DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	1	148
				(2) IZARD CO. LINE - MOUNTAIN HOME (SAFETY IMPVTS.) (SEL. SECS.) (S)				

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

IZARD CO. LINE - MOUNTAIN HOME

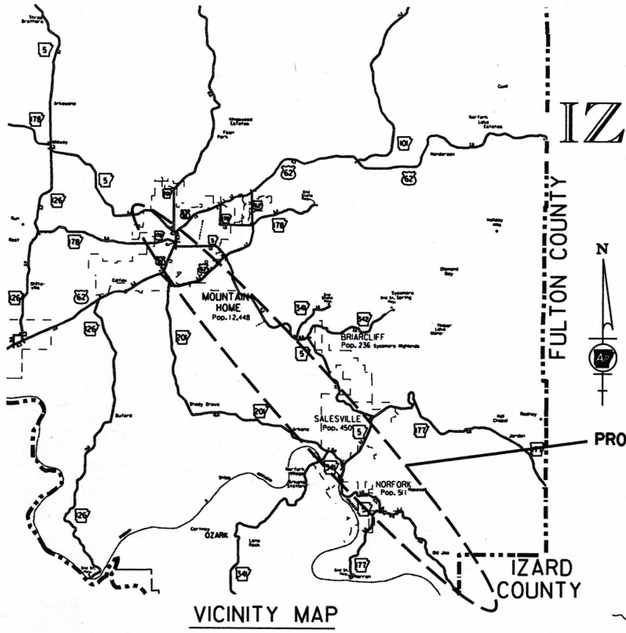
(SAFETY IMPVTS.) (SEL. SECS.) (S)

BAXTER COUNTY

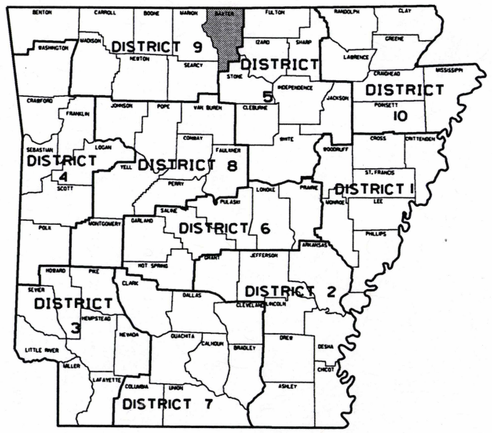
ROUTE 5 SECTIONS 18 & 19

FED. AID PROJ. HSIP-STPF-0003(17)

JOB 090517

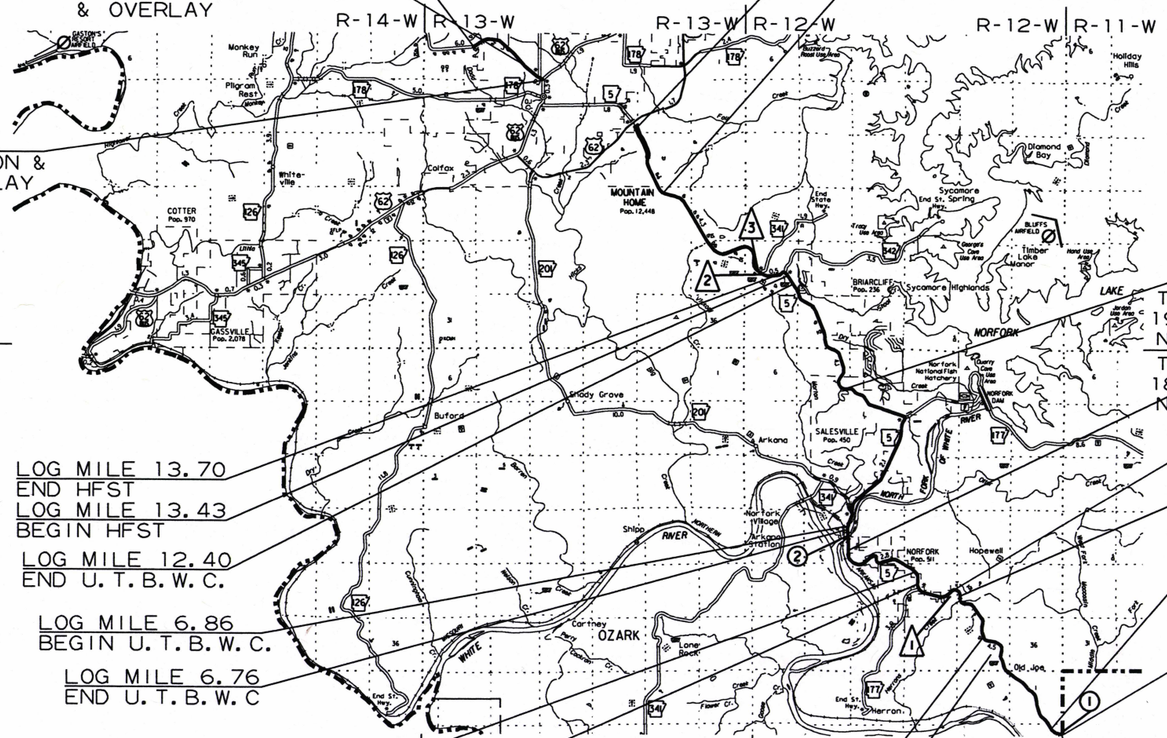


VICINITY MAP



ARK. HWY. DIST. NO. 9

NOT TO SCALE



LOG MILE 0.00
END JOB EXCEPTION &
BEGIN MILL & INLAY

LOG MILE 0.40
END MILL & INLAY &
BEGIN MILL, INLAY,
& OVERLAY

LOG MILE 1.40
END MILL, INLAY &
OVERLAY & JOB 090517

STA. 1387+66.26
END TWLTL WIDENING
& BEGIN JOB EXCEPTION

STA. 1303+25.00
END SHOULDER WIDENING
BEGIN TWLTL WIDENING
LOG MILE 16.60

LOG MILE 13.70
END HFST
LOG MILE 13.43
BEGIN HFST

LOG MILE 12.40
END U.T.B.W.C.

LOG MILE 6.86
BEGIN U.T.B.W.C.

LOG MILE 6.76
END U.T.B.W.C

LOG MILE 4.62
END HFST &
BEGIN U.T.B.W.C
LOG MILE 4.38
BEGIN HFST

LOG MILE 2.34
END HFST
LOG MILE 1.91
BEGIN HFST

LOG MILE 10.60
BEGIN SHOULDER WIDENING

LOG MILE 6.45
END SHOULDER WIDENING

LOG MILE 3.89
END HFST
LOG MILE 3.20
BEGIN HFST

LOG MILE 0.13
BEGIN SHOULDER WIDENING

LOG MILE 0.00
BEGIN JOB 090517

BRIDGE DATA

(1) LOG MILE 0.02
BRIDGE NO. 06037
280'-0" EIGHT SPAN CONTINUOUS R.C. SLAB UNIT
32'-0" CLEAR ROADWAY
280'-0" BRIDGE LENGTH
LOG MILE 0.06
POLYMER OVERLAY

(2) LOG MILE 6.76
BRIDGE NO. 07248
550'-0" CONTINUOUS COMPOSITE GIRDER UNIT
(125', 150', 150', 125')
40'-0" CLEAR ROADWAY
552'-6" BRIDGE LENGTH
LOG MILE 6.86
POLYMER OVERLAY

STRUCTURES OVER 20'-0" SPAN
(FOR INFORMATION ONLY)

(1) LOG MILE 3.47 RETAIN
DBL. 10' X 4' X 41' R.C. BOX CULVERT
15° RT. FWD. SKEW
22.08' SPAN WIDTH

(2) LOG MILE 13.70 RETAIN
4' X 5' X 31' R.C. BOX CULVERT
15° RT. FWD. SKEW
5' SPAN WIDTH

(3) LOG MILE 13.94 RETAIN
DBL. 4' X 4' X 42' R.C. BOX CULVERT
15° RT. FWD. SKEW
10' SPAN WIDTH

DESIGN TRAFFIC DATA

DESIGN YEAR	2040
2020 ADT	4200
2040 ADT	5000
2040 DHV	550
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	5%
AVERAGE RUNNING SPEED	50 MPH

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 36°09'29"	N 36°14'49"	N 36°21'05"
LONGITUDE	W 92°12'52"	W 92°16'14"	W 92°24'14"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT			103382.40	FEET	OR	19.580 MILES
NET	:	: ROADWAY	102549.90	:		19.422 MILES
NET	:	: BRIDGES	832.50	:		0.158 MILES
NET	:	: PROJECT	103382.40	:		19.580 MILES

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
M. E. BANKS

2-24-2020

DEPUTY DIRECTOR
AND CHIEF ENGINEER

8/23/2018

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

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 - 12	TYPICAL SECTIONS OF IMPROVEMENT		
13 - 17	SPECIAL DETAILS		
18 - 31	TEMPORARY EROSION CONTROL DETAILS		
32 - 40	MAINTENANCE OF TRAFFIC DETAILS		
41 - 44	PERMANENT PAVEMENT MARKING DETAILS		
45 - 57	QUANTITIES		
58	SCHEDULE OF BRIDGE QUANTITIES	06037, 07248	55603
59	SUMMARY OF QUANTITIES AND REVISIONS		
60 - 64	SURVEY CONTROL DETAILS		
65 - 71	PLAN AND PROFILE SHEETS		
72 - 148	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
55064	STANDARD DETAILS FOR JOINT REPAIRS & MODIFICATION	11-07-19

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
GR-6	GUARD RAIL DETAILS	11-07-19
GR-7	GUARD RAIL DETAILS	11-07-19
GR-8	GUARD RAIL DETAILS	11-07-19
GR-9	GUARD RAIL DETAILS	11-07-19
GR-10	GUARD RAIL DETAILS	11-07-19
GR-11	GUARD RAIL DETAILS	11-07-19
GR-12	GUARD RAIL DETAILS	11-07-19
MB-1	MAILBOX DETAILS	11-18-04
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 PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	11-07-19
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
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	11-07-19
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

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(2) GOVERNING SPECS. AND GENERAL NOTES

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

2-21-2020

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 - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - TRAINING PROGRAM - JOB 090517
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 MEASURING 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
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 090517__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 090517__	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS
JOB 090517__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 090517__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 090517__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 090517__	CAVE DISCOVERY
JOB 090517__	CONSTRUCTION PROJECT INFORMATION SIGN
JOB 090517__	CULVERT CLEAN OUT
JOB 090517__	DELAY IN RIGHT OF WAY OCCUPANCY
JOB 090517__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 090517__	EXTENSION FOR PIPE CULVERTS
JOB 090517__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 090517__	HIGH FRICTION SURFACE TREATMENT
JOB 090517__	JOINT REHABILITATION FOR BRIDGE DECKS
JOB 090517__	MANDATORY ELECTRONIC CONTRACT
JOB 090517__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 090517__	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 090517__	PARTNERING REQUIREMENTS
JOB 090517__	PLASTIC PIPE
JOB 090517__	POLYMER OVERLAY
JOB 090517__	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 090517__	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER
JOB 090517__	RUMBLE STRIPS
JOB 090517__	SHORING FOR CULVERTS
JOB 090517__	SOIL STABILIZATION
JOB 090517__	STORM WATER POLLUTION PREVENTION PLAN
JOB 090517__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090517__	ULTRATHIN BONDED WEARING COURSE
JOB 090517__	UTILITY ADJUSTMENTS
JOB 090517__	VALUE ENGINEERING
JOB 090517__	WARM MIX ASPHALT
JOB 090517__	WELLHEAD PROTECTION

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 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

1/22/2020

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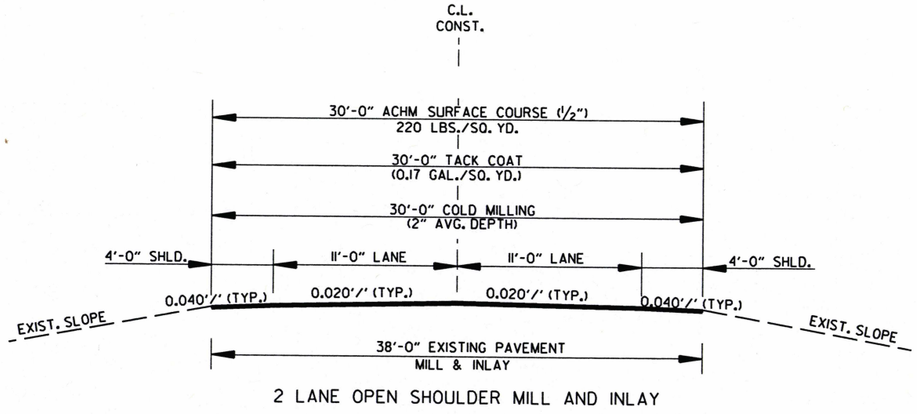
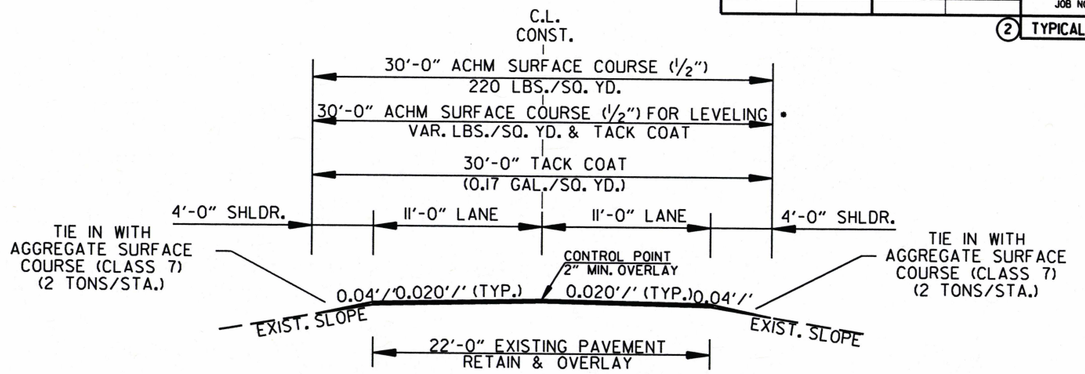
				JOB NO.		090517	4	148

(2) TYPICAL SECTIONS OF IMPROVEMENT



2 LANE OPEN SHOULDER MILL AND INLAY

LOG MILE 0.00 TO LOG MILE 0.02 (SEC. 18)
LOG MILE 0.07 TO LOG MILE 0.09 (SEC. 18)



2 LANE OPEN SHOULDER OVERLAY

LOG MILE 0.09 TO LOG MILE 0.13 (SEC. 18)

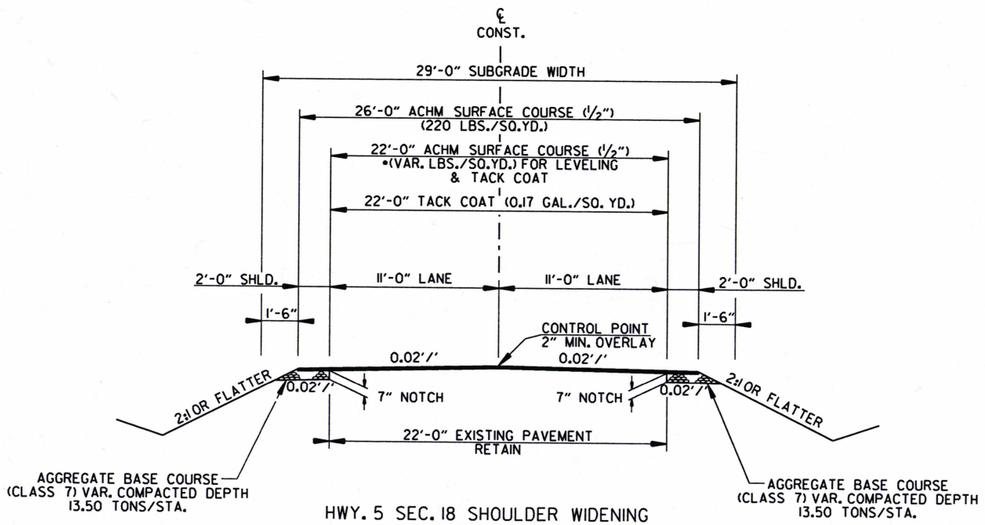
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

NOTES:

LONGITUDINAL JOINTS ARE TO BE PLACED PER TYPICAL SECTION IN ACCORDANCE WITH SECTION 410.07 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ALL CROSS SLOPES ARE TO MATCH EXISTING CROSS SLOPES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

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.

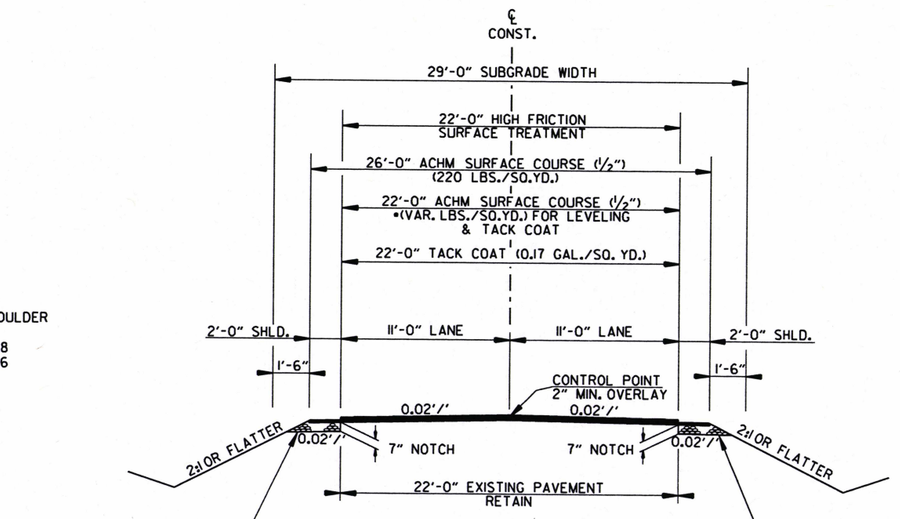


HWY. 5 SEC. 18 SHOULDER WIDENING

LOG MILE 0.13 TO LOG MILE 1.91
LOG MILE 2.34 TO LOG MILE 3.20
LOG MILE 3.89 TO LOG MILE 4.38
LOG MILE 12.40 TO LOG MILE 13.43
LOG MILE 13.71 TO LOG MILE 13.94
LOG MILE 13.95 TO LOG MILE 16.58

•TO BE USED IF & WHERE DIRECTED BY THE ENGINEER.

••TRANSITION FROM 2 LANE OPEN SHOULDER TO 3 LANE OPEN SHOULDER
LOG MILE 4.43 TO LOG MILE 4.48
LOG MILE 4.49 TO LOG MILE 4.56



HWY. 5 SEC. 18 SHOULDER WIDENING & HIGH FRICTION SURFACE TREATMENT

LOG MILE 1.91 TO LOG MILE 2.34
LOG MILE 3.20 TO LOG MILE 3.47
LOG MILE 3.48 TO LOG MILE 3.89
LOG MILE 4.38 TO LOG MILE 4.43••
LOG MILE 4.56 TO LOG MILE 4.62••
LOG MILE 13.43 TO LOG MILE 13.70

•TO BE USED IF & WHERE DIRECTED BY THE ENGINEER.

3/30/2018

R090517.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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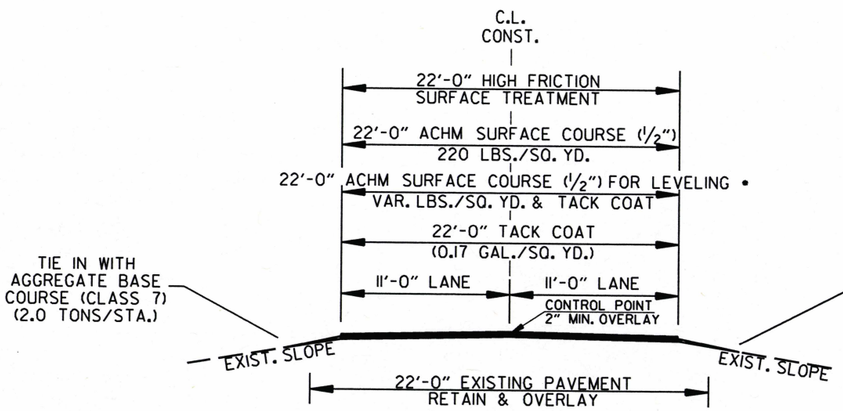
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

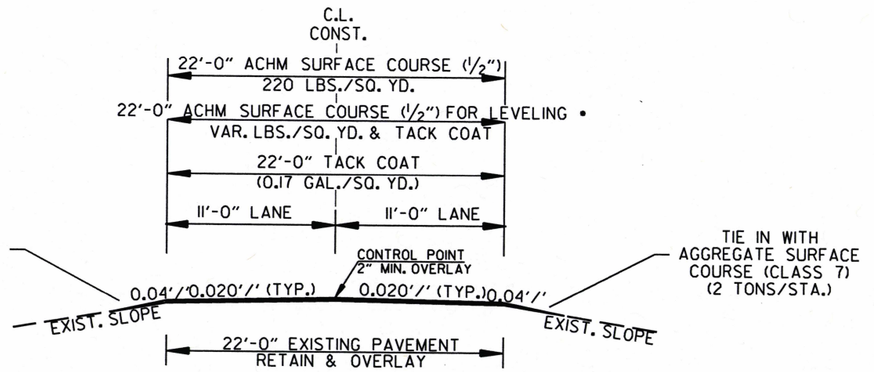


2 LANE OPEN SHOULDER OVERLAY &
HIGH FRICTION SURFACE TREATMENT
LOG MILE 3.47 TO LOG MILE 3.48 (SEC. 18)
••SHOULDER WIDENING WILL NOT occur AT BOX CULVERT LOCATIONS

TIE IN WITH AGGREGATE BASE COURSE (CLASS 7) (2.0 TONS/STA.)

TIE IN WITH AGGREGATE SURFACE COURSE (CLASS 7) (2 TONS/STA.)

•TO BE USED IF & WHERE DIRECTED BY THE ENGINEER.



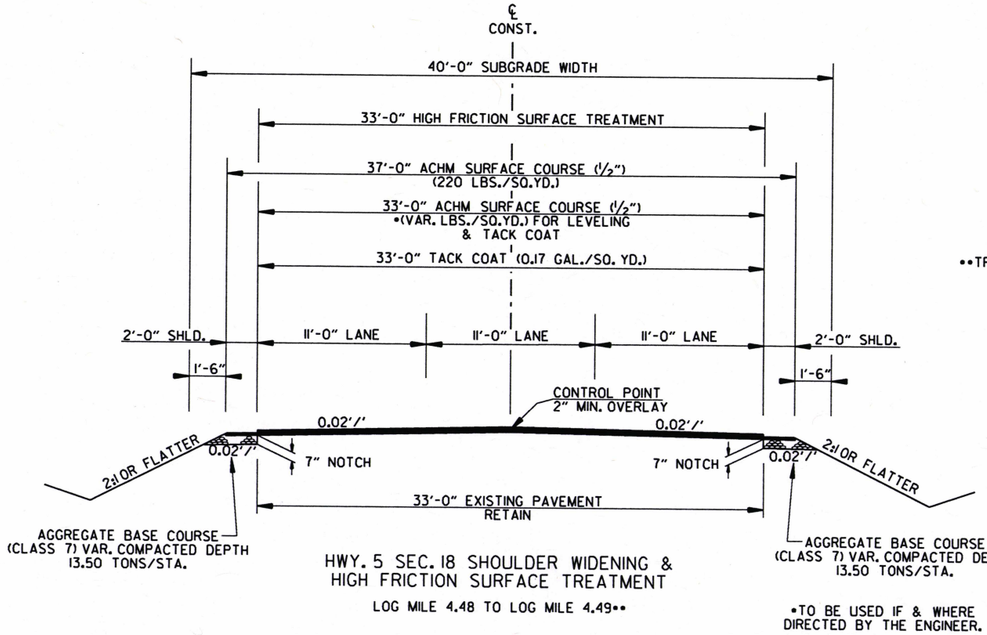
2 LANE OPEN SHOULDER OVERLAY
LOG MILE 13.70 TO LOG MILE 13.71 (SEC. 18)
LOG MILE 13.94 TO LOG MILE 13.95 (SEC. 18)
••SHOULDER WIDENING WILL NOT OCCUR AT BOX CULVERT LOCATIONS

NOTES:

LONGITUDINAL JOINTS ARE TO BE PLACED PER TYPICAL SECTION IN ACCORDANCE WITH SECTION 410.07 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ALL CROSS SLOPES ARE TO MATCH EXISTING CROSS SLOPES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

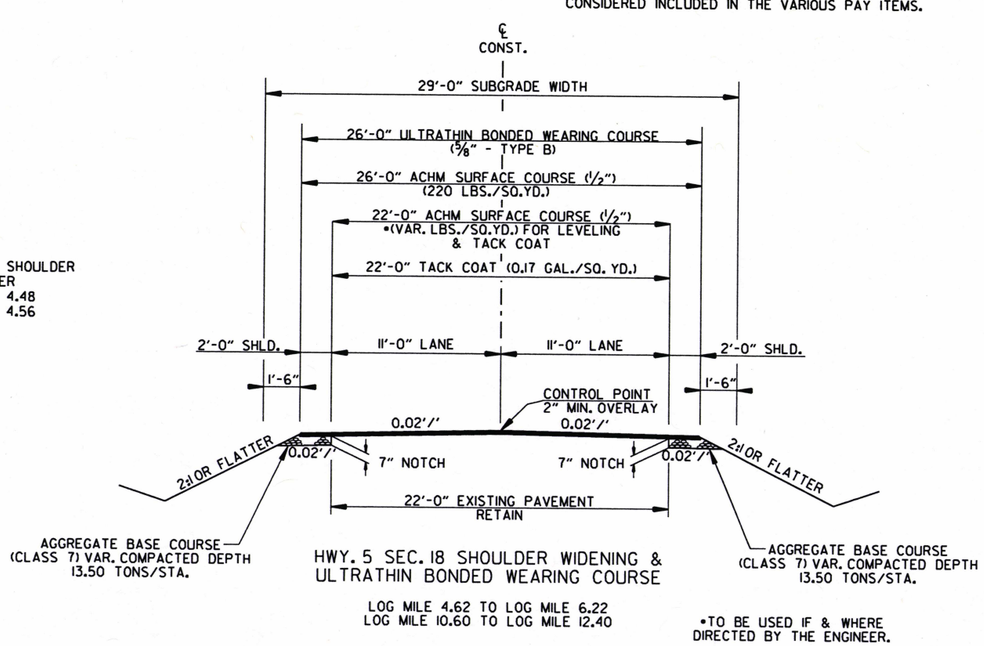
ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED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



HWY. 5 SEC. 18 SHOULDER WIDENING &
HIGH FRICTION SURFACE TREATMENT
LOG MILE 4.48 TO LOG MILE 4.49••

•TO BE USED IF & WHERE DIRECTED BY THE ENGINEER.

••TRANSITION FROM 2 LANE OPEN SHOULDER TO 3 LANE OPEN SHOULDER
LOG MILE 4.43 TO LOG MILE 4.48
LOG MILE 4.49 TO LOG MILE 4.56



HWY. 5 SEC. 18 SHOULDER WIDENING &
ULTRATHIN BONDED WEARING COURSE
LOG MILE 4.62 TO LOG MILE 6.22
LOG MILE 10.60 TO LOG MILE 12.40

•TO BE USED IF & WHERE DIRECTED BY THE ENGINEER.

3/30/2018

R090517.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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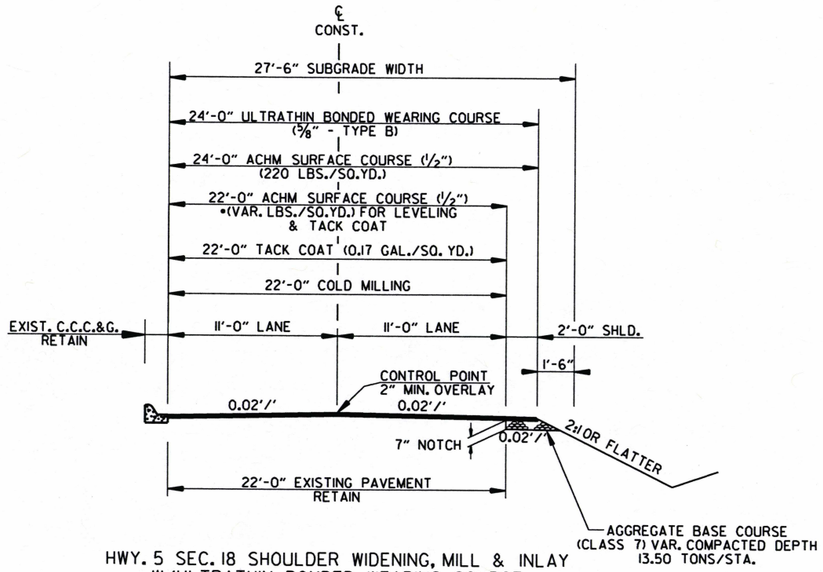
(2) TYPICAL SECTIONS OF IMPROVEMENT

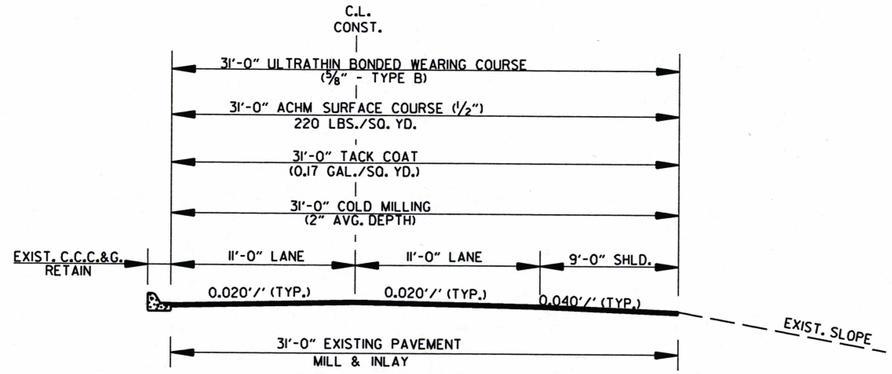
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



HWY. 5 SEC. 18 SHOULDER WIDENING, MILL & INLAY
W/ULTRATHIN BONDED WEARING COURSE

LOG MILE 6.22 TO LOG MILE 6.45

*TO BE USED IF & WHERE DIRECTED BY THE ENGINEER.



HWY. 5, SEC. 18 MILL & INLAY
W/ ULTRATHIN BONDED WEARING COURSE
LOG MILE 6.45 TO LOG MILE 6.50

NOTES:

LONGITUDINAL JOINTS ARE TO BE PLACED PER TYPICAL SECTION IN ACCORDANCE WITH SECTION 410.07 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

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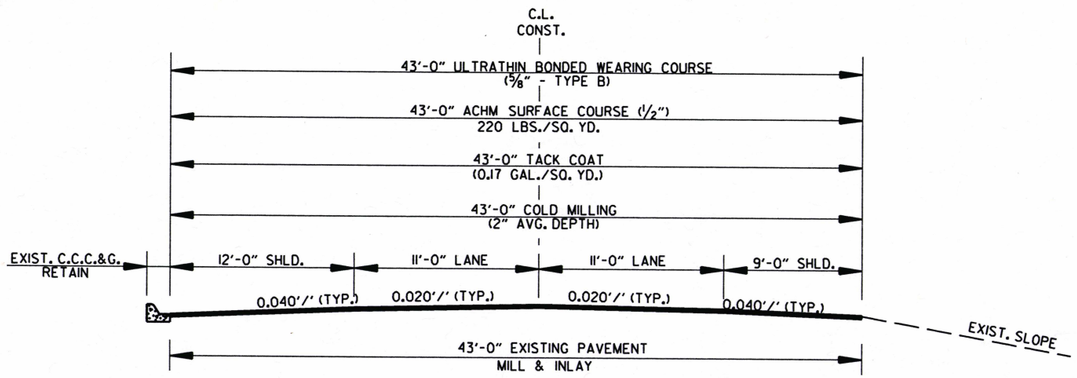
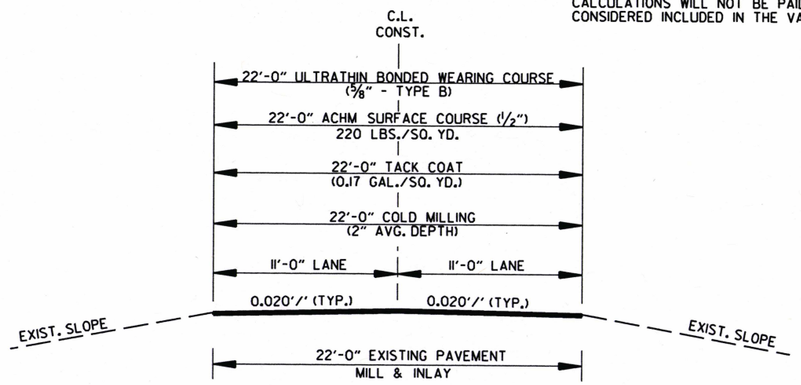


HWY. 5, SEC. 18 MILL & INLAY
W/ ULTRATHIN BONDED WEARING COURSE
LOG MILE 6.50 TO LOG MILE 6.57



2 LANE OPEN SHOULDER MILL AND INLAY
W/ ULTRATHIN BONDED WEARING COURSE
LOG MILE 6.57 TO LOG MILE 6.62 (SEC. 18)••

3/30/2018

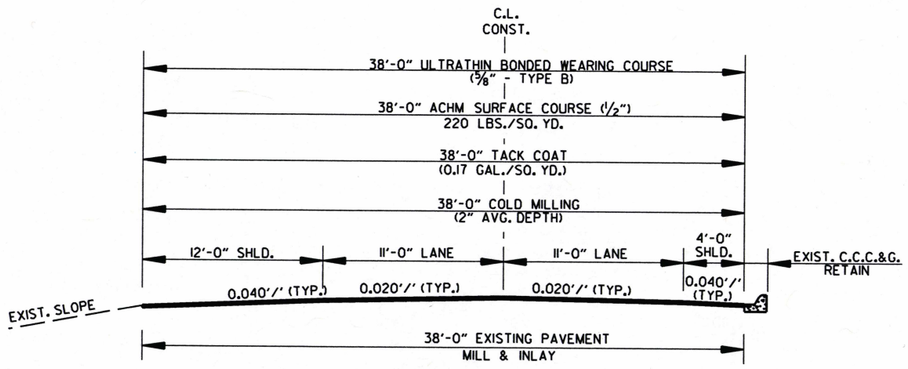
R090517.DGN

TYPICAL SECTIONS OF IMPROVEMENT

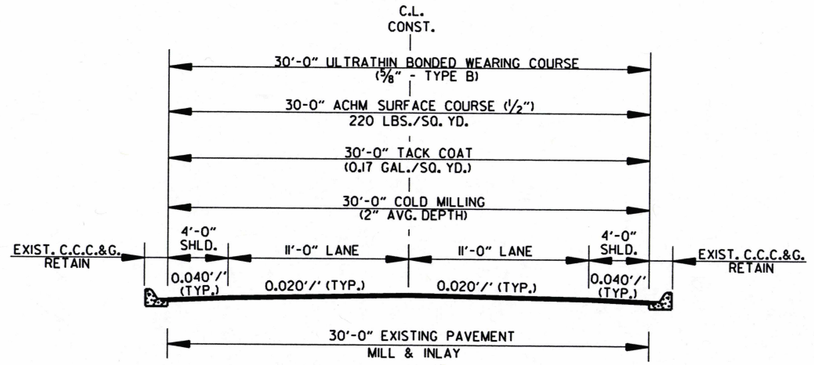
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	7	148

(2) TYPICAL SECTIONS OF IMPROVEMENT

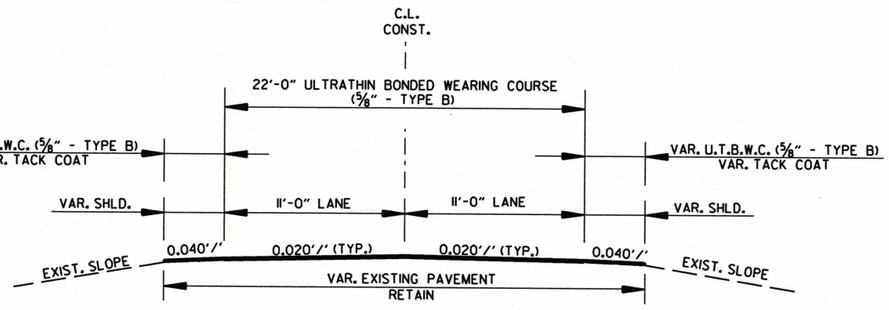
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



HWY. 5, SEC. 18 MILL & INLAY
W/ ULTRATHIN BONDED WEARING COURSE
LOG MILE 6.62 TO LOG MILE 6.65



HWY. 5, SEC. 18 MILL & INLAY
W/ ULTRATHIN BONDED WEARING COURSE
LOG MILE 6.65 TO LOG MILE 6.70



2 LANE OPEN SHOULDER
ULTRATHIN BONDED WEARING COURSE OVERLAY
HWY. 5 SEC. 18
LOG MILE 6.70 TO LOG MILE 6.76

NOTES:

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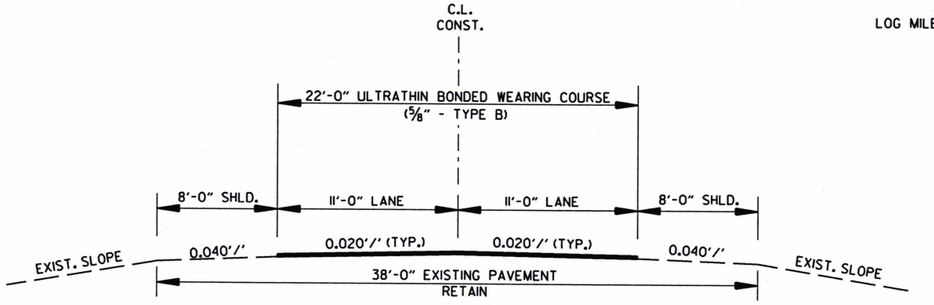
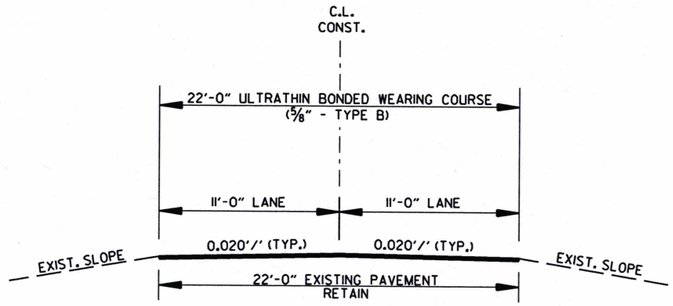


2 LANE OPEN SHOULDER
ULTRATHIN BONDED WEARING COURSE OVERLAY
HWY. 5 SEC. 18
LOG MILE 6.86 TO LOG MILE 7.08



2 LANE OPEN SHOULDER
ULTRATHIN BONDED WEARING COURSE OVERLAY
HWY. 5 SEC. 18
LOG MILE 7.08 TO LOG MILE 10.60

3/30/2018

R090517.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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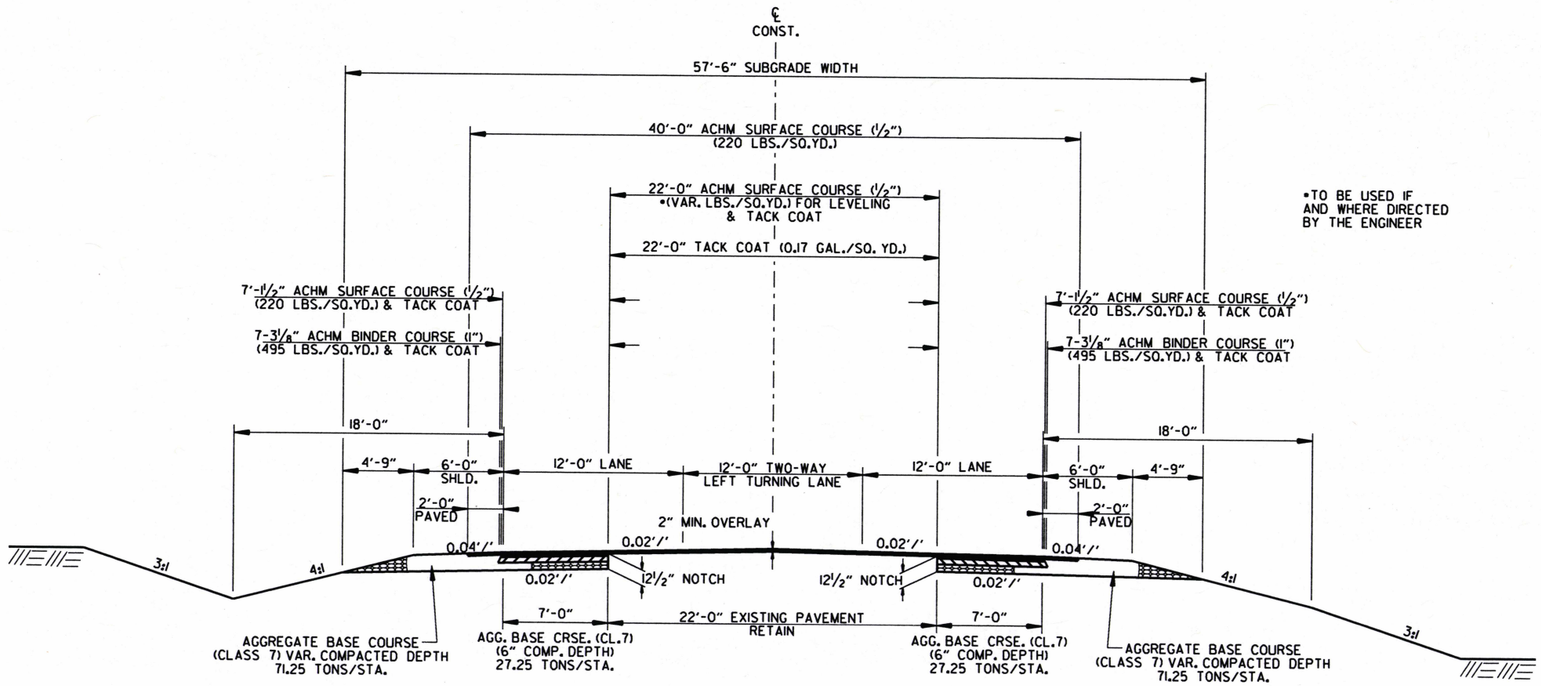
				6	ARK.			
				JOB NO.		090517	8	148

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



NOTCH, WIDEN, AND OVERLAY
TANGENT SECTION

STA. 1307+10.00 TO STA. 1307+54.77
STA. 1321+55.11 TO STA. 1340+39.32
STA. 1360+96.60 TO STA. 1364+27.10
STA. 1382+67.02 TO STA. 1383+53.91

•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

••TRANSITION FROM 2 LANE TO 3 LANE

STA. 1303+25 TO STA. 1307+10.00

NOTES:

1. 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.
2. 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.
3. 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.
4. 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.
5. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

3/30/2018

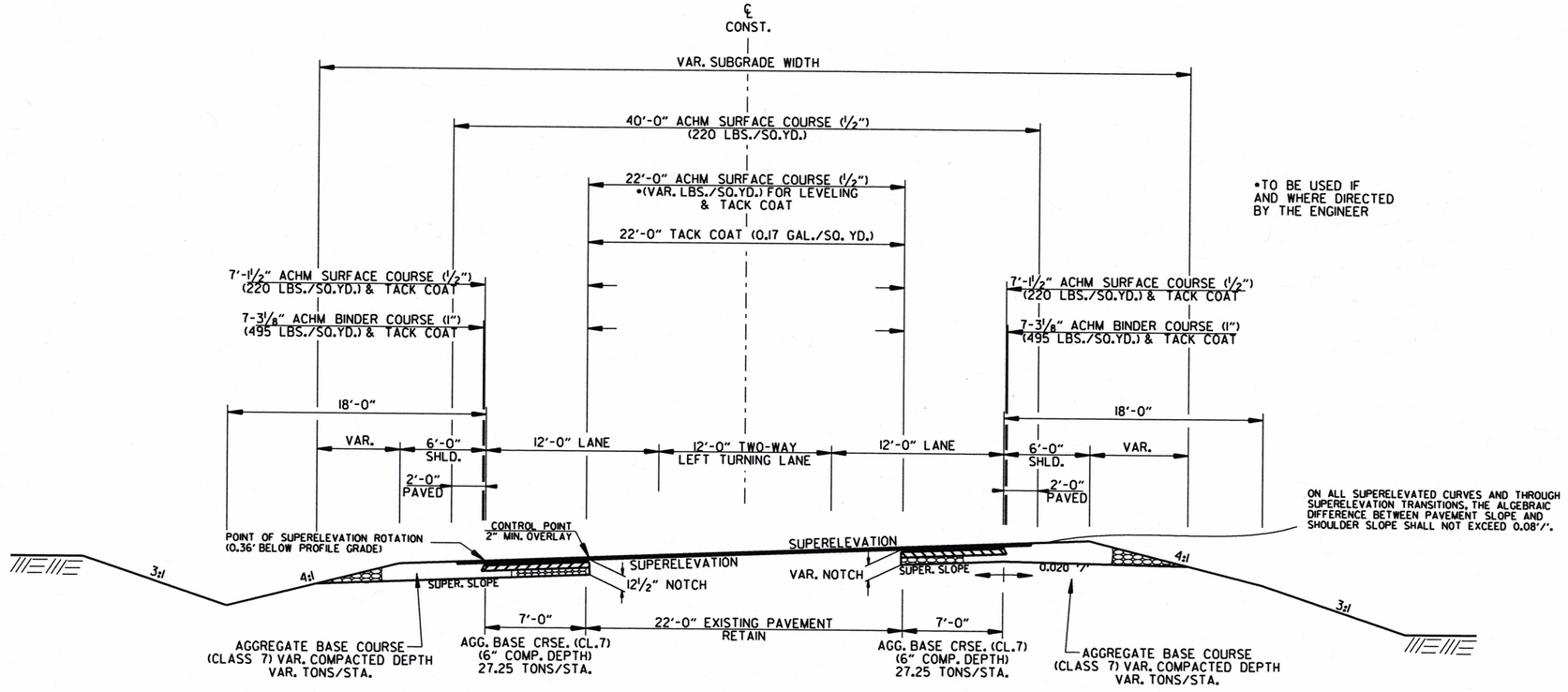
R090517.DGN

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.		090517	9	148

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



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NOTCH, WIDEN, AND OVERLAY
SUPERELEVATION SECTION

STA. 1307+54.77 TO STA. 1321+55.11
STA. 1340+39.32 TO STA. 1346+57.27
STA. 1355+20.97 TO STA. 1360+96.60
STA. 1364+27.10 TO STA. 1382+67.02

3/30/2018

R090517.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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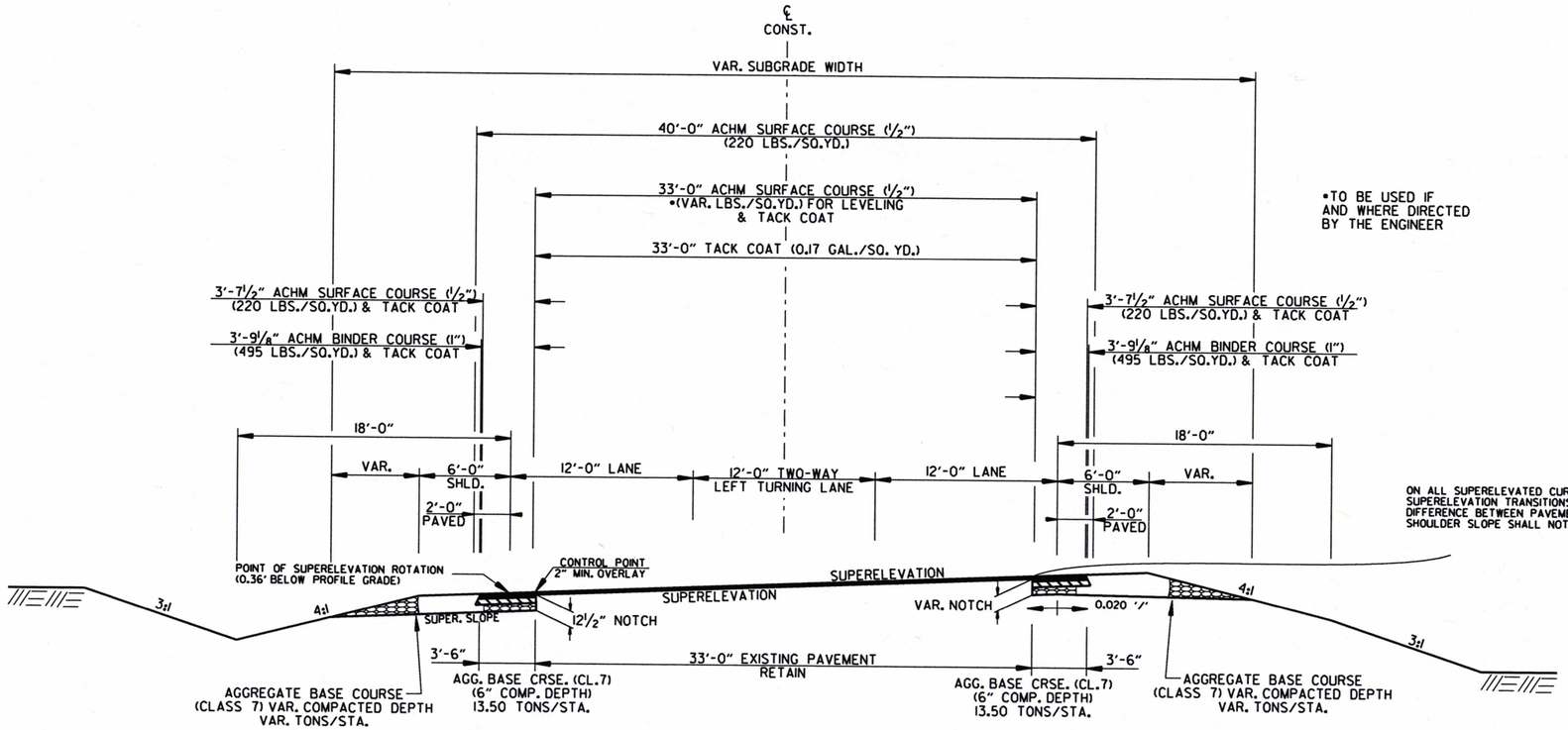
				6	ARK.			
				JOB NO.		090517	10	148

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

NOTCH, WIDEN, AND OVERLAY SUPERELEVATION SECTION

STA. 1349+23.91 TO STA. 1352+75.07

••TRANSITION

STA. 1346+57.27 TO STA. 1349+23.91
STA. 1352+75.07 TO STA. 1355+20.97
STA. 1383+53.91 TO STA. 1384+61.40

NOTES:

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3/30/2018

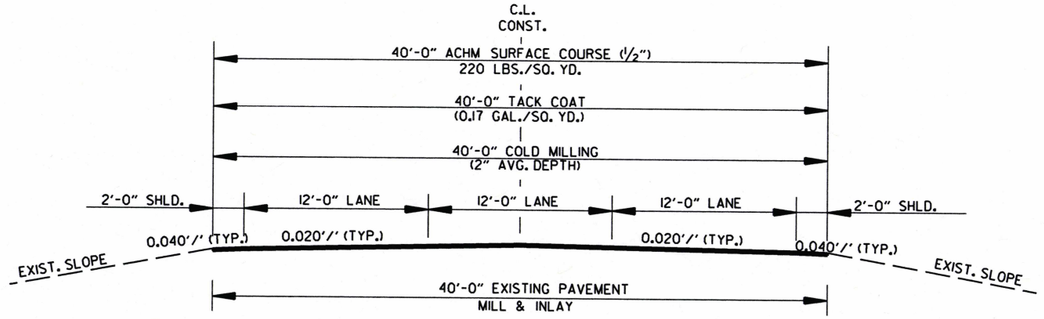
R090517.DGN

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.		090517	11	148

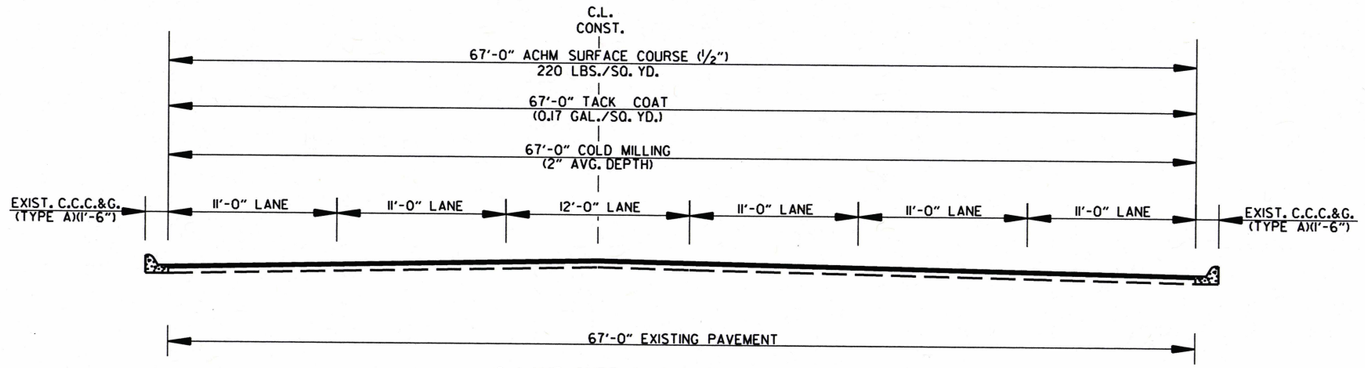
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



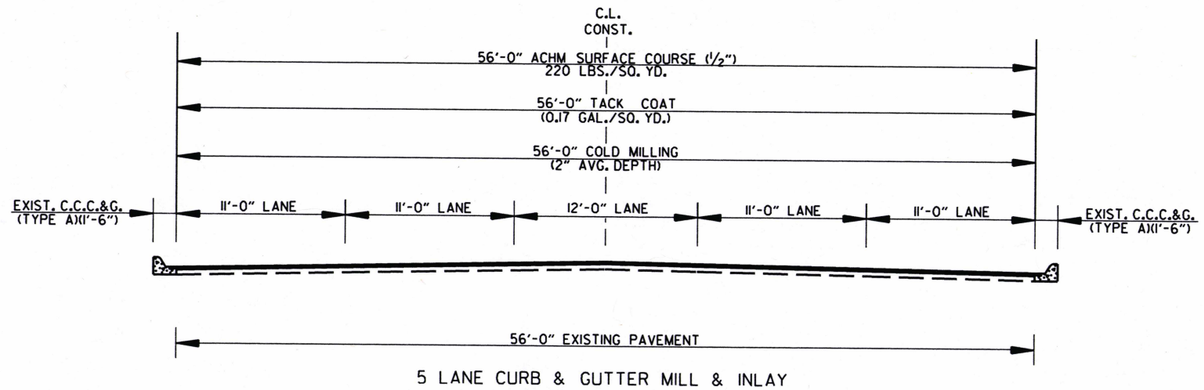
3 LANE OPEN SHOULDER MILL & INLAY

STA. 1384+61.40 TO STA. 1387+66.26



6 LANE CURB & GUTTER MILL & INLAY

LOG MILE 0.02 TO LOG MILE 0.07 (SEC. 19)••



5 LANE CURB & GUTTER MILL & INLAY

LOG MILE 0.07 TO LOG MILE 0.36 (SEC. 19)

NOTES:

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••RADIUS FROM LOG MILE 0.00 TO 0.02

3/30/2018

R090517.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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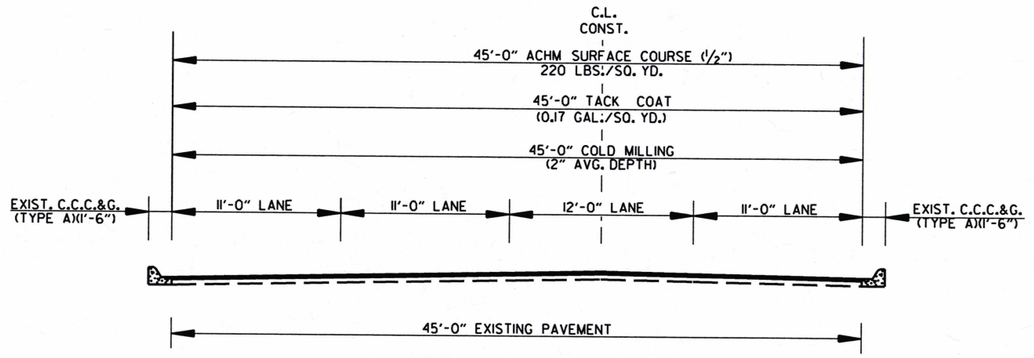
				6	ARK.			
				JOB NO.		090517	12	148

(2) TYPICAL SECTIONS OF IMPROVEMENT

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

2-21-2020



4 LANE CURB & GUTTER MILL & INLAY

LOG MILE 0.36 TO LOG MILE 0.37 (SEC. 19)

NOTES:

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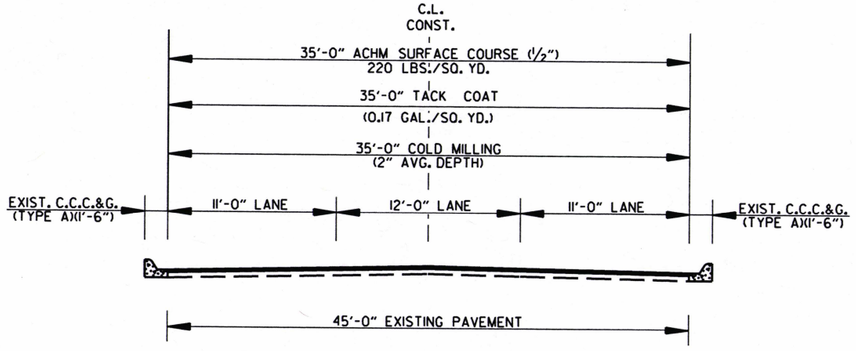
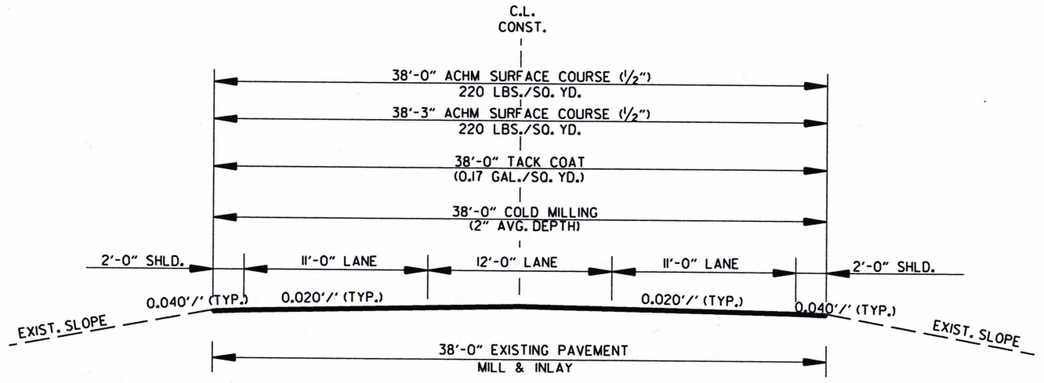


3 LANE CURB & GUTTER MILL & INLAY

LOG MILE 0.37 TO LOG MILE 0.40 (SEC. 19)



3 LANE OPEN SHOULDER MILL, INLAY, AND OVERLAY

LOG MILE 0.40 TO LOG MILE 1.40 (SEC. 19)

3/30/2018

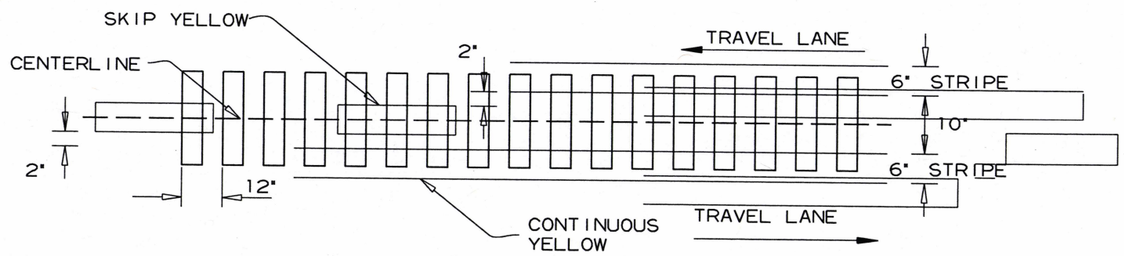
R090517.DGN

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.		090517	13	148

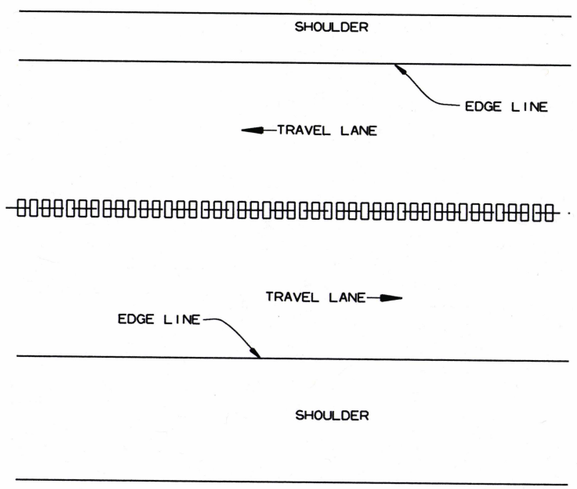
(2) SPECIAL DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
* * *
No. 11425
TRINITY D. SMITH
2-21-2020

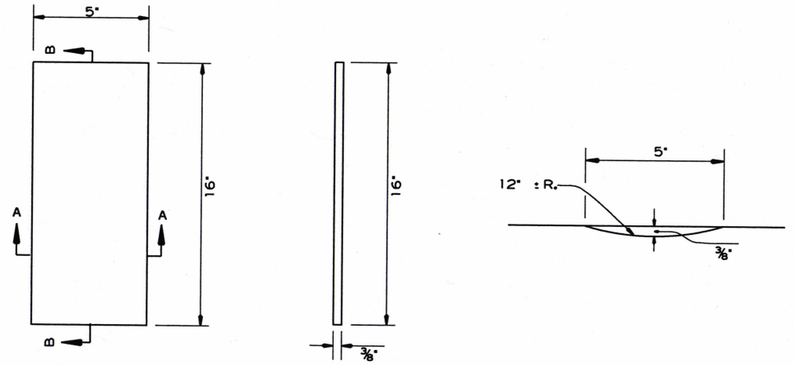


ASPHALT PAVEMENT

LOCATION PLAN OF CENTERLINE RUMBLE STRIPES



PLAN VIEW



PLAN SECTION B-B SECTION A-A

DETAILS OF CENTERLINE RUMBLE STRIPES

GENERAL NOTES

1. RUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE CENTERLINE.
3. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SLOPE BREAKS MAY BE NECESSARY.

12/5/2017

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
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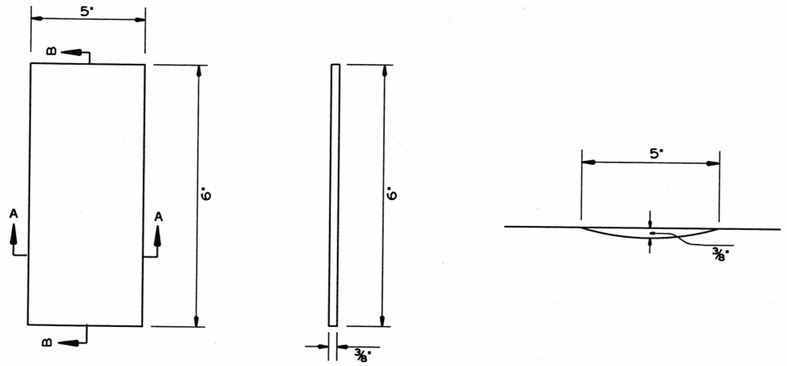
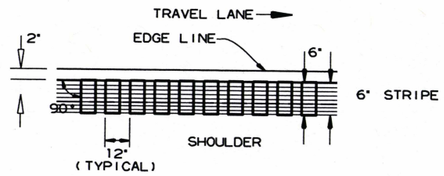
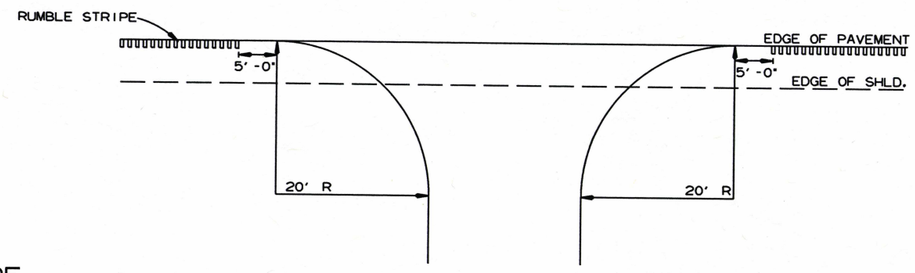
No. 11425
TRINITY D. SMITH
2-21-2020



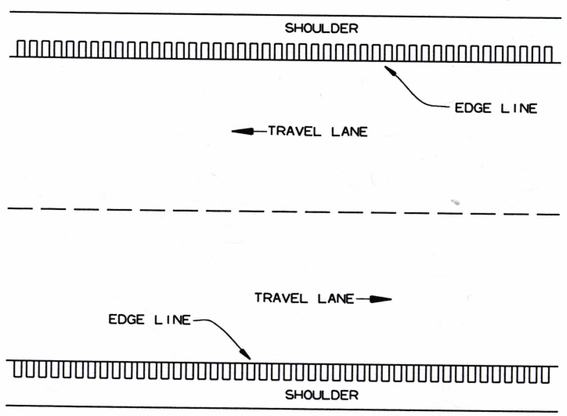
DETAILS OF RUMBLE STRIPE



LOCATION PLAN OF RUMBLE STRIPE
LEFT OR RIGHT SHOULDER



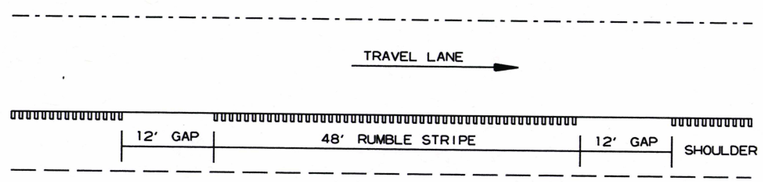
DETAIL FOR RUMBLE STRIPE GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPES SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. RUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPES HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPES HAVE NOT BEEN CONSTRUCTED.
4. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 6" 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 STRIPE

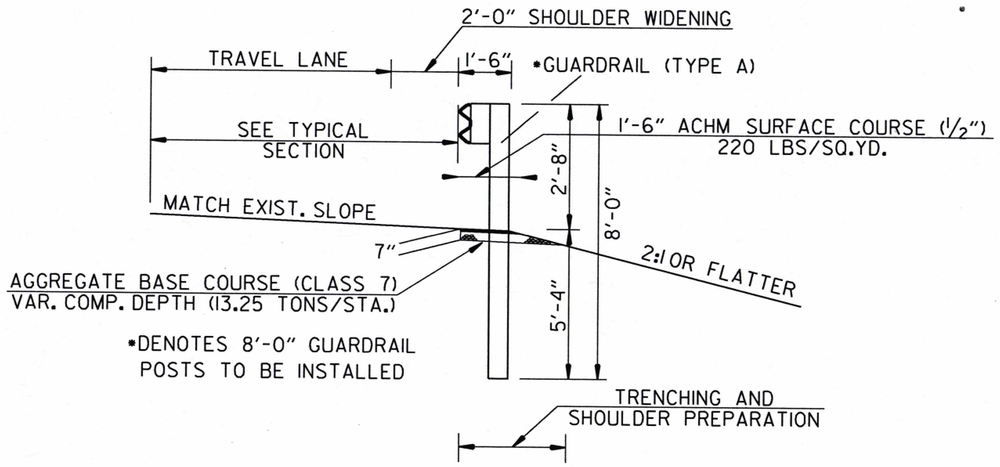
12/5/2017

R090517.DGN

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.		090517	15	148
				(2) SPECIAL DETAILS				

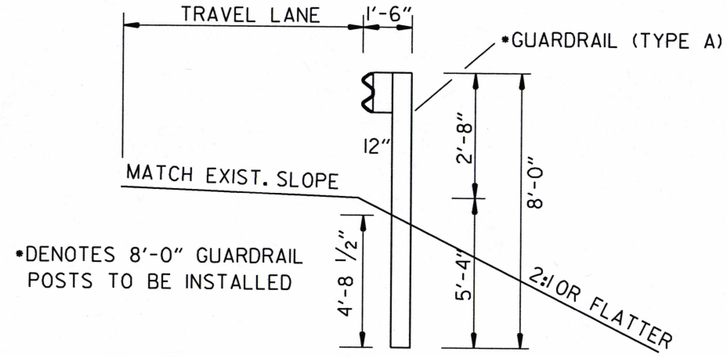
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



SECTION DETAIL FOR GUARDRAIL

NOTE: REFER TO STANDARD DRAWINGS GR-6, GR-7, GR-8, GR-9, GR-10 GR-11 & GR-12 FOR ADDITIONAL INFORMATION.

LOG MILE 5.45 TO LOG MILE 6.00 LT.



SECTION DETAIL FOR GUARDRAIL

NOTE: REFER TO STANDARD DRAWINGS GR-6, GR-7, GR-8, GR-9, GR-10, GR-11 & GR-12 FOR ADDITIONAL INFORMATION.

LOG MILE 7.66 TO LOG MILE 7.71RT.

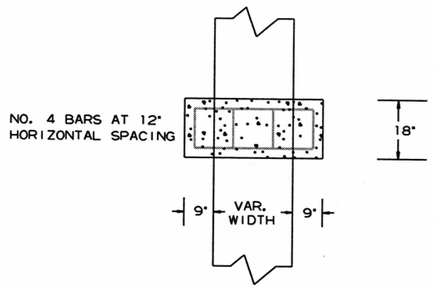
12/5/2017

R090517.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.		090517	16	148

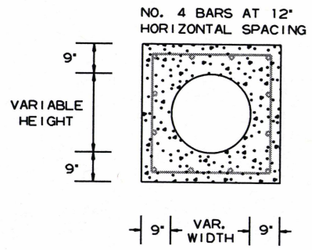
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

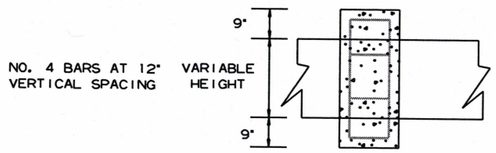


TOP VIEW

MIN 3" COVER

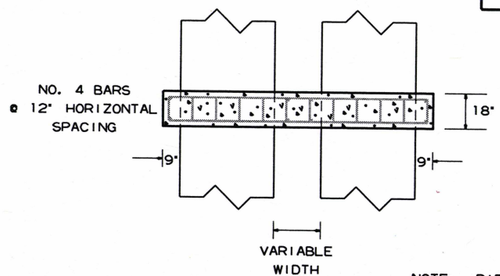


FRONT VIEW



SIDE VIEW

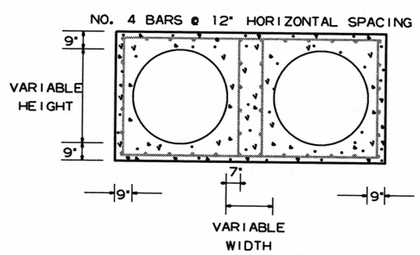
PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



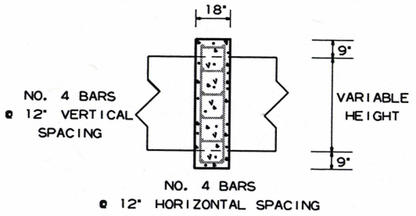
TOP VIEW

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

MIN. 3" COVER



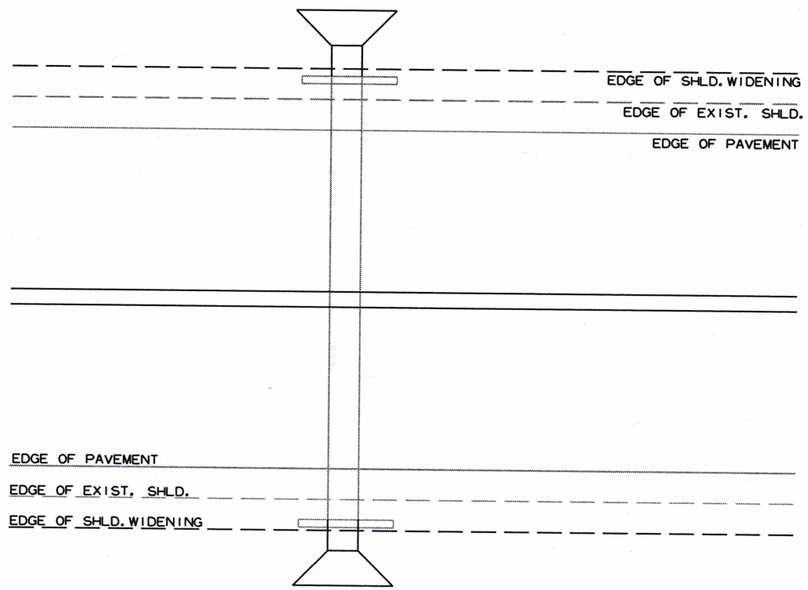
FRONT VIEW



SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

REMOVE HEADWALLS AND EXTEND 4' LT. & 4' RT. WITH A TOTAL OF 16' PER SITE



DETAIL OF CULVERT EXTENSION WITH HEADWALL

LOG MILE LOCATIONS FOR PIPE CULVERTS

0.42	2.03	2.81	4.31	5.63	10.61	13.29	14.93
1.08	2.10	2.85	4.62	5.69	11.01	13.77	14.99
1.14	2.17	3.11	4.76	5.75	11.61	13.89	15.31
1.58	2.20	3.31	4.98	5.86	11.69	14.19	15.76
1.61	2.27	3.90	5.14	5.90	11.89	14.24	16.15
1.69	2.35	4.02	5.38	5.98	12.02	14.41	16.43
1.87	2.48	4.08	5.45	6.03	13.12	14.48	16.55
1.94	2.57	4.12	5.57		13.21	14.86	

12/5/2017

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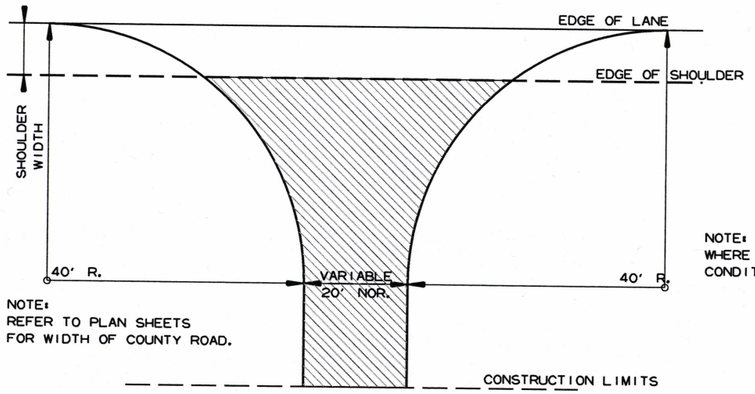
				6	ARK.			
				JOB NO.		090517	17	148

(2) SPECIAL DETAILS

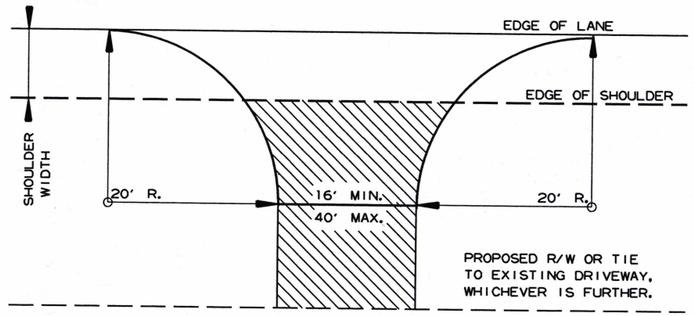


NOTE:
REFER TO PLAN SHEETS FOR WIDTH OF COUNTY ROAD.

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

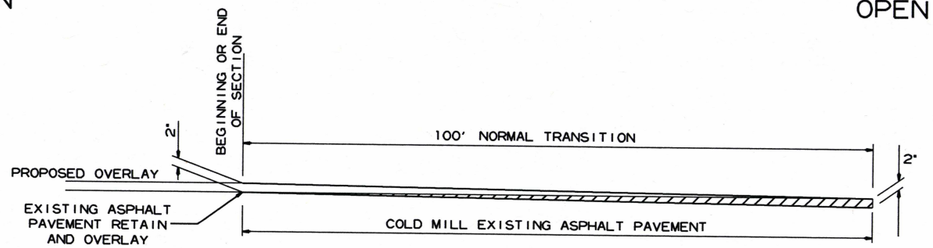
DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



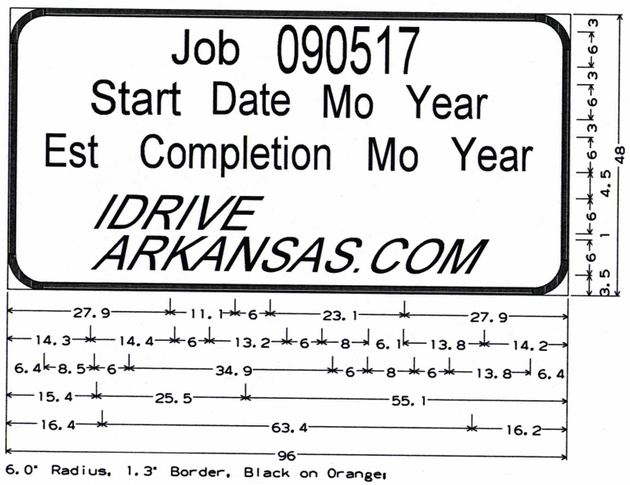
NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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)

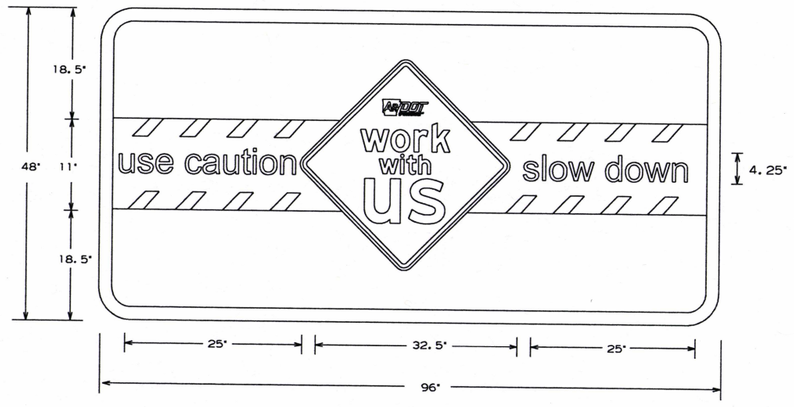


DETAIL FOR TRANSITIONS



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 ARKANSAS.COM' Arial;

CONSTRUCTION PROJECT INFORMATION SIGN



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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

12/5/2017

R090517.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.		090517	18	148

(2) TEMPORARY EROSION CONTROL DETAILS

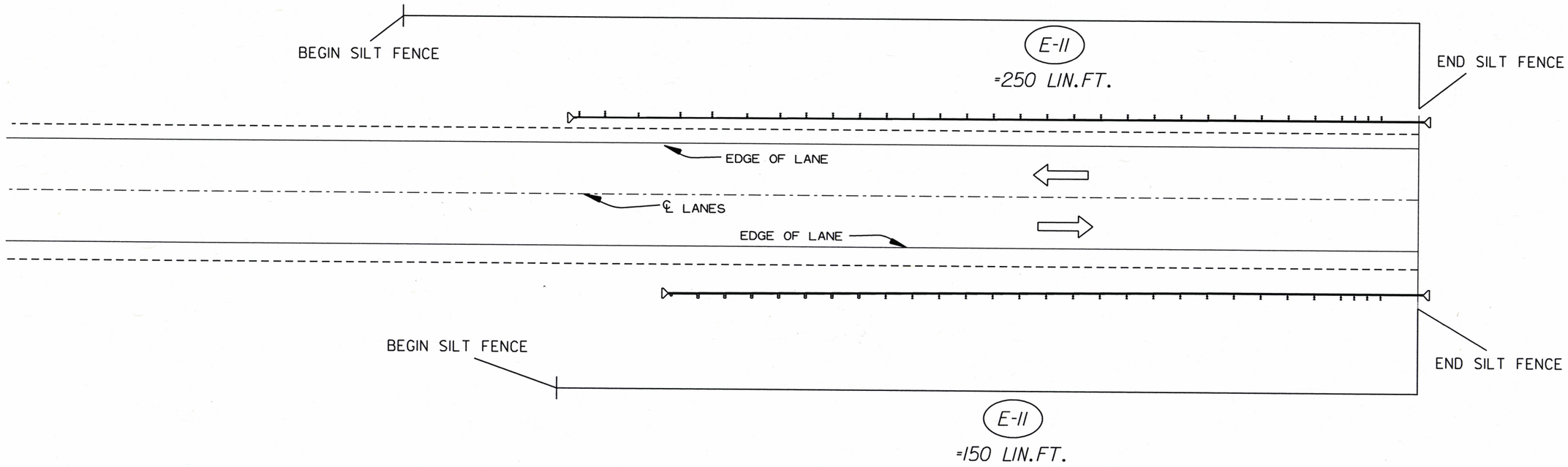
DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

LEGEND

E-11 — E-11 SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



TYPICAL SILT FENCE INSTALLATION FOR FOR GUARDRAIL REPLACEMENT

1/10/2020

R090517.DGN

DATE OF REVISION	REVISION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	19	148

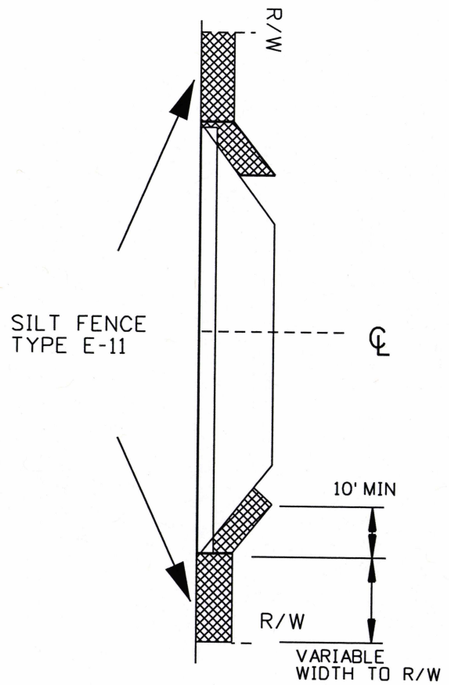
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

LEGEND

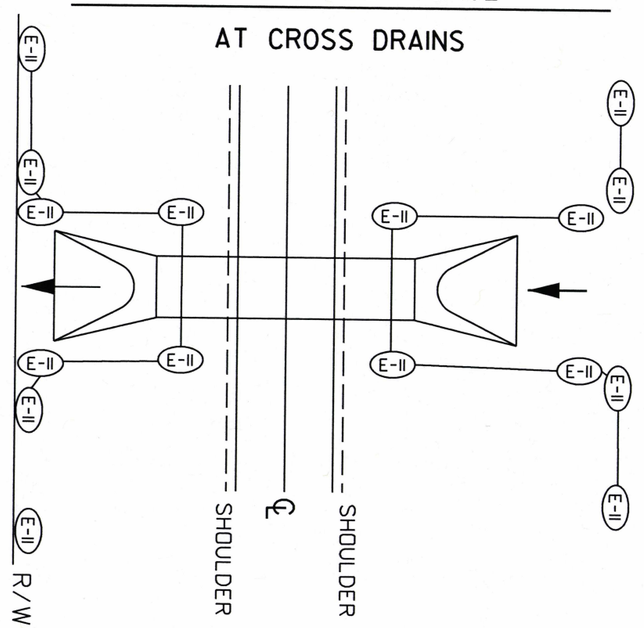
E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-11 — E-11	SILT FENCE

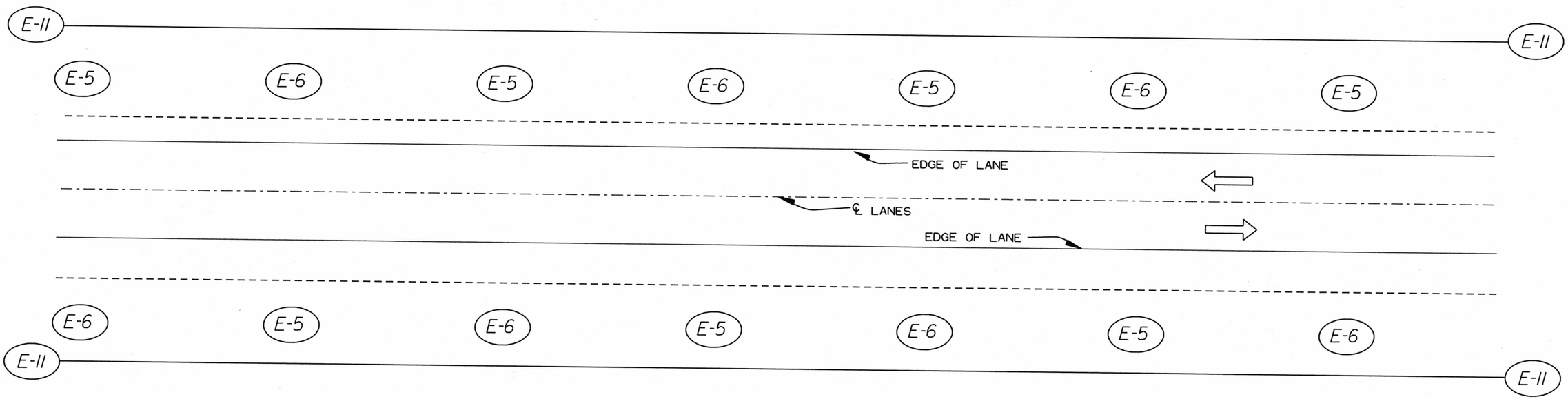
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



DETAIL OF SILT FENCE

AT CROSS DRAINS





TYPICAL EROSION CONTROL INSTALLATION FOR SHOULDER WIDENING

1/10/2020

R090517.DGN

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.		090517	20	148

(2) TEMPORARY EROSION CONTROL DETAILS

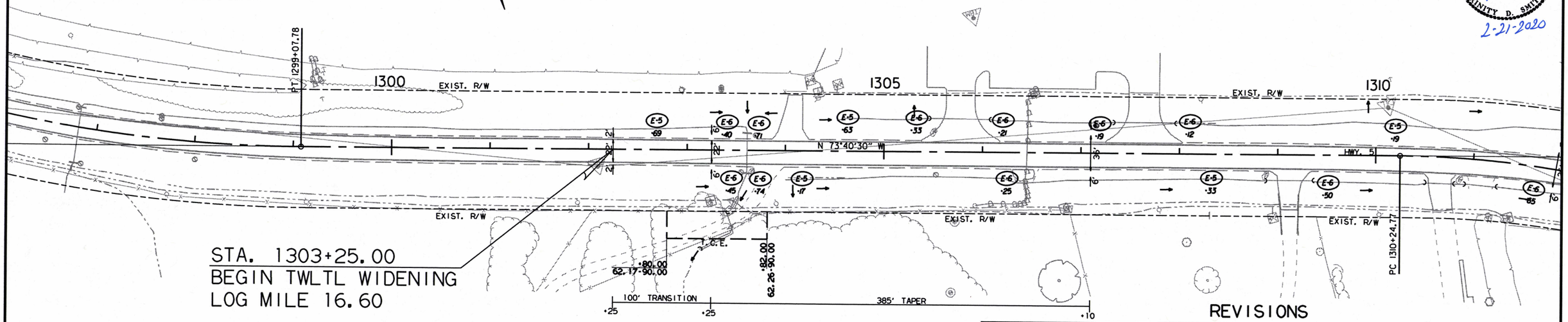
LEGEND

(E-5) SAND BAG DITCH CHECKS

(E-6) ROCK DITCH CHECKS

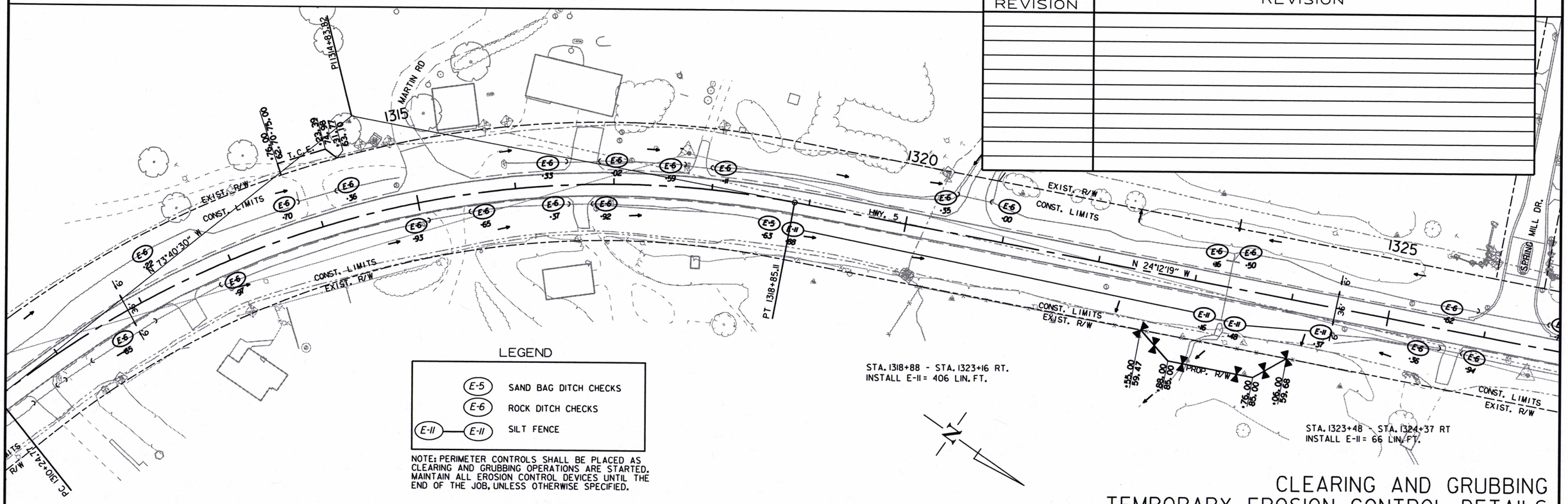
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



REVISIONS

DATE OF REVISION	REVISION



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. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STA. 1318+88 - STA. 1323+16 RT.
INSTALL E-11 = 406 LIN. FT.

STA. 1323+48 - STA. 1324+37 RT
INSTALL E-11 = 66 LIN. FT.

