DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	1	95
				(2)	HWY. 226-HWY. 49 (BS. & SURF.) (S)			

"A PARTIALLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

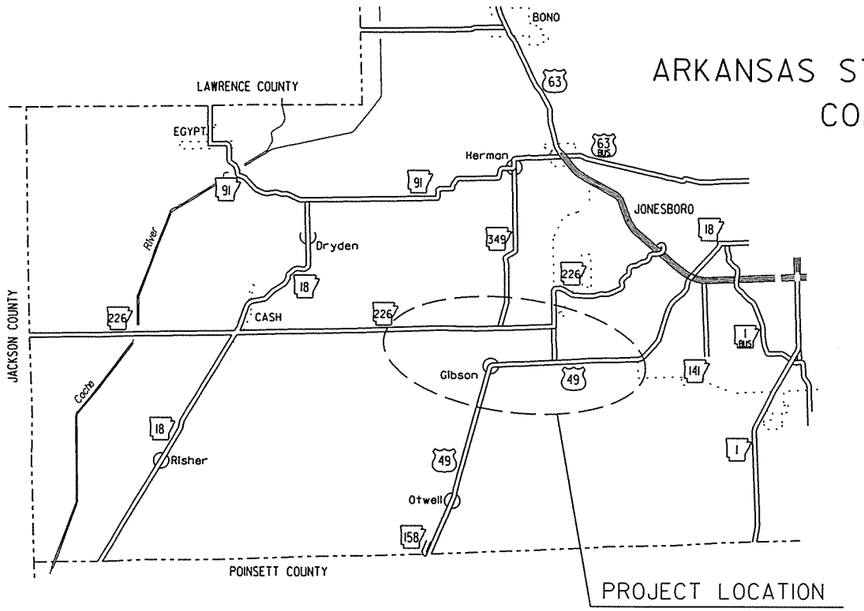
HWY. 226-HWY. 49 (BS. & SURF.) (S)

CRAIGHEAD COUNTY

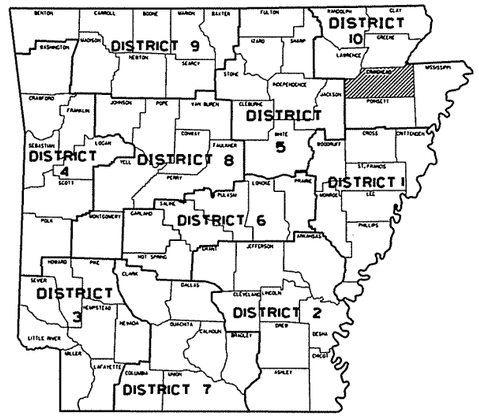
ROUTE 226 SECTION 2

FED. AID PROJECT HPP2-3735(2)

JOB 100678



NOT TO SCALE



ARK. HWY. DIST. NO. 10

(FOR INFORMATION ONLY) EXISTING BRIDGE DATA

① BR. END. STA. 662+60.86
BRIDGE NO. A7200
38'-0" CLEAR ROADWAY
362'-3¼" TOTAL LENGTH
360'-0" CONT. COMP. PLATE
GIRDER (100'-160'-100') UNIT
BR. END STA. 666+23.14

② BR. END. STA. 662+87.86
BRIDGE NO. B7200
38'-0" CLEAR ROADWAY
362'-3¼" TOTAL LENGTH
360'-0" CONT. COMP. PLATE
GIRDER (100'-160'-100') UNIT
BR. END STA. 666+50.14

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

③ STA. 649+27 - CONSTRUCT
QUAD. 10' X 5' X 176' R.C. BOX CULV'T
(15° LT. FWD. SKEW)
WITH 3:1 WINGS LT. & RT.
SPAN = 44'-11½"
D.A. = 830ac, 050 = 990cfs

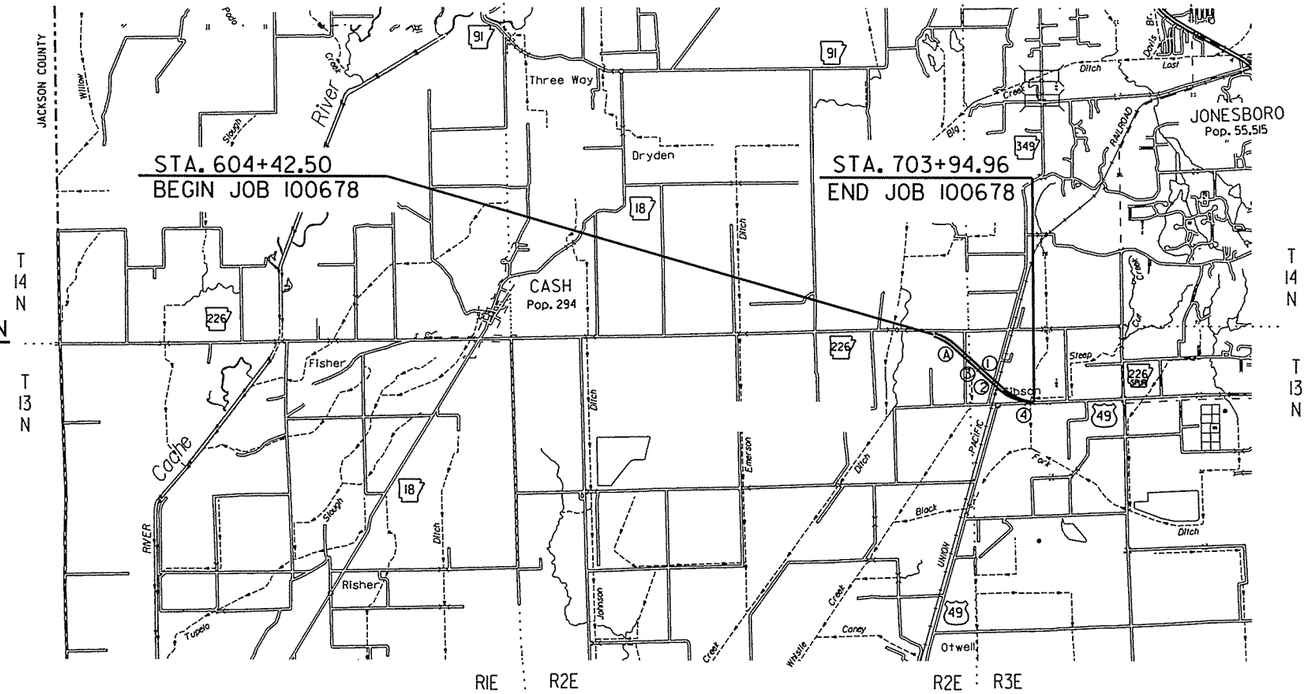
④ STA. 691+00 - CONSTRUCT
QUINT. 10' X 6' X 139' R.C. BOX CULV'T
(11° RT. FWD. SKEW)
WITH 3:1 WINGS LT. & RT.
SPAN = 55'-7¼"
D.A. = 308ac, 050 = 2370cfs

EXCEPTIONS TO JOB

STA. 662+87.86 - STA. 666+50.14 = 362.28'

EQUATION

Ⓐ STA. 620+39.29 BACK =
STA. 620+00.00 AHEAD



DESIGN TRAFFIC DATA

DESIGN YEAR	2033
2013 ADT	5000
2033 ADT	6500
2033 DHV	715
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	17%
DESIGN SPEED	60 MPH

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

11/7/13

DEPUTY DIRECTOR AND CHIEF ENGINEER

BEGIN JOB		MID-POINT OF PROJECT		END JOB	
LATITUDE	35° 47' 33" N	LATITUDE	35° 47' 08" N	LATITUDE	35° 46' 42" N
LONGITUDE	90° 50' 00" W	LONGITUDE	90° 49' 12" W	LONGITUDE	90° 48' 25" W

GROSS LENGTH OF PROJECT			9991.75	FEET OR	1.892	MILES
NET	•	• ROADWAY	9629.47	• •	1.824	•
NET	•	• BRIDGES	0.00	• •	0.000	•
NET	•	• PROJECT	9629.47	• •	1.824	•

P.E. 100412
NON. PART.

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-22-13				6	ARK.			
				JOB NO.		100678	2	95

(2) INDEX, GOVERNING SPECS., AND GEN. NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-22-13

INDEX OF SHEETS

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

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. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. 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 INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. 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.
7. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE INDIVIDUAL PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
9. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
105-3	CONTROL OF WORK
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
404-2	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-2	INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 100678__	APPROACH SLABS AND GUTTERS
JOB 100678__	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 100678__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100678__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 100678__	COMPACTED EMBANKMENT
JOB 100678__	COORDINATION OF WORK
JOB 100678__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100678__	HIGH PERFORMANCE PAVEMENT MARKING
JOB 100678__	INTERNET BIDDING
JOB 100678__	PARTNERING REQUIREMENTS
JOB 100678__	SEQUENCE OF CONSTRUCTION
JOB 100678__	SOIL STABILIZATION
JOB 100678__	STORM WATER POLLUTION PREVENTION PLAN
JOB 100678__	SUBGRADE PREPARATION
JOB 100678__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 100678__	UTILITY ADJUSTMENTS
JOB 100678__	VALUE ENGINEERING
JOB 100678__	WARM MIX ASPHALT

10/21/2013

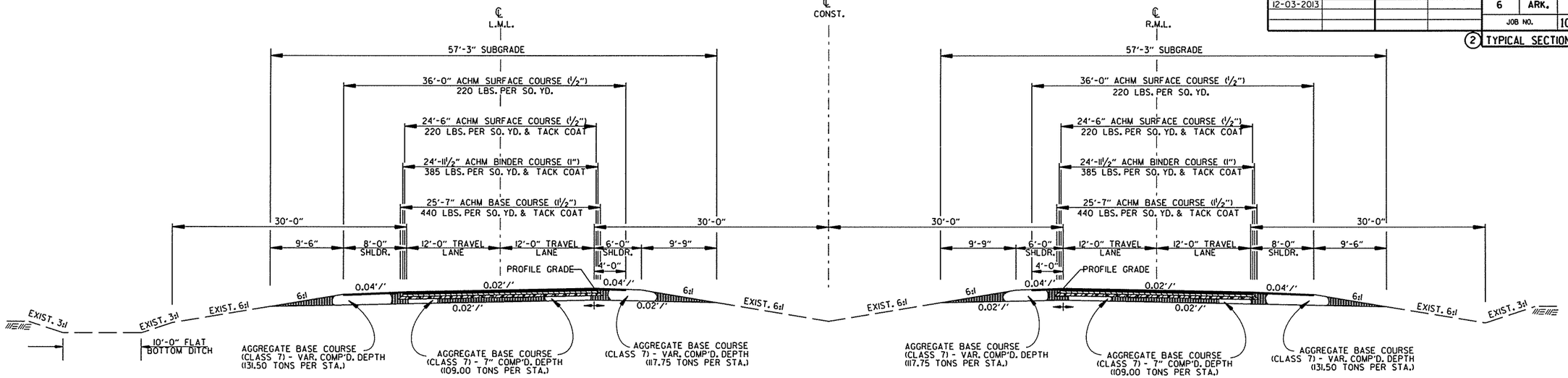
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
12-03-2013			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100678	3	95

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-3-13



HWY. 226 - 4 LANE DIVIDED
FULL DEPTH SECTION

STA. 629+00.00 TO STA. 635+68.00
STA. 644+76.00 TO STA. 659+87.00
STA. 669+24.00 TO STA. 673+13.00

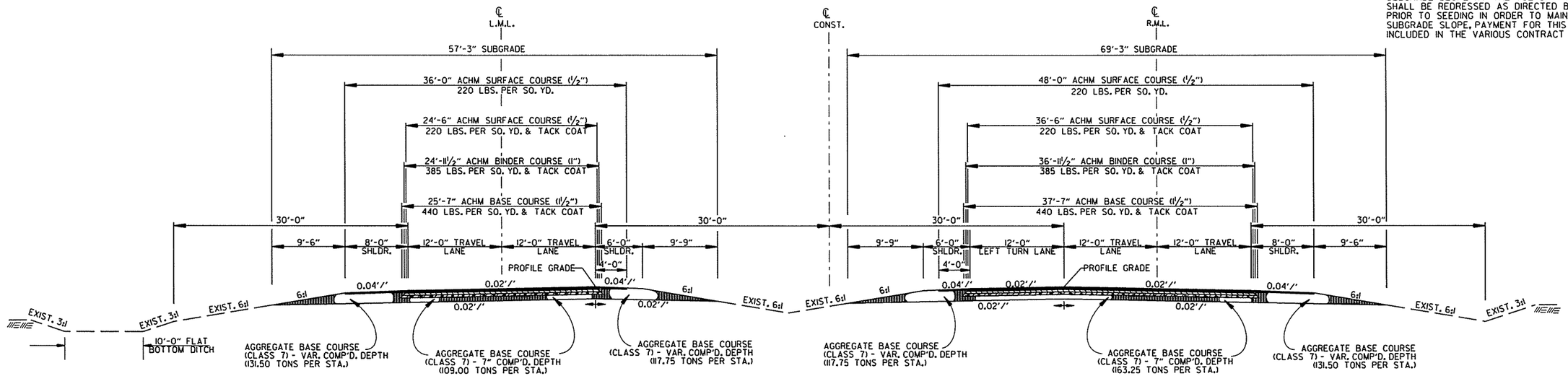
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE 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.

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

WITH 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.

AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE, PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.



HWY. 226 - 4 LANE DIVIDED
RT. MAIN LANES W./ LEFT TURN LANE

STA. 637+68.00 TO STA. 640+00.00
STA. 675+13.00 TO STA. 677+23.00

TYPICAL SECTIONS OF IMPROVEMENT

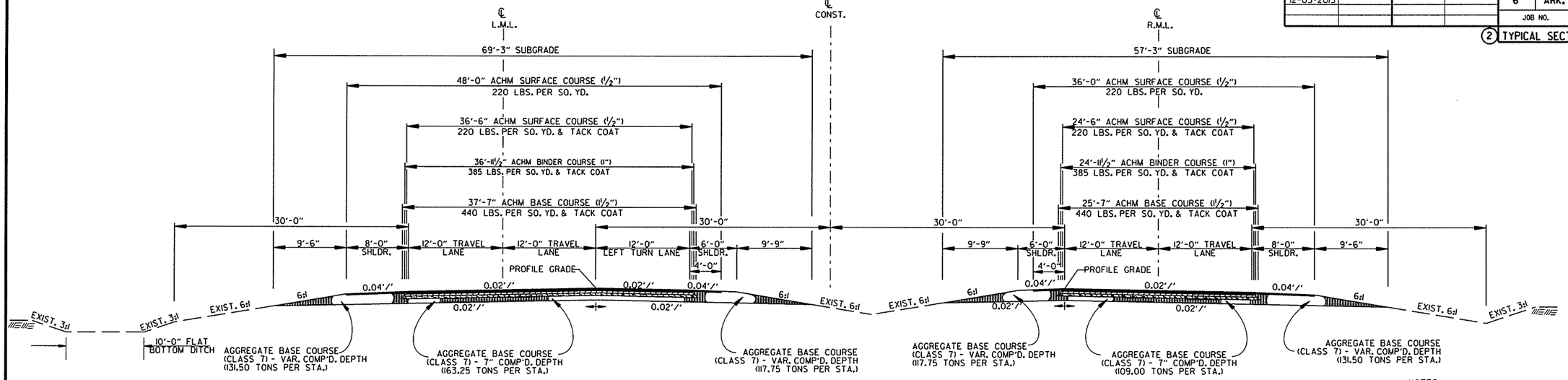
10/29/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-03-2013				6	ARK.			
				JOB NO.		100678	4	95

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-3-13



HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES W./ LEFT TURN LANE

STA. 640+40.00 TO STA. 642+76.00

NOTES:
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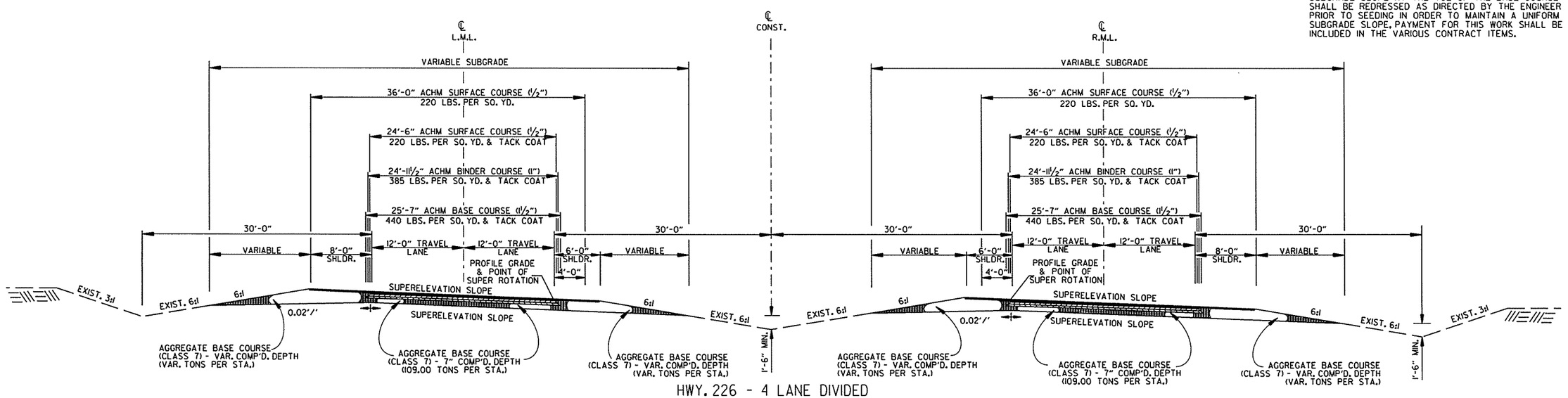


HWY. 226 - 4 LANE DIVIDED
SUPERELEVATION SECTION

STA. 604+42.50 TO STA. 620+39.29
STA. 684+98.72 TO STA. 703+94.96

TYPICAL SECTIONS OF IMPROVEMENT

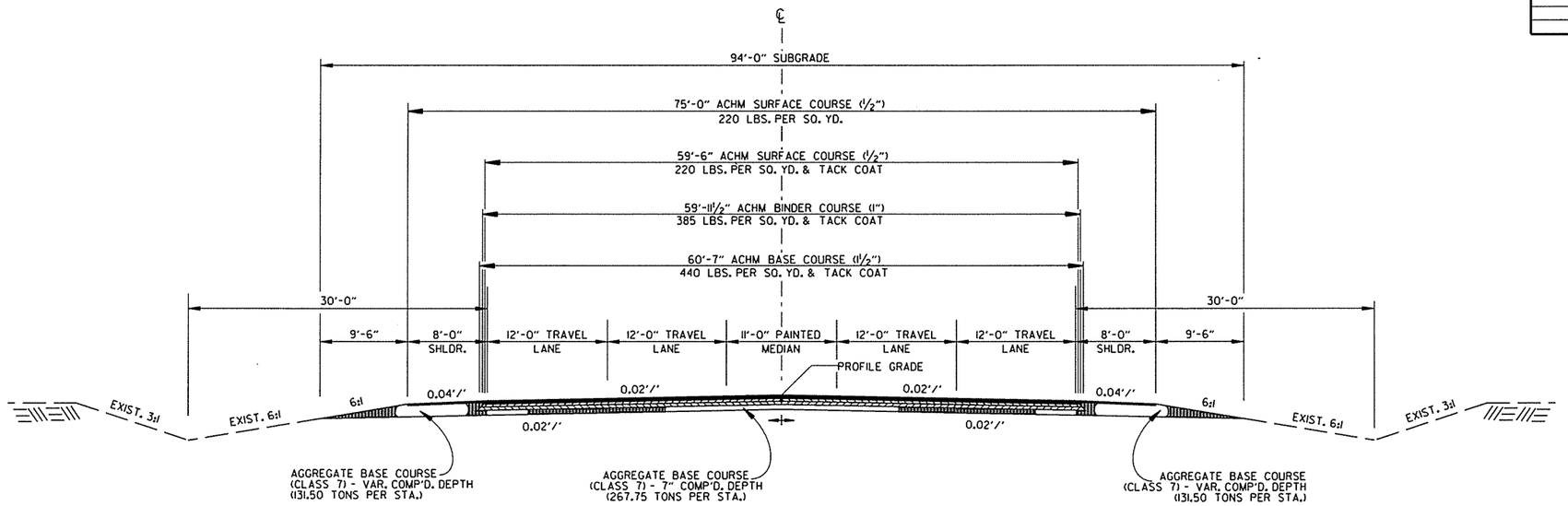
10/29/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	5	95

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13



HWY. 226 - 5 LANE SECTION

STA. 682+04.43 TO STA. 684+98.72

NOTES:
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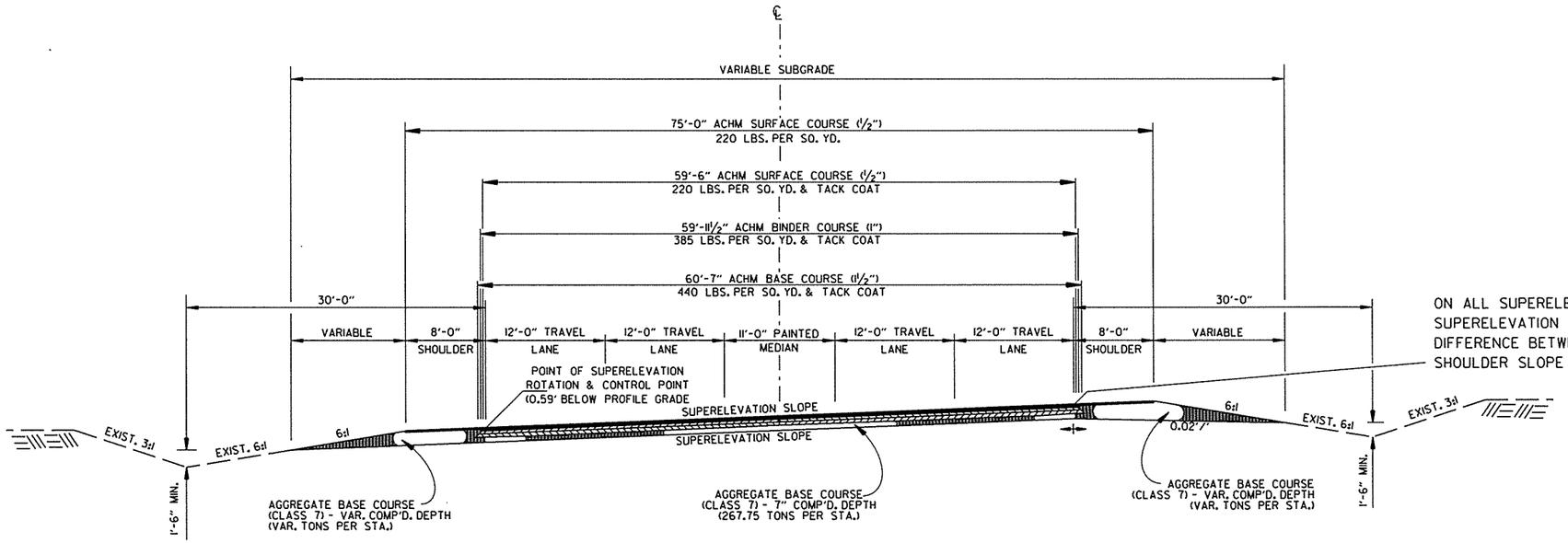

ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS THE ALGABRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

HWY. 226 - 5 LANE SUPERELEVATION SECTION

STA. 684+98.72 TO 693+00.00

10/29/2013

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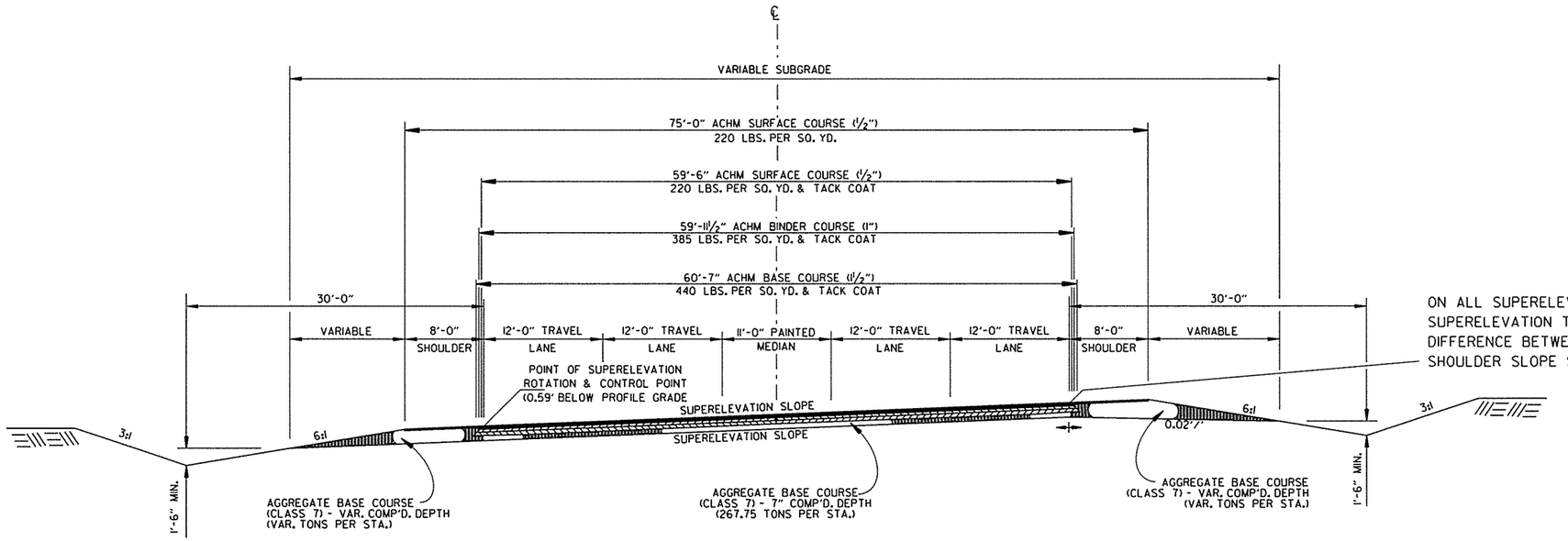
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	5A	95

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13



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

HWY. 226 - 5 LANE SUPERELEVATION SECTION
STA. 693+00.00 TO 703+94.96

NOTES:
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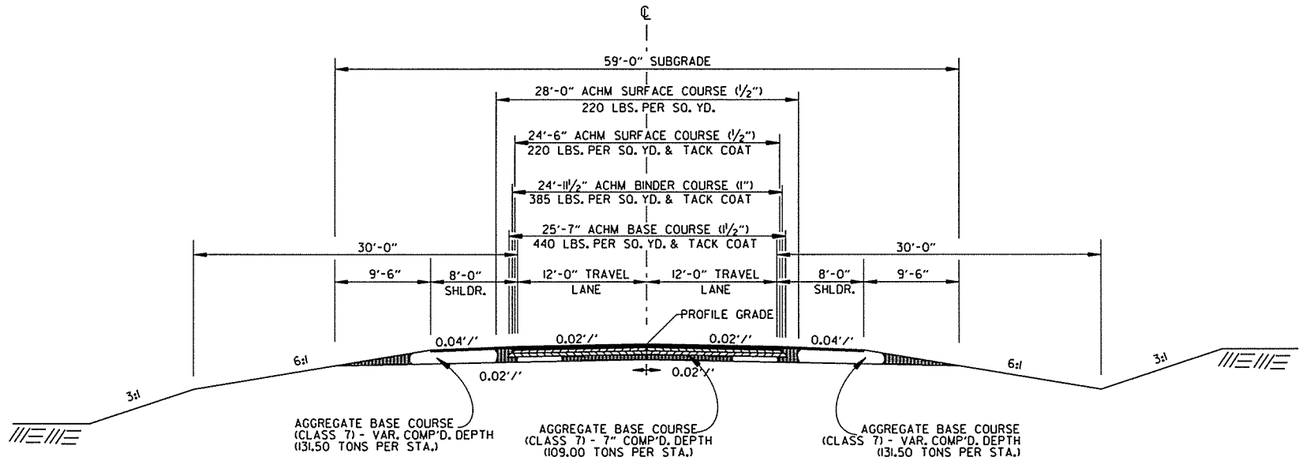
10/29/2013
R100678.DGN

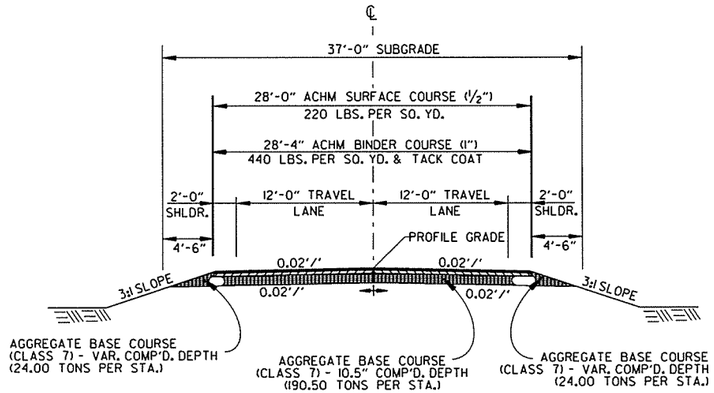
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	6	95

(2) TYPICAL SECTIONS OF IMPROVEMENT



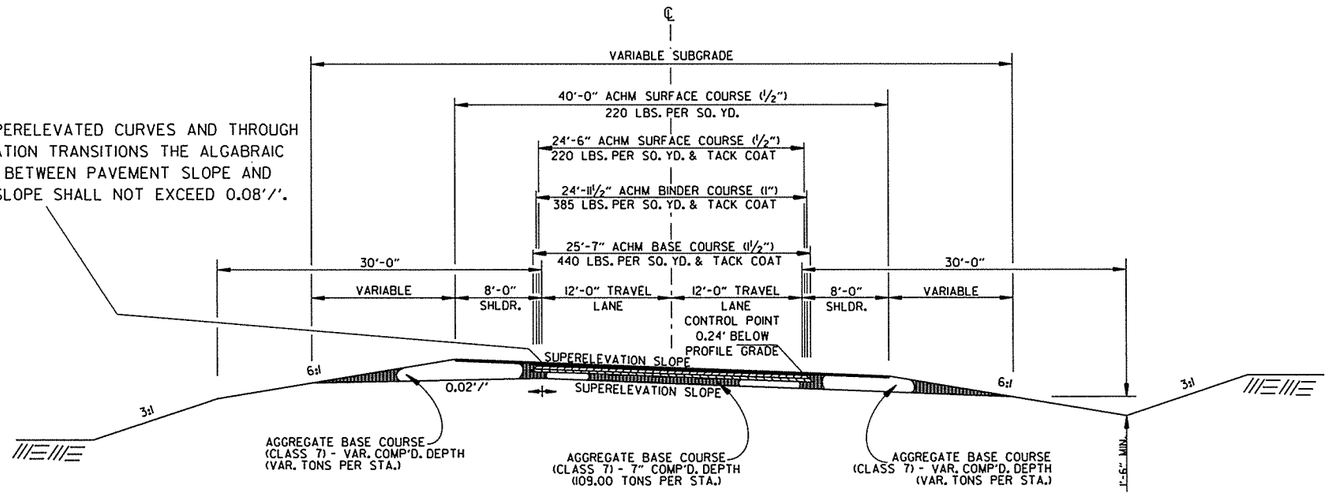
CONNECTOR ROAD
NORMAL SECTION

STA. 111+27.84 TO STA. 111+50.00 - HWY. 226 CONNECTOR



TEMPORARY WIDENING
STA. 101+39.88 TO STA. 110+17.06

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



CONNECTOR ROAD
SUPERELEVATION SECTION

STA. 106+00 TO STA. 111+27.84 - HWY. 226 CONNECTOR
STA. 101+84.13 TO STA. 105+50.00 - HWY. 49 CONNECTOR

NOTES:
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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

10/29/2013

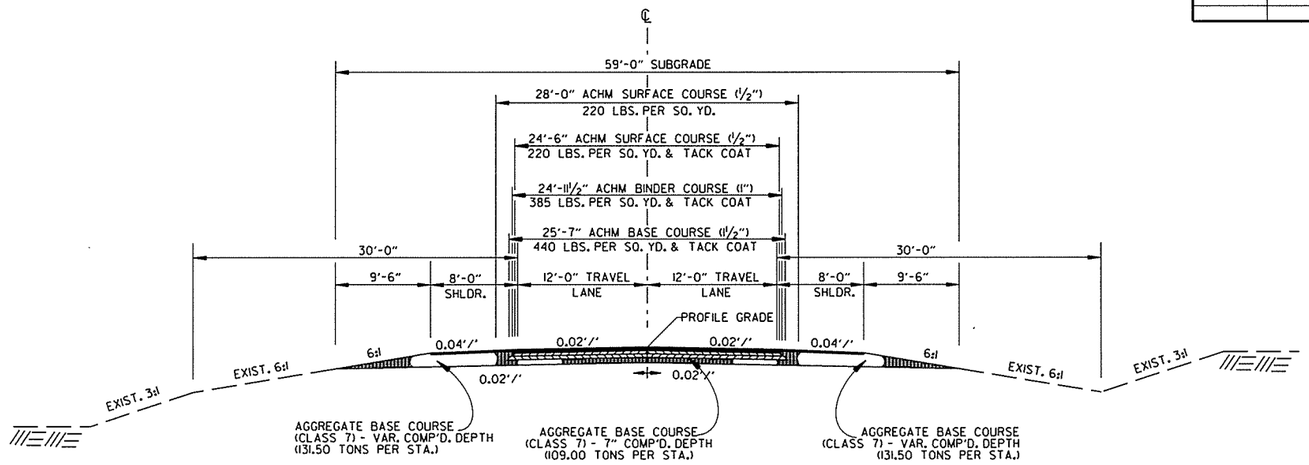
R100678.DGN

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.		100678	6A	95

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13



CONNECTOR ROAD
NORMAL SECTION

STA. 111+20.47 TO STA. 112+05.87 - HWY. 49 CONNECTOR

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

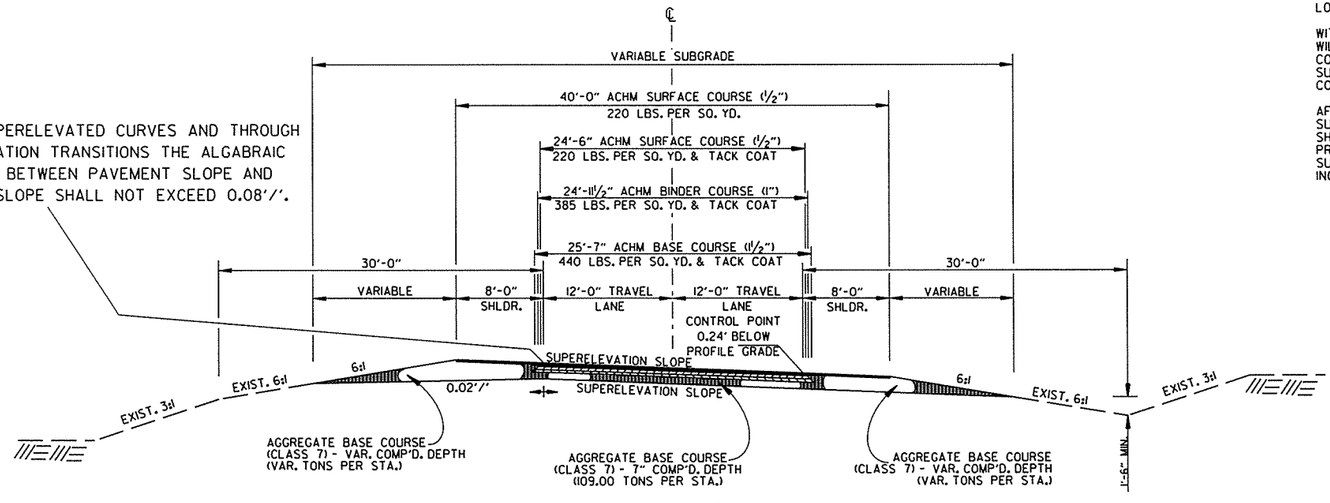
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

WITH 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 (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.

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



CONNECTOR ROAD
SUPERELEVATION SECTION

STA. 101+06.47 TO STA. 106+00.00 - HWY. 226 CONNECTOR
STA. 105+50.00 TO STA. 111+20.47 - HWY. 49 CONNECTOR

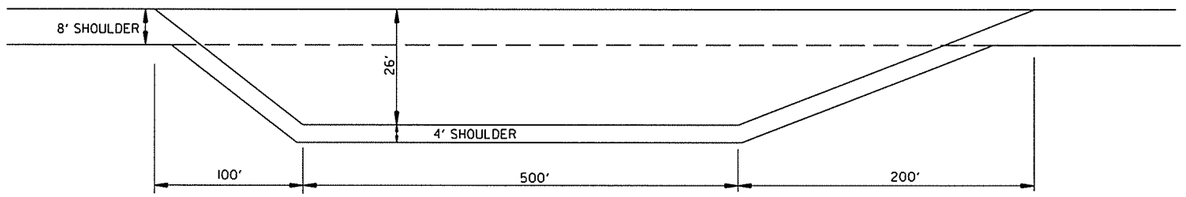
10/29/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-03-2013				6	ARK.			
				JOB NO.		100678	7	95

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-3-13



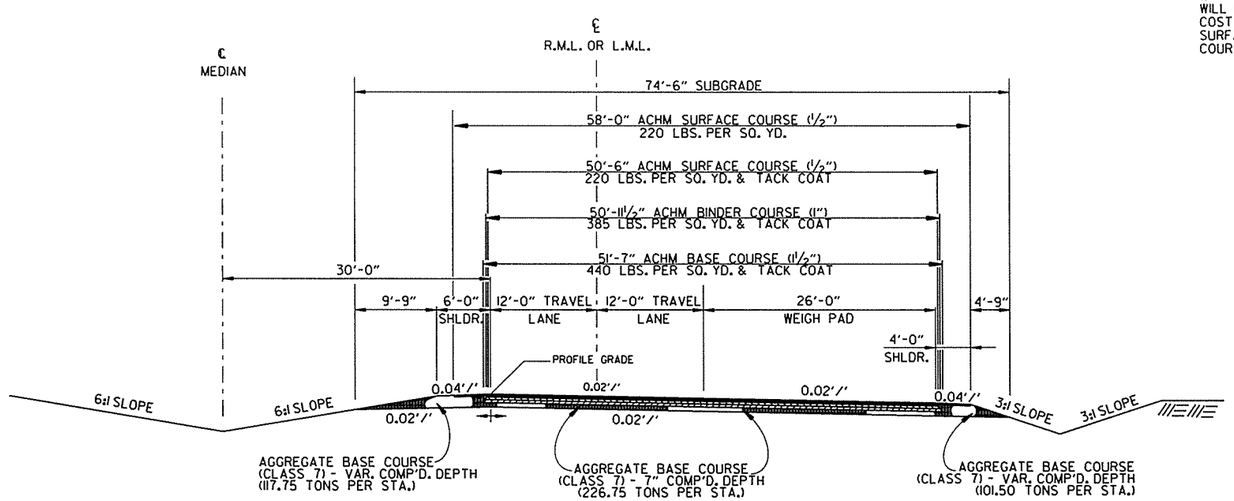
DETAIL OF WEIGH PAD
STA. 621+00 TO STA. 629+00 - RT. LANES
STA. 620+00 TO STA. 628+00 - LT. LANES

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

THE 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.

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

WITH 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.



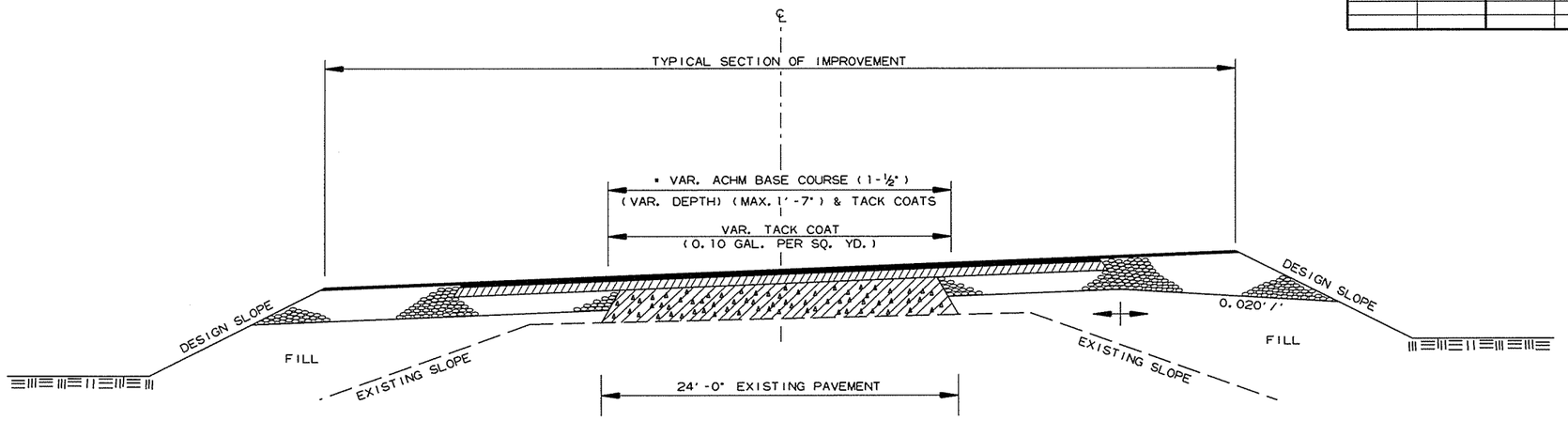
TYPICAL SECTION OF IMPROVEMENT
WEIGH PAD

R100678.DGN 10/16/13

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	8	95

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



* 7" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH A.C.H.M. BASE COURSE (1-½")

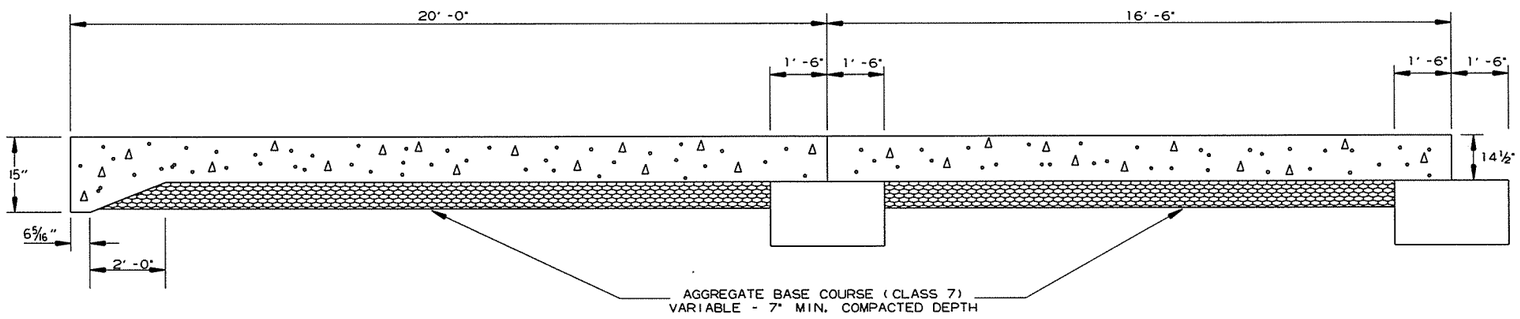
METHOD OF RAISING GRADE

NOTES:

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

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

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003.



