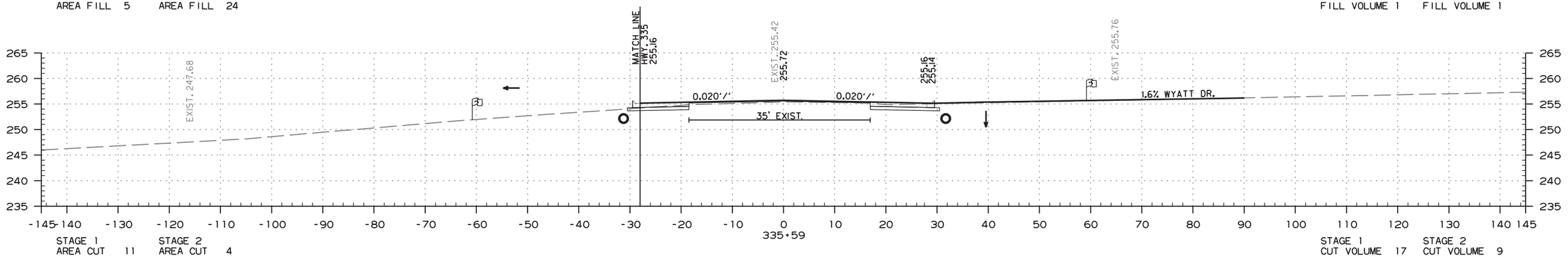
STAGE 1 CUT VOLUME 17 FILL VOLUME 12
STAGE 2 CUT VOLUME 5 FILL VOLUME 44



STA. 335+60 IN PLACE
18" X 49' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT TURNOUT = 5 CU. YDS.

STAGE 1 AREA CUT 11 AREA FILL 5
STAGE 2 AREA CUT 4 AREA FILL 24

STAGE 1 CUT VOLUME 1 FILL VOLUME 1
STAGE 2 CUT VOLUME 1 FILL VOLUME 1



STAGE 1 AREA CUT 11 AREA FILL 5
STAGE 2 AREA CUT 4 AREA FILL 0

STAGE 1 CUT VOLUME 17 FILL VOLUME 22
STAGE 2 CUT VOLUME 9 FILL VOLUME 22

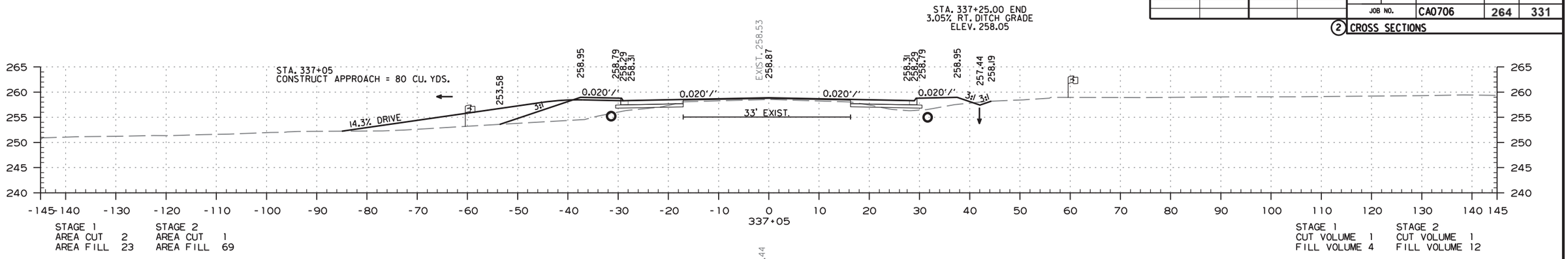
STA. 335+58.83 TO STA. 336+00

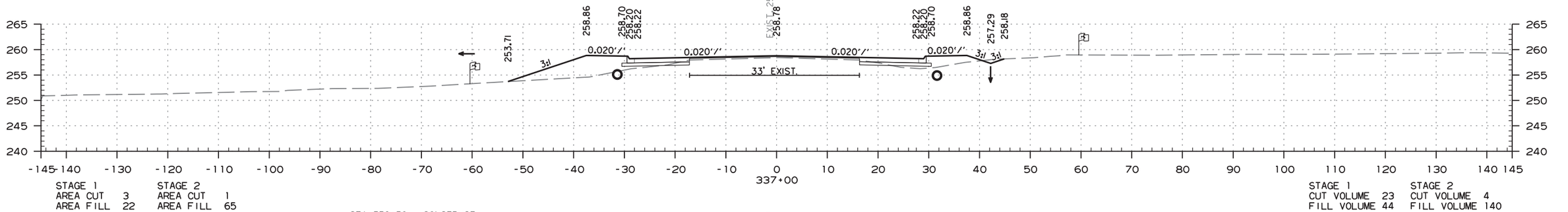
7/30/2020

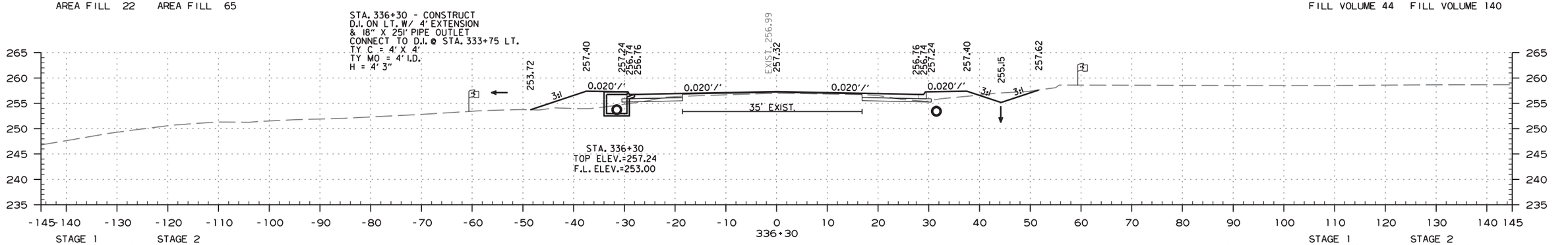
RCA0706.DGN

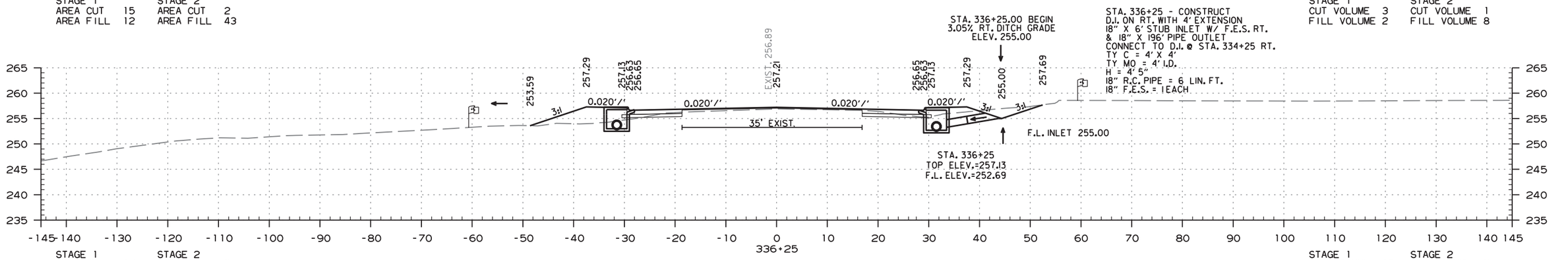
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	264	331

(2) CROSS SECTIONS









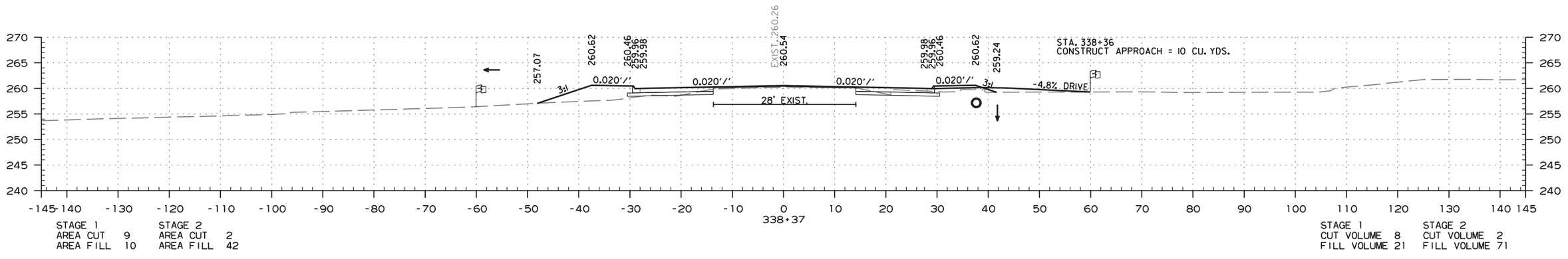
STA. 336+25 TO STA. 337+04.87

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	265	331

(2) CROSS SECTIONS

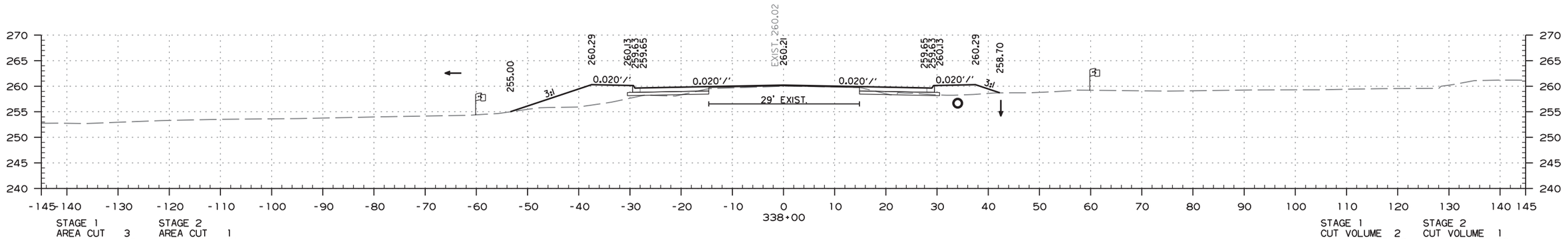


STAGE 1
AREA CUT 9
AREA FILL 10

STAGE 2
AREA CUT 2
AREA FILL 42

STAGE 1
CUT VOLUME 8
FILL VOLUME 21

STAGE 2
CUT VOLUME 2
FILL VOLUME 71



STAGE 1
AREA CUT 3
AREA FILL 20

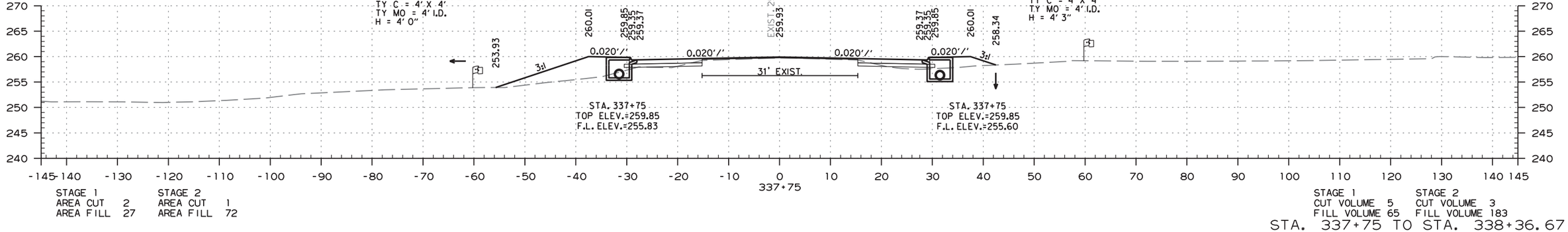
STAGE 2
AREA CUT 1
AREA FILL 61

STAGE 1
CUT VOLUME 2
FILL VOLUME 22

STAGE 2
CUT VOLUME 1
FILL VOLUME 62

STA. 337+75 - CONSTRUCT
D.I. ON LT. WITH
18" X 141' PIPE OUTLET
CONNECT TO D.I. @ STA. 336+30 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 0"

STA. 337+75 - CONSTRUCT
D.I. ON RT. WITH
18" X 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 336+25 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"



STA. 337+75
TOP ELEV.=259.85
F.L. ELEV.=255.83

STA. 337+75
TOP ELEV.=259.85
F.L. ELEV.=255.60

STAGE 1
AREA CUT 2
AREA FILL 27

STAGE 2
AREA CUT 1
AREA FILL 72

STAGE 1
CUT VOLUME 5
FILL VOLUME 65

STAGE 2
CUT VOLUME 3
FILL VOLUME 183

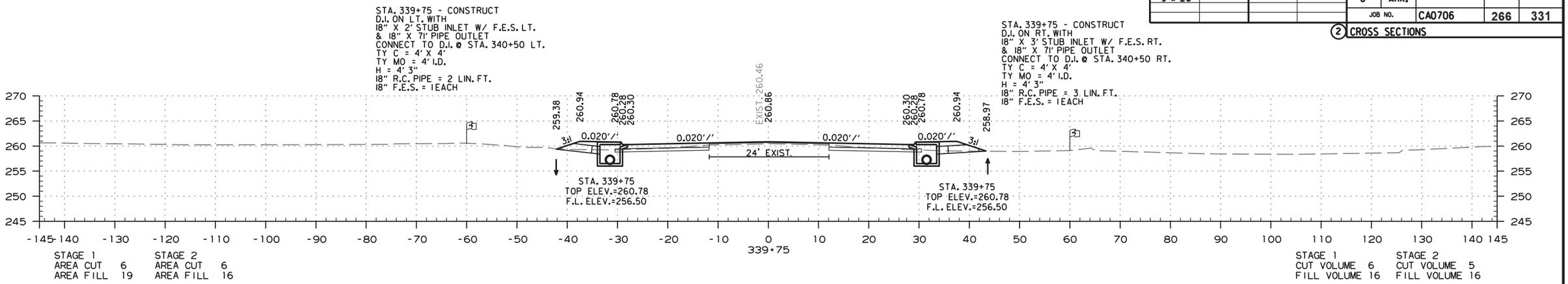
STA. 337+75 TO STA. 338+36.67

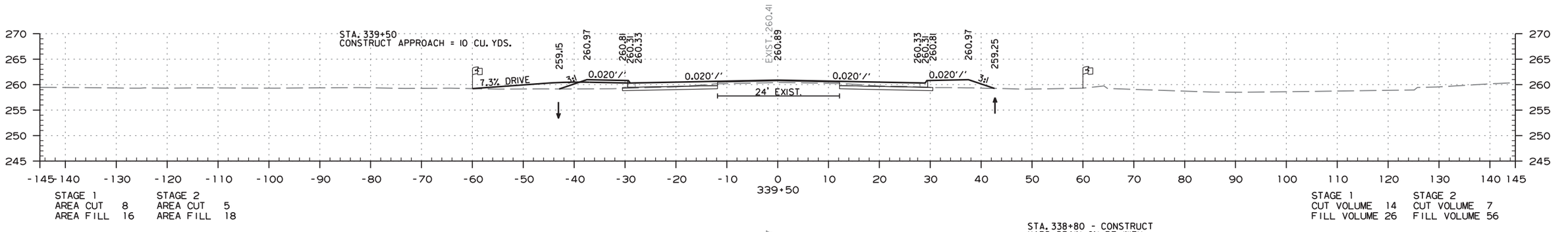
7/30/2020

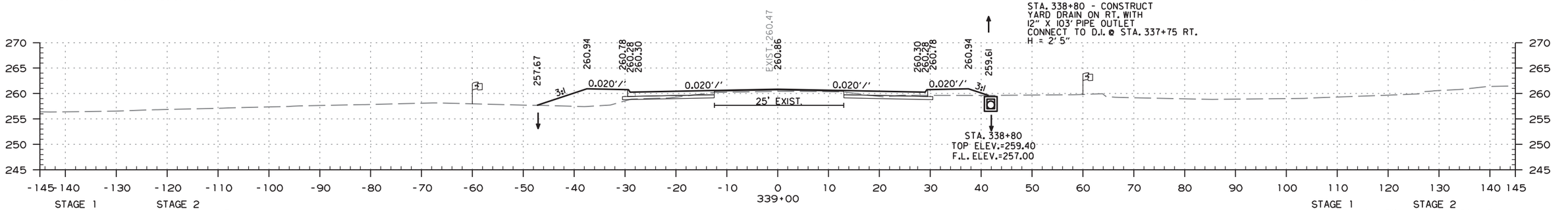
RCA0706.DGN

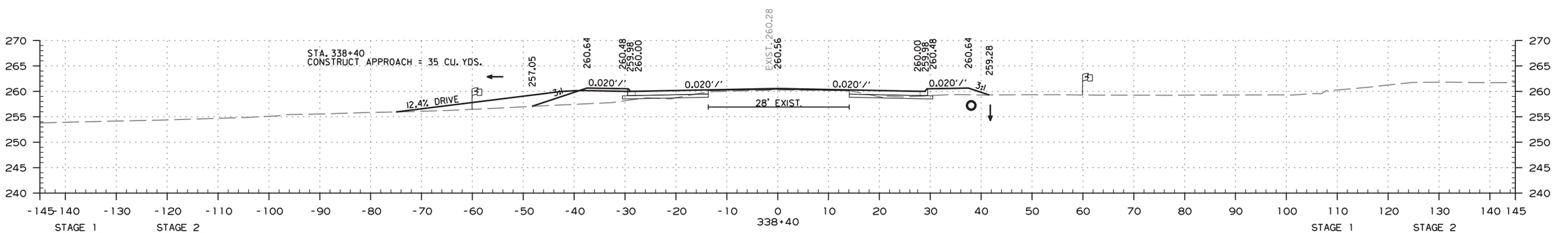
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	266	331

(2) CROSS SECTIONS









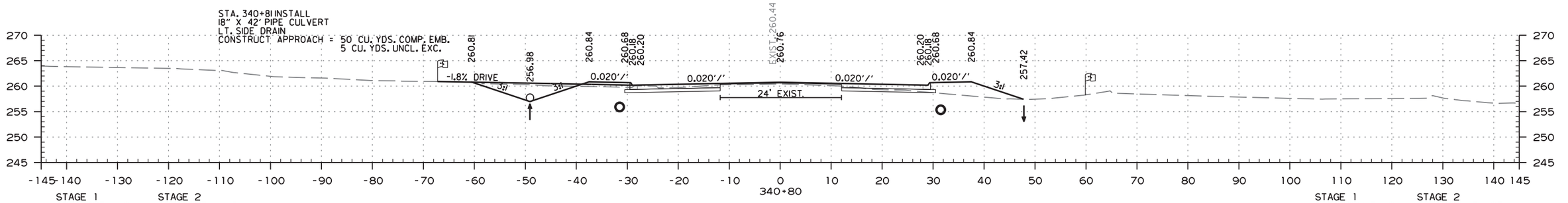
STA. 338+40.42 TO STA. 339+75

9/11/2020

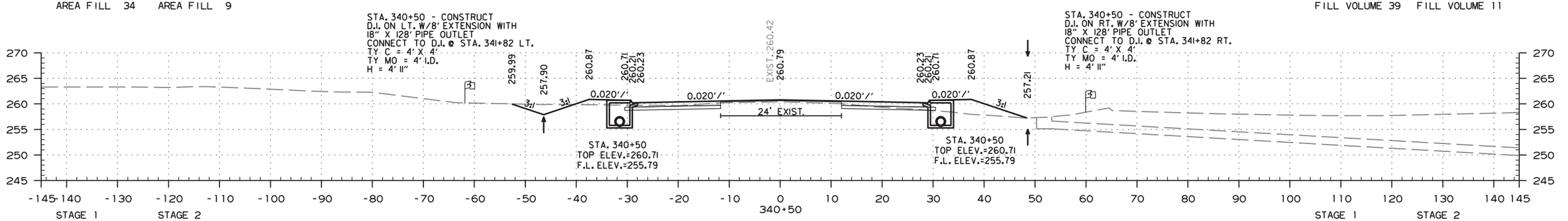
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	267	331

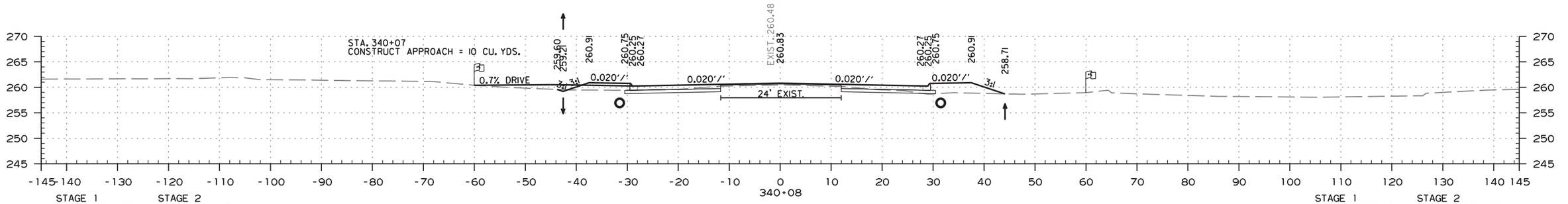
(2) CROSS SECTIONS



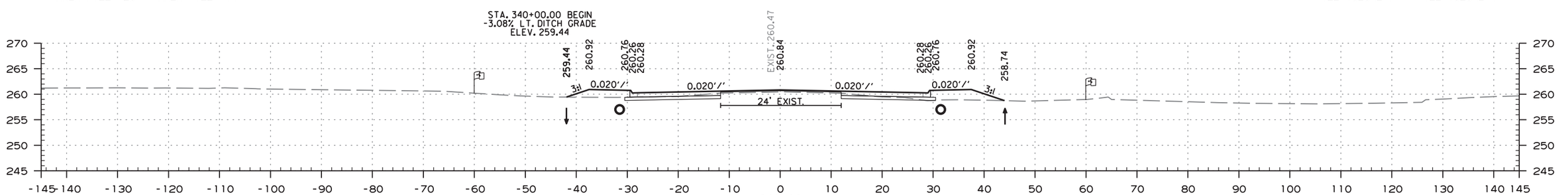
STAGE 1 AREA CUT 3 AREA FILL 34
STAGE 2 AREA CUT 45 AREA FILL 9
STAGE 1 CUT VOLUME 3 FILL VOLUME 39
STAGE 2 CUT VOLUME 37 FILL VOLUME 11



STAGE 1 AREA CUT 3 AREA FILL 36
STAGE 2 AREA CUT 22 AREA FILL 10
STAGE 1 CUT VOLUME 5 FILL VOLUME 46
STAGE 2 CUT VOLUME 23 FILL VOLUME 19



STAGE 1 AREA CUT 4 AREA FILL 23
STAGE 2 AREA CUT 8 AREA FILL 14
STAGE 1 CUT VOLUME 1 FILL VOLUME 7
STAGE 2 CUT VOLUME 2 FILL VOLUME 4



STAGE 1 AREA CUT 4 AREA FILL 23
STAGE 2 AREA CUT 7 AREA FILL 15
STAGE 1 CUT VOLUME 5 FILL VOLUME 19
STAGE 2 CUT VOLUME 6 FILL VOLUME 14

STA. 340+00 TO STA. 340+80

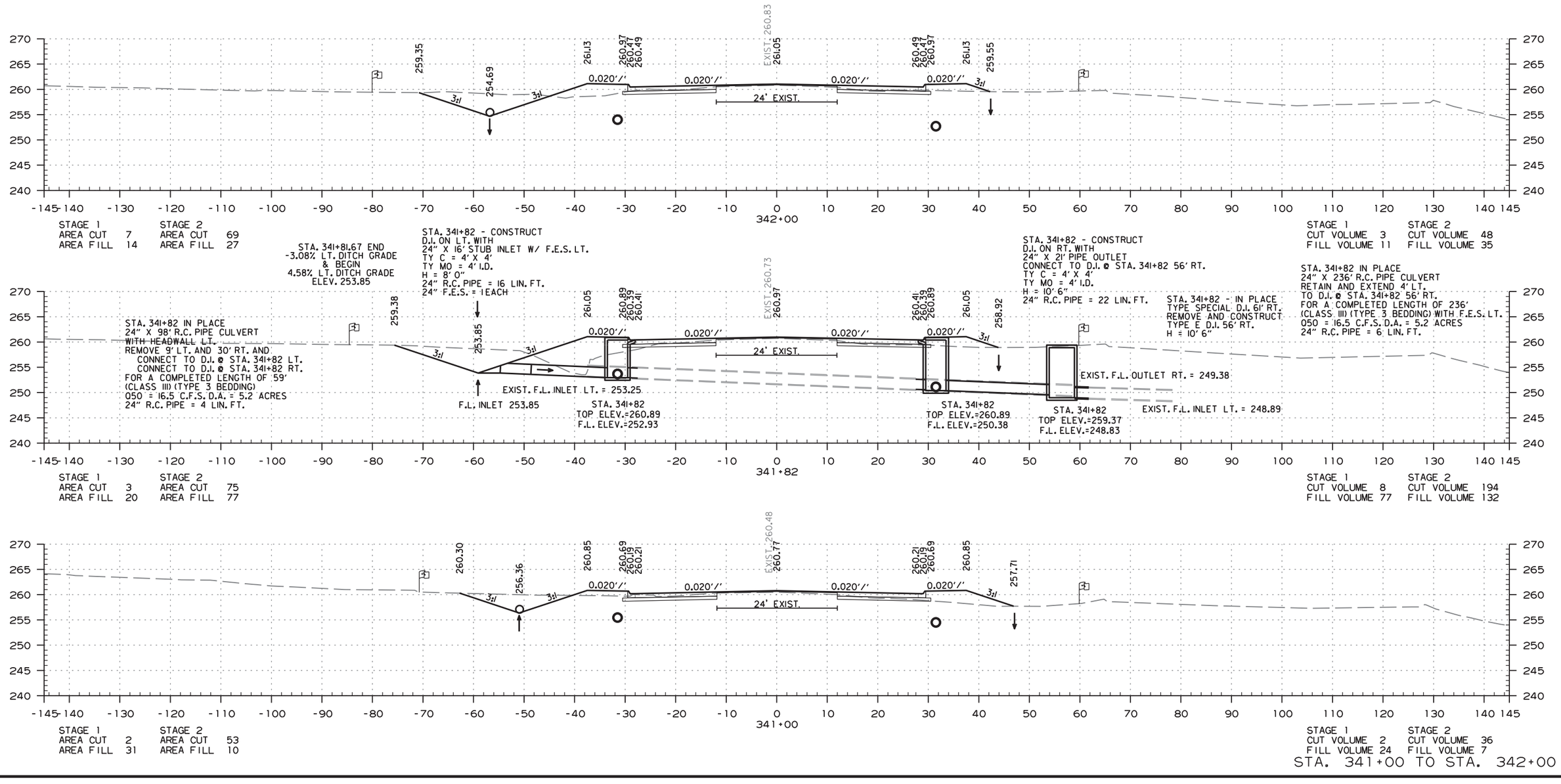
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	268	331

(2) CROSS SECTIONS



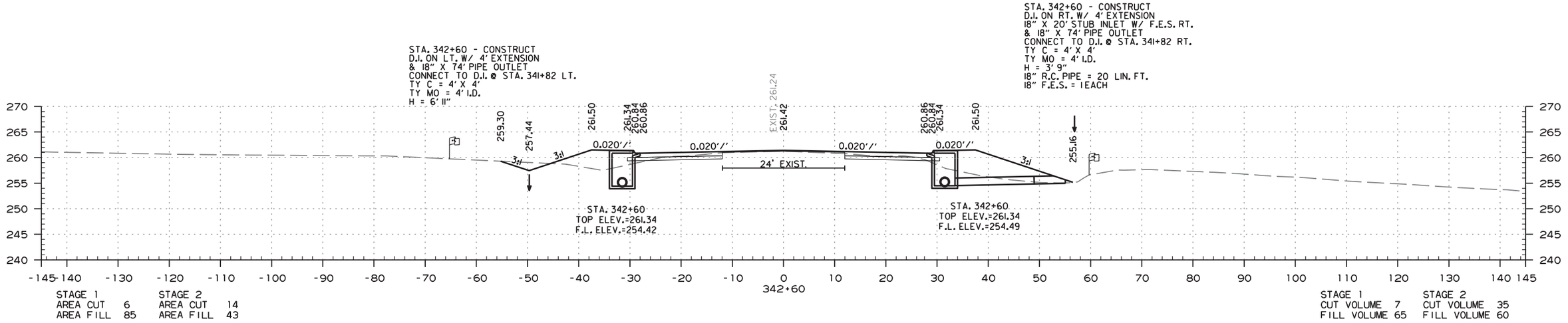
STA. 341+00 TO STA. 342+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	269	331

(2) CROSS SECTIONS



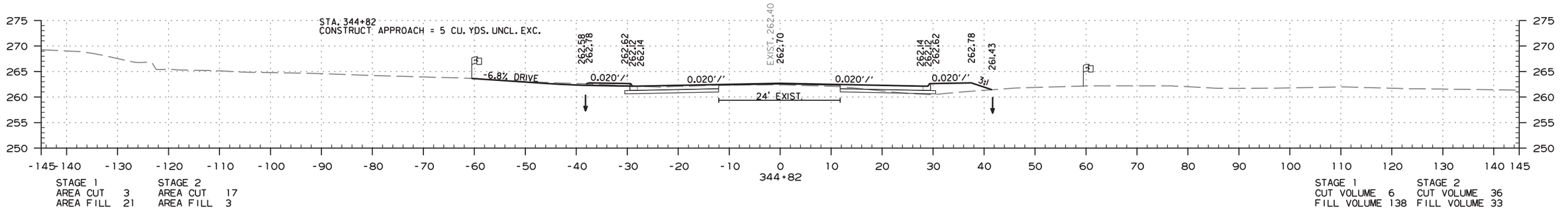
STA. 342+10.04 TO STA. 342+60

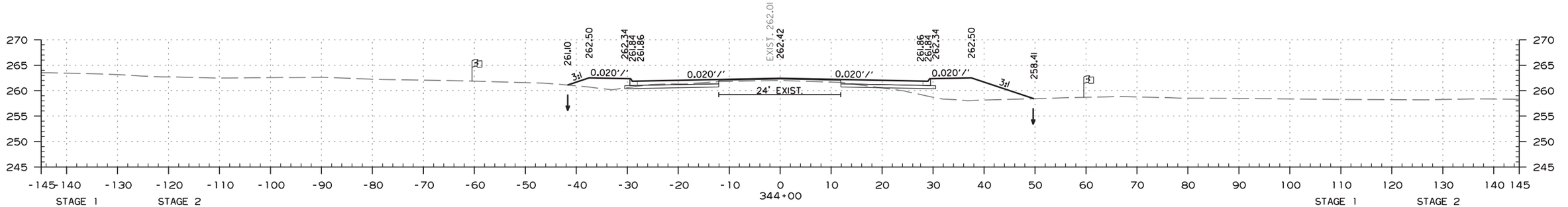
7/30/2020

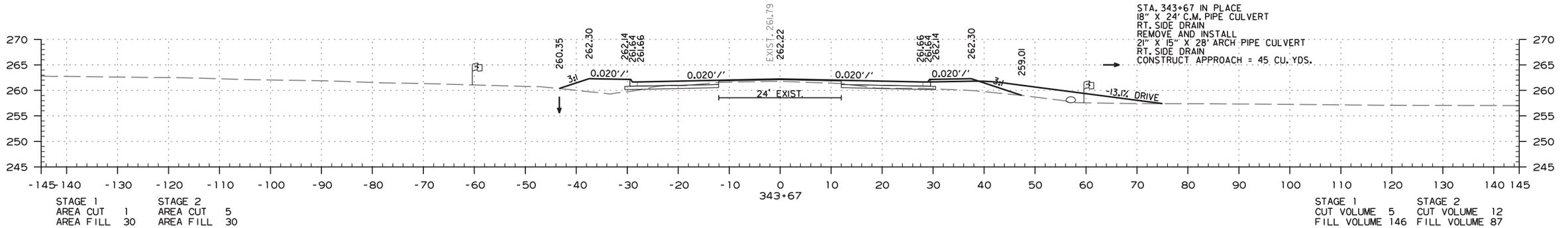
RCA0706.DGN

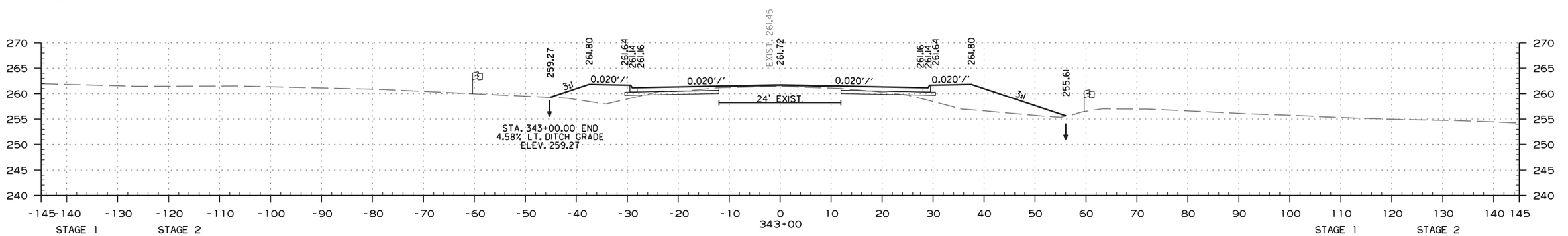
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	270	331

(2) CROSS SECTIONS









STA. 343+00 TO STA. 344+81.82

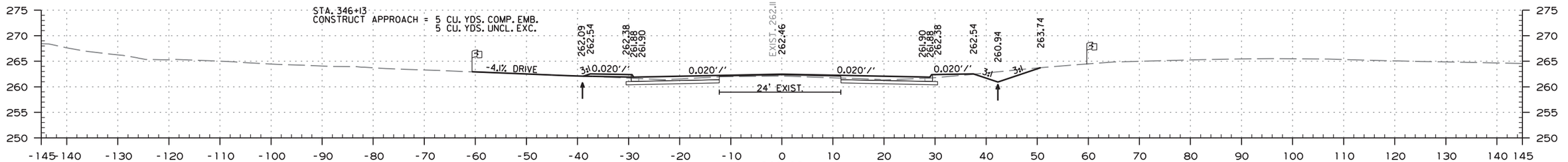
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	271	331

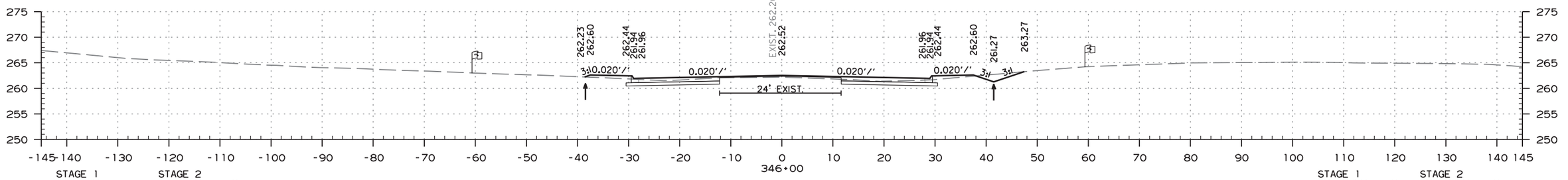
(2) CROSS SECTIONS

STA. 346+60.00 END
-2.53% RT. DITCH GRADE
& BEGIN
-1.25% RT. DITCH GRADE
ELEV. 259.75



STAGE 1 AREA CUT 24 AREA FILL 3
STAGE 2 AREA CUT 13 AREA FILL 5

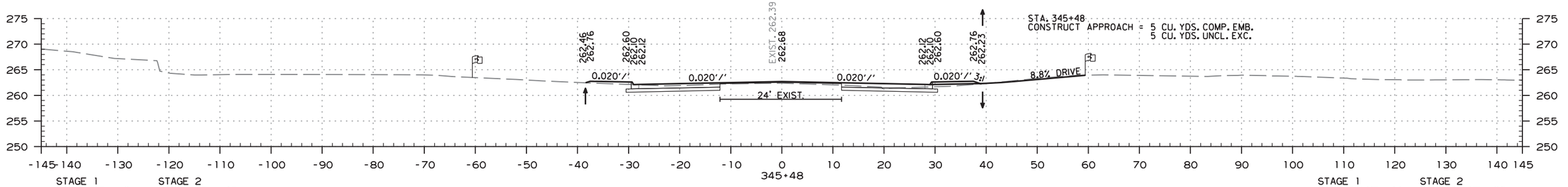
STAGE 1 CUT VOLUME 10 FILL VOLUME 2
STAGE 2 CUT VOLUME 6 FILL VOLUME 2



STAGE 1 AREA CUT 17 AREA FILL 4
STAGE 2 AREA CUT 13 AREA FILL 4

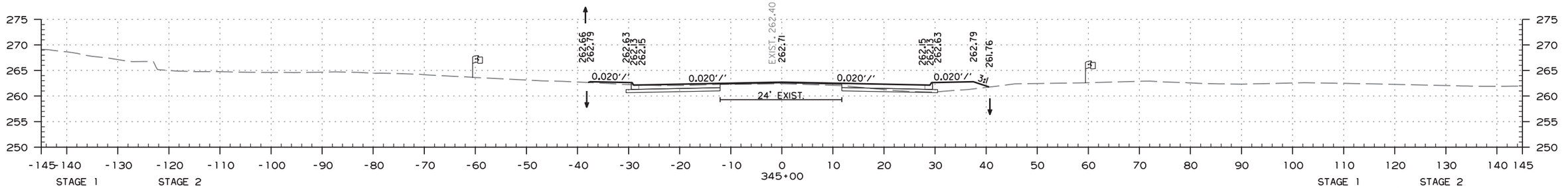
STAGE 1 CUT VOLUME 25 FILL VOLUME 11
STAGE 2 CUT VOLUME 27 FILL VOLUME 7

STA. 345+60.00 BEGIN
-2.53% RT. DITCH GRADE
ELEV. 262.28



STAGE 1 AREA CUT 9 AREA FILL 7
STAGE 2 AREA CUT 15 AREA FILL 3

STAGE 1 CUT VOLUME 11 FILL VOLUME 20
STAGE 2 CUT VOLUME 28 FILL VOLUME 4



STAGE 1 AREA CUT 3 AREA FILL 16
STAGE 2 AREA CUT 17 AREA FILL 2

STAGE 1 CUT VOLUME 2 FILL VOLUME 12
STAGE 2 CUT VOLUME 11 FILL VOLUME 2

STA. 345+00 TO STA. 346+12.79

7/30/2020

RCA0706.DGN

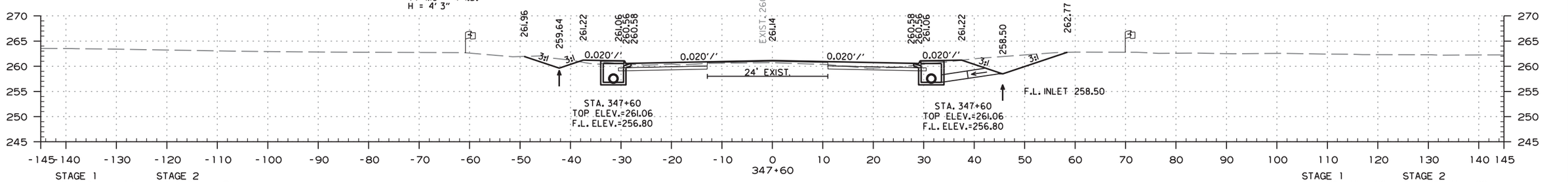
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	272	331

(2) CROSS SECTIONS

STA. 347+60 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 18" X 236' PIPE OUTLET
CONNECT TO D.I. @ STA. 350+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"

STA. 347+60.00 END
-1.25% RT. DITCH GRADE
& BEGIN
-2.36% RT. DITCH GRADE
ELEV. 258.50

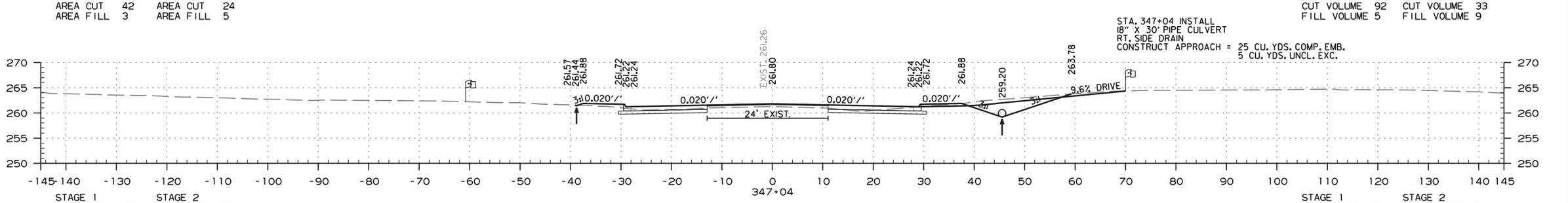
STA. 347+60 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
W/ 18" X 6' STUB INLET
& 18" X 236' PIPE OUTLET
CONNECT TO D.I. @ STA. 350+00 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 3"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1 EACH



STAGE 1 AREA CUT 42 AREA FILL 3
STAGE 2 AREA CUT 24 AREA FILL 5

STAGE 1 CUT VOLUME 92 FILL VOLUME 5
STAGE 2 CUT VOLUME 33 FILL VOLUME 9

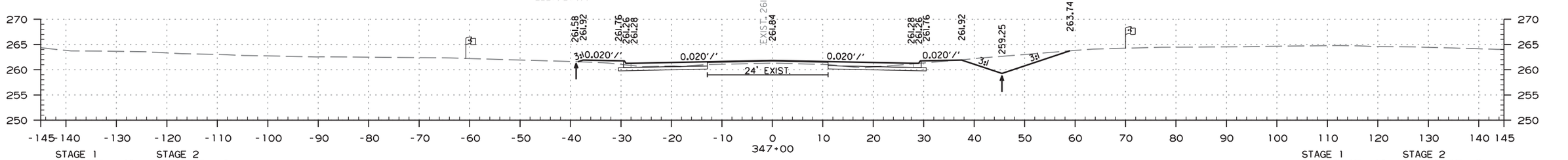
STA. 347+04 INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 47 AREA FILL 2
STAGE 2 AREA CUT 8 AREA FILL 4

STAGE 1 CUT VOLUME 7 FILL VOLUME 1
STAGE 2 CUT VOLUME 1 FILL VOLUME 1

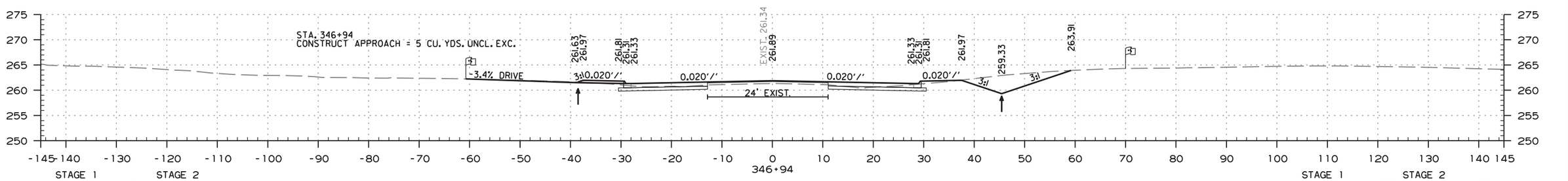
STA. 347+00.00 BEGIN
-3.23% LT. DITCH GRADE
ELEV. 261.58



STAGE 1 AREA CUT 46 AREA FILL 2
STAGE 2 AREA CUT 8 AREA FILL 4

STAGE 1 CUT VOLUME 10 FILL VOLUME 1
STAGE 2 CUT VOLUME 2 FILL VOLUME 1

STA. 346+94
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.



STAGE 1 AREA CUT 48 AREA FILL 2
STAGE 2 AREA CUT 8 AREA FILL 5

STAGE 1 CUT VOLUME 108 FILL VOLUME 8
STAGE 2 CUT VOLUME 32 FILL VOLUME 15

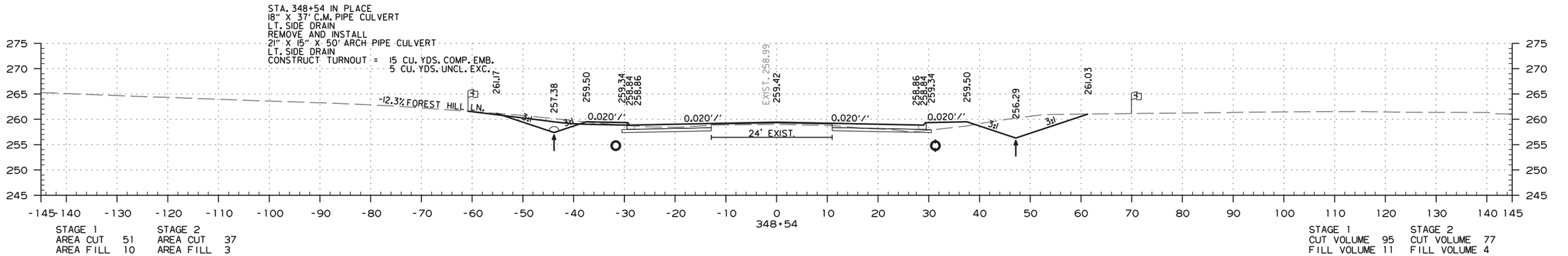
STA. 346+93.92 TO STA. 347+60

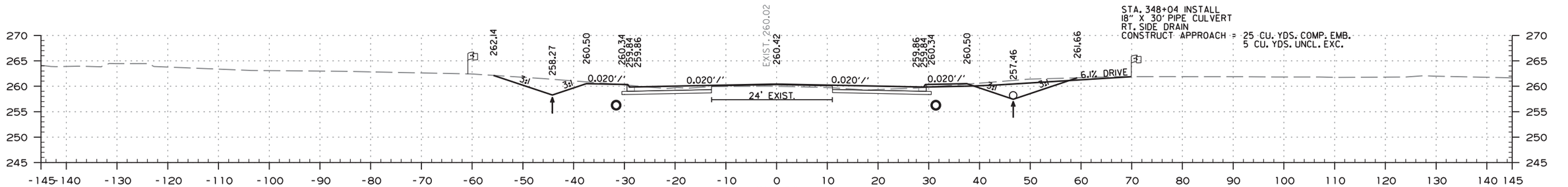
7/30/2020

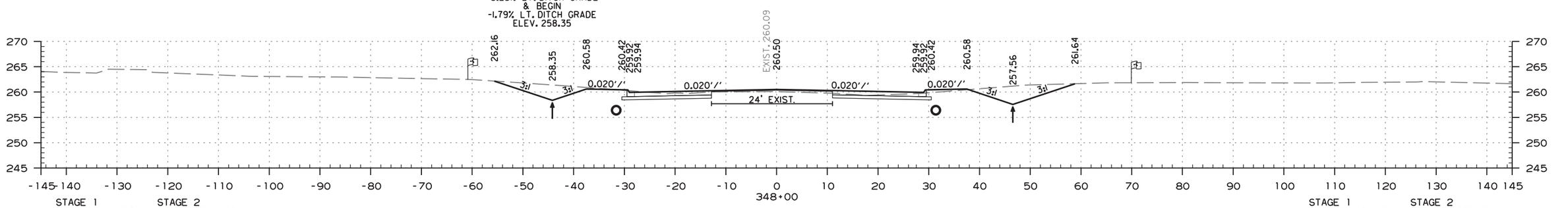
RCA0706.DGN

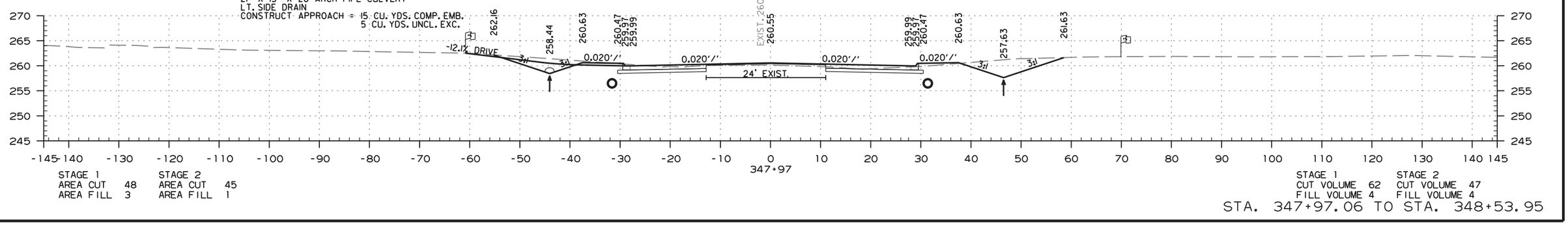
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	273	331

(2) CROSS SECTIONS









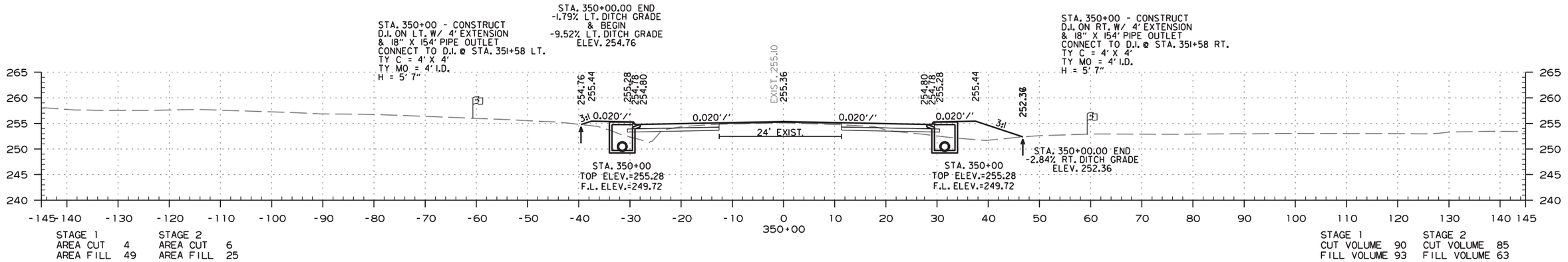
STA. 347+97.06 TO STA. 348+53.95

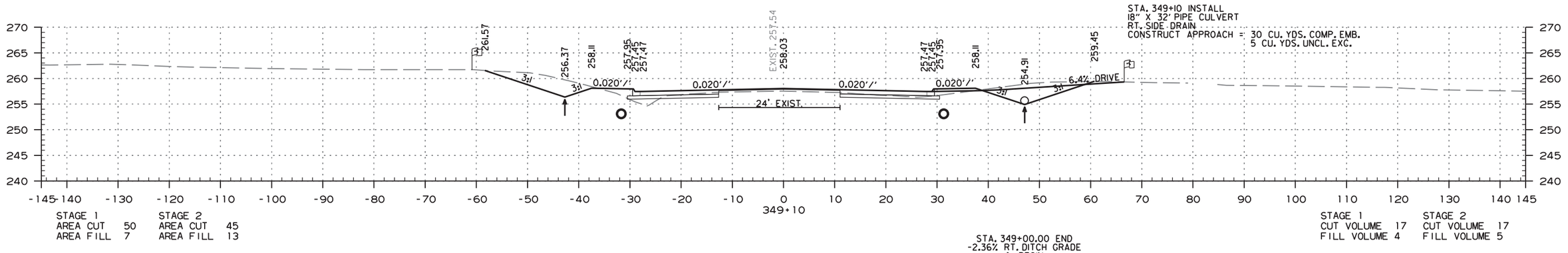
7/30/2020

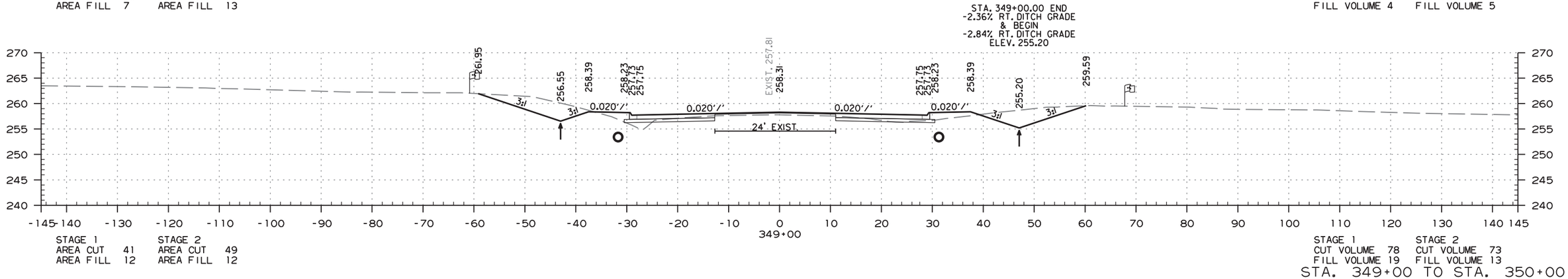
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	274	331

(2) CROSS SECTIONS







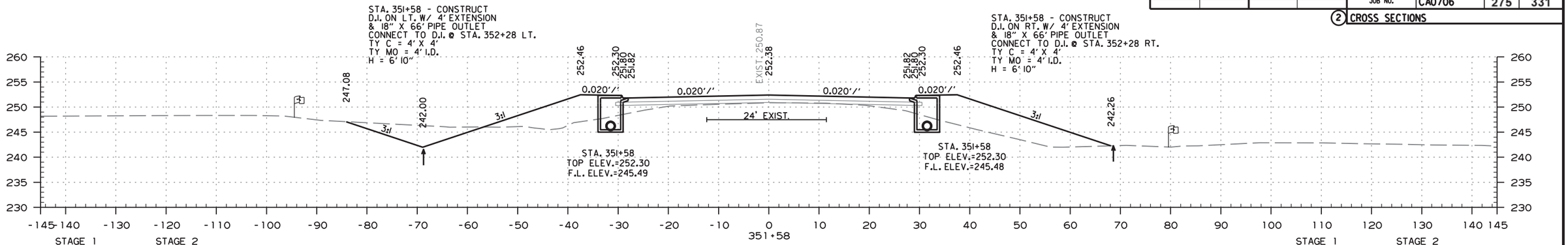
STA. 349+00 TO STA. 350+00

7/30/2020

RCA0706.DGN

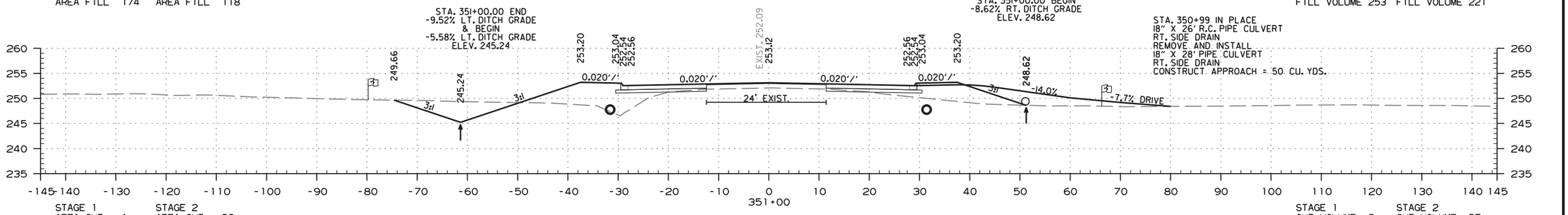
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	275	331

(2) CROSS SECTIONS



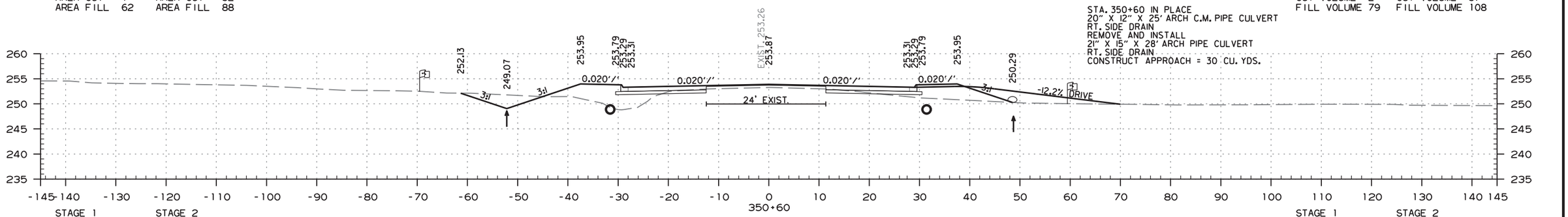
STAGE 1 AREA CUT 0 AREA FILL 174 | STAGE 2 AREA CUT 58 AREA FILL 118

STAGE 1 CUT VOLUME 1 FILL VOLUME 253 | STAGE 2 CUT VOLUME 118 FILL VOLUME 221



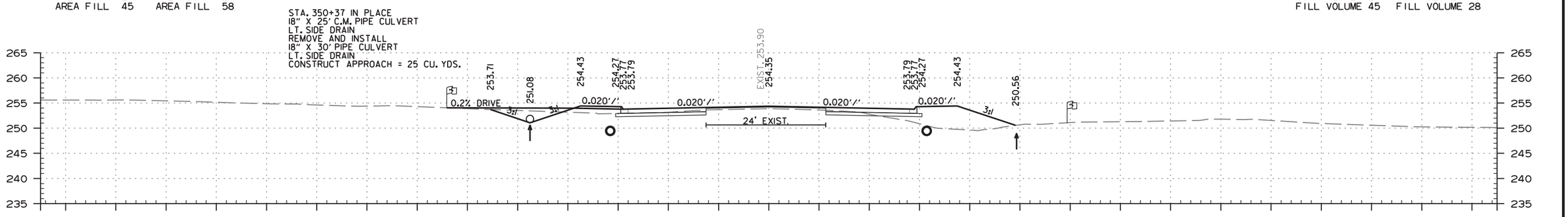
STAGE 1 AREA CUT 1 AREA FILL 62 | STAGE 2 AREA CUT 52 AREA FILL 88

STAGE 1 CUT VOLUME 2 FILL VOLUME 79 | STAGE 2 CUT VOLUME 57 FILL VOLUME 108



STAGE 1 AREA CUT 2 AREA FILL 45 | STAGE 2 AREA CUT 25 AREA FILL 58

STAGE 1 CUT VOLUME 2 FILL VOLUME 45 | STAGE 2 CUT VOLUME 19 FILL VOLUME 28



STAGE 1 AREA CUT 3 AREA FILL 70 | STAGE 2 AREA CUT 24 AREA FILL 13

STAGE 1 CUT VOLUME 5 FILL VOLUME 86 | STAGE 2 CUT VOLUME 22 FILL VOLUME 27

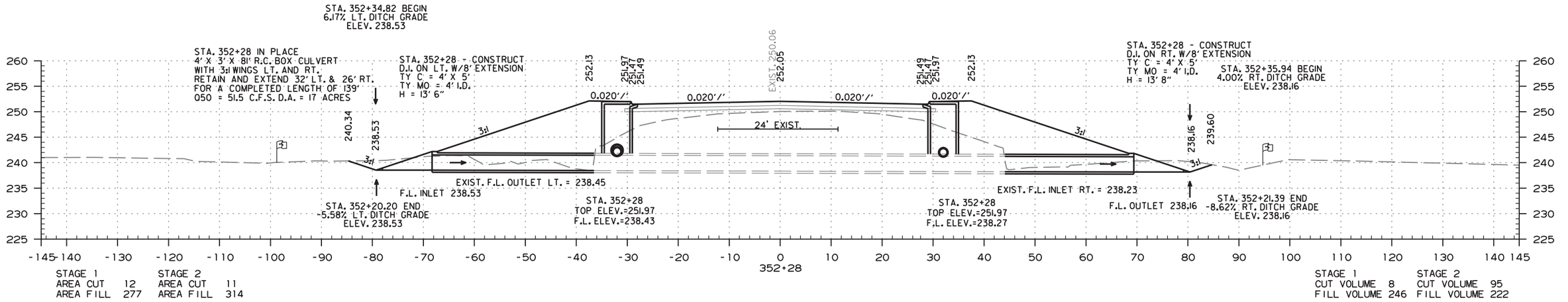
STA. 350+38.67 TO STA. 351+58.06

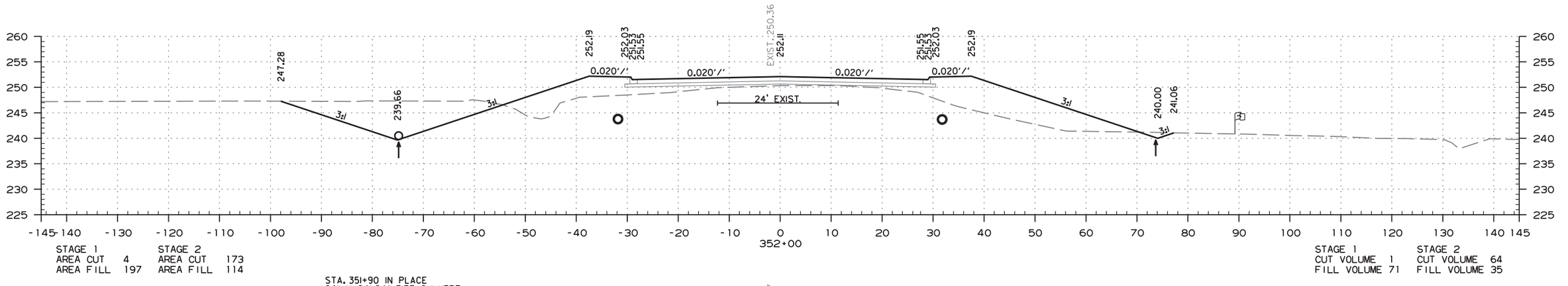
7/30/2020

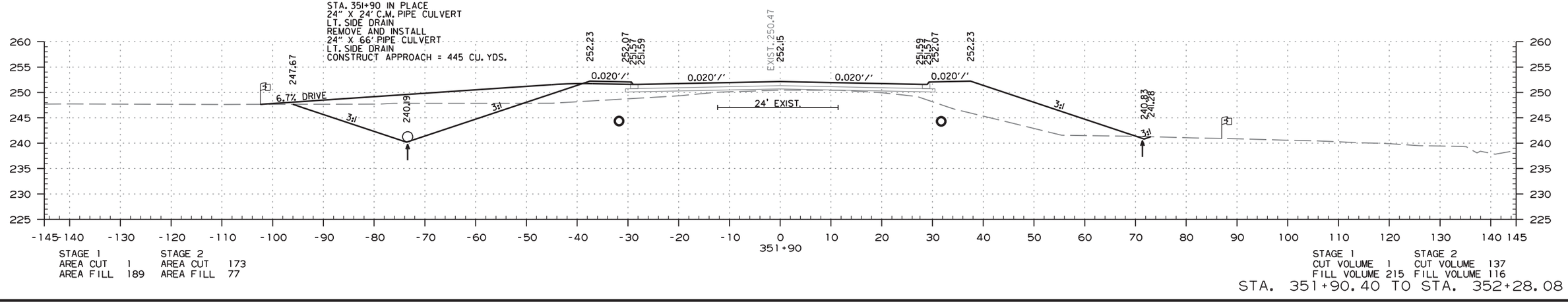
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	276	331

(2) CROSS SECTIONS







STA. 351+90.40 TO STA. 352+28.08

7/30/2020

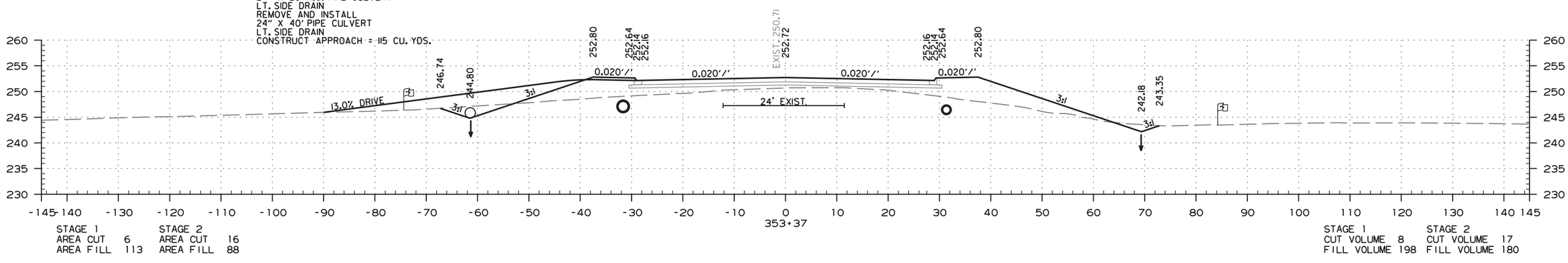
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	277	331

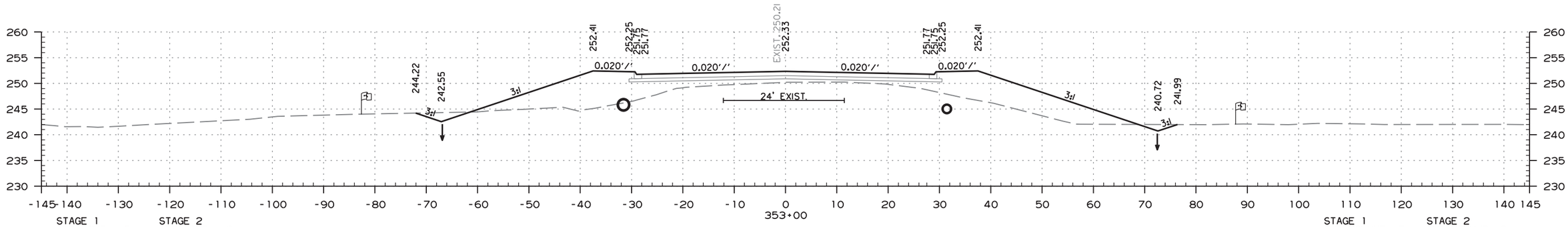
(2) CROSS SECTIONS

STA. 353+36 IN PLACE
24" X 29' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 115 CU. YDS.