CLEARING AND GRUBBING TEMPORARY EROSION CONTROL DETAILS

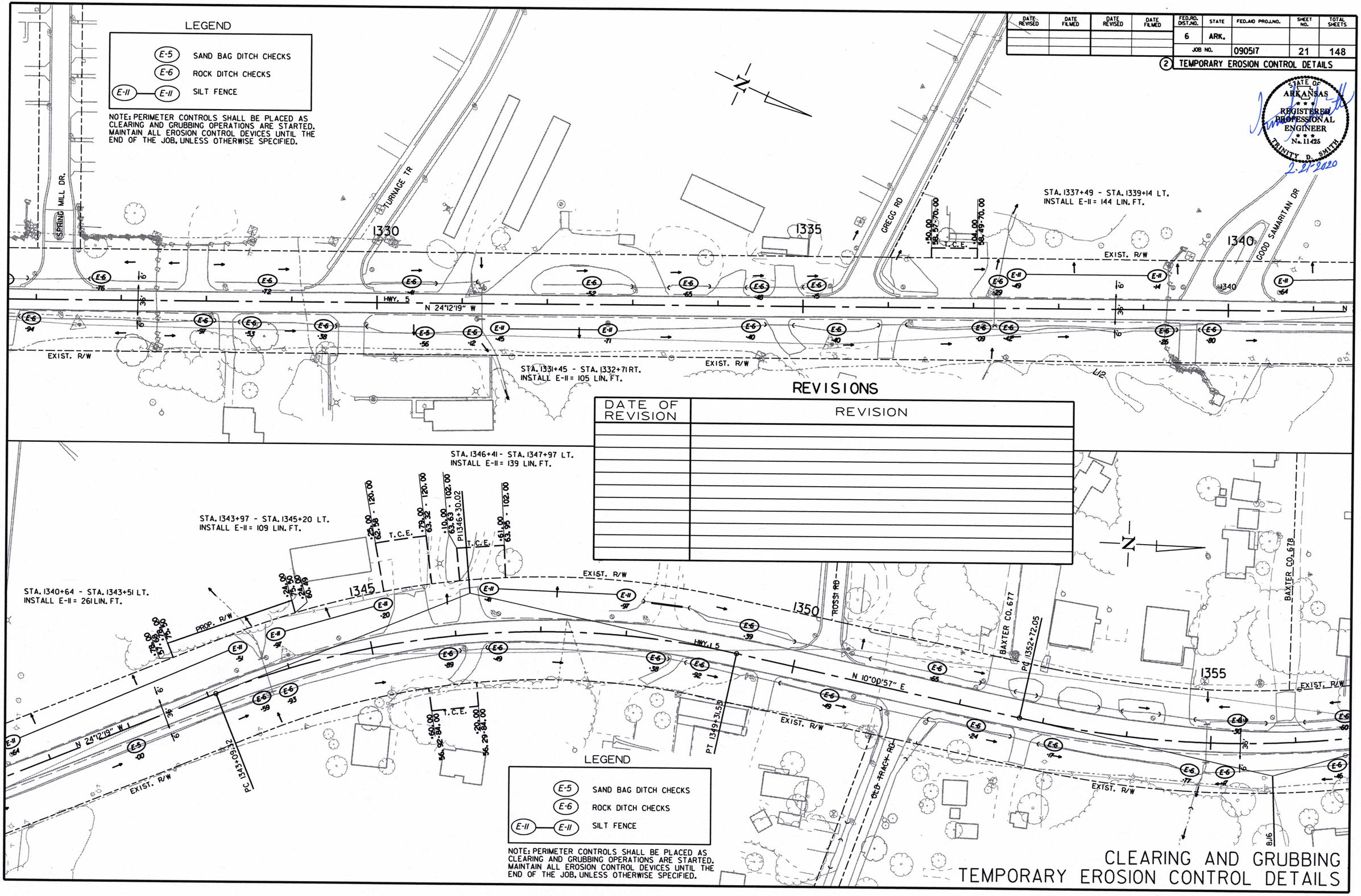
1/10/2020

R090517.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.		090517	21	148

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



REVISIONS

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

1/10/2020

R090517.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.		090517	22	148

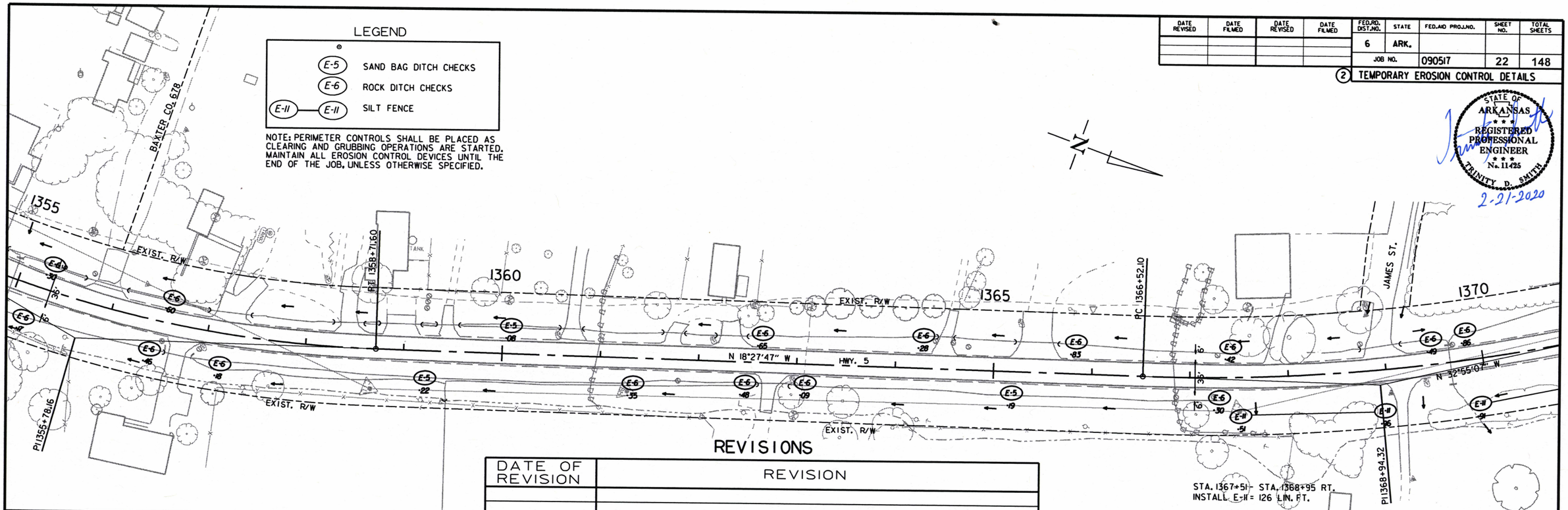
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

LEGEND

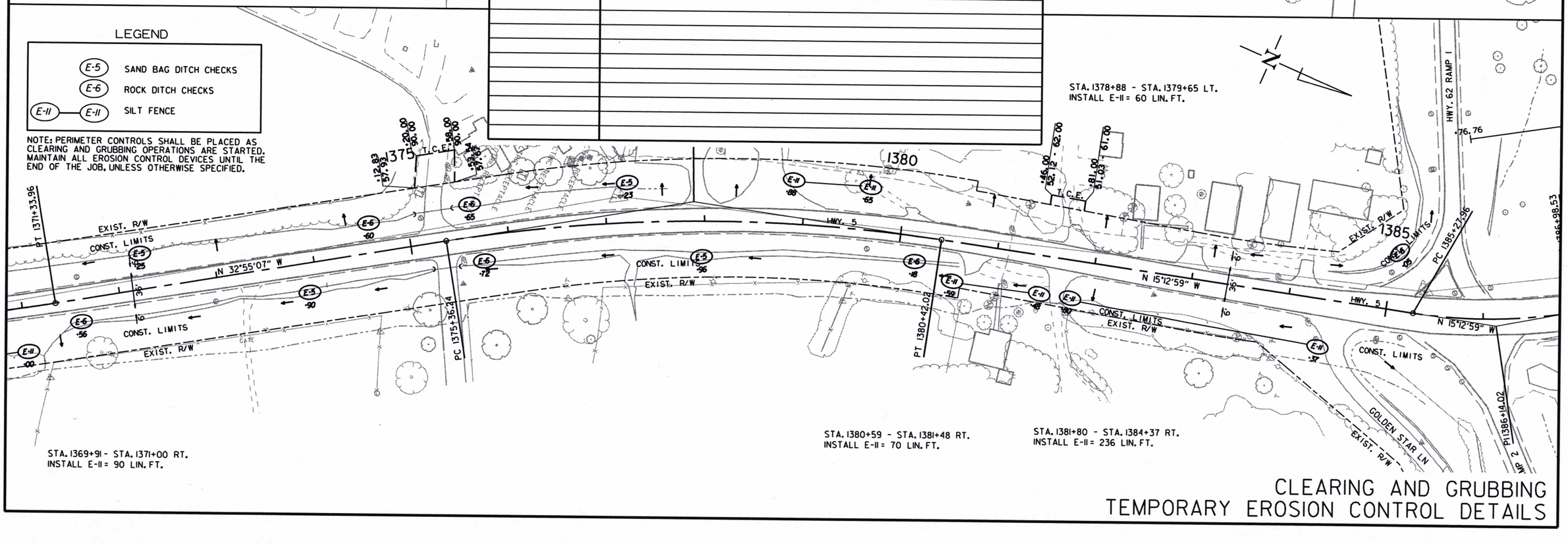
- E-5 SAND BAG DITCH CHECKS
- E-6 ROCK DITCH CHECKS
- E-11 SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



REVISIONS

DATE OF REVISION	REVISION



CLEARING AND GRUBBING TEMPORARY EROSION CONTROL DETAILS

1/10/2020

R090517.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.		090517	23	148

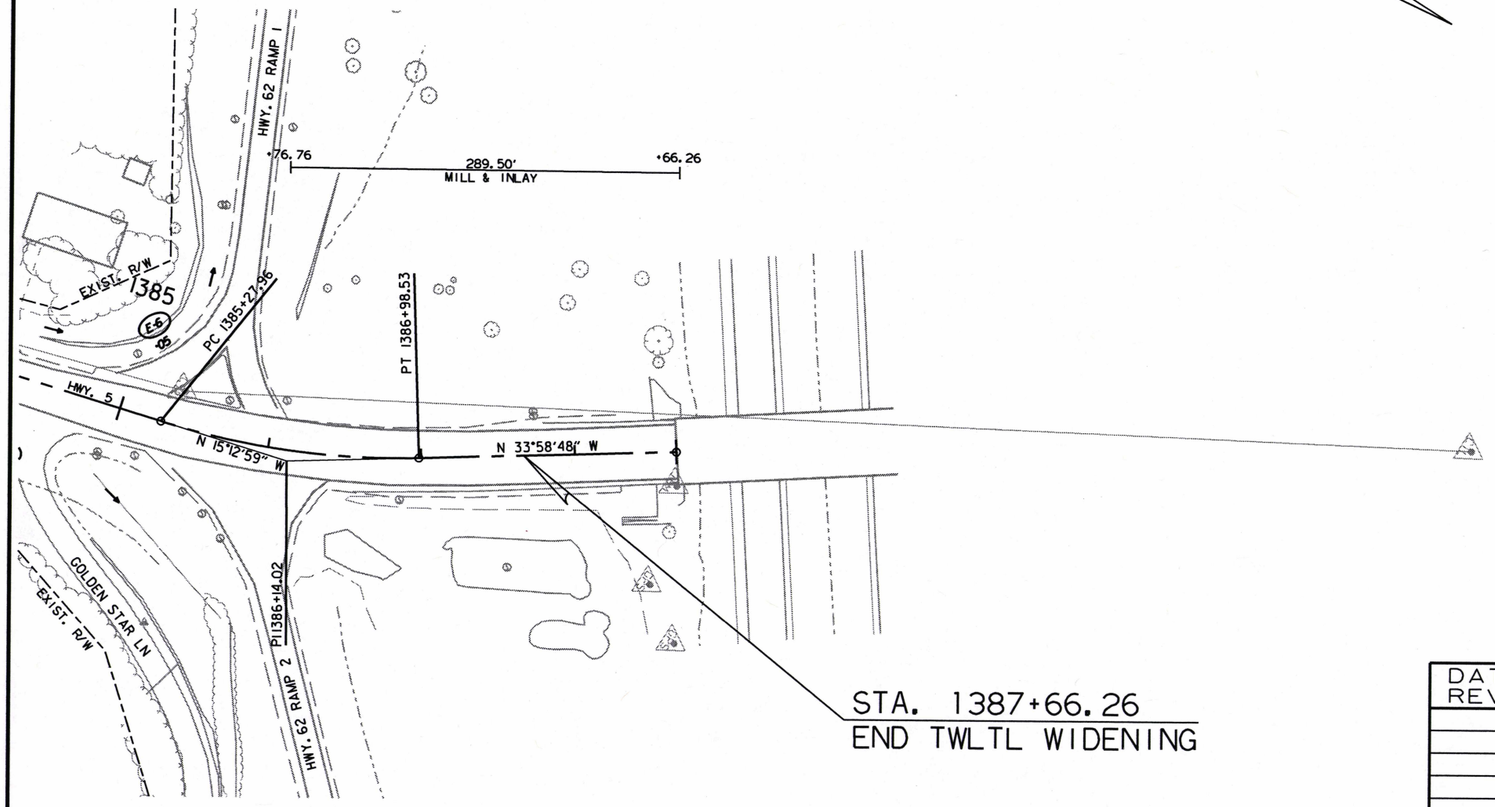
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

LEGEND

(E-6) ROCK DITCH CHECKS

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



REVISIONS

DATE OF REVISION	REVISION

1/10/2020

R090517.DGN

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.		090517	24	148

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

LEGEND

- E-5 — SAND BAG DITCH CHECKS
- E-6 — ROCK DITCH CHECKS
- E-11 — E-11 — SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STA. 1304+32 - STA. 1305+43 LT.
INSTALL E-11 = 88 LIN. FT.

STA. 1306+10 - STA. 1307+12 LT.
INSTALL E-11 = 80 LIN. FT.

STA. 1308+05 - STA. 1312+73 LT.
INSTALL E-11 = 460 LIN. FT.

PT 1299+07.78

1300

EXIST. R/W

1305

1310

EXIST. R/W

CONST. LIMITS

HWY. 5

N 73°40'30" W

EXIST. R/W

EXIST. R/W

EXIST. R/W

PC 1310+24.77

STA. 1303+25.00
BEGIN TWLTL WIDENING
LOG MILE 16.60

100' TRANSITION

385' TAPER

62.17-90.00

62.26-90.00

REVISIONS

DATE OF REVISION	REVISION

PI 1314+83.32

1315

MARTIN RD

OPEN STORAGE

STA. 1320+93 - STA. 1322+92 LT.
INSTALL E-11 = 177 LIN. FT.

1320

PT 1318+85.11

CONCRETE DRIVE

EXIST. R/W

CONST. LIMITS

N 73°40'30" W

HWY. 5

N 24°12'19" W

1325

STA. 1323+80 - STA. 1324+45 LT.
INSTALL E-11 = 44 LIN. FT.

SPRING MILL DR.

PROP. R/W

EXIST. R/W

PC 1310+24.77

LEGEND

- E-5 — SAND BAG DITCH CHECKS
- E-6 — ROCK DITCH CHECKS
- E-11 — E-11 — SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

1/10/2020

R090517.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.		090517	25	148

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

- E-5 — SAND BAG DITCH CHECKS
- E-6 — ROCK DITCH CHECKS
- E-11 — E-11 — SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STA. 1336+03 - STA. 1336+45 LT.
INSTALL E-11 = 30 LIN. FT.

STA. 1337+07 - STA. 1337+11 LT.
INSTALL E-11 = 22 LIN. FT.

STA. 1337+42 - STA. 1349+49 LT.
INSTALL E-11 = 185 LIN. FT.

STA. 1345+80 - STA. 1346+08 LT.
INSTALL E-11 = 20 LIN. FT.

STA. 1346+50 - STA. 1348+18 LT.
INSTALL E-11 = 155 LIN. FT.

STA. 1343+93 - STA. 1345+21 LT.
INSTALL E-11 = 118 LIN. FT.

STA. 1340+73 - STA. 1343+57 LT.
INSTALL E-11 = 270 LIN. FT.

STA. 1348+70 - STA. 1350+00 LT.
INSTALL E-11 = 110 LIN. FT.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 — SAND BAG DITCH CHECKS
- E-6 — ROCK DITCH CHECKS
- E-11 — E-11 — SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

1/10/2020

R090517.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.		090517	26	148

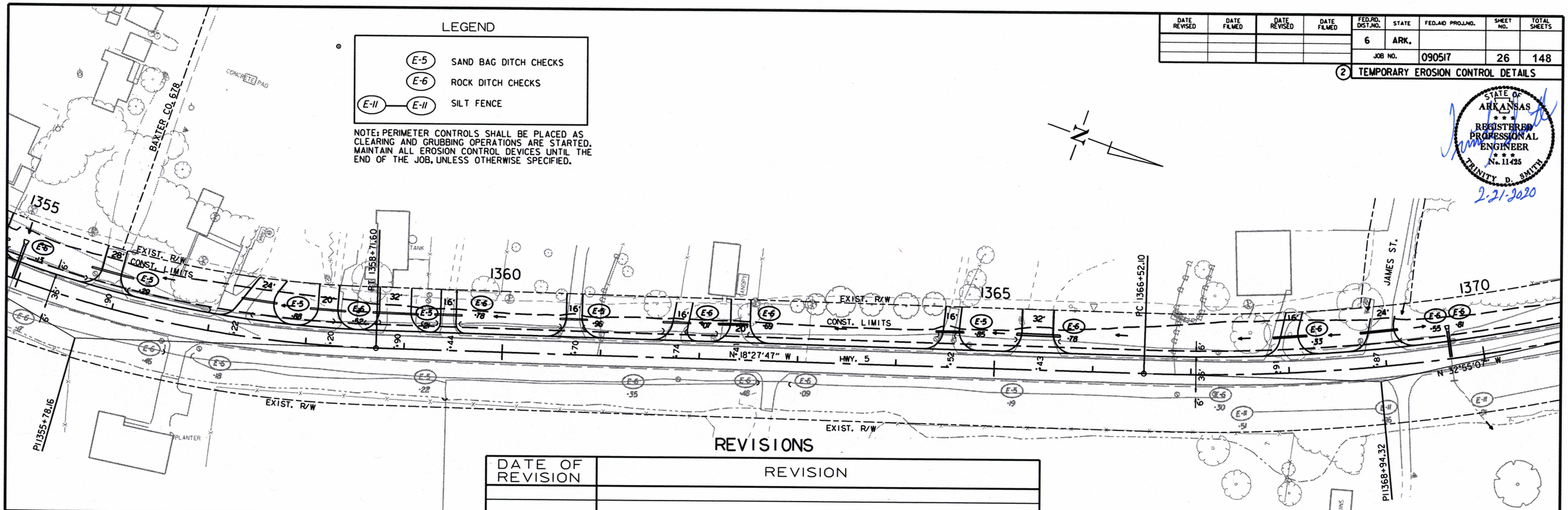
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

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. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



REVISIONS

DATE OF REVISION	REVISION

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. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

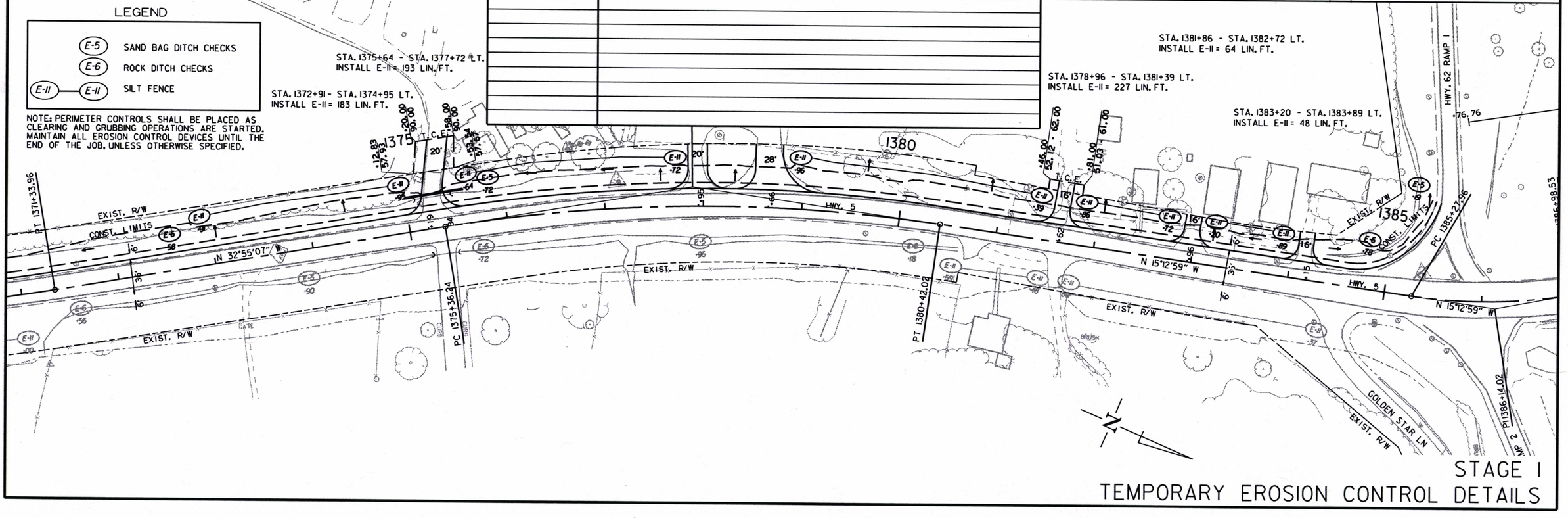
STA. 1372+91 - STA. 1374+95 LT.
INSTALL E-11 = 183 LIN. FT.

STA. 1375+64 - STA. 1377+72 LT.
INSTALL E-11 = 193 LIN. FT.

STA. 1378+96 - STA. 1381+39 LT.
INSTALL E-11 = 227 LIN. FT.

STA. 1381+86 - STA. 1382+72 LT.
INSTALL E-11 = 64 LIN. FT.

STA. 1383+20 - STA. 1383+89 LT.
INSTALL E-11 = 48 LIN. FT.



STAGE I
TEMPORARY EROSION CONTROL DETAILS

1/10/2020
R090517.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.		090517	27	148

(2) TEMPORARY EROSION CONTROL DETAILS

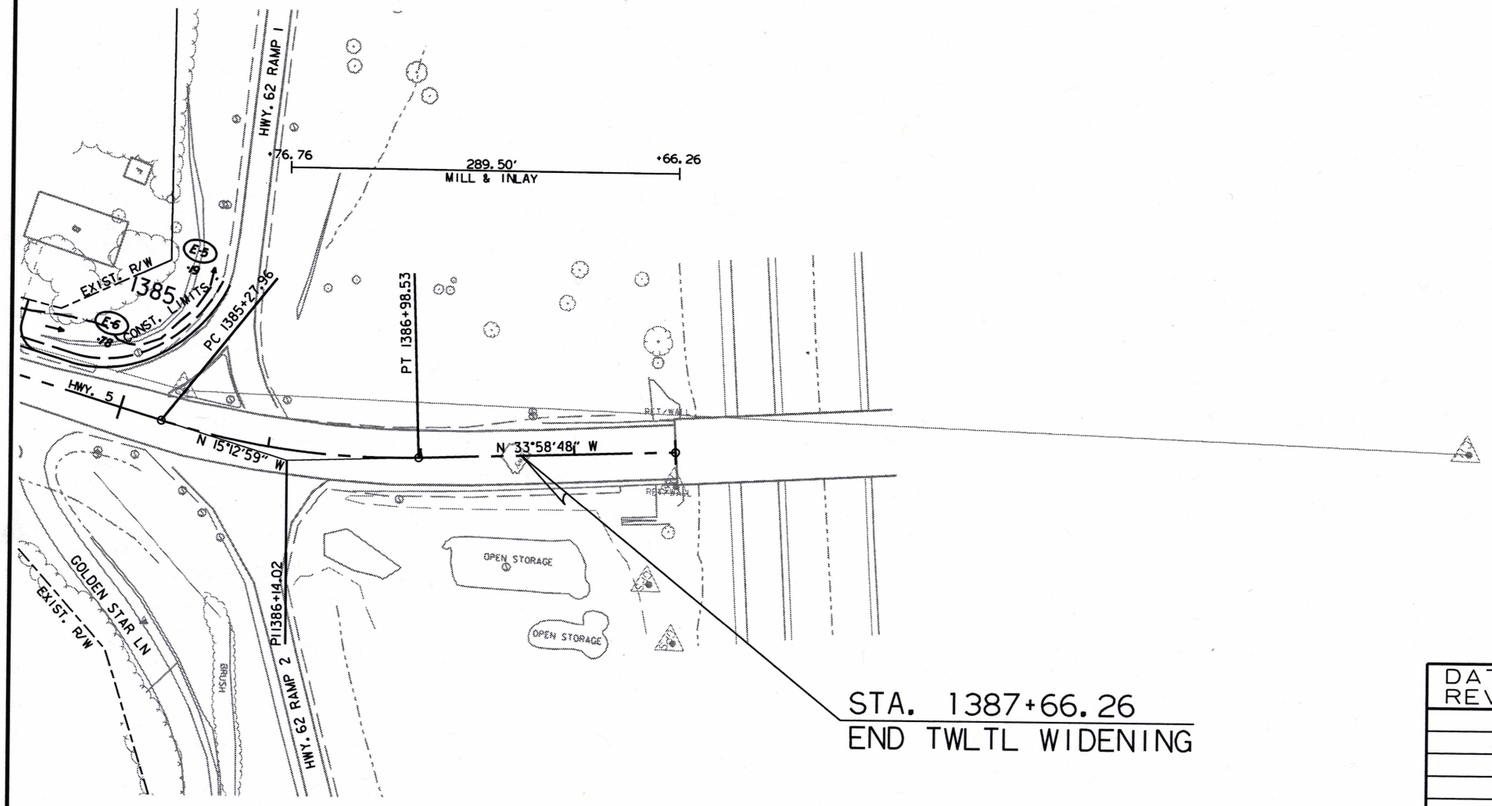
LEGEND

(E-5) SAND BAG DITCH CHECKS

(E-6) ROCK DITCH CHECKS

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



REVISIONS

DATE OF REVISION	REVISION

1/10/2020

R090517.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.		090517	28	148

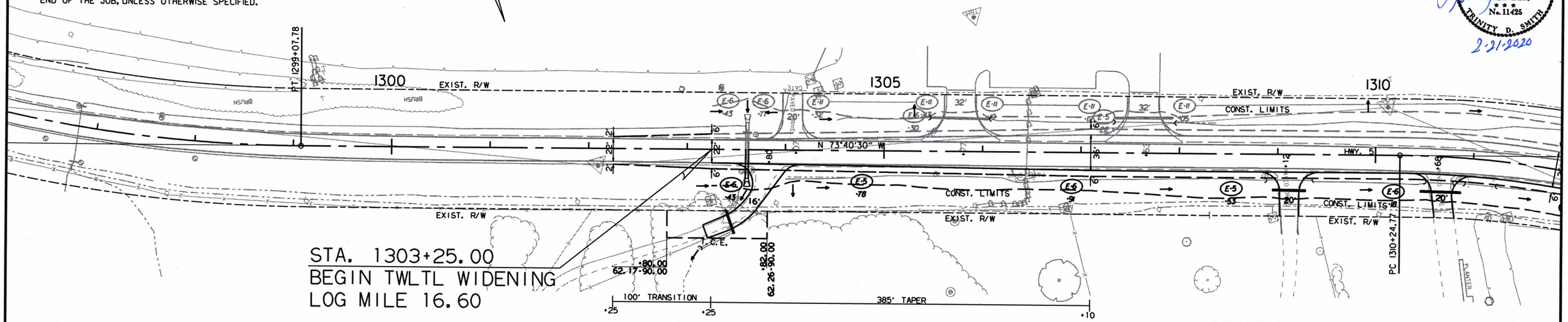
(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-11 — E-11	SILT FENCE

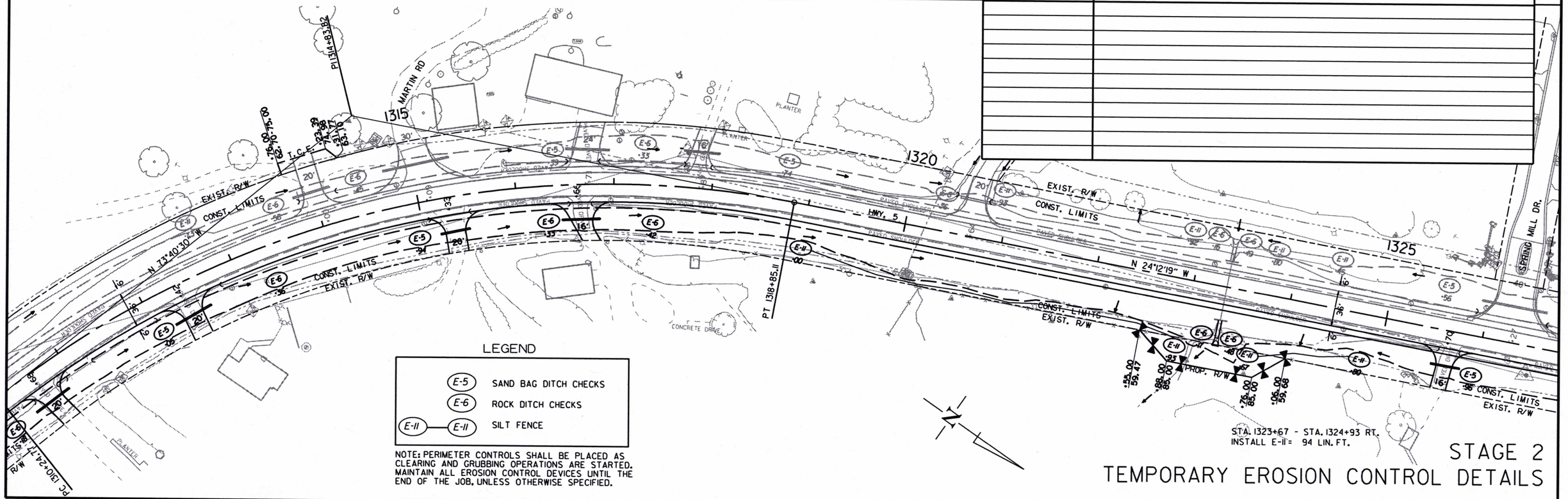
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



REVISIONS

DATE OF REVISION	REVISION



LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-11 — E-11	SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

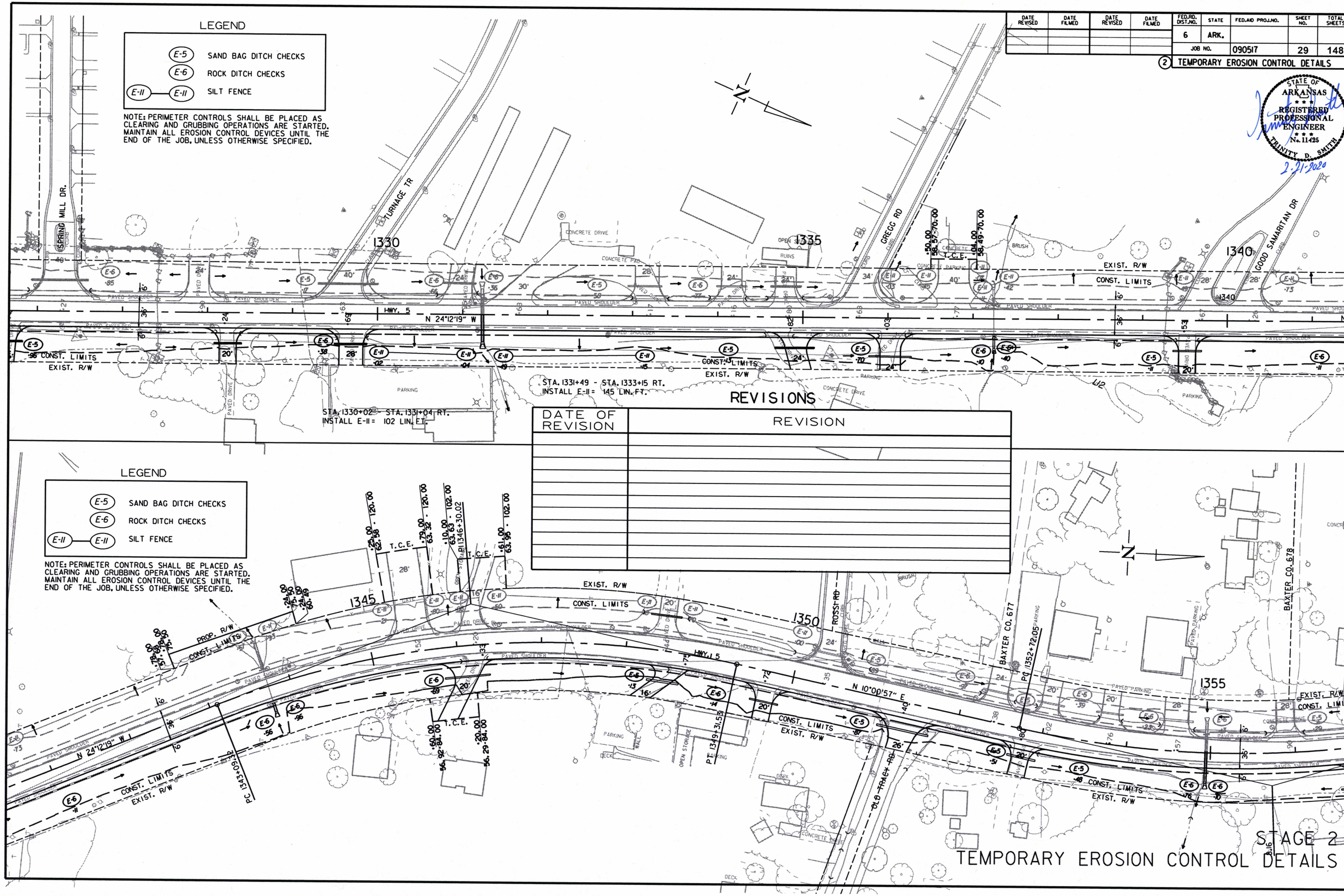
1/10/2020

R090517.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.		090517	29	148

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



1/10/2020

R090517.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.		090517	30	148

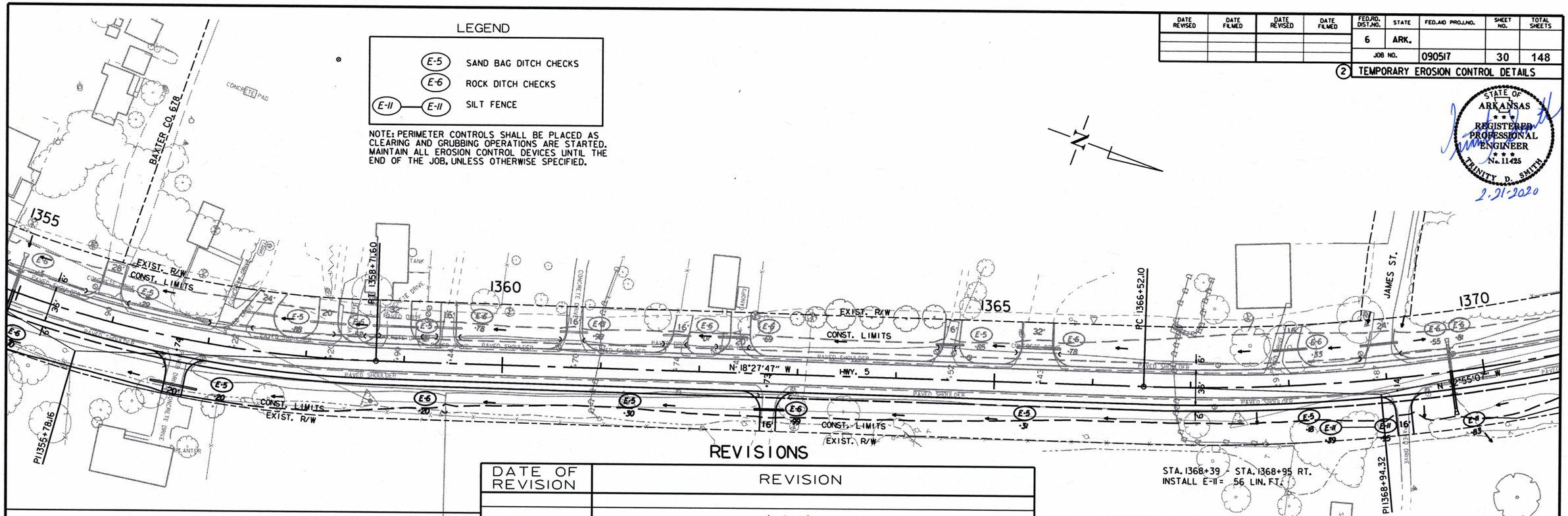
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

LEGEND

- E-5 — SAND BAG DITCH CHECKS
- E-6 — ROCK DITCH CHECKS
- E-11 — E-11 — SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STA. 1368+39 - STA. 1368+95 RT.
INSTALL E-11 = 56 LIN. FT.

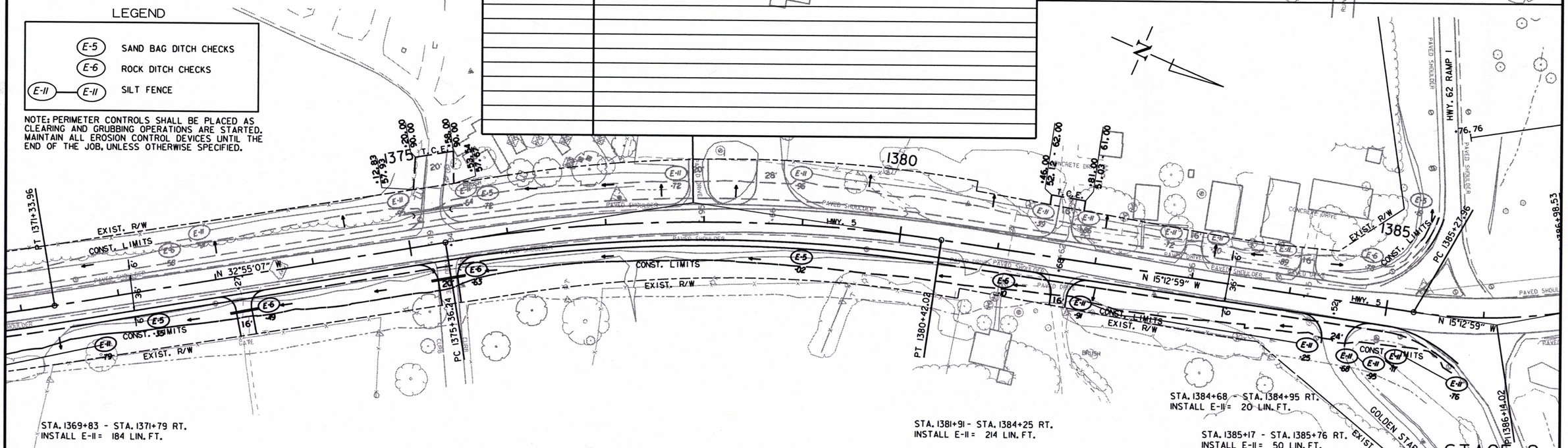
REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 — SAND BAG DITCH CHECKS
- E-6 — ROCK DITCH CHECKS
- E-11 — E-11 — SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STA. 1369+83 - STA. 1371+79 RT.
INSTALL E-11 = 184 LIN. FT.

STA. 1381+91 - STA. 1384+25 RT.
INSTALL E-11 = 214 LIN. FT.

STA. 1384+68 - STA. 1384+95 RT.
INSTALL E-11 = 20 LIN. FT.

STA. 1385+17 - STA. 1385+76 RT.
INSTALL E-11 = 50 LIN. FT.

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

1/10/2020

R090517.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.		090517	31	148

(2) TEMPORARY EROSION CONTROL DETAILS

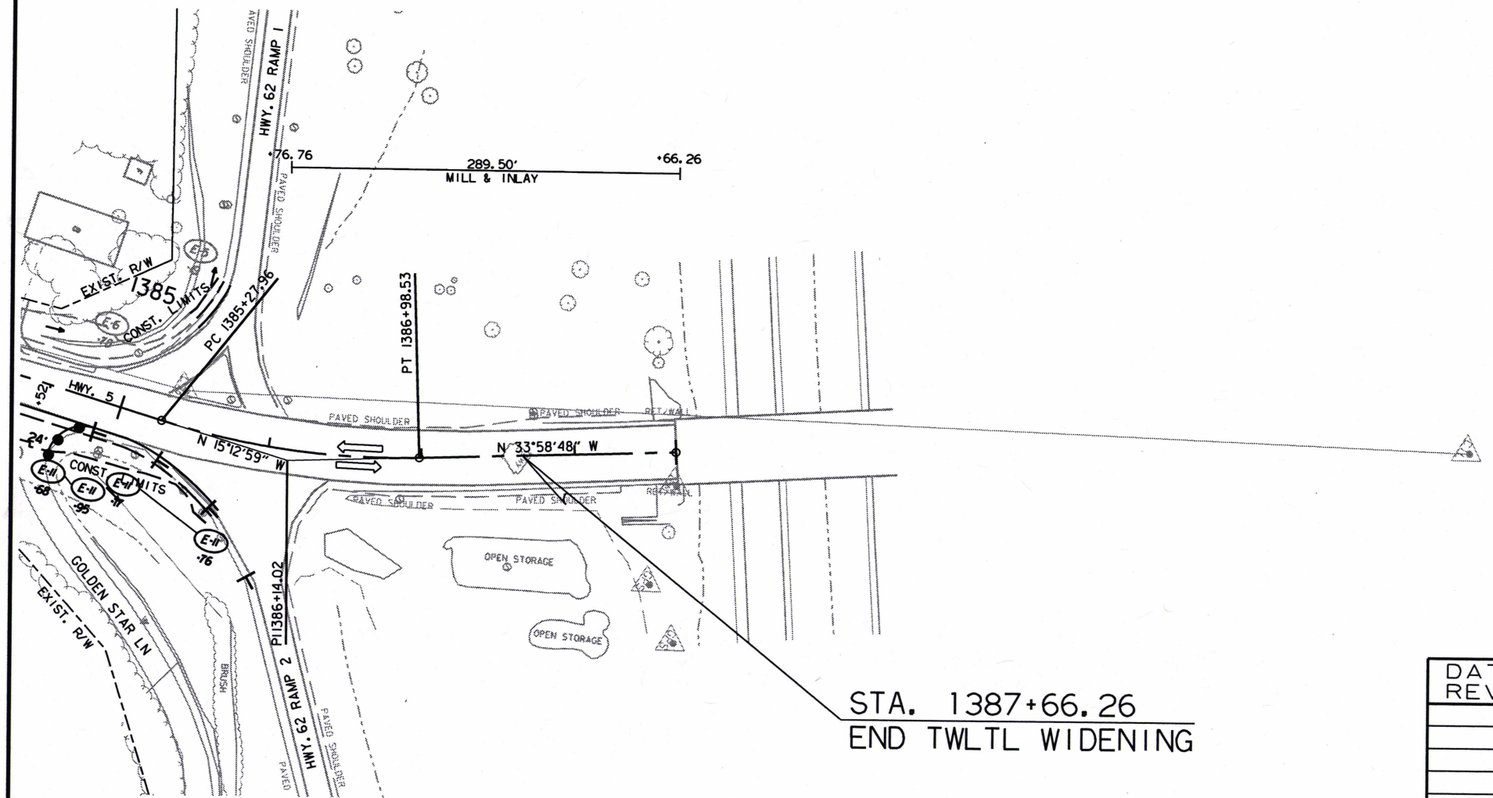
LEGEND

(E-5) SAND BAG DITCH CHECKS

(E-6) ROCK DITCH CHECKS

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



REVISIONS

DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

1/10/2020

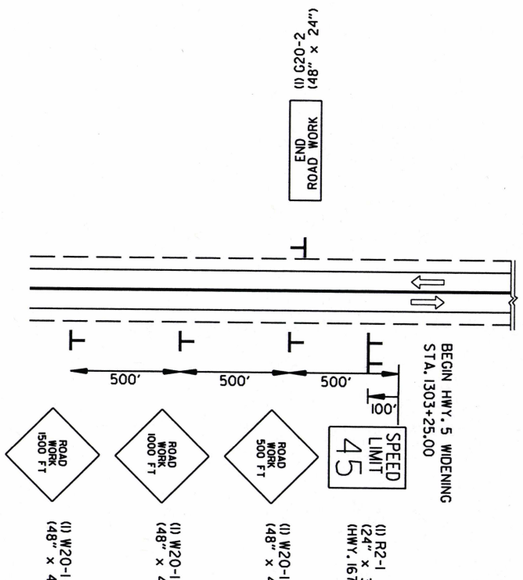
R090517.DGN

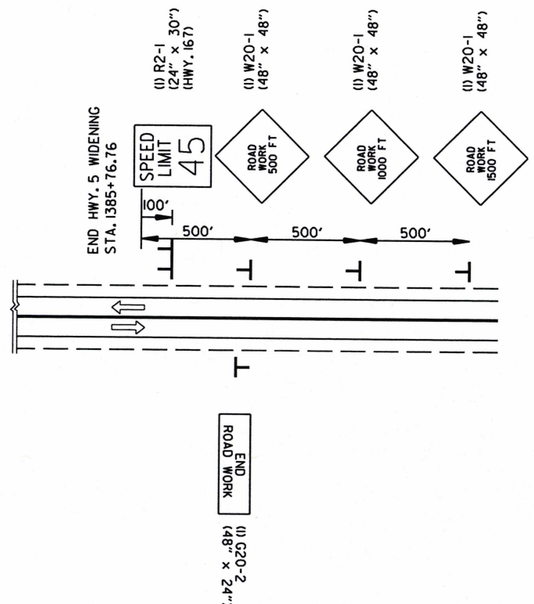
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	32	148

(2) MAINTENANCE OF TRAFFIC DETAILS

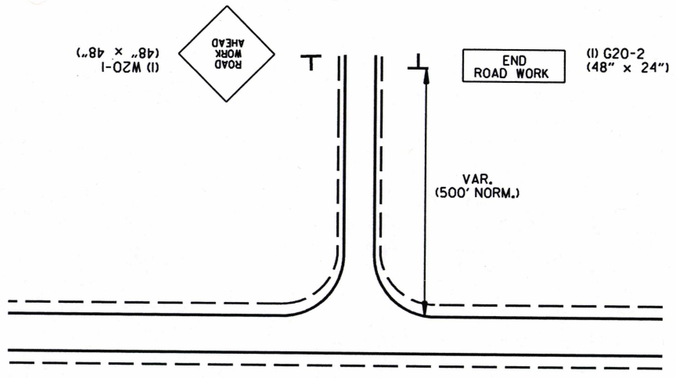
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

ADVANCE WARNING (ALL STAGES)





SHOULDER CLOSED	(2) W21-5a (36" X 36")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
DO NOT PASS	(2) R4-1 (24" X 30")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
BUMP	(2) W8-1 (30" X 30")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



ADVANCE WARNING - SIDE ROADS (ALL STAGES)

MARTIN RD.	GOOD SAMARITAN DR.	GOLDEN STAR LN.
COUNTY RD. 253	ROSSI RD.	HWY. 62 / 5 RAMP 3
COUNTY RD. 254	OLD TRACY RD.	HWY. 62 / 5 RAMP 4
SPRING MILL DR.	COUNTY RD. 677	
TURNAGE TRAIL	COUNTY RD. 678	
GREGG RD.	COUNTY RD. 679	

STAGE 1 CONSTRUCTION SEQUENCE

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

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

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 LT. AS SHOWN ON THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2 CONSTRUCTION SEQUENCE

MAINTAIN ADVANCE WARNING SIGNS AS SHOWN ON THE ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAIL.

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 RT. AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

END OF JOB CONSTRUCTION SEQUENCE

PLACE FINAL 2" ACHM SURFACE COURSE AND TRANSITIONS.
PLACE FINAL STRIPING.

STAGE 1 QUANTITIES

SIGNS = 368.5 SQ. FT.
TRAFFIC DRUMS = 176 EACH
VERTICAL PANELS = 126 EACH

STAGE 2 QUANTITIES

SIGNS = 368.5 SQ. FT.
TRAFFIC DRUMS = 137 EACH
VERTICAL PANELS = 153 EACH

1/6/2020

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ADVANCE WARNING
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.		090517	33	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STAGE I CONSTRUCTION SEQUENCE

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

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

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 LT. AS SHOWN ON THE STAGE I MAINTENANCE OF TRAFFIC DETAILS.

(16) VERTICAL PANELS SPACED 45' ON CENTER

PI 1299+07.78

1300 EXIST. R/W

1305

1310

EXIST. R/W

CONST. LIMITS

N 73°40'30" W

LNWY. 5

EXIST. R/W

EXIST. R/W

EXIST. R/W

STA. 1303+25.00
BEGIN TWLTL WIDENING
LOG MILE 16.60

T.C.E.

100' TRANSITION

385' TAPER

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
3 LOCATIONS = 18 TOTAL

PC 1310+24.77

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
6 LOCATIONS = 36 TOTAL

PI 1314+83.82

MARTIN RD

1315

1320

1325

T.C.E.

EXIST. R/W

CONST. LIMITS

N 73°40'30" W

N 24°12'19" W

LNWY. 5

PAVED SHOULDER

CONCRETE DRIVE

PROP. R/W

EXIST. R/W

SPRING MILL DR.

PT 1318+85.11

(25) VERTICAL PANELS SPACED 45' ON CENTER

PC 1310+24.77 R/W

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

1/6/2020

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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.		090517	34	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE I CONSTRUCTION SEQUENCE

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

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

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 LT. AS SHOWN ON THE STAGE I MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
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2-21-2020

(16) VERTICAL PANELS SPACED 45' ON CENTER

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
11 LOCATIONS = 66 TOTAL

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
9 LOCATIONS = 45 TOTAL

(21) VERTICAL PANELS SPACED 45' ON CENTER

1/6/2020

R090517.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.		090517	35	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STAGE I CONSTRUCTION SEQUENCE

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

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

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 LT. AS SHOWN ON THE STAGE I MAINTENANCE OF TRAFFIC DETAILS.

(24) VERTICAL PANELS SPACED 45' ON CENTER

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
11 LOCATIONS = 66 TOTAL

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
6 LOCATIONS = 36 TOTAL

(24) VERTICAL PANELS SPACED 45' ON CENTER

1355 1360 1365 1370 1375 1380 1385

BAXTER CO. 67B

EXIST. R/W

CONST. LIMITS

PAVED SHOULDER

PAVED PARKING

JAMES ST.

HWY. 5

HWY. 62 RAMP I

HWY. 62 RAMP 2

GOLDEN STAR LN

PI 1356+78.16

PC 1358+71.60

PC 1366+52.10

PI 1368+94.32

PT 1371+33.96

PI 1377+91.16

PC 1375+36.24

PT 1380+42.02

PC 1385+27.96

PT 1386+98.53

PI 1386+14.02

N 18°27'47" W

N 32°55'07" W

N 15°12'59" W

1/6/2020

R090517.DGN

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

STAGE I CONSTRUCTION SEQUENCE

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

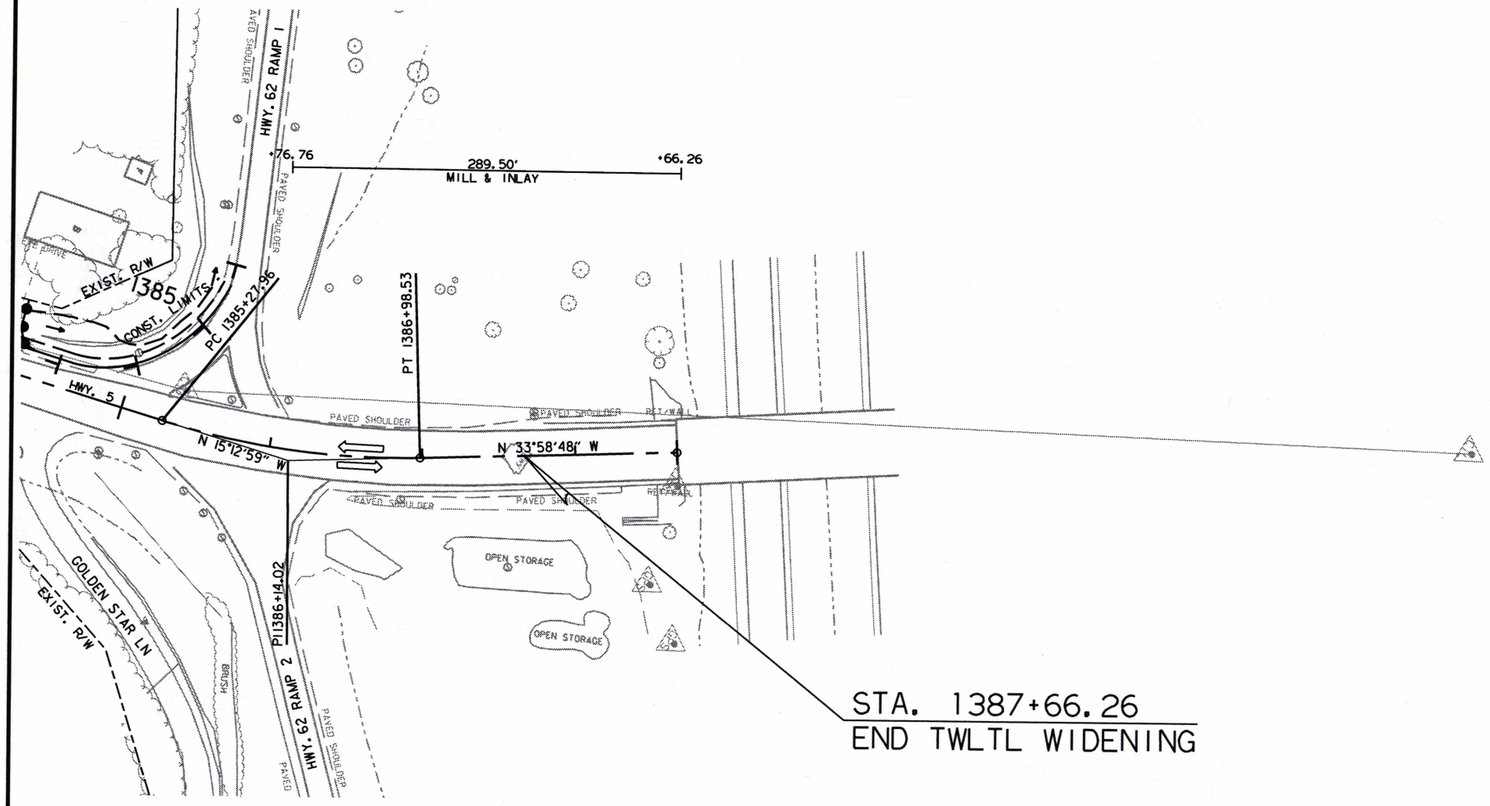
USE VERTICAL PANELS SPACED 45' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 LT. AS SHOWN ON THE 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.		090517	36	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



1/6/2020

R090517.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.		090517	37	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STAGE 2 CONSTRUCTION SEQUENCE

MAINTAIN ADVANCE WARNING SIGNS AS SHOWN ON THE ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAIL.

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 RT. AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
3 LOCATIONS = 18 TOTAL

PC 1299+07.78

1300

EXIST. R/W

1305

1310

EXIST. R/W

CONST. LIMITS

N 73°40'30" W

LWY. 5

CONST. LIMITS

EXIST. R/W

EXIST. R/W

CONST. LIMITS

EXIST. R/W

PC 1310+24.77

STA. 1303+25.00
BEGIN TWLTL WIDENING
LOG MILE 16.60

T.C.E.

80.00
62.17-90.00

82.00
62.26-90.00

100' TRANSITION

385' TAPER

(17) VERTICAL PANELS SPACED 45' ON CENTER

PI 1314+83.82

MARTIN RD

1315

T.C.E.

76.00
62.38-75.00

23.38
74.10
31.10
63.38

EXIST. R/W

CONST. LIMITS

N 73°40'30" W

CONST. LIMITS

EXIST. R/W

PC 1310+24.77 R/W

1320

EXIST. R/W

CONST. LIMITS

LWY. 5

PT 1318+85.11

1325

N 24°12'19" W

CONST. LIMITS

EXIST. R/W

PROP. R/W

55.00
59.47

88.00
85.00

75.00
85.00

105.00
59.68

CONST. LIMITS

EXIST. R/W

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
4 LOCATIONS = 24 TOTAL

(27) VERTICAL PANELS SPACED 45' ON CENTER

1/6/2020

R090517.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.		090517	38	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STAGE 2 CONSTRUCTION SEQUENCE

MAINTAIN ADVANCE WARNING SIGNS AS SHOWN ON THE ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAIL.

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 RT. AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

(24) VERTICAL PANELS SPACED 45' ON CENTER

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
5 LOCATIONS = 30 TOTAL

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
5 LOCATIONS = 30 TOTAL

(28) VERTICAL PANELS SPACED 45' ON CENTER

1/6/2020

R090517.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.		090517	39	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 2 CONSTRUCTION SEQUENCE

MAINTAIN ADVANCE WARNING SIGNS AS SHOWN ON THE ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAIL.

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 RT. AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

(28) VERTICAL PANELS SPACED 45' ON CENTER

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
3 LOCATIONS = 18 TOTAL

(6) TRAFFIC DRUMS AT DRIVEWAY TURNOUTS
4 LOCATIONS = 24 TOTAL

(29) VERTICAL PANELS SPACED 45' ON CENTER

1/6/2020

R090517.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

STAGE 2 CONSTRUCTION SEQUENCE

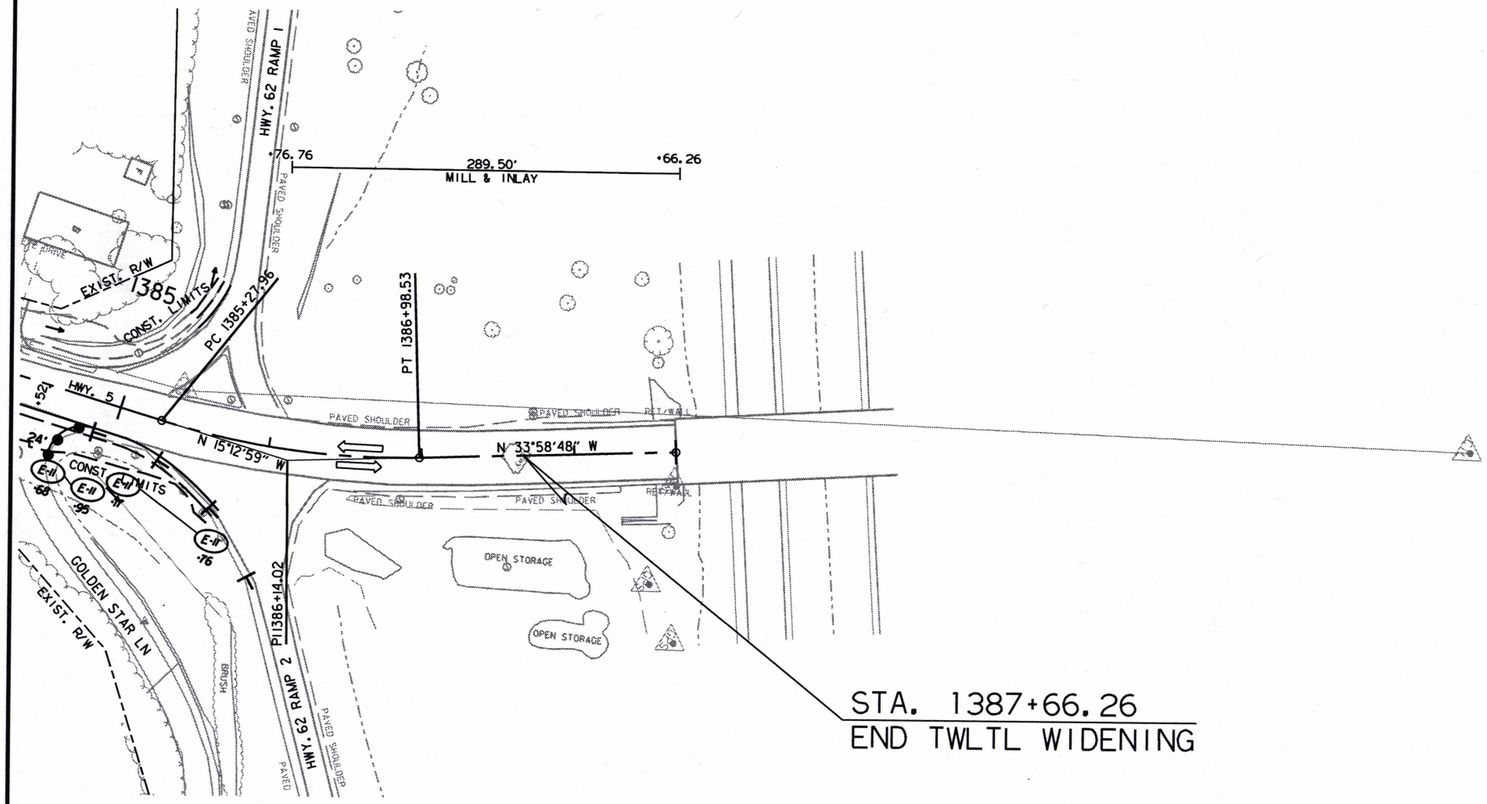
MAINTAIN ADVANCE WARNING SIGNS AS SHOWN ON THE ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAIL.

CONSTRUCT STRUCTURES AND EMBANKMENT FROM STA. 1303+25.00 TO STA. 1385+76.76 RT. AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	40	148

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



1/6/2020

R090517.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

PERMANENT PAVEMENT MARKINGS - TWO-WAY LEFT TURNING LANE

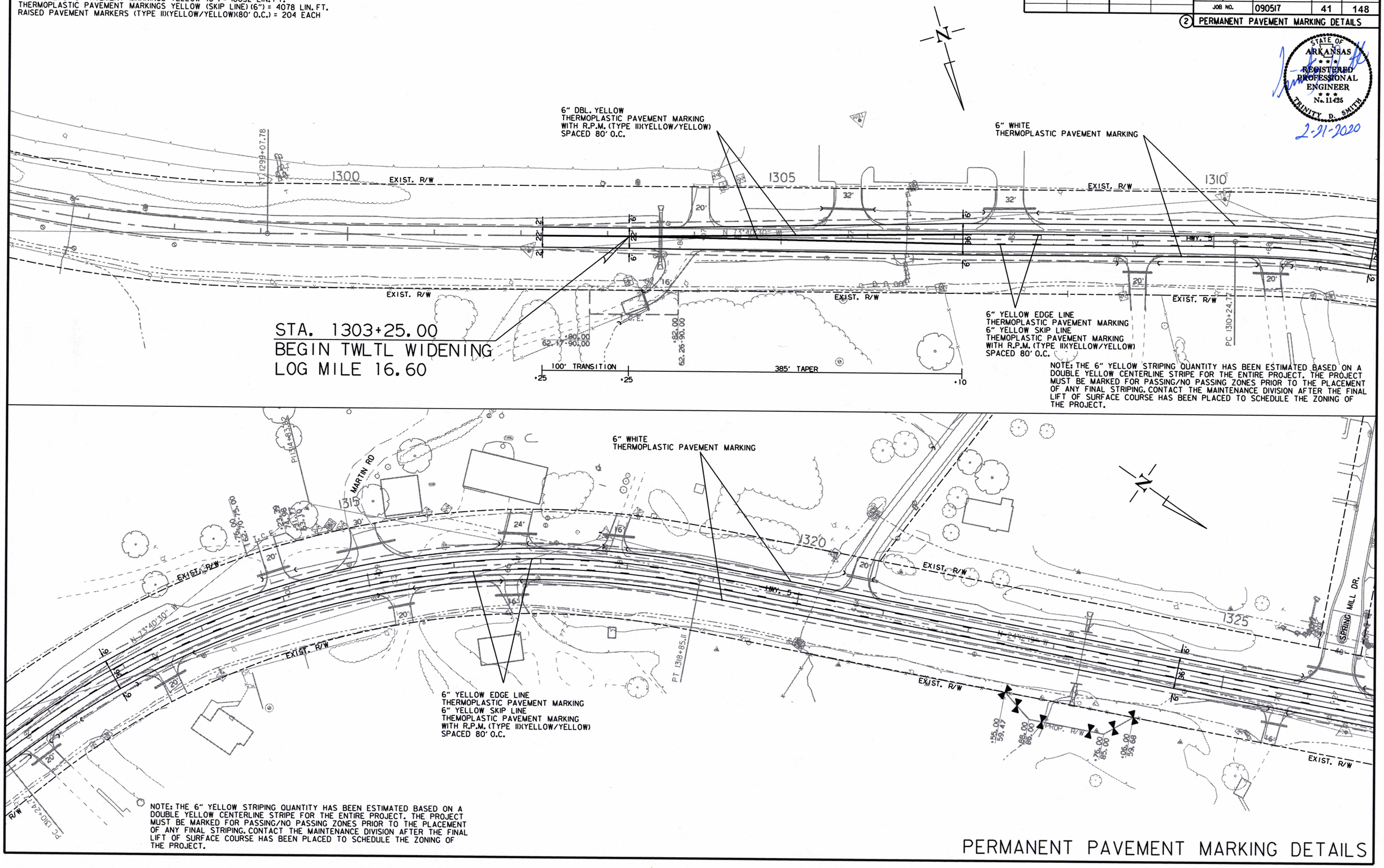
THERMOPLASTIC PAVEMENT MARKINGS WHITE (6") = 17283 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (6") = 18052 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (SKIP LINE) (6") = 4078 LIN. FT.
RAISED PAVEMENT MARKERS (TYPE II)(YELLOW/YELLOW)(80' O.C.) = 204 EACH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		090517	41	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

1/13/2020

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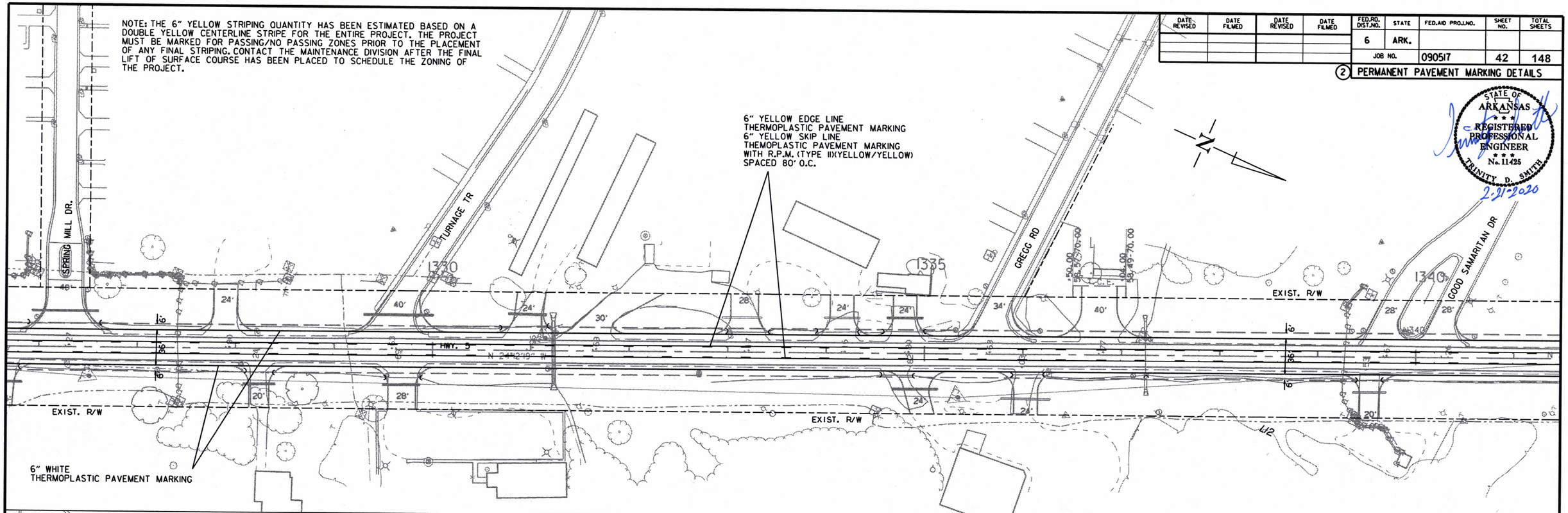
PERMANENT PAVEMENT MARKING DETAILS

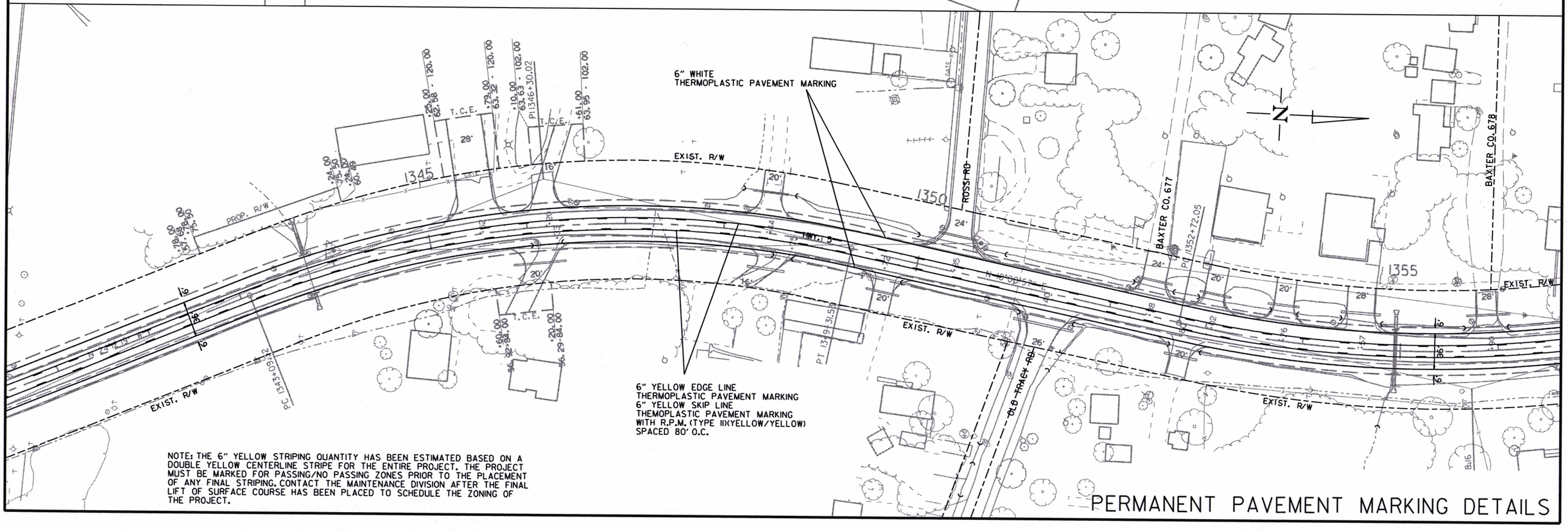
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	42	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.





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PERMANENT PAVEMENT MARKING DETAILS

1/13/2020

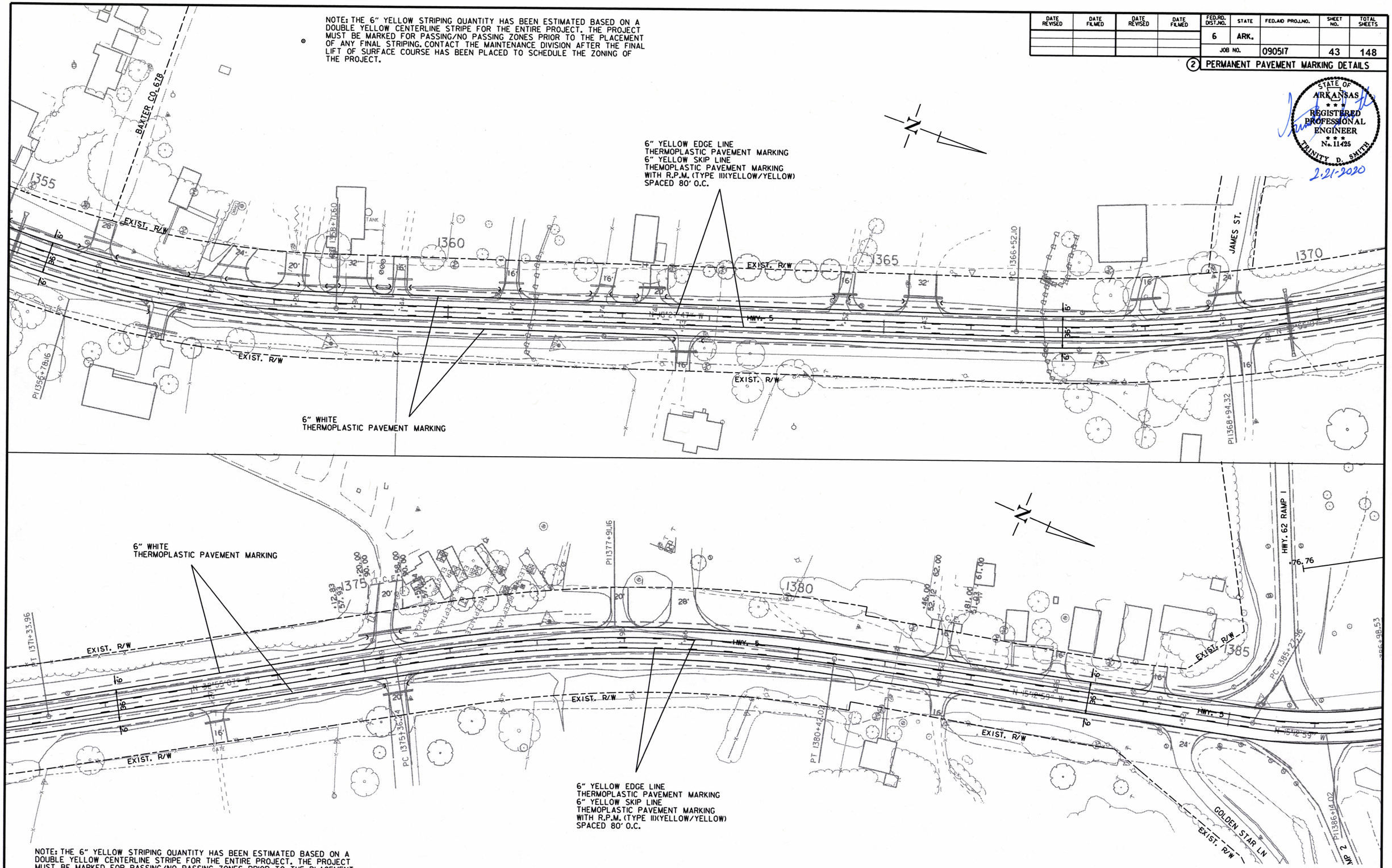
R090517.DGN

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.		090517	43	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.



NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

1/13/2020

R090517.DGN

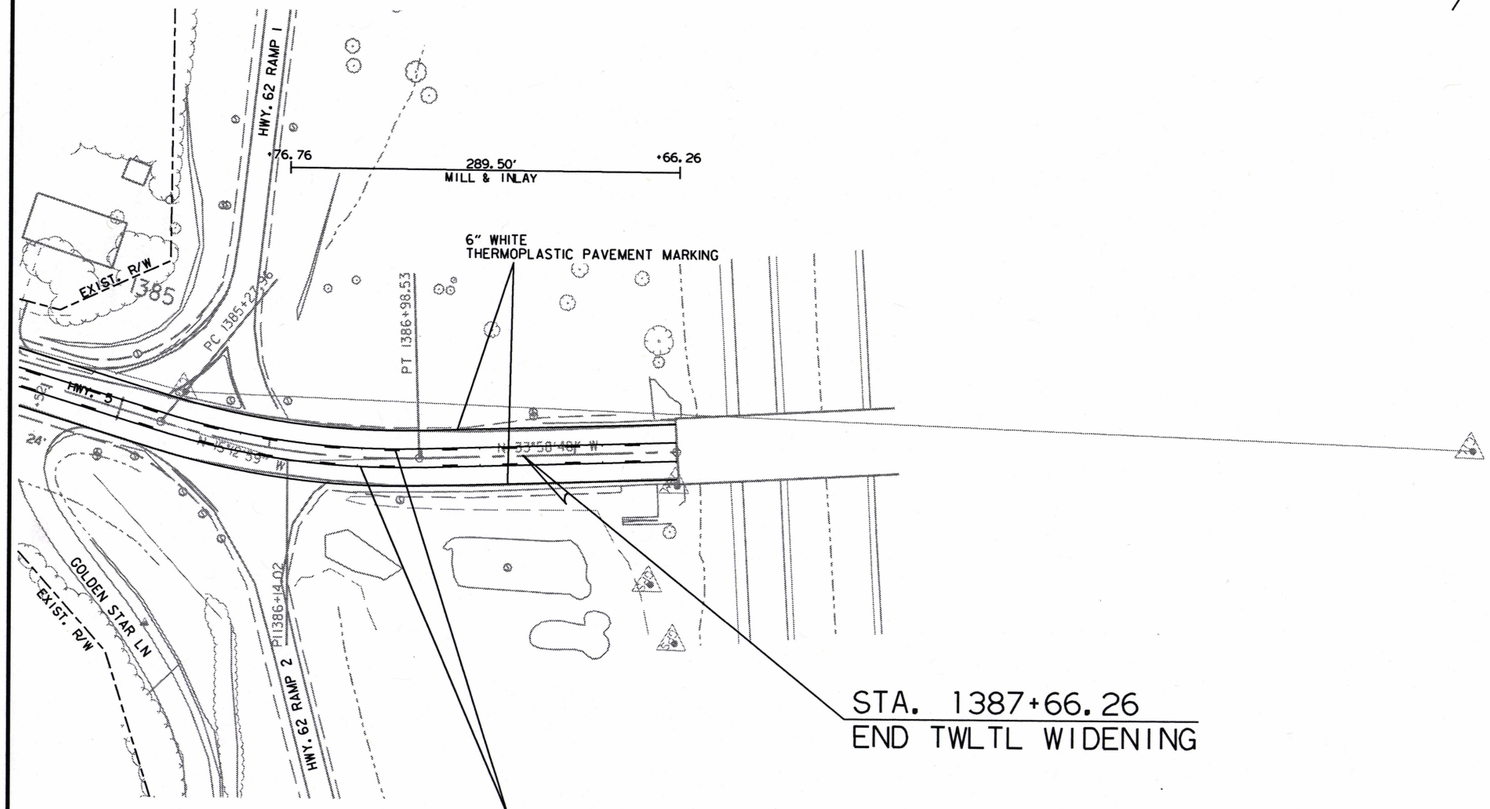
PERMANENT PAVEMENT MARKING DETAILS

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	44	148

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



1/13/2020

R090517.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.		090517	45	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

ADVANCE WARNING SIGNS AND DEVICES - HSIP-0003(17)

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	ENTIRE PROJECT	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE
			LIN. FT. - EACH				NO.	SQ. FT.	EACH		EACH
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	4	4	4	64.0			
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	4	4	4	64.0			
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	4	4	4	64.0			
W20-1	ROAD WORK AHEAD	48"x48"	9	9	44	44	44	704.0			
G20-2	END ROAD WORK	48"x24"	11	11	4	11	11	88.0			
G20-1	ROAD WORK NEXT xx MILES	60"x24"			4	4	4	40.0			
R4-1	DO NOT PASS	24"x30"	2	2		2	2	10.0			
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	36	36	36	324.0			
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	64.0			
SPECIAL	CONSTRUCTION PROJECT INFORMATION SIGN	96"x48"			2	2	2	64.0			
	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE					10					10
	VERTICAL PANELS		126	156		156			156		
	TRAFFIC DRUMS		276	137	301	301				301	
TOTALS:								1498.5	156	301	10

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

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

ADVANCE WARNING SIGNS AND DEVICES - STPF-0003(17)

SIGN NUMBER	DESCRIPTION	SIGN SIZE	ENTIRE PROJECT	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS
			LIN. FT. - EACH		NO.	SQ. FT.	EACH
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	64.0	
W20-1	ROAD WORK 1000 FT.	48"x48"	4	4	4	64.0	
W20-1	ROAD WORK 500 FT.	48"x48"	4	4	4	64.0	
W20-1	ROAD WORK AHEAD	48"x48"	24	24	24	384.0	
W20-5	RIGHT LANE CLOSED xxxx	48"x48"	4	4	4	64.0	
G20-2	END ROAD WORK	48"x24"	4	4	4	32.0	
G20-1	ROAD WORK NEXT xx MILES	60"x24"	4	4	4	40.0	
W4-2	LANE ENDS	36"x36"	4	4	4	36.0	
W1-4	HORIZONTAL ALIGNMENT	36"x36"	4	4	4	36.0	
W1-3	HORIZONTAL ALIGNMENT	48"x48"	4	4	4	64.0	
W1-6	LARGE ARROW	48"x24"	4	4	4	32.0	
R4-1	DO NOT PASS	24"x30"	4	4	4	20.0	
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	4	4	4	36.0	
SPECIAL	WORK WITH US SIGN (USE CAUTION, SLOW DOWN)	96"x48"	2	2	2	64.0	
	TRAFFIC DRUMS		115	115			115
TOTALS:						1000.0	115

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

1/22/2020

R090517.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.		090517	46	148
				(2) QUANTITIES				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS - HSIP-0003(17)

DESCRIPTION	STAGE 2	ENTIRE PROJECT	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING	
				TYPE II	6"	
				(YELLOW/YELLOW)	WHITE	YELLOW
	LIN. FT. - EACH		LIN. FT.	EACH	LIN. FT.	
CONSTRUCTION PAVEMENT MARKINGS		302623	302623			
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	204	847		1051		
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	17283	135590			152873	
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	18052	135590				153642
THERMOPLASTIC PAVEMENT MARKING YELLOW (SKIP LINE) (6")	4078	10032				14110
TOTALS:			**302623**	**1051**	**152873**	**167752**

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

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING.
CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS - STPF-0003(17)

DESCRIPTION	ENTIRE PROJECT	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING				
			TYPE II	6"		12"	WORDS	ARROWS
			(YELLOW/YELLOW)	WHITE	YELLOW	WHITE		
	LIN. FT. - EACH	LIN. FT.	EACH	LIN. FT.			EACH	
CONSTRUCTION PAVEMENT MARKINGS	59136	59136						
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	185		185					
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	11547			11547				
THERMOPLASTIC PAVEMENT MARKING WHITE (SKIP LINE) (6")	4425			4425				
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	22349				22349			
THERMOPLASTIC PAVEMENT MARKING YELLOW (SKIP LINE) (6")	10502				10502			
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	392					392		
THERMOPLASTIC PAVEMENT MARKING (WORDS)	11						11	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	17							17
TOTALS:		**59136**	**185**	**15972**	**32851**	**392**	**11**	**17**

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

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
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CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

1/22/2020

R090517.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.		090517	47	148
				(2) QUANTITIES				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

CLEARING AND GRUBBING (SHOULDER WIDENING) - HSIP-0003(17)

SECTION	LOG MILE	LOG MILE	LOCATION	CLEARING	GRUBBING
				STATION	
18	0.13	5.91	TO BE USED IF AND WHERE	76	76
18	10.60	16.60	DIRECTED BY THE ENGINEER	79	79
TOTALS:				155	155

CLEARING AND GRUBBING (TWLTL) - HSIP-0003(17)

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
1303+25	1387+66	HWY. 5 LT. & RT.	85	85
TOTALS:			85	85

REMOVAL AND DISPOSAL OF ITEMS (SHOULDER WIDENING) - HSIP-0003(17)

LOG MILE	LOG MILE	LOCATION	GUARDRAIL
			LIN. FT.
5.45	6.00	HWY. 5 LT.	2904
7.66	7.71	HWY. 5 RT.	264
TOTAL:			3168

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.

REMOVAL AND DISPOSAL OF ITEMS (TWLTL) - HSIP-0003(17)

STATION	STATION	LOCATION	CURB
			LIN. FT.
1325+81.00	1326+73.00	HWY. 5 LT	110
1329+15.00	1329+96.00	HWY. 5 LT	100
1335+20.00	1336+14.00	HWY. 5 LT	128
1339+43.00	1340+54.00	HWY. 5 LT	202
TOTAL:			540

REMOVAL AND DISPOSAL OF FENCE - HSIP-0003(17)

STATION	STATION	LOCATION	FENCE
			LIN. FT.
1302+80	1303+20	HWY. 5 RT.	40
1303+20	1303+80	HWY. 5 RT.	60
1322+55	1324+06	HWY. 5 RT.	167
1345+40	1345+65	HWY. 5 LT.	10
1345+65	1345+75	HWY. 5 LT.	10
TOTAL:			287

REMOVAL AND DISPOSAL OF ITEMS - STPF-0003(17)

LOG MILE	LOG MILE	LOCATION	PLOWABLE PAVEMENT MARKER
			EACH
0.00	1.40	HWY. 5, SEC. 19	86
TOTAL:			86

EARTHWORK - HSIP-0003(17)

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
1303+25.00	1387+66.26	STAGE 1-MAIN LANES	7397	5323	
1303+25.00	1387+66.26	STAGE 2-MAIN LANES	8489	4494	
ENTIRE	SECTION 18	APPROACHES	930	3860	
ENTIRE	SECTION 18	HWY. 5 SHOULDER WIDENING	6034	2339	
* ENTIRE	SECTION 18	TO BE USED IF AND WHERE			1000
		DIRECTED BY THE ENGINEER			
TOTALS:			22850	16016	1000

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

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
1305+00							6' RT	0-5	38	22	A-6(13)	BROWN
1305+00							18' RT	0-5	42	21	A-2-7(2)	BROWN
1305+00							18' RT	0-5	41	23	A-7-6(5)	BROWN
1313+00							6' LT	0-5	24	7	A-4(2)	BROWN
1313+00							18' LT	0-5	23	5	A-4(1)	BROWN
1321+00							6' RT	0-5	63	43	A-7-6(39)	BROWN
1321+00							18' RT	0-5	37	20	A-6(13)	BROWN
1329+00							6' LT	0-5	48	29	A-7-6(17)	BROWN
1329+00							18' LT	0-4Z	36	17	A-6(9)	BROWN
1337+00							6' RT	0-5	45	27	A-7-6(8)	BR/GR
1337+00							18' RT	0-2.5Z	32	13	A-6(5)	BROWN
1345+00							6' LT	0-5	39	21	A-6(16)	BROWN
1345+00							18' LT	0-5	34	13	A-6(3)	BROWN
1345+00							18' LT	0-5	34	17	A-6(5)	BROWN
1353+00							6' RT	0-5	31	15	A-6(11)	BROWN
1353+00							18' RT	0-5	45	26	A-7-6(25)	BROWN
1362+00							6' LT	0-5	33	16	A-6(10)	BROWN
1362+00							18' LT	0-5	48	28	A-7-6(14)	BROWN
1370+00							6' RT	0-5	34	19	A-6(13)	BROWN
1370+00							18' RT	0-5	31	14	A-6(7)	BROWN
1378+00							6' LT	0-5	45	25	A-7-6(21)	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

1/22/2020

R090517.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.		090517	48	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

REMOVAL AND DISPOSAL OF CULVERTS - HSIP-0003(17)

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
1303+61	HWY. 5	1
1305+77	HWY. 5 LT.	1
1307+63	HWY. 5 LT.	1
1309+12	HWY. 5 RT.	1
1310+68	HWY. 5 RT.	1
1312+42	HWY. 5 RT.	1
1314+00	HWY. 5 LT.	1
1315+33	HWY. 5 LT.	1
1316+66	HWY. 5 RT.	1
1316+71	HWY. 5 RT.	1
1317+87	HWY. 5 LT.	1
1325+70	HWY. 5 RT.	1
1326+27	HWY. 5 LT.	1
1328+24	HWY. 5 RT.	1
1329+63	HWY. 5 LT.	1
1329+69	HWY. 5 RT.	1
1330+96	HWY. 5 LT.	1
1331+23	HWY. 5	1
1334+16	HWY. 5 LT.	1
1334+80	HWY. 5 LT.	1
1334+82	HWY. 5 RT.	1
1336+03	HWY. 5 RT.	1
1339+53	HWY. 5 RT.	1
1346+33	HWY. 5 RT.	1
1348+44	HWY. 5 LT.	1
1348+75	HWY. 5 RT.	1
1349+72	HWY. 5 RT.	1
1350+35	HWY. 5 LT.	1
1351+40	HWY. 5 RT.	1
1352+38	HWY. 5 LT.	1
1352+80	HWY. 5 RT.	1
1353+02	HWY. 5 LT.	1
1353+76	HWY. 5 LT.	1
1354+57	HWY. 5 LT.	1
1354+95	HWY. 5	1
1355+90	HWY. 5 LT.	1
1356+74	HWY. 5 RT.	1
1357+22	HWY. 5 LT.	1
1358+20	HWY. 5 LT.	1
1358+90	HWY. 5 LT.	1
1359+44	HWY. 5 LT.	1
1360+70	HWY. 5 LT.	1
1361+74	HWY. 5 LT.	1
1362+41	HWY. 5 LT.	1
1364+52	HWY. 5 LT.	1
1365+43	HWY. 5 LT.	1
1368+87	HWY. 5 LT.	1
1369+66	HWY. 5	1
1375+19	HWY. 5 LT.	1
1375+34	HWY. 5 RT.	1
TOTAL:		50

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

ULTRATHIN BONDED WEARING COURSE - STPF-0003(17)

SECTION	LOG MILE	LOG MILE	LOCATION	TOTAL LENGTH	AVG. WIDTH	ULTRATHIN BONDED WEARING COURSE (5/8" - TYPE B)
				FEET	FEET	SQ. YD.
18	4.62	6.22	MAIN LANES	8448.00	26.00	24405
18	6.22	6.45	MAIN LANES	1214.40	24.00	3238
18	6.45	6.50	MAIN LANES	264.00	31.00	909
18	6.50	6.57	MAIN LANES	369.60	43.00	1766
18	6.57	6.62	MAIN LANES	264.00	22.00	645
18	6.62	6.65	MAIN LANES	158.40	38.00	669
18	6.65	6.70	MAIN LANES	264.00	30.00	880
18	6.70	6.76	MAIN LANES	316.80	VAR.	1338
18	6.86	7.08	MAIN LANES	1161.60	22.00	2839
18	7.08	10.60	MAIN LANES	18585.60	22.00	45431
18	10.60	12.40	MAIN LANES	9504.00	26.00	27456
TOTAL:						109576

HIGH FRICTION SURFACE TREATMENT - HSIP-0003(17)

SECTION	LOG MILE	LOG MILE	LOCATION	TOTAL LENGTH	AVG. WIDTH	HIGH FRICTION SURFACE TREATMENT
				FEET	FEET	SQ. YD.
18	1.91	2.34	MAIN LANES	2270.40	22.00	5550
18	3.20	3.89	MAIN LANES	3643.20	22.00	8906
18	4.38	4.43	MAIN LANES	264.00	22.00	645
18	4.43	4.48	MAIN LANES	264.00	VAR.	1030
18	4.48	4.49	MAIN LANES	52.80	33.00	194
18	4.49	4.56	MAIN LANES	369.60	VAR.	1045
18	4.56	4.62	MAIN LANES	316.80	22.00	774
18	13.43	13.70	MAIN LANES	1425.60	22.00	3485
TOTAL:						21629

EROSION CONTROL MATTING - HSIP-0003(17)

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
1303+61.00	1304+15.00	HWY. 5 RT.	54.00	48.00
1323+30.00	1324+43.00	HWY. 5 LT. & RT.	113.00	100.44
1325+37.00	1325+85.00	HWY. 5 LT. & RT.	48.00	42.67
1328+48.00	1330+70.00	HWY. 5 LT. & RT.	222.00	197.33
1334+35.00	1337+00.00	HWY. 5 LT. & RT.	265.00	235.56
1347+40.00	1348+68.00	HWY. 5 LT. & RT.	128.00	113.78
1371+00.00	1373+00.00	HWY. 5 LT. & RT.	200.00	177.78
1375+48.00	1376+20.00	HWY. 5 LT. & RT.	72.00	64.00
1379+80.00	1381+80.00	HWY. 5 LT. & RT.	200.00	177.78
1382+80.00	1383+20.00	HWY. 5 LT. & RT.	40.00	35.56
1383+60.00	1384+00.00	HWY. 5 LT. & RT.	40.00	35.56
TOTAL:				1228.46

NOTE: AVERAGE WIDTH = 8'-0"

CONCRETE DITCH PAVING - HSIP-0003(17)

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
1303+25.00	1303+61.00	HWY. 5 LT.	36.00	6.00	24.00	16.00	0.20
1303+61.00	1304+07.00	HWY. 5 LT.	46.00	6.00	30.67	20.44	0.26
1324+43.00	1325+37.00	HWY. 5 LT & RT.	94.00	6.00	62.67	41.78	0.53
1336+25.00	1337+24.00	HWY. 5 LT.	99.00	6.00	66.00	44.00	0.55
1336+99.00	1337+24.00	HWY. 5 RT.	25.00	6.00	16.67	11.11	0.14
1348+00.00	1354+85.00	HWY. 5 LT.	685.00	6.00	456.67	304.44	3.84
1348+68.00	1354+85.00	HWY. 5 RT.	617.00	6.00	411.33	274.22	3.46
1373+00.00	1375+48.00	HWY. 5 LT. & RT.	248.00	6.00	165.33	110.22	1.39
1381+80.00	1382+80.00	HWY. 5 LT. & RT.	100.00	6.00	66.67	44.44	0.56
TOTALS:					1300.01	866.65	10.93

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

SELECTED PIPE BEDDING - HSIP-0003(17)

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
SECTION 18 TO BE USED IF	
AND WHERE DIRECTED BY THE	300
ENGINEER	
TOTAL:	300

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

GUARDRAIL - HSIP-0003(17)

LOG MILE	LOG MILE	LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH
5.45	6.00	HWY. 5 LT. - SEC. 18	2904	2
7.66	7.71	HWY. 5 RT. - SEC. 18	264	2
TOTALS:			3168	4

TRENCHING AND SHOULDER PREPARATION - HSIP-0003(17)

LOG MILE	LOG MILE	LOCATION / DESCRIPTION	TRENCHING AND SHOULDER PREPARATION
			STATIONS
5.45	6.00	HWY. 5 LT. - SEC. 18	29
7.66	7.71	HWY. 5 RT. - SEC. 18	3
TOTAL:			32

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QUANTITIES

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				6	ARK.			
				JOB NO.		090517	49	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

4" PIPE UNDERDRAIN - HSIP-0003(17)

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE SECTION 18 TO BE USED IF AND			2000	4
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			2000	4

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

FENCING - HSIP-0003(17)

STATION	STATION	LOCATION	WIRE FENCE (TYPE D)	WIRE FENCE (TYPE D-1)	* 4' CHAIN LINK FENCE	* 16'-0" GATES
			LIN. FT.			EACH
1303+20	1303+80	HWY. 5 RT.		60		
1322+55	1324+06	HWY. 5 RT.	167			
1345+30	1345+40	HWY. 5 LT.			10	1
1345+65	1345+75	HWY. 5 LT.			10	1
TOTALS:			167	60	20	2

MAILBOXES - HSIP-0003(17)

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
	EACH		
ENTIRE SECTION 18	184	172	6
TOTALS:	184	172	6

CULVERT CLEAN OUT - HSIP-0003(17)

STATION	LOCATION	EACH
1323+34	HWY. 5	1
1337+24	HWY. 5	1
1343+73	HWY. 5	1
TOTAL:		3

STRUCTURES (TWLTL) - HSIP-0003(17)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE (CLASS V) 24"	30"	36"	42"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24"	30"	36"	42"	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.				EACH				SQ.YD.	M.GAL.	
1303+61	CONST. 30"x58' R.C. PIPE CULVERT		58				2			26	0.33	FES-1, FES-2, PCC-1
1323+34	EXTEND 42"x62' R.C. PIPE CULVERT				28				2	46	0.58	FES-1, FES-2, PCC-1
1331+23	CONST. 36"x62' R.C. PIPE CULVERT			62				2		34	0.43	FES-1, FES-2, PCC-1
1337+24	EXTEND 24"x37' R.C. PIPE CULVERT LT. & RT.	32				2				16	0.20	FES-1, FES-2, PCC-1
1343+73	EXTEND 30'x42' R.C. PIPE CULVERT LT. & RT.		40				2			26	0.33	FES-1, FES-2, PCC-1
1354+95	CONST. 30"x72' R.C. PIPE CULVERT		72				2			26	0.33	FES-1, FES-2, PCC-1
1369+66	CONST. 24"x68' R.C. PIPE CULVERT	68				2				16	0.20	FES-1, FES-2, PCC-1
TOTALS:		100	170	62	28	4	6	2	2	190	2.40	

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.