SECTION OF APPROACH SLAB

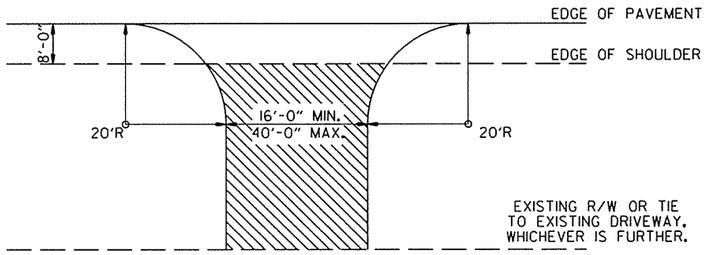
10/25/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	9	95

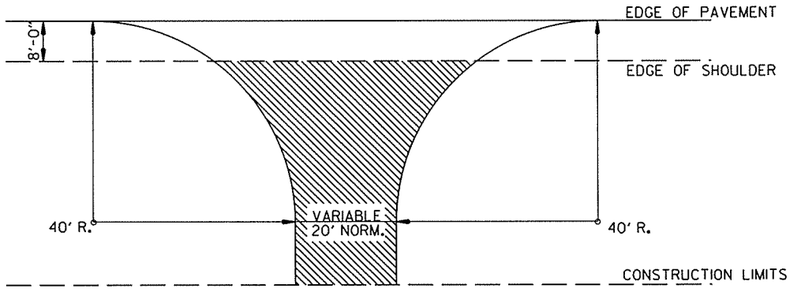
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



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

DETAIL FOR DRIVEWAY TURNOUTS



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

NOTE:
REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUTS

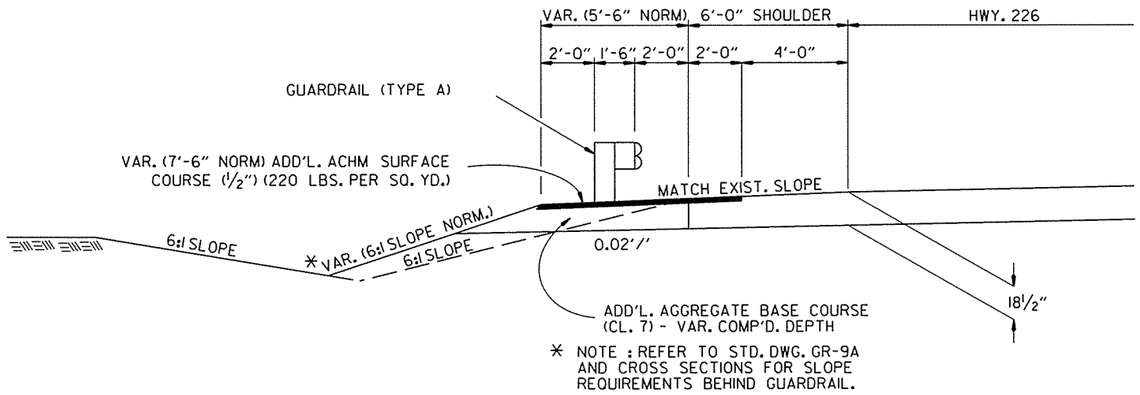
10/25/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	10	95

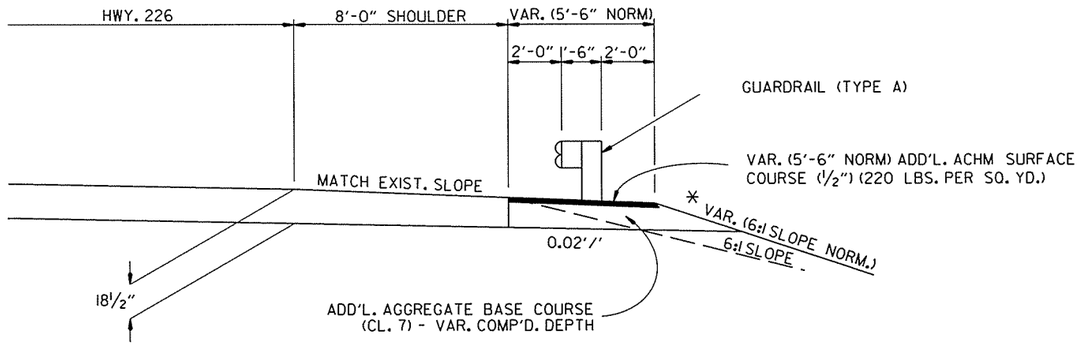
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



WIDENING FOR GUARDRAIL - HWY. 226
INSIDE SHOULDER

(SHOWN IN THE DIRECTION OF TRAFFIC)



WIDENING FOR GUARDRAIL - HWY. 226
OUTSIDE SHOULDER

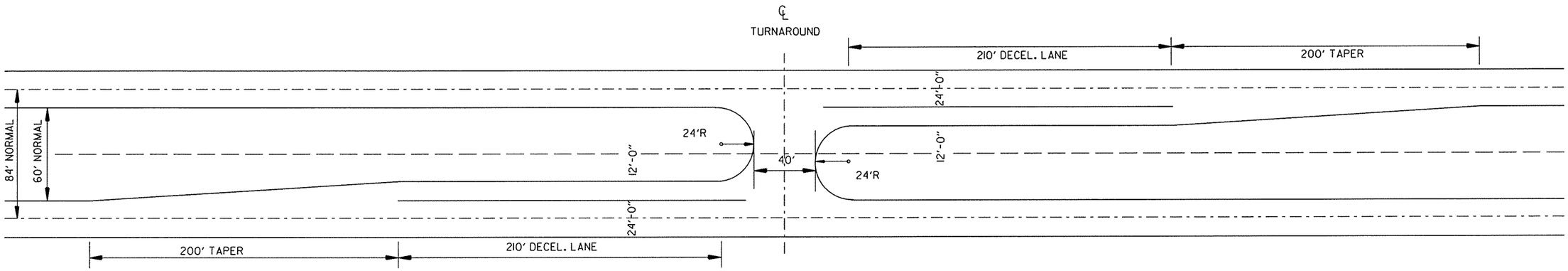
(SHOWN IN THE DIRECTION OF TRAFFIC)

R100678.DGN 10/16/13

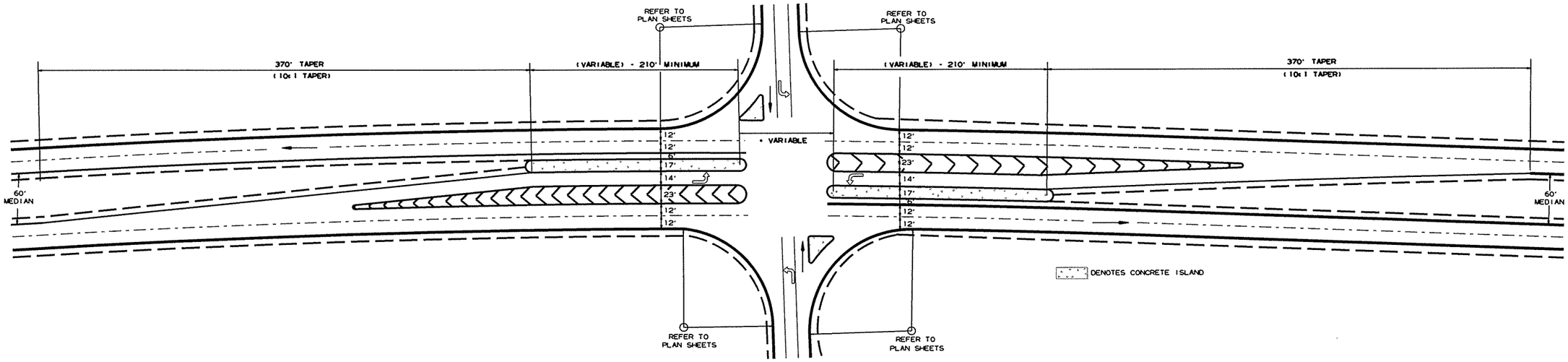
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	11	95

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



PLAN OF MEDIAN TURNAROUND



DETAIL OF PARALLEL OFFSET LEFT-TURN LANES
60' MEDIAN

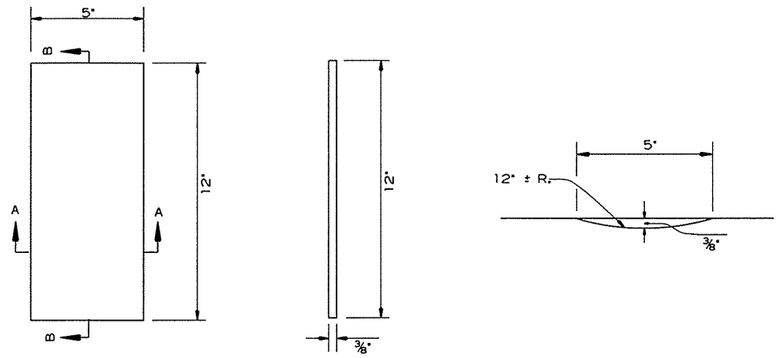
10/25/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	12	95

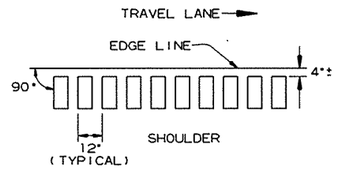
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

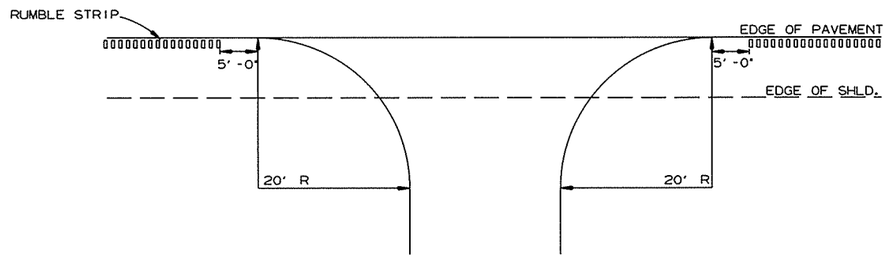


PLAN SECTION B-B SECTION A-A

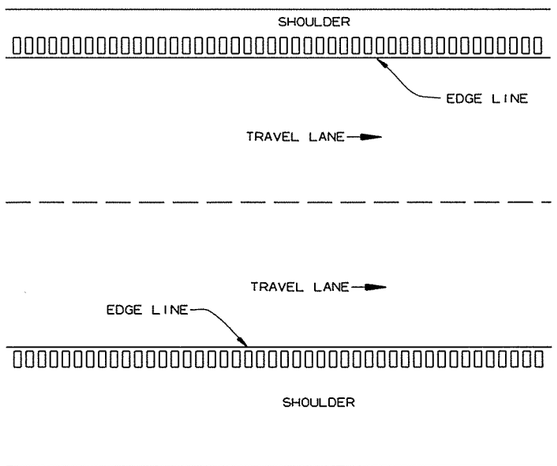
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



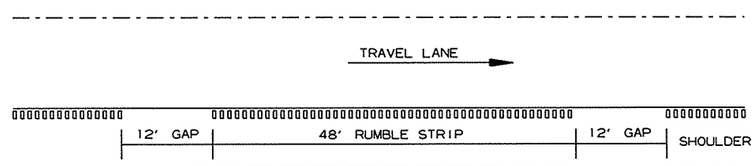
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

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



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

DETAIL FOR GAP PATTERN RUMBLE STRIP

10/25/2013

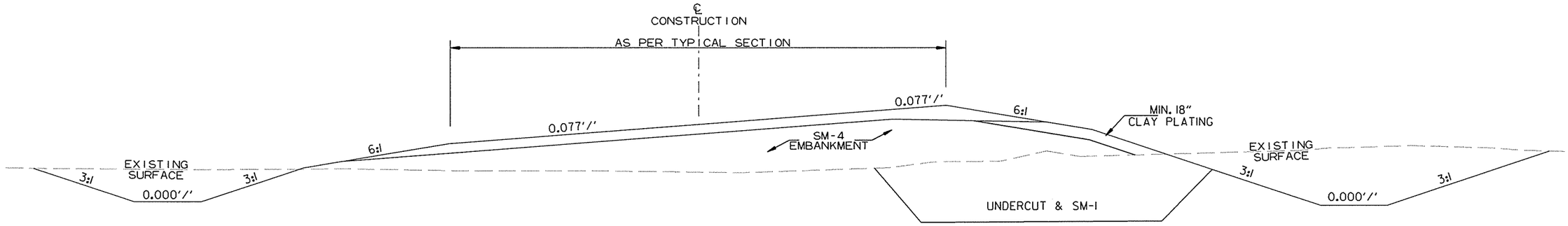
R100678.DGN

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.		100678	13	95

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



SPECIAL EMBANKMENT DETAIL

NOTE: REFER TO SPECIAL PROVISION "COMPACTED EMBANKMENT" AND CROSS SECTIONS FOR ADDITIONAL INFORMATION.
LOCATIONS OF UNDERCUT AS DIRECTED BY THE ENGINEER AND AS SHOWN IN CROSS SECTIONS

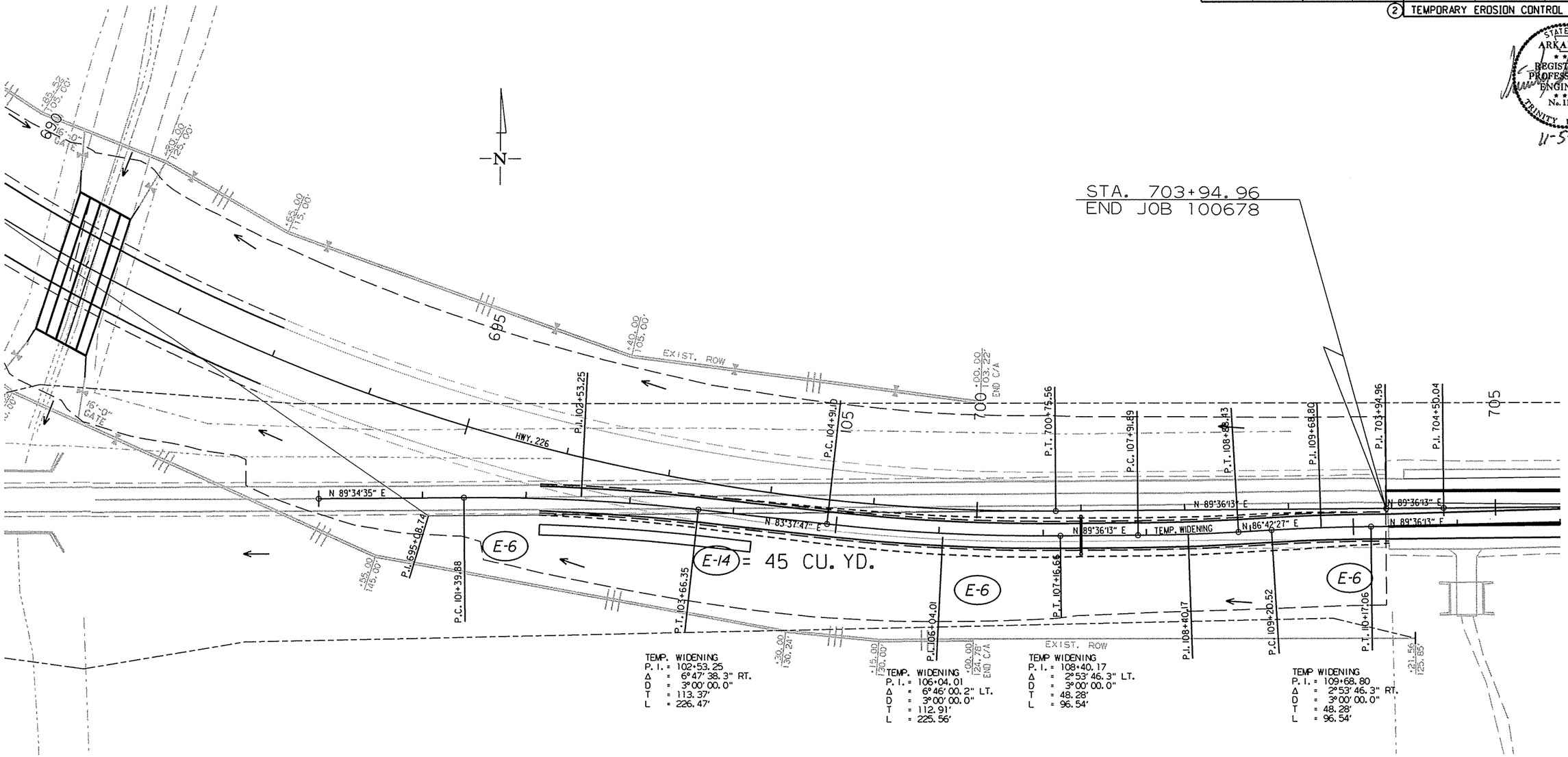
10/25/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	14	95

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



LEGEND

(E-6) = ROCK DITCH CHECK
(E-14) = SEDIMENT BASIN

DATE OF REVISION	REVISION

10/17/2013

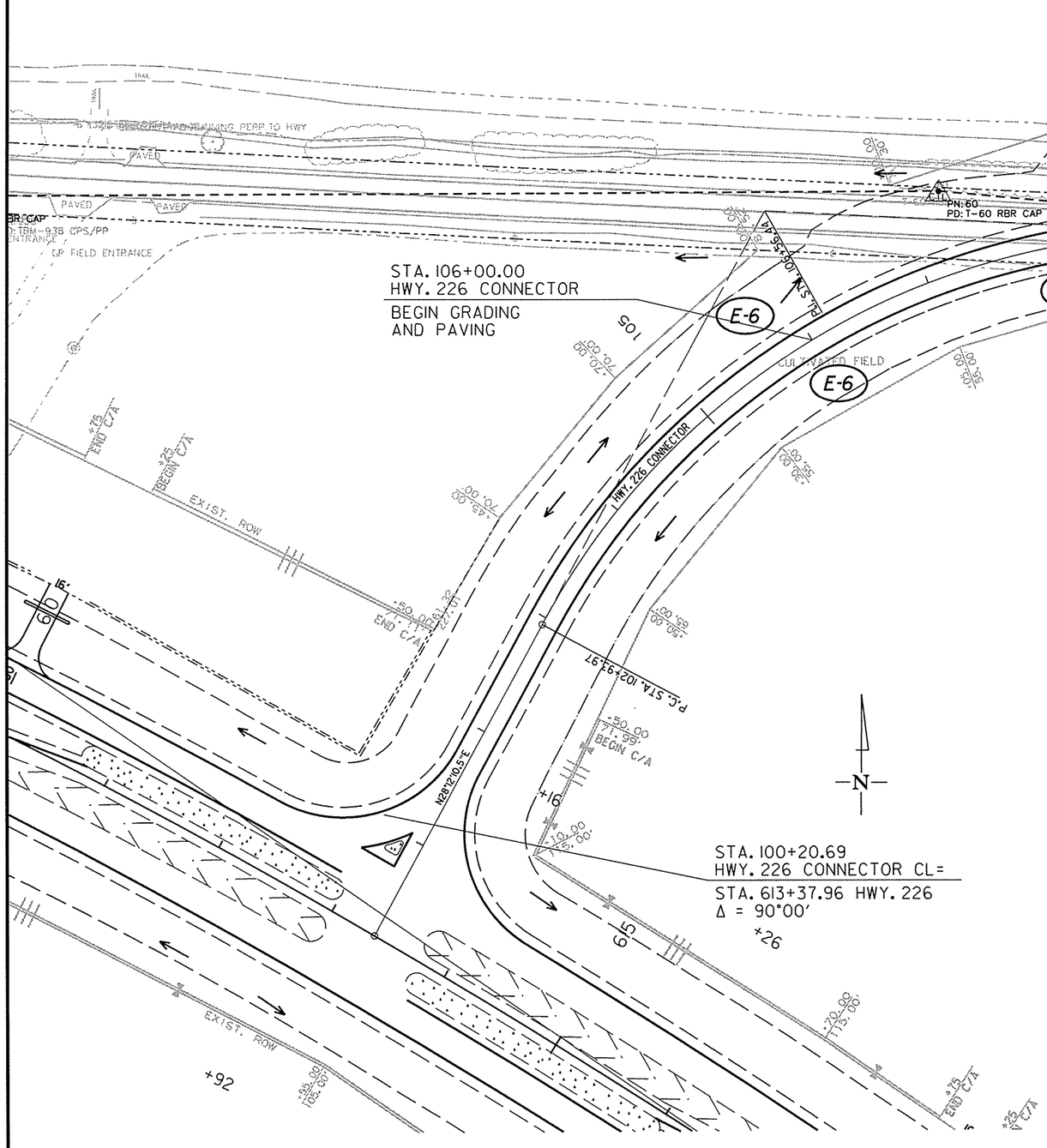
R100678.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

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.		100678	15	95

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



LEGEND

(E-6) = ROCK DITCH CHECK

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	16	95

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

STA. 105+50.00
END GRADING AND CONTINUE PAVING

STA. 101+84.13
HWY. 226 CONNECTOR
BEGIN GRADING AND PAVING

P.C. 101+84.13

CULTIVATED FIELD

EXIST. ROW

HWY. 49 CONNECTOR

105

E-6

E-6

E-6

P.I. 105+90.62

PN: 131
PO: T-131 2" ALUM. CAP 2"x5/8"RBR

'48'08" E

N

LEGEND

E-6 = ROCK DITCH CHECK
E-14 = SEDIMENT BASIN

DATE OF REVISION	REVISION

+55.00 115.00

E-6

695

E-14 = 35 CU. YD.

+40.00 105.00

EXIST. ROW

+00.00 703.22 END C/A

700

P.I. 102+53.25

E-6

CULTIVATED FIELD

P.C. 104+91.19

105

E-6

P.T. 700+75.56

P.C. 107+91.89

E-6

P.T. 108+88.43

CULTIVATED FIELD

P.I. 109+68.80

P.I. 703+94.96

P.I. 704+50.04

705

STA. 703+94.96
END JOB 100678

WATER

CULTIVATED FIELD

36'-0" GATE

BRUSH

PN: 95
POT CHISELED 'SQR'

HWY. 226

N 89°34'35" E

N 83°37'47" E

N 89°36'13" E

TEMP. WIDENING

N 86°42'27" E

N 89°36'13" E

N 89°36'13" E

PN: 132
PO: T-132 2"ALUM CAP 2"X5/8"RBR

+55.00 145.00

P.I. 695+08.74

P.C. 101+39.88

P.T. 103+66.35

E-14 = 45 CU. YD.

+30.00 130.24

+15.00 130.00

P.I. 106+04.01

+00.00 124.78 END C/A

PN: 133
PO: T-133 2 ALUM CAP 2"X5/8"RBR

P.T. 107+16.66

P.I. 108+40.17

P.C. 109+20.52

P.T. 110+17.06

+21.56 125.85

EXIST. ROW

TEMP. WIDENING
P. I. = 102+53.25
Δ = 6°47' 38.3" RT.
D = 3°00' 00.0"
T = 113.37'
L = 226.47'

TEMP. WIDENING
P. I. = 106+04.01
Δ = 6°46' 00.2" LT.
D = 3°00' 00.0"
T = 112.91'
L = 225.56'

TEMP WIDENING
P. I. = 108+40.17
Δ = 2°53' 46.3" LT.
D = 3°00' 00.0"
T = 48.28'
L = 96.54'

TEMP WIDENING
P. I. = 109+68.80
Δ = 2°53' 46.3" RT.
D = 3°00' 00.0"
T = 48.28'
L = 96.54'

TEMPORARY EROSION CONTROL DETAILS STAGE 2

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	17	95

(2) TEMPORARY EROSION CONTROL DETAILS

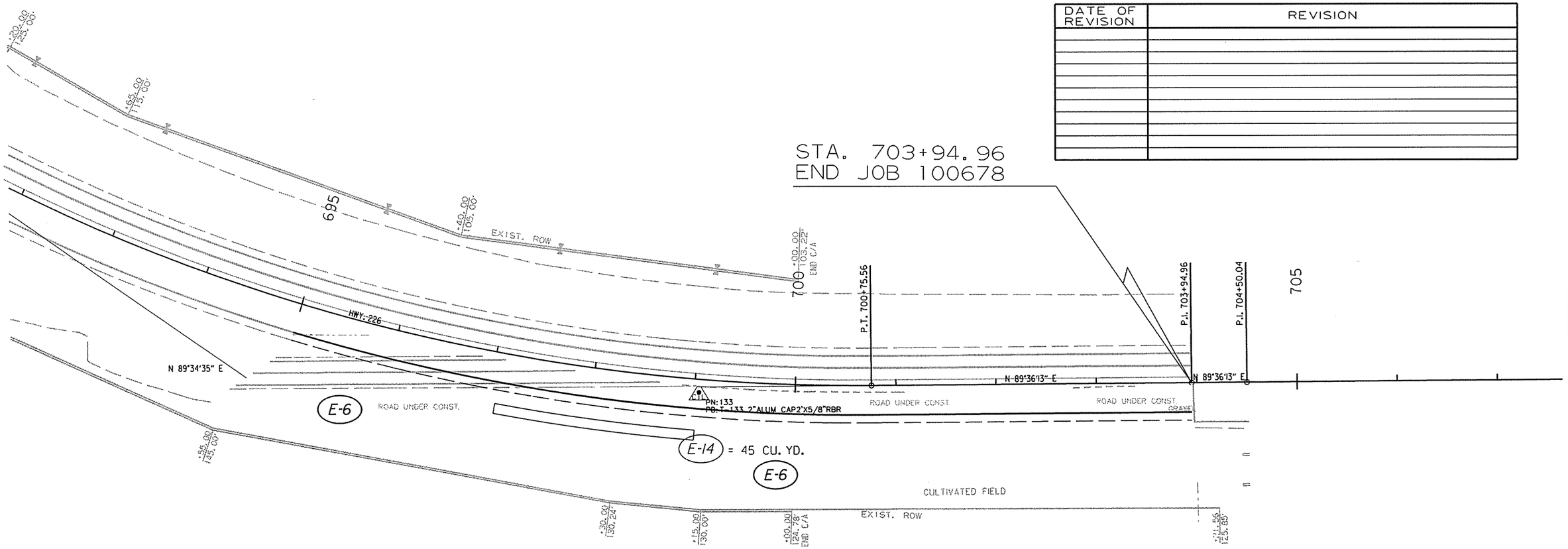
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

LEGEND

(E-6) = ROCK DITCH CHECK
(E-14) = SEDIMENT BASIN

DATE OF REVISION	REVISION

STA. 703+94.96
END JOB 100678



TEMPORARY EROSION CONTROL DETAILS
STAGE 3

10/24/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	18	95

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

LEGEND

(E-6) = ROCK DITCH CHECK

DATE OF REVISION	REVISION

STA. 604+42.50
END JOB 100679
BEGIN JOB 100678

TEMPORARY EROSION CONTROL DETAILS
STAGE 4

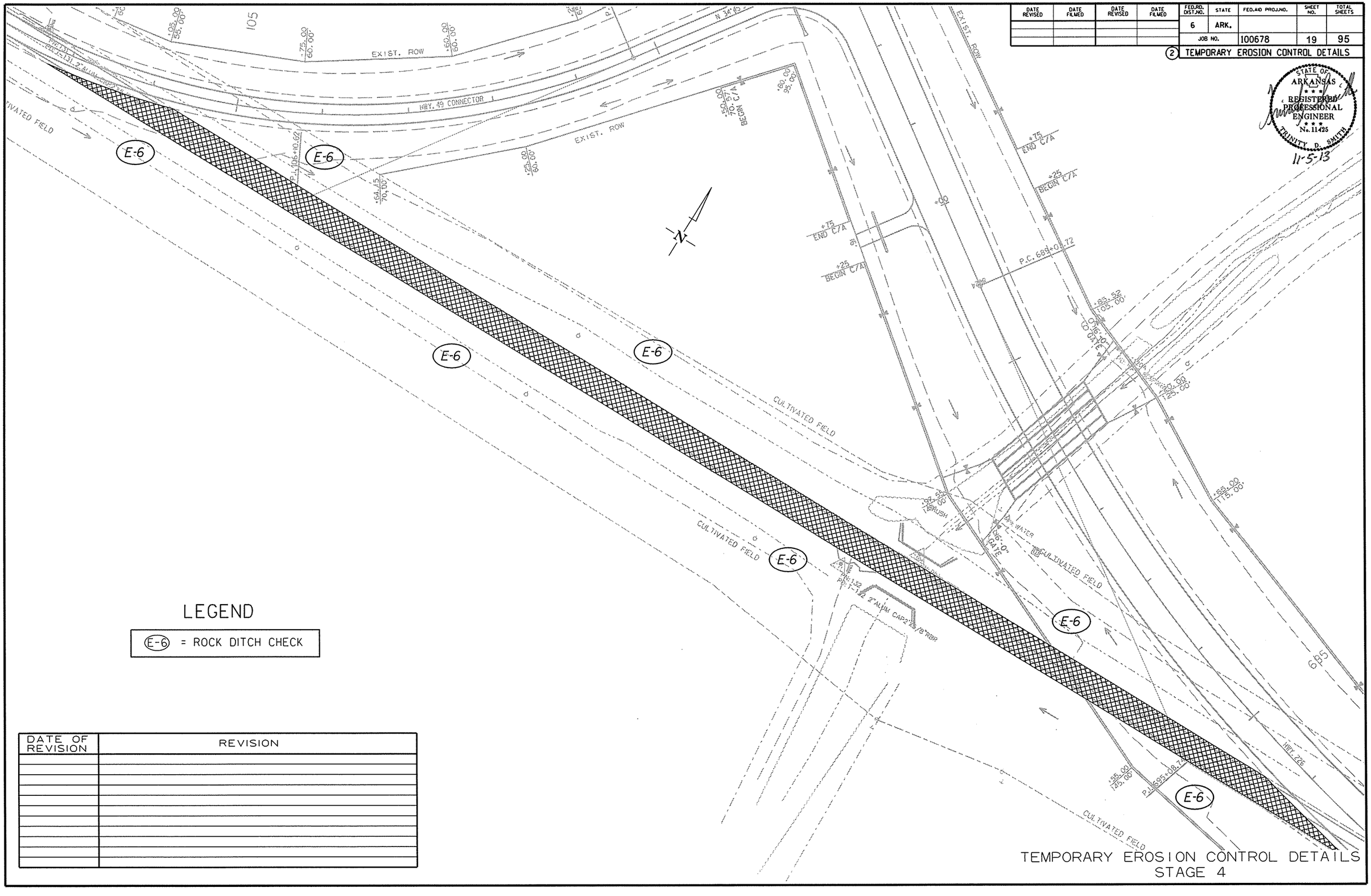
10/24/2013

R100678.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.		100678	19	95

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



LEGEND

E-6 = ROCK DITCH CHECK

DATE OF REVISION	REVISION

10/24/2013

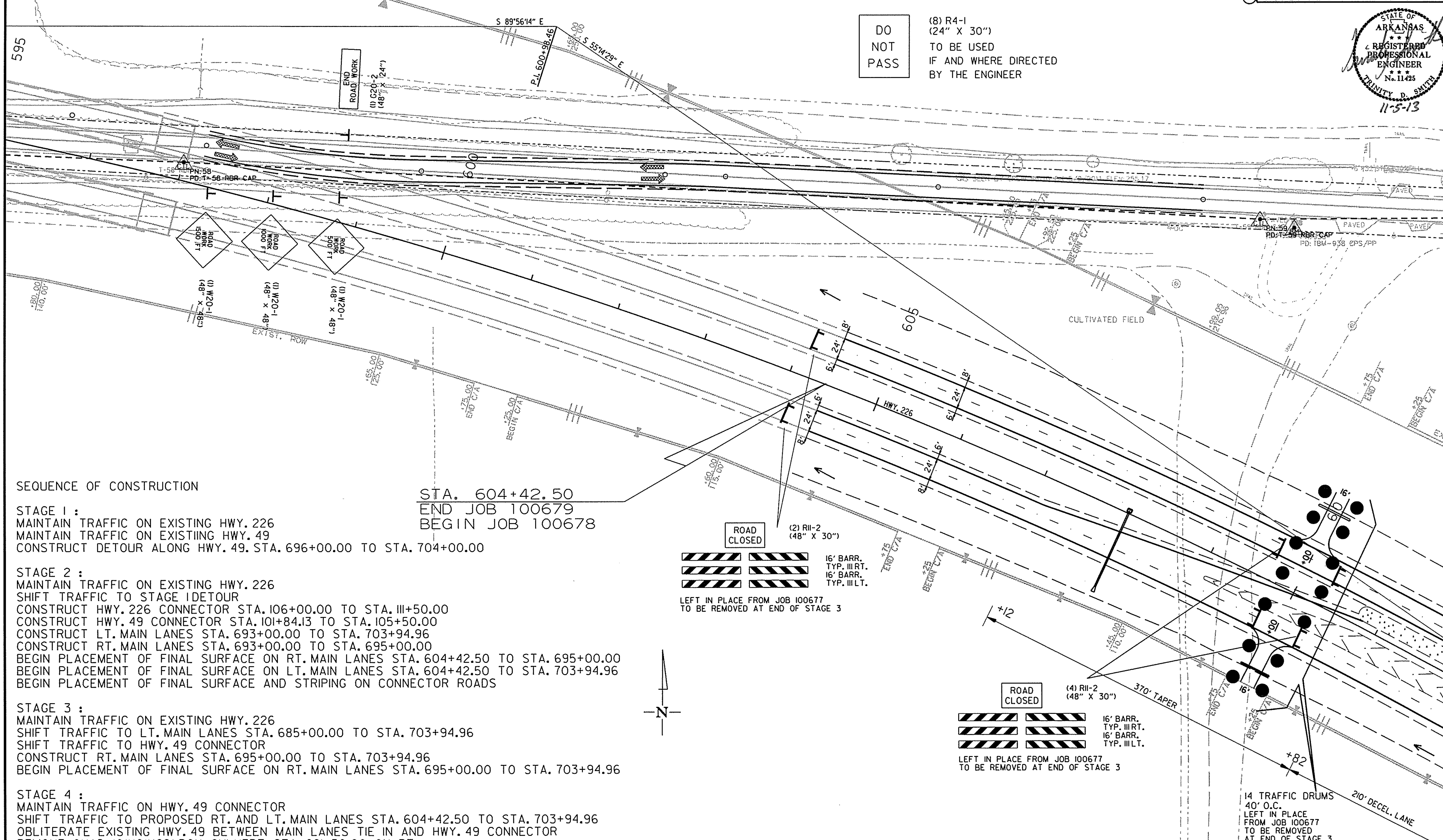
R100678.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	20	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH
11-5-13



SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
MAINTAIN TRAFFIC ON EXISTIING HWY. 49
CONSTRUCT DETOUR ALONG HWY. 49. STA. 696+00.00 TO STA. 704+00.00

STAGE 2 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO STAGE 1 DETOUR
CONSTRUCT HWY. 226 CONNECTOR STA. 106+00.00 TO STA. 111+50.00
CONSTRUCT HWY. 49 CONNECTOR STA. 101+84.13 TO STA. 105+50.00
CONSTRUCT LT. MAIN LANES STA. 693+00.00 TO STA. 703+94.96
CONSTRUCT RT. MAIN LANES STA. 693+00.00 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 604+42.50 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
BEGIN PLACEMENT OF FINAL SURFACE AND STRIPING ON CONNECTOR ROADS

STAGE 3 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO LT. MAIN LANES STA. 685+00.00 TO STA. 703+94.96
SHIFT TRAFFIC TO HWY. 49 CONNECTOR
CONSTRUCT RT. MAIN LANES STA. 695+00.00 TO STA. 703+94.96
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 695+00.00 TO STA. 703+94.96

STAGE 4 :
MAINTAIN TRAFFIC ON HWY. 49 CONNECTOR
SHIFT TRAFFIC TO PROPOSED RT. AND LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
OBLITERATE EXISTING HWY. 49 BETWEEN MAIN LANES TIE IN AND HWY. 49 CONNECTOR
REMOVE QUAD. 10'X6'X62' BOX CULVERT STA. 691+50.00 ON RT.
OBLITERATE EXISTING HWY. 226 BETWEEN MAIN LANES TIE IN AND HWY. 226 CONNECTOR
(OBLITERATION OF EXISTING HWY. 226 WILL NOT BE ALLOWED UNTIL JOB 100679 IS SUBSTANTIALLY COMPLETE)

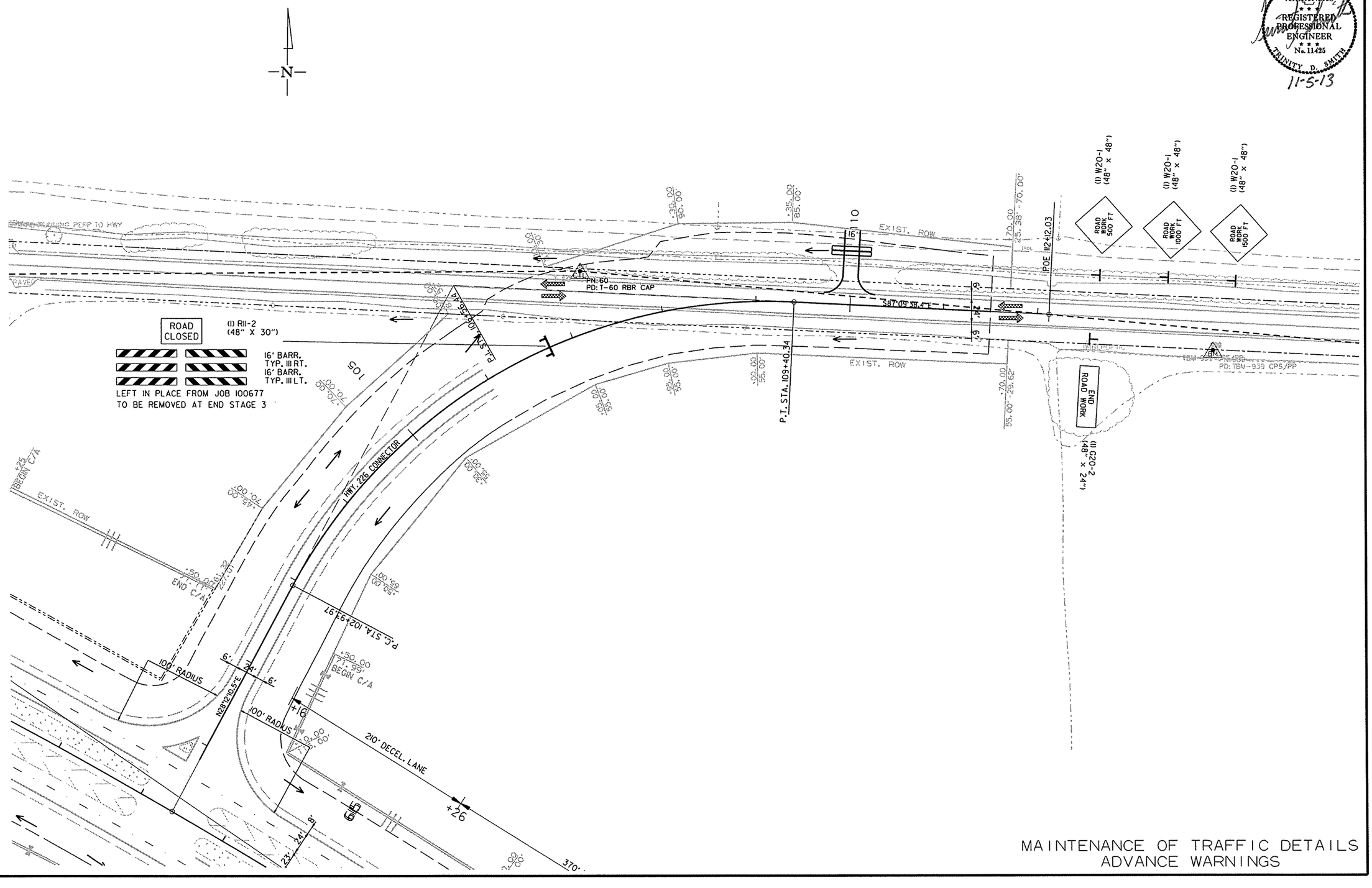
MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

R100678.DGN
10/17/2013

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.		100678	21	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

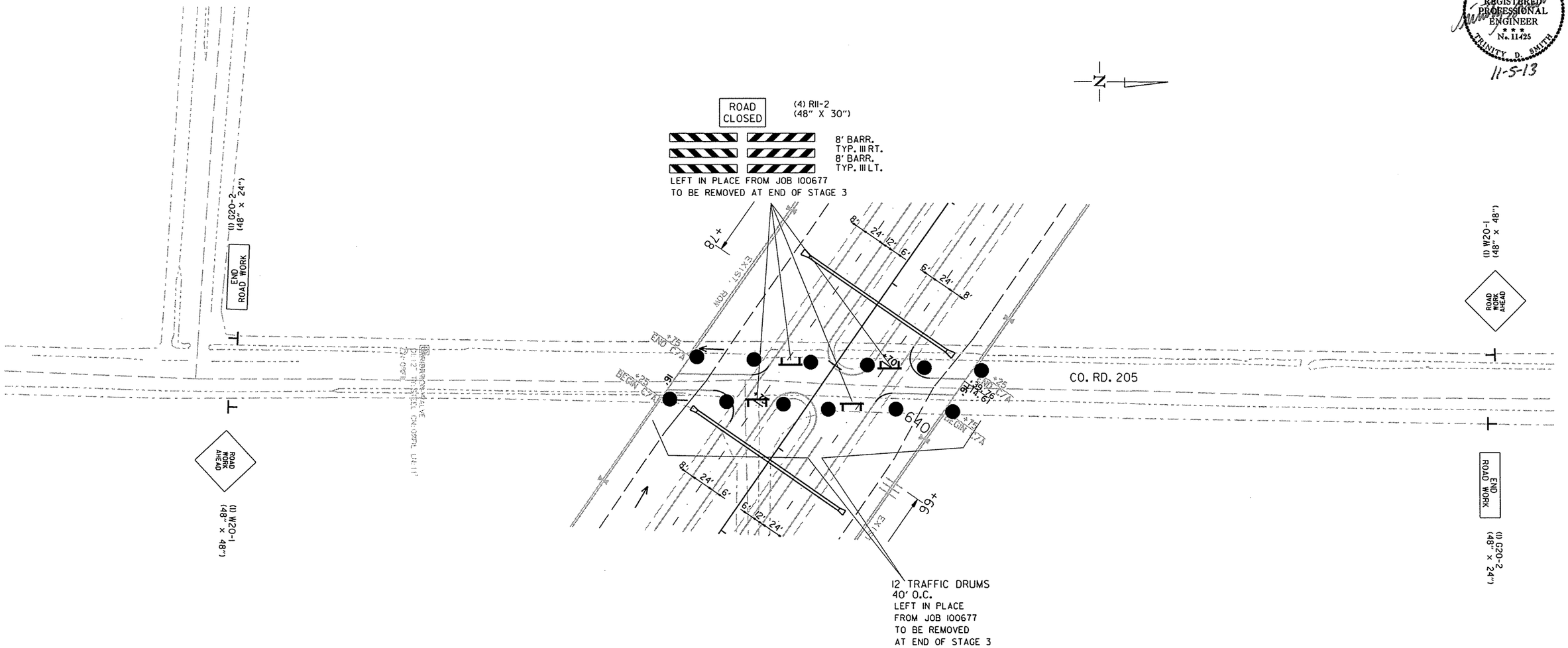
10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	22	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



10/17/2013

R100678.DGN

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	23	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

CO. RD. 203

UNION PACIFIC RAILROAD

END ROAD WORK (1) G20-2 (48" × 24")

ROAD WORK (1) W20-1 (48" × 48") — 500 FT

ROAD WORK (1) W20-1 (48" × 48") — 1000 FT

ROAD WORK (1) W20-1 (48" × 48") — 1500 FT

660 665 670 675

16'-0" GATE

EXIST. ROW

HWY. 226

ROAD CLOSED (4) R11-2 (48" X 30")

8' BARR. TYP. III RT.
8' BARR. TYP. III LT.
LEFT IN PLACE FROM JOB 100677
TO BE REMOVED AT END OF STAGE 3

L.M.L. TRANSITION
STA. 670+00.00 AHEAD - 42' LT. =
STA. 669+57.58 BACK
C.L. HWY. 226 STA. 670+00.42 BACK

R.M.L. TRANSITION
STA. 670+00.00 AHEAD - 42' RT. =
STA. 670+00.42 BACK
C.L. HWY. 226 STA. 670+00.42 BACK

S 55°14'29" E

P.C. 671+43.85

P.T. 673+98.95

16 TRAFFIC DRUMS 40 O.C.
LEFT IN PLACE FROM JOB 100677
TO BE REMOVED AT END OF STAGE 3

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

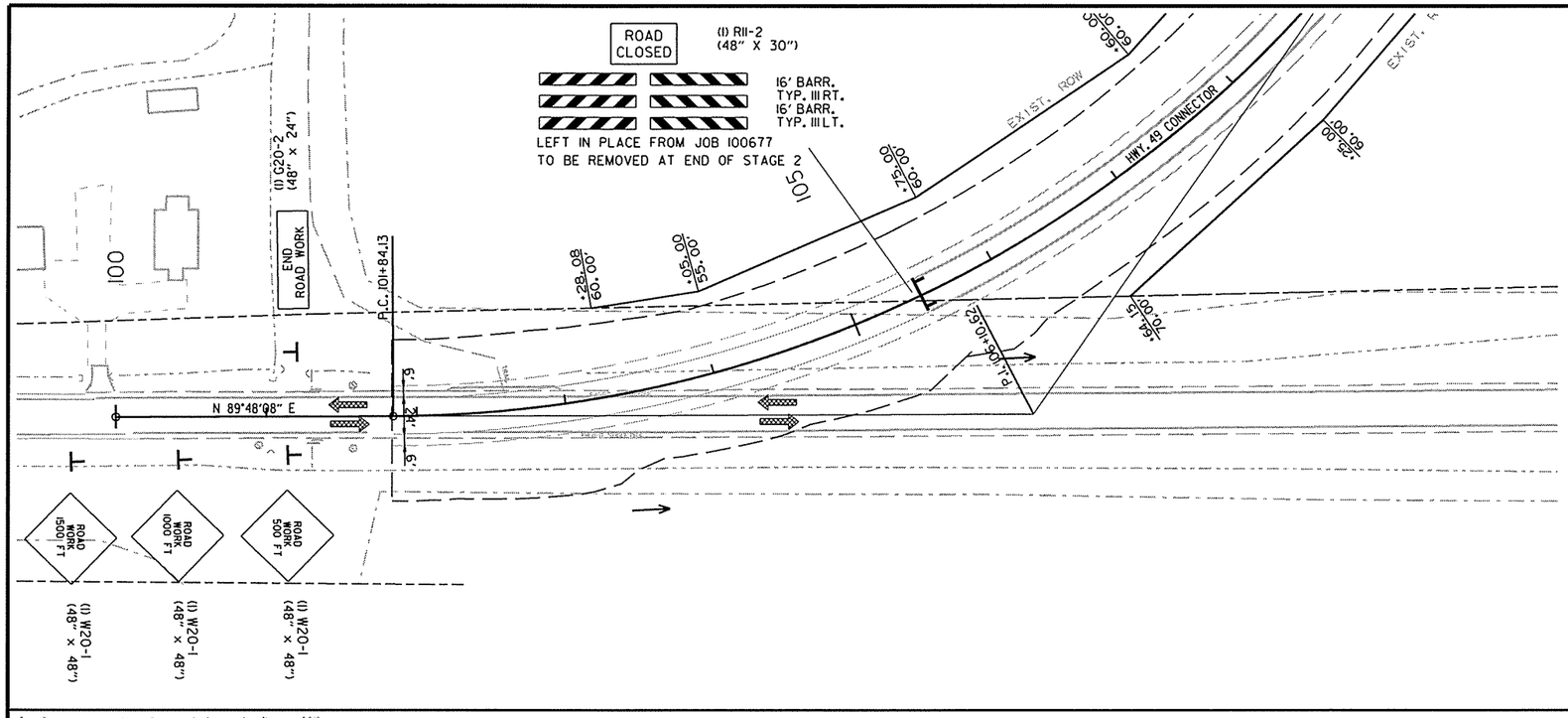
10/17/2013

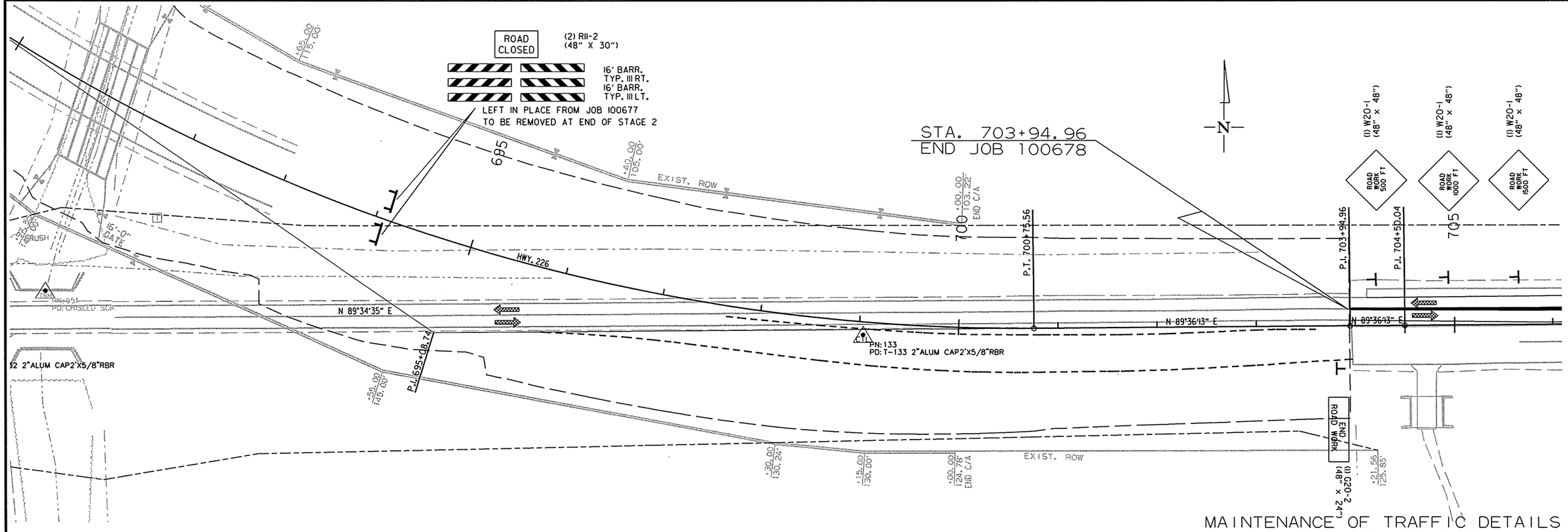
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	24	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



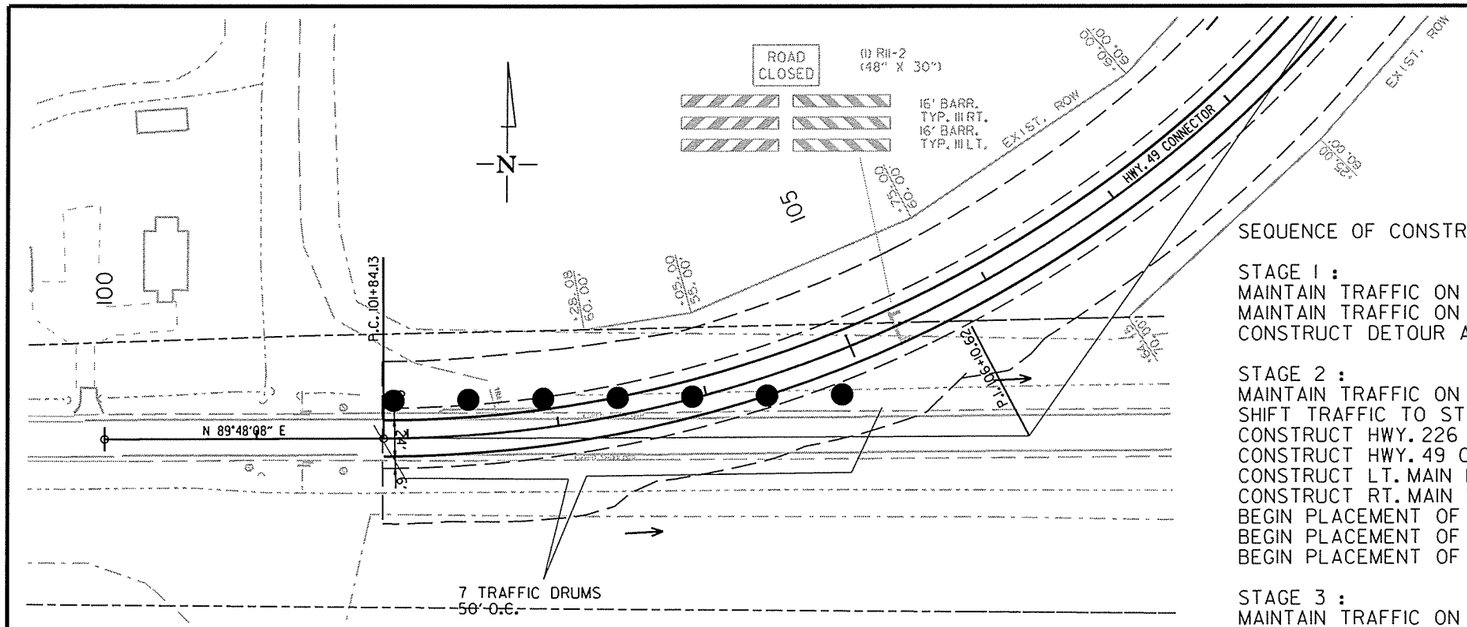


MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNINGS

10/17/2013
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	25	95

(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 1 :
REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 695+00.00 TO STA. 698+00.00 = 568 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS
WHITE STA. 695+00.00 TO STA. 703+94.96 = 1790 LIN. FT.
YELLOW STA. 695+00.00 TO STA. 703+94.96 = 1790 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