STAGE 1 AREA CUT 6 AREA FILL 113
STAGE 2 AREA CUT 16 AREA FILL 88

STAGE 1 CUT VOLUME 8 FILL VOLUME 198
STAGE 2 CUT VOLUME 17 FILL VOLUME 180

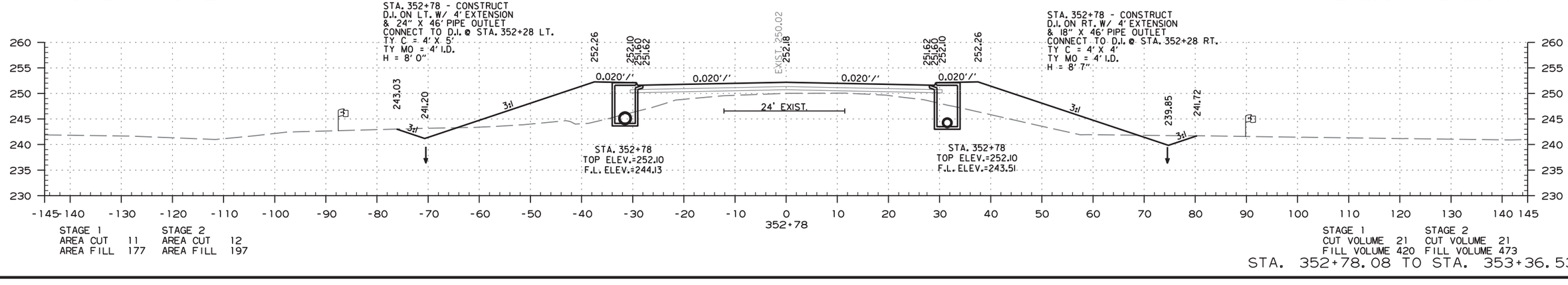


STAGE 1 AREA CUT 5 AREA FILL 176
STAGE 2 AREA CUT 9 AREA FILL 174

STAGE 1 CUT VOLUME 7 FILL VOLUME 144
STAGE 2 CUT VOLUME 9 FILL VOLUME 151

STA. 352+78 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
& 24" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+28 LT.
TY C = 4' X 5'
TY MO = 4' I.D.
H = 8' 0"

STA. 352+78 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
& 18" X 46' PIPE OUTLET
CONNECT TO D.I. @ STA. 352+28 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 7"



STA. 352+78
TOP ELEV.=252.10
F.L. ELEV.=244.13

STA. 352+78
TOP ELEV.=252.10
F.L. ELEV.=243.51

STAGE 1 AREA CUT 11 AREA FILL 177
STAGE 2 AREA CUT 12 AREA FILL 197

STAGE 1 CUT VOLUME 21 FILL VOLUME 420
STAGE 2 CUT VOLUME 21 FILL VOLUME 473

STA. 352+78.08 TO STA. 353+36.53

7/30/2020

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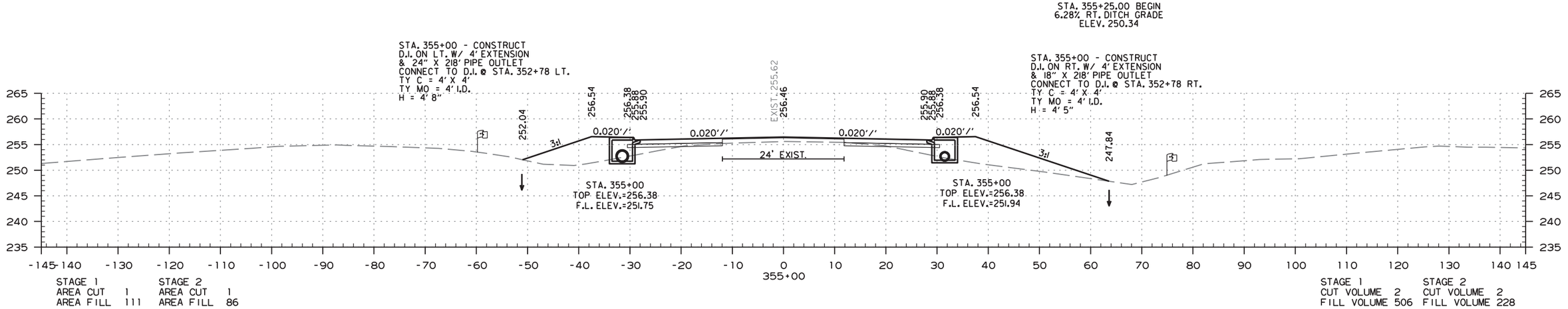
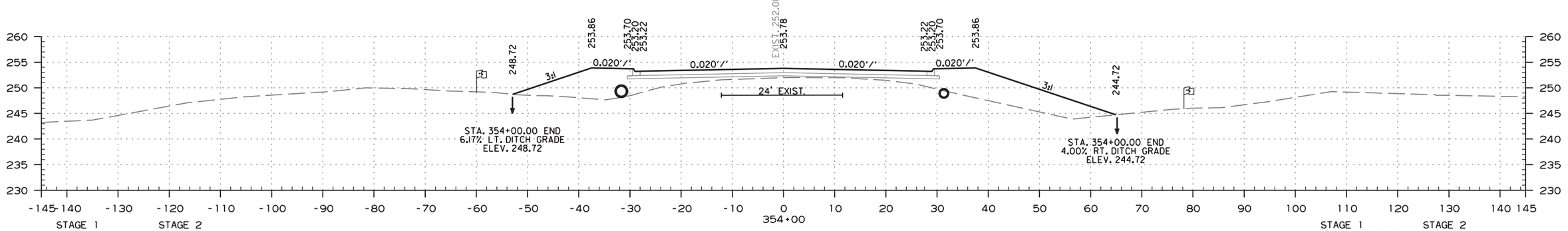
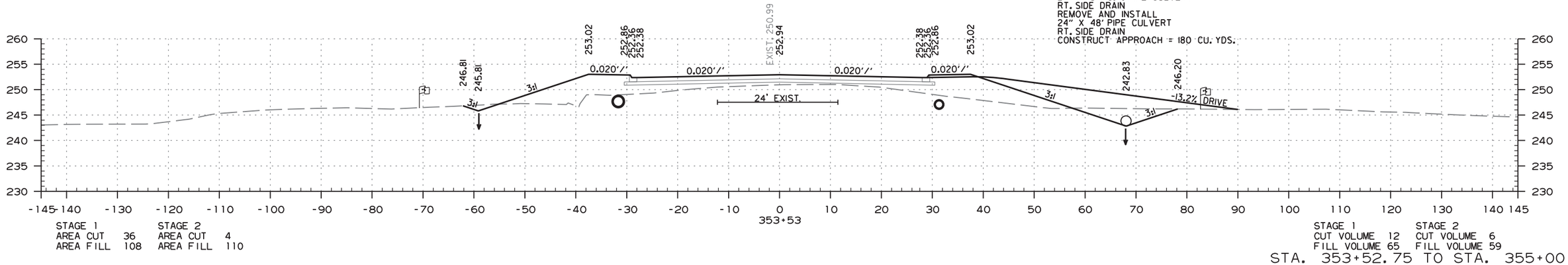
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	278	331

(2) CROSS SECTIONS







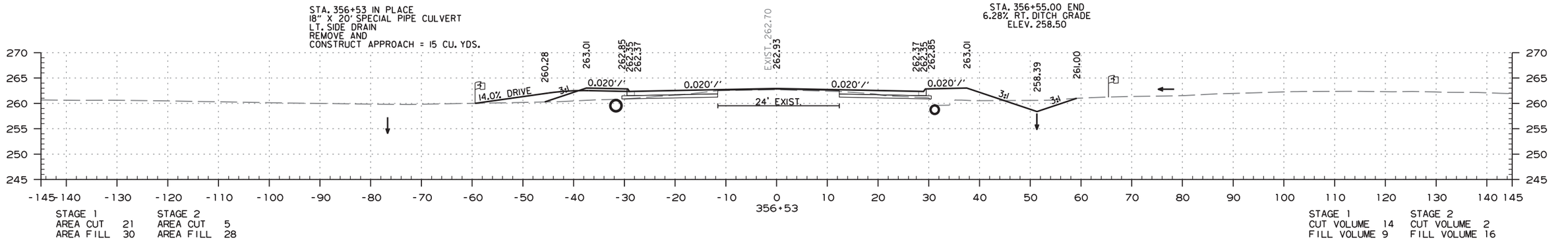
STA. 353+52.75 TO STA. 355+00

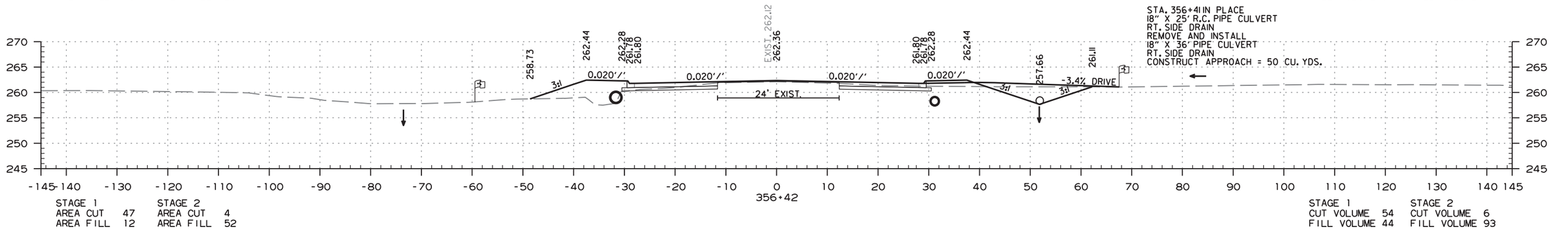
7/30/2020

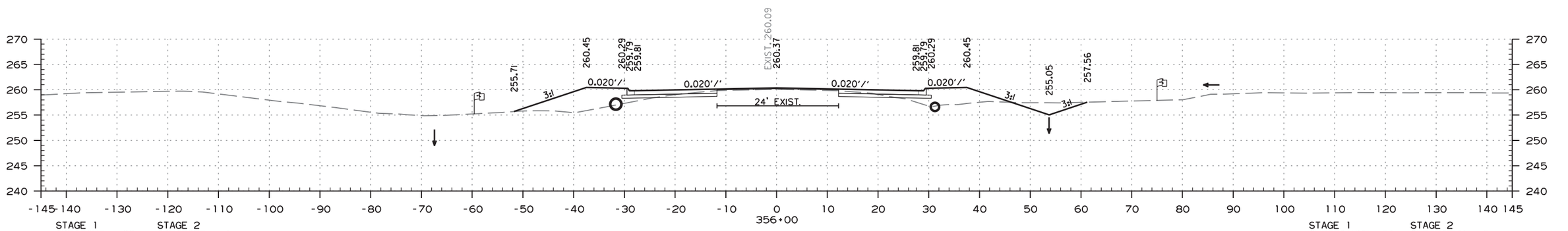
RCA0706.DGN

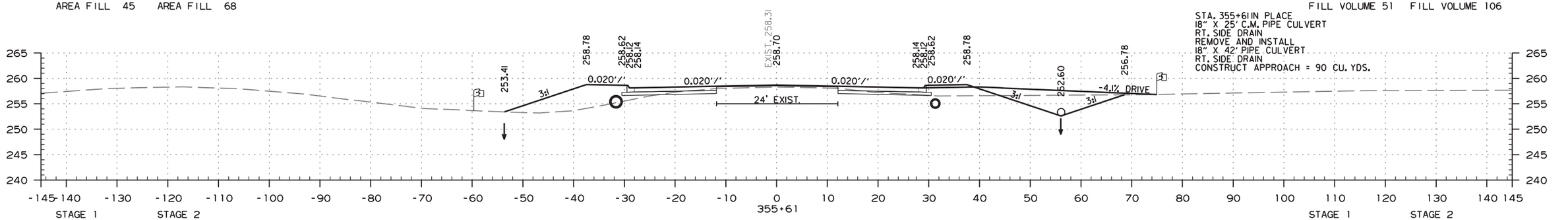
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	279	331

(2) CROSS SECTIONS









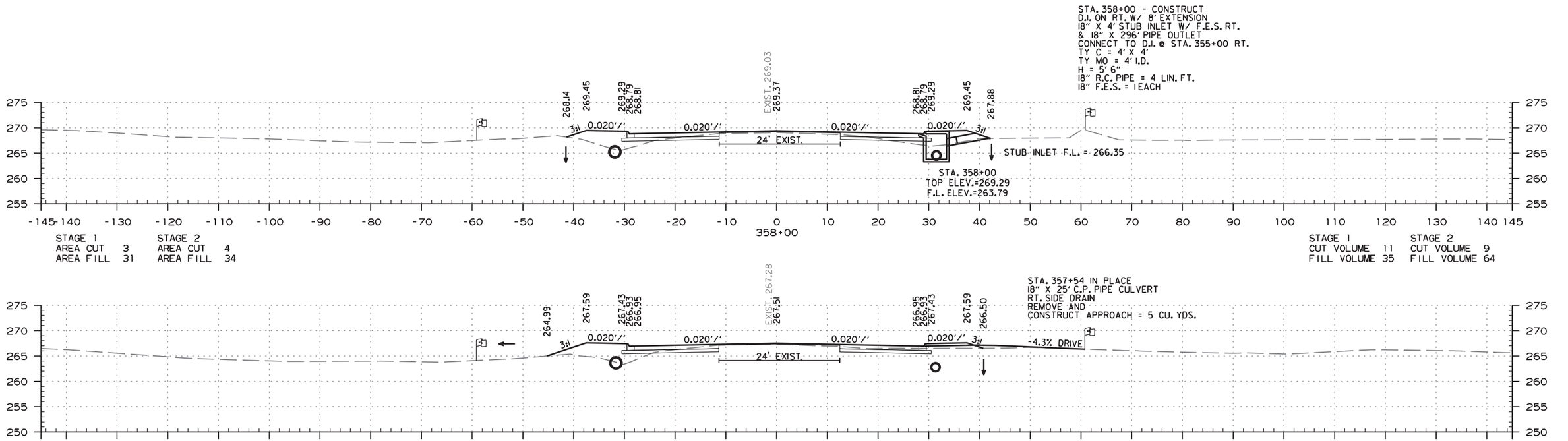
STA. 355+61.01 TO STA. 356+53.29

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	280	331

(2) CROSS SECTIONS

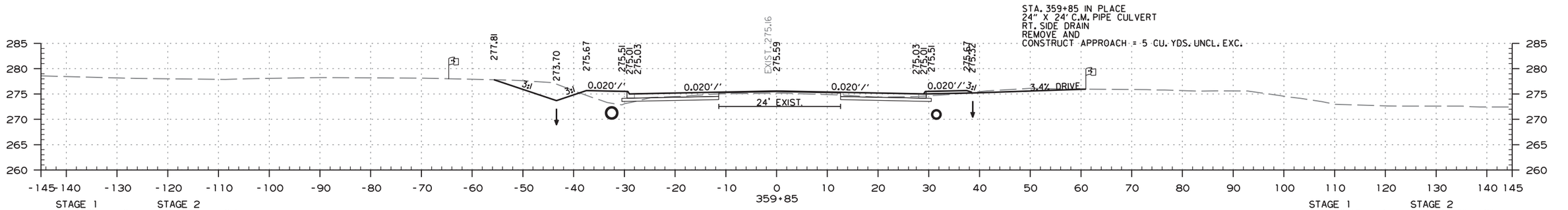


7/30/2020

RCA0706.DGN

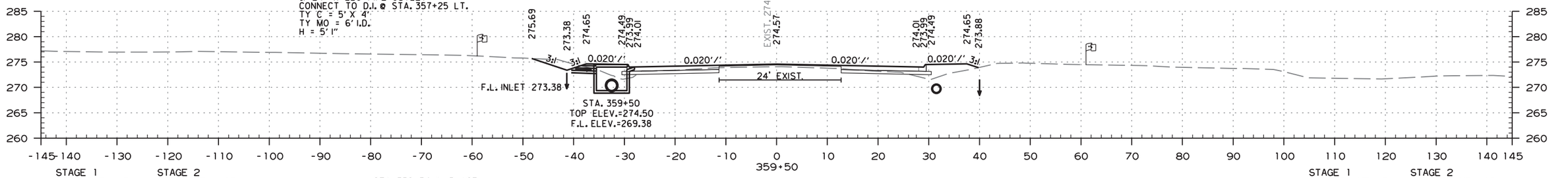
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	281	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 8 AREA FILL 6
STAGE 2 AREA CUT 37 AREA FILL 18

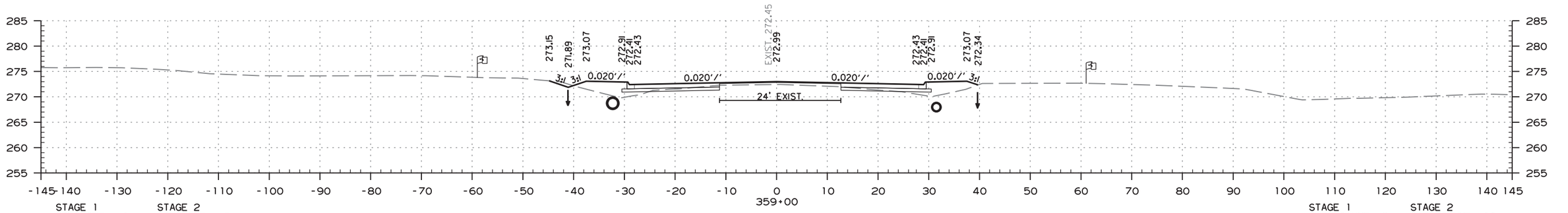
STAGE 1 CUT VOLUME 6 FILL VOLUME 17
STAGE 2 CUT VOLUME 34 FILL VOLUME 22



STAGE 1 AREA CUT 2 AREA FILL 20
STAGE 2 AREA CUT 15 AREA FILL 16

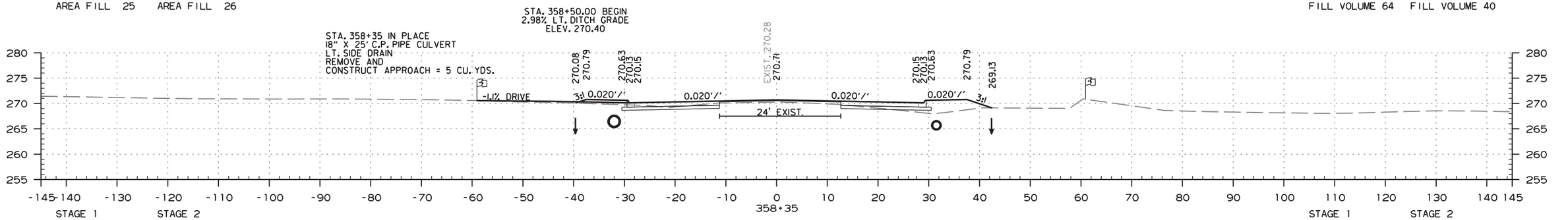
STAGE 1 CUT VOLUME 3 FILL VOLUME 42
STAGE 2 CUT VOLUME 19 FILL VOLUME 39

STA. 359+34 IN PLACE
24" X 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE



STAGE 1 AREA CUT 1 AREA FILL 25
STAGE 2 AREA CUT 5 AREA FILL 26

STAGE 1 CUT VOLUME 2 FILL VOLUME 64
STAGE 2 CUT VOLUME 16 FILL VOLUME 40



STAGE 1 AREA CUT 1 AREA FILL 28
STAGE 2 AREA CUT 8 AREA FILL 7

STAGE 1 CUT VOLUME 3 FILL VOLUME 38
STAGE 2 CUT VOLUME 8 FILL VOLUME 22

STA. 358+35 TO STA. 359+85.09

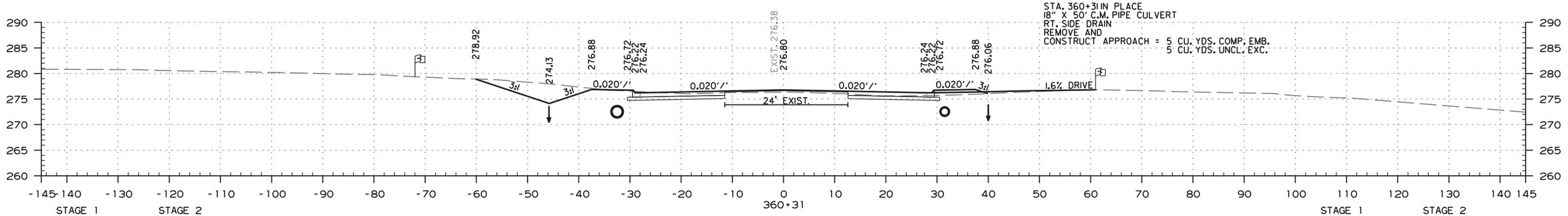
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	282	331

(2) CROSS SECTIONS

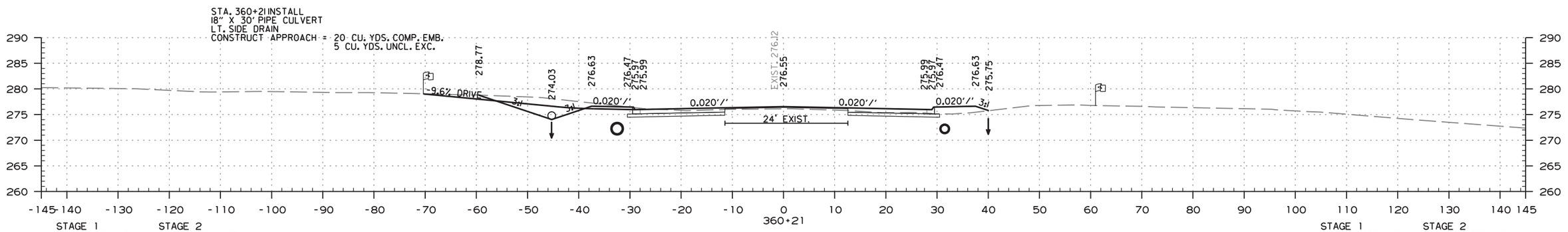


STAGE 1
AREA CUT 8
AREA FILL 9

STAGE 2
AREA CUT 63
AREA FILL 1

STAGE 1
CUT VOLUME 3
FILL VOLUME 4

STAGE 2
CUT VOLUME 24
FILL VOLUME 1

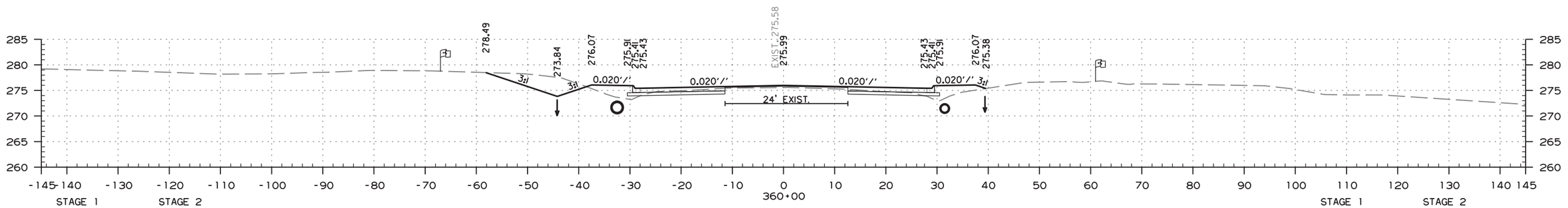


STAGE 1
AREA CUT 8
AREA FILL 12

STAGE 2
AREA CUT 68
AREA FILL 0

STAGE 1
CUT VOLUME 5
FILL VOLUME 11

STAGE 2
CUT VOLUME 45
FILL VOLUME 7



STAGE 1
AREA CUT 4
AREA FILL 17

STAGE 2
AREA CUT 47
AREA FILL 17

STAGE 1
CUT VOLUME 3
FILL VOLUME 6

STAGE 2
CUT VOLUME 23
FILL VOLUME 10

STA. 360+00 TO STA. 360+31.06

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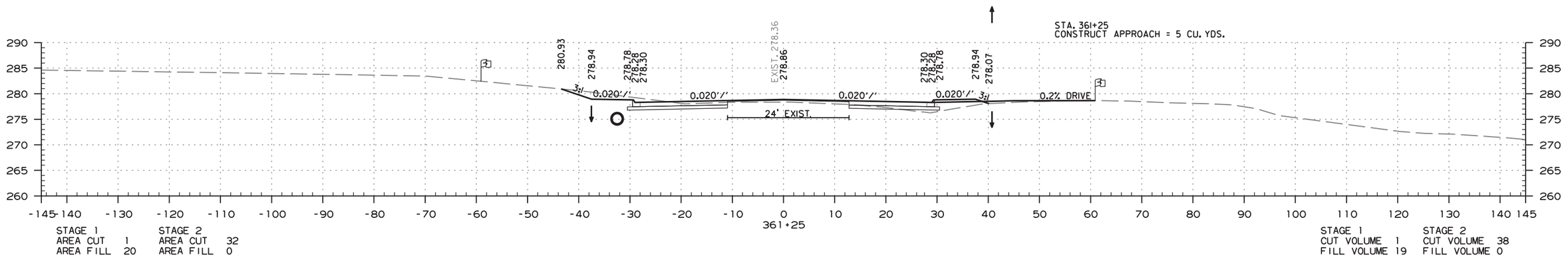
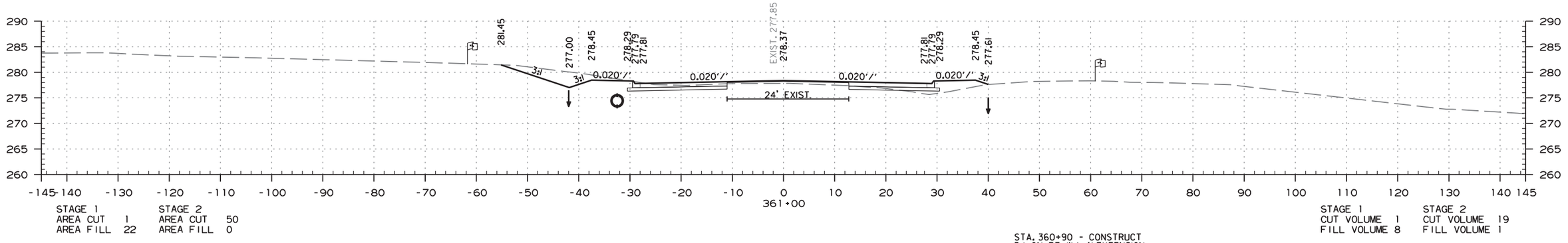
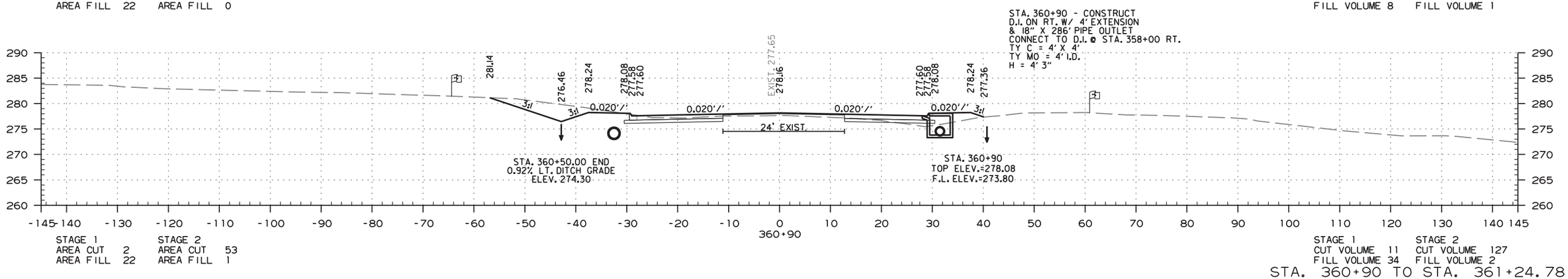
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	283	331

(2) CROSS SECTIONS







STA. 360+90 TO STA. 361+24.78

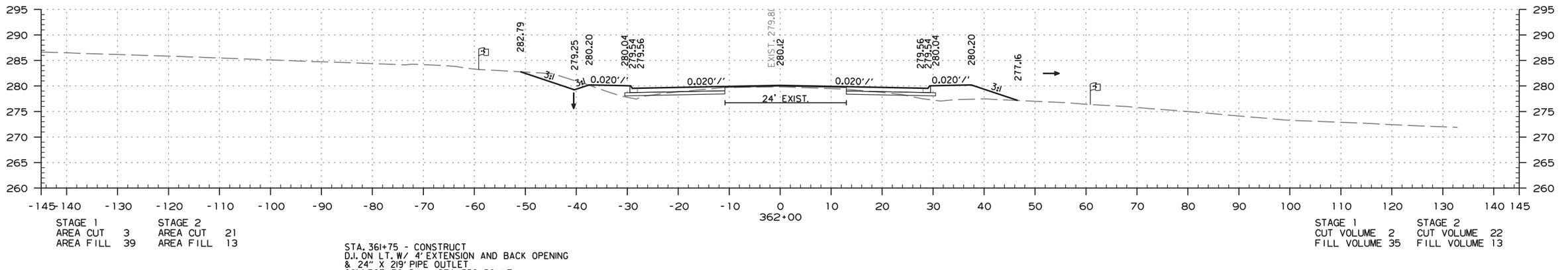
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

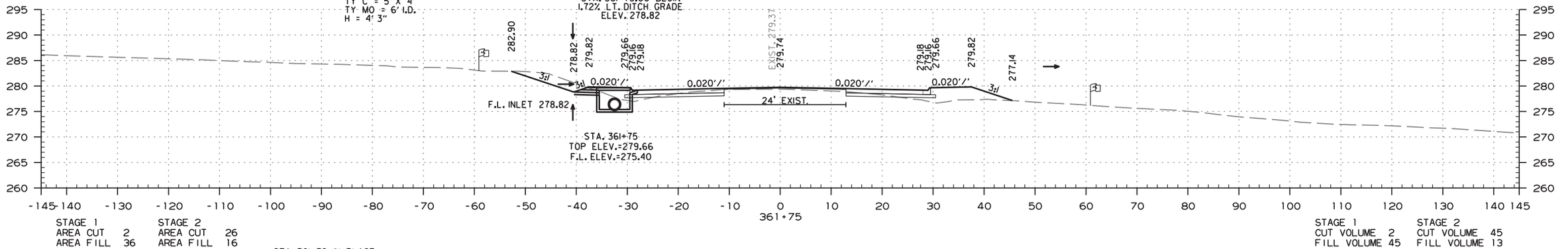
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	284	331

(2) CROSS SECTIONS

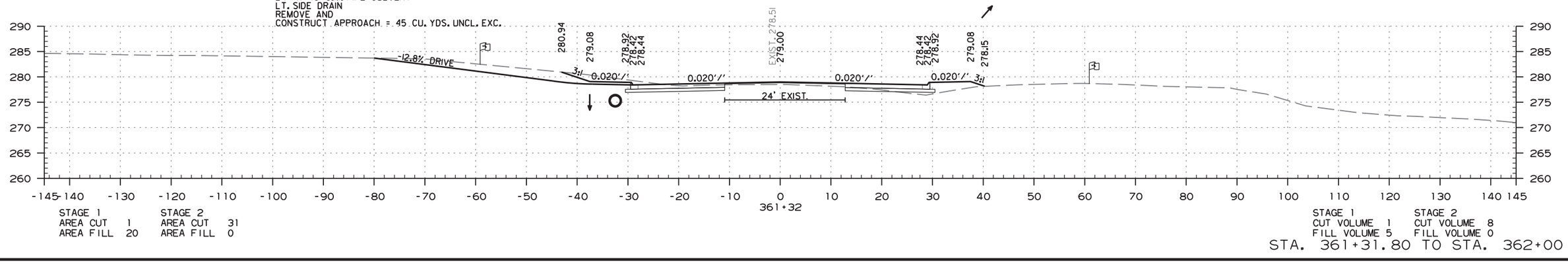


STA. 361+75 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION AND BACK OPENING
& 24" X 219' PIPE OUTLET
CONNECT TO D.I. @ STA. 359+50 LT.
TY C = 5' X 4'
TY MO = 6' I.D.
H = 4' 3"

STA. 361+75.00 BEGIN
1.72% LT. DITCH GRADE
ELEV. 278.82



STA. 361+32 IN PLACE
24" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 45 CU. YDS. UNCL. EXC.



STA. 361+31.80 TO STA. 362+00

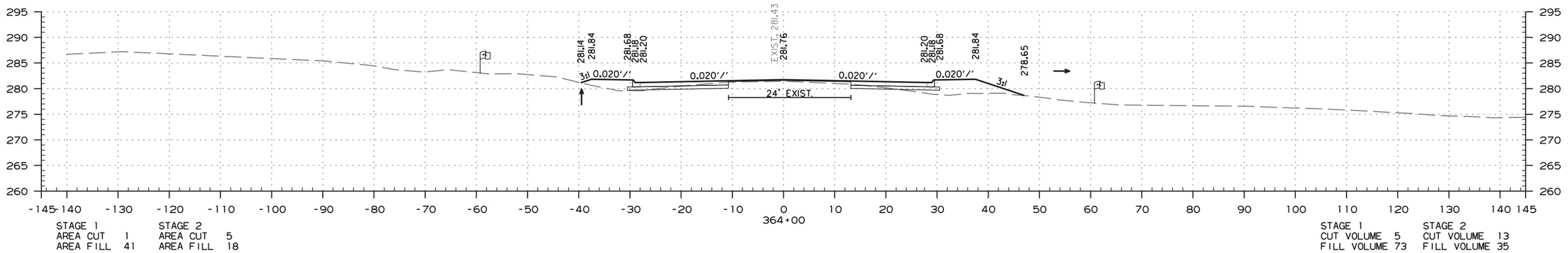
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

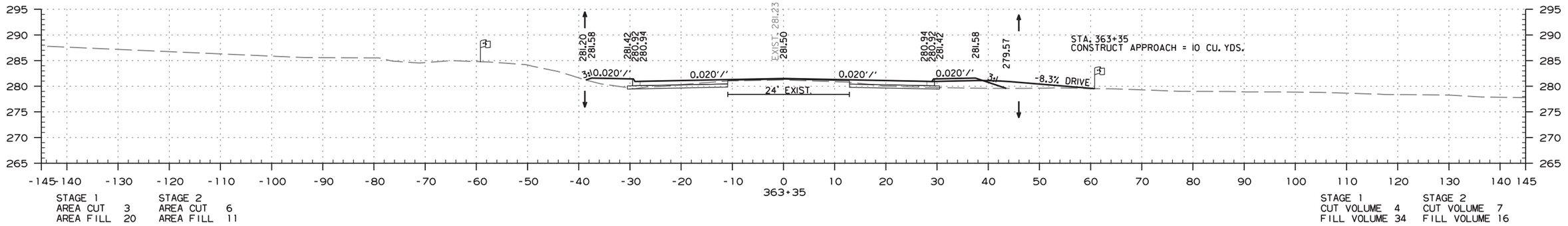
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	285	331

(2) CROSS SECTIONS



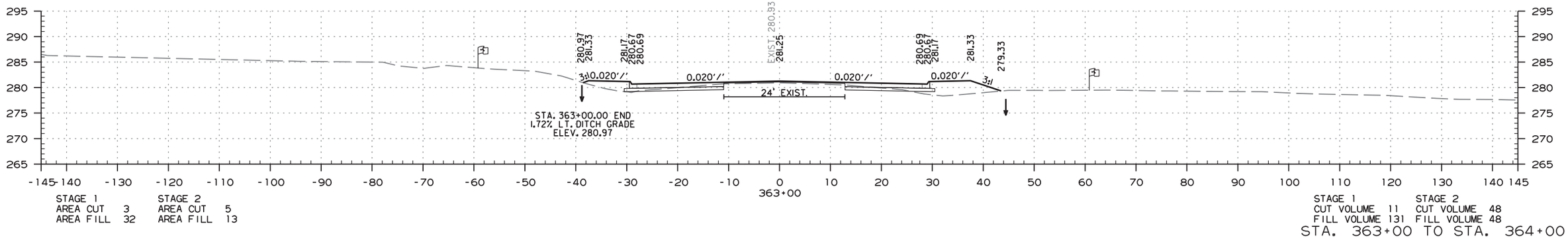
STAGE 1 AREA CUT 1 AREA FILL 41
STAGE 2 AREA CUT 5 AREA FILL 18

STAGE 1 CUT VOLUME 5 FILL VOLUME 73
STAGE 2 CUT VOLUME 13 FILL VOLUME 35



STAGE 1 AREA CUT 3 AREA FILL 20
STAGE 2 AREA CUT 6 AREA FILL 11

STAGE 1 CUT VOLUME 4 FILL VOLUME 34
STAGE 2 CUT VOLUME 7 FILL VOLUME 16



STAGE 1 AREA CUT 3 AREA FILL 32
STAGE 2 AREA CUT 5 AREA FILL 13

STAGE 1 CUT VOLUME 11 FILL VOLUME 131
STAGE 2 CUT VOLUME 48 FILL VOLUME 48

STA. 363+00 TO STA. 364+00

7/30/2020

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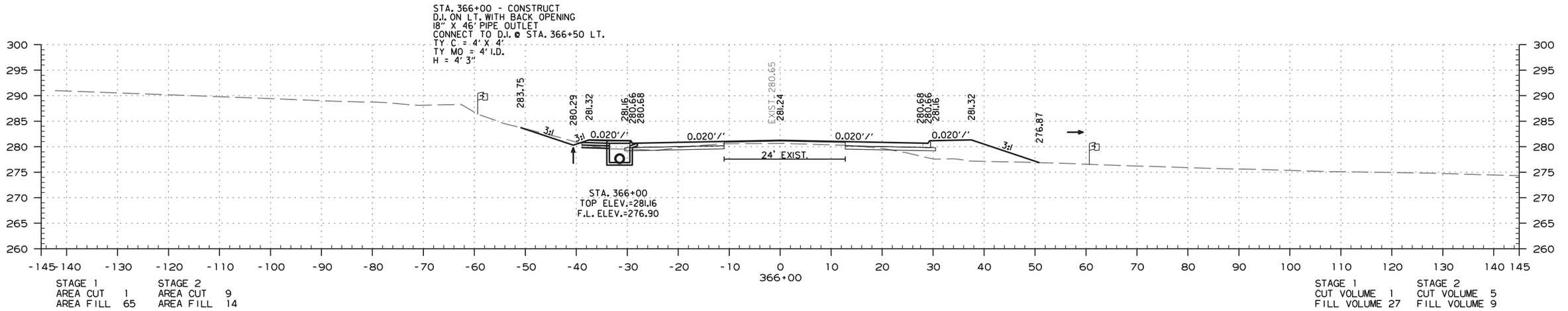
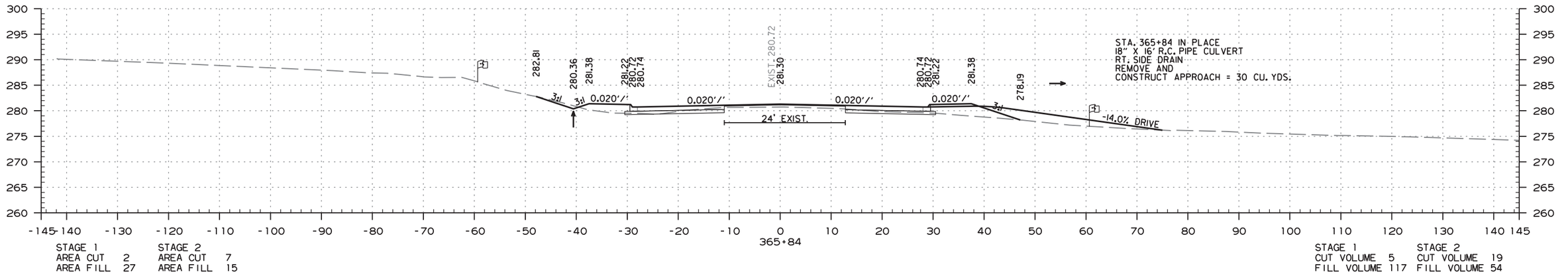
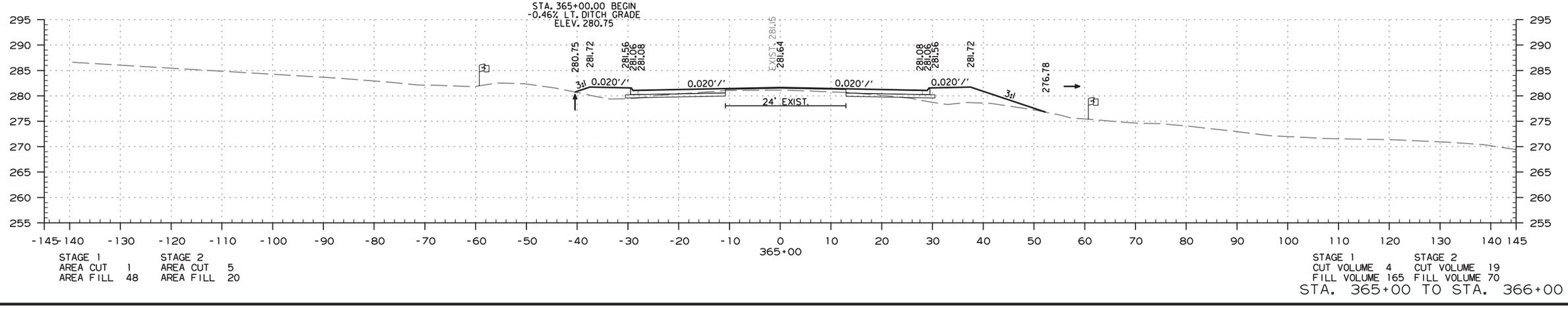
				6	ARK.			
				JOB NO.		CA0706	286	331

(2) CROSS SECTIONS







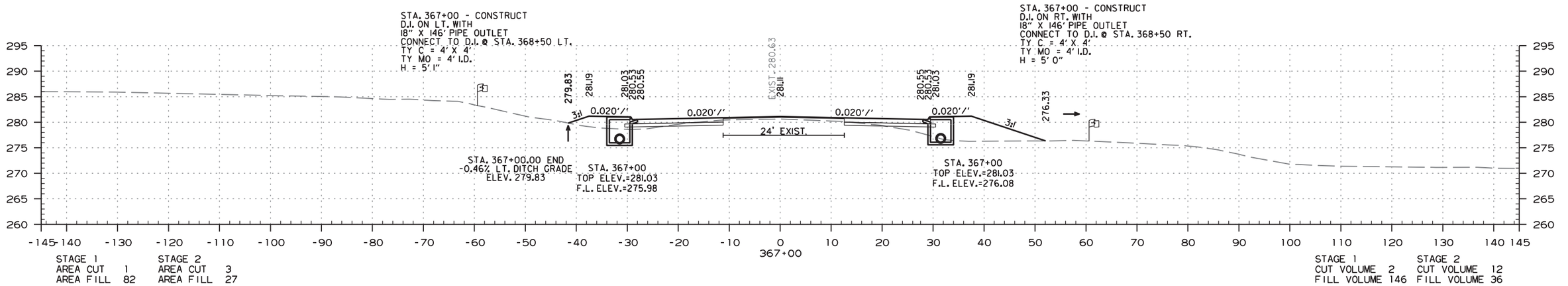
STA. 365+00 TO STA. 366+00

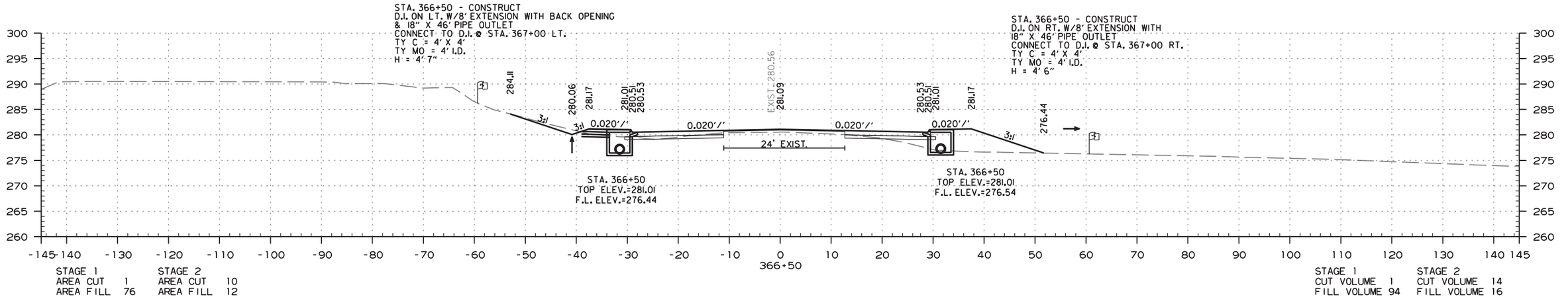
7/30/2020

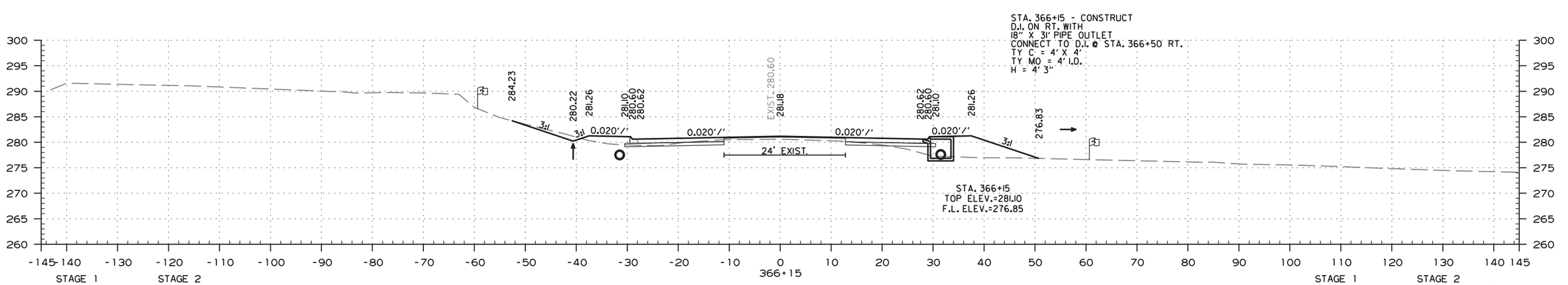
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	287	331

(2) CROSS SECTIONS







STA. 366+15 TO STA. 367+00

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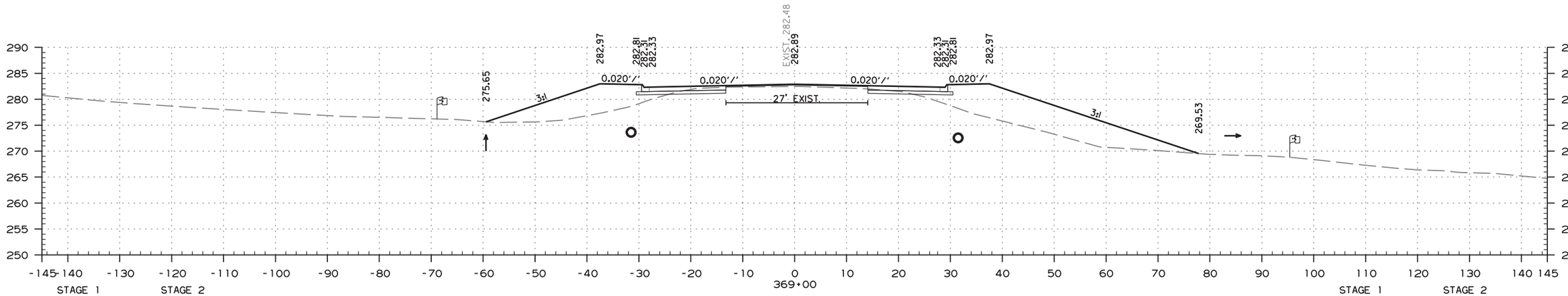
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	288	331

(2) CROSS SECTIONS



STAGE 1
AREA CUT 2
AREA FILL 220

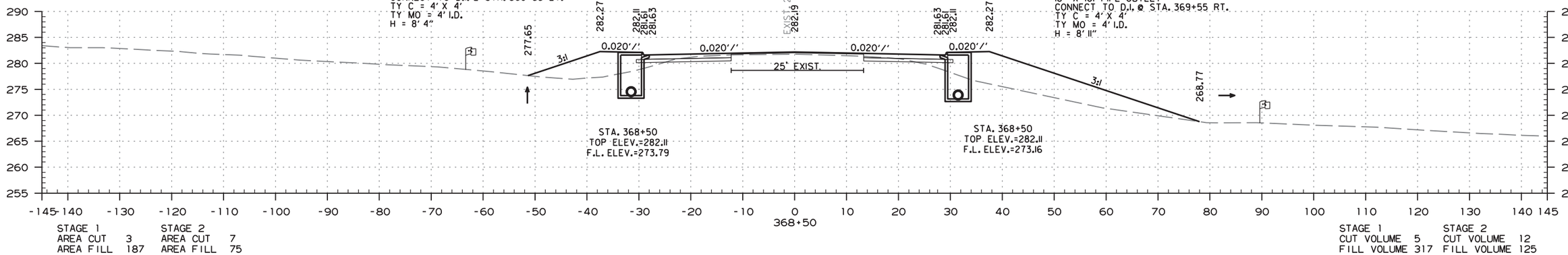
STAGE 2
AREA CUT 6
AREA FILL 116

STAGE 1
CUT VOLUME 5
FILL VOLUME 377

STAGE 2
CUT VOLUME 12
FILL VOLUME 177

STA. 368+50 - CONSTRUCT
D.I. ON LT. WITH
18" X 100' PIPE OUTLET
CONNECT TO D.I. @ STA. 369+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 4"

STA. 368+50 - CONSTRUCT
D.I. ON RT. WITH
18" X 101' PIPE OUTLET
CONNECT TO D.I. @ STA. 369+55 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 8' 11"



STA. 368+50
TOP ELEV.=282.11
F.L. ELEV.=273.79

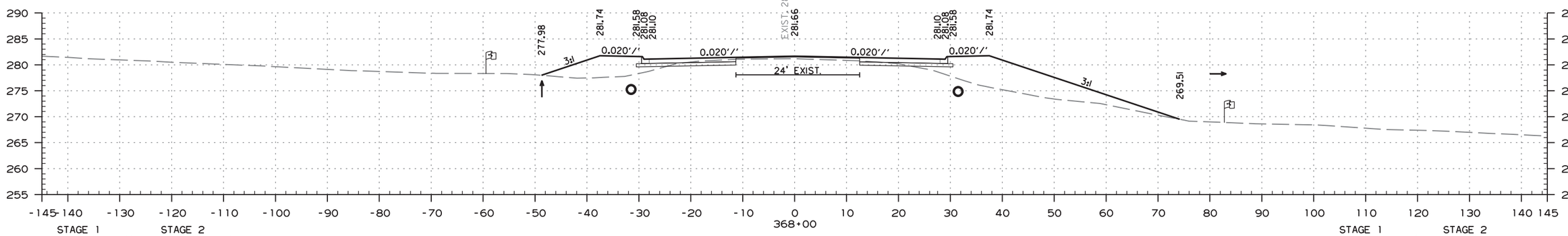
STA. 368+50
TOP ELEV.=282.11
F.L. ELEV.=273.16

STAGE 1
AREA CUT 3
AREA FILL 187

STAGE 2
AREA CUT 7
AREA FILL 75

STAGE 1
CUT VOLUME 5
FILL VOLUME 317

STAGE 2
CUT VOLUME 12
FILL VOLUME 125



STAGE 1
AREA CUT 2
AREA FILL 155

STAGE 2
AREA CUT 6
AREA FILL 60

STAGE 1
CUT VOLUME 6
FILL VOLUME 439

STAGE 2
CUT VOLUME 17
FILL VOLUME 161

STA. 368+00 TO STA. 369+00

7/30/2020

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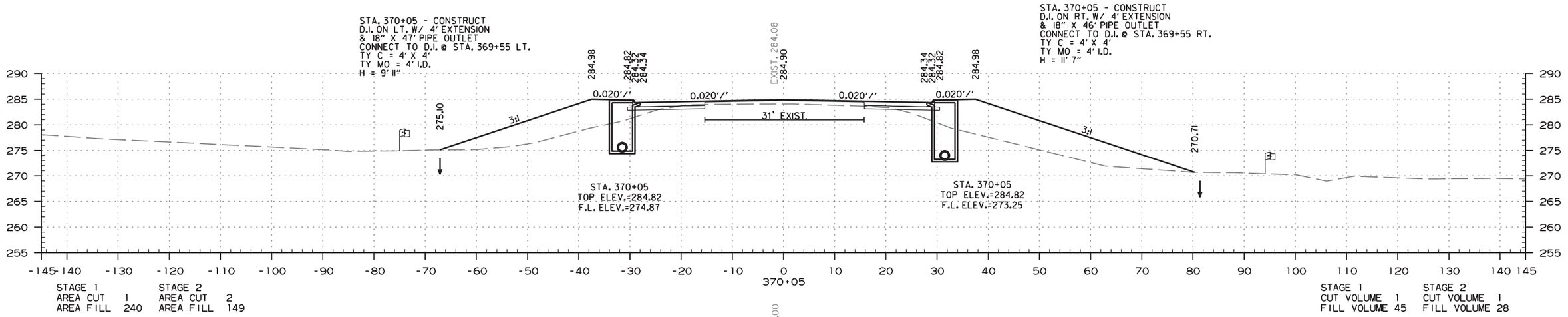
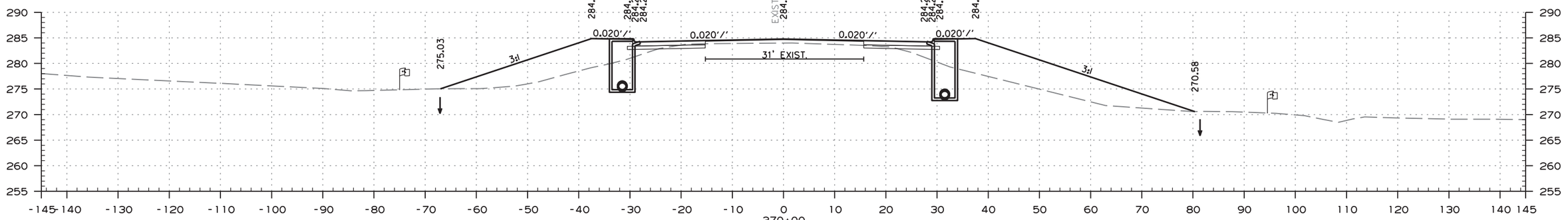
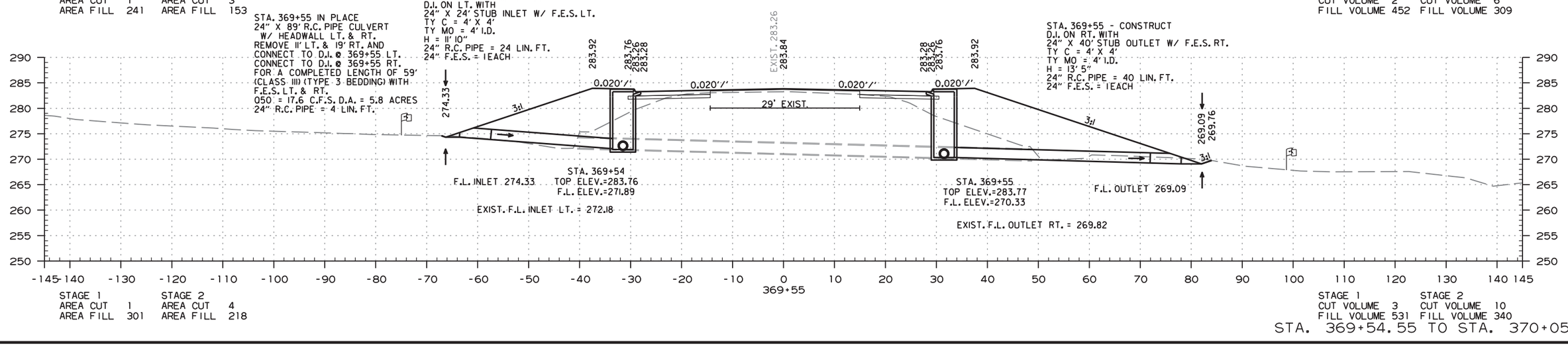
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	289	331

(2) CROSS SECTIONS







STA. 369+54.55 TO STA. 370+05

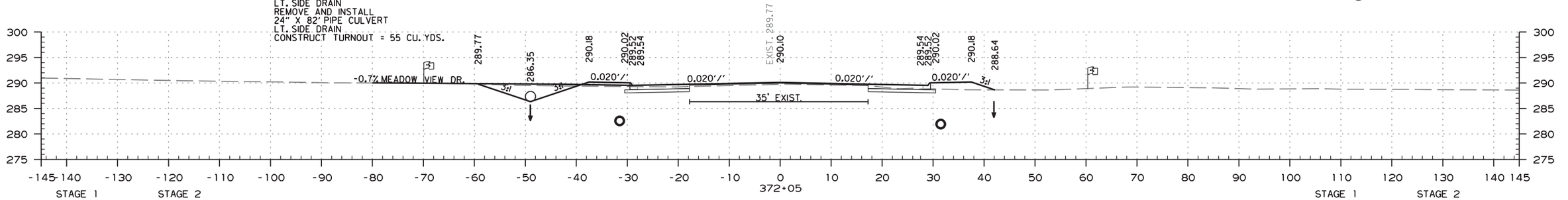
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	290	331

(2) CROSS SECTIONS

STA. 372+05 IN PLACE
24" X 54' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 82' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 55 CU. YDS.

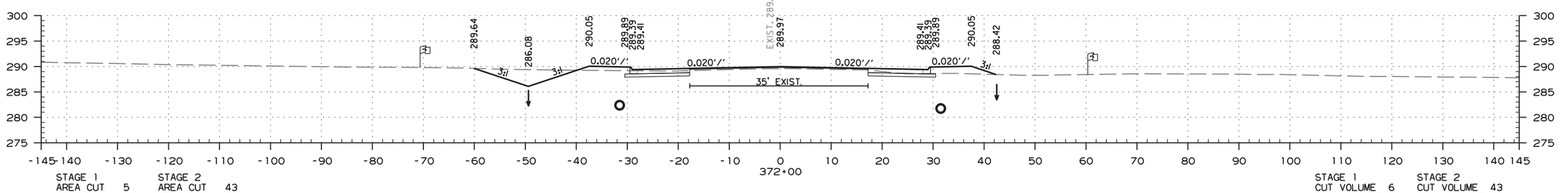


STAGE 1
AREA CUT 7
AREA FILL 14

STAGE 2
AREA CUT 40
AREA FILL 7

STAGE 1
CUT VOLUME 1
FILL VOLUME 3

STAGE 2
CUT VOLUME 8
FILL VOLUME 1

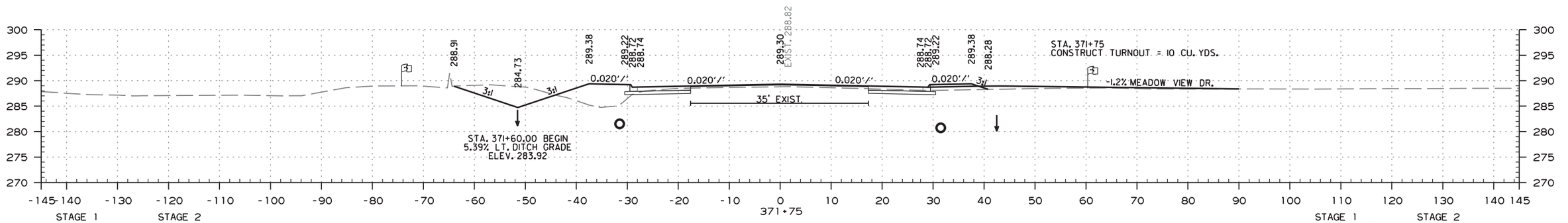


STAGE 1
AREA CUT 5
AREA FILL 14

STAGE 2
AREA CUT 43
AREA FILL 7

STAGE 1
CUT VOLUME 6
FILL VOLUME 12

STAGE 2
CUT VOLUME 43
FILL VOLUME 25

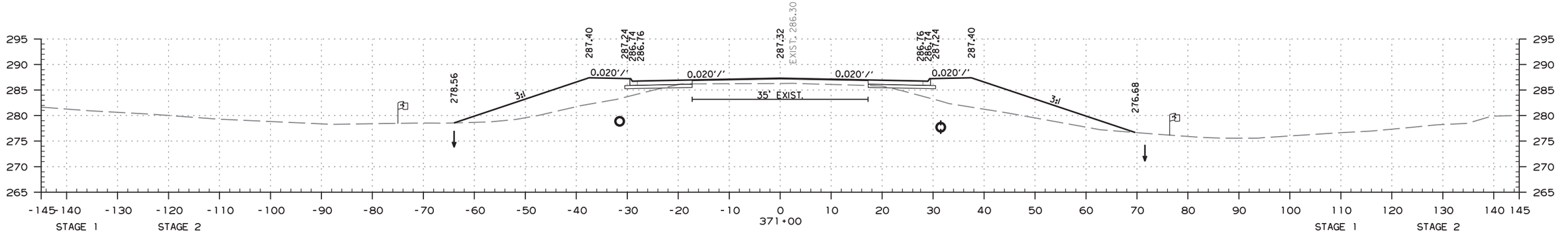


STAGE 1
AREA CUT 7
AREA FILL 11

STAGE 2
AREA CUT 49
AREA FILL 46

STAGE 1
CUT VOLUME 11
FILL VOLUME 222

STAGE 2
CUT VOLUME 69
FILL VOLUME 238



STAGE 1
AREA CUT 1
AREA FILL 149

STAGE 2
AREA CUT 1
AREA FILL 125

STAGE 1
CUT VOLUME 4
FILL VOLUME 684

STAGE 2
CUT VOLUME 5
FILL VOLUME 482

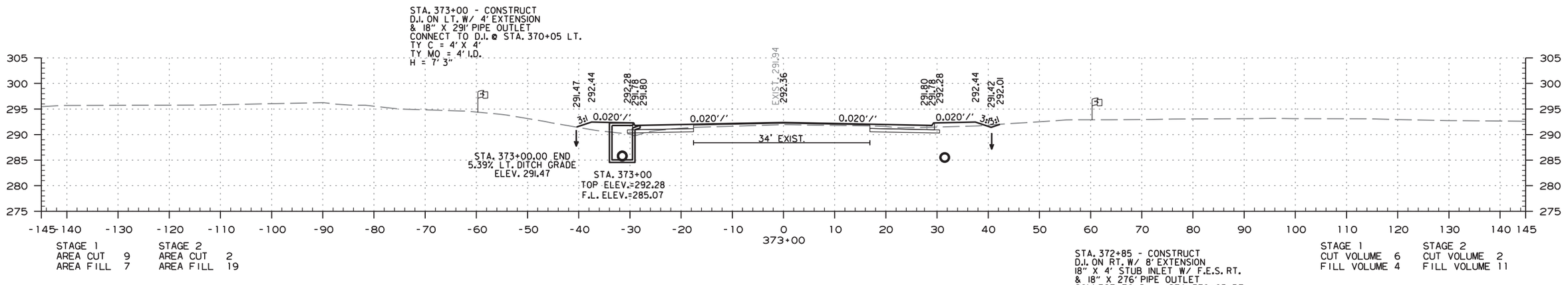
STA. 371+00 TO STA. 372+05

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	291	331

(2) CROSS SECTIONS



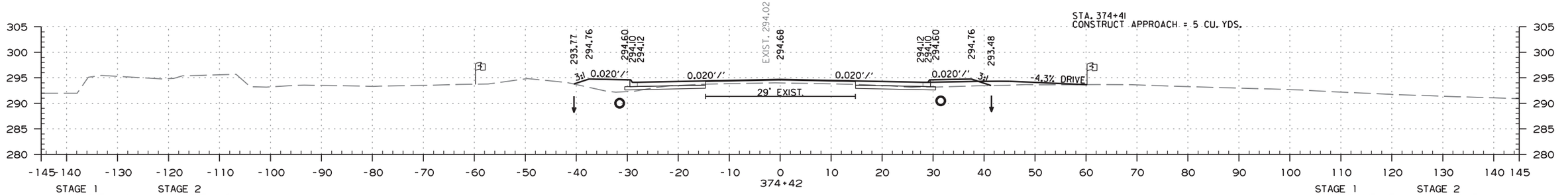
STA. 372+40.05 TO STA. 373+00

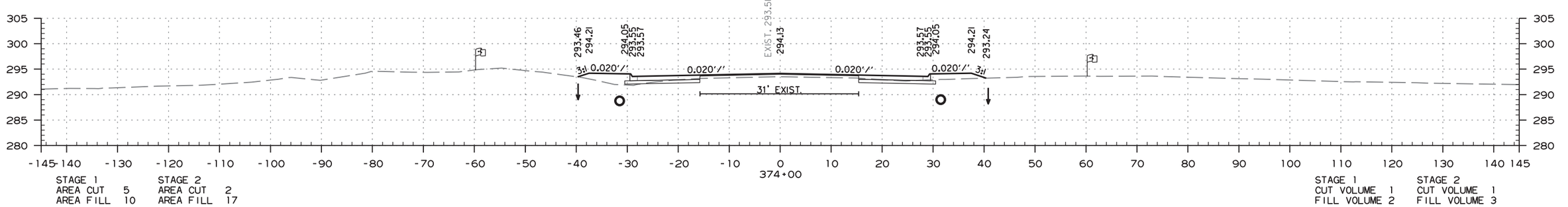
7/30/2020

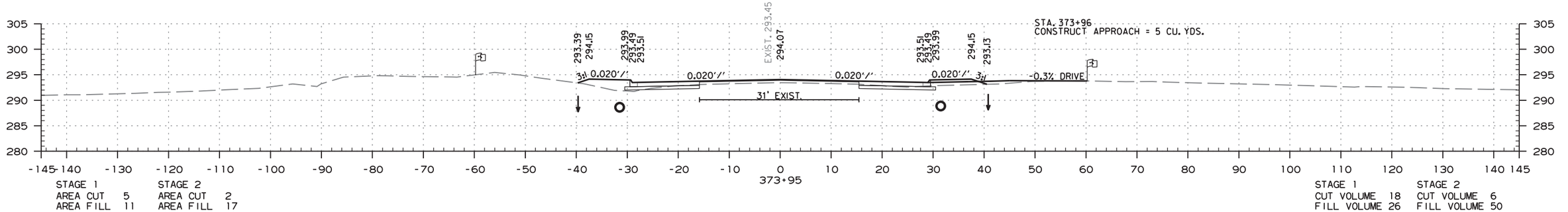
RCA0706.DGN

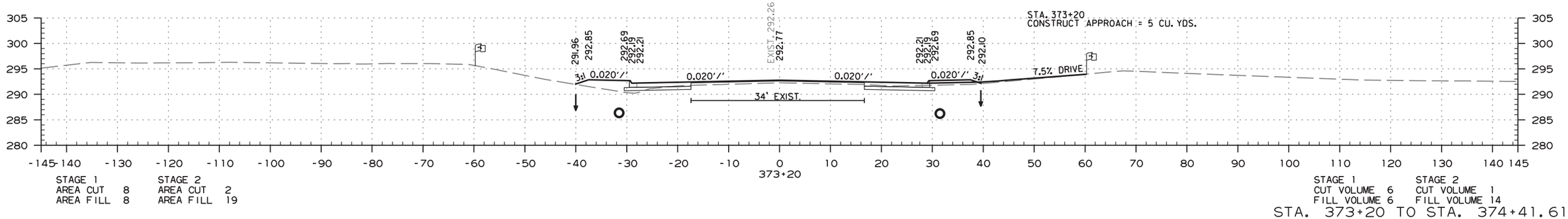
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	292	331

(2) CROSS SECTIONS









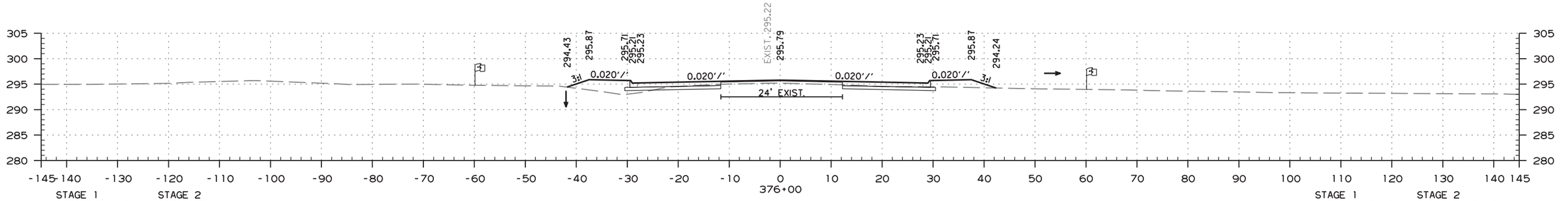
STA. 373+20 TO STA. 374+41.61

7/30/2020

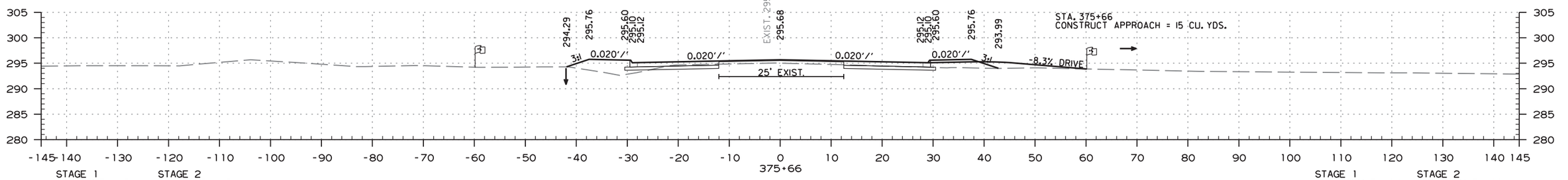
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	293	331

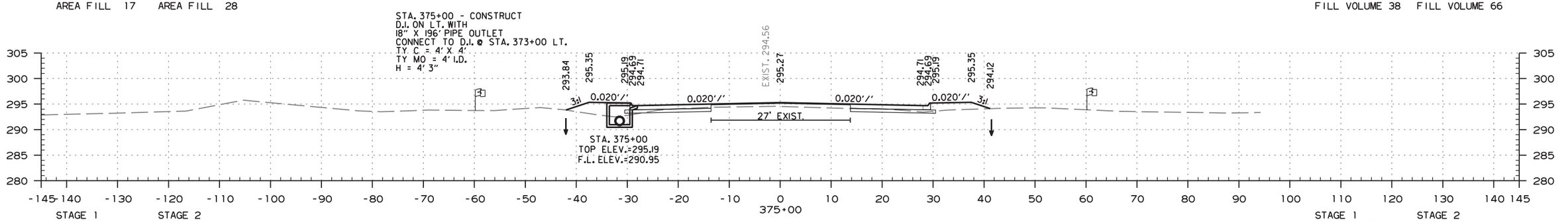
(2) CROSS SECTIONS



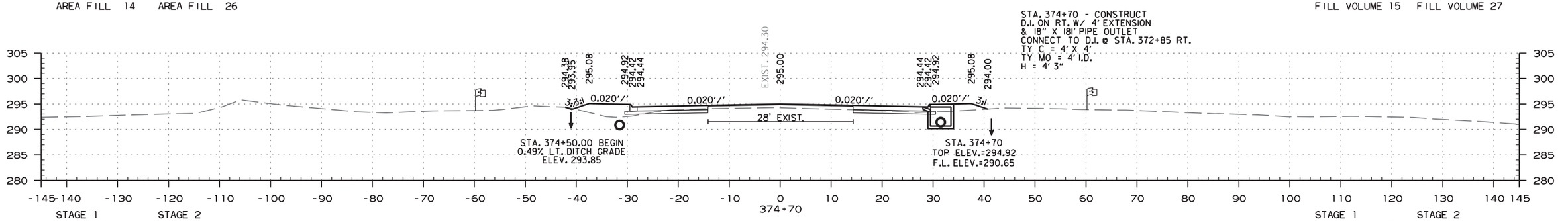
STAGE 1 AREA CUT 7 AREA FILL 15
STAGE 2 AREA CUT 4 AREA FILL 27
STAGE 1 CUT VOLUME 8 FILL VOLUME 20
STAGE 2 CUT VOLUME 6 FILL VOLUME 35



STAGE 1 AREA CUT 5 AREA FILL 17
STAGE 2 AREA CUT 5 AREA FILL 28
STAGE 1 CUT VOLUME 10 FILL VOLUME 38
STAGE 2 CUT VOLUME 11 FILL VOLUME 66



STAGE 1 AREA CUT 3 AREA FILL 14
STAGE 2 AREA CUT 4 AREA FILL 26
STAGE 1 CUT VOLUME 3 FILL VOLUME 15
STAGE 2 CUT VOLUME 4 FILL VOLUME 27



STAGE 1 AREA CUT 2 AREA FILL 13
STAGE 2 AREA CUT 4 AREA FILL 23
STAGE 1 CUT VOLUME 3 FILL VOLUME 14
STAGE 2 CUT VOLUME 4 FILL VOLUME 23

STA. 374+70 TO STA. 376+00

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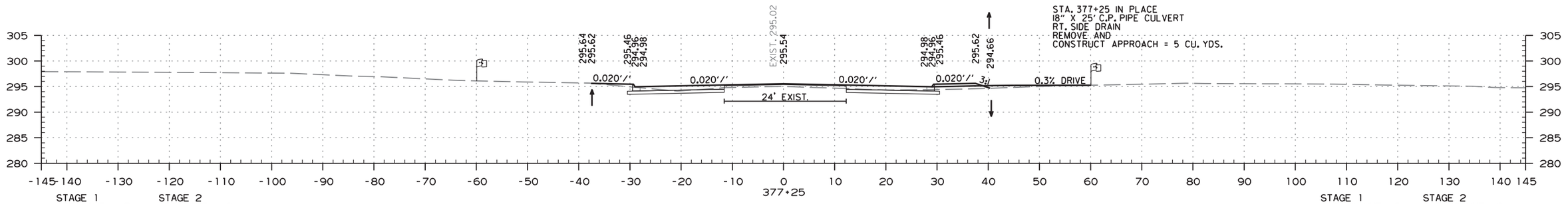
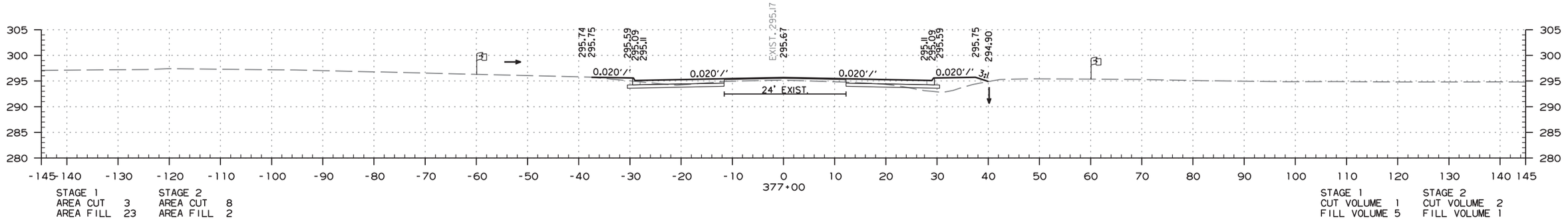
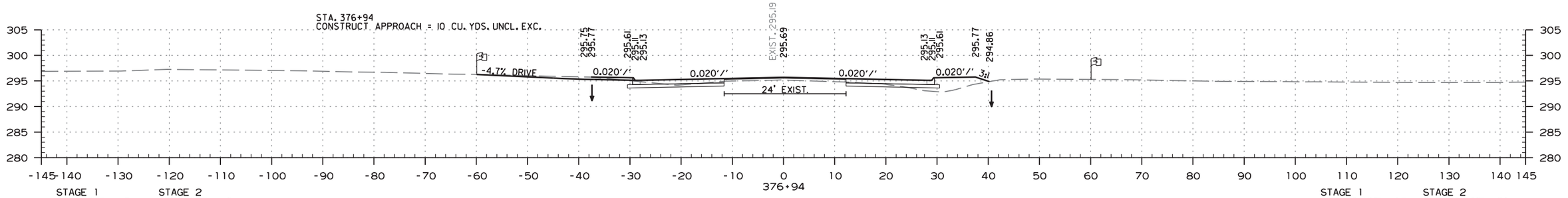
RCA0706.DGN

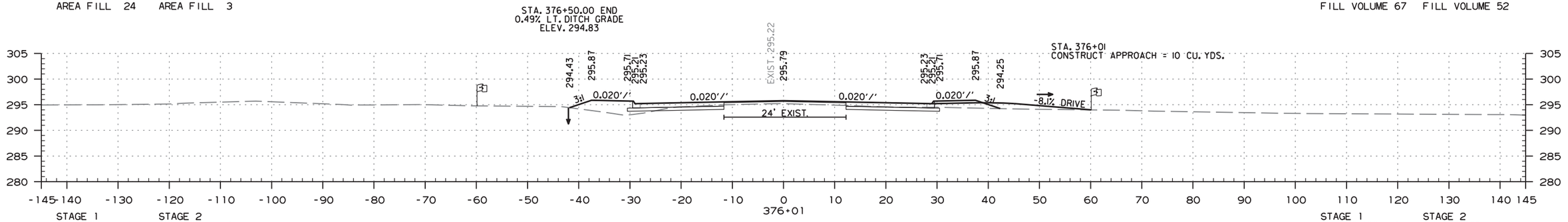
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	294	331