EROSION CONTROL - HSIP-0003(17)

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL: SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY EROSION CONTROL: TEMPORARY SEEDING	MULCH COVER	WATER	TRIANGULAR SILT DIKE	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	CU. YD.
ENTIRE	SEC. 18	CLEARING AND GRUBBING	14.68	29.36	14.68	1497.4	14.68		18.35	18.35	374.3		330	255	1647	161
ENTIRE	SEC. 18	STAGE 1	7.50	15.00	7.50	765.0	7.50		9.37	9.37	191.1		330	78	2474	133
ENTIRE	SEC. 18	STAGE 2	7.18	14.36	7.18	732.4	7.18		8.98	8.98	183.2		396	69	865	73
*ENTIRE SECTION 18 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			16.78	33.56	16.78	1716.0	16.78	350	19.98	19.98	407.6	5000	1144	221	6247	231
TOTALS:			46.14	92.28	46.14	4710.8	46.14	350	56.68	56.68	1156.2	5000	2200	623	11233	598

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
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
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.

1/22/2020

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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.		090517	50	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STRUCTURES (SHOULDER WIDENING) - HSIP-0003(17)

LOG MILE	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) LIN. FT.					FLARED END SECTIONS FOR R.C. PIPE CULVERTS EACH					SOLID SODDING	WATER	STD. DWG. NOS.
		18"	24"	30"	36"	48"	18"	24"	30"	36"	48"	SQ.YD.	M.GAL.	
0.42	EXTEND 24" x 46' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
1.08	EXTEND 24" x 42' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
1.14	EXTEND 24" x 42' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
1.58	EXTEND 24" x 37' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
1.61	EXTEND 24" x 37' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
1.69	EXTEND 24" x 40' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
1.87	EXTEND 18" x 46' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
1.94	EXTEND 24" x 68' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.03	EXTEND 24" x 43' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.10	EXTEND 24" x 43' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.17	EXTEND 24" x 45' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.20	EXTEND 18" x 54' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
2.27	EXTEND 18" x 43' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
2.35	EXTEND 24" x 58' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.48	EXTEND 24" x 49' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.57	EXTEND 24" x 39' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.81	EXTEND 24" x 38' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
2.85	EXTEND 24" x 41' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
3.11	EXTEND 24" x 59' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
3.31	EXTEND 24" x 57' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
3.90	EXTEND 24" x 45' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
4.02	EXTEND 18" x 40' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
4.08	EXTEND 24" x 44' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
4.12	EXTEND 24" x 54' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
4.31	EXTEND 24" x 40' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
4.62	EXTEND 24" x 37' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
4.76	EXTEND 24" x 34' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
4.98	EXTEND 18" x 41' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
5.14	EXTEND 18" x 42' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
5.38	EXTEND 24" x 44' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.45	EXTEND 24" x 51' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.57	EXTEND 24" x 60' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.63	EXTEND 24" x 39' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.69	EXTEND 24" x 58' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.75	EXTEND 24" x 46' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.86	EXTEND 24" x 53' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
5.90	EXTEND 18" x 45' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
5.98	EXTEND 18" x 47' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
6.03	EXTEND 18" x 40' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
10.61	EXTEND 12" x 35' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
11.01	EXTEND 18" x 35' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
11.61	EXTEND 18" x 34' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
11.69	EXTEND 18" x 37' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
11.89	EXTEND 18" x 34' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
12.02	EXTEND 18" x 34' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
13.12	EXTEND 18" x 36' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
13.21	EXTEND 18" x 36' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
13.29	EXTEND 18" x 37' PIPE CULVERT LT. & RT.	16					2					5	0.06	PCC-1, FES-1, FES-2
13.89	EXTEND DBL. 48" x 40' PIPE CULVERT LT. & RT.					32					4	29	0.37	PCC-1, FES-1, FES-2
14.19	EXTEND 24" x 55' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
14.24	EXTEND 36" x 53' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
14.41	EXTEND 24" x 47' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
14.48	EXTEND 36" x 51' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
14.86	EXTEND 30" x 47' PIPE CULVERT LT. & RT.			16					2			13	0.16	PCC-1, FES-1, FES-2
14.93	EXTEND 24" x 42' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
14.99	EXTEND 36" x 54' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
15.31	EXTEND 24" x 42' PIPE CULVERT LT. & RT.		16					2				8	0.10	PCC-1, FES-1, FES-2
15.76	EXTEND 36" x 38' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
16.15	EXTEND 36" x 38' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
16.43	EXTEND 36" x 59' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
16.55	EXTEND 36" x 41' PIPE CULVERT LT. & RT.				16					2		17	0.21	PCC-1, FES-1, FES-2
TOTALS:		**288**	**544**	**16**	**112**	**32**	**36**	**68**	**2**	**14**	**4**	**523**	**6.48**	

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.

DRIVEWAYS & TURNOUTS (P.C.C.) - HSIP-0003(17)

SECTION	LOG MILE	SIDE	LOCATION	WIDTH	PORTLAND CEMENT CONCRETE DRIVEWAY
				FEET	SQ. YD.
18	4.98	RT.	HWY. 5	16	23.00
18	11.23	LT.	HWY. 5	16	44.00
18	11.24	LT.	HWY. 5	16	36.00
18	12.25	LT.	HWY. 5	20	52.00
18	12.28	RT.	HWY. 5	16	28.00
18	12.29	RT.	HWY. 5	16	28.00
18	12.53	RT.	HWY. 5	30	30.00
18	12.55	LT.	HWY. 5	16	40.00
18	12.87	LT.	HWY. 5	20	35.00
18	13.69	LT.	HWY. 5	16	33.00
18	13.85	RT.	HWY. 5	16	25.00
18	14.01	RT.	HWY. 5	20	75.00
18	14.59	LT.	HWY. 5	20	42.00
18	14.71	RT.	HWY. 5	20	22.00
18	14.73	RT.	HWY. 5	20	22.00
18	15.89	RT.	HWY. 5	20	85.00
18	16.01	RT.	HWY. 5	24	114.00
18	16.04	RT.	HWY. 5	20	21.00
18	16.09	LT.	HWY. 5	20	75.00
18	16.26	LT.	HWY. 5	24	90.00
TOTAL:					**920.00**

1/22/2020

R090517.DGN

DRIVEWAYS & TURNOUTS - HSIP-0003(17)

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS		STANDARD DRAWINGS
							18"	24"	
			FEET	SQ. YD.	TON	TON	LIN. FT.		
1303+80	RT	HWY. 5 MAIN LANES	16	74.87	8.24	30.57	32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1304+07	LT	HWY. 5 MAIN LANES	20	83.89	9.23	34.26			
1305+77	LT	HWY. 5 MAIN LANES	32	150.82	16.59	61.58	44		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1307+63	LT	HWY. 5 MAIN LANES	32	149.04	16.39	60.86	44		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1309+12	RT	HWY. 5 MAIN LANES	20	64.98	7.15	26.53	32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1310+68	RT	HWY. 5 MAIN LANES	20	69.98	7.70	28.58	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1312+42	RT	HWY. 5 MAIN LANES	20	61.09	6.72	24.95	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1314+00	LT	HWY. 5 MAIN LANES	20	96.65	10.63	39.47	48		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1315+09	LT	MARTIN RD.	30	172.00	18.92	70.23	46		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1315+33	RT	HWY. 5 MAIN LANES	20	61.09	6.72	24.95	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1316+66	RT	HWY. 5 MAIN LANES	16	42.87	4.72	17.51	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1316+71	LT	HWY. 5 MAIN LANES	24	96.21	10.58	39.29	44		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1317+87	LT	HWY. 5 MAIN LANES	16	50.70	5.58	20.70	36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1320+64	LT	HWY. 5 MAIN LANES	20	63.32	6.97	25.86		32	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1325+70	RT	HWY. 5 MAIN LANES	16	50.87	5.60	20.77	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1326+27	LT	HWY. 5 MAIN LANES	40	212.61	23.39	86.82	54		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1327+90	LT	HWY. 5 MAIN LANES	24	114.29	12.57	46.67			
1328+24	RT	HWY. 5 MAIN LANES	20	63.54	6.99	25.95	32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1329+63	LT	TURNAGE RD.	40	245.94	27.05	100.43	52		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1329+69	RT	HWY. 5 MAIN LANES	28	171.00	18.81	69.83	38		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1330+96	LT	HWY. 5 MAIN LANES	24	92.00	10.12	37.57	38		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1331+63	LT	HWY. 5 MAIN LANES	30	158.88	17.48	64.88			
1333+17	LT	HWY. 5 MAIN LANES	28	115.99	12.76	47.36	40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1334+16	LT	HWY. 5 MAIN LANES	24	106.11	11.67	43.33	36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1334+80	LT	HWY. 5 MAIN LANES	24	69.07	7.60	28.20	36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1334+82	RT	HWY. 5 MAIN LANES	24	115.79	12.74	47.28	46		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1335+63	LT	GREGG RD.	34	204.38	22.48	83.46			
1336+03	RT	HWY. 5 MAIN LANES	24	101.28	11.14	41.36	52		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1336+77	LT	HWY. 5 MAIN LANES	40	260.70	28.68	106.45			
1339+53	RT	HWY. 5 MAIN LANES	20	94.87	10.44	38.74	34		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1339+67	LT	GOOD SAMARITAN RD.	28	120.66	13.27	49.27	38		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1340+26	LT	GOOD SAMARITAN RD.	28	201.02	22.11	82.08	40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1345+52	LT	HWY. 5 MAIN LANES	28	307.32	33.81	125.49			
1346+20	LT	HWY. 5 MAIN LANES	16	176.21	19.38	71.95			
1346+33	RT	HWY. 5 MAIN LANES	20	92.54	10.18	37.79	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1348+44	LT	HWY. 5 MAIN LANES	20	101.12	11.12	41.29	40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1348+75	RT	HWY. 5 MAIN LANES	16	42.32	4.66	17.28	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1349+72	RT	HWY. 5 MAIN LANES	20	83.14	9.15	33.95	34		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1350+35	LT	ROSSI RD.	24	117.54	12.93	48.00	40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1351+40	RT	OLD TRACY RD.	26	111.34	12.25	45.46		62	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1352+38	LT	BAXTER CO. RD. 677	24	74.88	8.24	30.58	36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1352+80	RT	HWY. 5 MAIN LANES	20	71.09	7.82	29.03		34	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1353+02	LT	HWY. 5 MAIN LANES	20	48.38	5.32	19.76	32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1353+76	LT	HWY. 5 MAIN LANES	20	53.54	5.89	21.86	32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1354+57	LT	HWY. 5 MAIN LANES	28	78.97	8.69	32.25		40	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1355+90	LT	HWY. 5 MAIN LANES	28	111.14	12.23	45.38	44		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1356+74	RT	HWY. 5 MAIN LANES	20	73.78	8.12	30.13	52		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1357+22	LT	HWY. 5 MAIN LANES	24	71.31	7.84	29.12	38		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1358+20	LT	HWY. 5 MAIN LANES	20	62.56	6.88	25.55	36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1358+90	LT	HWY. 5 MAIN LANES	32	88.56	9.74	36.16	46		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1359+44	LT	HWY. 5 MAIN LANES	16	40.27	4.43	16.44	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1360+70	LT	HWY. 5 MAIN LANES	16	51.09	5.62	20.86	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1361+74	LT	HWY. 5 MAIN LANES	16	42.87	4.72	17.51	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1362+41	LT	HWY. 5 MAIN LANES	20	89.49	9.84	36.54	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1362+73	RT	HWY. 5 MAIN LANES	16	49.35	5.43	20.15	30		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1364+52	LT	HWY. 5 MAIN LANES	16	51.76	5.69	21.14	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1365+43	LT	HWY. 5 MAIN LANES	32	188.40	20.72	76.93		44	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1367+91	LT	HWY. 5 MAIN LANES	16	58.45	6.43	23.87	32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1368+87	LT	JAMES ST.	24	60.43	6.65	24.68	38		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1369+14	RT	HWY. 5 MAIN LANES	16	74.96	8.25	30.61			
1373+27	RT	HWY. 5 MAIN LANES	16	59.30	6.52	24.21	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1375+19	LT	HWY. 5 MAIN LANES	20	121.61	13.38	49.66	38		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1375+34	RT	HWY. 5 MAIN LANES	20	47.76	5.25	19.50	34		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1377+95	LT	HWY. 5 MAIN LANES	20	97.03	10.67	39.62			
1378+66	LT	HWY. 5 MAIN LANES	28	84.22	9.26	34.39			
1380+09	LT	HWY. 5 MAIN LANES	16	120.60	13.27	49.25			
1380+78	RT	HWY. 5 MAIN LANES	16	35.75	3.93	14.60	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
1381+62	LT	HWY. 5 MAIN LANES	16	64.53	7.10	26.35			
1381+68	RT	HWY. 5 MAIN LANES	16	54.20	5.96	22.13			
1382+96	LT	HWY. 5 MAIN LANES	16	52.37	5.76	21.38			
1384+15	LT	HWY. 5 MAIN LANES	16	43.05	4.74	17.58			
1384+52	RT	HWY. 5 MAIN LANES	24	71.31	7.84	29.12			
* ENTIRE SECTION 18 TEMPORARY DRIVES						700.00			
TOTALS:				**7061.05**	**776.75**	**3583.34**	**1868**	**212**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
TIMOTHY D. SMITH
No. 11425
2-21-2020

DATE REVISED	DATE PLAN'D	DATE REVISED	DATE PLAN'D	FEDERAL DES.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		51	148

JOB NO. 090517

(2) QUANTITIES

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.		090517	52	148
				(2)	QUANTITIES			

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

2-21-2020

DRIVEWAYS & TURNOUTS (BOX 1 OF 5) - HSIP-0003(17)

LOG MILE	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		TACK COAT	
			FEET	SQ. YD.	TON	GALLONS/ SQ. YD.	GALLON
0.59	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.69	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.70	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.72	LT.	HWY. 5	40	35.56	3.91	0.17	6.05
0.75	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.81	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.86	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.92	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
0.98	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.04	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.26	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
1.27	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.37	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.44	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.51	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.56	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.59	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.65	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.68	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.68	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.71	RT.	HWY. 5	20	22.22	2.44	0.17	3.78
1.78	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.80	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.86	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.90	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
1.92	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
2.55	LT.	HWY. 5	24	163.58	17.99	0.17	27.81
2.62	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
2.64	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
2.92	RT.	HWY. 5	20	94.97	10.45	0.17	16.14
3.05	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.11	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.23	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.35	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.49	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.53	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.70	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.73	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.80	RT.	HWY. 5	24	163.58	17.99	0.17	27.81
3.81	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.82	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.88	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.88	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.92	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
3.99	RT.	HWY. 5	16	24.89	2.74	0.17	4.23
4.02	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.02	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.08	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.08	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.13	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
SUBTOTALS (BOX 1 OF 5):				**1210.58**	**133.16**		**205.80**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

DRIVEWAYS & TURNOUTS (BOX 2 OF 5) - HSIP-0003(17)

LOG MILE	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		TACK COAT	
			FEET	SQ. YD.	TON	GALLONS/ SQ. YD.	GALLON
4.27	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.28	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.40	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.49	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.52	LT.	HWY. 5	24	163.58	17.99	0.17	27.81
4.54	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.61	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.78	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.79	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.81	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.84	RT.	HWY. 5	40	92.80	10.21	0.17	15.78
4.89	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.92	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.92	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
4.95	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
5.02	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
5.05	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
5.09	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
5.11	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
5.15	RT.	HWY. 5	20	22.22	2.44	0.17	3.78
5.24	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
5.34	RT.	HWY. 5	20	22.22	2.44	0.17	3.78
5.38	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
6.04	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
6.11	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
6.13	LT.	HWY. 5	30	26.67	2.93	0.17	4.53
10.62	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
10.68	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
10.77	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
10.86	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
10.86	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
10.92	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
10.92	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
10.98	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.03	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.07	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.10	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.13	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.17	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.19	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.20	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.25	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.31	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.35	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.39	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.43	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.54	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
11.58	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
11.64	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.75	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
SUBTOTALS (BOX 2 OF 5):				**1058.17**	**116.41**		**179.88**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

1/22/2020

R090517.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.		090517	53	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

DRIVEWAYS & TURNOUTS (BOX 3 OF 5) - HSIP-0003(17)

LOG MILE	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		TACK COAT	
			FEET	SQ. YD.	TON	GALLONS/ SQ. YD.	GALLON
11.76	LT.	HWY. 5	20	52.80	5.81	0.17	8.98
11.81	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.85	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.93	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.95	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.96	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
11.98	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
11.98	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.03	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.09	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
12.20	LT.	HWY. 5	24	24.00	2.64	0.17	4.08
12.21	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.25	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.32	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.36	RT.	HWY. 5	30	22.22	2.44	0.17	3.78
12.37	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.45	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.52	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
12.58	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.60	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
12.66	RT.	HWY. 5	24	19.56	2.15	0.17	3.33
12.94	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
12.95	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.03	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.09	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.15	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
13.20	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
13.26	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.27	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.37	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.49	RT.	HWY. 5	24	163.58	17.99	0.17	27.81
13.55	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
13.67	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.74	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.82	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
13.90	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
13.92	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
13.95	LT.	HWY. 5	30	22.22	2.44	0.17	3.78
13.95	RT.	HWY. 5	30	22.22	2.44	0.17	3.78
13.98	LT.	HWY. 5	24	60.80	6.69	0.17	10.34
13.98	RT.	HWY. 5	24	60.80	6.69	0.17	10.34
14.04	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.07	LT.	HWY. 5	20	22.22	2.44	0.17	3.78
14.09	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.15	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.17	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.26	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.36	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.36	RT.	HWY. 5	20	26.67	2.93	0.17	4.53
14.44	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
SUBTOTALS (BOX 3 OF 5):				**1137.11**	**125.10**		**193.31**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

DRIVEWAYS & TURNOUTS (BOX 4 OF 5) - HSIP-0003(17)

LOG MILE	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		TACK COAT	
			FEET	SQ. YD.	TON	GALLONS/ SQ. YD.	GALLON
14.44	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.49	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.55	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.73	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.77	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.78	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.80	LT.	HWY. 5	40	31.11	3.42	0.17	5.29
14.81	RT.	HWY. 5	30	26.67	2.93	0.17	4.53
14.85	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.90	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.92	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
14.94	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
14.98	LT.	HWY. 5	24	107.42	11.82	0.17	18.26
15.03	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.05	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.07	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.09	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.13	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.16	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.18	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.22	LT.	HWY. 5	24	163.58	17.99	0.17	27.81
15.25	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.25	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.27	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.29	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.29	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.30	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.32	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.32	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.36	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.38	RT.	HWY. 5	30	26.67	2.93	0.17	4.53
15.40	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.41	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.43	LT.	HWY. 5	30	22.22	2.44	0.17	3.78
15.46	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.49	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.49	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.53	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.56	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.57	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.57	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.59	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.62	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.65	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.66	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.69	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.74	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.84	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.92	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
15.94	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
SUBTOTALS (BOX 4 OF 5):				**1097.69**	**120.77**		**186.58**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

1/22/2020

R090517.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.		090517	54	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

DRIVEWAYS & TURNOUTS (BOX 5 OF 5 - HSIP-0003(17)

LOG MILE	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		TACK COAT	
			FEET	SQ. YD.	TON	GALLONS/ SQ. YD.	GALLON
15.96	LT.	HWY. 5	20	17.78	1.96	0.17	3.02
15.99	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
16.04	LT.	HWY. 5	20	22.22	2.44	0.17	3.78
16.13	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
16.16	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
16.17	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
16.24	RT.	HWY. 5	20	17.78	1.96	0.17	3.02
16.31	LT.	HWY. 5	16	16.00	1.76	0.17	2.72
16.33	RT.	HWY. 5	20	22.22	2.44	0.17	3.78
16.41	RT.	HWY. 5	16	16.00	1.76	0.17	2.72
SUBTOTALS (BOX 1 OF 5):				**1210.58**	**133.16**		**205.80**
SUBTOTALS (BOX 2 OF 5):				**1058.17**	**116.41**		**179.88**
SUBTOTALS (BOX 3 OF 5):				**1137.11**	**125.10**		**193.31**
SUBTOTALS (BOX 4 OF 5):				**1097.69**	**120.77**		**186.58**
SUBTOTALS (BOX 5 OF 5):				**176.00**	**19.36**		**29.92**
TOTALS:				**4679.55**	**514.80**		**795.49**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

RUMBLE STRIPES IN ASPHALT SHOULDERS - HSIP-0003(17)

LOG MILE	LOG MILE	LOCATION	* RUMBLE STRIPES IN ASPHALT SHOULDERS
			LIN.FT.
0.07	5.91	HWY. 5 LT. SHOULDER, SEC. 18	29092
0.07	5.91	HWY. 5 RT. SHOULDER, SEC. 18	29161
7.54	8.94	HWY. 5 LT. SHOULDER, SEC. 18	7392
7.54	8.94	HWY. 5 RT. SHOULDER, SEC. 18	7392
10.60	16.60	HWY. 5 LT. SHOULDER, SEC. 18	28594
10.60	16.60	HWY. 5 RT. SHOULDER, SEC. 18	29144
TOTAL:			**130775**

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

CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS - HSIP-0003(17)

LOG MILE	LOG MILE	LOCATION	* CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS
			LIN.FT.
0.07	5.91	HWY. 5, SEC. 18	30835
7.54	8.94	HWY. 5, SEC. 18	7392
10.60	16.60	HWY. 5, SEC. 18	31680
TOTAL:			**69907**

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

COLD MILLING ASPHALT PAVEMENT - HSIP-0003(17)

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
1302+25.00	1303+25.00	HWY. 5, SEC. 18	22.00	244.44
1385+76.76	1388+66.26	HWY. 5, SEC. 18	36.00	1158.00
* ENTIRE	SEC. 18	TO BE USED IF AND WHERE		400.00
		DIRECTED BY THE ENGINER		
TOTAL:				**1802.44**

NOTE: AVERAGE MILLING DEPTH 1".

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

ACHM PATCHING OF EXISTING ROADWAY - HSIP-0003(17)

DESCRIPTION	TON
ENTIRE SEC. 18 - TO BE USED IF AND WHERE	500
DIRECTED BY THE ENGINEER	
TOTAL:	**500**

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - HSIP-0003(17)

LOCATION	TON	TACK COAT
		GALLON
ENTIRE SEC. 18 - TO BE USED IF AND WHERE	455	910
DIRECTED BY THE ENGINEER		
TOTALS:	**455**	**910**

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

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

COLD MILLING ASPHALT PAVEMENT - STPF-0003(17)

LOG MILE	LOG MILE	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
0.00	0.02	HWY. 62B TURNOUTS, HWY. 5, SEC. 19	VAR.	1098.59
0.02	0.07	HWY. 5, SEC. 19	68.00	1994.67
	0.07	HWY. 201 TURNOUTS, HWY. 5 SEC. 19	VAR.	1002.00
0.07	0.36	HWY. 5, SEC. 19	57.00	9697.60
0.36	0.37	HWY. 5, SEC. 19	45.00	264.00
	0.37	HOSPITAL DRIVE TURNOUTS, HWY. 5, SEC. 19	VAR.	1120.96
0.37	0.45	HWY. 5, SEC. 19	35.00	1642.67
0.45	1.40	HWY. 5, SEC. 19	38.00	21178.67
1.40	1.42	HWY. 5, SEC. 19	34.00	398.93
* ENTIRE	SEC. 19	TO BE USED IF AND WHERE		400.00
		DIRECTED BY THE ENGINER		
TOTAL:				**38798.09**

NOTE: AVERAGE MILLING DEPTH 1".

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

COLD MILLING ASPHALT PAVEMENT - HSIP-0003(17)

LOG MILE	LOG MILE	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
0.07	0.09	HWY. 5, SEC. 18	30.00	352.00
2.03	2.29	HWY. 5, SEC. 18	22.00	3355.73
3.54	3.90	HWY. 5, SEC. 18	22.00	4646.40
6.22	6.45	HWY. 5, SEC. 18	22.00	2968.53
6.45	6.50	HWY. 5, SEC. 18	31.00	909.33
6.50	6.57	HWY. 5, SEC. 18	43.00	1765.87
6.57	6.62	HWY. 5, SEC. 18	22.00	645.33
6.62	6.65	HWY. 5, SEC. 18	38.00	668.80
6.65	6.70	HWY. 5, SEC. 18	30.00	880.00
6.70	6.76	HWY. 5, SEC. 18	VAR.	
* ENTIRE	SEC. 18	TO BE USED IF AND WHERE		
		DIRECTED BY THE ENGINEER		200.00
TOTAL:				**16391.99**

NOTE: AVERAGE MILLING DEPTH 1".

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - STPF-0003(17)

LOCATION	TON	TACK COAT
		GALLON
ENTIRE SEC. 19 - TO BE USED IF AND WHERE	35	70
DIRECTED BY THE ENGINEER		
TOTALS:	**35**	**70**

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

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

1/22/2020

R090517.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	55	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-24-2020

BASE AND SURFACING (BOX 1 OF 2) - HSIP-0003(17)

LOG MILE	LOG MILE	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 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																								
0.00	0.02	HWY. 5, SEC. 18 MILL & INLAY	105.60						30.00	352.00	59.84	59.84									30.00	352.00	220.00	38.72	38.72
0.07	0.09	HWY. 5, SEC. 18 MILL & INLAY	105.60						30.00	352.00	59.84	59.84									30.00	352.00	220.00	38.72	38.72
0.09	0.13	HWY. 5, SEC. 18 OVERLAY	211.20	4.00	8.45	30.00	704.00	35.20				35.20									30.00	704.00	220.00	77.44	77.44
0.13	1.91	HWY. 5, SEC. 18 SHOULDER WIDENING	9398.40	27.00	2537.57	22.00	22973.87	1148.69				1148.69									26.00	27150.93	220.00	2986.60	2986.60
1.91	2.34	HWY. 5, SEC. 18 SHOULDER WIDENING	2270.40	27.00	613.01	22.00	5549.87	277.49				277.49									26.00	6558.93	220.00	721.48	721.48
2.34	3.20	HWY. 5, SEC. 18 SHOULDER WIDENING	4540.80	27.00	1226.02	22.00	11099.73	554.99				554.99									26.00	13117.87	220.00	1442.97	1442.97
3.20	3.47	HWY. 5, SEC. 18 SHOULDER WIDENING	1425.60	27.00	384.91	22.00	3484.80	174.24				174.24									26.00	4118.40	220.00	453.02	453.02
3.47	3.48	HWY. 5, SEC. 18 OVERLAY	52.80	4.00	2.11	22.00	129.07	6.45				6.45									22.00	129.07	220.00	14.20	14.20
3.48	3.89	HWY. 5, SEC. 18 SHOULDER WIDENING	2164.80	27.00	584.50	22.00	5291.73	264.59				264.59									26.00	6253.87	220.00	687.93	687.93
3.89	4.38	HWY. 5, SEC. 18 SHOULDER WIDENING	2587.20	27.00	698.54	22.00	6324.27	316.21				316.21									26.00	7474.13	220.00	822.15	822.15
4.38	4.43	HWY. 5, SEC. 18 SHOULDER WIDENING	264.00	27.00	71.28	22.00	645.33	32.27				32.27									26.00	762.67	220.00	83.89	83.89
4.43	4.48	HWY. 5, SEC. 18 SHOULDER WIDENING	264.00	27.00	71.28	VAR.	1043.40	52.17				52.17									VAR.	1043.40	220.00	114.77	114.77
4.48	4.49	HWY. 5, SEC. 18 SHOULDER WIDENING	52.80	27.00	14.26	37.00	217.07	10.85				10.85									37.00	217.07	220.00	23.88	23.88
4.49	4.56	HWY. 5, SEC. 18 SHOULDER WIDENING	369.60	27.00	99.79	VAR.	917.66	45.88				45.88									VAR.	917.66	220.00	100.94	100.94
4.56	4.62	HWY. 5, SEC. 18 SHOULDER WIDENING	316.80	27.00	85.54	22.00	774.40	38.72				38.72									26.00	915.20	220.00	100.67	100.67
4.62	6.22	HWY. 5, SEC. 18 SHOULDER WIDENING	8448.00	27.00	2280.96	22.00	20650.67	1032.53				1032.53									26.00	24405.33	220.00	2684.59	2684.59
6.22	6.45	HWY. 5, SEC. 18 SHOULDER WIDENING	1214.40	13.50	163.94	22.00	2968.53	148.43				148.43									24.00	3238.40	220.00	356.22	356.22
6.45	6.50	HWY. 5, SEC. 18 MILL & INLAY	264.00						31.00	909.33	154.59	154.59									31.00	909.33	220.00	100.03	100.03
6.50	6.57	HWY. 5, SEC. 18 MILL & INLAY	369.60						43.00	1765.87	300.20	300.20									43.00	1765.87	220.00	194.25	194.25
6.57	6.62	HWY. 5, SEC. 18 MILL & INLAY	264.00						22.00	645.33	109.71	109.71									22.00	645.33	220.00	70.99	70.99
6.62	6.65	HWY. 5, SEC. 18 MILL & INLAY	158.40						38.00	668.80	113.70	113.70									38.00	668.80	220.00	73.57	73.57
6.65	6.70	HWY. 5, SEC. 18 MILL & INLAY	264.00						30.00	880.00	149.60	149.60									30.00	880.00	220.00	96.80	96.80
10.60	12.40	HWY. 5, SEC. 18 SHOULDER WIDENING	9504.00	27.00	2566.08	22.00	23232.00	1161.60				1161.60													
12.40	13.43	HWY. 5, SEC. 18 SHOULDER WIDENING	5438.40	27.00	1468.37	22.00	13293.87	664.69				664.69									26.00	27456.00	220.00	3020.16	3020.16
13.43	13.70	HWY. 5, SEC. 18 SHOULDER WIDENING	1425.60	27.00	384.91	22.00	3484.80	174.24				174.24									26.00	15710.93	220.00	1728.20	1728.20
13.70	13.71	HWY. 5, SEC. 18 OVERLAY	52.80	4.00	2.11	22.00	129.07	6.45				6.45									26.00	4118.40	220.00	453.02	453.02
13.71	13.94	HWY. 5, SEC. 18 SHOULDER WIDENING	1214.40	27.00	327.89	22.00	2968.53	148.43				148.43									22.00	129.07	220.00	14.20	14.20
13.94	13.95	HWY. 5, SEC. 18 OVERLAY	52.80	4.00	2.11	22.00	129.07	6.45				6.45									26.00	3508.27	220.00	385.91	385.91
13.95	16.58	HWY. 5, SEC. 18 SHOULDER WIDENING	13886.40	27.00	3749.33	22.00	33944.53	1697.23				1697.23									22.00	129.07	220.00	14.20	14.20
																					26.00	40116.27	220.00	4412.79	4412.79
ADDITIONAL FOR LEVELING																								
0.09	0.13	HWY. 5, SEC. 18 OVERLAY	211.20						22.00	516.27	87.77	87.77					22.00	516.27	VAR.	56.79				56.79
0.13	1.91	HWY. 5, SEC. 18 SHOULDER WIDENING	9398.40						22.00	22973.87	3905.56	3905.56					22.00	22973.87	VAR.	2527.13				2527.13
1.91	2.34	HWY. 5, SEC. 18 SHOULDER WIDENING	2270.40						22.00	5549.87	943.48	943.48					22.00	5549.87	VAR.	610.49				610.49
2.34	3.20	HWY. 5, SEC. 18 SHOULDER WIDENING	4540.80						22.00	11099.73	1886.95	1886.95					22.00	11099.73	VAR.	1220.97				1220.97
3.20	3.47	HWY. 5, SEC. 18 SHOULDER WIDENING	1425.60						22.00	3484.80	592.42	592.42					22.00	3484.80	VAR.	383.33				383.33
3.47	3.48	HWY. 5, SEC. 18 OVERLAY	52.80						22.00	129.07	21.94	21.94					22.00	129.07	VAR.	14.20				14.20
3.48	3.89	HWY. 5, SEC. 18 SHOULDER WIDENING	2164.80						22.00	5291.73	899.59	899.59					22.00	5291.73	VAR.	582.09				582.09
3.89	4.38	HWY. 5, SEC. 18 SHOULDER WIDENING	2587.20						22.00	6324.27	1075.13	1075.13					22.00	6324.27	VAR.	695.67				695.67
4.38	4.43	HWY. 5, SEC. 18 SHOULDER WIDENING	264.00						22.00	645.33	109.71	109.71					22.00	645.33	VAR.	70.99				70.99
4.43	4.48	HWY. 5, SEC. 18 SHOULDER WIDENING	264.00						22.00	645.33	109.71	109.71					22.00	645.33	VAR.	70.99				70.99
4.48	4.49	HWY. 5, SEC. 18 SHOULDER WIDENING	52.80						22.00	129.07	21.94	21.94					22.00	129.07	VAR.	14.20				14.20
4.49	4.56	HWY. 5, SEC. 18 SHOULDER WIDENING	369.60						22.00	903.47	153.59	153.59					22.00	903.47	VAR.	99.38				99.38
4.56	4.62	HWY. 5, SEC. 18 SHOULDER WIDENING	316.80						22.00	774.40	131.65	131.65					22.00	774.40	VAR.	85.18				85.18
4.62	6.22	HWY. 5, SEC. 18 SHOULDER WIDENING	8448.00						22.00	20650.67	3510.61	3510.61					22.00	20650.67	VAR.	2271.57				2271.57
6.22	6.45	HWY. 5, SEC. 18 SHOULDER WIDENING	1214.40						22.00	2968.53	504.65	504.65					22.00	2968.53	VAR.	326.54				326.54
10.60	12.40	HWY. 5, SEC. 18 SHOULDER WIDENING	9504.00						22.00	23232.00	3949.44	3949.44					22.00	23232.00	VAR.	2555.52				2555.52
12.40	13.43	HWY. 5, SEC. 18 SHOULDER WIDENING	5438.40						22.00	13293.87	2259.96	2259.96					22.00	13293.87	VAR.	1462.33				1462.33
13.43	13.70	HWY. 5, SEC. 18 SHOULDER WIDENING	1425.60						22.00	3484.80	592.42	592.42					22.00	3484.80	VAR.	383.33				383.33
13.70	13.71	HWY. 5, SEC. 18 OVERLAY	52.80						22.00	129.07	21.94	21.94					22.00	129.07	VAR.	14.20				14.20
13.71	13.94	HWY. 5, SEC. 18 SHOULDER WIDENING	1214.40						22.00	2968.53	504.65	504.65					22.00	2968.53	VAR.	4074.63				4074.63
13.94	13.95	HWY. 5, SEC. 18 OVERLAY	52.80						22.00	129.07	21.94	21.94					22.00	129.07	220.00	14.20				14.20
13.95	16.58	HWY. 5, SEC. 18 SHOULDER WIDENING	13886.40						22.00	33944.53	5770.57	5770.57					22.00	33944.53	220.00	3733.90				3733.90
SUBTOTALS (BOX 1 OF 2):					**17342.96**		**159956.27**	**7997.80**		**164841.61**	**28023.10**	**36020.90**						**159268.28**		**21267.63**		**193748.27**		**21312.31**	**42579.94**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

1/22/2020

R090517.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.		090517	56	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-24-2020

BASE AND SURFACING (BOX 2 OF 2) - HSIP-0003(17)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
						(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)																
						TOTAL WID.			TOTAL WID.			TOTAL	AVG. WID.		POUND /	PG 64-22	AVG. WID.		POUND /	PG 64-22	AVG. WID.		POUND /	PG 64-22	TOTAL
			FEET	TON / STATION	TON	FEET	SQ.YD.	GALLON	FEET	SQ.YD.	GALLON	GALLONS	FEET	SQ.YD.	SQ.YD.	TON	FEET	SQ.YD.	SQ.YD.	TON	FEET	SQ.YD.	SQ.YD.	TON	PG 64-22 TON
MAIN LANES																									
1302+25.00	1303+25.00	TRANSITION	100.00	90.00	90.00				22.00	244.44	41.55	41.55													
1303+25.00	1307+10.00	HWY. 5 NOTCH AND WIDENING TAPER	385.00	117.25	539.28	47.36	2025.96	101.30				101.30	7.23	309.28	495.00	76.55	7.13	305.01	220.00	33.55	26.00	288.89	220.00	31.78	31.78
1307+10.00	1346+57.27	HWY. 5 NOTCH AND WIDENING	3947.27	197.00	7776.12	50.77	30161.52	1508.08				1508.08	14.52	6368.26	495.00	1576.14	14.25	6249.84	220.00	687.48	33.00	1411.67	220.00	155.28	188.83
1346+57.27	1349+23.91	HWY. 5 NOTCH AND WIDENING	266.64	VAR.	403.94	54.77	1622.65	81.13				81.13	7.52	222.79	495.00	55.14	7.25	214.79	220.00	23.63	40.00	1185.07	220.00	130.36	153.99
1349+23.91	1352+75.07	HWY. 5 NOTCH AND WIDENING	351.16	169.50	595.22	54.77	2137.00	106.85				106.85	7.52	293.41	495.00	72.62	7.25	282.88	220.00	31.12	40.00	1560.71	220.00	171.68	202.80
1352+75.07	1355+20.97	HWY. 5 NOTCH AND WIDENING	245.90	VAR.	387.60	54.77	1496.44	74.82				74.82	7.52	205.46	495.00	50.85	7.25	198.09	220.00	21.79	40.00	1092.89	220.00	120.22	142.01
1355+20.97	1383+53.91	HWY. 5 NOTCH AND WIDENING	2832.94	197.00	5580.89	50.77	21646.81	1082.34				1082.34	14.52	4570.48	495.00	1131.19	14.25	4485.49	220.00	493.40	40.00	12590.84	220.00	1384.99	1878.39
1383+53.91	1384+61.40	HWY. 5 NOTCH AND WIDENING	107.49	VAR.	173.52	VAR.	705.99	35.30				35.30	VAR.	115.60	495.00	28.61	VAR.	112.66	220.00	12.39	40.00	477.73	220.00	52.55	64.94
1384+61.40	1385+76.76	HWY. 5 NOTCH AND WIDENING RADIUS	115.36			VAR.	750.64	37.53				37.53									VAR.	750.64	220.00	82.57	82.57
1385+76.76	1388+66.26	HWY. 5 THREE LANE MILL & INLAY	289.50						40.00	1286.67	218.73	218.73									40.00	1286.67	220.00	141.53	141.53
ADDITIONAL FOR LEVELING																									
1303+25.00	1307+10.00	HWY. 5 NOTCH AND WIDENING TAPER	385.00						22.00	1003.80	170.65	170.65					22.00	1003.80	VAR.	110.42					110.42
1307+10.00	1346+57.27	HWY. 5 NOTCH AND WIDENING	3947.27						22.00	9648.88	1640.31	1640.31					22.00	9648.88	VAR.	1061.38					1061.38
1346+57.27	1349+23.91	HWY. 5 NOTCH AND WIDENING	266.64						27.50	843.44	143.38	143.38					27.50	843.44	VAR.	92.78					92.78
1349+23.91	1352+75.07	HWY. 5 NOTCH AND WIDENING	351.16						33.00	1287.59	218.89	218.89					33.00	1287.59	VAR.	141.63					141.63
1352+75.07	1355+20.97	HWY. 5 NOTCH AND WIDENING	245.90						27.50	800.24	136.04	136.04					27.50	800.24	VAR.	88.03					88.03
1355+20.97	1383+53.91	HWY. 5 NOTCH AND WIDENING	2832.94						22.00	6924.96	1177.24	1177.24					22.00	6924.96	VAR.	761.75					761.75
1383+53.91	1384+61.40	HWY. 5 NOTCH AND WIDENING	107.49						VAR.	318.84	54.20	54.20					VAR.	318.84	VAR.	35.07					35.07
1384+61.40	1385+76.76	HWY. 5 NOTCH AND WIDENING RADIUS	115.36						VAR.	776.12	131.94	131.94					VAR.	776.12	VAR.	85.37					85.37
ADDITIONAL FOR SUPERELEVATION																									
1307+54.77	1311+14.77	SUPERELEVATION TRANSITION	360.00	19.25	69.30																				
1311+14.77	1317+95.11	FULL SUPERELEVATION (0.090'/')	680.34	38.50	261.93																				
1317+95.11	1321+55.11	SUPERELEVATION TRANSITION	360.00	19.25	69.30																				
1340+39.32	1343+99.32	SUPERELEVATION TRANSITION	360.00	19.63	70.67																				
1343+99.32	1347+41.79	FULL SUPERELEVATION (0.088/')	342.47	39.25	134.42																				
1347+41.79	1351+01.79	SUPERELEVATION TRANSITION	360.00	19.63	70.67																				
1351+01.79	1354+01.79	SUPERELEVATION TRANSITION	300.00	18.25	54.75																				
1354+01.79	1357+96.60	FULL SUPERELEVATION (0.082'/')	394.81	36.50	144.11																				
1357+96.60	1360+96.60	SUPERELEVATION TRANSITION	300.00	18.25	54.75																				
1364+27.10	1367+27.10	SUPERELEVATION TRANSITION	300.00	6.88	20.64																				
1367+27.10	1370+35.10	FULL SUPERELEVATION (0.058'/')	308.00	13.75	42.35																				
1370+35.10	1373+35.10	SUPERELEVATION TRANSITION	300.00	6.88	20.64																				
1373+35.10	1376+35.10	SUPERELEVATION TRANSITION	300.00	7.88	23.64																				
1376+35.10	1379+67.02	FULL SUPERELEVATION (0.066'/')	331.92	15.75	52.28																				
1379+67.02	1382+67.02	SUPERELEVATION TRANSITION	300.00	7.88	23.64																				
1383+02.96	1384+55.71	SUPERELEVATION TRANSITION	152.75	6.63	10.13																				
1384+55.71	1384+61.40	FULL SUPERELEVATION (0.048'/')	5.69	13.25	0.75																				
SUBTOTALS (BOX 1 OF 2):					**17342.96**		**159956.27**	**7997.80**		**164841.61**	**28023.10**	**36020.90**						**159268.28**		**21267.63**		**193748.27**		**21312.31**	**42579.94**
SUBTOTALS (BOX 2 OF 2):					**16670.54**		**60547.01**	**3027.35**		**23134.98**	**3932.93**	**6960.28**		**12085.28**		**2991.10**		**33452.63**		**3679.79**		**38188.53**		**4200.74**	**7880.53**
TOTALS:					**34013.50**		**220503.28**	**11025.15**		**187976.59**	**31956.03**	**42981.18**		**12085.28**		**2991.10**		**192720.91**		**24947.42**		**231936.80**		**25513.05**	**50460.47**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

1/22/2020

R090517.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.		090517	57	148

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-24-2020

BASE AND SURFACING - STPF-0003(17)

LOG MILE	LOG MILE	LOCATION	LENGTH	TACK COAT (0.17 GAL. PER SQ. YD.)			ACHM SURFACE COURSE (1/2")								
				TOTAL WID.	SQ.YD.	GALLON	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	FEET			FEET			TON	FEET			TON	TON
MAIN LANES - HWY. 5, SEC. 19															
0.00	0.02	CURB & GUTTER MILL & INLAY (HWY. 62B TURNOUTS)		VAR.	1098.59	186.76					VAR.	1098.59	220.00	120.84	120.84
0.02	0.07	CURB & GUTTER MILL & INLAY	264.00	68.00	1994.67	339.09					68.00	1994.67	220.00	219.41	219.41
	0.07	CURB & GUTTER MILL & INLAY (HWY. 201 TURNOUTS)		VAR.	1002.00	170.34					VAR.	1002.00	220.00	110.22	110.22
0.07	0.36	CURB & GUTTER MILL & INLAY	1531.20	57.00	9697.60	1648.59					57.00	9697.60	220.00	1066.74	1066.74
0.36	0.37	CURB & GUTTER MILL & INLAY	52.80	45.00	264.00	44.88					45.00	264.00	220.00	29.04	29.04
	0.37	CURB & GUTTER MILL & INLAY (HOSPITAL DR. TURNOUTS)		VAR.	1120.96	190.56					VAR.	1120.96	220.00	123.31	123.31
0.37	0.45	CURB & GUTTER MILL & INLAY	422.40	35.00	1642.67	279.25					35.00	1642.67	220.00	180.69	180.69
0.45	1.40	OPEN SHOULDER MILL, INLAY, & OVERLAY	5016.00	38.00	21178.67	3600.37	38.25	21318.00	220.00	2344.98	38.00	21178.67	220.00	2329.65	4674.63
1.40	1.42	TRANSITION	100.00	34.00	377.78	64.22					34.00	377.78	220.00	41.56	41.56
TOTALS:					38376.94	6524.06		21318.00		2344.98		38376.94		4221.46	6566.44

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

1/22/2020

R090517.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.		090517	58	148
(1) 06037, 07248 - QUANTITIES - 55603				

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 090517

LOG MILE	UNIT OF STRUCTURE	ITEM NO.	SP & 509	SS & 804	SS & 804	821	SP JOB 090517	SP JOB 090517
		ITEM	JOINT REHABILITATION (TYPE A)	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)	POLYMER OVERLAY	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS
		UNIT	LF	LB.	LB.	LUMP SUM	SQ. YD.	SQ. FT.
0.04	EXISTING BRIDGE NO. 06037 (1)		260	385			996	448
6.63	EXISTING BRIDGE NO. 07248 (1)				935	1	2,445	1,100
TOTALS FOR JOB NO. 090517 [STPF-0003(17)]			260	(2) 385	(2) 935	(3) 1	3,441	(3) 1,548

(1) EXISTING BRIDGE DECKS HAVE NO ASPHALT OVERLAYS.

(2) QUANTITY SHOWN IS FOR ESTIMATING AND BIDDING PURPOSES ONLY. ACTUAL QUANTITIES, IF ANY, WILL BE DETERMINED IN THE FIELD.

(3) MODIFICATION OF EXISTING BRIDGE NO. 07248 CONSISTS OF REMOVAL AND REPLACEMENT OF NEOPRENE STRIP SEAL JOINT MATERIAL

REFERENCE TABLE

BRIDGE NO.	EXISTING DWG. NO(S).
06037	26337
07248	52626, 52646

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
2-18-2020

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
IZARD CO LINE - MOUNTAIN HOME
(SAFETY IMPVTS.) (SEL. SECS.) (S)

ROUTE 5 SEC. 18

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DBS DATE: 11-22-19 FILENAME: b090517_q1.dgn
CHECKED BY: CRE DATE: 2/18/2020 SCALE: NO SCALE
DESIGNED BY: — DATE: —

BRIDGE NO. 06037, 07248 DRAWING NO. 55603

PRINT DATE: 2/14/2020

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	HSIP-0003(17) QUANTITY	STPF-0003(17) QUANTITY	TOTAL QUANTITY	UNIT
201	CLEARING	240		240	STATION
201	GRUBBING	240		240	STATION
202	REMOVAL AND DISPOSAL OF CURB	540		540	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE	287		287	LIN. FT.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	50		50	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL	3168		3168	LIN. FT.
SP	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER		86	86	EACH
SS & 210	UNCLASSIFIED EXCAVATION	22850		22850	CU. YD.
210	COMPACTED EMBANKMENT	16016		16016	CU. YD.
SP & 210	SOIL STABILIZATION	1000		1000	TON
215	TRENCHING AND SHOULDER PREPARATION	32		32	STATION
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	37597		37597	TON
SS & 401	TACK COAT	44687	6594	51281	GAL.
SP	HIGH FRICTION SURFACE TREATMENT	21629		21629	SQ. YD.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	2856		2856	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	135		135	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	48906	6205	55111	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	2846		2846	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")		361	361	TON
SP	ULTRATHIN BONDED WEARING COURSE (5/8"-TYPE B)		109576	109576	SQ. YD.
412	COLD MILLING ASPHALT PAVEMENT	18194	38798	56992	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	455	35	490	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	500		500	TON
SS & 505	PORTLAND CEMENT CONCRETE DRIVEWAY	920		920	SQ. YD.
601	MOBILIZATION	0.85	0.15	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1		1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	0.85	0.15	1.00	LUMP SUM
SS & 604	SIGNS	1499	1000	2499	SQ. FT.
SP, SS, & 604	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	10		10	EACH
SS & 604	TRAFFIC DRUMS	301	115	416	EACH
604	CONSTRUCTION PAVEMENT MARKINGS	302623	59136	361759	LIN. FT.
SS & 604	VERTICAL PANELS	156		156	EACH
SS & 605	CONCRETE DITCH PAVING (TYPE B)	1300		1300	SQ. YD.
SP	CULVERT CLEAN OUT	3		3	EACH
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	288		288	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	544		544	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	100		100	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	16		16	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	170		170	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	112		112	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	62		62	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	28		28	LIN. FT.
606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	32		32	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN	1868		1868	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN	212		212	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	36		36	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	72		72	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	8		8	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	16		16	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2		2	EACH
606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4		4	EACH
606	SELECTED PIPE BEDDING	300		300	CU. YD.
SS & 611	4" PIPE UNDERDRAINS	2000		2000	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4		4	EACH
SS & 617	GUARDRAIL (TYPE A)	3168		3168	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	4		4	EACH
619	WIRE FENCE (TYPE D)	167		167	LIN. FT.
619	WIRE FENCE (TYPE D-1)	60		60	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE (ALTERNATE NO. 1)	20		20	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE (ALTERNATE NO. 2)	20		20	LIN. FT.
* 619	16' STEEL GATES (ALTERNATE NO. 1)	2		2	EACH
* 619	16' ALUMINUM GATES (ALTERNATE NO. 2)	2		2	EACH
620	LIME	92		92	TON
620	SEEDING	46.14		46.14	ACRE
SS & 620	MULCH COVER	102.82		102.82	ACRE
620	WATER	5886.8		5886.8	M. GAL.
621	TEMPORARY SEEDING	56.68		56.68	ACRE
621	SILT FENCE	11233		11233	LIN. FT.
621	SAND BAG DITCH CHECKS	2200		2200	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	598		598	CU. YD.
621	ROCK DITCH CHECKS	623		623	CU. YD.
621	TRIANGULAR SILT DIKE	5000		5000	LIN. FT.
623	SECOND SEEDING APPLICATION	46.14		46.14	ACRE
624	SOLID SODDING	1930		1930	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	1228		1228	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	0.85	0.15	1.00	LUMP SUM
637	MAILBOXES	184		184	EACH
637	MAILBOX SUPPORTS (SINGLE)	172		172	EACH
637	MAILBOX SUPPORTS (DOUBLE)	6		6	EACH
SP & 642	RUMBLE STRIPES IN ASPHALT SHOULDERS	130775		130775	LIN. FT.
SP & 642	CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS	69907		69907	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	152873	15972	168845	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")		392	392	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	167752	32851	200603	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		11	11	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		17	17	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	1051	185	1236	EACH
	STRUCTURES OVER 20' SPAN				
SP & 509	JOINT REHABILITATION (TYPE A)		260	260	LIN. FT.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)		385	385	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)		935	935	POUND
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. 07248)		1.00	1.00	LUMP SUM
SP	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS		1548	1548	SQ. FT.
SP	POLYMER OVERLAY		3441	3441	SQ. YD.

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER

SUMMARY OF QUANTITIES & REVISIONS

TRINITY D. SMITH
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-24-2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	090517	59	148

(2) SUMMARY OF QUANTITIES & REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	60	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

SURVEY CONTROL COORDINATES

Project Name: s012231
Date: 12/20/2016
Coordinate System: ARKANSAS STATE PLANE - NORTH/SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
148	709055.0543	1223672.3366	901.299	CTL	5/8" Rebar with 2" Aluminum Cap
149	709559.4121	1223290.4637	923.664	CTL	5/8" Rebar with 2" Aluminum Cap
150	710338.0492	1222787.7410	948.303	CTL	5/8" Rebar with 2" Aluminum Cap
151	710866.9745	1222463.8974	935.222	CTL	5/8" Rebar with 2" Aluminum Cap
152	711375.2274	1222619.9121	964.628	CTL	5/8" Rebar with 2" Aluminum Cap
153	710543.0570	1221891.7971	922.604	CTL	5/8" Rebar with 2" Aluminum Cap
154	710510.3762	1221220.6375	878.714	CTL	5/8" Rebar with 2" Aluminum Cap
155	710459.1920	1220714.8017	860.442	CTL	5/8" Rebar with 2" Aluminum Cap
156	710741.7506	1220080.1679	840.301	CTL	5/8" Rebar with 2" Aluminum Cap
157	711310.1699	1220611.6143	867.026	CTL	5/8" Rebar with 2" Aluminum Cap
158	711328.6063	1219475.6188	864.841	CTL	5/8" Rebar with 2" Aluminum Cap
159	711901.0526	1219340.7987	894.770	CTL	5/8" Rebar with 2" Aluminum Cap
160	712588.1247	1219461.1475	901.768	CTL	5/8" Rebar with 2" Aluminum Cap
161	713299.1242	1219060.8971	891.044	CTL	5/8" Rebar with 2" Aluminum Cap
162	713468.4362	1218659.0168	880.550	CTL	5/8" Rebar with 2" Aluminum Cap
163	713399.4796	1218016.6658	875.913	CTL	5/8" Rebar with 2" Aluminum Cap
164	713167.8292	1217535.6676	886.850	CTL	5/8" Rebar with 2" Aluminum Cap
165	712859.4080	1216620.6283	876.354	CTL	5/8" Rebar with 2" Aluminum Cap
166	712953.8362	1215804.4673	891.149	CTL	5/8" Rebar with 2" Aluminum Cap
167	713429.0623	1215377.2403	890.642	CTL	5/8" Rebar with 2" Aluminum Cap
168	714162.2213	1214833.9736	896.901	CTL	5/8" Rebar with 2" Aluminum Cap
169	714930.3902	1214396.0074	888.676	CTL	5/8" Rebar with 2" Aluminum Cap
170	715699.6132	1213908.7811	888.530	CTL	5/8" Rebar with 2" Aluminum Cap
171	716429.7092	1213504.1927	925.781	CTL	5/8" Rebar with 2" Aluminum Cap
172	717174.5095	1213098.1232	926.354	CTL	5/8" Rebar with 2" Aluminum Cap
173	717959.3038	1212730.6196	928.124	CTL	5/8" Rebar with 2" Aluminum Cap
174	718497.0654	1212249.2714	935.540	CTL	5/8" Rebar with 2" Aluminum Cap
175	718770.8567	1211552.5172	924.470	CTL	5/8" Rebar with 2" Aluminum Cap
176	718932.9215	1210763.5508	910.421	CTL	5/8" Rebar with 2" Aluminum Cap
177	719414.2997	1210157.9107	908.152	CTL	5/8" Rebar with 2" Aluminum Cap
178	720241.5690	1209849.4065	896.407	CTL	5/8" Rebar with 2" Aluminum Cap
179	721053.3129	1209500.6534	885.699	CTL	5/8" Rebar with 2" Aluminum Cap
180	721824.5639	1209093.4729	878.432	CTL	5/8" Rebar with 2" Aluminum Cap
181	722481.4322	1209055.5110	862.760	CTL	5/8" Rebar with 2" Aluminum Cap
182	722467.3749	1207928.5507	842.061	CTL	5/8" Rebar with 2" Aluminum Cap
183	722373.2817	1209623.3252	876.613	CTL	5/8" Rebar with 2" Aluminum Cap
184	723285.8169	1209122.5695	849.102	CTL	5/8" Rebar with 2" Aluminum Cap
185	724122.2444	1208834.1868	858.480	CTL	5/8" Rebar with 2" Aluminum Cap
186	724931.8093	1208295.6163	877.077	CTL	5/8" Rebar with 2" Aluminum Cap
187	725720.3847	1208050.3316	894.171	CTL	5/8" Rebar with 2" Aluminum Cap
188	726447.0796	1207630.9828	879.976	CTL	5/8" Rebar with 2" Aluminum Cap
222	714187.7859	1213753.0135	877.183	GPS	AHTD GPS MON 030023
223	715401.1482	1213510.6408	884.081	GPS	AHTD GPS MON 030023A
224	726042.5332	1207992.8052	888.388	GPS	AHTD GPS MON 030024
225	726551.1088	1208880.4838	856.576	GPS	AHTD GPS MON 030024A
232	711990.1077	1217614.8384	974.777	GPS	AHTD GPS MON ARKANA RESET
233	726076.4324	1208016.7194	886.597	GPS	NGS BM "CLS-1"
900	713061.6387	1215635.7583	895.710	TBM	5/8" Rebar with 2" Aluminum Cap
901	715656.2862	1213941.6718	889.925	TBM	CHISELED SQ. ON TOP OF N END HW
902	717905.5626	1212721.4624	928.154	TBM	CHISELED SQ. ON TOP OF N END HW
905	728022.7303	1205907.2476	806.361	TBM	CHISELED SQ. ON TOP OF NW COR HW
906	726023.0717	1207929.3707	894.946	TBM	AHTD BM CAP ON TOP OF PARAPET WALL
908	720646.9275	1209620.6442	888.476	TBM	CHISELED SQ. ON TOP OF SW COR HW
948	710815.2393	1222325.7132	922.693	TBM	CHISELED SQ. ON TOP CENTER OF HW
950	710852.8852	1220000.5610	840.665	TBM	CHISELED SQ. ON TOP OF NW END HW
951	710230.6897	1218500.2231	860.039	TBM	5/8" Rebar with 2" Aluminum Cap
952	718730.1848	1211144.5197	914.125	TBM	2" ALUM. CAP IN CONCRETE SIDEWALK
953	723531.2687	1209033.4255	849.067	TBM	5/8" Rebar with 2" Aluminum Cap
954	727655.7858	1206691.4549	832.411	TBM	CHISELED SQ. ON TOP OF NW END HW
968	713406.9837	1215186.6329	863.342	TBM	CH SQURE IN E END S HW HWY5
970	721201.3344	1209367.3693	878.048	TBM	

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999766967 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s021331gi.ctl
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 030001- 030001A, 030004 - 030004A, 030008 - 030008A, 030009 - 030009A, 030016 - 030016A, 030017 - 030017A, 030018 - 030018A, 030019 - 030019A, 030020 - 030020A, 030021 - 030021A, 30022 - 030022A, 030023 - 030023A, 030024 - 030024A, 330011 - 330011A, 330012 - 330012A, 330013 - 330013A, ARKANA RESET - CLS-1

CONVERGENCE ANGLE AT PN: 030020, 00 09 29 LEFT AT LT: 36-13-56 LG: 092-16-17
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 5

POINT NO.	TYPE	STATION	NORTHING	EASTING
8393	PT	1299+07.78	718669.0258	1211837.3091
8394	PC	1310+24.77	718982.9956	1210765.3534
8396	PT	1318+85.11	719530.7191	1210136.5977
8397	PC	1343+09.32	721741.8015	1209142.6536
8399	PT	1349+31.53	722350.1012	1209066.9423
8400	PC	1352+72.05	722685.4373	1209126.1662
8402	PT	1358+71.60	723277.2258	1209082.4626
8403	PC	1366+52.10	724017.5530	1208835.2840
8405	PT	1371+33.96	724450.6206	1208626.9486
8406	PC	1375+36.24	724788.3170	1208408.3280
8408	PT	1380+42.02	725248.2911	1208202.8855
8409	PC	1385+27.96	725717.1930	1208075.3444
8411	PT	1386+98.53	725871.5989	1208004.6581
8412	POE	1388+66.26	726010.6818	1207910.9165

1/13/2020

R090517.DGN

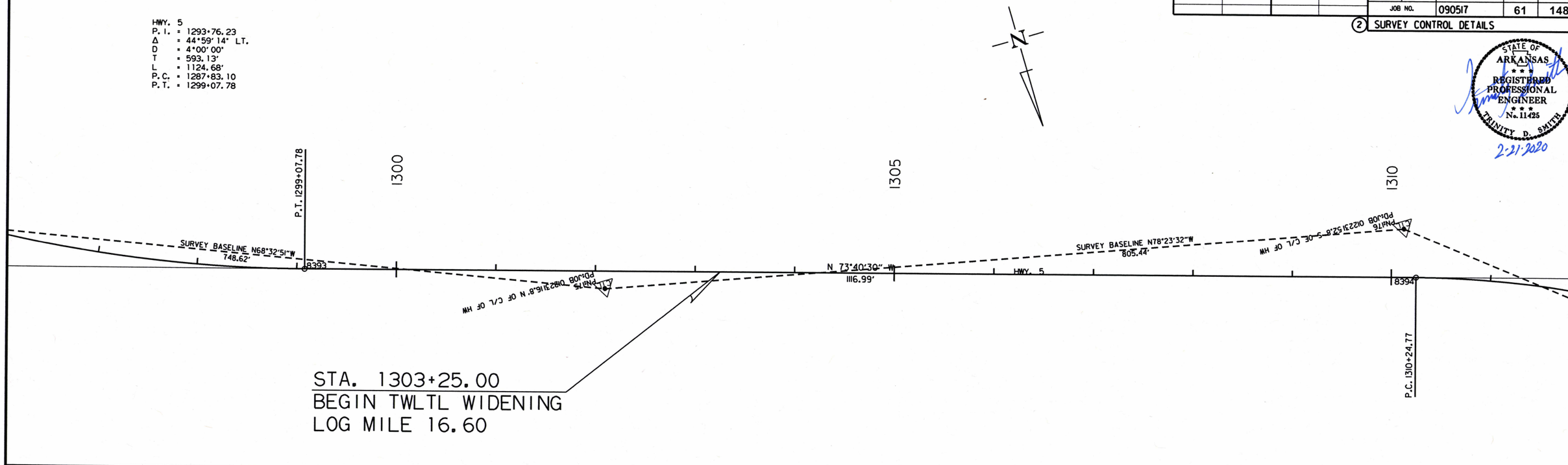
SURVEY CONTROL DETAILS

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.		090517	61	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

HWY. 5
P.I. = 1293+76.23
Δ = 44°59' 14" LT.
D = 4°00' 00"
T = 593.13'
L = 1124.68'
P.C. = 1287+83.10
P.T. = 1299+07.78



HWY. 5
P.I. = 1314+83.82
Δ = 49°28' 11" RT.
D = 5°45' 00"
T = 459.05'
L = 860.34'
P.C. = 1310+24.77
P.T. = 1318+85.11
e = 0.090'/'
Ls = 360'

SURVEY CONTROL DETAILS

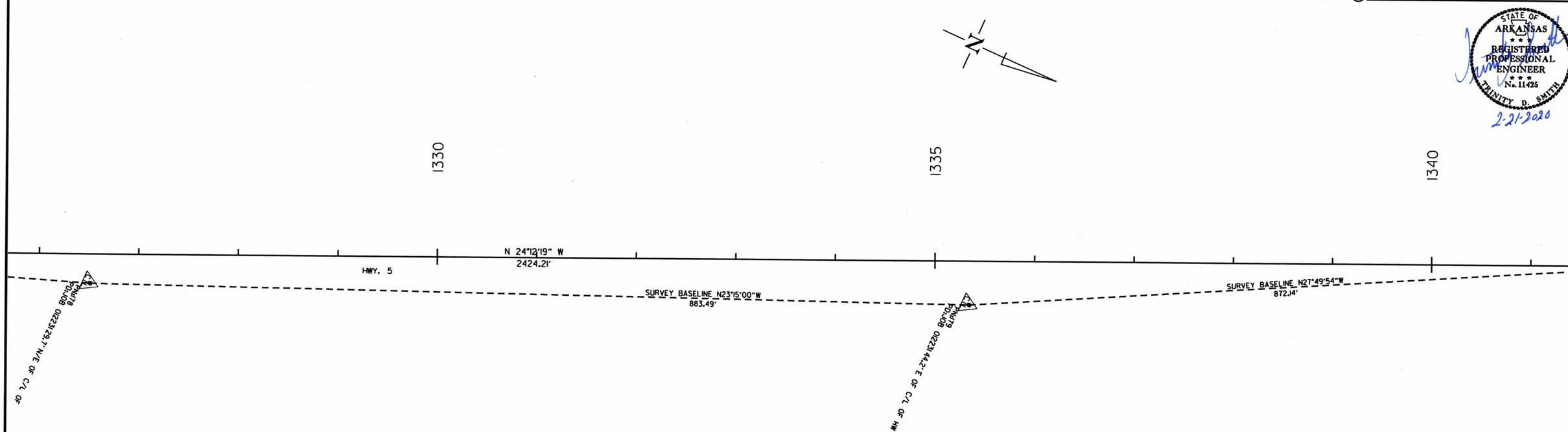
1/13/2020

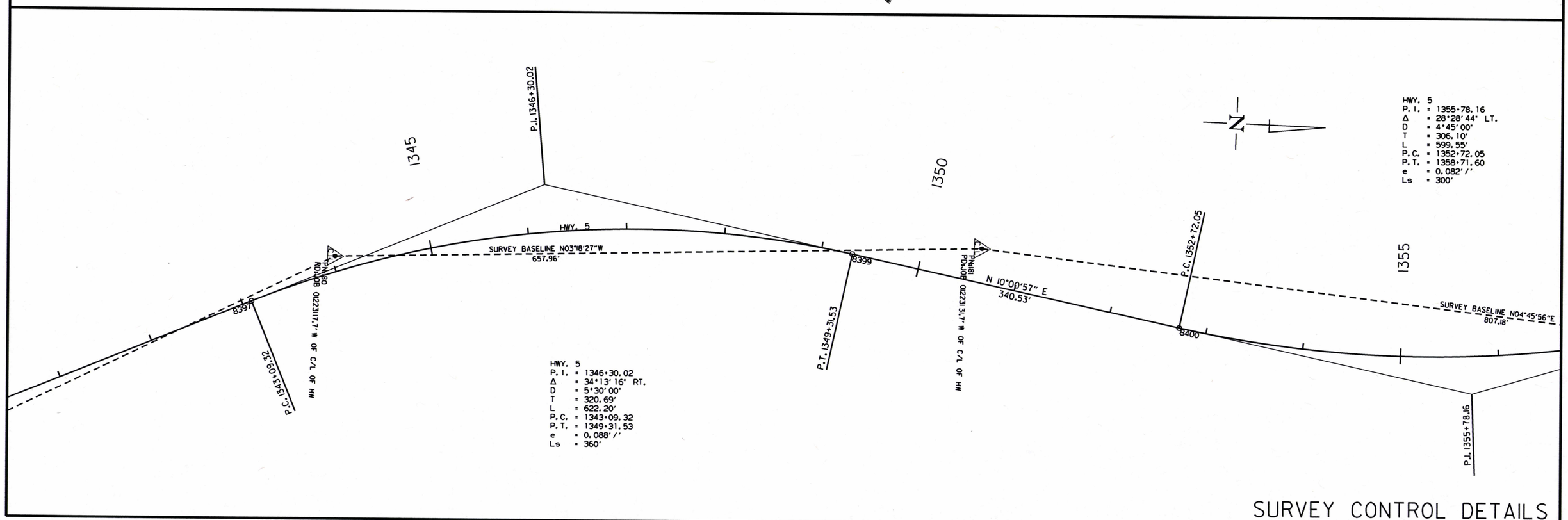
R090517.DGN

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.		090517	62	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020





SURVEY CONTROL DETAILS

1/13/2020

R090517.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.		090517	63	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

HWY. 5
P.I. = 1355+78.16
Δ = 28°28'44" LT.
D = 4°45'00"
T = 306.10'
L = 599.55'
P.C. = 1352+72.05
P.T. = 1358+71.60
e = 0.082'/'
Ls = 300'

HWY. 5
P.I. = 1368+94.32
Δ = 14°27'20" LT.
D = 3°00'00"
T = 242.21'
L = 481.85'
P.C. = 1366+52.10
P.T. = 1371+33.96
e = 0.058'/'
Ls = 300'

HWY. 5
P.I. = 1377+91.16
Δ = 17°42'08" RT.
D = 3°30'00"
T = 254.92'
L = 505.78'
P.C. = 1375+36.24
P.T. = 1380+42.02
e = 0.066'/'
Ls = 300

HWY. 5
P.I. = 1386+14.02
Δ = 18°45'49" LT.
D = 11°00'00"
T = 86.06'
L = 170.57'
P.C. = 1385+27.96
P.T. = 1386+98.53
e = MACTH EXIST. SUPER
Ls = 300'

1355 1360 1365 1370 1375 1380 1385

SURVEY BASELINE N04°45'56"E 807.18'

P.I. 1355+78.16

P.T. 1358+71.60

8402

N 18°27'47" W 780.50'

HWY. 5

P.C. 1366+52.10

8403

SURVEY BASELINE N19°01'23"W 884.75'

P.I. 1368+94.32

FND #8 REBAR POL.08 0.23'S.45.5'W OF TP

FND #8 REBAR POL.08 0.23'POINT BA THS ON CR

SURVEY BASELINE N33°38'03"W 972.34'

N 32°55'07" W 402.29'

8405

P.T. 1371+33.96

P.I. 1377+91.16

8406

P.C. 1375+36.24

FND #8 REBAR POL.08 0.23'S.38.2'E OF TP

P.T. 1380+42.02

SURVEY BASELINE N17°16'42"W 825.84'

N 15°12'59" W 485.94'

8409

P.C. 1385+27.96

FND #8 REBAR POL.08 0.23'S END OF CON ISLAND

P.I. 1386+14.02

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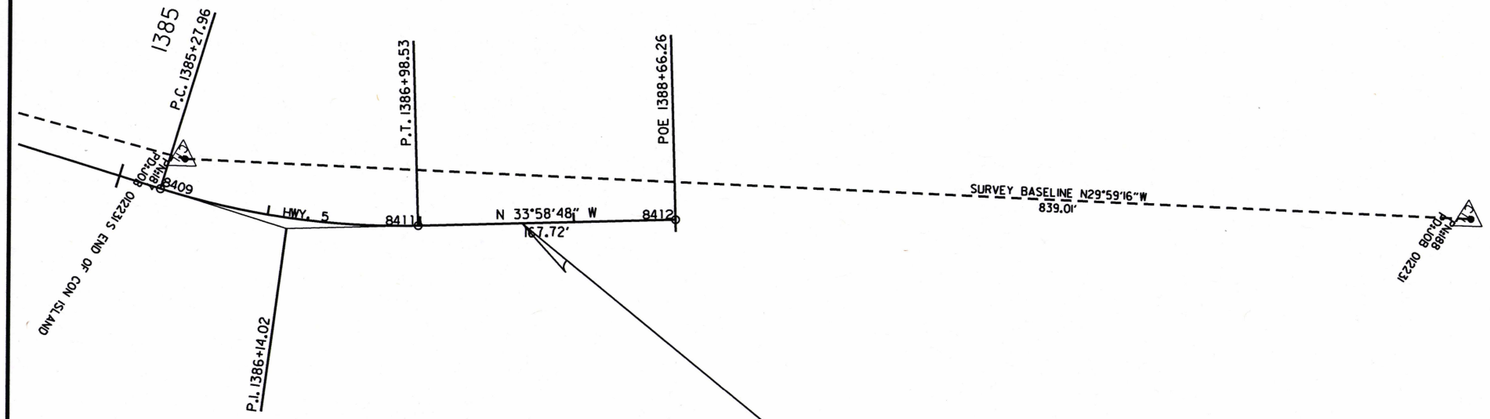
SURVEY CONTROL DETAILS

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.		090517	64	148

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

HWY. 5
P.I. = 1386+14.02
Δ = 18°45'49" LT.
D = 11°00'00"
T = 86.06'
L = 170.57'
P.C. = 1385+27.96
P.T. = 1386+98.53
e = MATCH EXIST. SUPER
Ls = 300'



1/13/2020

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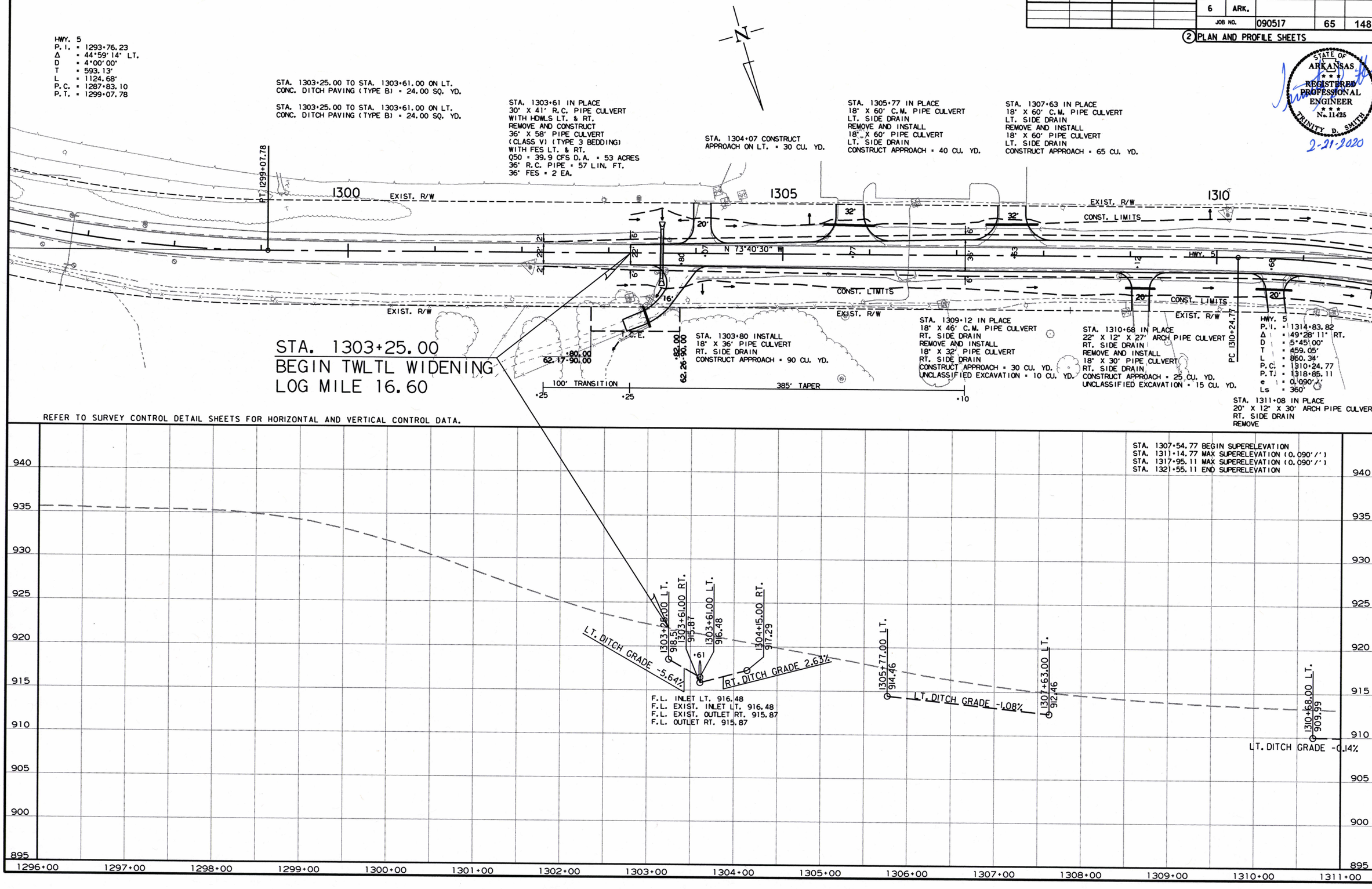
SURVEY CONTROL DETAILS

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.		090517	65	148

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020



R090517.DGN 2/18/2020

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.		090517	66	148

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STA. 1314+00 IN PLACE
21" X 16" X 35' ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 170 CU. YD.

STA. 1315+09 INSTALL
18" X 68' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 55 CU. YD.

STA. 1316+71 IN PLACE
16" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YD.

STA. 1317+87 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YD.
UNCLASSIFIED EXCAVATION = 5 CU. YD.

STA. 1320+64 IN PLACE
24" X 34" R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 36" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.

STA. 1324+43.00 TO STA. 1325+37.00 ON LT.& RT.
CONC. DITCH PAVING (TYPE B) = 62.67 SQ. YD.

PI 1314+83.82
MARTIN RD
1315
1320
1325
HWY. 5
SPRING MILL DR.
EXIST. R/W
CONST. LIMITS
N 73°40'30" W
N 24°12'19" W
PT 1318+85.11
PC 1310+24.77
T.C.E.
PROP. R/W
55.00 59.47
88.00 85.00
75.00 85.00
105.00 59.68

STA. 1315+33 IN PLACE
20" X 12" X 39" ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YD.
UNCLASSIFIED EXCAVATION = 30 CU. YD.

STA. 1316+66 IN PLACE
20" X 12" X 20' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YD.
UCLASSIFIED EXCAVATION = 35 CU. YD.

STA. 1312+42 IN PLACE
18" X 73' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YD.
UNCLASSIFIED EXCAVATION = 30 CU. YD.

HWY. 5
P.I. = 1314+83.82
Δ = 49°28'11" RT.
D = 5°45'00"
T = 459.05'
L = 860.34'
P.C. = 1310+24.77
P.T. = 1318+85.11
e = 0.090'/'
Ls = 360'

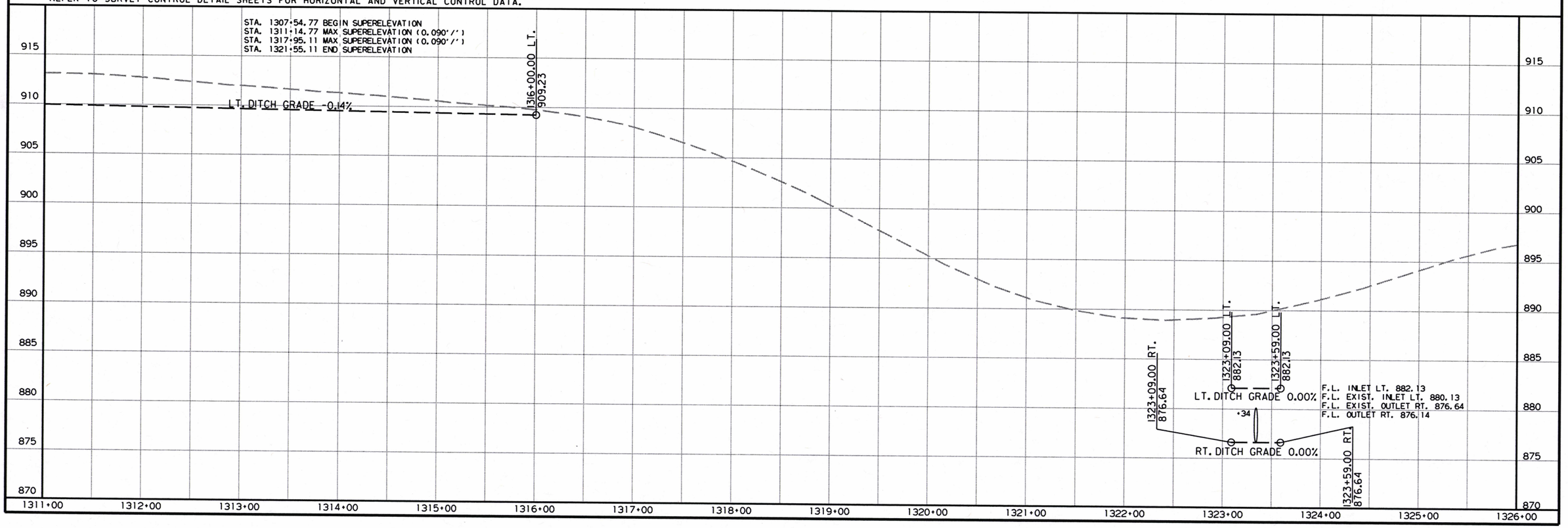
WIRE FENCE (TYPE D)

STA.	STA.	SIDE	LIN.FT.
1322+55.00	1324+06.00	RT.	167

STA. 1323+34 IN PLACE
42" X 62" R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS AND EXTEND
10' LT. AND 18' RT.
TO A COMPLETED LENGTH OF 96'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 51.6 CFS D.A. = 92.4 ACRES
42" R.C. PIPE = 96 LIN. FT.
42" FES = 2 EA.

STA. 1325+70 IN PLACE
20" X 12" X 20' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.
UNCLASSIFIED EXCAVATION = 5 CU. YD.

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



2/18/2020

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				6	ARK.			
				JOB NO.		090517	67	148

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STA. 1326+27 IN PLACE
16" X 70' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 68' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 50 CU. YD.
UNCLASSIFIED EXCAVATION = 45 CU. YD.

STA. 1327+90 CONSTRUCT
APPROACH ON LT. = 70 CU. YD.
UNCLASSIFIED EXCAVATION = 55 CU. YD.

STA. 1329+63 IN PLACE
16" X 65' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 70' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YD.
UNCLASSIFIED EXCAVATION = 75 CU. YD.

STA. 1330+96 IN PLACE
18" X 45' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.
UNCLASSIFIED EXCAVATION = 40 CU. YD.

STA. 1331+63 CONSTRUCT
APPROACH ON LT. = 40 CU. YD.
UNCLASSIFIED EXCAVATION = 5 CU. YD.

STA. 1333+17 IN PLACE
22" X 14" X 40' ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YD.
UNCLASSIFIED EXCAVATION = 15 CU. YD.

STA. 1334+16 IN PLACE
23" X 14" X 40' ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.
UNCLASSIFIED EXCAVATION = 5 CU. YD.

STA. 1334+80 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 1335+63 CONSTRUCT
APPROACH ON LT. = 50 CU. YD.

STA. 1336+77 CONSTRUCT
APPROACH ON LT. = 115 CU. YD.

STA. 1339+67 CONSTRUCT
APPROACH ON LT. = 30 CU. YD.

STA. 1340+26 CONSTRUCT
TURNOUT ON LT. = 65 CU. YD.

STA. 1336+25.00 TO STA. 1337+24.00 ON LT.
CONC. DITCH PAVING (TYPE B) = 16.67 SQ. YD.

STA. 1328+24 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.
UNCLASSIFIED EXCAVATION = 5 CU. YD.

STA. 1329+69 IN PLACE
18" X 34' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YD.

STA. 1331+23 IN PLACE
24" X 37' R.C. PIPE CULVERT
WITH HOWLS LT. & RT.
REMOVE AND CONSTRUCT
36" X 62' PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 34.3 CFS D.A. = 46.3 ACRES
36" R.C. PIPE = 62 LIN. FT.
36" FES = 2 EA.

STA. 1334+82 IN PLACE
22" X 14" X 30' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YD.
UNCLASSIFIED EXCAVATION = 30 CU. YD.

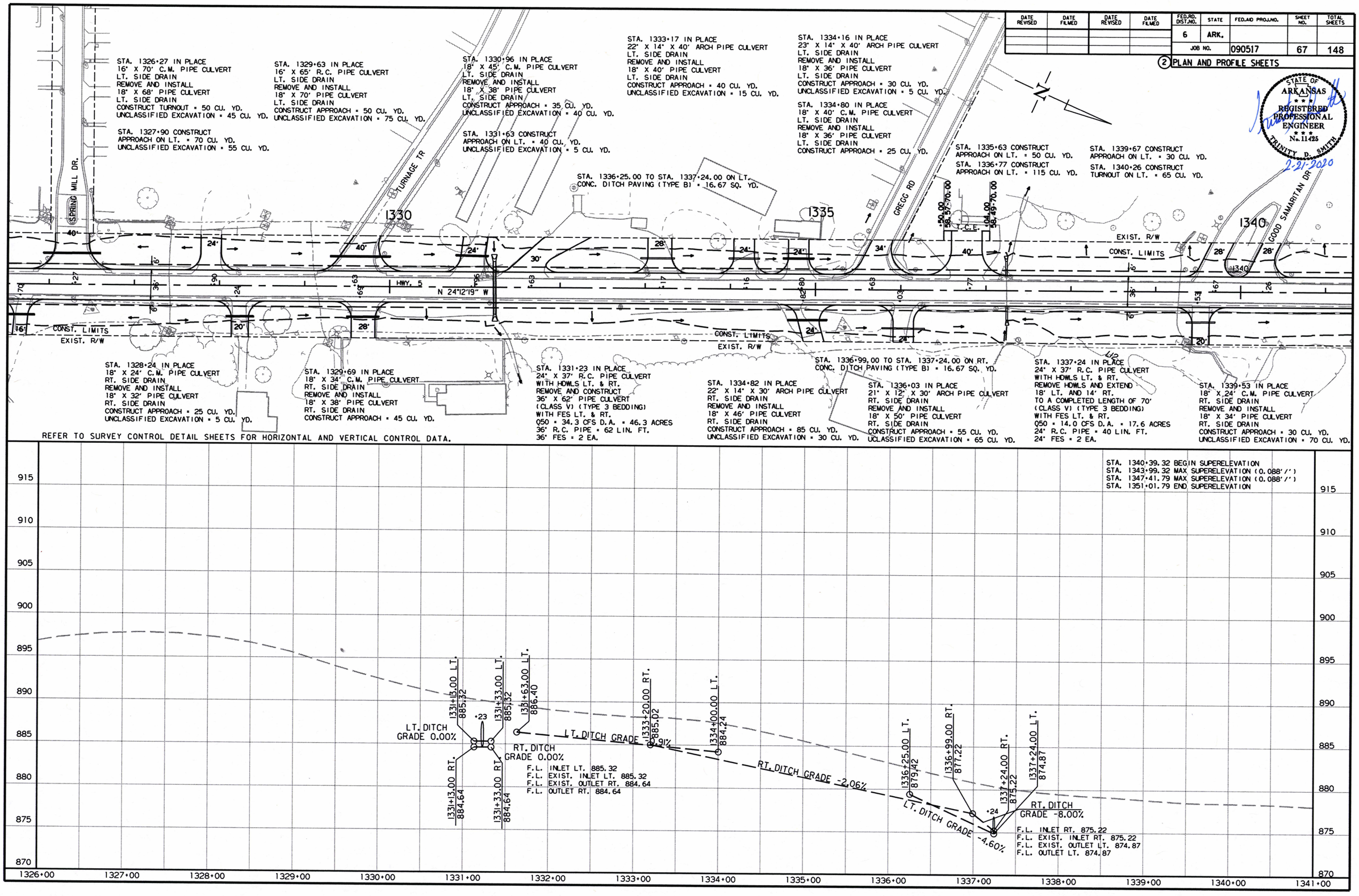
STA. 1336+99.00 TO STA. 1337+24.00 ON RT.
CONC. DITCH PAVING (TYPE B) = 16.67 SQ. YD.

STA. 1336+03 IN PLACE
21" X 12" X 30' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YD.
UNCLASSIFIED EXCAVATION = 65 CU. YD.

STA. 1337+24 IN PLACE
24" X 37' R.C. PIPE CULVERT
WITH HOWLS LT. & RT.
REMOVE HOWLS AND EXTEND
18' LT. AND 14' RT.
TO A COMPLETED LENGTH OF 70'
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 14.0 CFS D.A. = 17.6 ACRES
24" R.C. PIPE = 40 LIN. FT.
24" FES = 2 EA.

STA. 1339+53 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.
UNCLASSIFIED EXCAVATION = 70 CU. YD.

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



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				JOB NO.		090517	68	148

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

STA. 1343+73 IN PLACE
30" X 42' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS AND EXTEND
30' LT. AND 10' RT. WITH CONCRETE COLLARS
TO A COMPLETED LENGTH OF 54'
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 31.0 CFS D.A. = 31.8 ACRES
30" R.C. PIPE = 48 LIN. FT.
30" FES = 2 EA.

STA. 1345+52 CONSTRUCT
APPROACH ON LT. = 465 CU. YD.

STA. 1346+20 CONSTRUCT
APPROACH ON LT. = 190 CU. YD.

STA. 1348+44 IN PLACE
18" X 50' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 65 CU. YD.

STA. 1350+35 IN PLACE
18" X 85' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 30 CU. YD.

STA. 1352+38 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.

STA. 1353+02 IN PLACE
12" X 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.

STA. 1353+76 IN PLACE
18" X 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.
UNCLASSIFIED EXCAVATION = 5 CU. YD.

STA. 1354+57 IN PLACE
24" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.
UNCLASSIFIED EXCAVATION = 45 CU. YD.

HWY. 5
P.I. = 1355+78.16
Δ = 28°28'44" LT.
D = 4°45'00"
T = 306.10'
L = 599.55'
P.C. = 1352+72.05
P.T. = 1358+71.60
e = 0.082'/'
Ls = 300'

HWY. 5
P.I. = 1346+30.02
Δ = 34°13'16" RT.
D = 5°30'00"
T = 320.69'
L = 622.20'
P.C. = 1343+09.32
P.T. = 1349+31.53
e = 0.088'/'
Ls = 360'

STA. 1346+33 IN PLACE
18" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 54' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YD.
UNCLASSIFIED EXCAVATION = 140 CU. YD.

STA. 1348+75 IN PLACE
22" X 14' X 18' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.
UNCLASSIFIED EXCAVATION = 15 CU. YD.

STA. 1349+72 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.
UNCLASSIFIED EXCAVATION = 10 CU. YD.

STA. 1351+40 IN PLACE
27" X 19' X 54' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 62' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 40 CU. YD.

STA. 1348+00 TO STA. 1354+85.00 ON LT.
CONC. DITCH PAVING (TYPE B) = 456.67 SQ. YD.