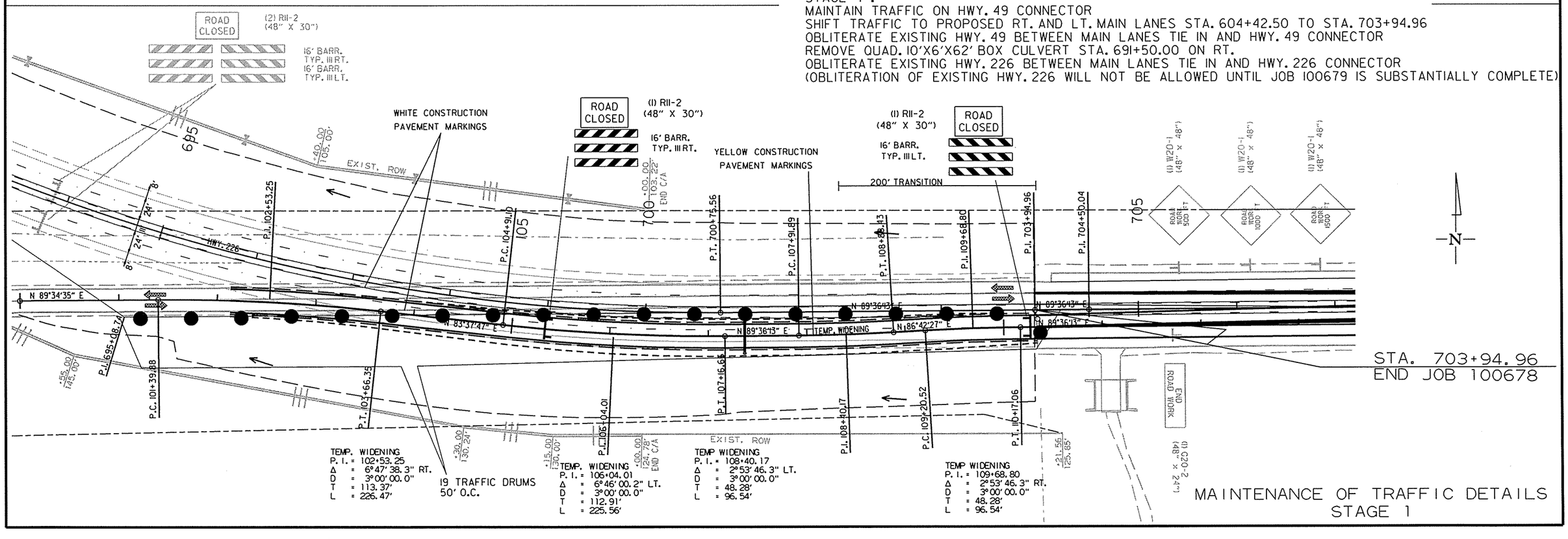
SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
MAINTAIN TRAFFIC ON EXISTIING HWY. 49
CONSTRUCT DETOUR ALONG HWY. 49. STA. 696+00.00 TO STA. 704+00.00

STAGE 2 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO STAGE I DETOUR
CONSTRUCT HWY. 226 CONNECTOR STA. 106+00.00 TO STA. 111+50.00
CONSTRUCT HWY. 49 CONNECTOR STA. 101+84.13 TO STA. 105+50.00
CONSTRUCT LT. MAIN LANES STA. 693+00.00 TO STA. 703+94.96
CONSTRUCT RT. MAIN LANES STA. 693+00.00 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 604+42.50 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
BEGIN PLACEMENT OF FINAL SURFACE AND STRIPING ON CONNECTOR ROADS

STAGE 3 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO LT. MAIN LANES STA. 685+00.00 TO STA. 704+00.00
SHIFT TRAFFIC TO HWY. 49 CONNECTOR
CONSTRUCT RT. MAIN LANES STA. 695+00.00 TO STA. 704+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 695+00.00 TO STA. 703+94.96

STAGE 4 :
MAINTAIN TRAFFIC ON HWY. 49 CONNECTOR
SHIFT TRAFFIC TO PROPOSED RT. AND LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
OBLITERATE EXISTING HWY. 49 BETWEEN MAIN LANES TIE IN AND HWY. 49 CONNECTOR
REMOVE QUAD. 10'X6'X62' BOX CULVERT STA. 691+50.00 ON RT.
OBLITERATE EXISTING HWY. 226 BETWEEN MAIN LANES TIE IN AND HWY. 226 CONNECTOR
(OBLITERATION OF EXISTING HWY. 226 WILL NOT BE ALLOWED UNTIL JOB 100679 IS SUBSTANTIALLY COMPLETE)



MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	26	95

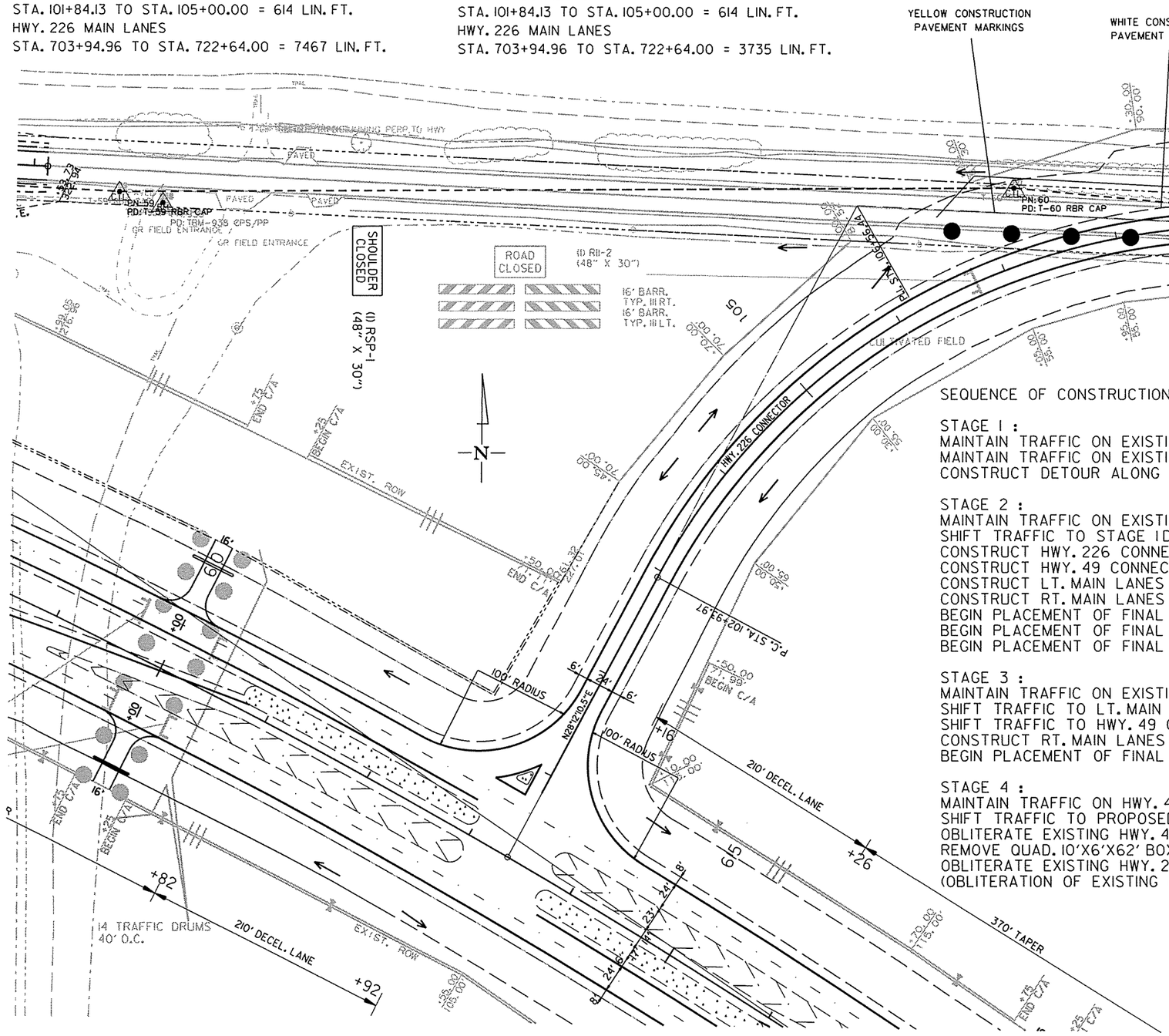
(2) MAINTENANCE OF TRAFFIC DETAILS

YELLOW CONSTRUCTION PAVEMENT MARKINGS
HWY. 226 CONNECTOR
STA. 106+50.00 TO 109+40.34 = 1034 LIN. FT.
HWY. 49 CONNECTOR
STA. 101+84.13 TO STA. 105+00.00 = 614 LIN. FT.
HWY. 226 MAIN LANES
STA. 703+94.96 TO STA. 722+64.00 = 7467 LIN. FT.

WHITE CONSTRUCTION PAVEMENT MARKINGS
HWY. 226 CONNECTOR
STA. 106+50.00 TO 109+40.34 = 1034 LIN. FT.
HWY. 49 CONNECTOR
STA. 101+84.13 TO STA. 105+00.00 = 614 LIN. FT.
HWY. 226 MAIN LANES
STA. 703+94.96 TO STA. 722+64.00 = 3735 LIN. FT.

STAGE 2 :
REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 703+94.96 TO STA. 722+64.00 = 1869 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
MAINTAIN TRAFFIC ON EXISTIING HWY. 49
CONSTRUCT DETOUR ALONG HWY. 49. STA. 696+00.00 TO STA. 704+00.00

STAGE 2 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO STAGE I DETOUR
CONSTRUCT HWY. 226 CONNECTOR STA. 106+00.00 TO STA. 111+50.00
CONSTRUCT HWY. 49 CONNECTOR STA. 101+84.13 TO STA. 105+50.00
CONSTRUCT LT. MAIN LANES STA. 693+00.00 TO STA. 703+94.96
CONSTRUCT RT. MAIN LANES STA. 693+00.00 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 604+42.50 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
BEGIN PLACEMENT OF FINAL SURFACE AND STRIPING ON CONNECTOR ROADS

STAGE 3 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO LT. MAIN LANES STA. 685+00.00 TO STA. 704+00.00
SHIFT TRAFFIC TO HWY. 49 CONNECTOR
CONSTRUCT RT. MAIN LANES STA. 695+00.00 TO STA. 704+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 695+00.00 TO STA. 703+94.96

STAGE 4 :
MAINTAIN TRAFFIC ON HWY. 49 CONNECTOR
SHIFT TRAFFIC TO PROPOSED RT. AND LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
OBLITERATE EXISTING HWY. 49 BETWEEN MAIN LANES TIE IN AND HWY. 49 CONNECTOR
REMOVE QUAD. 10'X6'X62' BOX CULVERT STA. 691+50.00 ON RT.
OBLITERATE EXISTING HWY. 226 BETWEEN MAIN LANES TIE IN AND HWY. 226 CONNECTOR
(OBLITERATION OF EXISTING HWY. 226 WILL NOT BE ALLOWED UNTIL JOB 100679 IS SUBSTANTIALLY COMPLETE)

10/17/2013

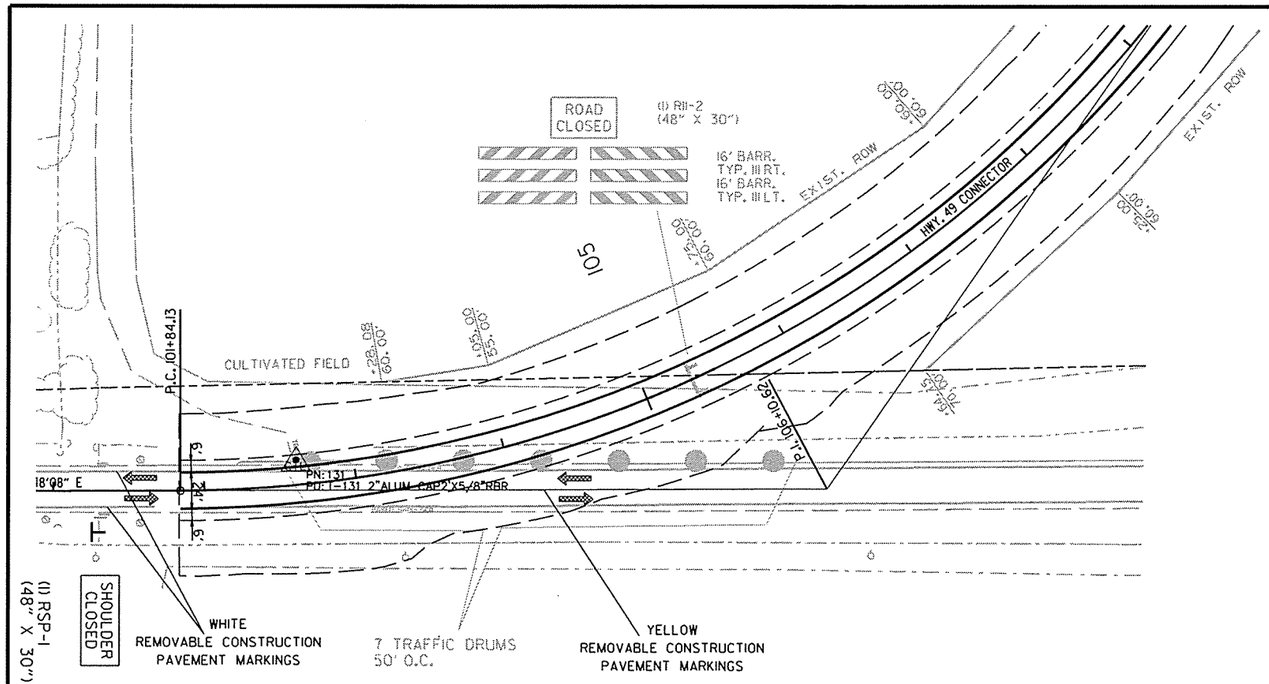
R100678.DGN

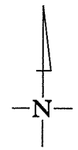
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

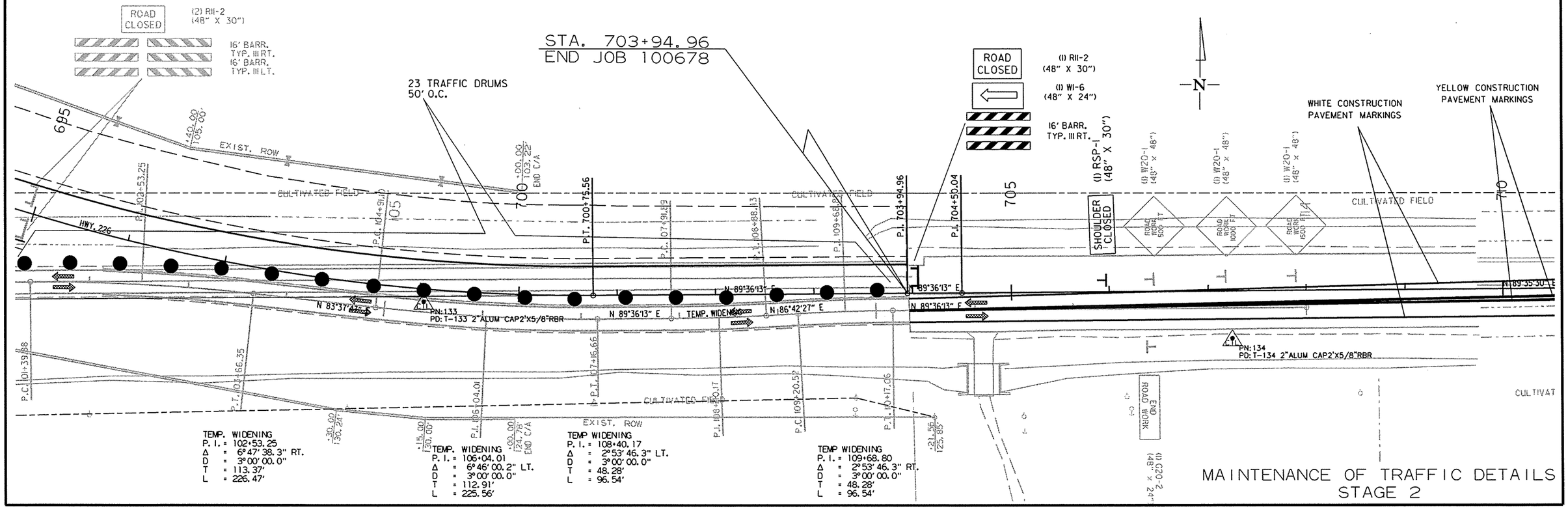
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	27	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13







MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

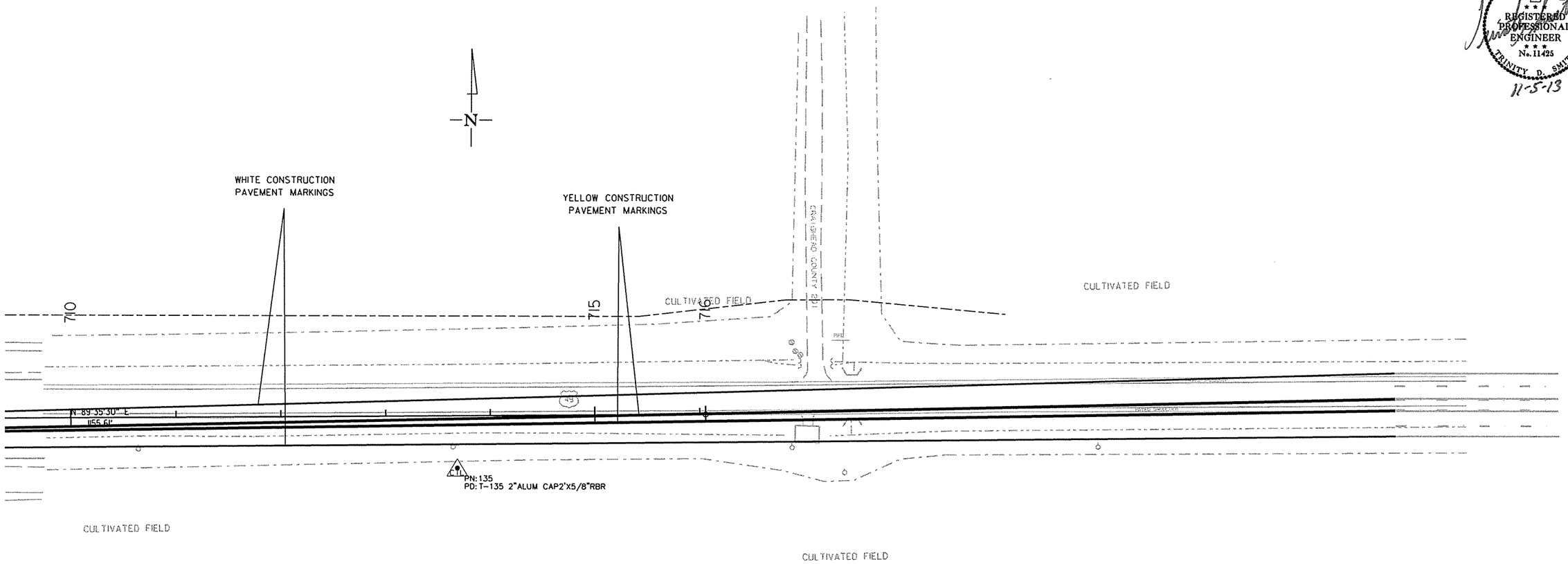
10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	28	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



10/17/2013

R100678.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	29	95

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
MAINTAIN TRAFFIC ON EXISTIING HWY. 49
CONSTRUCT DETOUR ALONG HWY. 49. STA. 696+00.00 TO STA. 704+00.00

STAGE 2 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO STAGE I DETOUR
CONSTRUCT HWY. 226 CONNECTOR STA. 106+00.00 TO STA. 111+50.00
CONSTRUCT HWY. 49 CONNECTOR STA. 101+84.13 TO STA. 105+50.00
CONSTRUCT LT. MAIN LANES STA. 693+00.00 TO STA. 703+94.96
CONSTRUCT RT. MAIN LANES STA. 693+00.00 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 604+42.50 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
BEGIN PLACEMENT OF FINAL SURFACE AND STRIPING ON CONNECTOR ROADS

STAGE 3 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO LT. MAIN LANES STA. 685+00.00 TO STA. 704+00.00
SHIFT TRAFFIC TO HWY. 49 CONNECTOR
CONSTRUCT RT. MAIN LANES STA. 695+00.00 TO STA. 704+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 695+00.00 TO STA. 703+94.96

STAGE 4 :
MAINTAIN TRAFFIC ON HWY. 49 CONNECTOR
SHIFT TRAFFIC TO PROPOSED RT. AND LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
OBLITERATE EXISTING HWY. 49 BETWEEN MAIN LANES TIE IN AND HWY. 49 CONNECTOR
REMOVE QUAD. 10'X6'X62' BOX CULVERT STA. 691+50.00 ON RT.
OBLITERATE EXISTING HWY. 226 BETWEEN MAIN LANES TIE IN AND HWY. 226 CONNECTOR
(OBLITERATION OF EXISTING HWY. 226 WILL NOT BE ALLOWED
UNTIL JOB 100679 IS SUBSTANTIALLY COMPLETE)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

ROAD CLOSED
(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
16' BARR. TYP. III RT.

(1) W1-6 (48" X 24")

YELLOW CONSTRUCTION PAVEMENT MARKINGS

12 TRAFFIC DRUMS 50' O.C.

WHITE CONSTRUCTION PAVEMENT MARKINGS

6 TRAFFIC DRUMS 50' O.C.

STAGE 3 :
REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 703+94.96 TO STA. 722+64.00 = 1869 LIN. FT.
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
HWY. 226 CONNECTOR
STA. 106+50.00 TO 109+40.34 = 2068 LIN. FT.
HWY. 49 CONNECTOR
STA. 101+84.13 TO STA. 105+00.00 = 1228 LIN. FT.
HWY. 226 MAIN LANES
STA. 703+94.96 TO STA. 722+64.00 = 11203 LIN. FT.

WHITE CONSTRUCTION PAVEMENT MARKINGS
HWY. 226 MAINLANES
STA. 685+50.00 TO STA. 722+64.00 = 7424 LIN. FT.
YELLOW CONSTRUCTION PAVEMENT MARKINGS
HWY. 226 MAINLANES
STA. 685+50.00 TO STA. 722+64.00 = 11157 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/17/2013
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	30	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

N

YELLOW CONSTRUCTION PAVEMENT MARKINGS

WHITE CONSTRUCTION PAVEMENT MARKINGS

23 TRAFFIC DRUMS 50' O.C.

STA. 703+94.96
END JOB 100678

695

700

705

+40.00 105.00'

EXIST. ROW

+00.00 103.72' END C/A

CULTIVATED FIELD

24'

8"

HWY. 226

N 89°34'35" E

ROAD UNDER CONST.

P.T. 700+75.56

PN:133
PD:T-133 2"ALUM CAP2"X5/8"RBR

+95

200' TRANSITION

+95

P.I. 703+94.96

P.I. 704+50.04

N 89°36'13" E

PN:134
PD: T-1

+55.00 145.00'

+30.00 130.24'

+15.00 130.00'

+00.00 124.78' END C/A

+21.56 125.86'

(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
16' BARR. TYP. III LT.
ROAD CLOSED

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

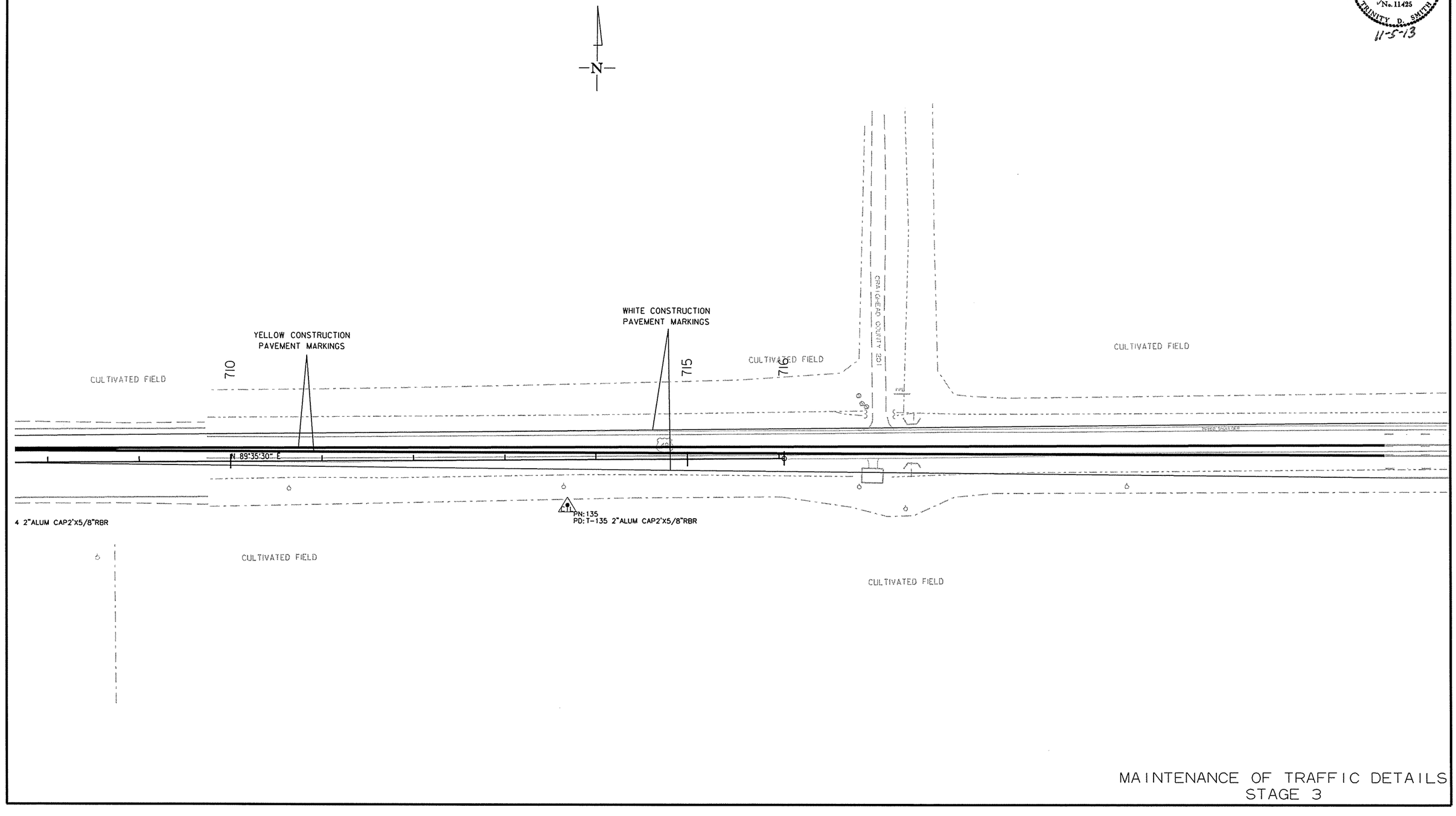
10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	31	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



10/17/2013

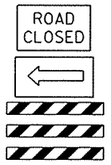
R100678.DGN

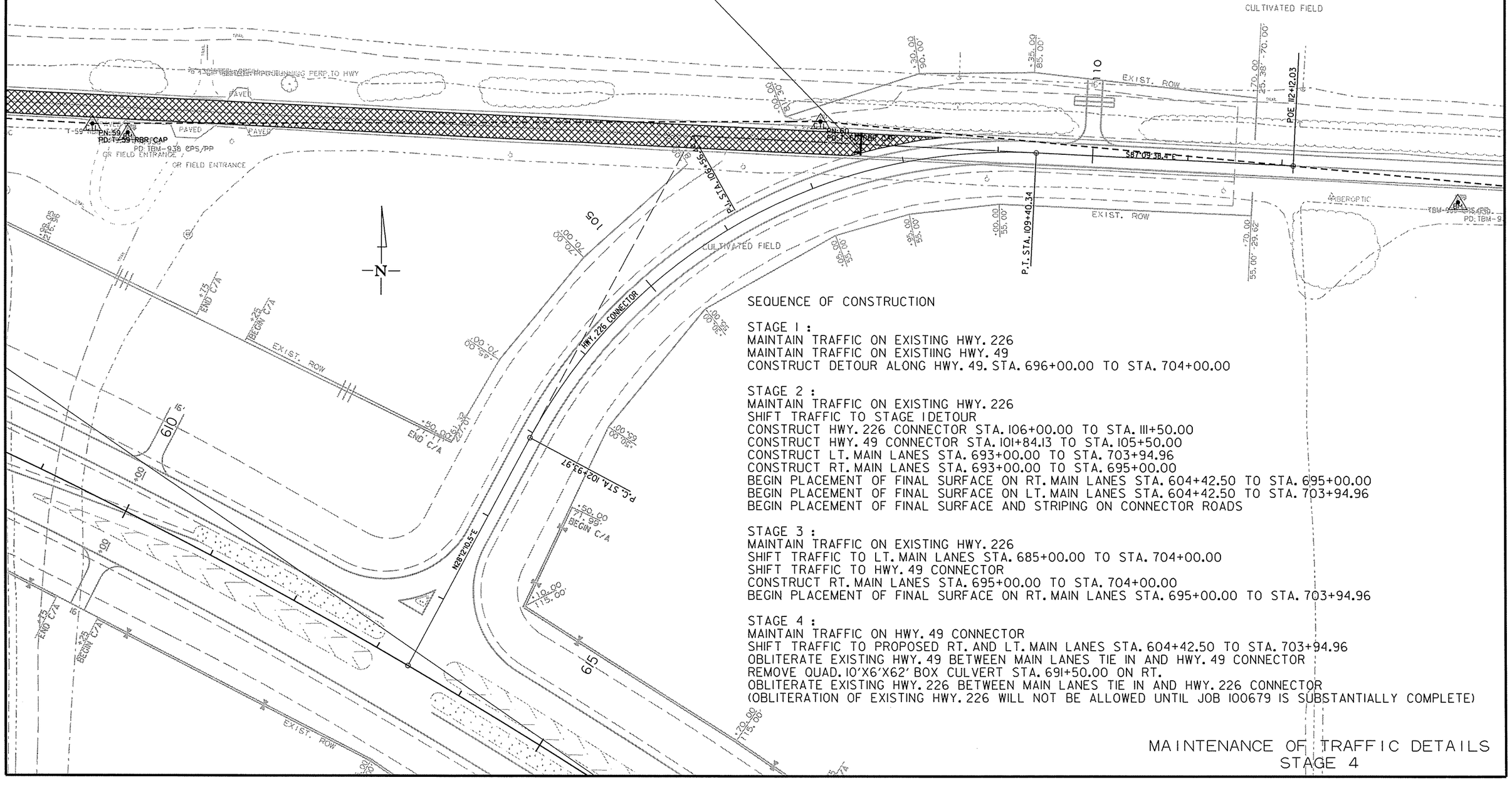
MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	32	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 4 :
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
HWY. 226 MAINLANES
STA. 703+94.96 TO STA. 722+64.00 = 7424 LIN. FT.





SEQUENCE OF CONSTRUCTION

STAGE 1 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
MAINTAIN TRAFFIC ON EXISTIING HWY. 49
CONSTRUCT DETOUR ALONG HWY. 49. STA. 696+00.00 TO STA. 704+00.00

STAGE 2 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO STAGE I DETOUR
CONSTRUCT HWY. 226 CONNECTOR STA. 106+00.00 TO STA. 111+50.00
CONSTRUCT HWY. 49 CONNECTOR STA. 101+84.13 TO STA. 105+50.00
CONSTRUCT LT. MAIN LANES STA. 693+00.00 TO STA. 703+94.96
CONSTRUCT RT. MAIN LANES STA. 693+00.00 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 604+42.50 TO STA. 695+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
BEGIN PLACEMENT OF FINAL SURFACE AND STRIPING ON CONNECTOR ROADS

STAGE 3 :
MAINTAIN TRAFFIC ON EXISTING HWY. 226
SHIFT TRAFFIC TO LT. MAIN LANES STA. 685+00.00 TO STA. 704+00.00
SHIFT TRAFFIC TO HWY. 49 CONNECTOR
CONSTRUCT RT. MAIN LANES STA. 695+00.00 TO STA. 704+00.00
BEGIN PLACEMENT OF FINAL SURFACE ON RT. MAIN LANES STA. 695+00.00 TO STA. 703+94.96

STAGE 4 :
MAINTAIN TRAFFIC ON HWY. 49 CONNECTOR
SHIFT TRAFFIC TO PROPOSED RT. AND LT. MAIN LANES STA. 604+42.50 TO STA. 703+94.96
OBLITERATE EXISTING HWY. 49 BETWEEN MAIN LANES TIE IN AND HWY. 49 CONNECTOR
REMOVE QUAD. 10'X6'X62' BOX CULVERT STA. 691+50.00 ON RT.
OBLITERATE EXISTING HWY. 226 BETWEEN MAIN LANES TIE IN AND HWY. 226 CONNECTOR
(OBLITERATION OF EXISTING HWY. 226 WILL NOT BE ALLOWED UNTIL JOB 100679 IS SUBSTANTIALLY COMPLETE)

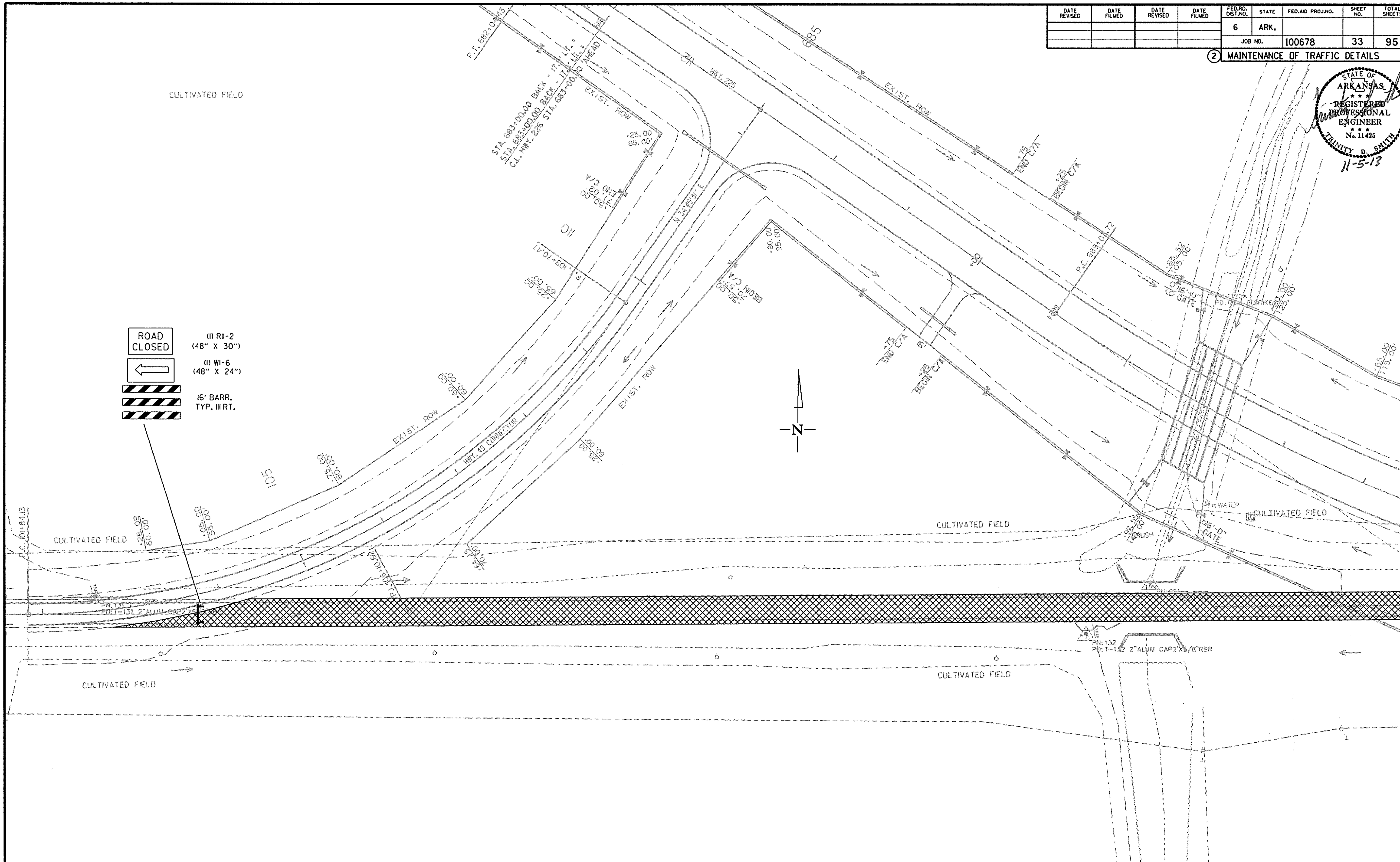
MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

10/17/2013
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	33	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	34	95

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

STA. 703+94.96
END JOB 100678

P.C. 688+0.72
P.T. 700+75.56
P.I. 703+94.96
P.I. 704+50.04
END C/A
EXIST. ROW
CULTIVATED FIELD
HWY. 226
BRUSH
WATER
46'-0" GATE
PN:132
PO:T-132 2"ALUM CAP2'X5/8"RBR
PN:133
PO:T-133 2"ALUM CAP2'X5/8"RBR
N 89°36'13" E
N 86°42'27" E
N 83°37'47" E
TEMP. WIDENING
319.49'
55.08'
(1) RII-2 (48" X 30")
(1) WI-6 (48" X 24")
16' BARR. TYP. III LT.
ROAD CLOSED
695
705
+95

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	35	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

STA. 604+42.50
END JOB 100679
BEGIN JOB 100678

4" DBL. YELLOW WITH RPM @ 40' O.C.

4" YELLOW SOLID WITH RPM @ 80' O.C.

4" WHITE SOLID

8" WHITE SOLID AROUND CURB & 10" WHITE REFLECTORIZED ON CURB

4" YELLOW SOLID WITH RPM @ 80' O.C.

4" WHITE SKIP WITH RPM @ 80' O.C.

SEE INSET

10" YELLOW REFLECTORIZED

12" WHITE SOLID

4" WHITE SOLID

HWY. 226

EXIST. ROW

210' DECEL. LANE

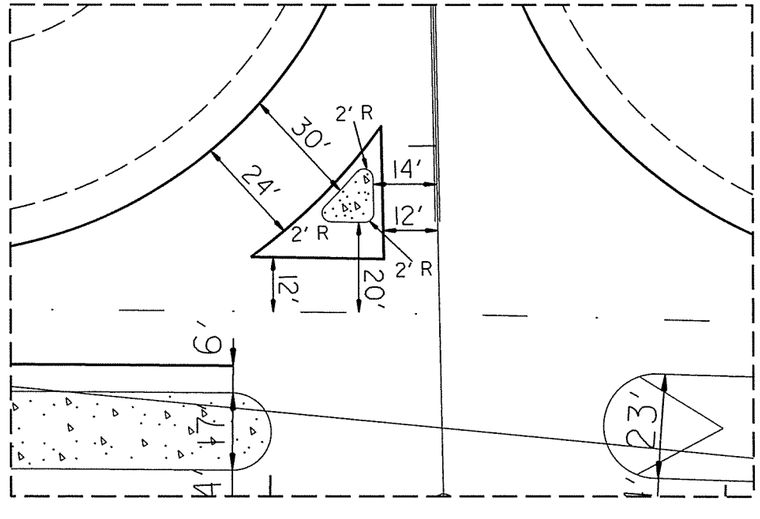
370' TAPER

100' RADIUS

STA. 100+20.69
HWY. 226 CONNECTOR CL =
STA. 613+37.96 HWY. 226
Δ = 92°09'28"

FINAL STRIPING
4" WHITE SKIP = 5865 LIN. FT.
4" YELLOW SKIP = 1958 LIN. FT.
4" YELLOW SOLID = 24699 LIN. FT.
4" WHITE SOLID = 28346 LIN. FT.
4" DBL. YELLOW = 5817 LIN. FT.
4" HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE = 181 LIN. FT.
8" WHITE SOLID = 76 LIN. FT.
10" WHITE REFLECTORIZED = 76 LIN. FT.
10" YELLOW REFLECTORIZED = 949 LIN. FT
12" WHITE SOLID = 2608 LIN. FT.
RAISED PAVEMENT MARKINGS (YEL/YEL) = 388
RAISED PAVEMENT MARKINGS (WHITE/RED) = 286

ISLAND LAYOUT



10/14/2013

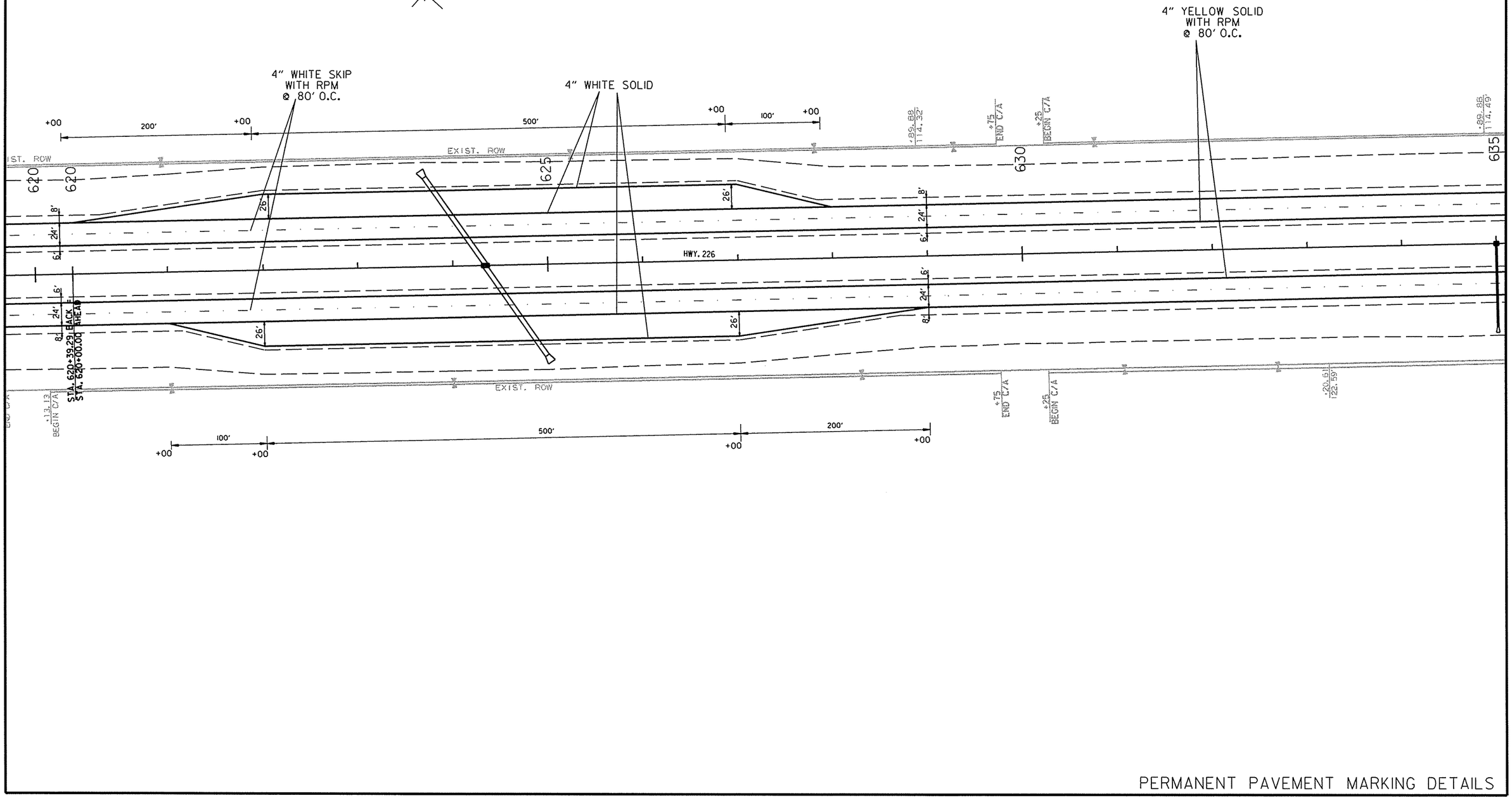
R100678.DGN

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.		100678	36	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



PERMANENT PAVEMENT MARKING DETAILS

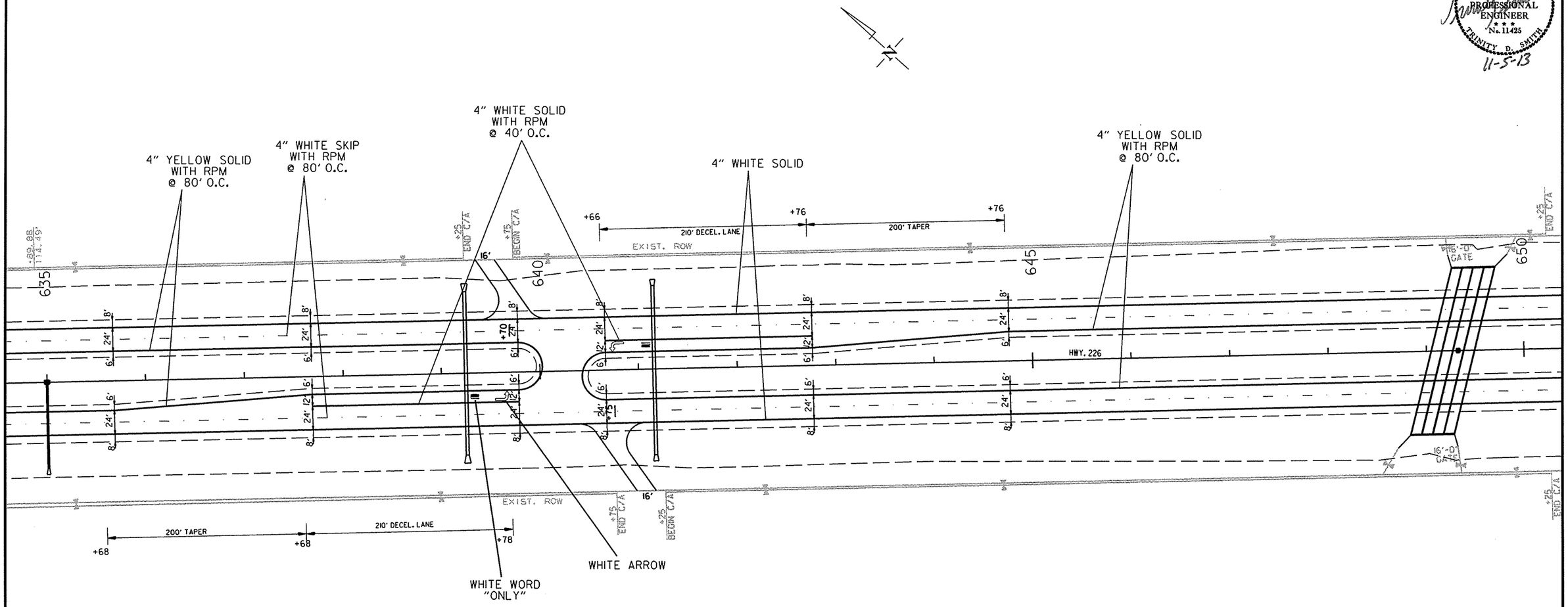
10/14/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	37	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



PERMANENT PAVEMENT MARKING DETAILS

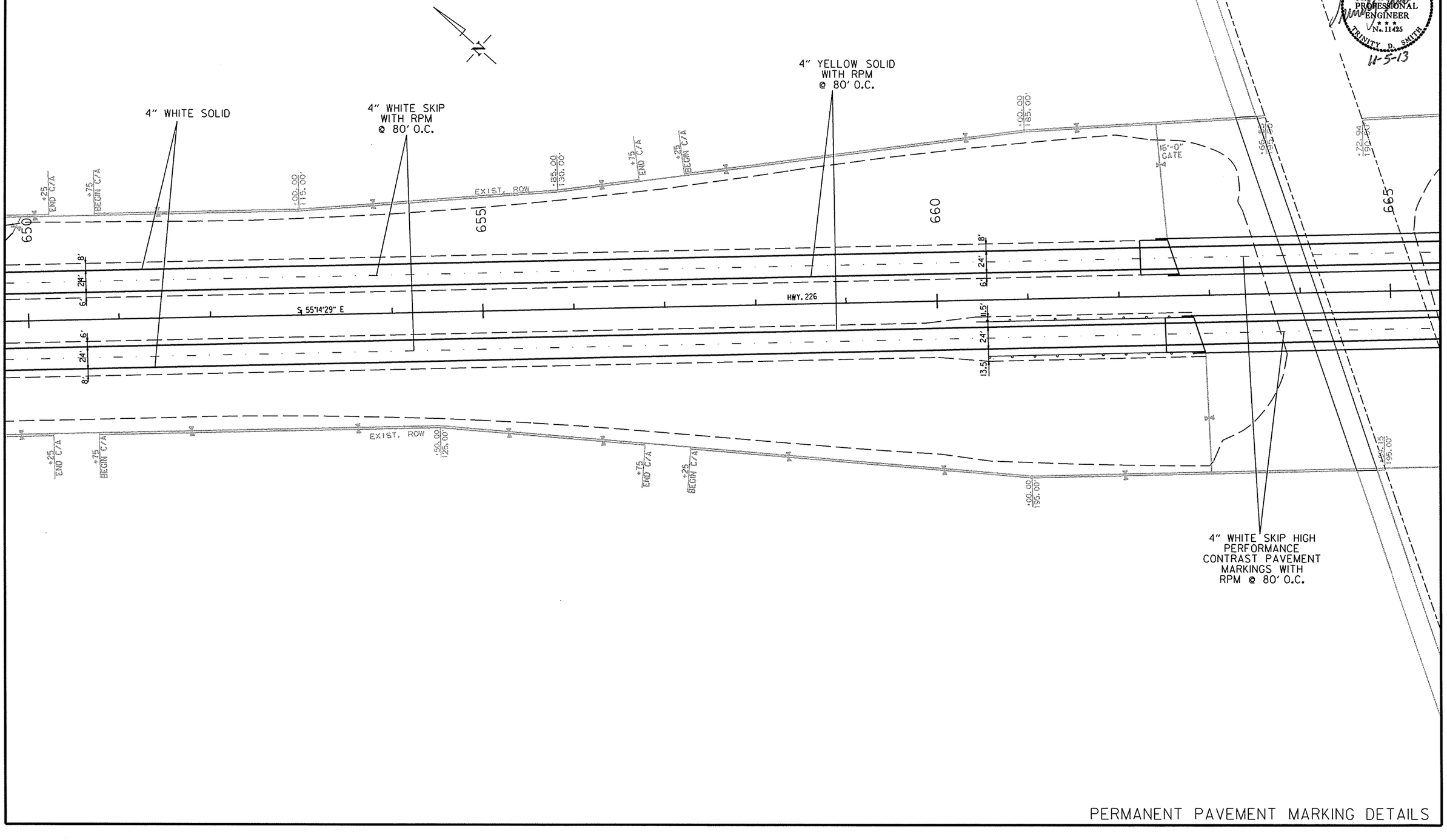
10/14/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	38	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



10/14/2013

R100678.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.		100678	39	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

4" WHITE SKIP WITH RPM @ 80' O.C.

