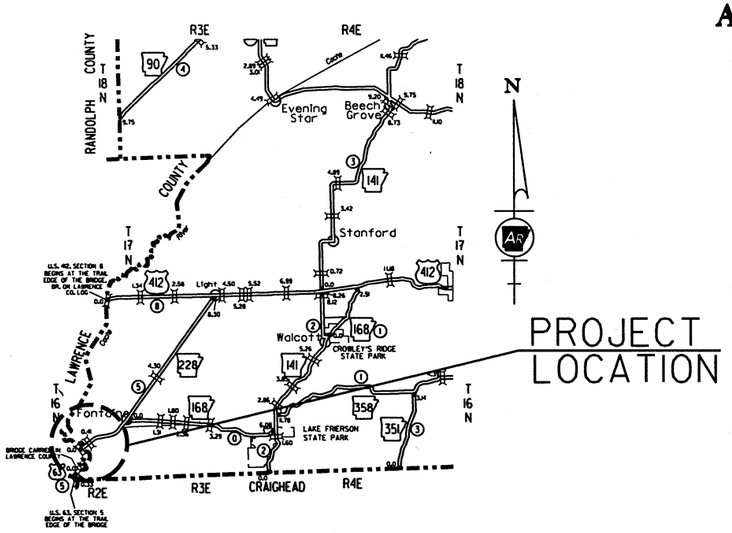
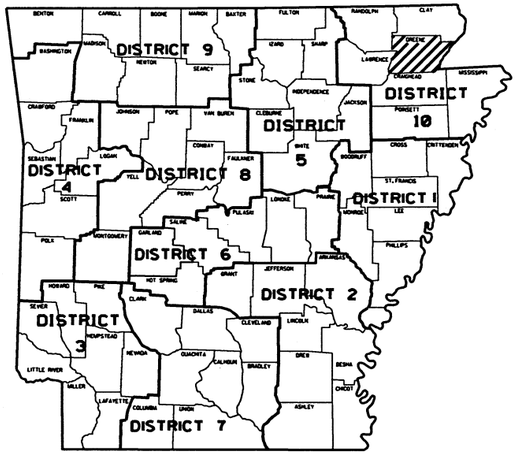
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	1	44
				(2) CACHE RIVER RELIEF STR. & APPRS. (S)				

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

CACHE RIVER RELIEF
STR. & APPRS. (S)
GREENE COUNTY
ROUTE 228 SECTION 5
JOB 100841
F.A.P. NHPP-0028(45)