STA. 1348+68.00 TO STA. 1354+85.00 ON RT.
CONC. DITCH PAVING (TYPE B) = 411.33 SQ. YD.

STA. 1352+80 IN PLACE
24" X 31' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YD.

STA. 1354+95 IN PLACE
24" X 46' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE AND CONSTRUCT
30" X 72' PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 30.8 CFS D.A. = 27.8 ACRES
30" R.C. PIPE = 72 LIN. FT.
30" FES = 2 EA.

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

STA. 1340+39.32 BEGIN SUPERELEVATION
STA. 1343+99.32 MAX SUPERELEVATION (0.088'/')
STA. 1347+41.79 MAX SUPERELEVATION (0.088'/')
STA. 1351+01.79 END SUPERELEVATION

STA. 1351+01.79 BEGIN SUPERELEVATION
STA. 1354+01.79 MAX SUPERELEVATION (0.082'/')
STA. 1357+96.60 MAX SUPERELEVATION (0.082'/')
STA. 1360+96.60 END SUPERELEVATION

1342+00.00 RT. 874.07 — RT. DITCH GRADE -1.28%
1343+63.00 RT. 871.98
1343+83.00 RT. 871.98 — RT. DITCH GRADE 0.00%
F.L. INLET RT. 871.98
F.L. EXIST. INLET RT. 871.98
F.L. EXIST. OUTLET LT. 871.76
F.L. OUTLET LT. 868.35

1346+00.00 RT. 871.17 — RT. DITCH GRADE -0.73%
1346+33.00 RT. 870.93

1348+00.00 LT. 869.28 — LT. DITCH GRADE -3.11%
1348+75.00 LT. 866.95
1349+72.00 LT. 863.58 — LT. DITCH GRADE -2.21%
1350+35.00 LT. 862.19
1351+40.00 RT. 857.39 — RT. DITCH GRADE -3.17%

1354+60.00 847.26
1354+85.00 845.26
1354+85.00 845.57
1355+05.00 845.26
1356+00.00 845.65
RT. DITCH GRADE -8.00%
LT. D.G. 0.07%
LT. DI. GR. 0.45%
RT. DITCH GRADE 0.00%
F.L. INLET LT. 845.57
F.L. EXIST. INLET LT. 845.57
F.L. EXIST. OUTLET RT. 845.26
F.L. OUTLET RT. 845.26

885 880 875 870 865 860 855 850 845 840
1341+00 1342+00 1343+00 1344+00 1345+00 1346+00 1347+00 1348+00 1349+00 1350+00 1351+00 1352+00 1353+00 1354+00 1355+00 1356+00

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

HWY. 5
P.I. = 1355+78.16
Δ = 28°28'44" LT.
D = 4°45'00"
T = 306.10'
L = 599.55'
P.C. = 1352+72.05
P.T. = 1358+71.60
e = 0.082'/'
Ls = 300'

STA. 1355+90 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 50 CU. YD.
UNCLASSIFIED EXCAVATION = 50 CU. YD.

STA. 1356+74 IN PLACE
18" X 28' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 145 CU. YD.

STA. 1357+22 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YD.
UNCLASSIFIED EXCAVATION = 35 CU. YD.

STA. 1358+20 IN PLACE
18" X 29' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YD.
UNCLASSIFIED EXCAVATION = 10 CU. YD.

STA. 1358+90 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YD.

STA. 1359+44 IN PLACE
18" X 22' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 1360+70 IN PLACE
18" X 22' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 1361+74 IN PLACE
18" X 21' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 1362+41 IN PLACE
18" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.

STA. 1364+52 IN PLACE
18" X 15' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 1362+73 IN PLACE
18" X 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 1365+43 IN PLACE
20" X 14" X 41' ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YD.

STA. 1367+91 INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YD.
UNCLASSIFIED EXCAVATION = 50 CU. YD.

HWY. 5
P.I. = 1368+94.32
Δ = 14°27'20" LT.
D = 3°00'00"
T = 242.21'
L = 481.85'
P.C. = 1366+52.10
P.T. = 1371+33.96
e = 0.058'/'
Ls = 300'

STA. 1368+87 IN PLACE
18" X 36' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT TURNOUT = 40 CU. YD.
UNCLASSIFIED EXCAVATION = 10 CU. YD.

STA. 1369+14 CONSTRUCT
APPROACH ON RT. = 40 CU. YD.

STA. 1369+66 IN PLACE
24" X 41' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE AND CONSTRUCT
24" X 68' PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 20.0 CFS D.A. = 26 ACRES
24" R.C. PIPE = 68 LIN. FT.
24" FES = 2 EA.

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

STA. 1351+01.79 BEGIN SUPERELEVATION
STA. 1354+01.79 MAX SUPERELEVATION (0.082'/')
STA. 1357+96.60 MAX SUPERELEVATION (0.082'/')
STA. 1360+96.60 END SUPERELEVATION

STA. 1364+27.10 BEGIN SUPERELEVATION
STA. 1367+27.10 MAX SUPERELEVATION (0.058'/')
STA. 1370+35.10 MAX SUPERELEVATION (0.058'/')
STA. 1373+35.10 END SUPERELEVATION

1357+05.00 LT. ℄ 845.81
1360+00.00 LT. ℄ 846.56
1361+74.00 RT. ℄ 848.24
RT. DITCH GRADE 0.45%
LT. DITCH GRADE 0.25%

F.L. INLET LT. 856.56
F.L. EXIST. INLET LT. 856.56
F.L. EXIST. OUTLET RT. 856.55
F.L. OUTLET RT. 856.06

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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.		090517	70	148

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

HWY. 5
P. I. = 1368+94.32
Δ = 14°27'20" LT.
D = 3°00'00"
T = 242.21'
L = 481.85'
P.C. = 1366+52.10
P.T. = 1371+33.96
e = 0.058'/'
Ls = 300'

STA. 1375+19 IN PLACE
18" X 36' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 60' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 165 CU. YD.

STA. 1373+00 TO STA. 1375+48 ON LT. & RT.
CONC. DITCH PAVING (TYPE B) = 110.22 SQ. YD.

STA. 1377+95 CONSTRUCT
APPROACH ON LT. = 50 CU. YD.

STA. 1378+66 CONSTRUCT
APPROACH ON LT. = 30 CU. YD.

STA. 1381+62 CONSTRUCT
APPROACH ON LT. = 40 CU. YD.

STA. 1382+96 CONSTRUCT
APPROACH ON LT. = 30 CU. YD.

STA. 1384+15 CONSTRUCT
APPROACH ON LT. = 25 CU. YD.

HWY. 5
P. I. = 1386+14.02
Δ = 18°45'49" LT.
D = 11°00'00"
T = 86.06'
L = 170.57'
P.C. = 1385+27.96
P.T. = 1386+98.53
e = MATCH EXIST. SUPER
Ls = 300'

PI 1377+91.16

PT 1371+33.96

PC 1375+36.24

PT 1380+42.02

PC 1385+27.96

HWY. 5
P. I. = 1377+91.16
Δ = 17°42'08" RT.
D = 3°30'00"
T = 254.92'
L = 505.78'
P.C. = 1375+36.24
P.T. = 1380+42.02
e = 0.066'/'
Ls = 300

STA. 1373+27 INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.

STA. 1375+34 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.

STA. 1381+68 CONSTRUCT
APPROACH ON RT. = 20 CU. YD.

STA. 1384+52 CONSTRUCT
APPROACH ON RT. = 30 CU. YD.

STA. 1381+80 TO STA. 1382+80 ON LT. & RT.
CONC. DITCH PAVING (TYPE B) = 44.44 SQ. YD.

EXIST. R/W
CONST. LIMITS
HWY. 5
N 32°55'07" W
N 15°12'59" W
GATE
GOLDEN STAR LN

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

STA. 1364+27.10 BEGIN SUPERELEVATION
STA. 1367+27.10 MAX SUPERELEVATION (0.058'/')
STA. 1370+35.10 MAX SUPERELEVATION (0.058'/')
STA. 1373+35.10 END SUPERELEVATION

STA. 1373+35.10 BEGIN SUPERELEVATION
STA. 1376+35.10 MAX SUPERELEVATION (0.066'/')
STA. 1379+67.02 MAX SUPERELEVATION (0.066'/')
STA. 1382+67.02 END SUPERELEVATION

STA. 1383+02.96 BEGIN SUPERELEVATION
STA. 1384+55.71 MATCH EXIST. SUPERELEVATION
STA. 1387+66.00 MATCH EXIST. SUPERELEVATION

1371+00.00 LT.
859.22

1371+75.00 LT.
860.16

1372+80.00 LT.
862.02

LT. DITCH
GRADE 1.25%

LT. DITCH
GRADE 1.77%

1384+15.00 LT.
890.03

1385+00.00 LT.
889.53

LT. DITCH
GRADE -0.59%

900 895 890 885 880 875 870 865 860 855

1371+00 1372+00 1373+00 1374+00 1375+00 1376+00 1377+00 1378+00 1379+00 1380+00 1381+00 1382+00 1383+00 1384+00 1385+00 1386+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.		090517	71	148

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-21-2020

HWY. 5
P.I. = 1386+14.02
Δ = 18°45'49" LT.
D = 11°00' 00"
T = 86.06'
L = 170.57'
P.C. = 1385+27.96
P.T. = 1386+98.53
e = MATCH EXIST. SUPER
Ls = 300'

+76.76 — 289.50' MILL & INLAY — +66.26

HWY. 62 RAMP 1
EXIST. R/W
CONST. LIMITS
PC 1385+27.96
PT 1386+98.53
+52
HWY. 5
24'
N 15°12'59" W
N 33°58'48" W
CONST. LIMITS
GOLDEN STAR LN
EXIST. R/W
PI 1386+14.02
HWY. 62 RAMP 2

STA. 1387+66.26
END TWLTL WIDENING

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

STA. 1383+02.96 BEGIN SUPERELEVATION
STA. 1384+55.71 MATCH EXIST. SUPERELEVATION
STA. 1387+66.00 MATCH EXIST. SUPERELEVATION

1384+15.00 LT.
890.03
1385+00.00 LT.
889.53
LT. DITCH
GRADE -0.59%

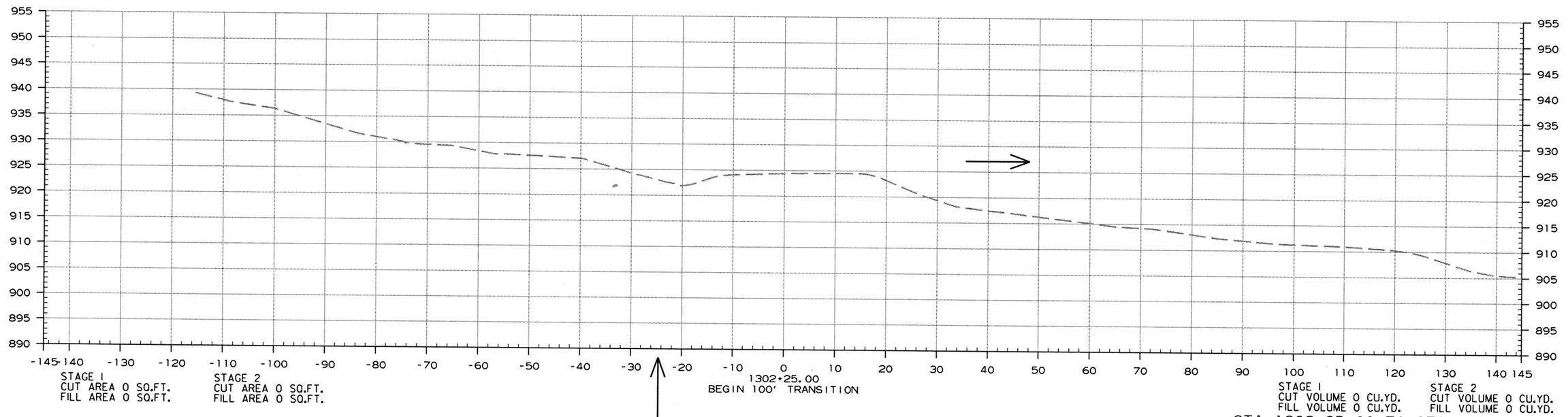
905 900 895 890 885 880 875 870 865 860

1384+00 1385+00 1386+00 1387+00 1388+00

2/18/2020
R090517.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.		090517	72	148

(2) CROSS SECTIONS

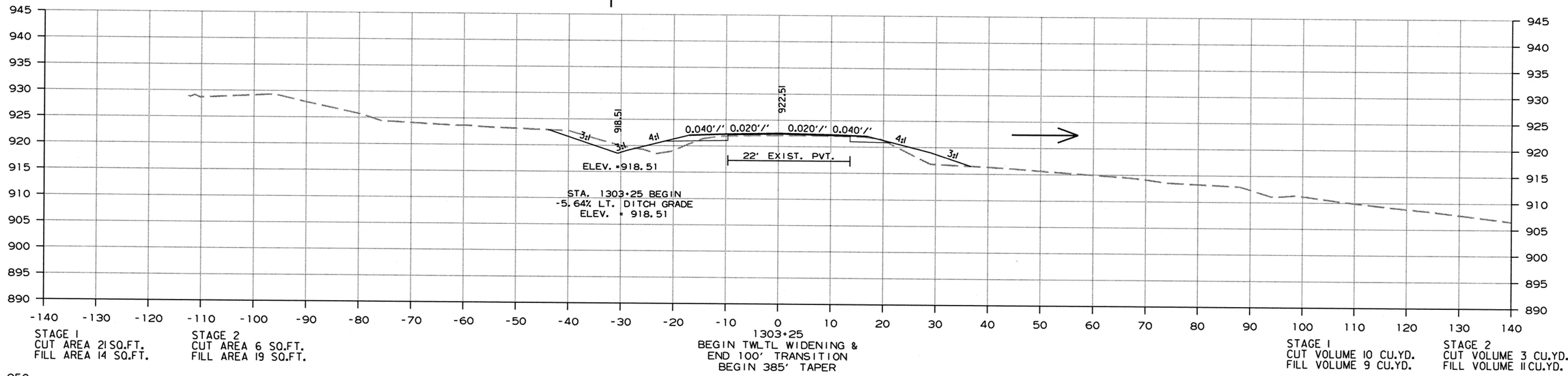


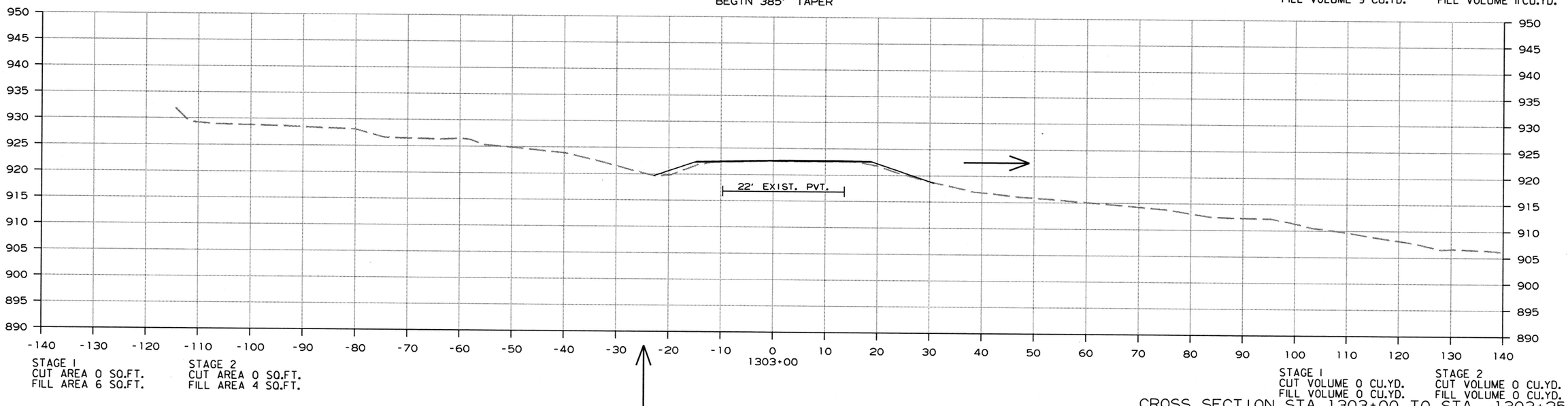
STA. 1302+25.00 TO STA. 1302+25.00

mh39735 2/14/2020
R090517.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.		090517	73	148

(2) CROSS SECTIONS





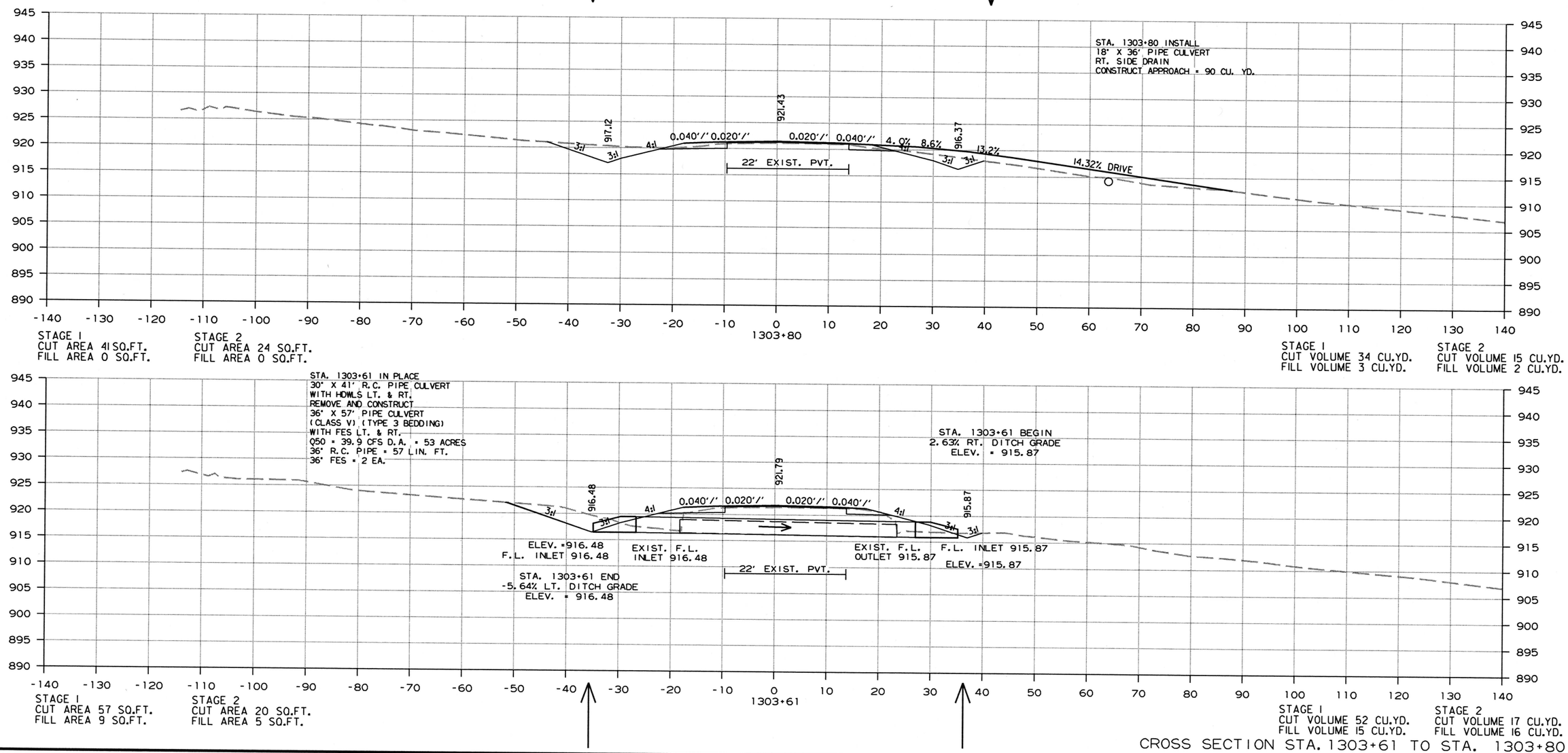
CROSS SECTION STA. 1303+00 TO STA. 1303+25

2/14/2020

R090517.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.		090517	74	148

(2) CROSS SECTIONS



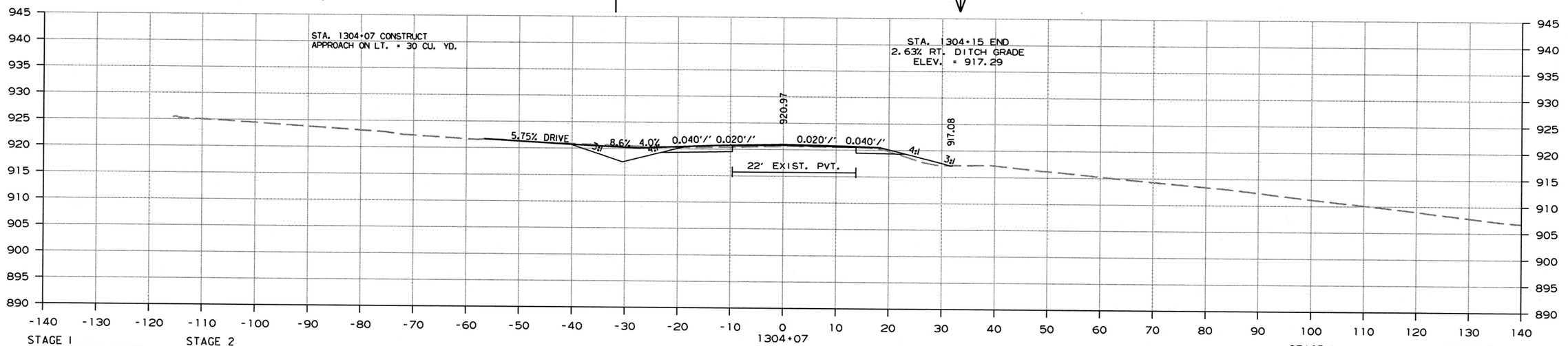
CROSS SECTION STA. 1303+61 TO STA. 1303+80

2/14/2020

R090517.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.		090517	75	148

(2) CROSS SECTIONS

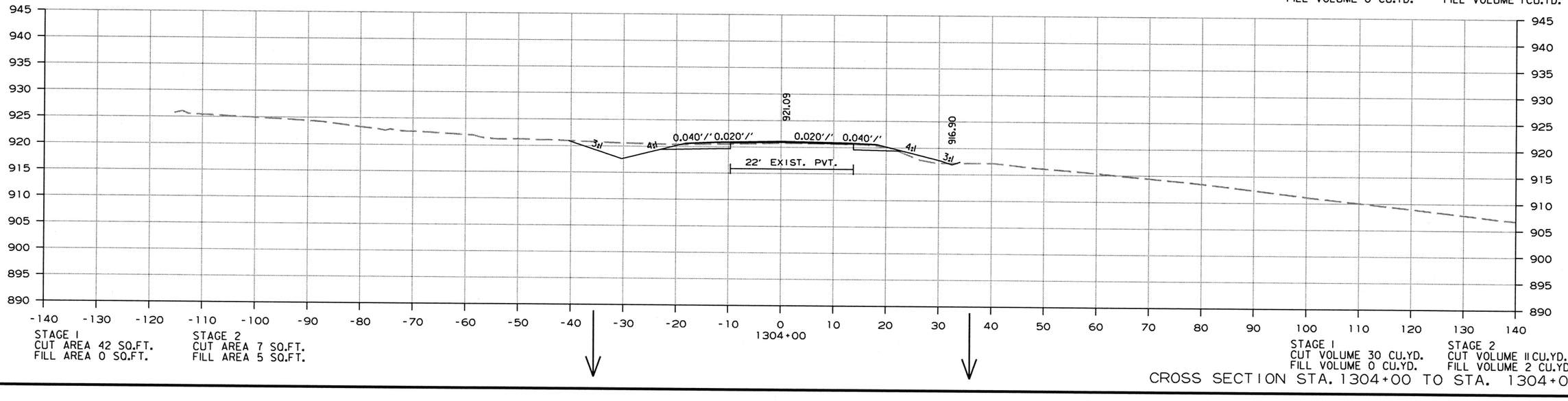


STAGE 1
CUT AREA 39 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 1
CUT VOLUME 10 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 2 CU.YD.
FILL VOLUME 1 CU.YD.



STAGE 1
CUT AREA 42 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 1
CUT VOLUME 30 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 11 CU.YD.
FILL VOLUME 2 CU.YD.

CROSS SECTION STA. 1304+00 TO STA. 1304+07

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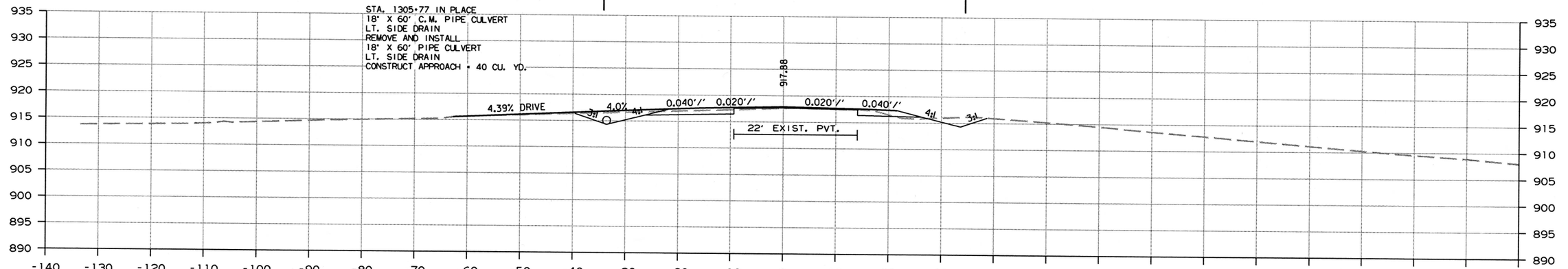
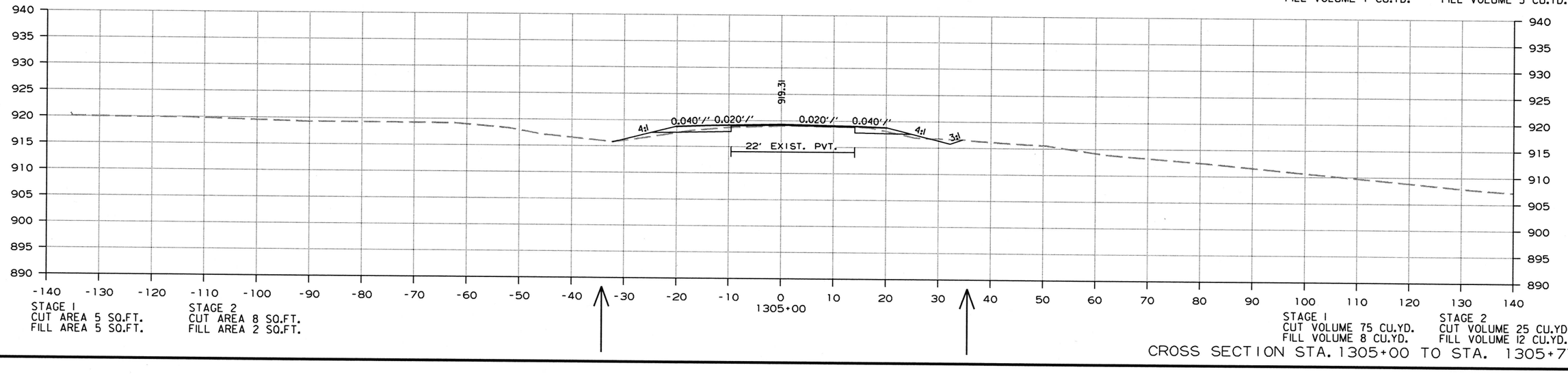
R090517.DGN

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.		090517	76	148

(2) CROSS SECTIONS





CROSS SECTION STA. 1305+00 TO STA. 1305+77

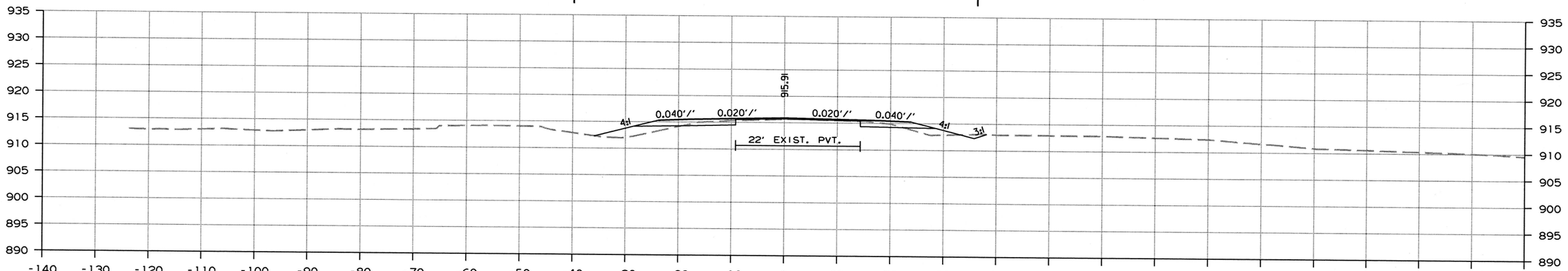
2/14/2020

R090517.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.		090517	77	148

(2) CROSS SECTIONS

STA. 1307+10 END 385' TAPER

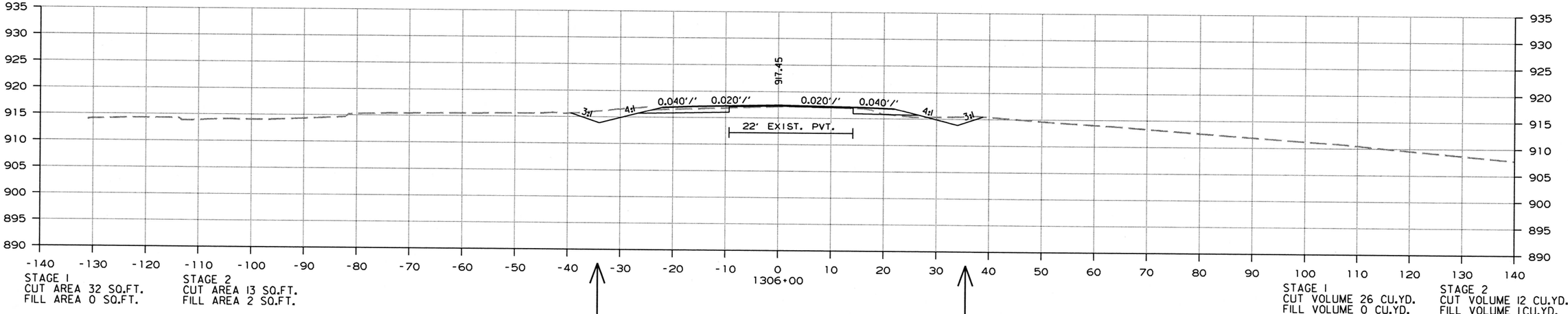


STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 17 SQ.FT.

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 1
CUT VOLUME 7 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 37 CU.YD.
FILL VOLUME 17 CU.YD.



STAGE 1
CUT AREA 32 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 13 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 1
CUT VOLUME 26 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 12 CU.YD.
FILL VOLUME 1 CU.YD.

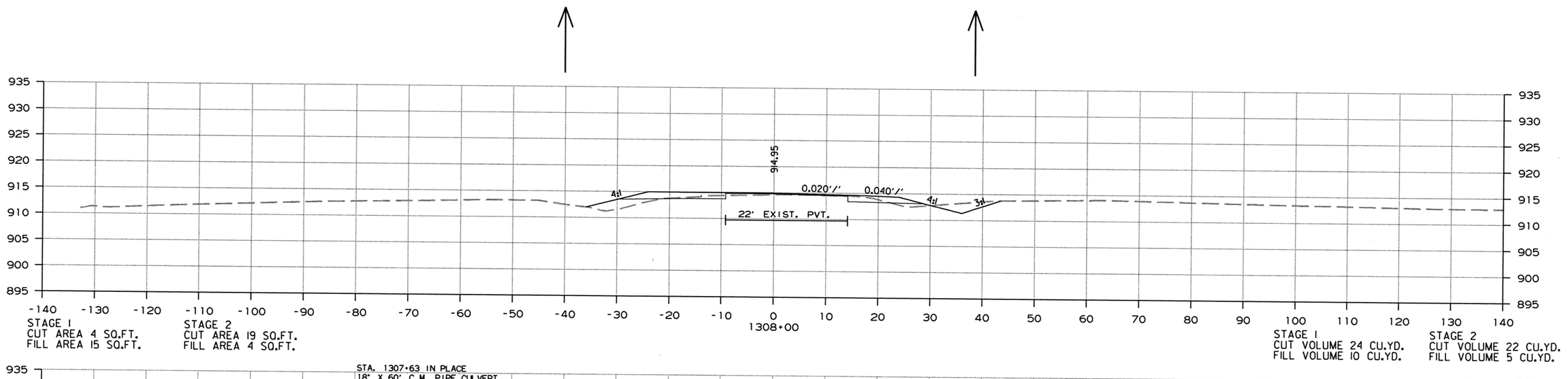
CROSS SECTION STA. 1306+00 TO STA. 1307+00

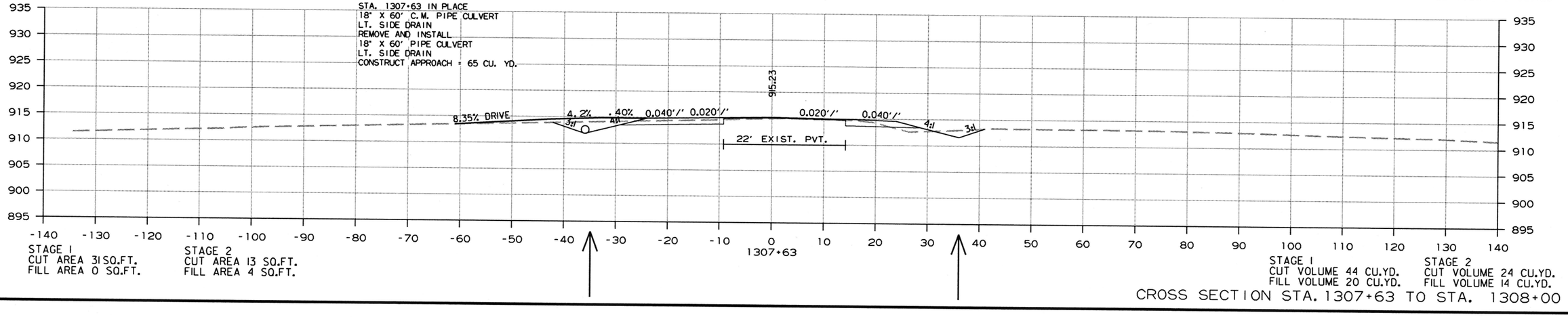
2/14/2020

R090517.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.		090517	78	148

(2) CROSS SECTIONS





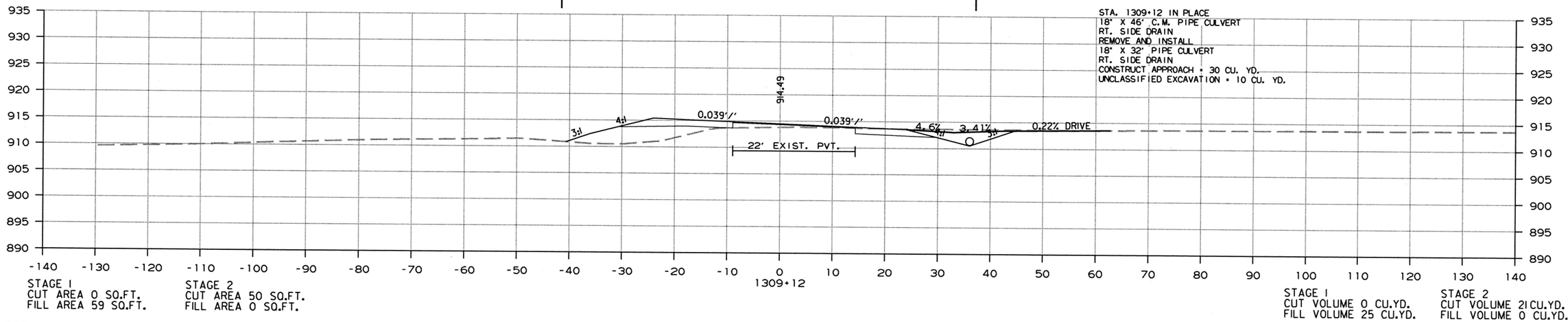
CROSS SECTION STA. 1307+63 TO STA. 1308+00

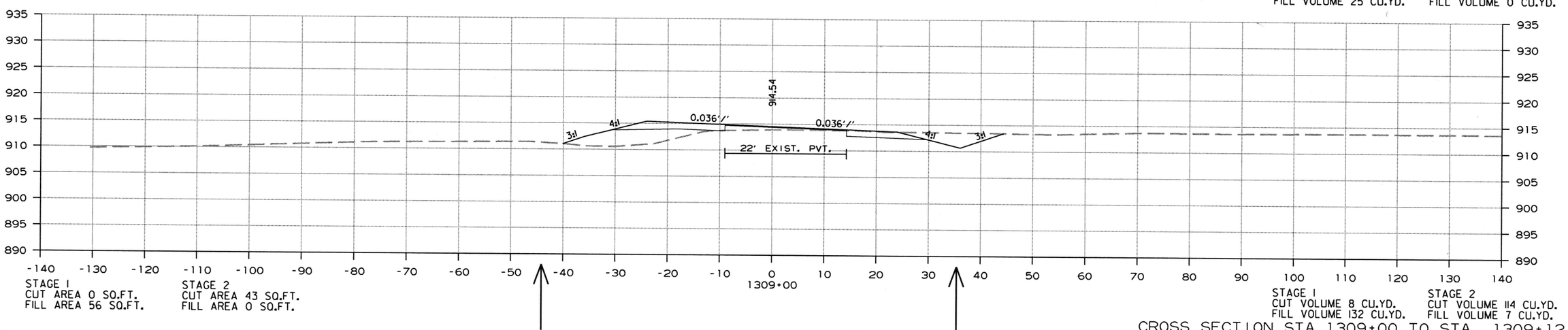
2/14/2020

R090517.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.		090517	79	148

(2) CROSS SECTIONS





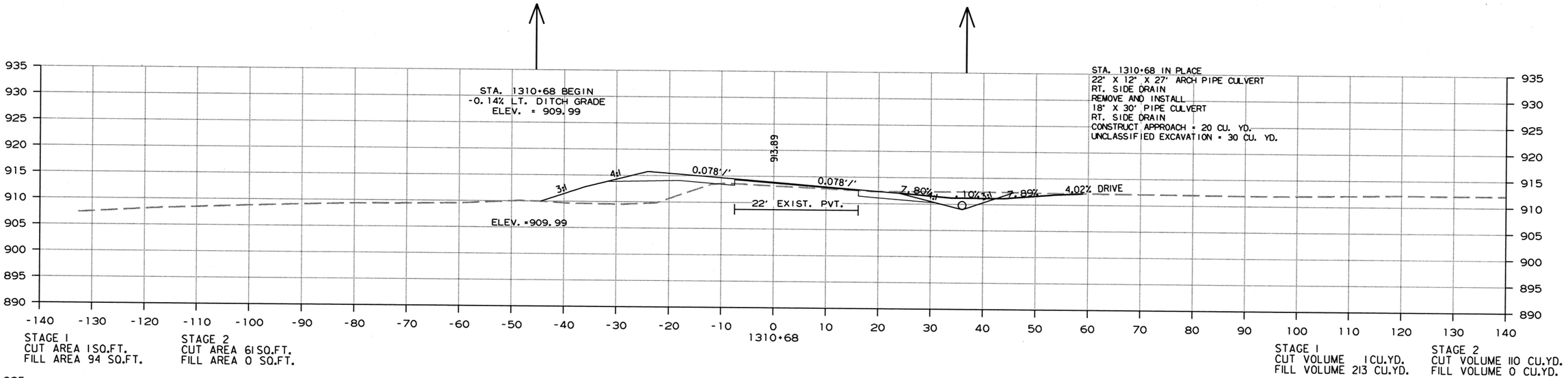
CROSS SECTION STA. 1309+00 TO STA. 1309+12

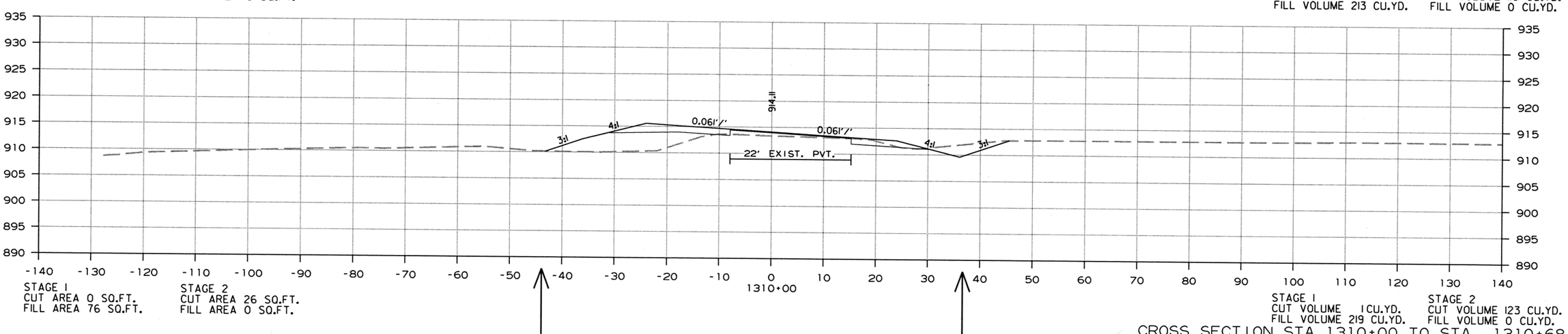
2/14/2020

R090517.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.		090517	80	148

(2) CROSS SECTIONS





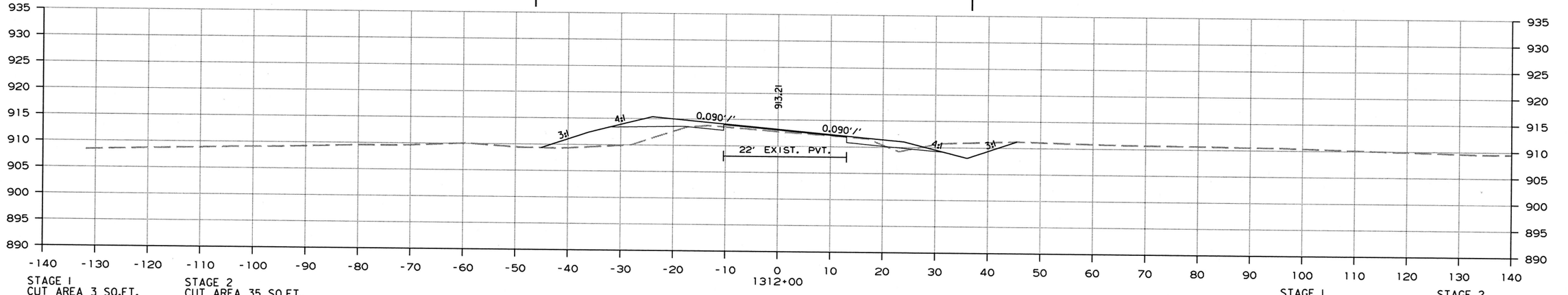
CROSS SECTION STA. 1310+00 TO STA. 1310+68

2/14/2020

R090517.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.		090517	81	148

(2) CROSS SECTIONS

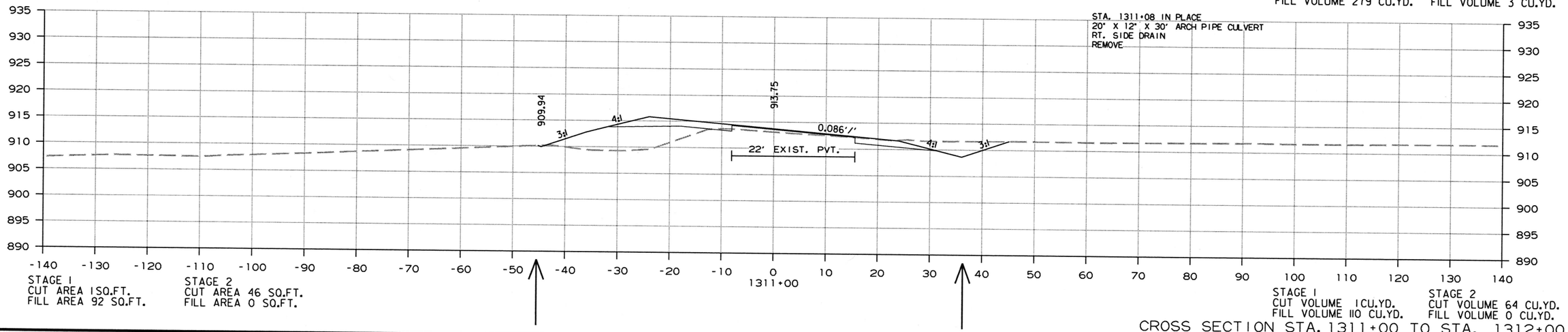


STAGE 1
CUT AREA 3 SQ.FT.
FILL AREA 59 SQ.FT.

STAGE 2
CUT AREA 35 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 1
CUT VOLUME 7 CU.YD.
FILL VOLUME 279 CU.YD.

STAGE 2
CUT VOLUME 150 CU.YD.
FILL VOLUME 3 CU.YD.



STA. 1311+08 IN PLACE
20" X 12" X 30' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STAGE 1
CUT AREA 150FT.
FILL AREA 92 SQ.FT.

STAGE 2
CUT AREA 46 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 1CU.YD.
FILL VOLUME 110 CU.YD.

STAGE 2
CUT VOLUME 64 CU.YD.
FILL VOLUME 0 CU.YD.

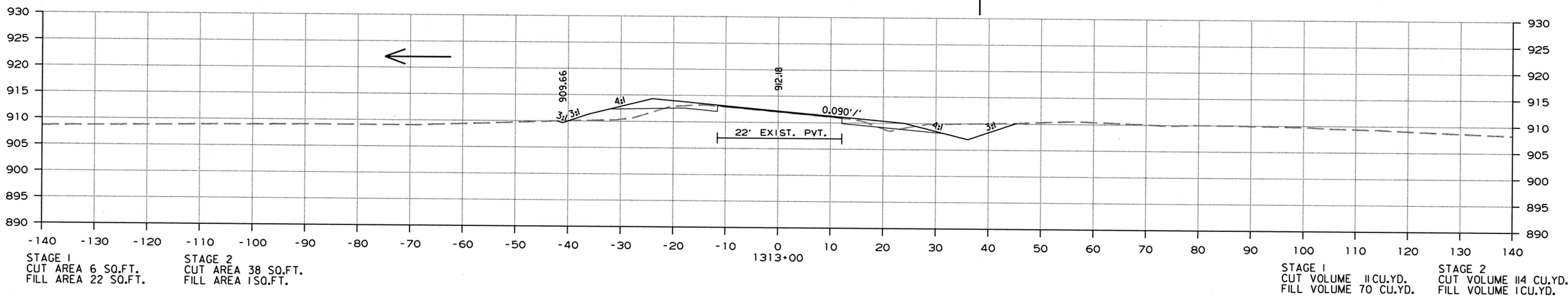
CROSS SECTION STA. 1311+00 TO STA. 1312+00

2/14/2020

R090517.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.		090517	82	148

(2) CROSS SECTIONS

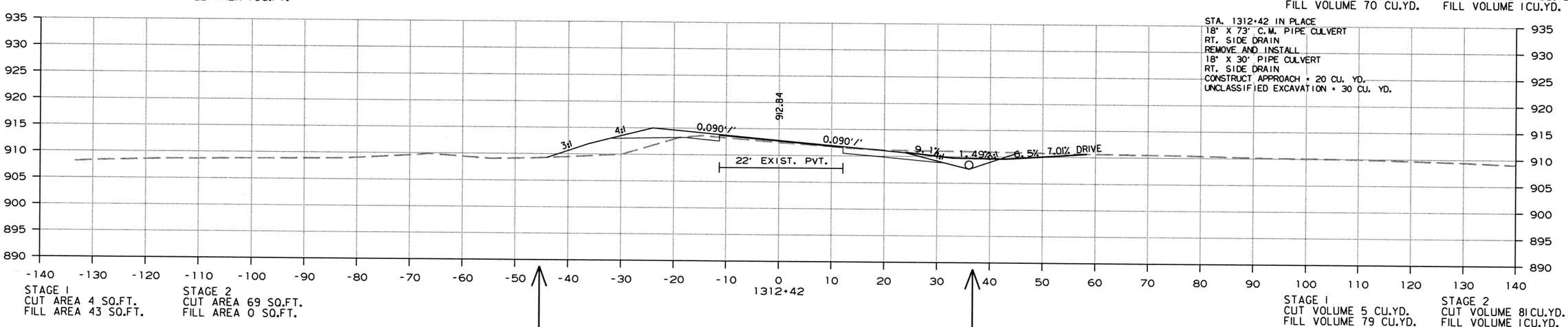


STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 22 SQ.FT.

STAGE 2
CUT AREA 38 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 11 CU.YD.
FILL VOLUME 70 CU.YD.

STAGE 2
CUT VOLUME 114 CU.YD.
FILL VOLUME 1 CU.YD.



STA. 1312+42 IN PLACE
18" X 73' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YD.
UNCLASSIFIED EXCAVATION = 30 CU. YD.

STAGE 1
CUT AREA 4 SQ.FT.
FILL AREA 43 SQ.FT.

STAGE 2
CUT AREA 69 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 79 CU.YD.

STAGE 2
CUT VOLUME 81 CU.YD.
FILL VOLUME 1 CU.YD.

CROSS SECTION STA. 1312+42 TO STA. 1313+00

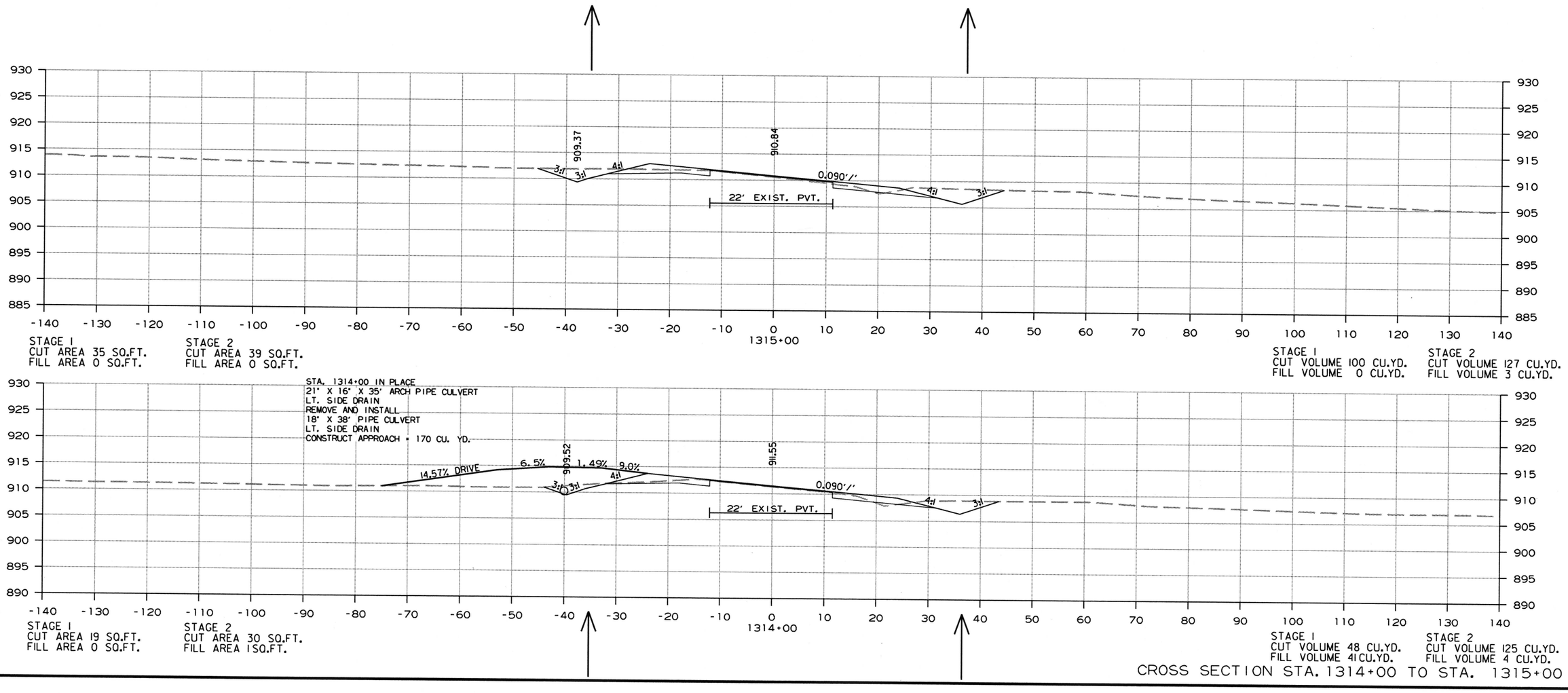
2/14/2020

R090517.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.		090517	83	148

(2) CROSS SECTIONS



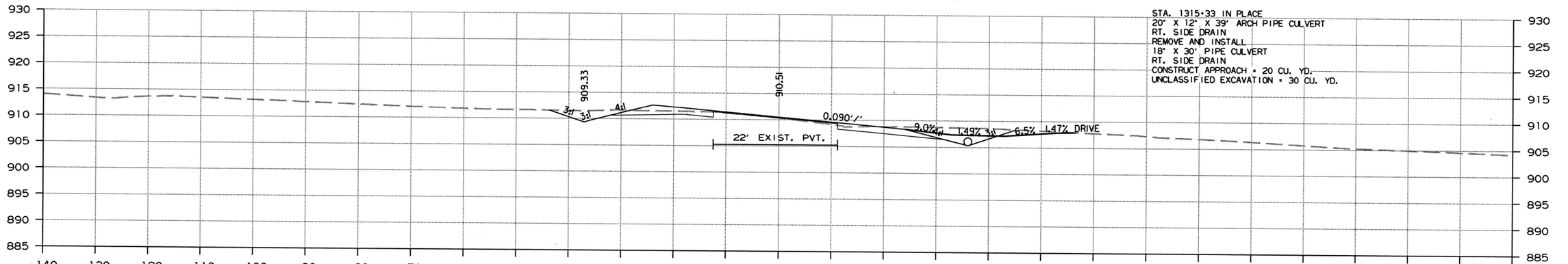
CROSS SECTION STA. 1314+00 TO STA. 1315+00

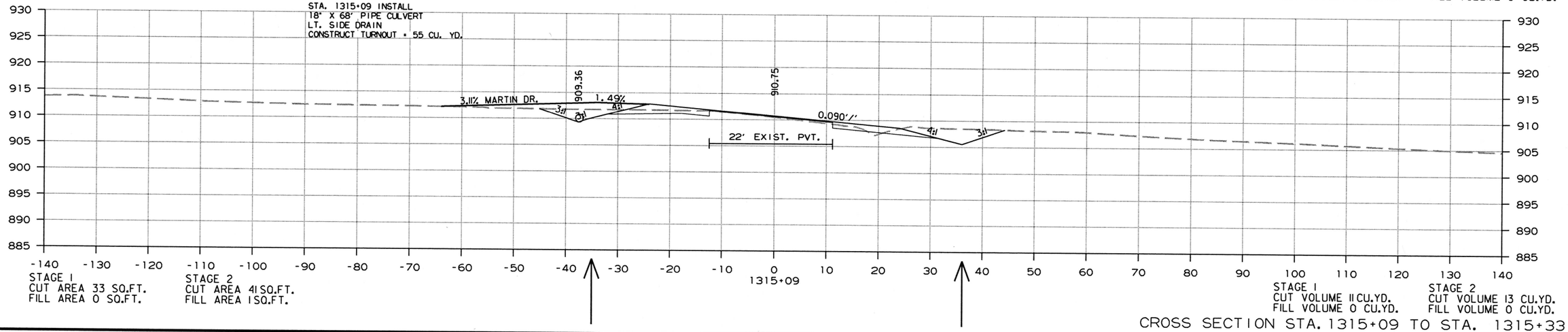
2/14/2020

R090517.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.		090517	84	148

(2) CROSS SECTIONS





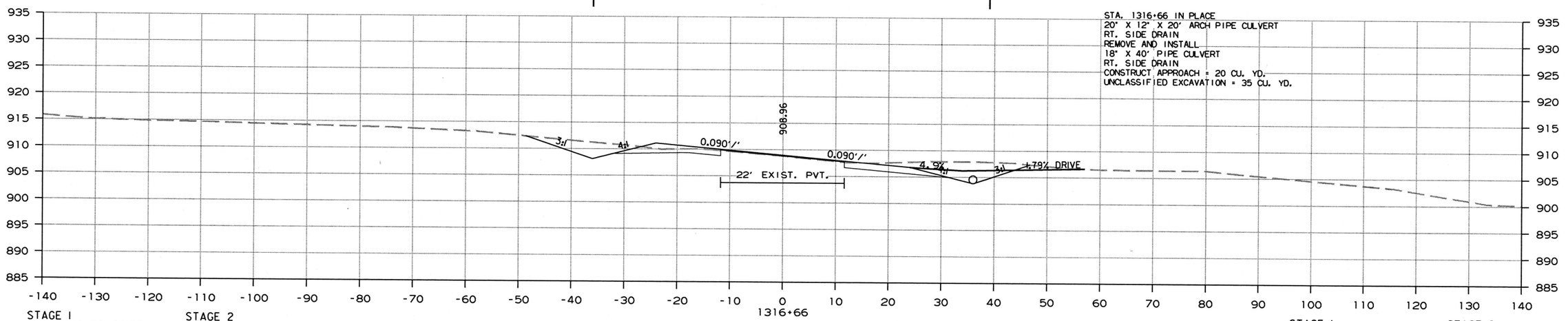
CROSS SECTION STA. 1315+09 TO STA. 1315+33

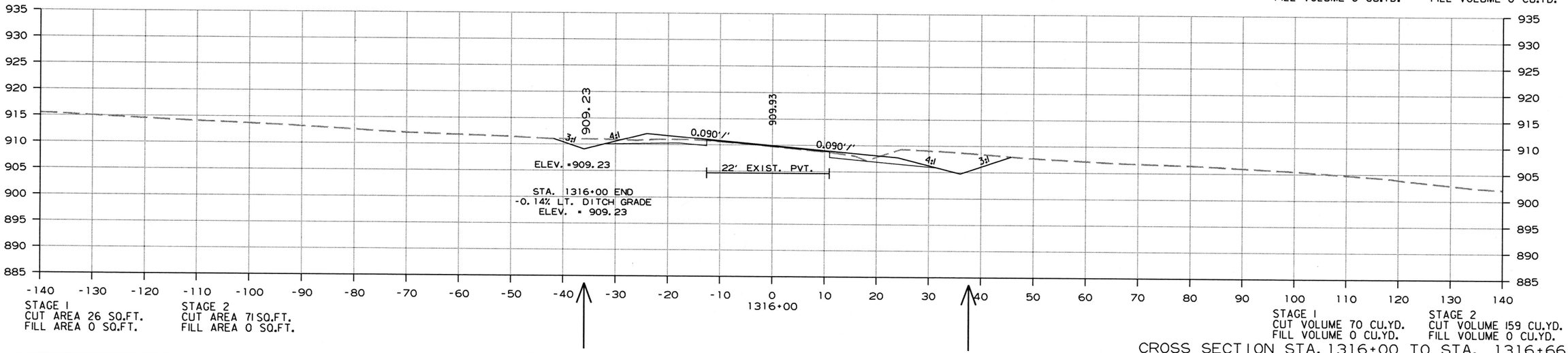
2/14/2020

R090517.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.		090517	85	148

(2) CROSS SECTIONS





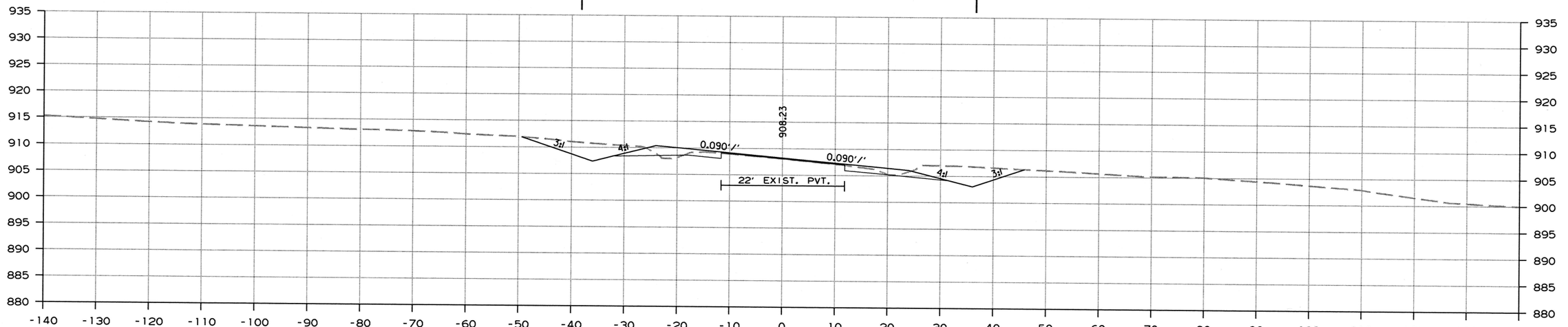
CROSS SECTION STA. 1316+00 TO STA. 1316+66

2/14/2020

R090517.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.		090517	86	148

(2) CROSS SECTIONS

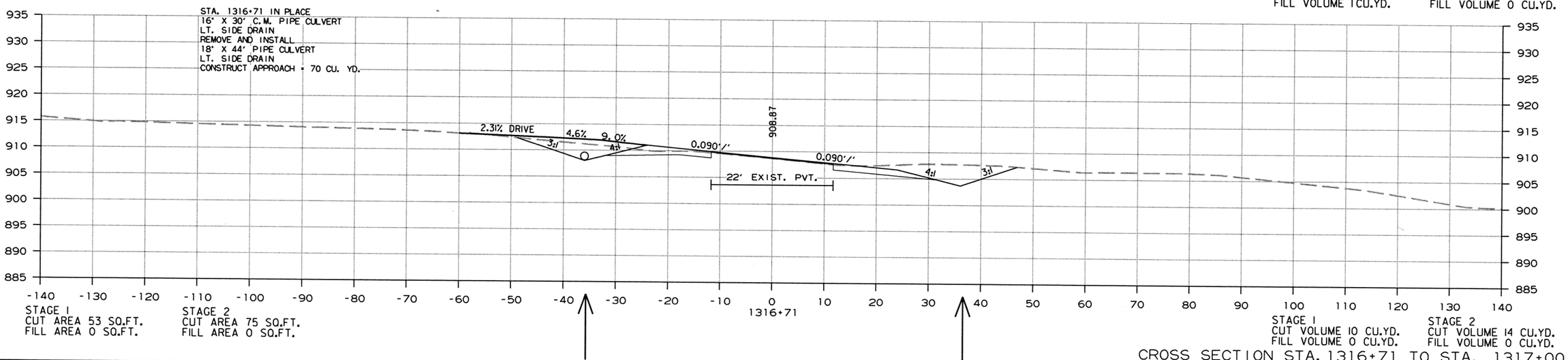


STAGE 1
CUT AREA 52 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 57 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 57 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 2
CUT VOLUME 71 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 53 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 75 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 10 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 14 CU.YD.
FILL VOLUME 0 CU.YD.

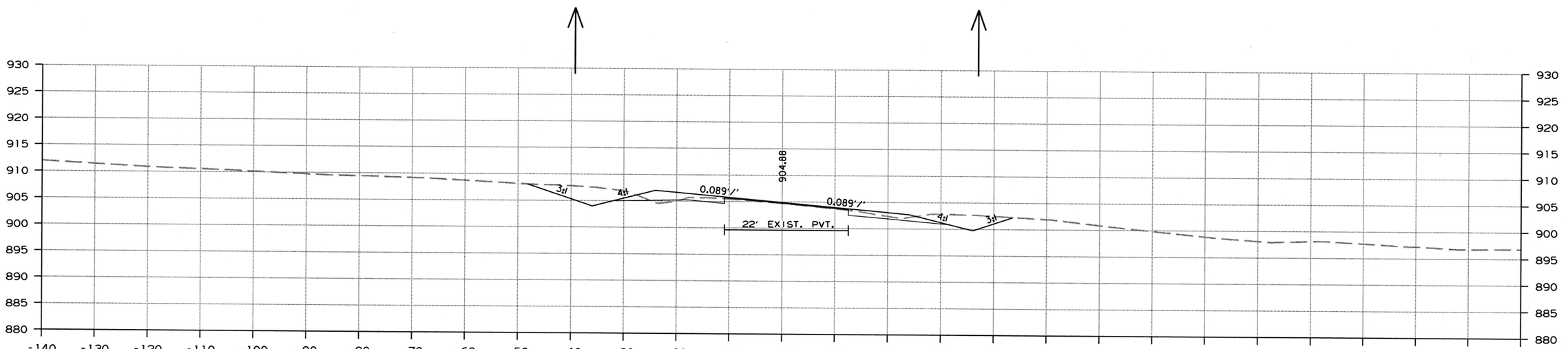
CROSS SECTION STA. 1316+71 TO STA. 1317+00

2/14/2020

R090517.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.		090517	87	148

(2) CROSS SECTIONS

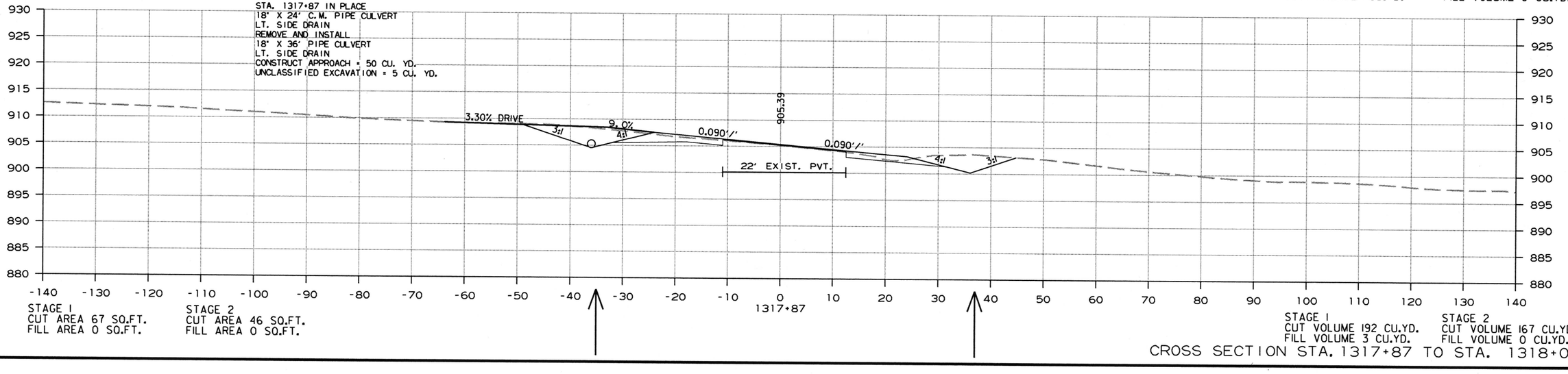


STAGE 1
CUT AREA 48 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 41 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 28 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 2
CUT VOLUME 21 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 67 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 46 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 192 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 167 CU.YD.
FILL VOLUME 0 CU.YD.

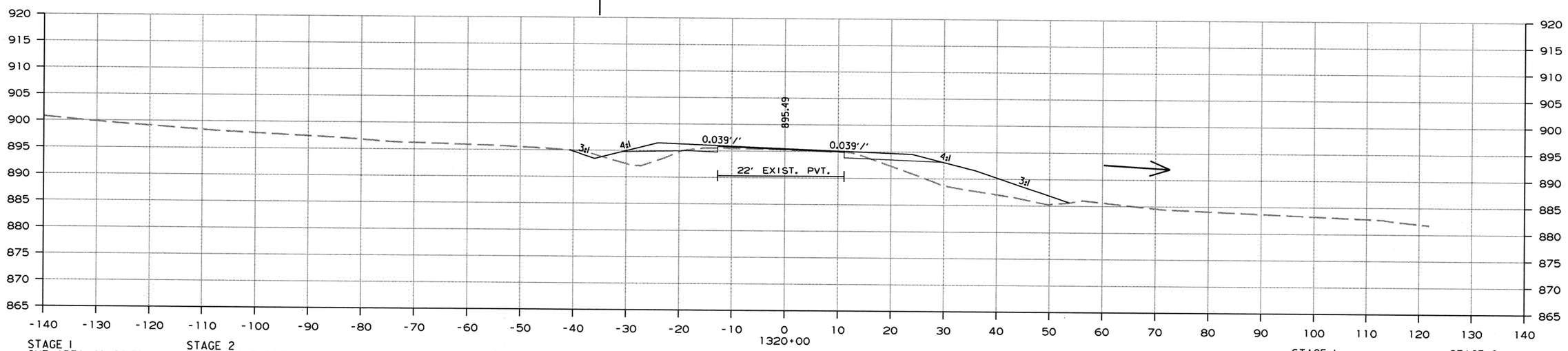
CROSS SECTION STA. 1317+87 TO STA. 1318+00

2/14/2020

R090517.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.		090517	88	148

(2) CROSS SECTIONS

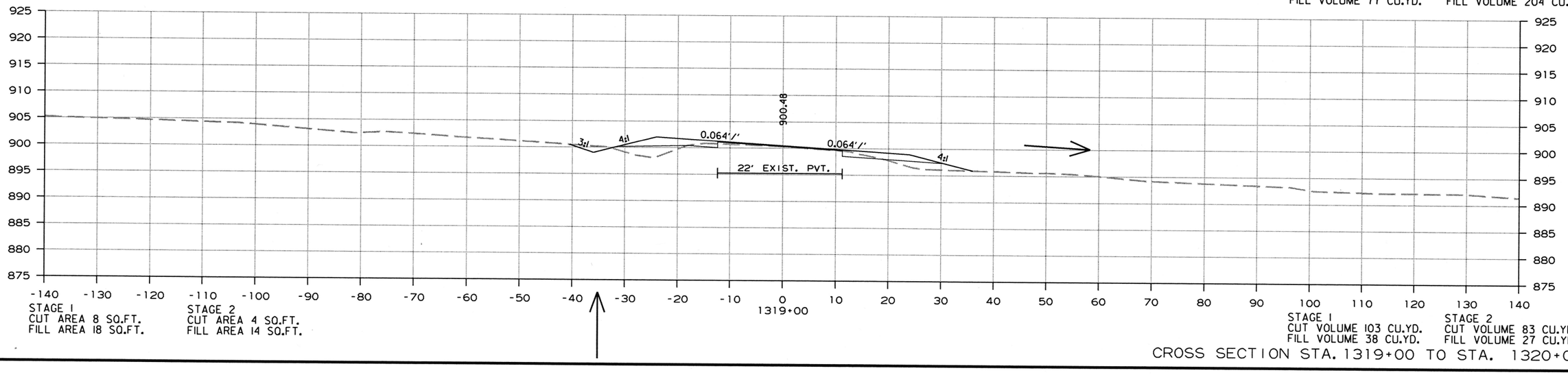


STAGE 1
CUT AREA 40 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 96 SQ.FT.

STAGE 1
CUT VOLUME 26 CU.YD.
FILL VOLUME 77 CU.YD.

STAGE 2
CUT VOLUME 14 CU.YD.
FILL VOLUME 204 CU.YD.



STAGE 1
CUT AREA 8 SQ.FT.
FILL AREA 18 SQ.FT.

STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 14 SQ.FT.

STAGE 1
CUT VOLUME 103 CU.YD.
FILL VOLUME 38 CU.YD.

STAGE 2
CUT VOLUME 83 CU.YD.
FILL VOLUME 27 CU.YD.

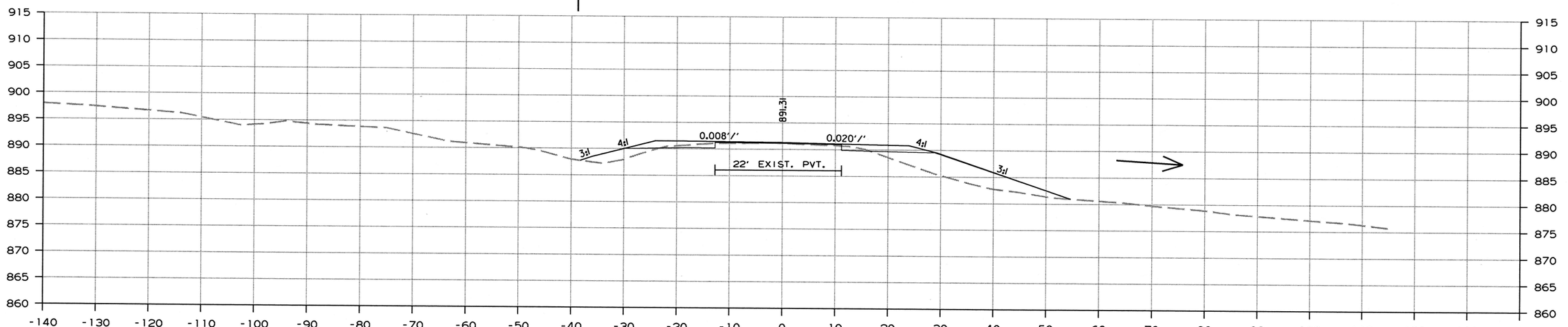
CROSS SECTION STA. 1319+00 TO STA. 1320+00

2/14/2020

R090517.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.		090517	89	148

(2) CROSS SECTIONS

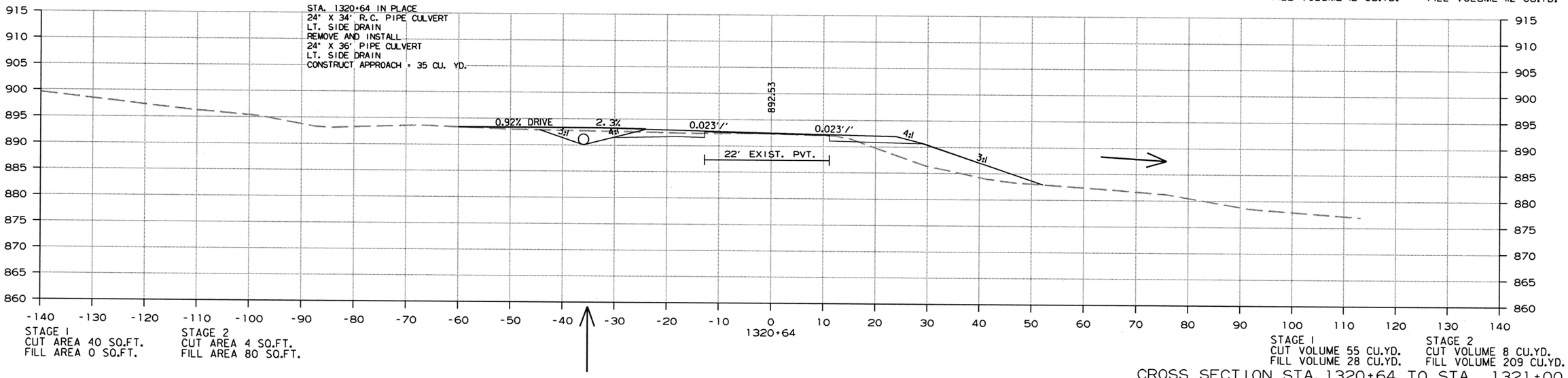


STAGE 1
CUT AREA 5 SQ.FT.
FILL AREA 19 SQ.FT.

STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 88 SQ.FT.

STAGE 1
CUT VOLUME 30 CU.YD.
FILL VOLUME 12 CU.YD.

STAGE 2
CUT VOLUME 4 CU.YD.
FILL VOLUME 112 CU.YD.



STAGE 1
CUT AREA 40 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 80 SQ.FT.

STAGE 1
CUT VOLUME 55 CU.YD.
FILL VOLUME 28 CU.YD.

STAGE 2
CUT VOLUME 8 CU.YD.
FILL VOLUME 209 CU.YD.

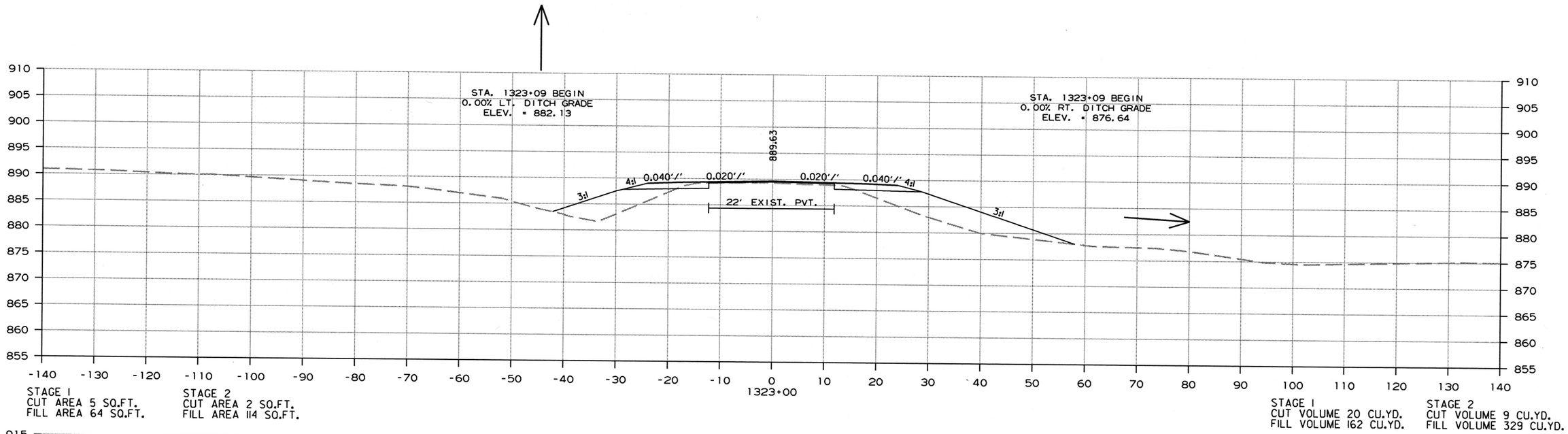
CROSS SECTION STA. 1320+64 TO STA. 1321+00

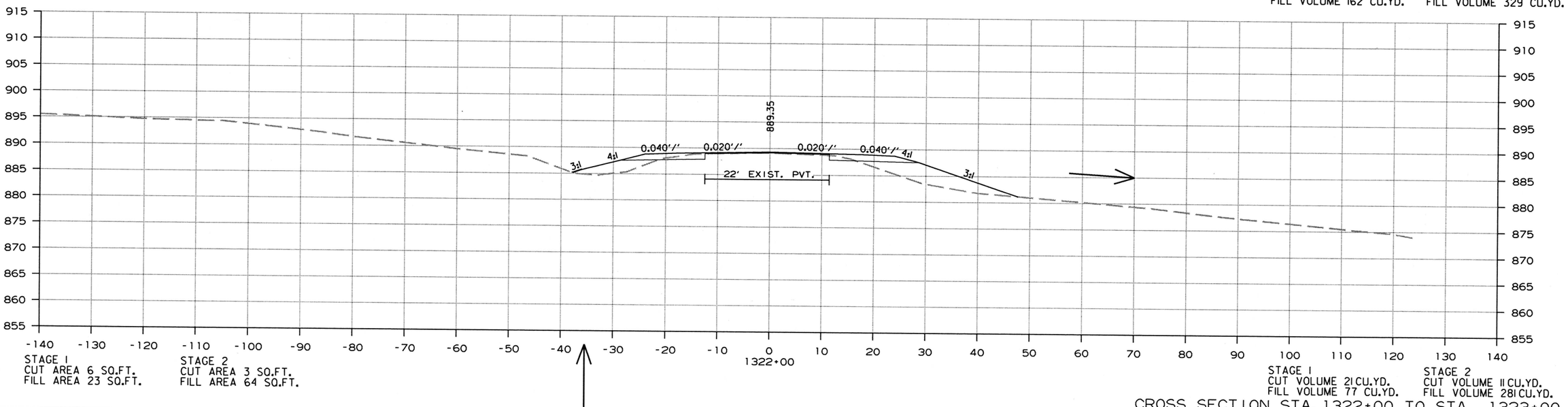
2/14/2020

R090517.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.		090517	90	148

(2) CROSS SECTIONS





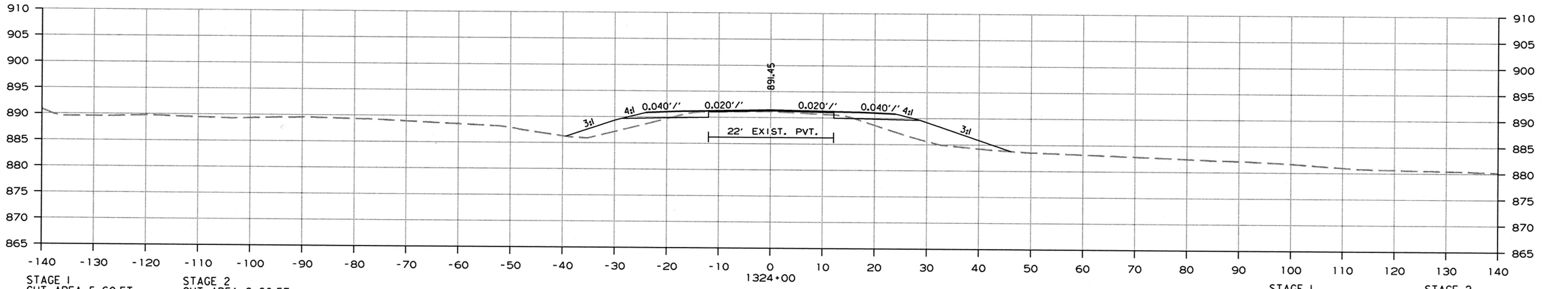
CROSS SECTION STA. 1322+00 TO STA. 1323+00

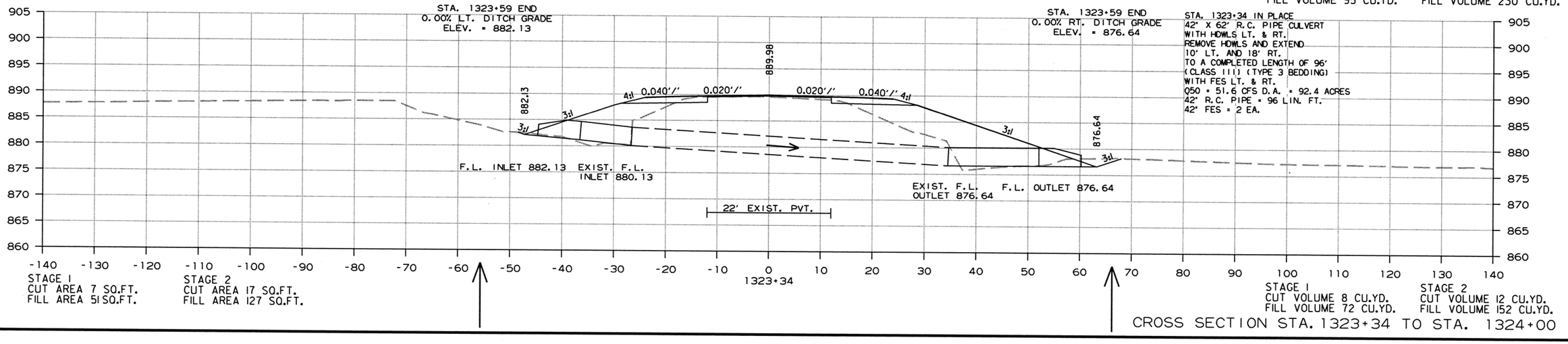
2/14/2020

R090517.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.		090517	91	148

(2) CROSS SECTIONS





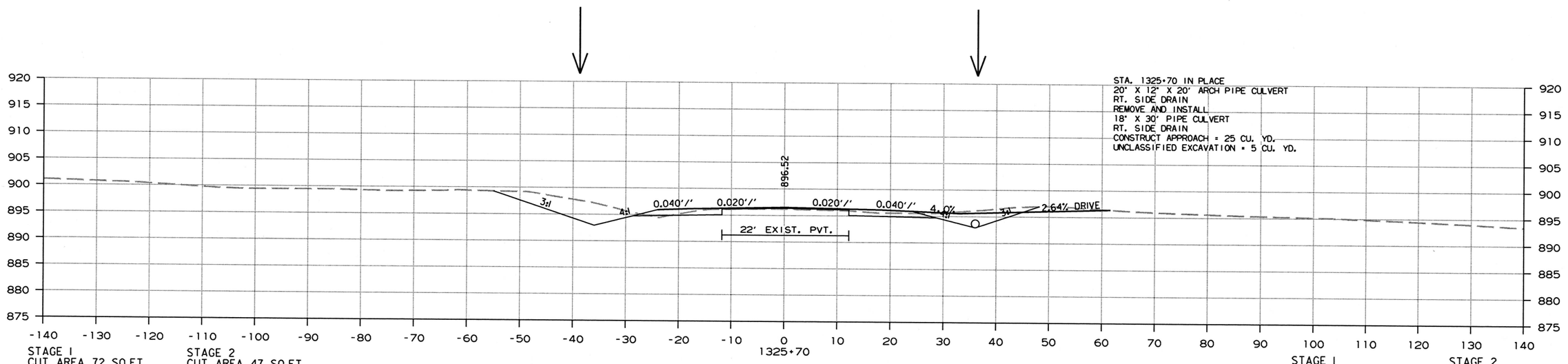
CROSS SECTION STA. 1323+34 TO STA. 1324+00

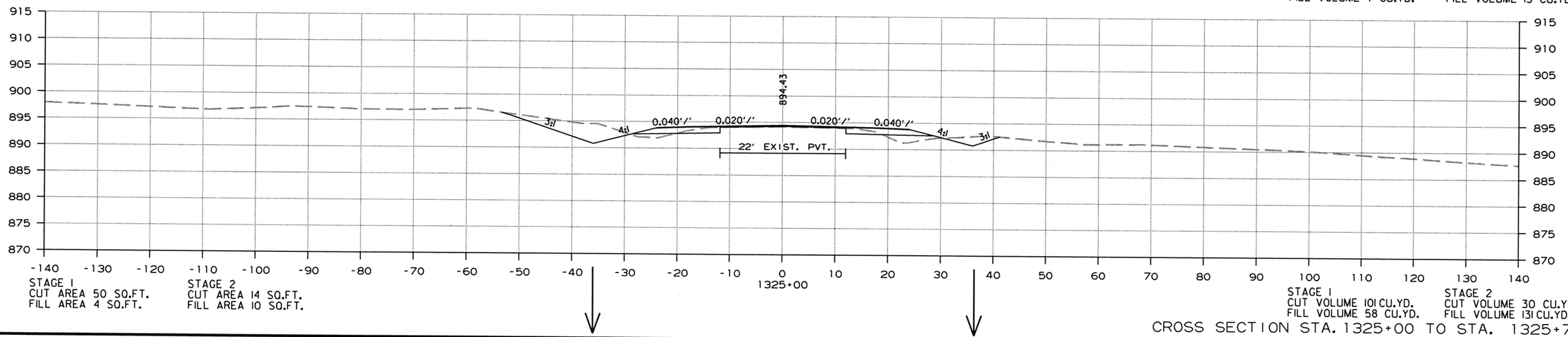
2/14/2020

R090517.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.		090517	92	148

(2) CROSS SECTIONS





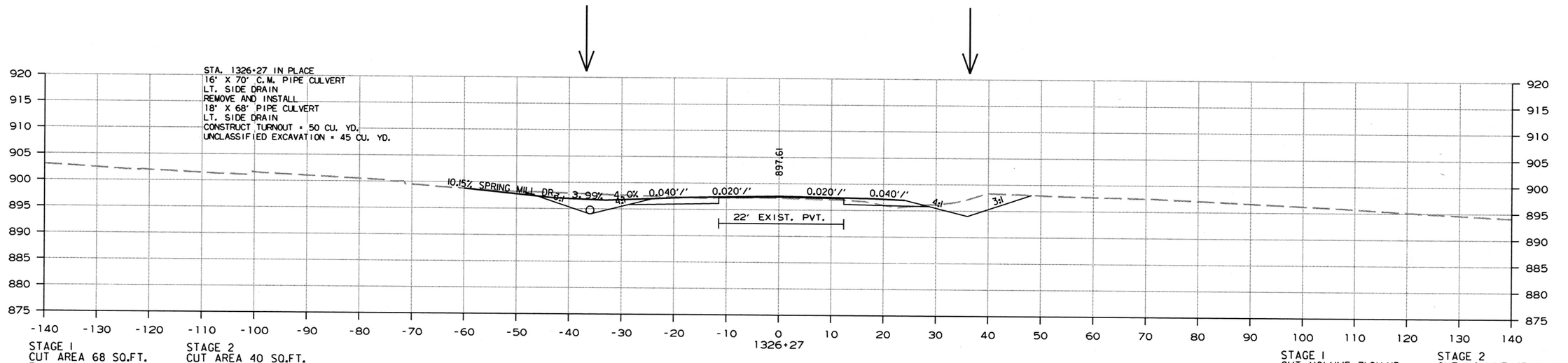
CROSS SECTION STA. 1325+00 TO STA. 1325+70

2/14/2020

R090517.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.		090517	93	148

(2) CROSS SECTIONS



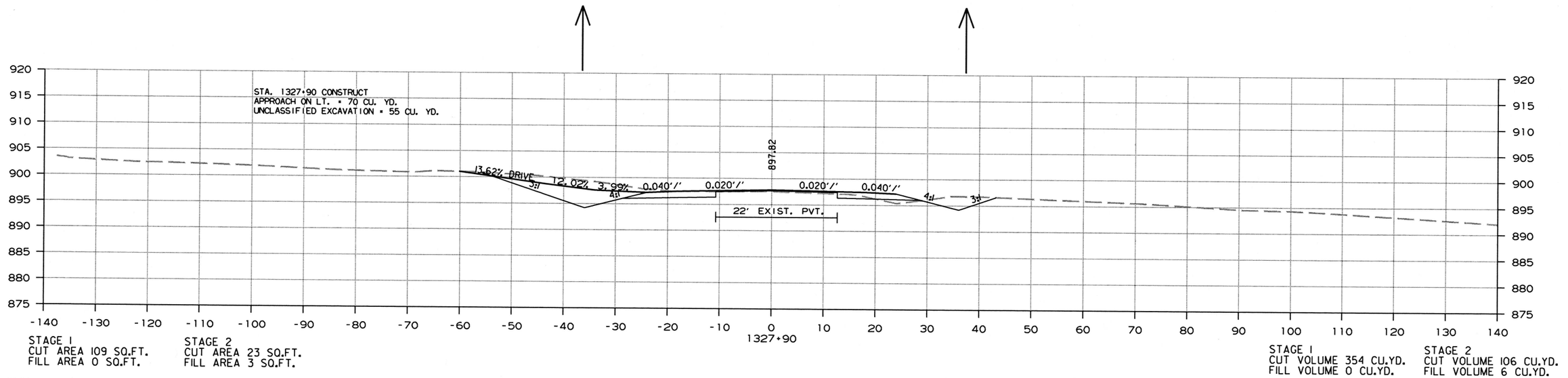
CROSS SECTION STA. 1326+00 TO STA. 1326+27

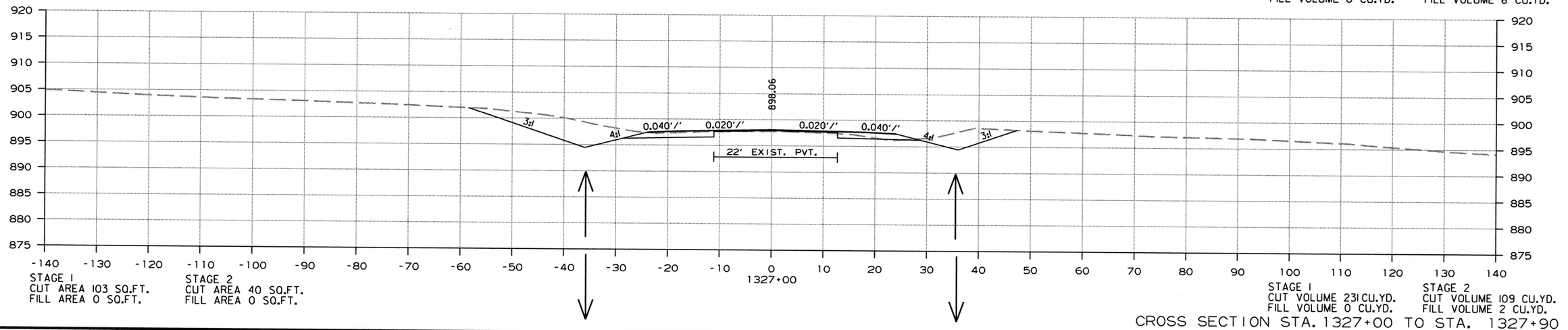
2/14/2020

R090517.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.		090517	94	148

(2) CROSS SECTIONS





CROSS SECTION STA. 1327+00 TO STA. 1327+90

2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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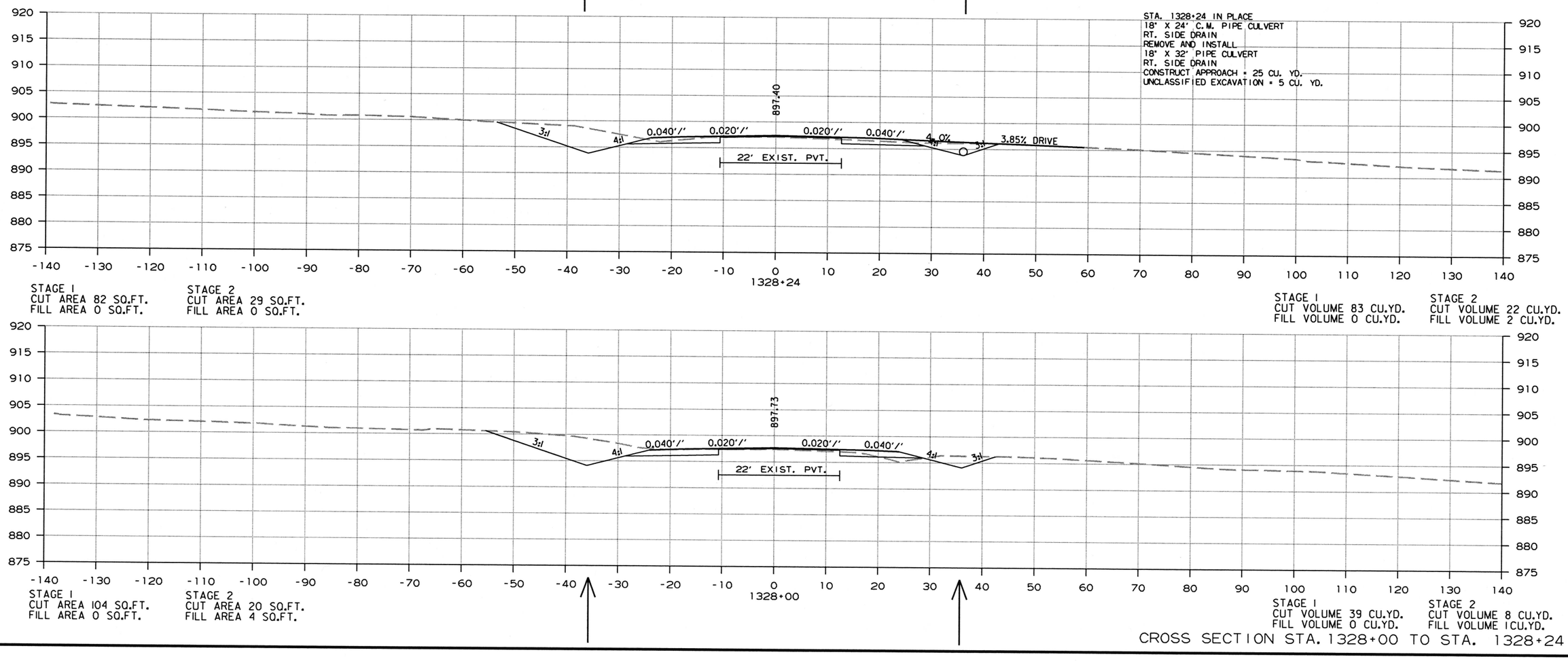
				JOB NO.		090517	95	148

(2) CROSS SECTIONS



CROSS SECTION STA. 1328+00 TO STA. 1328+24

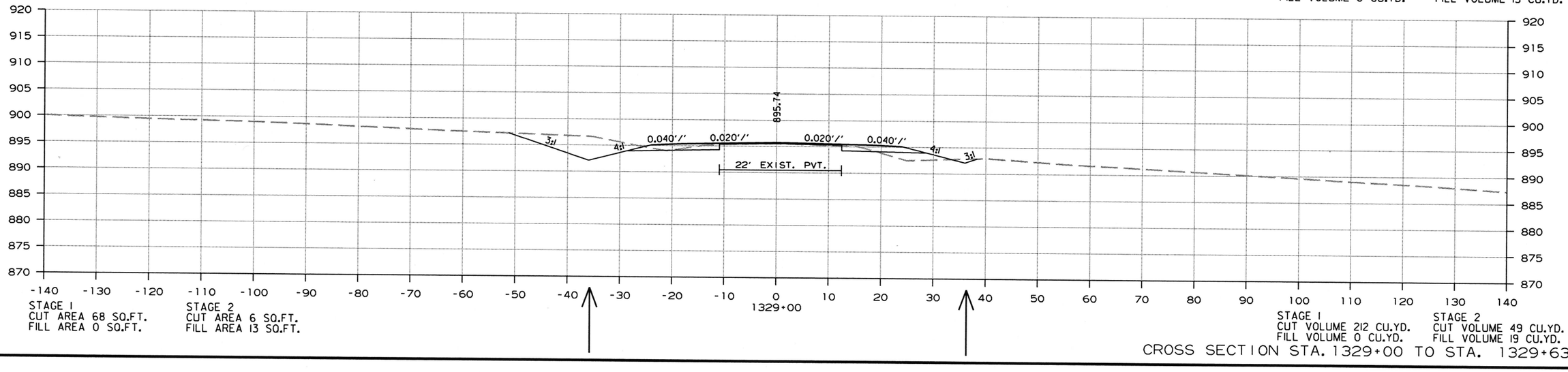
2/14/2020

R090517.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.		090517	96	148

(2) CROSS SECTIONS





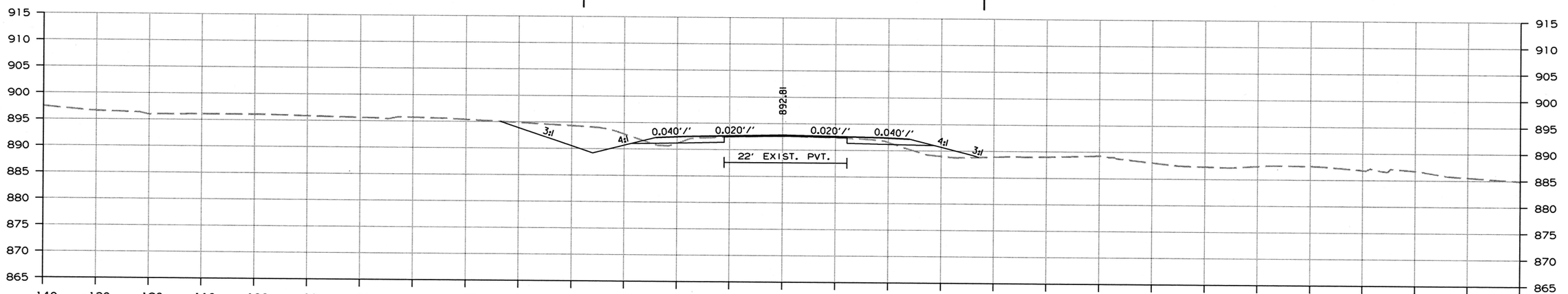
CROSS SECTION STA. 1329+00 TO STA. 1329+63

2/14/2020

R090517.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.		090517	97	148

(2) CROSS SECTIONS

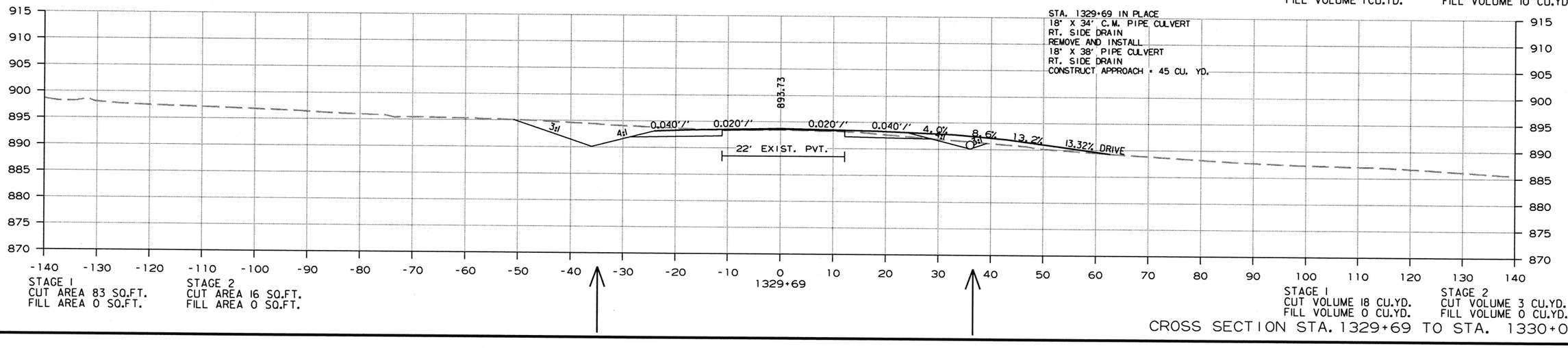


STAGE 1
CUT AREA 76 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 18 SQ.FT.