4" YELLOW SOLID WITH RPM @ 80' O.C.

4" WHITE SOLID

4" DBL. YELLOW WITH RPM @ 80' O.C.

EXIST. ROW

L.M.L. TRANSITION
STA. 670+00.00 AHEAD - 42' LT. =
C.L. HWY. 226 STA. 670+00.42 BACK

R.M.L. TRANSITION
STA. 670+00.00 AHEAD - 42' RT. =
C.L. HWY. 226 STA. 670+00.42 BACK

HWY. 226

S 55°14'29" E

S 52°41'27" E

S 57°41'31" E

P.C. 671+43.85

P.I. 673+98.95

P.T. 676+53.97

P.C. 676+94.32

P.I. 679+49.42

200' TAPER

210' DECEL. LANE

WHITE ARROW

WHITE WORD "ONLY"

4" WHITE SOLID WITH RPM @ 40' O.C.

4" WHITE SKIP HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS WITH RPM @ 80' O.C.

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R100678.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.		100678	40	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

4" DBL. YELLOW WITH RPM @ 80' O.C.

4" YELLOW SOLID

WHITE ARROW

WHITE WORD "ONLY"

4" WHITE SKIP WITH RPM @ 80' O.C.

4" WHITE SOLID

4" WHITE SOLID

4" DBL. YELLOW

4" YELLOW SKIP WITH RPM @ 80' O.C.

4" DBL. YELLOW WITH RPM @ 80' O.C.

4" WHITE SOLID

L.M.L. TRANSITION
STA. 683+00.00 AHEAD - 17.5' LT. =
C.L. HWY. 226 STA. 683+00.00 BACK

R.M.L. TRANSITION
STA. 683+00.00 AHEAD - 17.5' RT. =
C.L. HWY. 226 STA. 683+00.00 BACK

P.T. 682+04.43

P.C. 689+03.72

P.T. 695+48.74

P.T. 109+70.47

HWY. 226

HWY. 49 CONNECTOR

EXIST. ROW

16'-0" GATE

L.M.L. TRANSITION

R.M.L. TRANSITION

S 55°14'29" E

N 89°34'35" E

N 34°45'31" E

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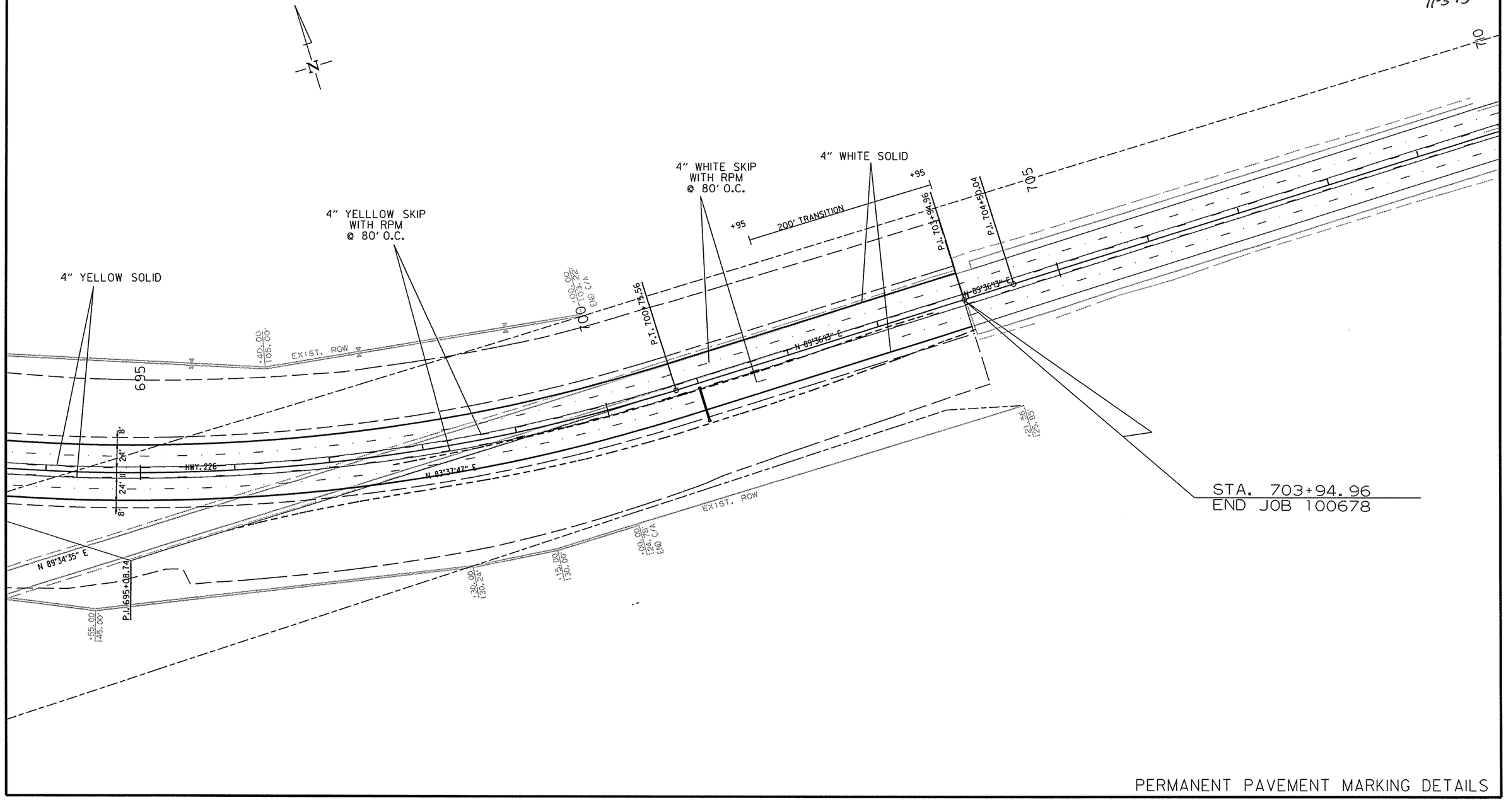
PERMANENT PAVEMENT MARKING DETAILS

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.		100678	41	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



PERMANENT PAVEMENT MARKING DETAILS

10/14/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100678	42	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

4" WHITE SKIP WITH RPM @ 80' O.C.

4" YELLOW SOLID WITH RPM @ 80' O.C.

4" DBL. YELLOW WITH RPM @ 80' O.C.

4" WHITE SOLID

4" WHITE SOLID

4" WHITE SOLID

4" YELLOW SOLID WITH RPM @ 80' O.C.

HWY. 226 CONNECTOR

210' DECEL. LANE

370' TAPER

100' RADIUS

P.I. STA. 106+56.44

P.I. STA. 109+40.34

POE 112+12.03

EXIST. ROW

END C/A

BEGIN C/A

105

610

615

10/14/2013

R100678.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.		100678	43	95

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

P.I. 679+41.80
180.00
80.00

4" DBL. YELLOW WITH RPM @ 80' O.C.

L.M.L. TRANSITION

R.M.L. TRANSITION

P.T. 682+04.43

24' S 55°14'29" E

L.M.L. TRANSITION STA. 683+00.00 AHEAD - 17.5' Lt. = C.L. HWY. 226 STA. 683+00.00 BACK

P.I. 682+04.43

4" YELLOW SOLID

685 WHITE ARROW

WHITE WORD "ONLY"

R.M.L. TRANSITION STA. 683+00.00 AHEAD - 17.5' Rt. = C.L. HWY. 226 STA. 683+00.00 BACK

EXIST. ROW

HWY. 226

4" WHITE SOLID

25.00
85.00

END C/A
+50
1500.00

4" WHITE SOLID

4" WHITE SKIP WITH RPM @ 80' O.C.

011

N 34°45'31" E

P.I. 109+10.47

25.00
65.00

80.00
95.00

BEGIN C/A
+00
1500.00

+75
END C/A

+25
BEGIN C/A

100

105

EXIST. ROW

80.00
60.00

28.08
60.00

105.00
55.00

4" DBL. YELLOW

P.C. 689+03.73

+75
END C/A

+25
BEGIN C/A

N 89°48'08" E

P.C. 101+84.13

HWY. 49 CONNECTOR

EXIST. ROW

80.00
60.00

4" DBL. YELLOW WITH RPM @ 80' O.C.

P.I. 106+10.62

64.15
60.00

4" YELLOW SKIP WITH RPM @ 80' O.C.

197.54
140.00

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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.		100678	44	95

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

STRUCTURES

STATION	DESCRIPTION	TEMPORARY PIPE CULVERTS
		18"
		LIN. FT.
701+00	TEMPORARY WIDENING	34
TOTAL:		34

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.

REMOVAL AND DISPOSAL OF DEVICES LEFT IN PLACE

LOCATION	TRAFFIC DRUMS	BARRICADES		SIGNS
		RIGHT	LEFT	
	EACH	EACH		EACH
ENTIRE PROJECT	42	18	18	18
TOTALS:	42	18	18	18

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	BOX CULVERTS
		EACH
691+50	EXISTING HWY. 226 QUAD.10'X6'X62'	1
TOTAL:		1

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	ADVANCED WARNINGS	STAGE 1	STAGE 2	STAGE 3	STAGE 4	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED	TRAFFIC DRUMS	BARRICADES (TYPE III)	
											RIGHT	LEFT
			LIN. FT. - EACH						SQ. FT.	EACH	LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	6	6	6	6	4	6	96.0			
W20-1	ROAD WORK 1000 FT.	48"x48"	6	6	6	6	4	6	96.0			
W20-1	ROAD WORK 500 FT.	48"x48"	6	6	6	6	4	6	96.0			
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	2		2	32.0			
G20-2	END ROAD WORK	48"x24"	8	8	8	8	4	8	64.0			
R11-2	ROAD CLOSED	48"x30"		2	1	5	3	5	50.0			
W1-6	LARGE ARROW	48"x24"			1	6	3	6	48.0			
R4-1	DO NOT PASS	24"x30"	8	8	8	8		8	40.0			
RSP-1	SHOULDER CLOSED	48"x30"			4			4	40.0			
	VERTICAL PANELS											
	TRAFFIC DRUMS			26	37	40		40		40		
	TYPE III BARRICADE-RT. (16')			1	1	4	2	4			64	
	TYPE III BARRICADE-LT. (16')			1		2	1	2				32
TOTALS:									562.0	40	64	32

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

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
604+43	703+95	HWY 226 - LT. MAIN LANES	7559
604+43	703+95	HWY 226 - RT. MAIN LANES	7577
101+84	112+00	HWY 49 CONNECTOR	1386
100+20	111+50	HWY 226 CONNECTOR	1508
TOTAL:			18030

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	STAGE 4	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS						REFLECTORIZED PAINT PAVEMENT MARKINGS		HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
								TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	8" WHITE	12" WHITE	WORDS	ARROWS	10" WHITE	10" YELLOW	4" WHITE
	LIN. FT. - EACH				LIN. FT.		LIN. FT.	EACH		LIN. FT.				EACH		LIN. FT.		LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS	568	1869	414		2851													
CONSTRUCTION PAVEMENT MARKINGS	1785	14577	16067			32429												
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			1868	517			2385											
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)				286				286										
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)				388					388									
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")				28266						28266								
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")				32331							32331							
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")				99								99						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (12")				2608									2608					
THERMOPLASTIC PAVEMENT MARKINGS WORDS				6										6				
THERMOPLASTIC PAVEMENT MARKINGS ARROWS				6											6			
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10")				38												38		
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10")				949													949	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")				325														325
TOTALS:					2851	32429	2385	286	388	28266	32331	99	2608	6	6	38	949	325

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

10/17/2013

R100678.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-22-13				6	ARK.			
				JOB NO.		100678	45	95

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-22-13

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE A) LIN. FT.
692+50	700+00	HWY. 226 MAIN LANES	807
TOTAL:			807

CONCRETE ISLAND

STATION	STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ.YD.
	613+19	HWY. 226 CONNECTOR	B	10
610+73	613+00	HWY. 226 - R.M.L. LT. TURN LANE	B	423
613+76	616+03	HWY. 226 - R.M.L. LT. TURN LANE	B	421
TOTAL:				854

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC						
583+00	35	47	34.90	35	50	22.30	35' LT	0-5	30	13	A-6(8)	BROWN
583+00	35	47	34.80	90	50	22.30	25' LT	0-5	36	17	A-6(16)	BROWN
586+00	35	47	34.40	90	50	16.30	CL	0-5	25	5	A-4(4)	BROWN
586+00	35	47	34.40	90	50	16.30	CL	0-5	27	4	A-4(2)	BROWN
591+00	35	47	34.00	90	50	10.30	23' RT	0-5	24	7	A-4(5)	BROWN
595+00	35	47	33.00	90	50	5.60	40' RT	0-5	27	9	A-4(8)	BROWN
599+00	35	47	32.90	90	50	0.60	40' LT	0-5	27	7	A-4(6)	BROWN
603+00	35	47	31.00	90	49	56.20	40' RT	0-5	31	15	A-6(14)	BROWN
603+00	35	47	31.00	90	49	56.20	40' RT	0-5	30	11	A-6(10)	BROWN
607+00	35	47	30.30	90	49	51.40	40' LT	0-5	29	10	A-4(9)	BROWN
611+00	35	47	27.90	90	49	47.40	40' RT	0-5	31	16	A-6(14)	BROWN
615+00	35	47	26.70	90	49	42.70	40' LT	0-5	27	6	A-4(5)	BROWN
619+00	35	47	23.90	90	49	39.10	40' RT	0-5	28	9	A-4(8)	BROWN
623+00	35	47	22.20	90	49	34.60	40' LT	0-5	27	8	A-4-(7)	BROWN
627+00	35	47	19.30	90	49	31.20	40' RT	0-5	25	7	A-4(5)	BROWN
631+00	35	47	17.70	90	49	26.70	40' LT	0-5	25	6	A-4(5)	BROWN
635+00	35	47	14.70	90	49	23.30	40' RT	0-5	27	9	A-4(8)	BROWN
639+00	35	47	13.10	90	49	18.80	40' LT	0-5	31	13	A-6(12)	BROWN
643+00	35	47	10.10	90	49	15.40	40' RT	0-5	32	14	A-6(13)	BROWN
647+00	35	47	8.50	90	49	10.90	40' LT	0-5	29	10	A-4(9)	BROWN
651+00	35	47	5.50	90	49	7.50	40' RT	0-5	38	18	A-6(19)	BROWN
655+00	35	47	3.90	90	49	2.90	40' LT	0-5	33	15	A-6(15)	BROWN
659+00	35	47	1.00	90	48	59.60	40' RT	0-5	37	20	A-6(20)	BROWN
663+80	35	46	59.20	90	48	54.10	40' LT	0-5	26	10	A-4(5)	BROWN
667+00	35	46	56.40	90	48	51.60	40' RT	0-5	31	12	A-6(12)	BROWN
671+00	35	46	54.70	90	48	47.10	40' LT	0-5	32	13	A-6(12)	BROWN
675+00	35	46	51.80	90	48	43.70	35' RT	0-5	32	15	A-6(19)	GR/BR
679+00	35	46	50.10	90	48	39.20	25' LT	0-5	29	11	A-6(10)	GR/BR
683+00	35	46	47.20	90	48	35.80	CL	0-5	31	14	A-6(13)	GR/BR
687+00	35	46	45.50	90	48	31.30	CL	0-5	29	10	A-4(8)	GR/BR
691+00	35	46	42.70	90	48	27.80	CL	0-5	29	13	A-6(11)	GR/BR
699+00	35	46	40.63	90	48	18.40	5' LT	0-5	23	2	A-4(0)	GRAY
699+00	35	46	40.50	90	48	18.50	5' RT	0-5	25	2	A-4(0)	GRAY

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

SUBGRADE PREPARATION

STATION	STATION	LOCATION / DESCRIPTION	STATION
604+43	662+74	HWY. 226 - MAIN LANES	58.3
666+37	693+00	HWY. 226 - MAIN LANES	26.6
100+20	106+00	HWY. 226 CONNECTOR	5.8
105+50	112+00	HWY. 49 CONNECTOR	6.5
TOTAL:			97.2

NOTES:
1. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND/OR OTHER ORGANIC MATERIALS FROM THE SUBGRADE AND SUBSEQUENT REPLACEMENT OF SUBGRADE MATERIAL WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "SUBGRADE PREPARATION".
2. PAYMENT FOR SUBGRADE PREPARATION FOR ACCEL. LANES, TAPER, AND TURNOUTS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "SUBGRADE PREPARATION".
3. PAYMENT FOR TRANSITIONS IN SUBGRADE ON MAIN LANES TO BE INCLUDED IN PAYMENT MADE FOR "SUBGRADE PREPARATION".

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
660+32.71	662+51.46	LT. SIDE OF RT. MAIN LANES	150	1	1
660+32.71	662+51.46	RT. SIDE OF RT. MAIN LANES	150	1	1
666+32.54	668+51.29	LT. SIDE OF LT. MAIN LANES	150	1	1
666+32.54	668+51.29	RT. SIDE OF LT. MAIN LANES	150	1	1
TOTALS:			600	4	4

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SELECTED MATERIAL (CLASS SM-1)	* SOIL STABILIZATION
			CU. YD.		CU. YD.	TON
697+75	703+95	STAGE 1 - DETOUR		1195		
106+00	111+50	STAGE 2 - HWY. 226 CONNECTOR	1043	14180		
101+84	105+50	STAGE 2 - HWY. 49 CONNECTOR	954	11574		
693+00	703+95	STAGE 2 - MAINLANES	7732	7778		
695+00	703+95	STAGE 3 - RT. MAINLANES	4014	4283		
595+00	614+80	STAGE 4 - EXISTING HWY. 226 REMOVAL	3267			
682+99	696+23	STAGE 4 - EXISTING HWY. 49 REMOVAL	197			
ENTIRE	PROJECT	APPROACHES		210		
693+00	703+95	UNDERCUT - MAIN LANES	2980		2980	
102+00	105+00	UNDERCUT - HWY. 49 CONNECTOR	765		765	
* ENTIRE	PROJECT	TO BE USED IF AND WHERE				100
		DIRECTED BY THE ENGINEER				
TOTALS:			20952	39220	3745	100

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

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-03-2013				6	ARK.			
				JOB NO.		100678	46	95

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-3-13

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	10	20
DIRECTED BY THE ENGINEER		
TOTALS:	10	20

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	20
ENGINEER	
TOTAL:	20

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

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE A) CU.YD.	APPROACH SLABS CU.YD.	REINFORCING STEEL RDWY. (GR 60) POUND	AGGREGATE BASE CRS. (CLASS 7) TON
662+21.40	662+60.86	LT. SIDE	12.39		683	
662+21.40	662+60.86	RT. SIDE	12.89		704	
662+21.40	662+60.86			48.12	6	41.8
666+23.14	666+55.66	LT. SIDE	16.46		907	
666+23.14	666+55.66	RT. SIDE	9.50		520	
666+23.14	666+55.66			48.80	6	42.5
662+48.40	662+87.86	LT. SIDE	9.50		520	
662+48.40	662+87.86	RT. SIDE	16.46		907	
662+48.40	662+87.86			48.80	6	42.5
666+50.14	666+82.66	LT. SIDE	12.89		704	
666+50.14	666+82.66	RT. SIDE	12.39		683	
666+50.14	666+82.66			48.12	6	41.8
TOTALS:			102.48	193.84	5652	168.6

NOTE: USE T= 18.5" FOR 8' AND 6' SHOULDERS.

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH FEET	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22) SQ. YD.	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22) TON	AGGREGATE BASE COURSE (CLASS 7) TON	SIDE DRAINS 54" LIN. FT.	STANDARD DRAWINGS
110+00	LT.	HWY. 226 CONNECTOR	16	140.7	15.5	57.5	84	PCC-1, PCM-1
610+00	LT.	HWY. 226 MAIN LANES	16	136.1	15.0	55.6		
610+00	RT.	HWY. 226 MAIN LANES	16	124.2	13.7	50.7		
618+00	LT.	HWY. 226 MAIN LANES	16	125.8	13.8	51.4		
639+70	LT.	HWY. 226 MAIN LANES	16	166.1	18.3	67.8		
640+75	RT.	HWY. 226 MAIN LANES	16	186.7	20.5	76.2		
672+00	RT.	HWY. 226 MAIN LANES	16	232.7	25.6	95.0		
672+00	LT.	HWY. 226 MAIN LANES	16	232.7	25.6	95.0		
678+00	LT.	HWY. 226 MAIN LANES	16	126.1	13.9	51.5		
678+00	RT.	HWY. 226 MAIN LANES	16	115.6	12.7	47.2		
688+00	RT.	HWY. 226 MAIN LANES	16	160.9	17.7	65.7		
TOTALS:				1747.6	192.3	713.6	84	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH FEET	COLD MILLING ASPHALT PAVEMENT SQ. YD.
703+95	704+95	MAIN LANES	75	833.33
111+50	112+50	HWY. 226 CONNECTOR	40	444.44
101+84	102+84	HWY. 49 CONNECTOR	40	444.44
TOTAL:				1722.21

NOTE: AVERAGE MILLING DEPTH 1".

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL SEEDING ACRE	LIME TON	MULCH COVER ACRE	WATER M.GAL.	SECOND SEEDING APPLICATION ACRE	TEMPORARY EROSION CONTROL TEMPORARY SEEDING ACRE	MULCH COVER ACRE	WATER M.GAL.	SAND BAG DITCH CHECKS (E-5) BAG	ROCK DITCH CHECKS (E-6) CU.YD.	SILT FENCE (E-11) LIN. FT.	SEDIMENT BASIN (E-14) CU.YD.	OBLITERATION OF SEDIMENT BASIN CU.YD.	*SEDIMENT REMOVAL & DISPOSAL CU. YD.
ENTIRE	PROJECT	STAGE 1						3.60	3.60	73.4		9		45	45	48
ENTIRE	PROJECT	STAGE 2	2.52	5.04	2.52	257.0	2.52	7.70	7.70	157.1		33		35	35	46
ENTIRE	PROJECT	STAGE 3	1.04	2.08	1.04	106.1	1.04	2.33	2.33	47.5		6		45	45	47
ENTIRE	PROJECT	STAGE 4	2.41	4.82	2.41	245.8	2.41					45				15
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.89	1.78	0.89	90.8	0.89	3.41	3.41	69.6	220	24	1000	20	20	75
TOTALS:			6.86	13.72	6.86	699.7	6.86	17.04	17.04	347.6	220	117	1000	145	145	231

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

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

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

10/17/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	47	95

(2) QUANTITIES

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	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	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																										
604+43	607+12	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	269.0	716.50	1927.4	150.1	4486.3	0.03	134.6	51.2	1530.3	440.0	336.7	49.9	1491.5	385.0	287.1	49.0	1464.6	220.0	161.1	72.0	2152.0	220.0	236.7	397.8
607+12	610+82	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - R.M.L. LT.TURN LANE TAPER	370.0	743.63	2751.4	168.1	6910.8	0.03	207.3	57.2	2351.6	440.0	517.4	55.9	2298.1	385.0	442.4	55.0	2261.1	220.0	248.7	78.0	3206.7	220.0	352.7	601.4
610+82	613+00	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - R.M.L. LT. TURN LANE	218.0	770.75	1680.2	186.1	4507.8	0.03	135.2	63.2	1530.8	440.0	336.8	61.9	1499.4	385.0	288.6	61.0	1477.6	220.0	162.5	84.0	2034.7	220.0	223.8	386.3
613+00	613+75	HWY. 226 - MEDIAN TURN AROUND	75.0	VAR.	1349.2	322.5	2687.5	0.03	80.6	109.6	913.3	440.0	200.9	109.0	908.3	385.0	174.8	108.5	904.2	220.0	99.5	108.0	900.0	220.0	99.0	198.5
613+75	615+95	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - L.M.L. LT. TURN LANE	220.0	770.75	1695.7	186.1	4549.1	0.03	136.5	63.2	1544.9	440.0	339.9	61.9	1513.1	385.0	291.3	61.0	1491.1	220.0	164.0	84.0	2053.3	220.0	225.9	389.9
615+95	619+65	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - L.M.L. LT. TURN LANE TAPER	370.0	743.63	2751.4	168.1	6910.8	0.03	207.3	57.2	2351.6	440.0	517.4	55.9	2298.1	385.0	442.4	55.0	2261.1	220.0	248.7	78.0	3206.7	220.0	352.7	601.4
619+65	620+39	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	74.0	716.50	530.2	150.1	1234.2	0.03	37.0	51.2	421.0	440.0	92.6	49.9	410.3	385.0	79.0	49.0	402.9	220.0	44.3	72.0	592.0	220.0	65.1	109.4
620+00	635+68	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	1568.0	716.50	11234.7	150.1	26150.8	0.03	784.5	51.2	8920.2	440.0	1962.4	49.9	8693.7	385.0	1673.5	49.0	8536.9	220.0	939.1	72.0	12544.0	220.0	1379.8	2318.9
635+68	637+68	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - R.M.L. LT. TURN LANE TAPER	200.0	743.63	1487.3	168.1	3735.6	0.03	112.1	57.2	1271.1	440.0	279.6	55.9	1242.2	385.0	239.1	55.0	1222.2	220.0	134.4	78.0	1733.3	220.0	190.7	325.1
637+68	640+00	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - R.M.L. LT.TURN LANE	232.0	770.75	1788.1	186.1	4797.2	0.03	143.9	63.2	1629.2	440.0	358.4	61.9	1595.6	385.0	307.2	61.0	1572.4	220.0	173.0	84.0	2165.3	220.0	238.2	411.2
640+00	640+40	HWY. 226 - MEDIAN TURN AROUND	40.0	VAR.	842.3	325.6	1447.1	0.03	43.4	109.6	487.1	440.0	107.2	109.0	484.4	385.0	93.2	108.5	482.2	220.0	53.0	108.0	480.0	220.0	52.8	105.8
640+40	642+76	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - L.M.L. LT. TURN LANE	236.0	770.75	1819.0	186.1	4880.0	0.03	146.4	63.2	1657.2	440.0	364.6	61.9	1623.2	385.0	312.5	61.0	1599.6	220.0	176.0	84.0	2202.7	220.0	242.3	418.3
642+76	644+76	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - L.M.L. LT. TURN LANE TAPER	200.0	743.63	1487.3	168.1	3735.6	0.03	112.1	57.2	1271.1	440.0	279.6	55.9	1242.2	385.0	239.1	55.0	1222.2	220.0	134.4	78.0	1733.3	220.0	190.7	325.1
644+76	662+38	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	1762.0	716.50	12624.7	150.1	29386.2	0.03	881.6	51.2	10023.8	440.0	2205.2	49.9	9769.3	385.0	1880.6	49.0	9593.1	220.0	1055.2	72.0	14096.0	220.0	1550.6	2605.8
666+73	673+13	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	640.0	716.50	4585.6	150.1	10673.8	0.03	320.2	51.2	3640.9	440.0	801.0	49.9	3548.4	385.0	683.1	49.0	3484.4	220.0	383.3	72.0	5120.0	220.0	563.2	946.5
673+13	675+13	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - R.M.L. LT. TURN LANE TAPER	200.0	743.63	1487.3	168.1	3735.6	0.03	112.1	57.2	1271.1	440.0	279.6	55.9	1242.2	385.0	239.1	55.0	1222.2	220.0	134.4	78.0	1733.3	220.0	190.7	325.1
675+13	677+23	HWY. 226 - 4 LANE DIVIDED FULL DEPTH - R.M.L. LT. TURN LANE	210.0	770.75	1618.6	186.1	4342.3	0.03	130.3	63.2	1474.7	440.0	324.4	61.9	1444.3	385.0	278.0	61.0	1423.3	220.0	156.6	84.0	1960.0	220.0	215.6	372.2
677+23	682+04	HWY. 226 - 4 LANE DIVIDED TO 5 LANE TAPER	481.0	625.81	1733.5	416.8	10586.5	0.03	317.6	VAR.	2987.5	440.0	657.3	VAR.	2934.1	385.0	564.8	VAR.	2902.0	220.0	319.2	VAR.	5066.5	220.0	557.3	876.5
682+04	699+00	HWY. 226 - 5 LANE FULL DEPTH	1696.0	530.75	9001.5	180.0	33920.0	0.03	1017.6	60.6	11419.7	440.0	2512.3	60.0	11306.7	385.0	2176.5	59.5	11212.4	220.0	1233.4	75.0	14133.3	220.0	1554.7	2788.1
699+00	703+95	HWY. 226 - 5 LANE NOTCH AND WIDEN	495.0	421.75	2087.7	132.0	7260.0	0.03	217.8	36.6	2013.0	440.0	442.9	36.0	1980.0	385.0	381.2	35.5	1952.5	220.0	214.8	75.0	4125.0	220.0	453.8	668.6
102+12	110+34	HWY. 226 - TEMP. WIDENING	822.0	238.50	1960.5	28.3	2584.7	0.03	77.5					28.3	2584.7	385.0	497.6					28.0	2557.3	220.0	281.3	281.3
HWY 226 CONNECTOR																										
100+78	101+78	HWY. 226 CONNECTOR RADIUS	100.0	VAR.	565.4	VAR.	2254.2	0.03	67.6	VAR.	752.6	440.0	165.6	VAR.	749.5	385.0	144.3	VAR.	746.0	220.0	82.1	VAR.	744.8	220.0	81.9	164.0
101+78	108+50	HWY. 226 CONNECTOR MAIN LANES	672.0	372.00	2499.8	75.0	5600.0	0.03	168.0	25.6	1911.5	440.0	420.5	25.0	1866.7	385.0	359.3	24.5	1829.3	220.0	201.2	40.0	2986.7	220.0	328.5	529.7
108+50	111+50	HWY. 226 CONNECTOR NOTCH AND WIDEN	300.0	263.00	789.0	24.5	816.7	0.03	24.5													40.0	1333.3	220.0	146.7	146.7
HWY 49 CONNECTOR																										
101+84	103+50	HWY. 49 CONNECTOR NOTCH AND WIDEN	166.0	263.00	436.6	24.5	451.9	0.03	13.6													40.0	737.8	220.0	81.2	81.2
103+50	111+31	HWY. 49 CONNECTOR MAINLANES	781.0	372.00	2905.3	75.0	6508.3	0.03	195.2	25.6	2221.5	440.0	488.7	25.0	2169.4	385.0	417.6	24.5	2126.1	220.0	233.9	40.0	3471.1	220.0	381.8	615.7
111+31	112+06	HWY. 49 CONNECTOR RADIUS	75.0	VAR.	387.4	VAR.	1443.3	0.03	43.3	VAR.	473.6	440.0	104.2	VAR.	471.5	385.0	90.8	VAR.	469.1	220.0	51.6	VAR.	468.3	220.0	51.5	103.1
ADDITIONAL FOR LEVELING																										
108+50	111+50	HWY. 226 CONNECTOR NOTCH AND WIDEN	300.0			VAR.	833.1	0.10	83.3													VAR.	833.1	220.0	91.6	91.6
101+84	103+50	HWY. 49 CONNECTOR NOTCH AND WIDEN	166.0			VAR.	349.6	0.10	35.0													VAR.	349.6	220.0	38.5	38.5
699+00	703+95	HWY. 226 - 5 LANE NOTCH AND WIDEN	495.0			VAR.	1928.1	0.10	192.8													VAR.	1928.1	220.0	212.1	212.1
ADDITIONAL FOR GRADE RAISE																										
699+00	702+00	HWY 226 - MAIN LANES	300.0			VAR.	2229.6	VAR.	134.0	VAR.	883.2	440.0	194.3	VAR.	438.6	440.0	96.5									
109+00	111+00	HWY 226 CONNECTOR	200.0			VAR.	1600.0	VAR.	85.3	VAR.	281.4	440.0	61.9	VAR.	285.5	440.0	62.8									
102+00	104+00	HWY 49 CONNECTOR	200.0			VAR.	1333.3	VAR.	77.3	VAR.	164.1	440.0	36.1	VAR.	220.0	440.0	48.4									
ADDITIONAL FOR SUPERELEVATION																										
604+43	616+89	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	1246.0	217.50	2710.1																					
616+89	620+39	HWY. 226 - 4 LANE DIVIDED FULL DEPTH	350.0	VAR.	380.8																					
684+99	690+39	HWY. 226 - 5 LANE FULL DEPTH	540.0	VAR.	480.1																					
690+39	698+55	HWY. 226 - 5 LANE FULL DEPTH	816.0	177.80	1450.8																					
698+55	703+95	HWY. 226 - 5 LANE FULL DEPTH	540.0	VAR.	480.1																					
101+06	103+56	HWY. 226 CONNECTOR	250.0	VAR.	168.5																					
103+56	108+78	HWY. 226 CONNECTOR	522.0	134.80	703.7																					
108+78	111+28	HWY. 226 CONNECTOR	250.0	VAR.	168.5																					
101+84	103+84	HWY. 49 CONNECTOR	200.0	VAR.	127.0																					
103+84	109+20	HWY. 49 CONNECTOR	536.0	127.00	680.7																					
109+20	111+20	HWY. 49 CONNECTOR	200.0	VAR.	127.0																					
ADDITIONAL FOR GUARDRAIL																										
659+87	660+42	HWY. 226 - INSIDE R.M.L. TRANSITION	55.0	VAR.	11.9																	VAR.	73.4	220.0	8.1	8.1
660+42	662+82	HWY. 226 - INSIDE R.M.L.	240.0	43.29	103.9																	5.5	146.7	220.0	16.1	16.1
660+00	660+55	HWY. 226 - OUTSIDE R.M.L. TRANSITION	55.0	VAR.	11.6																	VAR.	73.1	220.0	8.0	8.0
660+55	662+94	HWY. 226 - OUTSIDE R.M.L.	239.0	42.01	100.4																	5.5	146.1	220.0	16.1	16.1
666+30	668+70	HWY. 226 - INSIDE L.M.L.	240.0	43.29	103.9																	5.5	146.7	220.0	16.1	16.1
668+70	669+25	HWY. 226 - INSIDE L.M.L. TRANSITION	55.0	VAR.	11.9																	VAR.	73.4	220.0	8.1	8.1
666+17	668+56	HWY. 226 - OUTSIDE L.M.L.	239.0	42.01	100.4																	5.5	146.1	220.0	16.1	16.1
668+56	669+11	HWY. 226 - OUTSIDE L.M.L. TRANSITION	55.0	VAR.	11.6																	VAR.	73.1	220.0	8.0	8.0
ADDITIONAL FOR WEIGH PAD																										
620+00	622+00	HWY. 226 - L.M.L. TRANSITION	200.0	43.88	87.8	39.0	866.7	0.03	26.0	13.0	288.9	440.0	63.6	13.0	288.9	385.0	55.6	13.0	288.9	220.0	31.8	11.0	244.4	220.0	26.9	58.7
622+00	627+00	HWY. 226 - L.M.L.	500.0	87.75	438.8	78.0	4333.3	0.03	130.0	26.0	1444.4	440.0	317.8	26.0	1444.4	385.0	278.0	26.0	1444.4	220.0	158.9	22.0	1222.2	220.0	134.4	293.3
627+00	628+00	HWY. 226 - L.M.L. TRANSITION	100.0	43.88	43.9	39.0	433.3	0.03	13.0	13.0	144.4	440.0	31.8	13.0	144.4	385.0	27.8	13.0	144.4	220.0	15.9	11.0	122.2	220.0	13.4	29.3
621+00	622+00	HWY. 226 - R.M.L. TRANSITION	100.0	43.88	43.9	39.0	433.3	0.03	13.0	13.0	144.4	440.0	31.8	13.0	144.4	385.0	27.8	13.0	144.4	220.0	15.9	11.0	122.2	220.0	13.4	29.3
622+00	627+00	HWY. 226 - R.M.L.	500.0	87.75	438.8	78.0	4333.3	0.03	130.0	26.0	1444.4	440.0	317.8	26.0	1444.4	385.0	278.0	26.0	1444.4	220.0	158.9	22.0	1222.2	220.0	134.4	293.3
627+00	629+00	HWY. 226 - R.M.L. TRANSITION	200.0	43.88	87.8	39.0	866.7	0.03	26.0	13.0	288.9	440.0	63.6	13.0	288.9	385.0	55.6	13.0	288.9	220.0	31.8	11.0	244.4	220.0	26.9	58.7
TOTALS:					83101.0		215136.6		6813.5		69153.4		15213.9		70066.4		13513.6		65613.9		7217.6		100704.4		11077.4	18295.0

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.1% MIN. AGGR.....3.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-22-13				6	ARK.			
12-03-2013				JOB NO.		100678	48	95

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-3-13

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF TRAFFIC DRUMS LEFT IN PLACE		42	EACH
202	REMOVAL AND DISPOSAL OF BARRICADES LEFT IN PLACE		36	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS		1	EACH
202	REMOVAL AND DISPOSAL OF SIGNS LEFT IN PLACE		18	EACH
210	UNCLASSIFIED EXCAVATION		20952	CU. YD.
SP & 210	COMPACTED EMBANKMENT		39220	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
SP & 214	SUBGRADE PREPARATION		97.20	STATION
SP & 302	SELECTED MATERIAL (CLASS SM-1)		3745	CU. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		83983	TON
401	TACK COAT		6834	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		14621	TON
SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		593	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		12960	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		554	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		17526	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		961	TON
412	COLD MILLING ASPHALT PAVEMENT		1722	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		10	TON
SP & 504	APPROACH SLABS		193.84	CU. YD.
SP & 504	APPROACH GUTTERS		102.48	CU. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SS & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	18" TEMPORARY CULVERT		34	LIN. FT.
SS & 604	SIGNS		562	SQ. FT.
SS & 604	BARRICADES		96	LIN. FT.
SS & 604	TRAFFIC DRUMS		40	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS		32429	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		2385	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		2851	LIN. FT.
SS & 606	54" SIDE DRAIN		84	LIN. FT.
606	SELECTED PIPE BEDDING		20	CU. YD.
SS & 617	GUARDRAIL (TYPE A)		600	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)		4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL		4	EACH
619	WIRE FENCE (TYPE A)		807	LIN. FT.
620	LIME		14	TON
620	SEEDING		6.86	ACRE
SS & 620	MULCH COVER		23.90	ACRE
SS & 620	WATER		1047.3	M.GAL.
621	TEMPORARY SEEDING		17.04	ACRE
621	SILT FENCE		1000	LIN. FT.
621	SAND BAG DITCH CHECKS		220	BAG
621	SEDIMENT BASIN		145	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		145	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		231	CU. YD.
621	ROCK DITCH CHECKS		117	CU. YD.
623	SECOND SEEDING APPLICATION		6.86	ACRE
632	CONCRETE ISLAND		854	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		18030	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")		38	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")		949	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		28266	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")		99	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")		2608	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		32331	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		6	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		6	EACH
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	325	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	325	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		674	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		5652	POUND

* DENOTES ALTERNATE BID ITEMS

REVISIONS

DATE	REVISION	SHEET NUMBER
11/22/2013	ADDITION OF WIRE FENCE (TYPE A)	2, 45, 48, 62, 63, & 88A
12/3/2013	REVISION OF STATIONS ON TYPICAL SECTIONS	3, 4, & 48
12/3/2013	REVISION OF WEIGH PAD TYPICAL SECTION IN SPECIAL DETAILS	7 & 48
12/3/2013	REVISION OF APPROACH GUTTER AND REINFORCING STEEL QUANTITIES	46 & 48

10/17/2013

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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.		100678	49	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

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

Point Name	Northing	Easting	Elev	Feature	Description
54	533382.20	1654543.57	251.72	CTL	T-54 RBR CAP
55	533422.22	1655659.56	252.90	CTL	T-55 RBR CAP
56	533408.75	1656393.14	258.13	CTL	T-56 RBR CAP
57	533328.47	1657324.62	256.73	CTL	T-57 RBR CAP
58	533294.07	1658181.95	253.71	CTL	T-58 RBR CAP
59	533230.65	1659356.04	254.55	CTL	T-59 RBR CAP
60	533234.43	1660122.97	254.52	CTL	T-60 RBR CAP
105	527888.09	1663344.45	251.59	BM	K-183 STD DSK
130	528059.87	1663728.38	251.16	CTL	T-130 2" ALUM CAP2" X5/8" RBR
132	527976.83	1665979.32	251.36	CTL	T-132 2" ALUM CAP2" X5/8" RBR
133	527990.03	1666875.54	251.41	CTL	T-133 2" ALUM CAP2" X5/8" RBR
134	527952.82	1667696.39	250.89	CTL	T-134 2" ALUM CAP2" X5/8" RBR
135	527955.98	1668340.32	251.37	CTL	T-135 2" ALUM CAP2" X5/8" RBR

*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).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999306892 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.S100412GI.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: 111
CONVERGENCE ANGLE: 0-42-24.220508 RT AT LT: 35-47-37.05963 RT LG: 90-54-28.38572
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

C.L. CONSTRUCTION

		STATION	NORTHING	EASTING
P.I.	8047	537+25.96	533449.4821	1652216.0775
P.C.	8048	583+08.64	533444.4660	1656798.7517
P.I.		600+98.46	533442.5069	1658588.5793
P.T.	8050	617+78.23	532422.0882	1660059.0324
EQNBK		620+39.29	532273.2520	1660273.5096
EQNAHD		620+00.00	532273.2520	1660273.5096
P.C.	8051	689+03.72	528337.2959	1665945.3369
P.I.		695+08.74	527992.3621	1666442.3965
P.T.	8053	700+75.56	527996.5478	1667047.4007
P.I.	8054	703+94.96	527998.7576	1667366.7932
POE	8055	704+50.04	527999.1386	1667421.8719

HWY. 226 CONNECTOR

		STATION	NORTHING	EASTING
POB	8059	100+20.69	532658.9572	1659688.0420
P.C.	8060	102+93.97	532899.7954	1659817.1941
P.I.		106+56.44	533219.2273	1659988.4929
P.T.	8062	109+40.34	533201.2725	1660350.5117
POE	8063	112+12.02	533187.8144	1660621.8645

HWY. 49 CONNECTOR

		STATION	NORTHING	EASTING
POB	8064	100+00.00	527997.3384	1664608.8660
P.C.	8065	101+84.13	527997.9744	1664793.9971
P.I.		106+10.62	527999.4474	1665219.4791
P.T.	8067	109+70.47	528349.8303	1665462.6268
POE	8068	112+35.37	528567.4661	1665613.6549

LML TRANSITION

		STATION	NORTHING	EASTING
POB	8104	670+00.04	529422.6264	1664381.3441
PC	8105	671+44.27	529340.3952	1664499.8417
PT	8107	676+54.22	529049.6634	1664918.7946
PC	8108	676+94.52	529026.6846	1664951.9077
PT	8110	682+04.47	528735.9528	1665370.8607
POE	8111	683+00.04	528681.4692	1665449.3732

RML TRANSITION

		STATION	NORTHING	EASTING
POB	8112	670+00.04	529422.6264	1664381.3441
PC	8113	671+44.27	529340.3952	1664499.8417
PT	8115	676+54.22	529049.6634	1664918.7946
PC	8116	676+94.52	529026.6846	1664951.9077
PT	8118	682+04.47	528735.9528	1665370.8607
POE	8119	683+00.04	528681.4692	1665449.3732

TEMP WIDENING

		STATION	NORTHING	EASTING
POB	8090	693+89.64	528113.7532	1666375.3109
PC	8091	695+16.24	528074.0480	1666495.4946
PT	8093	697+33.81	528024.6893	1666707.2739
PC	8094	698+56.92	528007.5392	1666829.1591
PT	8096	700+79.76	527996.5769	1667051.6060
PC	8097	701+55.00	527997.0974	1667126.8378
PT	8099	702+51.49	527997.7650	1667223.3343
PC	8100	702+83.54	527997.9867	1667255.3769
PT	8102	703+80.04	527998.6543	1667351.8735
POE	8103	708+00.00	528001.6324	1667771.8210

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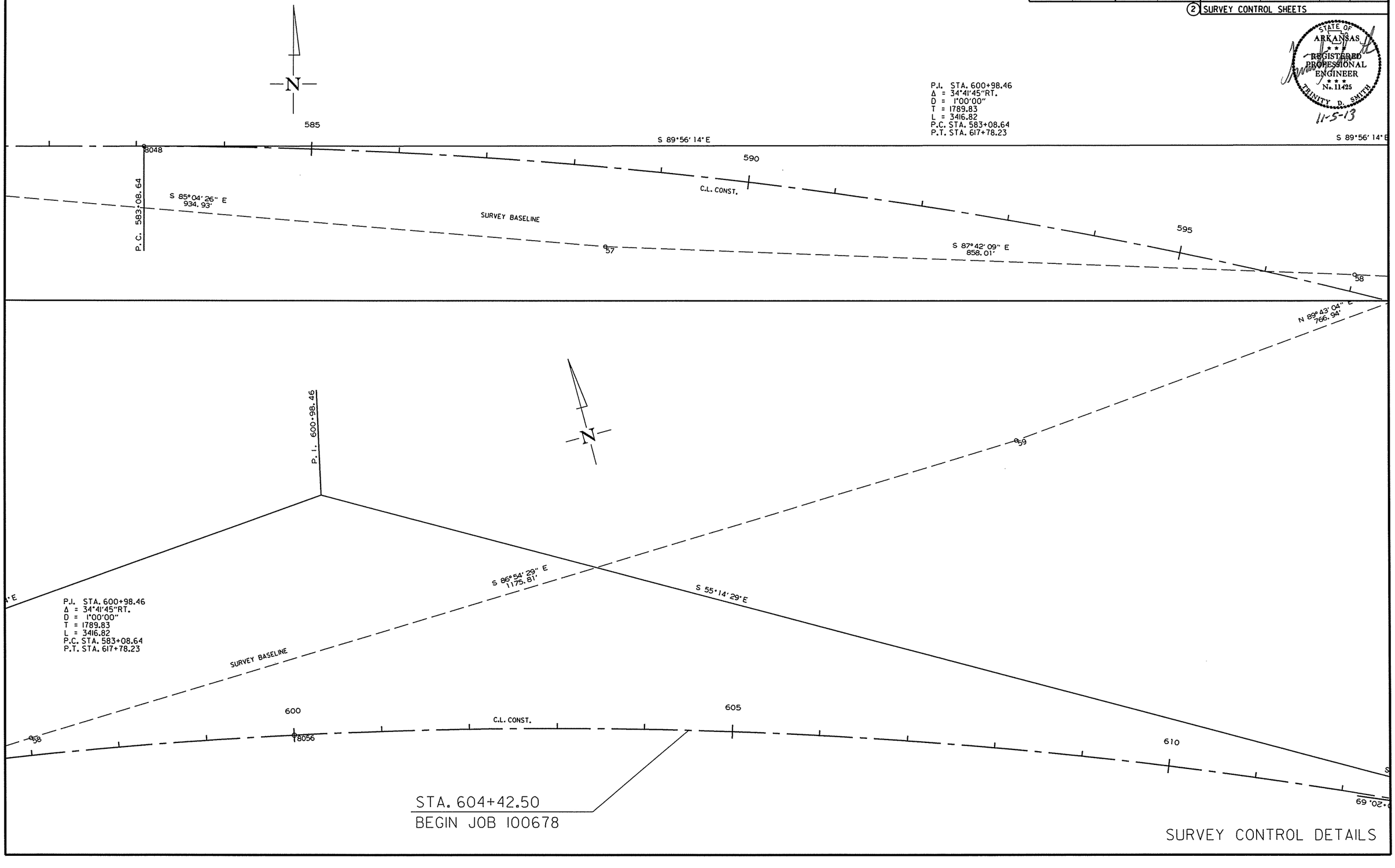
SURVEY CONTROL DETAILS

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.		100678	50	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



SURVEY CONTROL DETAILS

10/17/2013

R100678.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.		100678	51	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

P.I. STA. 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83
L = 3416.82
P.C. STA. 583+08.64
P.T. STA. 617+78.23

C.L. CONST.