(2) CROSS SECTIONS









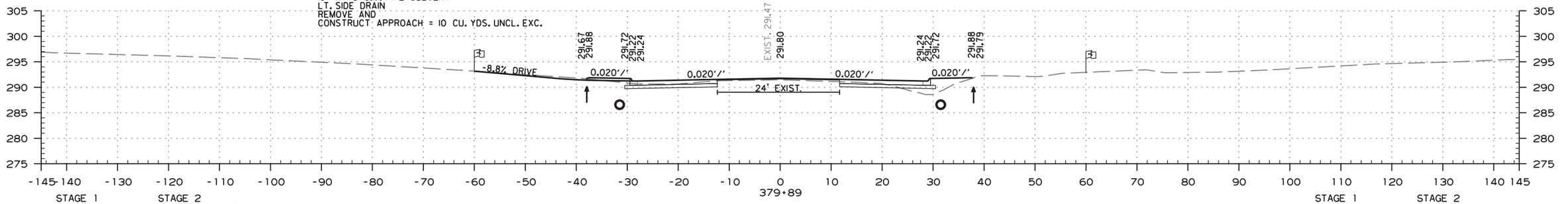
STA. 376+00.82 TO STA. 377+24.76

7/30/2020

RCA0706.DGN

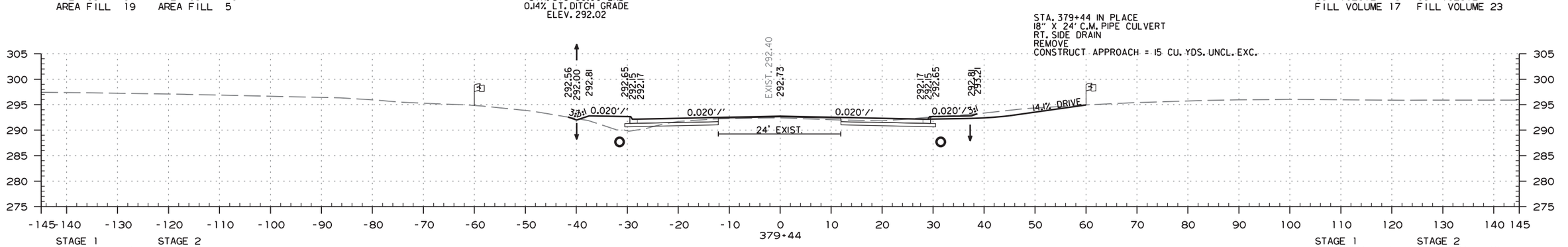
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	295	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 5 AREA FILL 19
STAGE 2 AREA CUT 10 AREA FILL 5

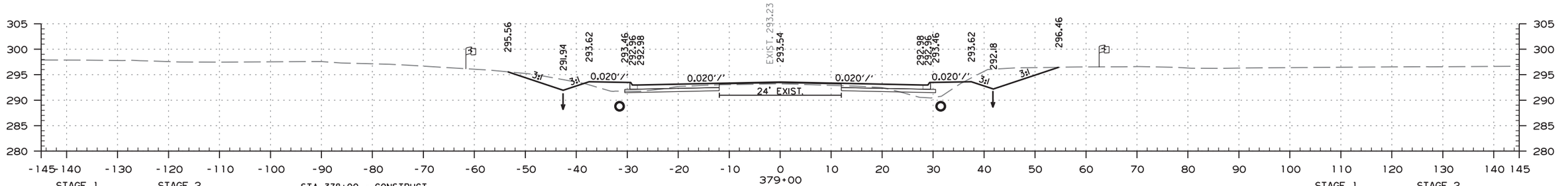
STAGE 1 CUT VOLUME 18 FILL VOLUME 17
STAGE 2 CUT VOLUME 14 FILL VOLUME 23



STAGE 1 AREA CUT 16 AREA FILL 1
STAGE 2 AREA CUT 7 AREA FILL 22

STAGE 1 CUT VOLUME 47 FILL VOLUME 15
STAGE 2 CUT VOLUME 26 FILL VOLUME 28

STA. 379+35.00 END
0.43% RT. DITCH GRADE
ELEV. 292.33



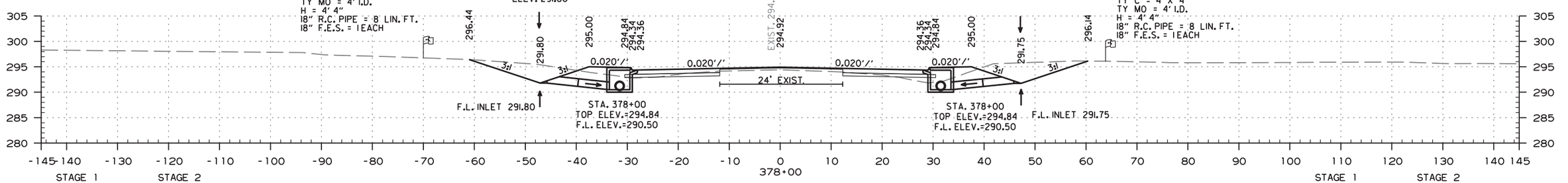
STAGE 1 AREA CUT 42 AREA FILL 18
STAGE 2 AREA CUT 25 AREA FILL 12

STA. 378+00 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 8' STUB INLET W/ F.E.S. LT.
& 18" X 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 381+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"
18" R.C. PIPE = 8 LIN. FT.
18" F.E.S. = 1EACH

STA. 378+00.00 BEGIN
0.14% LT. DITCH GRADE
ELEV. 291.80

STA. 378+00.00 BEGIN
0.43% RT. DITCH GRADE
ELEV. 291.75

STA. 378+00 - CONSTRUCT
D.I. ON RT. W/ 4' EXTENSION
18" X 8' STUB INLET W/ F.E.S. RT.
& 18" X 251' PIPE OUTLET
CONNECT TO D.I. @ STA. 380+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 4"
18" R.C. PIPE = 8 LIN. FT.
18" F.E.S. = 1EACH



STAGE 1 AREA CUT 48 AREA FILL 24
STAGE 2 AREA CUT 42 AREA FILL 15

STAGE 1 CUT VOLUME 167 FILL VOLUME 78
STAGE 2 CUT VOLUME 124 FILL VOLUME 50

STAGE 1 CUT VOLUME 76 FILL VOLUME 47
STAGE 2 CUT VOLUME 71 FILL VOLUME 24

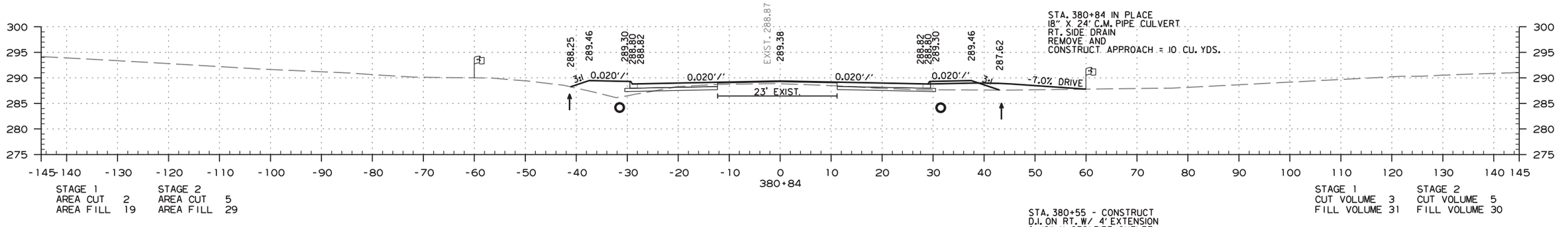
STA. 378+00 TO STA. 379+88.50

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	296	331

(2) CROSS SECTIONS

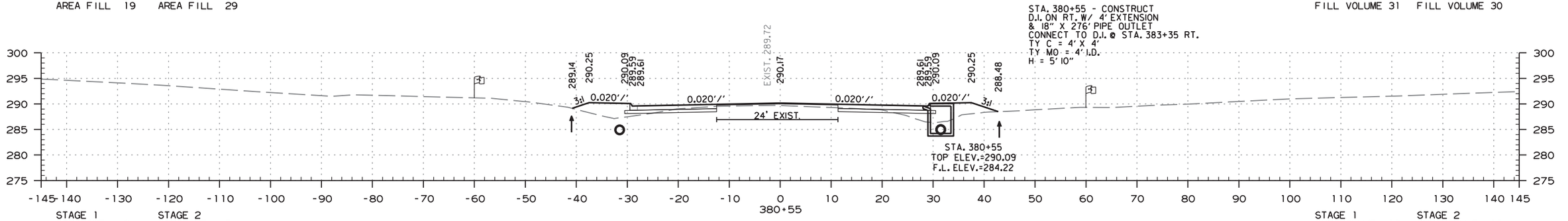


STAGE 1
AREA CUT 2
AREA FILL 19

STAGE 2
AREA CUT 5
AREA FILL 29

STAGE 1
CUT VOLUME 3
FILL VOLUME 31

STAGE 2
CUT VOLUME 5
FILL VOLUME 30

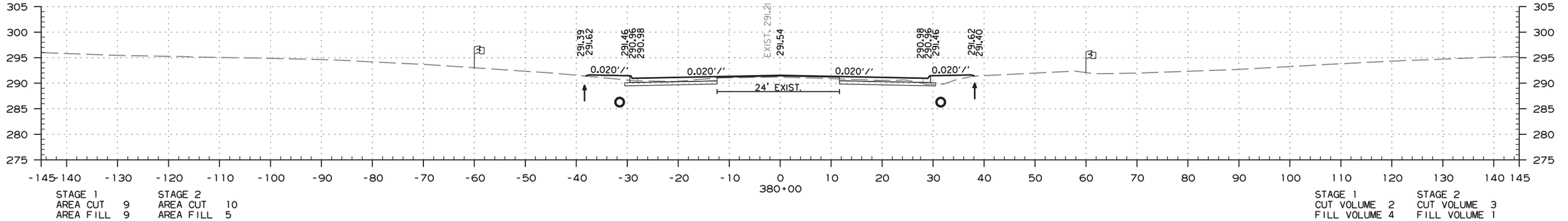


STAGE 1
AREA CUT 3
AREA FILL 39

STAGE 2
AREA CUT 5
AREA FILL 27

STAGE 1
CUT VOLUME 12
FILL VOLUME 49

STAGE 2
CUT VOLUME 15
FILL VOLUME 33

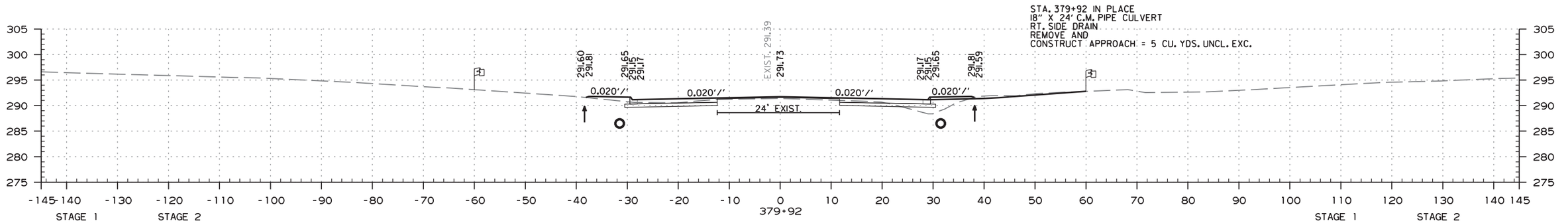


STAGE 1
AREA CUT 9
AREA FILL 9

STAGE 2
AREA CUT 10
AREA FILL 5

STAGE 1
CUT VOLUME 2
FILL VOLUME 4

STAGE 2
CUT VOLUME 3
FILL VOLUME 1



STAGE 1
AREA CUT 5
AREA FILL 20

STAGE 2
AREA CUT 10
AREA FILL 5

STAGE 1
CUT VOLUME 1
FILL VOLUME 2

STAGE 2
CUT VOLUME 1
FILL VOLUME 1

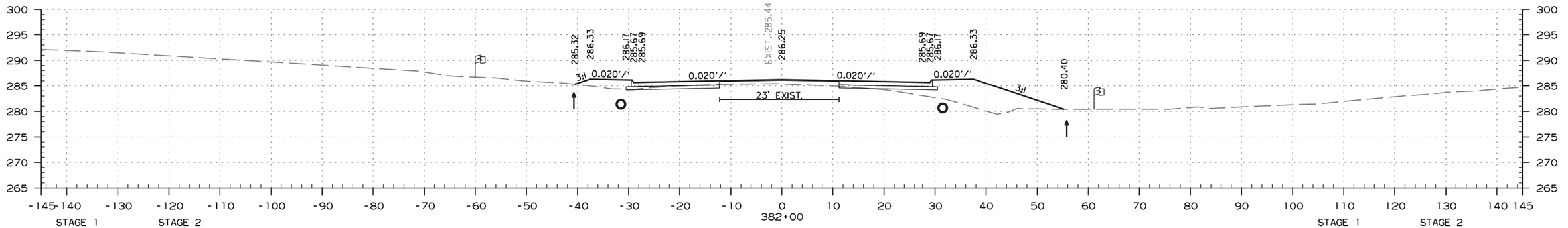
STA. 379+91.83 TO STA. 380+84.16

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	297	331

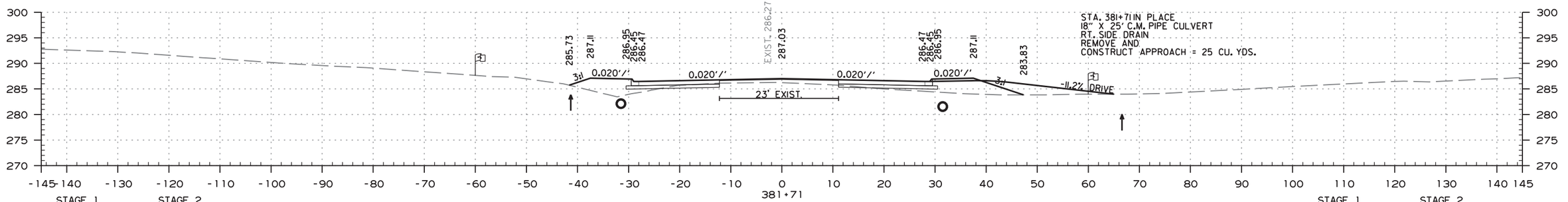
(2) CROSS SECTIONS



STAGE 1 AREA CUT 0 AREA FILL 102
STAGE 2 AREA CUT 4 AREA FILL 16

382+00

STAGE 1 CUT VOLUME 1 FILL VOLUME 79
STAGE 2 CUT VOLUME 4 FILL VOLUME 27



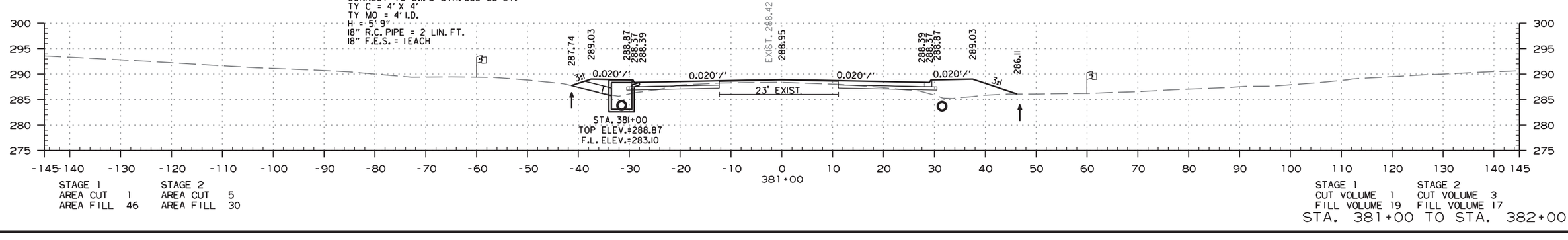
STA. 381+71 IN PLACE
18" X 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND
CONSTRUCT APPROACH = 25 CU. YDS.

STAGE 1 AREA CUT 1 AREA FILL 46
STAGE 2 AREA CUT 3 AREA FILL 34

381+71

STAGE 1 CUT VOLUME 3 FILL VOLUME 121
STAGE 2 CUT VOLUME 11 FILL VOLUME 84

STA. 381+00 - CONSTRUCT
D.I. ON LT. W/ 8' EXTENSION
18" X 2' STUB INLET W/ F.E.S. LT.
& 18" X 25' PIPE OUTLET
CONNECT TO D.I. @ STA. 383+55 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 9"
18" R.C. PIPE = 2 LIN. FT.
18" F.E.S. = 1 EACH



STAGE 1 AREA CUT 1 AREA FILL 46
STAGE 2 AREA CUT 5 AREA FILL 30

381+00

STAGE 1 CUT VOLUME 1 FILL VOLUME 19
STAGE 2 CUT VOLUME 3 FILL VOLUME 17

STA. 381+00 TO STA. 382+00

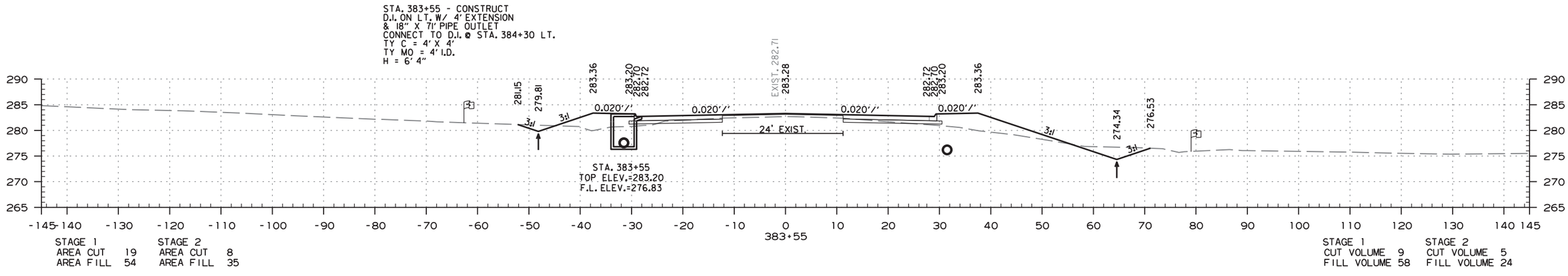
7/30/2020

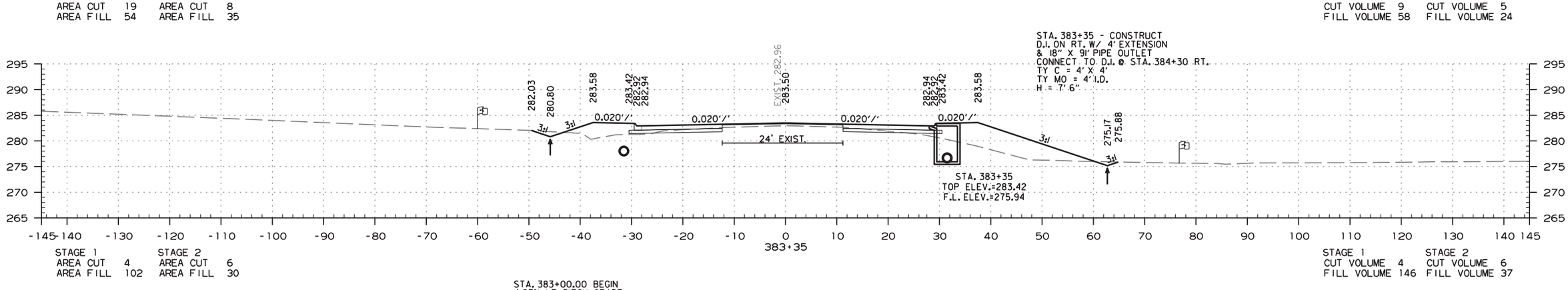
RCA0706.DGN

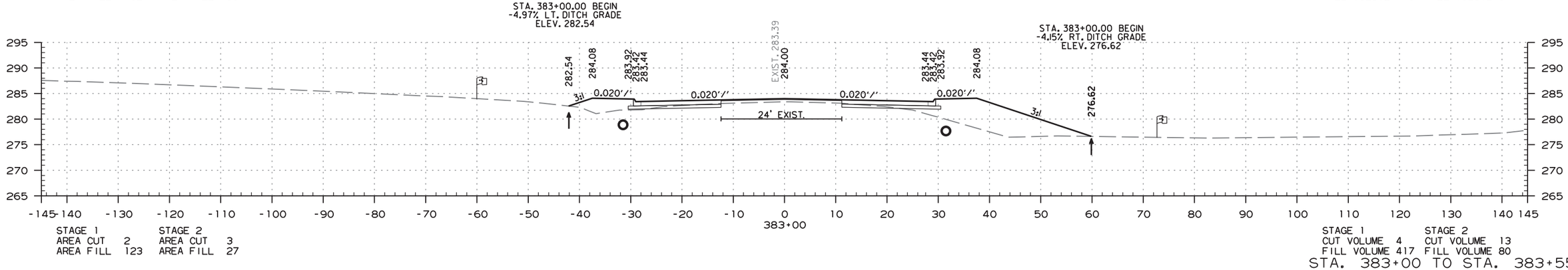
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	298	331

(2) CROSS SECTIONS







STA. 383+00 TO STA. 383+55

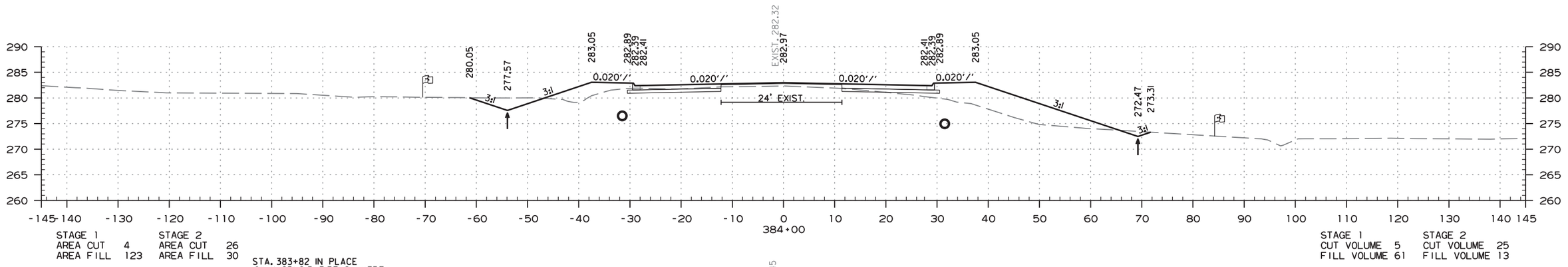
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	299	331

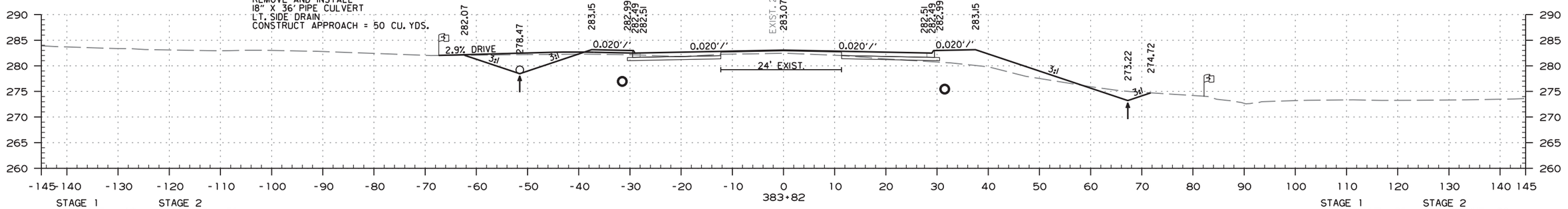
(2) CROSS SECTIONS



STAGE 1 AREA CUT 4 AREA FILL 123
STAGE 2 AREA CUT 26 AREA FILL 30

STAGE 1 CUT VOLUME 5 FILL VOLUME 61
STAGE 2 CUT VOLUME 25 FILL VOLUME 13

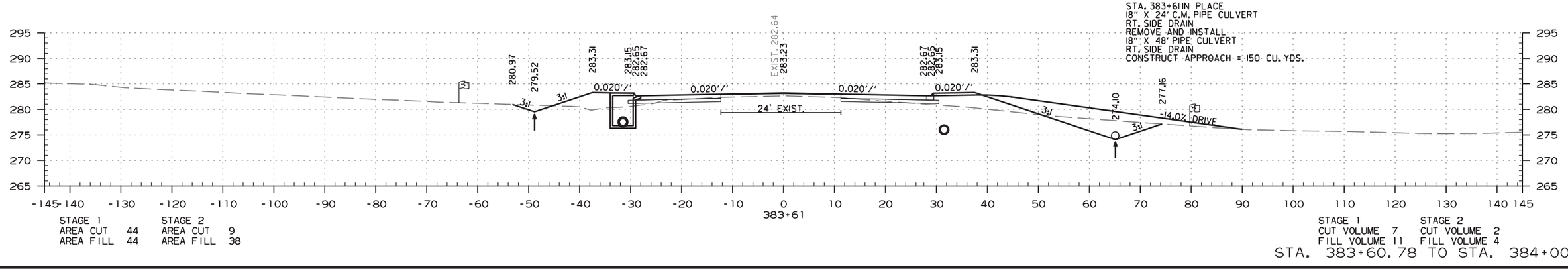
STA. 383+82 IN PLACE
18" X 25' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.



STAGE 1 AREA CUT 12 AREA FILL 59
STAGE 2 AREA CUT 50 AREA FILL 8

STAGE 1 CUT VOLUME 22 FILL VOLUME 40
STAGE 2 CUT VOLUME 23 FILL VOLUME 18

STA. 383+61 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.



STAGE 1 AREA CUT 44 AREA FILL 44
STAGE 2 AREA CUT 9 AREA FILL 38

STAGE 1 CUT VOLUME 7 FILL VOLUME 11
STAGE 2 CUT VOLUME 2 FILL VOLUME 4

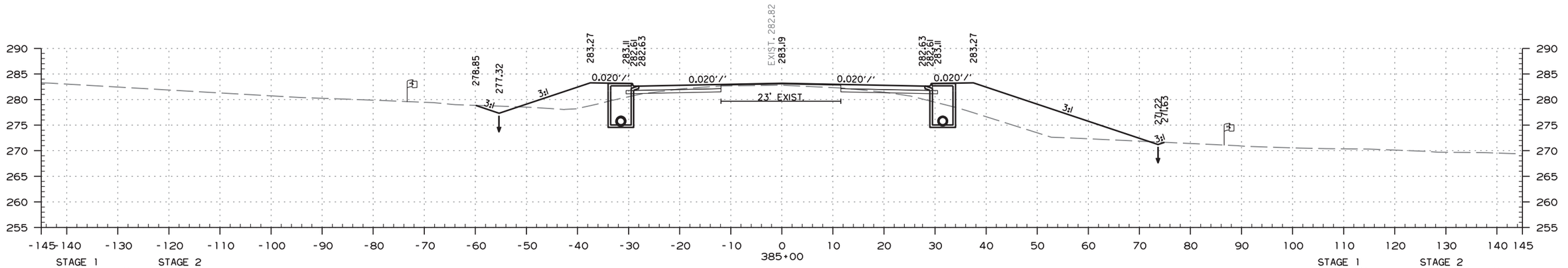
STA. 383+60.78 TO STA. 384+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	300	331

(2) CROSS SECTIONS



STAGE 1
AREA CUT 2
AREA FILL 186

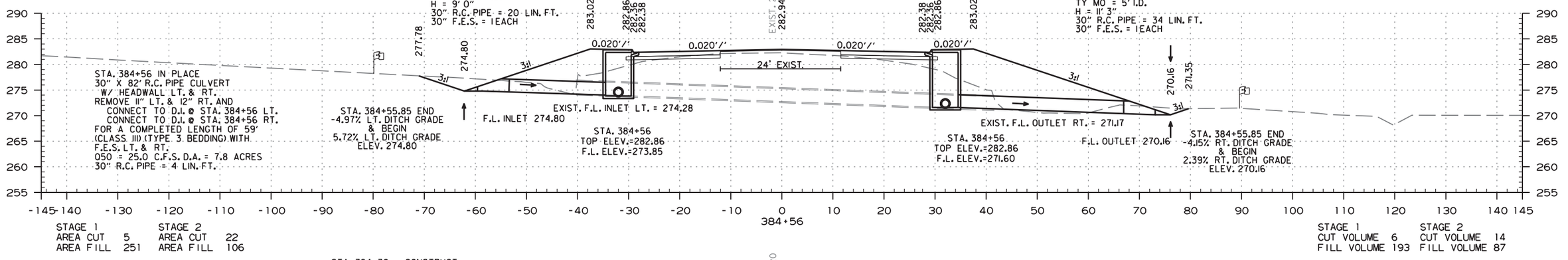
STAGE 2
AREA CUT 11
AREA FILL 66

STAGE 1
CUT VOLUME 6
FILL VOLUME 356

STAGE 2
CUT VOLUME 27
FILL VOLUME 140

STA. 384+56 - CONSTRUCT
D.I. ON LT. WITH
30" X 20' STUB INLET W/ F.E.S. LT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 9' 0"
30" R.C. PIPE = 20 LIN. FT.
30" F.E.S. = 1EACH

STA. 384+56 - CONSTRUCT
D.I. ON RT. WITH
30" X 34' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 11' 3"
30" R.C. PIPE = 34 LIN. FT.
30" F.E.S. = 1EACH



STA. 384+56 IN PLACE
30" X 82' R.C. PIPE CULVERT
W/ HEADWALL LT. & RT.
REMOVE 11" LT. & 12" RT. AND
CONNECT TO D.I. @ STA. 384+56 LT.
CONNECT TO D.I. @ STA. 384+56 RT.
FOR A COMPLETED LENGTH OF 59'
(CLASS III) (TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
050 = 25.0 C.F.S. D.A. = 7.8 ACRES
30" R.C. PIPE = 4 LIN. FT.

STA. 384+55.85 END
-4.97% LT. DITCH GRADE
& BEGIN
5.72% LT. DITCH GRADE
ELEV. 274.80

F.L. INLET 274.80

EXIST. F.L. INLET LT. = 274.28

STA. 384+56
TOP ELEV.=282.86
F.L. ELEV.=273.85

EXIST. F.L. OUTLET RT. = 271.17

STA. 384+56
TOP ELEV.=282.86
F.L. ELEV.=271.60

F.L. OUTLET 270.16

STA. 384+55.85 END
-4.15% RT. DITCH GRADE
& BEGIN
2.39% RT. DITCH GRADE
ELEV. 270.16

STAGE 1
AREA CUT 5
AREA FILL 251

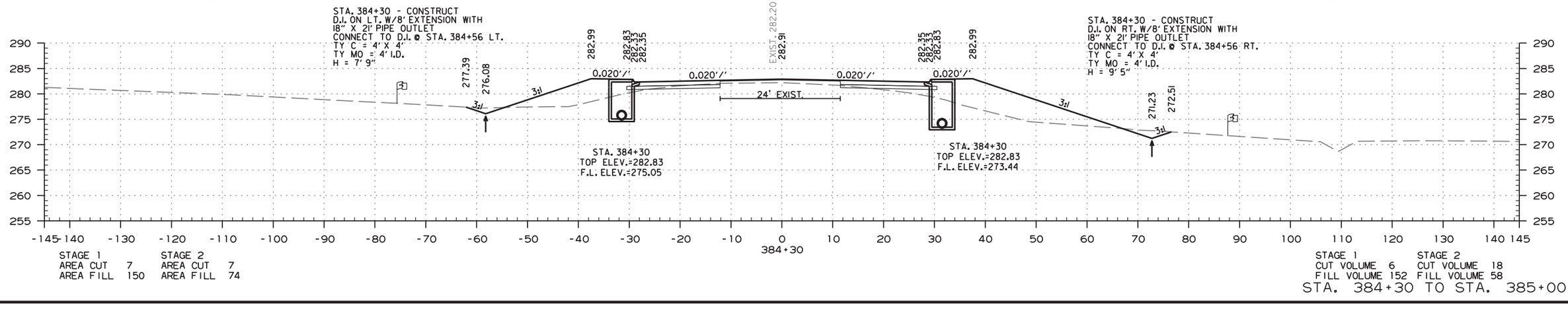
STAGE 2
AREA CUT 22
AREA FILL 106

STAGE 1
CUT VOLUME 6
FILL VOLUME 193

STAGE 2
CUT VOLUME 14
FILL VOLUME 87

STA. 384+30 - CONSTRUCT
D.I. ON LT. W/8' EXTENSION WITH
18" X 21' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+56 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 9"

STA. 384+30 - CONSTRUCT
D.I. ON RT. W/8' EXTENSION WITH
18" X 21' PIPE OUTLET
CONNECT TO D.I. @ STA. 384+56 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 9' 5"



STA. 384+30
TOP ELEV.=282.83
F.L. ELEV.=275.05

STA. 384+30
TOP ELEV.=282.83
F.L. ELEV.=273.44

STAGE 1
AREA CUT 7
AREA FILL 150

STAGE 2
AREA CUT 7
AREA FILL 74

STAGE 1
CUT VOLUME 6
FILL VOLUME 152

STAGE 2
CUT VOLUME 18
FILL VOLUME 58

STA. 384+30 TO STA. 385+00

7/30/2020

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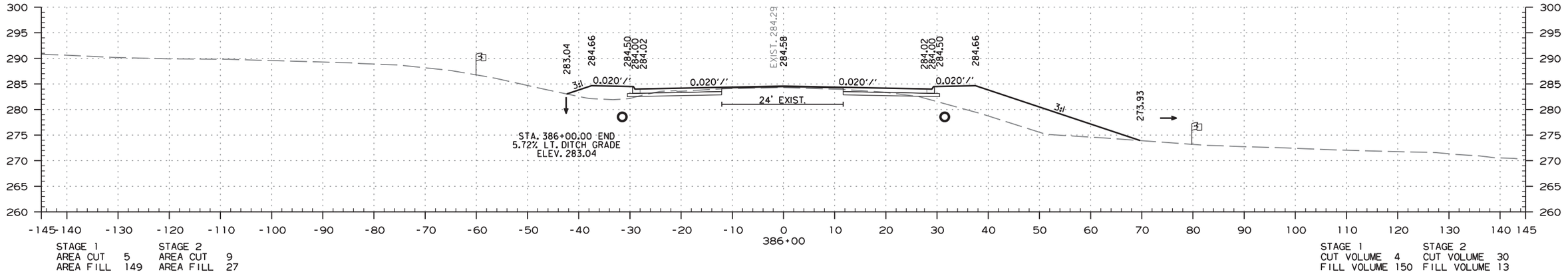
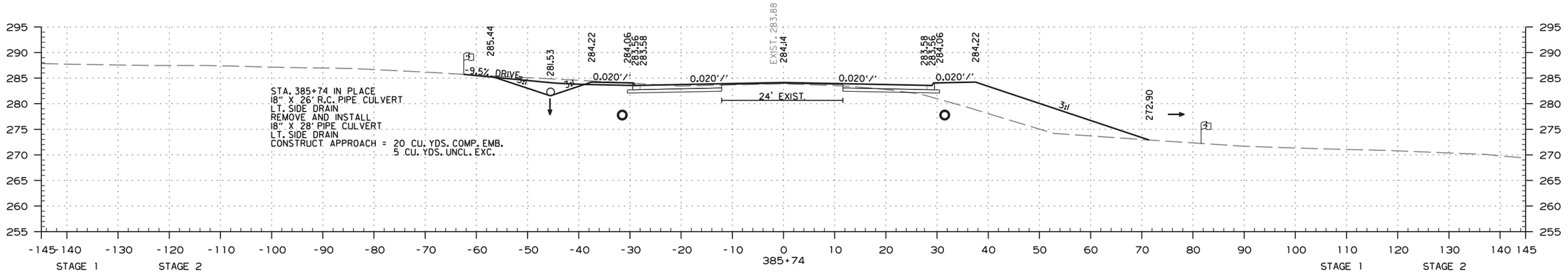
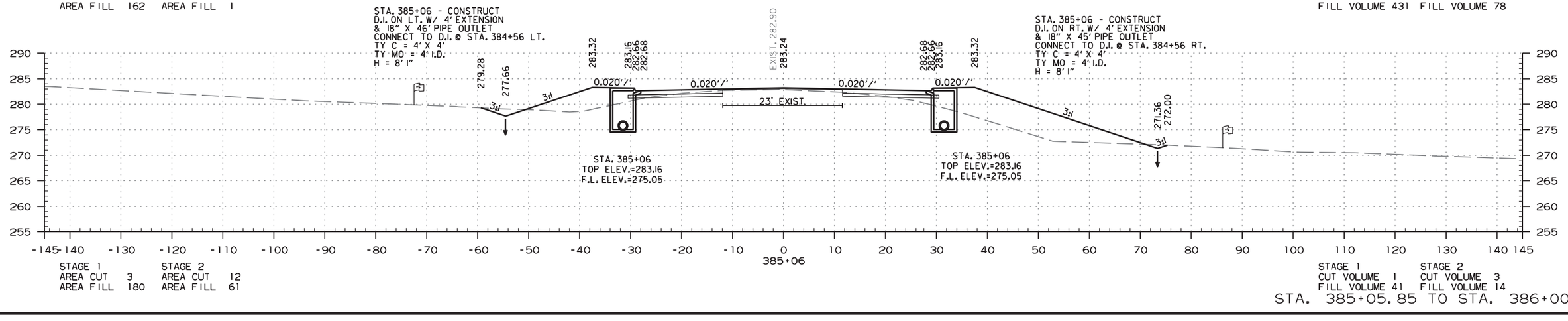
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	301	331

(2) CROSS SECTIONS







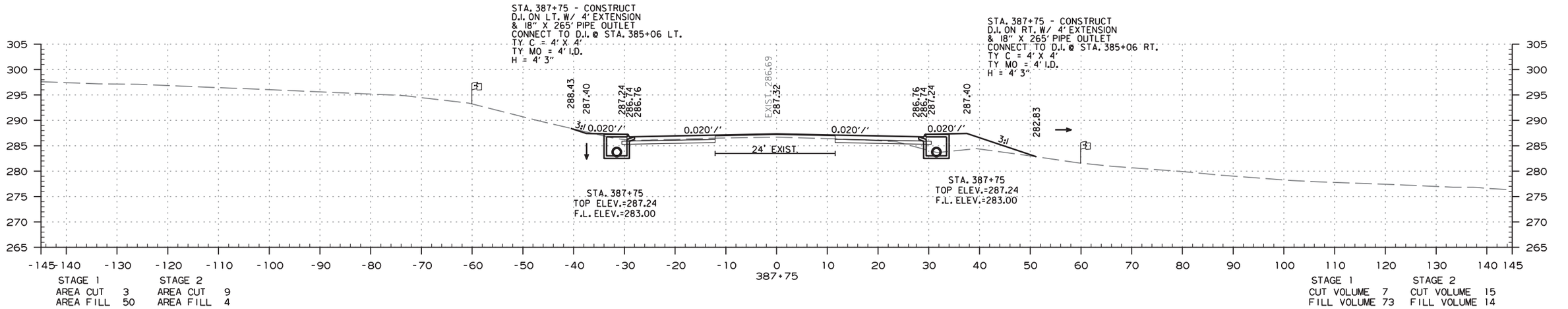
STA. 385+05.85 TO STA. 386+00

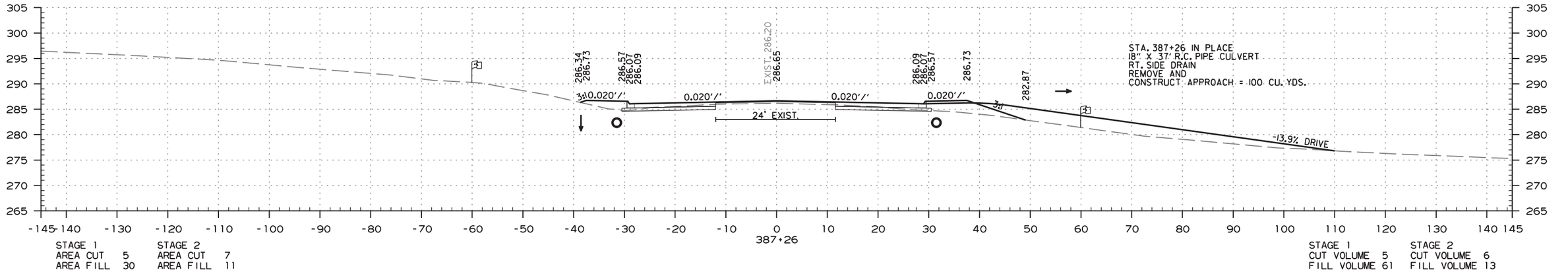
7/30/2020

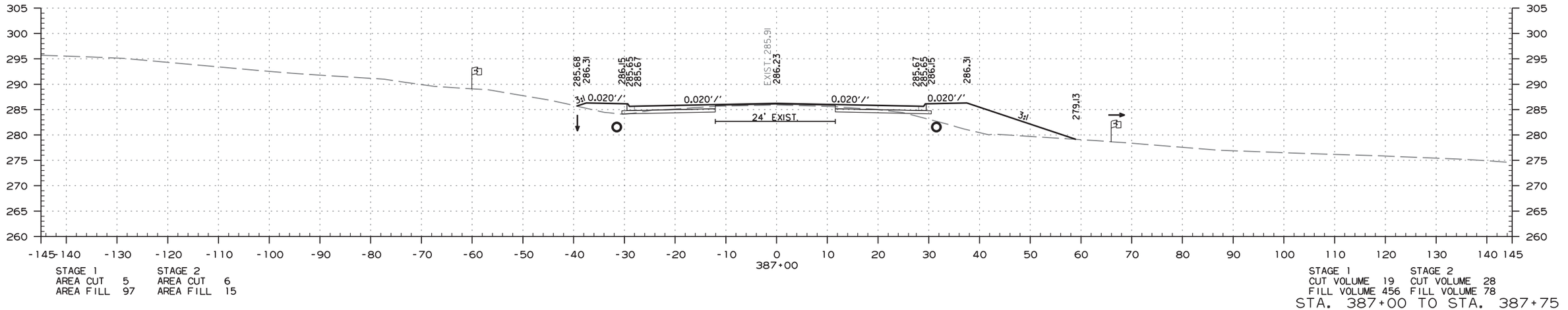
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	302	331

(2) CROSS SECTIONS







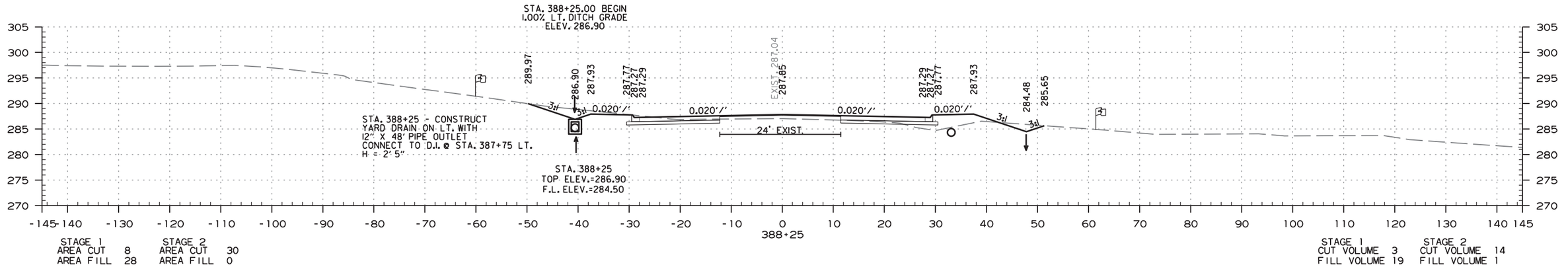
STA. 387+00 TO STA. 387+75

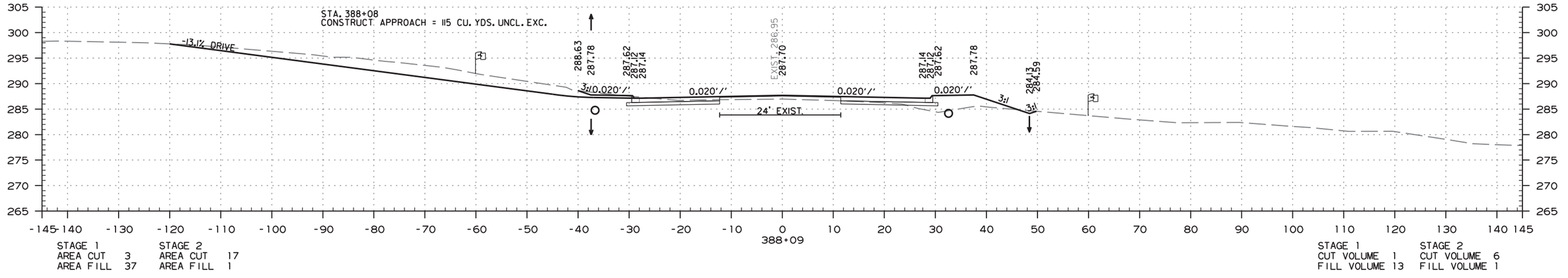
7/30/2020

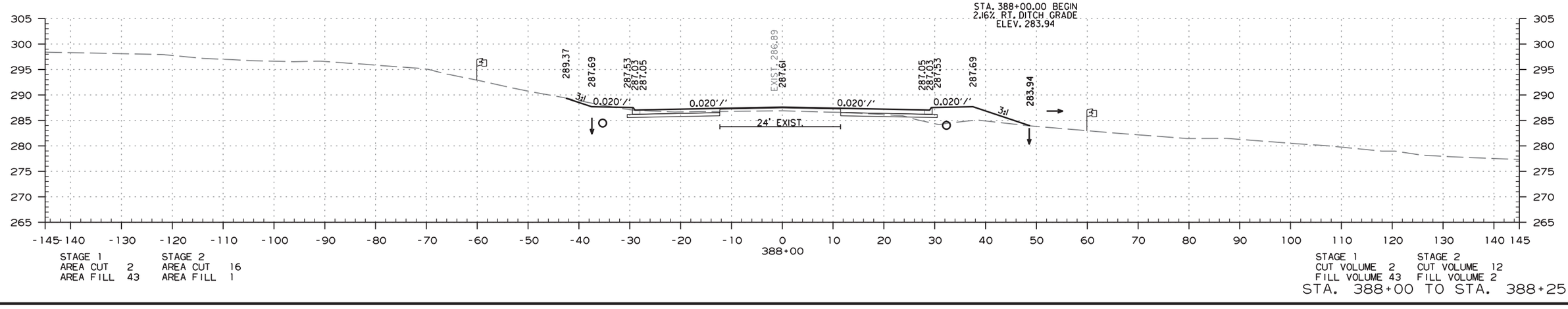
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	303	331

(2) CROSS SECTIONS







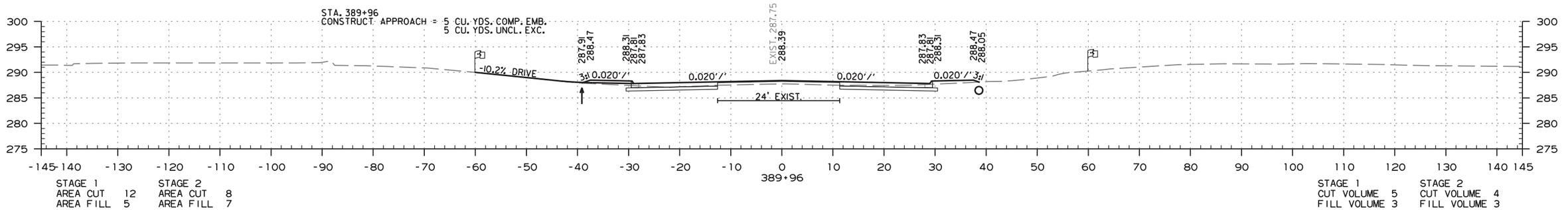
STA. 388+00 TO STA. 388+25

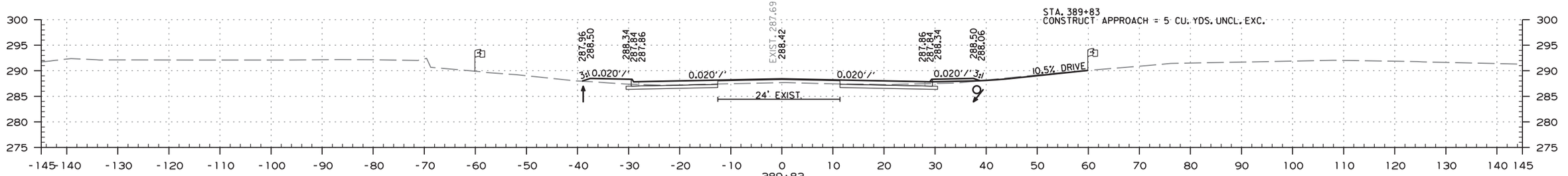
9/11/2020

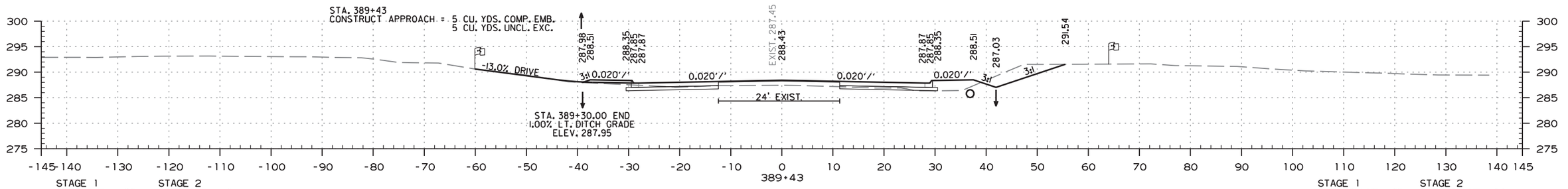
RCA0706.DGN

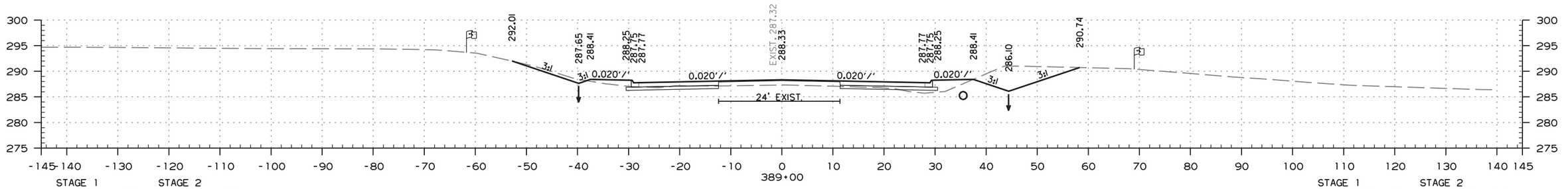
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	304	331

(2) CROSS SECTIONS









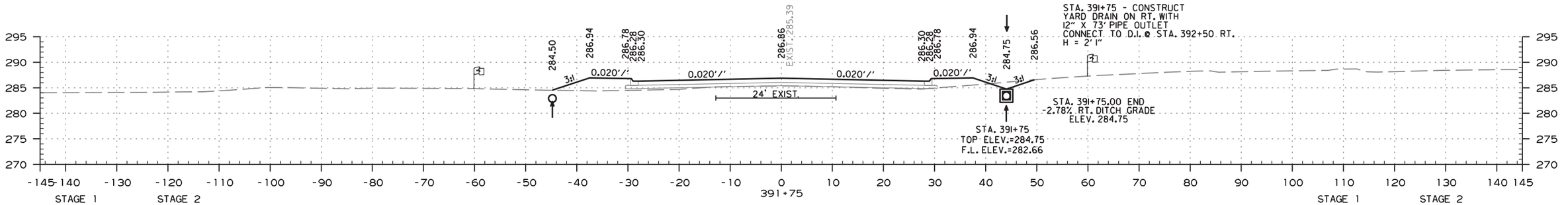
STA. 389+00 TO STA. 389+96.14

7/30/2020

RCA0706.DGN

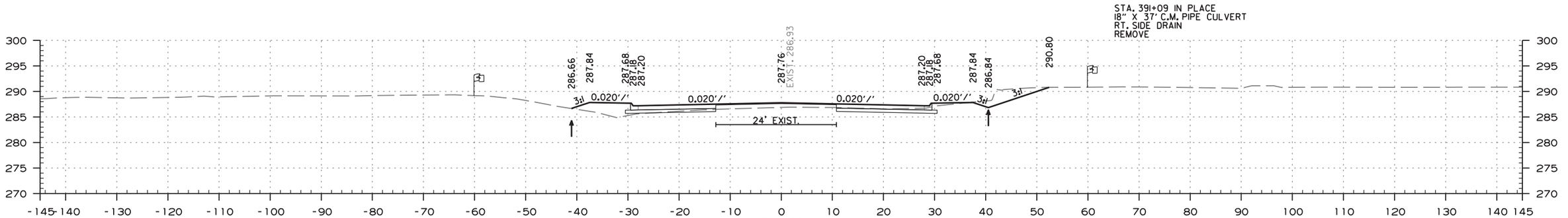
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	305	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 6 AREA FILL 23
STAGE 2 AREA CUT 0 AREA FILL 38

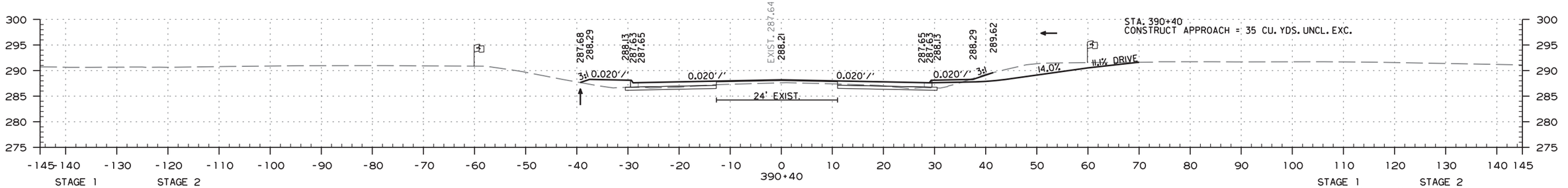
STAGE 1 CUT VOLUME 49 FILL VOLUME 35
STAGE 2 CUT VOLUME 1 FILL VOLUME 88



STAGE 1 AREA CUT 29 AREA FILL 2
STAGE 2 AREA CUT 1 AREA FILL 25

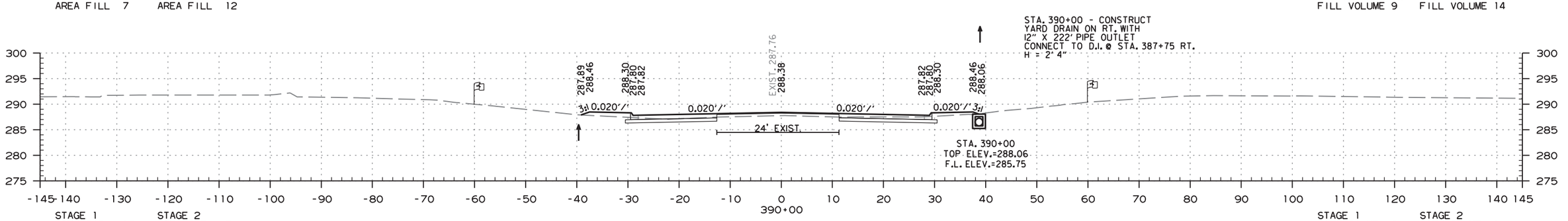
STA. 390+50.00 BEGIN
-2.78% RT. DITCH GRADE
ELEV. 288.23

STAGE 1 CUT VOLUME 39 FILL VOLUME 10
STAGE 2 CUT VOLUME 4 FILL VOLUME 41



STAGE 1 AREA CUT 6 AREA FILL 7
STAGE 2 AREA CUT 3 AREA FILL 12

STAGE 1 CUT VOLUME 13 FILL VOLUME 9
STAGE 2 CUT VOLUME 7 FILL VOLUME 14



STAGE 1 AREA CUT 12 AREA FILL 5
STAGE 2 AREA CUT 7 AREA FILL 7

STAGE 1 CUT VOLUME 2 FILL VOLUME 1
STAGE 2 CUT VOLUME 1 FILL VOLUME 1

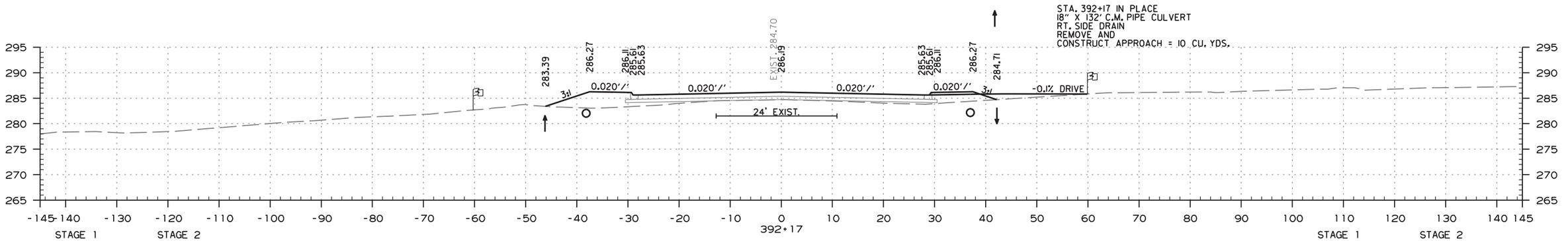
STA. 390+00 TO STA. 391+75

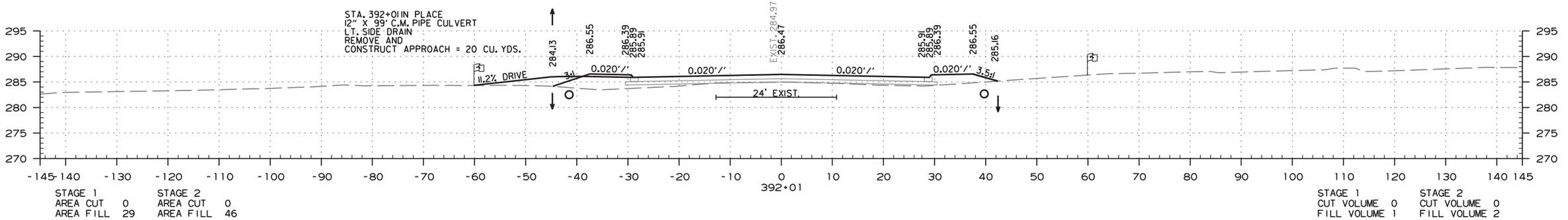
9/11/2020

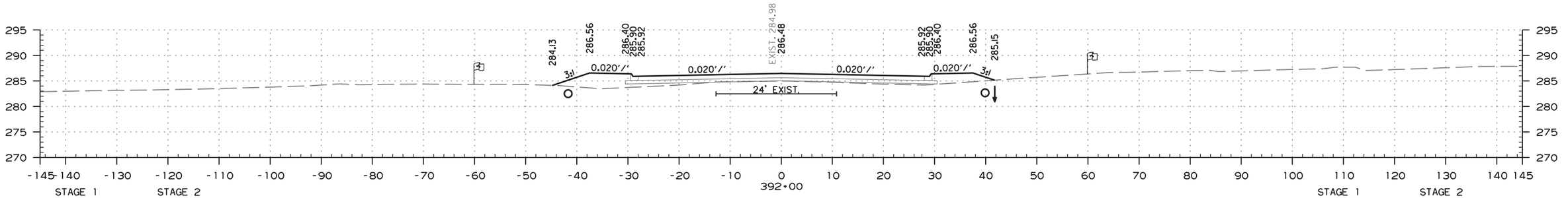
RCA0706.DGN

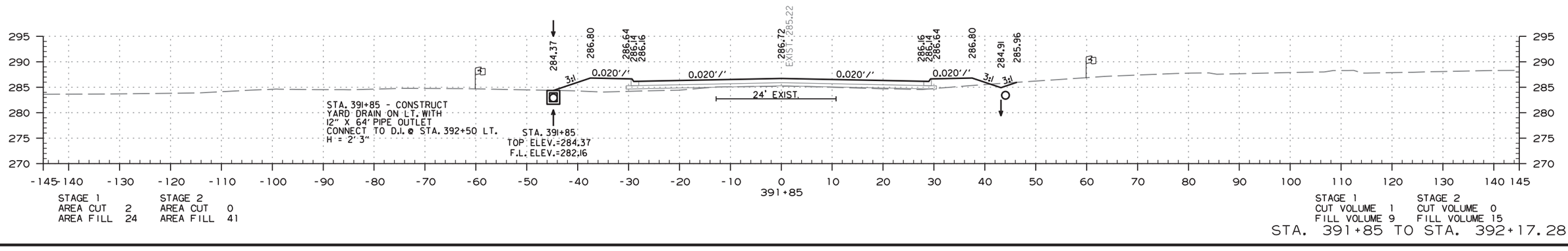
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-20				6	ARK.			
				JOB NO.		CA0706	306	331

(2) CROSS SECTIONS









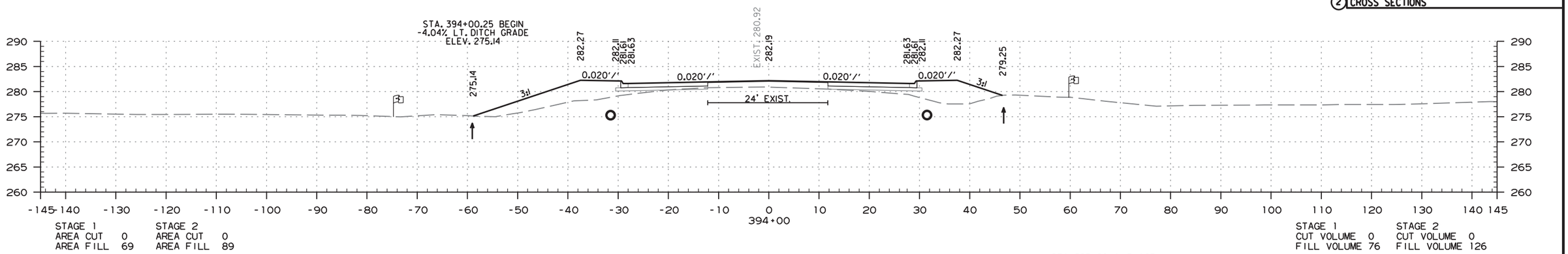
STA. 391+85 TO STA. 392+17.28

9/11/2020

RCA0706.DGN

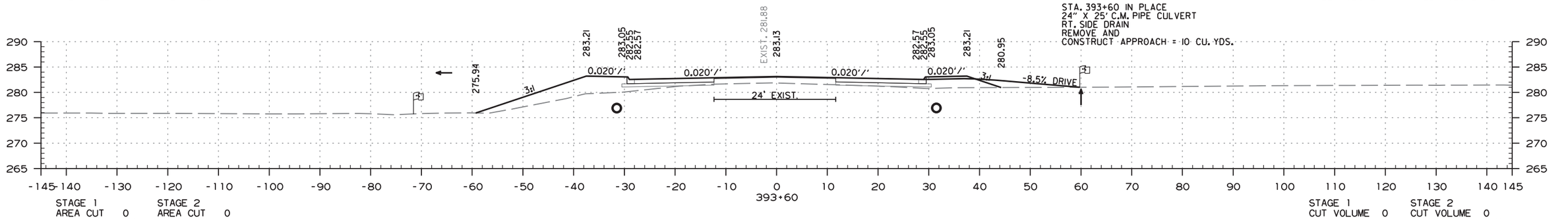
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	307	331

(2) CROSS SECTIONS



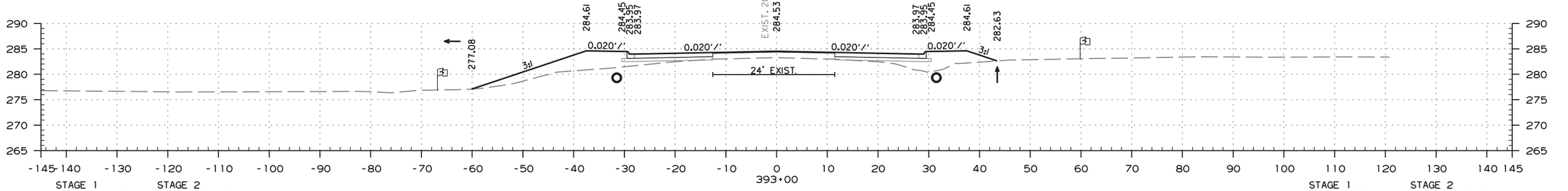
STAGE 1 AREA CUT 0 AREA FILL 69 | STAGE 2 AREA CUT 0 AREA FILL 89

STAGE 1 CUT VOLUME 0 FILL VOLUME 76 | STAGE 2 CUT VOLUME 0 FILL VOLUME 126



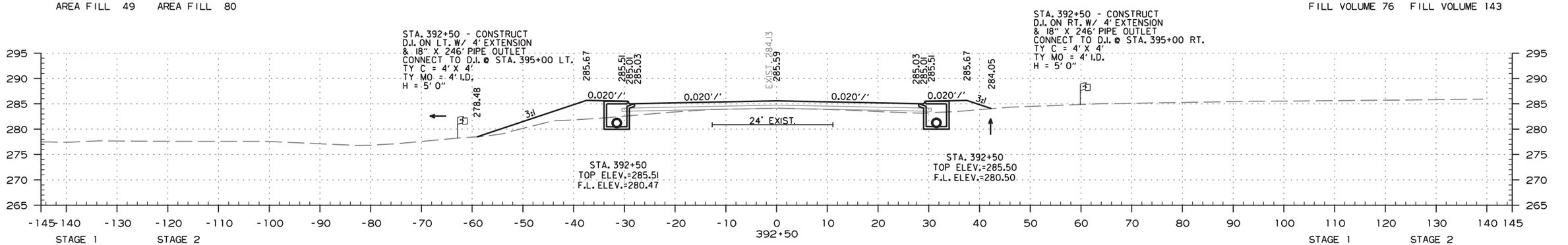
STAGE 1 AREA CUT 0 AREA FILL 33 | STAGE 2 AREA CUT 0 AREA FILL 81

STAGE 1 CUT VOLUME 0 FILL VOLUME 91 | STAGE 2 CUT VOLUME 0 FILL VOLUME 179



STAGE 1 AREA CUT 0 AREA FILL 49 | STAGE 2 AREA CUT 0 AREA FILL 80

STAGE 1 CUT VOLUME 0 FILL VOLUME 76 | STAGE 2 CUT VOLUME 0 FILL VOLUME 143



STAGE 1 AREA CUT 0 AREA FILL 33 | STAGE 2 AREA CUT 0 AREA FILL 74

STAGE 1 CUT VOLUME 0 FILL VOLUME 39 | STAGE 2 CUT VOLUME 0 FILL VOLUME 76

STA. 392+50 TO STA. 394+00

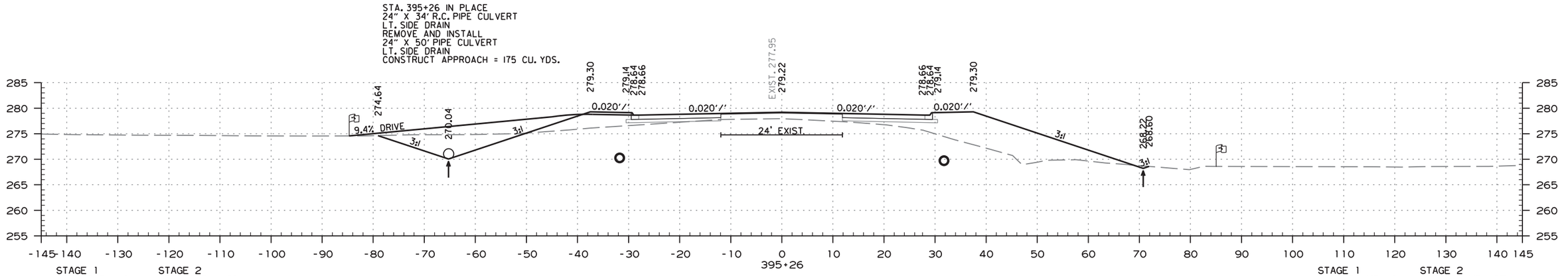
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	308	331

(2) CROSS SECTIONS



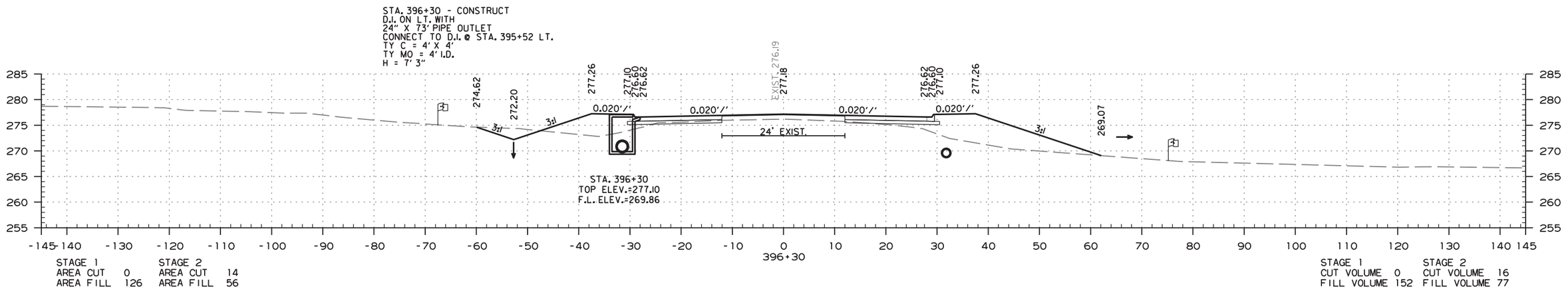
STA. 394+63.44 TO STA. 395+26.26

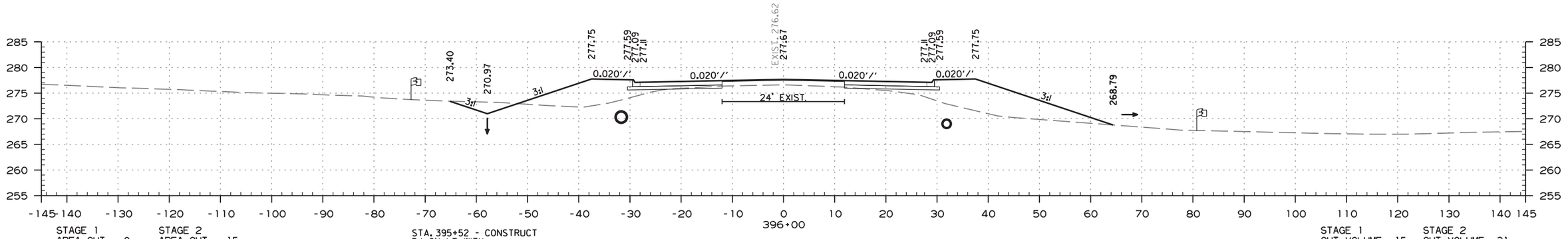
7/30/2020

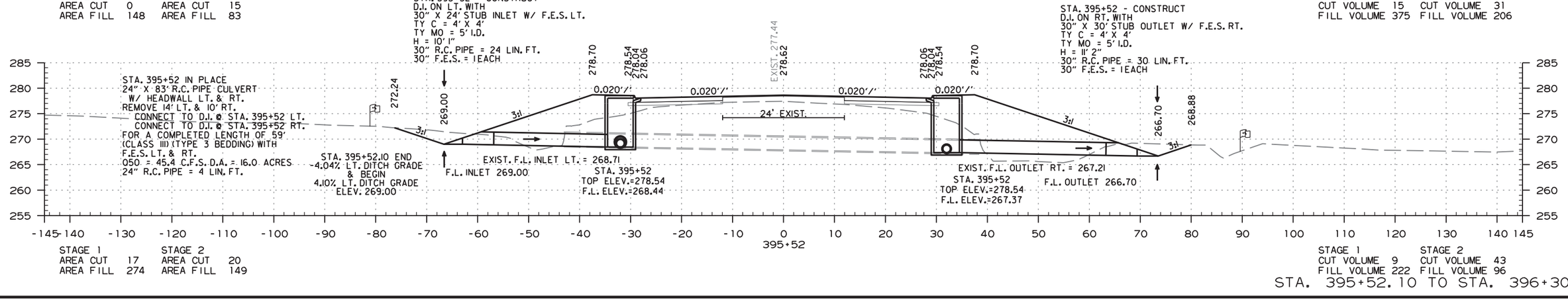
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	309	331