VICINITY MAP

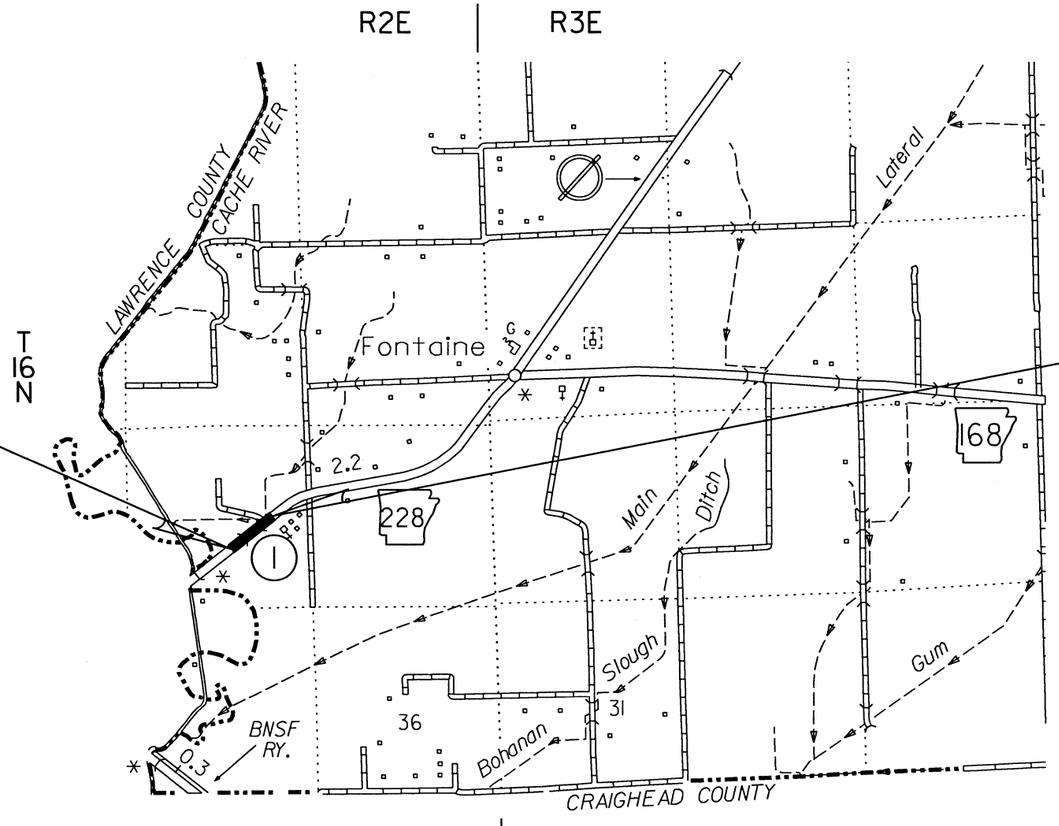


ARKANSAS HWY. DIST. 10

BRIDGE DATA

(1) STA. 104+48.00 BRIDGE END
BRIDGE NO. 07438
164'-0" INTEGRAL COMPOSITE PRESTRESSED
CONCRETE GIRDER UNIT (54'-6", 55'-0", 54'-6")
30'-0" CLEAR ROADWAY
165.00' BRIDGE LENGTH
STA. 106+13.00 BRIDGE END

NOT TO SCALE



• DESIGN TRAFFIC DATA •

DESIGN YEAR	2039
2019 ADT	740
2039 ADT	900
2039 DHV	99
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	7%
DESIGN SPEED	55 MPH

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N35°59'15"	N35°59'18"	N35°59'21"
LONGITUDE	W90°50'34"	W90°50'29"	W90°50'24"

PROJECT LENGTH CALCULATED ALONG C.L. CONSTRUCTION

GROSS LENGTH OF	PROJECT	1065.00	FEET OR	0.202	MILES
NET " "	ROADWAY	900.00	" "	0.171	MILES
NET " "	BRIDGES	165.00	" "	0.031	MILES
NET " "	PROJECT	1065.00	" "	0.202	MILES

APPROVED

STATE OF ARKANSAS * * * LICENSED PROFESSIONAL ENGINEER No. 7636 M.E. BANKS

5-2-19

DEPUTY DIRECTOR AND CHIEF ENGINEER

12/15/2016

R100841.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	2	44

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

INDEX OF SHEETS

BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55000	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	02-27-14
55001	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES	02-27-14
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55010	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE	01-15-19
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55030C	STANDARD DETAILS FOR TYPE C APPROACH GUTTERS	02-27-14

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
GR-8	GUARD RAIL DETAILS	11-16-17
GR-8A	GUARD RAIL DETAILS	11-16-17
GR-9	GUARD RAIL DETAILS	04-17-08
GR-9A	GUARD RAIL DETAILS	04-17-08
GR-10	GUARD RAIL DETAILS	11-16-17
GR-11	GUARD RAIL DETAILS	11-16-17
GR-12	GUARD RAIL DETAILS	11-16-17
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	10-18-96
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94

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INDEX OF SHEETS AND STANDARD DRAWINGS

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(2) GOVERNING SPECIFICATIONS AND GEN. NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
600-2_____	INCIDENTAL CONSTRUCTION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
617-1_____	GUARDRAIL TERMINAL (TYPE 2)
620-1_____	MULCH COVER
800-1_____	STRUCTURES
802-3_____	CONCRETE FOR STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 100841__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 100841__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100841__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 100841__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 100841__	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 100841__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 100841__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 100841__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100841__	MANDATORY ELECTRONIC CONTRACT
JOB 100841__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 100841__	NESTING SITES OF MIGRATORY BIRDS
JOB 100841__	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 100841__	PARTNERING REQUIREMENTS
JOB 100841__	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 100841__	SHORING FOR CULVERTS
JOB 100841__	SOIL STABILIZATION
JOB 100841__	STORM WATER POLLUTION PREVENTION PLAN
JOB 100841__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 100841__	UTILITY ADJUSTMENTS
JOB 100841__	VALUE ENGINEERING
JOB 100841__	WARM MIX ASPHALT
JOB 100841__	WELLHEAD PROTECTION

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
9. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
10. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
11. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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GOVERNING SPECIFICATIONS AND GENERAL NOTES