POB 100+20.69

8059

S 55°14'29" E

N 28°12'10" E
273.28'

8060

C.L. HWY. 226 CONNECTOR

105

SURVEY BASELINE

P.I. 106+56.44

P.C. 102+93.97

P.I. STA. 106+56.44
Δ = 64°38'11"RT.
D = 10°00'00"
T = 362.46
L = 646.36
P.C. STA. 102+93.97
P.T. STA. 109+40.34

STA. 100+20.69
HWY. 226 CONNECTOR CL=
STA. 613+37.96 HWY. 226
Δ = 92°09'28"

615

P.T. 617+78.23

8050

S 55°14'29" E
605.02'

620

620

EQNBK STA. 620+39.29
EQNAHD STA. 620+00.00

P.T. 109+40.34

8062

110

S 87°09'38" E
271.69'

POE 112+12.02

8063

S 84°38'33" E
1032.39'

STA. 111+50.00
END HWY. 226 CONNECTOR
JOB 100678

SURVEY CONTROL DETAILS

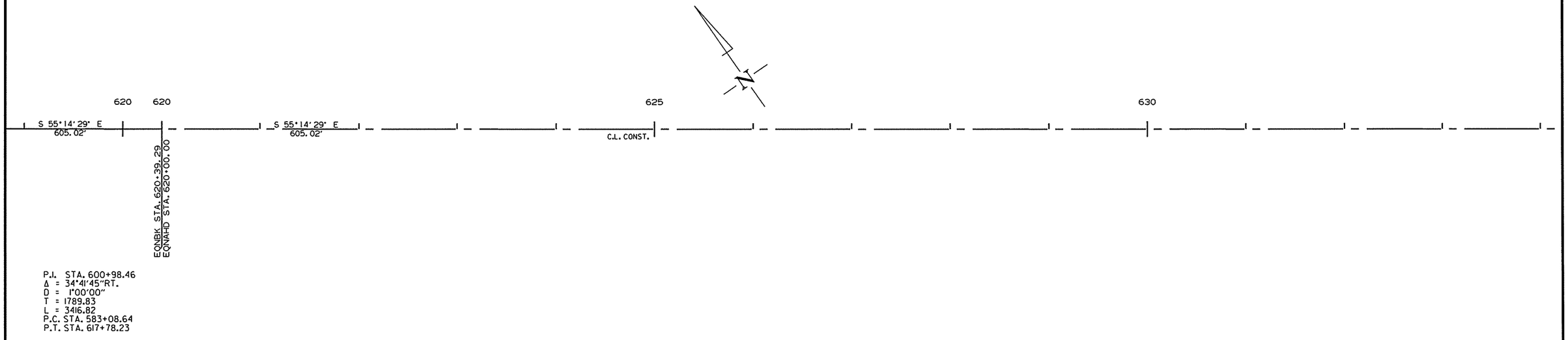
10/17/2013

R100678.DGN

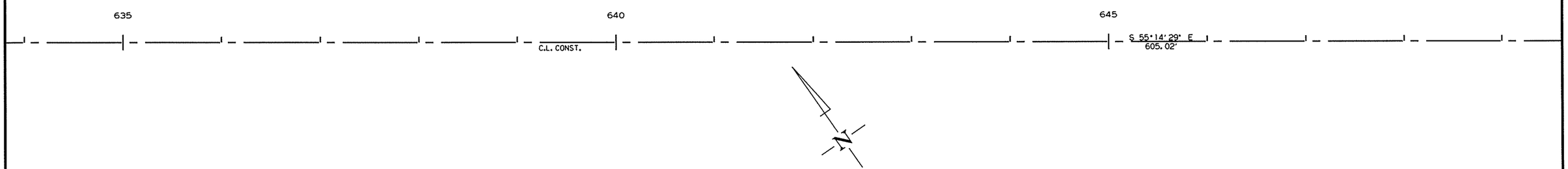
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	52	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



P.I. STA. 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83
L = 3416.82
P.C. STA. 583+08.64
P.T. STA. 617+78.23



10/17/2013

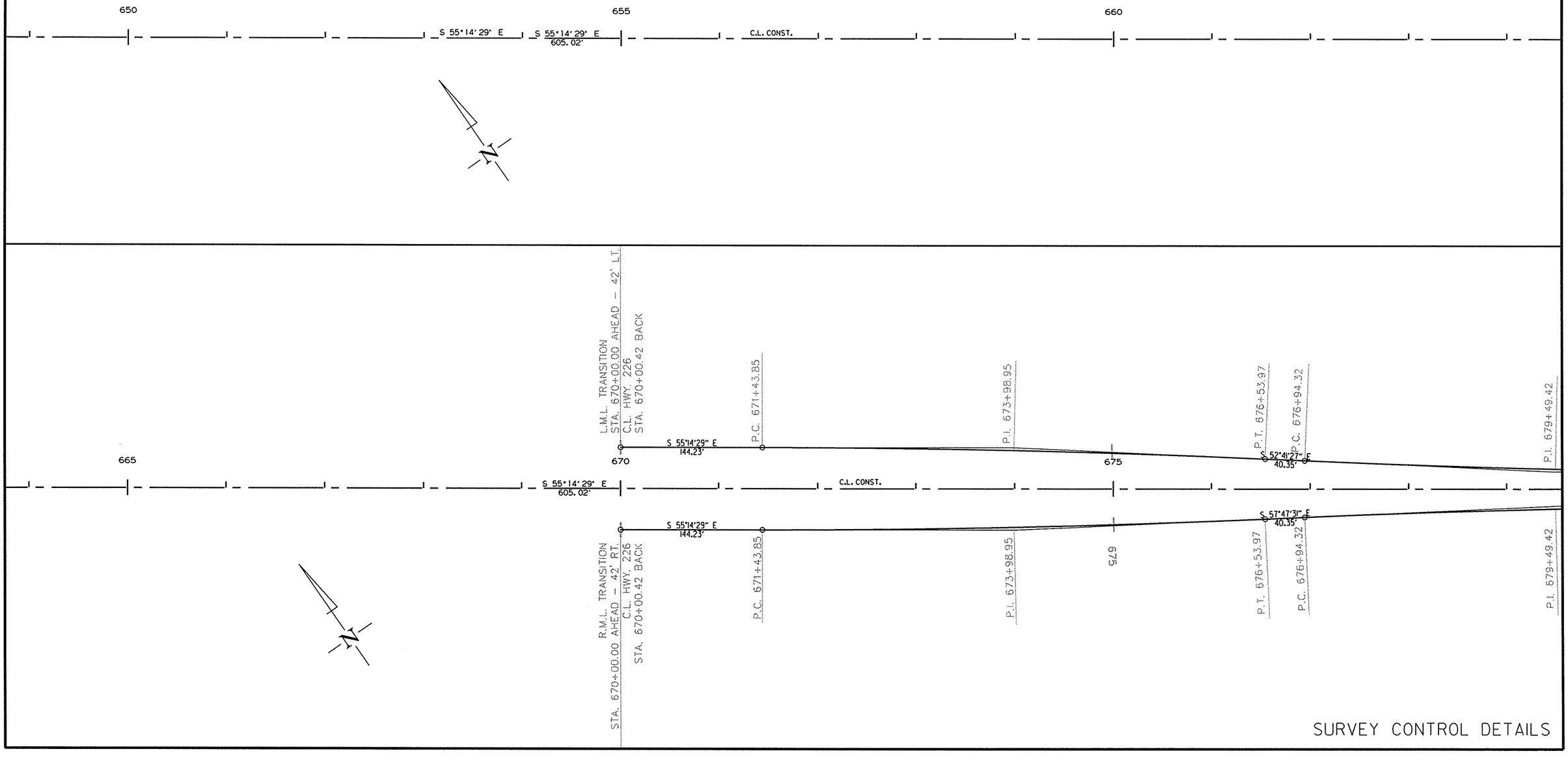
R100678.DGN

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.		100678	53	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



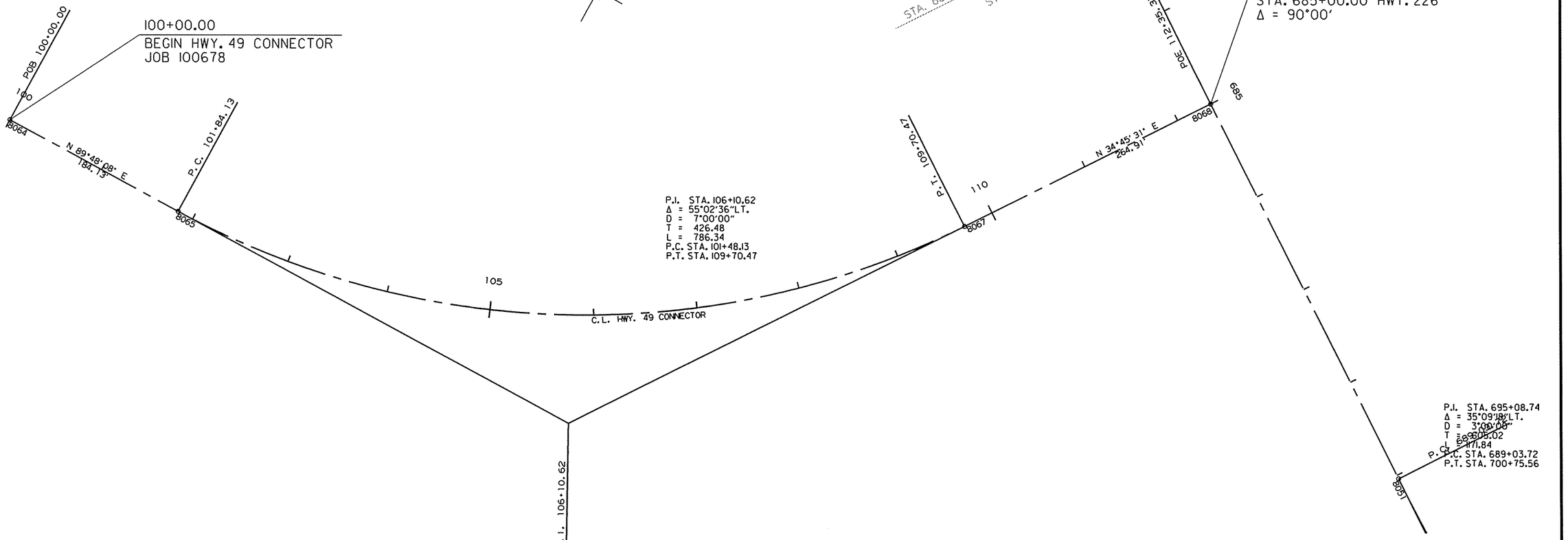
SURVEY CONTROL DETAILS

R100678.DGN 10/17/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	54	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



SURVEY CONTROL DETAILS

10/17/2013

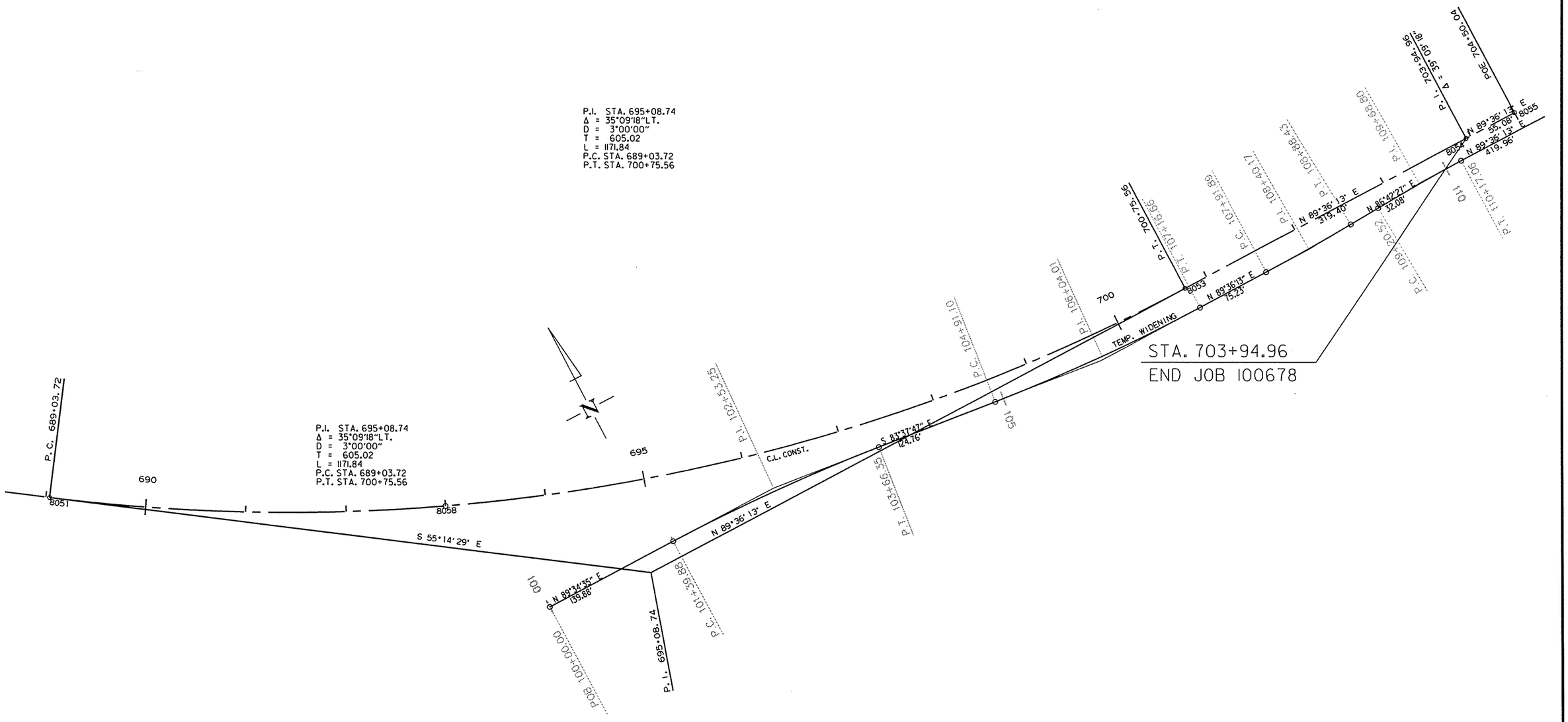
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	55	95

(2) SURVEY CONTROL SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

P.I. STA. 695+08.74
Δ = 35°09'18"LT.
D = 3°00'00"
T = 605.02
L = 1171.84
P.C. STA. 689+03.72
P.T. STA. 700+75.56



STA. 703+94.96
END JOB 100678

10/17/2013

R100678.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.		100678	56	95

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

CULTIVATED FIELD

P.I. STA. 600+98.46
Δ = 34°41'45.4"RT.
D = 1°00'00"
T = 1789.93
L = 3469.59
P.C. STA. 583+08.64
P.T. STA. 617+78.23
e = 0.030'/'
Ls = 350'

S 89°56'14" E

P.I. 600+98.46

S 55°14'29" E

CULTIVATED FIELD

595

600

590

605

EXIST. ROW

T-58 RBPN:58
PO:T-58 RBR-CAP

STA. 604+42.50
END JOB 100679
BEGIN JOB 100678

GUY WIRE LINE

HWY. 226

24'-8"

24'-6"

EXIST. ROW

310

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

STA. 580+46.14 BEGIN SUPERELEVATION (0.020'/')
STA. 583+96.14 MAX. SUPERELEVATION (0.030'/')
STA. 616+89.29 MAX. SUPERELEVATION (0.030'/')
STA. 620+39.29 END SUPERELEVATION (0.020'/')

STA. 604+42.50
END JOB 100679
BEGIN JOB 100678
ELEV. 259.17

0.00%

EXISTING

598+85.00
260.70

K=875.00
VC=350'
e=-0.17'

-0.40%

K=875.00
VC=350'
e=0.17'

602+67.50
259.17

0.00%

EXISTING 0.51% RT.DT.GR.

EXISTING 0.02% LT.DT.GR.

EXISTING 1.30% LT.DT.GR.

EXISTING 0.22% RT.DT.GR.

EXISTING 0.15% LT.DT.GR.

597+00 RT.DT.GR. RT.ELEV. 247.27
597+00 LT.DT.GR. LT.ELEV. 244.76

600+00 LT.DT.GR. LT.ELEV. 244.80

601+00 RT.DT.GR. RT.ELEV. 248.98

603+00 LT.DT.GR. LT.ELEV. 250.00

590+00 591+00 592+00 593+00 594+00 595+00 596+00 597+00 598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00

310 300 290 280 270 260 250 240 230 220 210

9/18/2013

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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.		100678	57	95

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
TRINITY D. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 11425
11-7-13

CULTIVATED FIELD

EXIST. ROW

STA. 610+00 - IN PLACE
24" x 38' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

P.I. STA. 600+98.46
Δ = 34°41'45.4"RT.
D = 1°00'00"
T = 1789.93
L = 3469.59
P.C. STA. 583+08.64
P.T. STA. 617+78.23
e = 0.030'/'
Ls = 350'

100' RADIUS

N28°12'10.5"E

P.C. STA. 102+93.97

100' RADIUS

STA. 618+00 - IN PLACE
24" x 34' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

210' DECEL. LANE

370' TAPER

HWY. 226

STA. 608+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 90' R.C. PIPE OUTLET
& F.E.S. ON RT.
RETAIN

STA. 610+00 - IN PLACE
18" x 34' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN

STA. 100+20.69
HWY. 226 CONNECTOR CL=
STA. 613+37.96 HWY. 226
Δ = 92°09'28"

STA. 618+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 78' R.C. PIPE OUTLET
& F.E.S. ON RT.
RETAIN

P.T. 617+78.23

STA. 620+39.29 BACK
STA. 620+00.00 AHEAD

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

STA. 580+46.14 BEGIN SUPERELEVATION (0.020'/')
STA. 583+96.14 MAX. SUPERELEVATION (0.030'/')
STA. 616+89.29 MAX. SUPERELEVATION (0.030'/')
STA. 620+39.29 END SUPERELEVATION (0.020'/')

+00 TOP D.I. 254.93

EXISTING 0.15% LT.DT.GR.
EXISTING 0.22% RT.DT.GR.
EXIST. F.L. D.I. 251.93
EXIST. F.L. OUTLET 250.83 (RT.)

0.00%

+15.00 RT.DT.GR. RT.ELEV. 251.64

+41.89 LT.DT.GR. LT.ELEV. 251.48

+56.42 LT.DT.GR. LT.ELEV. 251.46

+00 TOP D.I. 256.00

EXISTING -0.09% LT.DT.GR.
EXISTING -0.10% RT.DT.GR.
EXIST. F.L. D.I. 251.92
EXIST. F.L. OUTLET 251.14 (RT.)

BM: 938 TBM-938 CPS/PP
360.22 LT. OF STA. 608+30.75
ELEVATION = 254.69

605+00 606+00 607+00 608+00 609+00 610+00 611+00 612+00 613+00 614+00 615+00 616+00 617+00 618+00 619+00 620+00

320 310 300 290 280 270 260 250 240 230 220

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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.		100678	58	95

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

STA. 624+34 - IN PLACE
DROP INLET IN MEDIAN
W/59" x 36" x 112' R.C. ARCH PIPE INLET (CL. III)
& 59" x 36" x 114' R.C. ARCH PIPE OUTLET (CL. III)
(33° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
RETAIN

+00 — 200' — +00 — 500' — +00 — 100' — +00

EXIST. ROW

620 625 630

+89.88 114.32' BEGIN C/A

+75 END C/A

+25 BEGIN C/A

8' 24' 6' 26' 26' 8' 24' 6'

HWY. 226

6' 24' 8' 26' 26' 6' 24' 8'

STA. 620+39.29 BACK =
STA. 620+00.00 AHEAD

EXIST. ROW

+39.13 BEGIN C/A

+75 END C/A

+25 BEGIN C/A

+20.61 122.59'

100' — +00 — 500' — +00 — 200' — +00

STA. 635+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 86' R.C. PIPE OUTLET
& F.E.S. ON RT.
RETAIN

STA. 580+46.14 BEGIN SUPERELEVATION (0.020'/')
STA. 583+96.14 MAX. SUPERELEVATION (0.030'/')
STA. 616+89.29 MAX. SUPERELEVATION (0.030'/')
STA. 620+39.29 END SUPERELEVATION (0.020'/')

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

+34
TOP D.I.
254.93

0.00%

+00
TOP D.I.
254.93

EXISTING -0.06% LT.DT.GR.
EXISTING -0.10% RT.DT.GR.
EXISTING 0.13% LT.DT.GR.
EXISTING 0.24% RT.DT.GR.
EXISTING -0.04% LT.DT.GR.
EXISTING -0.05% RT.DT.GR.

-100.00 LT.DT.GR.
LT. ELEV. 250.87

-70.23 LT.DT.GR.
LT. ELEV. 250.65

-98.32 RT.DT.GR.
RT. ELEV. 250.31

+00.00 RT.DT.GR.
+00.00 LT.DT.GR.
LT. ELEV. 251.50
RT. ELEV. 251.50

EXIST. F.L. INLET 250.61 (LT.)
EXIST. F.L. D.I. 250.43
EXIST. F.L. OUTLET 250.32 (RT.)

EXIST. F.L. D.I. 251.93
EXIST. F.L. OUTLET 251.30 (RT.)

320 310 300 290 280 270 260 250 240 230 220

620+00 621+00 622+00 623+00 624+00 625+00 626+00 627+00 628+00 629+00 630+00 631+00 632+00 633+00 634+00 635+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.		100678	59	95

(2) PLAN AND PROFILE SHEETS

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

STA. 639+70 - IN PLACE
DRY RAMP ON LT.
RETAIN

STA. 649+27 - IN PLACE
QUAD. 10' x 5' x 176' R.C. BOX CULV'T.
(15° LT. FWD. SKEW)
WITH 3:1 WINGS
W/ DROP INLET IN MEDIAN
ON TOP OF R.C. BOX CULV'T.
RETAIN

+66 — 210' DECEL. LANE — +76 — 200' TAPER — +76

EXIST. ROW

635 640 645

HWY. 226

EXIST. ROW

+68 — 200' TAPER — +68 — 210' DECEL. LANE — +78

STA. 639+25 - IN PLACE
36" x 166' R.C. PIPE CULV'T.
WITH F.E.S. LT. & RT.
RETAIN

STA. 640+75 - IN PLACE
DRY RAMP ON RT.
RETAIN

STA. 641+16 - IN PLACE
36" x 172' R.C. PIPE CULV'T.
WITH F.E.S. LT. & RT.
RETAIN

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

+27
TOP D.I.
255.10

0.00%

EXISTING -0.04% LT.DT.GR.
EXISTING -0.05% RT.DT.GR.

EXIST. F.L. INLET 251.12 (LT.)
EXIST. F.L. OUTLET 251.02 (RT.)

EXISTING -0.16% LT.DT.GR.
EXISTING

EXISTING 0.06% LT.DT.GR.
EXISTING 0.10% RT.DT.GR.

EXIST. F.L. INLET 250.33 (LT.)
EXIST. F.L. OUTLET 250.24 (RT.)

EXISTING -0.29% LT.DT.GR.
EXISTING -0.36% RT.DT.GR.

EXISTING
EXISTING -0.12% RT.DT.GR.

EXIST. F.L. INLET 248.90 (LT.)
EXIST. F.L. OUTLET 248.72 (RT.)

320 310 300 290 280 270 260 250 240 230 220

635+00 636+00 637+00 638+00 639+00 640+00 641+00 642+00 643+00 644+00 645+00 646+00 647+00 648+00 649+00 650+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.		100678	60	95

(2) PLAN AND PROFILE SHEETS

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
660+32.71	662+51.46	R.M.L. - RT.	150 LIN. FT.	1EA.	1EA.
660+32.71	662+51.46	R.M.L. - LT.	150 LIN. FT.	1EA.	1EA.

STA. 662+60.86 TO STA. 666+23.14 IN PLACE
362'-3¼" X 38' CLEAR ROADWAY BRIDGE
CONT. COMP. PLATE GIRDER UNIT (100'-160'-100')
BRIDGE NO. A7200
RETAIN

STA. 662+87.86 TO STA. 666+50.14 IN PLACE
362'-3¼" X 38' CLEAR ROADWAY BRIDGE
CONT. COMP. PLATE GIRDER UNIT (100'-160'-100')
BRIDGE NO. B7200
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

B.E. STA. 662+74.36
ELEV. 285.92 - BR. A7200 (WESTBOUND)
ELEV. 286.21 - BR. B7200 (EASTBOUND)

K=137.47
VC=550'
e=2.75'

K=151.85
VC=1215'
e=-12.15'

0.00%
4.00%
-2.1%

EXISTING 0.28% LT.DT.GR.
EXISTING 0.12% RT.DT.GR.
EXISTING -0.09% LT.DT.GR.

℄ 654+34.81
259.17

+00.00 LT.DT.GR.
LT. ELEV. 251.00

+25.00 RT.DT.GR.
+00.00 LT.DT.GR.
LT. ELEV. 250.42
RT. ELEV. 250.42

664+40.11
299.39

S 55°14'29" E
HWY. 226
EXIST. ROW
FLOODPLAIN LIMITS
16'-0" GATE

9/18/2013
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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.		100678	61	95

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

RML TRANSITION
P.I. STA. 673+98.95
Δ = 2°33'02.1"LT.
D = 0°30'00"
T = 255.10
L = 510.12
P.C. STA. 671+43.85
P.T. STA. 676+53.97
NO SUPERELEVATION

LML TRANSITION
P.I. STA. 673+98.95
Δ = 2°33'02.1"RT.
D = 00°30'00"
T = 255.10
L = 510.12
P.C. STA. 671+43.85
P.T. STA. 676+53.97
NO SUPERELEVATION

STA. 672+00 - IN PLACE
18" x 64' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 672+00 - IN PLACE
18" x 62' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN

STA. 674+60 - IN PLACE
DROP INLET IN MEDIAN
W/36" x 92' R.C. PIPE INLET (CL. III)
& 36" x 92' R.C. PIPE OUTLET (CL. III)
(12° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
RETAIN

STA. 676+00 - IN PLACE
DROP INLET IN MEDIAN
W/18" x 76' R.C. PIPE OUTLET
WITH F.E.S. ON LT.
RETAIN

STA. 678+00 - IN PLACE
18" X 34' PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 678+00 - IN PLACE
18" X 30' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN

L.M.L. TRANSITION
STA. 670+00.00 AHEAD - 42' LT. =
C.L. HWY. 226 STA. 670+00.42 BACK

R.M.L. TRANSITION
STA. 670+00.00 AHEAD - 42' RT. =
C.L. HWY. 226 STA. 670+00.42 BACK

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
666+32.54	668+51.29	L.M.L. - RT.	150 LIN. FT.	1EA.	1EA.
666+32.54	668+51.29	L.M.L. - LT.	150 LIN. FT.	1EA.	1EA.

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

B.E. STA. 666+36.64
ELEV. 285.88 - BR. A7200 (WESTBOUND)
ELEV. 286.53 - BR. B7200 (EASTBOUND)

K=151.85
VC=1215'
e=-12.15'

-4.00%

+60
TOP D.I.
256.80

K=142.29
VC=550'
e=2.66'

+00
TOP D.I.
255.58

-0.14%

EXISTING -0.17% LT.DT.GR.
EXISTING -0.07% RT.DT.GR.
EXISTING -0.54% RT.DT.GR.
EXISTING 1.18% LT.DT.GR.
EXISTING 0.20% RT.DT.GR.
EXISTING 0.44% LT.DT.GR.

EXIST. F.L. INLET 248.83 (RT.)
EXIST. F.L. D.I. 248.13
EXIST. F.L. OUTLET 247.48 (LT.)

EXIST. F.L. D.I. 250.41
EXIST. F.L. OUTLET 248.37 (LT.)

-00.00 LT.DT.GR.
LT. ELEV. 251.08

-75.06 RT.DT.GR.
RT.ELEV. 250.96

+30.00 LT.DT.GR.
LT. ELEV. 249.86

+60.00 RT.DT.GR.
RT.ELEV. 250.09

+37.59 LT.DT.GR.
LT. ELEV. 247.91

+80.59 RT.DT.GR.
RT.ELEV. 248.90

℄ 675+13.03
256.46

BM: 943 CHSLD SO BR HW
4706.5 LT. OF STA. 673+20.98
ELEVATION = 261.86

665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00 674+00 675+00 676+00 677+00 678+00 679+00 680+00

320 310 300 290 280 270 260 250 240 230 220

9/18/2013

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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
11-22-13				6	ARK.			
				JOB NO.	100678		62	95

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-22-13

LML TRANSITION
P.I. STA. 679+49.42
Δ = 2°33'02.1"LT.
D = 0°30'00"
T = 255.10
L = 510.12
P.C. STA. 676+94.32
P.T. STA. 682+04.43
NO SUPERELEVATION

RML TRANSITION
P.I. STA. 676+49.42
Δ = 2°33'02.1"RT.
D = 0°30'00"
T = 255.10
L = 510.12
P.C. STA. 676+94.32
P.T. STA. 682+04.43
NO SUPERELEVATION

STA. 112+35.37
HWY. 49 CONNECTOR CL=
STA. 685+00.00 HWY. 226
Δ = 90°00'

P.I. STA. 695+08.74
Δ = 35°09'18.2"LT.
D = 3°00'00"
T = 605.12
L = 1153.54
P.C. STA. 689+03.72
P.T. STA. 700+75.56
e = 0.077'/'
Ls = 540'

STA. 693+00.00
BEGIN GRADING
AND PAVING

STA. 691+00 - IN PLACE
QUINT. 10' x 6' x 139' R.C BOX CULV'T.
(11° RT. FWD. SKEW)
WITH 3:1 WINGS
RETAIN

STA. 688+00 - IN PLACE
24" X 50' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATIONS ARE 250.

STA. 691+50 - IN PLACE
10'X6'X62' BOX CULV'T ON RT.
(EXISTING HWY 49)
REMOVE

WIRE FENCE (TYPE A)

STA.	STA.	SIDE	LIN. FT.
692+50.00	700+00.00	RT.	807

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

STA. 684+98.72	BEGIN SUPERELEVATION (N.C.)
STA. 690+38.72	MAX. SUPERELEVATION (0.077'/')
STA. 698+54.96	MAX. SUPERELEVATION (0.077'/')
STA. 703+94.96	END SUPERELEVATION (N.C.)

STA. 693+00.00
BEGIN GRADING
AND PAVING

-0.14%
-0.44% LT.DT.GR.
-0.45% RT.DT.GR.
-0.82% LT.DT.GR.
-0.82% RT.DT.GR.
0.00% LT.DT.GR.
0.00% RT.DT.GR.
0.24% LT.DT.GR.
-0.33% RT.DT.GR.

682+09.94 (ELEV. 255.52)
5.50' LT. OF C.L.
STA. 682+09.94 (ELEV. 255.52)
5.50' RT. OF C.L. =
STA. 682+09.94 (ELEV. 255.63) C.L.

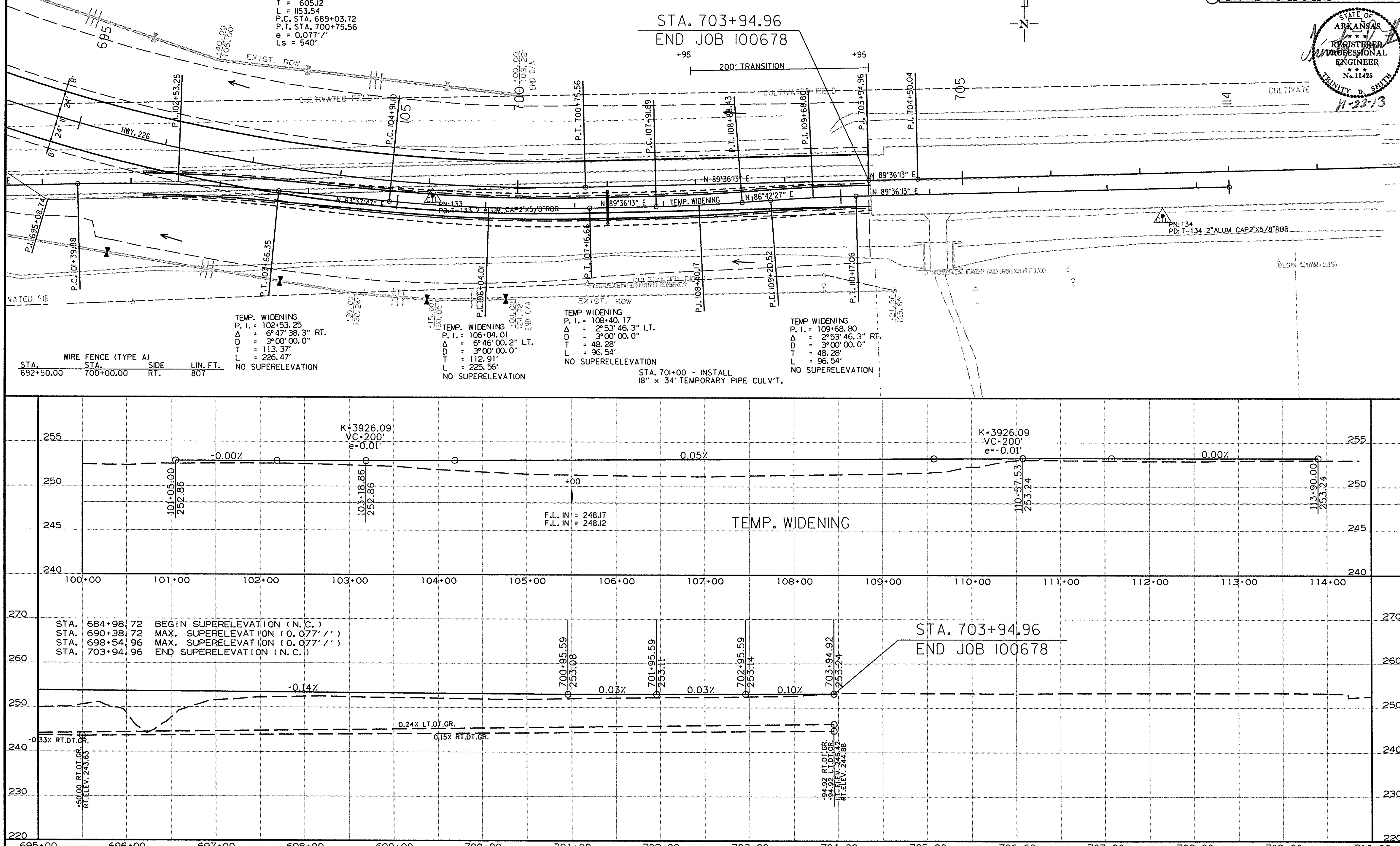
EXIST. F.L. INLET 243.27 (LT.)
EXIST. F.L. OUTLET 243.06 (RT.)

680+00 681+00 682+00 683+00 684+00 685+00 686+00 687+00 688+00 689+00 690+00 691+00 692+00 693+00 694+00 695+00

9/18/2013
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-22-13				6	ARK.			
				JOB NO.		100678	63	95

(2) PLAN AND PROFILE SHEETS



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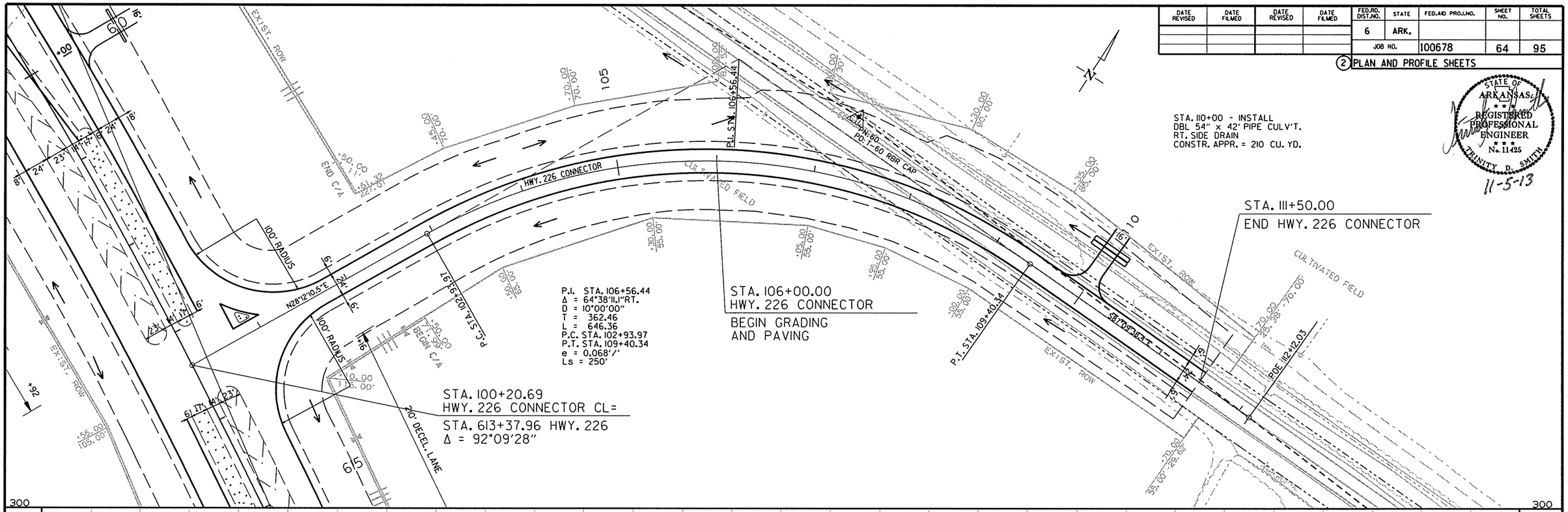
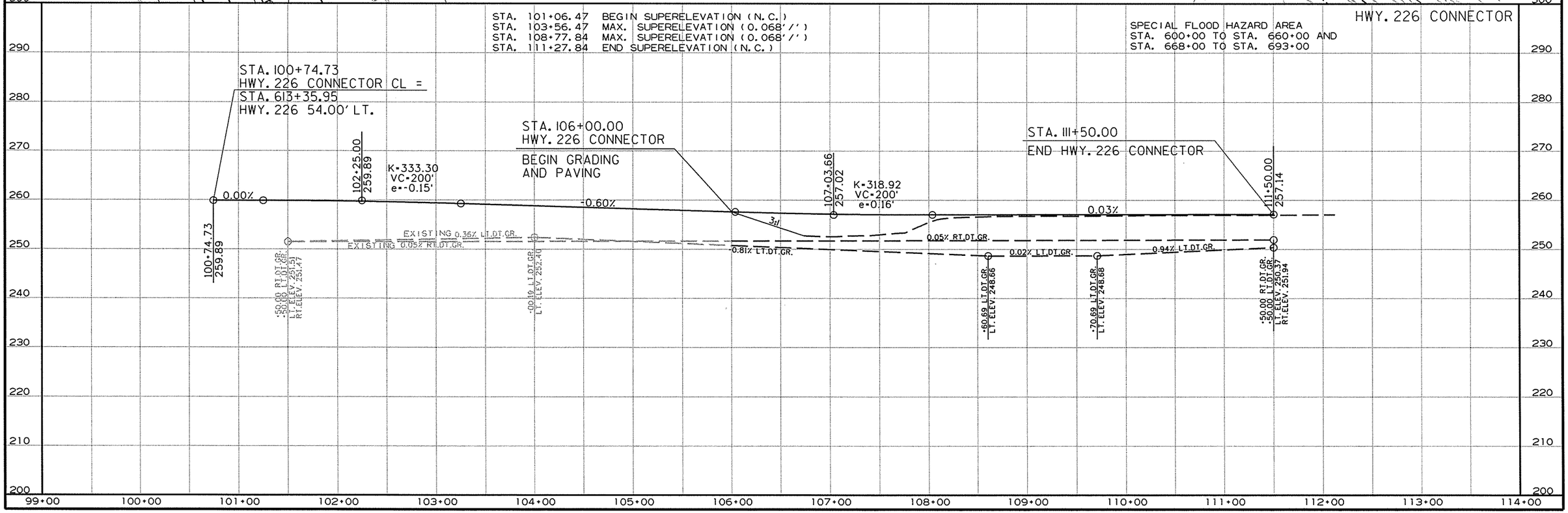
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	64	95

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

STA. 110+00 - INSTALL
DBL 54" x 42' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 210 CU. YD.





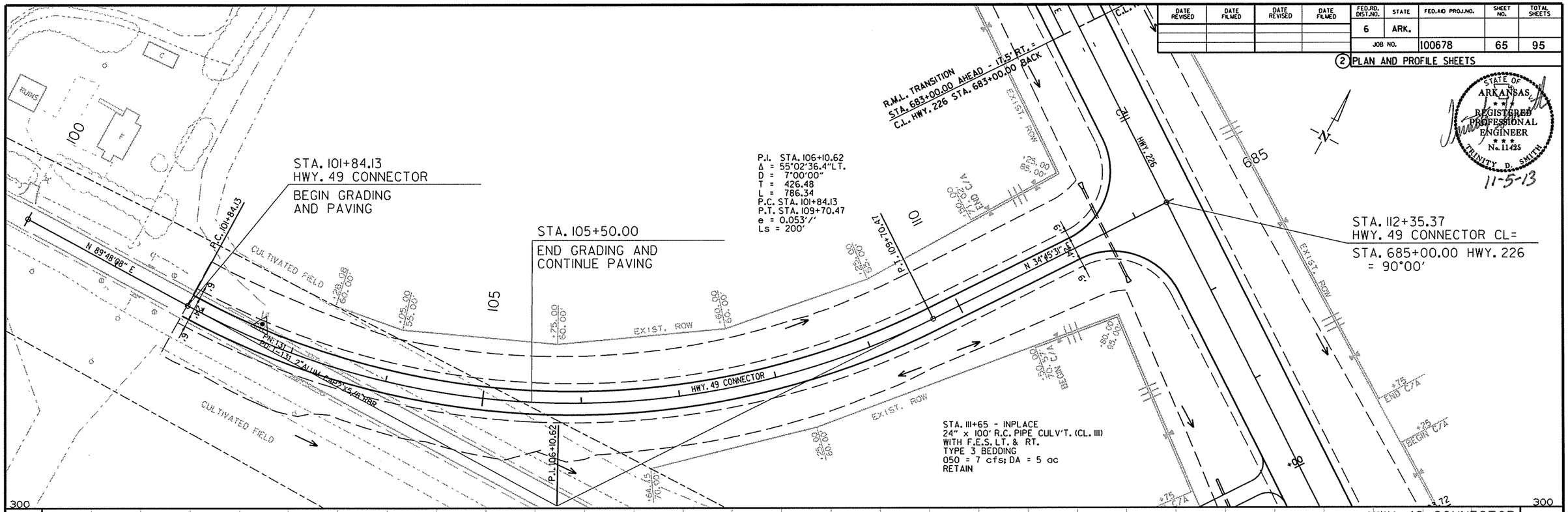
9/18/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	65	95

(2) PLAN AND PROFILE SHEETS

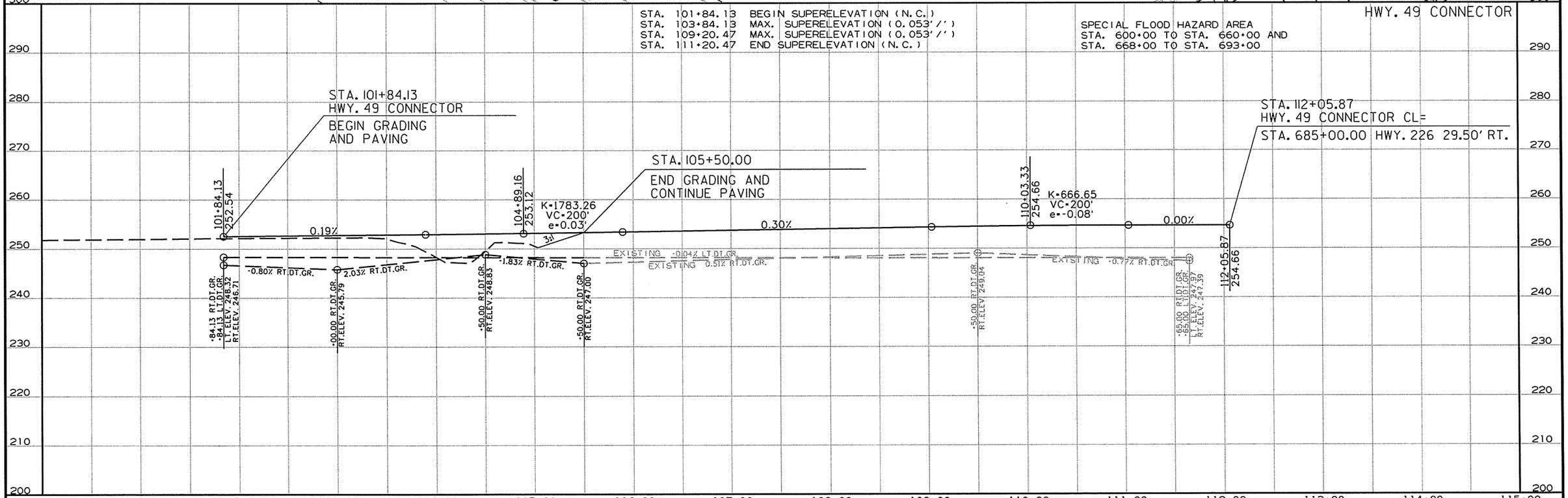
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13



STA. 101+84.13 BEGIN SUPERELEVATION (N.C.)
STA. 103+84.13 MAX. SUPERELEVATION (0.053'/')
STA. 109+20.47 MAX. SUPERELEVATION (0.053'/')
STA. 111+20.47 END SUPERELEVATION (N.C.)

SPECIAL FLOOD HAZARD AREA
STA. 600+00 TO STA. 660+00 AND
STA. 668+00 TO STA. 693+00

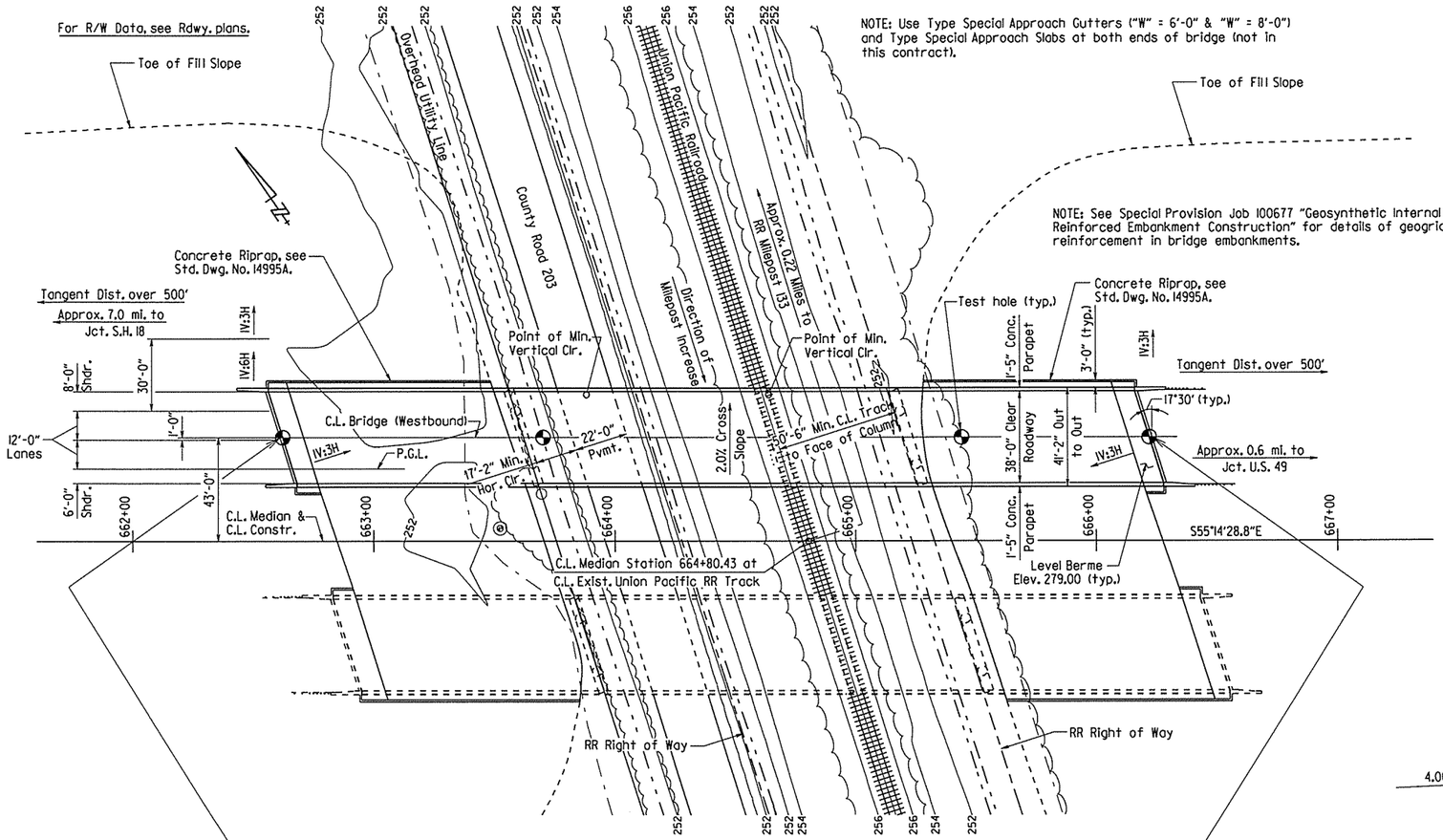
HWY. 49 CONNECTOR



9/18/2013

R100678.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.		100678	66	95
				(1) A7200		LAYOUT		54804



NOTE: All bridge stations are shown along C.L. Median. All elevations shown are along C.L. Bridge.

NOTE: For soil boring data, see Dwg. No. 51968.

GENERAL NOTES

BENCH MARK: GPS Disk, 5.04' right of Station 663+74.64, elevation 251.98.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition) with applicable supplemental specifications and special provisions. Unless otherwise noted, Section and Subsection refer to the Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition, 2010.