(2) CROSS SECTIONS







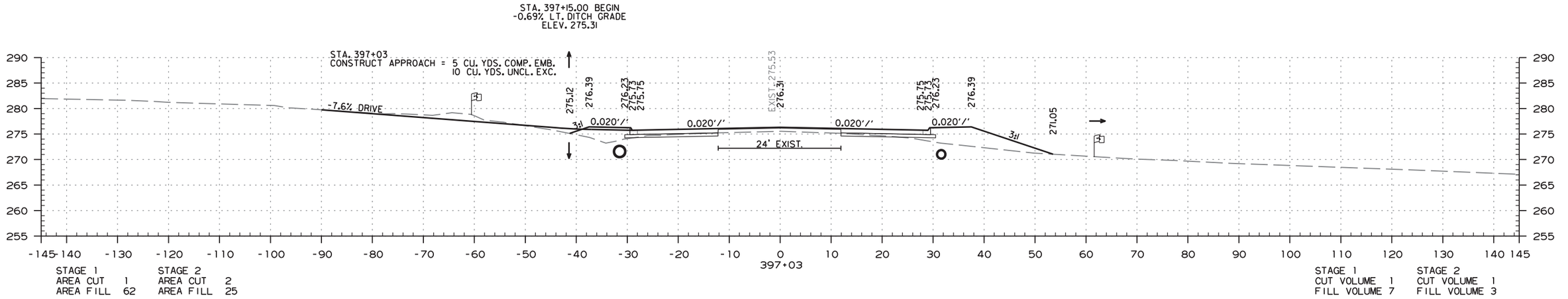
STA. 395+52.10 TO STA. 396+30

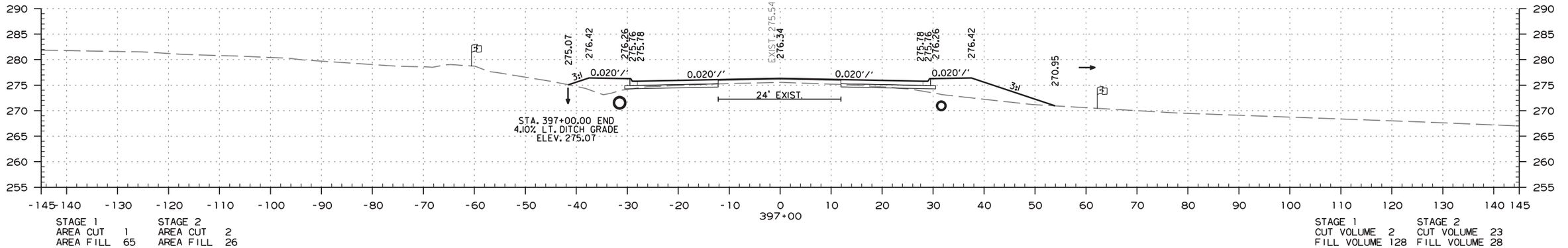
7/30/2020

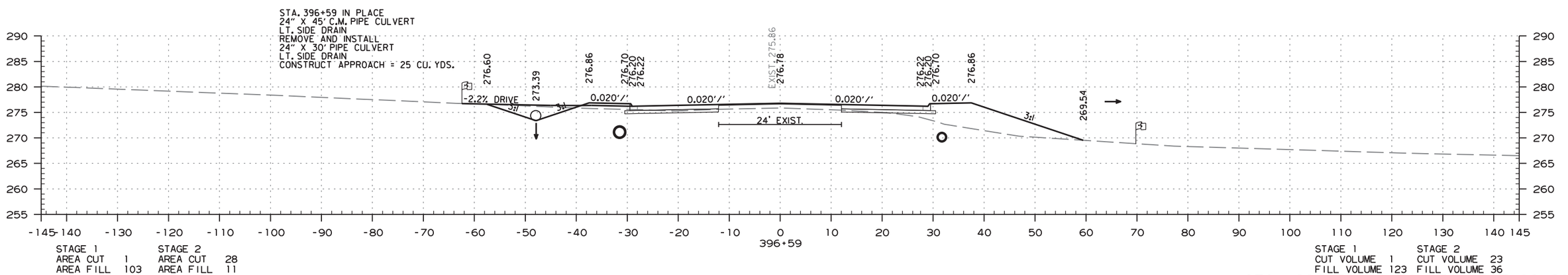
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	310	331

(2) CROSS SECTIONS







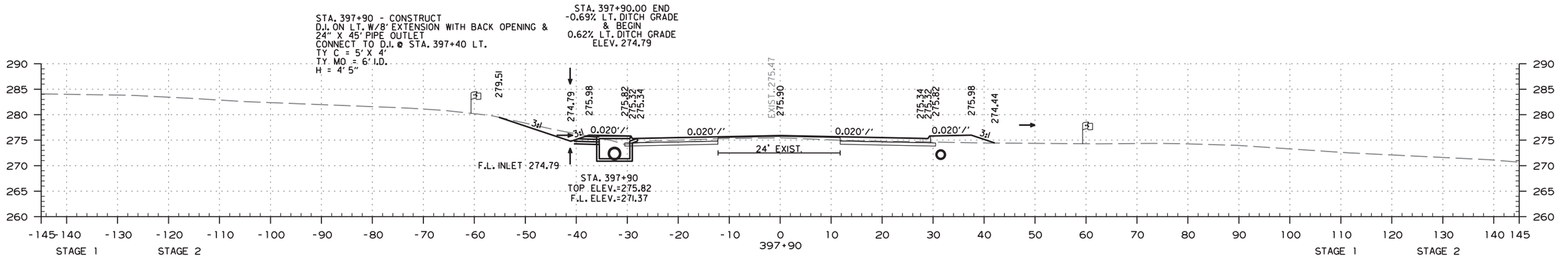
STA. 396+59.09 TO STA. 397+03.21

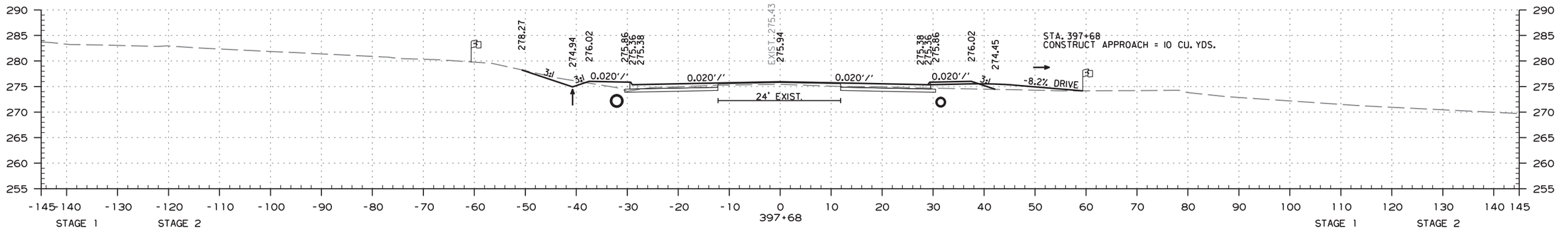
7/30/2020

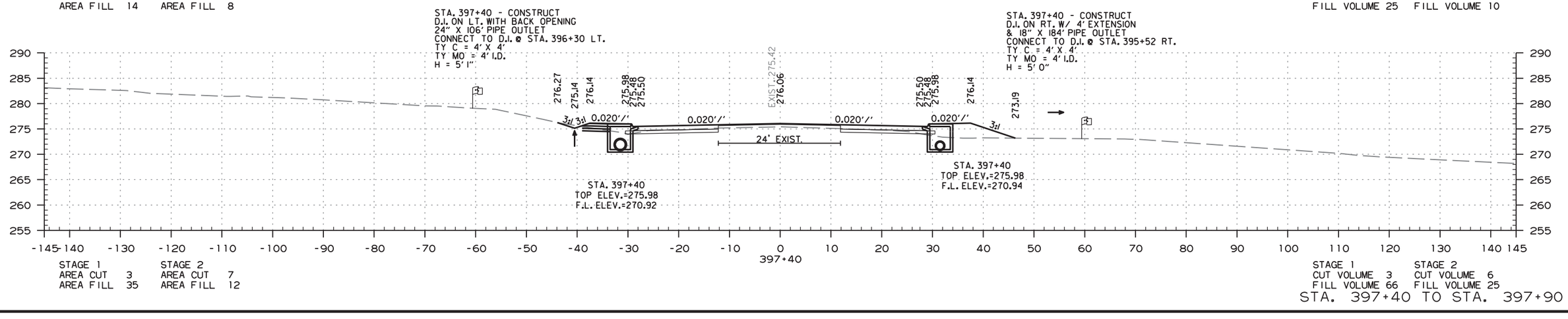
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	311	331

(2) CROSS SECTIONS







STA. 397+40 TO STA. 397+90

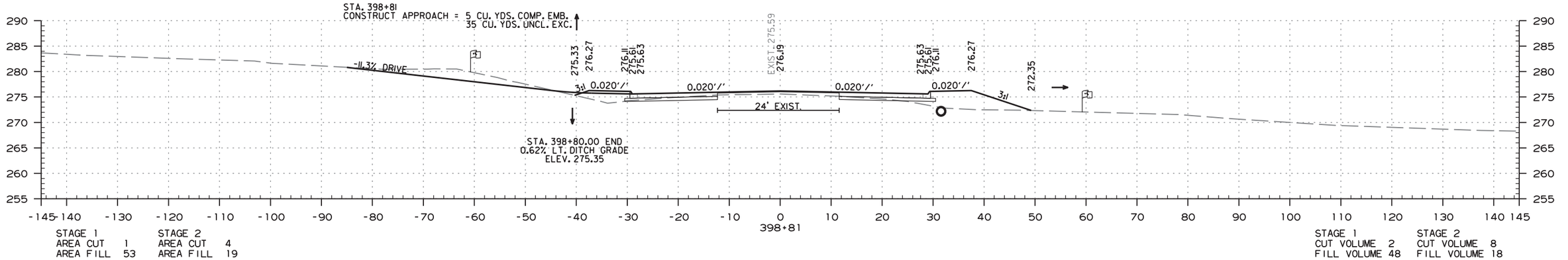
7/30/2020

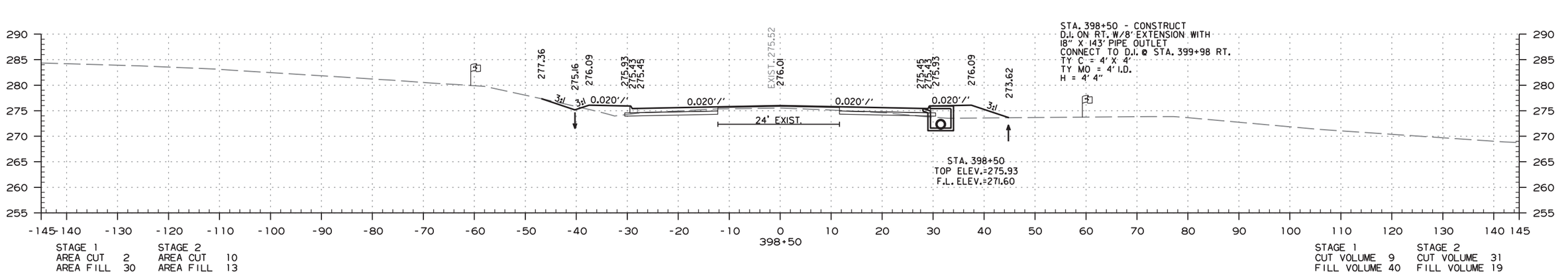
RCA0706.DGN

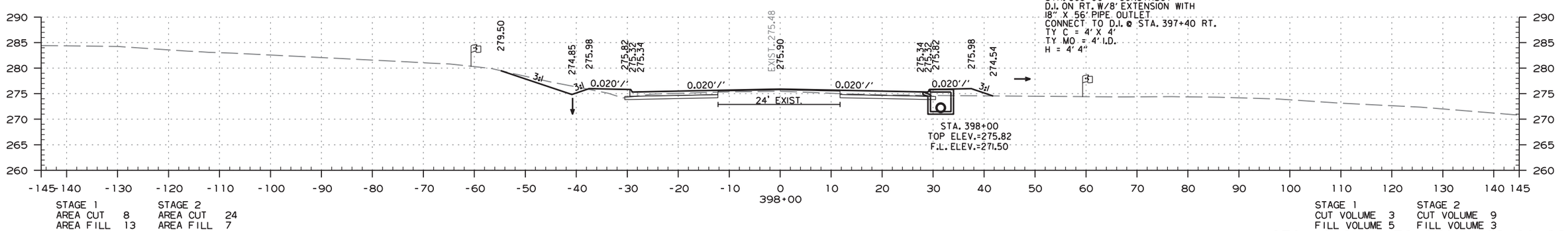
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	312	331

(2) CROSS SECTIONS







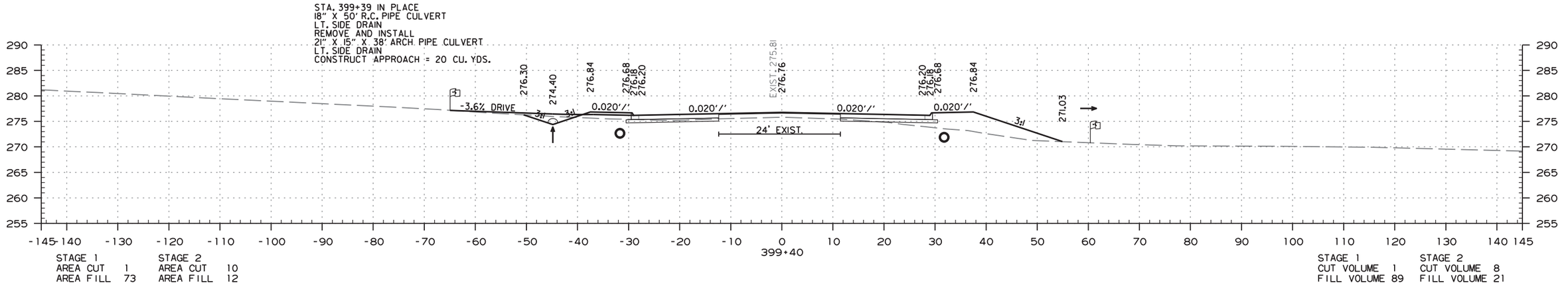
STA. 398+00 TO STA. 398+81.32

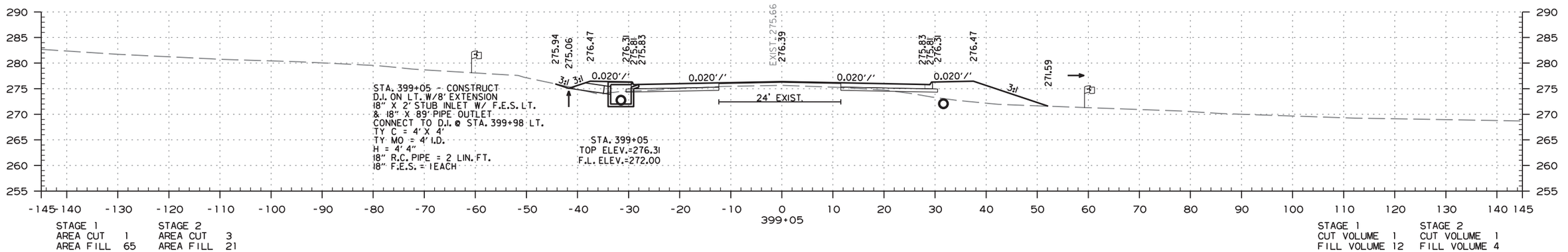
7/30/2020

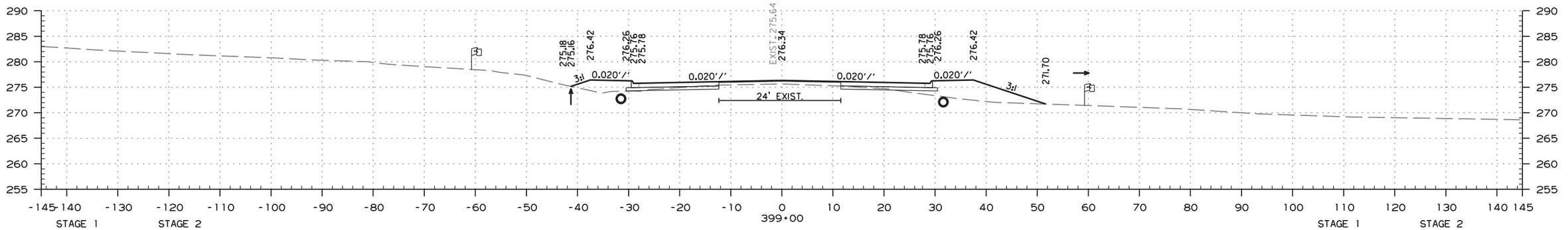
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	313	331

(2) CROSS SECTIONS







STA. 399+00 TO STA. 399+39.62

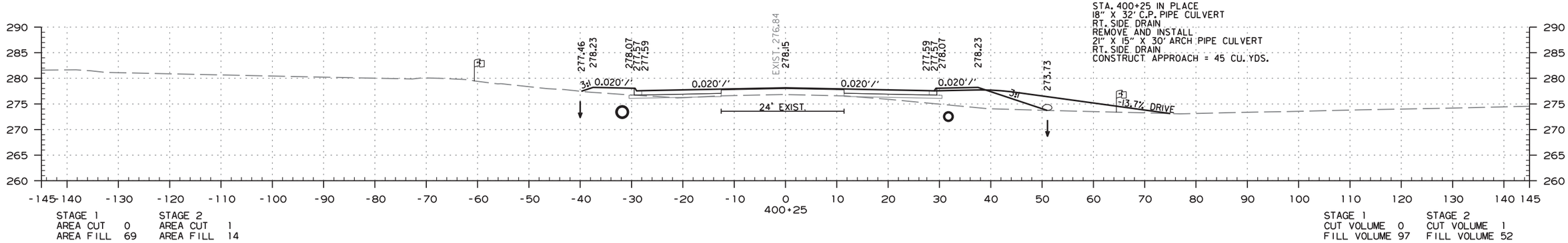
7/30/2020

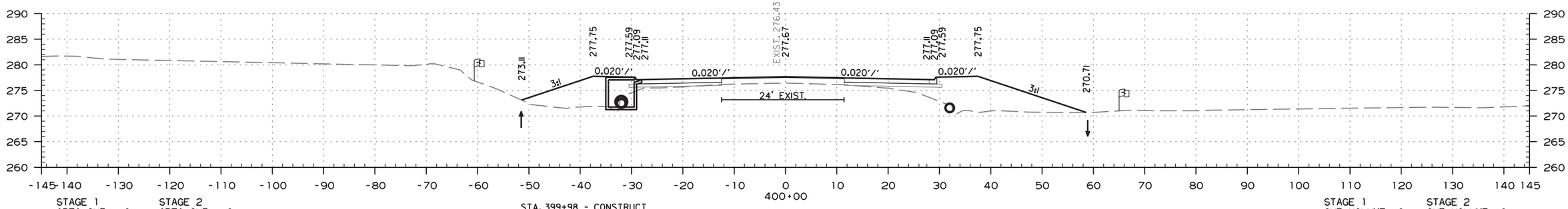
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	314	331

(2) CROSS SECTIONS

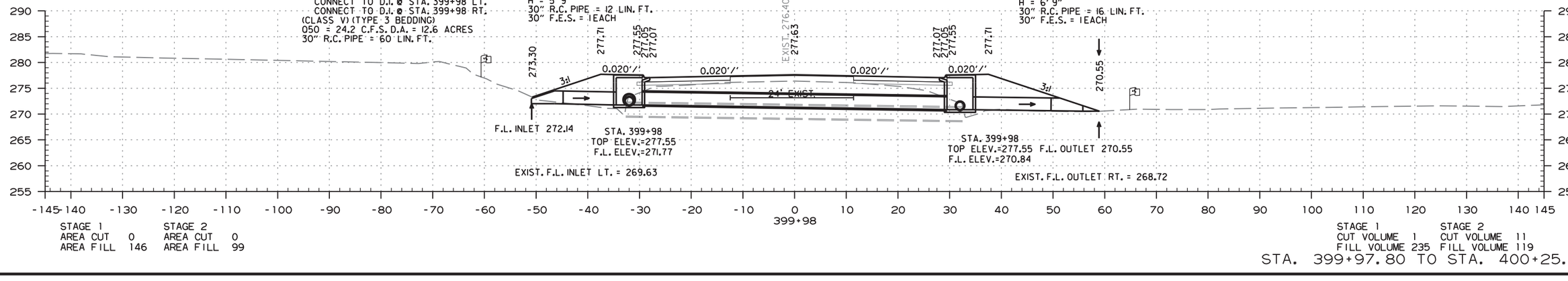




STA. 399+98 IN PLACE
30" X 66' R.C. PIPE CULVERT
W/ HEADWALL LT. & RT.
REMOVE AND CONSTRUCT
30" X 59' R.C. PIPE CULVERT
CONNECT TO D.I. @ STA. 399+98 LT.
CONNECT TO D.I. @ STA. 399+98 RT.
(CLASS V) (TYPE 3 BEDDING)
Q50 = 24.2 C.F.S. D.A. = 12.6 ACRES
30" R.C. PIPE = 60 LIN. FT.

STA. 399+98 - CONSTRUCT
D.I. ON LT. WITH
30" X 12' STUB INLET W/ F.E.S. LT.
30° LT. FWD. SKEW
TY C = 4' X 4'
TY MO = 5' I.D.
H = 5' 9"
30" R.C. PIPE = 12 LIN. FT.
30" F.E.S. = 1 EACH

STA. 399+98 - CONSTRUCT
D.I. ON RT. WITH
30" X 16' STUB OUTLET W/ F.E.S. RT.
TY C = 4' X 4'
TY MO = 5' I.D.
H = 6' 9"
30" R.C. PIPE = 16 LIN. FT.
30" F.E.S. = 1 EACH



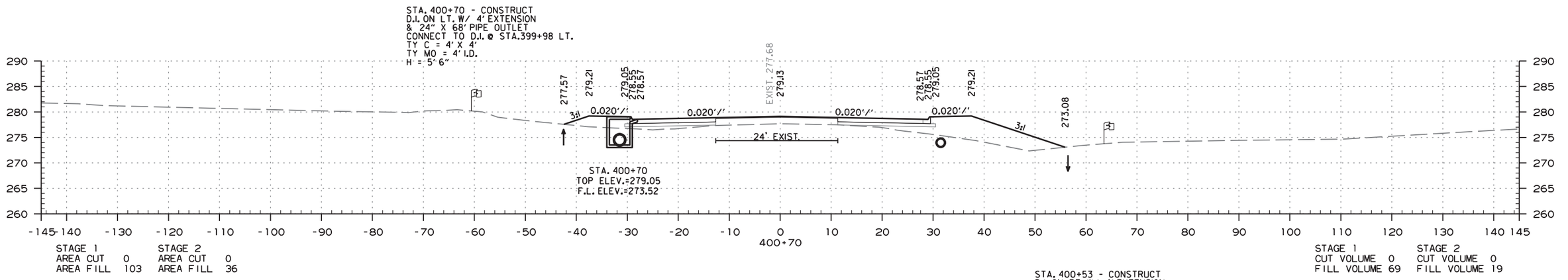
STA. 399+97.80 TO STA. 400+25.18

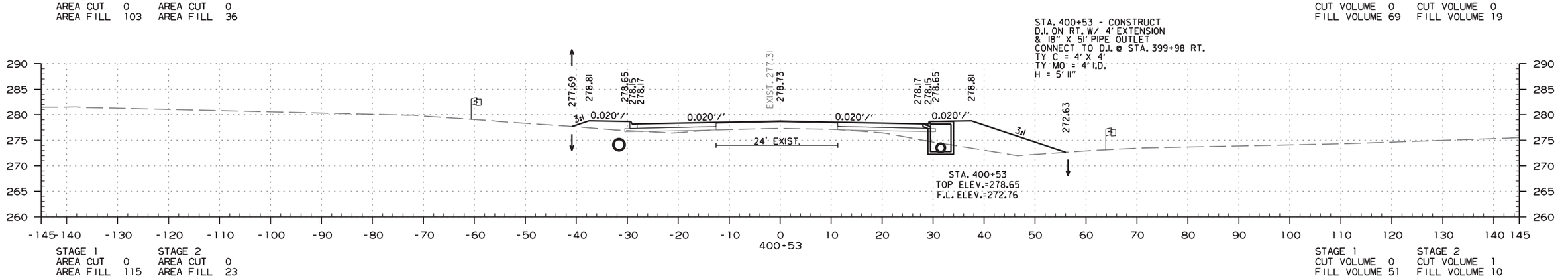
7/30/2020

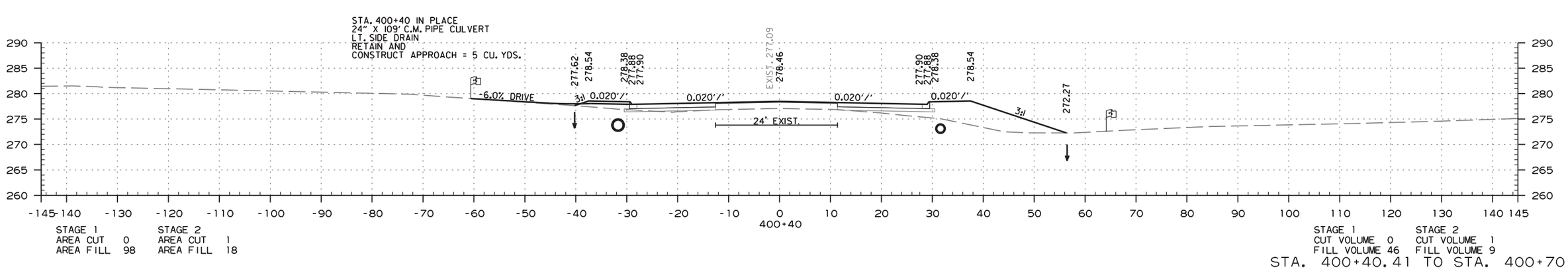
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	315	331

(2) CROSS SECTIONS







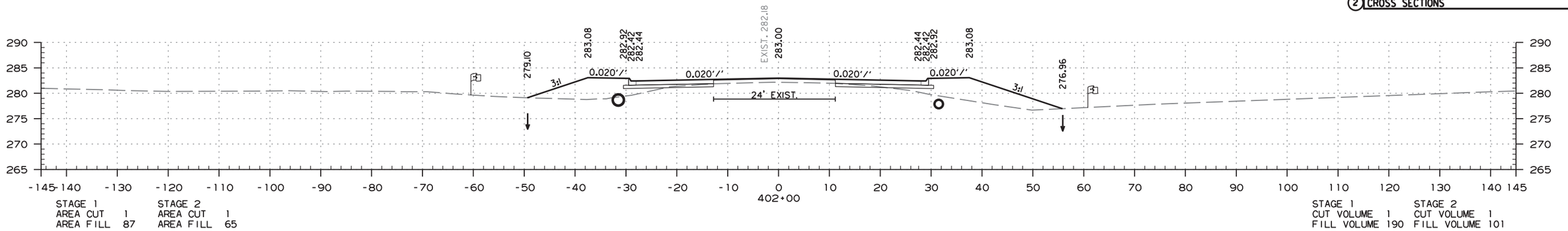
STA. 400+40.41 TO STA. 400+70

7/30/2020

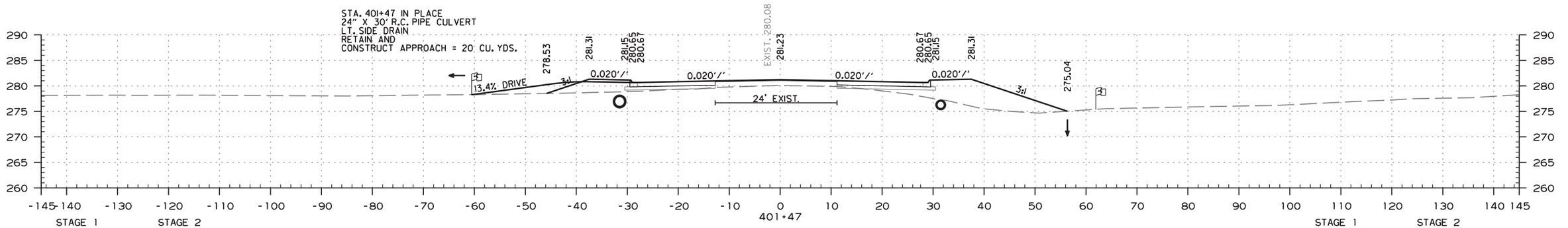
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	316	331

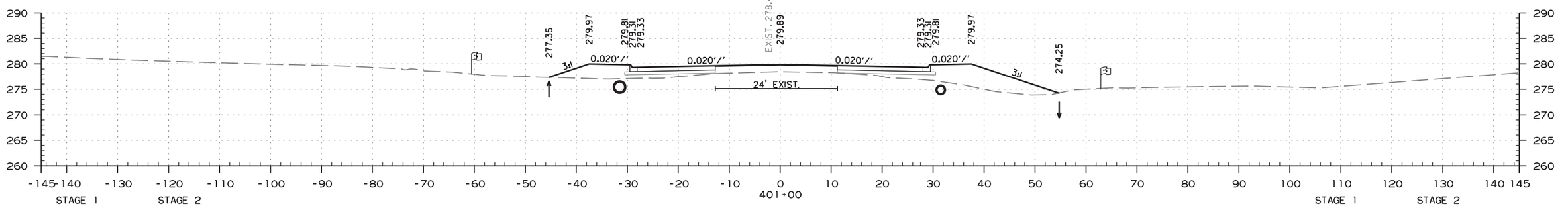
(2) CROSS SECTIONS



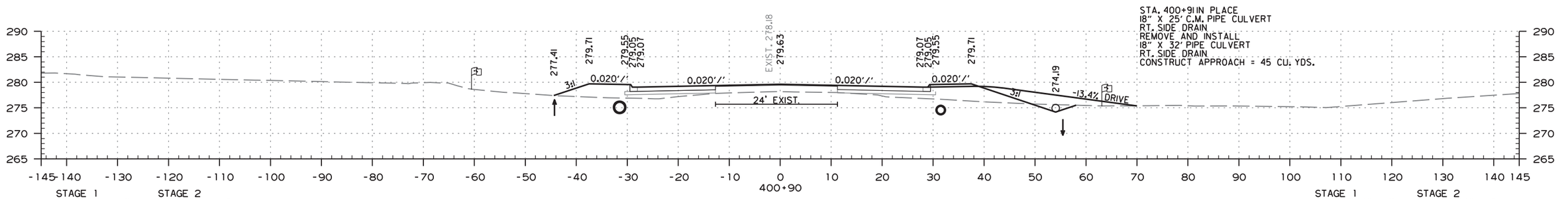
STAGE 1 AREA CUT 1 AREA FILL 87
STAGE 2 AREA CUT 1 AREA FILL 65
STAGE 1 CUT VOLUME 1 FILL VOLUME 190
STAGE 2 CUT VOLUME 1 FILL VOLUME 101



STAGE 1 AREA CUT 0 AREA FILL 107
STAGE 2 AREA CUT 0 AREA FILL 38
STAGE 1 CUT VOLUME 0 FILL VOLUME 173
STAGE 2 CUT VOLUME 0 FILL VOLUME 75



STAGE 1 AREA CUT 0 AREA FILL 92
STAGE 2 AREA CUT 0 AREA FILL 48
STAGE 1 CUT VOLUME 1 FILL VOLUME 28
STAGE 2 CUT VOLUME 0 FILL VOLUME 17



STAGE 1 AREA CUT 6 AREA FILL 58
STAGE 2 AREA CUT 0 AREA FILL 45
STAGE 1 CUT VOLUME 2 FILL VOLUME 60
STAGE 2 CUT VOLUME 0 FILL VOLUME 30

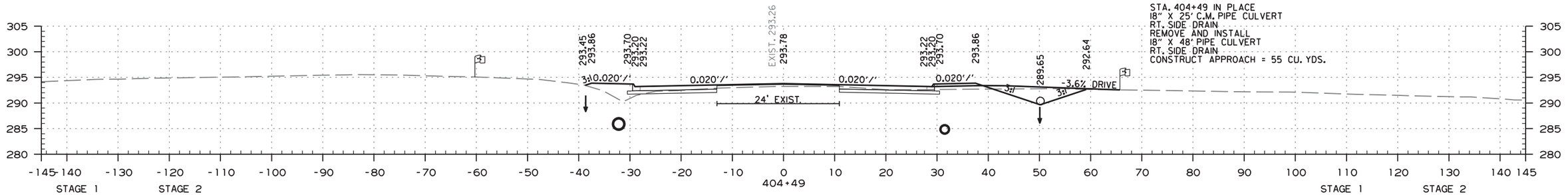
STA. 400+90 TO STA. 402+00

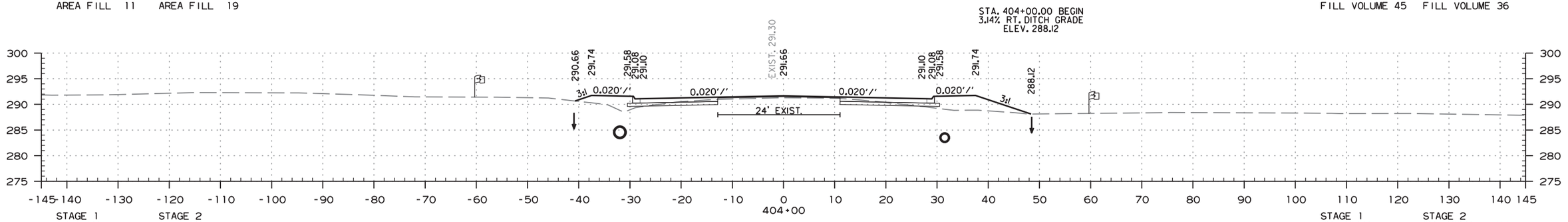
7/30/2020

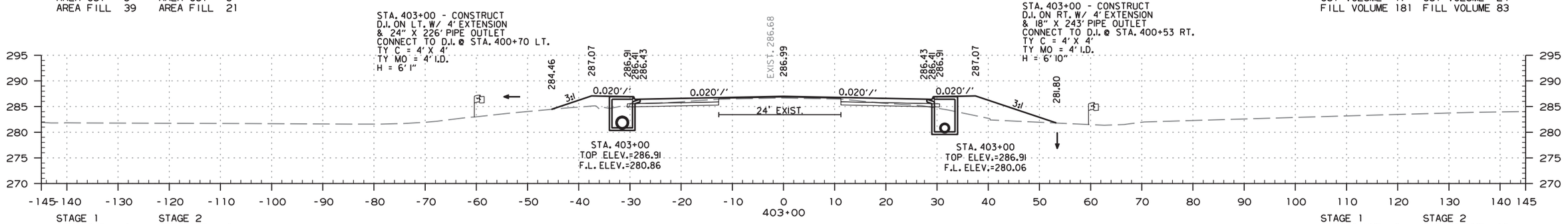
RCA0706.DGN

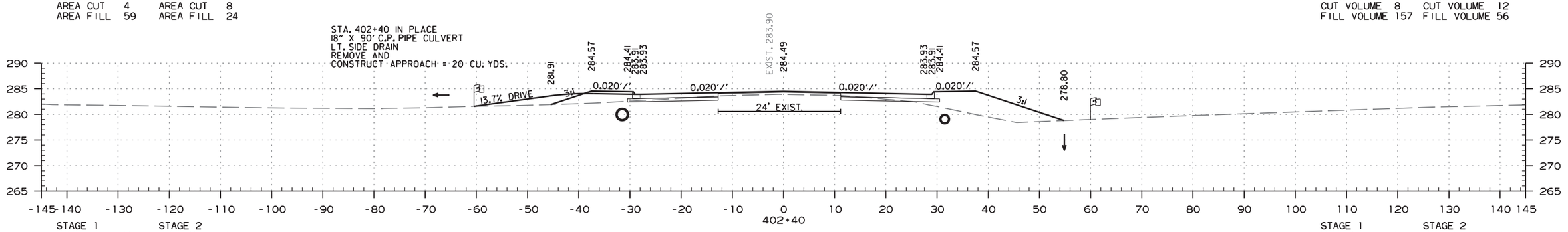
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	317	331

(2) CROSS SECTIONS









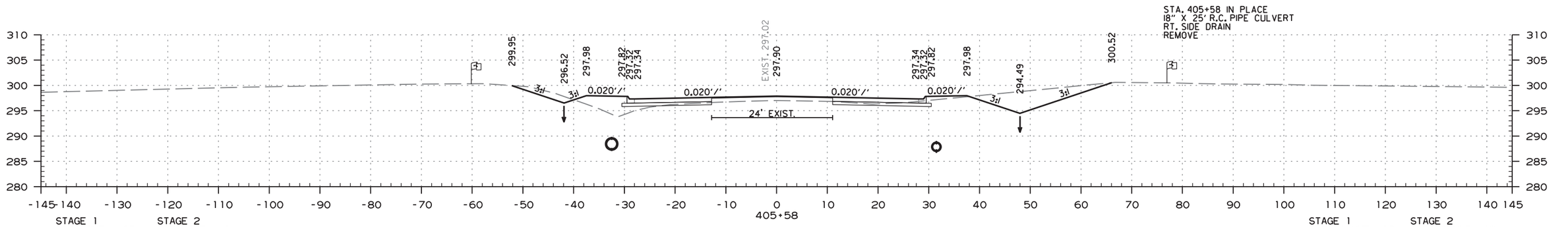
STA. 402+40 TO STA. 404+48.64

7/30/2020

RCA0706.DGN

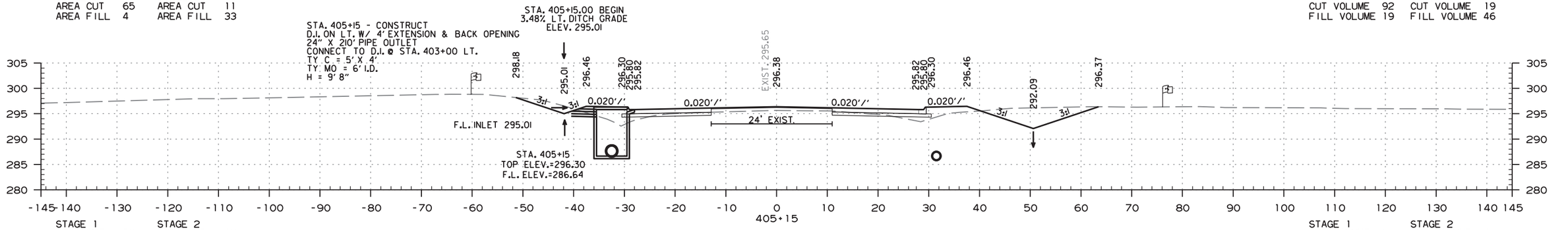
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	318	331

(2) CROSS SECTIONS



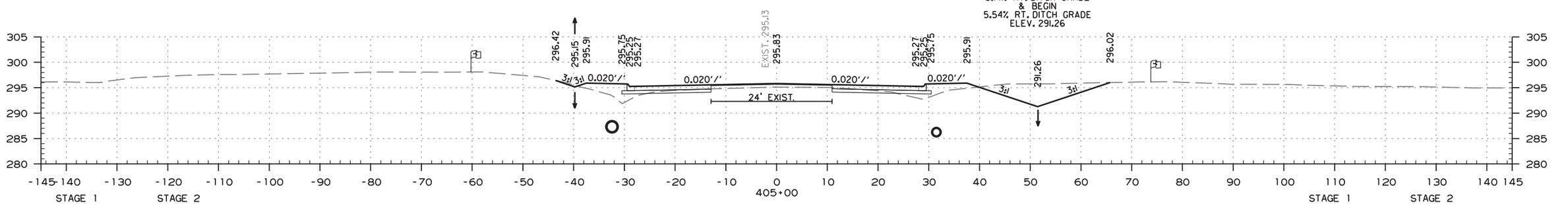
STAGE 1 AREA CUT 65 AREA FILL 4
STAGE 2 AREA CUT 11 AREA FILL 33

STAGE 1 CUT VOLUME 92 FILL VOLUME 19
STAGE 2 CUT VOLUME 19 FILL VOLUME 46



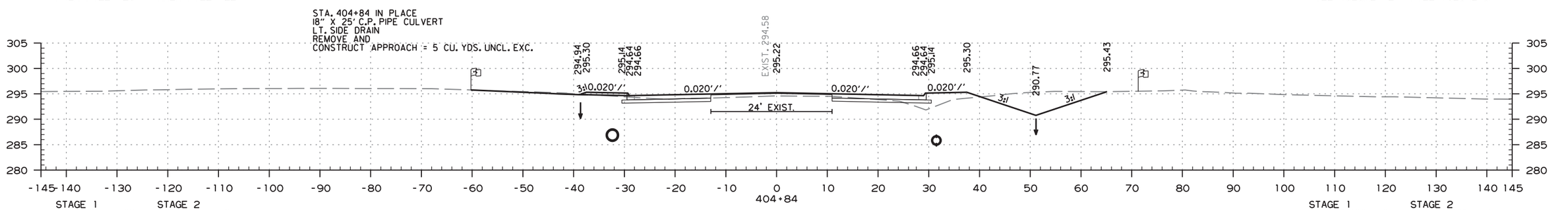
STAGE 1 AREA CUT 50 AREA FILL 20
STAGE 2 AREA CUT 13 AREA FILL 25

STAGE 1 CUT VOLUME 31 FILL VOLUME 11
STAGE 2 CUT VOLUME 4 FILL VOLUME 13



STAGE 1 AREA CUT 63 AREA FILL 20
STAGE 2 AREA CUT 3 AREA FILL 22

STAGE 1 CUT VOLUME 37 FILL VOLUME 12
STAGE 2 CUT VOLUME 3 FILL VOLUME 8



STAGE 1 AREA CUT 62 AREA FILL 21
STAGE 2 AREA CUT 8 AREA FILL 5

STAGE 1 CUT VOLUME 65 FILL VOLUME 21
STAGE 2 CUT VOLUME 7 FILL VOLUME 16

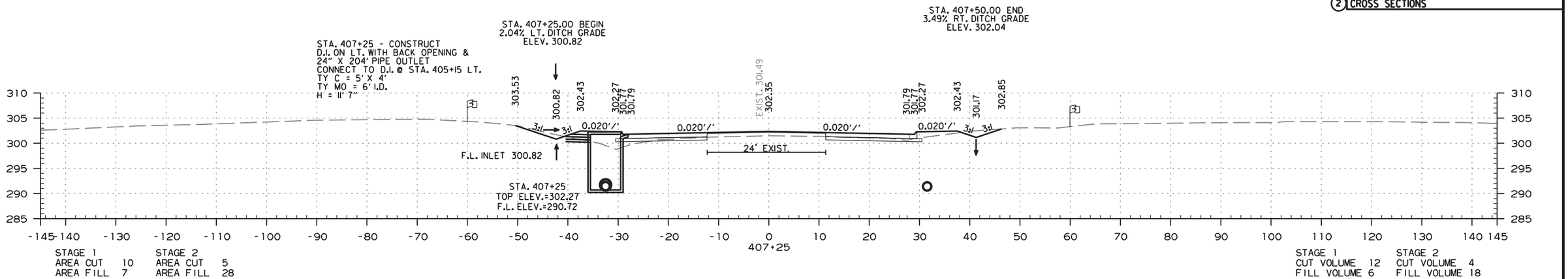
STA. 404+84.26 TO STA. 405+58.32

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	319	331

(2) CROSS SECTIONS



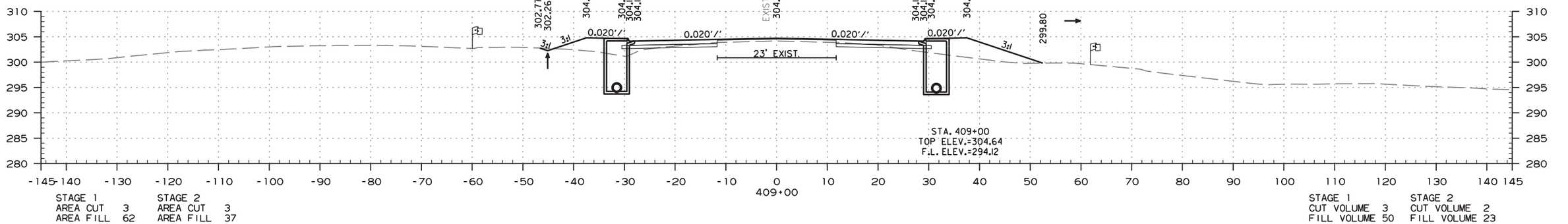
STA. 406+00 TO STA. 407+25

7/30/2020

RCA0706.DGN

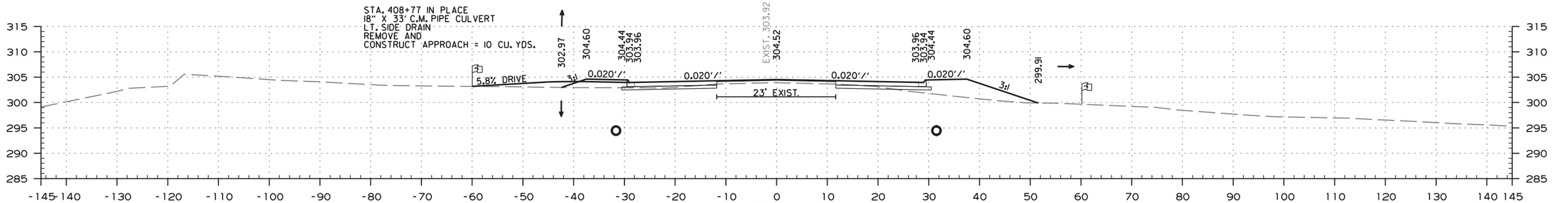
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	320	331

(2) CROSS SECTIONS



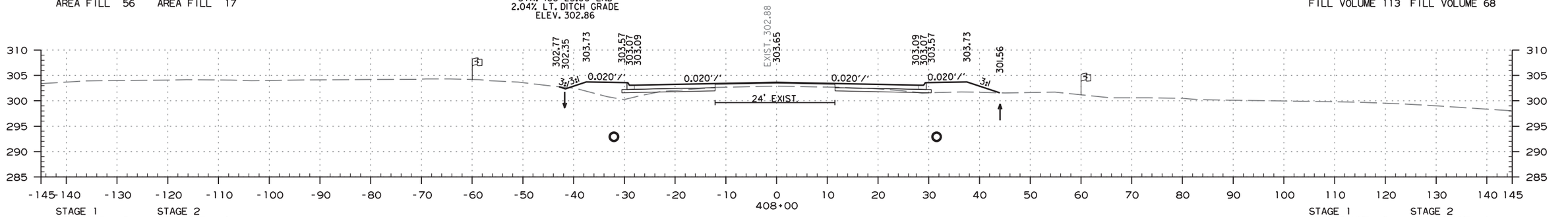
STAGE 1 AREA CUT 3 AREA FILL 62 | STAGE 2 AREA CUT 3 AREA FILL 37

STAGE 1 CUT VOLUME 3 FILL VOLUME 50 | STAGE 2 CUT VOLUME 2 FILL VOLUME 23



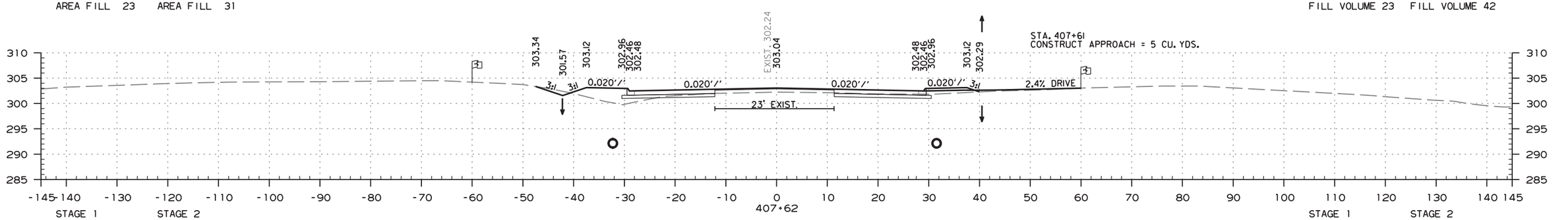
STAGE 1 AREA CUT 3 AREA FILL 56 | STAGE 2 AREA CUT 2 AREA FILL 17

STAGE 1 CUT VOLUME 9 FILL VOLUME 113 | STAGE 2 CUT VOLUME 4 FILL VOLUME 68



STAGE 1 AREA CUT 3 AREA FILL 23 | STAGE 2 AREA CUT 1 AREA FILL 31

STAGE 1 CUT VOLUME 8 FILL VOLUME 23 | STAGE 2 CUT VOLUME 4 FILL VOLUME 42



STAGE 1 AREA CUT 8 AREA FILL 10 | STAGE 2 AREA CUT 4 AREA FILL 28

STAGE 1 CUT VOLUME 12 FILL VOLUME 12 | STAGE 2 CUT VOLUME 6 FILL VOLUME 38

STA. 407+61.69 TO STA. 409+00

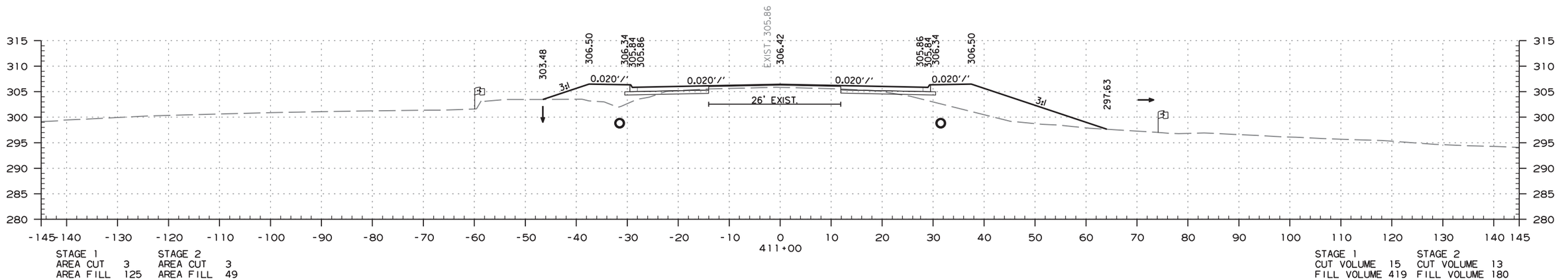
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	321	331

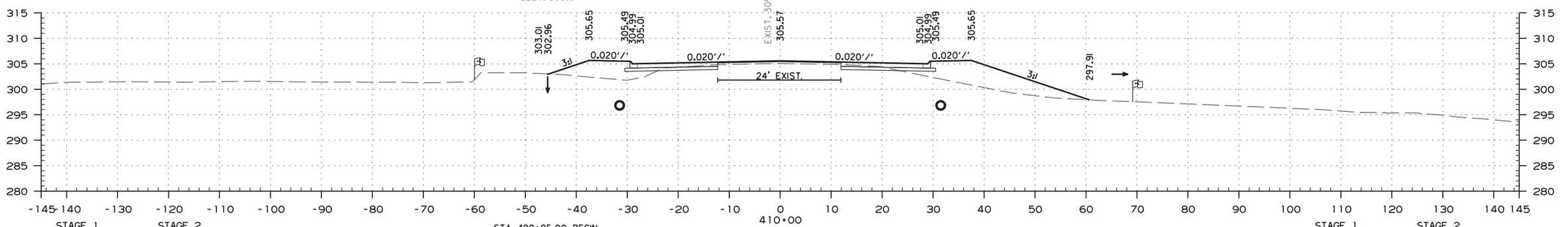
(2) CROSS SECTIONS



STAGE 1 AREA CUT 3 AREA FILL 125
STAGE 2 AREA CUT 3 AREA FILL 49

STAGE 1 CUT VOLUME 15 FILL VOLUME 419
STAGE 2 CUT VOLUME 13 FILL VOLUME 180

STA. 410+05.00 END
1.01% LT. DITCH GRADE
ELEV. 303.01

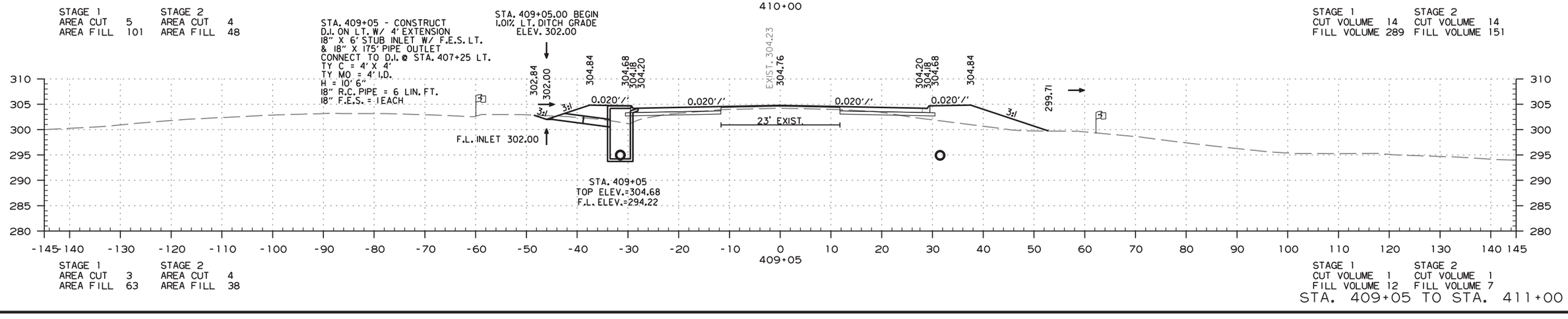


STAGE 1 AREA CUT 5 AREA FILL 101
STAGE 2 AREA CUT 4 AREA FILL 48

STAGE 1 CUT VOLUME 14 FILL VOLUME 289
STAGE 2 CUT VOLUME 14 FILL VOLUME 151

STA. 409+05 - CONSTRUCT
D.I. ON LT. W/ 4' EXTENSION
18" X 6' STUB INLET W/ F.E.S. LT.
& 18" X 175' PIPE OUTLET
CONNECT TO D.I. @ STA. 407+25 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 10' 6"
18" R.C. PIPE = 6 LIN. FT.
18" F.E.S. = 1 EACH

STA. 409+05.00 BEGIN
1.01% LT. DITCH GRADE
ELEV. 302.00



STA. 409+05
TOP ELEV.=304.68
F.L. ELEV.=294.22

STAGE 1 AREA CUT 3 AREA FILL 63
STAGE 2 AREA CUT 4 AREA FILL 38

STAGE 1 CUT VOLUME 1 FILL VOLUME 12
STAGE 2 CUT VOLUME 1 FILL VOLUME 7

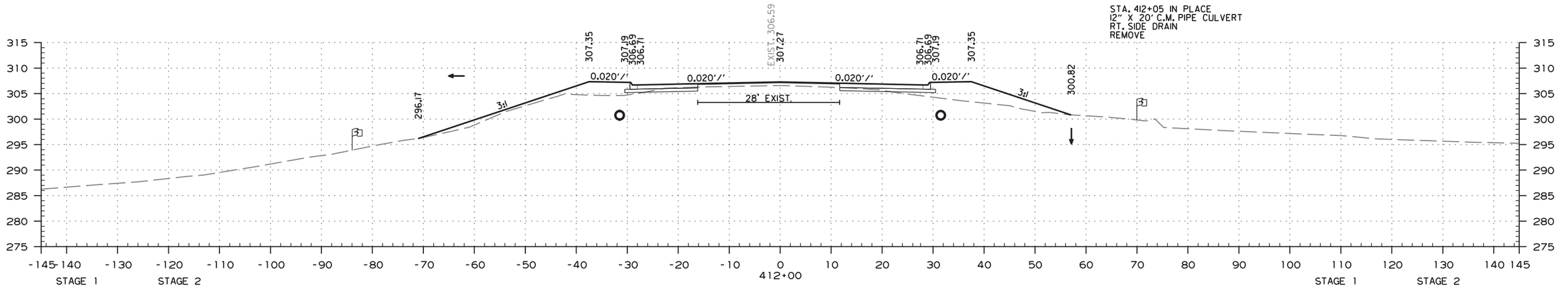
STA. 409+05 TO STA. 411+00

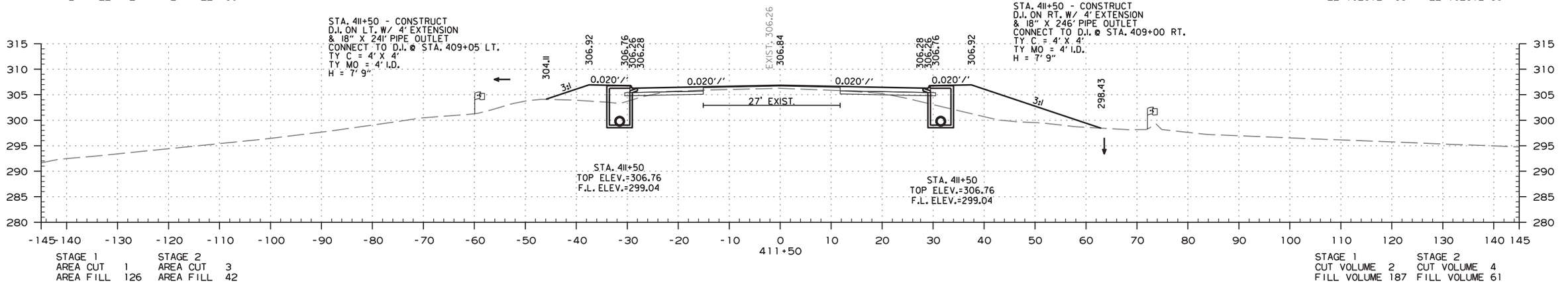
7/30/2020

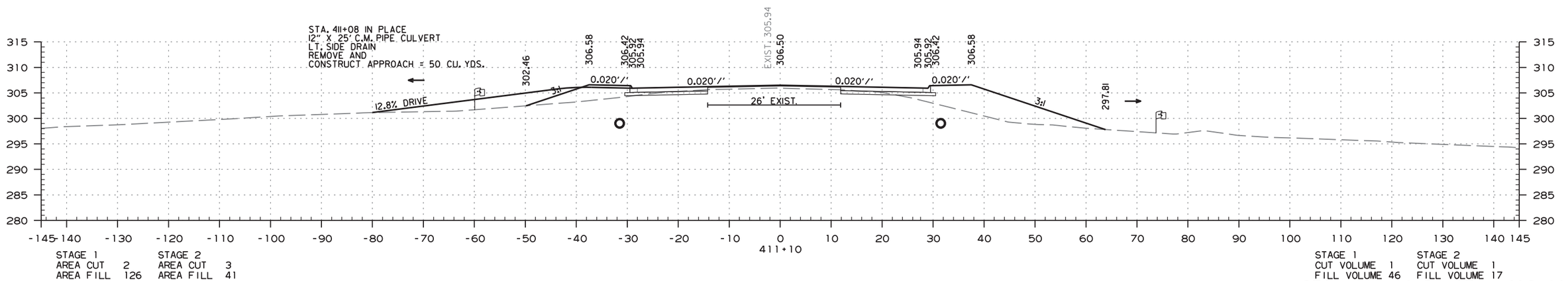
RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	322	331

(2) CROSS SECTIONS







STA. 411+10 TO STA. 412+00

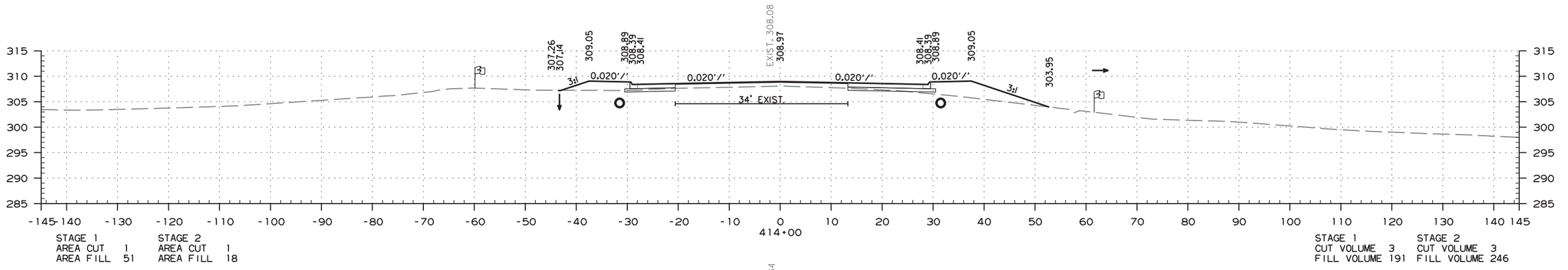
7/30/2020

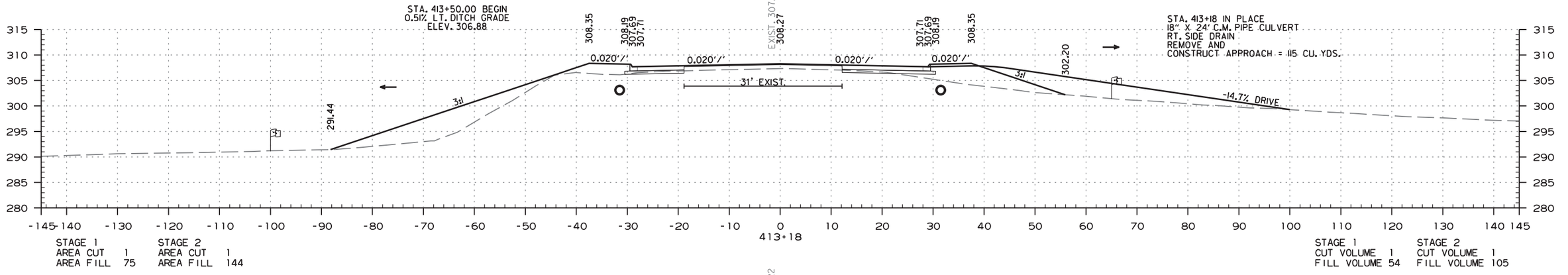
RCA0706.DGN

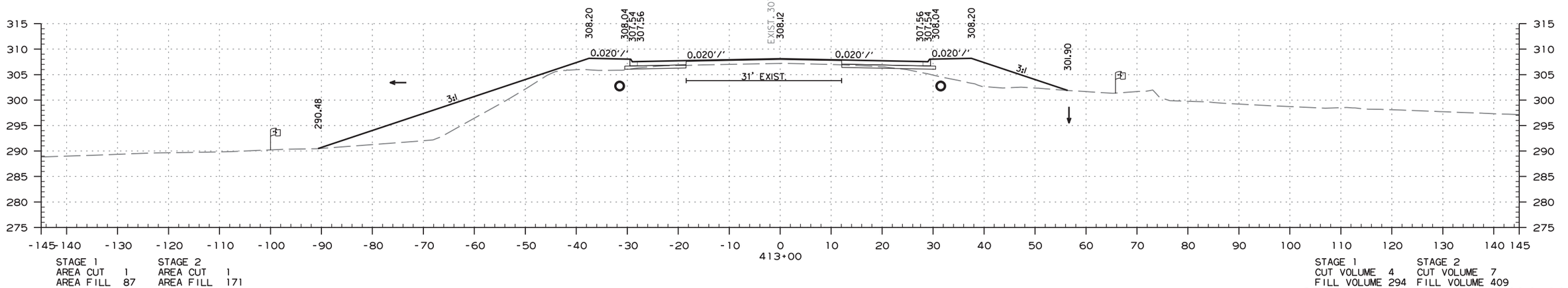
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	323	331

(2) CROSS SECTIONS







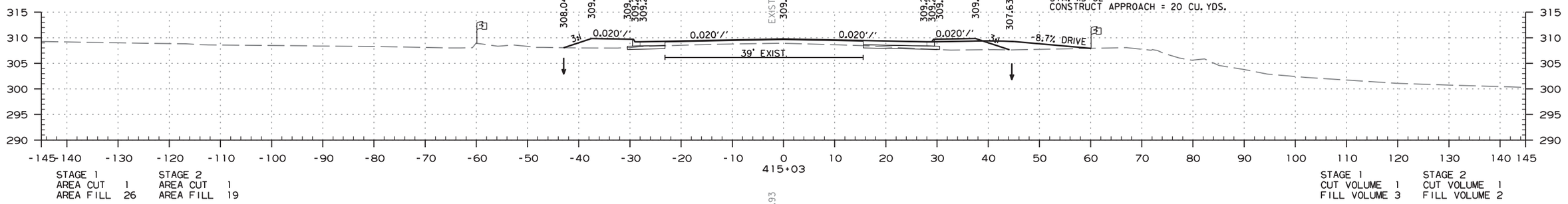
STA. 413+00 TO STA. 414+00

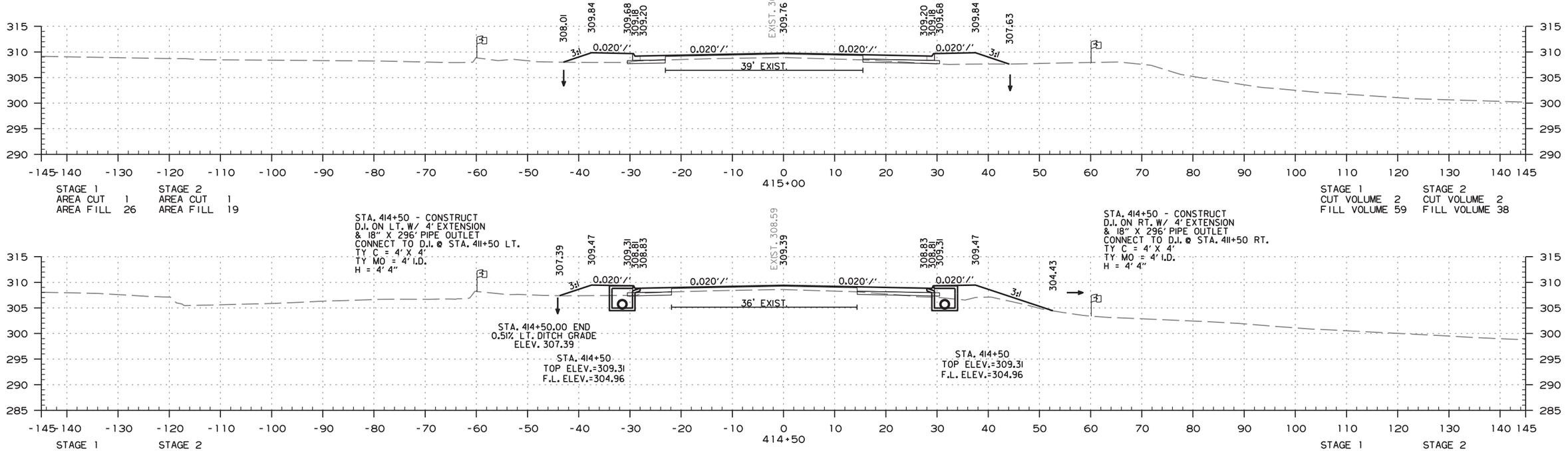
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	324	331

(2) CROSS SECTIONS





STA. 414+02.75 TO STA. 415+02.72

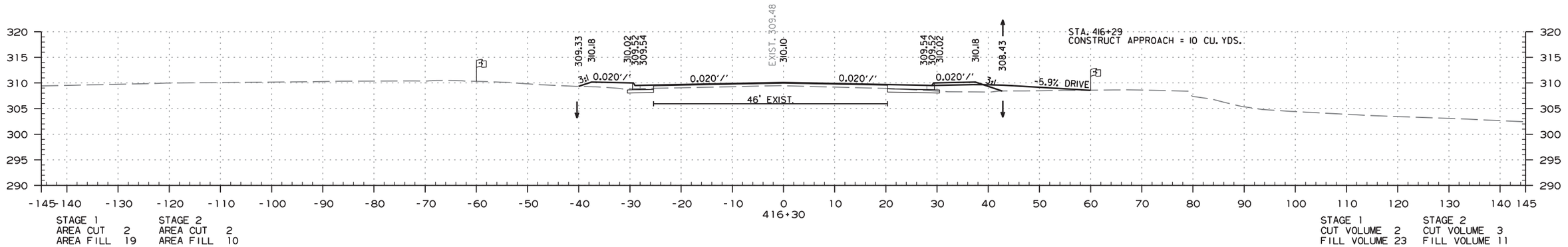
7/30/2020

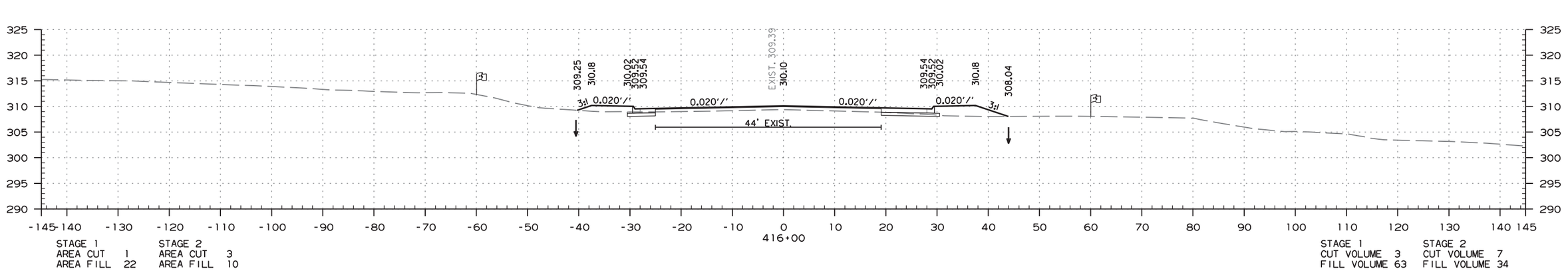
RCA0706.DGN

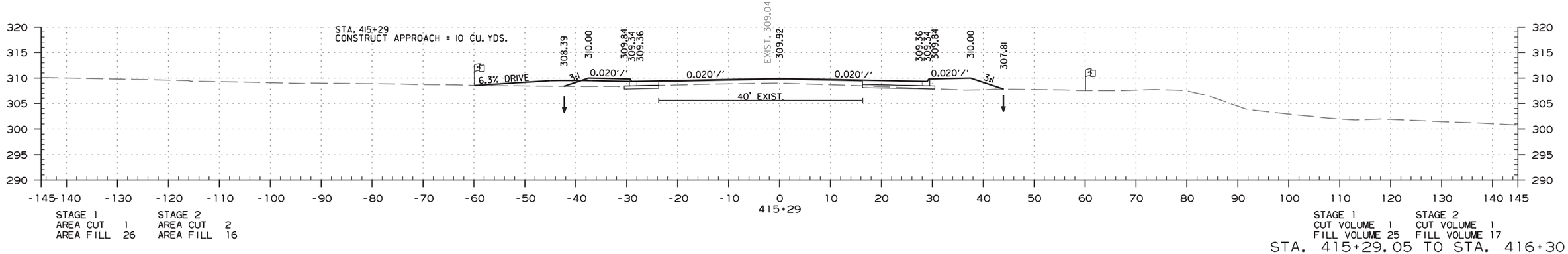
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	325	331

(2) CROSS SECTIONS







STA. 415+29.05 TO STA. 416+30

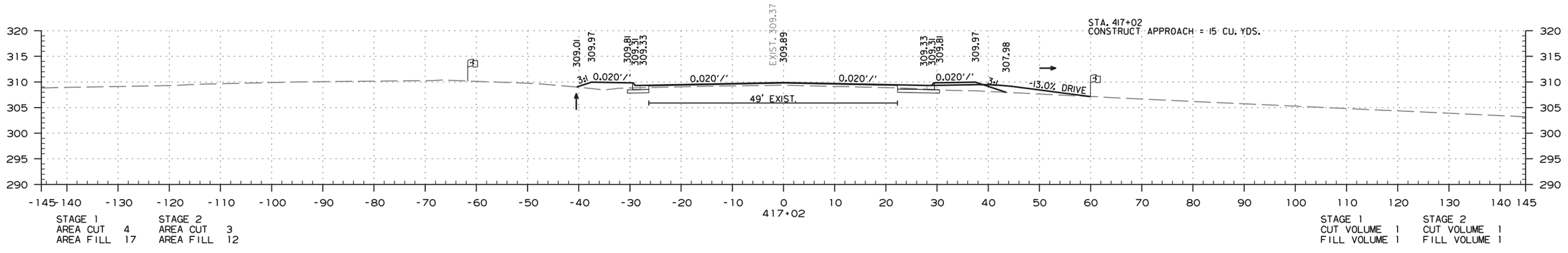
7/30/2020

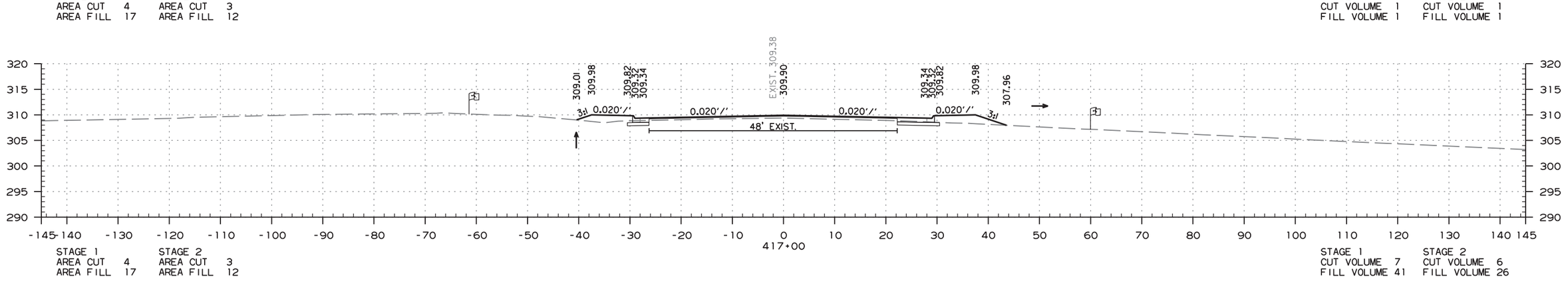
RCA0706.DGN

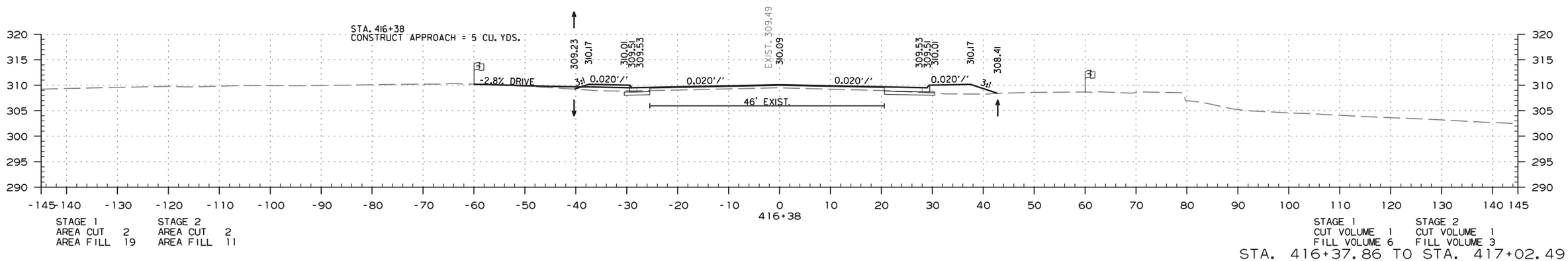
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	326	331

(2) CROSS SECTIONS







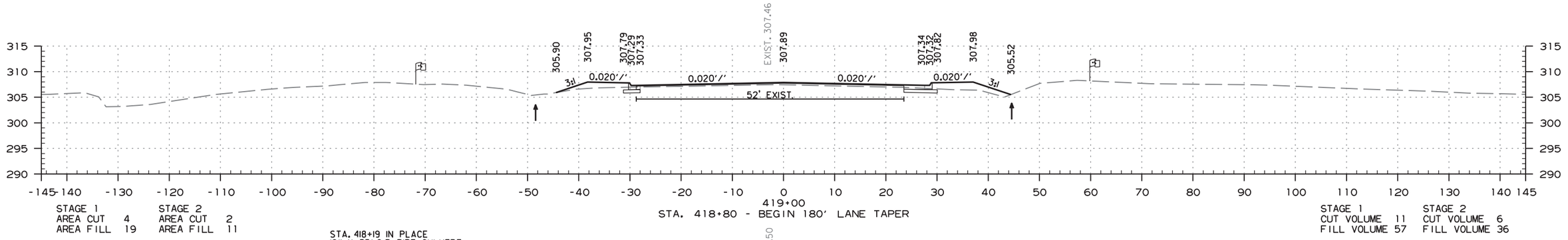
STA. 416+37.86 TO STA. 417+02.49

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	327	331

(2) CROSS SECTIONS

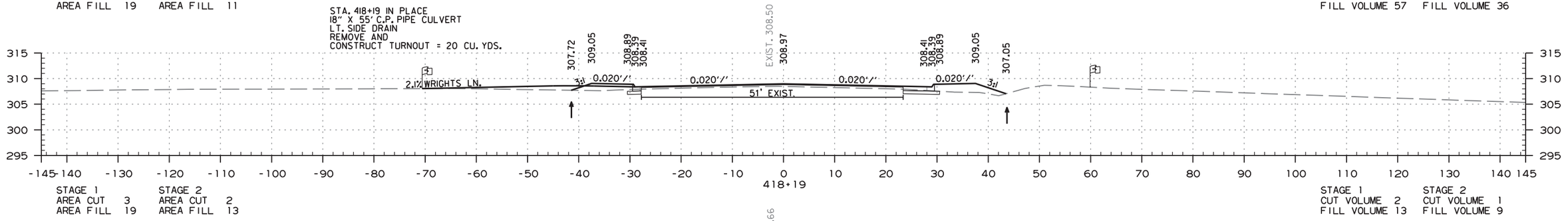


STA. 418+80 - BEGIN 180' LANE TAPER

STAGE 1	STAGE 2
AREA CUT 4	AREA CUT 2
AREA FILL 19	AREA FILL 11

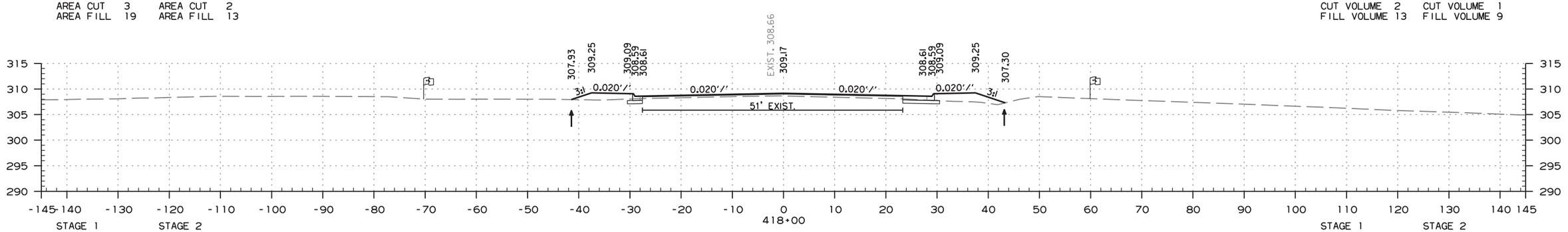
STAGE 1	STAGE 2
CUT VOLUME 11	CUT VOLUME 6
FILL VOLUME 57	FILL VOLUME 36

STA. 418+19 IN PLACE
18" X 55' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND
CONSTRUCT TURNOUT = 20 CU. YDS.