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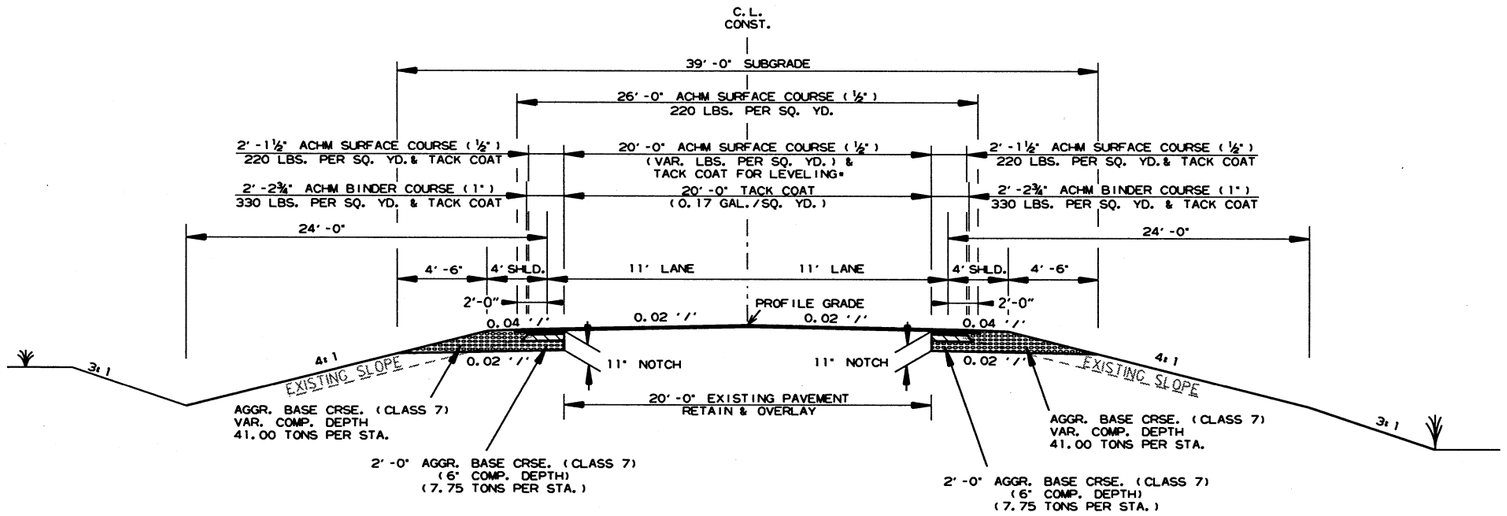
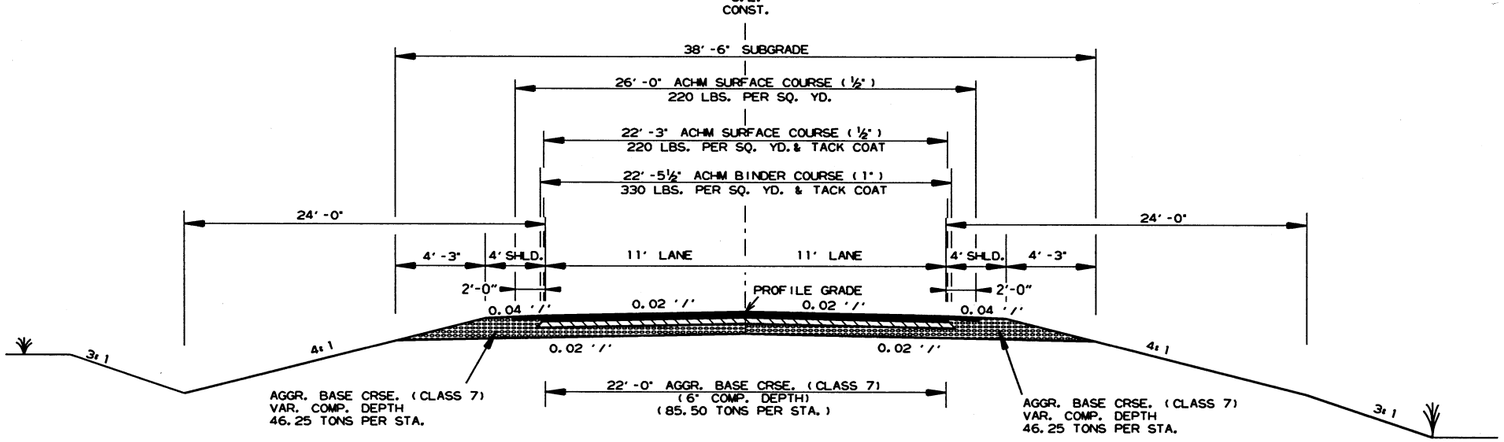
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19