LIVE LOADING: HL93
SEISMIC PERFORMANCE ZONE: 4

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL SHELL PILING: End bent piling shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 210 tons per pile and to a minimum penetration of 20' below natural ground. Piling in Bents 2 and 3 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 235 tons per pile and to a minimum penetration of 20' below bottom of footing. . All piling shall be driven with an approved air, steam or diesel hammer. Piling in end bents shall be driven after embankment to bottom of cap is in place.

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test Piles are not required but may be driven for the Contractor's information in accordance with subsection 805.08(g).

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". It is estimated that a minimum rated hammer energy of 40,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at all bents.

FOOTINGS: Footings at Bents 2 and 3 shall be set a minimum of 2' below natural ground or at the elevations shown on the plans, whichever is lower. Foundations for footings shall be prepared in accordance with subsection 801.04. Excavations shall be backfilled and compacted to the level of the existing ground in accordance with subsection 801.08.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS	DRAWING NOS.
End Bents	51972, 51974, 51975
Intermediate Bents	51977, 51979
Elastomeric Bearings	51980
360'-0" Cont. Comp. Plate Girder Unit	51981-51989
Steel Shell Piling	51976

FOR INFORMATION ONLY

LAYOUT OF WESTBOUND BRIDGE OVER UNION PACIFIC RAILROAD & CR 203 HWY. 226 - HWY. 49 (GR. & STRS.) (F) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KY DATE: 4-4-10 FILENAME: b100678xl_Ll.dgn
CHECKED BY: _____ DATE: _____ SCALE: 1" = 30'
DESIGNED BY: _____ DATE: _____

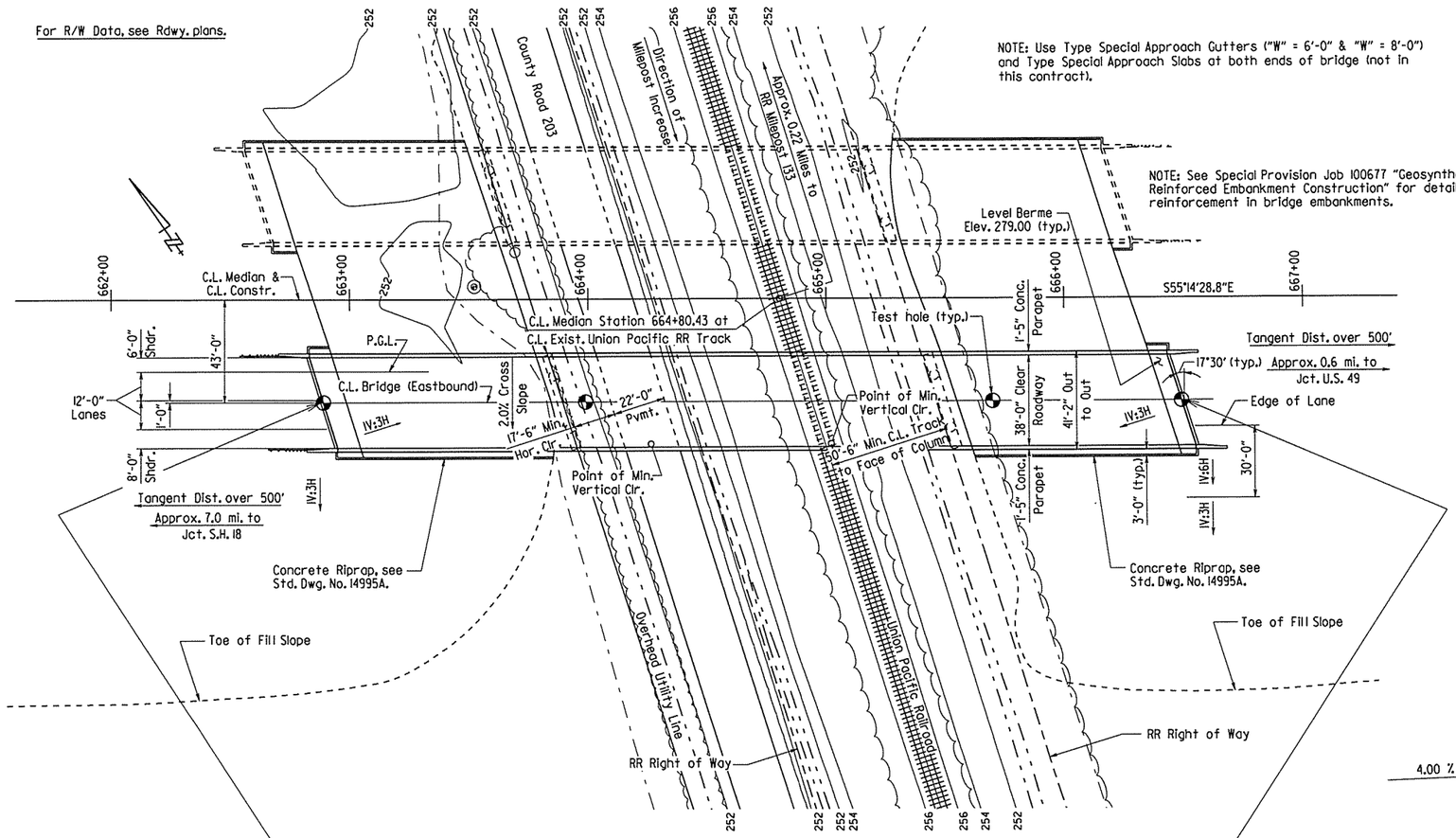
BRIDGE NO. A7200 DRAWING NO. 54804

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.		100678	67	95
				(1) B7200		LAYOUT		54805

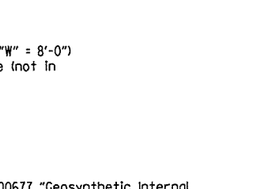
For R/W Data, see Rdwy. plans.

NOTE: Use Type Special Approach Gutters ("W" = 6'-0" & "W" = 8'-0") and Type Special Approach Slabs at both ends of bridge (not in this contract).

NOTE: See Special Provision Job 100677 "Geosynthetic Internal Reinforced Embankment Construction" for details of geogrid reinforcement in bridge embankments.

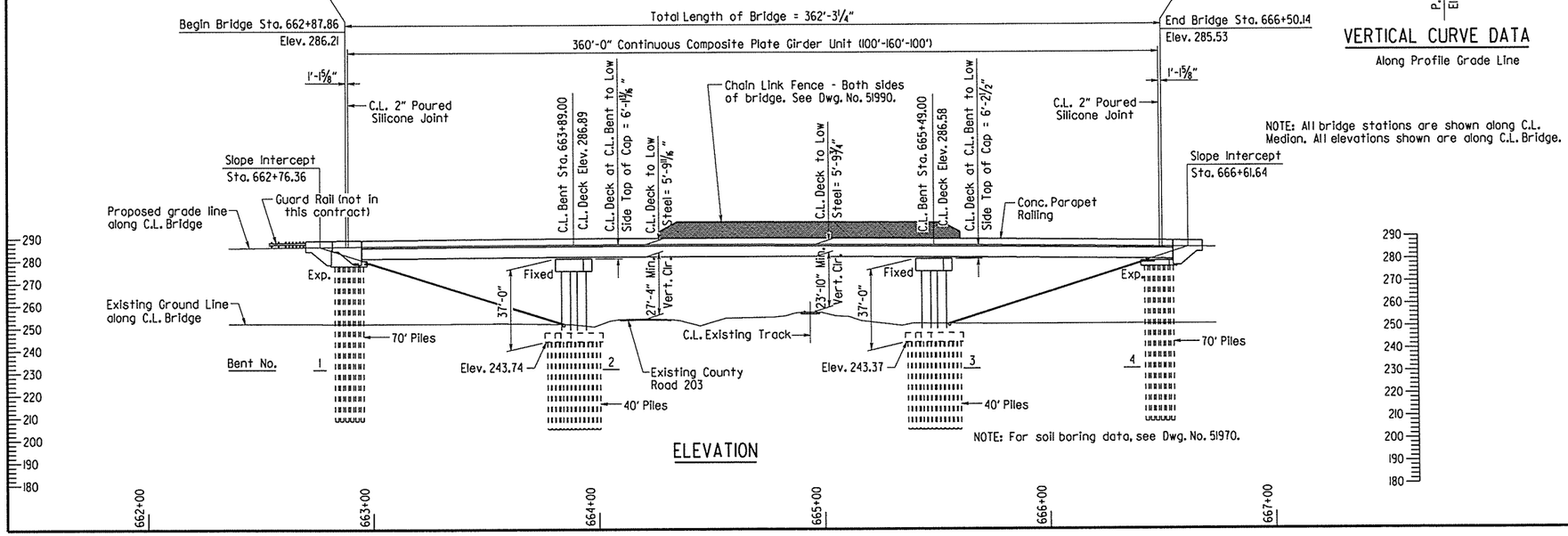


PLAN



VERTICAL CURVE DATA

Along Profile Grade Line



ELEVATION

NOTE: All bridge stations are shown along C.L. Median. All elevations shown are along C.L. Bridge.

NOTE: For soil boring data, see Dwg. No. 51970.

GENERAL NOTES

BENCH MARK: GPS Disk, 5.04' right of Station 663+74.64, elevation 251.98.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition) with applicable supplemental specifications and special provisions. Unless otherwise noted, Section and Subsection refer to the Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition, 2010.

LIVE LOADING: HL93
SEISMIC PERFORMANCE ZONE: 4

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL SHELL PILING: End bent piling shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 210 tons per pile and to a minimum penetration of 20' below natural ground. Piling in Bents 2 and 3 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 235 tons per pile and to a minimum penetration of 20' below bottom of footing. All piling shall be driven with an approved air, steam or diesel hammer. Piling in end bents shall be driven after embankment to bottom of cap is in place.

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test Piles are not required but may be driven for the Contractor's information in accordance with subsection 805.08(g).

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". It is estimated that a minimum rated hammer energy of 40,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at all bents.

FOOTINGS: Footings at Bents 2 and 3 shall be set a minimum of 2' below natural ground or at the elevations shown on the plans, whichever is lower. Foundations for footings shall be prepared in accordance with subsection 801.04. Excavations shall be backfilled and compacted to the level of the existing ground in accordance with subsection 801.08.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS	DRAWING NOS.
End Bents	51973-51975
Intermediate Bents	51978, 51979
Elastomeric Bearings	51980
360'-0" Cont. Comp. Plate Girder Unit	51981-51989
Steel Shell Piling	51976

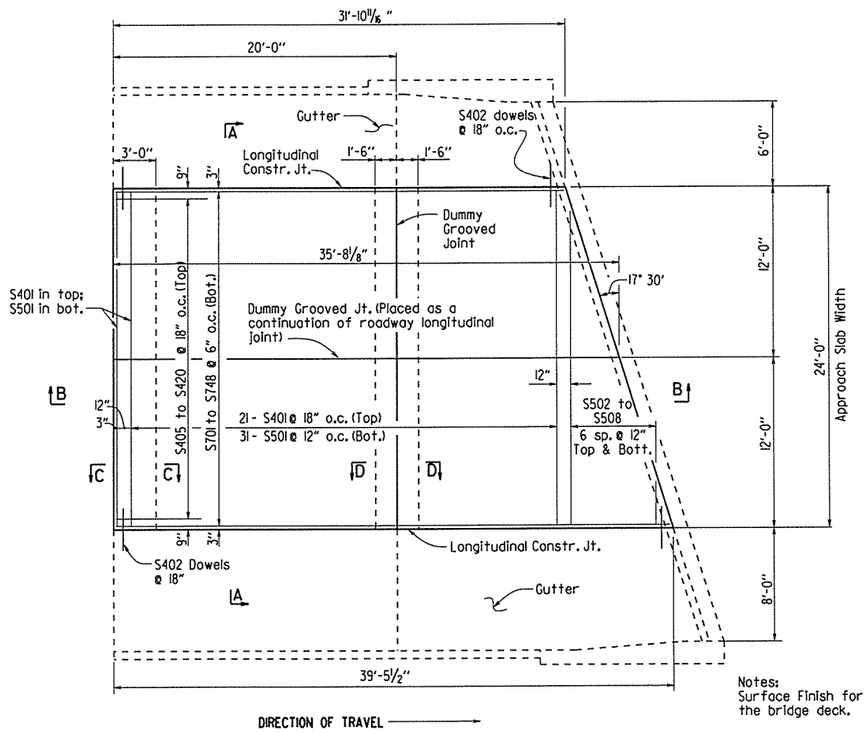
FOR INFORMATION ONLY

LAYOUT OF EASTBOUND BRIDGE OVER UNION PACIFIC RAILROAD & CR 203
HWY. 226 - HWY. 49 (GR. & STRS.) (F)
CRAIGHEAD COUNTY
ROUTE 226 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KY DATE: 4-4-10 FILENAME: b100678xl_LI.dgn
CHECKED BY: DATE: SCALE: 1" = 30'
DESIGNED BY: DATE:

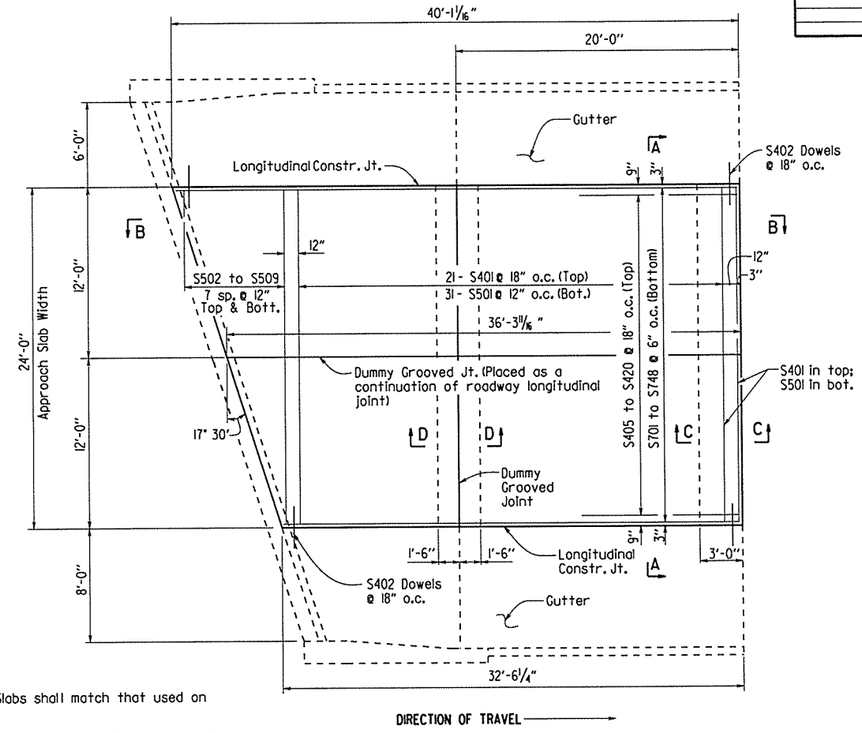
BRIDGE NO. B7200 DRAWING NO. 54805

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.		100678	68	95
				①	A&B7200	APPR. SLAB		54806



PLAN OF TYPE SPECIAL APPROACH SLAB

Scale: 3/16" = 1'-0"



PLAN OF TYPE SPECIAL APPROACH SLAB

Scale: 3/16" = 1'-0"

Notes:
Surface Finish for Approach Slabs shall match that used on the bridge deck.

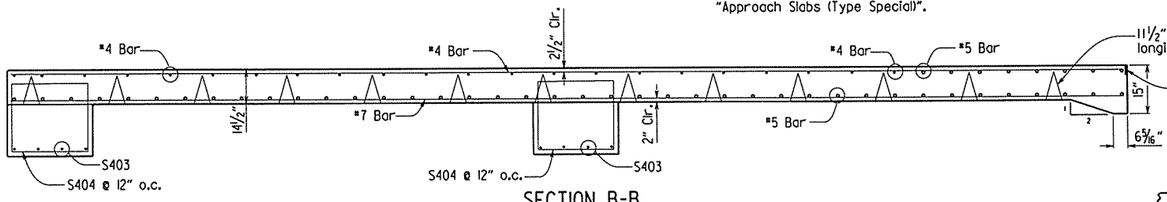
Prior to construction of approach slabs, existing epoxy-coated dowel bars extending into the new work from the bridge shall be cleaned of all debris and any damage to the epoxy-coating repaired to the satisfaction of the Engineer. This work shall be considered subsidiary to the item "Approach Slabs (Type Special)".

BAR LIST
TYPE SPECIAL APPROACH SLAB
(35'-8 1/8" LENGTH)

Mark	No. Req'd	Length	P.D.	Bending Diagram
S401	22	23'-8"	Str.	2'-7" S404 2'-5" 4½" Min. (Typ.)
S402	47	3'-0"	Str.	
S403	8	23'-8"	Str.	
S404	48	10'-4"	2"	
S405 to S420	1 ea.	31'-9" to 38'-10"	Str.	
S501	32	23'-8"	Str.	
S502 to S508	2 ea.	3'-1" to 22'-1"	Str.	
S701 to S748	1 ea.	31'-7" to 39'-0"	Str.	Dimensions are out to out of bar.

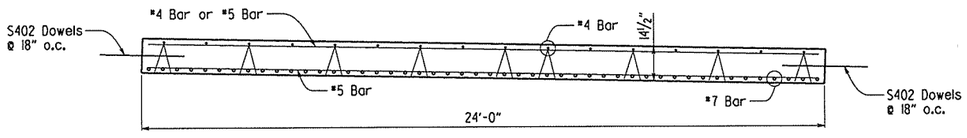
BAR LIST
TYPE SPECIAL APPROACH SLAB
(36'-3 11/16" LENGTH)

Mark	No. Req'd	Length	P.D.	Bending Diagram
S401	22	23'-8"	Str.	2'-7" S404 2'-5" 4½" Min. (Typ.)
S402	49	3'-0"	Str.	
S403	8	23'-8"	Str.	
S404	48	10'-4"	2"	
S405 to S420	1 ea.	32'-5" to 39'-6"	Str.	
S501	32	23'-8"	Str.	
S502 to S509	2 ea.	1'-11" to 23'-7"	Str.	
S701 to S748	1 ea.	32'-3" to 39'-8"	Str.	Dimensions are out to out of bar.



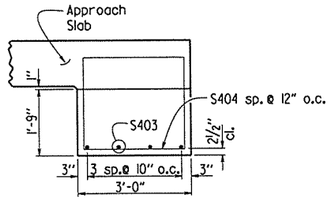
SECTION B-B

Scale: 3/8" = 1'-0"



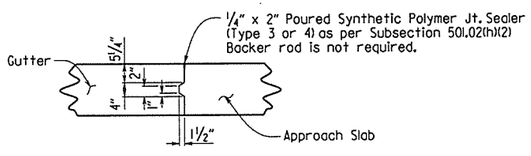
SECTION A-A

Scale: 3/8" = 1'-0"



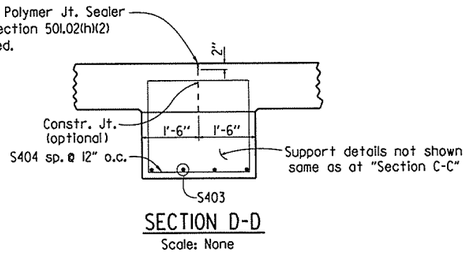
SECTION C-C

Scale: None



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

Scale: None



SECTION D-D

Scale: None

QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB

Length (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
35'-8 1/8"	5,713	48.12
36'-3 11/16"	5,819	48.80

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4,000 psi).

Reinforcing Steel shall be Grade 60 (fy = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Surface finish for Approach Slabs shall match that used on the bridge deck.

Approach Slabs will be measured and paid for in accordance with Section 504.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7510 CARL J. FUSELIER 10/28/13

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL APPROACH SLAB

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: AMS. DATE: 10/25/13 FILENAME: bl00678_asl.dgn

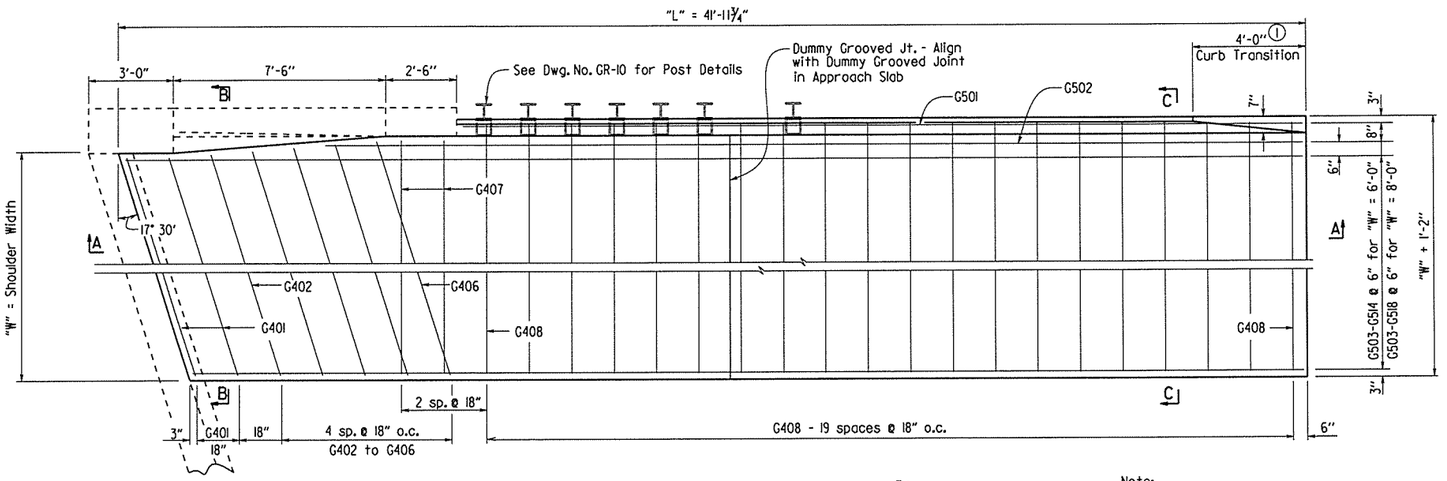
CHECKED BY: JYP DATE: 10/28/13 SCALE: As Noted

DESIGNED BY: STD DATE: —

BRIDGE NO. A&B7200 DRAWING NO. 54806

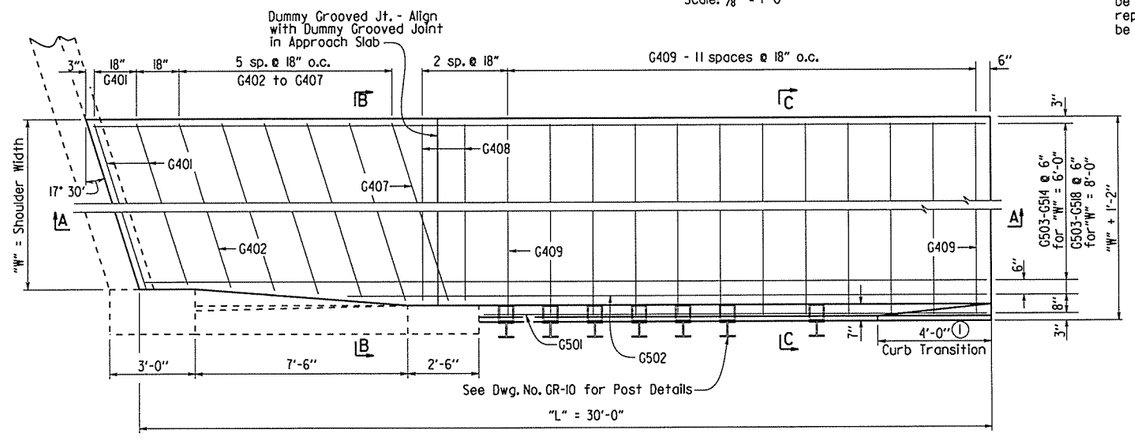
PRINT DATE: 10/28/2013

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.		100678	109	95
				① A&B7200		APPR. GUTTERS		54807



PLAN OF TYPE SPECIAL APPROACH GUTTERS (41'-11¾" FT. LENGTH)

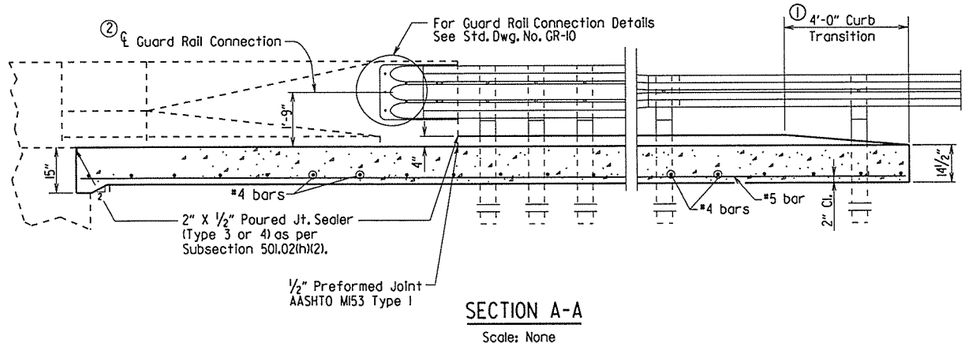
Scale: ⅜" = 1'-0"



PLAN OF TYPE SPECIAL APPROACH GUTTERS (30'-0" FT. LENGTH)

Scale: ⅜" = 1'-0"

② See Roadway Plans for Guardrail Locations



SECTION A-A

Scale: None

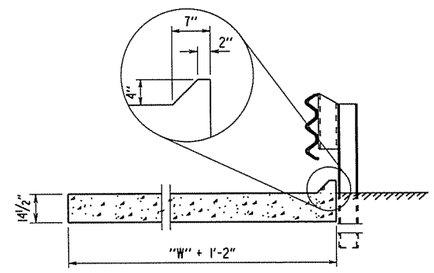
① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

BAR LIST TYPE SPECIAL GUTTER (30'-0" LENGTH)

Mark	Length Required for Width "W"		Number Required
	W = 6'-0"	W = 8'-0"	
G401	5'-11"	8'-0"	2
G402 to G407	6'-0" to 6'-6"	8'-1" to 8'-7"	1 each
G408	6'-3"	8'-3"	2
G409	6'-10"	8'-10"	12
G501	17'-8"	17'-8"	1
G502	22'-6"	22'-6"	1
G503 to G5__	31'-5" to 29'-8"	32'-1" to 29'-8"	1 each

Note:
Prior to construction of approach gutters, existing epoxy-coated dowel bars extending into the new work from the bridge shall be cleaned of all debris and any damage to the epoxy-coating repaired to the satisfaction of the Engineer. This work shall be considered subsidiary to the item "Approach Gutters (Type Special)".

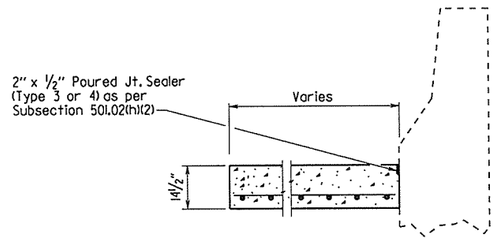


SECTION C - C

Scale: None

BAR LIST TYPE SPECIAL GUTTER (41'-11¾" LENGTH)

Mark	Length Required for Width "W"		Number Required
	W = 6'-0"	W = 8'-0"	
G401	5'-11"	8'-0"	2
G402 to G406	6'-0" to 6'-6"	8'-1" to 8'-7"	1 each
G407	6'-3"	8'-3"	2
G408	6'-10"	8'-10"	20
G501	29'-7"	29'-7"	1
G502	34'-6"	34'-6"	1
G503 to G5__	41'-6" to 39'-9"	41'-6" to 39'-2"	1 each



SECTION B - B

Scale: None

QUANTITIES FOR ONE TYPE SPECIAL APPROACH GUTTER (30'-0" LENGTH)

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
6	520	9.50
8	683	12.39

QUANTITIES FOR ONE TYPE SPECIAL APPROACH GUTTER (41'-11¾" LENGTH)

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
6	704	12.89
8	907	16.46

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall be Grade 60 (fy = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
10/25/13

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL APPROACH GUTTERS

ROUTE SEC.

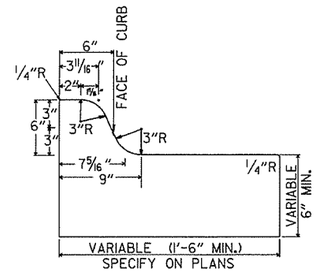
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

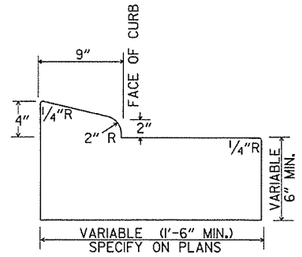
DRAWN BY: A.M.S. DATE: 10/25/13 FILENAME: bl00678_agl.dgn
CHECKED BY: JYP DATE: 10/28/13 SCALE: As Noted
DESIGNED BY: STD DATE: —

BRIDGE NO. A&B7200 DRAWING NO. 54807

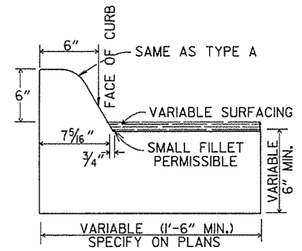
PRINT DATE: 10/28/2013



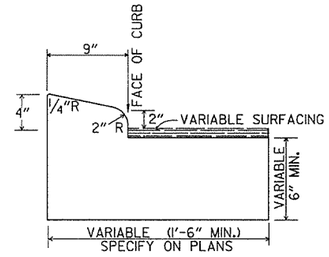
TYPE A



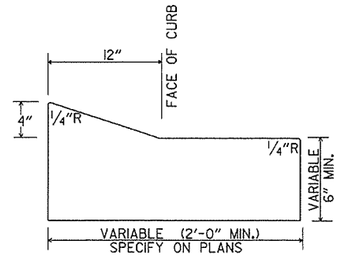
TYPE B-I



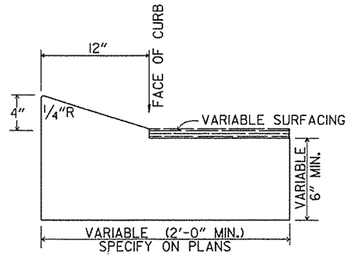
TYPE C



TYPE B-2

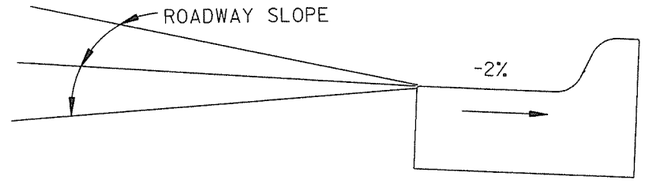


TYPE E-1



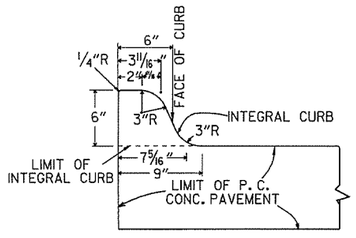
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

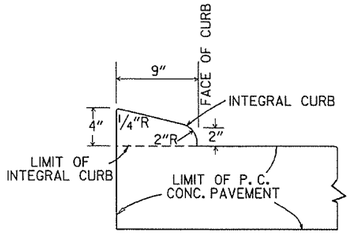


DETAIL OF GUTTER SLOPE

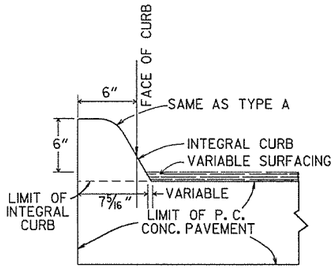
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

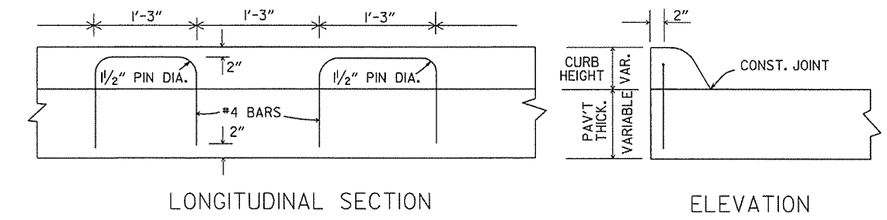


TYPE B

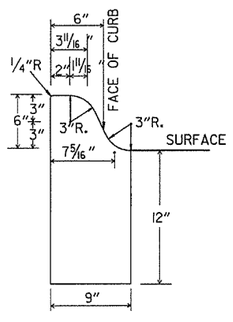


TYPE C

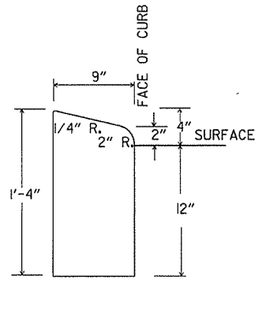
INTEGRAL CURB



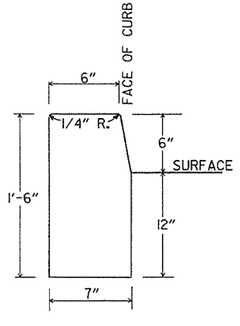
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



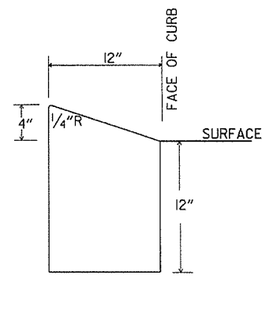
TYPE A



TYPE B

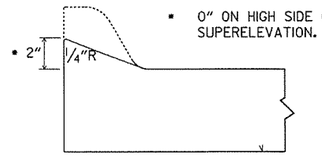


TYPE D



TYPE E

CONCRETE CURB



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

DETAILS OF MODIFIED CURB

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

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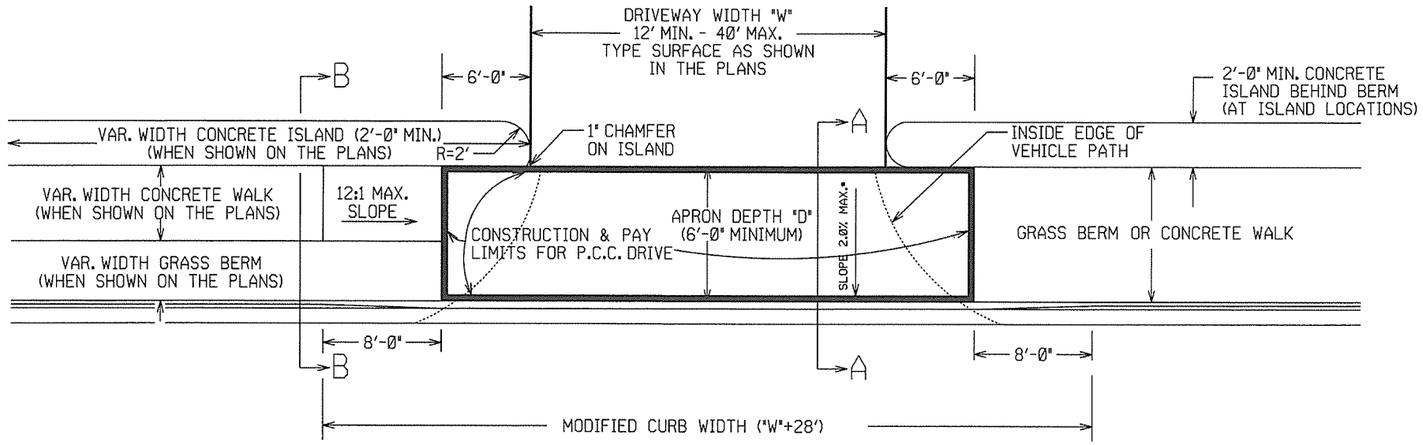
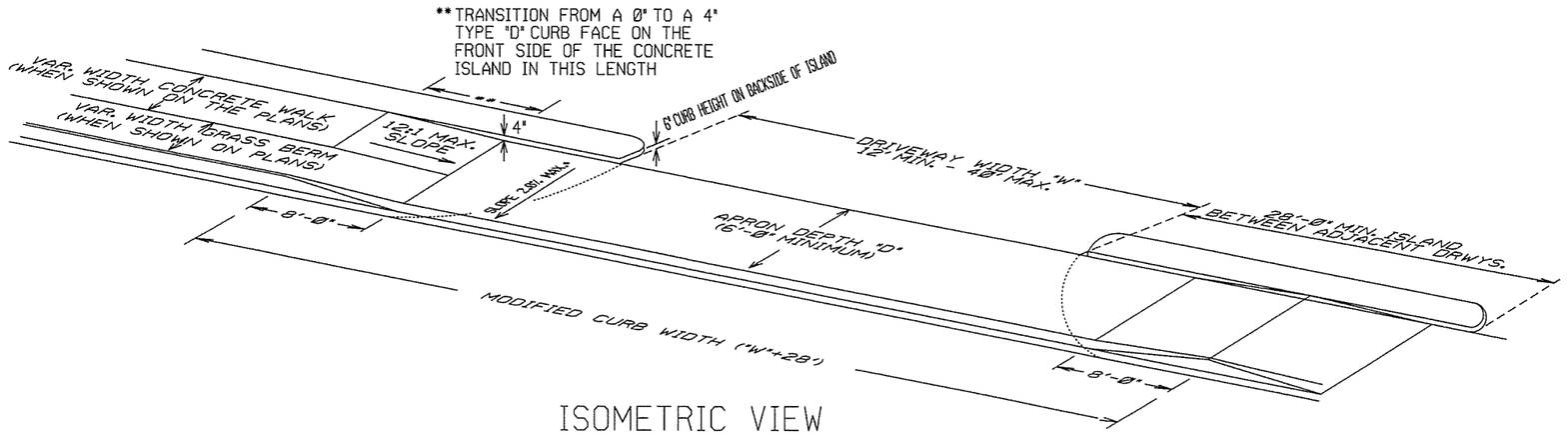
CURBING DETAILS

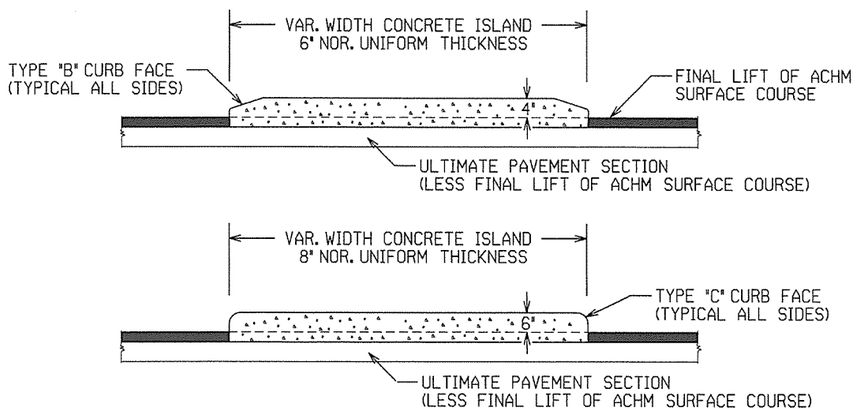
STANDARD DRAWING CG-1



PLAN VIEW

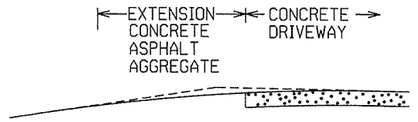


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

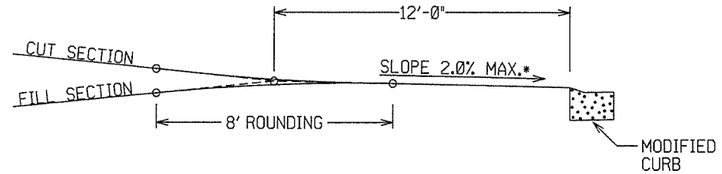
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

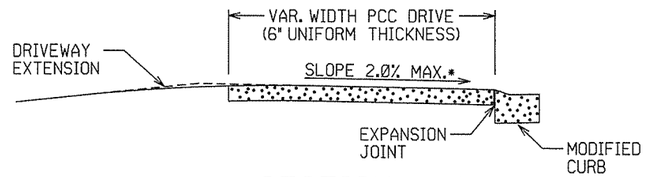
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

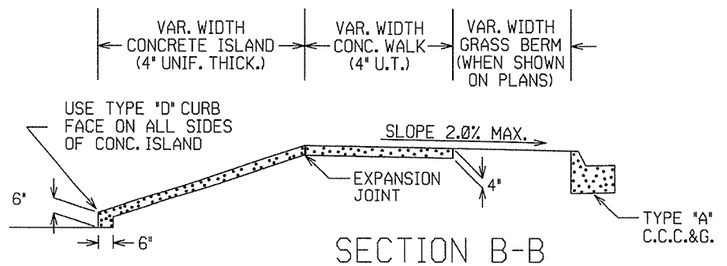


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

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

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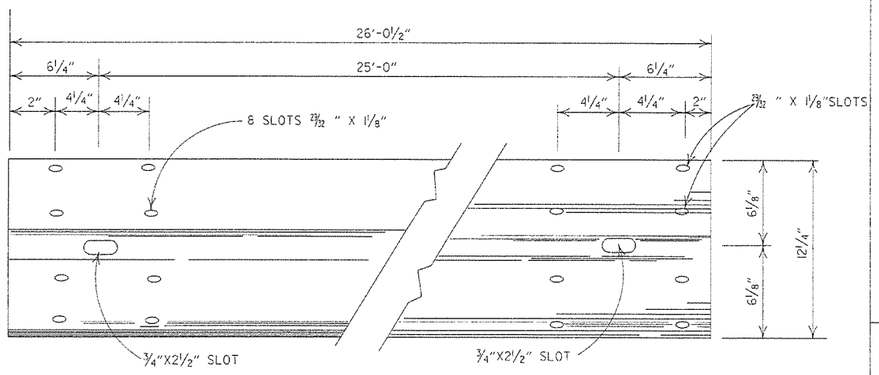
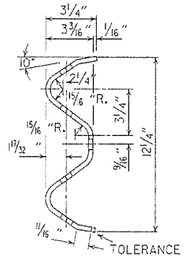
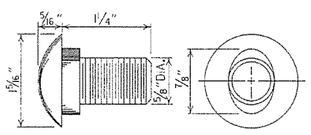
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



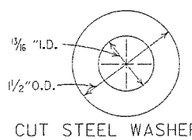


DETAILS OF W-BEAM GUARD RAIL

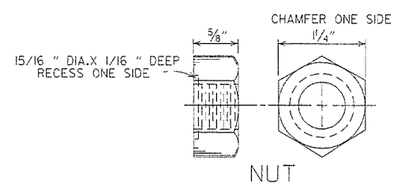
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



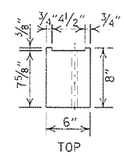
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

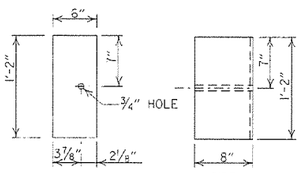


NUT



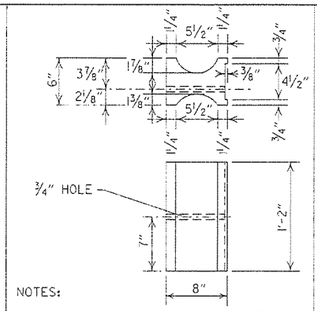
TOP

WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.



FRONT SIDE

WOOD BLOCKOUT (W-BEAM)

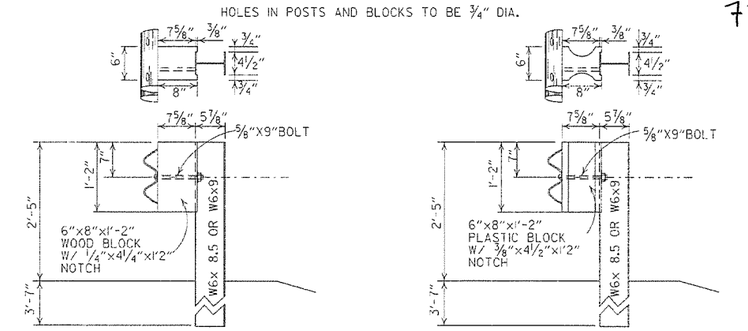


NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

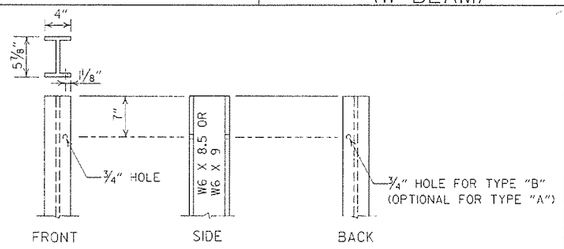
PLASTIC BLOCKOUT (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

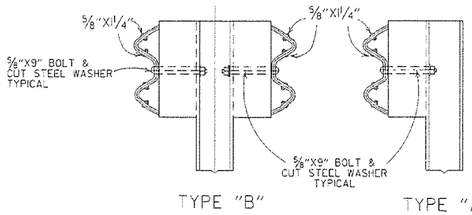


WOOD BLOCKOUT CONNECTIONS PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL 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 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

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	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
9-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL 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	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

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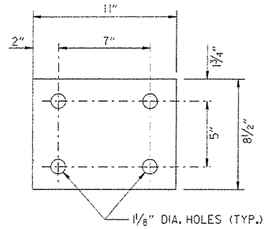
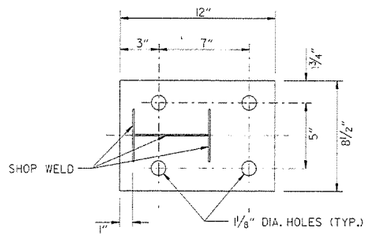
GUARD RAIL DETAILS

STANDARD DRAWING GR-8

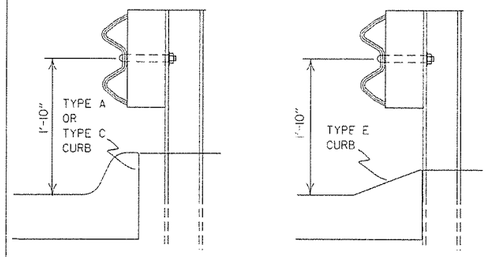


WASHER PLATE



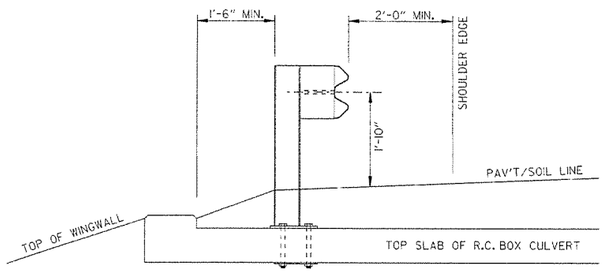
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

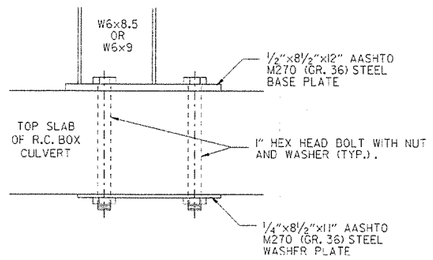


DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

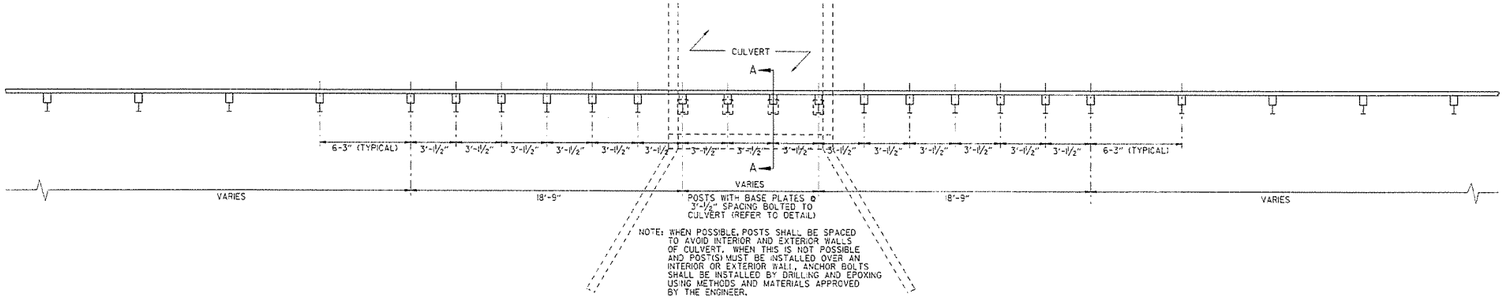
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



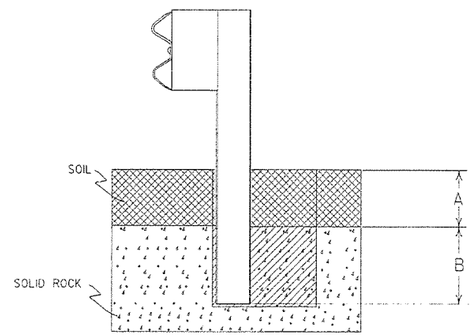
DETAIL OF CONNECTION



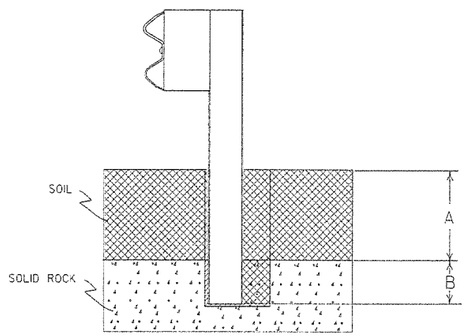
PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DWG. GR-8.