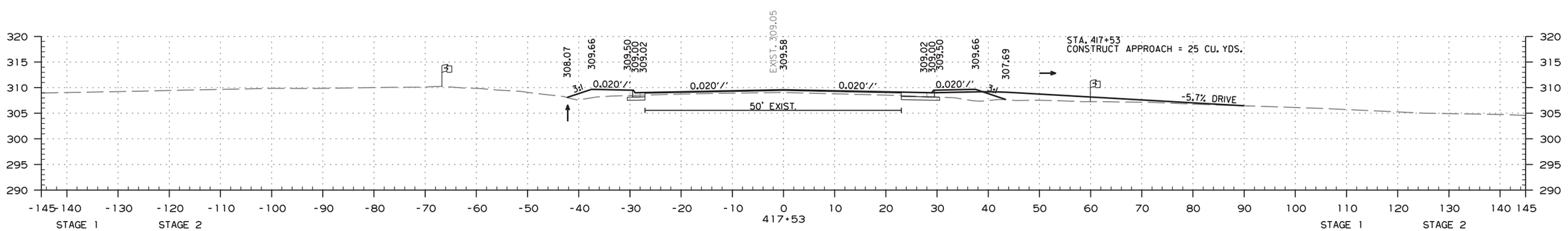
STAGE 1	STAGE 2
AREA CUT 3	AREA CUT 2
AREA FILL 19	AREA FILL 13

STAGE 1	STAGE 2
CUT VOLUME 2	CUT VOLUME 1
FILL VOLUME 13	FILL VOLUME 9



STAGE 1	STAGE 2
AREA CUT 3	AREA CUT 2
AREA FILL 19	AREA FILL 13

STAGE 1	STAGE 2
CUT VOLUME 5	CUT VOLUME 3
FILL VOLUME 34	FILL VOLUME 24



STAGE 1	STAGE 2
AREA CUT 3	AREA CUT 2
AREA FILL 20	AREA FILL 15

STAGE 1	STAGE 2
CUT VOLUME 7	CUT VOLUME 5
FILL VOLUME 35	FILL VOLUME 26

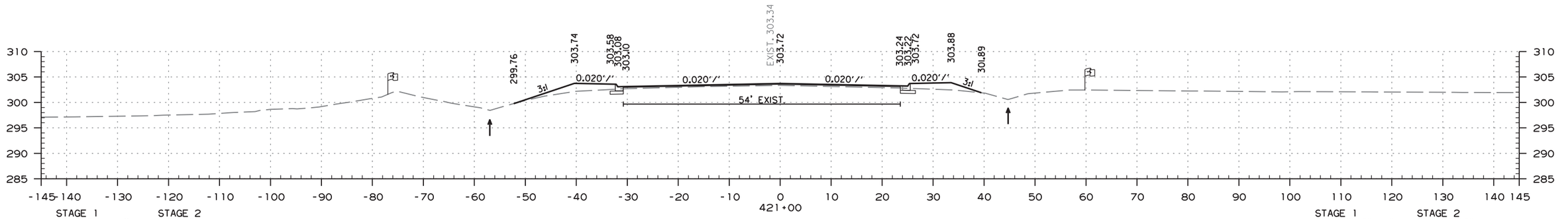
STA. 417+52.75 TO STA. 419+00

7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	328	331

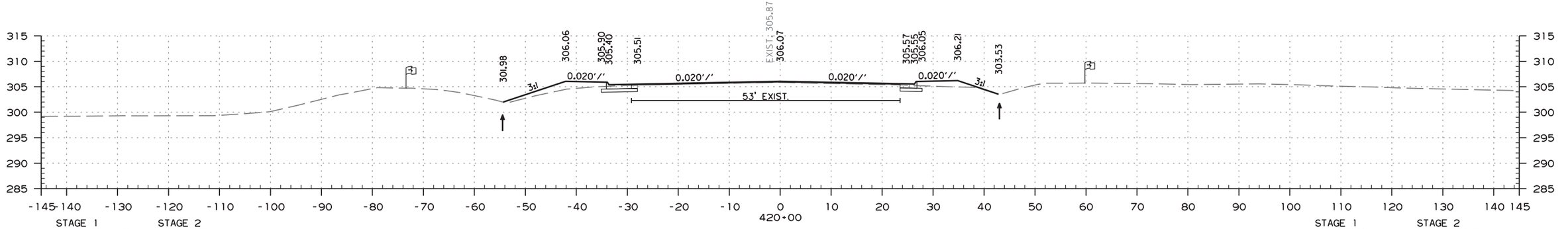
(2) CROSS SECTIONS



STAGE 1 AREA CUT 2 AREA FILL 14
STAGE 2 AREA CUT 1 AREA FILL 18

STA. 420+60.00 - END 180' LANE TAPER, JOB CA0706 &
BEGIN 100' TRANSITION

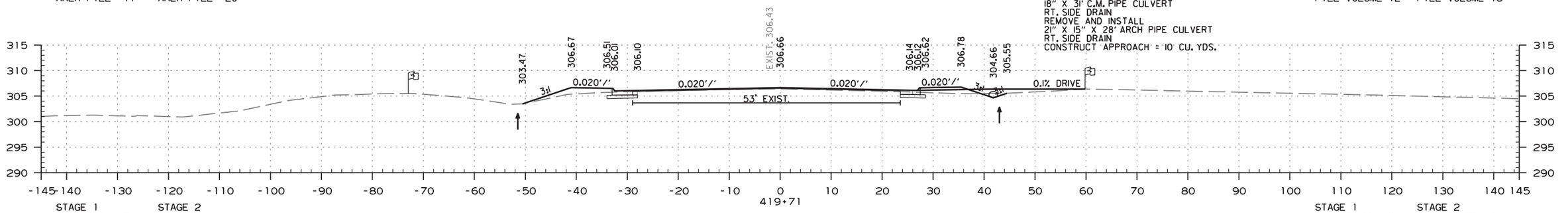
STAGE 1 CUT VOLUME 9 FILL VOLUME 46
STAGE 2 CUT VOLUME 11 FILL VOLUME 70



STAGE 1 AREA CUT 3 AREA FILL 11
STAGE 2 AREA CUT 5 AREA FILL 20

STAGE 1 CUT VOLUME 5 FILL VOLUME 12
STAGE 2 CUT VOLUME 5 FILL VOLUME 18

STA. 419+71 IN PLACE
18" X 31' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS.

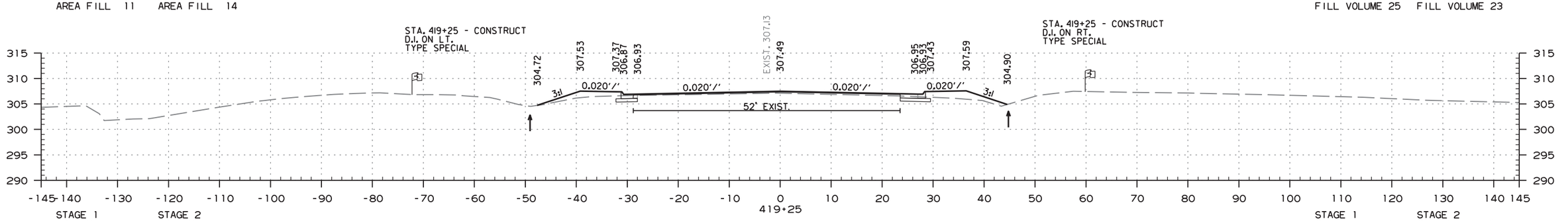


STAGE 1 AREA CUT 6 AREA FILL 11
STAGE 2 AREA CUT 5 AREA FILL 14

STAGE 1 CUT VOLUME 9 FILL VOLUME 25
STAGE 2 CUT VOLUME 7 FILL VOLUME 23

STA. 419+25 - CONSTRUCT
D.I. ON LT.
TYPE SPECIAL

STA. 419+25 - CONSTRUCT
D.I. ON RT.
TYPE SPECIAL



STAGE 1 AREA CUT 4 AREA FILL 18
STAGE 2 AREA CUT 3 AREA FILL 13

STAGE 1 CUT VOLUME 4 FILL VOLUME 17
STAGE 2 CUT VOLUME 2 FILL VOLUME 11

STA. 419+25 TO STA. 421+00

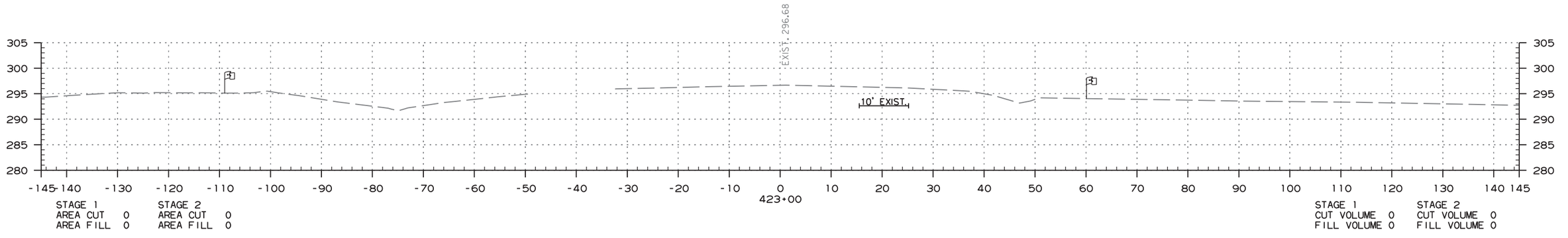
7/30/2020

RCA0706.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

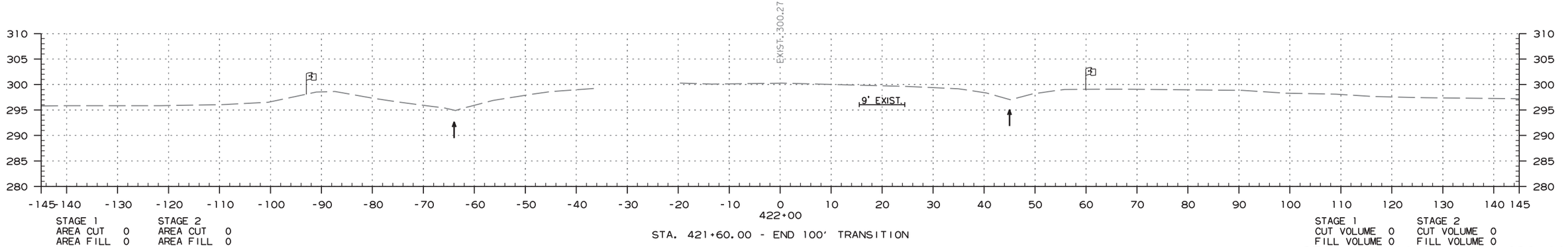
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	329	331

(2) CROSS SECTIONS



STAGE 1 AREA CUT 0 AREA FILL 0
STAGE 2 AREA CUT 0 AREA FILL 0

STAGE 1 CUT VOLUME 0 FILL VOLUME 0
STAGE 2 CUT VOLUME 0 FILL VOLUME 0



STAGE 1 AREA CUT 0 AREA FILL 0
STAGE 2 AREA CUT 0 AREA FILL 0

STA. 421+60.00 - END 100' TRANSITION

STAGE 1 CUT VOLUME 0 FILL VOLUME 0
STAGE 2 CUT VOLUME 0 FILL VOLUME 0

STA. 422+00 TO STA. 423+00

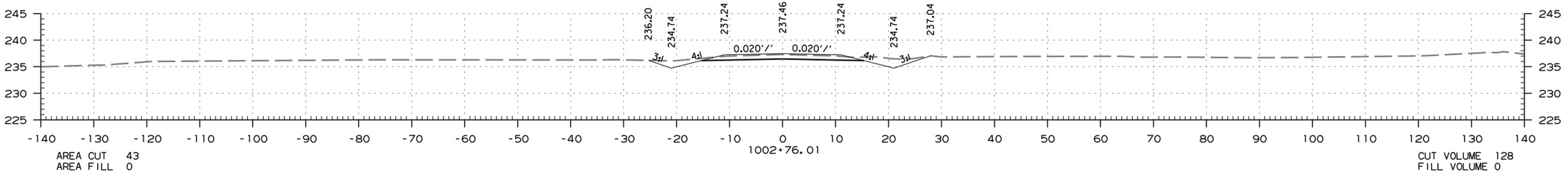
7/30/2020

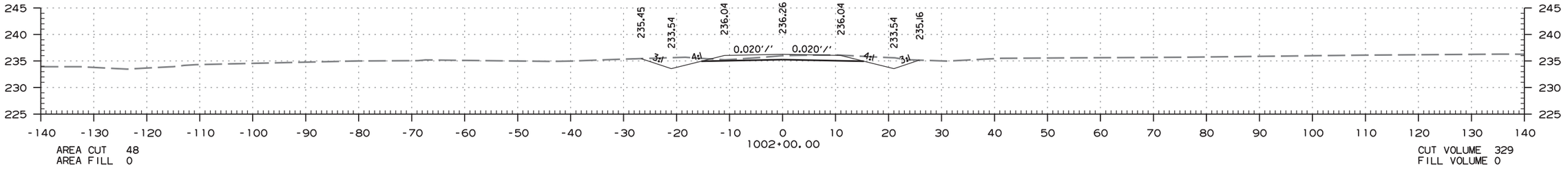
RCA0706.DGN

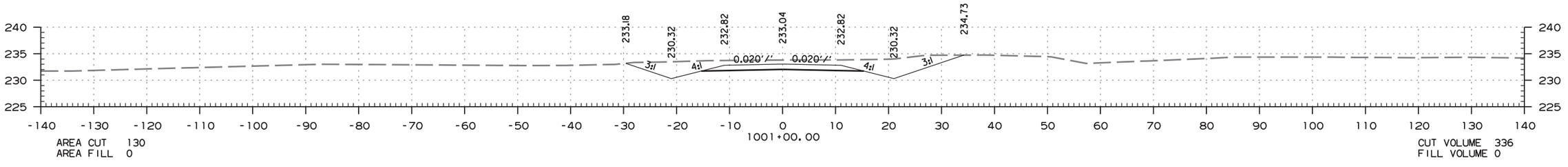
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

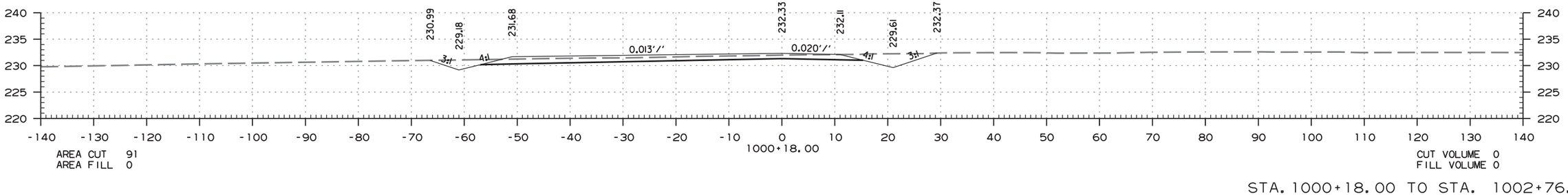
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0706	330	331

(2) AIRPORT DR.







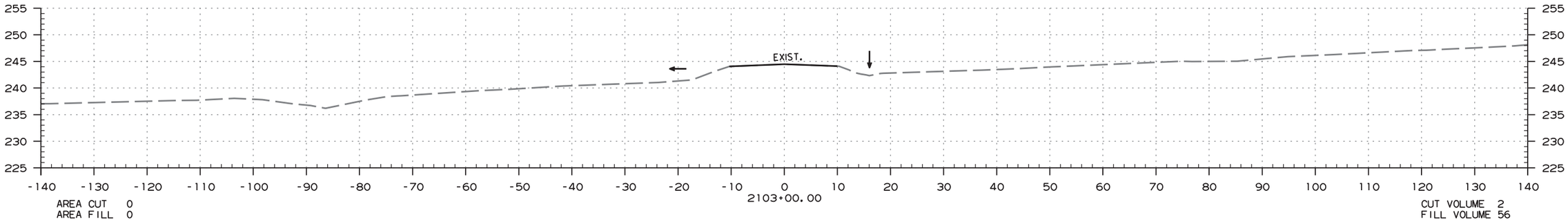


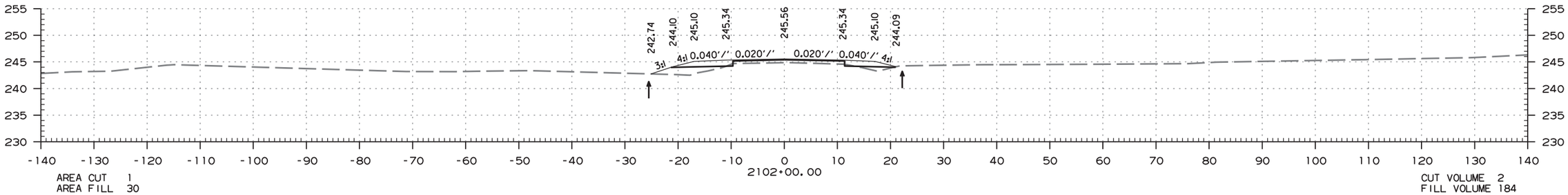
STA. 1000+18.00 TO STA. 1002+76.01

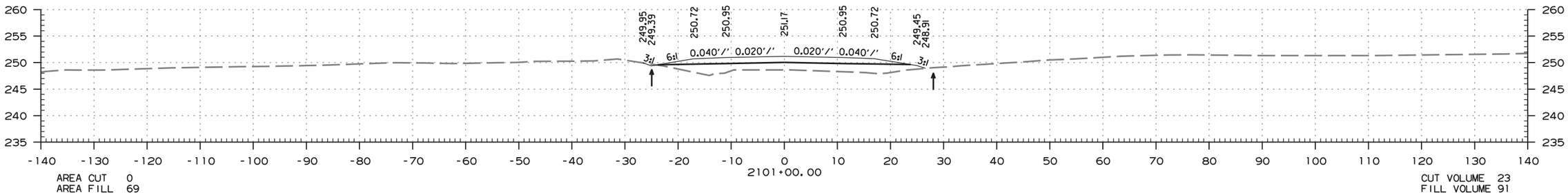
MM41715 7/30/2020
RCA0706.DGN

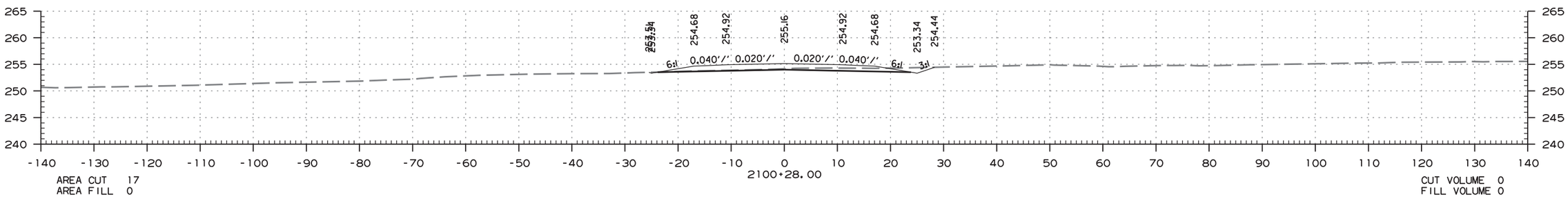
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0706	331	331

(2) HWY. 335 NORTH







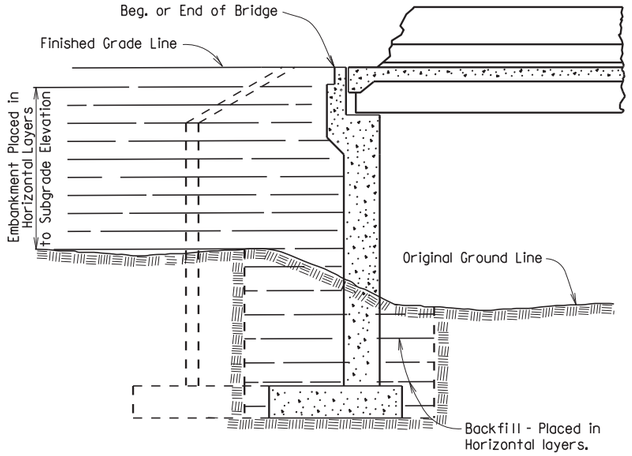


STA. 2100+28.00 TO STA. 2103+00.00

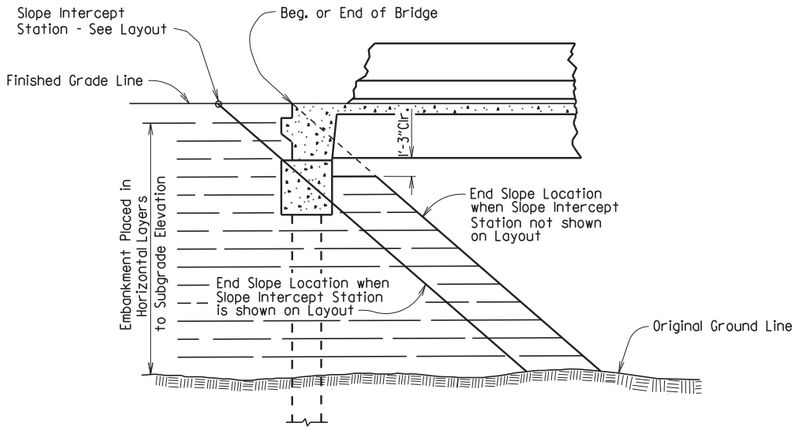
MM41715 7/30/2020
RCA0706.DGN

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

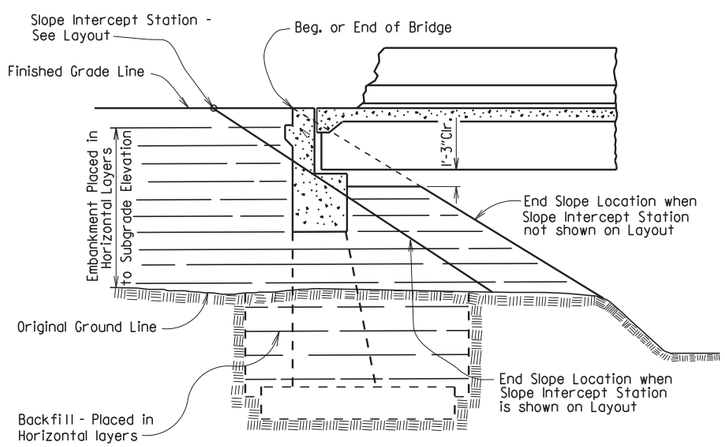
1 EMBANKMENT & BACKFILL 55000



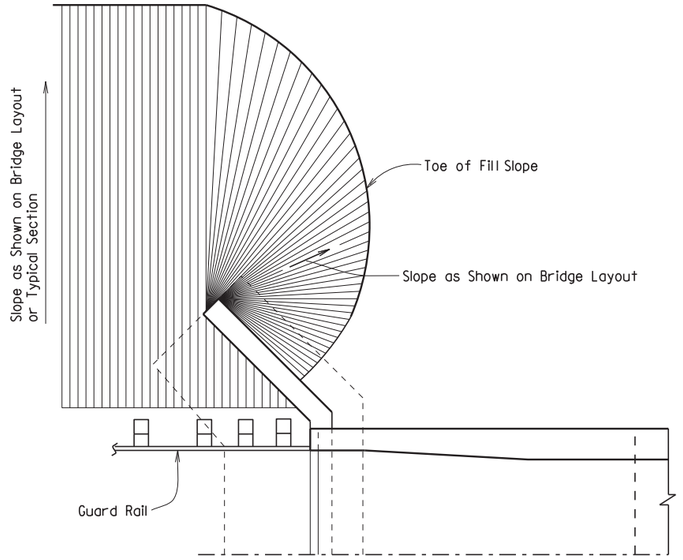
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



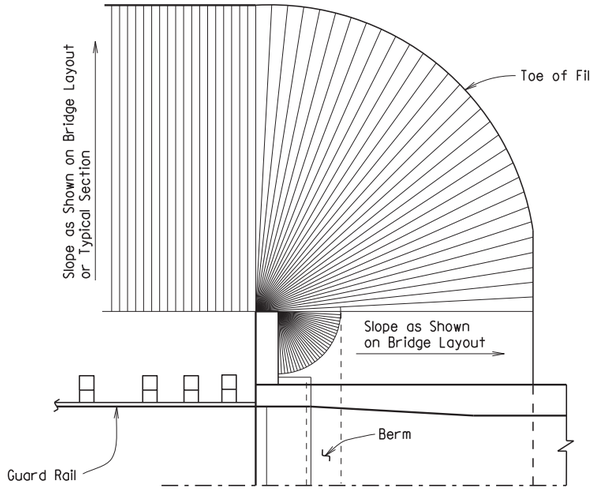
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



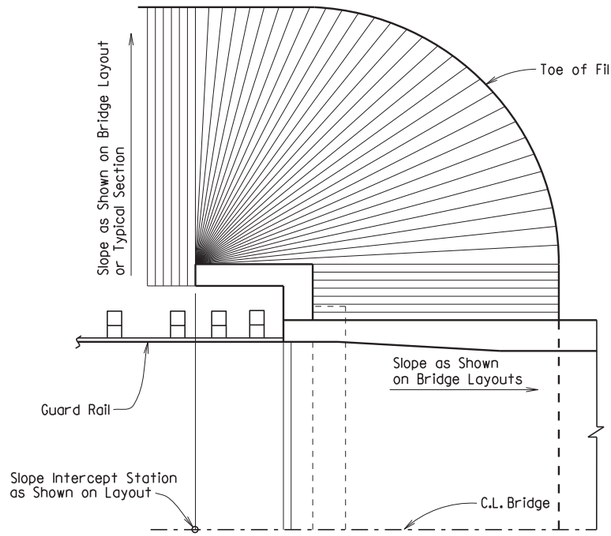
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



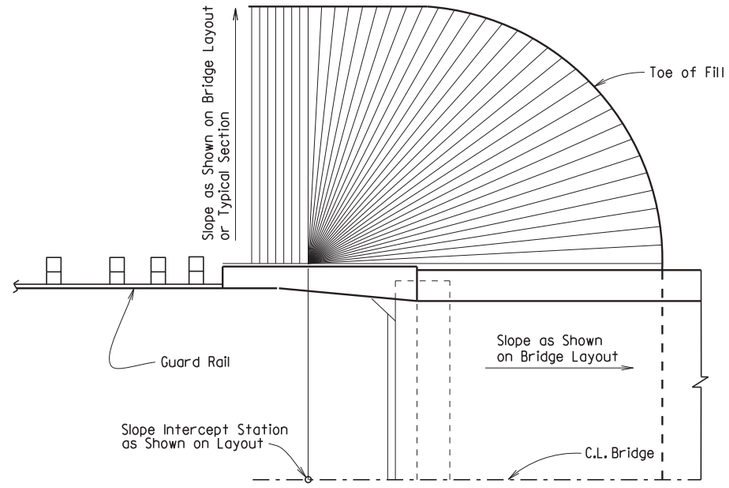
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

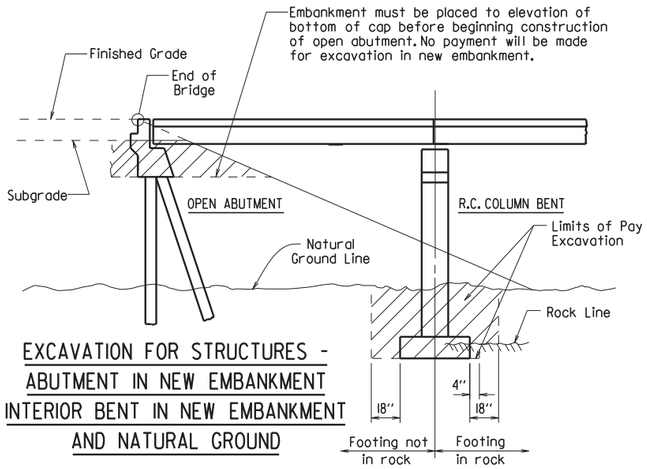
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

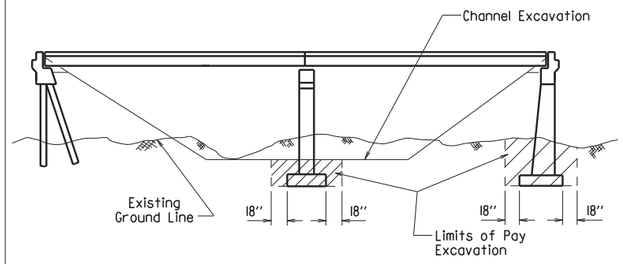
DRAWING NO. 55000

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

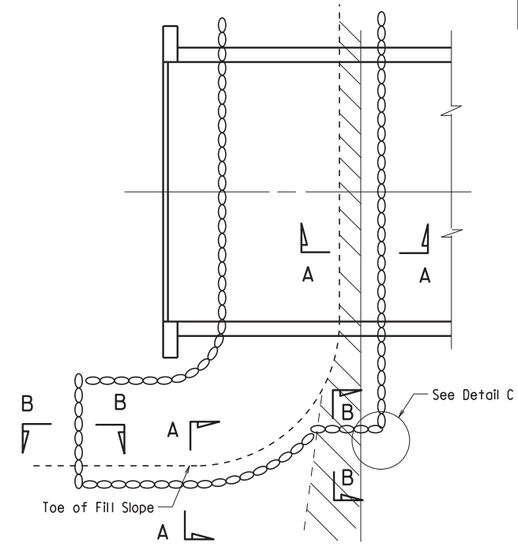
1 RIPRAP & EXCAV. 55001



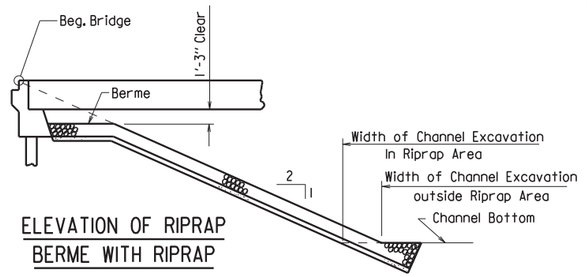
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



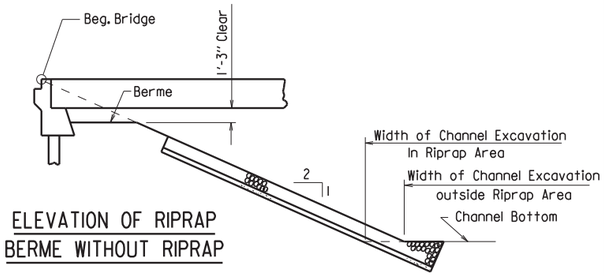
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



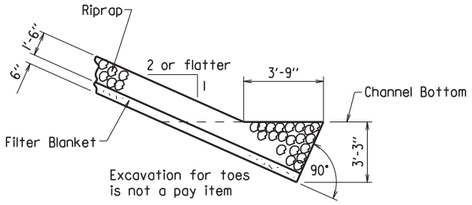
PLAN OF DUMPED RIPRAP



ELEVATION OF RIPRAP BERME WITH RIPRAP

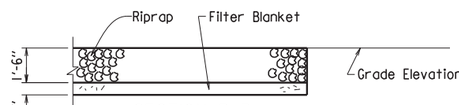


ELEVATION OF RIPRAP BERME WITHOUT RIPRAP

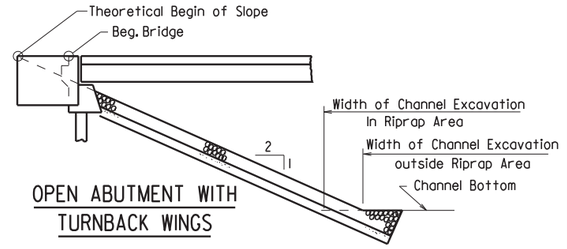


SECTION A-A

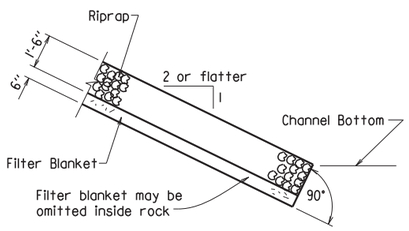
(Toe Excavation in Soil)



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



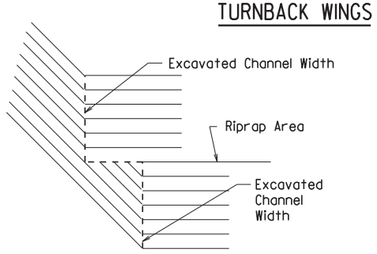
SECTION A-A

(Toe Excavation in Rock)

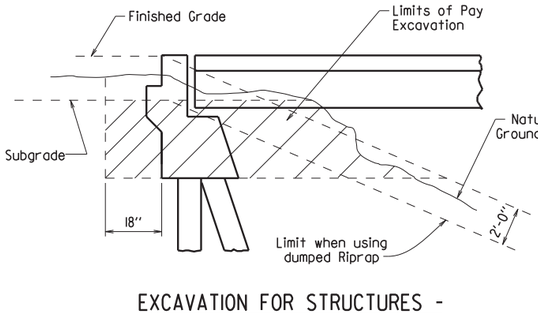
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

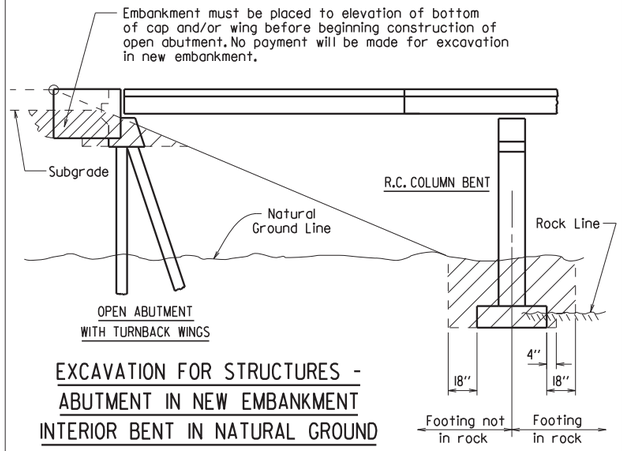
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



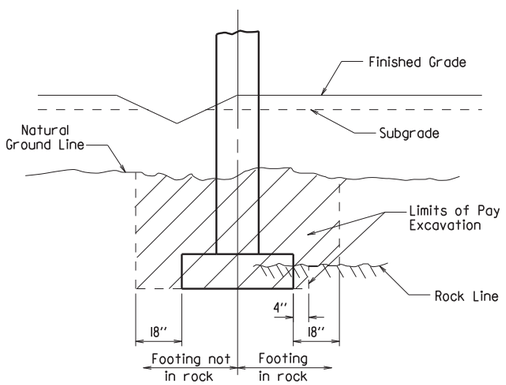
DETAIL C



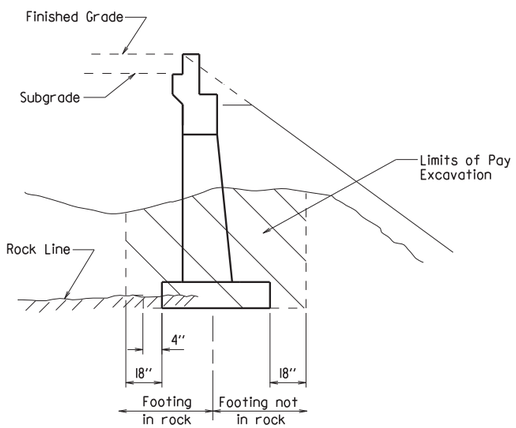
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

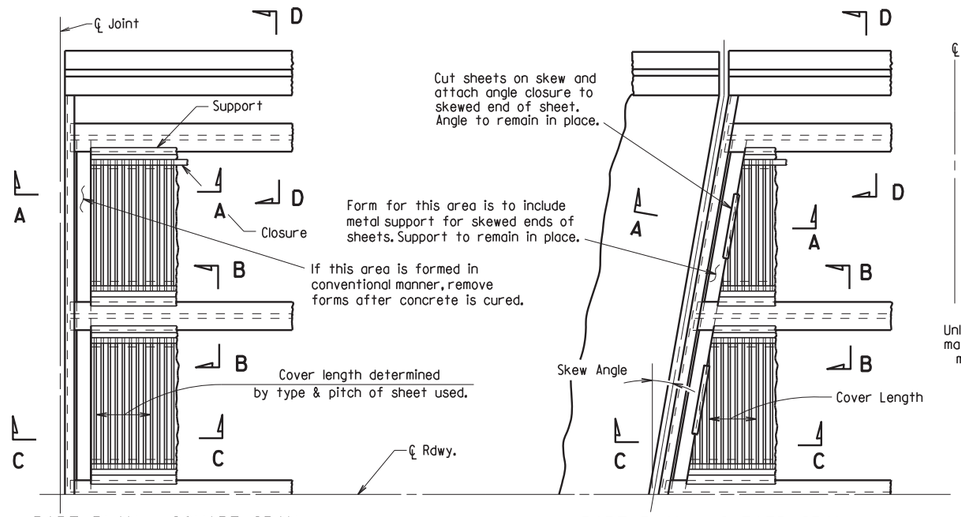
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55001.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE:

DRAWING NO. 55001

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				
				①	BRIDGE DECK FORMS		55005	

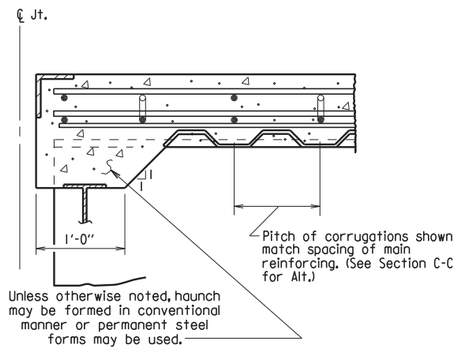


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

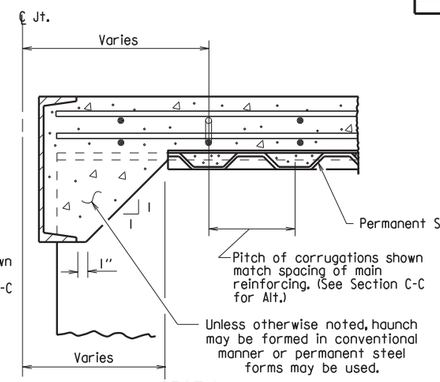
PART PLAN - SKEWED SPAN

3/8" = 1'-0"



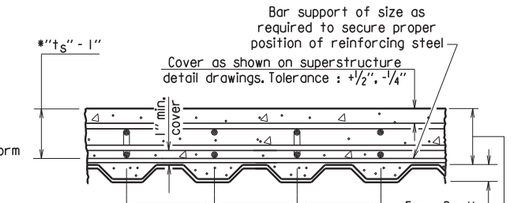
SECTION A-A

N.T.S.
(Angle at end of span)



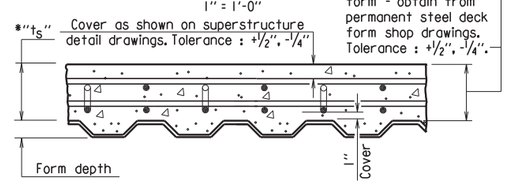
SECTION A-A

N.T.S.
(Channel at end of span)



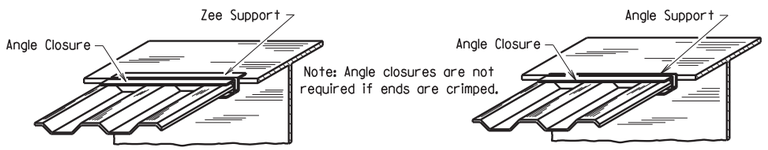
SECTION C-C

1" = 1'-0"



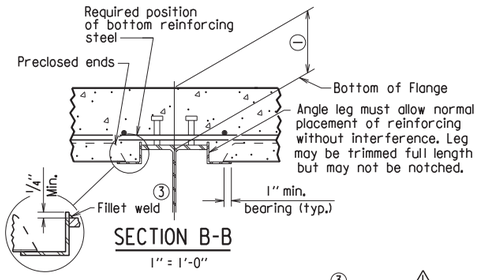
SECTION C-C - ALTERNATE

1" = 1'-0"
(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

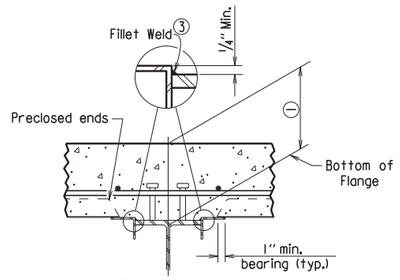
N.T.S.



SECTION B-B

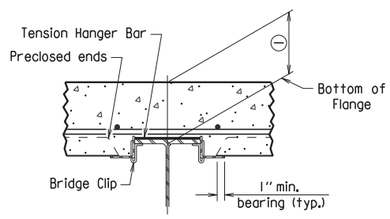
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

③ ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



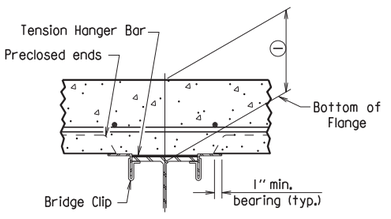
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



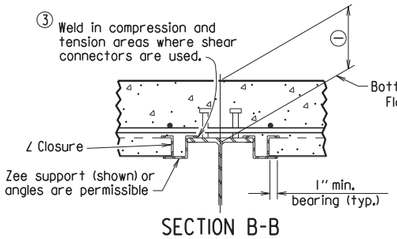
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



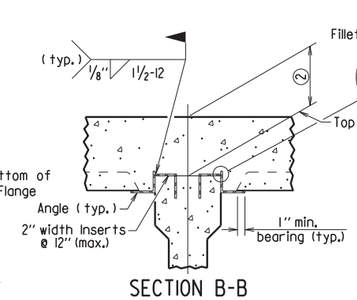
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



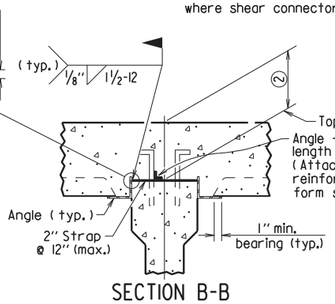
SECTION B-B

1" = 1'-0"
(Showing ∠ Closure)



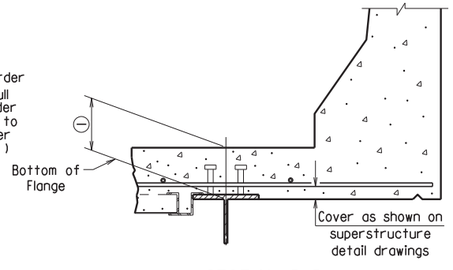
SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Insert cast in girder)



SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Strap)



SECTION D-D

1" = 1'-0"
Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①		GENERAL NOTES		55006

GENERAL NOTES

These GENERAL NOTES are applicable unless otherwise shown in the Plan Details, Special Provisions, or Supplemental Specifications.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Specifications.

DESIGN SPECIFICATIONS: See Bridge Layout(s).

SUPERSTRUCTURE NOTES:

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy =	60,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy =	36,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. HPS70W)	Fy =	70,000 psi

See Plan Details for Grade(s) of Structural Steel required.

CONCRETE:

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Use of a longitudinal screed is not permitted on any span of a bridge deck with horizontal curvature.

The concrete deck (roadway surface) shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall receive a broomed finish as specified for final finishing in Subsection 802.19 for Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam or girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment be made in the strike-off to account for the future dead load deflection due to any railings, median barrier, and sidewalks.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports and shall be epoxy coated. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL (COMMON TO W-BEAMS AND PLATE GIRDERS):

Structural steel shall be AASHTO M 270 with grade and payment as specified in the plans. Grade 50W steel shall not be painted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). Grade 36 and Grade 50 steel shall be painted unless otherwise noted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84. Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Unless otherwise noted, field connections shall be bolted with ¾" ø high-strength bolts using 13/16 " ø open holes. Holes for ¾" ø high-strength bolts may be 15/16 " ø if a washer is supplied for use under both the nut and head of the bolt. The use of oversized holes will not be allowed on main members unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam or girder webs and on the bottom of the beam or girder flanges.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the Manufacturer.

When painting is required, all structural steel except galvanized steel and steel completely encased in concrete shall be painted in accordance with Subsection 807.75. The color of paint shall be as specified in the plans.

STRUCTURAL STEEL (W-BEAMS):

All beams and field splice plates, and all diaphragms and connection plates attached to horizontally curved beams are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. ___)".

All beams in continuous units and simple spans with field splices shall be blocked in their true position in the shop in groups as specified in Subsection 807.54(b)(2) with the webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All beams in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Bent plate diaphragms for horizontally curved beams shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight beams may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved beams.

Unless otherwise noted, diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

STRUCTURAL STEEL (PLATE GIRDERS):

All references to cross-frames shall include "X" or "K" types.

All girder web and flange plates, all field splice plates, and all diaphragms, cross-frames and connection plates attached to horizontally curved girders are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

All girders in continuous units and simple spans with field splices shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All girders in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Web and flange plates for main members and flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with minimum lengths of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with minimum lengths of 25 feet for sections. No additional payment will be made for shop welded splices.

All girder dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Groove welds in web and flange plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Q.C. testing shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

Bent plate diaphragms for horizontally curved girders shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight girders may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved girders.

Unless otherwise noted, cross-frames and diaphragms shall be installed as girders are erected. All bolts in cross-frames, diaphragms, and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

SUBSTRUCTURE NOTES:

CONCRETE:

Unless otherwise noted, concrete in caps, columns and footings (except seal footings) shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. Seal Concrete for footings shall have a minimum 28 day compressive strength f'c = 2,100 psi.

Concrete in drilled shafts shall be Class "S" as modified by Job SP "Drilled Shaft Foundations".

All exposed corners shall be chamfered ¾" unless otherwise noted.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

STRUCTURAL STEEL:

Structural steel in end bents shall be AASHTO M 270 with grade and payment as specified in the plans.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

STANDARD GENERAL NOTES
FOR STEEL BRIDGE STRUCTURES

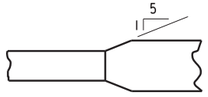
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 9-2-2015 FILENAME: b55006.dgn
CHECKED BY: B.E.F. DATE: 9-2-2015 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55006

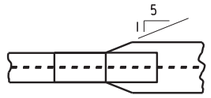
PRINT DATE: 11/7/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	STEEL BRIDGE STRUCTURES 55007			

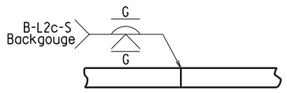


Plan-Unequal Width (Flg.)

FLANGE SPLICE

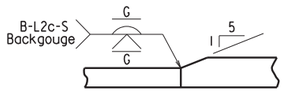


FLANGE SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS



Equal Thickness

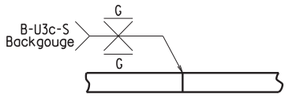
WEB & FLANGE SPLICE



Unequal Thickness

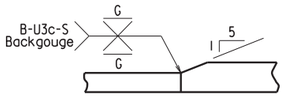
FLANGE SPLICE

(Use when Base Metal Thickness is Equal to or Less than 2")



Equal Thickness

WEB & FLANGE SPLICE

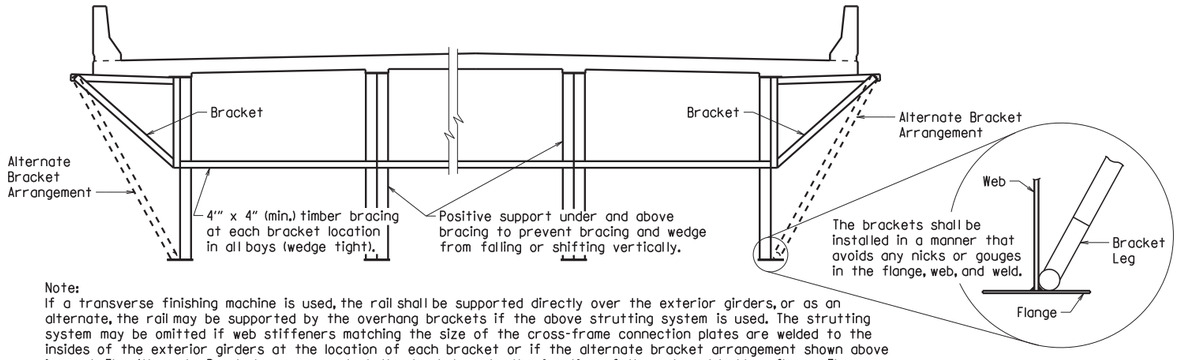


Unequal Thickness

FLANGE SPLICE

(Use when Base Metal Thickness is Greater than 2")

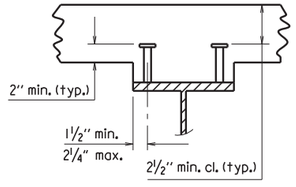
DETAILS OF WELDED SPLICES FOR PLATE GIRDERS



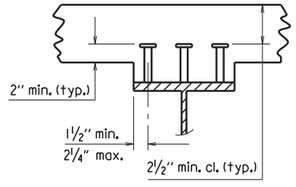
Note:
If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if web stiffeners matching the size of the cross-frame connection plates are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for cross frame connection plates shown on the plans. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (___)".

SCREED RAIL SUPPORT FOR PLATE GIRDERS

(USE WHEN WEB DEPTHS ARE 48" OR GREATER)



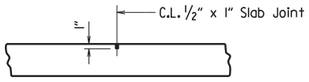
2 STUDS PER ROW



3 STUDS PER ROW

Stud Shear Connectors shall be automatically end welded to the beam or girder flange in accordance with the recommendations of the Manufacturer. See plan details for number and size.

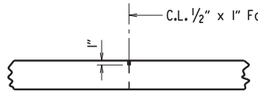
SHEAR CONNECTOR DETAIL



Use Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab Joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.

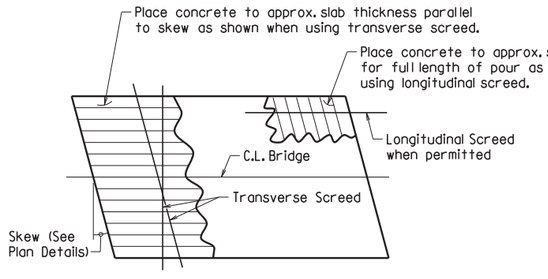
ADDITIONAL NOTES IF SIDEWALKS OR RAISED MEDIANS ARE REQUIRED:
Slab Joints shall be installed before the sidewalk or raised median is poured. After installation of the joint in the sidewalk or raised median and prior to pouring the parapet rail, the joint sealer shall be placed extending across the deck slab from gutterline to gutterline and acrosss the top of the sidwalk or raised median to the edge of the slab. No joint sealer shall be placed on the deck slab under the sidewalk or raised median.

TRANSVERSE SLAB JOINT DETAIL



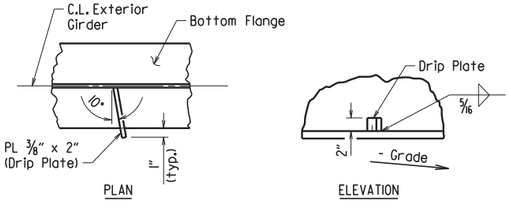
Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal color shall be gray or other color similar to concrete.

LONGITUDINAL CONSTRUCTION JOINT



Note: At the Contractor's option, the transverse screed may be placed parallel to the skew or perpendicular to C. L. Bridge.

CONCRETE PLACEMENT PROCEDURE FOR BRIDGES WITH SKEW



PLAN ELEVATION

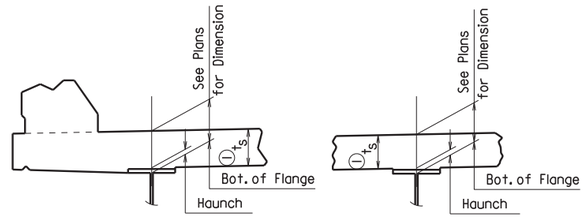
Drip Plate to be welded to the outer side of the bottom flange of the exterior girders.

Locate drip plate 5'-0" from C.L. Bearing on high side of each Bent, unless otherwise noted in the plans.

BOTTOM FLANGE DRIP PLATE

(USE WHEN WEB DEPTHS ARE 54" OR GREATER AND UNIT OR SPAN IS NOT IN LEVEL GRADE)

t_s = slab thickness. See "Typical Roadway Section" in the plans.



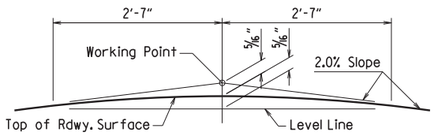
EXTERIOR BEAM OR GIRDER INTERIOR BEAM OR GIRDER

Ⓘ Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

NOTES:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾" unless otherwise noted in the plans. No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

BRIDGES IN NORMAL CROWN

WELD TABLE

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2/11/2016 FILENAME: b55007.dgn
CHECKED BY: AMS DATE: 2/11/2016 SCALE: No Scale
DESIGNED BY: STD. DATE: —

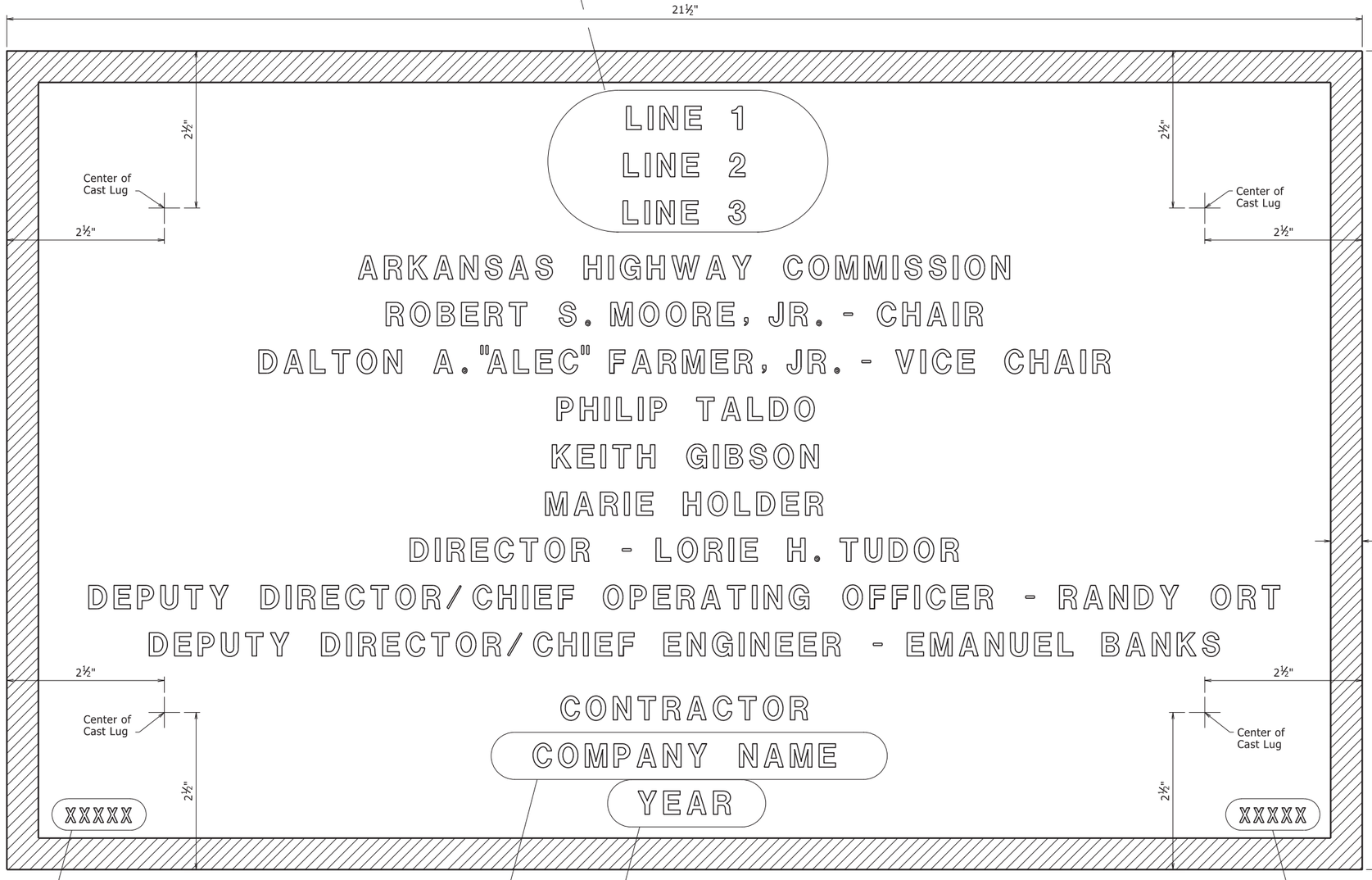
DRAWING NO. 55007

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-1-14		1-15-19		6	ARK.			
1-14-15		3-24-2020		JOB NO.				
1-17-17								

(1) TYPE D NAME PLATE - 55010

The name of the bridge as shown on the plans shall be placed on Lines 1-3 using ⅛" raised letters and numerals ⅜" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



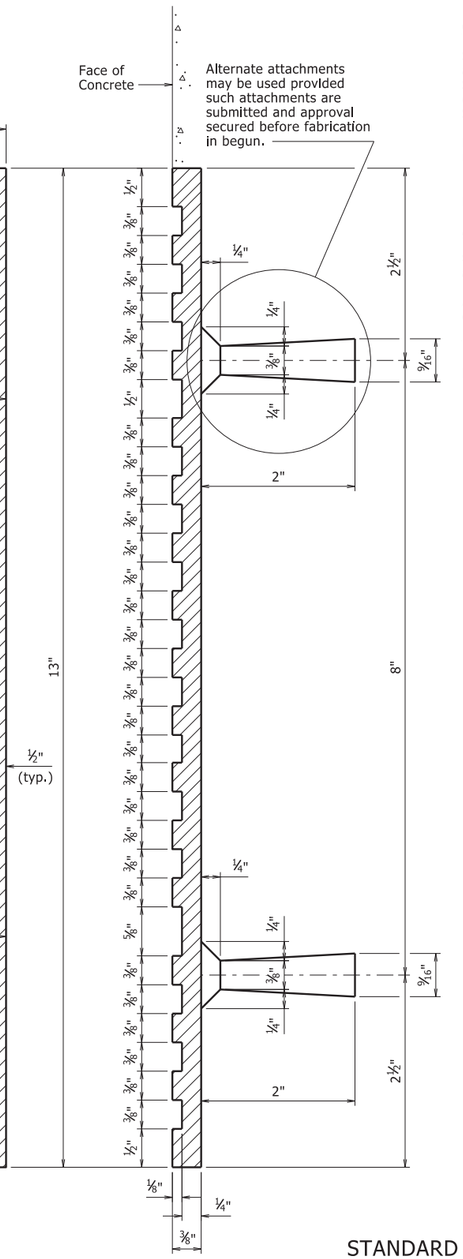
Place the design live loading here using ⅛" raised letters and numerals ¼" high. Examples: HS20, HL-93

Place the name of the company awarded the construction contract here using ⅛" raised letters and numerals ⅜" high. Example: ABCD CONSTRUCTION, INC.

Place the Year in which Contract was awarded here using ⅛" raised numerals ⅜" high. Example: 2001

Place the Bridge number here using ⅛" raised letters and numerals ¼" high. Examples: A1234, 05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be ¼" thick and shall include four tapering cone lugs ⅜" to 9/16" x 2" long. The border and all lettering shall be raised ⅛" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

(5) Revised Director, Deputy Director/Chief Operating Officer, Chair, Vice Chair and added New Commissioner
3-24-2020 CGP Checked By: CRE

(4) Revised Chair and Vice Chair Added New Commissioner
1-15-19 CGP Checked By: CRE

(3) Added New Commissioner
1-17-17 KDH Checked By: CRE

(2) Revised Chair and Vice Chair Added New Commissioner
1-14-15 KDH Checked By: CRE

(1) Revised Deputy Director/ Chief Engineer Added Deputy Director/ Chief Operating Officer
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

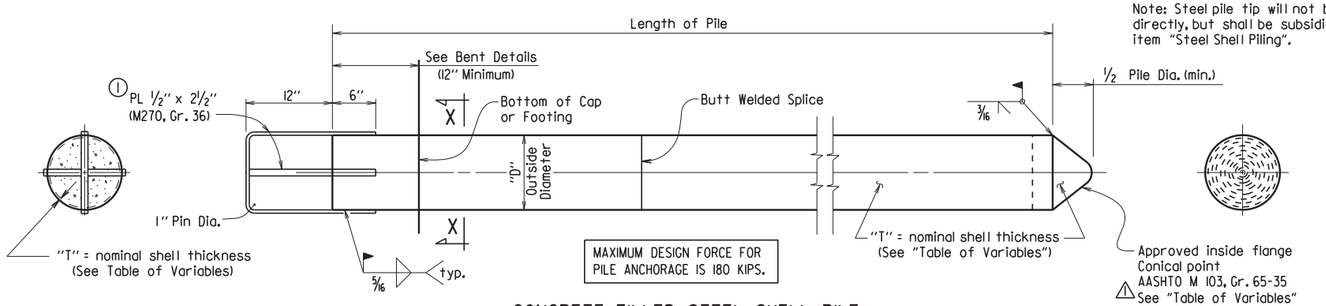
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55010

PRINT DATE: 4/6/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				
						STEEL SHELL PILES		55021

(1)

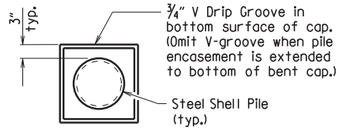


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

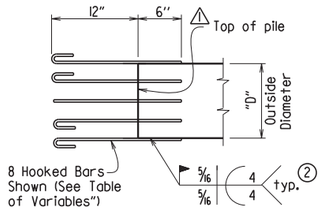
CONCRETE FILLED STEEL SHELL PILE

(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

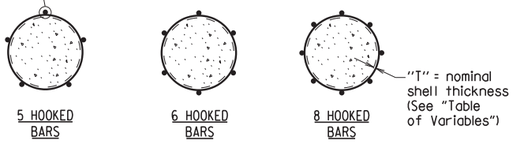
(2) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.



VIEW X-X

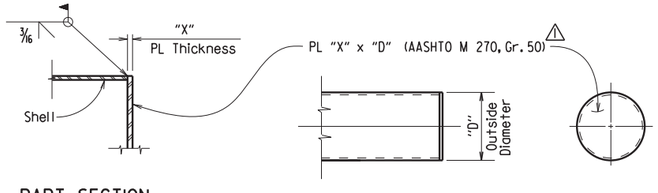


(1) The Contractor may use No. 7 hooked reinforcing bars equally spaced around piles. Reinforcing bars shall be ASTM A706, Grade 60. See "Table of Variables" for number required.



ALTERNATE PILE ANCHORAGE DETAIL

Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.

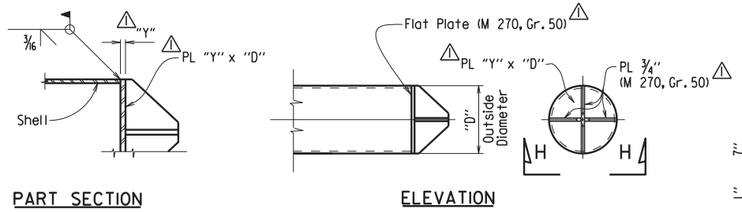


PART SECTION

ELEVATION

ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.

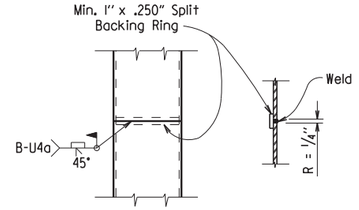


PART SECTION

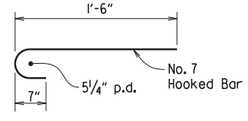
ELEVATION

VIEW H-H

ALTERNATE VANED TIP DETAIL



TYPICAL SPLICE DETAILS



HOOKED BAR DETAIL

TABLE OF VARIABLES

OUTSIDE DIAMETER "D"	NOMINAL SHELL THICKNESS "T"	(1) PLATE THICKNESS "X"	(1) PLATE THICKNESS "Y"	NO. OF HOOKED BARS FOR ALTERNATE PILE ANCHORAGE	(1) MINIMUM CONICAL TIP DESIGN LOAD (KIPS)
14"	0.50"	2 1/4"	1 1/2"	5	859
16"	0.50"	2 1/4"	1 1/2"	5	986
18"	0.50"	2 1/2"	1 1/2"	6	1,114
20"	0.50"	2 1/2"	1 3/4"	6	1,241
24"	0.50"	2 3/4"	1 3/4"	8	1,495

(1) Revised and added various details by KWY, Ck'd. by BEF, 3/24/16.

GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with Subsection 805.02.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".

GENERAL NOTES FOR PILE ENCASEMENTS:

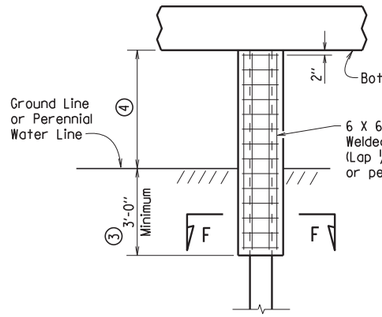
(1) See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

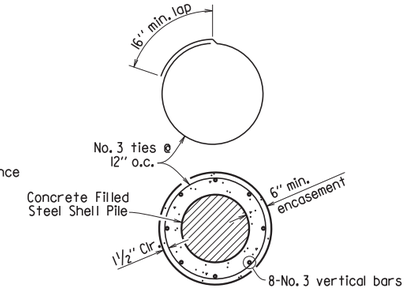
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".





SECTION F-F (REINF. ALTERNATE)

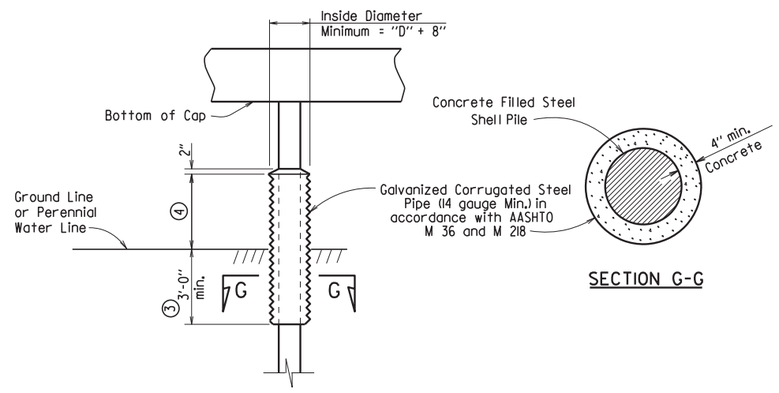
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(5) (Shown with Encasement to Bottom of Cap)

(3) Unless otherwise noted on Bridge Layout.

(4) See Bridge Layout for height of pile encasement (3'-0" Minimum).

(5) Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.



SECTION G-G

ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Partial Height Encasement)

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

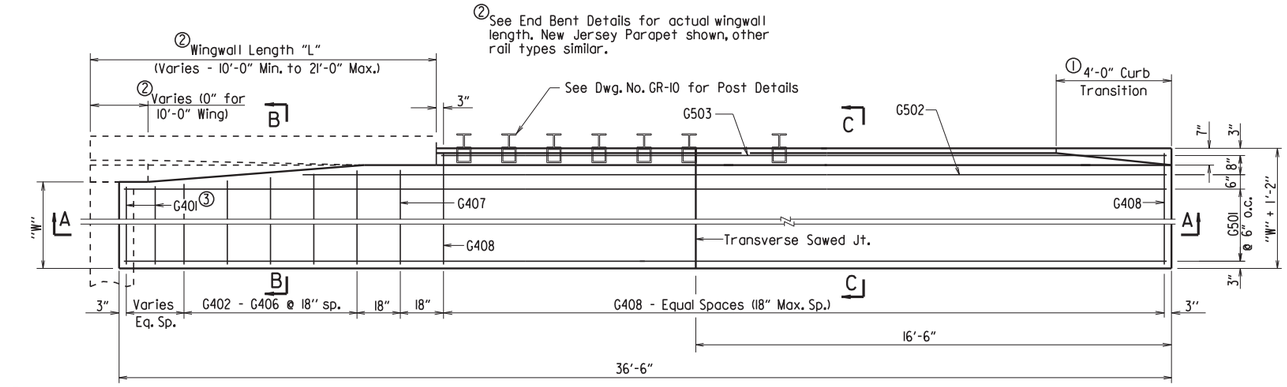
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	A.M.S.	DATE:	2/27/2014	FILENAME:	b55021.dgn
CHECKED BY:	B.E.F.	DATE:	2/27/2014	SCALE:	NO SCALE
DESIGNED BY:	STD.	DATE:	—		

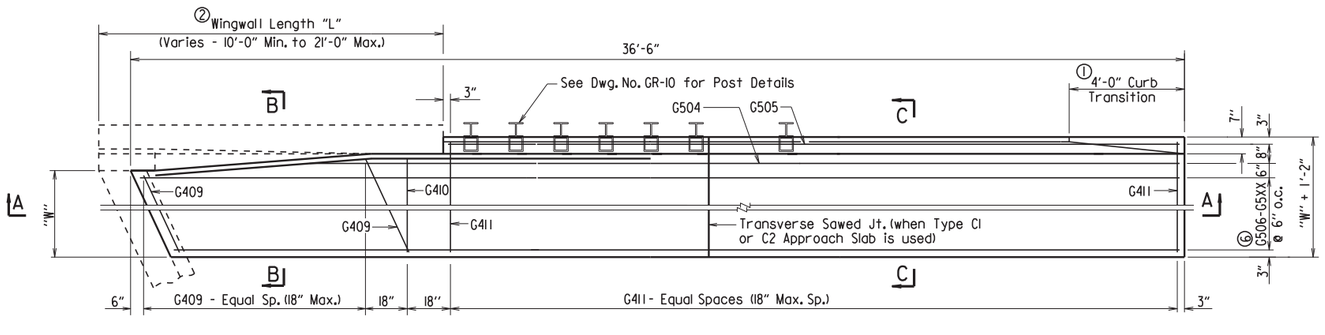
DRAWING NO. 55021

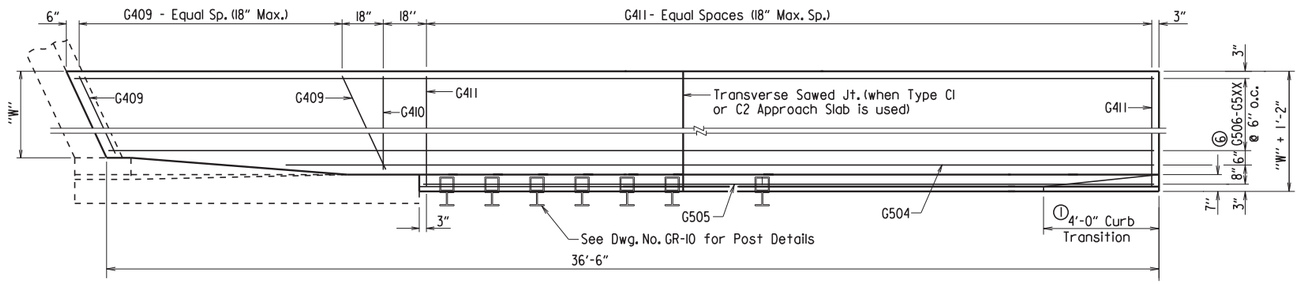
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	TYPE C GUTTERS		55030C	



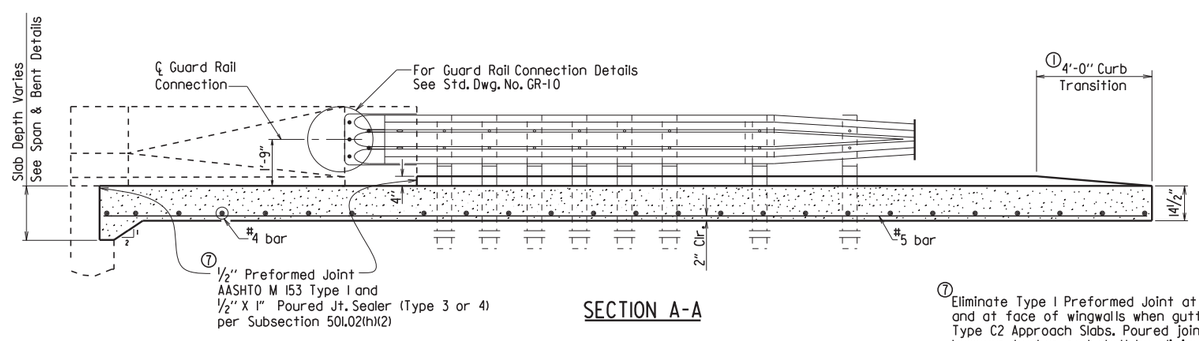
③ Provide G401 bars @ 18" max. spacing. Number of G401 bars vary with wingwall length. No G401 bars required for 10'-0" wingwalls.

HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE





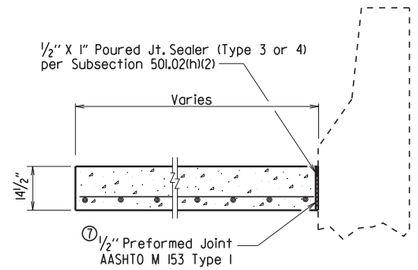
PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE



SECTION A-A

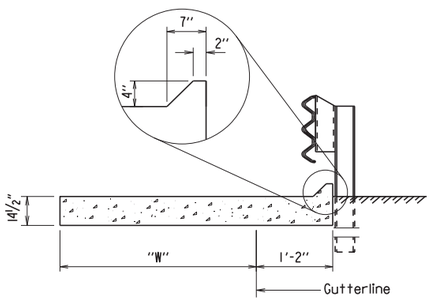
① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



SECTION B-B

N.T.S.



SECTION C-C

N.T.S.

BAR LIST FOR ONE TYPE C GUTTER

	Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length
Square Bridge	G401	④	④	④	④	"W"- 4"
	G402-G406	1 each	1 each	1 each	1 each	"W"-3" to "W"+2"
	G407	1	1	1	1	"W"+3"
	G408	④	④	④	④	"W"+ 10"
	G501	8	12	16	20	36'-2"
	G502	1	1	1	1	(41'-11") - "L"
	G503	1	1	1	1	(37'-2") - "L"
Skewed Bridge	G409	④	④	④	④	⑤
	G410	1	1	1	1	"W"+3"
	G411	④	④	④	④	"W"+ 10"
	G504	1	1	1	1	⑤
	G505	1	1	1	1	⑤
	G506 - G5XX ⑥	1 each	1 each	1 each	1 each	⑤

④ No. Req'd. varies with Skew and Wingwall Length.

⑤ Bar Lengths vary with Skew and Wingwall Length.

⑥ G513 for "W" = 4'
G517 for "W" = 6'
G521 for "W" = 8'
G525 for "W" = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

(FOR INFORMATION ONLY)

"W" Width (ft.)	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
4	445	8.30
6	630	11.55
8	810	14.80
10	995	18.10

Quantities are based on "L" = 10'-0".

Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

⑦ Eliminate Type I Preformed Joint at end bent backwall and at face of wingwalls when gutters used with Type C2 Approach Slabs. Poured joint sealer is required, however backer rod shall be eliminated.

GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504.

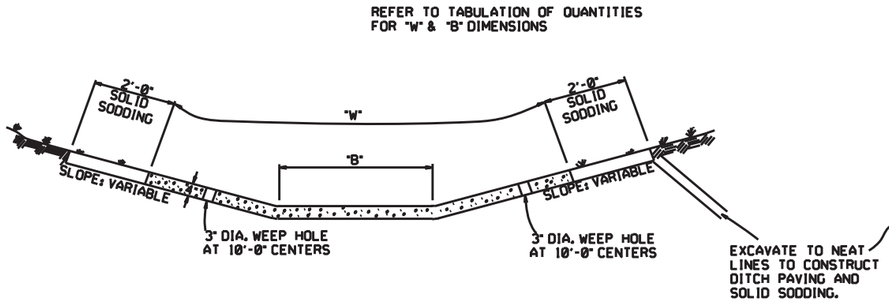
STANDARD DETAILS FOR TYPE C APPROACH GUTTERS

ARKANSAS STATE HIGHWAY COMMISSION

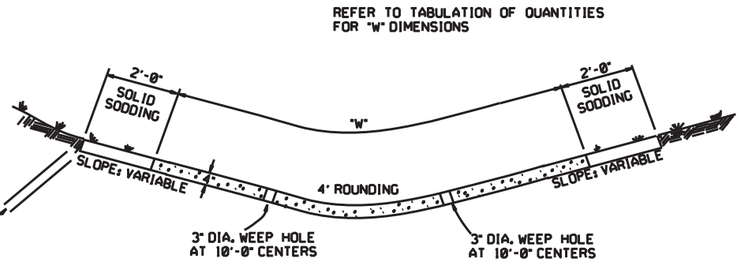
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55030c.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: 3/8" = 1'-0" or As Shown
DESIGNED BY: STD. DATE:

DRAWING NO. 55030C

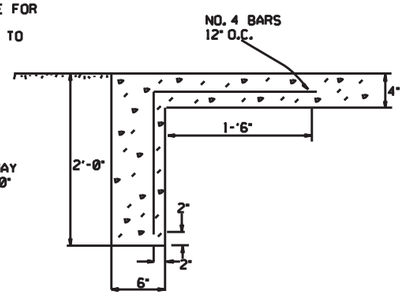


TYPE A



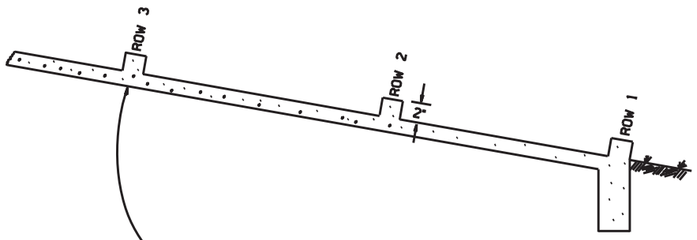
TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



TOE WALL DETAIL FOR CONCRETE DITCH PAVING

TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION



ENERGY DISSIPATORS
(NO SCALE)

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

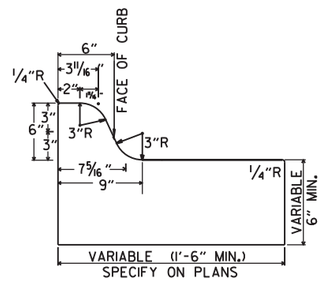
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45° INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

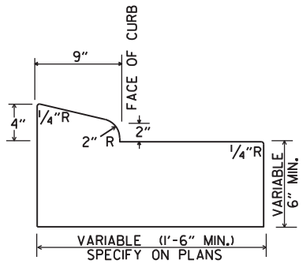
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1



TYPE A



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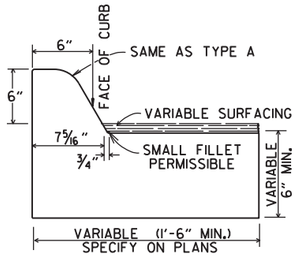
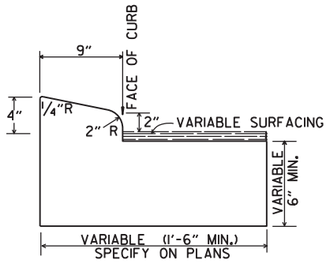


TYPE C



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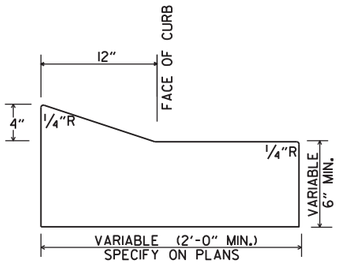
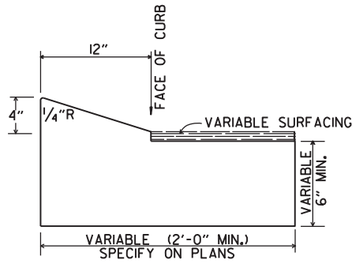
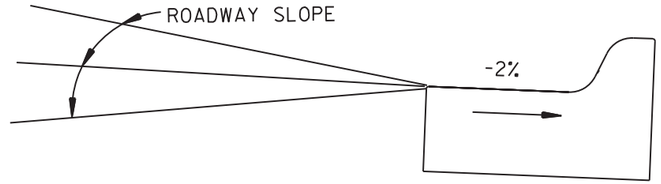


TYPE E-1



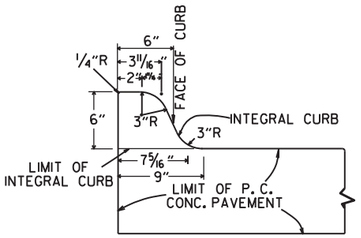
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

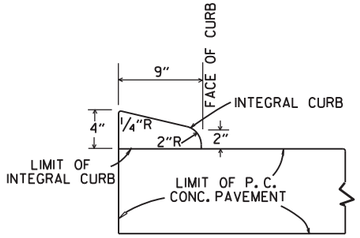


DETAIL OF GUTTER SLOPE

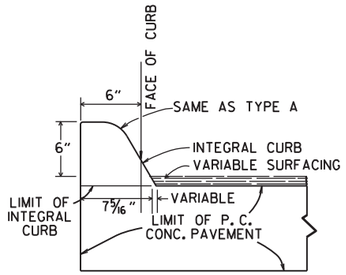
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

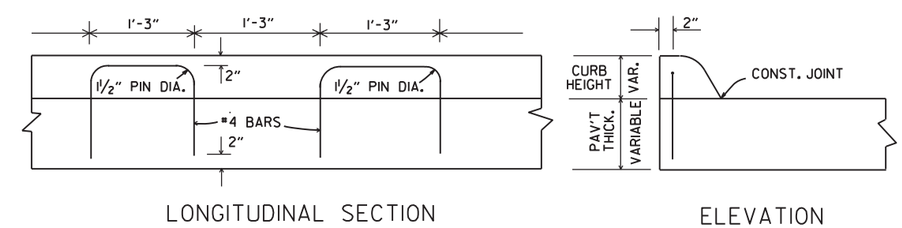


TYPE B



TYPE C

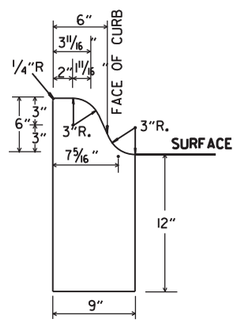
INTEGRAL CURB



LONGITUDINAL SECTION

ELEVATION

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



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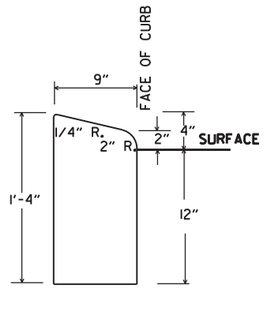
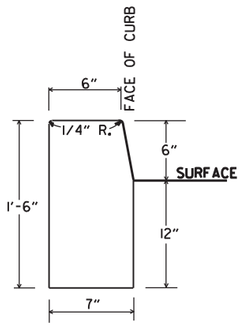
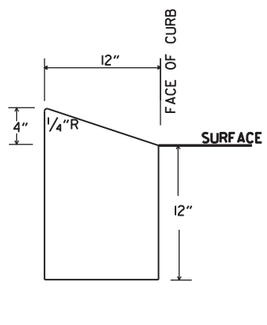


TYPE B

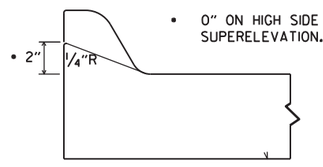


TYPE D



TYPE E

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.

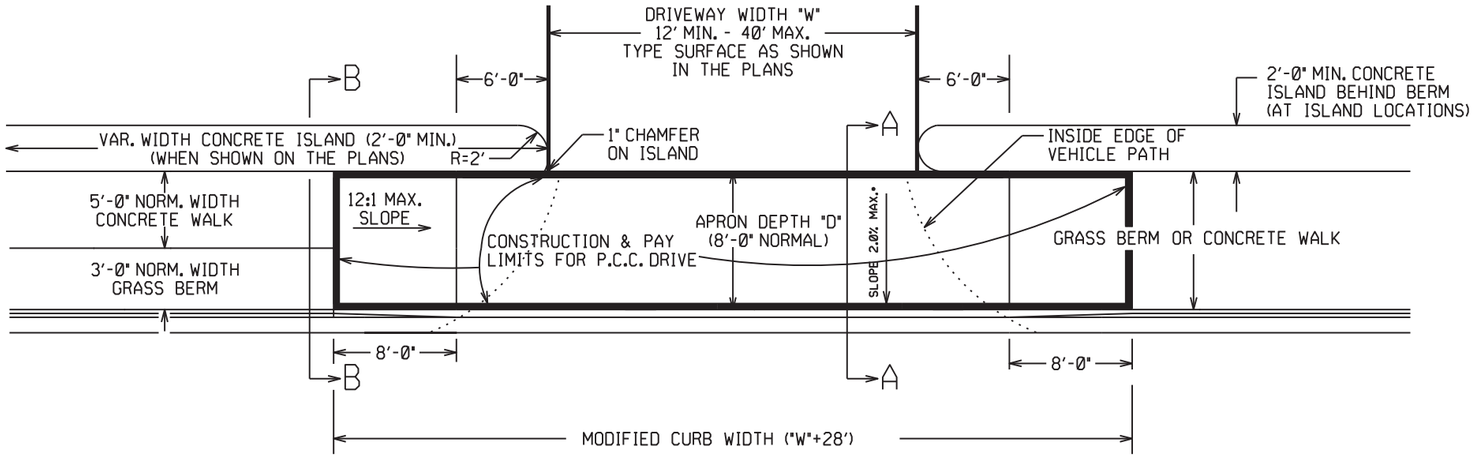
DETAILS OF MODIFIED CURB

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	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

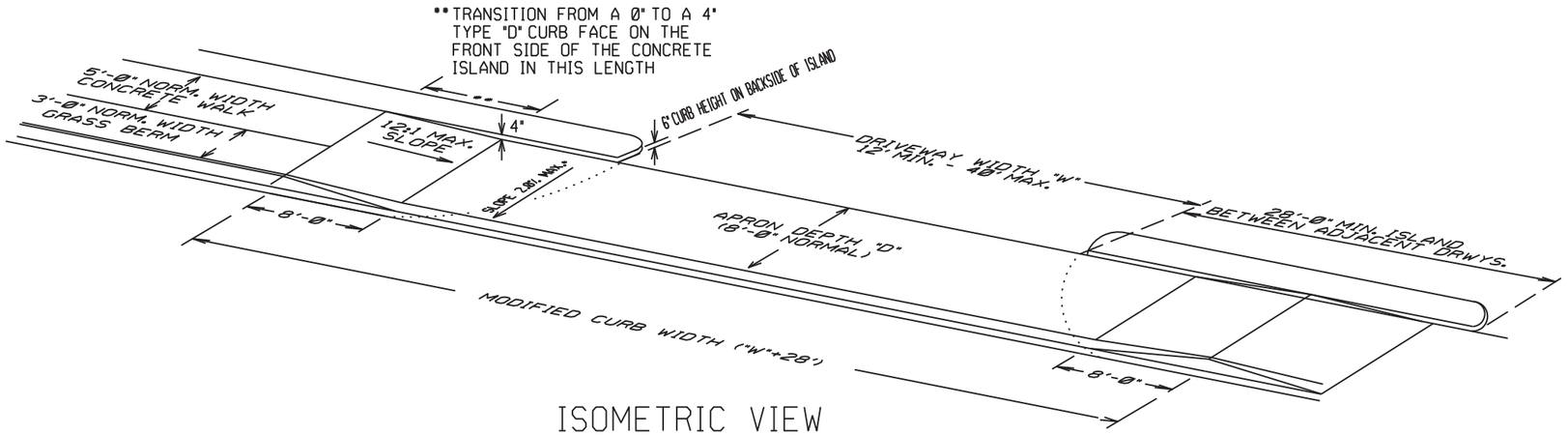
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

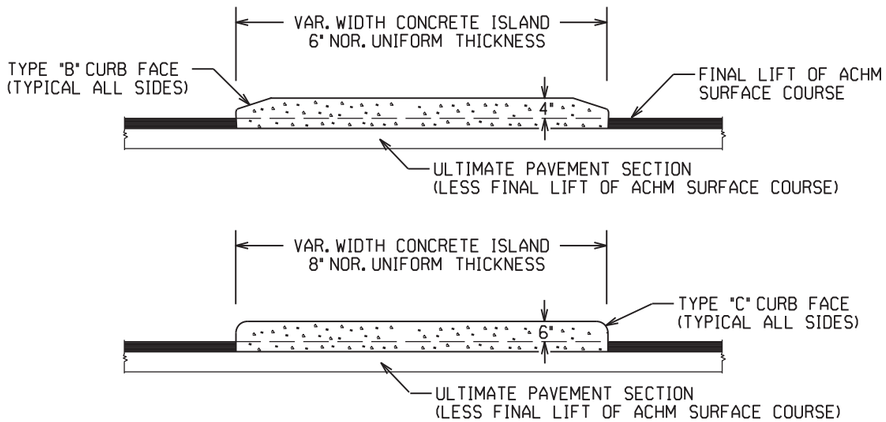
STANDARD DRAWING CG-1



PLAN VIEW

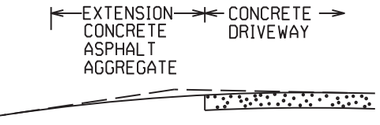


ISOMETRIC VIEW



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

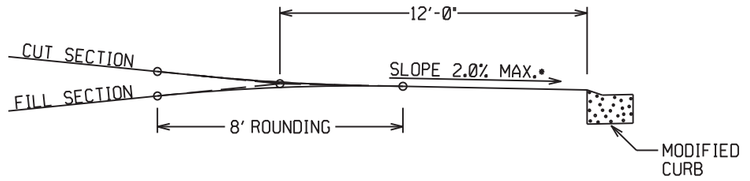
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

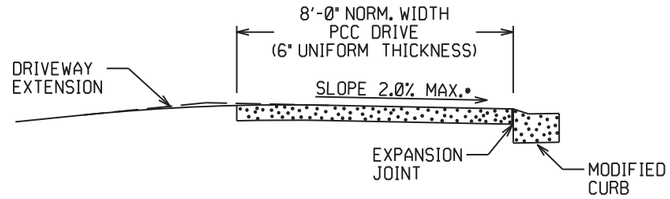
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

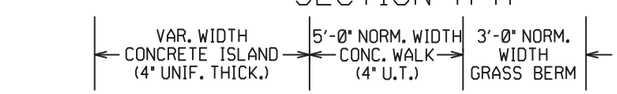


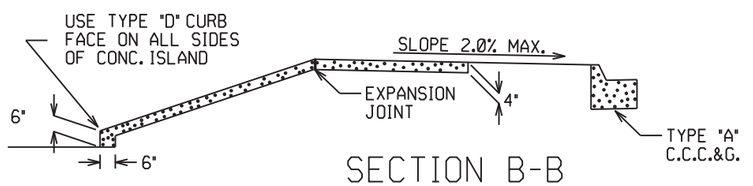
DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



SECTION A-A





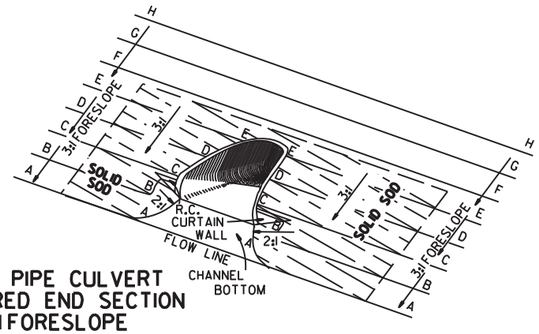
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
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

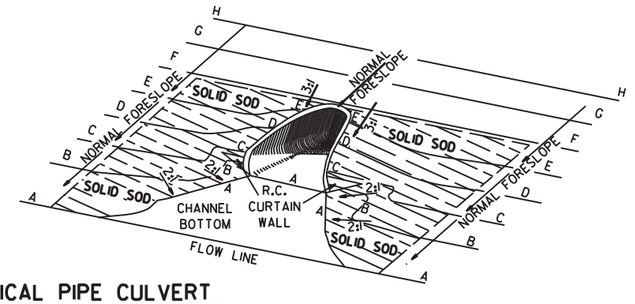
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

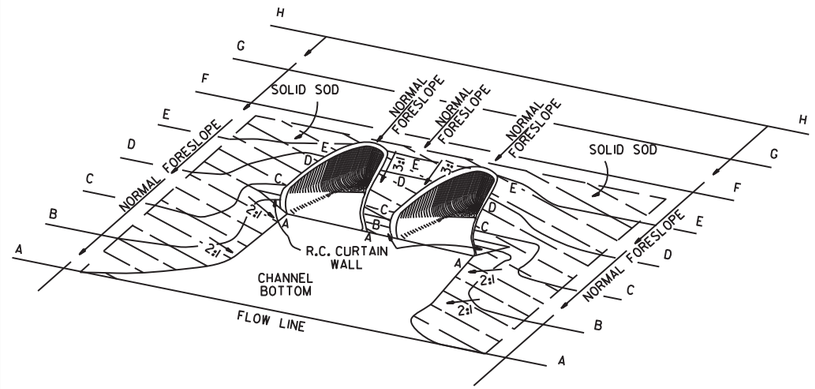
STANDARD DRAWING DR-1



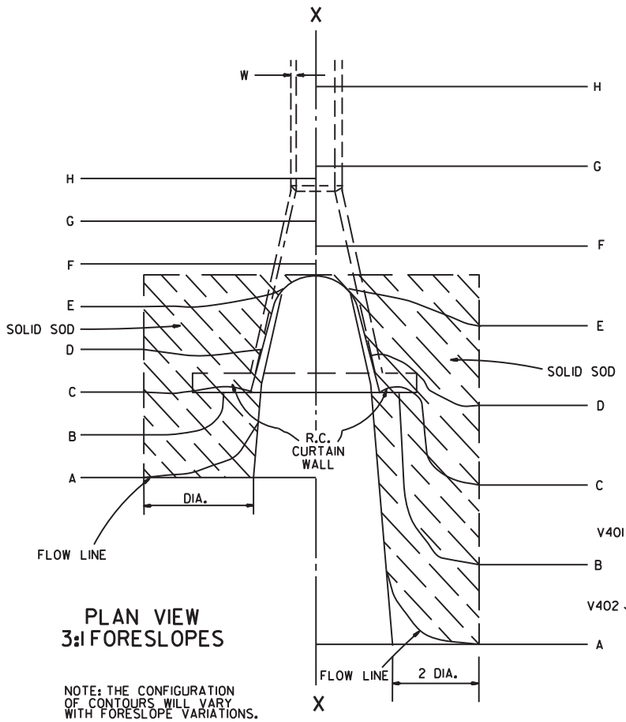
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

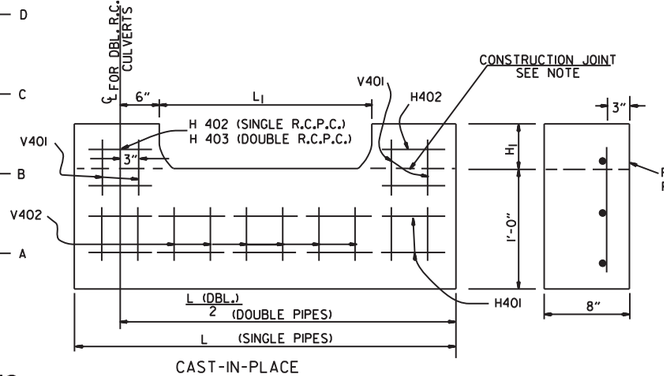
PIPE DIA.	H_1	L_1	L	L (DBL.) / 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	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'-9½"	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.

REINFORCING STEEL SCHEDULE

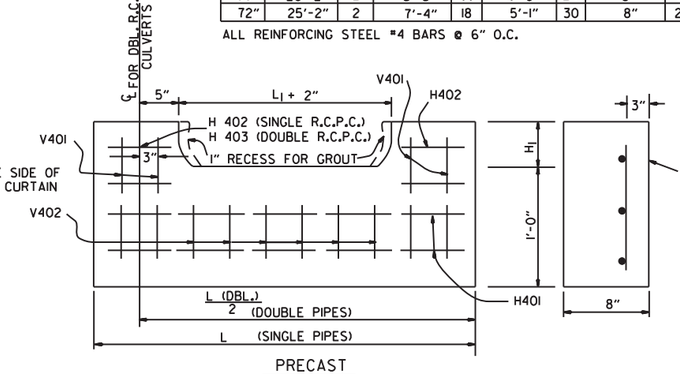
PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT											
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	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'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	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'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	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.



CAST-IN-PLACE

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.



PRECAST

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.

R.C. CURTAIN WALL DETAILS

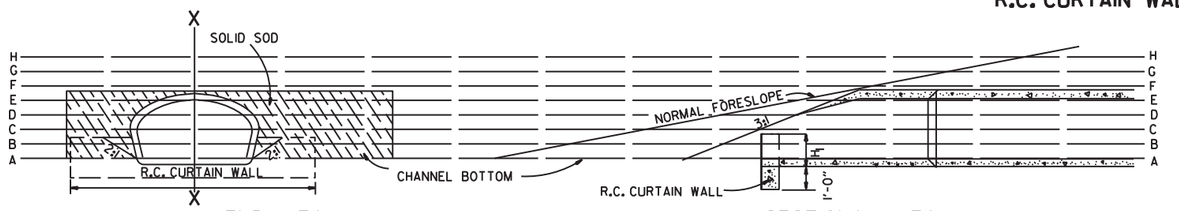
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
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

1. 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.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. 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.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
10-12-95	CORRECTED SPELLING	
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	

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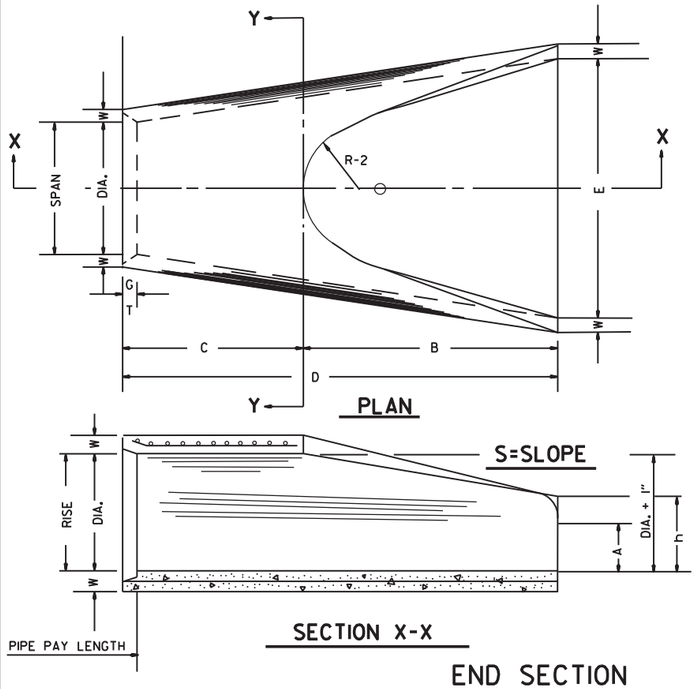
FLARED END SECTION

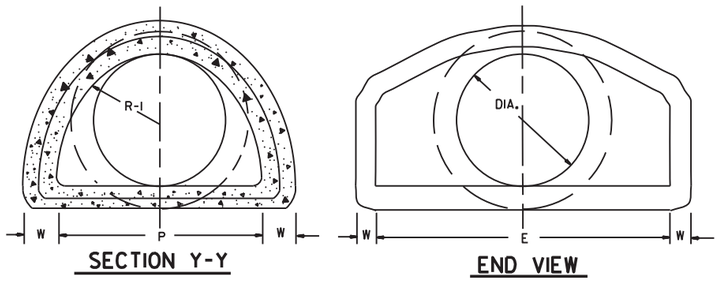
STANDARD DRAWING FES-1



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"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33⅜"	16⅛"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77⅛"	38⅝"	24"	5"	13250	4'-6"

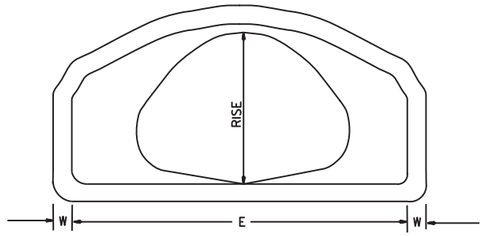


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

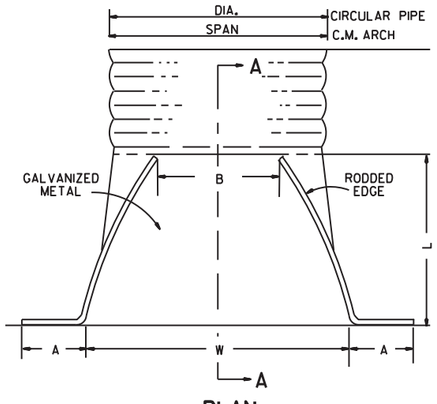
ARCH PIPE

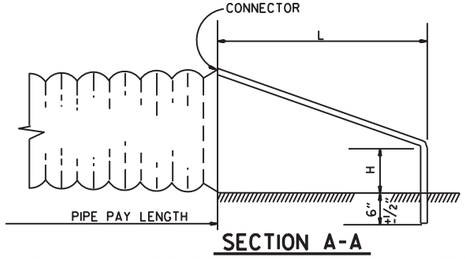
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅛"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅛"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅜"	22"	3½"	2½:1
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅛"	24"	5"	2¼:1

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

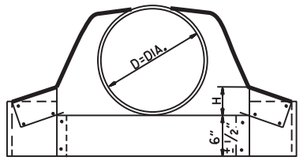


END VIEW
CONCRETE ARCH PIPE

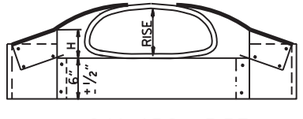




NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.



CIRCULAR PIPE



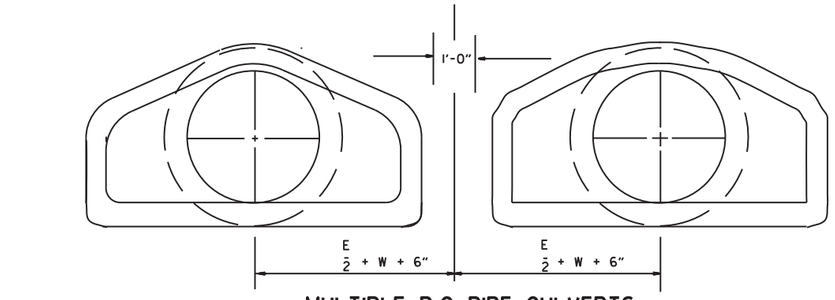
C.M. ARCH PIPE

CIRCULAR PIPE

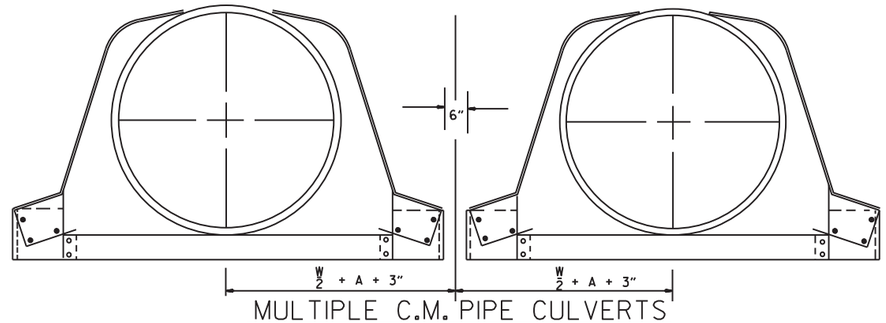
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
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 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

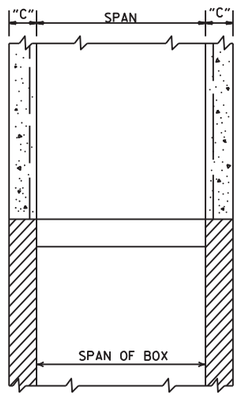
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	
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
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

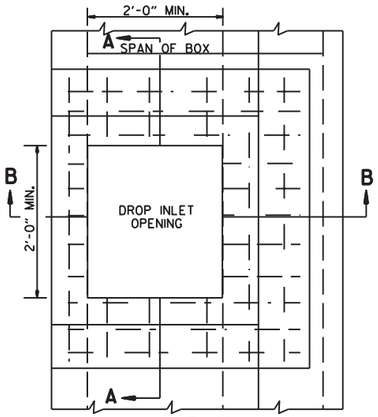
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

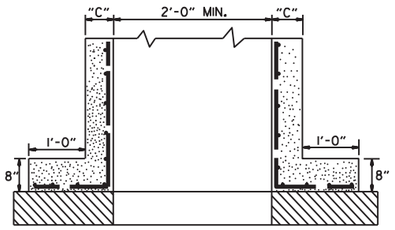
STANDARD DRAWING FES-2



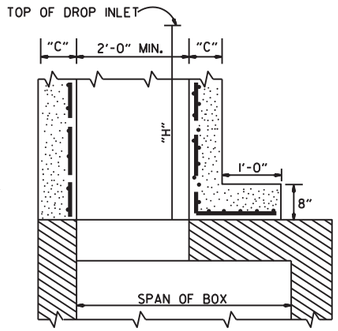
SECTION B-B



PLAN

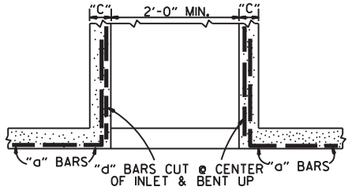


SECTION A-A

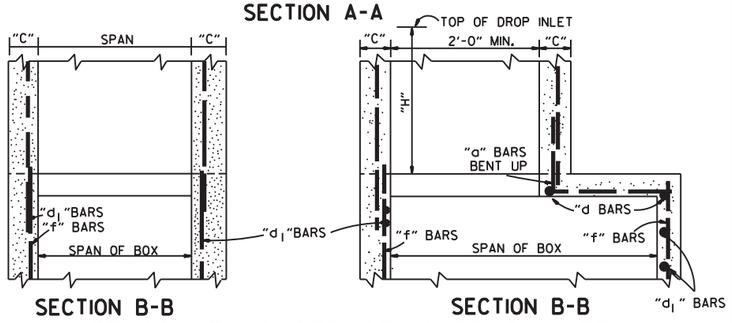


SECTION B-B

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



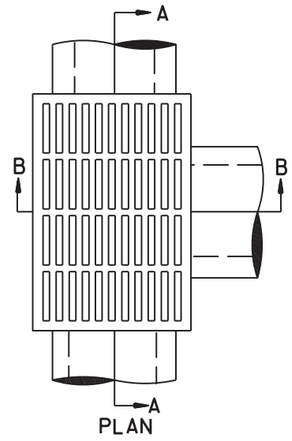
SECTION A-A



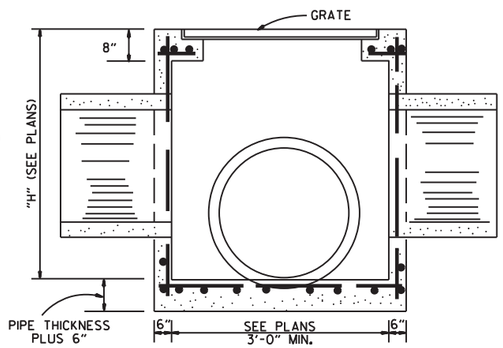
SECTION B-B SECTION B-B

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

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

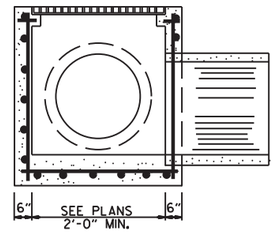


PLAN



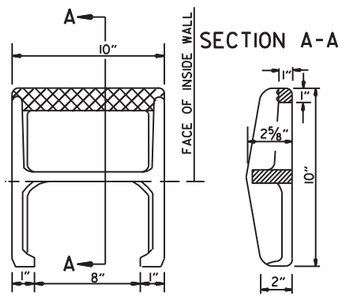
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)

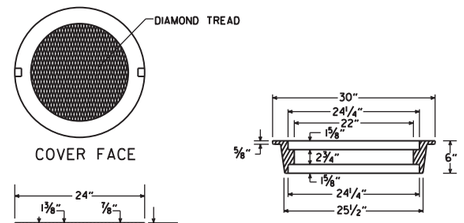


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

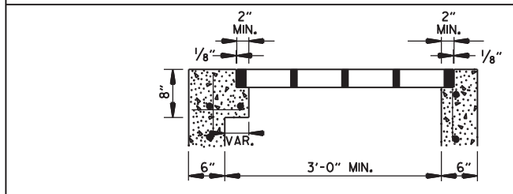
DETAIL OF STEP FOR DROP INLET



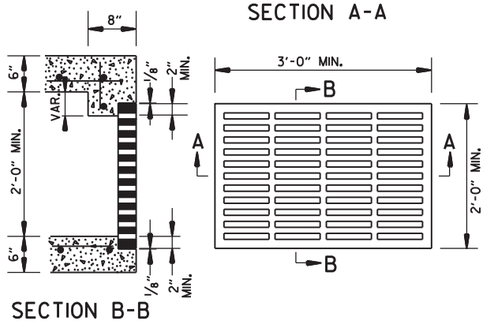
COVER SECTION RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



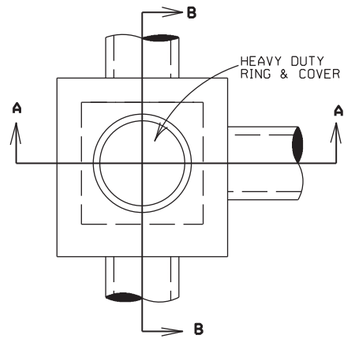
SECTION A-A



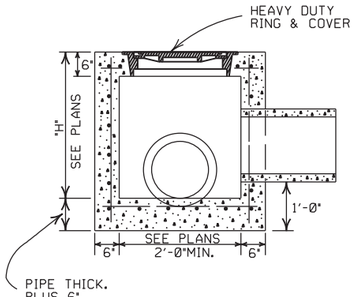
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

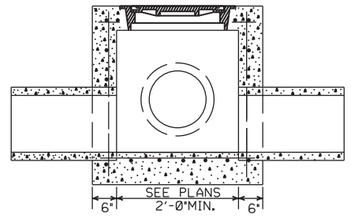


PLAN



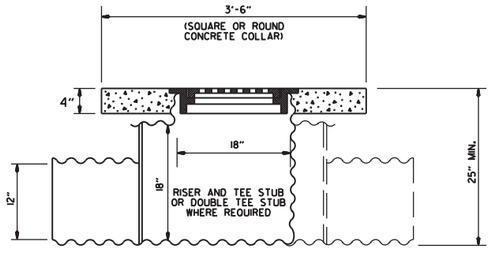
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

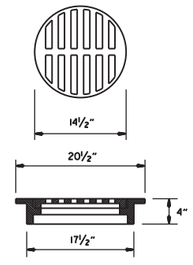


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" 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 ¾" 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

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	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

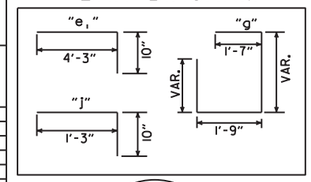
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

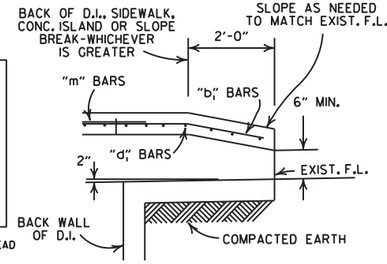
DROP INLET EXTENSION

4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET		
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

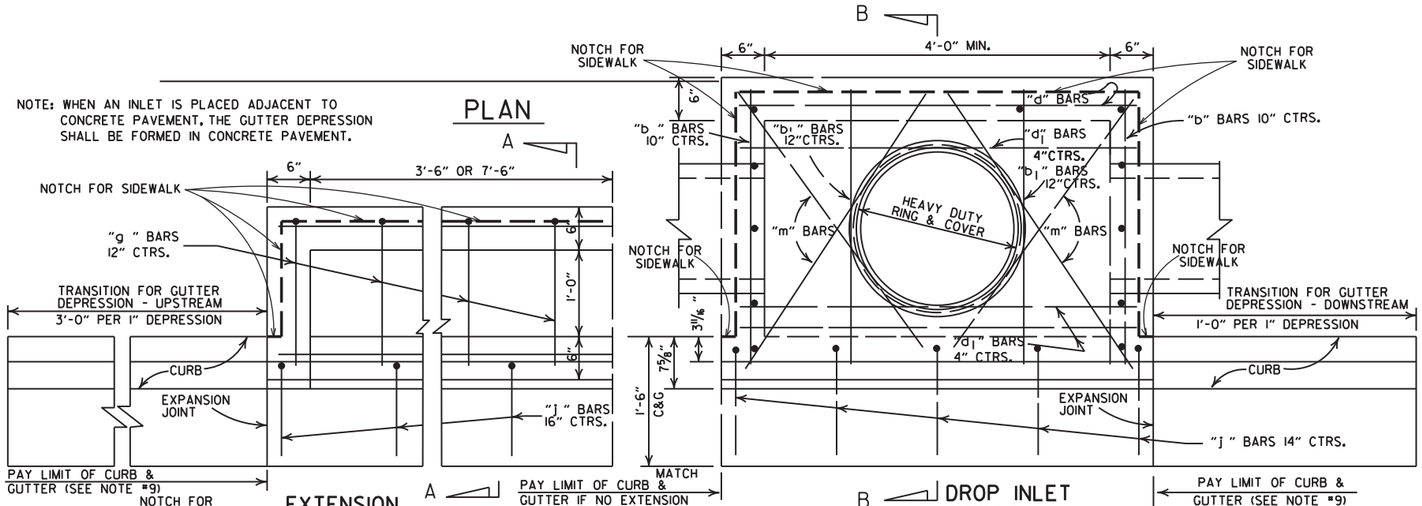
BAR DIAGRAM

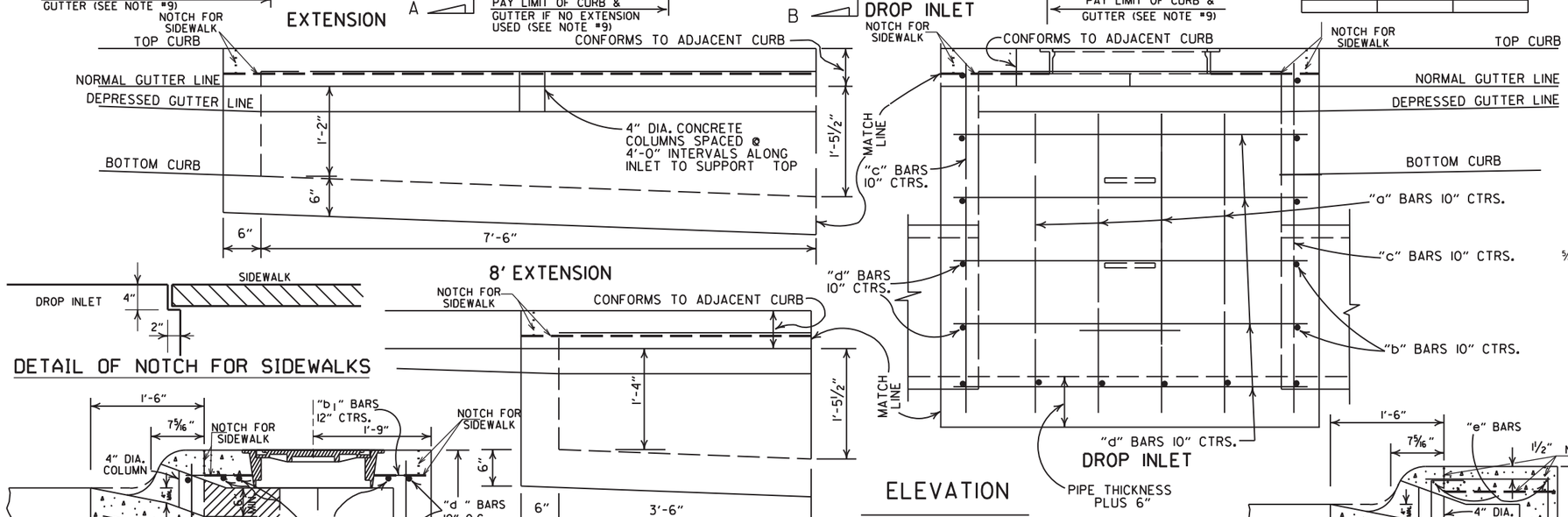




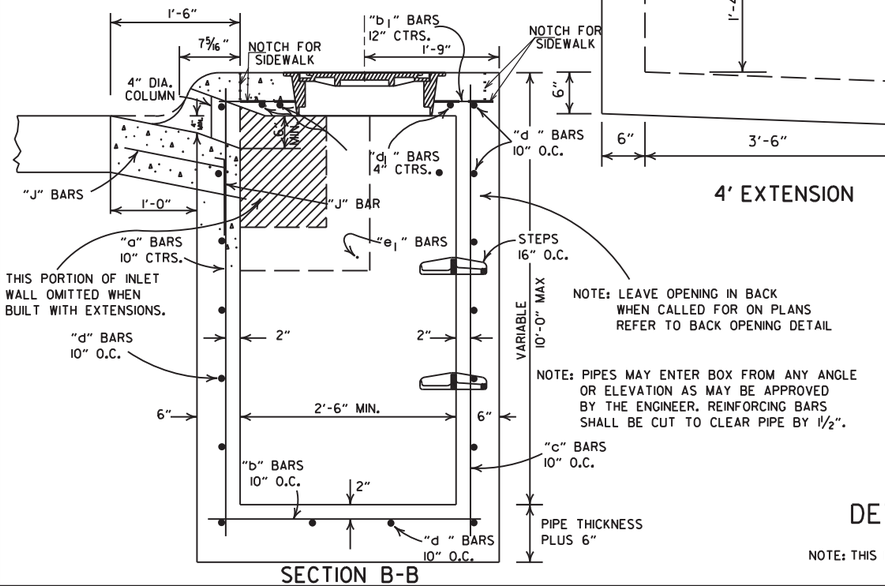
BACK OPENING

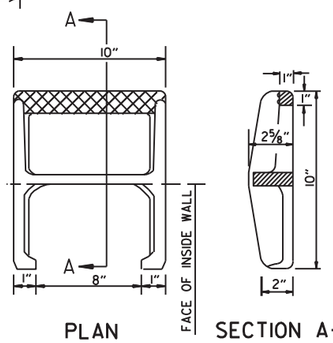
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).





DETAIL OF NOTCH FOR SIDEWALKS

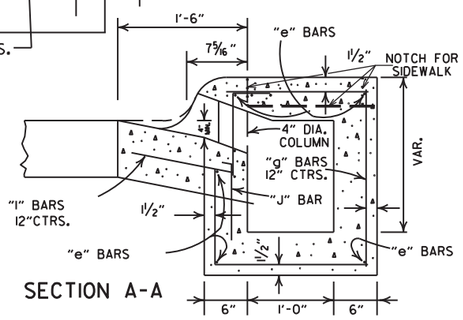


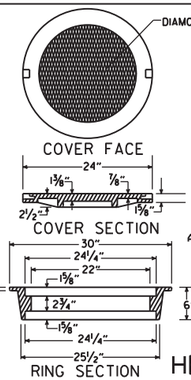


DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

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





APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:

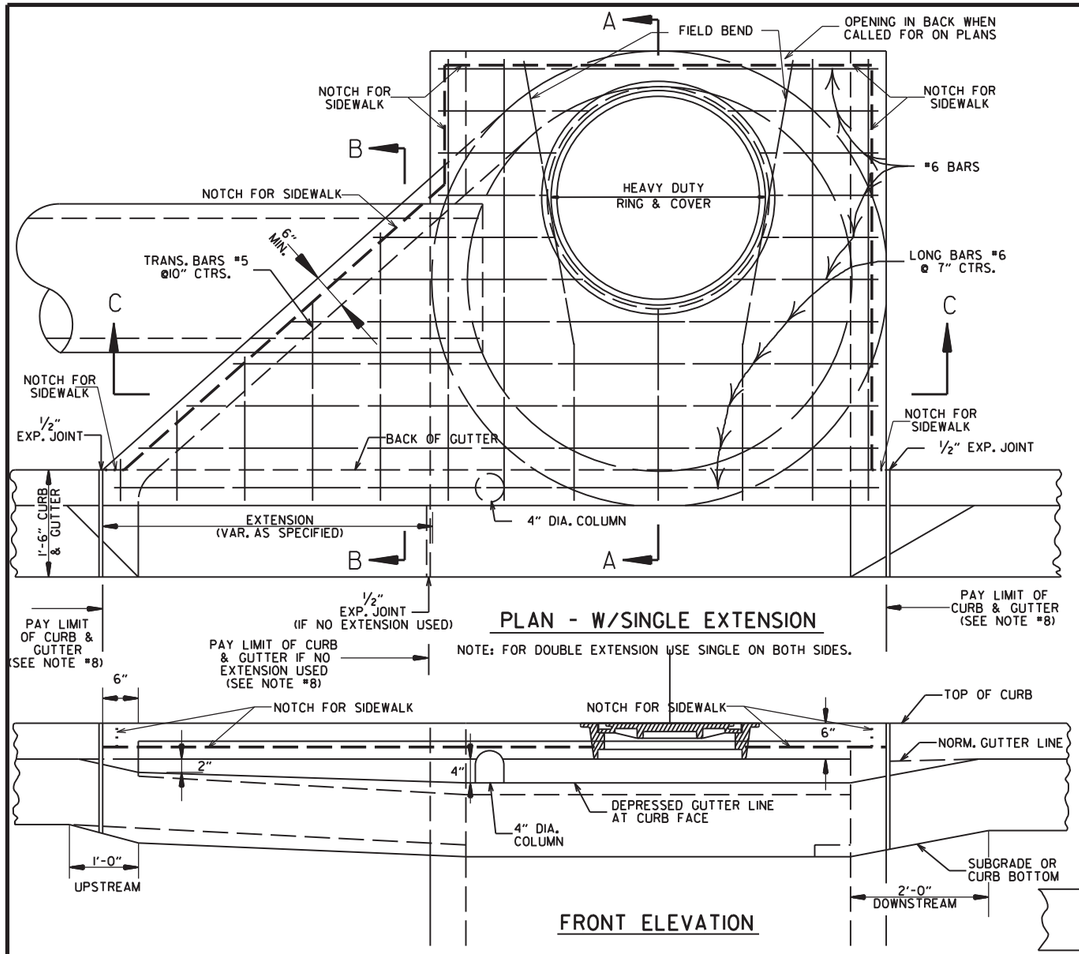
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (FPC-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. 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.
10. 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.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"×2" 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.

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')(8') 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	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

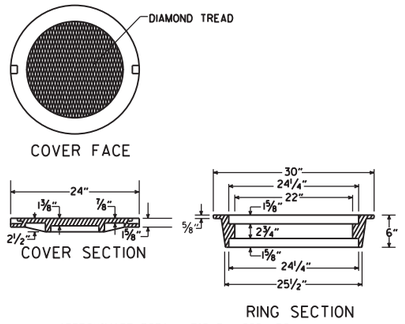
STANDARD DRAWING FPC-9E



PLAN - W/SINGLE EXTENSION

FRONT ELEVATION

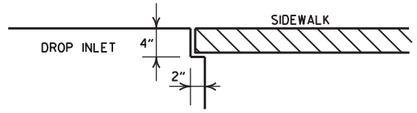
SECTION C-C



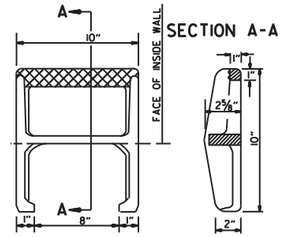
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO 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

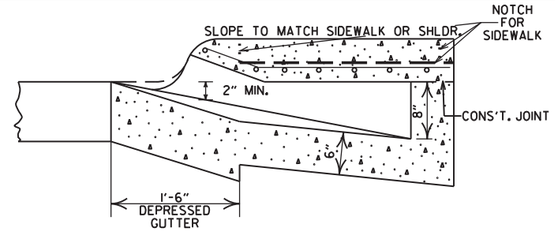


APPROX. WEIGHT = 11 LBS. (CAST IRON)

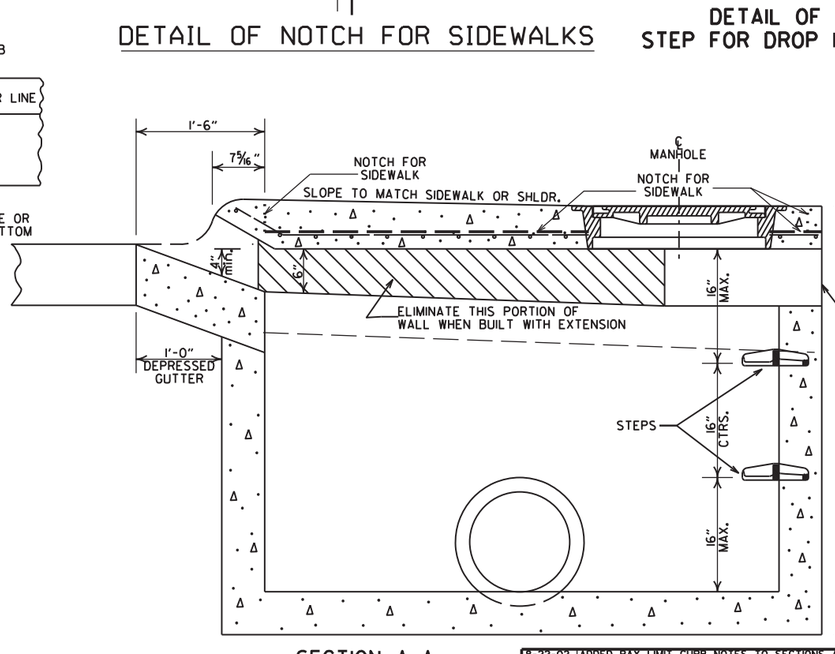
PLAN

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

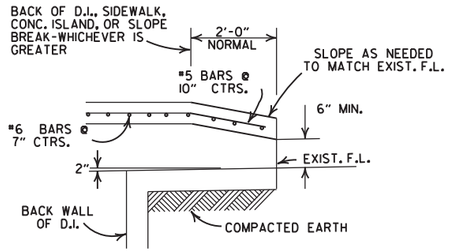
DETAIL OF STEP FOR DROP INLET



SECTION B-B



SECTION A-A



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 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.

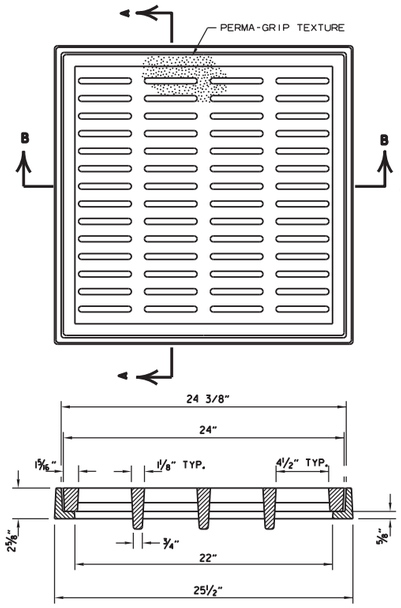
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

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	
4-26-96	ADDED NOTE 11, ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
4-27-95	TYPE C TO MO (OPEN, BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	513-5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	629-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

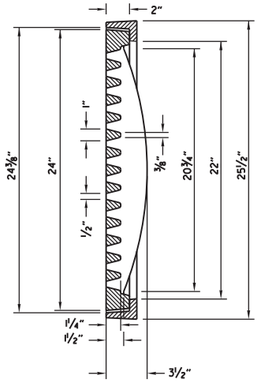
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



SECTION B-B

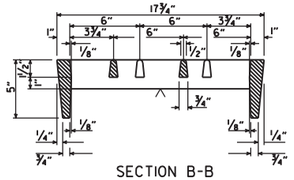


SECTION A-A

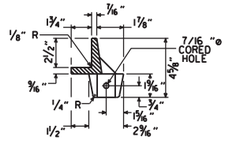
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

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

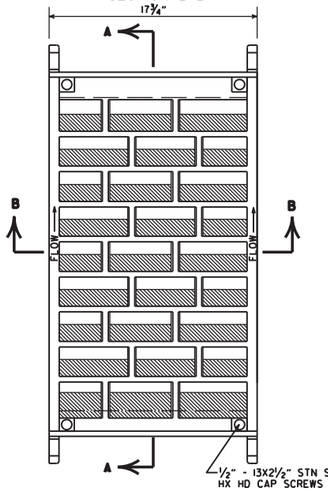
DETAILS OF PEDESTRIAN GRATE AND FRAME

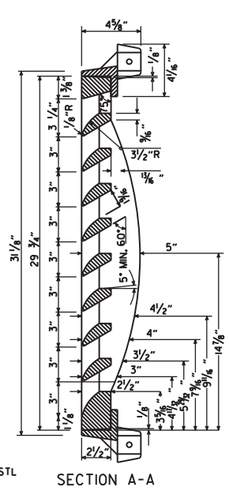


SECTION B-B



SECTION THRU FRAME



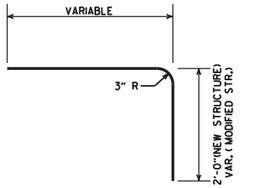


SECTION A-A

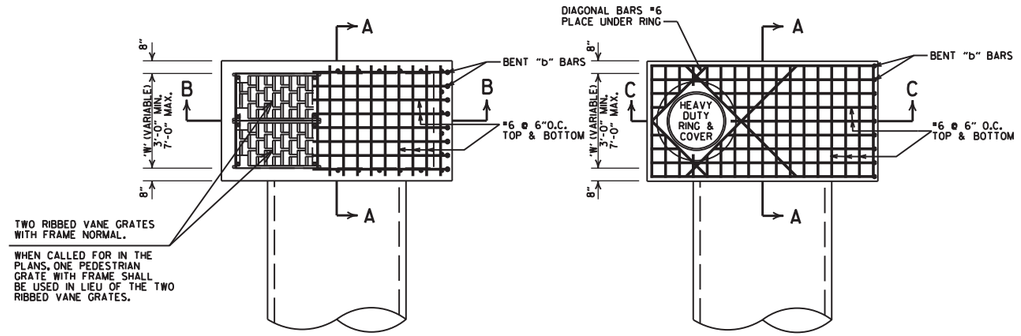
DETAILS OF RIBBED VANE GRATE AND FRAME

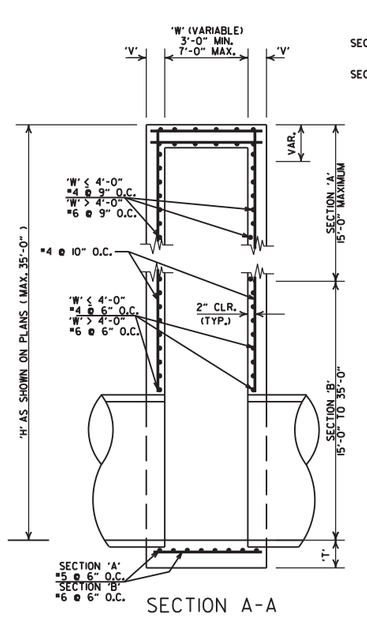
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

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



DETAIL OF BENT "b" BAR

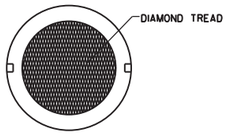




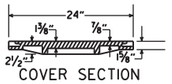
SECTION 'A'
'V' = 8"
SECTION 'B' (W≤4'-0")
'V' = 8"
SECTION 'B' (W>4'-0")
'V' = 10"

SECTION A-A

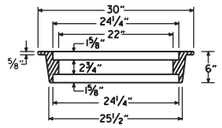
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



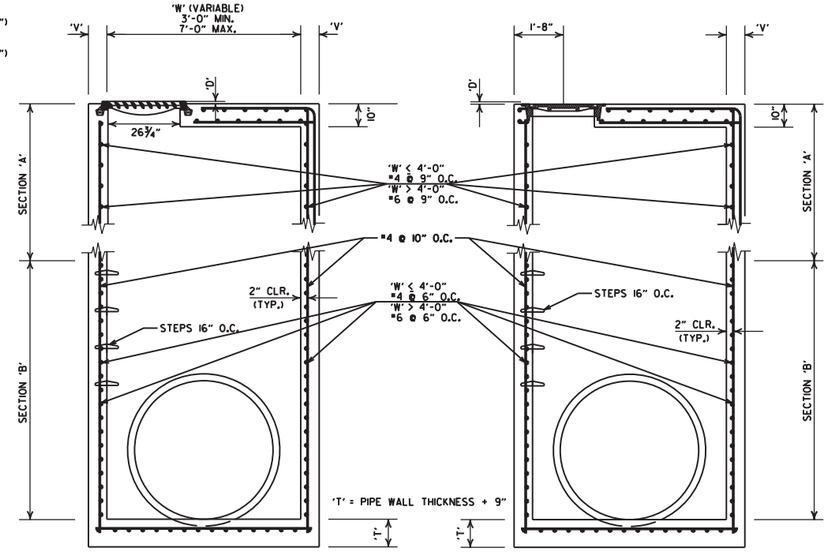
COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.