HWY. 228 NOTCH AND WIDEN OPEN SHOULDER

STA. 100+00.00 - STA. 102+55.00
STA. 108+95.00 - STA. 110+65.00



HWY. 228 FULL DEPTH OPEN SHOULDER

STA. 102+55.00 - STA. 104+11.50
STA. 106+49.50 - STA. 108+95.00

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATION FROM 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 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

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

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TYPICAL SECTIONS OF IMPROVEMENT

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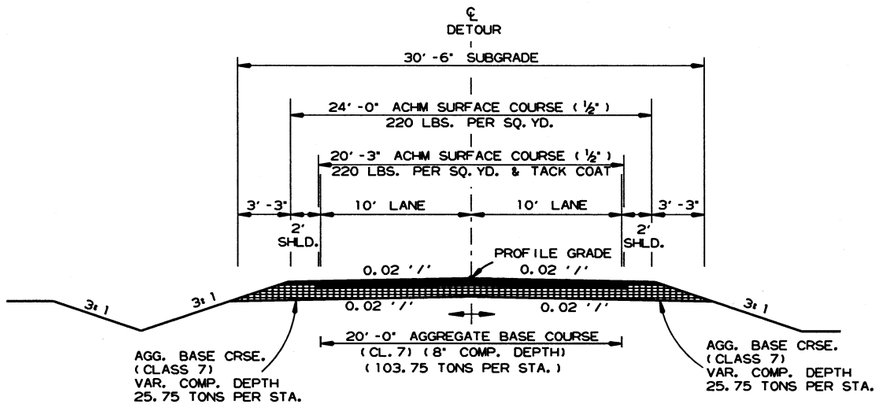
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

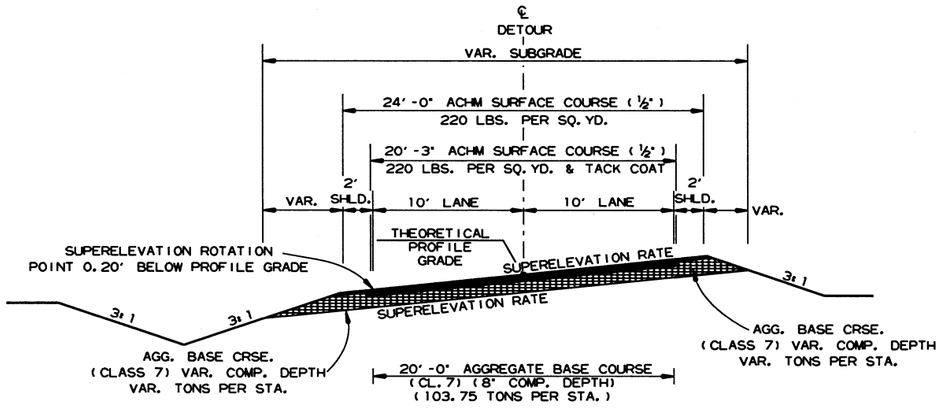


TYPICAL SECTIONS OF IMPROVEMENT
DETOUR ROAD

STA. 200+00.00 TO STA. 202+09.49
STA. 205+06.73 TO STA. 205+66.23
STA. 208+63.47 TO STA. 210+72.96

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.