Case 1

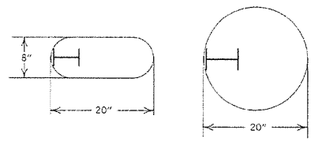


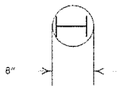
Case 2



Plan View Steel Posts

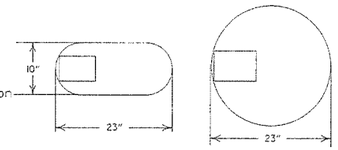
Either hole configuration acceptable

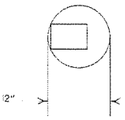




Plan View Wood Posts

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).

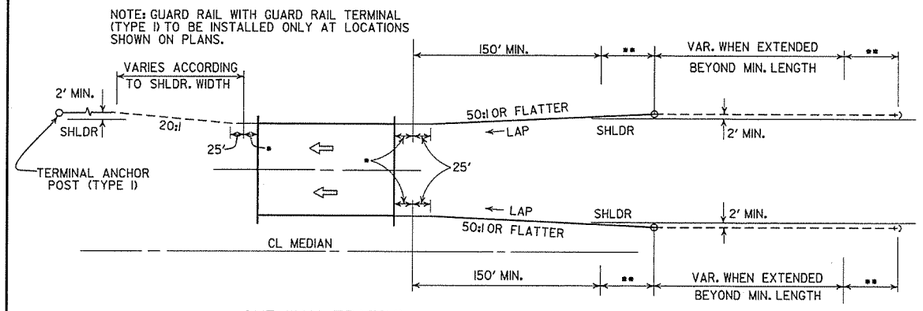
DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULVT. DELETED DET. OF STEEL LINE POST CONN.& ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

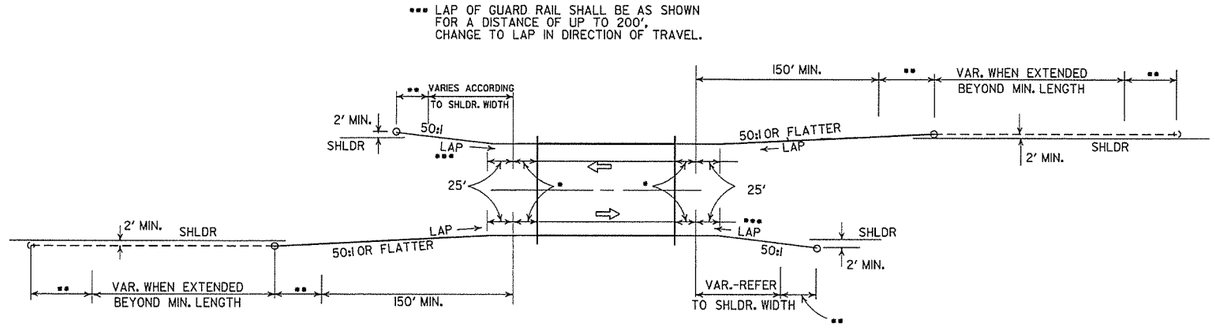
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8A



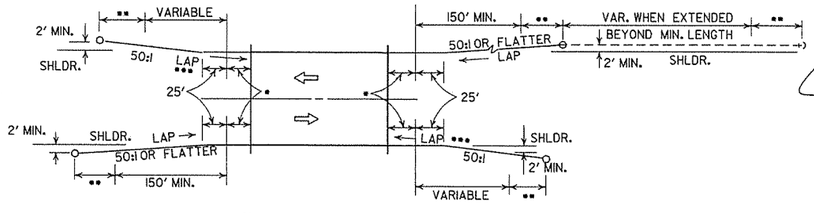
ONE-WAY TRAFFIC



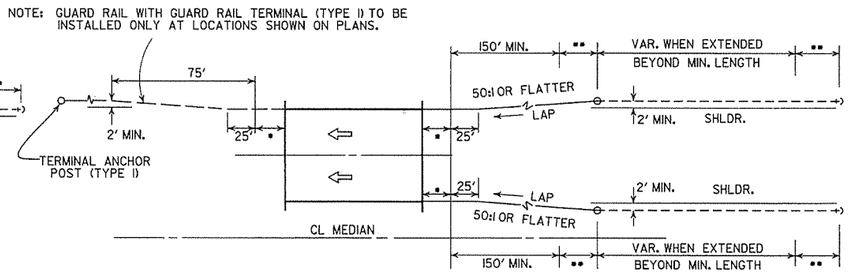
TWO-WAY TRAFFIC

METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



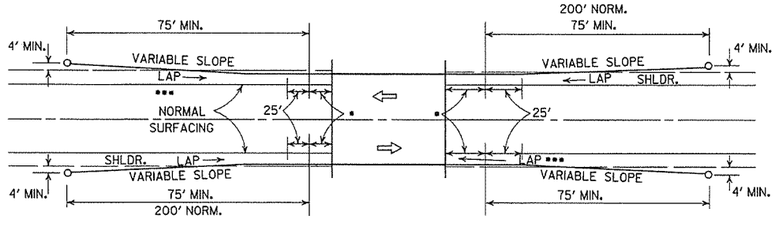
TWO-WAY TRAFFIC



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARD RAIL
USING GUARD RAIL TERMINAL (TYPE I)
(FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

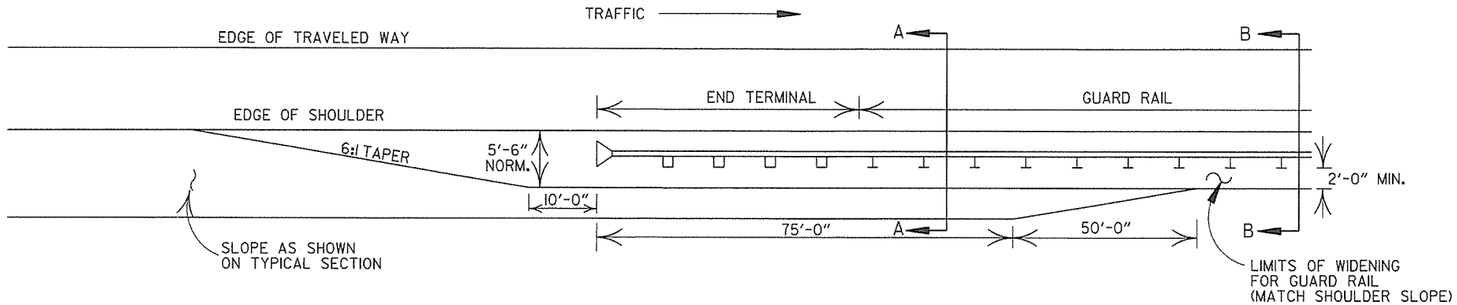
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

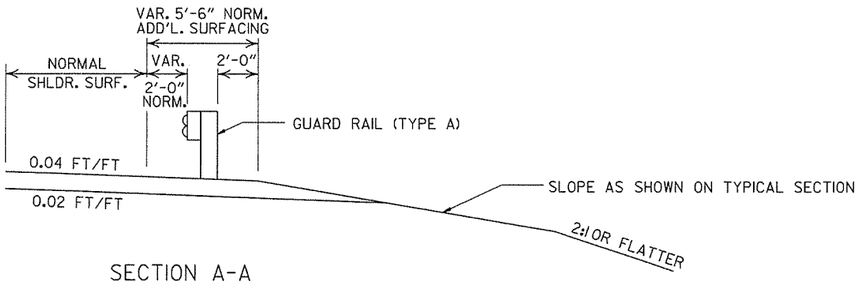
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

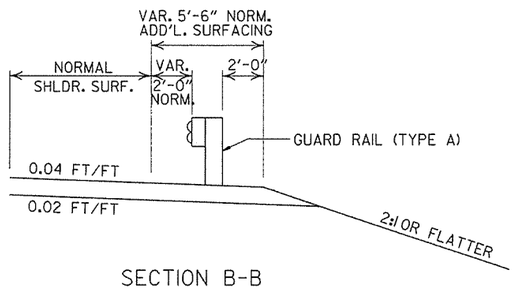
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





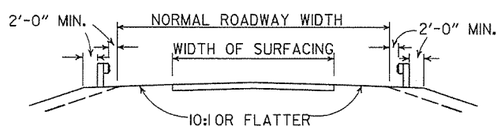
SECTION A-A



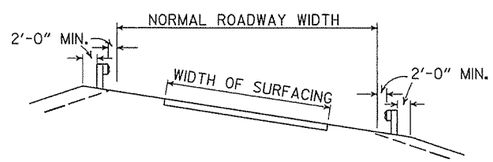
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

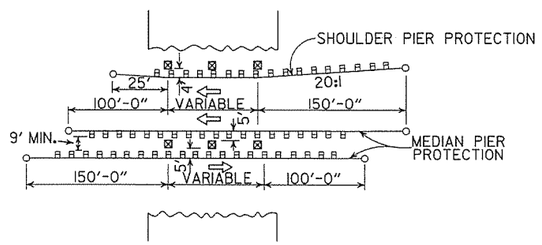


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



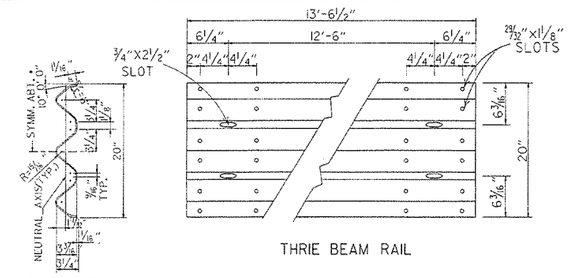
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

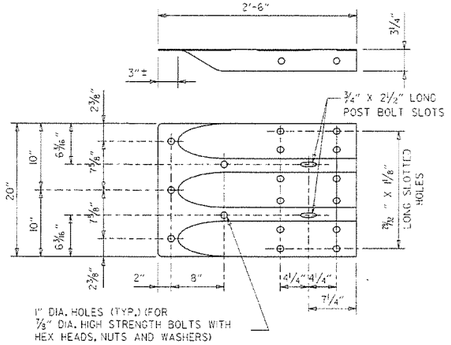
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



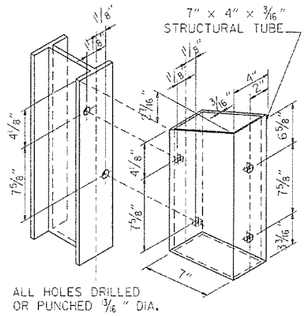
THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL



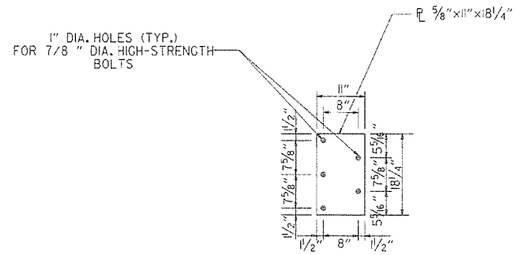
1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

SPECIAL END SHOE



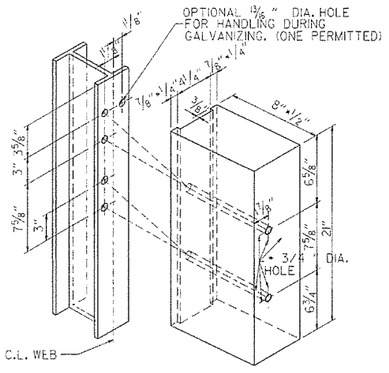
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.



CONNECTOR PLATE

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



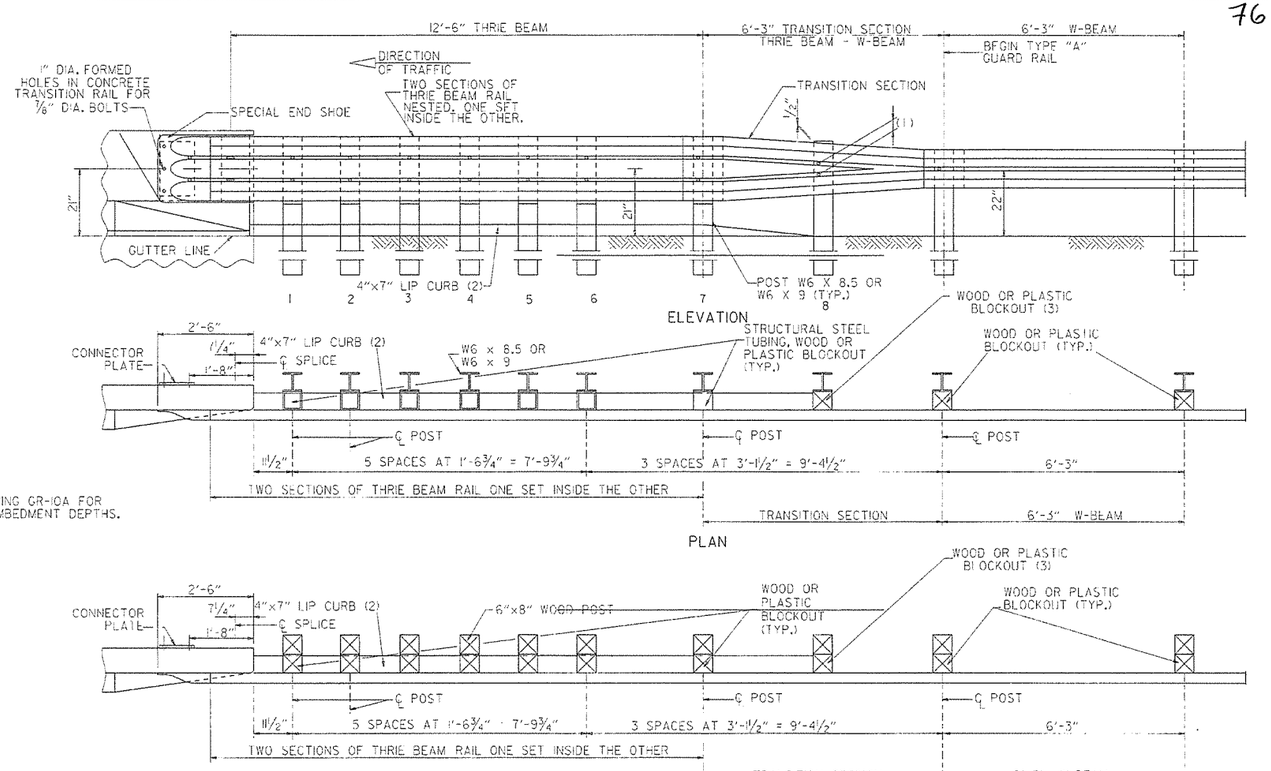
ALL HOLES 13/16 " DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.

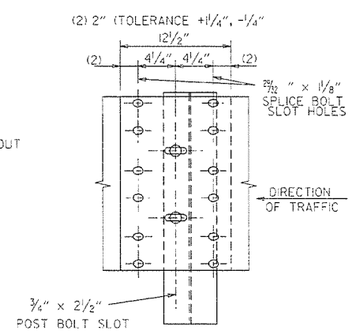
CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" 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.

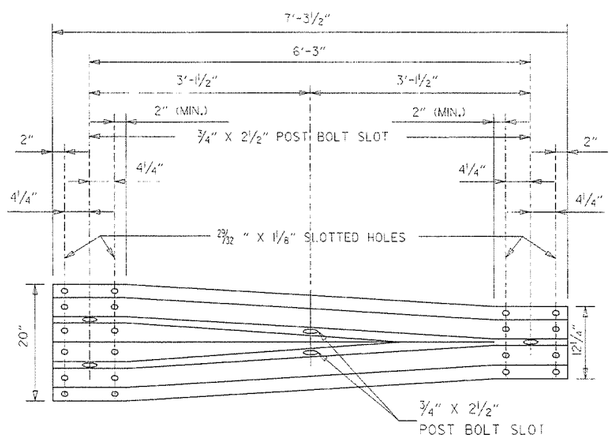


(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

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 ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

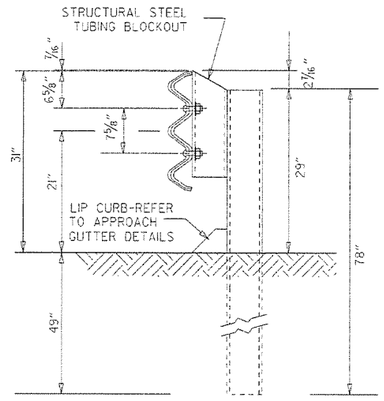
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	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	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

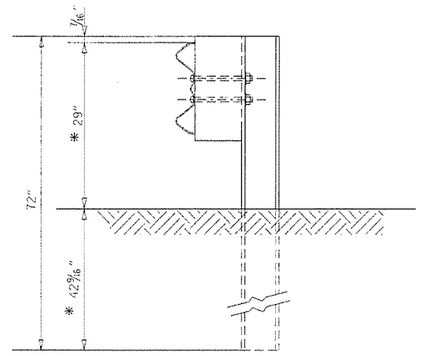
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

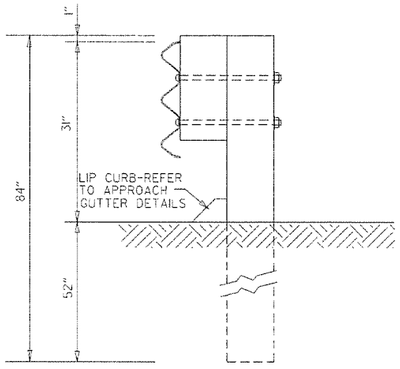


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

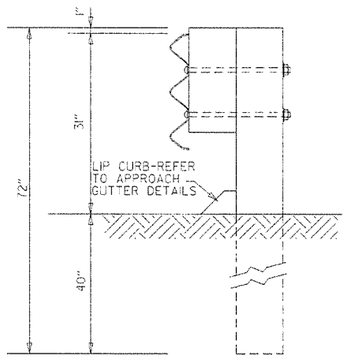


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

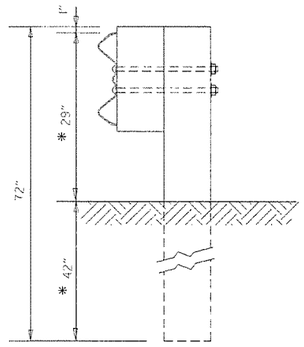
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



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. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD 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	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

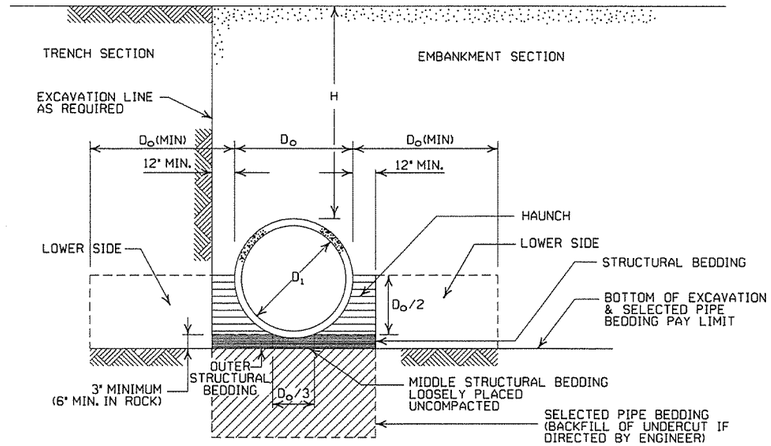
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION		INSTALLATION		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.

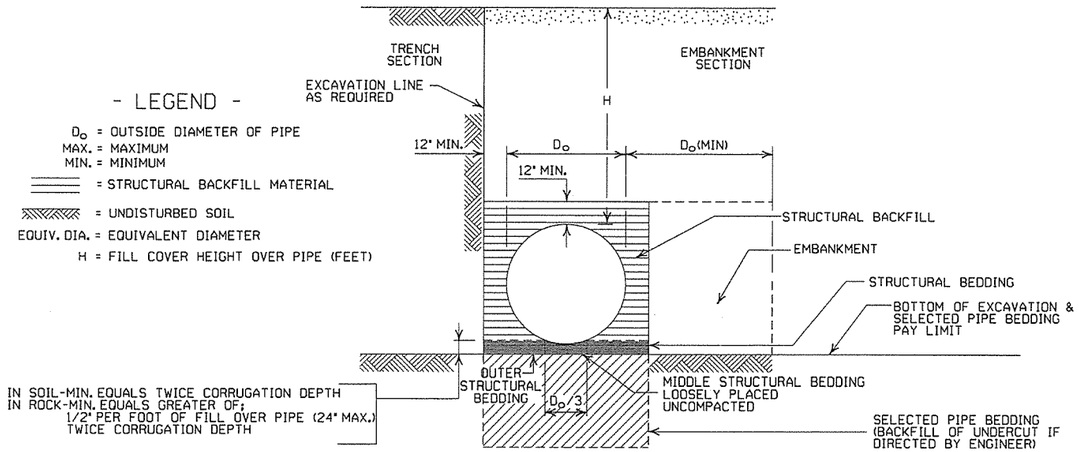
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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



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 STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. 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.

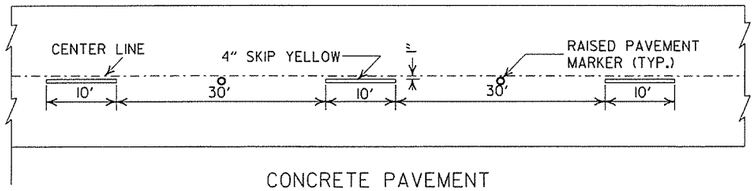
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

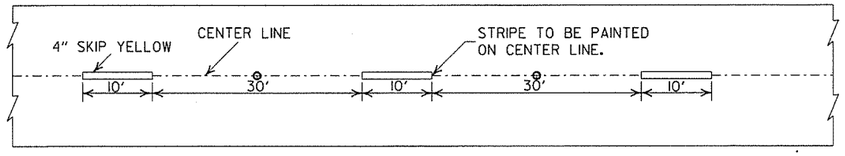
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

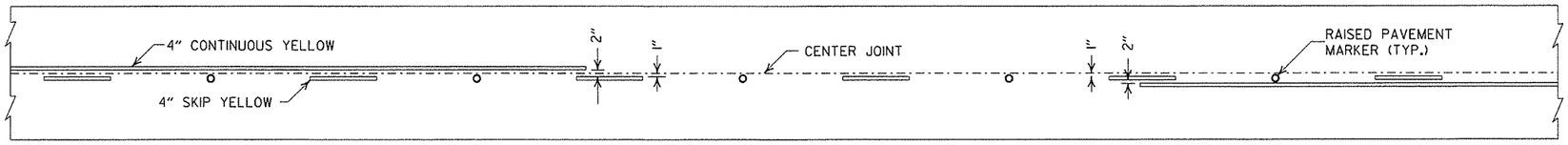


CONCRETE PAVEMENT

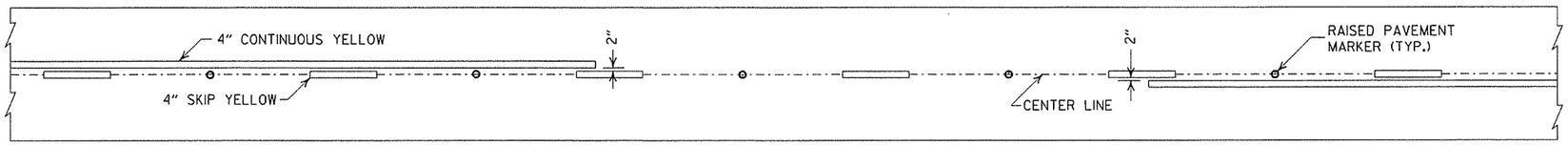


ASPHALT PAVEMENT

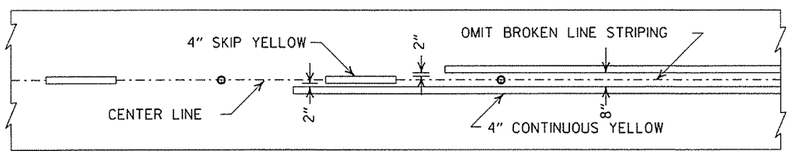
BROKEN LINE STRIPING



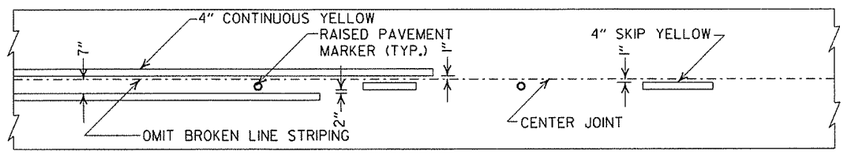
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



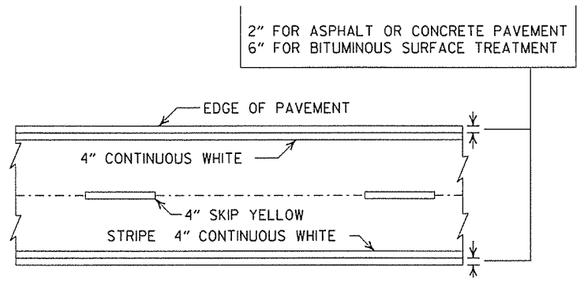
ASPHALT PAVEMENT



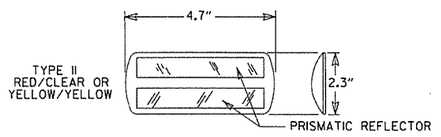
CONCRETE PAVEMENT

NOTES:

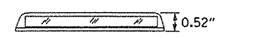
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

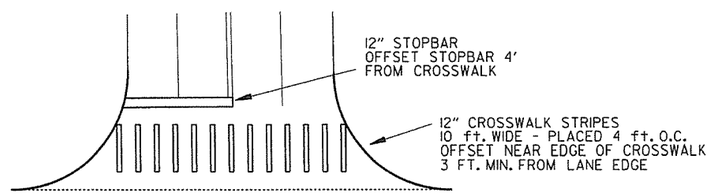
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

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

NOTE:

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

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

DATE	REVISION	FILMED
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

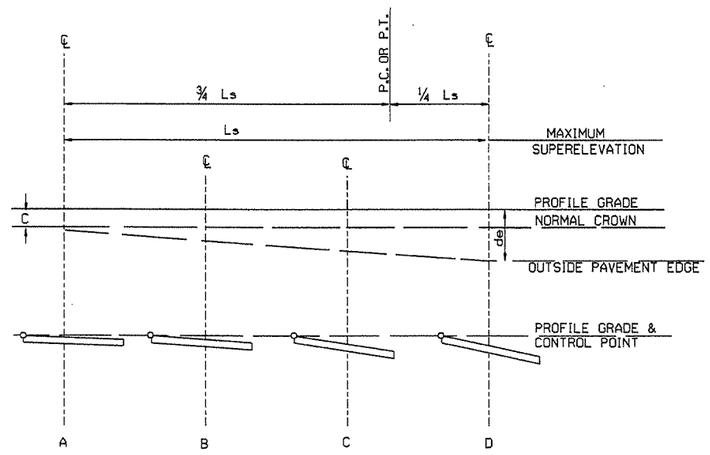
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 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
0° 15′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			R. C.			0.022			0.023			0.025			0.028		
1° 00′	N. C.			N. C.			0.021			0.026			0.030			0.033	250		0.037	275	
1° 15′	N. C.			R. C.			0.026			0.032			0.037			0.041			0.046		
1° 30′	N. C.			0.021			0.031	200		0.037	225		0.043	250		0.048			0.054		
1° 45′	N. C.			0.025	175		0.036			0.043			0.049			0.055			0.062		
2° 00′	R. C.			0.028			0.040			0.048			0.055			0.062			0.070		
2° 15′	R. C.			0.031			0.045		300	0.053			0.061			0.069	265		0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.075	280		0.085	315	400
2° 45′	0.023			0.037		250	0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.090	325	400	0.098	360	450
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	380	
3° 45′	0.031		250	0.049			0.069	215		0.080	265		0.090	295		0.097	345				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	400	0.099	350				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315							
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320							
5° 30′	0.043			0.066	185		0.088	260		0.094	300	400									
6° 00′	0.046			0.070	190		0.092	270		0.096	305										
6° 30′	0.050			0.074	200		0.095	280	350	0.100	315										
7° 00′	0.053			0.078	210		0.098	285													
7° 30′	0.056			0.081	215		0.099	290													
8° 00′	0.058			0.084	220		0.100	290													
8° 30′	0.061			0.087	225	300															
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
21° 00′	0.098	215																			
22° 00′	0.099	215																			
23° 00′	0.099	215																			
24° 00′	0.100	220																			

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

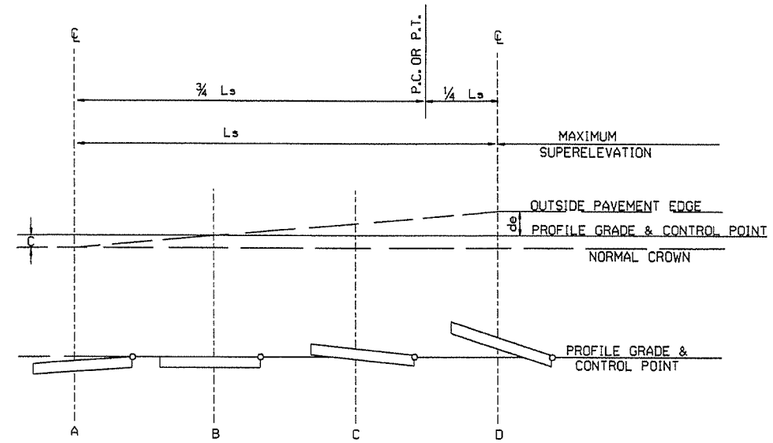
ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
S - SUPERELEVATION
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT
e - MAXIMUM RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
C - NORMAL CROWN (FT.)

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

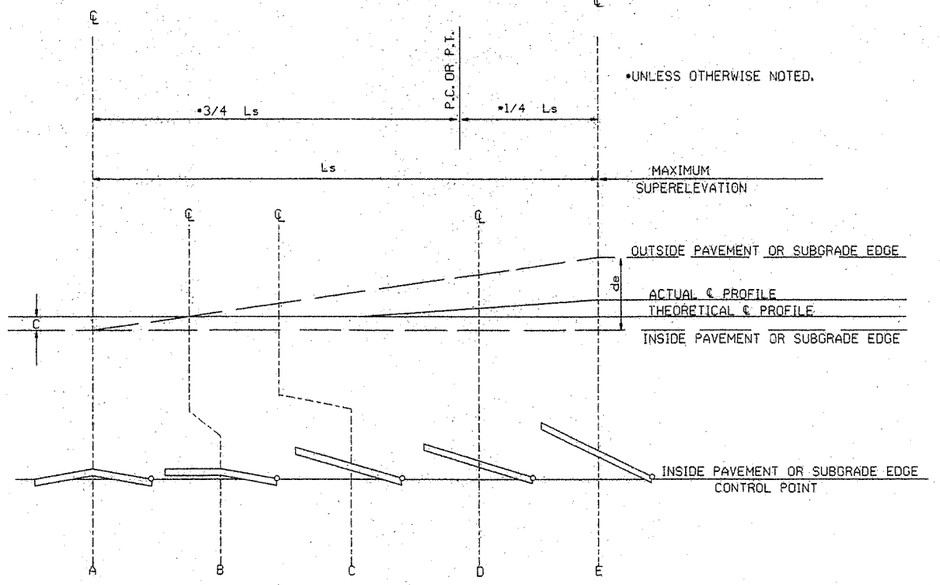
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 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	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N.C.			R.C.			0.026			0.032			0.037	250	300	0.046		
1° 30′	N.C.			0.021	175		0.031	200		0.037	225	300	0.043			0.054		
1° 45′	N.C.			0.025			0.036			0.043			0.049			0.062		
2° 00′	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	350
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	
2° 45′	0.023			0.037		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.096	350	
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.098	360	400
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.049			0.069	215		0.080	265		0.090	295	350			
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305				
4° 30′	0.037			0.056			0.078	240		0.087	280	350	0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300							
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00′	0.053			0.078	210		0.098	285										
7° 30′	0.056			0.081	215		0.099	290										
8° 00′	0.058			0.084	220	250	0.100	290										
8° 30′	0.061			0.087	225													
9° 00′	0.063			0.089	230													
10° 00′	0.068	160		0.094	235													
11° 00′	0.072	170		0.097	250													
12° 00′	0.076	175		0.099	250													
13° 00′	0.080	180		0.100	250													
14° 00′	0.083	190																
15° 00′	0.086	195																
16° 00′	0.089	200																
17° 00′	0.091	200																
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

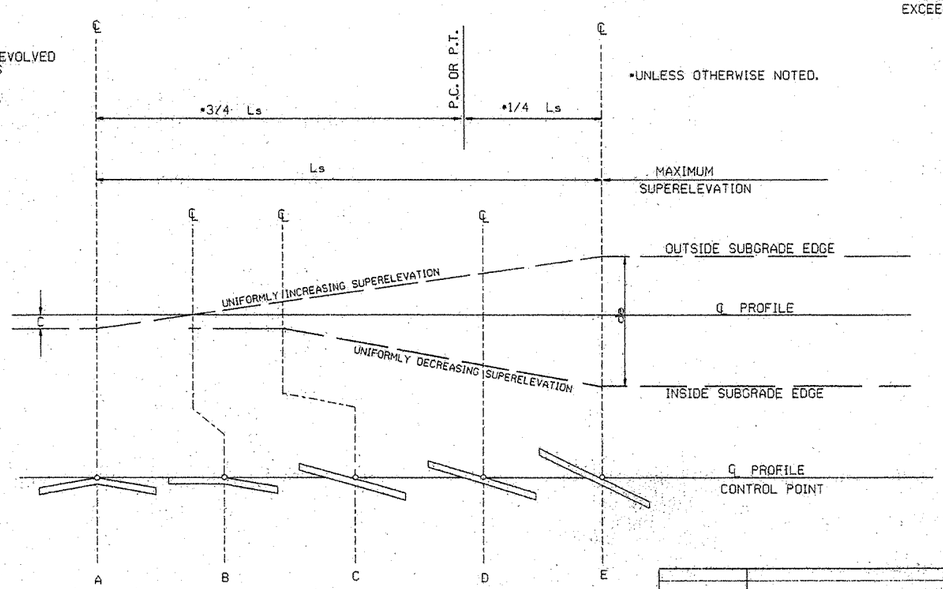
GENERAL NOTES

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.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

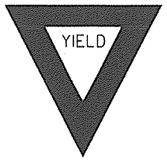
STANDARD DRAWING SE-2

FILE STDSE2.DGN

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"

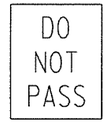
R2-5A

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5C

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

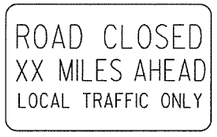
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

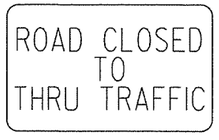
48"X30"

R11-3A



60"X30"

R11-4

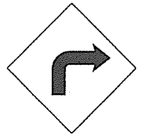


60"X30"

RSP-1

48"X30"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2

STD. 36"X36"
FWY. 48"X48"

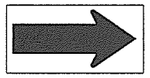
W1-3

STD. 48"X48"

W1-4

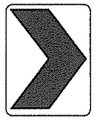
STD. 48"X48"

W1-6



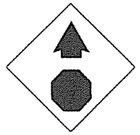
STD. 48"X24"
SPECIAL 60"X30"

W1-8



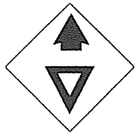
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



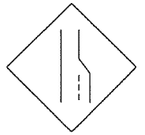
STD. 36"X36"
SPECIAL 48"X48"

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"

W13-1

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"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

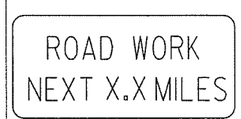
W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

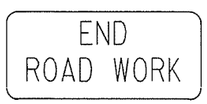
STD. 36"X36"
FWY. 48"X48"

G20-1



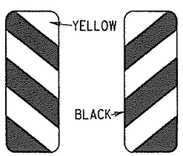
60"X24"

G20-2



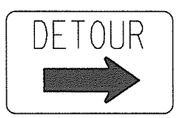
48"X24"

OM-3L OM-3R



12"X36"

M4-9

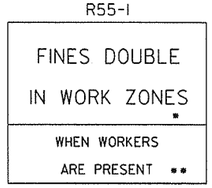


STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	1/2 MILE
1000 FT	3/4 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 1MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

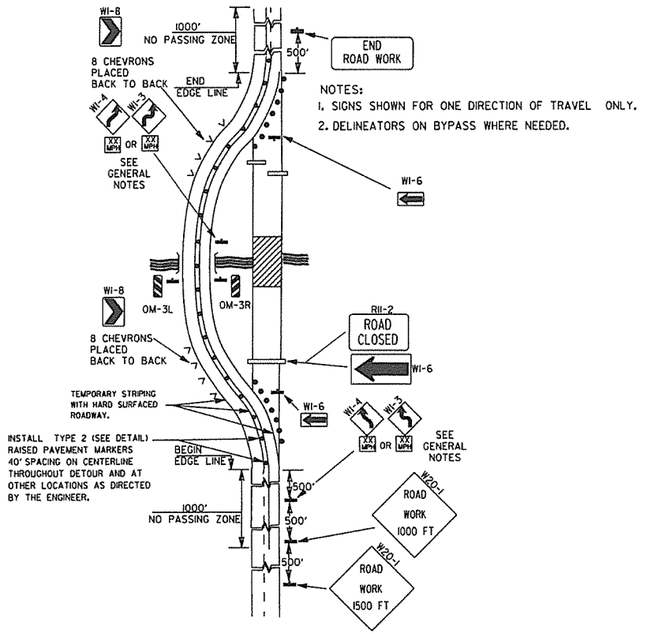
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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

ARKANSAS STATE HIGHWAY COMMISSION

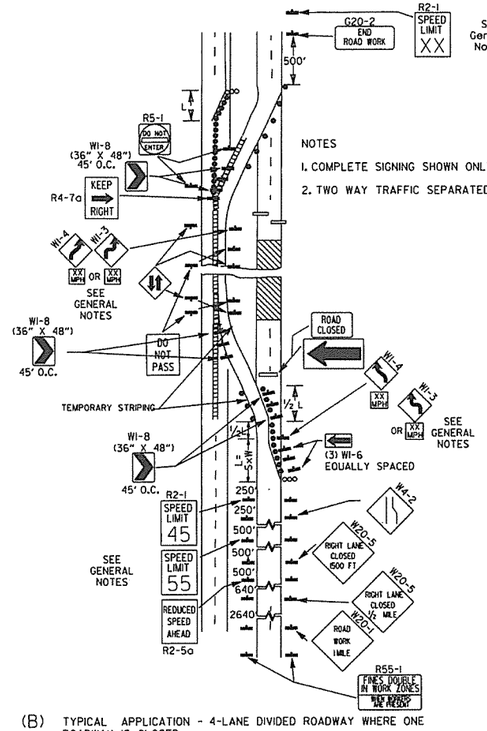
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



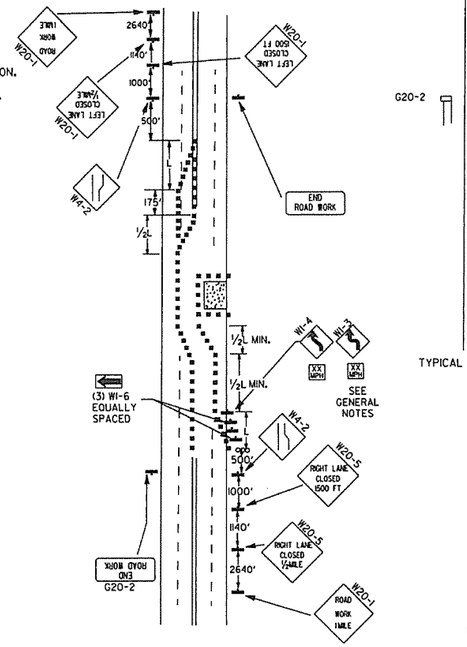
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

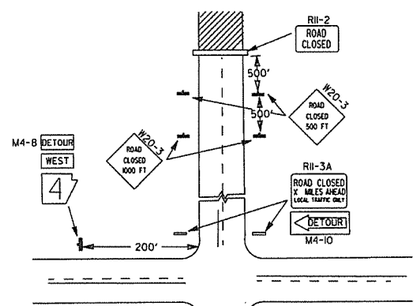


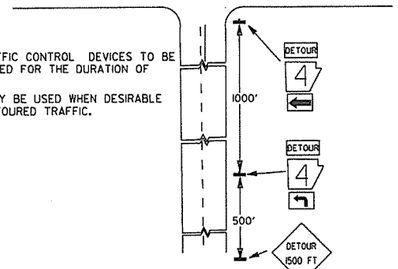
NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



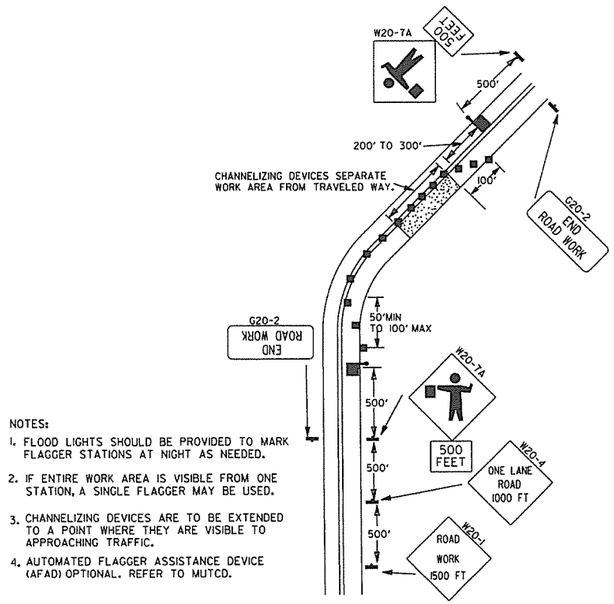
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.





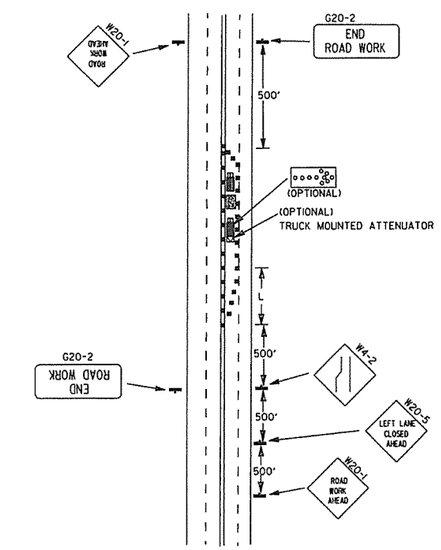
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.

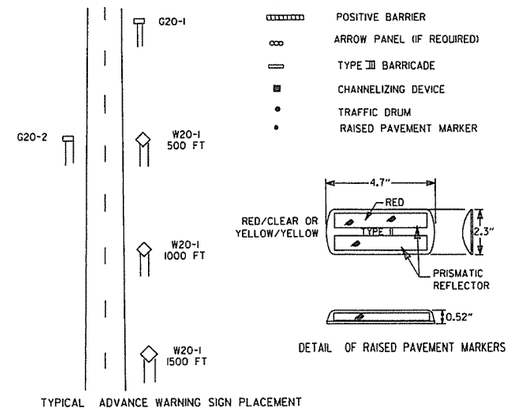


NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.



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:

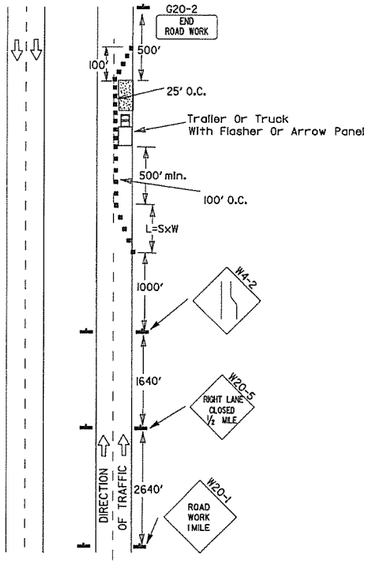
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 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.