STAGE 1
CUT VOLUME 91 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 2
CUT VOLUME 13 CU.YD.
FILL VOLUME 10 CU.YD.



STAGE 1
CUT AREA 83 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 16 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 18 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 3 CU.YD.
FILL VOLUME 0 CU.YD.

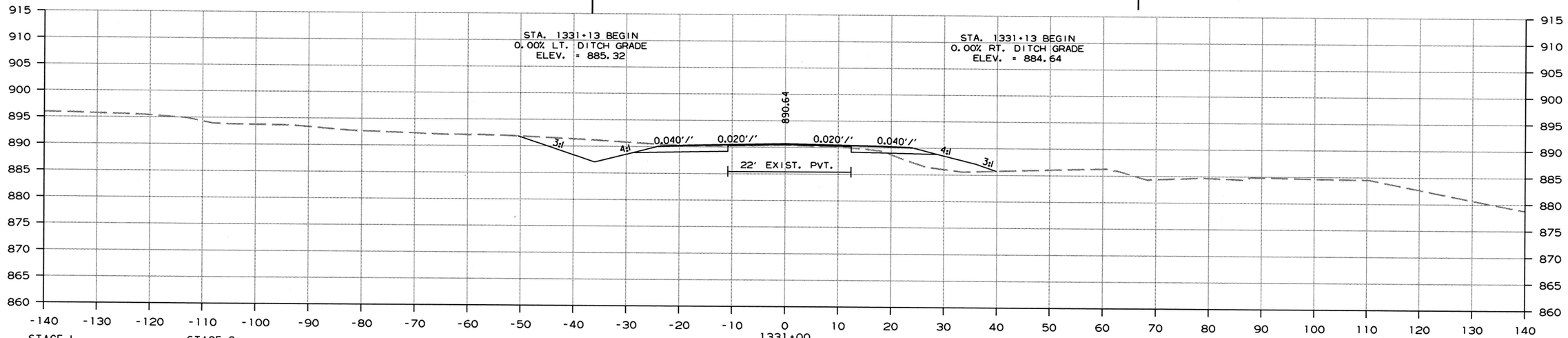
CROSS SECTION STA. 1329+69 TO STA. 1330+00

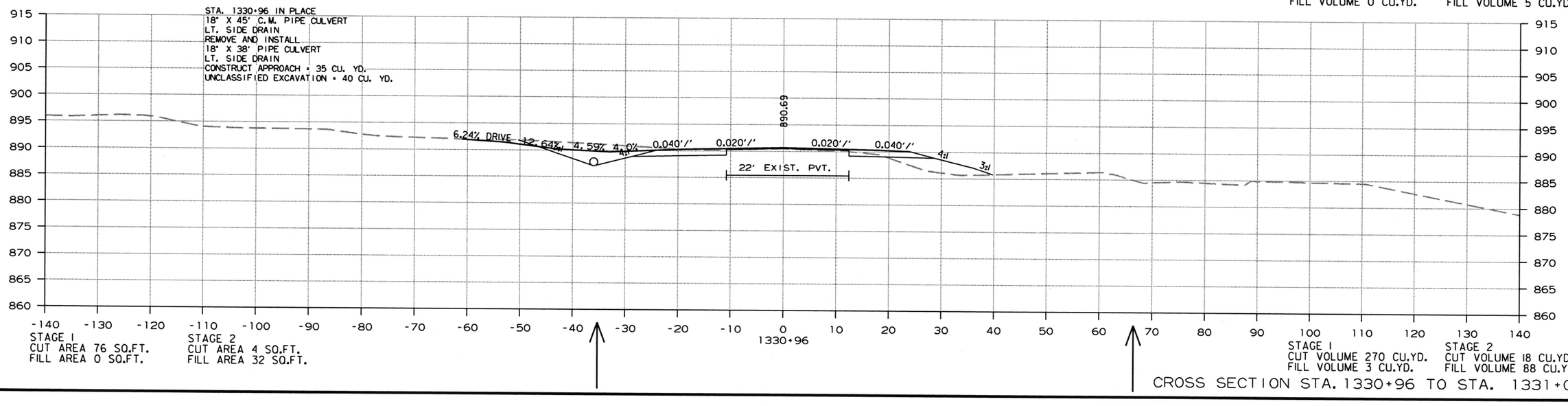
2/14/2020

R090517.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.		090517	98	148

(2) CROSS SECTIONS





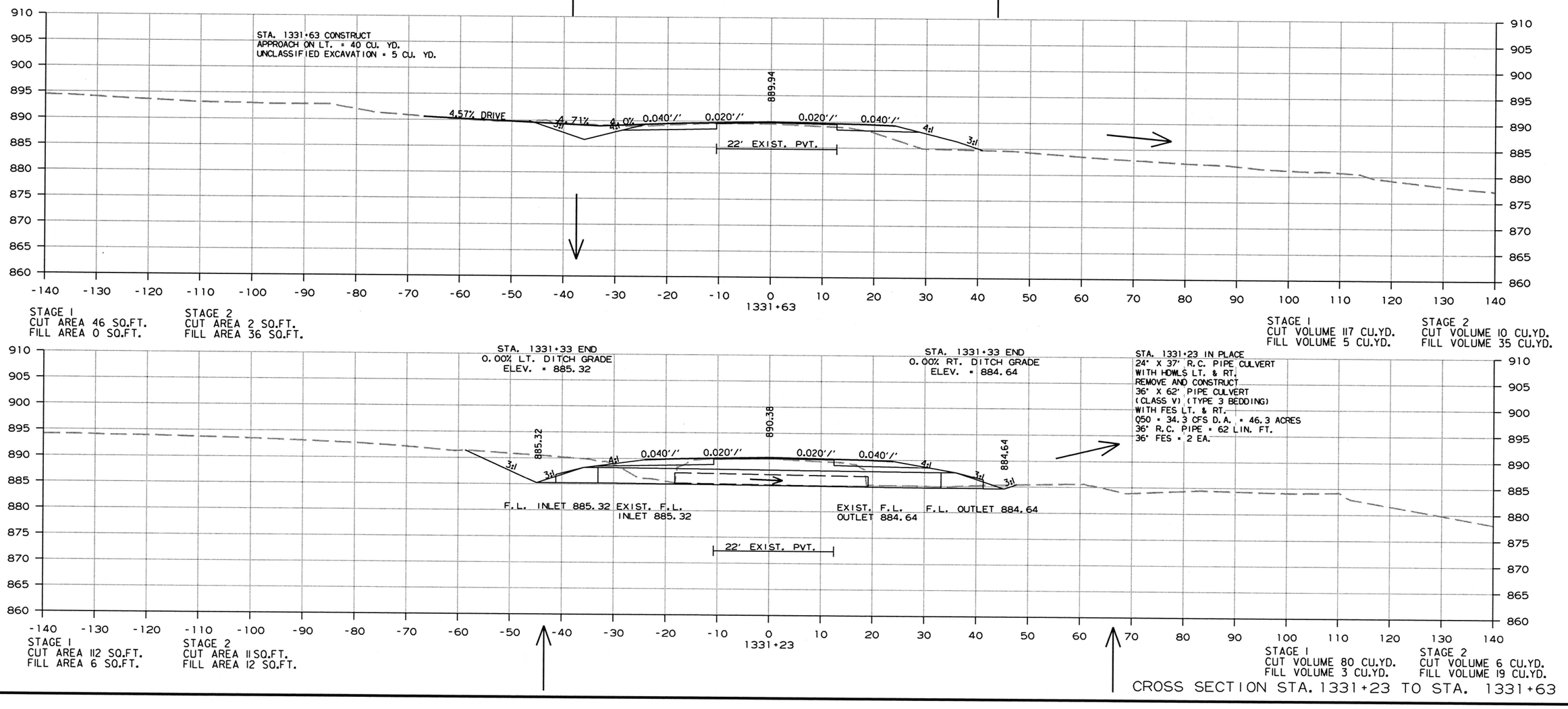
CROSS SECTION STA. 1330+96 TO STA. 1331+00

2/14/2020

R090517.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.		090517	99	148

(2) CROSS SECTIONS

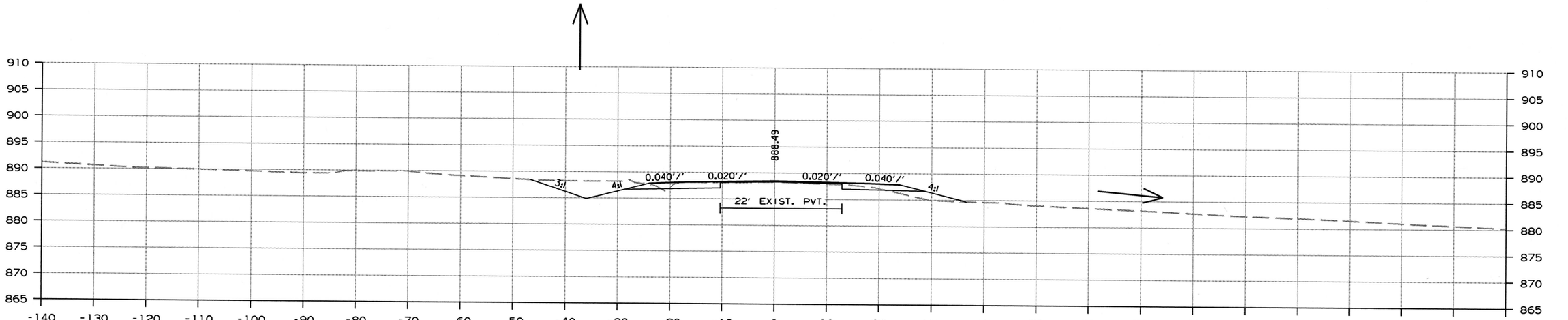


2/14/2020

R090517.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.		090517	100	148

(2) CROSS SECTIONS

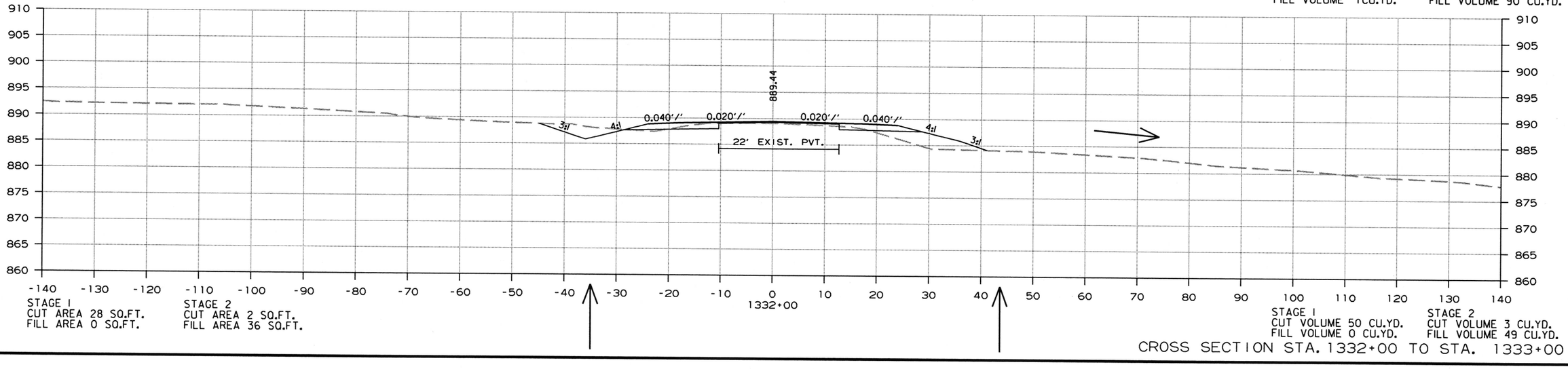


STAGE 1
CUT AREA 53 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 5 SQ.FT.
FILL AREA 13 SQ.FT.

STAGE 1
CUT VOLUME 149 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 2
CUT VOLUME 13 CU.YD.
FILL VOLUME 90 CU.YD.



STAGE 1
CUT AREA 28 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 2 SQ.FT.
FILL AREA 36 SQ.FT.

STAGE 1
CUT VOLUME 50 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 3 CU.YD.
FILL VOLUME 49 CU.YD.

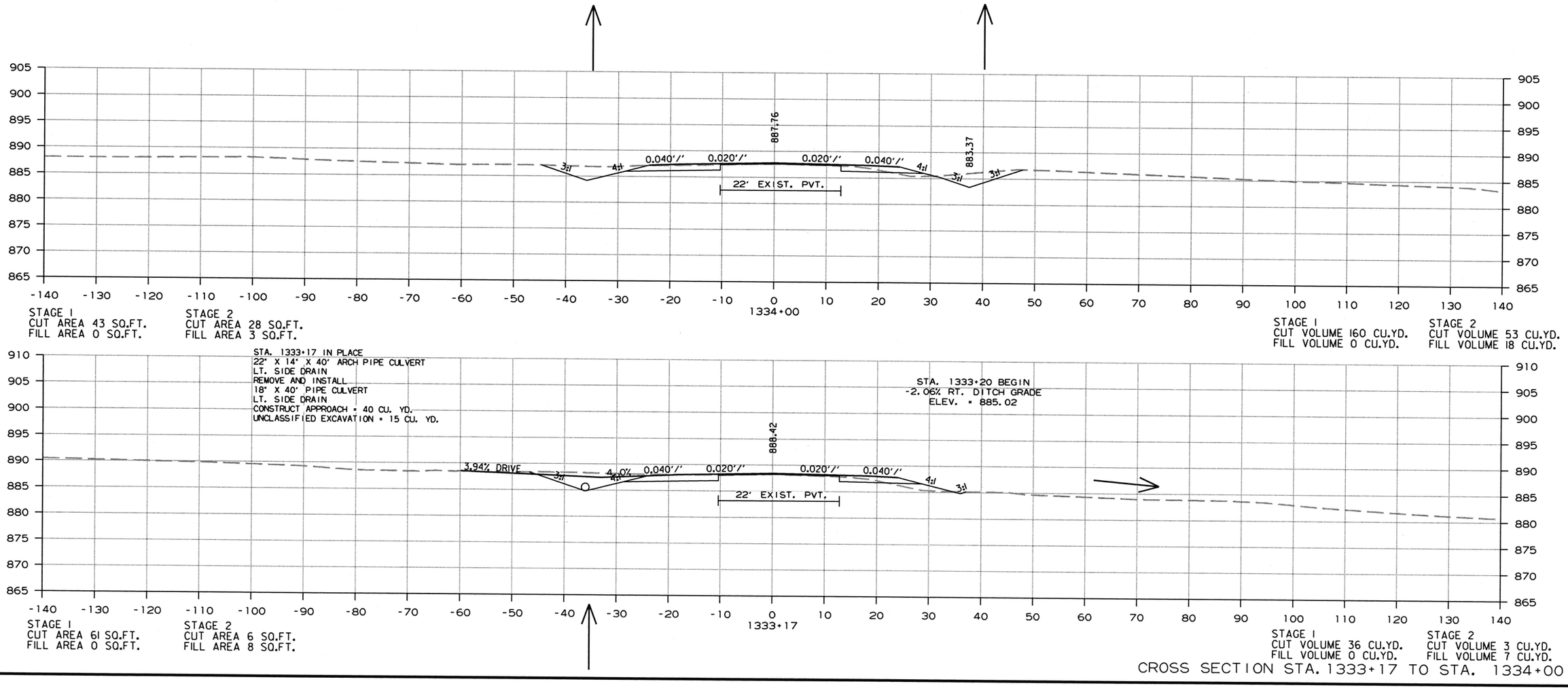
CROSS SECTION STA. 1332+00 TO STA. 1333+00

2/14/2020

R090517.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.		090517	101	148

(2) CROSS SECTIONS



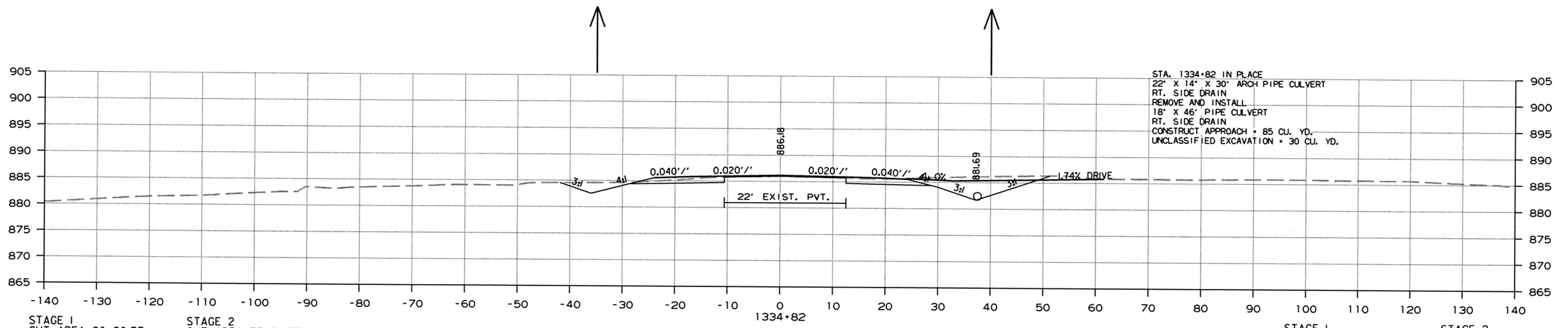
CROSS SECTION STA. 1333+17 TO STA. 1334+00

2/14/2020

R090517.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.		090517	102	148

(2) CROSS SECTIONS

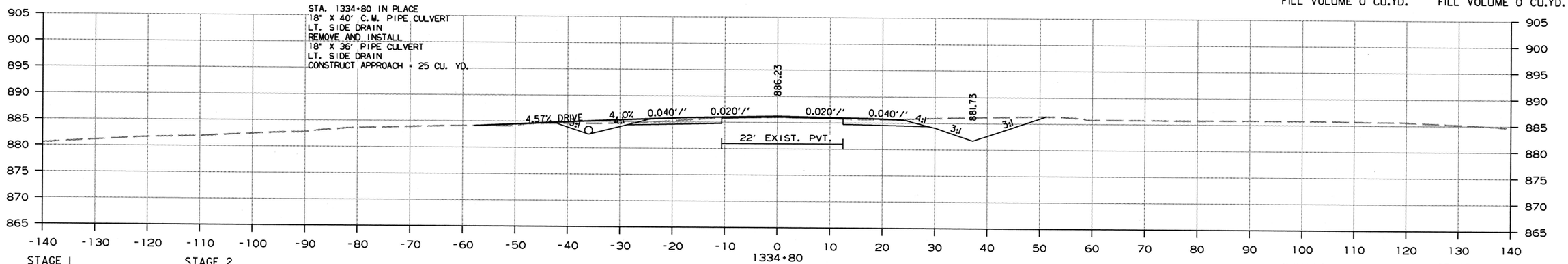


STAGE 1
CUT AREA 26 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 75 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 2 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 6 CU.YD.
FILL VOLUME 0 CU.YD.

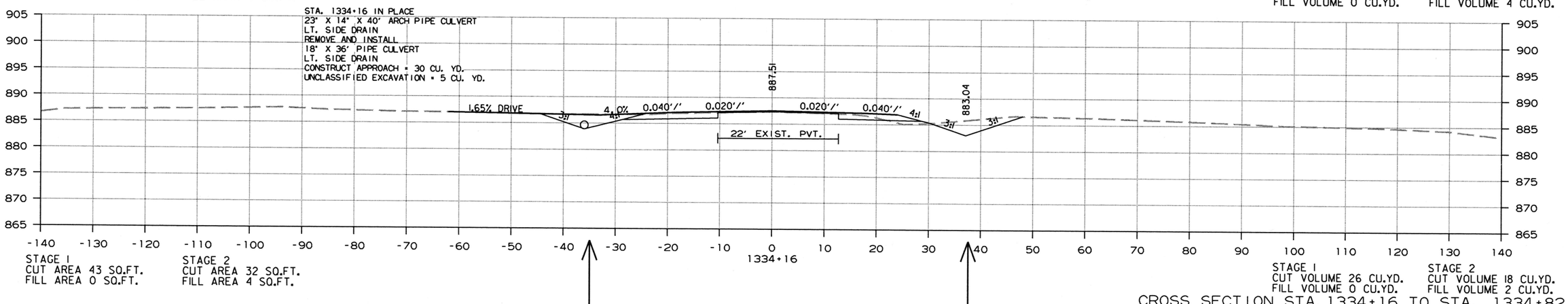


STAGE 1
CUT AREA 27 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 74 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 83 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 126 CU.YD.
FILL VOLUME 4 CU.YD.



STAGE 1
CUT AREA 43 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 32 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 1
CUT VOLUME 26 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 18 CU.YD.
FILL VOLUME 2 CU.YD.

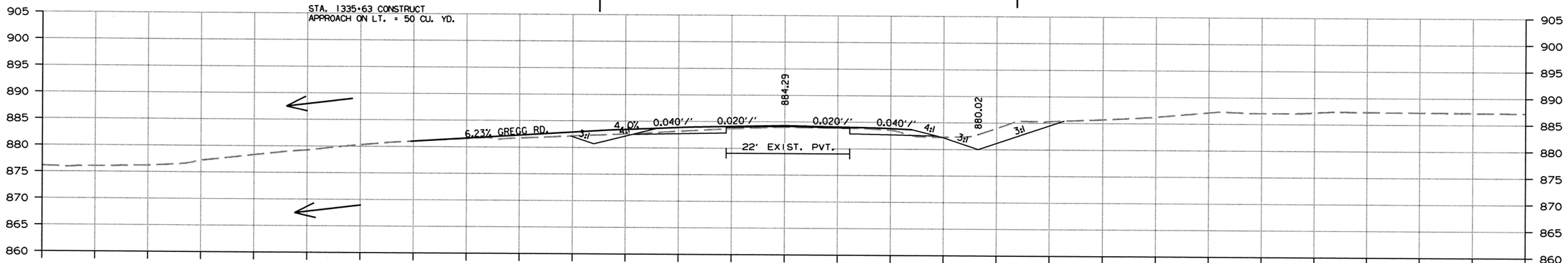
CROSS SECTION STA. 1334+16 TO STA. 1334+82

2/14/2020

R090517.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.		090517	103	148

(2) CROSS SECTIONS



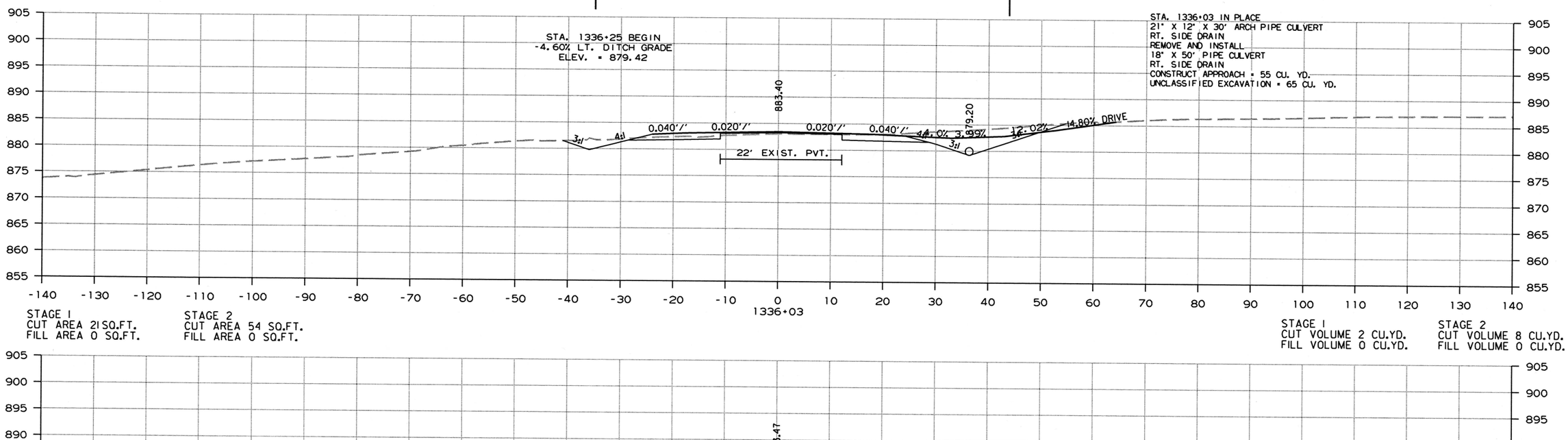
CROSS SECTION STA. 1335+00 TO STA. 1335+63

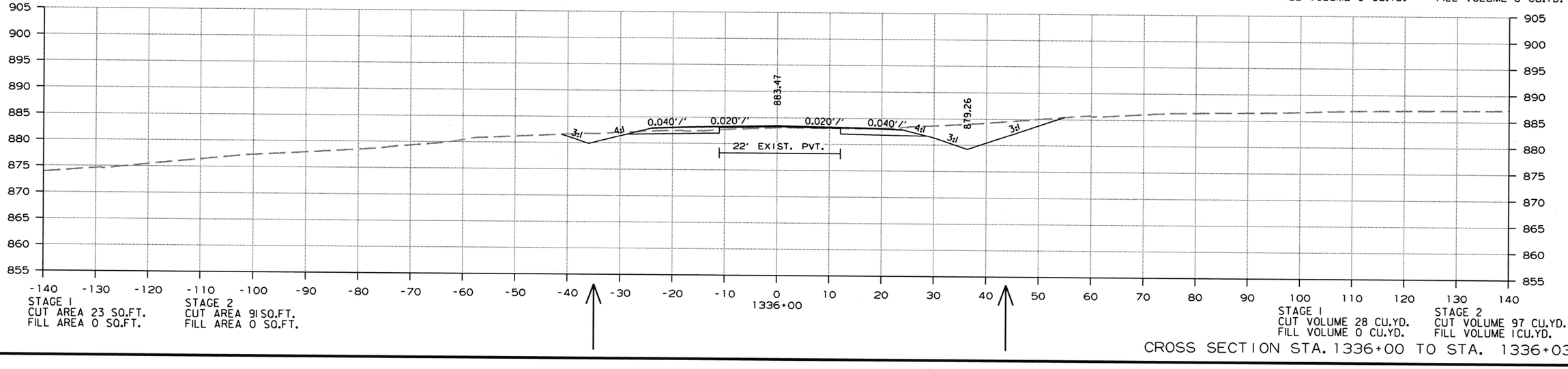
2/14/2020

R090517.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.		090517	104	148

(2) CROSS SECTIONS





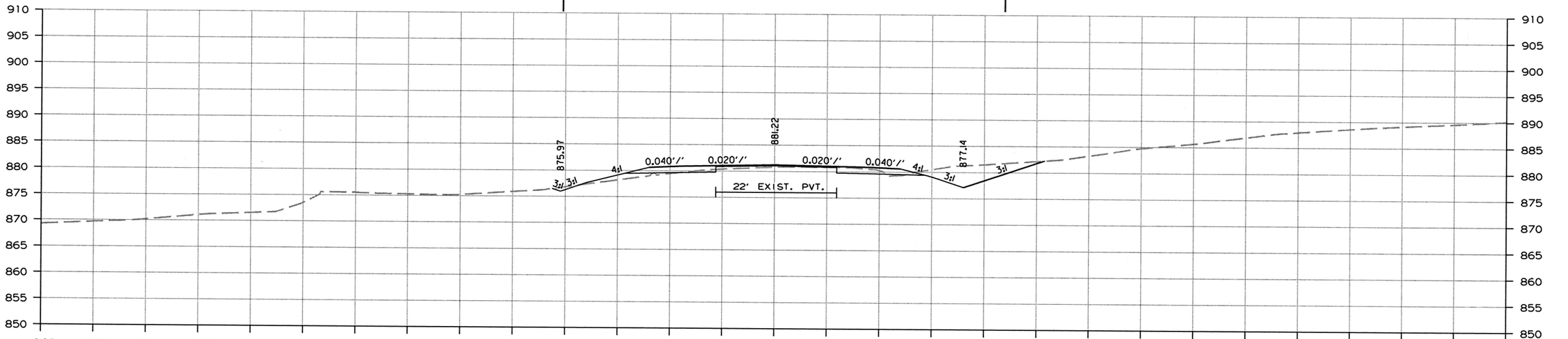
CROSS SECTION STA. 1336+00 TO STA. 1336+03

2/14/2020

R090517.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.		090517	105	148

(2) CROSS SECTIONS

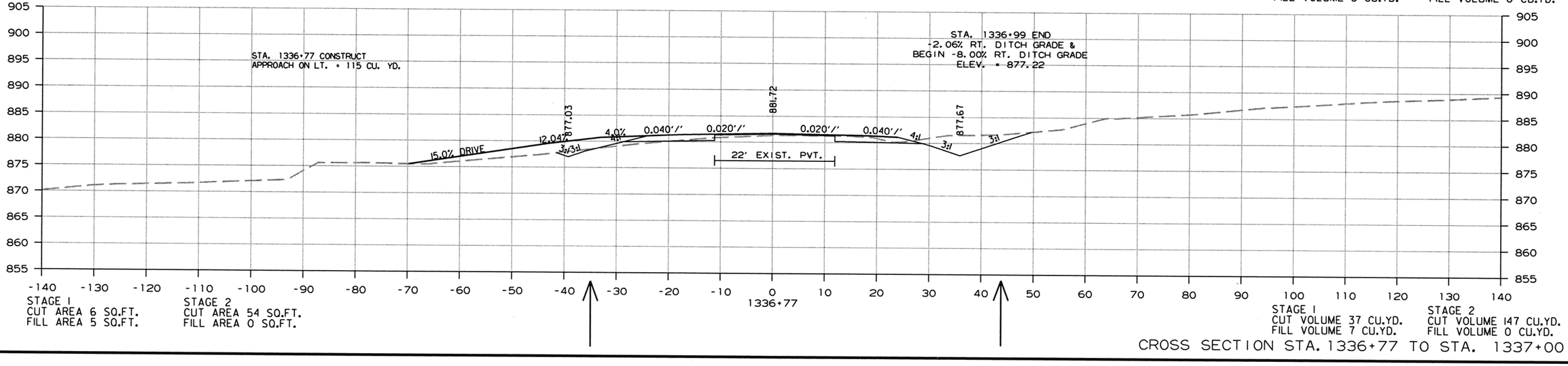


STAGE 1
CUT AREA 4 SQ.FT.
FILL AREA 10 SQ.FT.

STAGE 2
CUT AREA 59 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 4 CU.YD.
FILL VOLUME 6 CU.YD.

STAGE 2
CUT VOLUME 48 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 2
CUT AREA 54 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 37 CU.YD.
FILL VOLUME 7 CU.YD.

STAGE 2
CUT VOLUME 147 CU.YD.
FILL VOLUME 0 CU.YD.

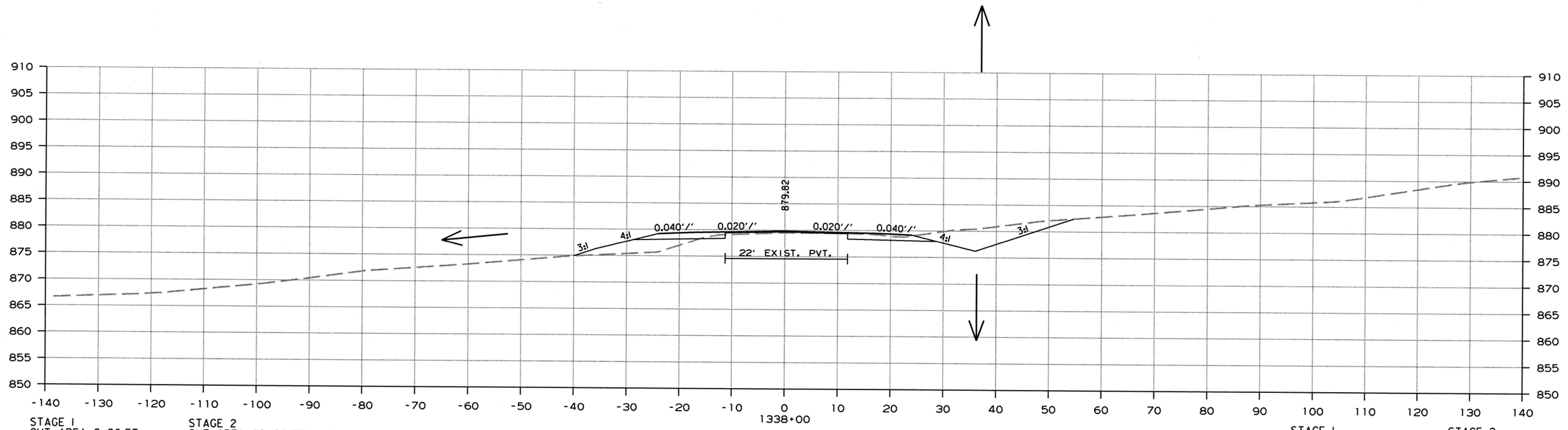
CROSS SECTION STA. 1336+77 TO STA. 1337+00

2/14/2020

R090517.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.		090517	106	148

(2) CROSS SECTIONS



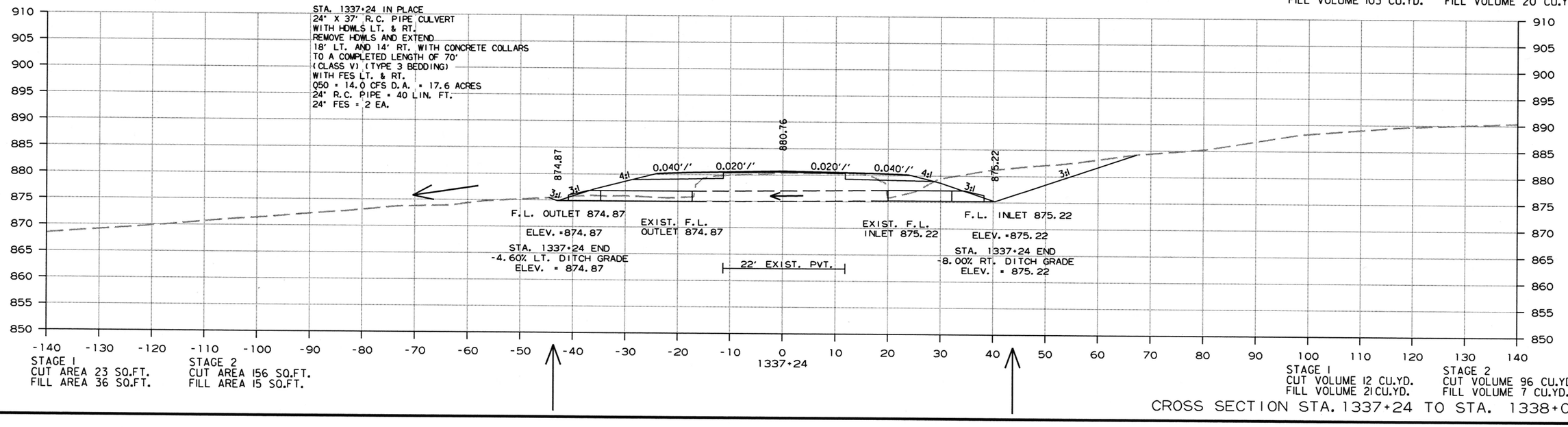
STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 37 SQ.FT.

STAGE 2
CUT AREA 80 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 36 CU.YD.
FILL VOLUME 103 CU.YD.

STAGE 2
CUT VOLUME 332 CU.YD.
FILL VOLUME 20 CU.YD.

STA. 1337+24 IN PLACE
24" X 37' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS AND EXTEND
18' LT. AND 14' RT. WITH CONCRETE COLLARS
TO A COMPLETED LENGTH OF 70'
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 14.0 CFS D.A. = 17.6 ACRES
24" R.C. PIPE = 40 LIN. FT.
24" FES = 2 EA.



STAGE 1
CUT AREA 23 SQ.FT.
FILL AREA 36 SQ.FT.

STAGE 2
CUT AREA 156 SQ.FT.
FILL AREA 15 SQ.FT.

STAGE 1
CUT VOLUME 12 CU.YD.
FILL VOLUME 21CU.YD.

STAGE 2
CUT VOLUME 96 CU.YD.
FILL VOLUME 7 CU.YD.

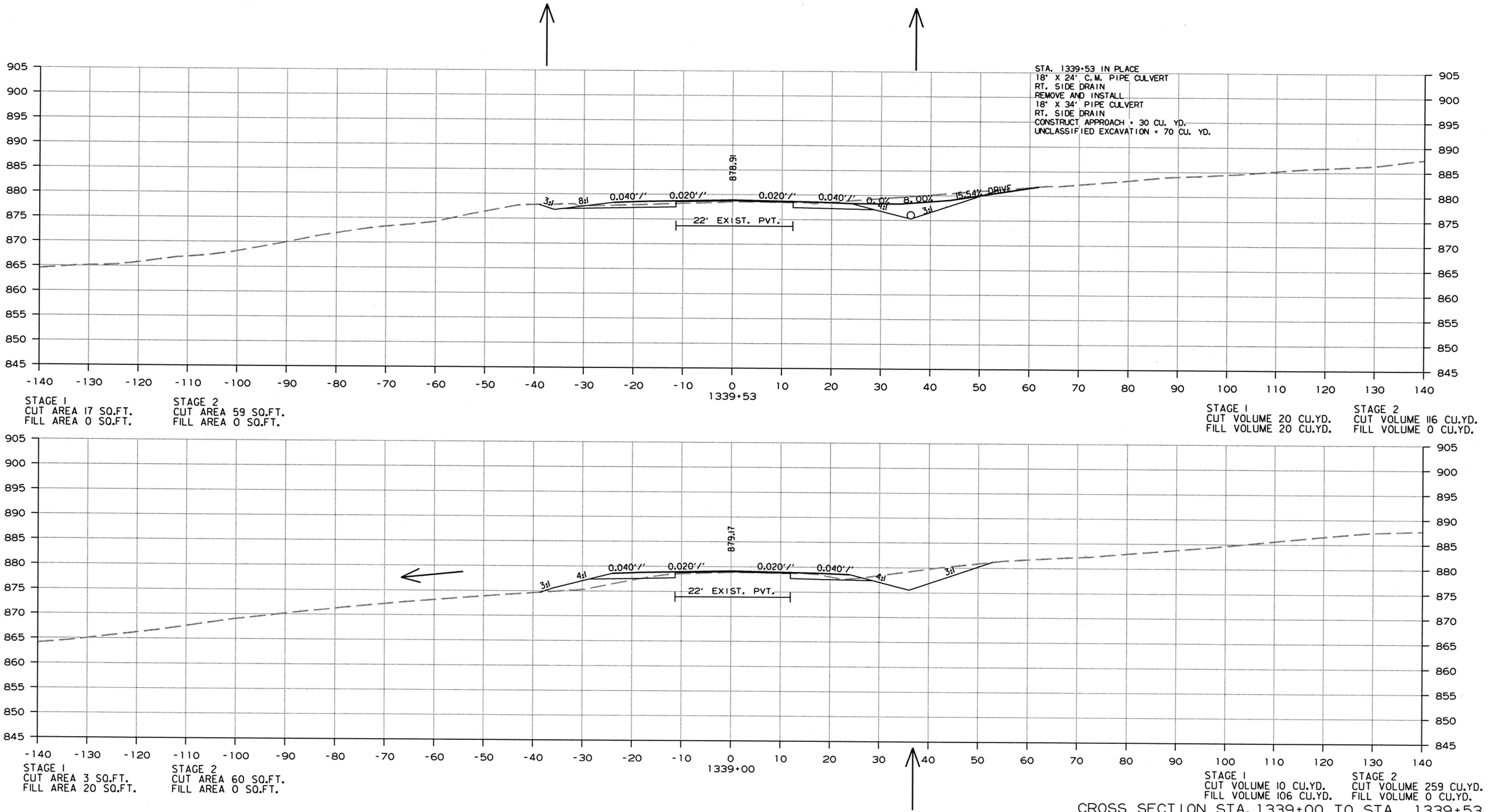
CROSS SECTION STA. 1337+24 TO STA. 1338+00

2/14/2020

R090517.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.		090517	107	148

(2) CROSS SECTIONS



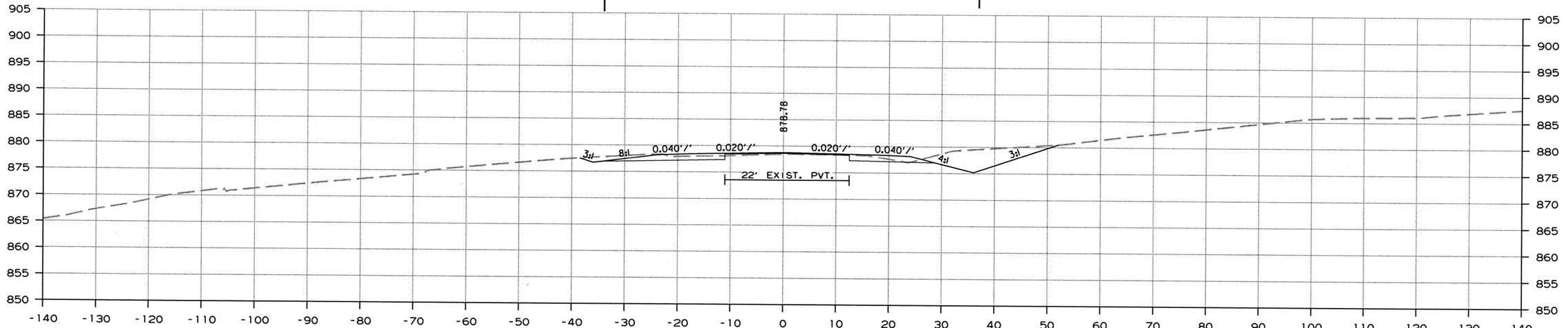
CROSS SECTION STA. 1339+00 TO STA. 1339+53

2/14/2020

R090517.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.		090517	108	148

(2) CROSS SECTIONS

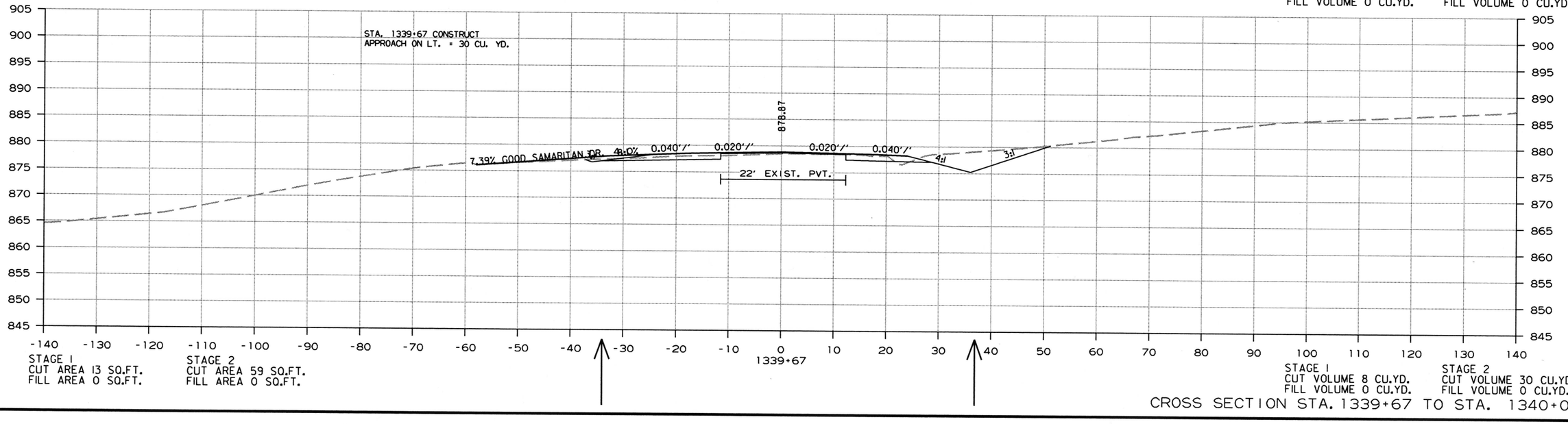


STAGE 1
CUT AREA 25 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 68 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 23 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 77 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 13 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 59 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 8 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 30 CU.YD.
FILL VOLUME 0 CU.YD.

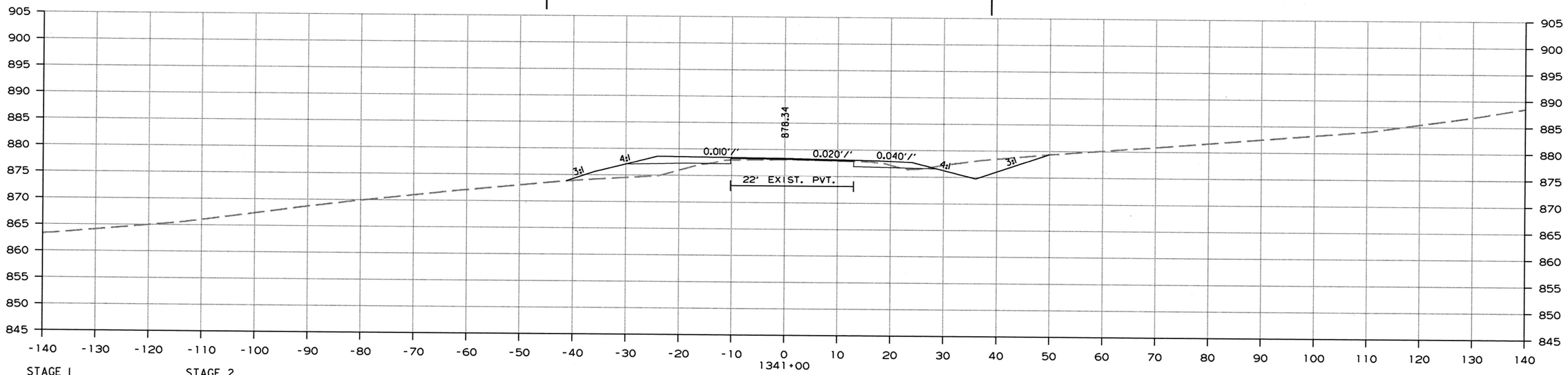
CROSS SECTION STA. 1339+67 TO STA. 1340+00

2/14/2020

R090517.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.		090517	109	148

(2) CROSS SECTIONS

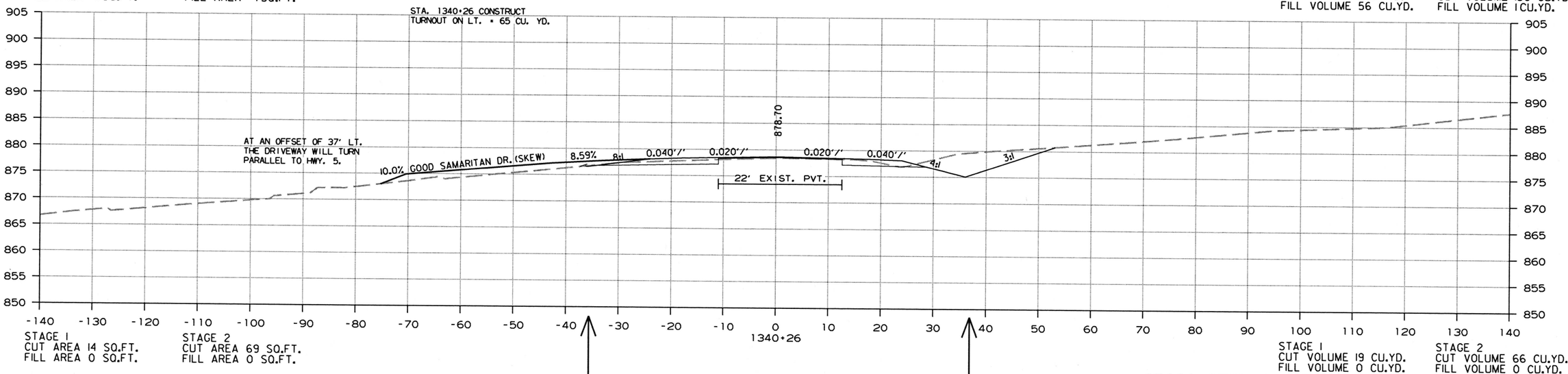


STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 41 SQ.FT.

STAGE 2
CUT AREA 44 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 21 CU.YD.
FILL VOLUME 56 CU.YD.

STAGE 2
CUT VOLUME 156 CU.YD.
FILL VOLUME 1 CU.YD.



STAGE 1
CUT AREA 14 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 69 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 19 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 66 CU.YD.
FILL VOLUME 0 CU.YD.

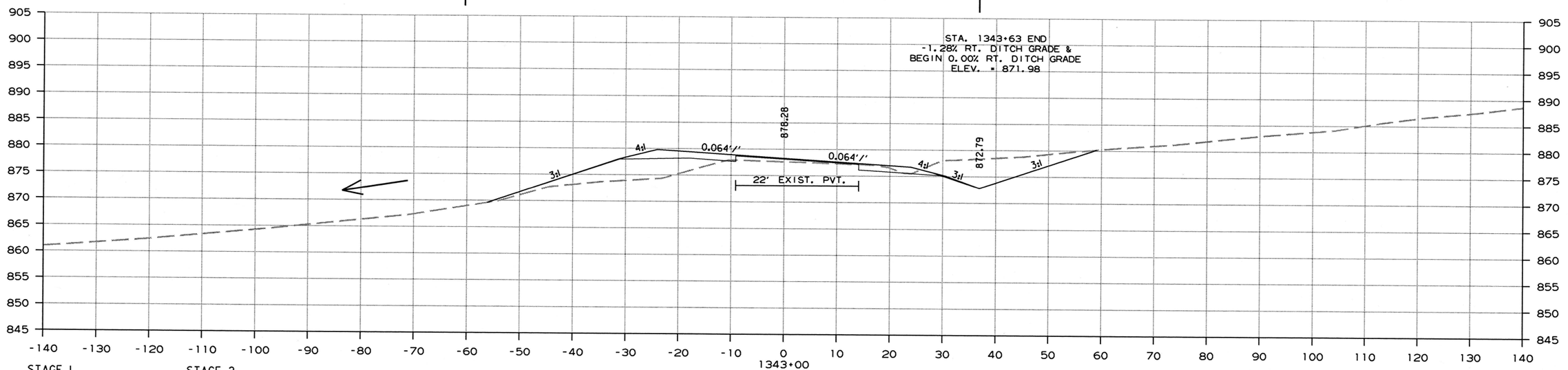
CROSS SECTION STA. 1340+26 TO STA. 1341+00

2/14/2020

R090517.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.		090517	110	148

(2) CROSS SECTIONS

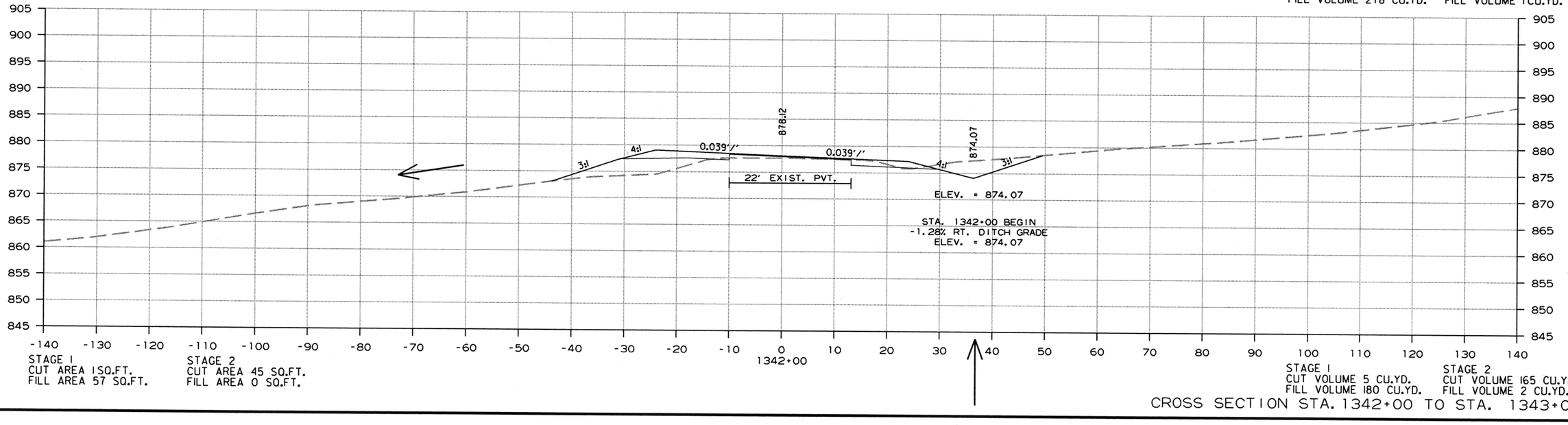


STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 93 SQ.FT.

STAGE 2
CUT AREA 104 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 2 CU.YD.
FILL VOLUME 278 CU.YD.

STAGE 2
CUT VOLUME 275 CU.YD.
FILL VOLUME 1CU.YD.



STAGE 1
CUT AREA 150 SQ.FT.
FILL AREA 57 SQ.FT.

STAGE 2
CUT AREA 45 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 180 CU.YD.

STAGE 2
CUT VOLUME 165 CU.YD.
FILL VOLUME 2 CU.YD.

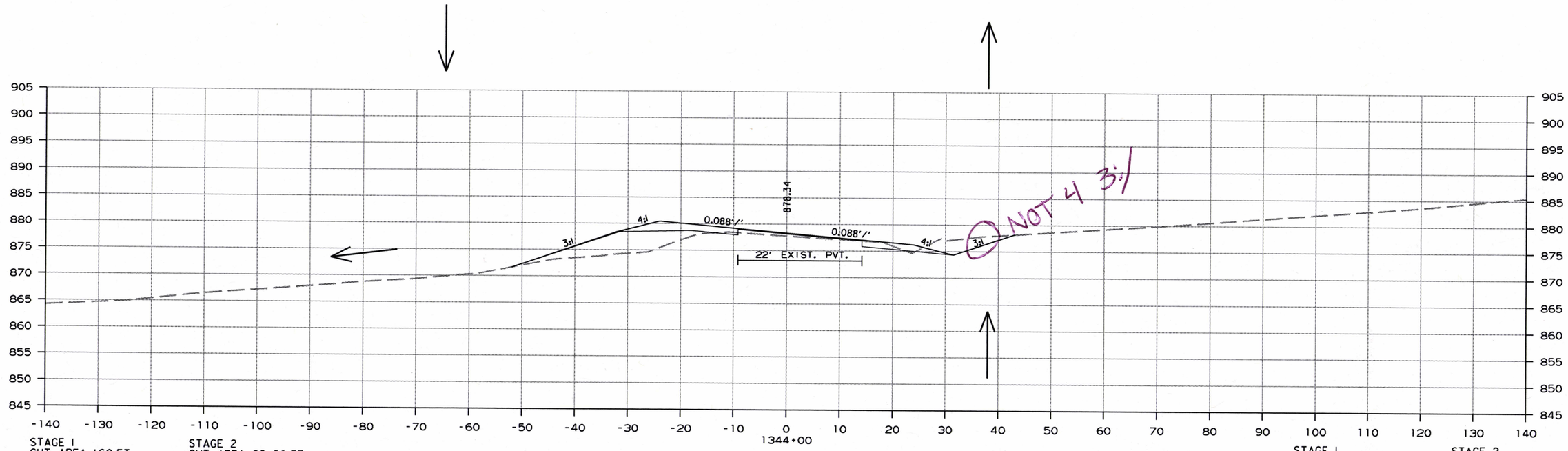
CROSS SECTION STA. 1342+00 TO STA. 1343+00

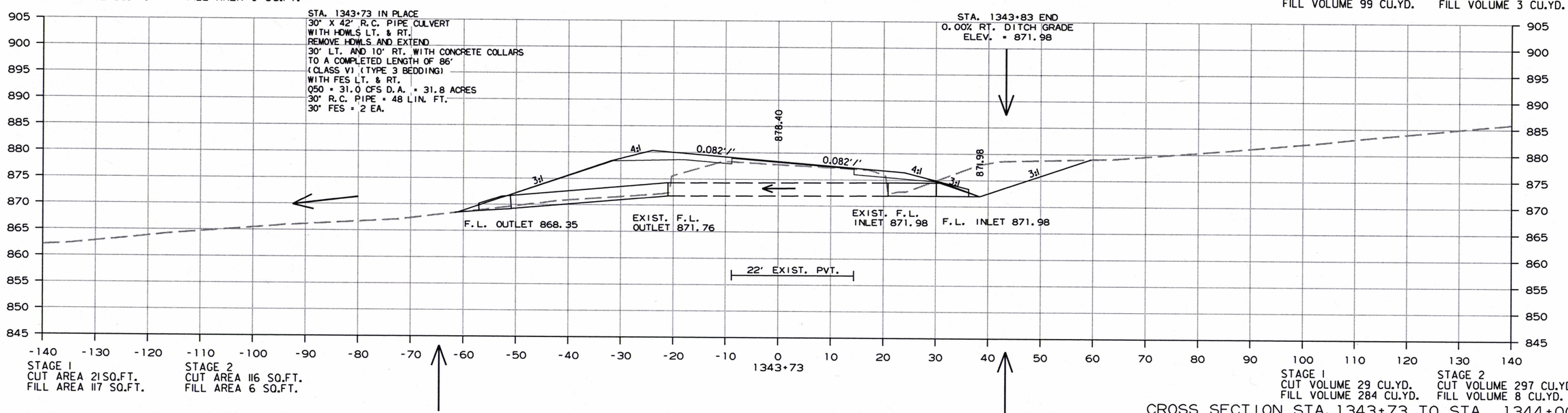
2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	111	148

(2) CROSS SECTIONS





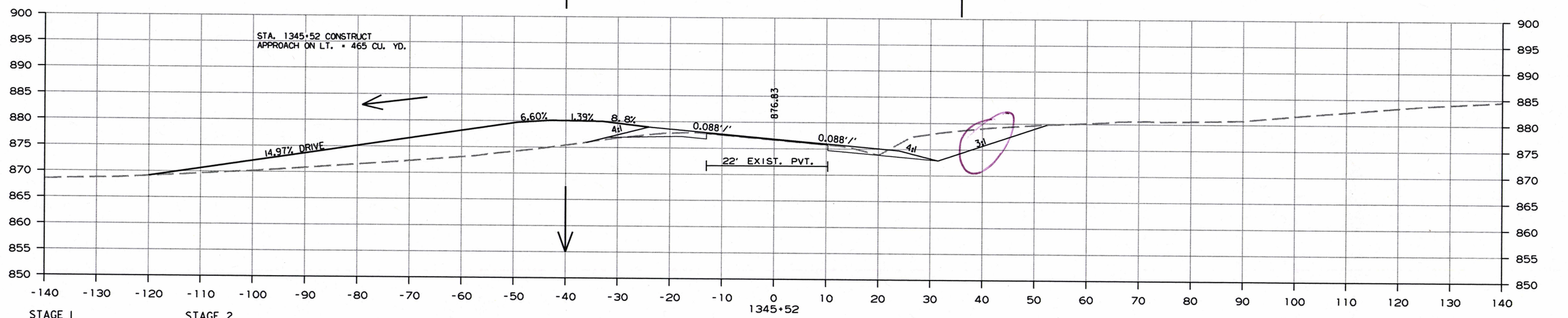
CROSS SECTION STA. 1343+73 TO STA. 1344+00

2/14/2020

R090517.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.		090517	112	148

(2) CROSS SECTIONS

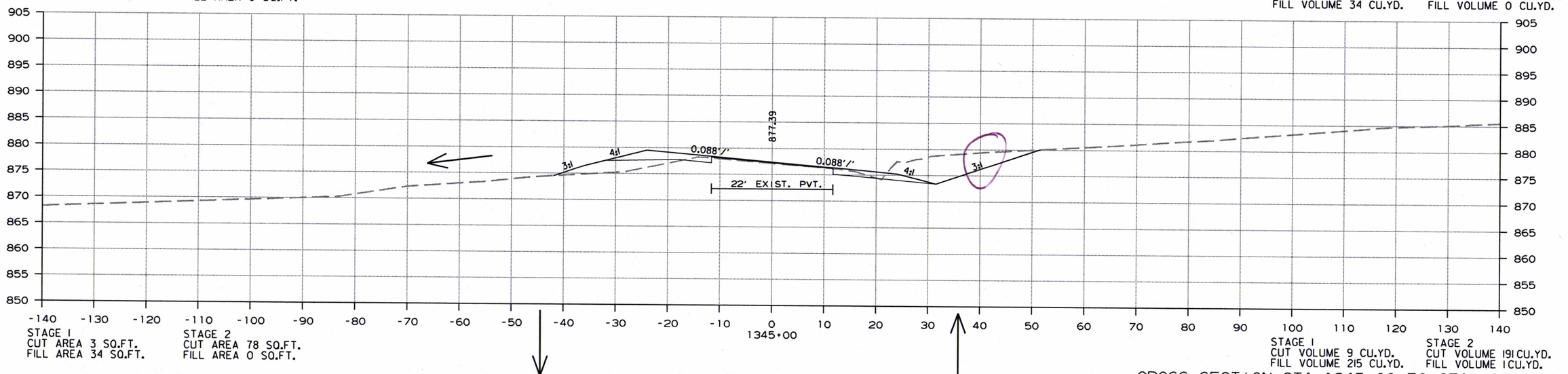


STAGE 1
CUT AREA 9 SQ.FT.
FILL AREA 1SQ.FT.

STAGE 2
CUT AREA 80 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 12 CU.YD.
FILL VOLUME 34 CU.YD.

STAGE 2
CUT VOLUME 153 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 3 SQ.FT.
FILL AREA 34 SQ.FT.

STAGE 2
CUT AREA 78 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 9 CU.YD.
FILL VOLUME 215 CU.YD.

STAGE 2
CUT VOLUME 191 CU.YD.
FILL VOLUME 1 CU.YD.

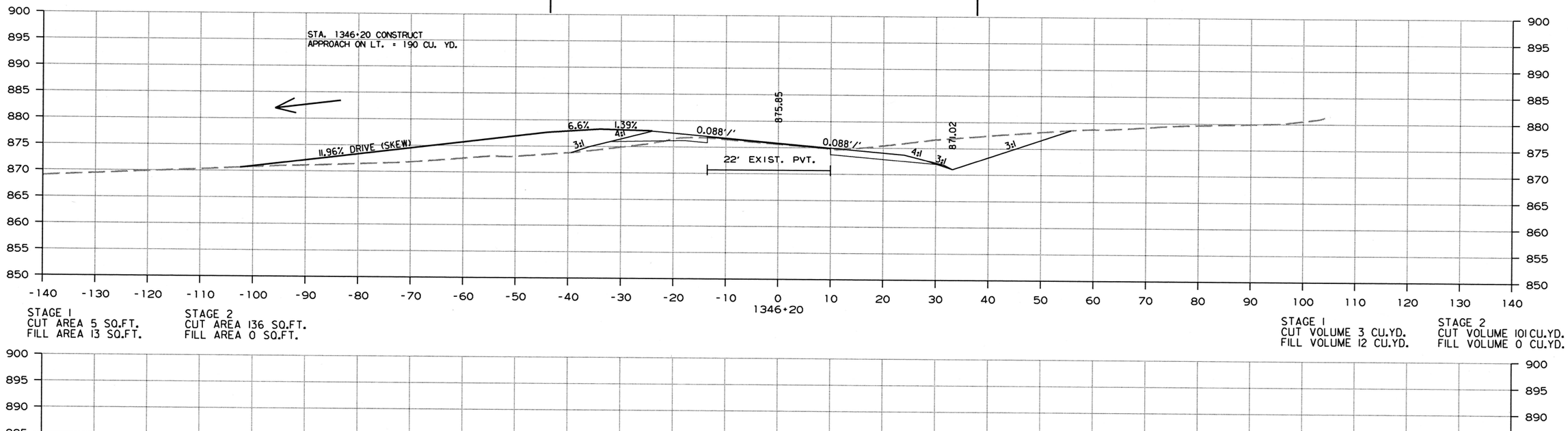
CROSS SECTION STA. 1345+00 TO STA. 1345+52

2/14/2020

R090517.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.		090517	113	148

(2) CROSS SECTIONS



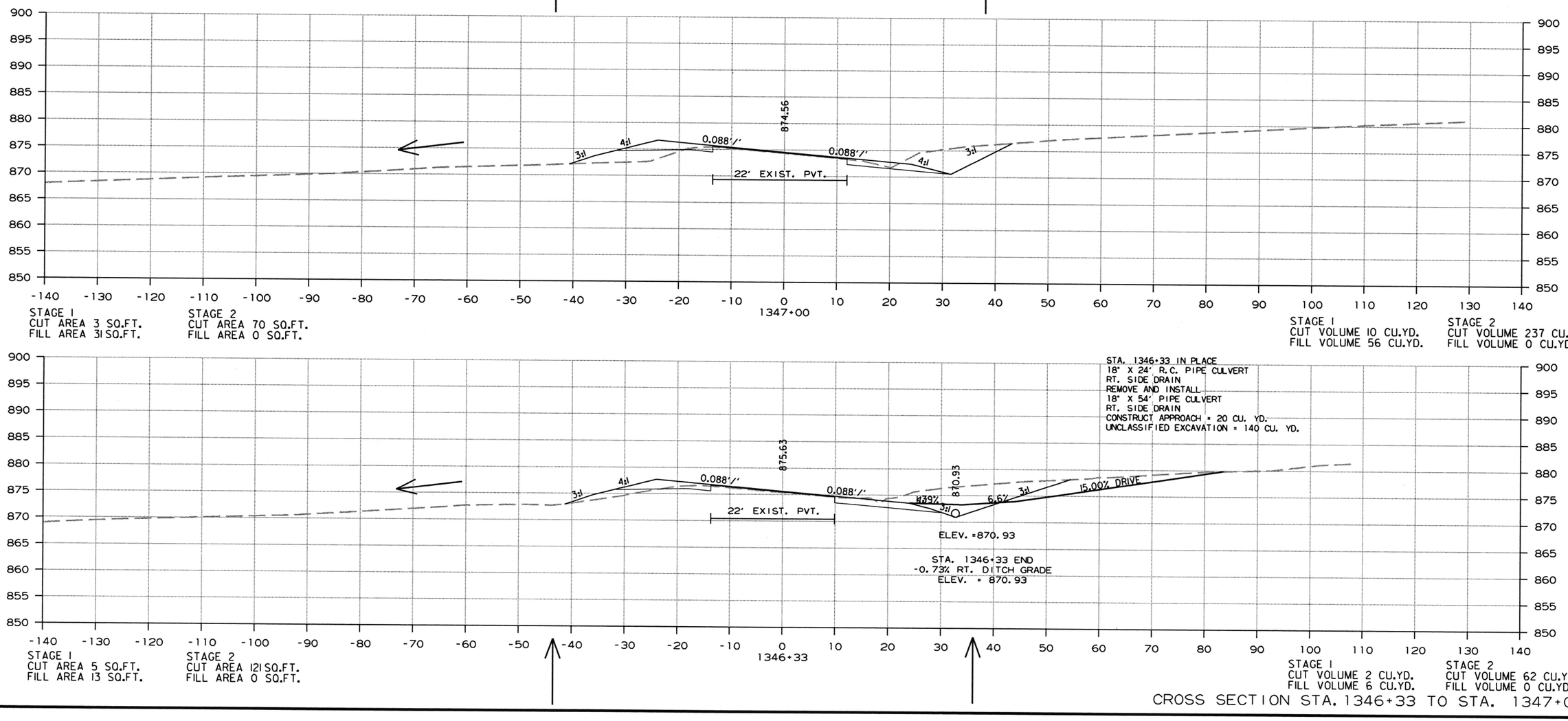
CROSS SECTION STA. 1346+00 TO STA. 1346+20

2/14/2020

R090517.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.		090517	114	148

(2) CROSS SECTIONS



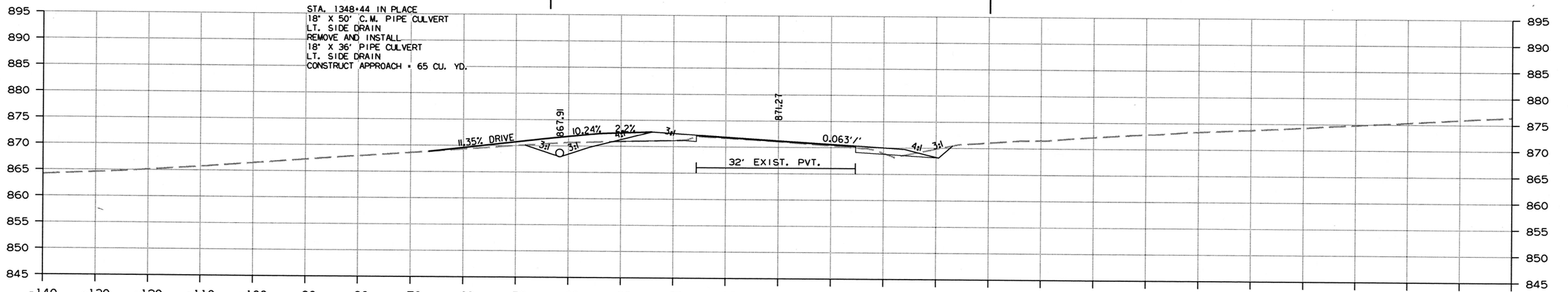
CROSS SECTION STA. 1346+33 TO STA. 1347+00

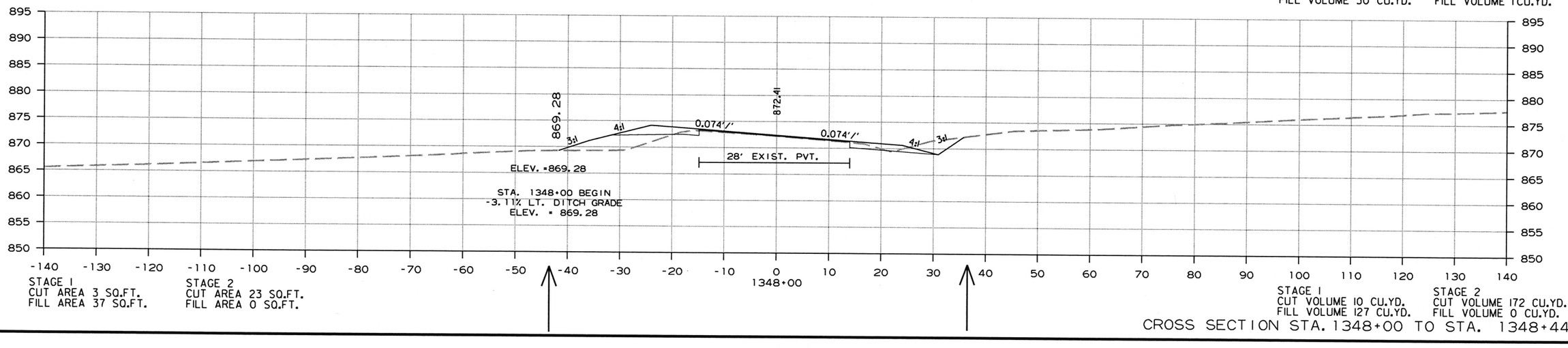
2/14/2020

R090517.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.		090517	115	148

(2) CROSS SECTIONS





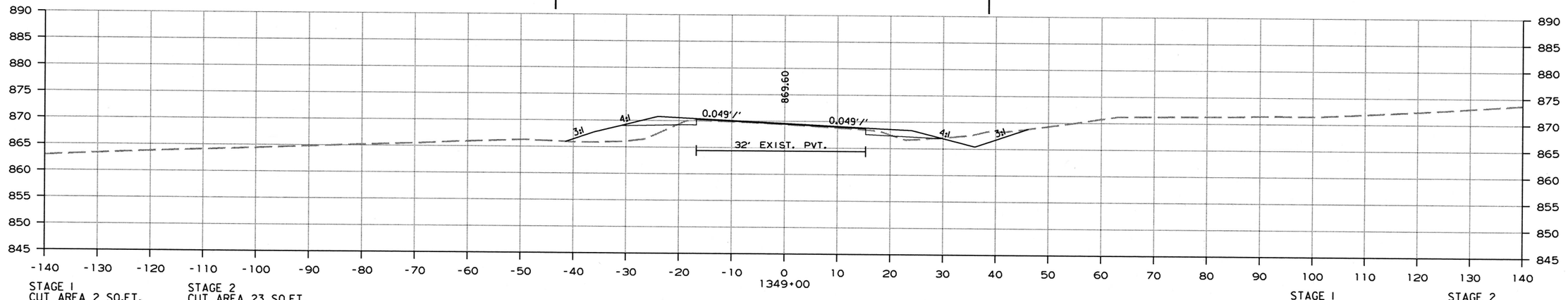
CROSS SECTION STA. 1348+00 TO STA. 1348+44

2/14/2020

R090517.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.		090517	116	148

(2) CROSS SECTIONS

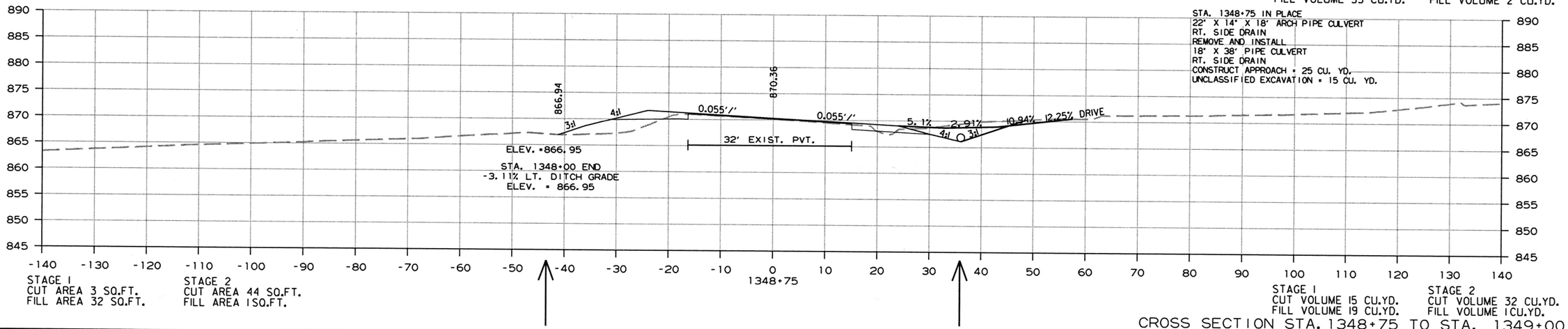


STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 39 SQ.FT.

STAGE 2
CUT AREA 23 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 1
CUT VOLUME 2 CU.YD.
FILL VOLUME 33 CU.YD.

STAGE 2
CUT VOLUME 31 CU.YD.
FILL VOLUME 2 CU.YD.



STAGE 1
CUT AREA 3 SQ.FT.
FILL AREA 32 SQ.FT.

STAGE 2
CUT AREA 44 SQ.FT.
FILL AREA 150 SQ.FT.

STAGE 1
CUT VOLUME 15 CU.YD.
FILL VOLUME 19 CU.YD.

STAGE 2
CUT VOLUME 32 CU.YD.
FILL VOLUME 1 CU.YD.

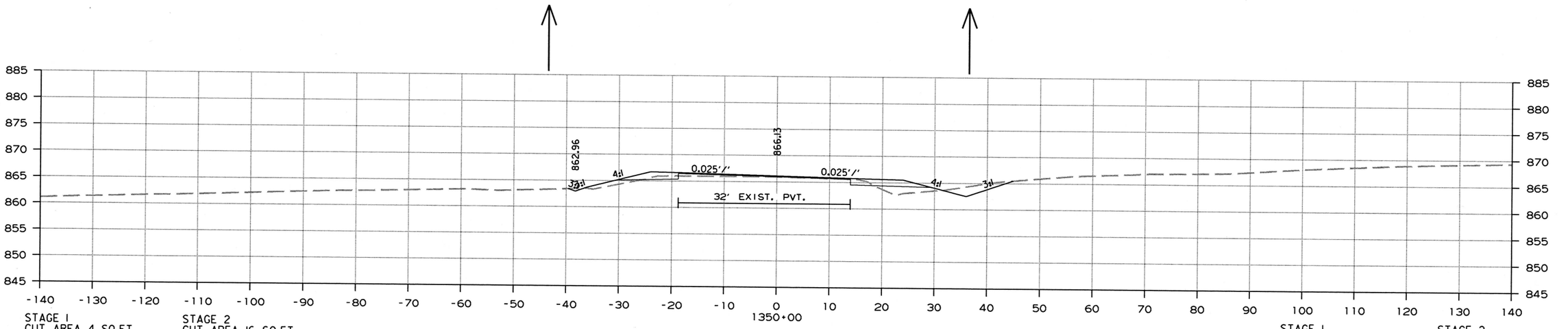
CROSS SECTION STA. 1348+75 TO STA. 1349+00

2/14/2020

R090517.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.		090517	117	148

(2) CROSS SECTIONS

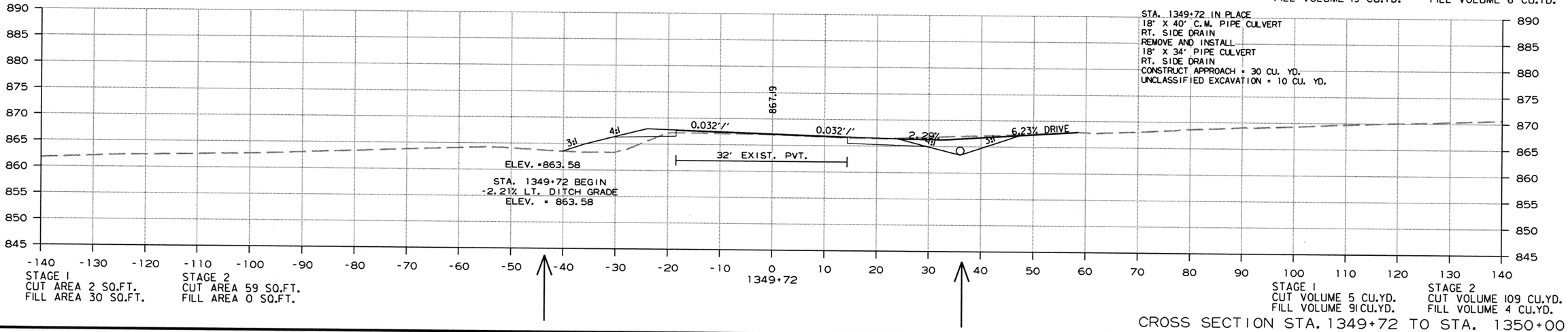


STAGE 1
CUT AREA 4 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 2
CUT AREA 16 SQ.FT.
FILL AREA 12 SQ.FT.

STAGE 1
CUT VOLUME 3 CU.YD.
FILL VOLUME 19 CU.YD.

STAGE 2
CUT VOLUME 39 CU.YD.
FILL VOLUME 6 CU.YD.



STA. 1349+72 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YD.
UNCLASSIFIED EXCAVATION = 10 CU. YD.

STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 30 SQ.FT.

STAGE 2
CUT AREA 59 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 91 CU.YD.

STAGE 2
CUT VOLUME 109 CU.YD.
FILL VOLUME 4 CU.YD.