TYPICAL SECTIONS OF IMPROVEMENT
DETOUR ROAD - SUPERELEVATION

STA. 202+09.49 TO STA. 205+06.73
STA. 205+66.23 TO STA. 208+63.47

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(2) SPECIAL DETAILS

STATE OF ARKANSAS
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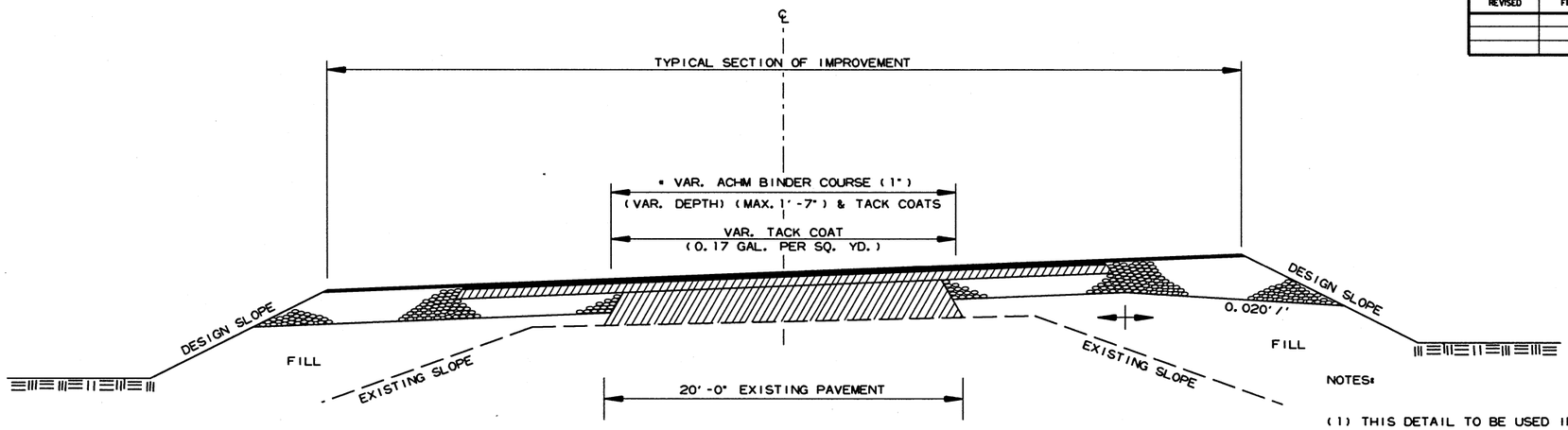


* 6" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BINDER COURSE (1")

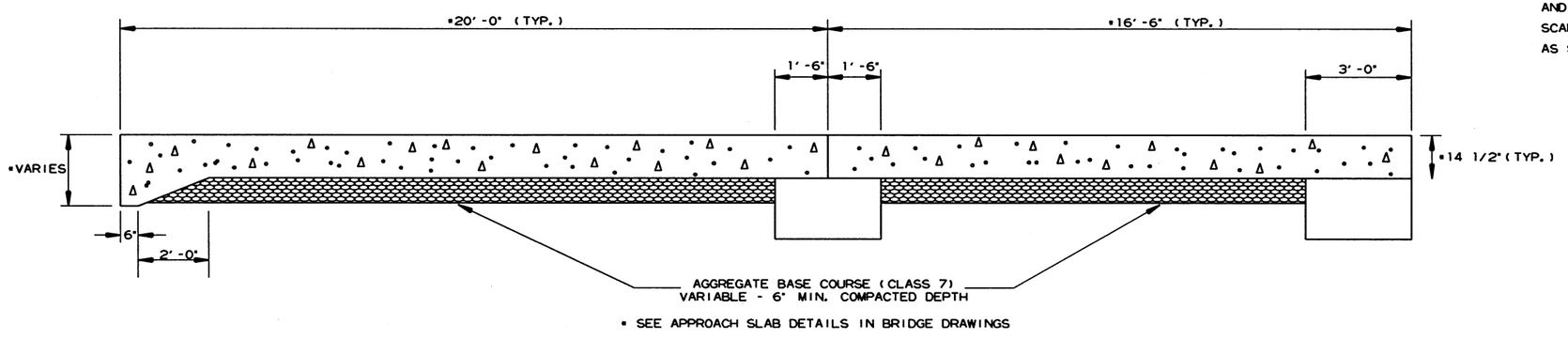
METHOD OF RAISING GRADE

NOTES:

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

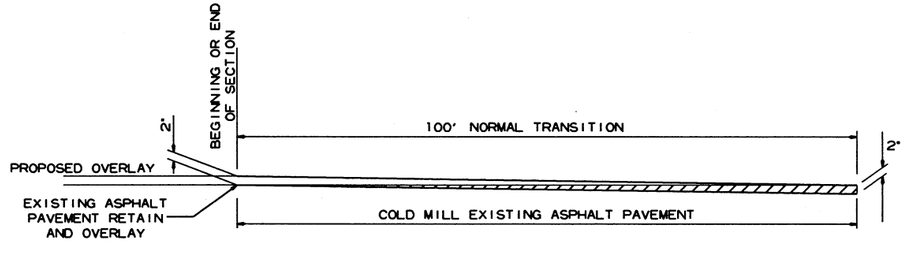
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(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.