SECTION B-B

SECTION C-C

DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

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

GENERAL NOTES (HEAVY DUTY RING & COVER):

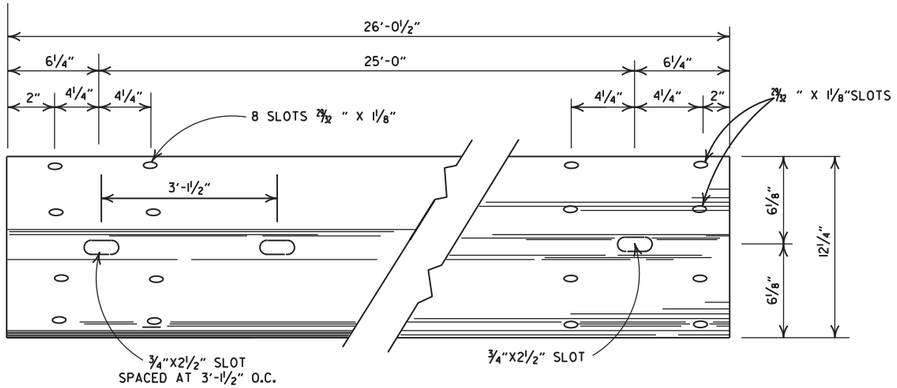
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE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

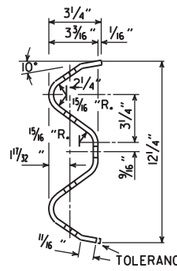
DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

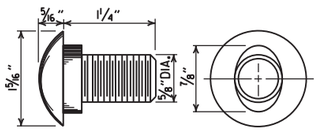
STANDARD DRAWING FPC-9S



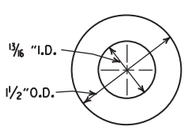


DETAILS OF W-BEAM GUARDRAIL

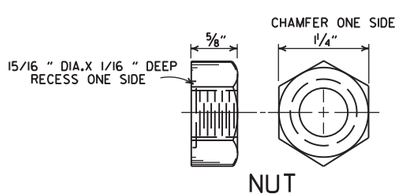
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



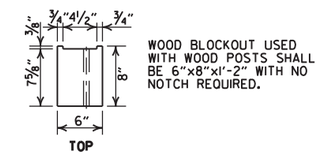
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



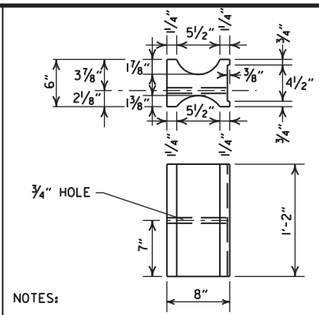
CUT STEEL WASHER



NUT



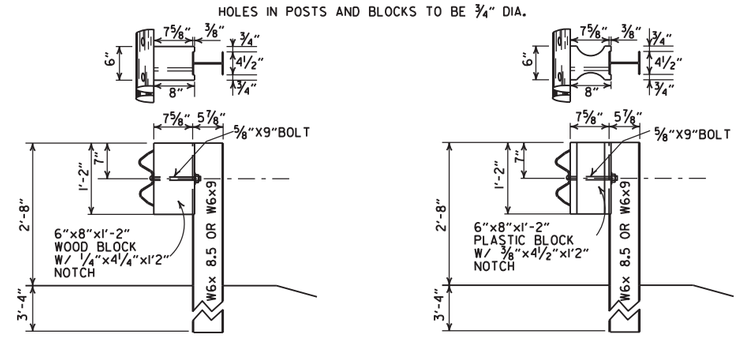
WOOD BLOCKOUT (W-BEAM)



NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

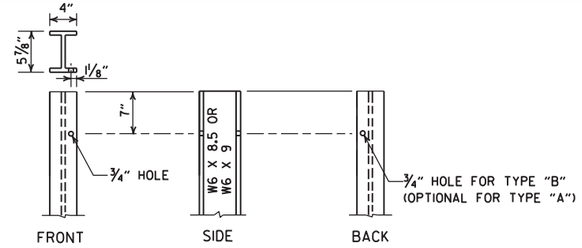
PLASTIC BLOCKOUT (W-BEAM)



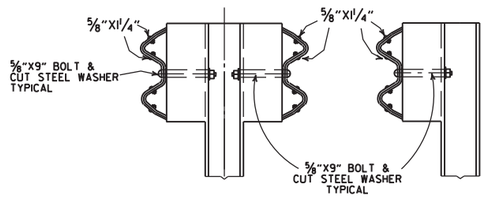
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARDRAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

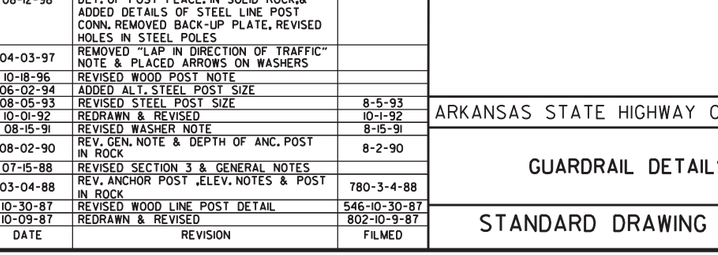
W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

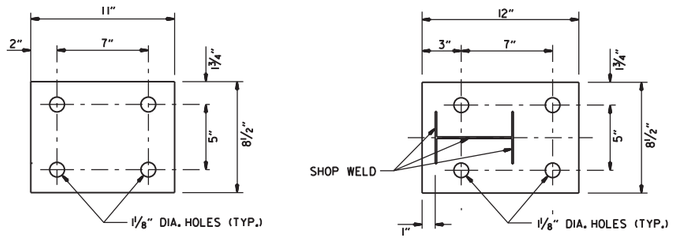
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	FILMED
11-07-19	RENUMBERED AND RENAMED	
11-16-17	REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3"	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
03-30-00	REMOVED GUARDRAIL AT BRIDGE ENDS	
01-12-00	ADDED PLASTIC BLOCKOUT	
08-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
04-03-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
06-02-94	ADDED ALT. STEEL POST SIZE	
08-05-93	REVISED STEEL POST SIZE	8-5-93
10-01-92	REDRAWN & REVISED	10-1-92
08-15-91	REVISED WASHER NOTE	8-15-91
08-02-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
07-15-88	REVISED SECTION 3 & GENERAL NOTES	
03-04-88	REV. ANCHOR POST ,ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-09-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

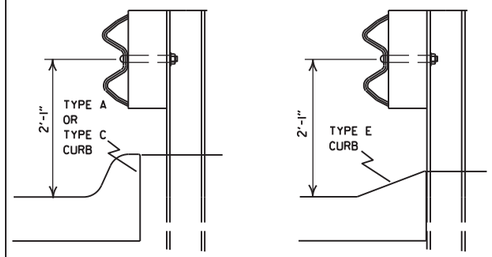
STANDARD DRAWING GR-6



WASHER PLATE

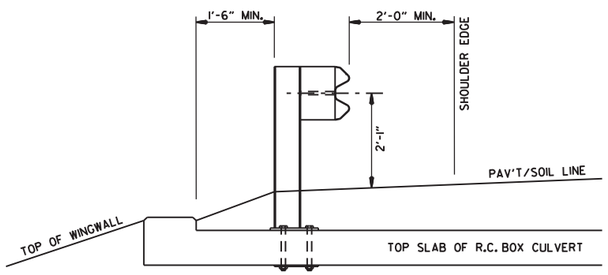
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

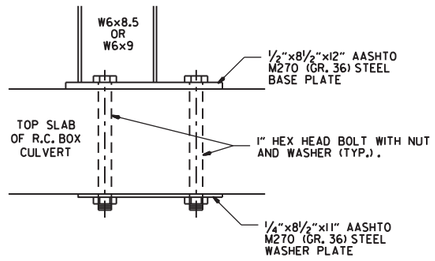


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

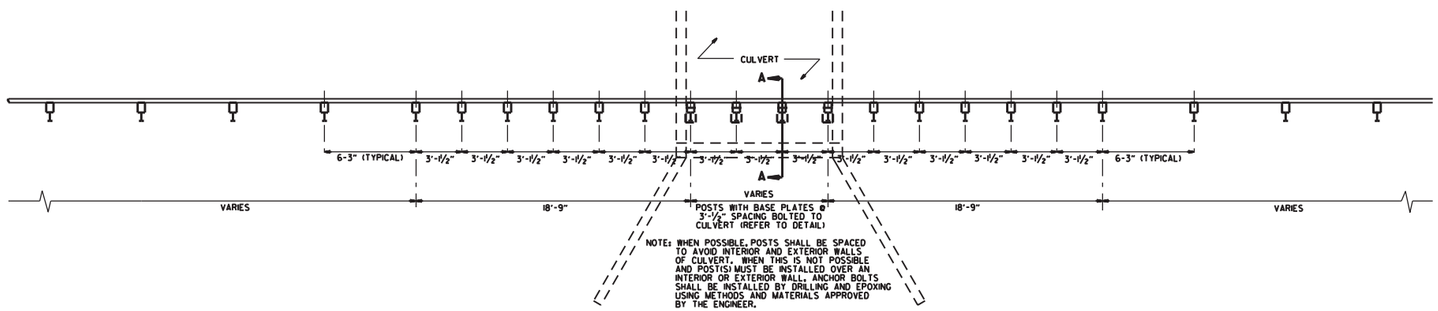
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



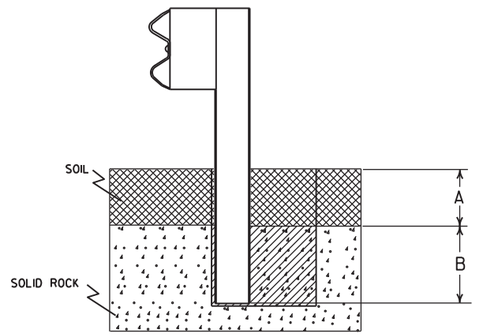
DETAIL OF CONNECTION



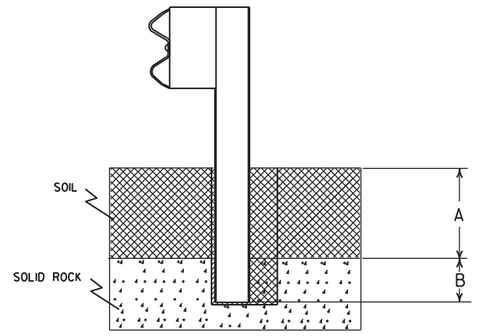
PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

Case 1

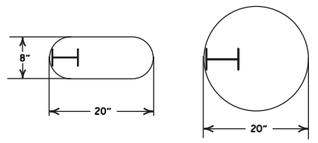


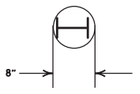
Case 2



Plan View Steel Posts

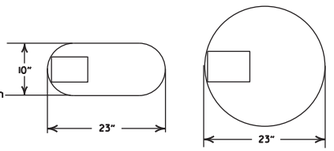
Either hole configuration acceptable

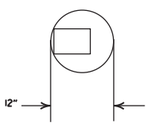




Plan View Wood Posts

Either hole configuration acceptable





Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

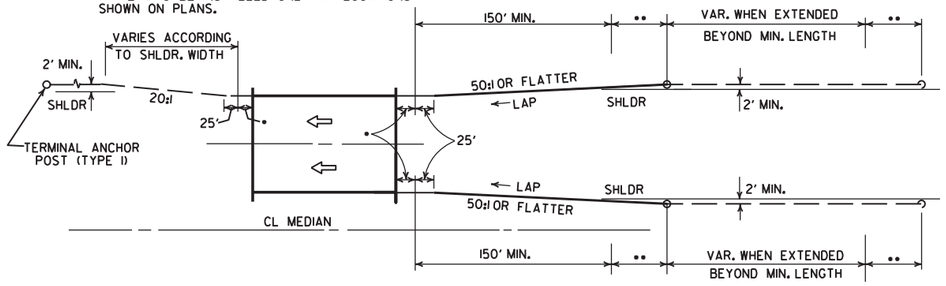
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

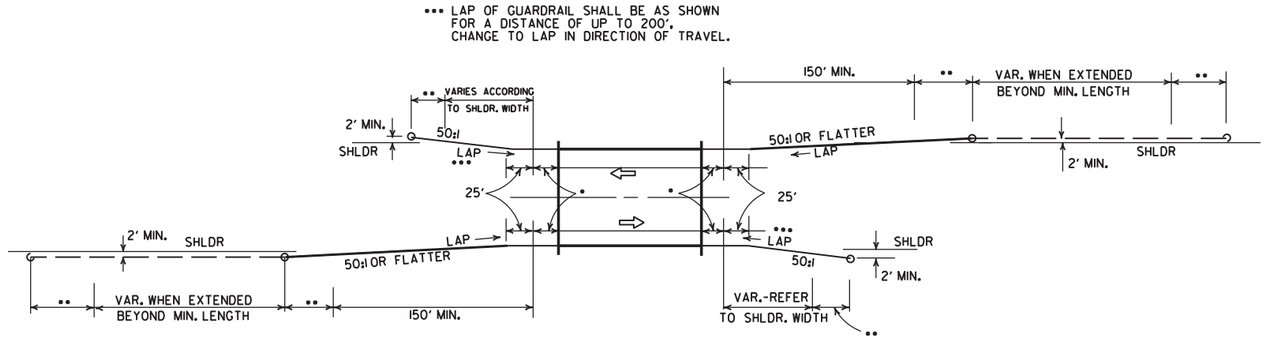
STANDARD DRAWING GR-7

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

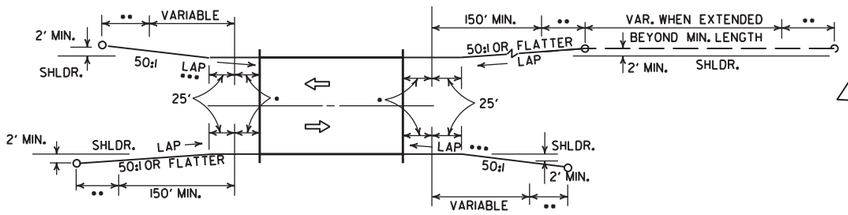
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

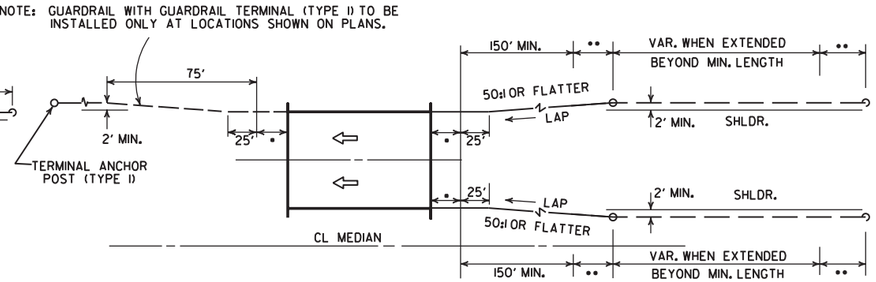
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

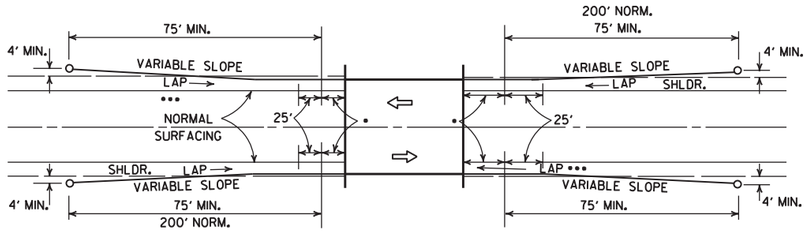
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARDRAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

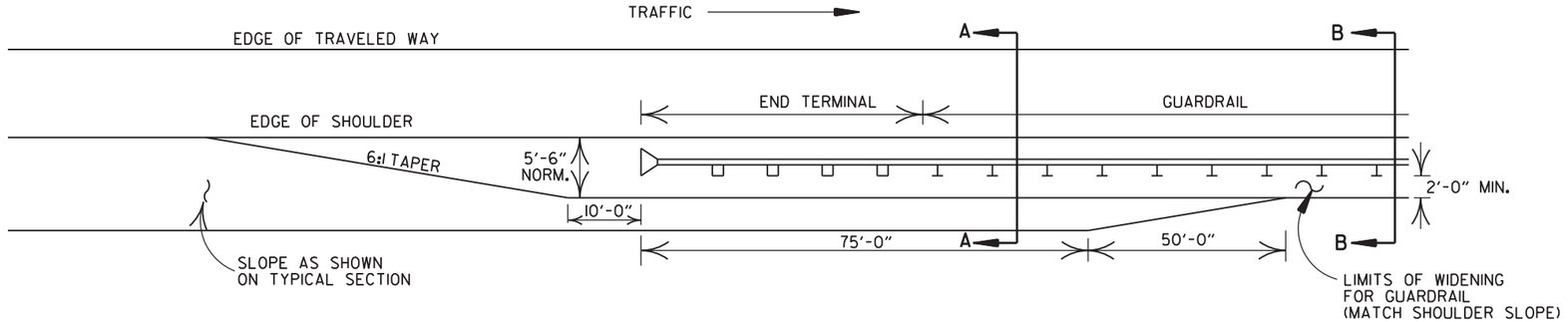
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

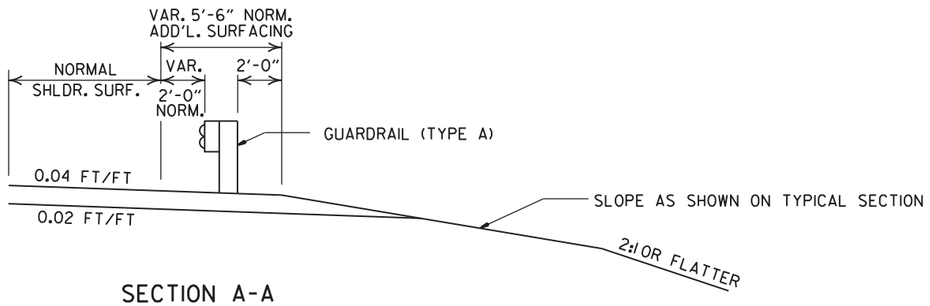
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

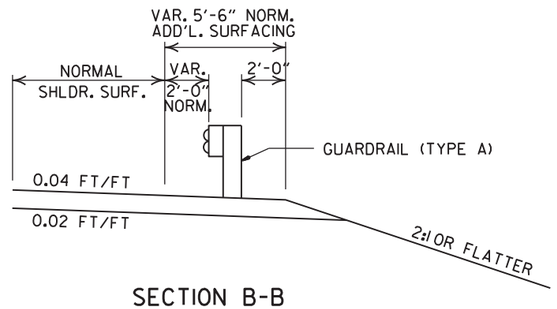
GUARDRAIL DETAILS

STANDARD DRAWING GR-8





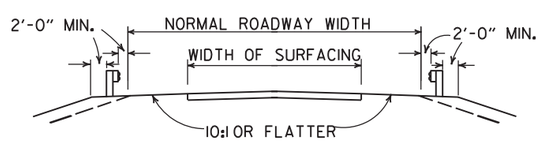
SECTION A-A



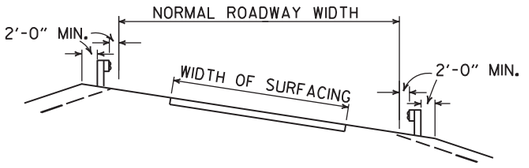
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.

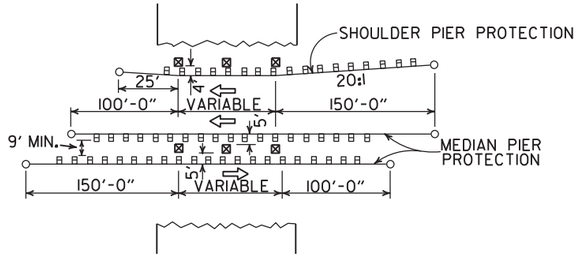


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY



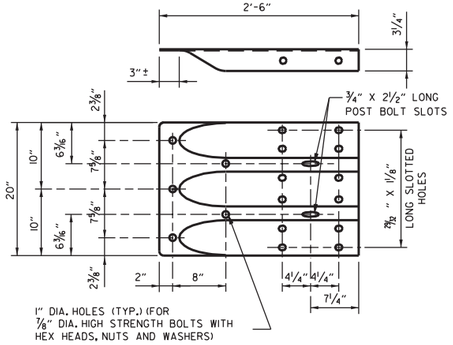
METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

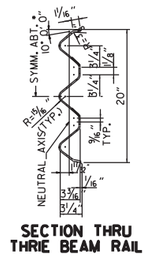
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

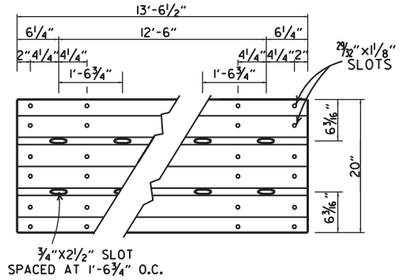
STANDARD DRAWING GR-9



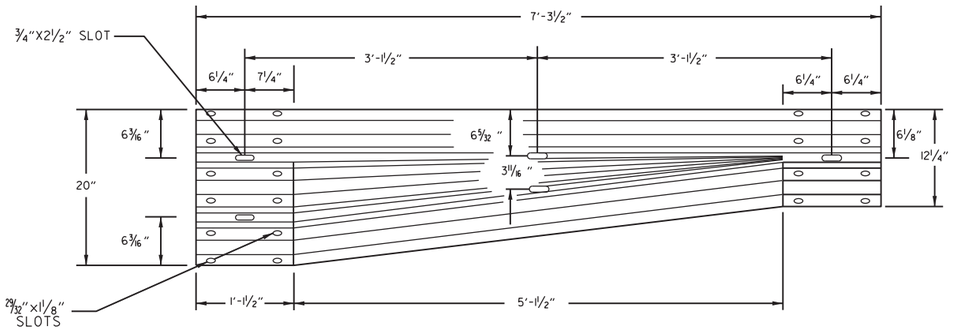
SPECIAL END SHOE



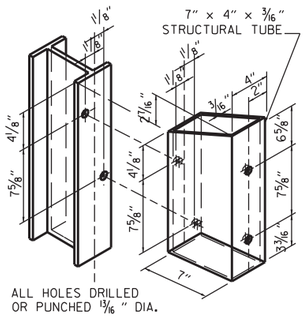
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL

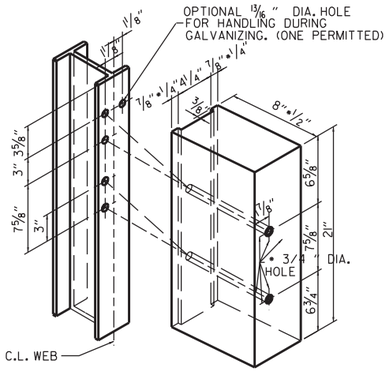


TRANSITION SECTION



ATTACH BLOCKOUT TO POST USING 5/8" DIA. HEX HEAD BOLTS WITH 1 1/2" O.D. CUT STEEL WASHERS AND NUT.

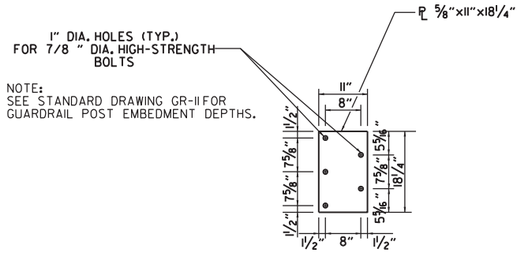
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

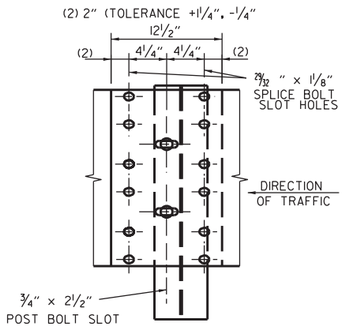
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING 7/8" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3*4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

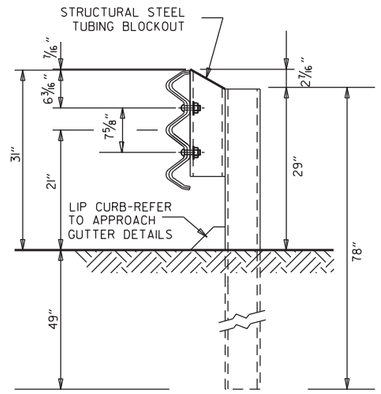
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED AND REVISED REFERENCES	
11-16-17	REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12	
07-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED NOTE (2)	
06-29-00	MOVED DIMENSION LINES	
05-18-00	ADDED NOTE	
03-30-00	DRAWN & ISSUED	

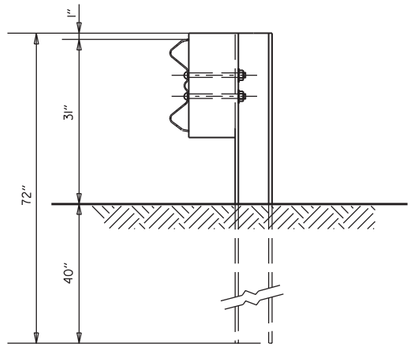
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

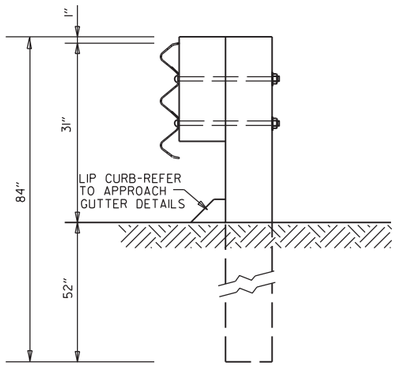
STANDARD DRAWING GR-10



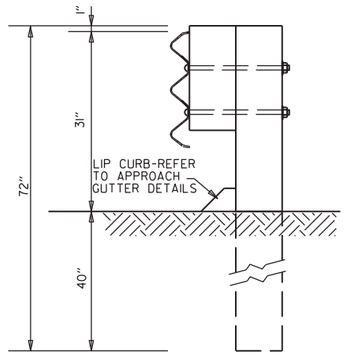
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



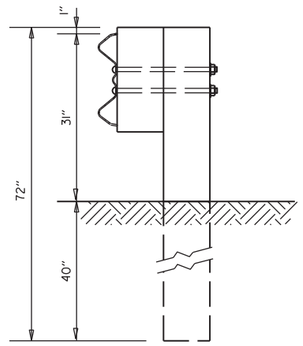
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

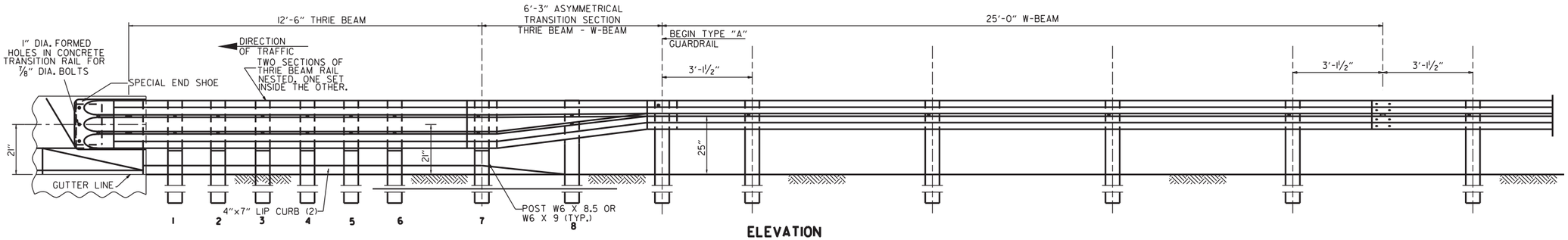
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED	
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11	
07-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
08-22-02	REVISED LIP CURB NOTE	
03-30-00	DRAWN & ISSUED	

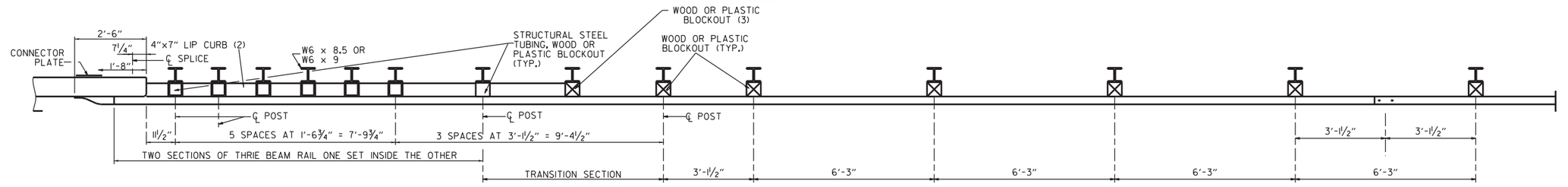
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

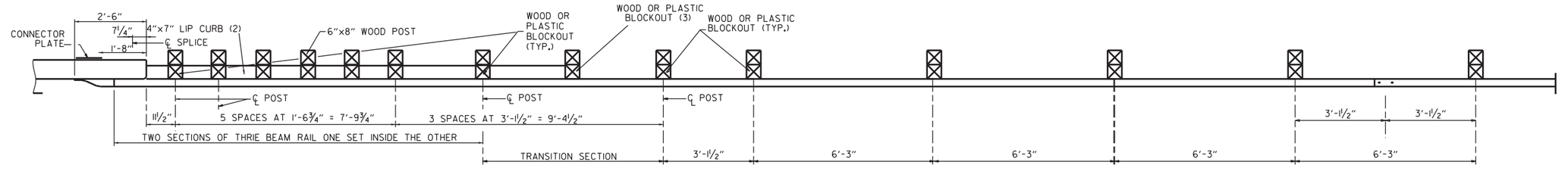
STANDARD DRAWING GR-11



ELEVATION



PLAN



PLAN

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

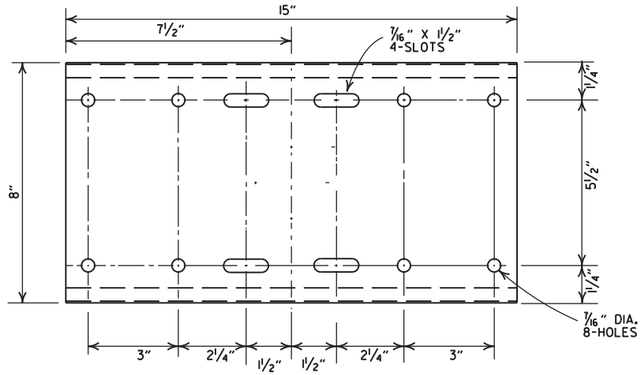
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
05-14-20	REVISED NOTES	
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

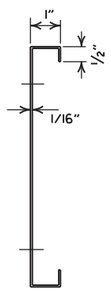
ARKANSAS STATE HIGHWAY COMMISSION

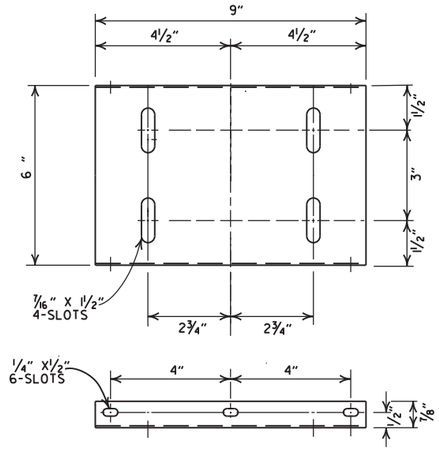
GUARDRAIL DETAILS

STANDARD DRAWING GR-12

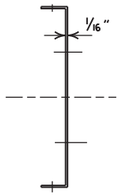


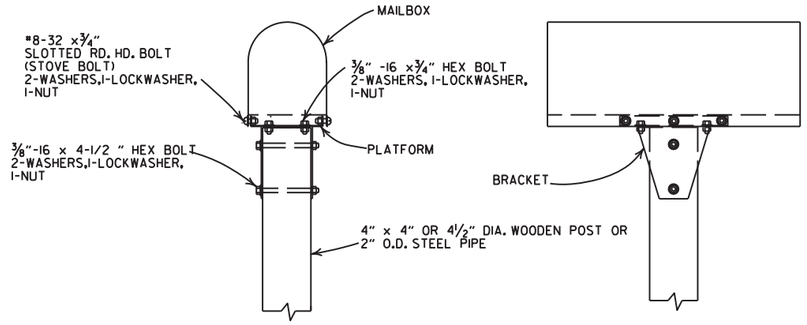
SHELF



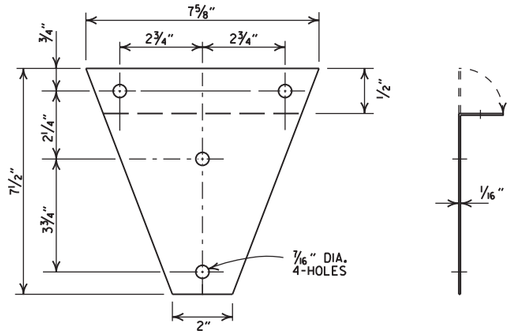


PLATFORM

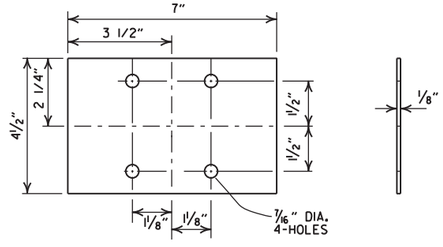




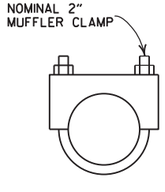
SINGLE INSTALLATION



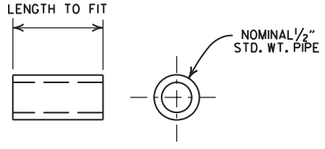
BRACKET



ANTI-TWIST PLATE



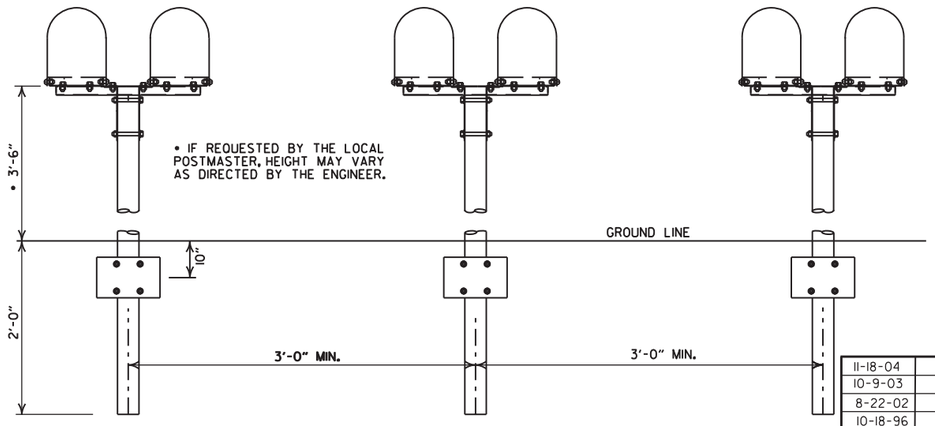
CLAMP



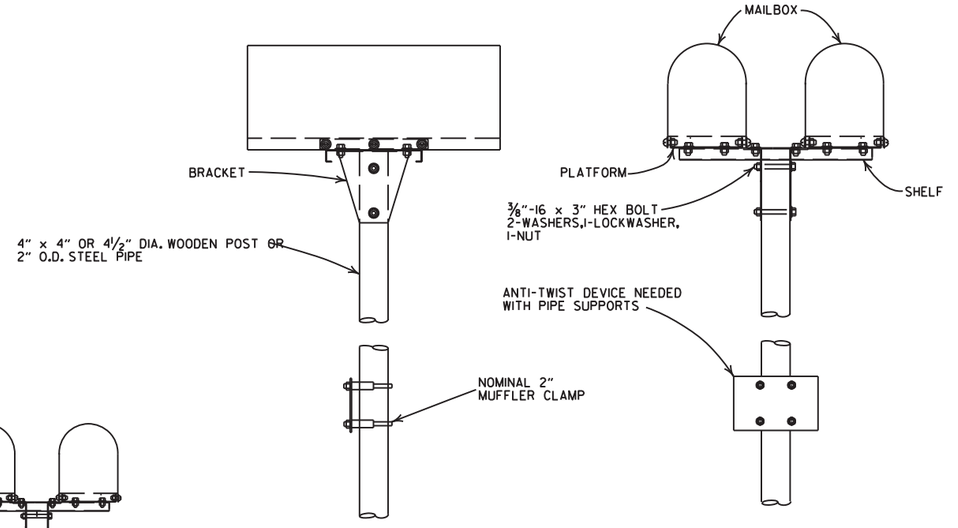
SPACER

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 ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X ¾" 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 ARDOT QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



SPACING FOR MULTIPLE POST INSTALLATION



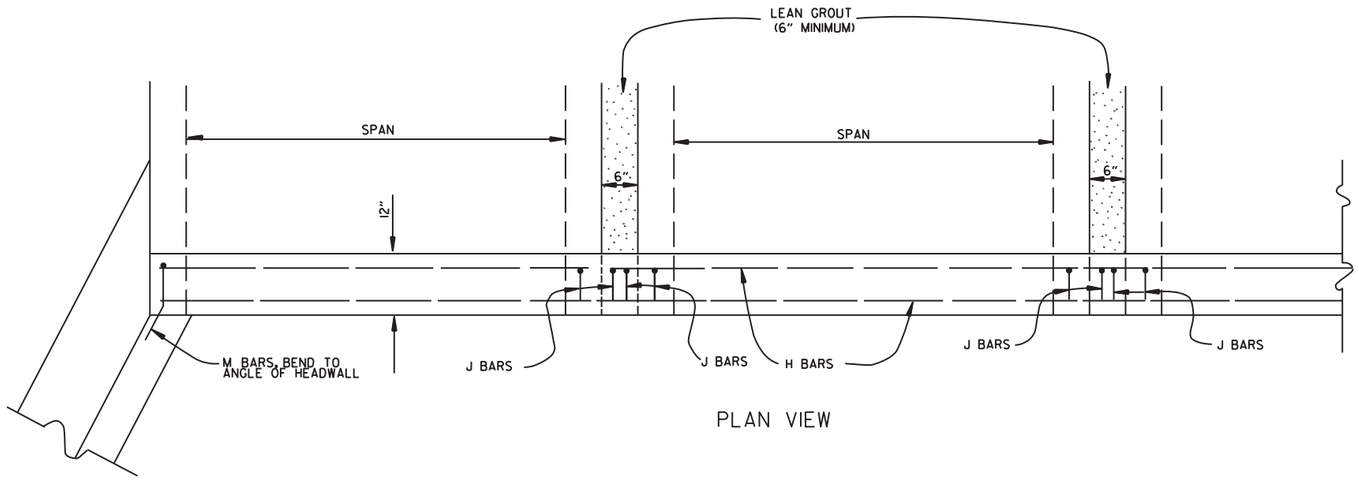
DOUBLE INSTALLATION

DATE	FILMED	REVISION
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	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

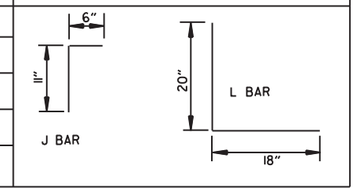
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

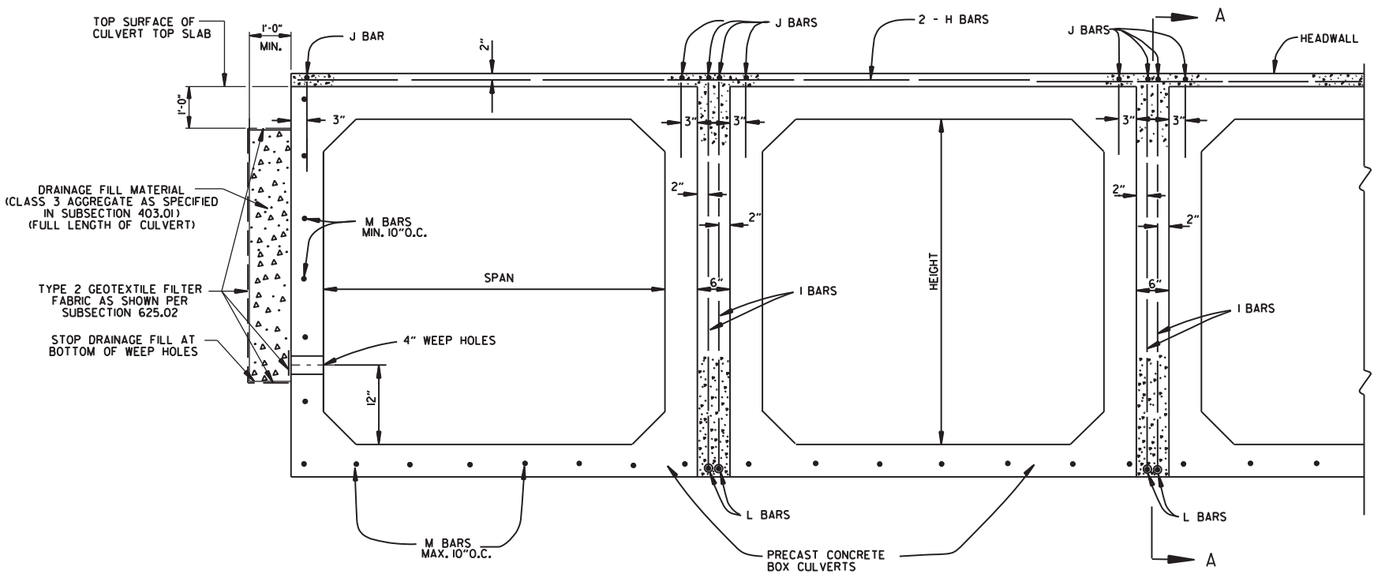
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

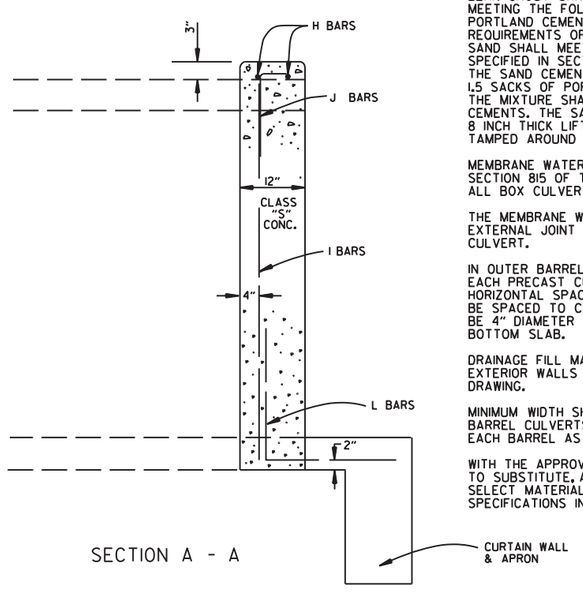
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	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	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

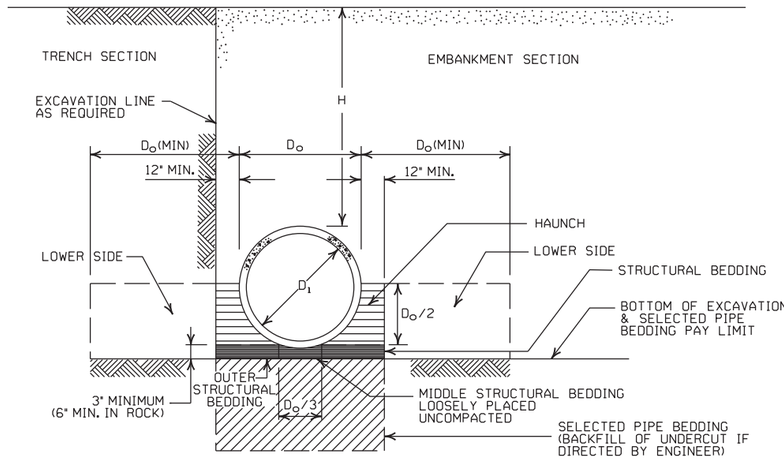
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION			INSTALLATION	
				TYPE 1			TYPE 1	
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					
				INSTALLATION			INSTALLATION	
				TYPE 2	TYPE 1	TYPE 2	TYPE 1	
36	40x31	5	0.079	3	2	12	15	
42	46x36	6	0.079	3	2	13	15	
48	53x41	7	0.079	3	2	13	15	
54	60x46	8	0.079	3	2	13	15	
60	66x51	9	0.079	3	2	13	15	
66	73x55	12	0.079	3	2	15	15	
72	81x59	14	0.079	3	2	15	15	
78	87x63	14	0.079	3	2	15	15	
84	95x67	16	0.109	3	2	15	15	
90	103x71	16	0.109	3	2	15	15	
96	112x75	18	0.109	3	2	15	15	
102	117x79	18	0.109	3	2	15	15	
108	128x83	18	0.138	3	2	15	15	

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.

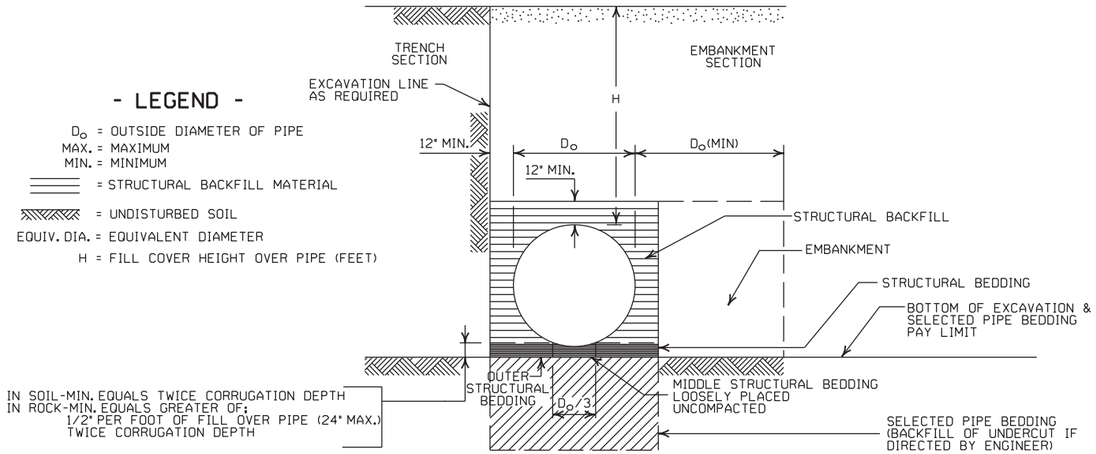
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

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



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.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. 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 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."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION 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
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

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

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

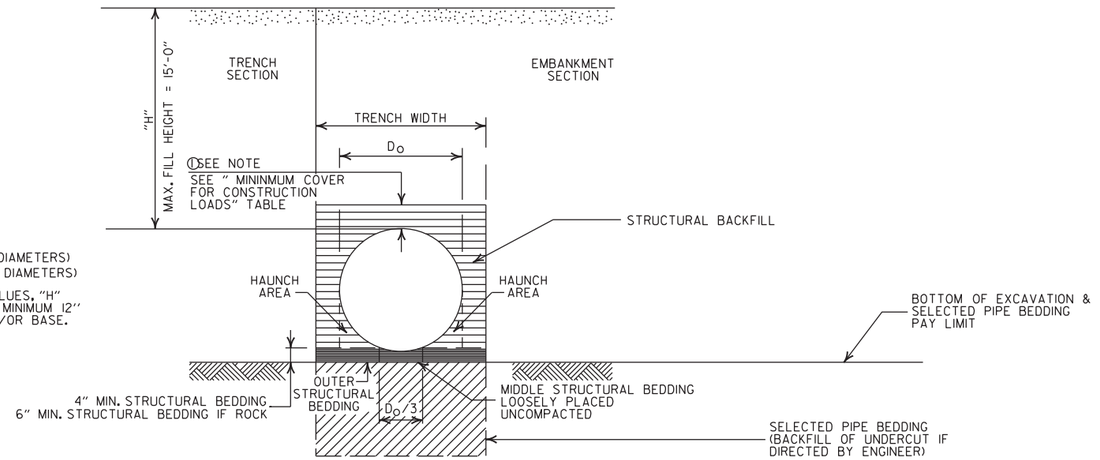
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	TRENCH WIDTH (FEET) "H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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



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.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

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

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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 PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

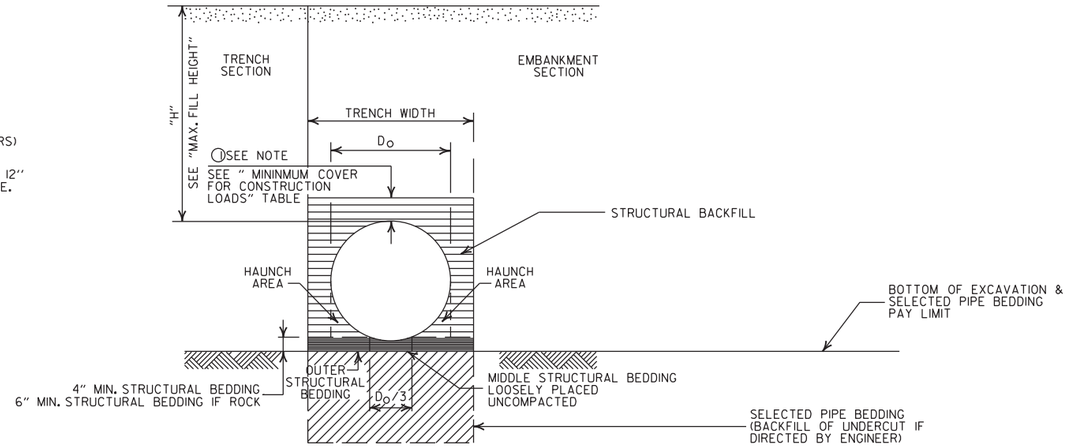
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

INSTALLATION TYPE	**MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE 1 INSTALLATION MATERIAL

*SM3 WILL NOT BE ALLOWED.

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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 POLYPROPYLENE PIPE.

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"
60"	5'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"
60"	10'-0"	15'-0"

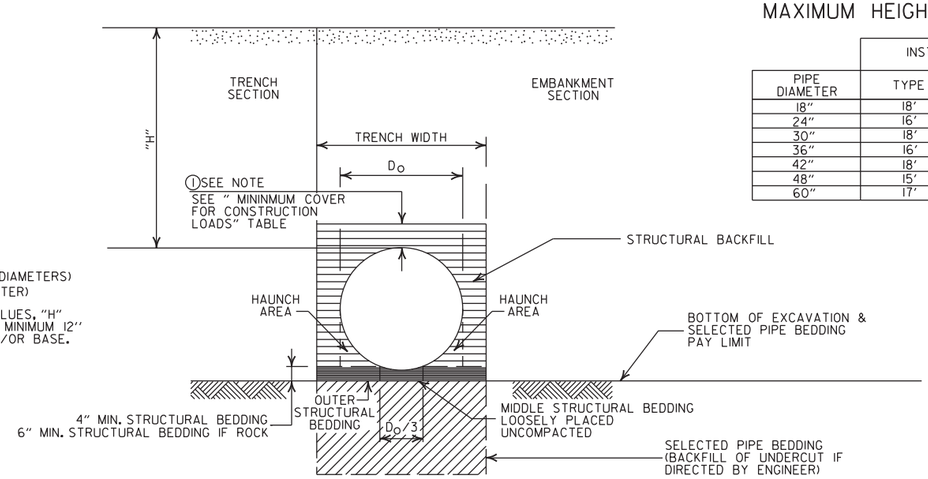
MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-150.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

①NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)

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



MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'

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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M330, TYPE S, INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

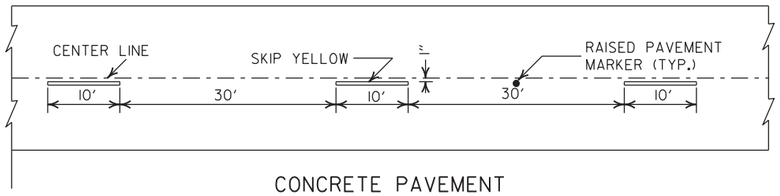
DATE	REVISION	DATE FILMED
02-27-20	REVISED	
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

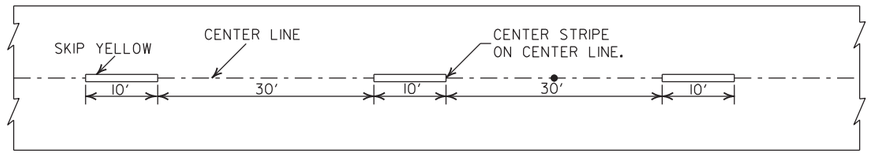
PLASTIC PIPE CULVERT (POLYPROPYLENE)

STANDARD DRAWING PCP-3

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

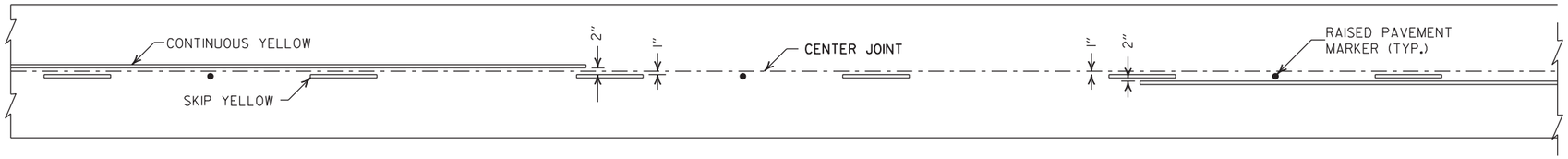


CONCRETE PAVEMENT

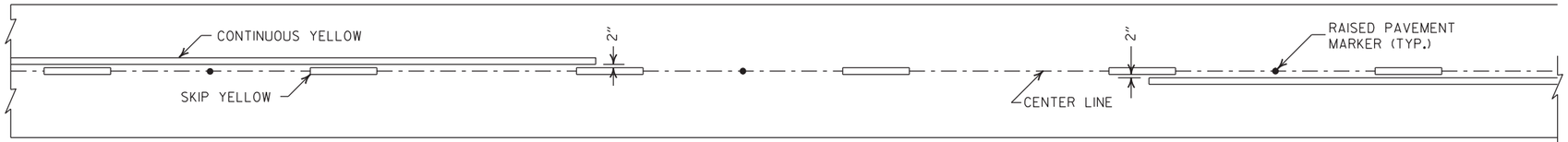


ASPHALT PAVEMENT

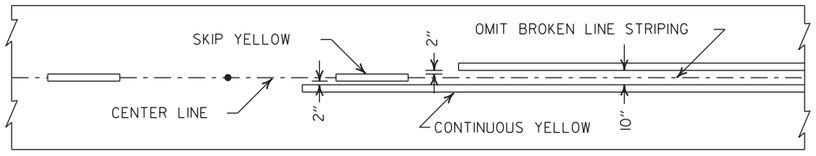
BROKEN LINE STRIPING



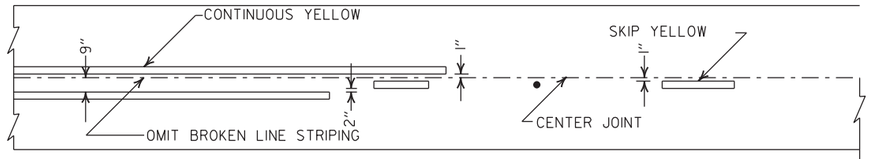
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

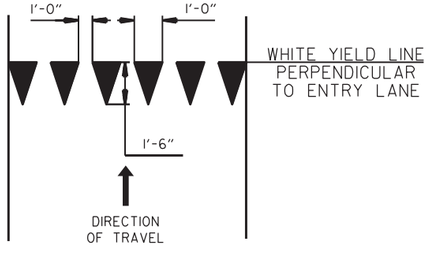


ASPHALT PAVEMENT

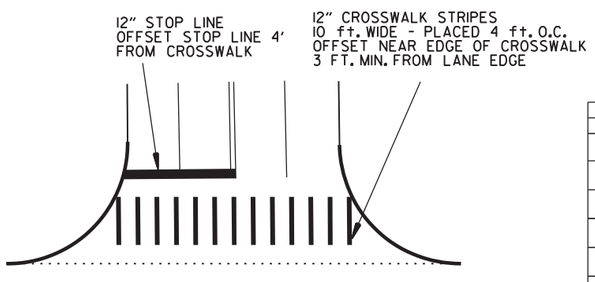


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

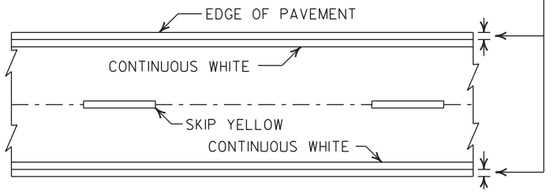


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

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

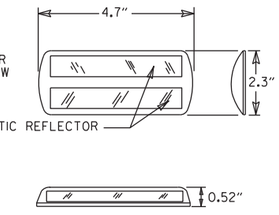


PAVEMENT EDGE LINE MARKING

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

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 ARDOT QUALIFIED PRODUCTS LIST.

TYPE II RED/CLEAR OR YELLOW/YELLOW



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
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

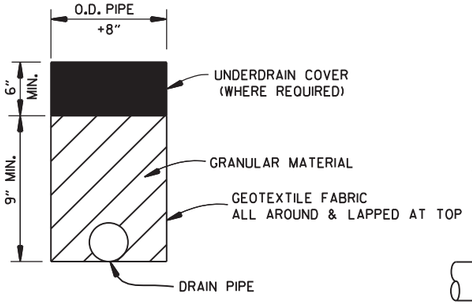
PAVEMENT MARKING DETAILS

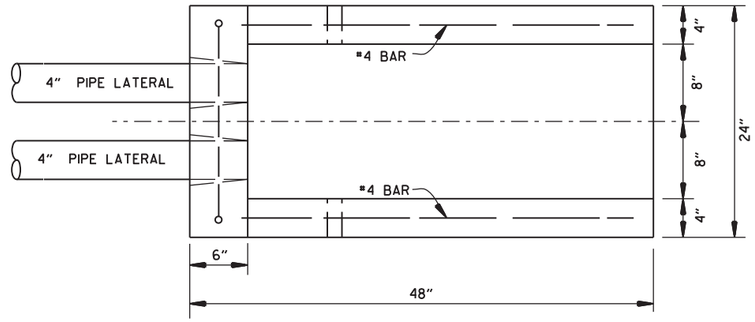
STANDARD DRAWING PM-1

NOTE:

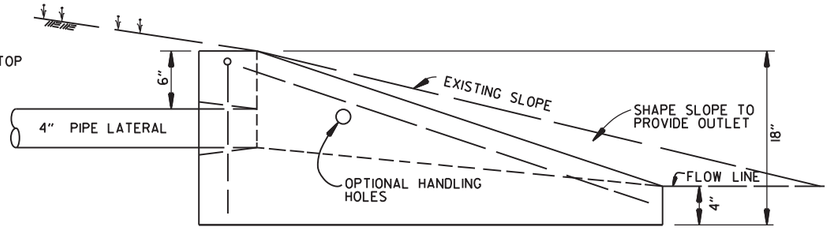
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

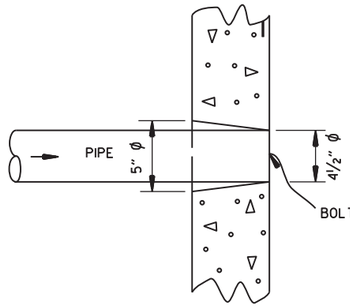




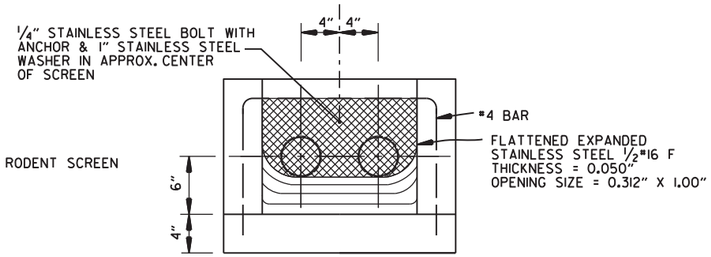
PLAN VIEW



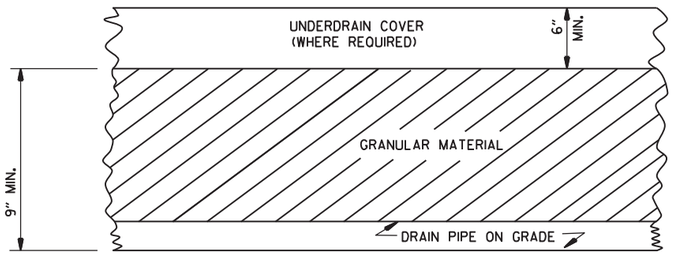
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE

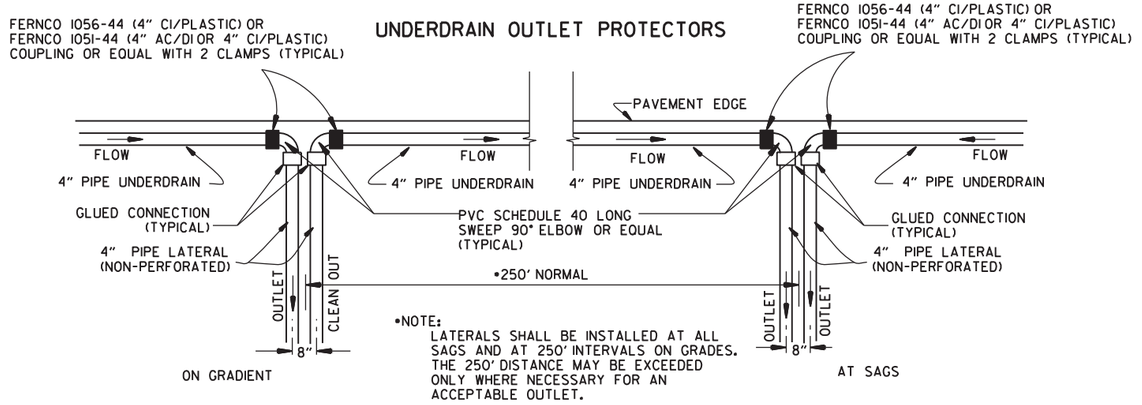


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



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.

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
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; 5½" 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 POLYEDTHYLENE 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

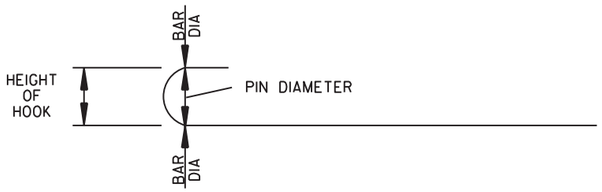
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

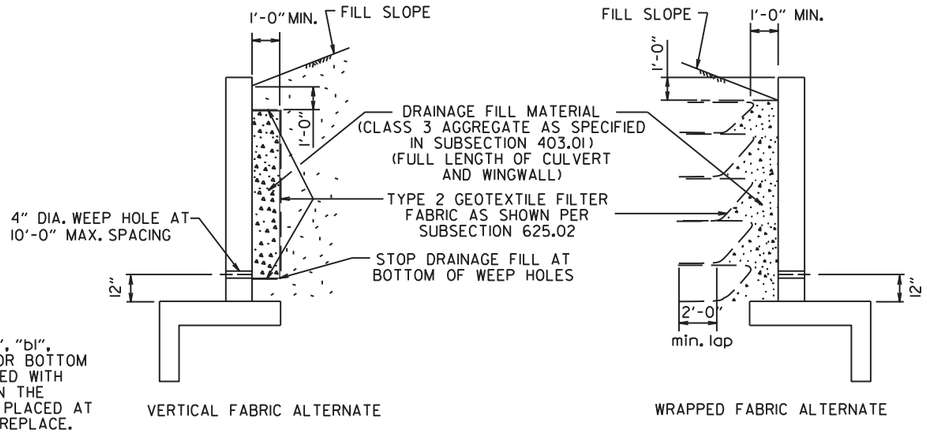
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

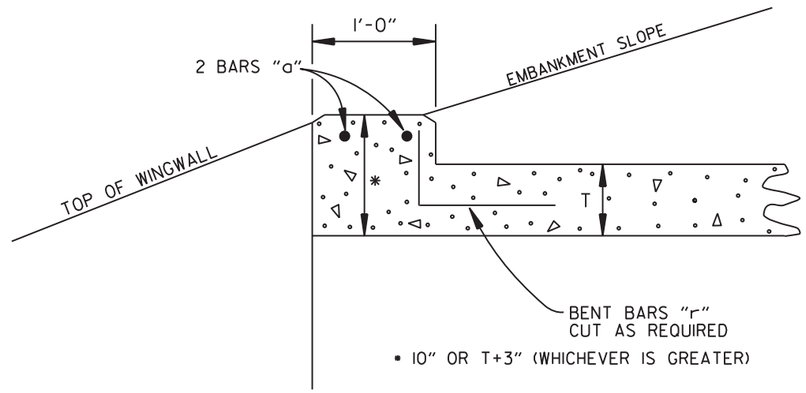
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

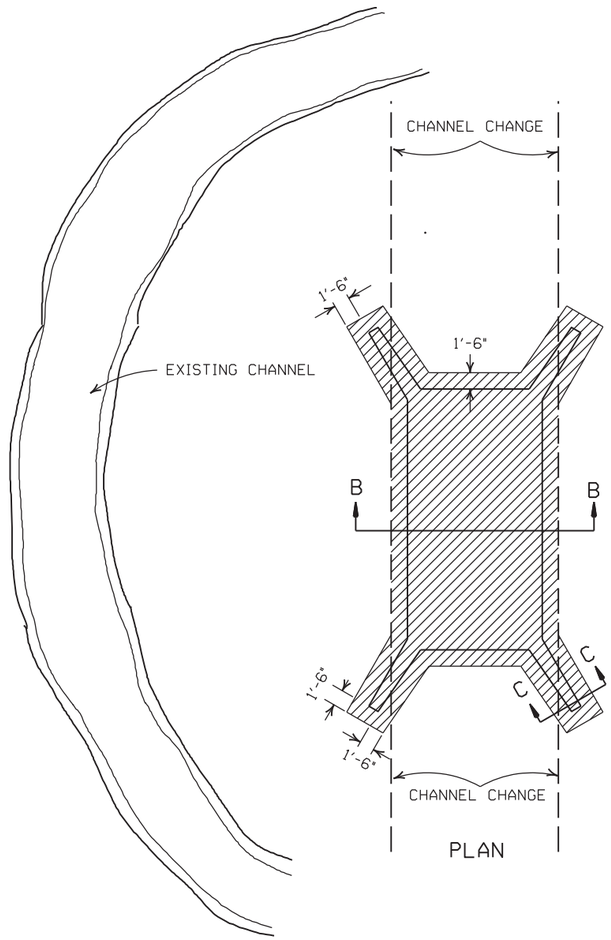
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

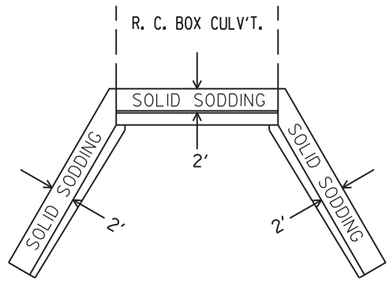
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

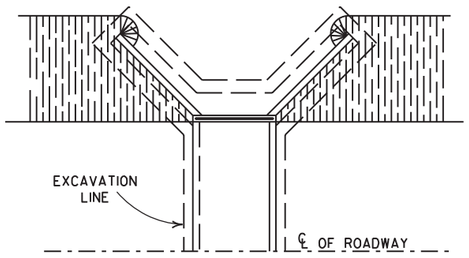
SOLID SODDING



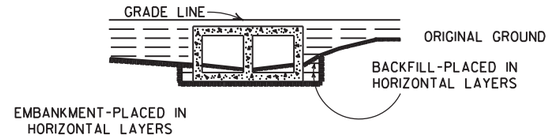
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

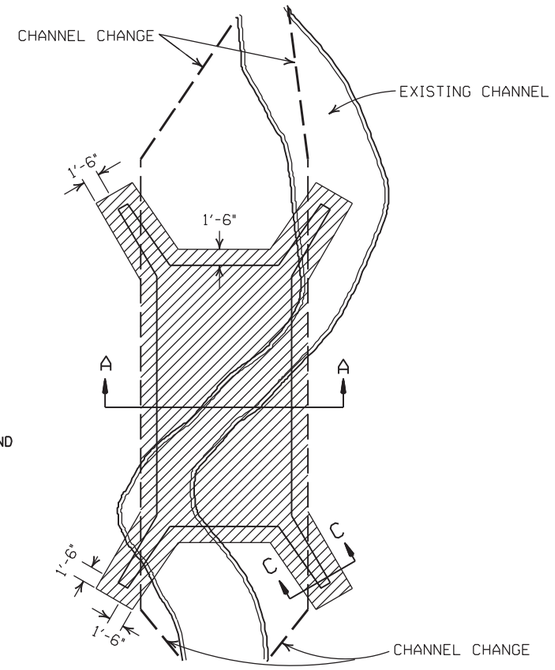


PLAN

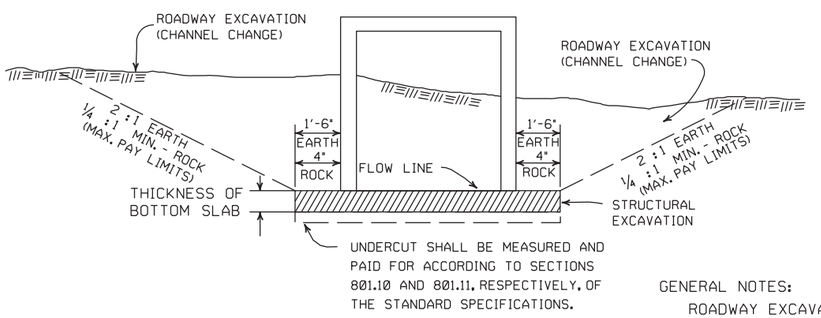


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

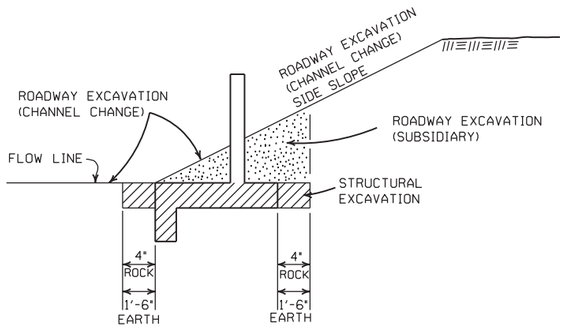


PLAN

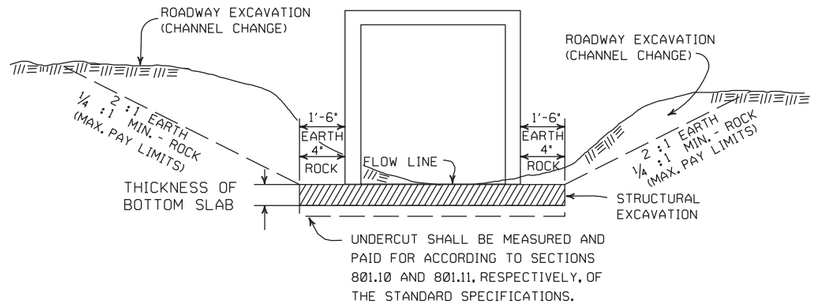


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

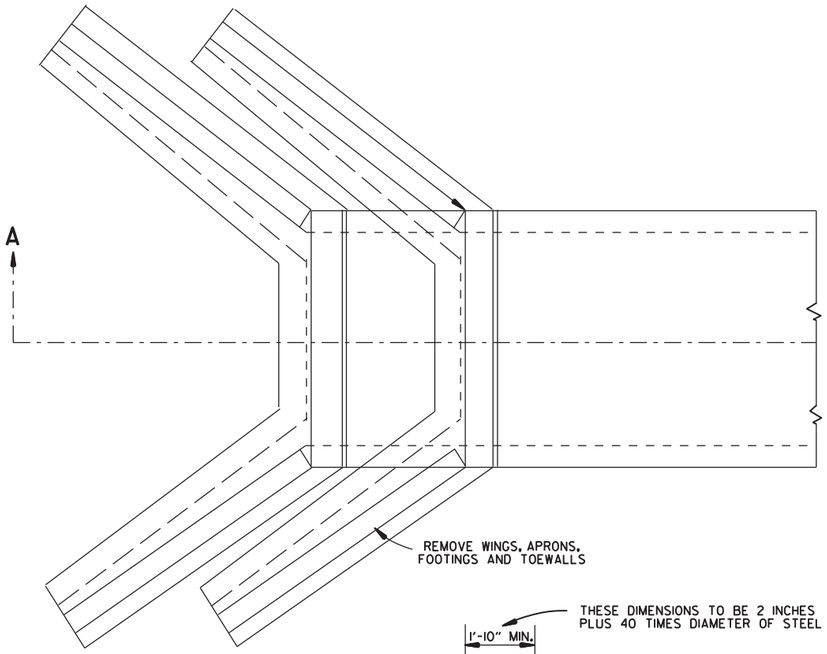
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

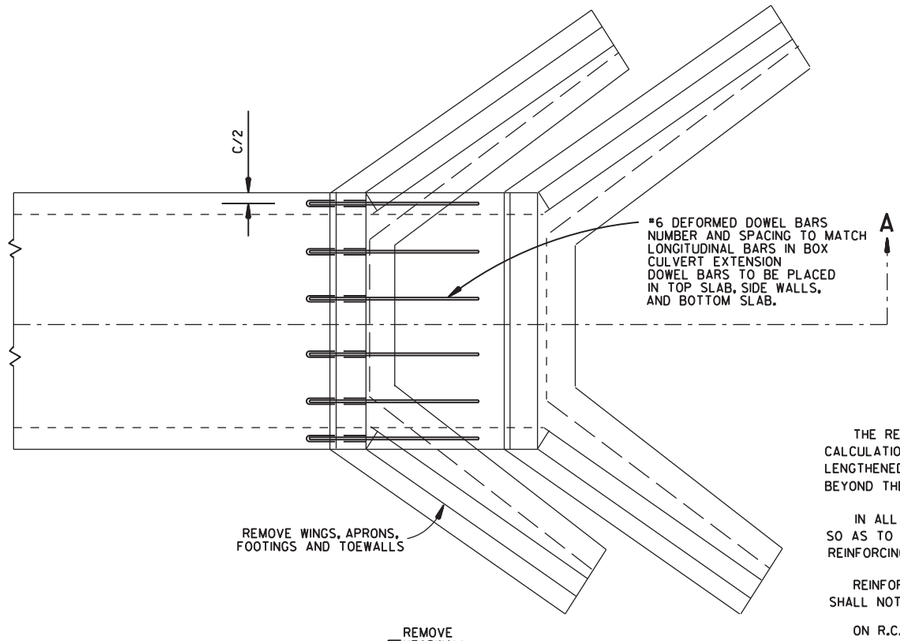
STANDARD DRAWING RCB-2



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158	300	0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168	300	0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168	300	0.056	182		0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.080	240	350
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178	300	0.062	197		0.070	216		0.078	235	350	0.088	259	
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		0.068	211		0.076	230		0.086	254		0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178	250	0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.068	211		0.078	235		0.088	259		0.098	283	400	D MAX = 2° 45'		
3° 15'	0.028	86		0.036	109		0.044	134	200	0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288				
3° 30'	0.030	90		0.038	113		0.046	139		0.056	171		0.066	206		0.076	230		0.086	254		0.096	278	350	D MAX = 3° 30'					
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283							
4° 00'	0.034	97		0.042	121	200	0.052	151		0.062	185		0.072	221		0.084	250		0.094	274	350	0.100	288		D MAX = 4° 15'						
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.086	254		0.096	278										
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104	200	0.048	133		0.060	168		0.070	203		0.082	245		0.092	269	350	0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207	250	0.084	250		0.094	274		D MAX = 5° 15'											
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221		0.088	259	300	0.098	283													
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288													
6° 30'	0.050	126		0.062	160		0.074	198	250	0.086	239		0.096	278		D MAX = 6° 30'														
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283																
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252	300	0.100	288																
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		D MAX = 8° 25'																	
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261																			
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																			
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																			
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																				
11° 00'	0.070	162		0.084	203		0.096	244																						
12° 00'	0.074	169		0.088	211	250	0.098	248																						
13° 00'	0.076	173		0.090	215		0.100	252	300																					
14° 00'	0.080	180		0.094	222		D MAX = 13° 45'																							
15° 00'	0.082	184		0.096	226																									
16° 00'	0.086	191		0.098	230																									
17° 00'	0.088	194		0.100	234																									
18° 00'	0.090	198	250	D MAX = 19° 30'																										
19° 00'	0.092	202																												
20° 00'	0.094	205																												
21° 00'	0.096	209																												
22° 00'	0.096	209																												
23° 00'	0.098	212																												
24° 00'	0.098	212																												
25° 00'	0.100	216																												

D MAX = 28° 30'

GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

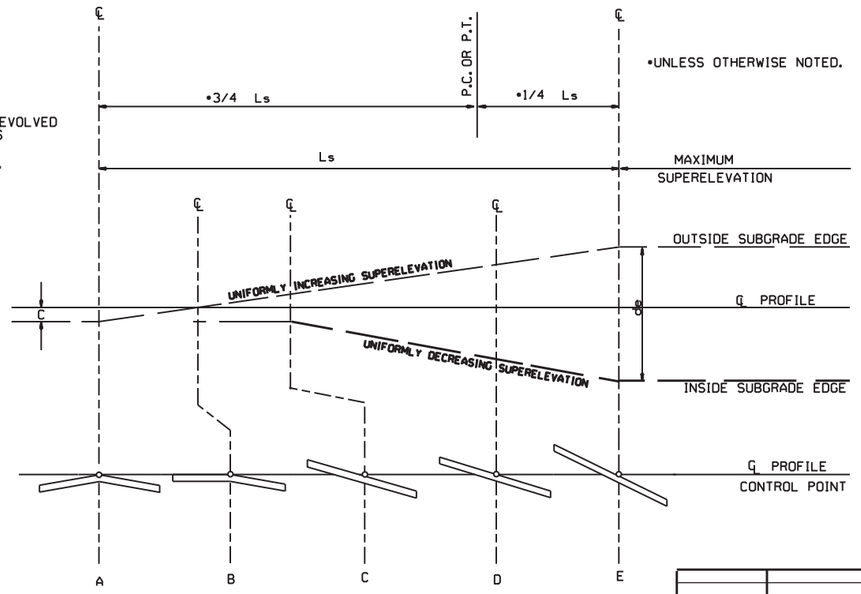
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

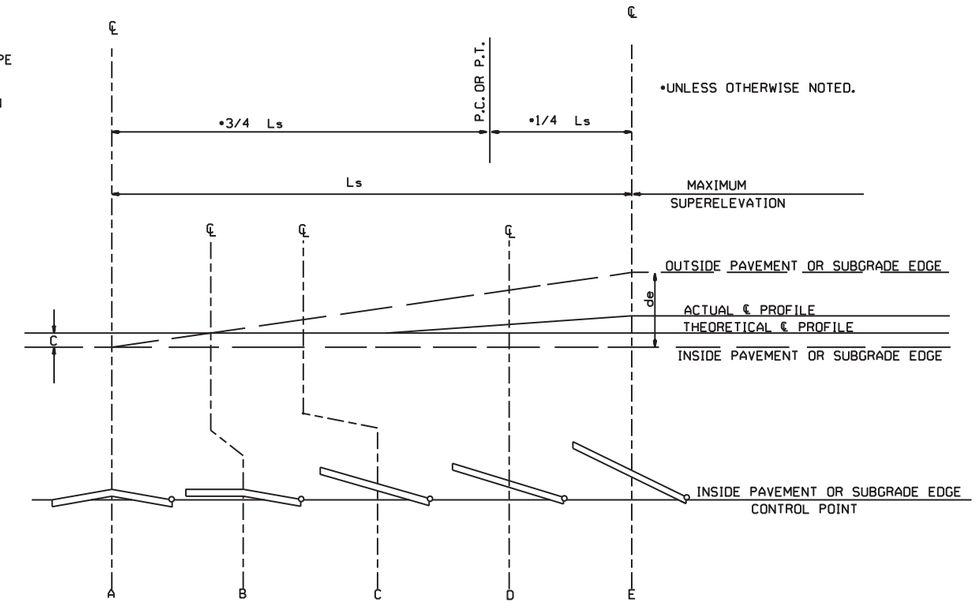
SUPERELEVATION FORMULA $= \frac{Lde}{Ls}$

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

DATE	REVISION	DATE FILMED
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2

STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

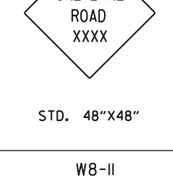
R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

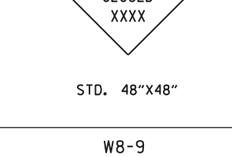
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



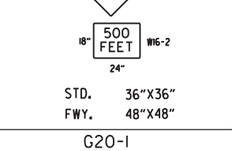
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



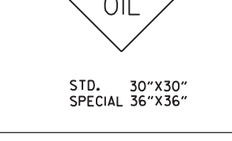
48"X30"

RII-3A



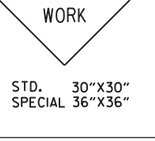
60"X30"

RII-4



60"X30"

W21-5a

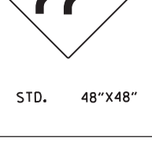


STD. 36"X36"
FWY. 48"X48"

WI-1

STD. 36"X36"
FWY. 48"X48"

WI-2

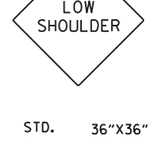


STD. 36"X36"
FWY. 48"X48"

WI-3

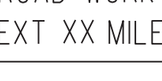
STD. 48"X48"

WI-4



STD. 48"X48"

WI-6

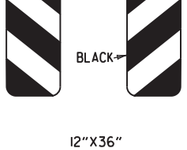


STD. 48"X24"
SPECIAL 60"X30"

WI-8

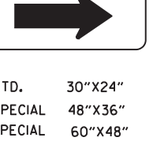
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



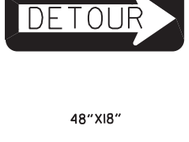
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

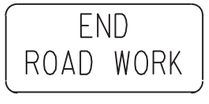
W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2



48"X24"

OM-3L OM-3R

12"X36"

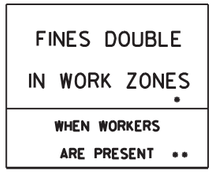
M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. 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.
2. 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.
3. 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.
- 4. 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.
- 5. 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.
6. 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.
7. 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.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. 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.
10. 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.