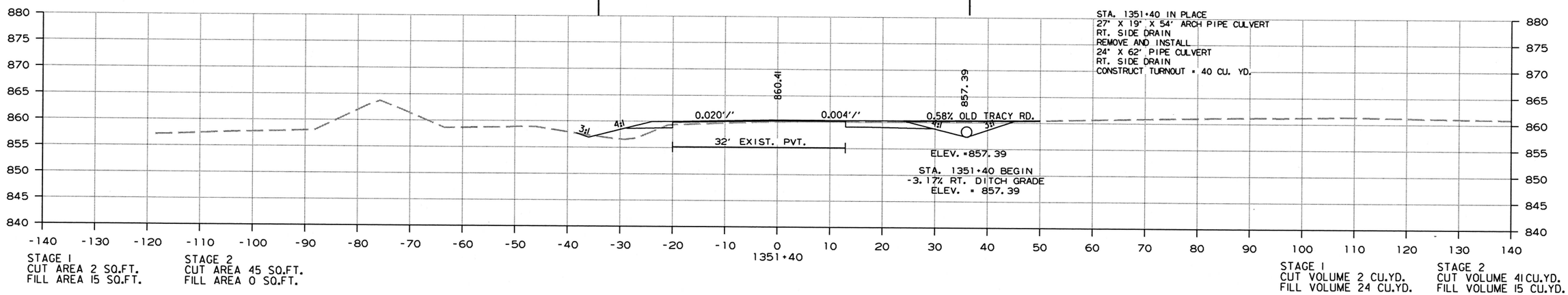
CROSS SECTION STA. 1349+72 TO STA. 1350+00

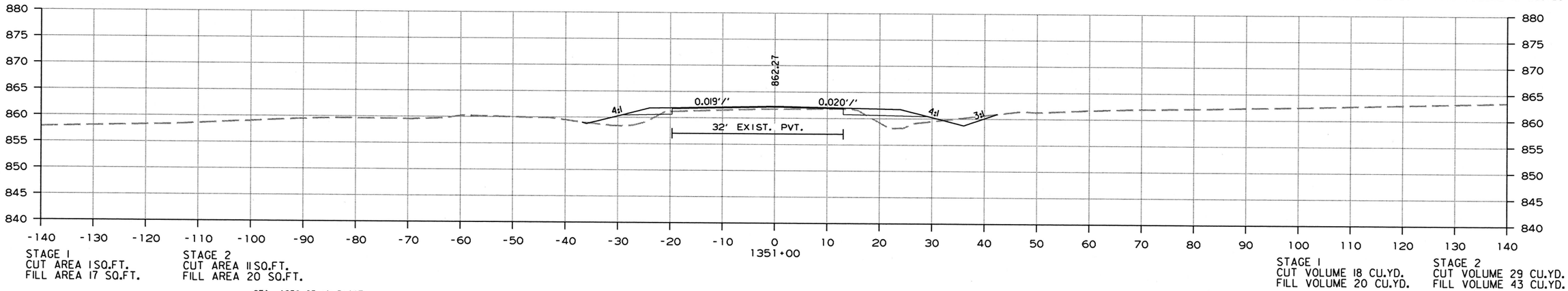
2/14/2020

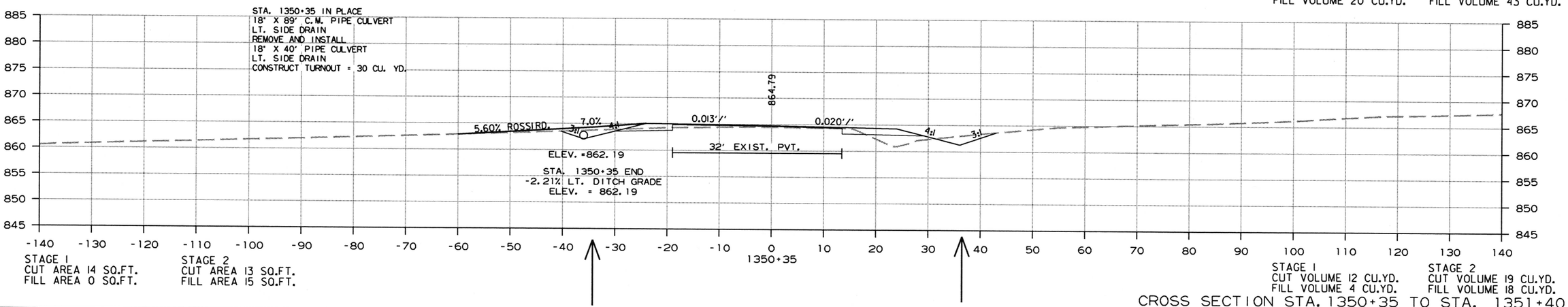
R090517.DGN

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.		090517	118	148

(2) CROSS SECTIONS







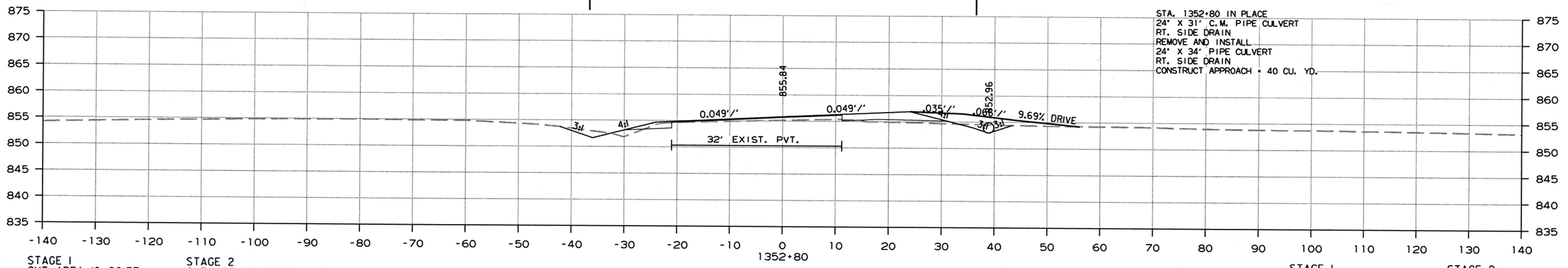
CROSS SECTION STA. 1350+35 TO STA. 1351+40

2/14/2020

R090517.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.		090517	119	148

(2) CROSS SECTIONS

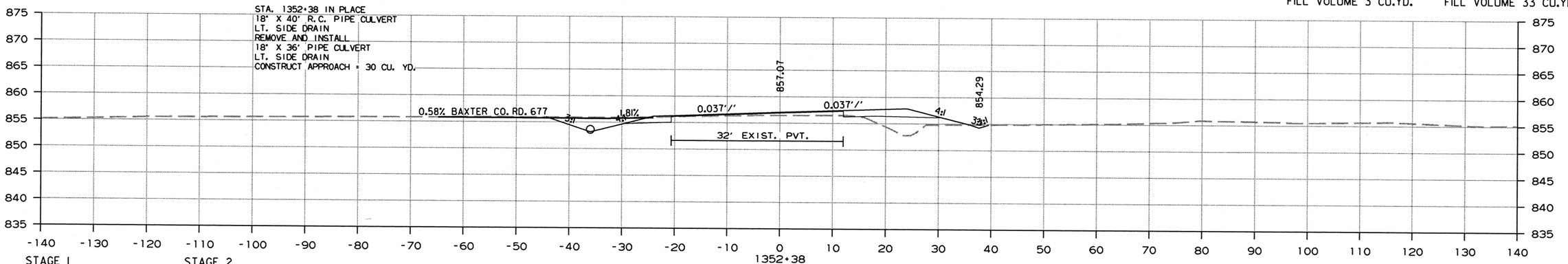


STAGE 1
CUT AREA 10 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 2
CUT AREA 8 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 1
CUT VOLUME 34 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 7 CU.YD.
FILL VOLUME 33 CU.YD.

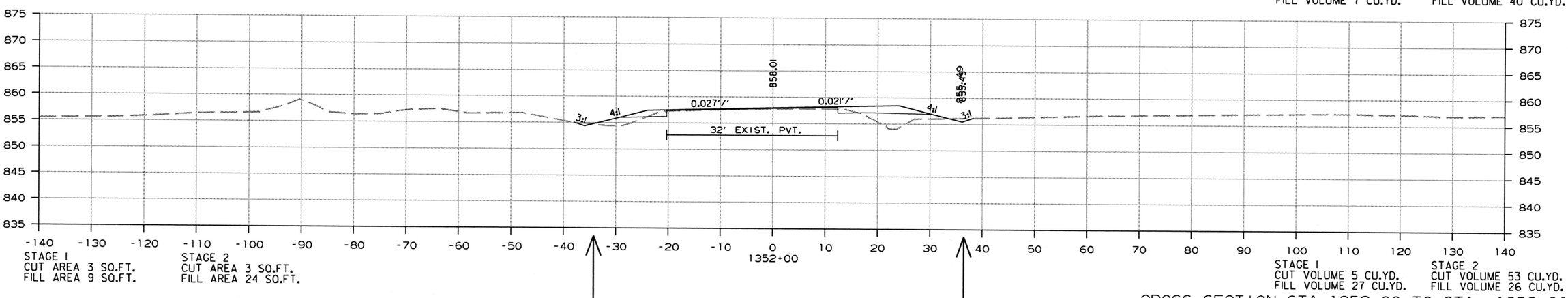


STAGE 1
CUT AREA 34 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 2 SQ.FT.
FILL AREA 34 SQ.FT.

STAGE 1
CUT VOLUME 26 CU.YD.
FILL VOLUME 7 CU.YD.

STAGE 2
CUT VOLUME 3 CU.YD.
FILL VOLUME 40 CU.YD.



STAGE 1
CUT AREA 3 SQ.FT.
FILL AREA 9 SQ.FT.

STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 24 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 27 CU.YD.

STAGE 2
CUT VOLUME 53 CU.YD.
FILL VOLUME 26 CU.YD.

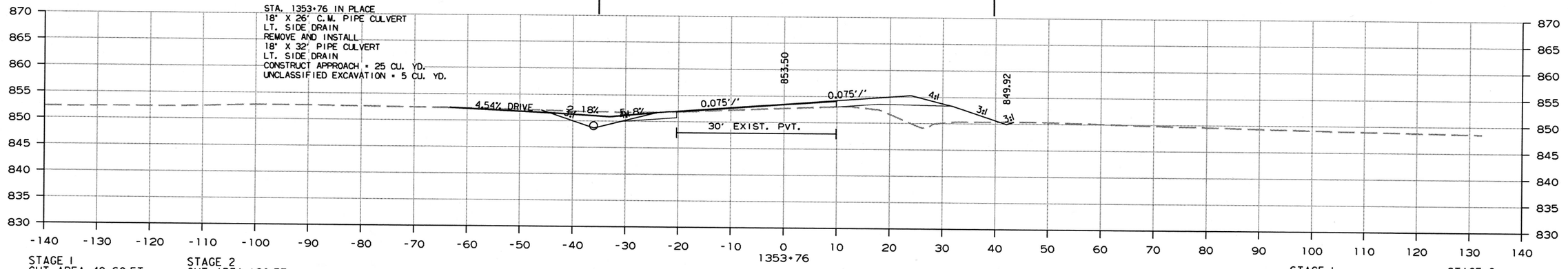
CROSS SECTION STA. 1352+00 TO STA. 1352+80

2/14/2020

R090517.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.		090517	120	148

(2) CROSS SECTIONS

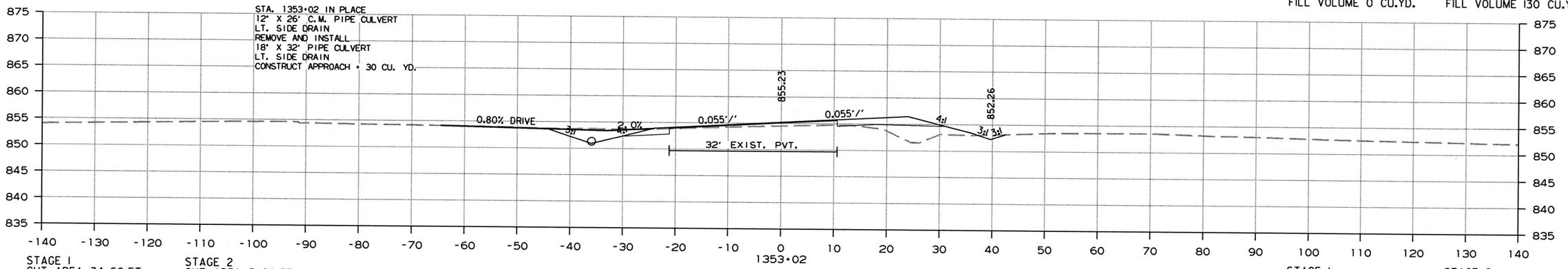


STAGE 1
CUT AREA 42 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 1SQ.FT.
FILL AREA 59 SQ.FT.

STAGE 1
CUT VOLUME 105 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 4 CU.YD.
FILL VOLUME 130 CU.YD.

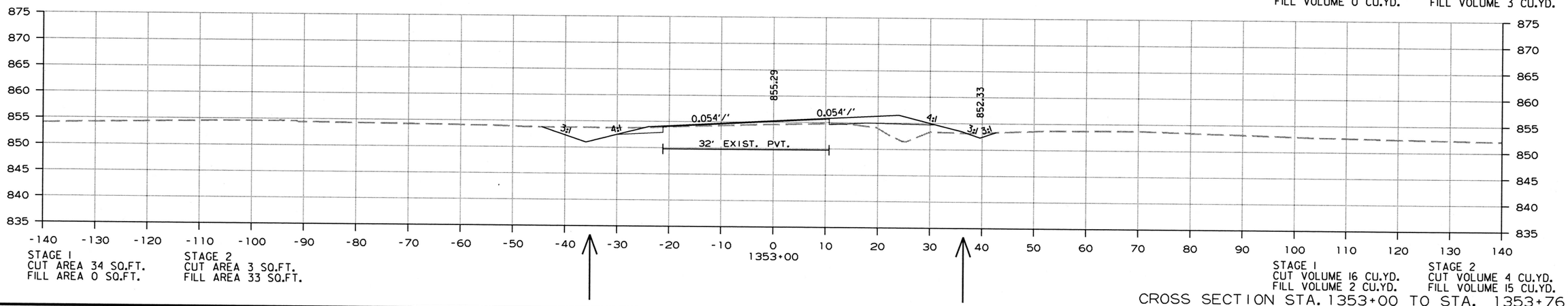


STAGE 1
CUT AREA 34 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 35 SQ.FT.

STAGE 1
CUT VOLUME 3 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 3 CU.YD.



STAGE 1
CUT AREA 34 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 3 SQ.FT.
FILL AREA 33 SQ.FT.

STAGE 1
CUT VOLUME 16 CU.YD.
FILL VOLUME 2 CU.YD.

STAGE 2
CUT VOLUME 4 CU.YD.
FILL VOLUME 15 CU.YD.

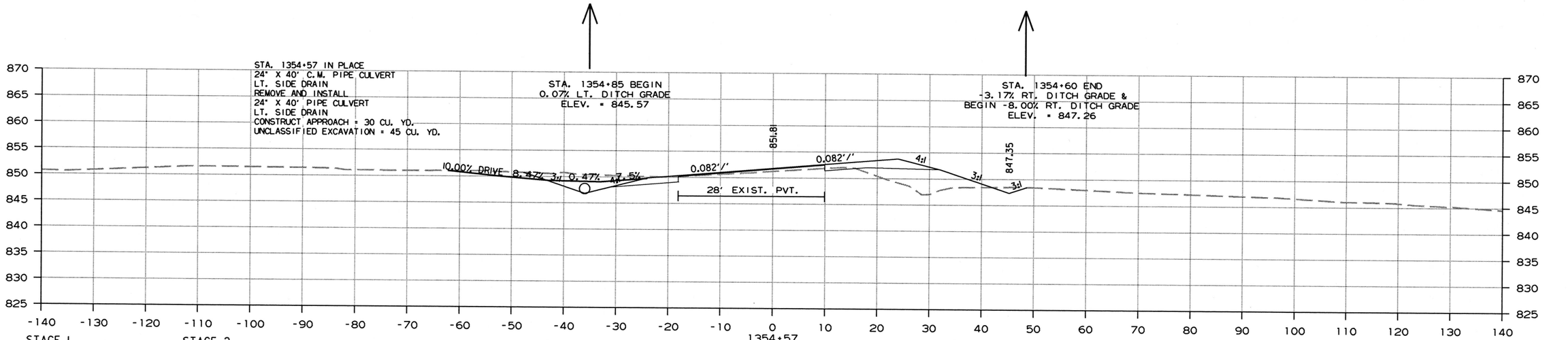
CROSS SECTION STA. 1353+00 TO STA. 1353+76

2/14/2020

R090517.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.		090517	121	148

(2) CROSS SECTIONS



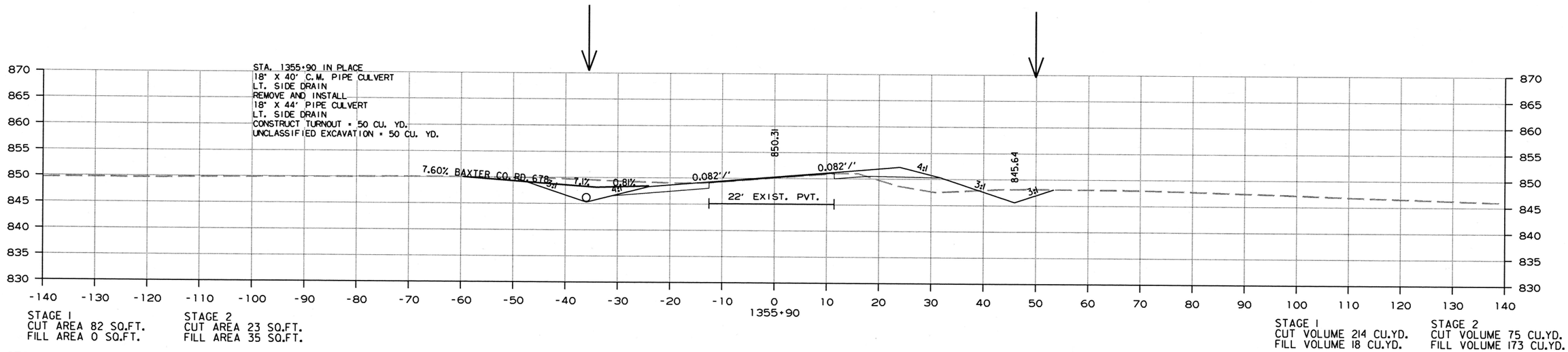
CROSS SECTION STA. 1354+00 TO STA. 1354+57

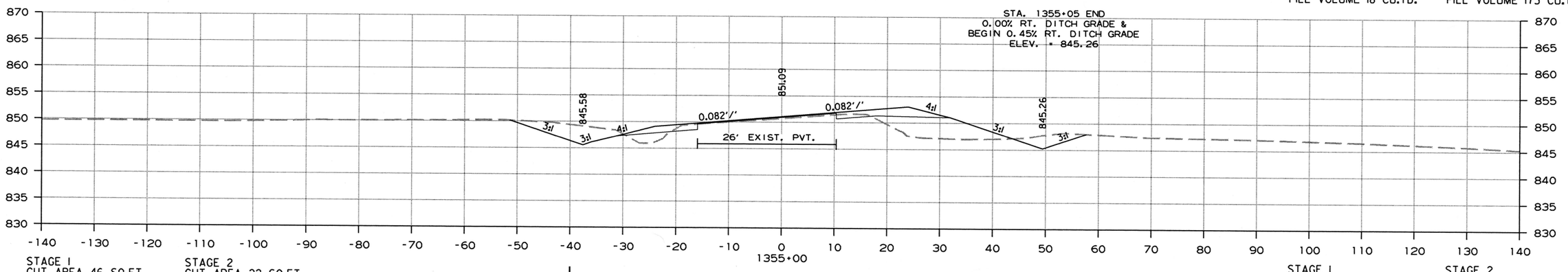
2/14/2020

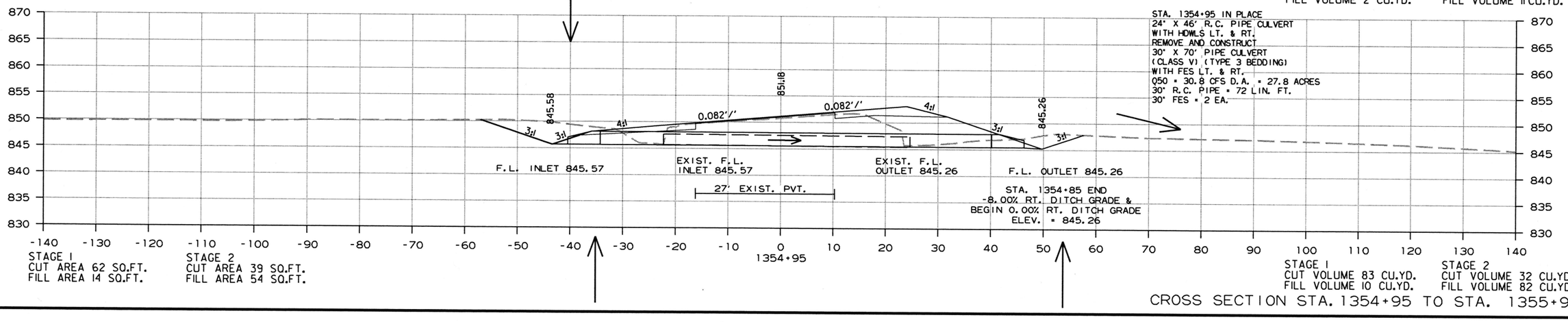
R090517.DGN

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.		090517	122	148

(2) CROSS SECTIONS







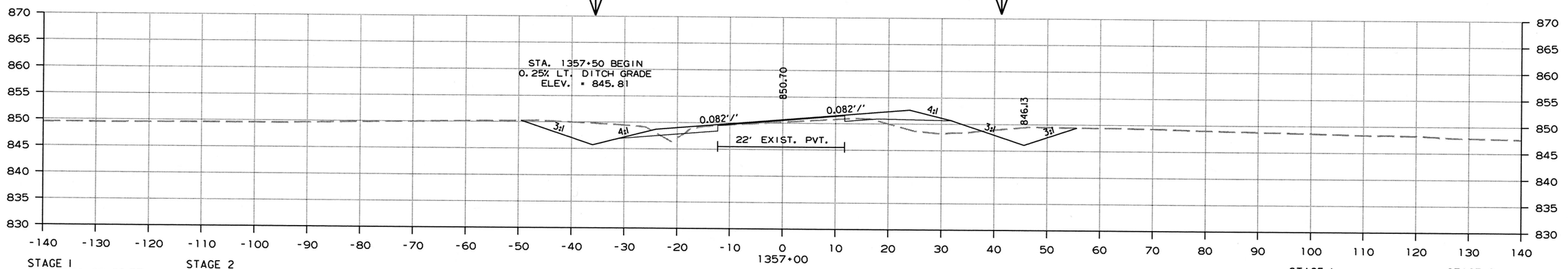
CROSS SECTION STA. 1354+95 TO STA. 1355+90

2/14/2020

R090517.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.		090517	123	148

(2) CROSS SECTIONS

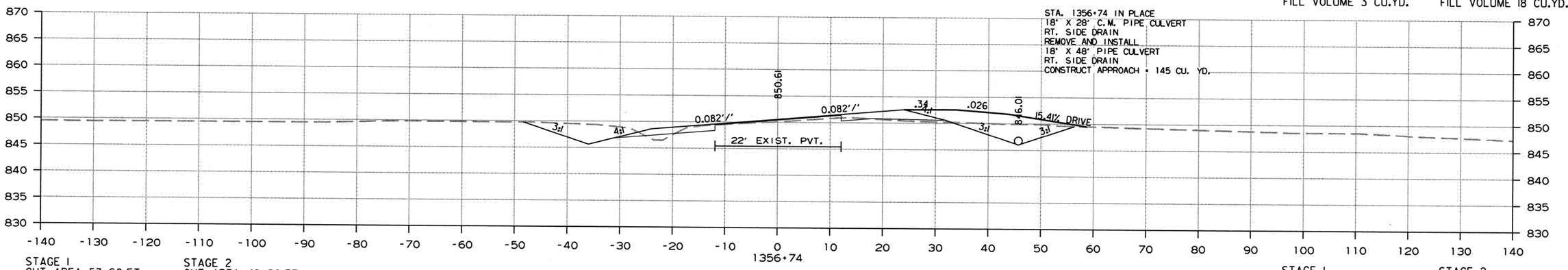


STAGE 1
CUT AREA 65 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 2
CUT AREA 32 SQ.FT.
FILL AREA 33 SQ.FT.

STAGE 1
CUT VOLUME 57 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 38 CU.YD.
FILL VOLUME 18 CU.YD.

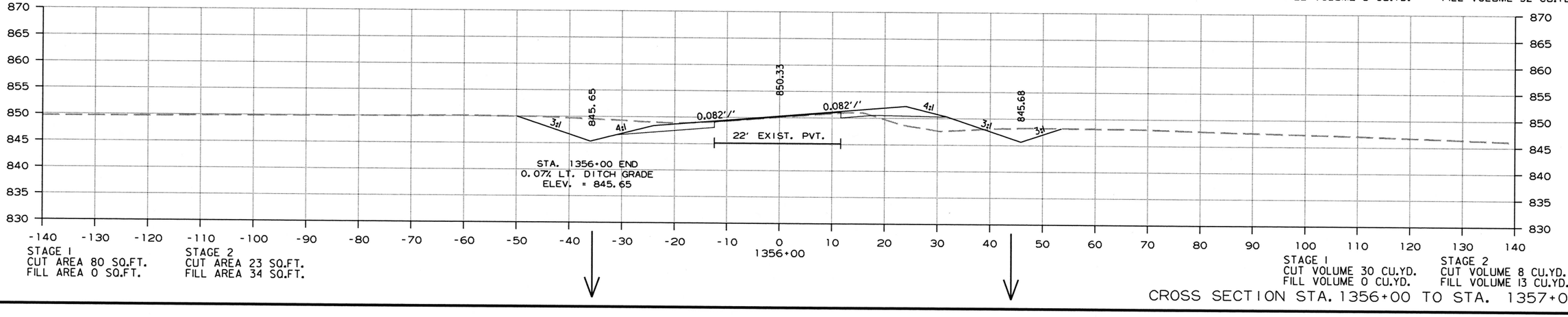


STAGE 1
CUT AREA 53 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 2
CUT AREA 48 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 1
CUT VOLUME 182 CU.YD.
FILL VOLUME 5 CU.YD.

STAGE 2
CUT VOLUME 97 CU.YD.
FILL VOLUME 52 CU.YD.



STAGE 1
CUT AREA 80 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 23 SQ.FT.
FILL AREA 34 SQ.FT.

STAGE 1
CUT VOLUME 30 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 8 CU.YD.
FILL VOLUME 13 CU.YD.

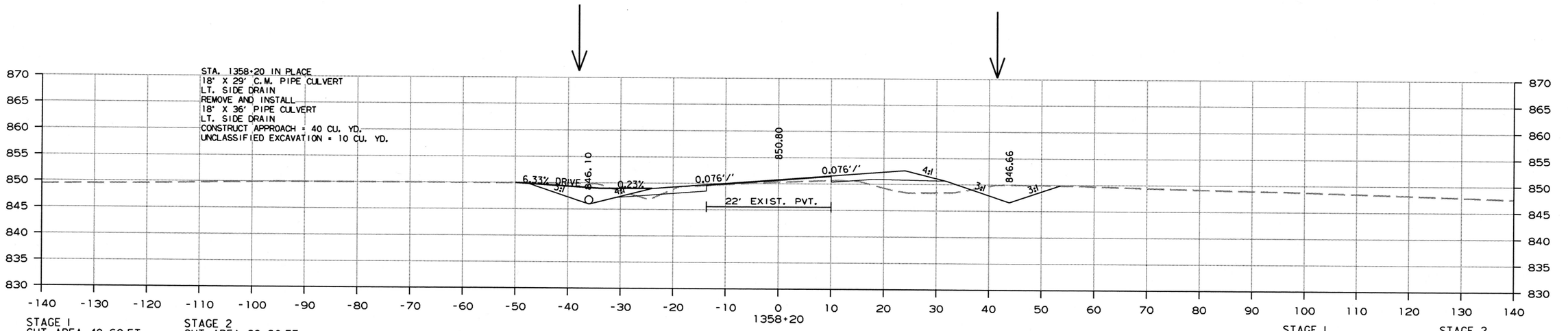
CROSS SECTION STA. 1356+00 TO STA. 1357+00

2/14/2020

R090517.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.		090517	124	148

(2) CROSS SECTIONS

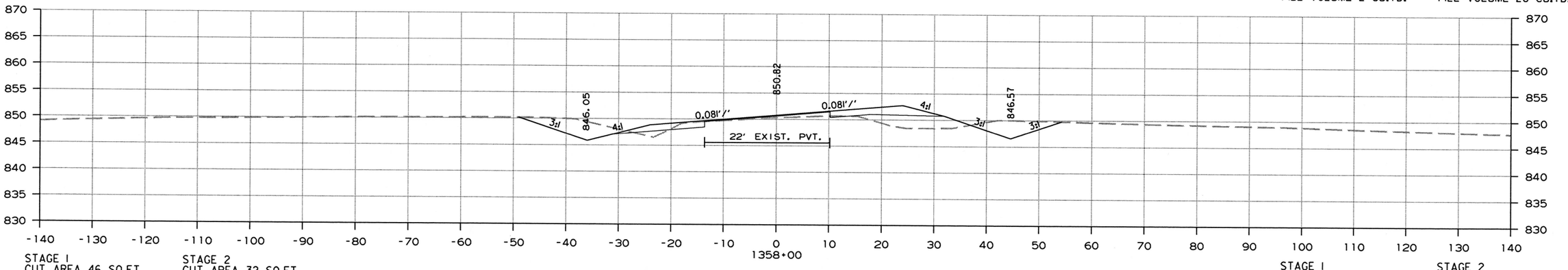


STAGE 1
CUT AREA 49 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 29 SQ.FT.
FILL AREA 37 SQ.FT.

STAGE 1
CUT VOLUME 35 CU.YD.
FILL VOLUME 2 CU.YD.

STAGE 2
CUT VOLUME 22 CU.YD.
FILL VOLUME 28 CU.YD.

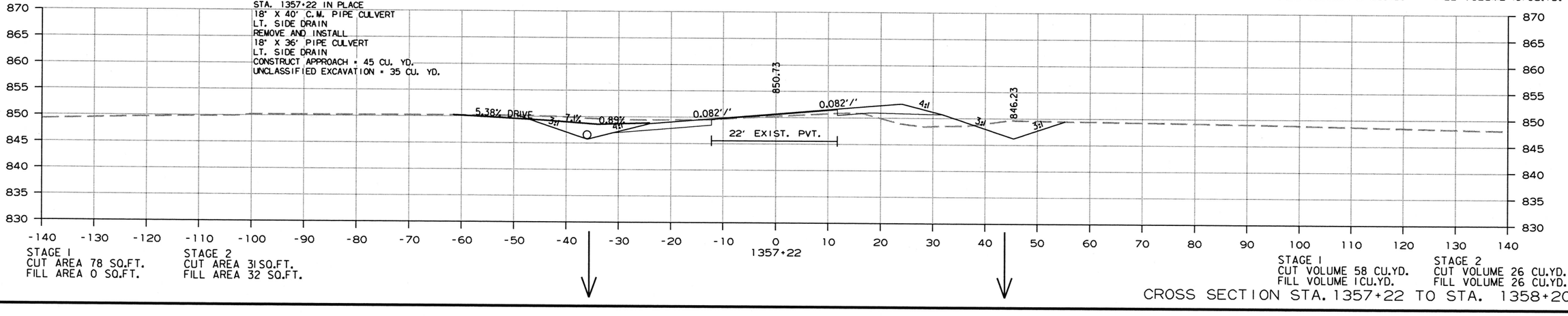


STAGE 1
CUT AREA 46 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 2
CUT AREA 32 SQ.FT.
FILL AREA 38 SQ.FT.

STAGE 1
CUT VOLUME 179 CU.YD.
FILL VOLUME 6 CU.YD.

STAGE 2
CUT VOLUME 91 CU.YD.
FILL VOLUME 101 CU.YD.



STAGE 1
CUT AREA 78 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 31 SQ.FT.
FILL AREA 32 SQ.FT.

STAGE 1
CUT VOLUME 58 CU.YD.
FILL VOLUME 1 CU.YD.

STAGE 2
CUT VOLUME 26 CU.YD.
FILL VOLUME 26 CU.YD.

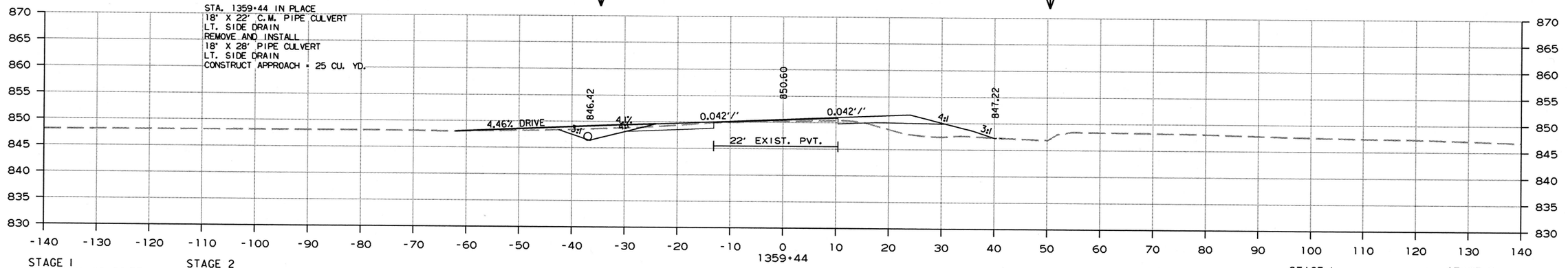
CROSS SECTION STA. 1357+22 TO STA. 1358+20

2/14/2020

R090517.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.		090517	125	148

(2) CROSS SECTIONS

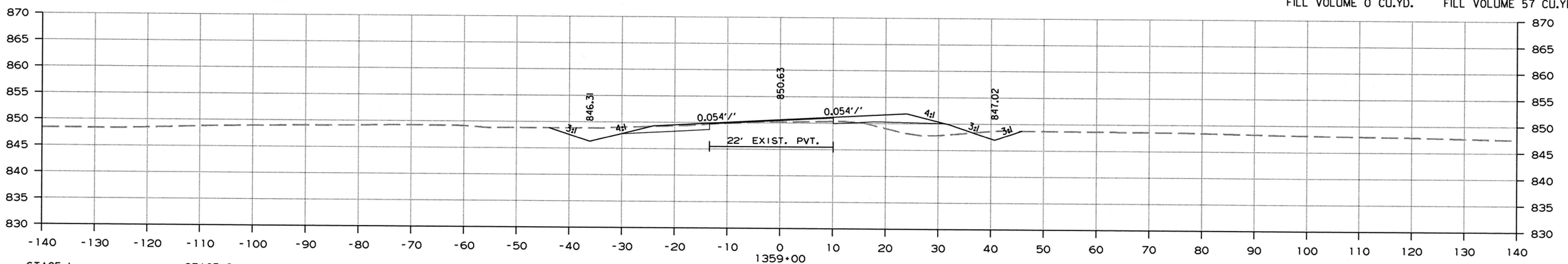


STAGE 1
CUT AREA 29 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 2 SQ.FT.
FILL AREA 37 SQ.FT.

STAGE 1
CUT VOLUME 55 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 9 CU.YD.
FILL VOLUME 57 CU.YD.

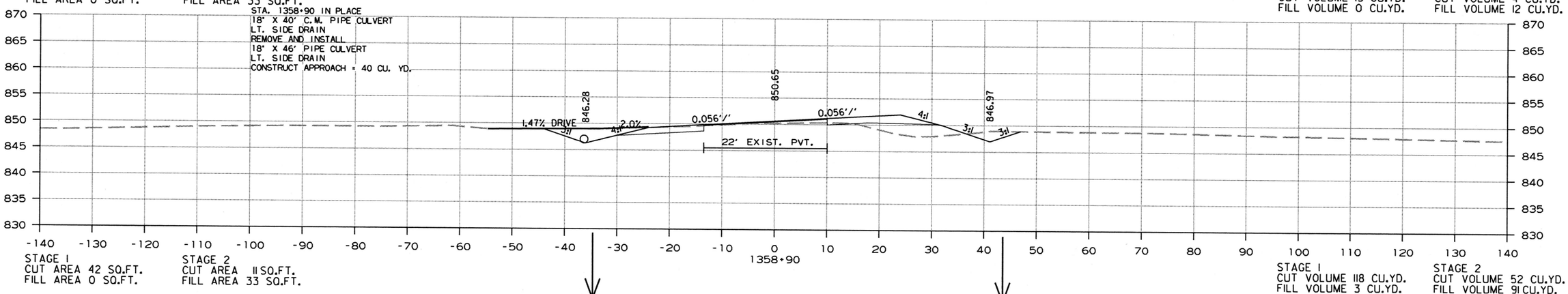


STAGE 1
CUT AREA 39 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 9 SQ.FT.
FILL AREA 33 SQ.FT.

STAGE 1
CUT VOLUME 15 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 4 CU.YD.
FILL VOLUME 12 CU.YD.



STAGE 1
CUT AREA 42 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 11 SQ.FT.
FILL AREA 33 SQ.FT.

STAGE 1
CUT VOLUME 118 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 52 CU.YD.
FILL VOLUME 91 CU.YD.

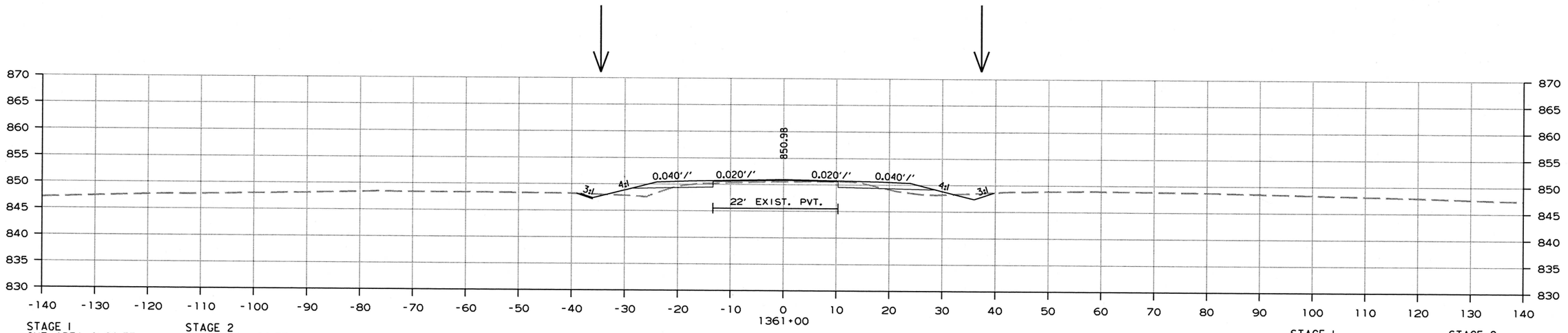
CROSS SECTION STA. 1358+90 TO STA. 1359+44

2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	126	148

(2) CROSS SECTIONS

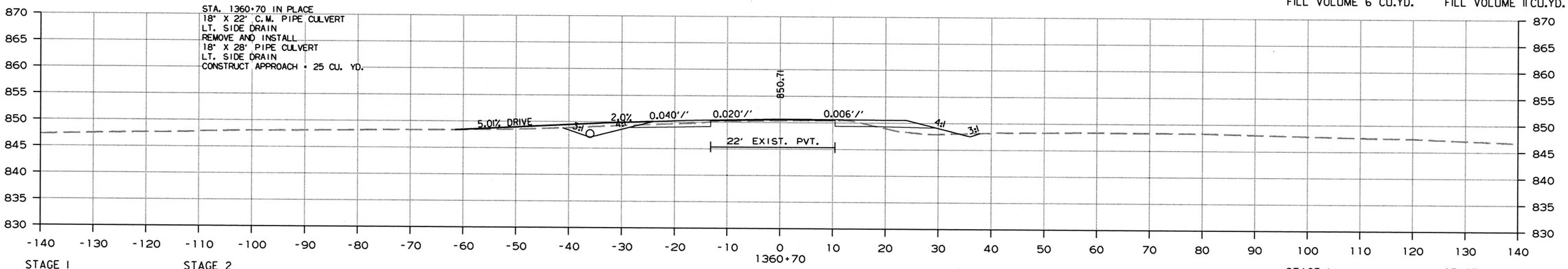


STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 11 SQ.FT.

STAGE 2
CUT AREA 11 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 1
CUT VOLUME 16 CU.YD.
FILL VOLUME 6 CU.YD.

STAGE 2
CUT VOLUME 10 CU.YD.
FILL VOLUME 11 CU.YD.

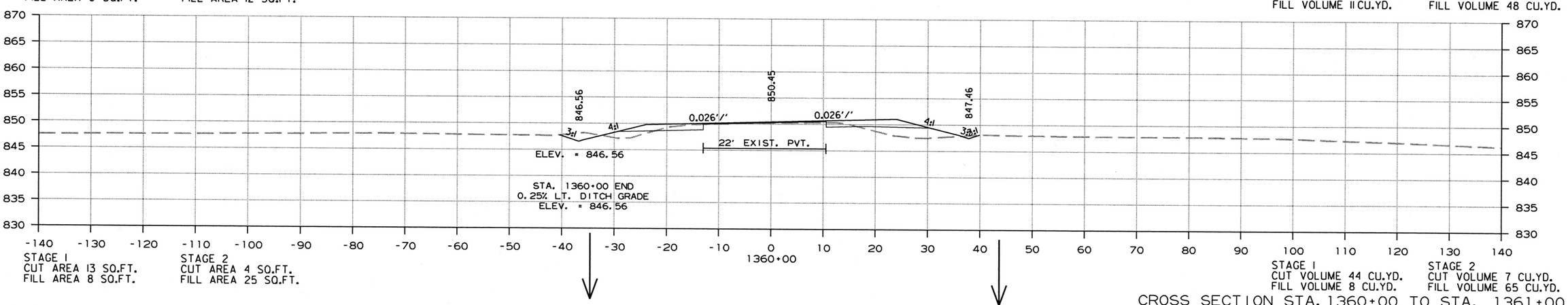


STAGE 1
CUT AREA 23 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 12 SQ.FT.

STAGE 1
CUT VOLUME 47 CU.YD.
FILL VOLUME 11 CU.YD.

STAGE 2
CUT VOLUME 14 CU.YD.
FILL VOLUME 48 CU.YD.



STAGE 1
CUT AREA 13 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 25 SQ.FT.

STAGE 1
CUT VOLUME 44 CU.YD.
FILL VOLUME 8 CU.YD.

STAGE 2
CUT VOLUME 7 CU.YD.
FILL VOLUME 65 CU.YD.

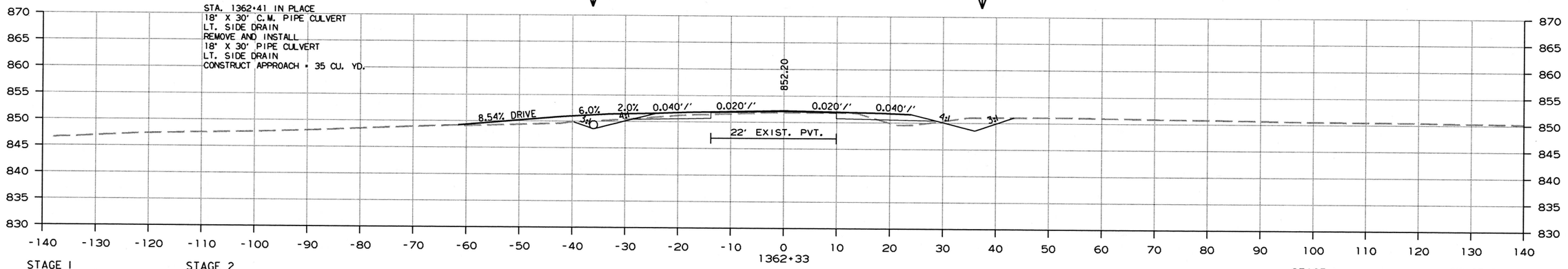
CROSS SECTION STA. 1360+00 TO STA. 1361+00

2/14/2020

R090517.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.		090517	127	148

(2) CROSS SECTIONS

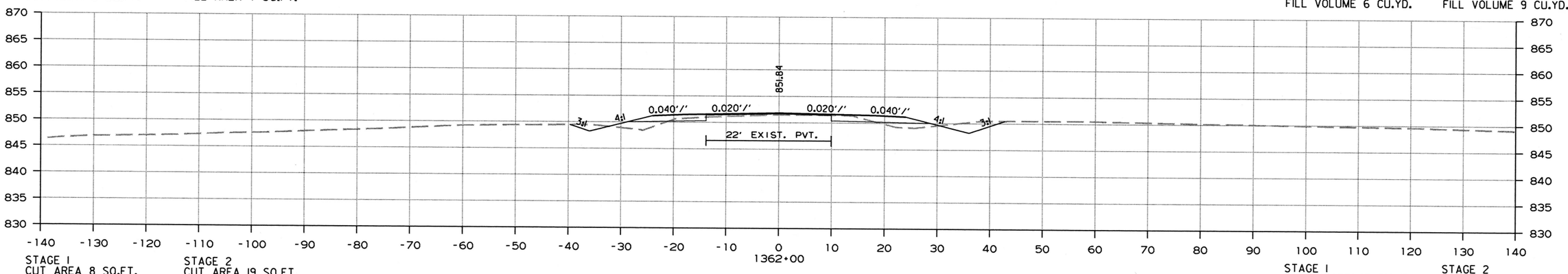


STAGE 1
CUT AREA 16 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 24 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 1
CUT VOLUME 15 CU.YD.
FILL VOLUME 6 CU.YD.

STAGE 2
CUT VOLUME 26 CU.YD.
FILL VOLUME 9 CU.YD.

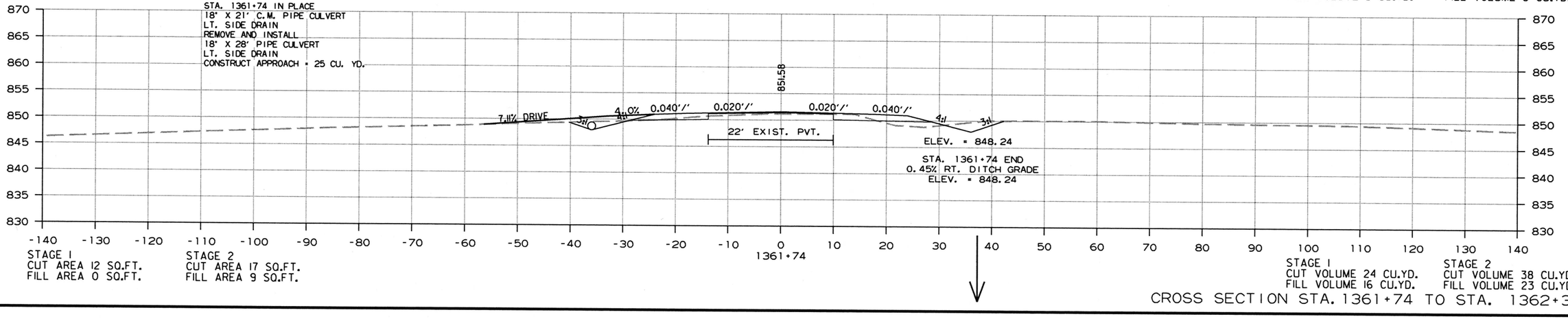


STAGE 1
CUT AREA 8 SQ.FT.
FILL AREA 10 SQ.FT.

STAGE 2
CUT AREA 19 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 1
CUT VOLUME 10 CU.YD.
FILL VOLUME 5 CU.YD.

STAGE 2
CUT VOLUME 18 CU.YD.
FILL VOLUME 8 CU.YD.



STAGE 1
CUT AREA 12 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 17 SQ.FT.
FILL AREA 9 SQ.FT.

STAGE 1
CUT VOLUME 24 CU.YD.
FILL VOLUME 16 CU.YD.

STAGE 2
CUT VOLUME 38 CU.YD.
FILL VOLUME 23 CU.YD.

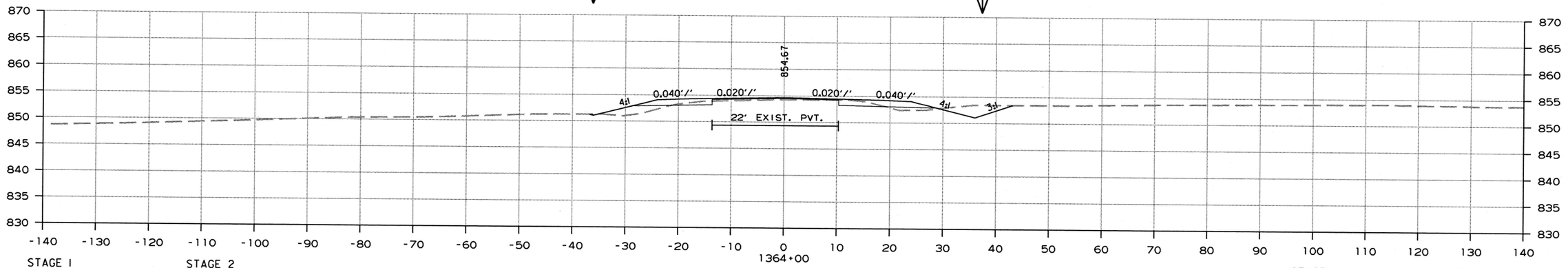
CROSS SECTION STA. 1361+74 TO STA. 1362+33

2/14/2020

R090517.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.		090517	128	148

(2) CROSS SECTIONS

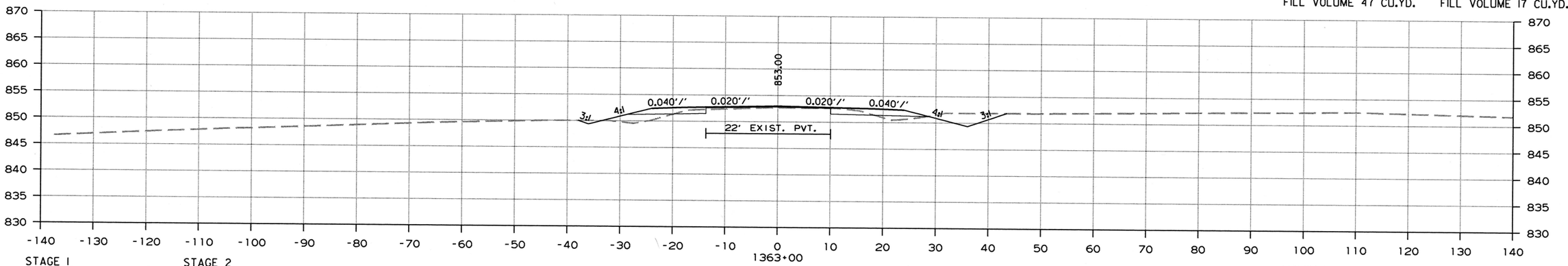


STAGE 1
CUT AREA 4 SQ.FT.
FILL AREA 13 SQ.FT.

STAGE 2
CUT AREA 23 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 1
CUT VOLUME 16 CU.YD.
FILL VOLUME 47 CU.YD.

STAGE 2
CUT VOLUME 91 CU.YD.
FILL VOLUME 17 CU.YD.

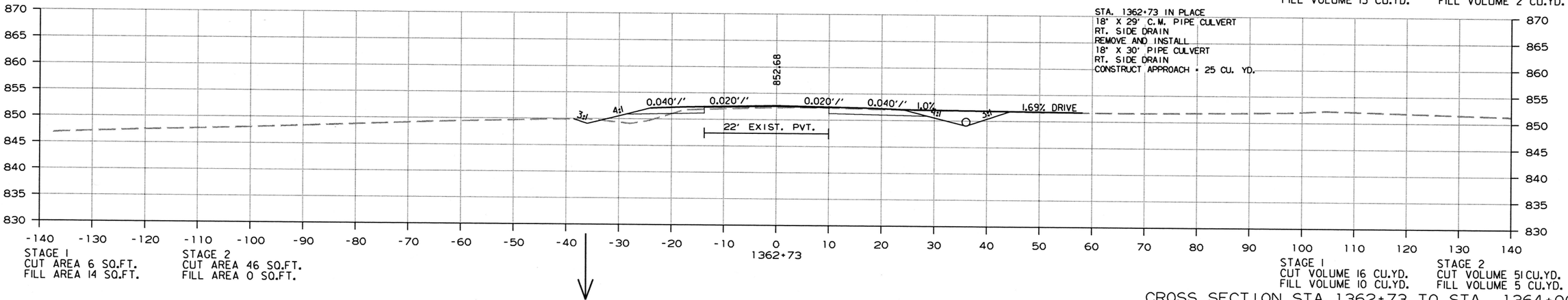


STAGE 1
CUT AREA 5 SQ.FT.
FILL AREA 13 SQ.FT.

STAGE 2
CUT AREA 26 SQ.FT.
FILL AREA 5 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 13 CU.YD.

STAGE 2
CUT VOLUME 36 CU.YD.
FILL VOLUME 2 CU.YD.



STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 14 SQ.FT.

STAGE 2
CUT AREA 46 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 16 CU.YD.
FILL VOLUME 10 CU.YD.

STAGE 2
CUT VOLUME 51 CU.YD.
FILL VOLUME 5 CU.YD.

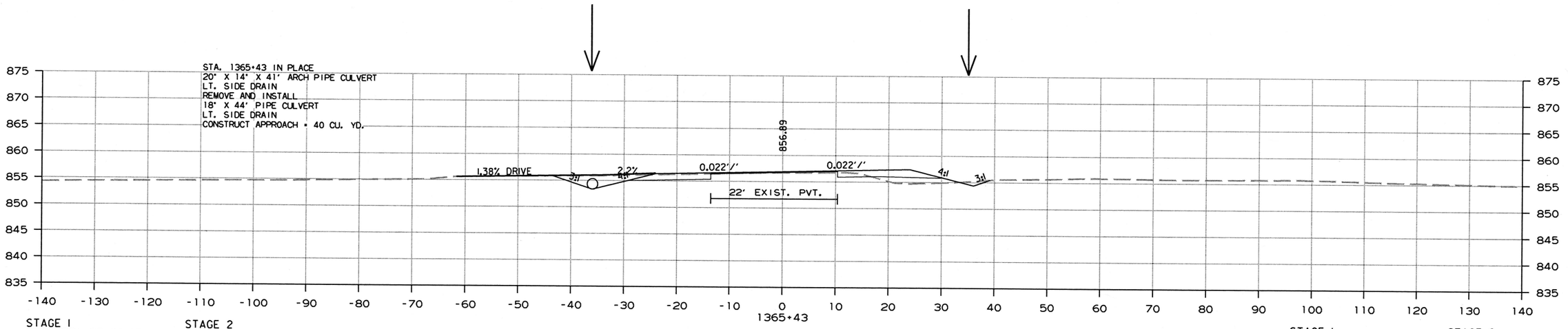
CROSS SECTION STA. 1362+73 TO STA. 1364+00

2/14/2020

R090517.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.		090517	129	148

(2) CROSS SECTIONS

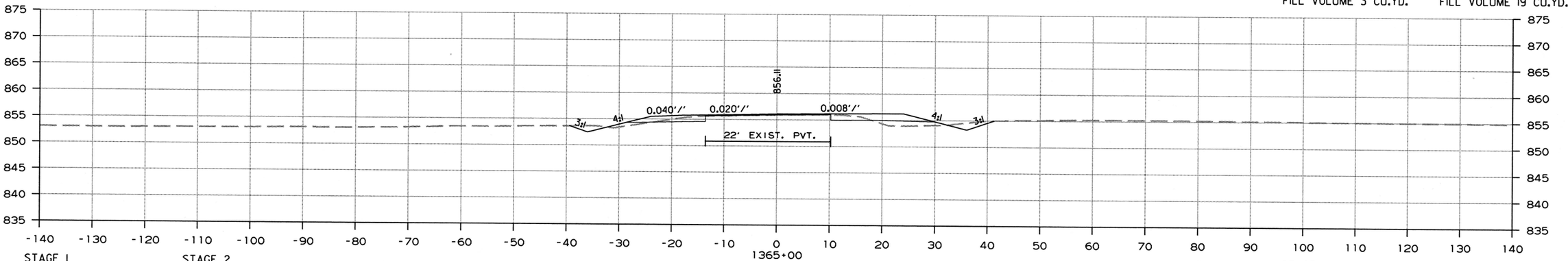


STAGE 1
CUT AREA 37 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 14 SQ.FT.

STAGE 1
CUT VOLUME 38 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 14 CU.YD.
FILL VOLUME 19 CU.YD.

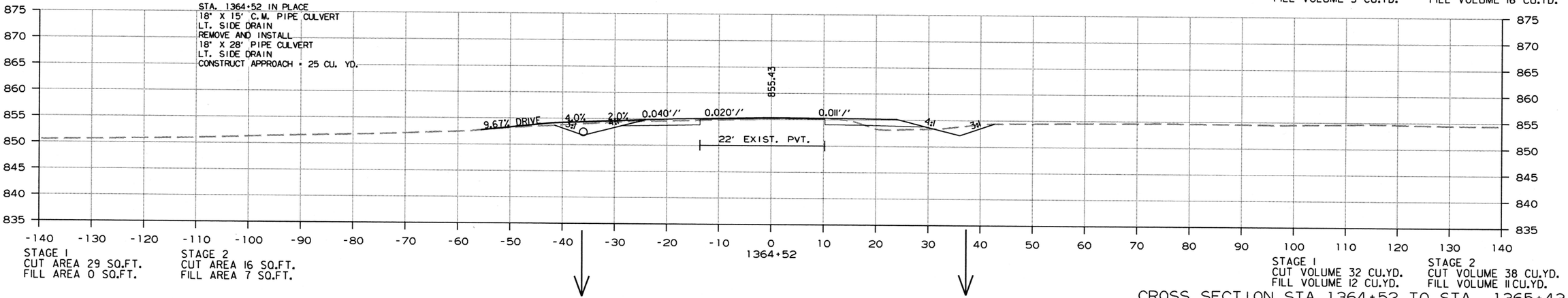


STAGE 1
CUT AREA 11 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 2
CUT AREA 12 SQ.FT.
FILL AREA 10 SQ.FT.

STAGE 1
CUT VOLUME 35 CU.YD.
FILL VOLUME 3 CU.YD.

STAGE 2
CUT VOLUME 24 CU.YD.
FILL VOLUME 16 CU.YD.



STAGE 1
CUT AREA 29 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 16 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 1
CUT VOLUME 32 CU.YD.
FILL VOLUME 12 CU.YD.

STAGE 2
CUT VOLUME 38 CU.YD.
FILL VOLUME 11 CU.YD.

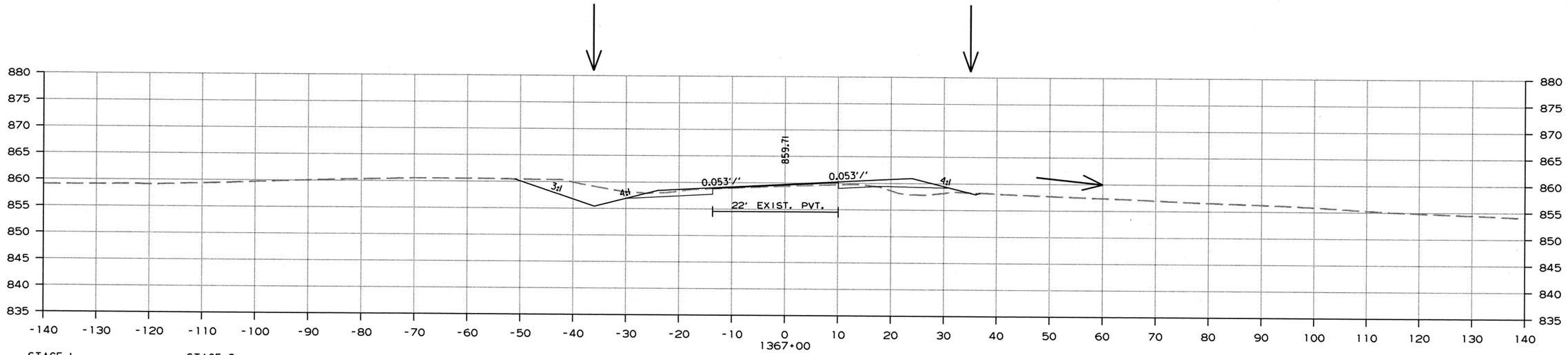
CROSS SECTION STA. 1364+52 TO STA. 1365+43

2/14/2020

R090517.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.		090517	130	148

(2) CROSS SECTIONS

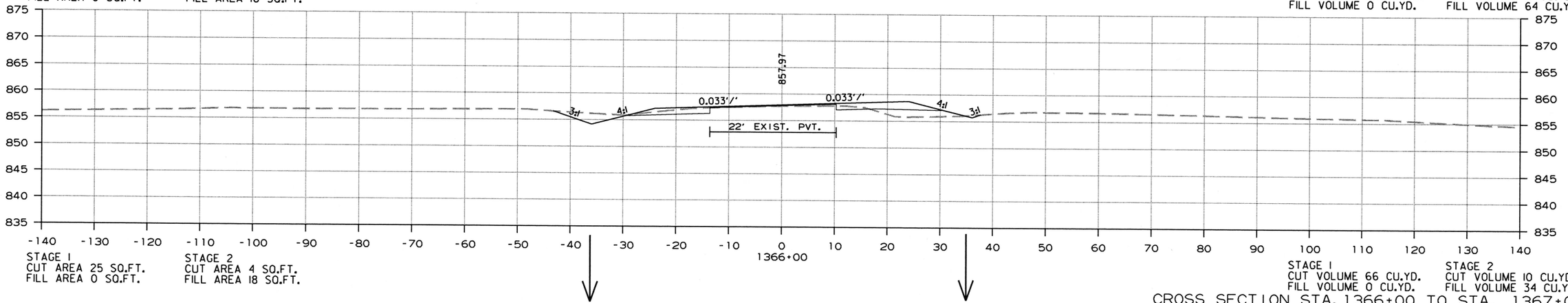


STAGE 1
CUT AREA 63 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 16 SQ.FT.

STAGE 1
CUT VOLUME 163 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 14 CU.YD.
FILL VOLUME 64 CU.YD.



STAGE 1
CUT AREA 25 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 18 SQ.FT.

STAGE 1
CUT VOLUME 66 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 10 CU.YD.
FILL VOLUME 34 CU.YD.

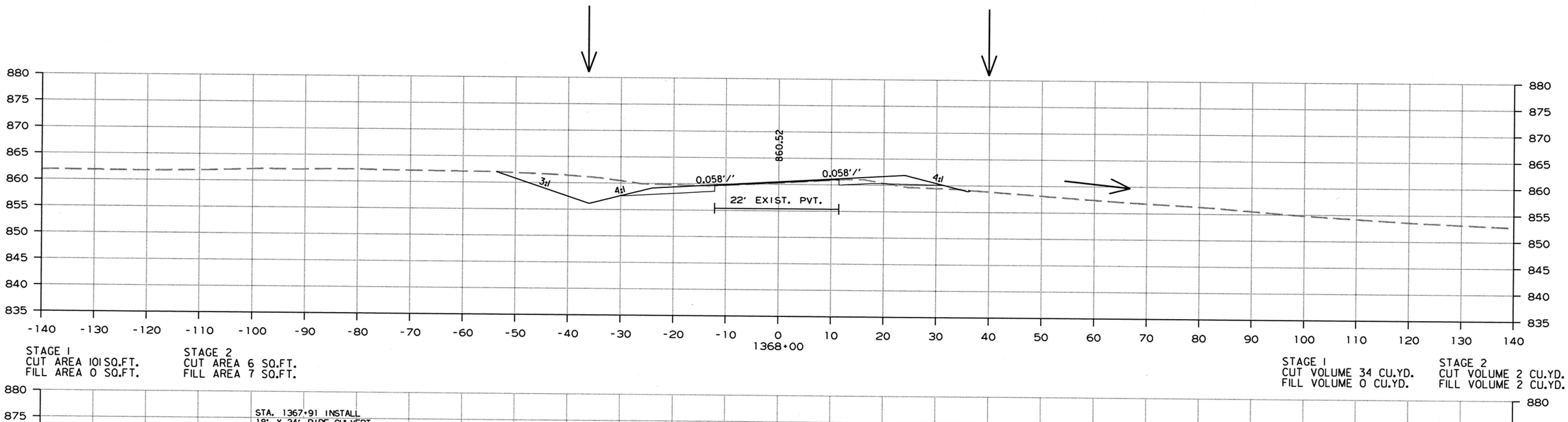
CROSS SECTION STA. 1366+00 TO STA. 1367+00

2/14/2020

R090517.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.		090517	131	148

(2) CROSS SECTIONS

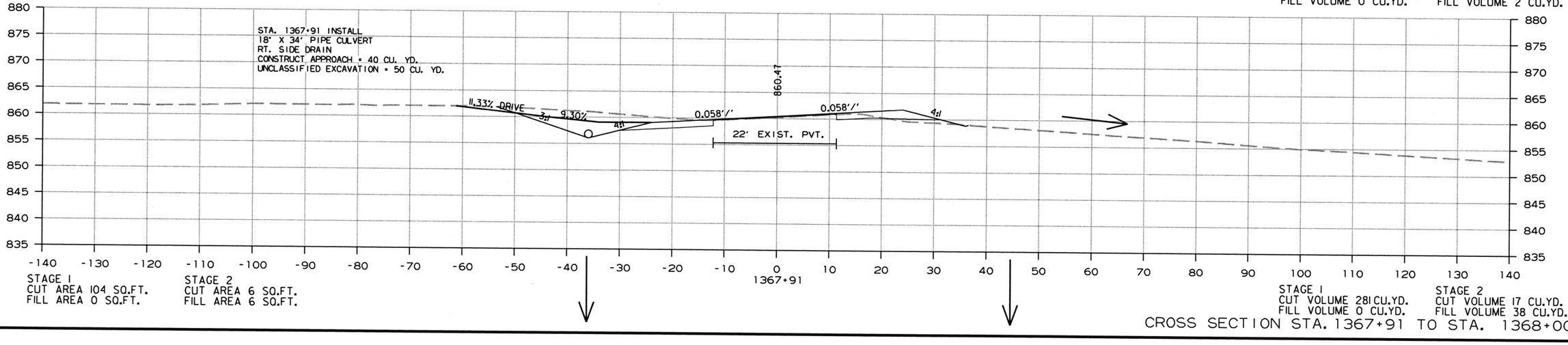


STAGE 1
CUT AREA 101 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 7 SQ.FT.

STAGE 1
CUT VOLUME 34 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 2 CU.YD.
FILL VOLUME 2 CU.YD.



STAGE 1
CUT AREA 104 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 1
CUT VOLUME 281 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 17 CU.YD.
FILL VOLUME 38 CU.YD.

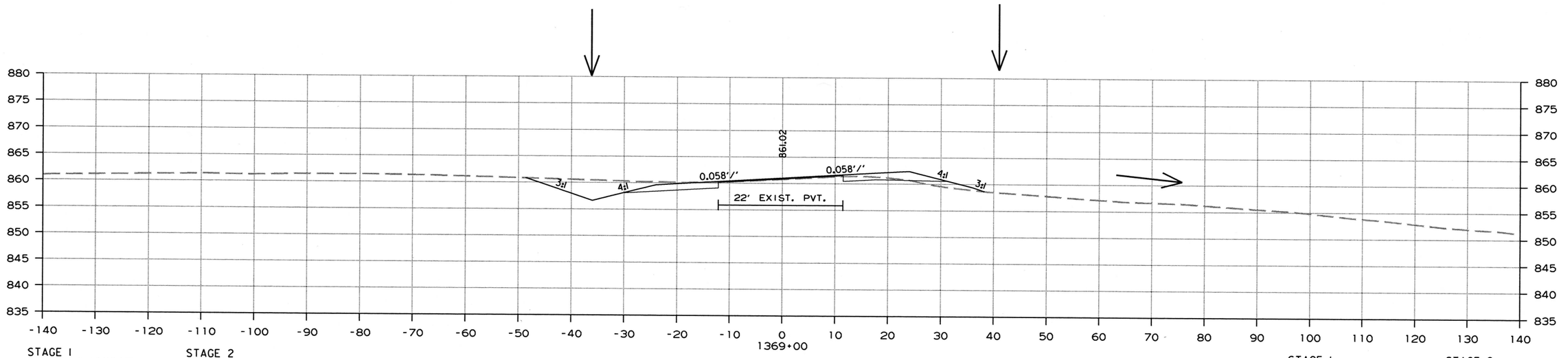
CROSS SECTION STA. 1367+91 TO STA. 1368+00

2/14/2020

R090517.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.		090517	132	148

(2) CROSS SECTIONS

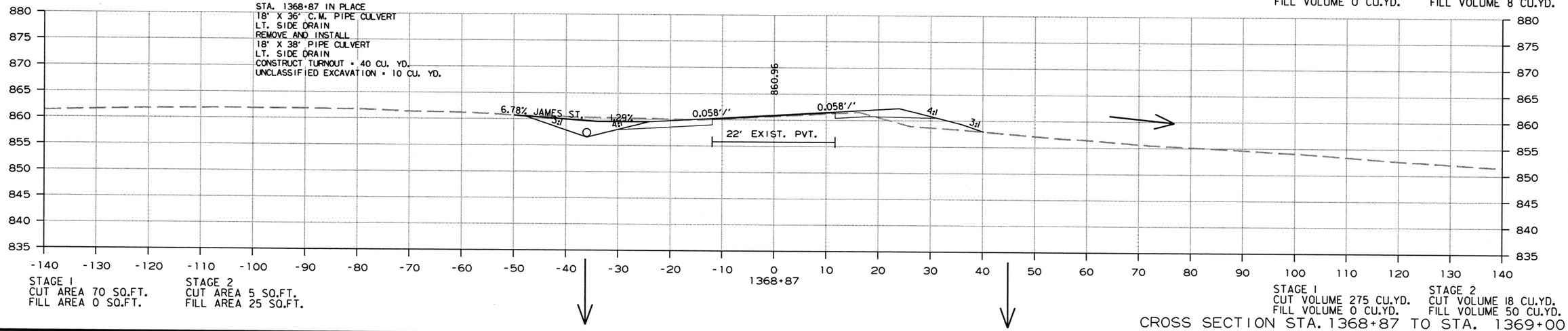


STAGE 1
CUT AREA 71SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 9 SQ.FT.

STAGE 1
CUT VOLUME 34 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 3 CU.YD.
FILL VOLUME 8 CU.YD.



STAGE 1
CUT AREA 70 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 5 SQ.FT.
FILL AREA 25 SQ.FT.

STAGE 1
CUT VOLUME 275 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 18 CU.YD.
FILL VOLUME 50 CU.YD.

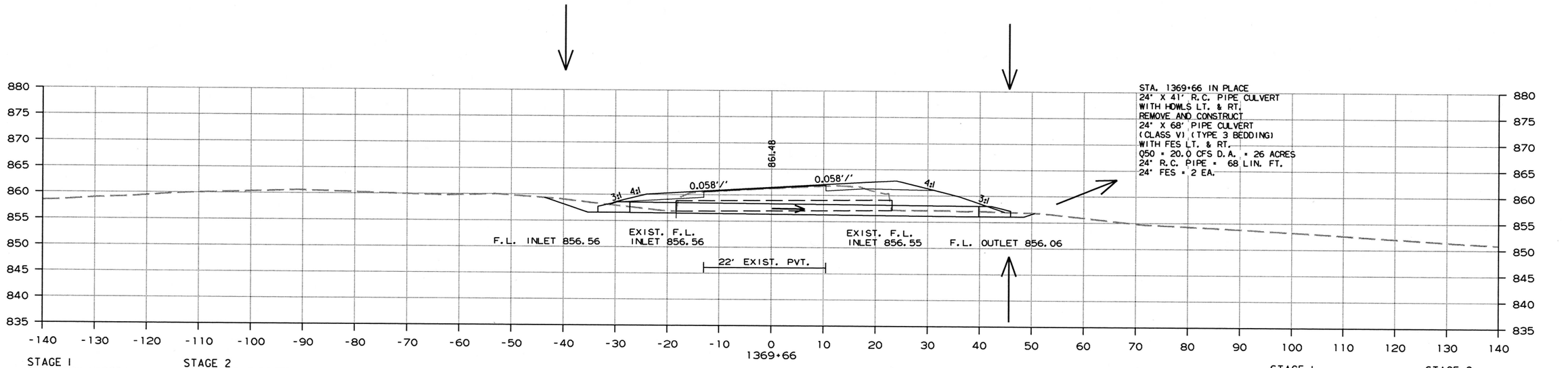
CROSS SECTION STA. 1368+87 TO STA. 1369+00

2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	133	148

(2) CROSS SECTIONS



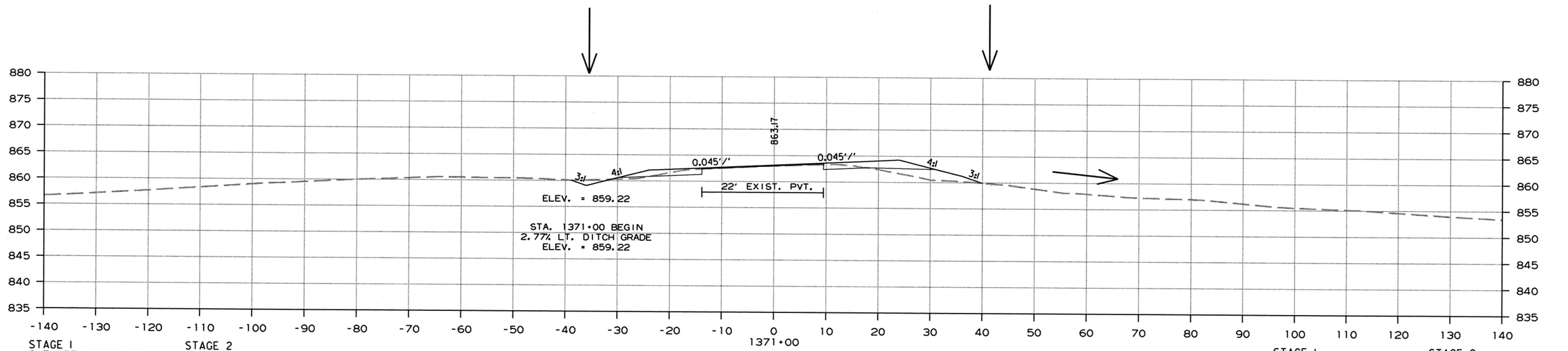
CROSS SECTION STA. 1369+14 TO STA. 1369+66

2/14/2020

R090517.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.		090517	134	148

(2) CROSS SECTIONS

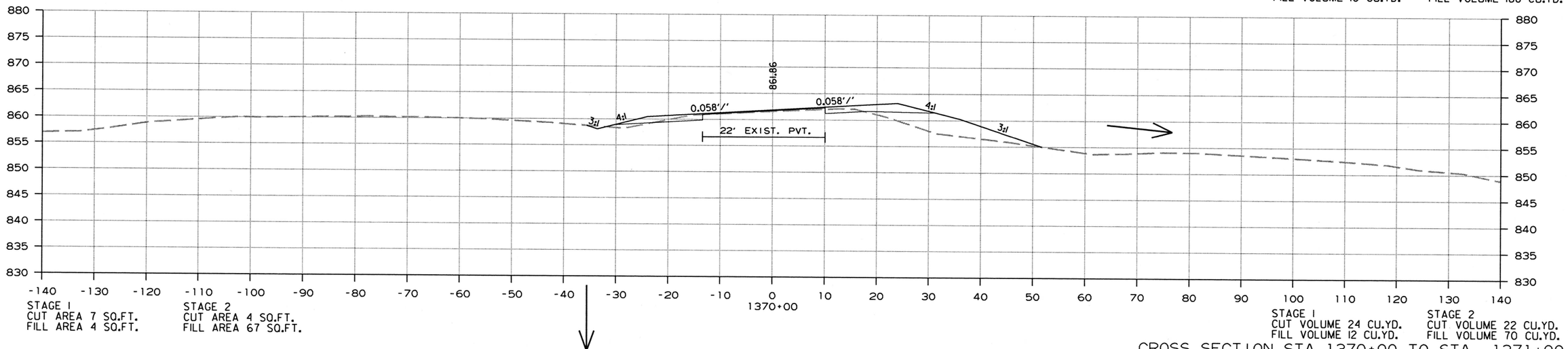


STAGE 1
CUT AREA 10 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 5 SQ.FT.
FILL AREA 24 SQ.FT.

STAGE 1
CUT VOLUME 32 CU.YD.
FILL VOLUME 10 CU.YD.

STAGE 2
CUT VOLUME 18 CU.YD.
FILL VOLUME 168 CU.YD.



STAGE 1
CUT AREA 7 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 2
CUT AREA 4 SQ.FT.
FILL AREA 67 SQ.FT.

STAGE 1
CUT VOLUME 24 CU.YD.
FILL VOLUME 12 CU.YD.

STAGE 2
CUT VOLUME 22 CU.YD.
FILL VOLUME 70 CU.YD.

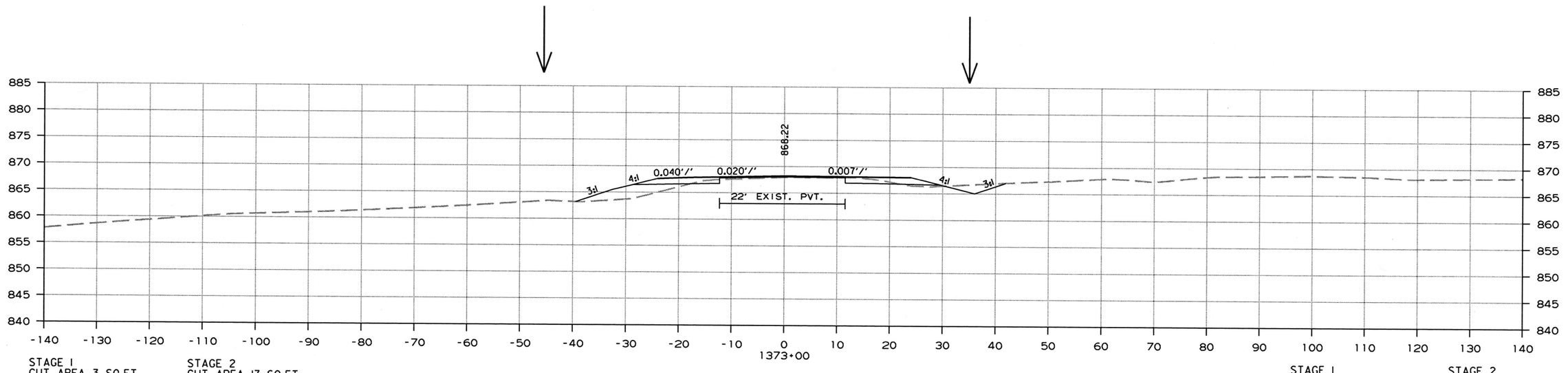
CROSS SECTION STA. 1370+00 TO STA. 1371+00

2/14/2020

R090517.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.		090517	135	148

(2) CROSS SECTIONS

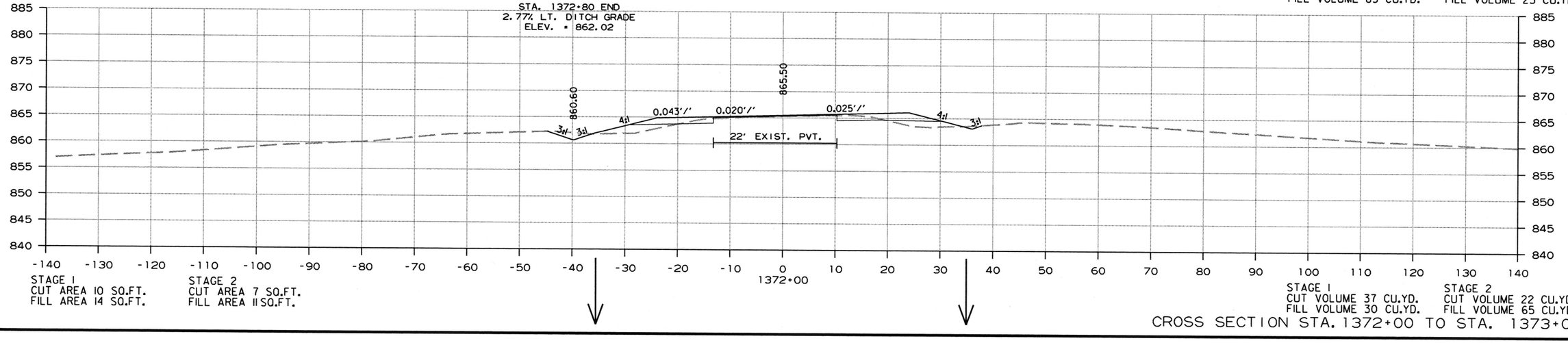


STAGE 1
CUT AREA 3 SQ.FT.
FILL AREA 31 SQ.FT.

STAGE 2
CUT AREA 17 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 1
CUT VOLUME 23 CU.YD.
FILL VOLUME 83 CU.YD.

STAGE 2
CUT VOLUME 45 CU.YD.
FILL VOLUME 25 CU.YD.



STAGE 1
CUT AREA 10 SQ.FT.
FILL AREA 14 SQ.FT.

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 11 SQ.FT.

STAGE 1
CUT VOLUME 37 CU.YD.
FILL VOLUME 30 CU.YD.

STAGE 2
CUT VOLUME 22 CU.YD.
FILL VOLUME 65 CU.YD.

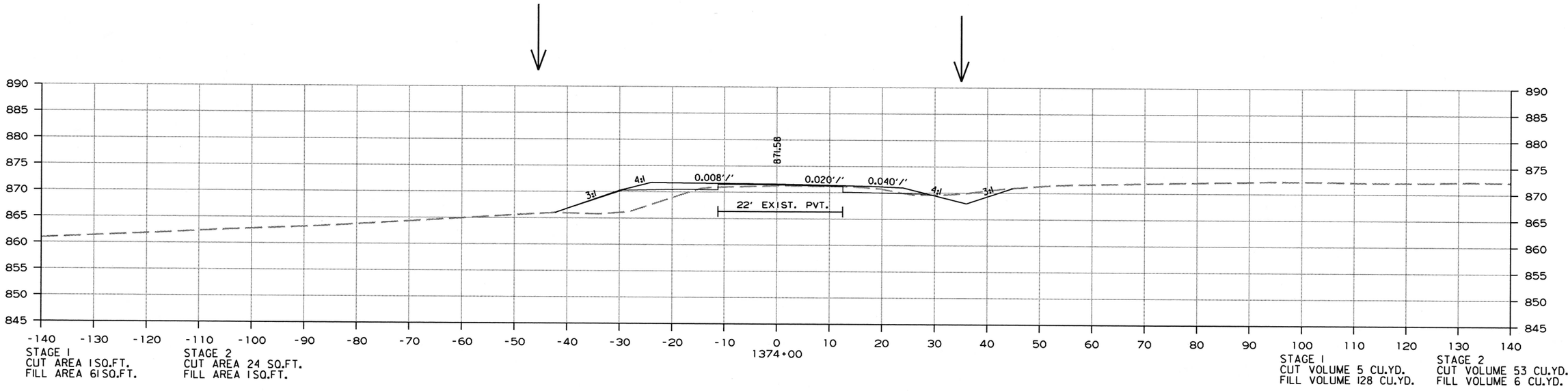
CROSS SECTION STA. 1372+00 TO STA. 1373+00

2/14/2020

R090517.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.		090517	136	148

(2) CROSS SECTIONS

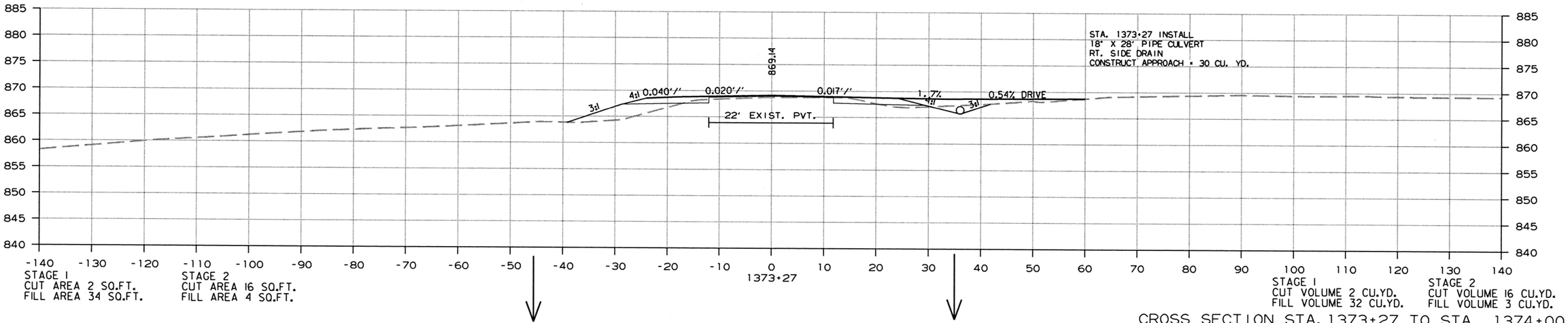


STAGE 1
CUT AREA 1 SQ.FT.
FILL AREA 61 SQ.FT.

STAGE 2
CUT AREA 24 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 128 CU.YD.

STAGE 2
CUT VOLUME 53 CU.YD.
FILL VOLUME 6 CU.YD.



STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 34 SQ.FT.

STAGE 2
CUT AREA 16 SQ.FT.
FILL AREA 4 SQ.FT.

STAGE 1
CUT VOLUME 2 CU.YD.
FILL VOLUME 32 CU.YD.

STAGE 2
CUT VOLUME 16 CU.YD.
FILL VOLUME 3 CU.YD.

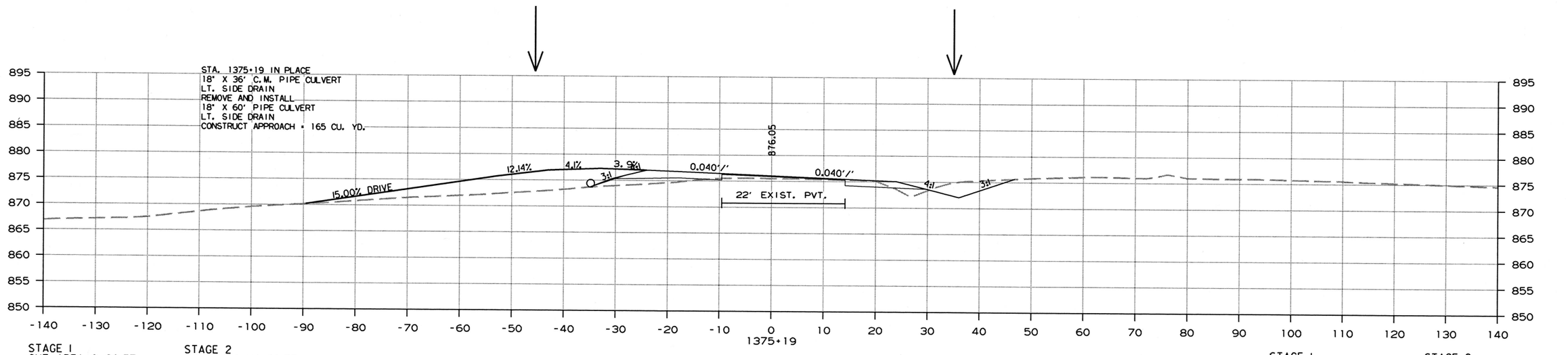
CROSS SECTION STA. 1373+27 TO STA. 1374+00

2/14/2020

R090517.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.		090517	137	148

(2) CROSS SECTIONS

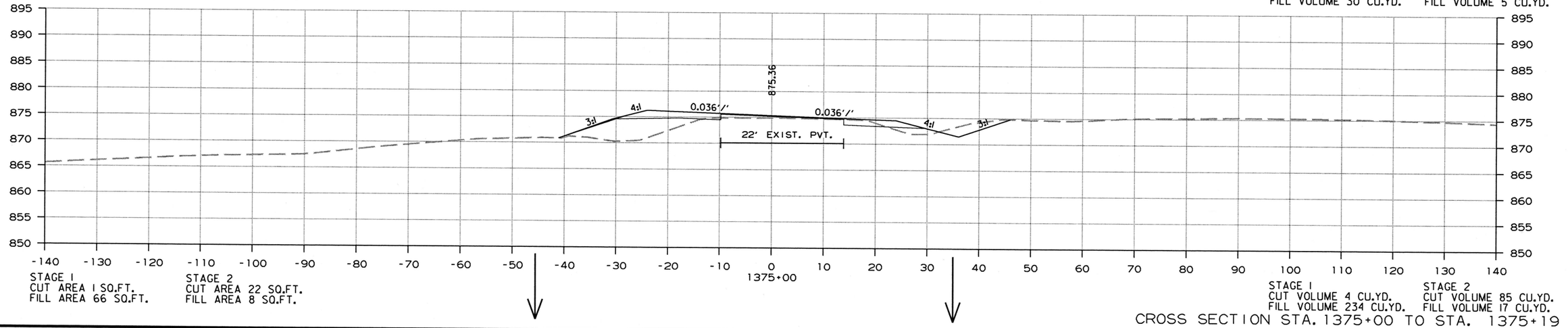


STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 18 SQ.FT.

STAGE 2
CUT AREA 34 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 30 CU.YD.

STAGE 2
CUT VOLUME 20 CU.YD.
FILL VOLUME 5 CU.YD.



STAGE 1
CUT AREA 1 SQ.FT.
FILL AREA 66 SQ.FT.

STAGE 2
CUT AREA 22 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 1
CUT VOLUME 4 CU.YD.
FILL VOLUME 234 CU.YD.

STAGE 2
CUT VOLUME 85 CU.YD.
FILL VOLUME 17 CU.YD.

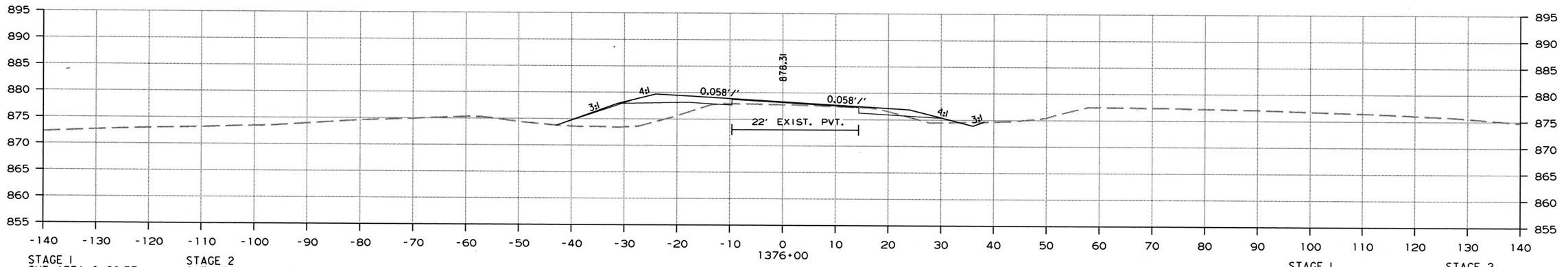
CROSS SECTION STA. 1375+00 TO STA. 1375+19

2/14/2020

R090517.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.		090517	138	148

(2) CROSS SECTIONS

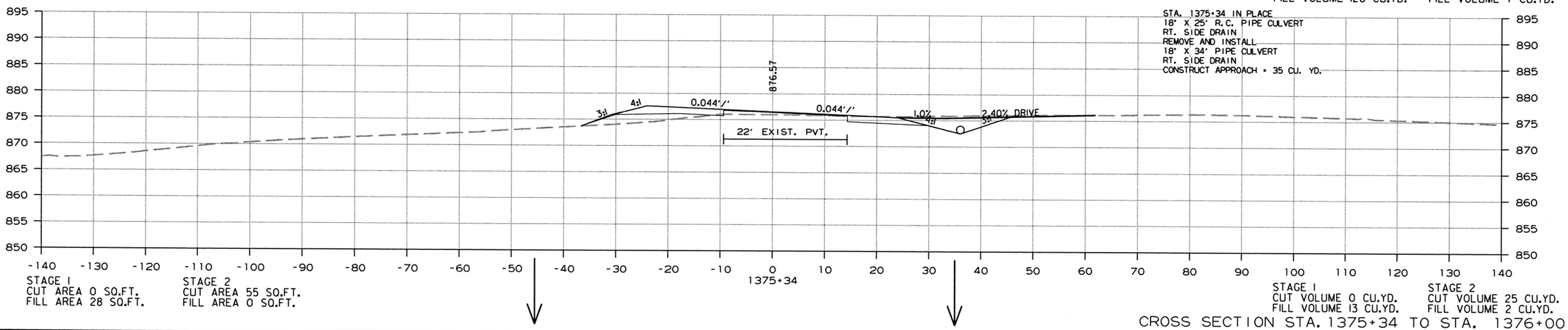


STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 76 SQ.FT.

STAGE 2
CUT AREA 8 SQ.FT.
FILL AREA 6 SQ.FT.

STAGE 1
CUT VOLUME 1 CU.YD.
FILL VOLUME 126 CU.YD.

STAGE 2
CUT VOLUME 77 CU.YD.
FILL VOLUME 7 CU.YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 28 SQ.FT.

STAGE 2
CUT AREA 55 SQ.FT.
FILL AREA 0 SQ.FT.

STA. 1375+34 IN PLACE
18" X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.

STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 13 CU.YD.

STAGE 2
CUT VOLUME 25 CU.YD.
FILL VOLUME 2 CU.YD.