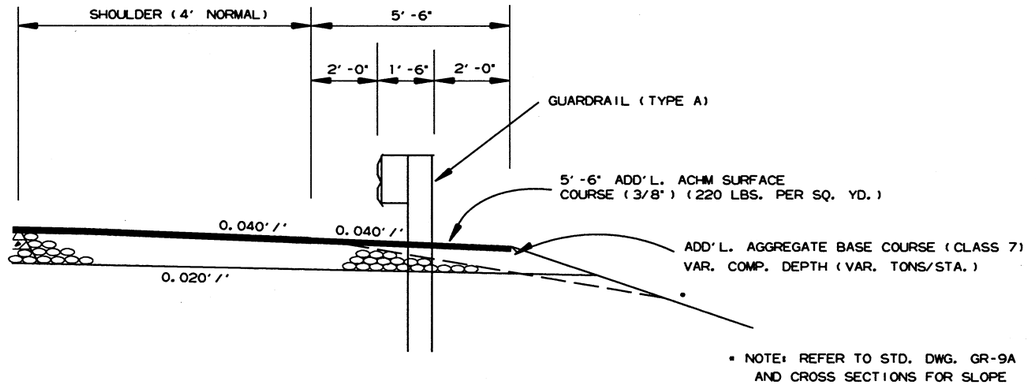


* SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

SECTION OF APPROACH SLAB



DETAIL FOR TRANSITIONS



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

WIDENING FOR GUARDRAIL

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SPECIAL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE

CLEARING AND GRUBBING
ROCK DITCH CHECKS (E-6)
(10 LOCATIONS = 30 CU. YDS.)
SILT FENCE (E-11)
(2 LOCATIONS = 2616 LIN. FT.)

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(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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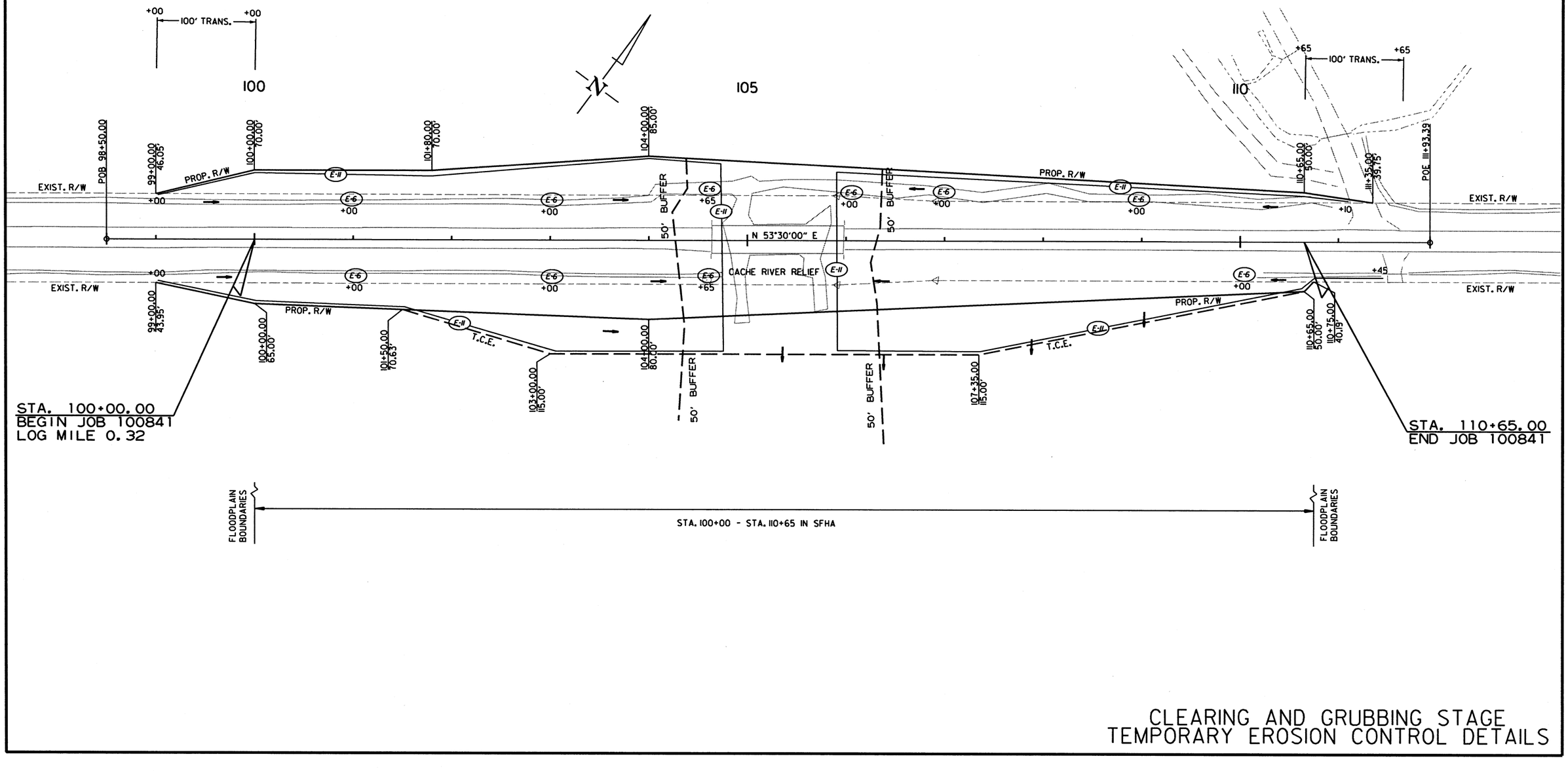
TRINITY D. SMITH
5-2-19