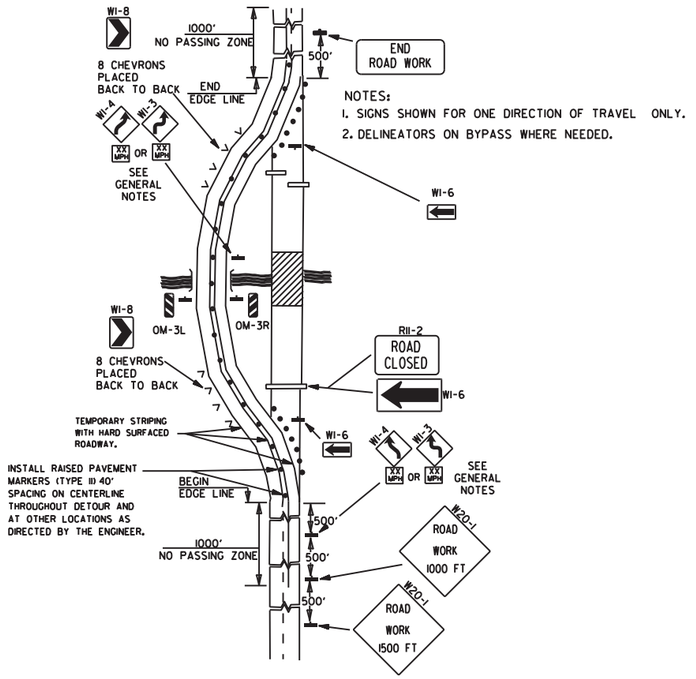
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

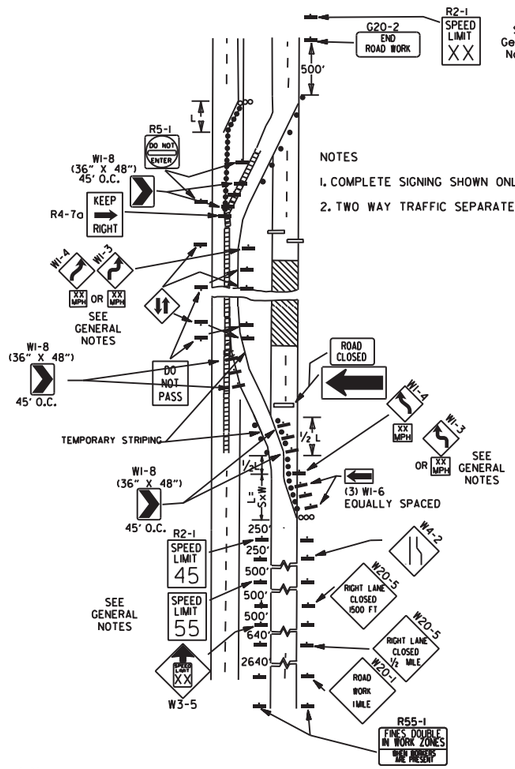
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



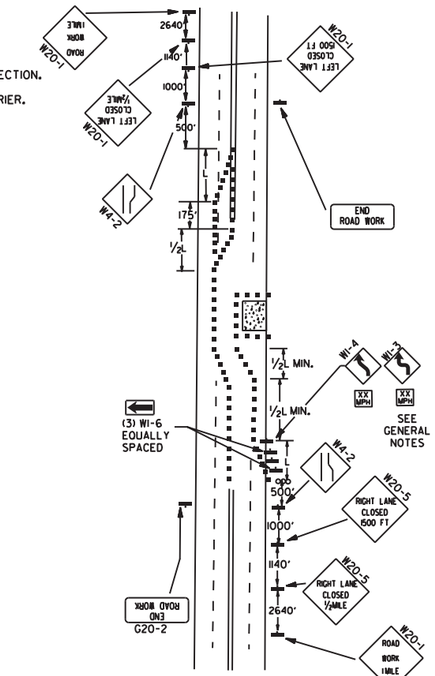
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

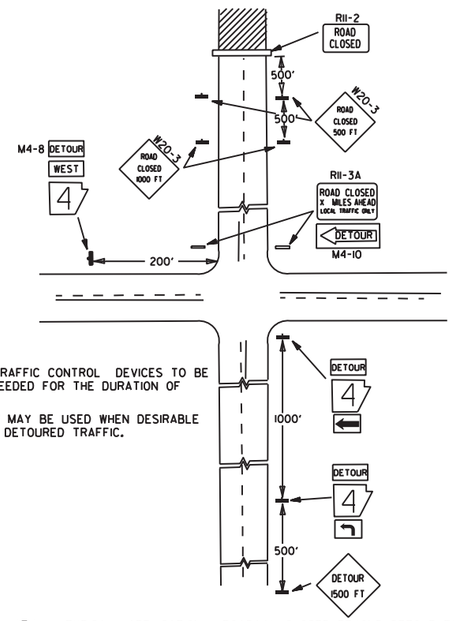


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.

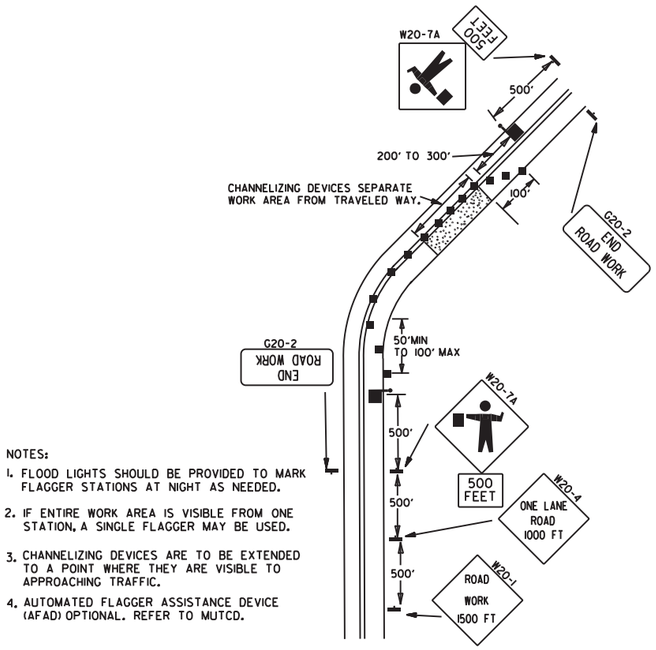


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



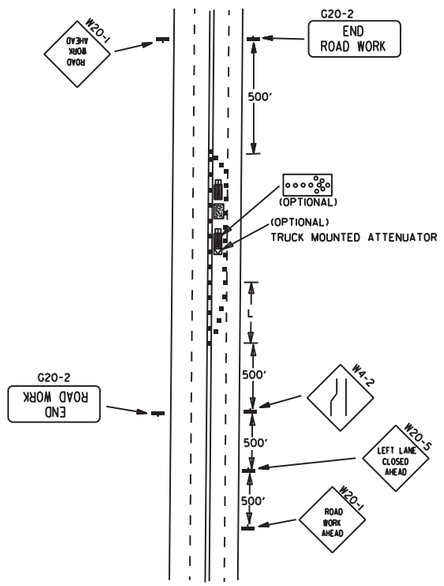
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



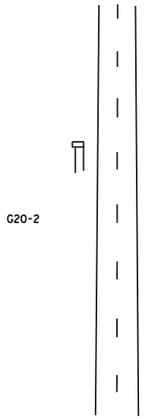
NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.

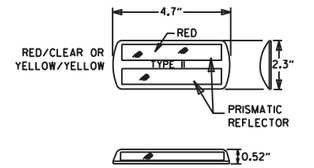


(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

KEY:
- FLAGGER
- POSITIVE BARRIER
- ARROW PANEL (IF REQUIRED)
- TYPE III BARRICADE
- CHANNELIZING DEVICE
- TRAFFIC DRUM
- RAISED PAVEMENT MARKER



TYPICAL ADVANCE WARNING SIGN PLACEMENT



DETAIL OF RAISED PAVEMENT MARKERS

TAPER FORMULAE:

L=SXW 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.

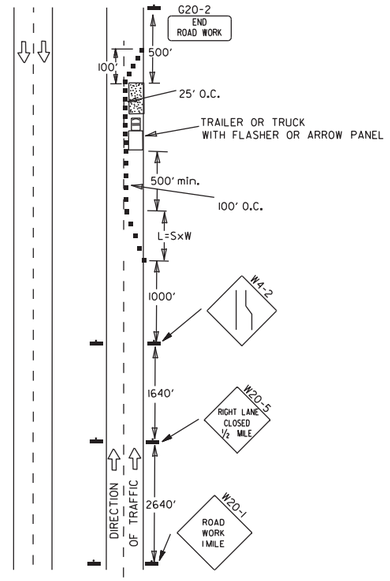
GENERAL NOTES:
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) 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(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. 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.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING 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. 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.
8. 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 ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

DATE	REVISION	FILMED
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
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 (o) 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	

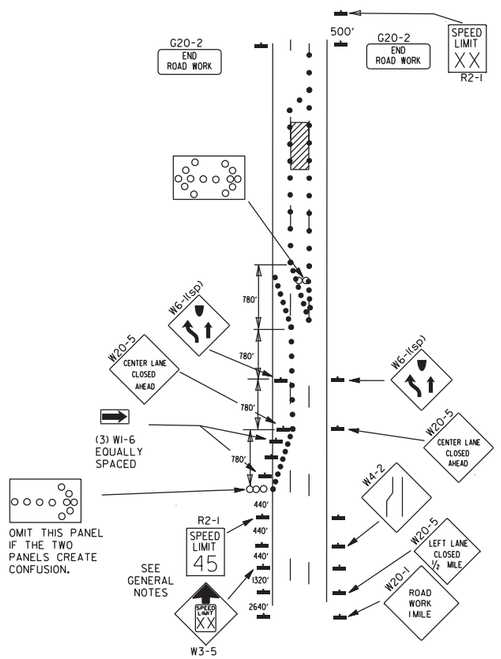
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(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:

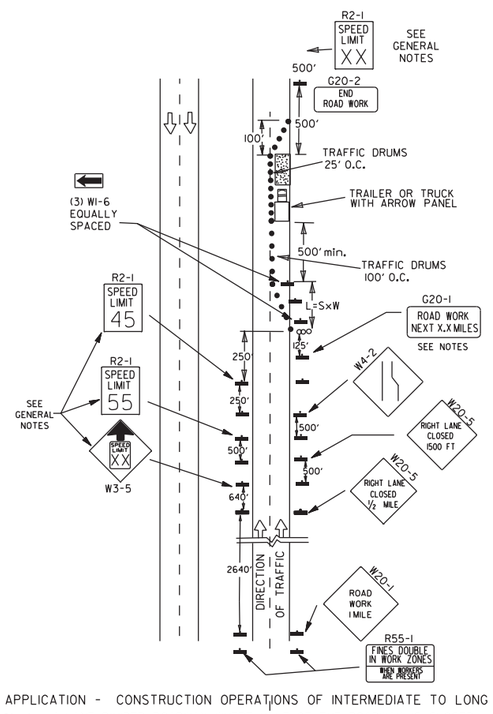
ooo ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

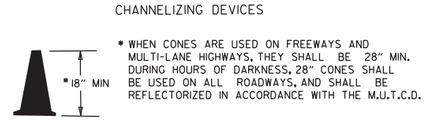
GENERAL NOTES:

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 W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) 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(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. 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.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING 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 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.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



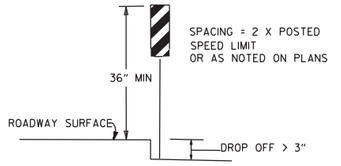
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES

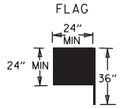


NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

VERTICAL PANEL PLACEMENT



FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS(3)
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER(4) & EDGE LINES	PRECAST CONCRETE BARRIER(4) & EDGE LINES

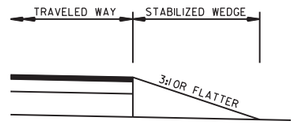
INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 2" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

INTERSTATE AND NON-INTERSTATE

FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

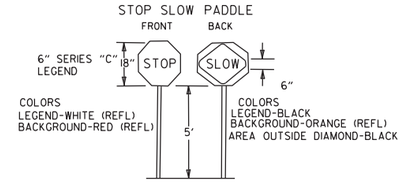
GENERAL NOTES:
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.



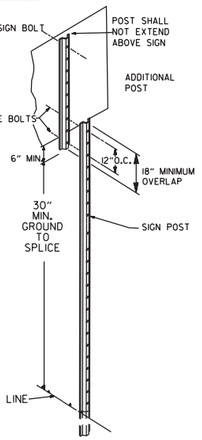
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE



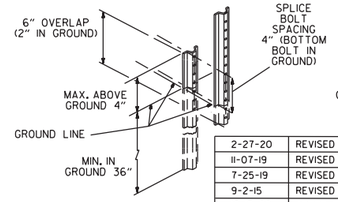
DETAIL OF SPLICES

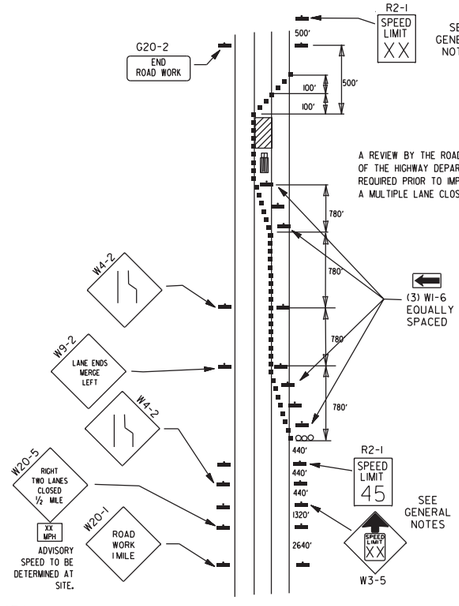


NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

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.





(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

DATE	REVISION	FILMED
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
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	

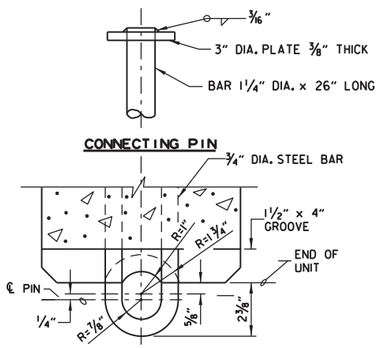
ARKANSAS STATE HIGHWAY COMMISSION

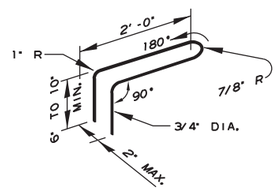
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

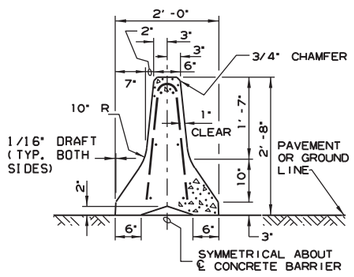
REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

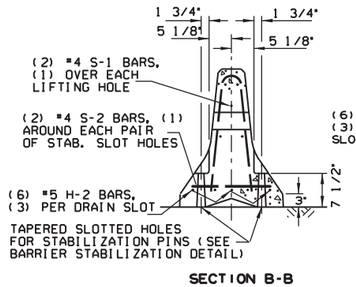




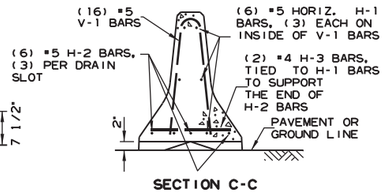
CONNECTION LOOP



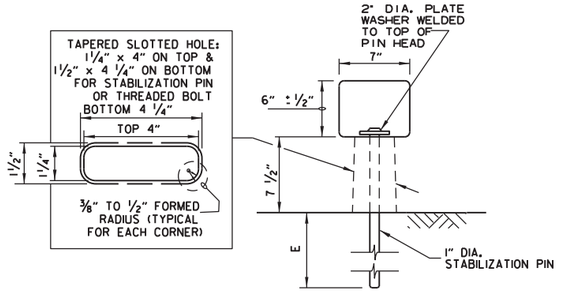
SECTION A-A



SECTION B-B



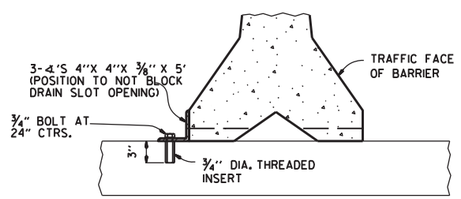
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

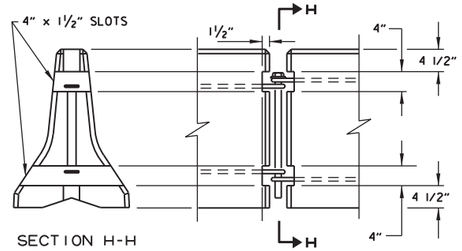
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



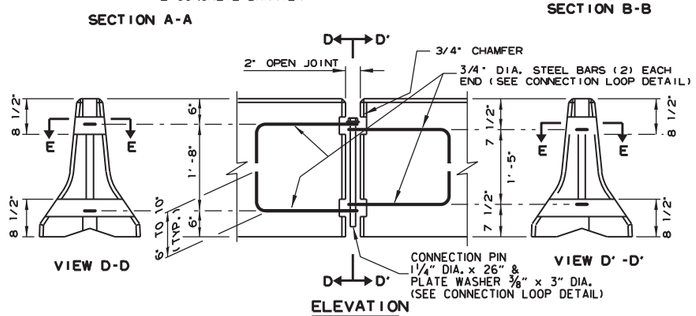
NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

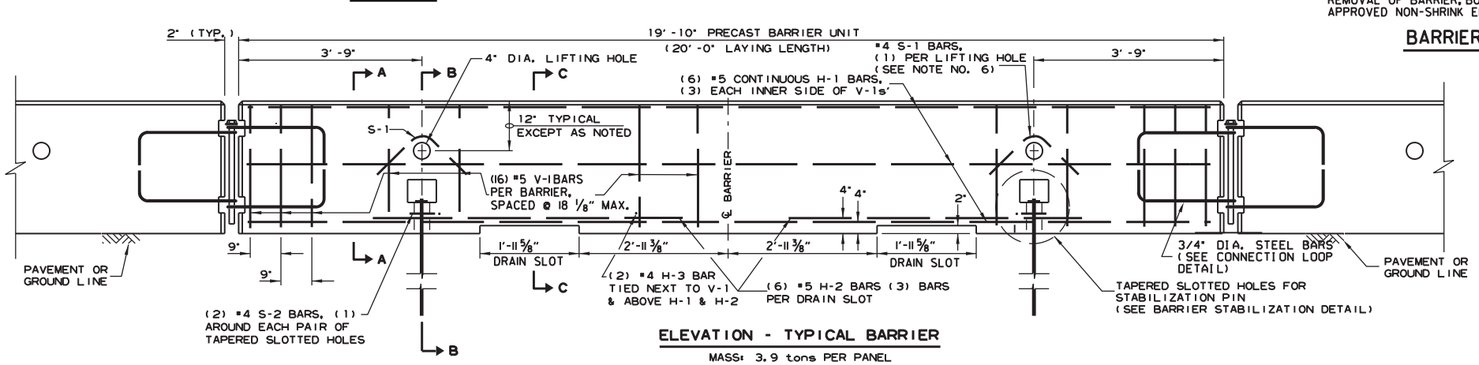
BRIDGE DECKS



BARRIER REMOVAL SLOT DETAILS



ELEVATION



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

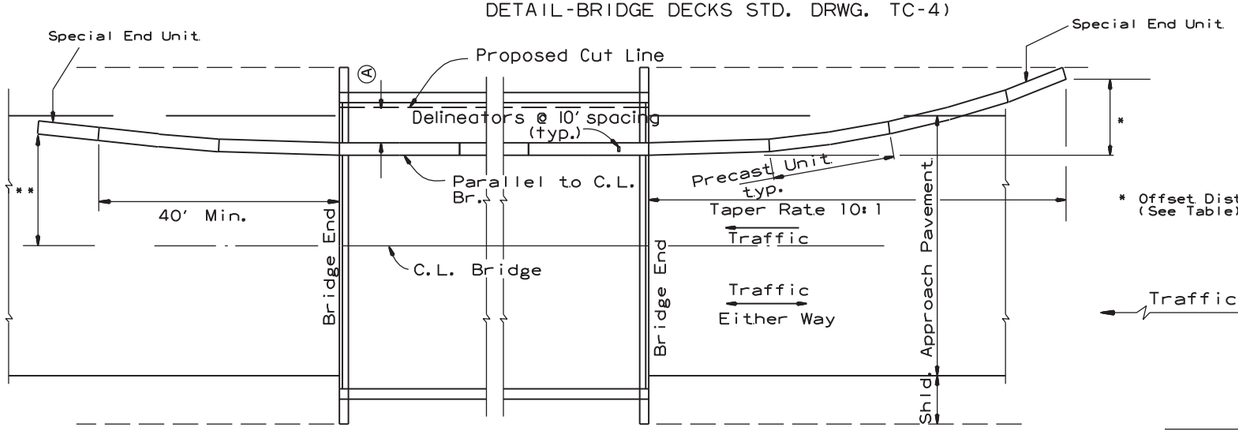
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

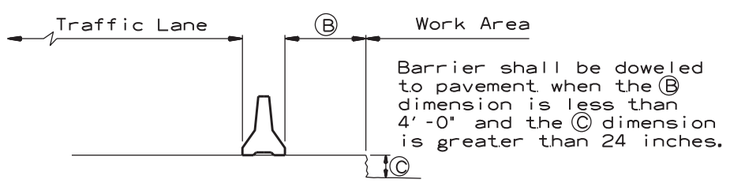
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

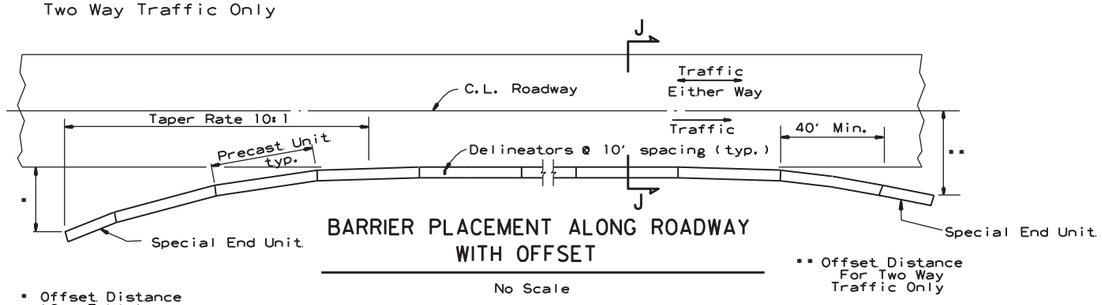
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

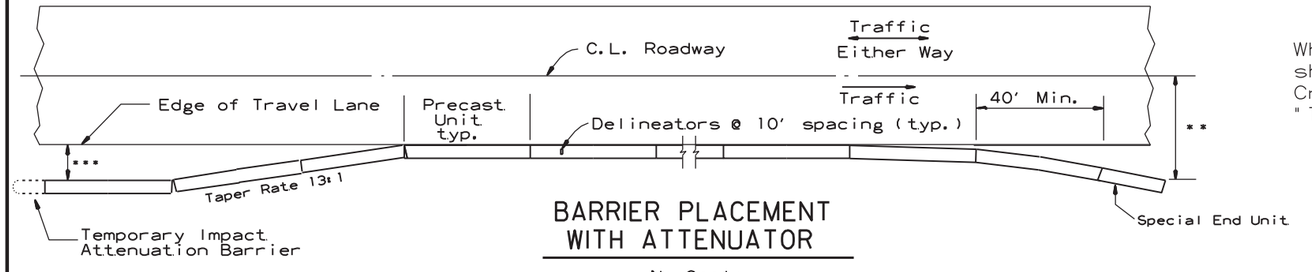
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

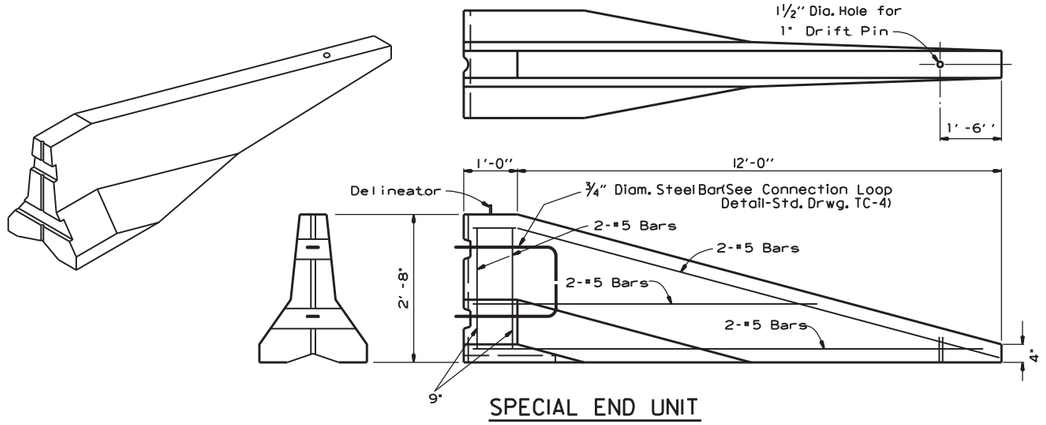


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

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

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

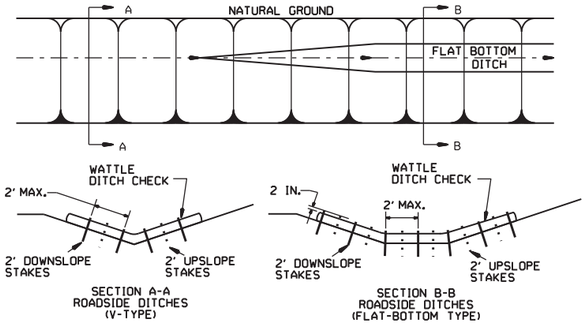
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

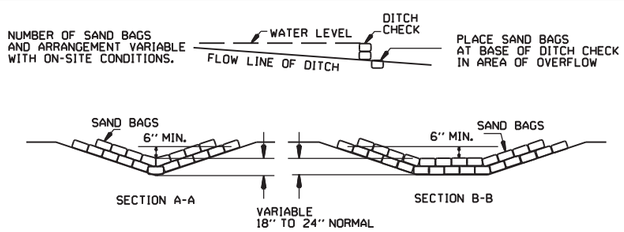
STANDARD DRAWING TC-5

GENERAL NOTES

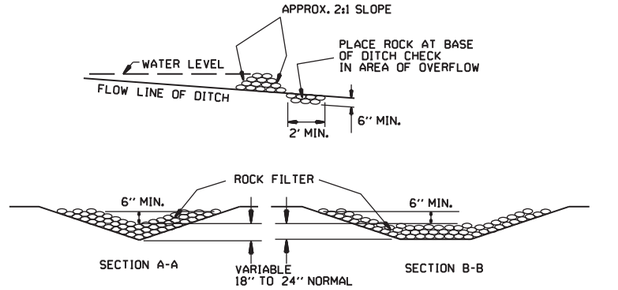
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

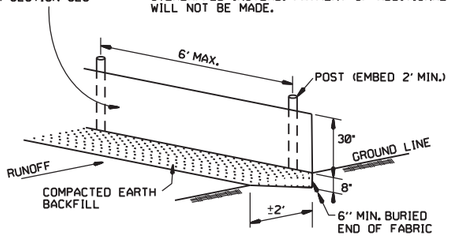


ROCK DITCH CHECK (E-6)

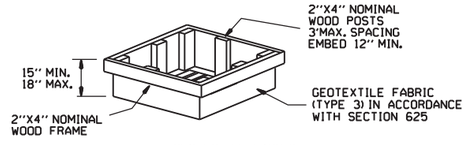
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

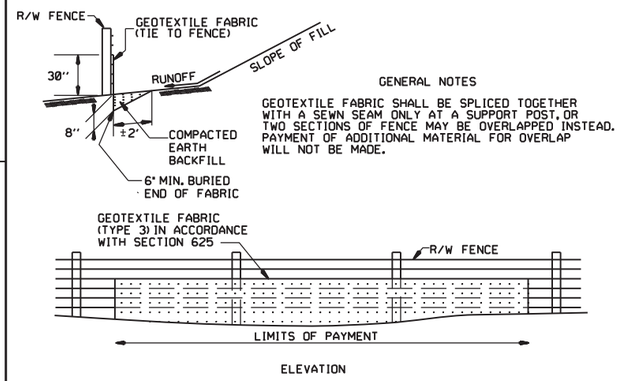
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



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.

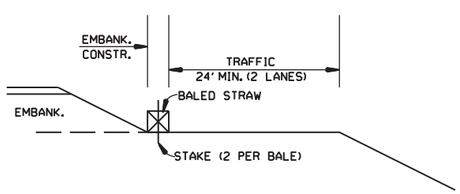
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

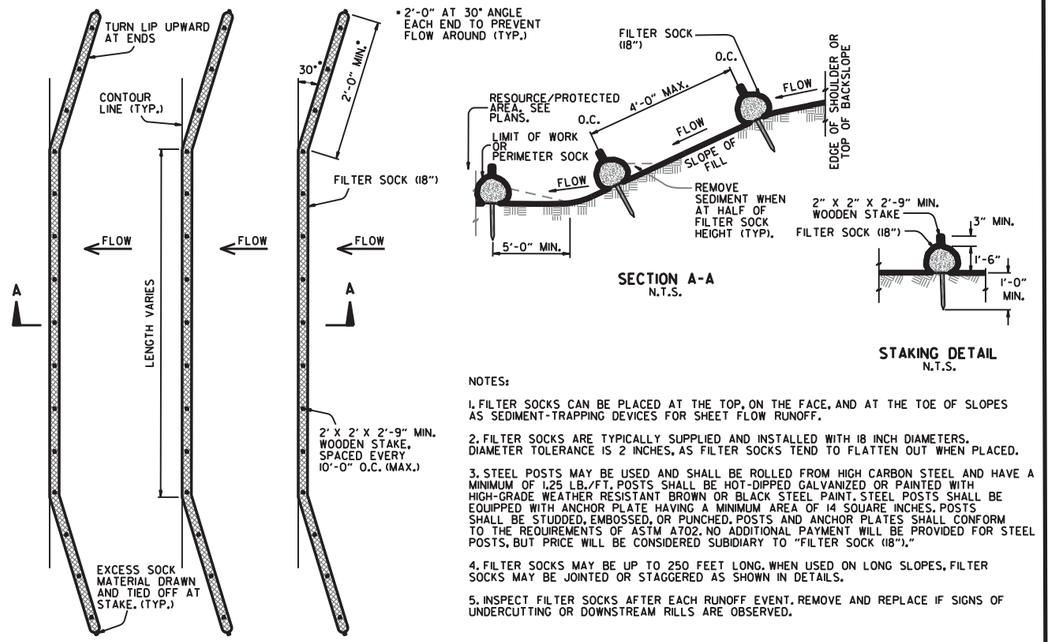
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

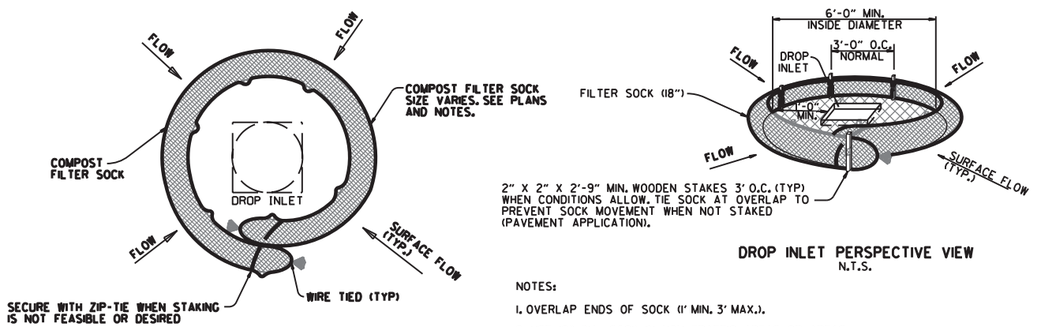
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

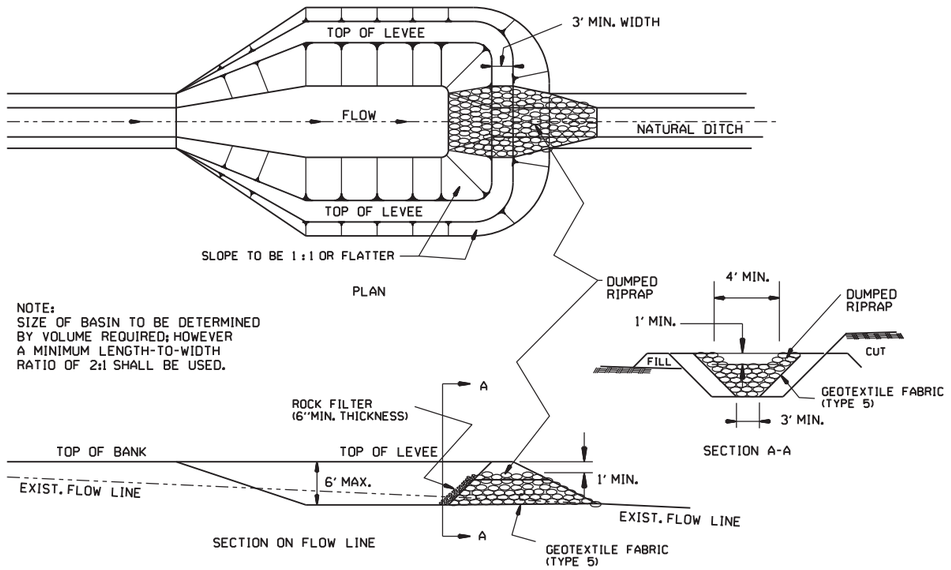
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

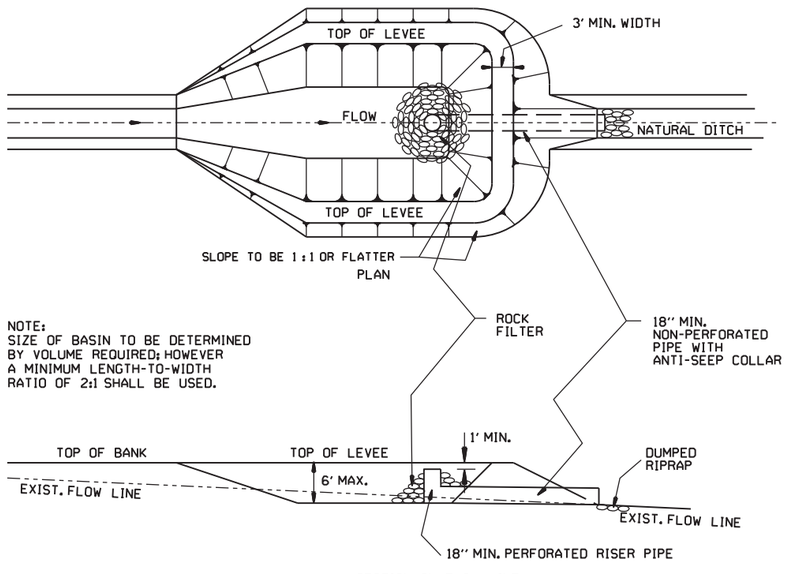
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

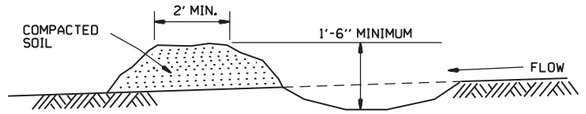
STANDARD DRAWING TEC-1



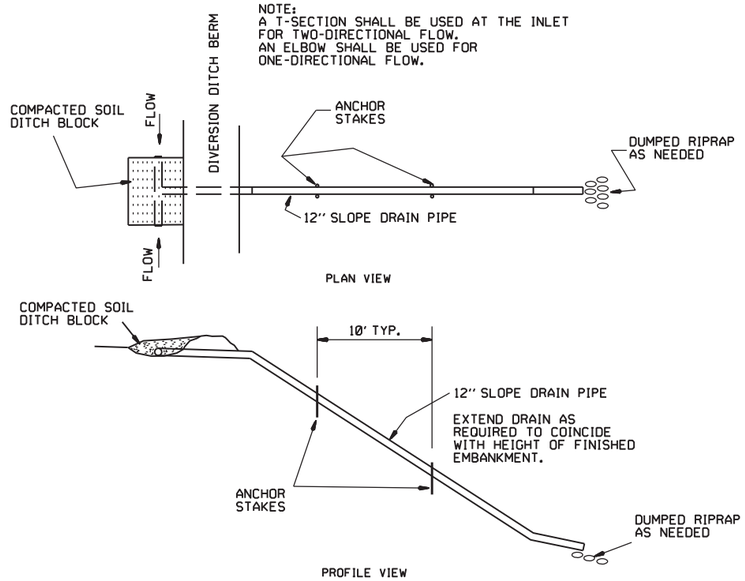
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



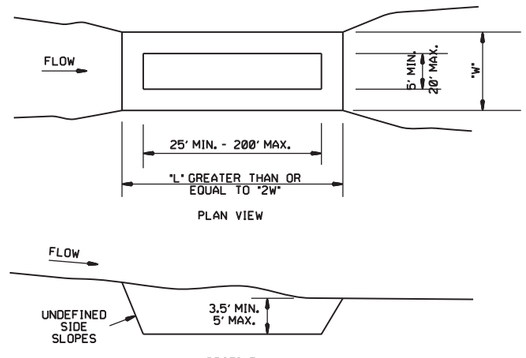
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-2

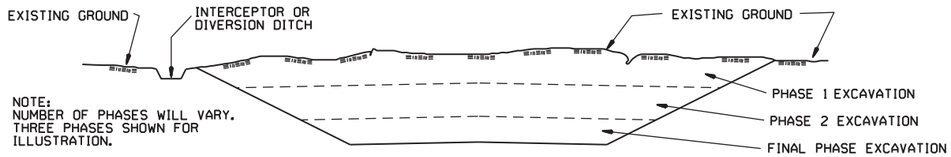
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)

2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



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

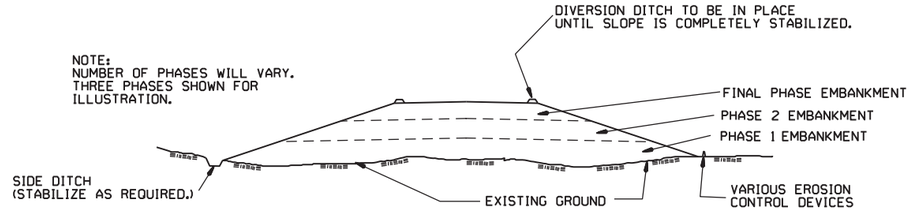
1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.

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



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.

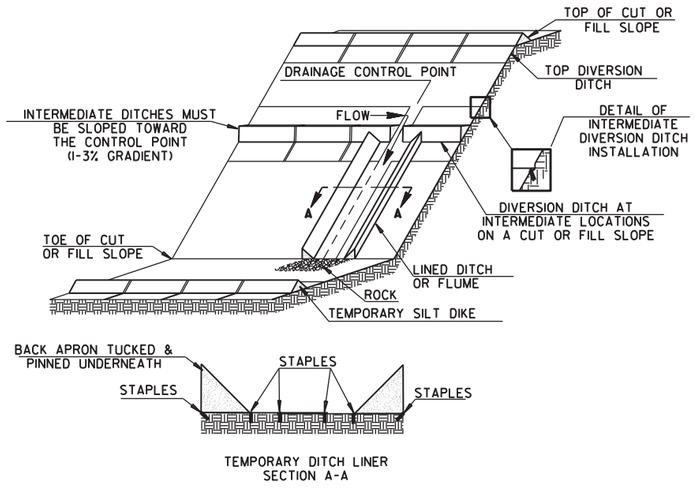
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

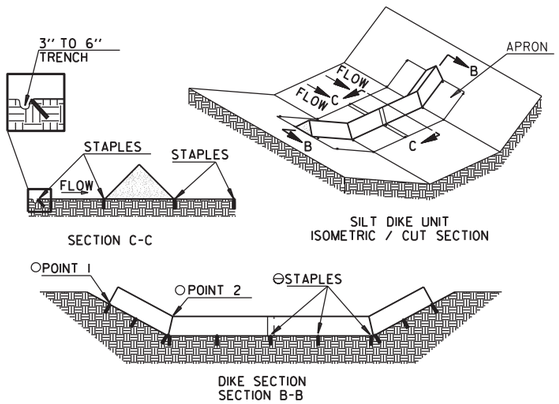
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



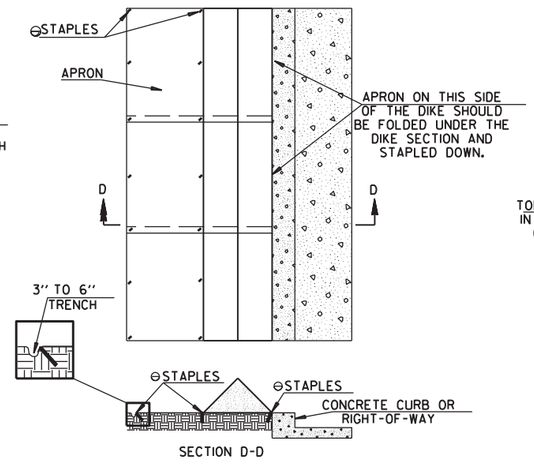
TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER



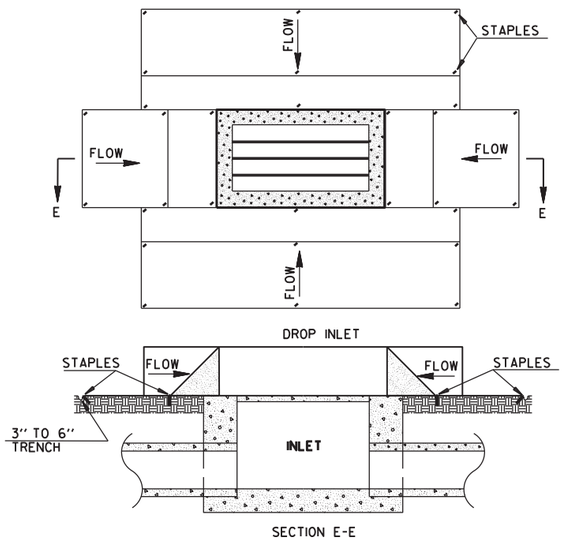
TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

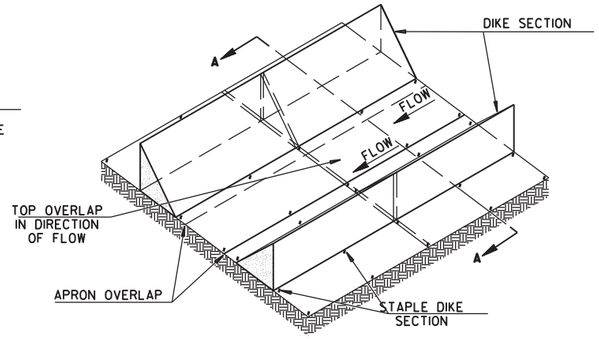
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

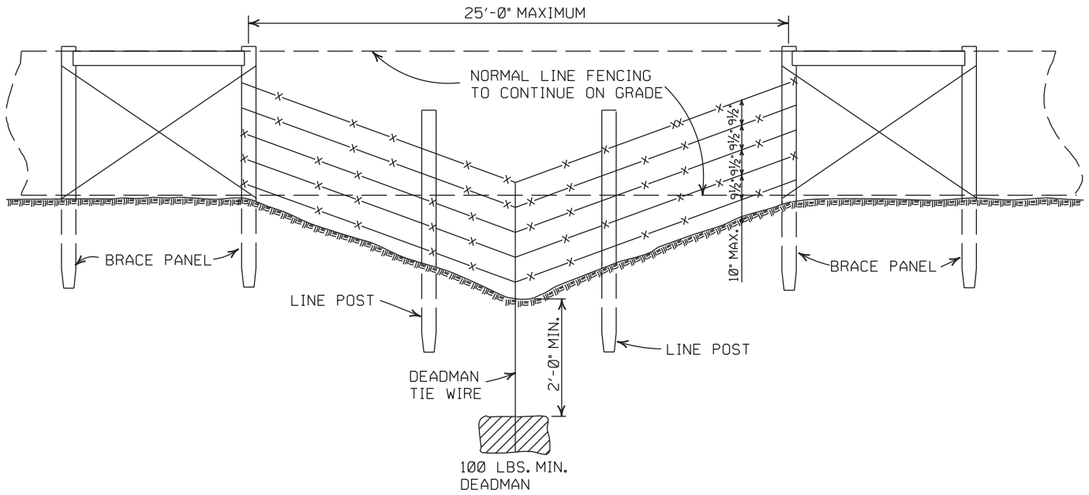
NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

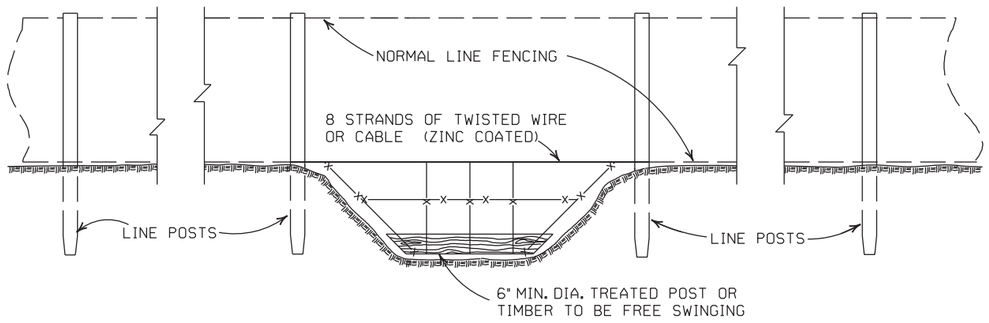
DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

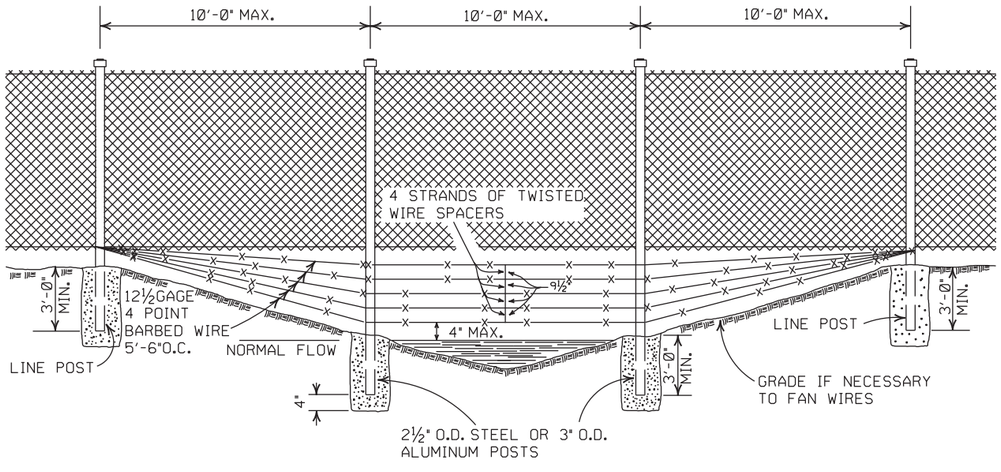
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

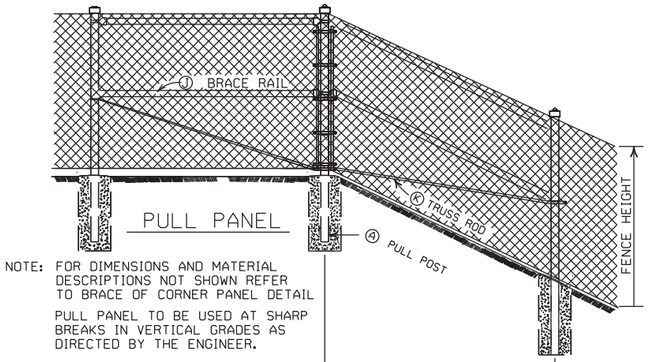
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	FILMED
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

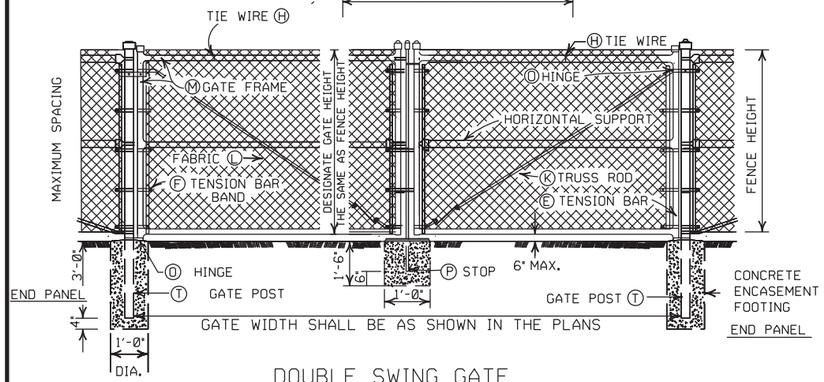
STANDARD DRAWING WF-2



PULL PANEL

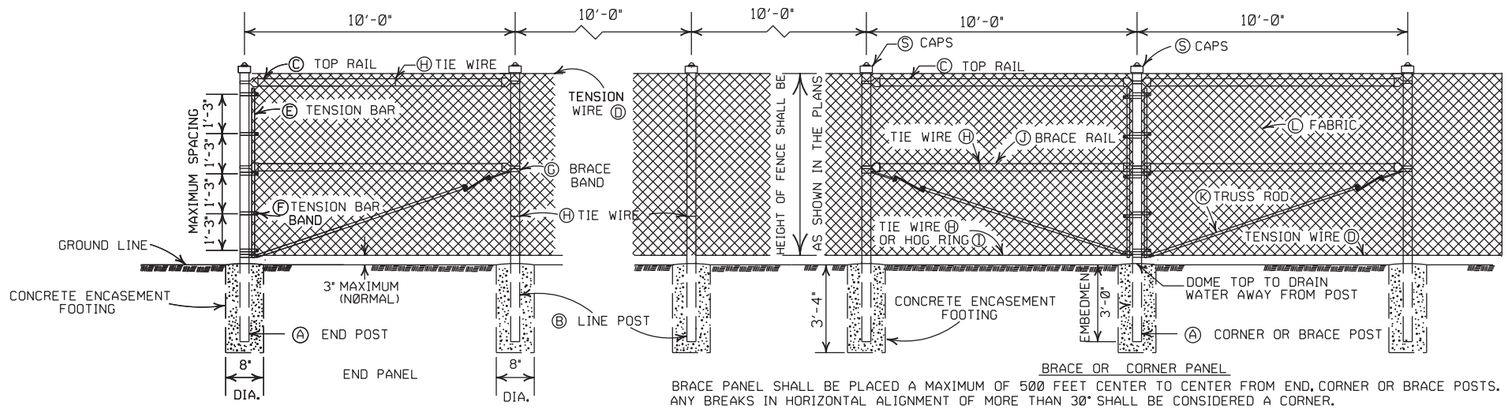
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



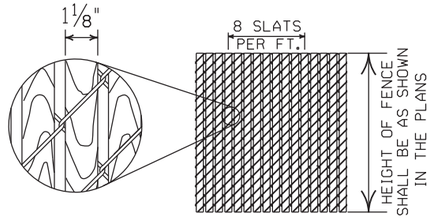
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

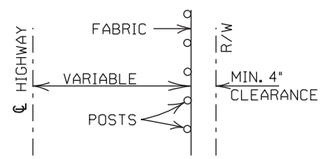
HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅝" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

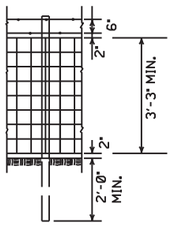
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

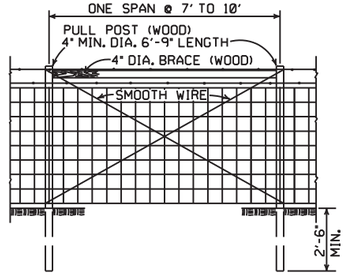
ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

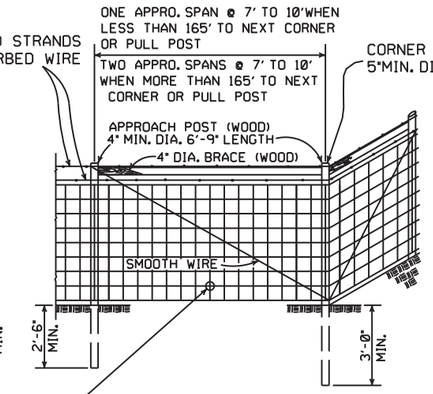
STANDARD DRAWING WF-3

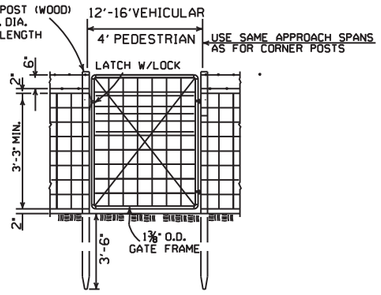


LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"



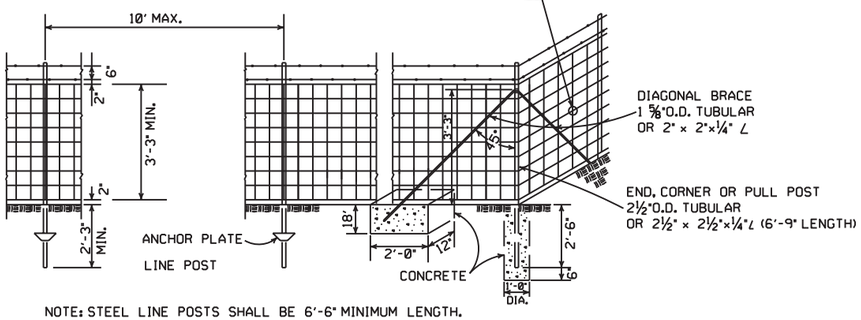
LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'



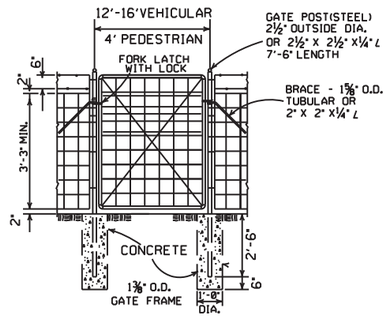


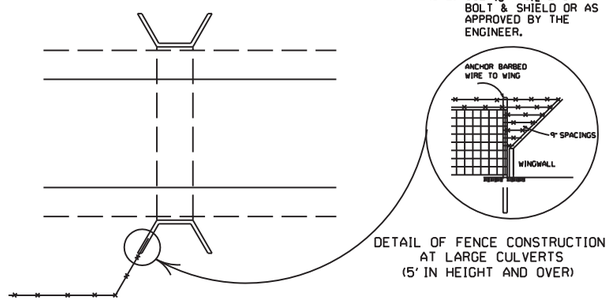
TYPE C FENCE (WOOD POSTS)

OTHER APPROVED TIES
WILL BE PERMITTED



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.





DETAIL OF FENCE CONSTRUCTION
AT LARGE CULVERTS
(5' IN HEIGHT AND OVER)

GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED.
TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

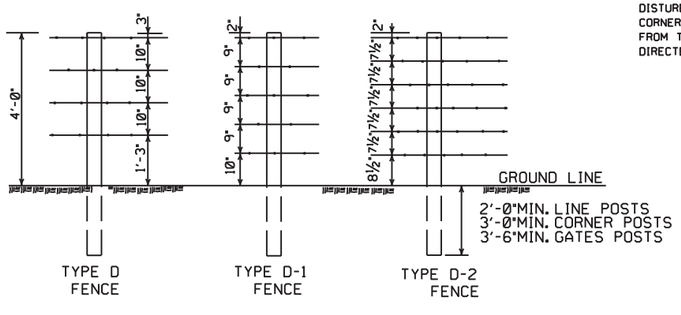
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS:
THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

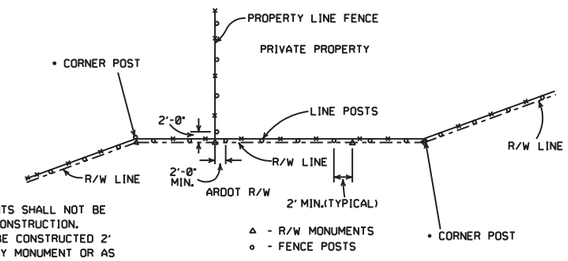
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

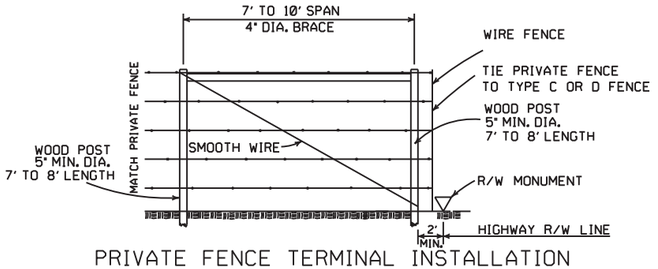


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



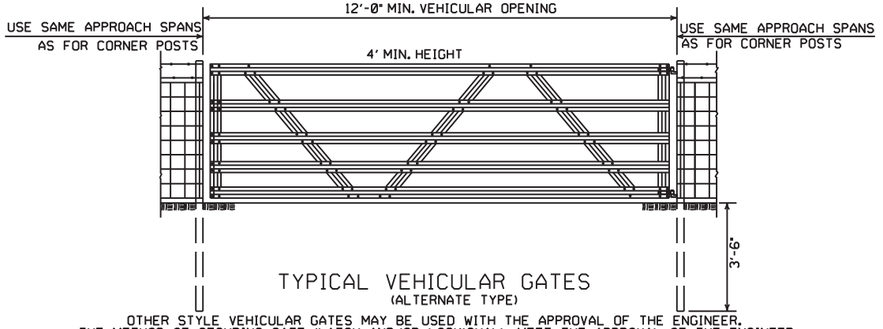
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES

(ALTERNATE TYPE)

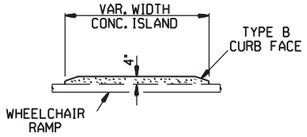
OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

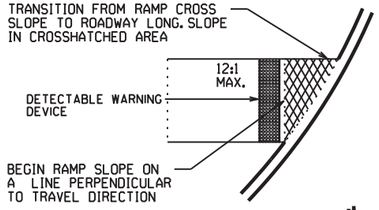
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

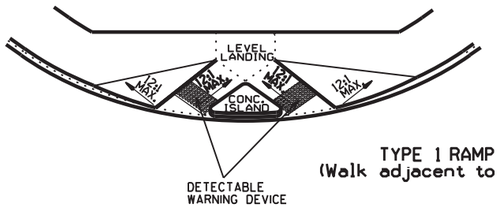
STANDARD DRAWING WF-4



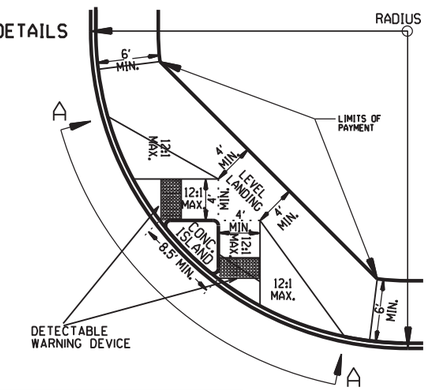
CONCRETE ISLAND DETAIL



SLOPE TRANSITION DETAILS



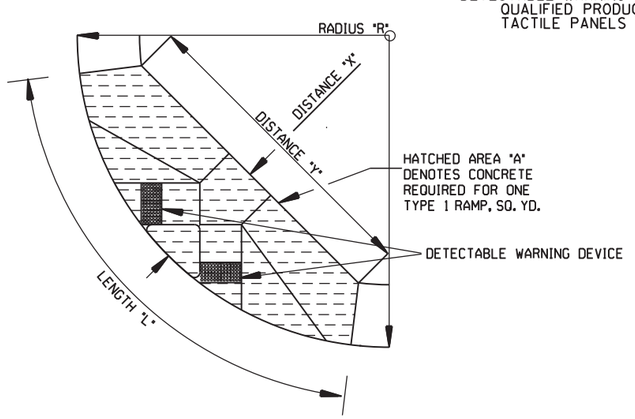
TYPE 1 RAMP
(Walk adjacent to curb)



SECTION A-A

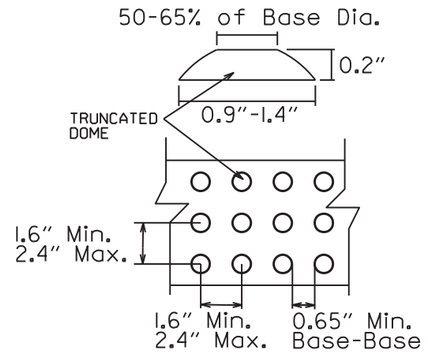
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	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

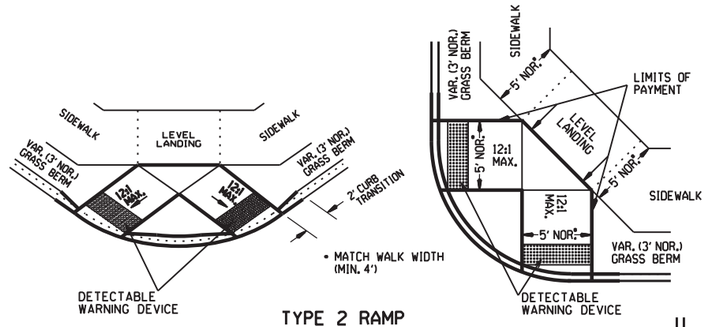
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT 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 ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



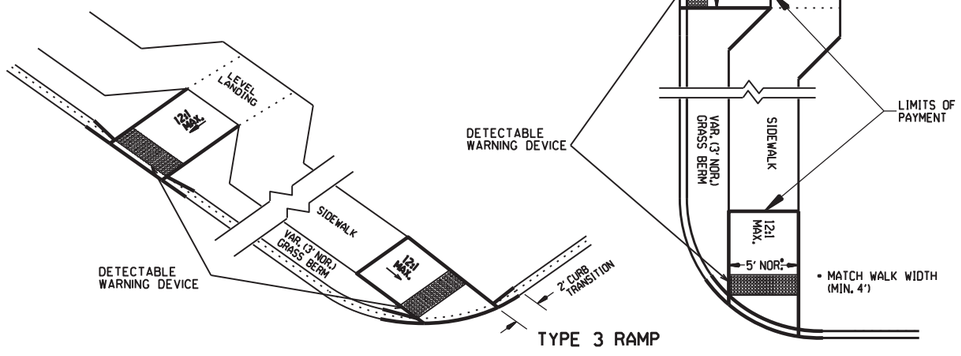
DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

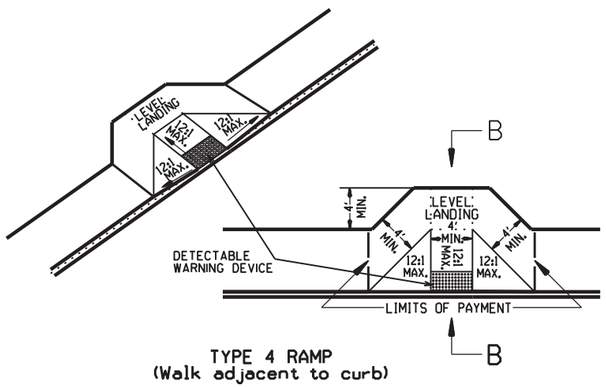


TYPE 2 RAMP

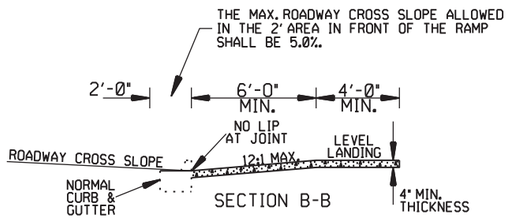


TYPE 3 RAMP

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



TYPE 4 RAMP
(Walk adjacent to curb)



SECTION B-B

RAMP SELECTION CRITERIA

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	FROM8#TO12#MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."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