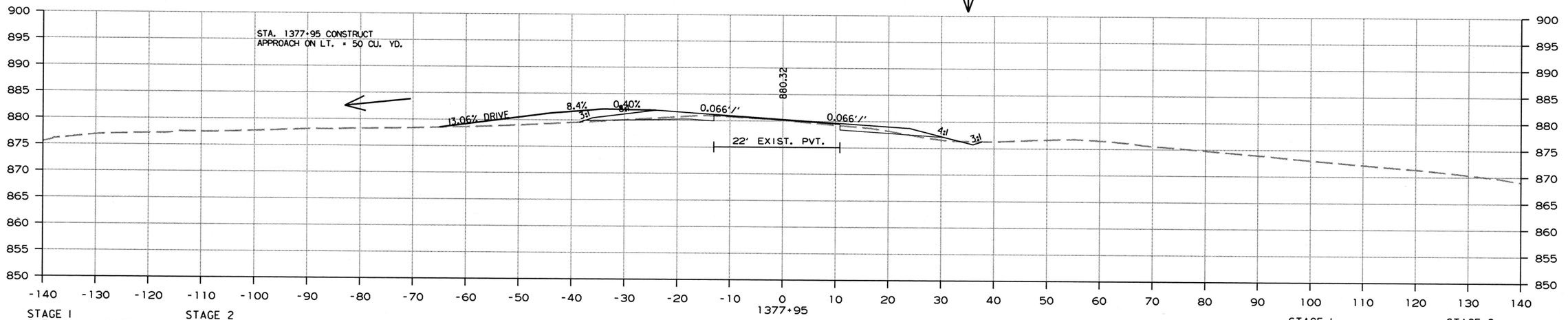
CROSS SECTION STA. 1375+34 TO STA. 1376+00

2/14/2020

R090517.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.		090517	139	148

(2) CROSS SECTIONS

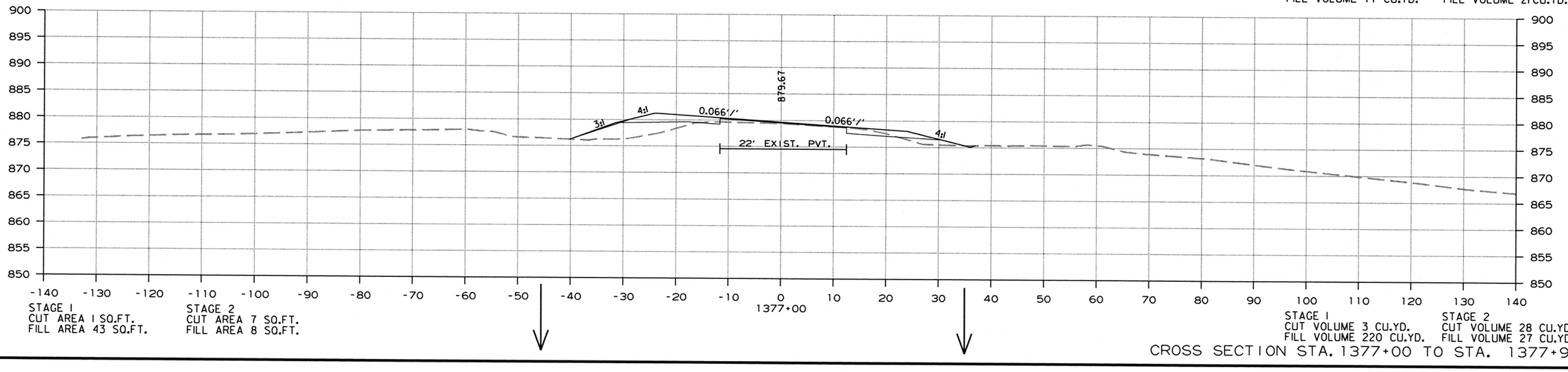


STAGE 1
CUT AREA 7 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 2
CUT AREA 8 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 1
CUT VOLUME 14 CU.YD.
FILL VOLUME 77 CU.YD.

STAGE 2
CUT VOLUME 27 CU.YD.
FILL VOLUME 21 CU.YD.



STAGE 1
CUT AREA 1 SQ.FT.
FILL AREA 43 SQ.FT.

STAGE 2
CUT AREA 7 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 1
CUT VOLUME 3 CU.YD.
FILL VOLUME 220 CU.YD.

STAGE 2
CUT VOLUME 28 CU.YD.
FILL VOLUME 27 CU.YD.

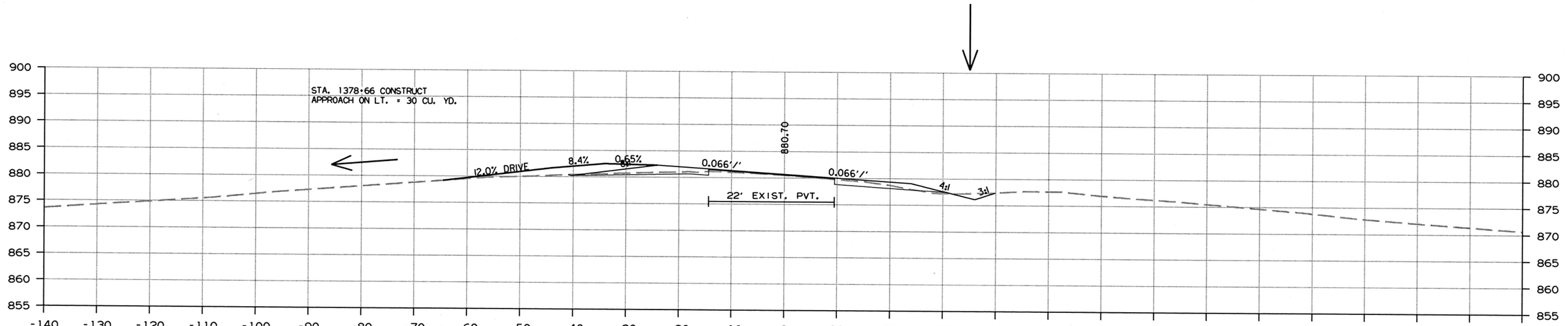
CROSS SECTION STA. 1377+00 TO STA. 1377+95

2/14/2020

R090517.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.		090517	140	148

(2) CROSS SECTIONS

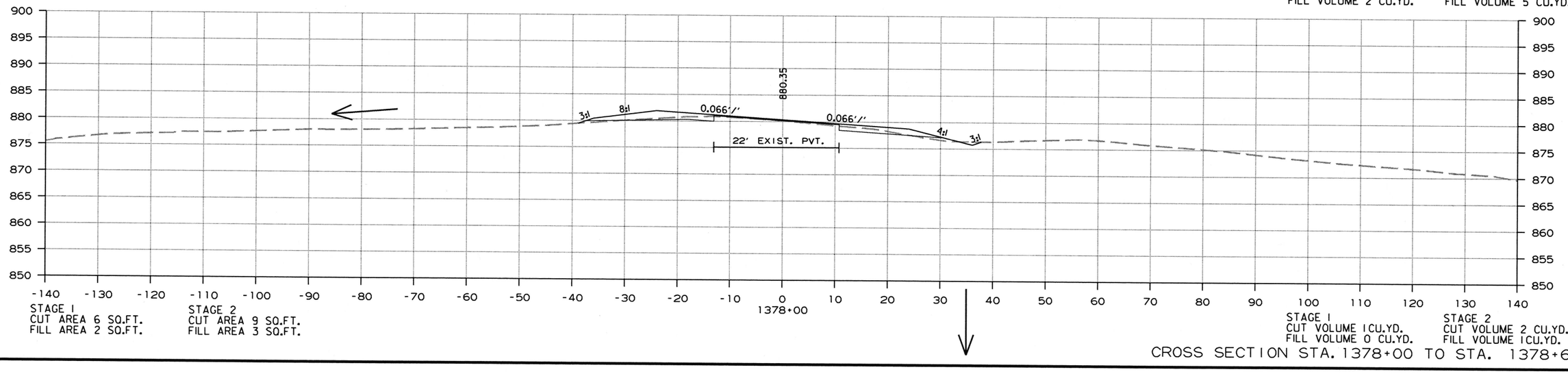


STAGE 1
CUT AREA 8 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 15 SQ.FT.
FILL AREA 1SQ.FT.

STAGE 1
CUT VOLUME 18 CU.YD.
FILL VOLUME 2 CU.YD.

STAGE 2
CUT VOLUME 29 CU.YD.
FILL VOLUME 5 CU.YD.



STAGE 1
CUT AREA 6 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 2
CUT AREA 9 SQ.FT.
FILL AREA 3 SQ.FT.

STAGE 1
CUT VOLUME 1CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 2 CU.YD.
FILL VOLUME 1CU.YD.

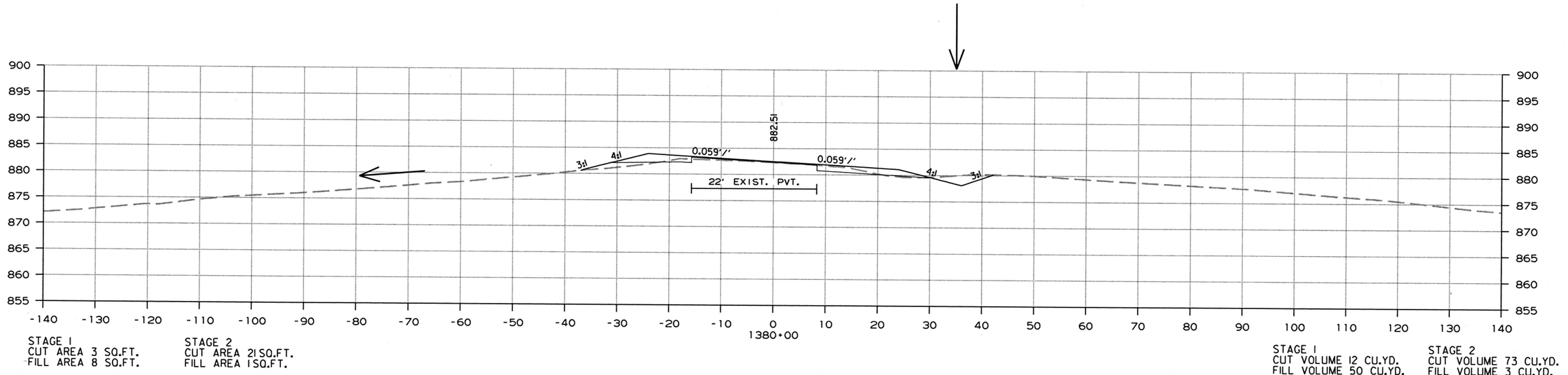
CROSS SECTION STA. 1378+00 TO STA. 1378+66

2/14/2020

R090517.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.		090517	141	148

(2) CROSS SECTIONS

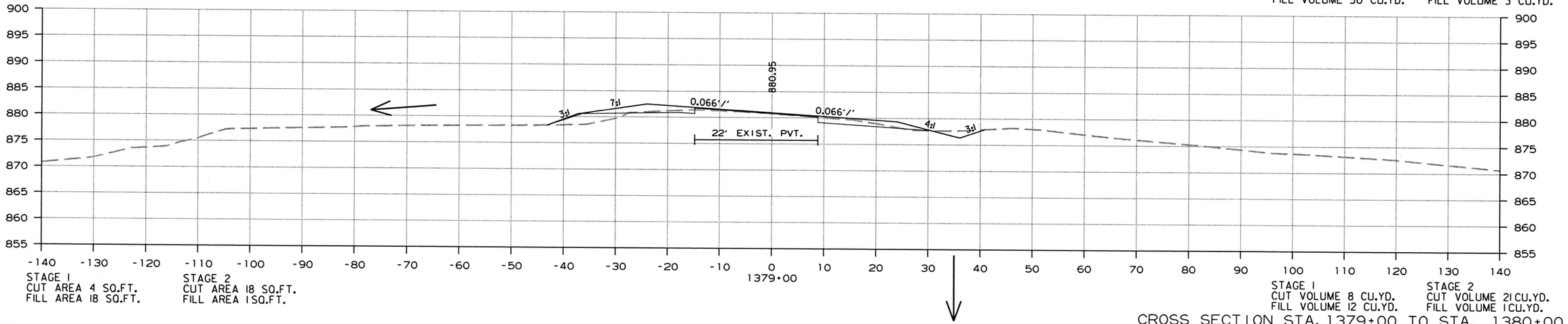


STAGE 1
CUT AREA 3 SQ.FT.
FILL AREA 8 SQ.FT.

STAGE 2
CUT AREA 21 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 12 CU.YD.
FILL VOLUME 50 CU.YD.

STAGE 2
CUT VOLUME 73 CU.YD.
FILL VOLUME 3 CU.YD.



STAGE 1
CUT AREA 4 SQ.FT.
FILL AREA 18 SQ.FT.

STAGE 2
CUT AREA 18 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 8 CU.YD.
FILL VOLUME 12 CU.YD.

STAGE 2
CUT VOLUME 21 CU.YD.
FILL VOLUME 1 CU.YD.

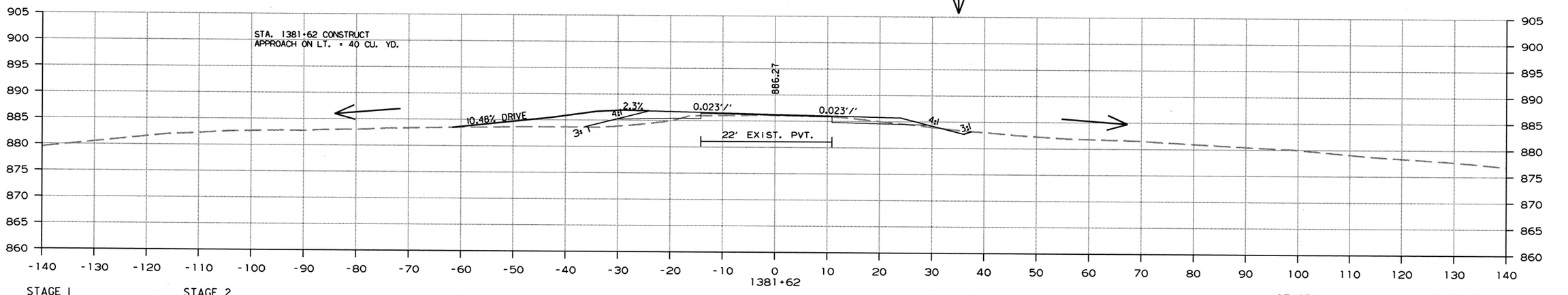
CROSS SECTION STA. 1379+00 TO STA. 1380+00

2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	142	148

(2) CROSS SECTIONS

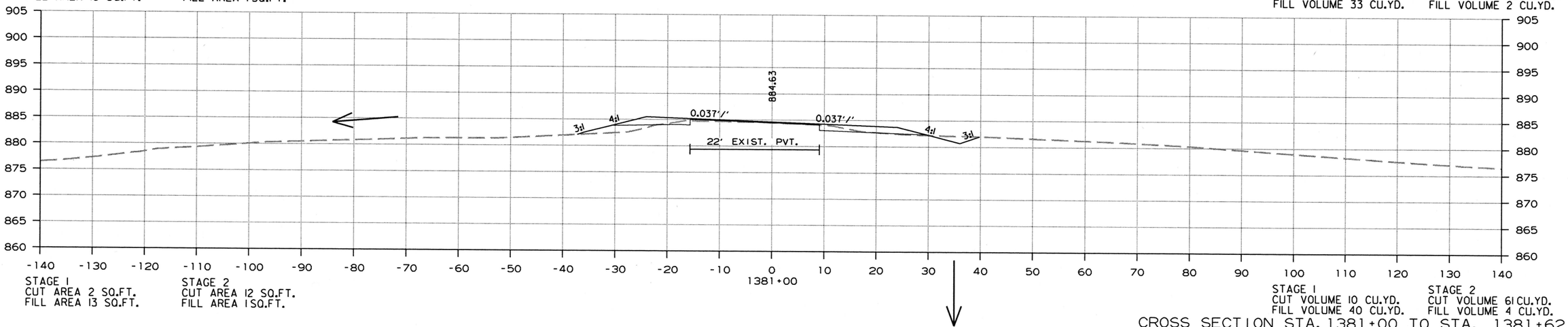


STAGE 1
CUT AREA 150 SQ.FT.
FILL AREA 16 SQ.FT.

STAGE 2
CUT AREA 10 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 5 CU.YD.
FILL VOLUME 33 CU.YD.

STAGE 2
CUT VOLUME 25 CU.YD.
FILL VOLUME 2 CU.YD.



STAGE 1
CUT AREA 2 SQ.FT.
FILL AREA 13 SQ.FT.

STAGE 2
CUT AREA 12 SQ.FT.
FILL AREA 1 SQ.FT.

STAGE 1
CUT VOLUME 10 CU.YD.
FILL VOLUME 40 CU.YD.

STAGE 2
CUT VOLUME 61 CU.YD.
FILL VOLUME 4 CU.YD.

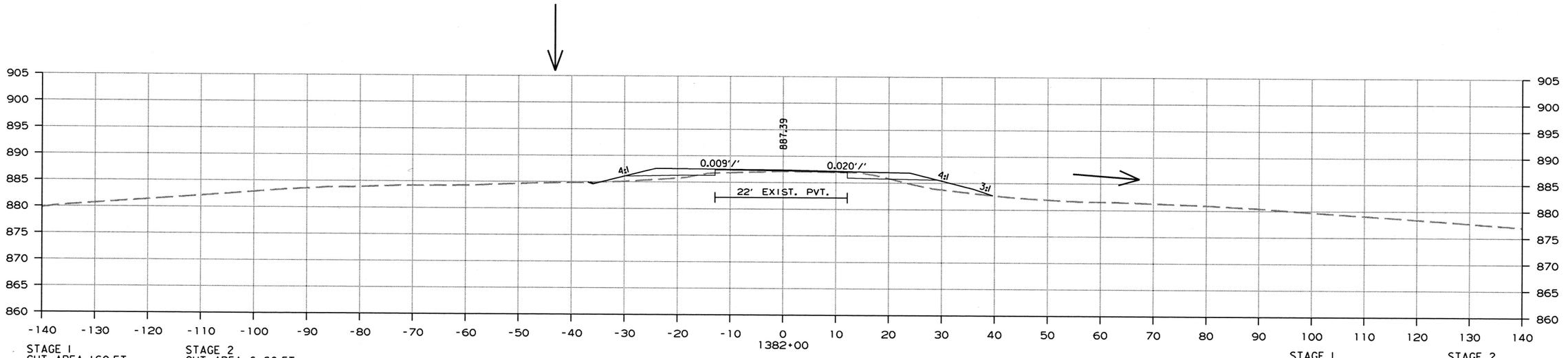
CROSS SECTION STA. 1381+00 TO STA. 1381+62

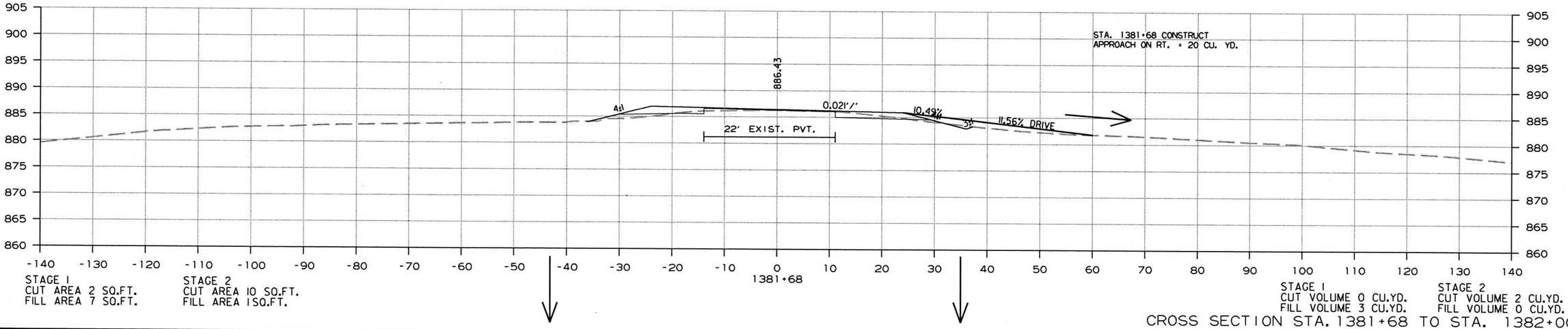
2/14/2020

R090517.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.		090517	143	148

(2) CROSS SECTIONS





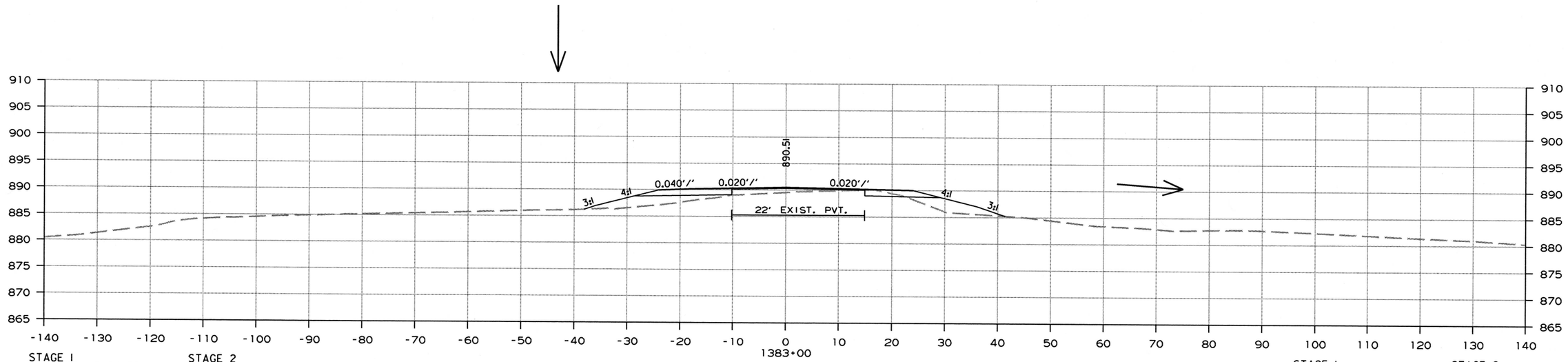
CROSS SECTION STA. 1381+68 TO STA. 1382+00

2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	144	148

(2) CROSS SECTIONS

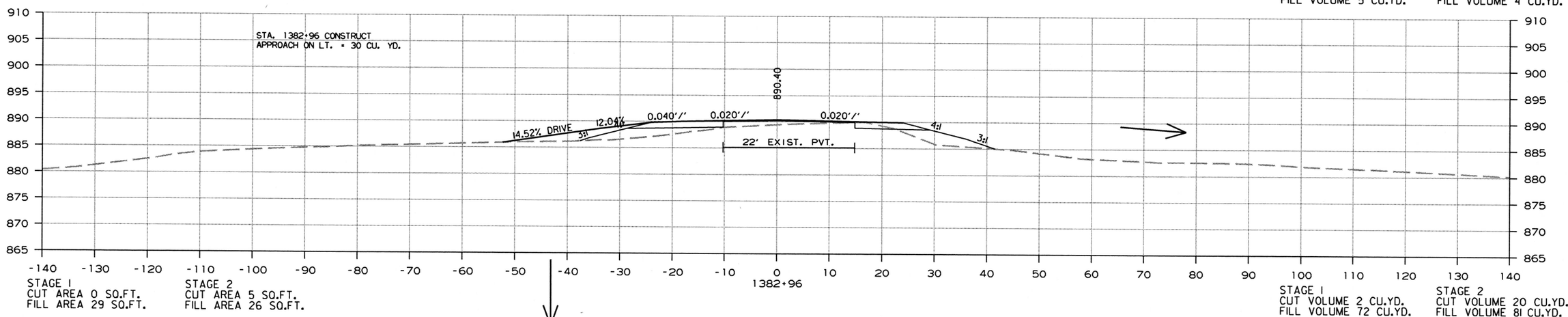


STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 33 SQ.FT.

STAGE 2
CUT AREA 5 SQ.FT.
FILL AREA 26 SQ.FT.

STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 5 CU.YD.

STAGE 2
CUT VOLUME 1 CU.YD.
FILL VOLUME 4 CU.YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 29 SQ.FT.

STAGE 2
CUT AREA 5 SQ.FT.
FILL AREA 26 SQ.FT.

STAGE 1
CUT VOLUME 2 CU.YD.
FILL VOLUME 72 CU.YD.

STAGE 2
CUT VOLUME 20 CU.YD.
FILL VOLUME 81 CU.YD.

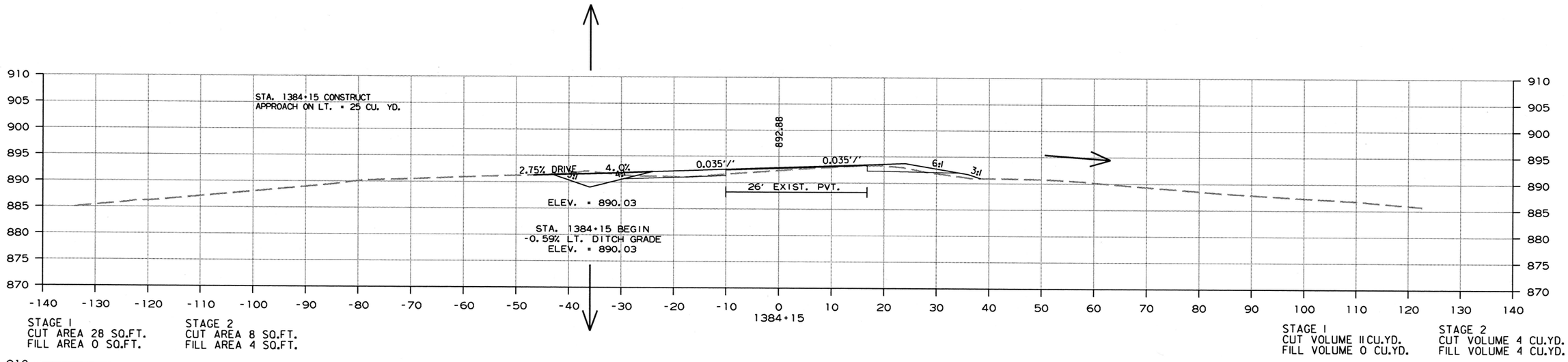
CROSS SECTION STA. 1382+96 TO STA. 1383+00

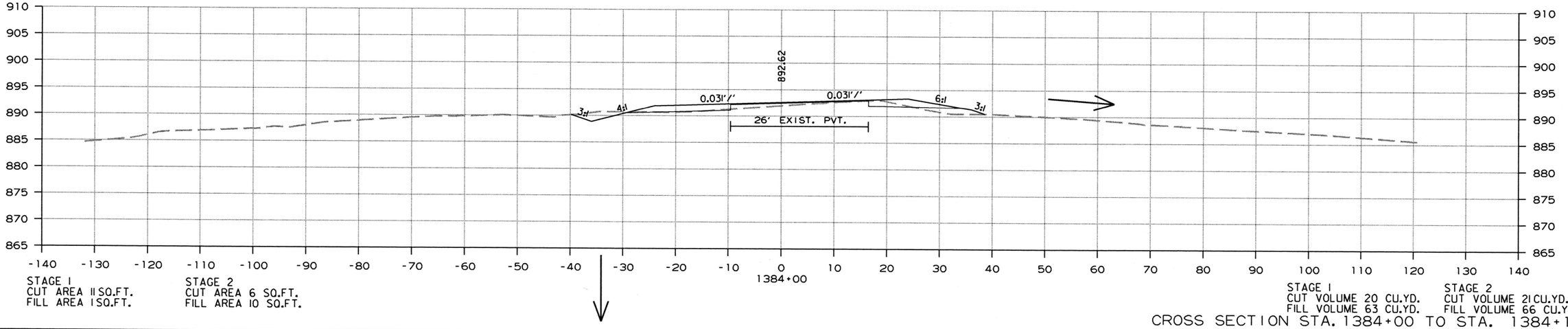
2/14/2020

R090517.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.		090517	145	148

(2) CROSS SECTIONS





CROSS SECTION STA. 1384+00 TO STA. 1384+15

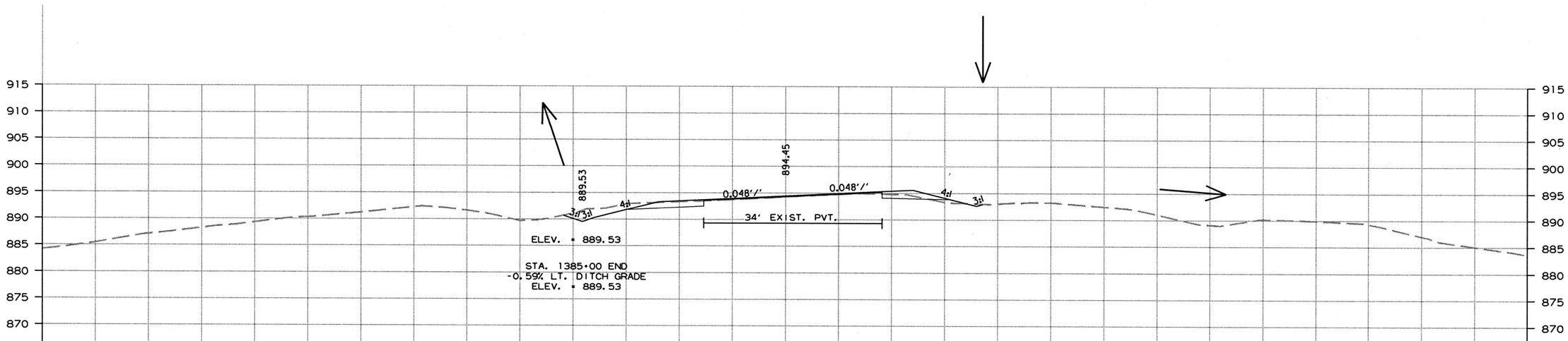
2/14/2020

R090517.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.		090517	146	148

(2) CROSS SECTIONS

STA. 1385+76.76
END TWLTL & BEGIN
289.50' MILL & INLAY

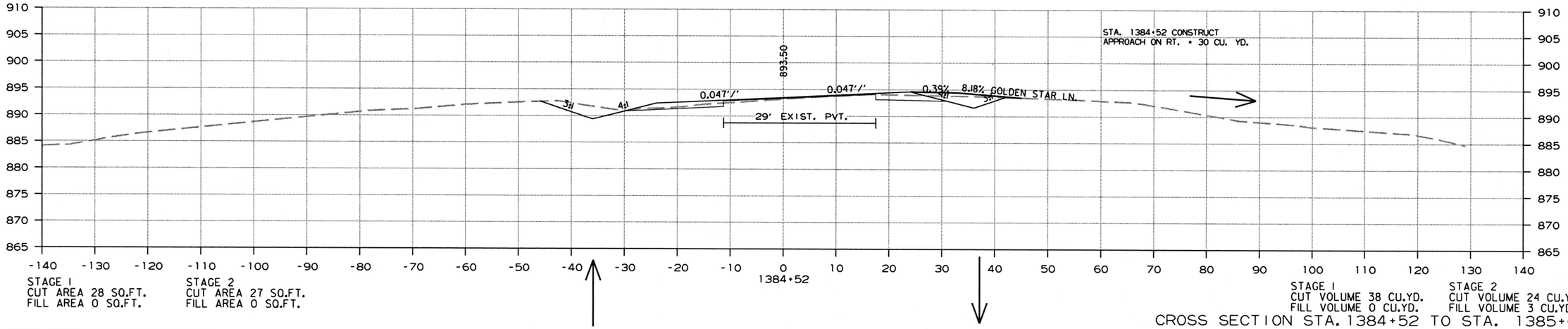


STAGE 1
CUT AREA 31 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 6 SQ.FT.
FILL AREA 2 SQ.FT.

STAGE 1
CUT VOLUME 53 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 29 CU.YD.
FILL VOLUME 2 CU.YD.



STAGE 1
CUT AREA 28 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 27 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 38 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 24 CU.YD.
FILL VOLUME 3 CU.YD.

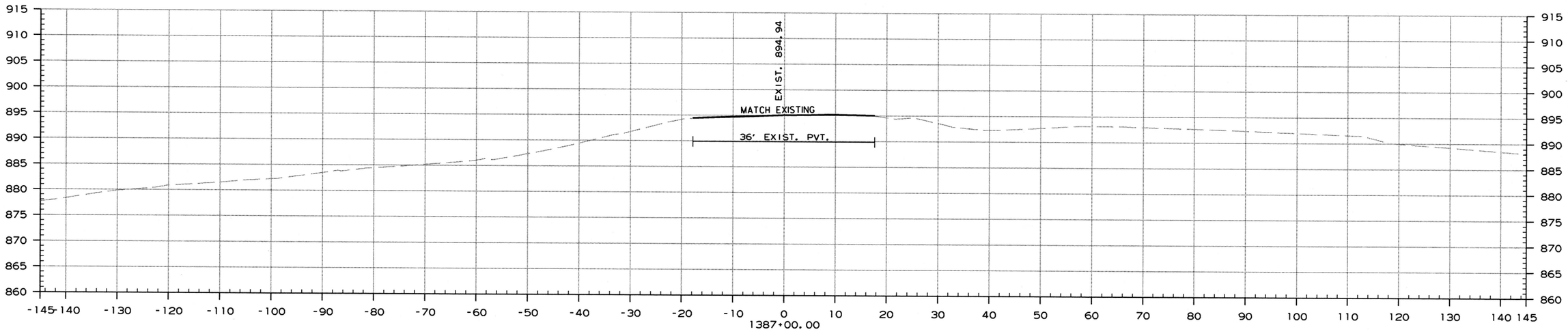
CROSS SECTION STA. 1384+52 TO STA. 1385+00

2/14/2020

R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	147	148

(2) CROSS SECTIONS

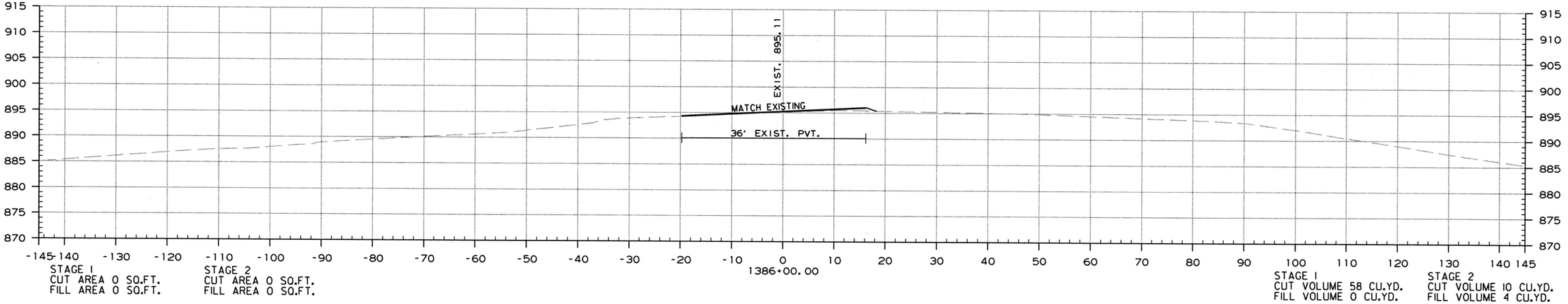


STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 58 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 10 CU.YD.
FILL VOLUME 4 CU.YD.

STA. 1386+00.00 TO STA. 1387+00.00

mh39735 2/14/2020
R090517.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090517	148	148

(2) CROSS SECTIONS

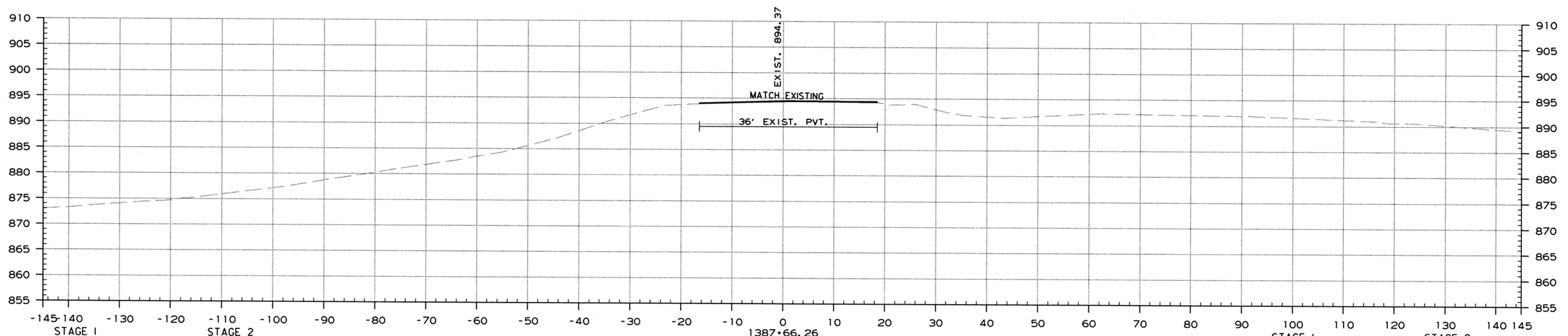
STA. 1388+66.26
END 289.50' MILL & INLAY

STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.



STAGE 1
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

STAGE 2
CUT AREA 0 SQ.FT.
FILL AREA 0 SQ.FT.

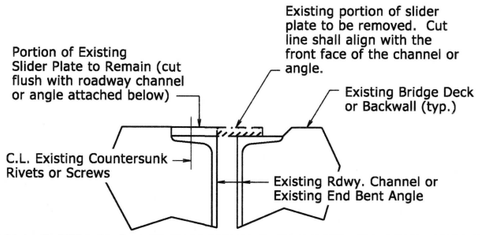
STAGE 1
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

STAGE 2
CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

STA. 1387+66.66 TO STA. 1387+66.66

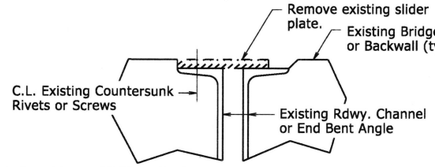
mh39735 2/14/2020
R090517.DGN

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	JOINT REPAIR - 55064			



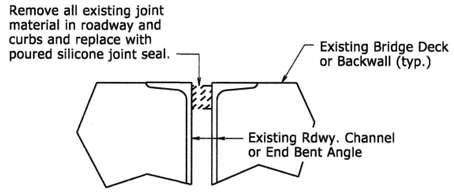
REMOVAL DETAILS AT EXISTING SLIDER PLATE JOINTS

At the direction of the Engineer, the portion of existing slider plate shown shall be removed and replaced with a new plate as shown in "SLIDER PLATE JOINT MODIFICATION". The portion of existing slider plate shall be removed and disposed of in accordance with Section 821. The cut face shall be ground square and flush with the face of the existing angle or channel. Removal and disposal of existing slider plate material will not be paid for directly, but shall be considered subsidiary to the item "Silicone Joint Sealant". Properly functioning slider plates need not be modified.



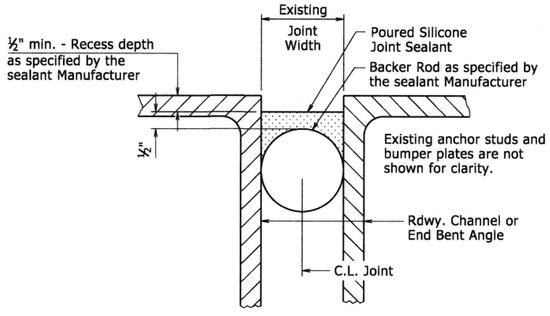
REMOVAL DETAILS AT EXISTING SLIDER PLATE JOINTS WITH GRADE RAISE

The existing slider plate shown shall be removed and replaced with new plates as shown in "JOINT MODIFICATION WITH GRADE RAISE". The existing slider plate shall be removed and disposed of in accordance with Section 821. Removal and disposal of existing slider plate material will not be paid for directly, but shall be considered subsidiary to the item "Silicone Joint Sealant".



REMOVAL DETAILS AT EXISTING FILLED JOINTS

The existing joint material shall be removed and disposed of in accordance with Section 821. Removal and disposal of existing joint material will not be paid for directly, but shall be considered subsidiary to the item "Silicone Joint Sealant".



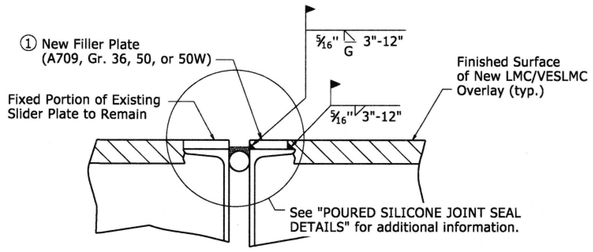
POURED SILICONE JOINT SEAL DETAILS

Existing Joint Seal shall be completely removed, backer rods placed, and Silicone Joint Sealant installed across the entire width of the bridge deck in accordance with these details, Section 809, and the Manufacturer's recommendations. Removal of existing Joint Seal will not be paid for directly, but shall be considered incidental to the item "Silicone Joint Sealant".

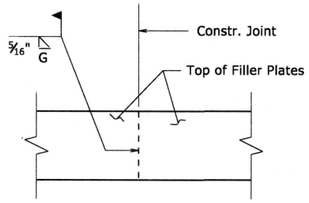
Backer rods shall be extended beyond the length of the poured joint in the initial joint repair area so that the two pieces can be properly spliced together prior to installing sealant for the adjacent joint repair. Manufacturer's recommendations shall be followed to prevent sealant leakage during repair work.

Backer rods shall be appropriately sized and set to the depth shown in the Manufacturer's literature based on the joint width at the time of sealing. Except as noted, do not install more backer rod than can be sealed in the same day. The Contractor shall verify separation of the backer rod from the joint material after joint material has set.

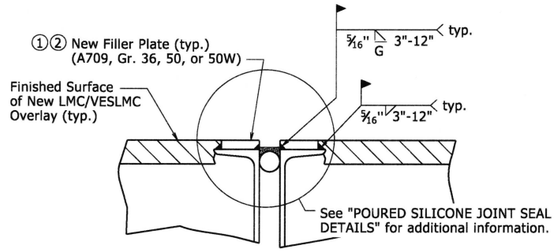
Backer rod shall be notched or otherwise fit around any existing seal supports or bumper plates to maintain its proper depth as defined above.



SLIDER PLATE JOINT MODIFICATION



PLAN VIEW OF FILLER PLATE

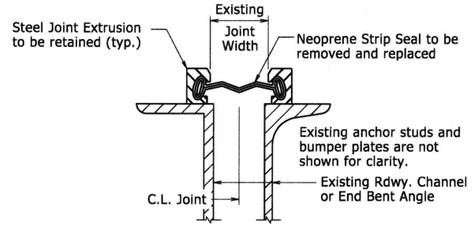


JOINT MODIFICATION WITH GRADE RAISE

① New field attached plates atop existing roadway channels or angles are required. The plate thickness shall be adjusted as necessary to match surface of finished surface of LMC/VESLMC Overlay and the width shall be ⅜" less than the existing channel flange or angle width to allow for fillet weld as shown.

All new Structural Steel shall be ASTM A709 (Gr. 36, 50, or 50W). The surfaces not in contact with concrete shall be cleaned and painted in accordance with Section 638. Only one coat of paint is required and shall be applied in the fabricator's shop. Grade 50W steel shall not be painted, but shall be cleaned in accordance with Subsection 807.84(e). Structural Steel and Painting will not be paid for directly, but shall be subsidiary to the item "Silicone Joint Sealant".

② Details shown are for an expansion joint where two bridge units meet. Eliminate filler plate on backwall and proceed with backwall repair in accordance with "BACKWALL REPAIR REMOVAL DETAIL" and "BACKWALL REPAIR INSTALLATION DETAIL" at end bents for bridge decks with grade raise, see Standard Drawing Number 55065.



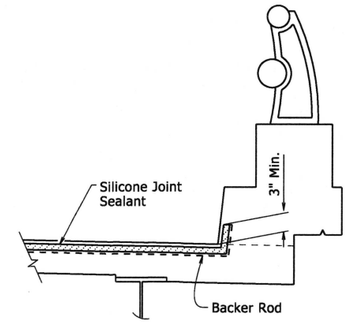
STRIP SEAL JOINT DETAILS

Existing neoprene strip seal joint material shall be completely removed and new neoprene strip seal joint material shall be installed across the entire width of the steel extrusions in accordance with these details, Section 809, and the Manufacturer's recommendations. Prior to installing the new joint material, the Contractor shall clean the steel extrusion at the Engineer's direction and in accordance with the new strip seal joint material Manufacturer's recommendations.

Removal and replacement of the existing neoprene strip seal joint material will require the removal of the parapet slider plates, where present. Parapet slider plates removed for this work shall be reinstalled after installation of the new neoprene strip seal joint material.

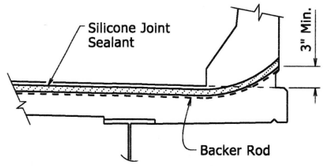
The new neoprene strip seal joint material shall provide a movement rating of four inches. The repaired expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

All work and material associated with removing the existing joint material, cleaning the extrusions, removal and reinstallation of parapet slider plates, and installation of new joint material shall be paid for under the item "Modification of Existing Bridge Structure (Bridge No. _)".

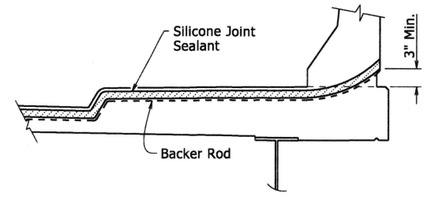


SILICONE JOINT SEAL PLACEMENT AT CURB

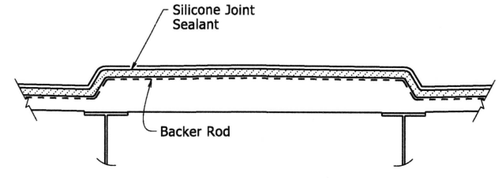
Vertical joints may require forming. The clearance from deck surface to joint material shall be maintained.



SILICONE JOINT SEAL PLACEMENT AT RAIL



SILICONE JOINT SEAL PLACEMENT AT SIDEWALK



SILICONE JOINT SEAL PLACEMENT AT MEDIAN

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on November 7, 2019. This copy is not a signed and sealed document.

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

BRIDGE ENGINEER

STANDARD DETAILS FOR JOINT REPAIRS & MODIFICATIONS

ROUTE SEC.

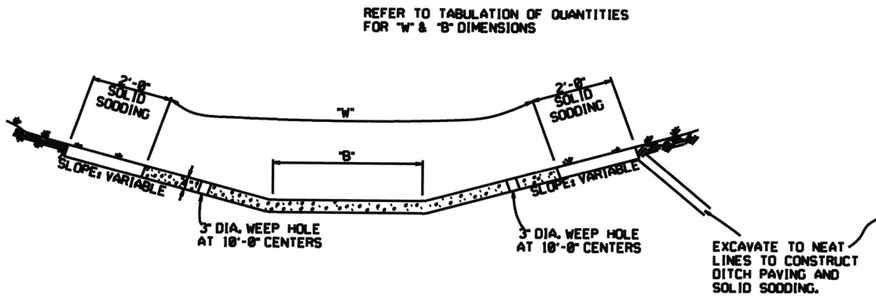
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

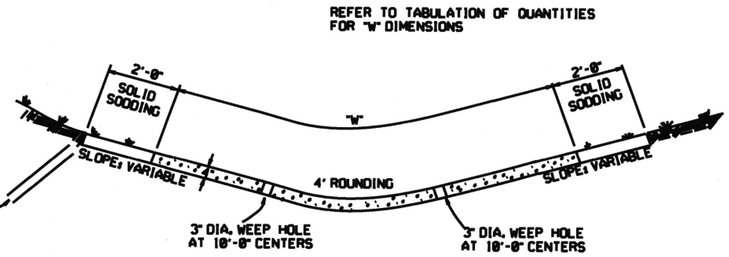
DRAWN BY: KWY DATE: 11/7/2019
CHECKED BY: SWP DATE: 11/7/2019
DESIGNED BY: STD. DATE: -------
FILENAME: b55064.dgn
SCALE: None

DRAWING NO. 55064

PRINT DATE: 11/7/2019

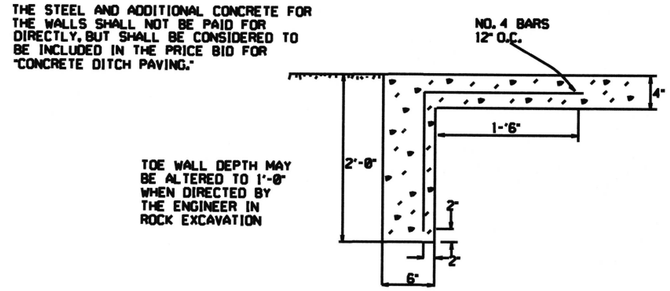


TYPE A

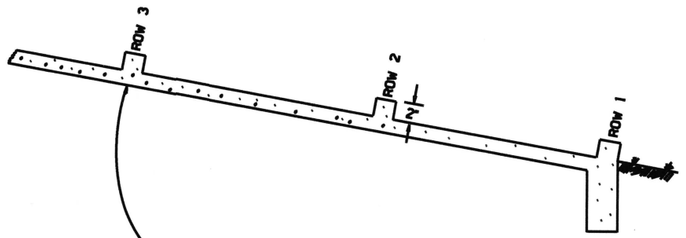


TYPE B

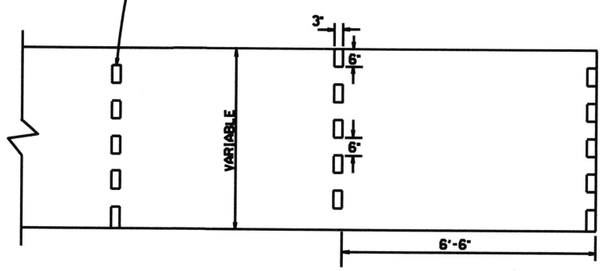
THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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.



ENERGY DISSIPATORS
(NO SCALE)

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.

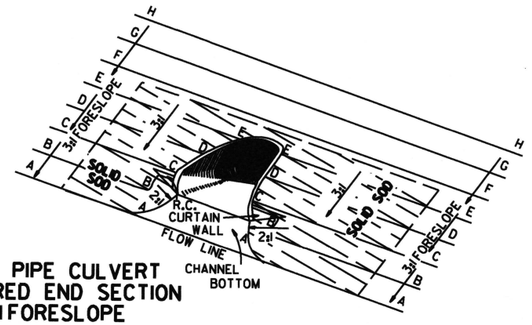
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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
1-5-87	MODIFIED NOTE ON ENERGY DISS.	632-1-5-87
11-3-86	ADDED NOTE TO ENERGY DISS.	593-12-1-86
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

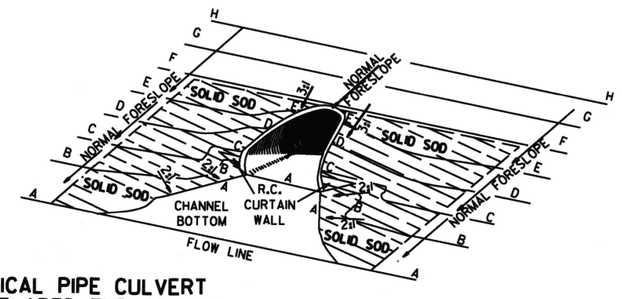
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

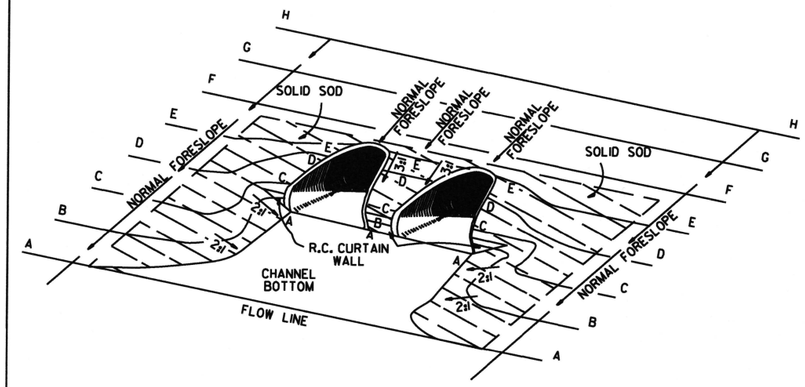
STANDARD DRAWING CDP-1



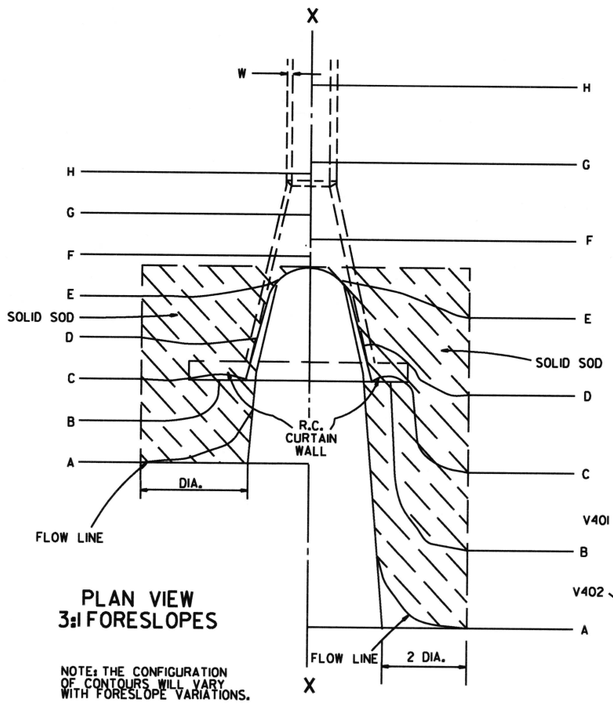
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



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

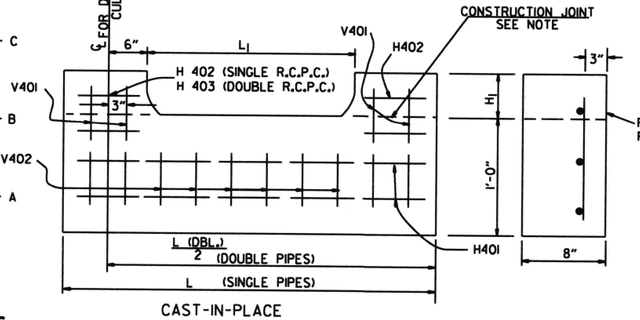
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

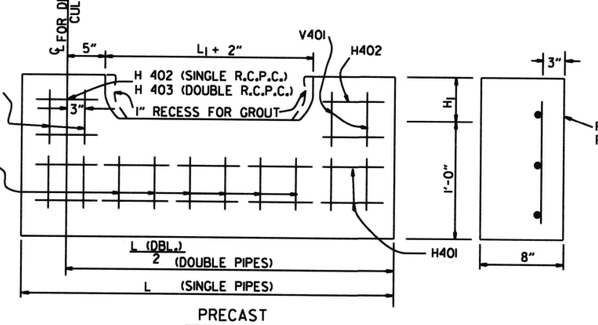
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	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.



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

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403	H403 NO.	V401 L	V401 NO.	V402 L	V402 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.

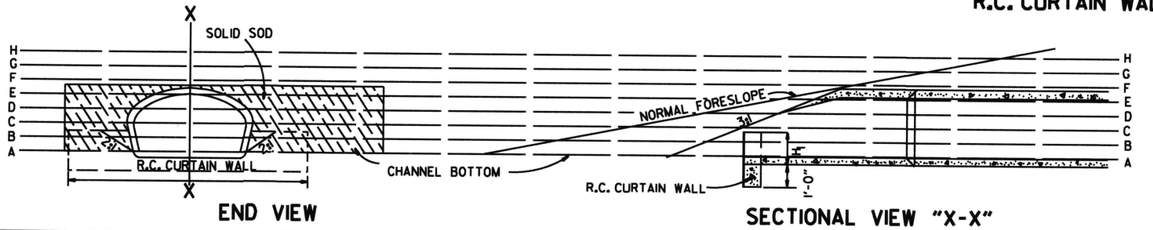
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	SINGLE R.C.P.C. 4:1	SINGLE R.C.P.C. 6:1	DOUBLE R.C.P.C. 3:1	DOUBLE R.C.P.C. 4:1	DOUBLE R.C.P.C. 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	66	104	48	69	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- 1-94	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	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

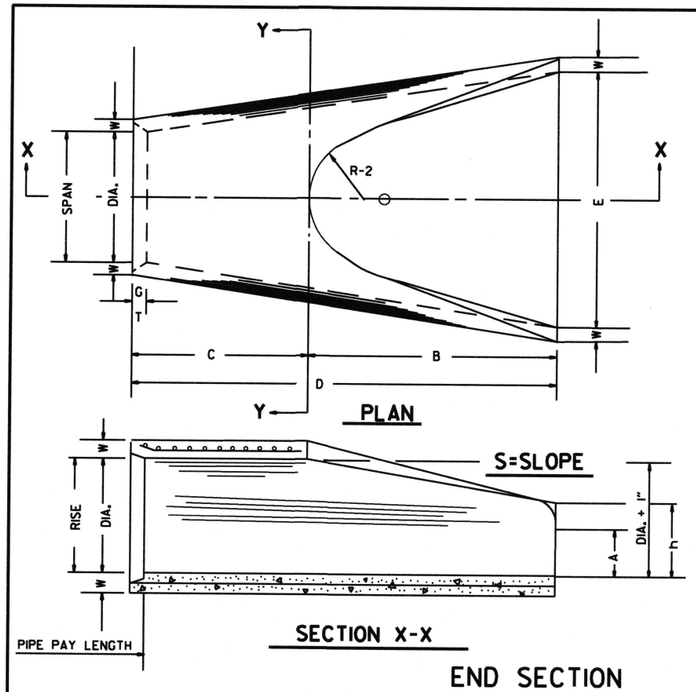
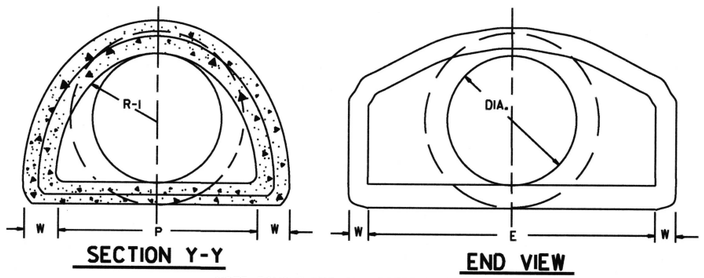


TABLE OF DIMENSIONS

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"	3sl	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3sl	25"	33⅜"	16⅝"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3sl	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3sl	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3sl	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3sl	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3sl	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3sl	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3sl	73"	77⅛"	38⅝"	24"	5"	13250	4'-6"

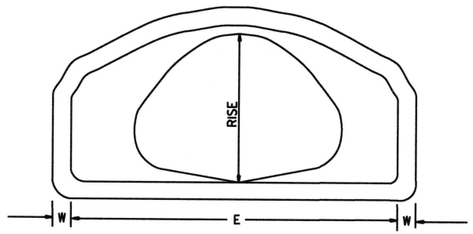


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE

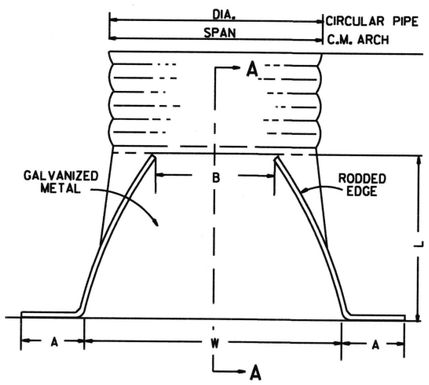
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½sl
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½sl
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½sl
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅛"	15"	2½"	2½sl
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-01/2"	6'-1½"	6'-0"	47⅛"	20"	3"	2½sl
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½sl
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½sl
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½sl
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2¼sl
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅛"	24"	5"	2¼sl

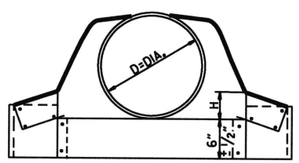
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



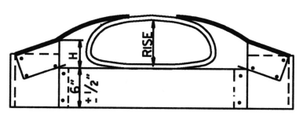
END VIEW
CONCRETE ARCH PIPE

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS





CIRCULAR PIPE



C.M. ARCH PIPE

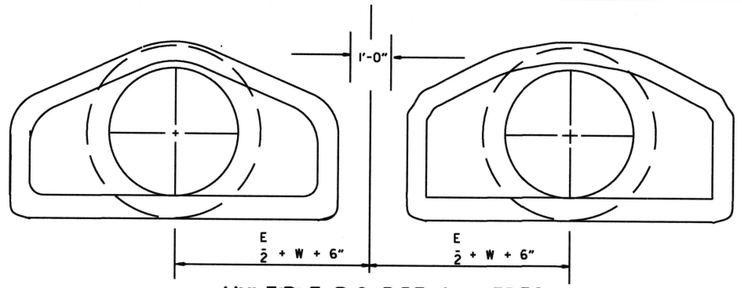
CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½sl
15	16	7	8	6	26	30	2½sl
18	16	8	10	6	31	36	2½sl
21	16	9	12	6	36	42	2½sl
24	16	10	13	6	41	48	2½sl
30	14	12	16	8	51	60	2½sl
36	14	14	19	9	60	72	2½sl
42	12	16	22	11	69	84	2½sl
48	12	18	27	12	78	90	2½sl
54	12	18	30	12	84	102	2sl
60	12	18	33	12	87	114	1¾sl
66	12	18	36	12	87	120	1½sl
72	12	18	39	12	87	126	1 1/3sl

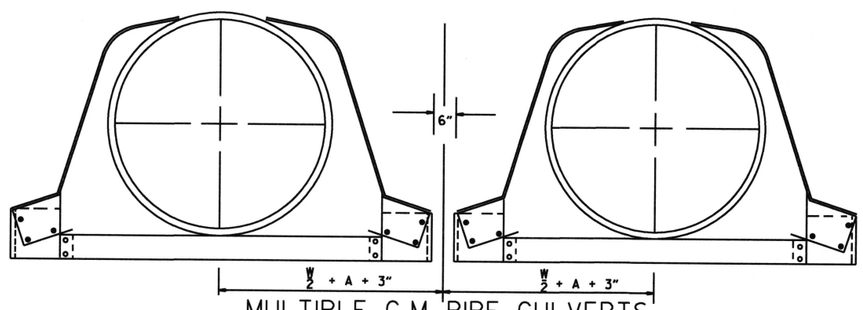
C.M. ARCH PIPE

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	2½sl	16
18"	21	15	7	10	6	23	36	2½sl	16
21"	24	18	8	12	6	28	42	2½sl	16
24"	28	20	9	14	6	32	48	2½sl	16
30"	35	24	10	16	6	39	60	2½sl	14
36"	42	29	12	18	8	46	75	2½sl	14
42"	49	33	13	21	9	53	85	2½sl	12
48"	57	38	18	26	12	63	90	2½sl	12
54"	64	43	18	30	12	70	102	2¼sl	12
60"	71	47	18	33	12	77	114	2¼sl	12

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



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

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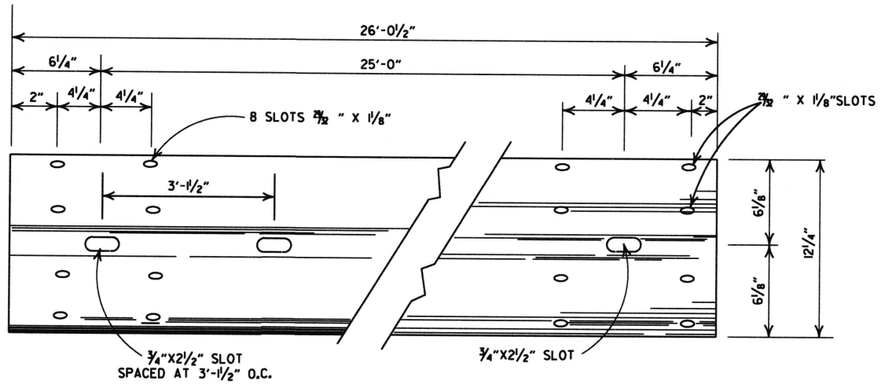
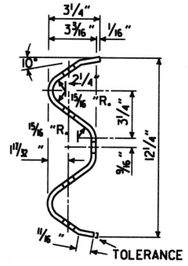
FLARED END SECTION

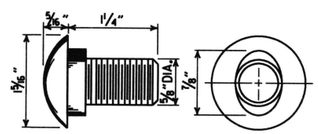
STANDARD DRAWING FES-2



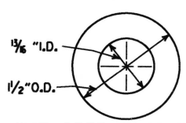


DETAILS OF W-BEAM GUARDRAIL

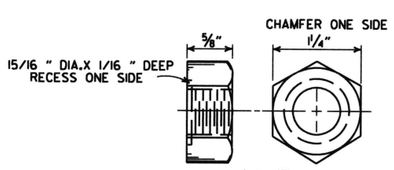
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



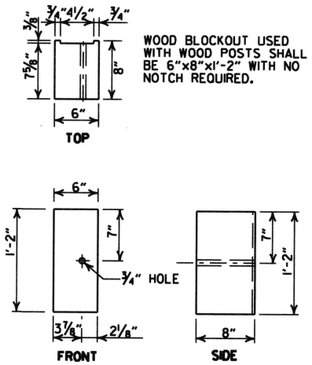
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

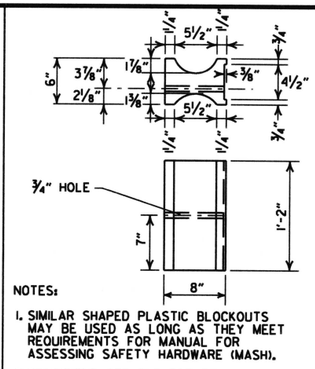


NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

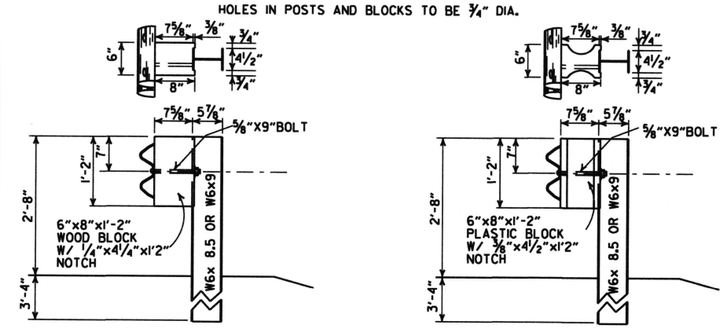
WOOD BLOCKOUT (W-BEAM)



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.

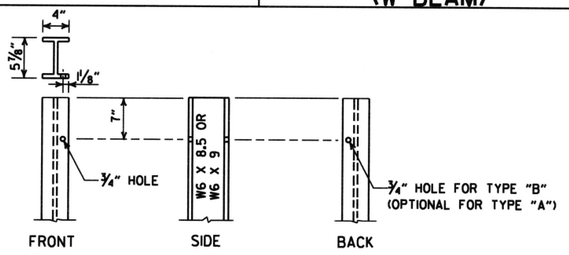
PLASTIC BLOCKOUT (W-BEAM)



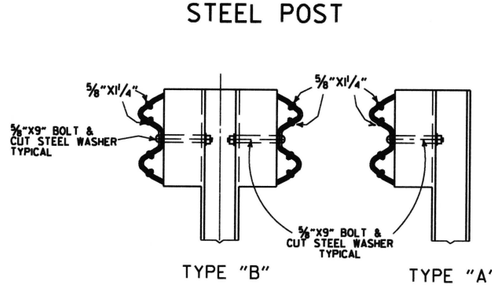
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



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.

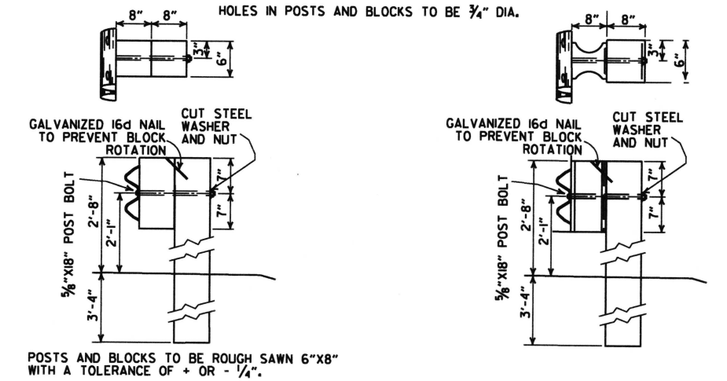
W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

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.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

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

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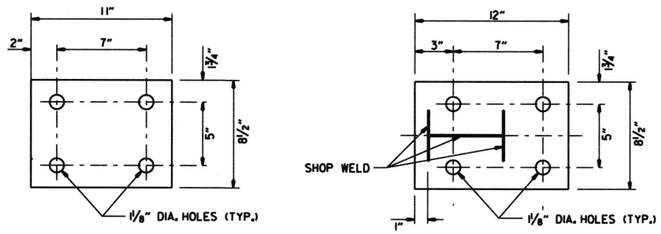
GUARDRAIL DETAILS

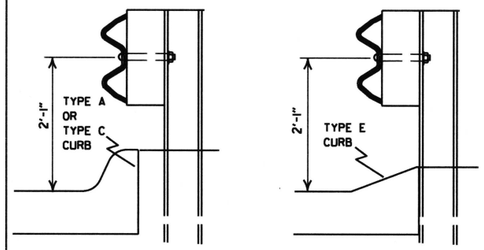
STANDARD DRAWING GR-6



WASHER PLATE

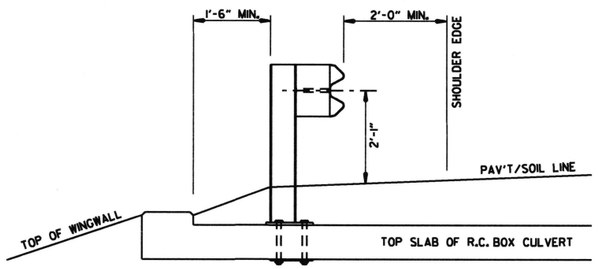
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

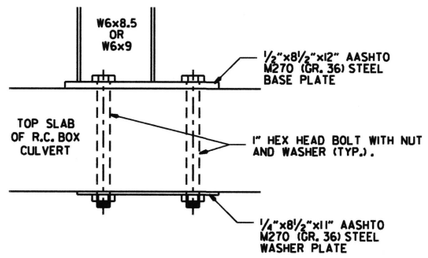


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

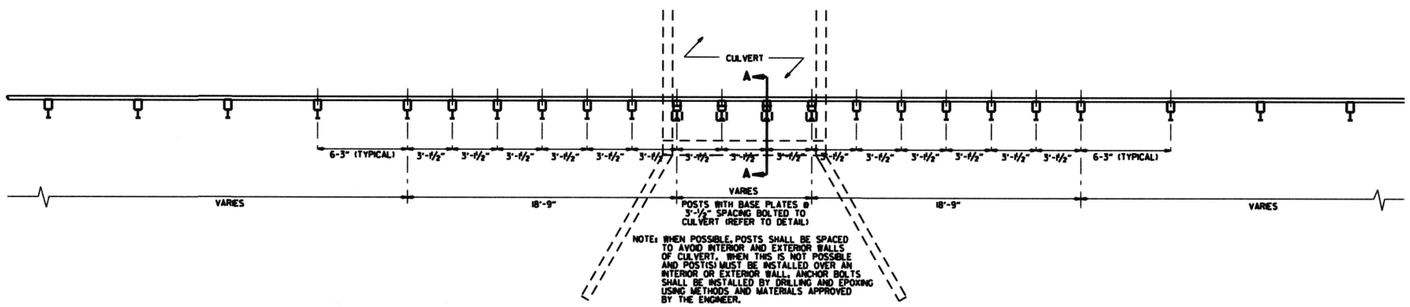
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



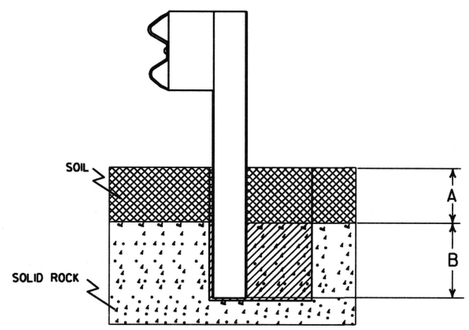
DETAIL OF CONNECTION



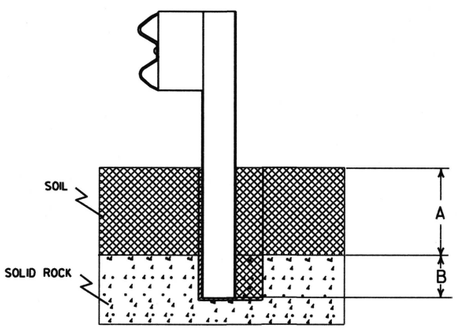
PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

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.

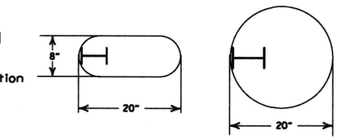
Case 1

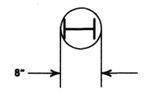


Case 2

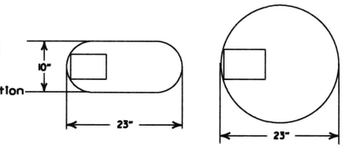


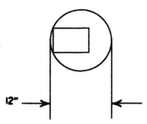
Plan View Steel Posts
Either hole configuration acceptable





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)

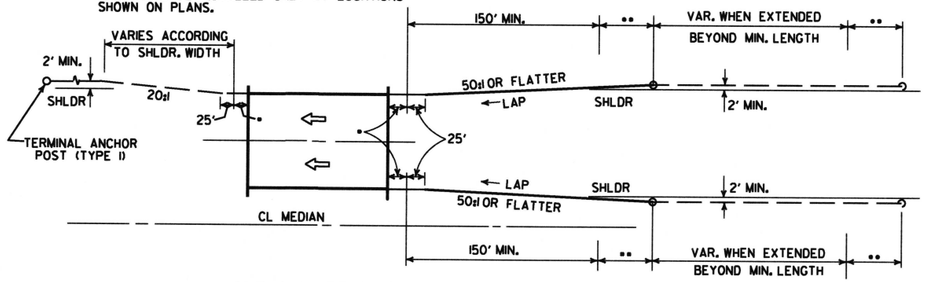
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST 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

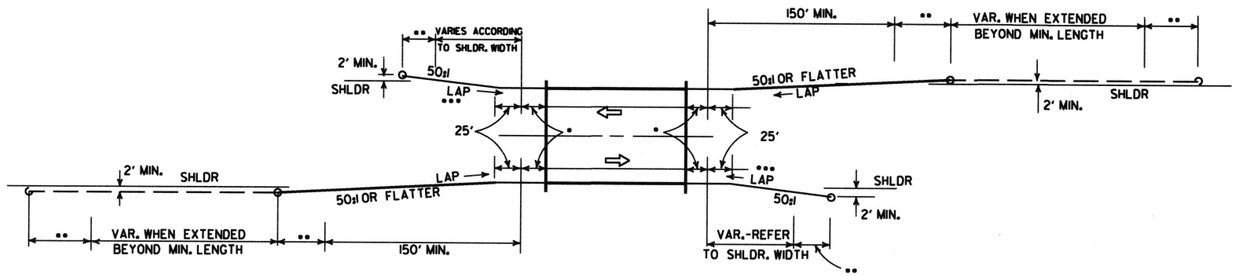
STANDARD DRAWING GR-7

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

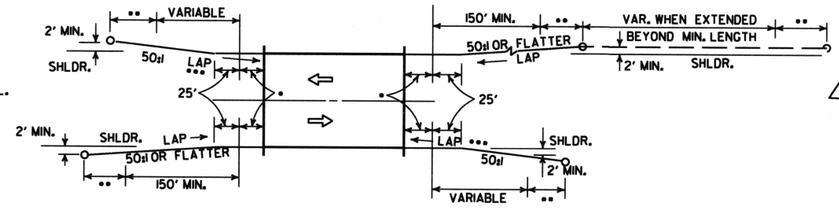
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

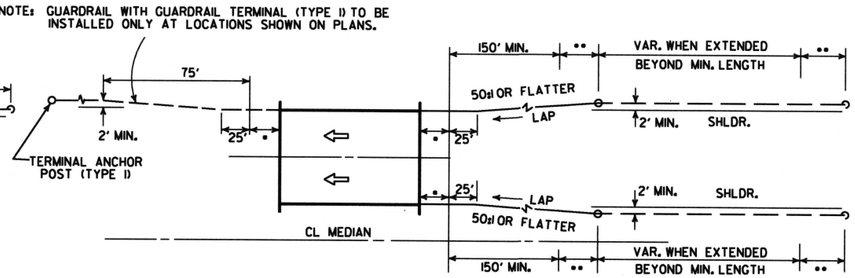
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

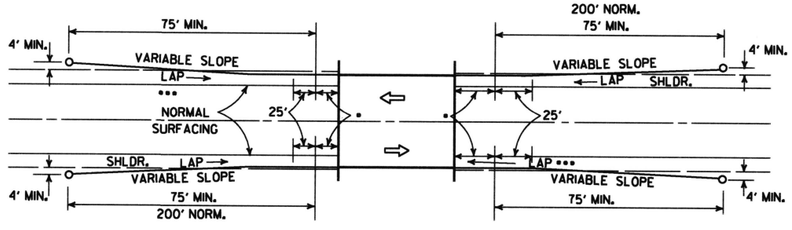
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



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

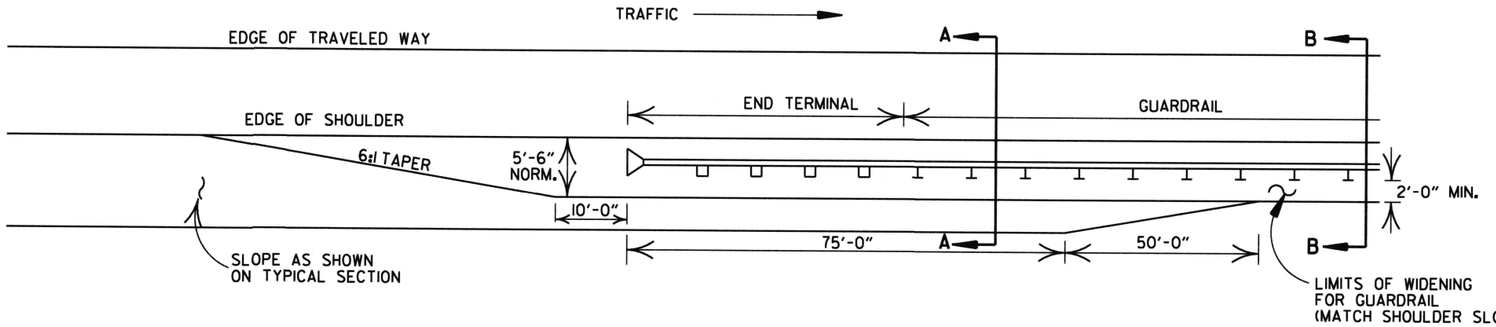
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

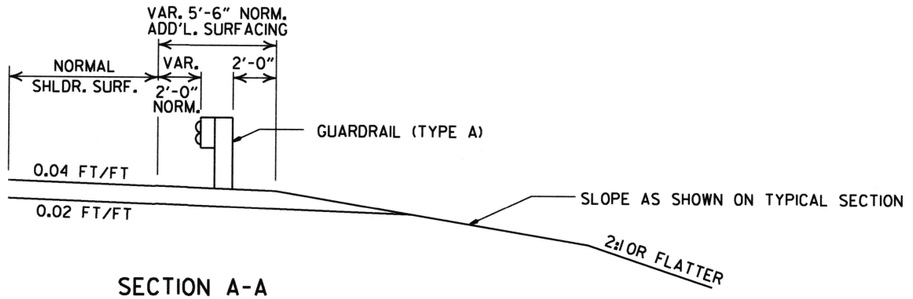
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

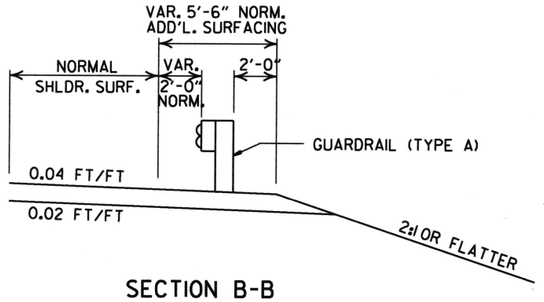
GUARDRAIL DETAILS

STANDARD DRAWING GR-8



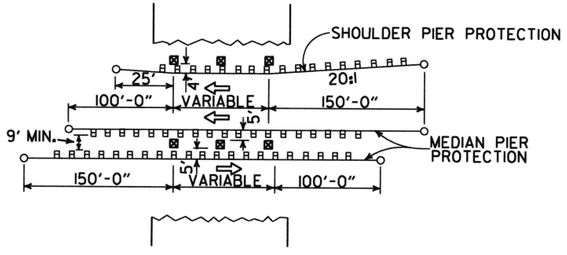


SECTION A-A



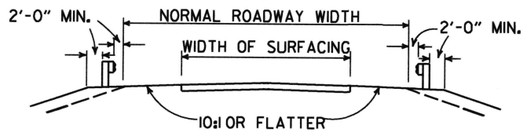
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

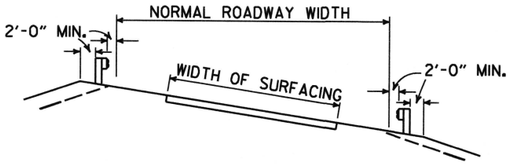


METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.



SECTION ON TANGENT



SECTION ON CURVE

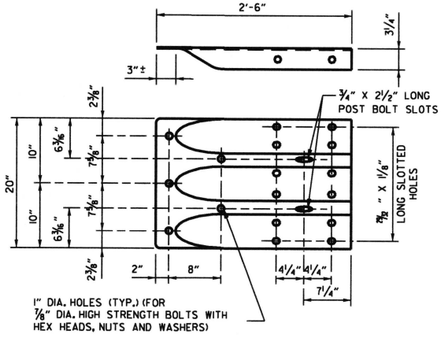
DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

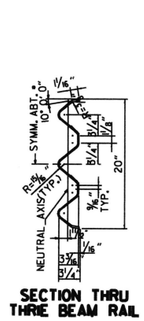
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

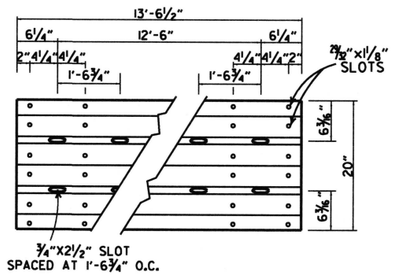
STANDARD DRAWING GR-9



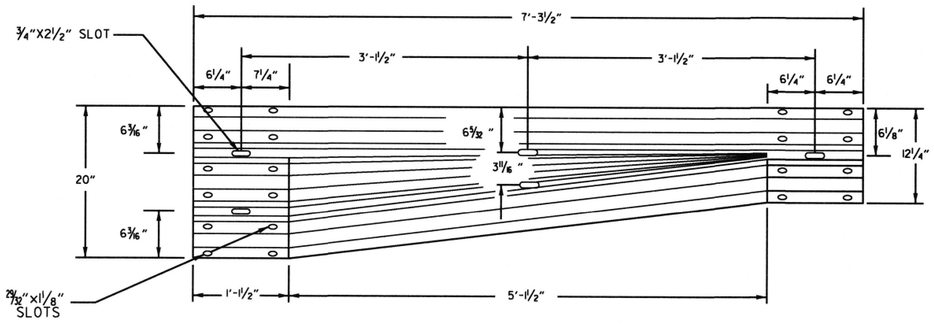
SPECIAL END SHOE



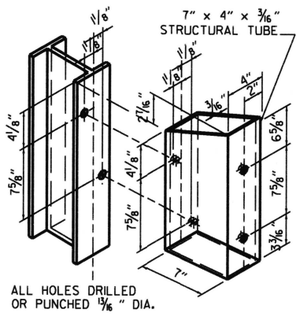
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL

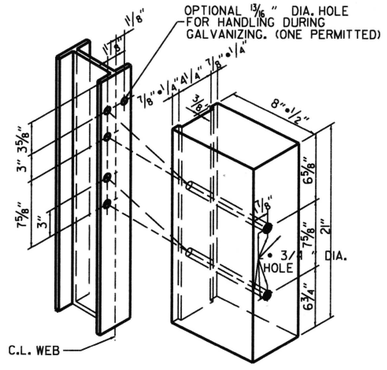


TRANSITION SECTION



ATTACH BLOCKOUT TO POST USING 5/8" DIA. HEX HEAD BOLTS WITH 1 1/2" O.D. CUT STEEL WASHERS AND NUT.

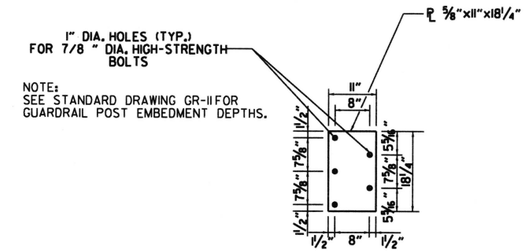
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

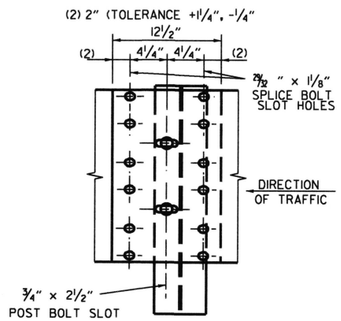
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



NOTE:
SEE STANDARD DRAWING GR-11 FOR GUARDRAIL POST EMBEDMENT DEPTHS.

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.

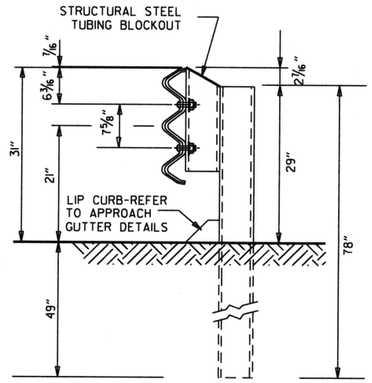
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

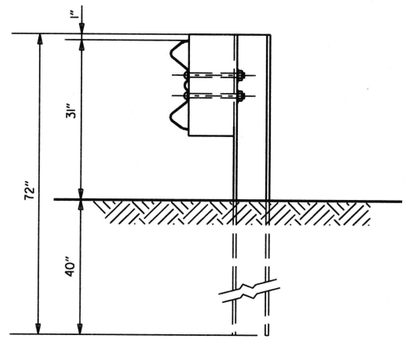
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

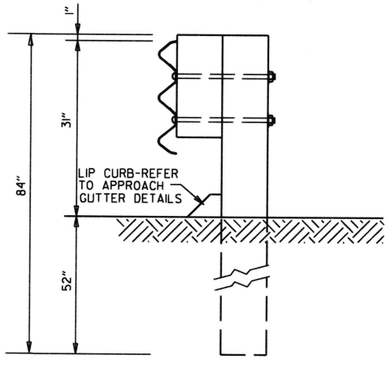
STANDARD DRAWING GR-10



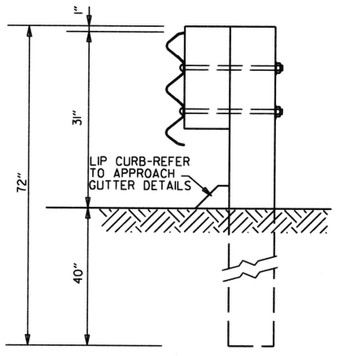
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



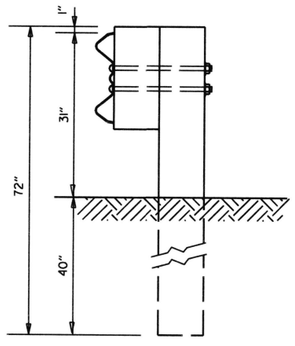
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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.

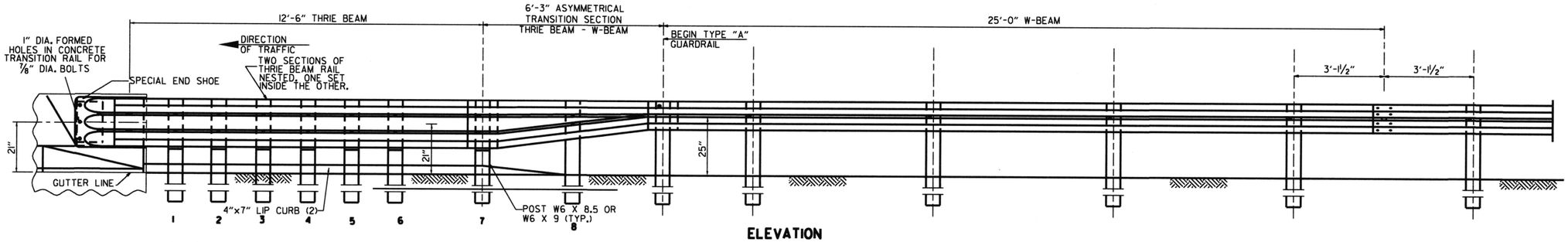
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO.1 1350 f SOUTHERN PINE.

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	

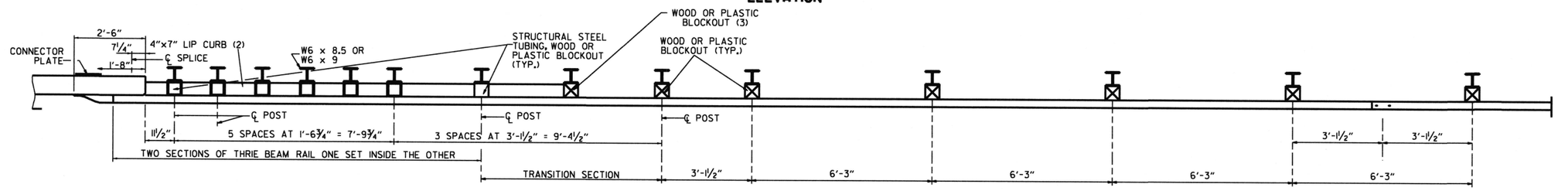
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

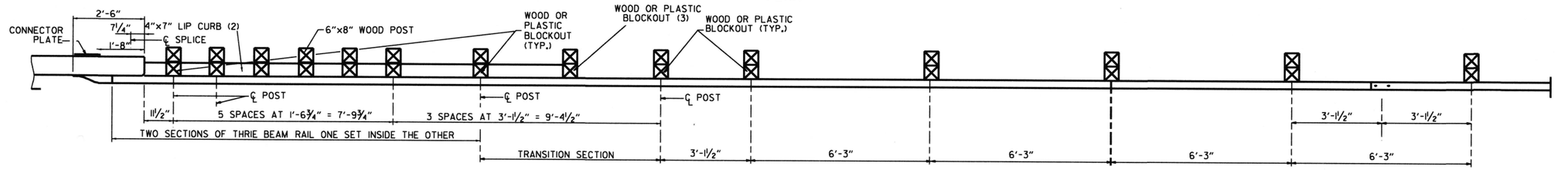
STANDARD DRAWING GR-11



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 1.

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 BE PLACED AT THE MID-SPAN OF THE W-BEAM.