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CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

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(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE

STAGE 1
ROCK DITCH CHECKS (E-6)
(6 LOCATIONS = 18 CU. YDS.)
SILT FENCE (E-11)
(2 LOCATIONS = 230 LIN. FT.)

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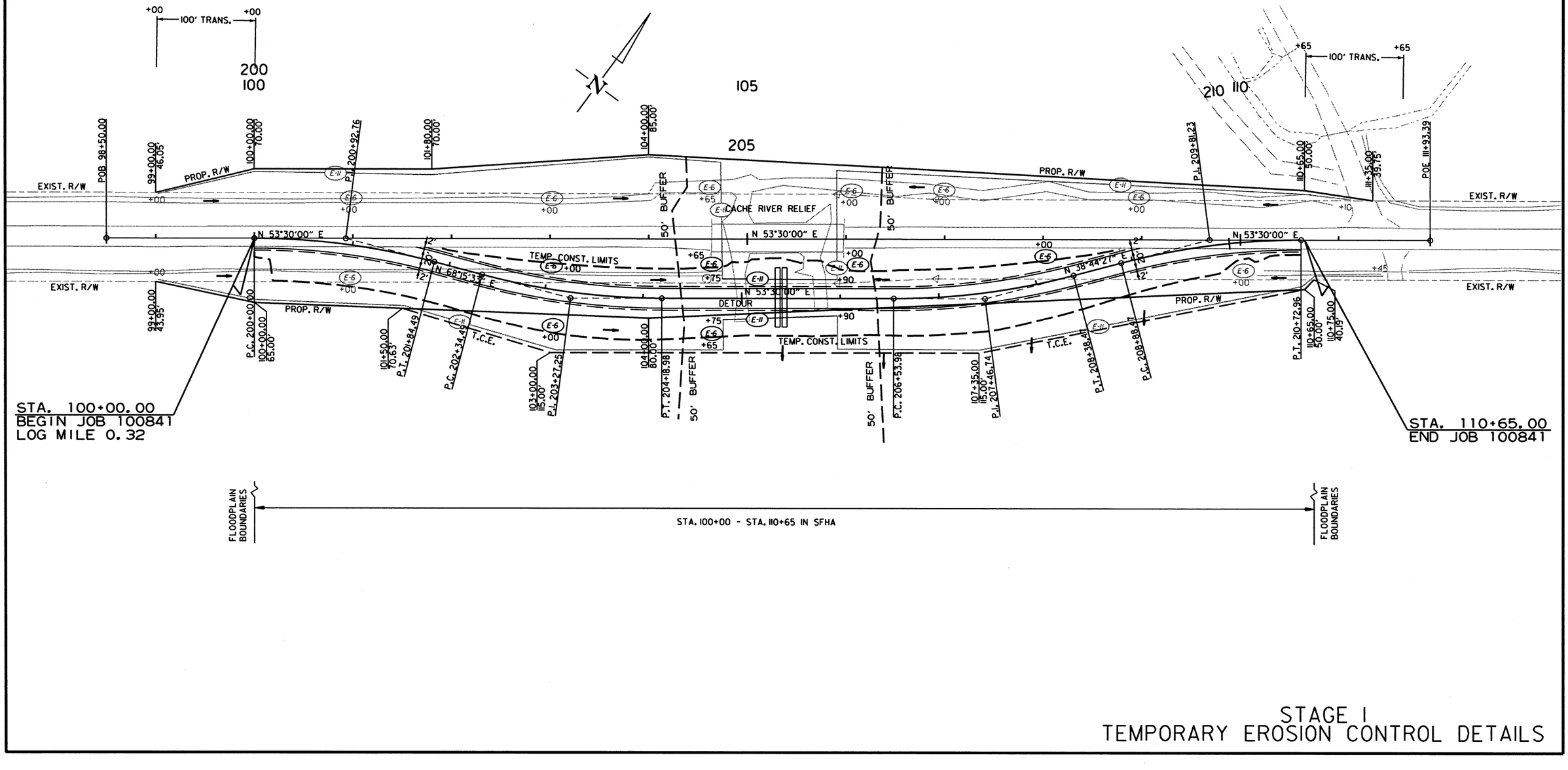