DATE	REVISION	FILMED
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 (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

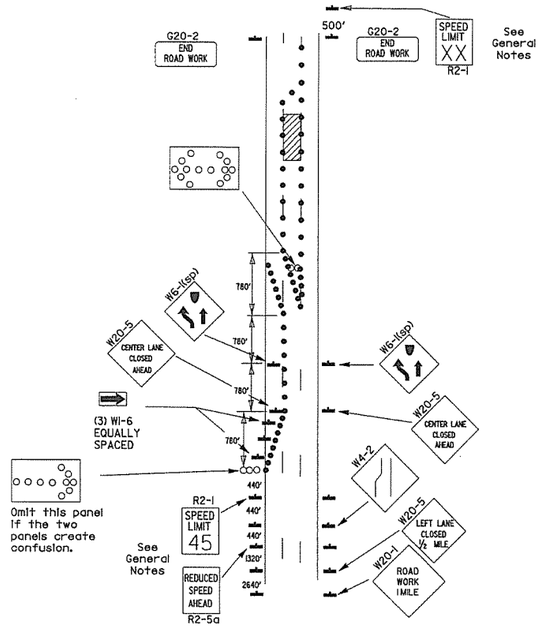
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

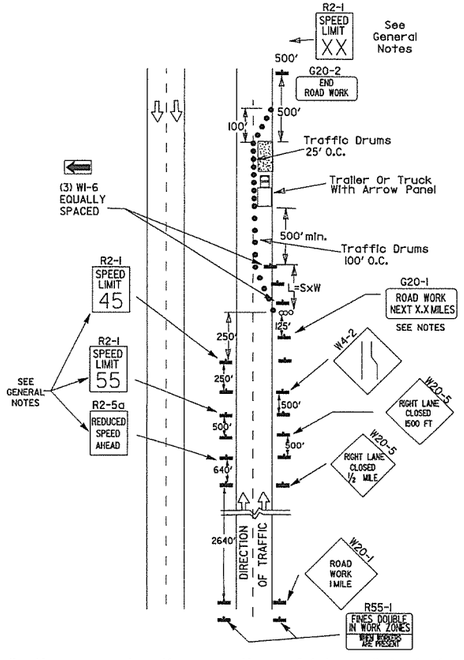
STANDARD DRAWING TC-2



(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 operatipns of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

○○○ Arrow Panel (If Required)

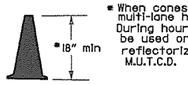
■ Channelizing Device

● Traffic drum

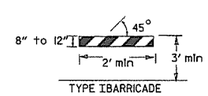
GENERAL NOTES:

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 R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile 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 1 mile 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 NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

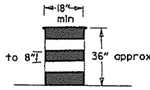
Channelizing devices

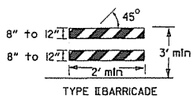


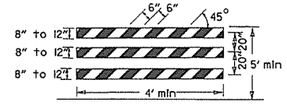
CONES

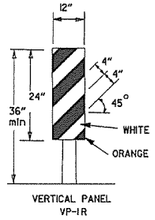


PLASTIC DRUM









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

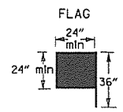
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

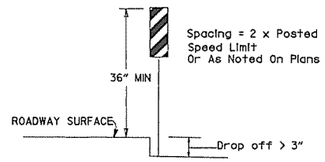
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

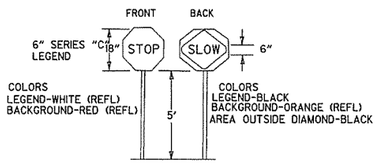


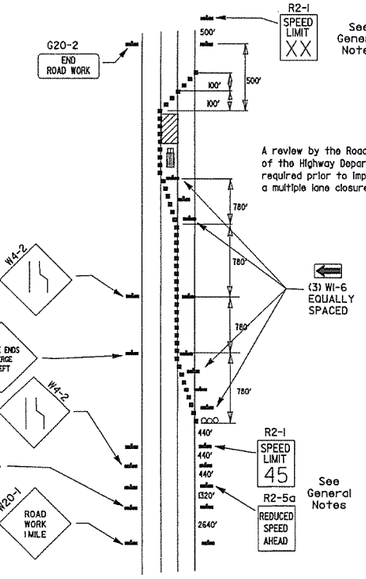
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



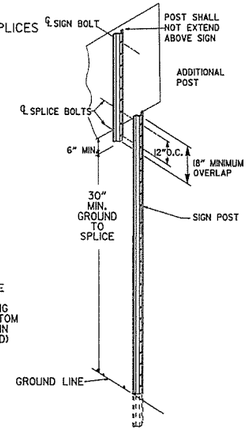
STOP SLOW PADDLE





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

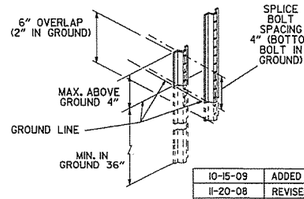
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



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

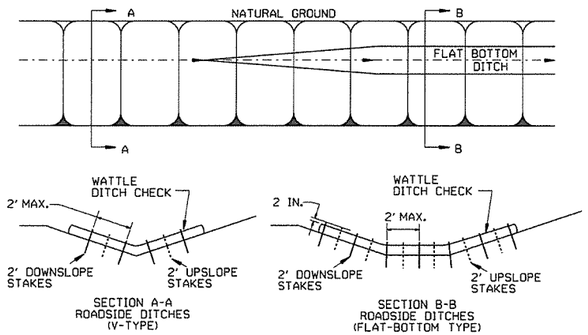
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

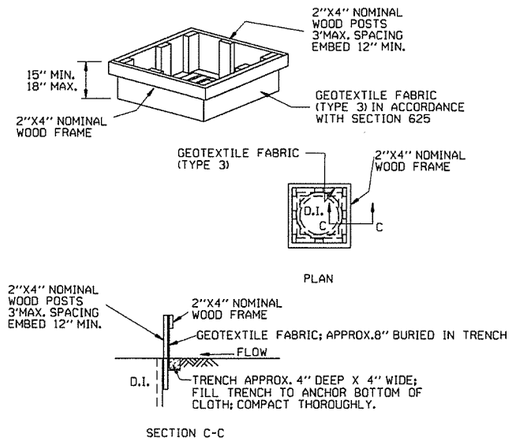
STANDARD DRAWING TC-3

GENERAL NOTES

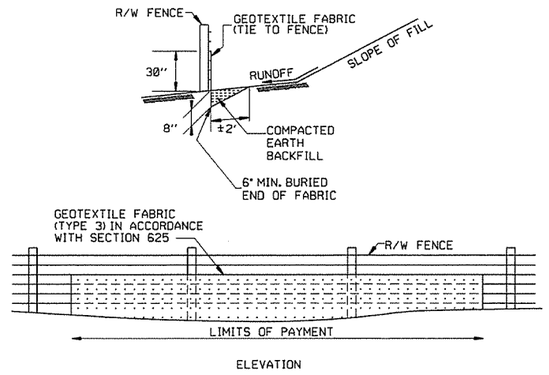
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



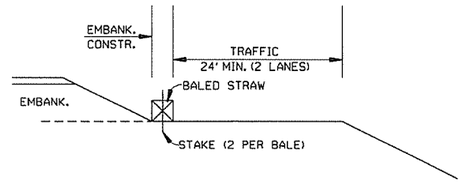
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

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

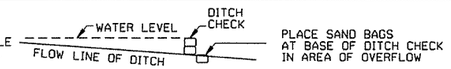
GENERAL NOTES

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

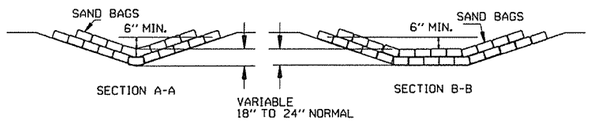


BALED STRAW FILTER BARRIER (E-2)

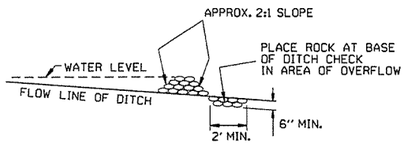
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

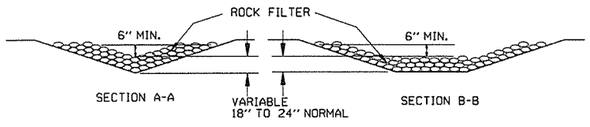


PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW

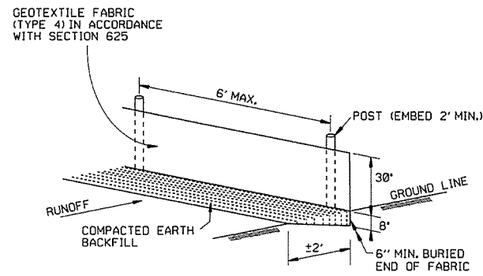


SAND BAG DITCH CHECK (E-5)





ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

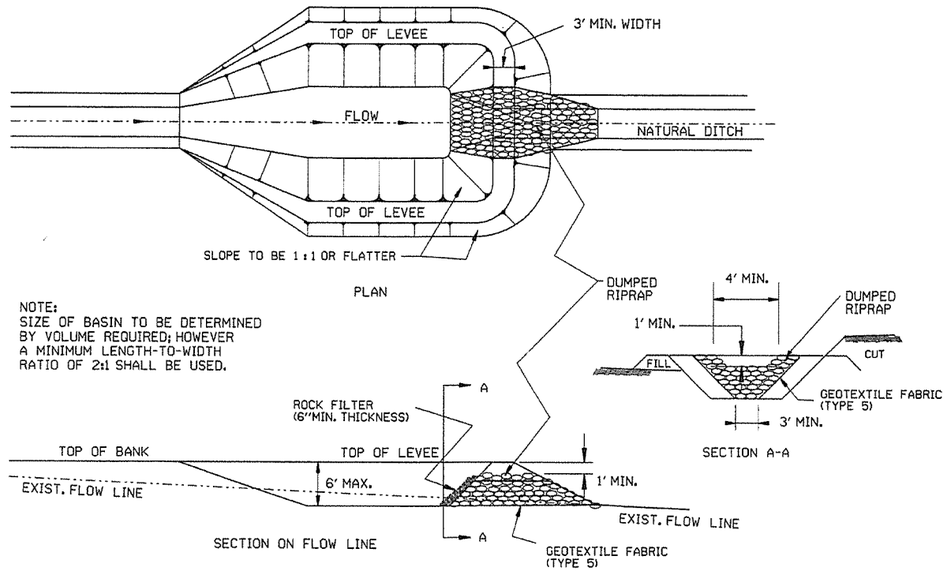
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

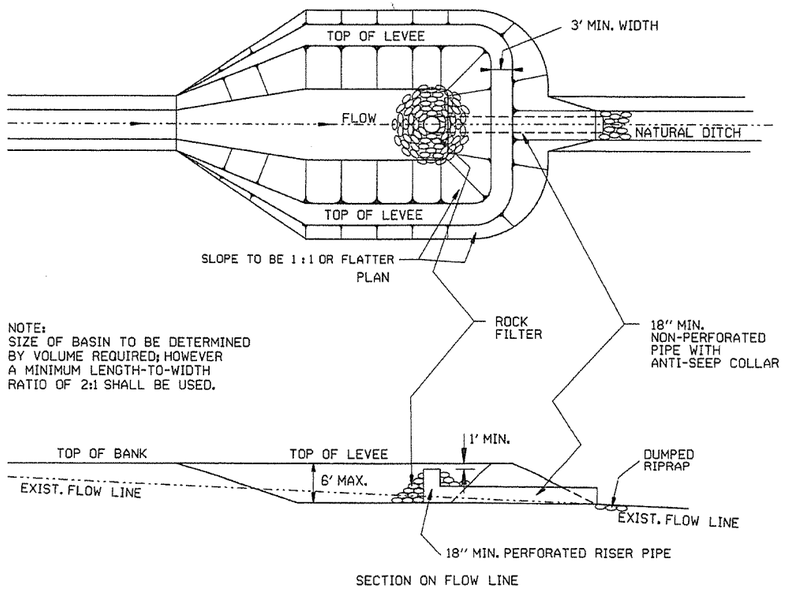
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

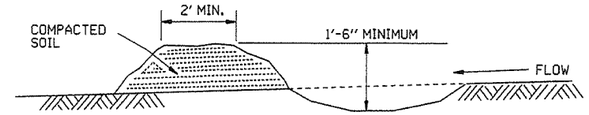
STANDARD DRAWING TEC-1



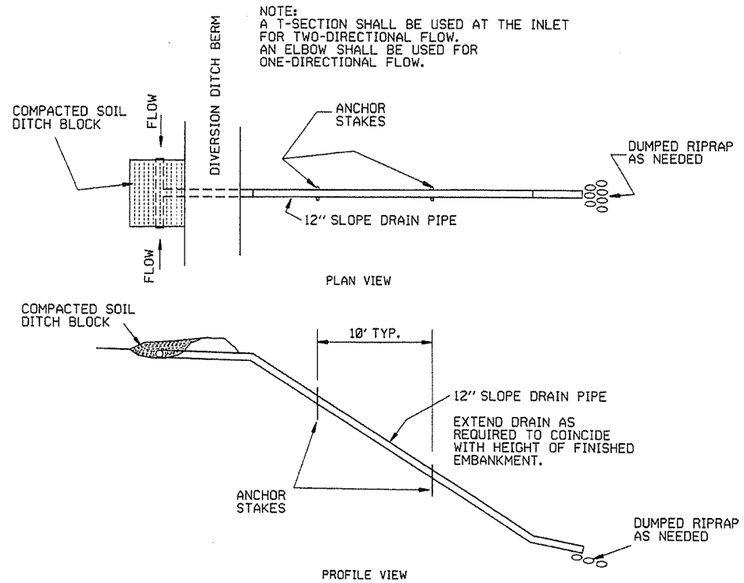
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



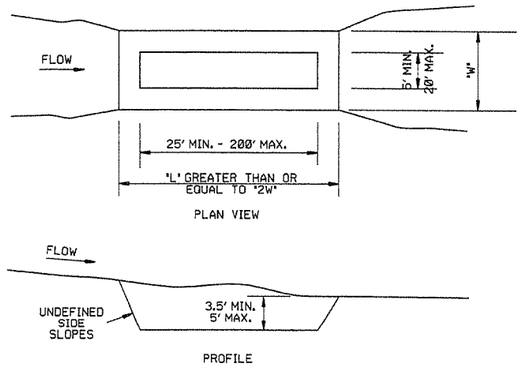
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

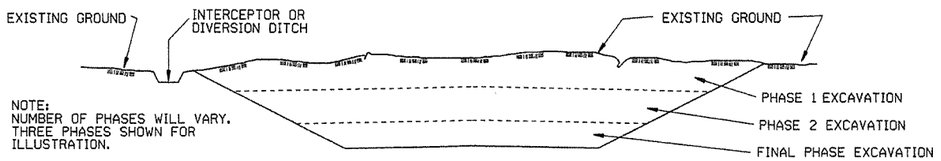
STANDARD DRAWING TEC-2

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



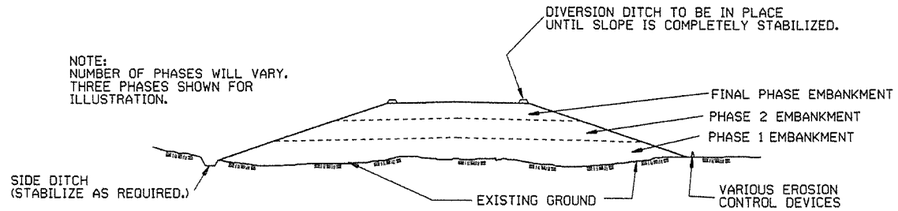
GENERAL NOTE

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.

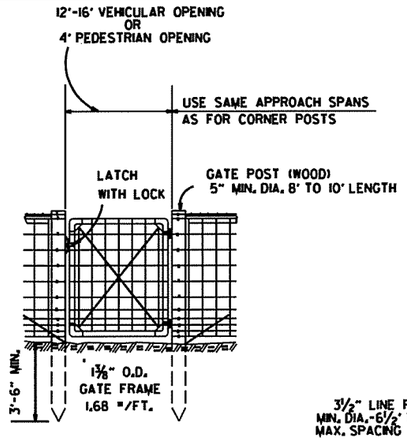
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

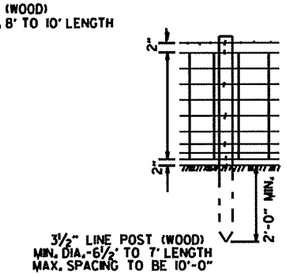
ARKANSAS STATE HIGHWAY COMMISSION

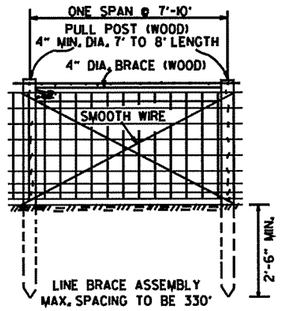
TEMPORARY EROSION CONTROL DEVICES

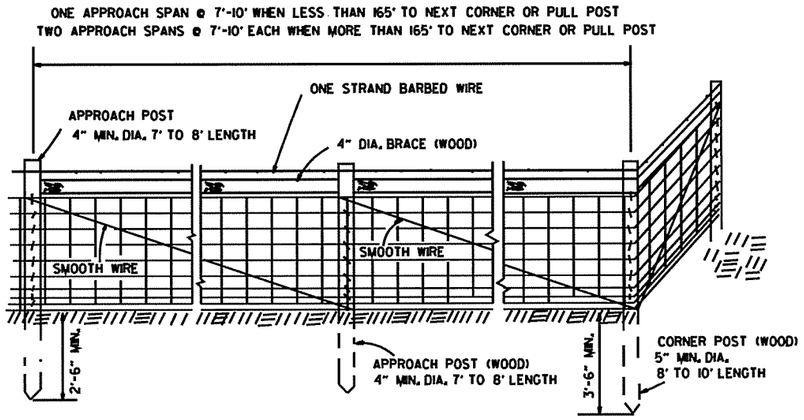
STANDARD DRAWING TEC-3

stdtec3.dgn









NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

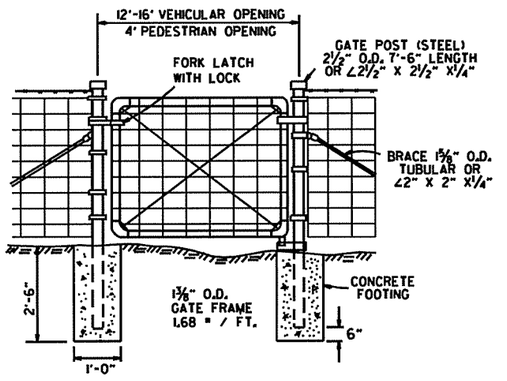
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF WOOD LINE POSTS OF 7' LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

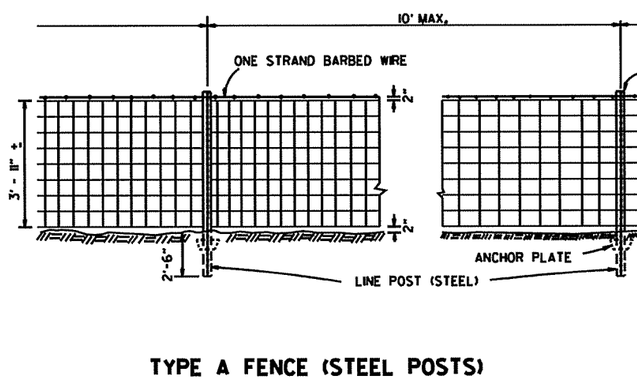
GATE HINGES AND LATCHES WITH LOCKS TO BE OF A TYPE APPROVED BY THE ENGINEER. DRIVEWAY GATES, EITHER SINGLE 12' OR 16' OR DOUBLE 6' TO 8' OPENINGS OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE FOR USE BY MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER.

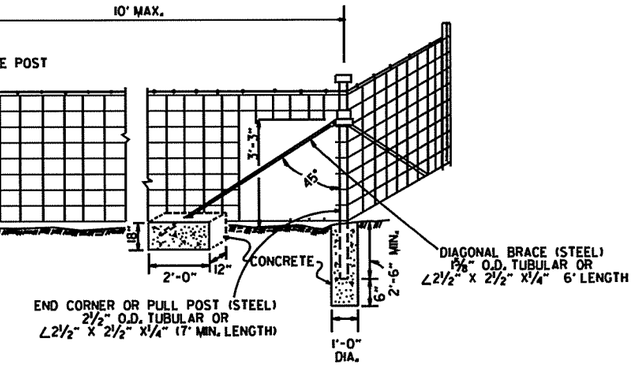
AT STREAM CROSSINGS THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF BANK TO THE BRIDGE STRUCTURE, A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFIEICNT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO THE BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

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.

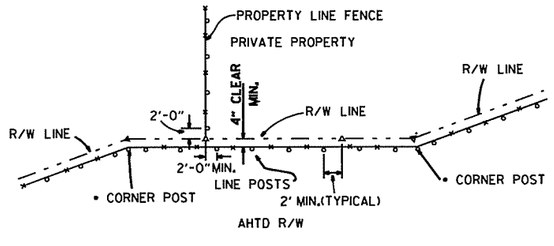
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD": AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.







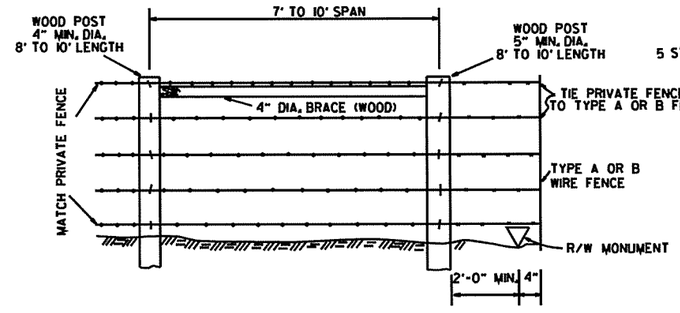
TYPE A FENCE (STEEL POSTS)



•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.

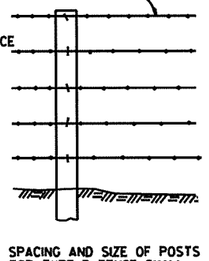
△ - R/W MONUMENTS
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



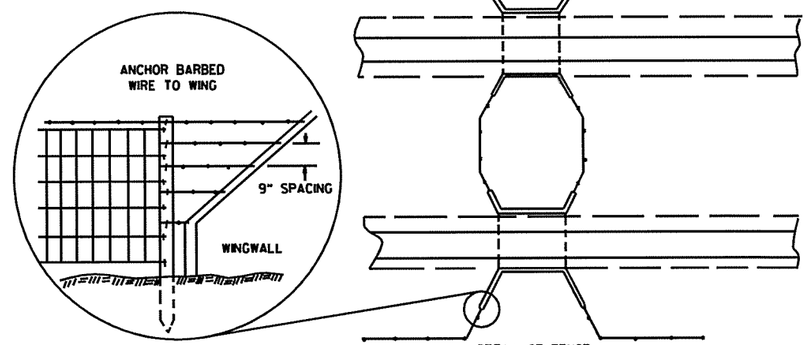
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
8-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
8-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

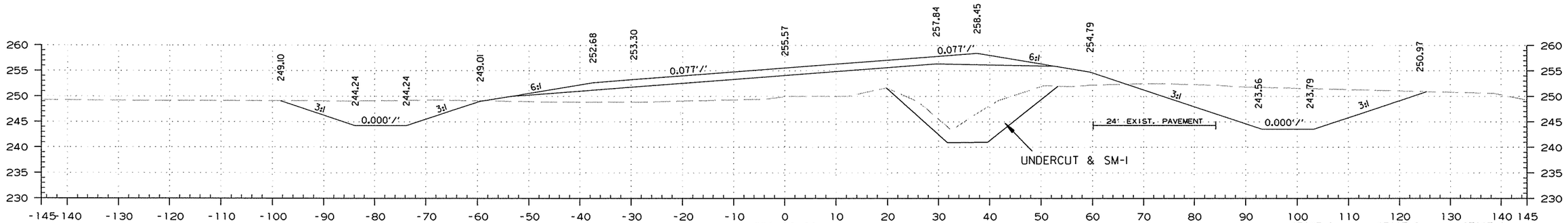
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	89	95

(2) CROSS SECTIONS



695+00.00

	STAGE 1	STAGE 2	STAGE 3
AREA CUT	0	390	0
AREA FILL	0	532	0

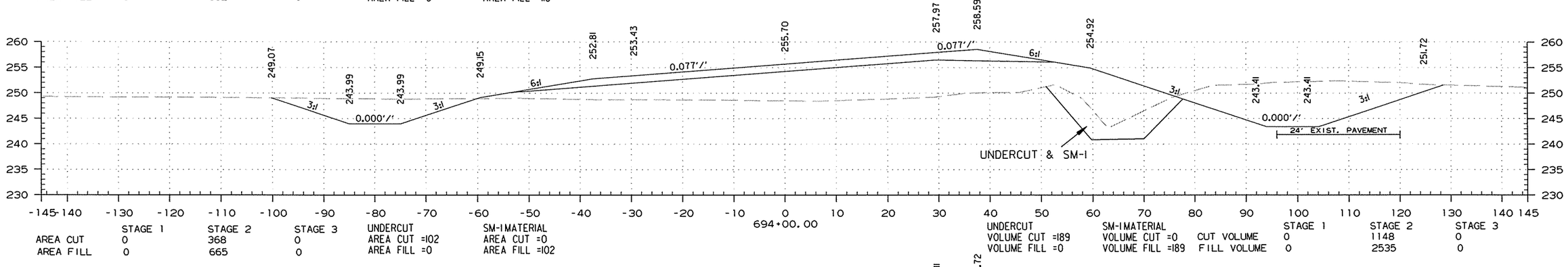
UNDERCUT
AREA CUT =118
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =118

UNDERCUT
VOLUME CUT =407
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =407

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
	0	1404	0
FILL VOLUME	0	2217	0



694+00.00

	STAGE 1	STAGE 2	STAGE 3
AREA CUT	0	368	0
AREA FILL	0	665	0

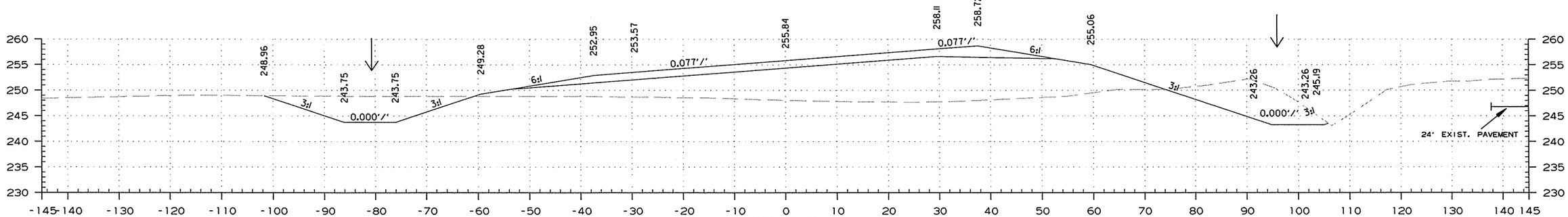
UNDERCUT
AREA CUT =102
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =102

UNDERCUT
VOLUME CUT =189
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =189

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
	0	1148	0
FILL VOLUME	0	2535	0



693+00.00
BEGIN GRADING
AND PAVING

	STAGE 1	STAGE 2	STAGE 3
AREA CUT	0	252	0
AREA FILL	0	704	0

UNDERCUT
VOLUME CUT =0
VOLUME FILL =0

SM-1 MATERIAL
VOLUME CUT =0
VOLUME FILL =0

UNDERCUT
VOLUME CUT =0
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =0

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
	0	0	0
FILL VOLUME	0	0	0

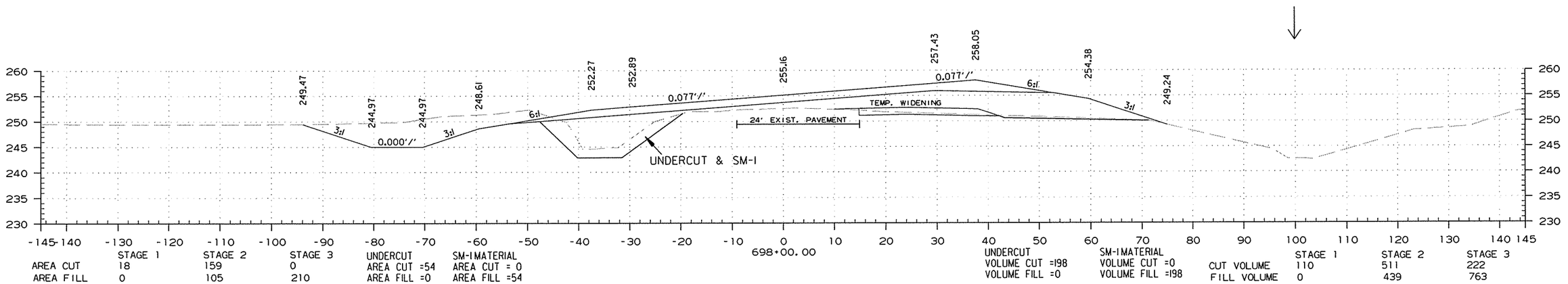
STA. 693+00.00 TO STA. 695+00.00

10/16/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	90	95

(2) CROSS SECTIONS



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	18	159	0
AREA FILL	0	105	210

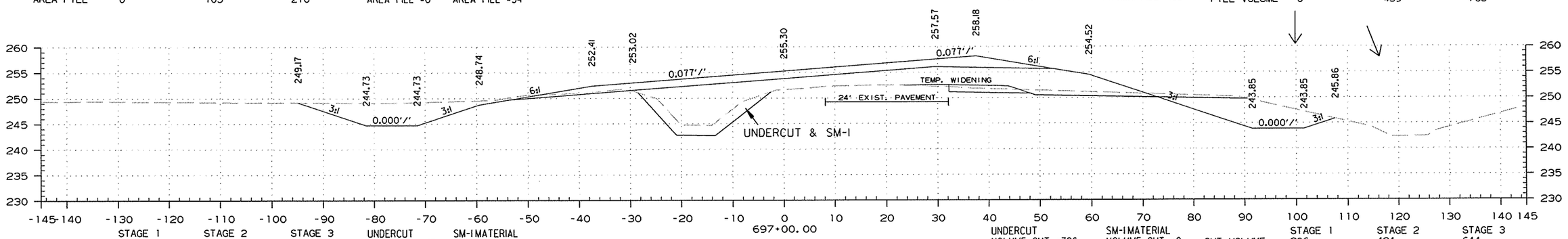
UNDERCUT
AREA CUT =54
AREA FILL =0

SM-I MATERIAL
AREA CUT = 0
AREA FILL =54

UNDERCUT
VOLUME CUT =198
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =198

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
FILL VOLUME	110	511	222
	0	439	763



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	41	118	120
AREA FILL	0	132	202

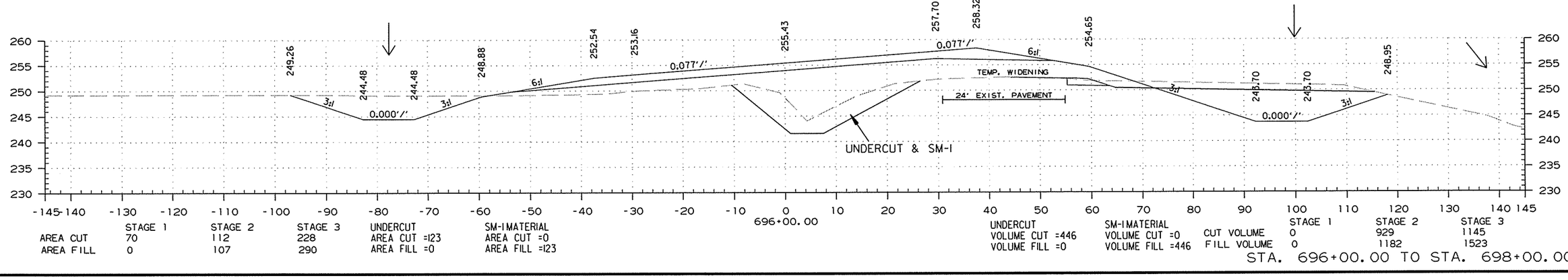
UNDERCUT
AREA CUT =53
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =53

UNDERCUT
VOLUME CUT =326
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =326

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
FILL VOLUME	206	424	644
	0	443	912



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	70	112	228
AREA FILL	0	107	290

UNDERCUT
AREA CUT =123
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =123

UNDERCUT
VOLUME CUT =446
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =446

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
FILL VOLUME	0	929	1145
	0	1182	1523

STA. 696+00.00 TO STA. 698+00.00

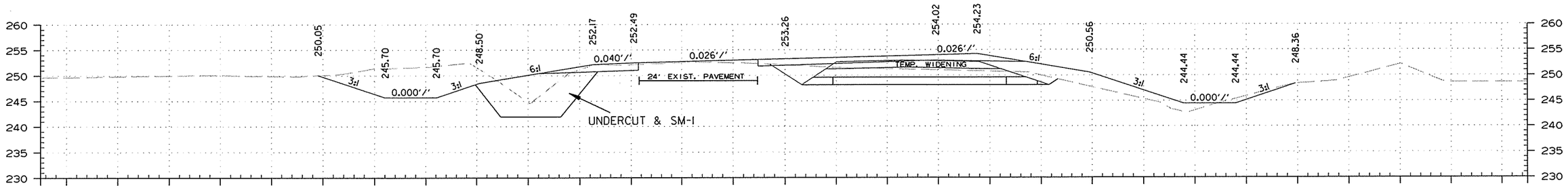
10/16/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	91	95

(2) CROSS SECTIONS

STA. 701+00 - CONSTRUCT
18" x 34' TEMPORARY PIPE CULV'T.



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	31	182	13
AREA FILL	10	40	99

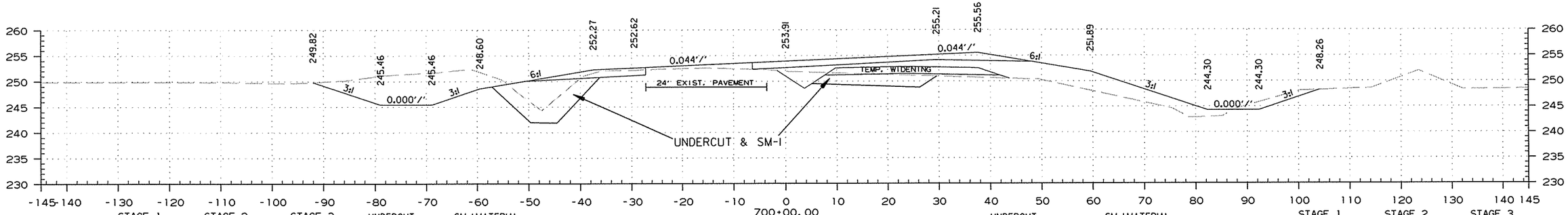
UNDERCUT
AREA CUT =108
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =108

UNDERCUT
VOLUME CUT =328
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =328

	STAGE 1	STAGE 2	STAGE 3
CUT VOLUME	91	666	66
FILL VOLUME	36	157	522



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	18	178	23
AREA FILL	9	45	182

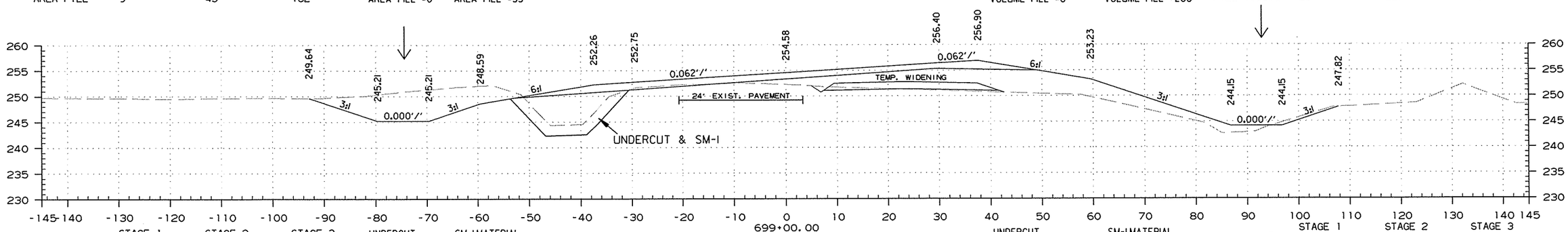
UNDERCUT
AREA CUT =53
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =53

UNDERCUT
VOLUME CUT =200
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =200

	STAGE 1	STAGE 2	STAGE 3
CUT VOLUME	46	628	62
FILL VOLUME	25	227	781



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	7	161	11
AREA FILL	4	78	240

UNDERCUT
AREA CUT =55
AREA FILL =0

SM-I MATERIAL
AREA CUT = 0
AREA FILL =55

UNDERCUT
VOLUME CUT =202
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =202

	STAGE 1	STAGE 2	STAGE 3
CUT VOLUME	46	592	20
FILL VOLUME	8	339	832

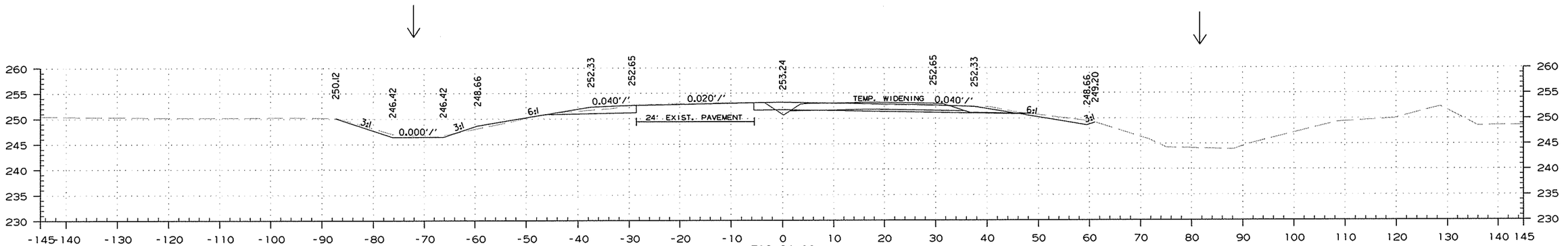
STA. 699+00.00 TO STA. 701+00.00

10/16/2013

R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	92	95

(2) CROSS SECTIONS



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	20	0	0
AREA FILL	0	0	0

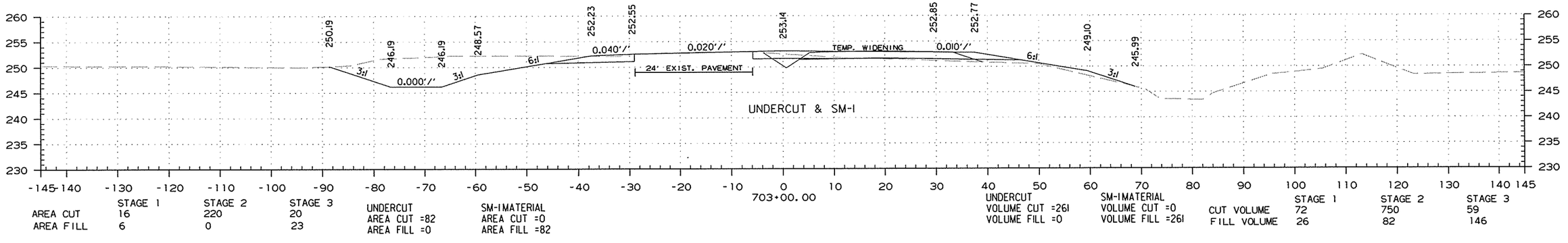
UNDERCUT
AREA CUT =0
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =0

UNDERCUT
VOLUME CUT =143
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =143

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
FILL VOLUME	62	383	45
	10	0	40



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	16	220	20
AREA FILL	6	0	23

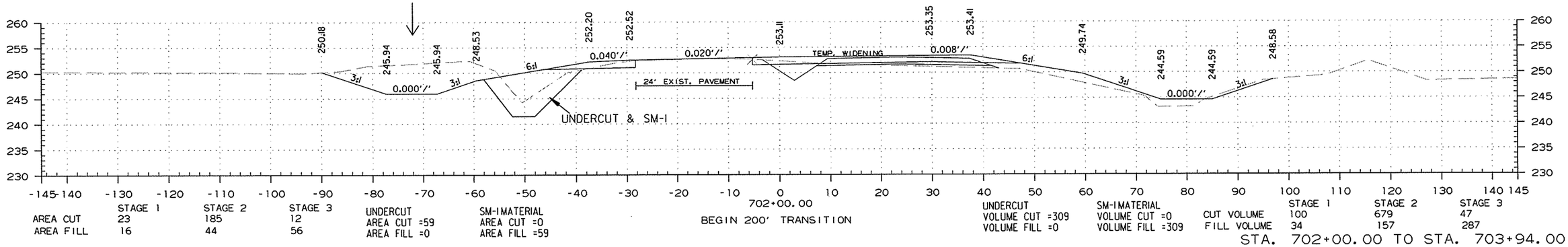
UNDERCUT
AREA CUT =82
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =82

UNDERCUT
VOLUME CUT =261
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =261

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
FILL VOLUME	72	750	59
	26	82	146



	STAGE 1	STAGE 2	STAGE 3
AREA CUT	23	185	12
AREA FILL	16	44	56

UNDERCUT
AREA CUT =59
AREA FILL =0

SM-I MATERIAL
AREA CUT =0
AREA FILL =59

UNDERCUT
VOLUME CUT =309
VOLUME FILL =0

SM-I MATERIAL
VOLUME CUT =0
VOLUME FILL =309

CUT VOLUME	STAGE 1	STAGE 2	STAGE 3
FILL VOLUME	100	679	47
	34	157	287

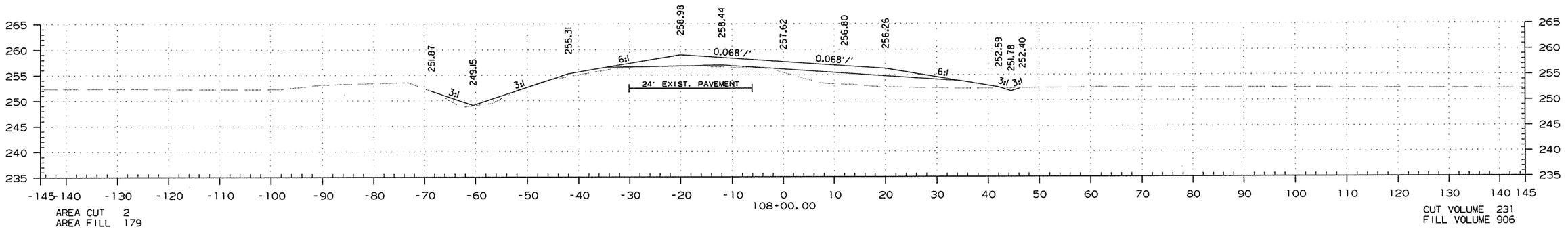
STA. 702+00.00 TO STA. 703+94.00

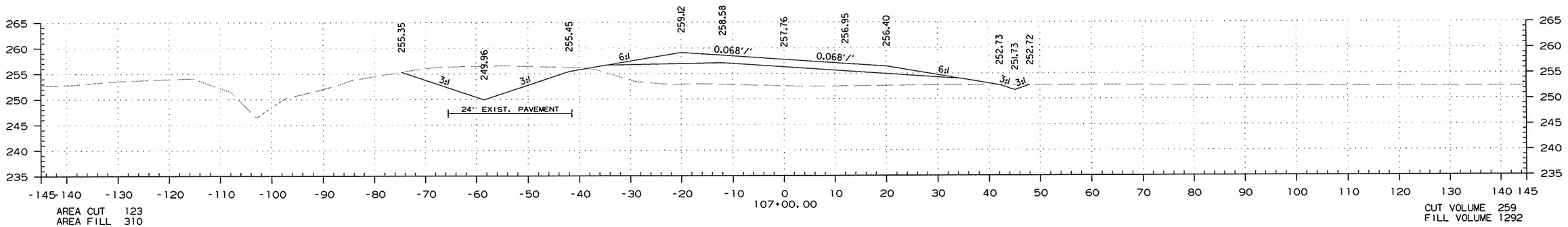
10/16/2013

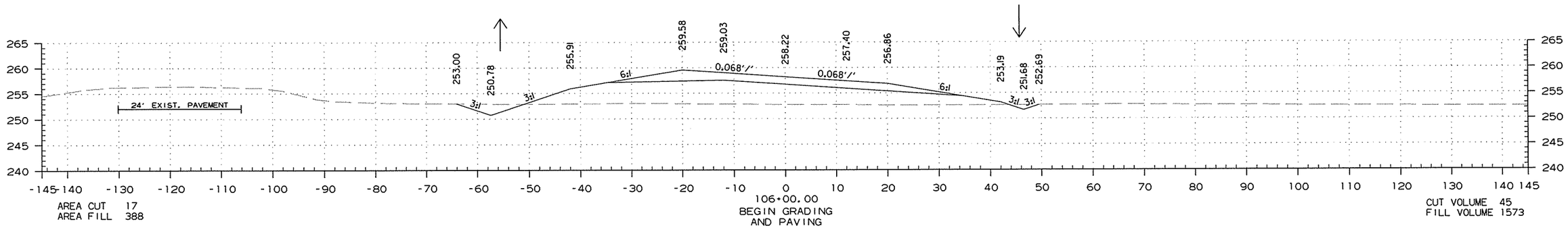
R100678.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	93	95

(2) CROSS SECTIONS







10/16/2013

R100678.DGN

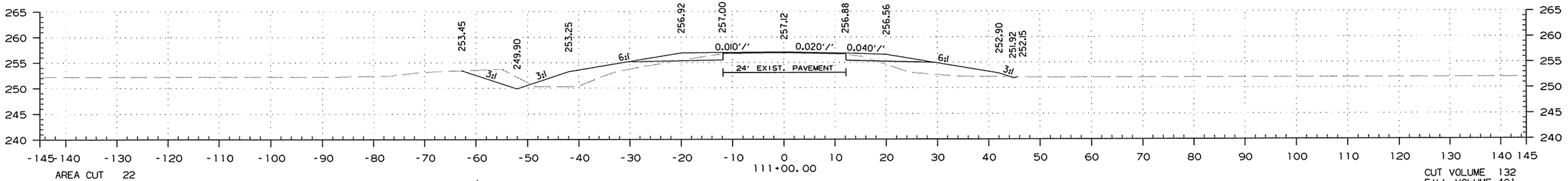
HWY. 226 CONNECTOR
STA. 106+00.00 TO STA. 108+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	94	95

(2) CROSS SECTIONS

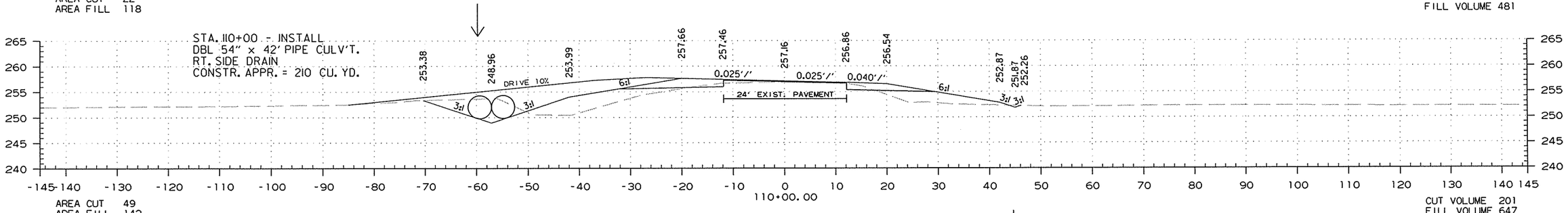
STA. 112+50.00
END 100' TRANSITION

STA. 111+50.00
END HWY. 226 CONNECTOR



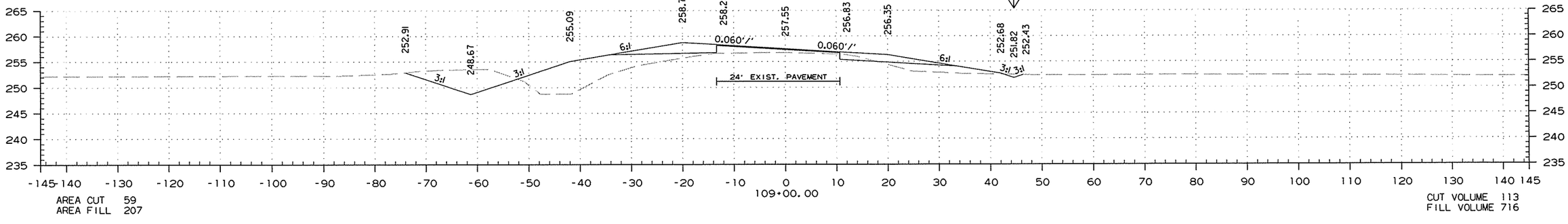
AREA CUT 22
AREA FILL 118

CUT VOLUME 132
FILL VOLUME 481



AREA CUT 49
AREA FILL 142

CUT VOLUME 201
FILL VOLUME 647



AREA CUT 59
AREA FILL 207

CUT VOLUME 113
FILL VOLUME 716

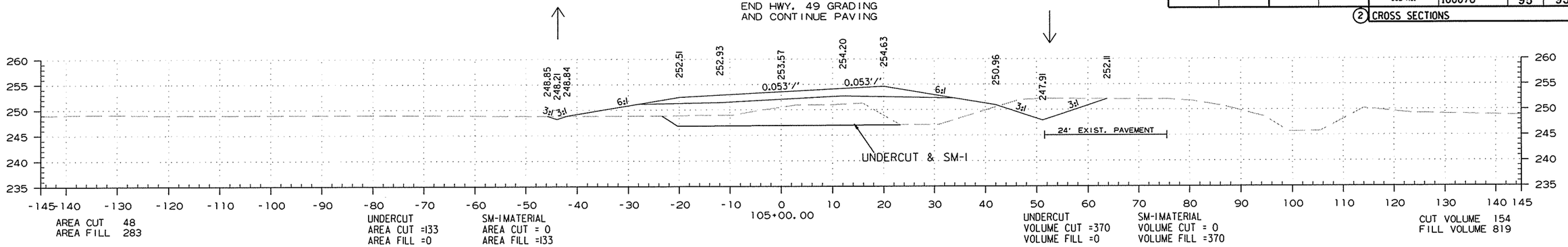
HWY. 226 CONNECTOR
STA. 109+00.00 TO STA. 111+00.00

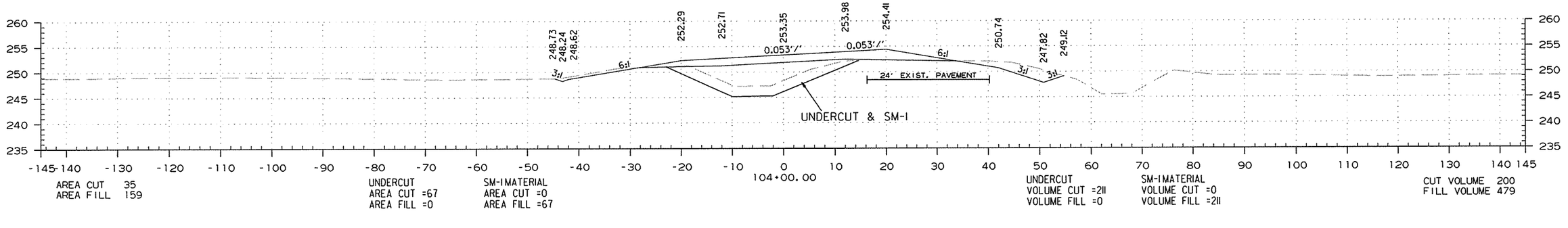
10/16/2013

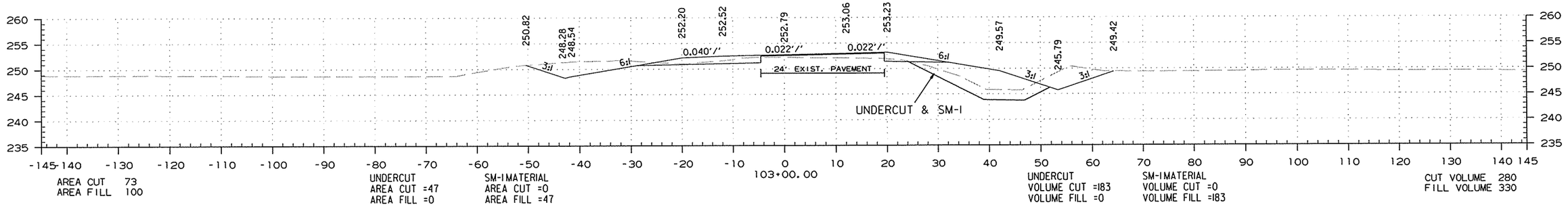
R100678.DGN

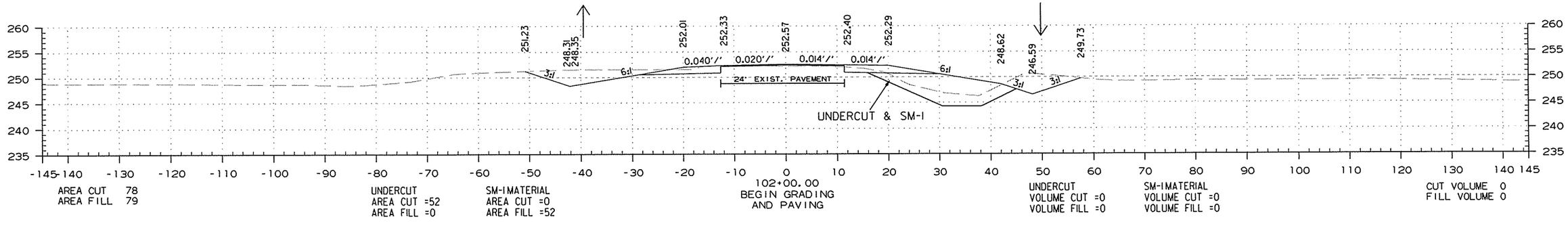
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100678	95	95

(2) CROSS SECTIONS









HWY. 49 CONNECTOR
STA. 102+00.00 TO STA. 105+00.00

10/16/2013

R100678.DGN