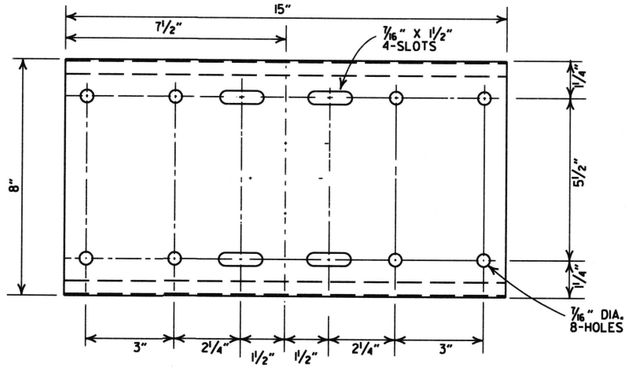
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

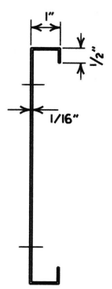
ARKANSAS STATE HIGHWAY COMMISSION

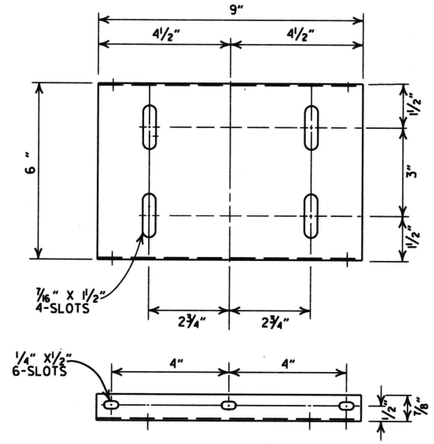
GUARDRAIL DETAILS

STANDARD DRAWING GR-12

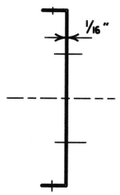


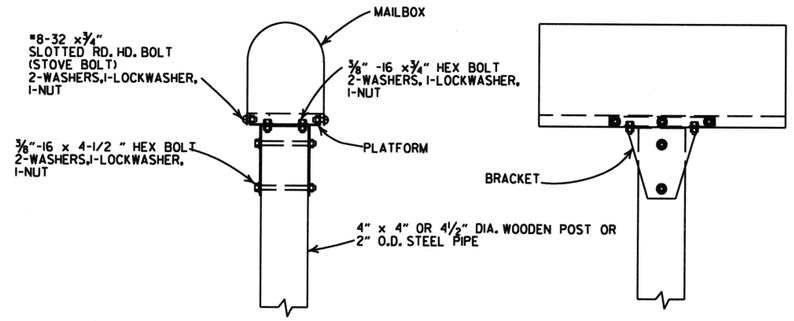
SHELF



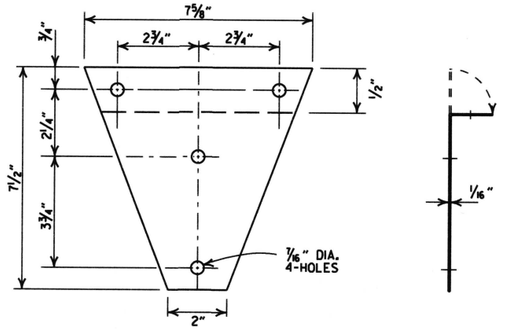


PLATFORM

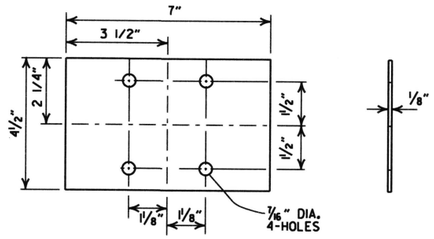




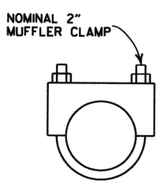
SINGLE INSTALLATION



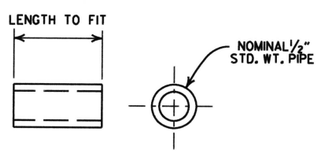
BRACKET



ANTI-TWIST PLATE



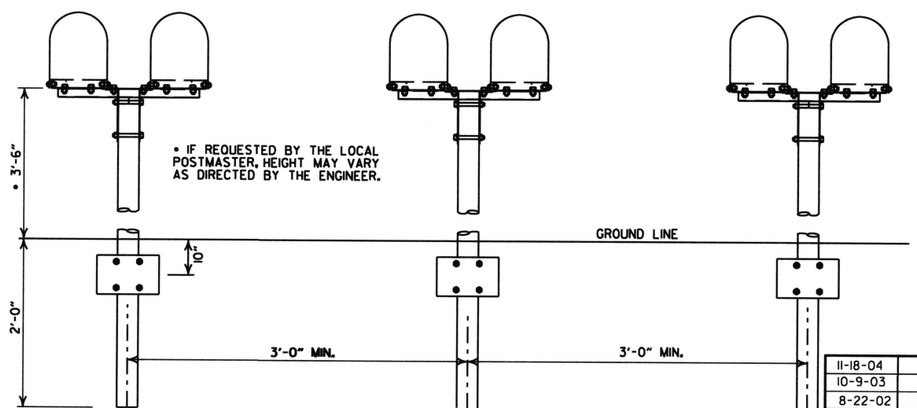
CLAMP



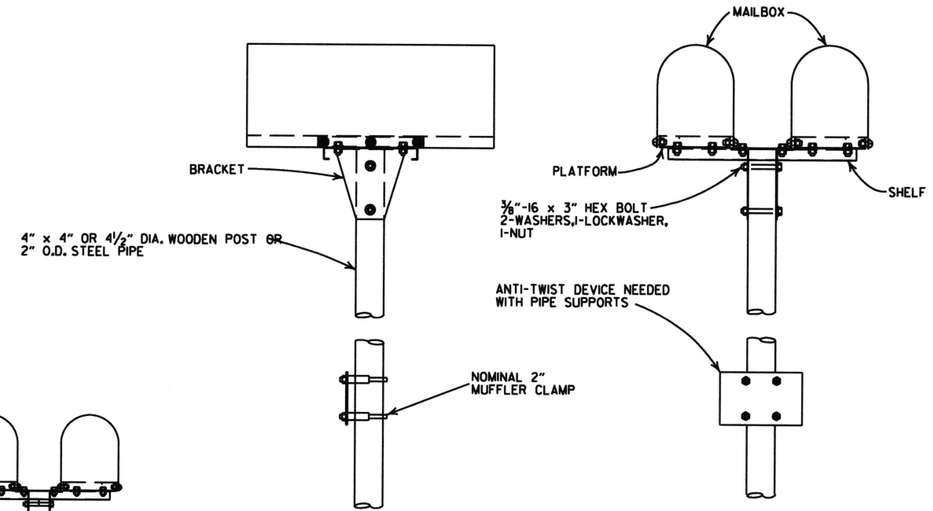
SPACER

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 X¾" 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

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	31⅜	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.

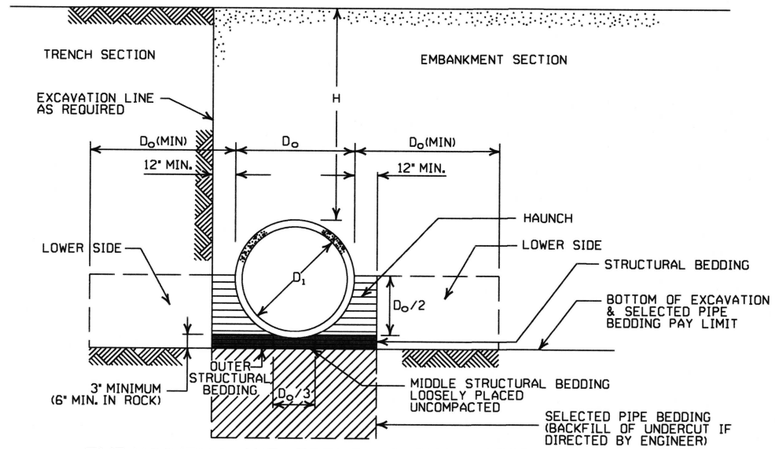
- LEGEND -

D_i = 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 MINIMUM 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 MINIMUM 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			INSTALLATION		INSTALLATION	
				TYPE 1		TYPE 1			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

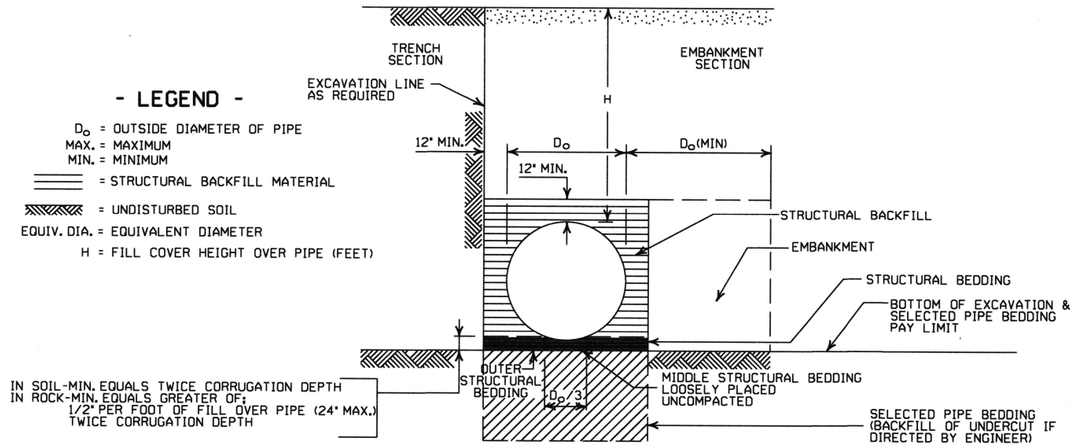
③ SM-3 WILL NOT BE ALLOWED.

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

- LEGEND -

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



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 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 HDPE PIPE.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

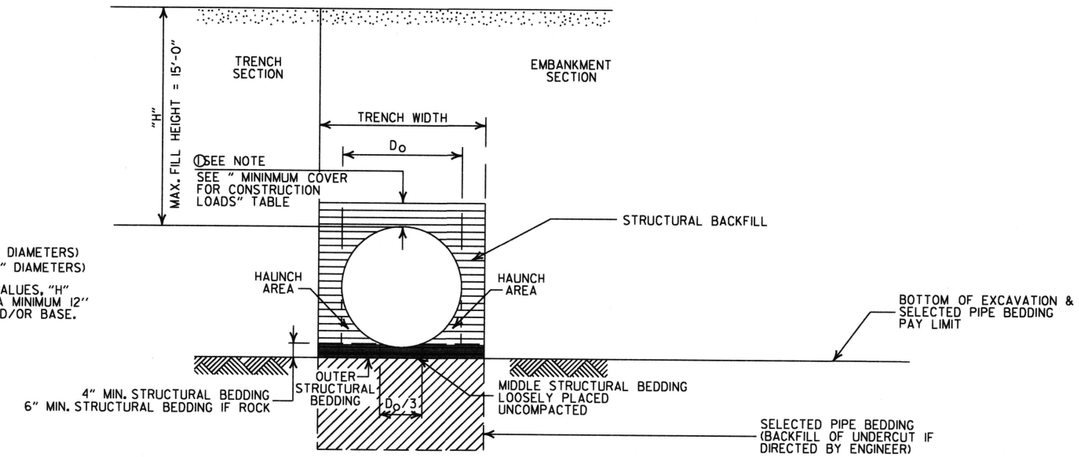
PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM 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"

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.

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.)
Ø = 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 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 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

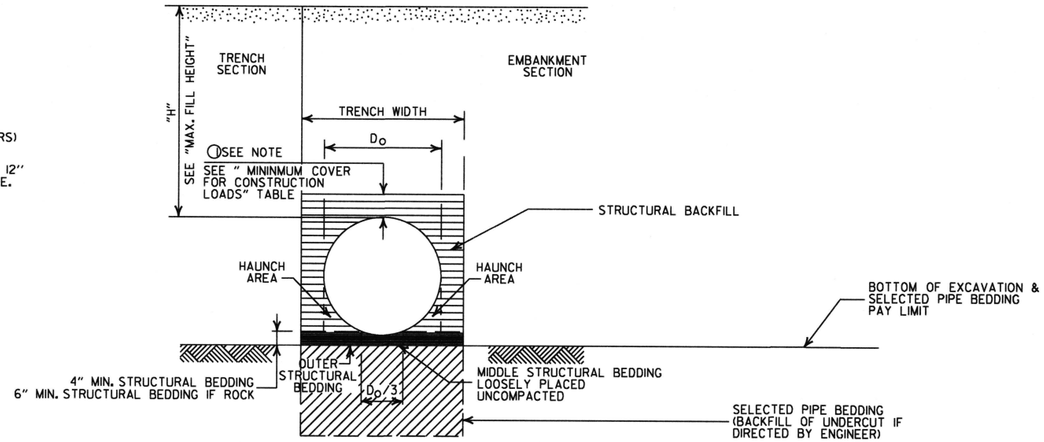
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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 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 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"

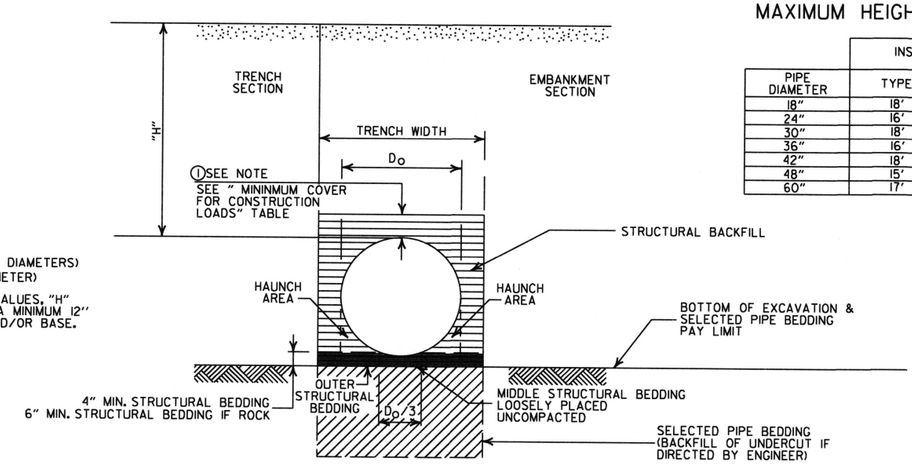
PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"
60"	10'-0"	15'-0"

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.

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.

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

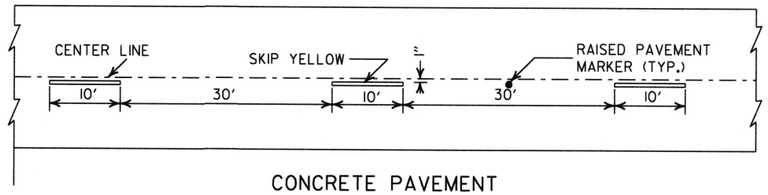
DATE	REVISION	DATE FILMED
02-27-20	REVISED	
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

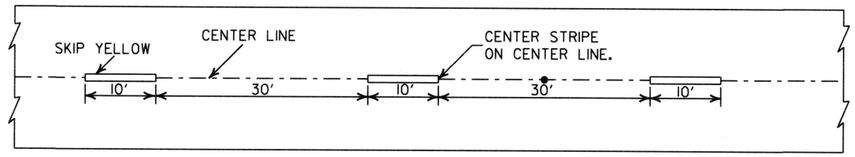
PLASTIC PIPE CULVERT (POLYPROPYLENE)

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.

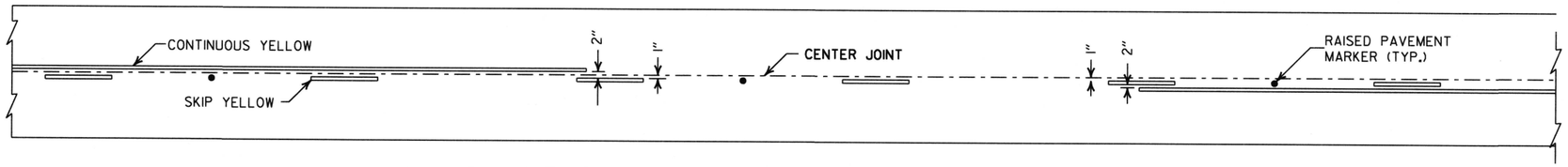


CONCRETE PAVEMENT

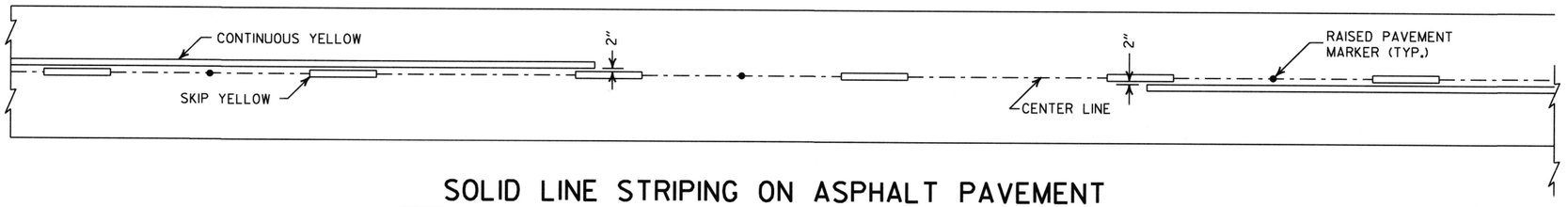


ASPHALT PAVEMENT

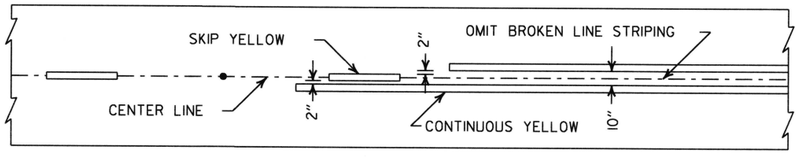
BROKEN LINE STRIPING



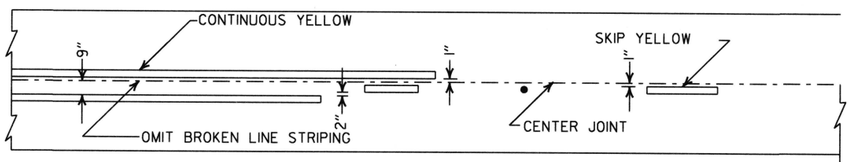
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

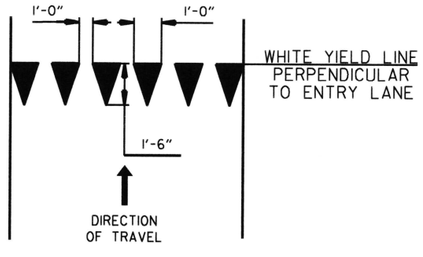


ASPHALT PAVEMENT

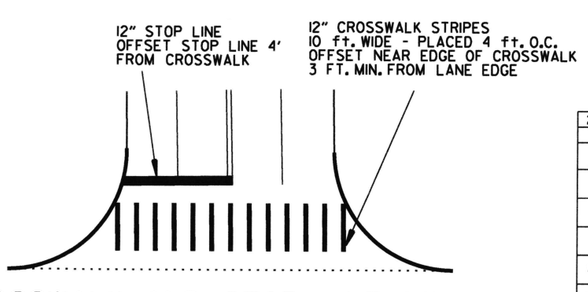


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

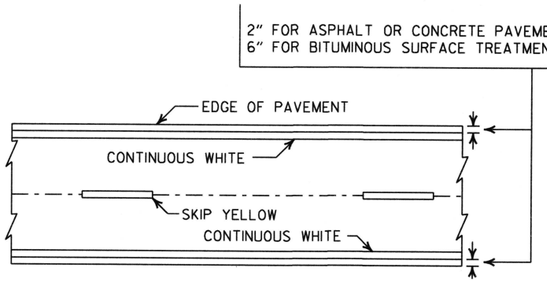


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

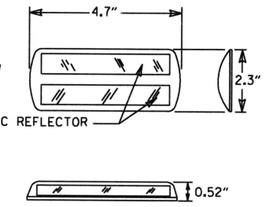
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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.

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

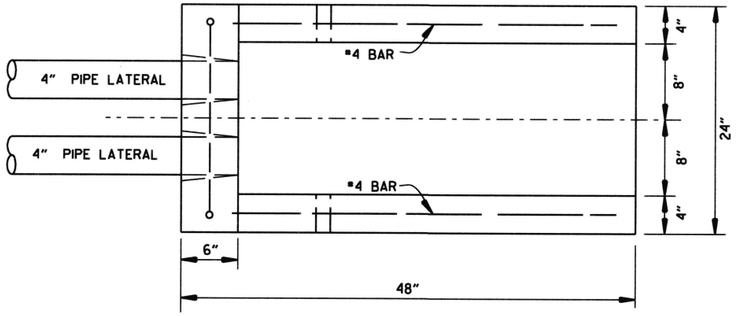
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

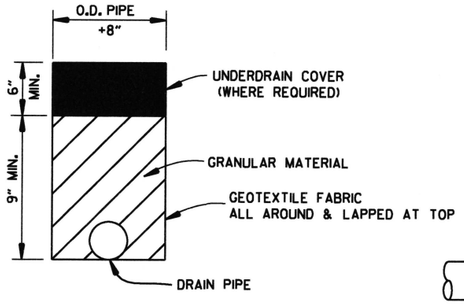
NOTE:

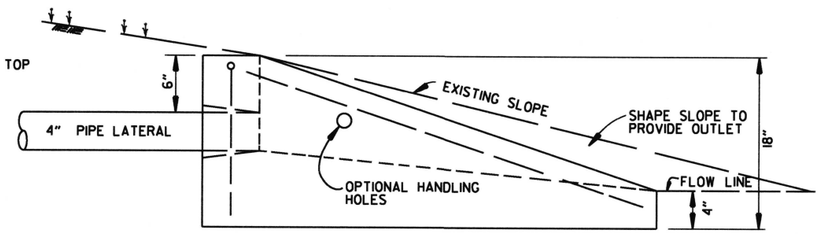
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

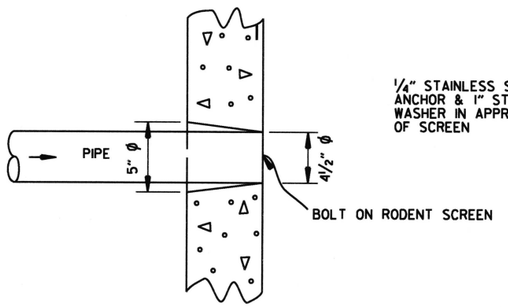


PLAN VIEW

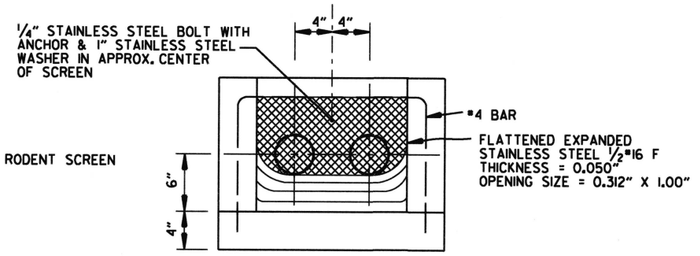




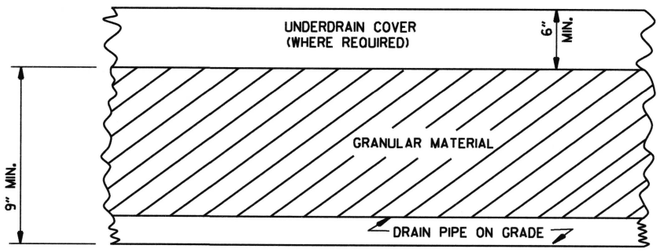
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE



FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

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."

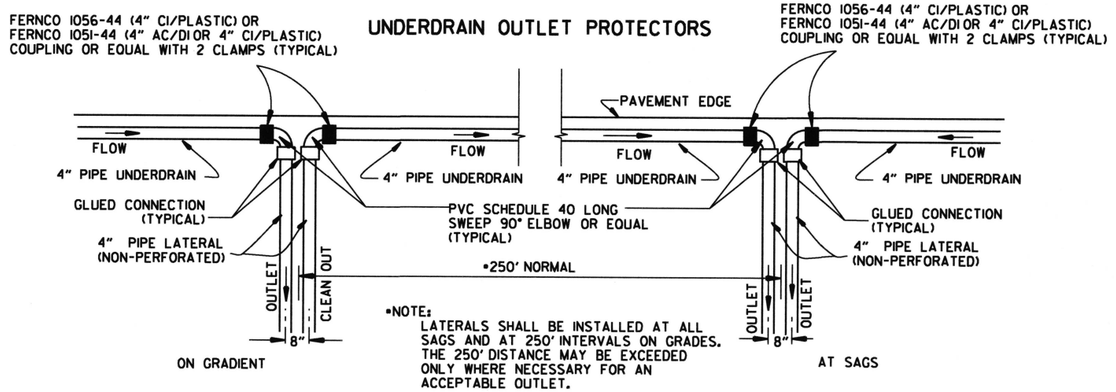
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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.

UNDERDRAIN OUTLET PROTECTORS



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
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

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	35 MPH e	35 MPH Ls (FT) MINIMUM	35 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	45 MPH e	45 MPH Ls (FT) MINIMUM	45 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE	75 MPH e	75 MPH Ls (FT) MINIMUM	75 MPH Ls (FT) 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		RC	96	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.022	101	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.028	115	
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158		0.032	125	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168		0.056	182		0.036	134	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168		0.056	182		0.064	202		0.042	149	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.062	197		0.070	216		0.046	158	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.068	211		0.076	230		0.052	173	
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		0.068	211		0.072	221		0.082	245		0.062	197	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149		0.054	178		0.062	197		0.072	221		0.078	235		0.088	259		0.070	216	
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.066	206		0.076	230		0.082	245		0.092	269		0.076	230	
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.070	216		0.078	235		0.086	254		0.096	278		0.082	245	
3° 30'	0.030	90		0.038	113		0.046	139		0.056	171		0.066	206		0.074	221		0.082	245		0.090	264		0.098	283		0.088	259	
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.094	274		0.100	288		0.092	269	
4° 00'	0.034	97		0.042	121		0.052	151		0.062	185		0.072	221		0.082	245		0.092	269		0.096	278					0.096	278	
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.084	250		0.094	274		0.098	283					0.100	288	
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.086	254		0.096	278		0.100	288							
4° 45'	0.038	104		0.048	133		0.060	168		0.070	203		0.082	245		0.090	264		0.098	283										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.092	269		0.100	288										
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221		0.088	259		0.094	274													
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		0.086	239		0.096	278																
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		0.100	288																
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257																			
8° 30'	0.060	144		0.072	179		0.086	223		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																						
11° 00'	0.070	162		0.084	203		0.096	244																						
12° 00'	0.074	169		0.088	211		0.098	248																						
13° 00'	0.076	173		0.090	215		0.100	252																						
14° 00'	0.080	180		0.094	222																									
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																												
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																												

	200		200		200		200		250		250		300		300		350		300		350		300		350		400		350	
			250		250		250		300		300																			
							300																							

D MAX = 28° 30' | D MAX = 19° 30' | D MAX = 13° 45' | D MAX = 10° 30' | D MAX = 8° 25' | D MAX = 6° 30' | D MAX = 5° 15' | D MAX = 4° 15' | D MAX = 3° 30' | D MAX = 2° 45'

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.)

GENERAL NOTES

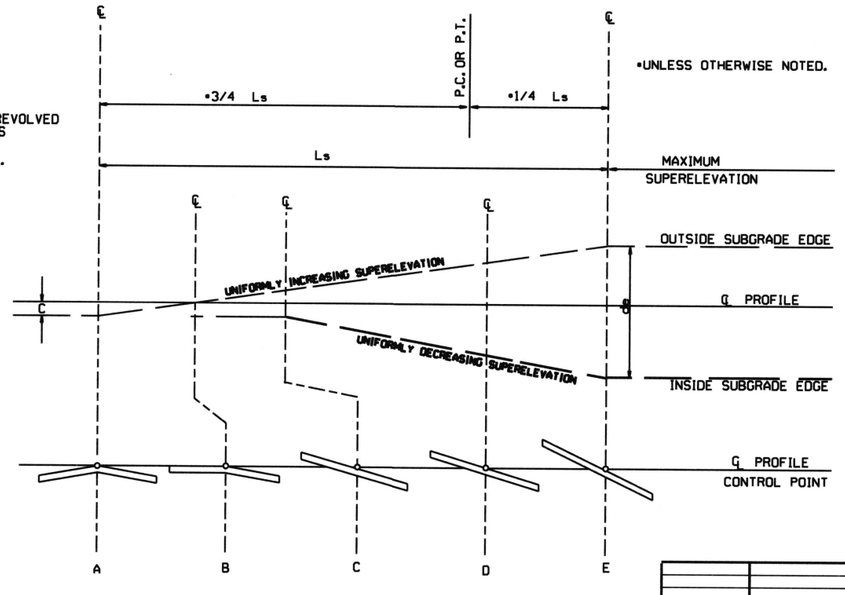
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED 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.

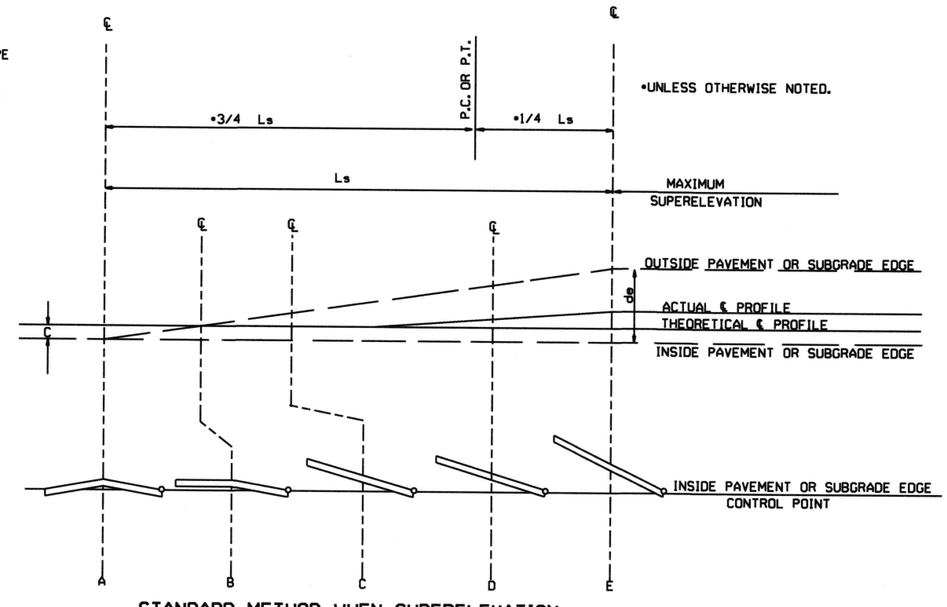
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$



•UNLESS OTHERWISE NOTED.

STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



•UNLESS OTHERWISE NOTED.

STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

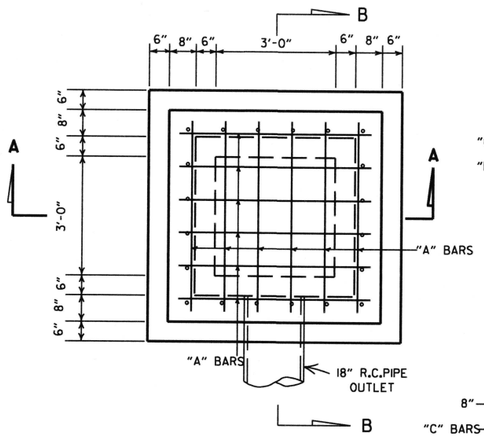
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

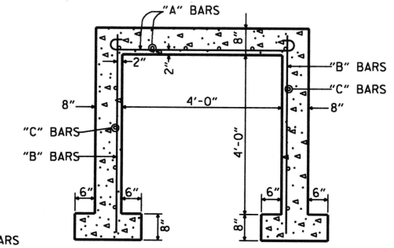
DATE	REVISION	
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87
		DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

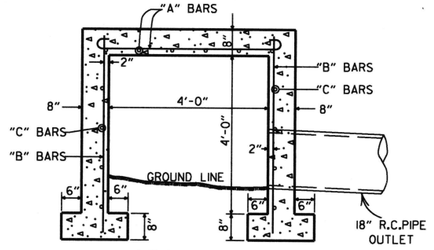
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2





SEC A-A



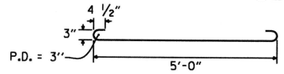
SEC B-B

NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



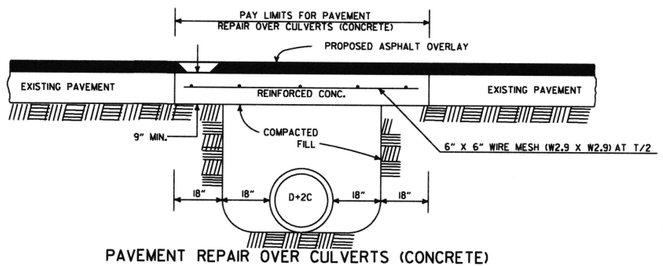
QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

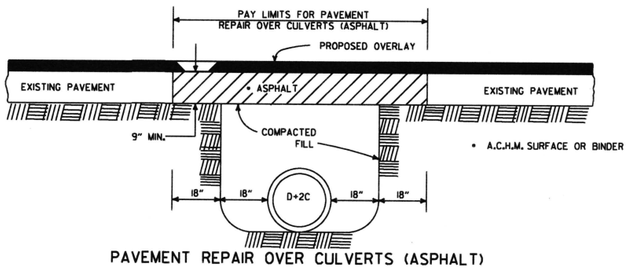
GENERAL NOTE:

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

REINFORCED CONCRETE SPRING BOX



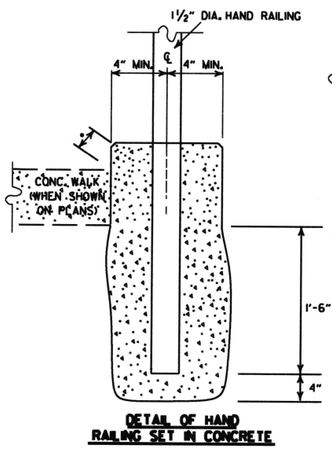
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



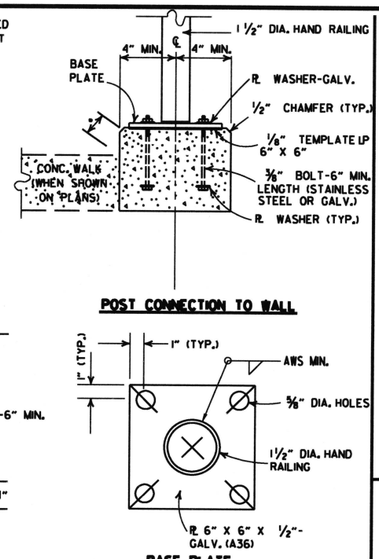
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



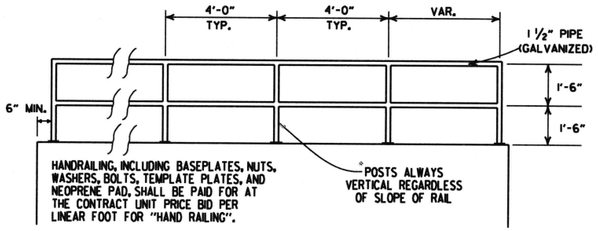
DETAIL OF HAND RAILING SET IN CONCRETE



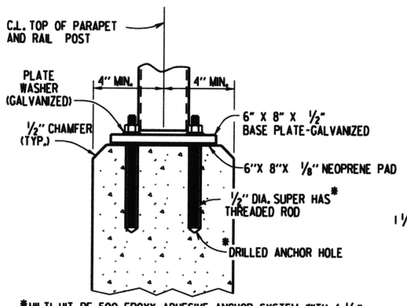
POST CONNECTION TO WALL

BASE PLATE

POST CONNECTION DETAILS



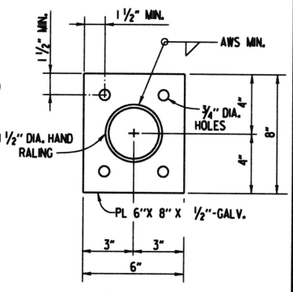
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

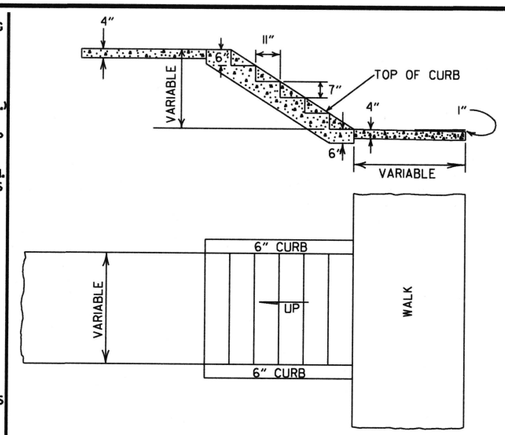
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45° INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
10-25-18	REVISED DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS	
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1

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



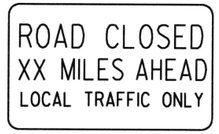
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



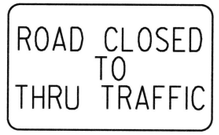
48"X30"

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



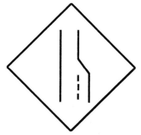
STD. 36"X36"
SPECIAL 48"X48"

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



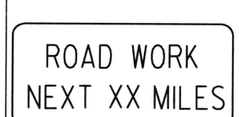
STD. 36"X36"
FWY. 48"X48"

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.

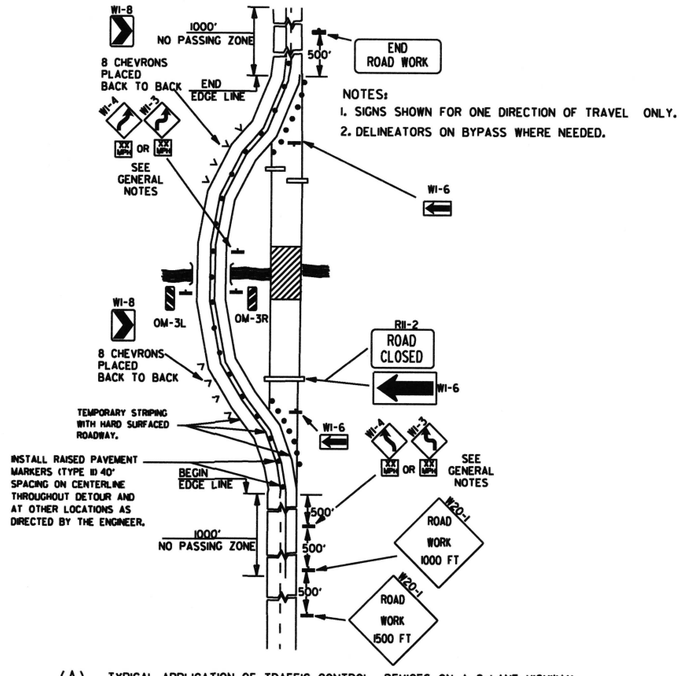
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

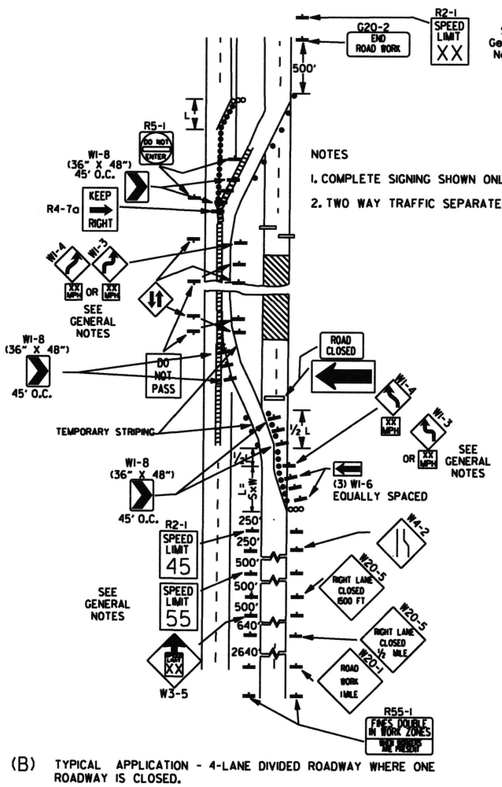
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



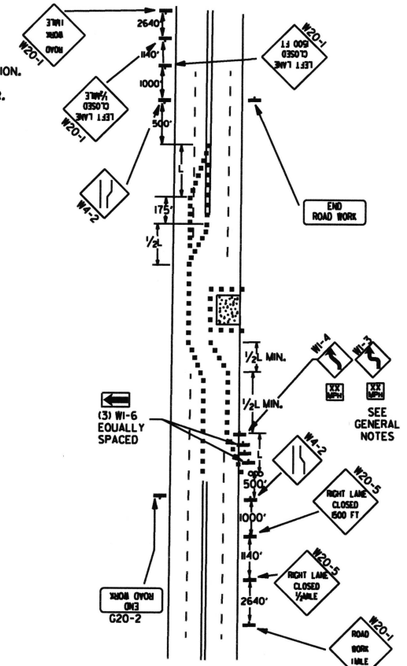
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

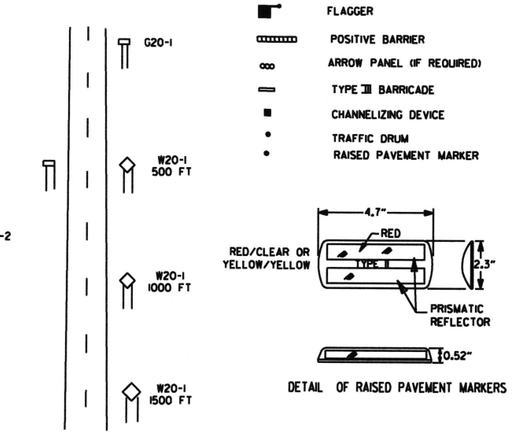


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(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.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

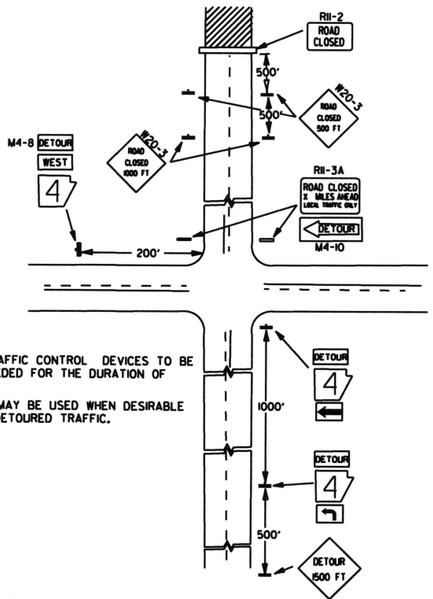
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ 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.

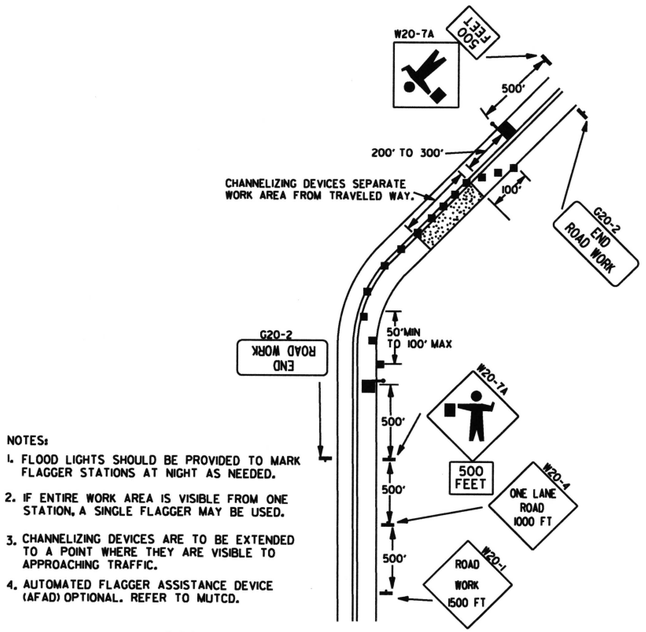
GENERAL NOTES:

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(45) 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. 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).



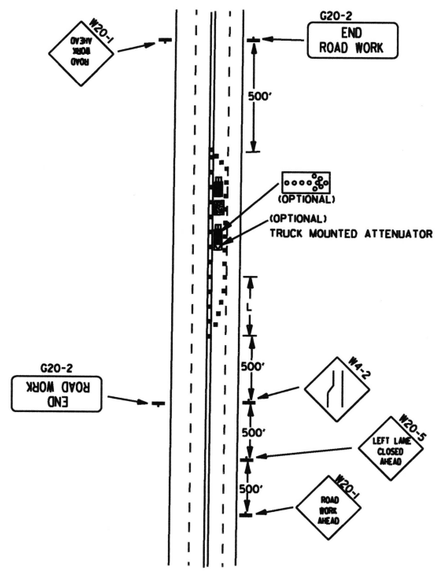
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(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.



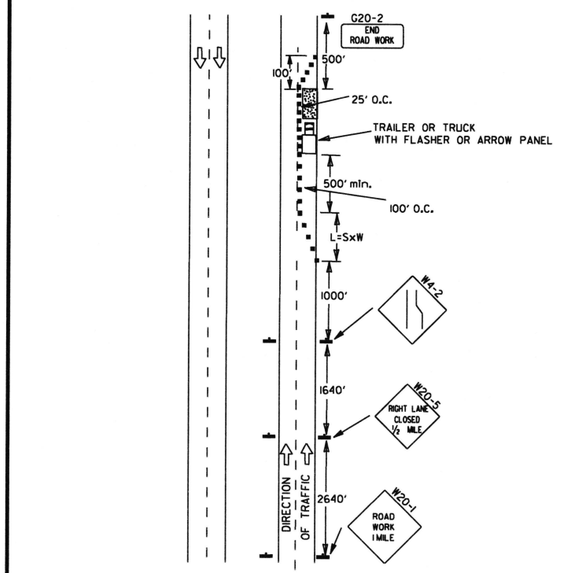
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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	

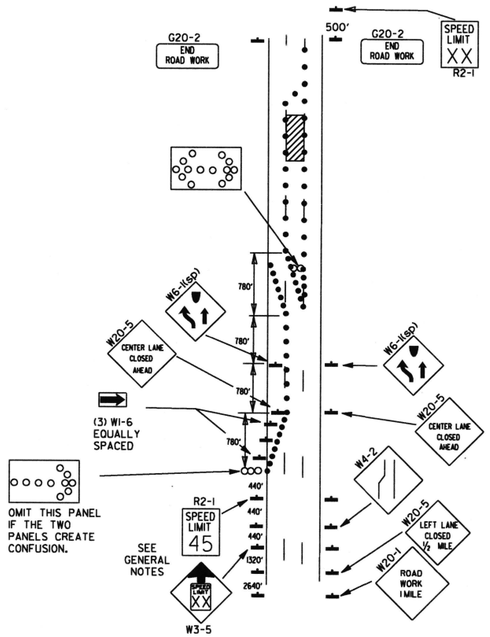
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

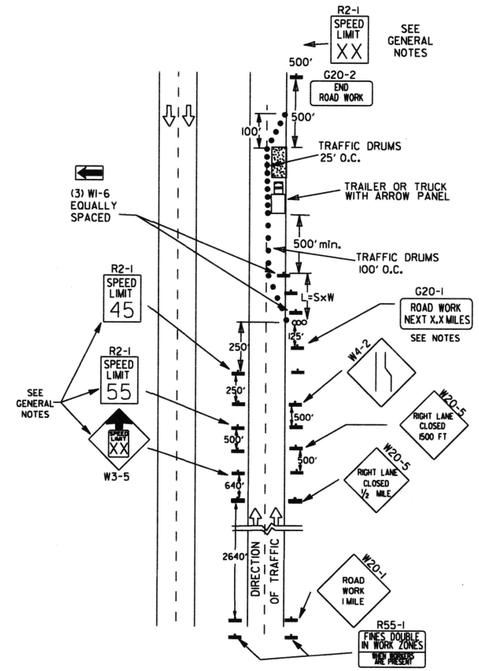
STANDARD DRAWING TC-2



(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.



(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

KEY:

ooo ARROW PANEL (IF REQUIRED)

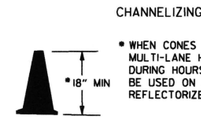
■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

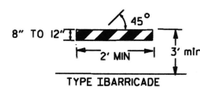
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL 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 R2-155MPH 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. 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).

CHANNELIZING DEVICES



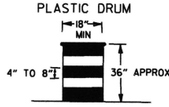
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

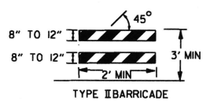
CONES



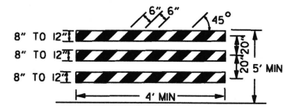
TYPE I BARRICADE

PLASTIC DRUM



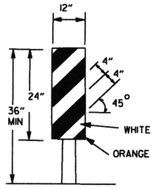


TYPE II BARRICADE



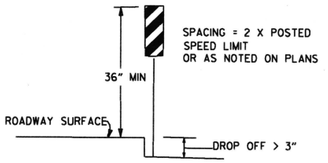
TYPE III BARRICADE

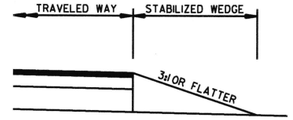
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT

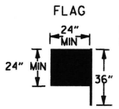




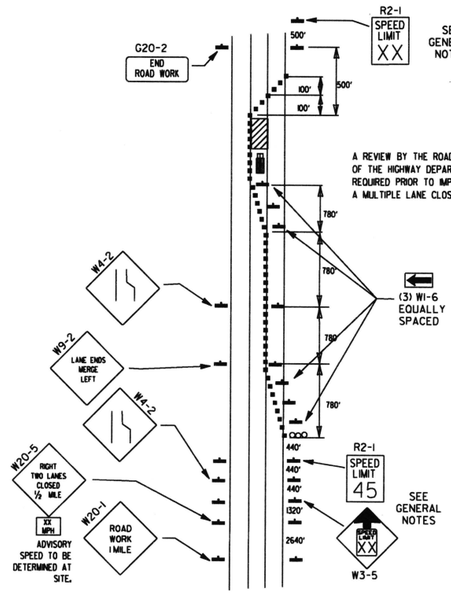
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL



(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL ≤ 45 MPH	TRAFFIC CONTROL > 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(2)
> 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

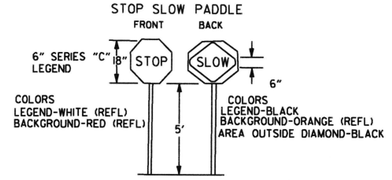
INTERSTATE AND NON-INTERSTATE

FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
1:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

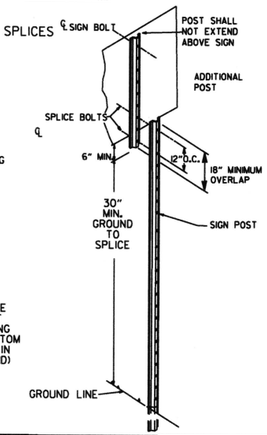
GENERAL NOTES:

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.

STOP SLOW PADDLE



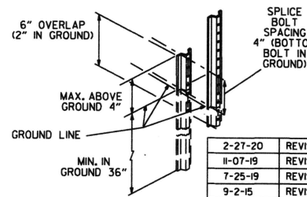
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE	REVISION	FILMED
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	

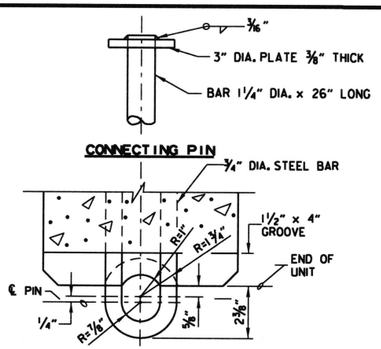
ARKANSAS STATE HIGHWAY COMMISSION

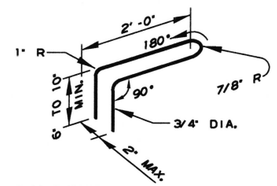
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

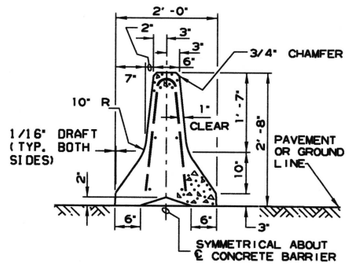
STANDARD DRAWING TC-3

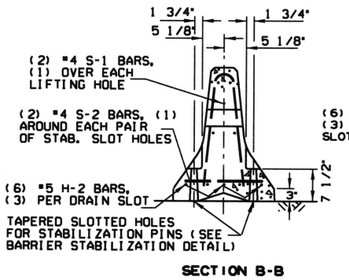
REINFORCING BAR TABLE PER BARRIER UNIT

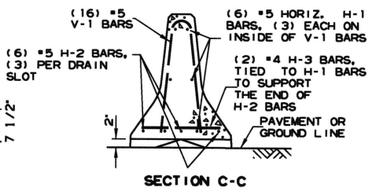
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 1'-6", 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°, 19 1/2", 4 3/8", 2'-1 3/8"

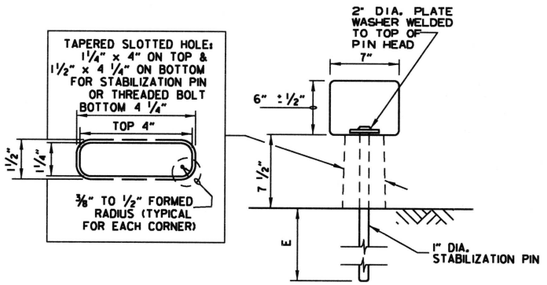


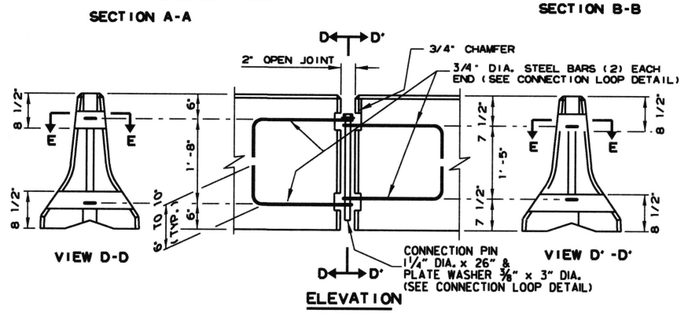


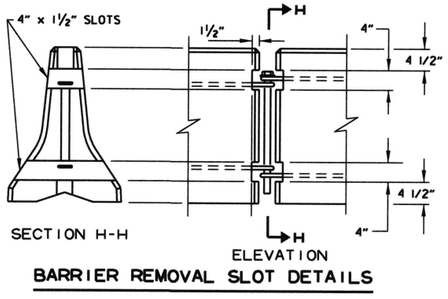


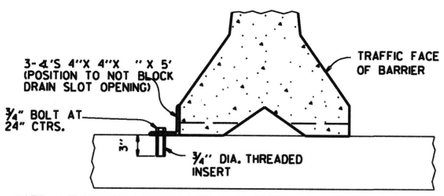


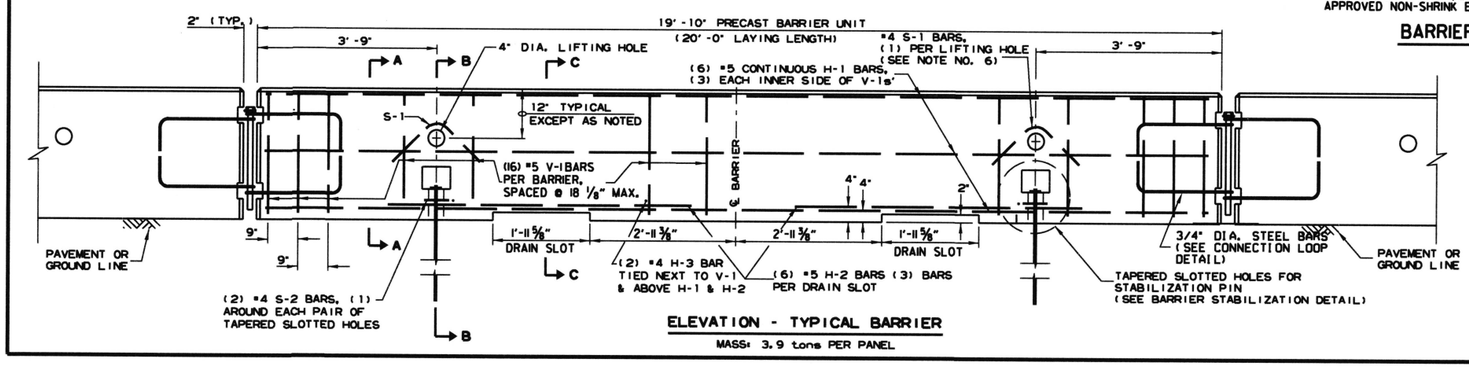












GENERAL NOTES

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.

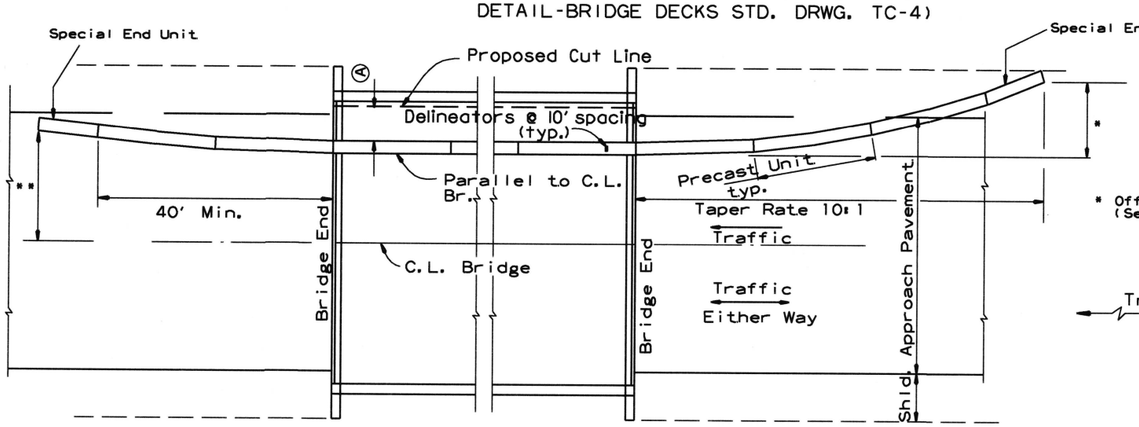
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED 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)

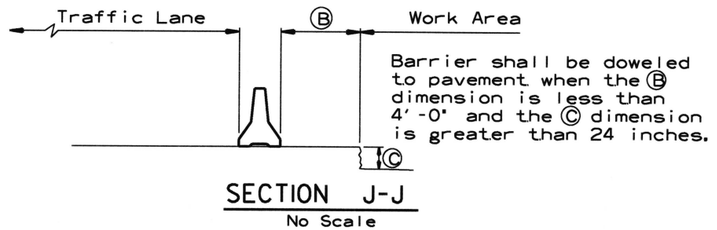


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only

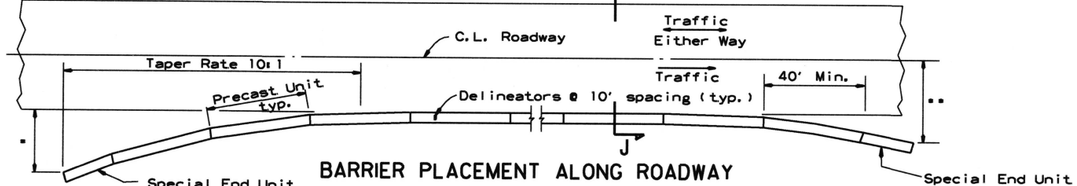
* Offset Distance (See Table)



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

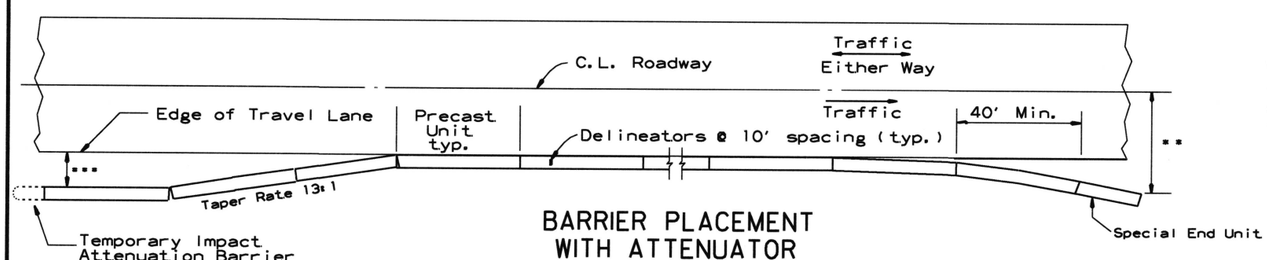
* Offset Distance (See Table)

** 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.

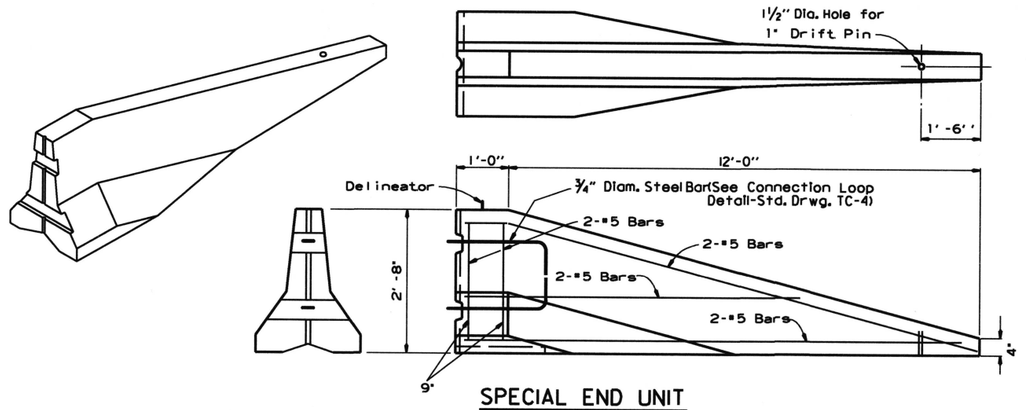


BARRIER PLACEMENT WITH ATTENUATOR

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

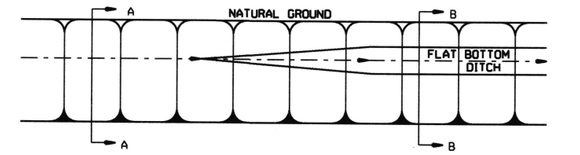
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

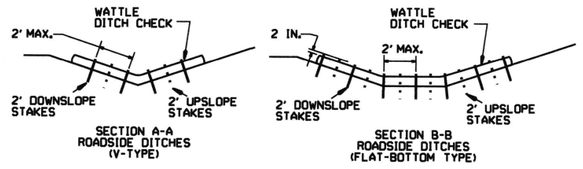
STANDARD DRAWING TC-5

WATTLE DITCH CHECK (E-1)

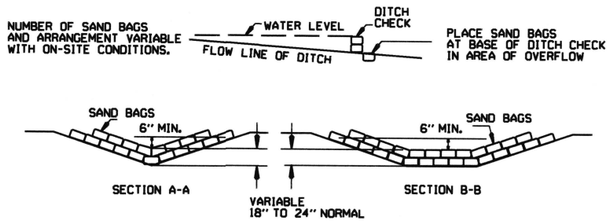
GENERAL NOTES

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

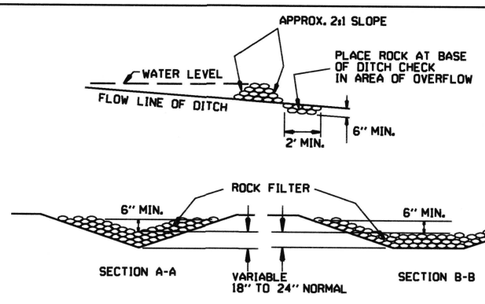




SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)

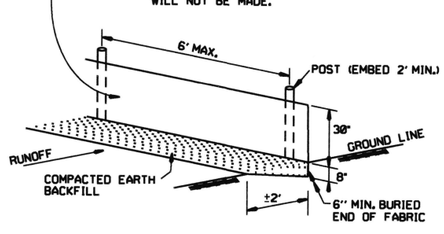


SILT FENCE (E-11)

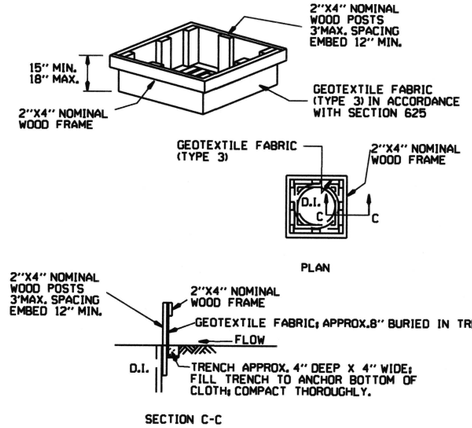
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

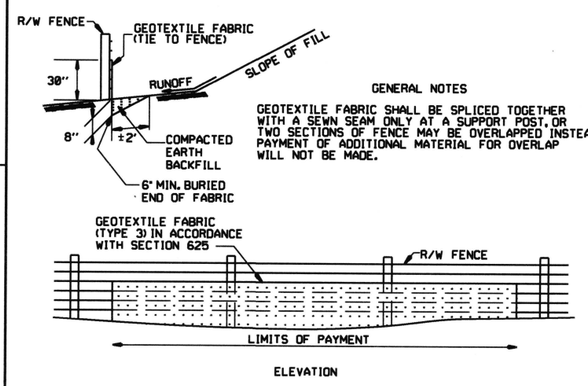
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



DROP INLET SILT FENCE (E-7)



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



GENERAL NOTES

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

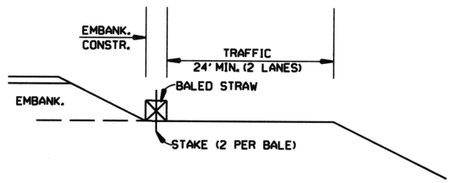
BALED STRAW FILTER BARRIER (E-2)

GENERAL NOTES

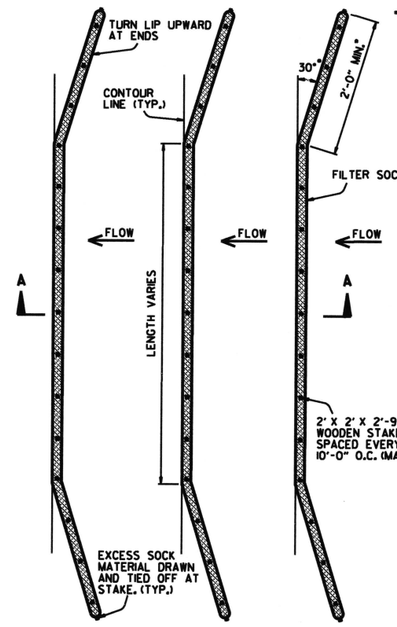
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

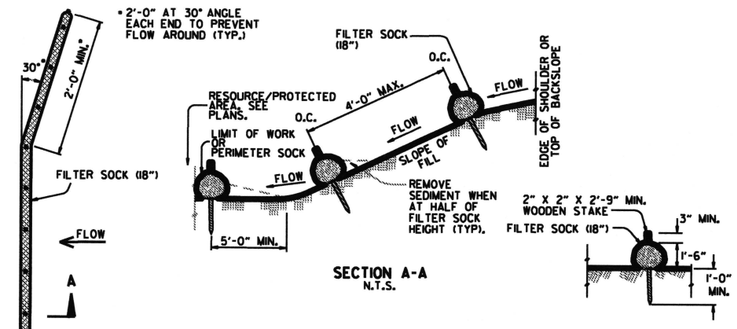
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



FILTER SOCK ALONG SLOPE (E-3)



PLAN VIEW
N.T.S.



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.

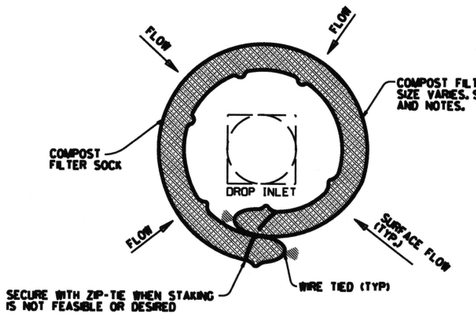
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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 SUBSIDIARY TO "FILTER SOCK (18")."

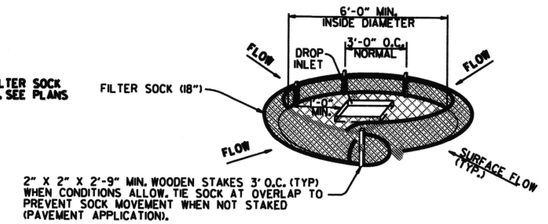
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

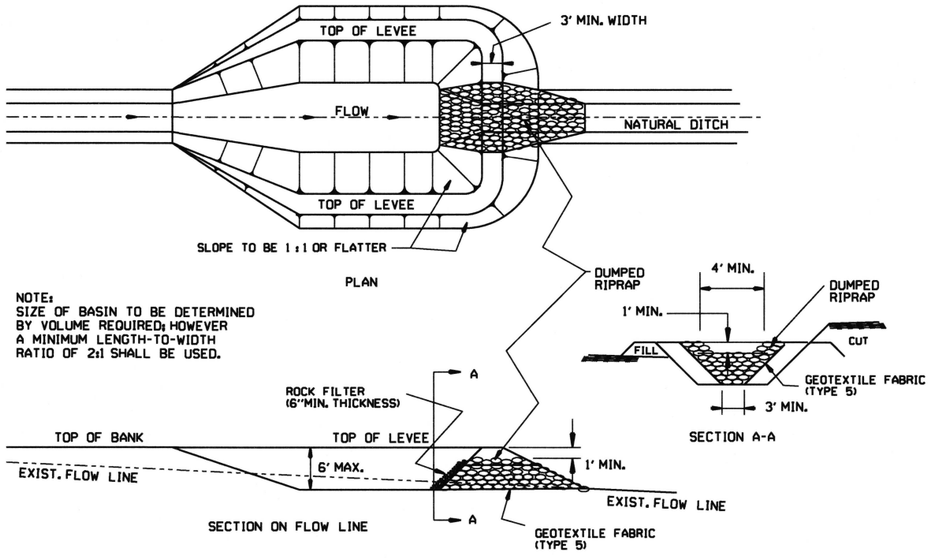
2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

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

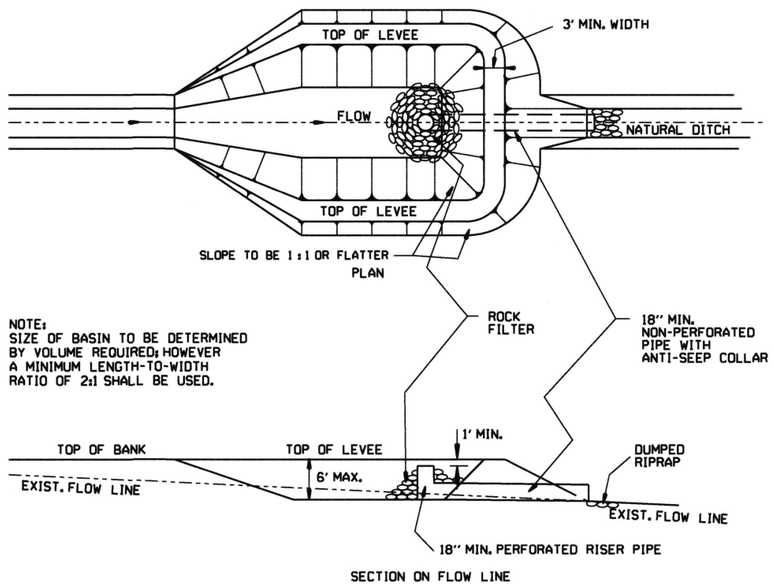
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

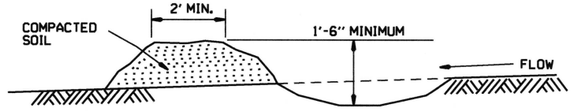
STANDARD DRAWING TEC-1



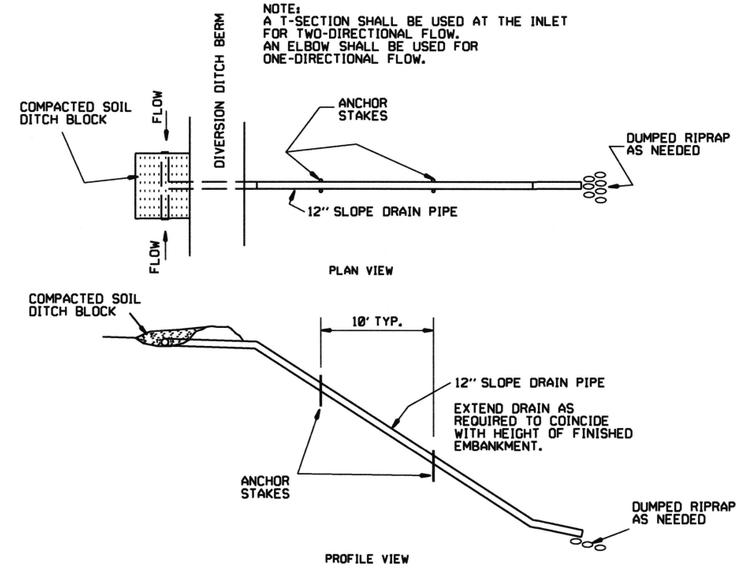
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



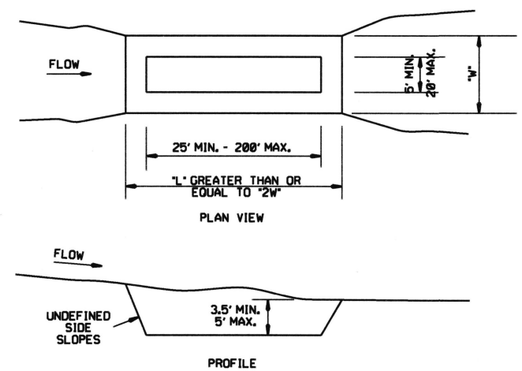
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

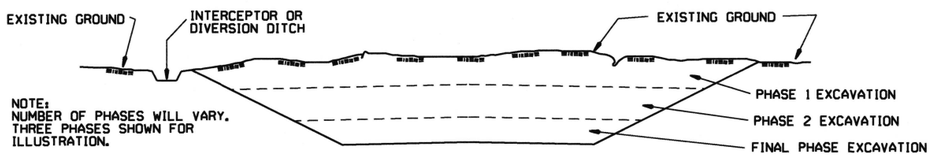
STANDARD DRAWING TEC-2

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



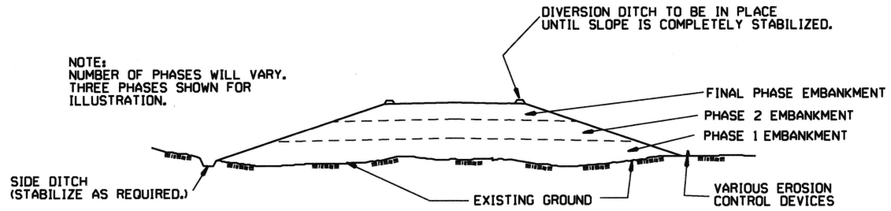
GENERAL NOTE

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

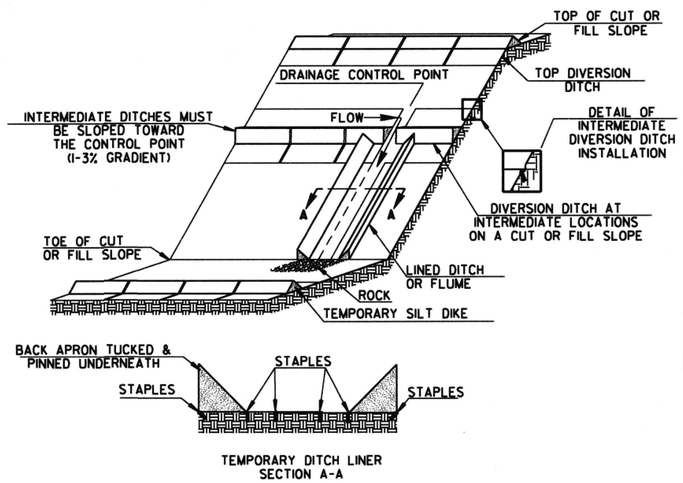
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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

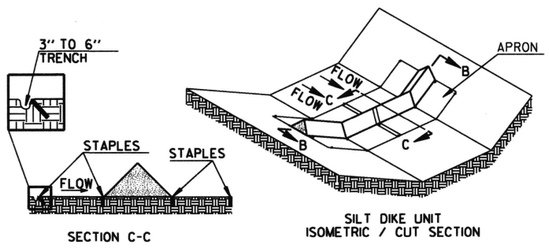
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



TEMPORARY DITCH LINER
SECTION A-A

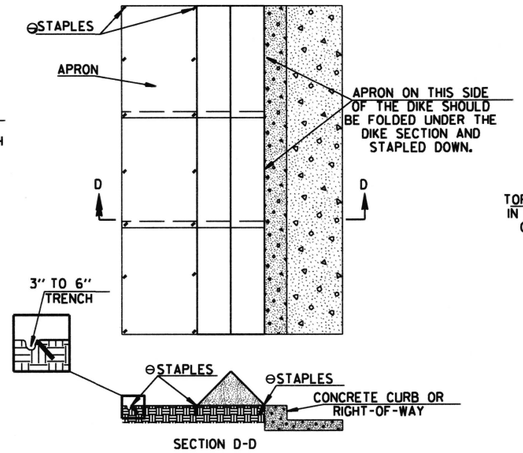
TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER



TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

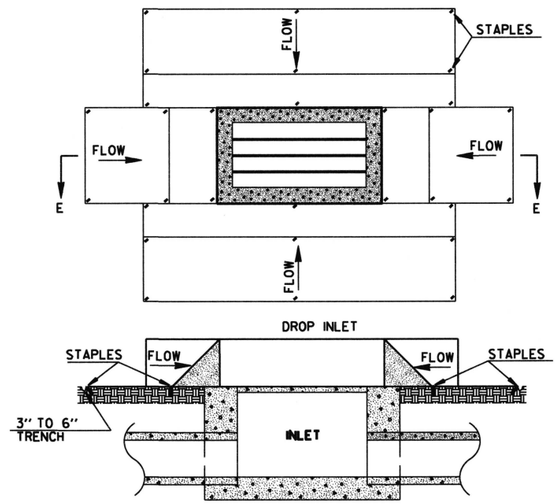
○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



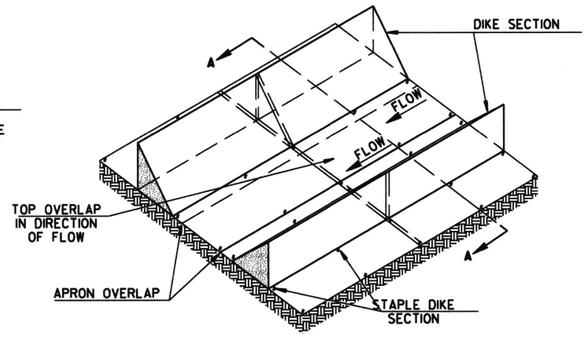
SECTION D-D

TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



SECTION E-E

TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

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.

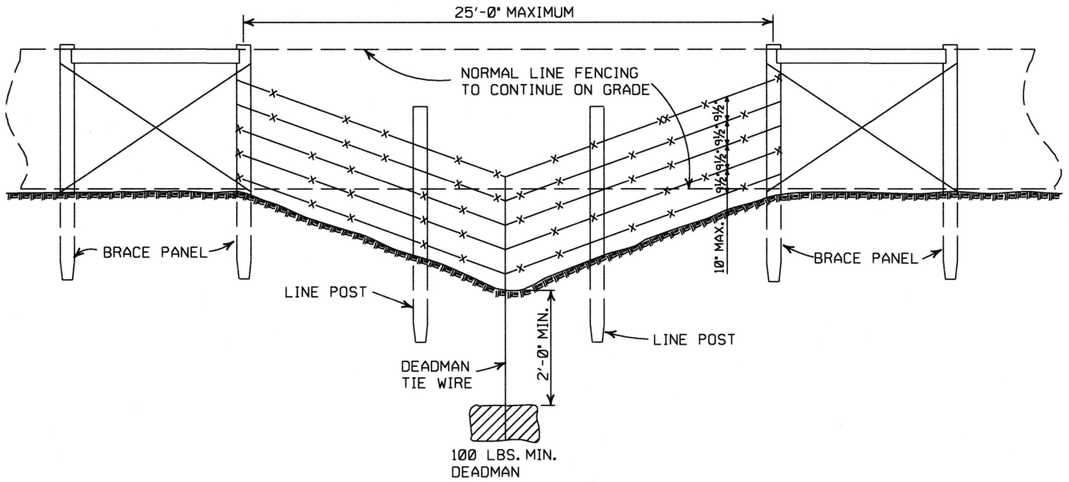
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

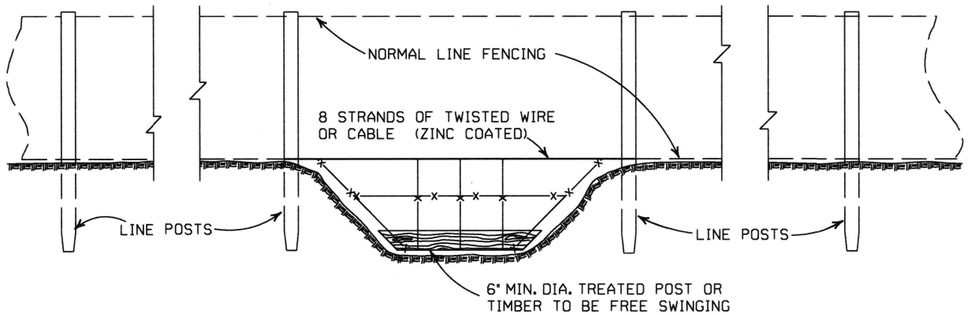
DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

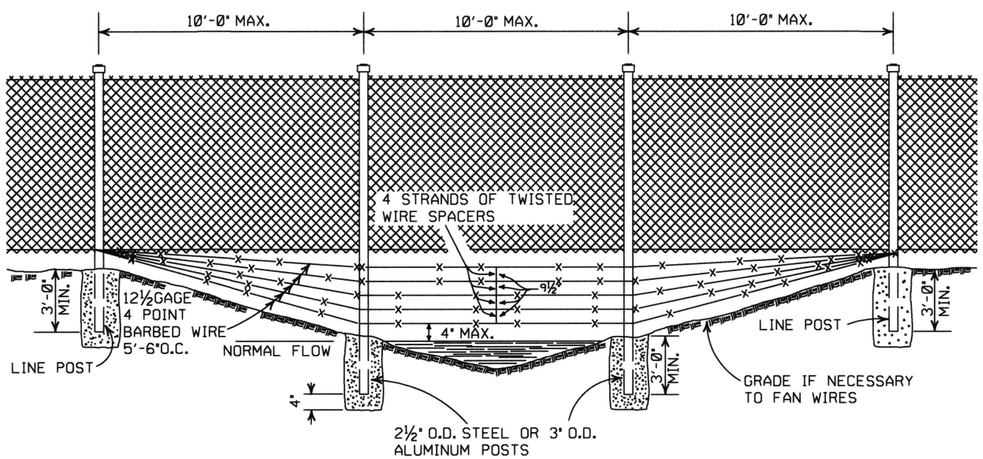
ARKANSAS STATE HIGHWAY COMMISSION

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.

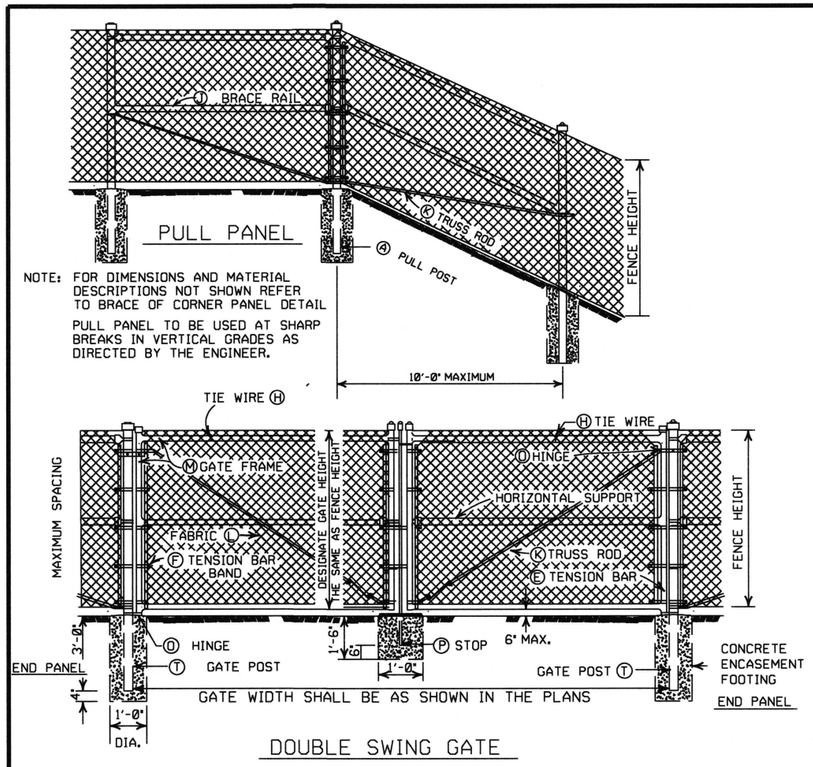
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

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

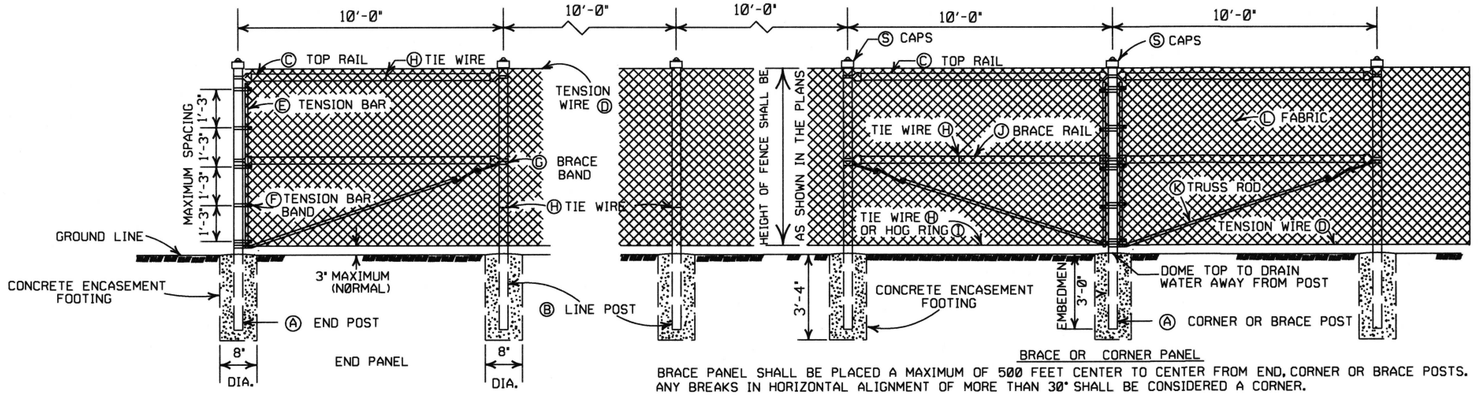
WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2



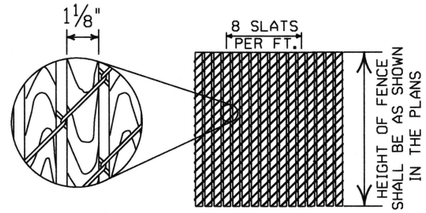
DOUBLE SWING GATE

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

(WHERE APPLICABLE)

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 ⅜" 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.

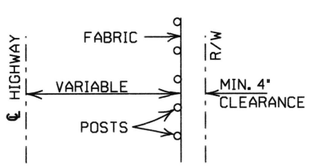
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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.

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



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

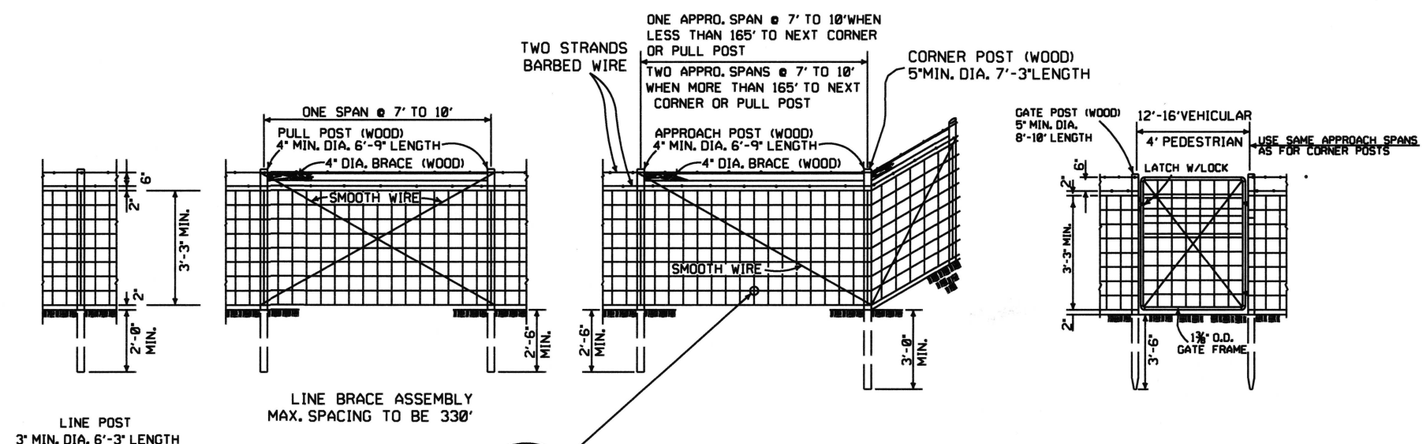
DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91
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

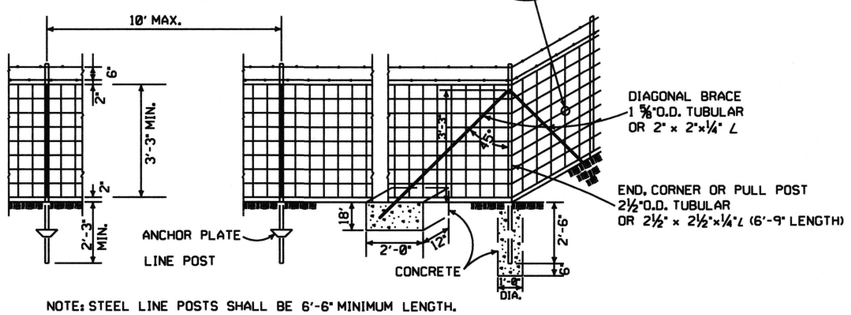
TYPE C FENCE (WOOD POSTS)

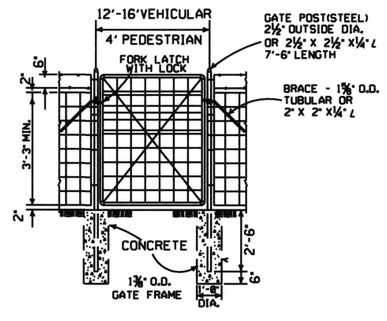


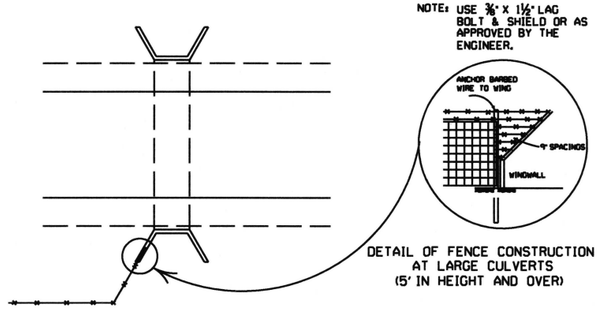
LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'

OTHER APPROVED TIES WILL BE PERMITTED







DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

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.

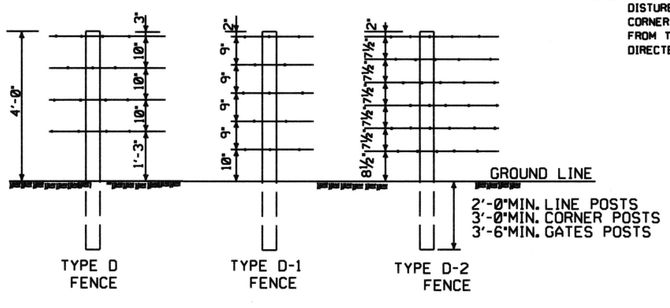
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 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.

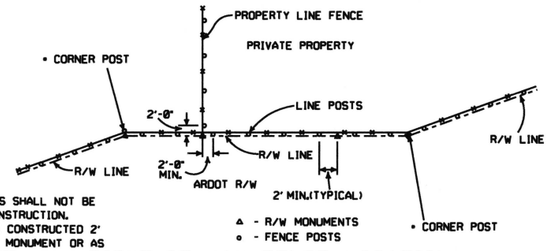
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

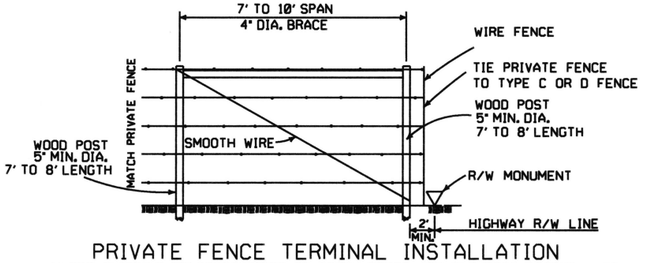


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.

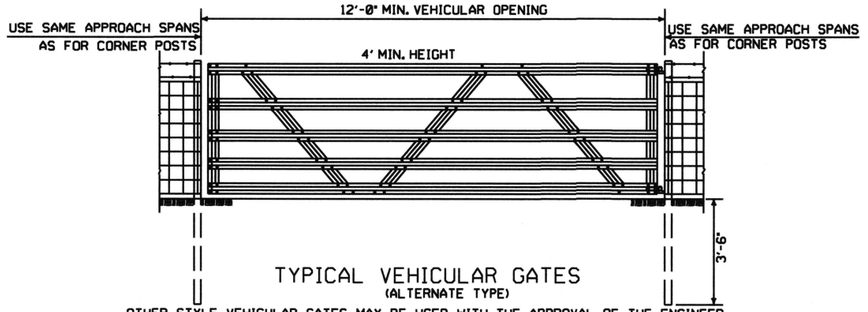


• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

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