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STAGE 1
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE

STAGE 2
ROCK DITCH CHECKS (E-6)
(4 LOCATIONS = 12 CU. YDS.)

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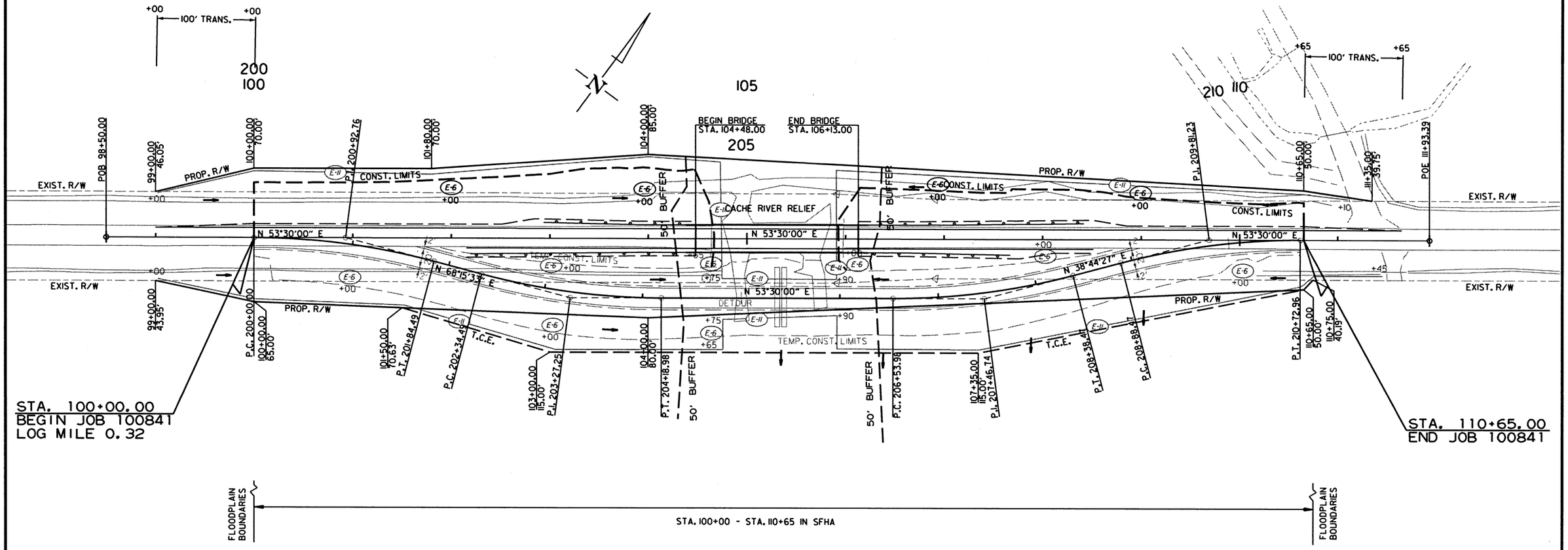
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19



1/15/2019

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STAGE 2
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

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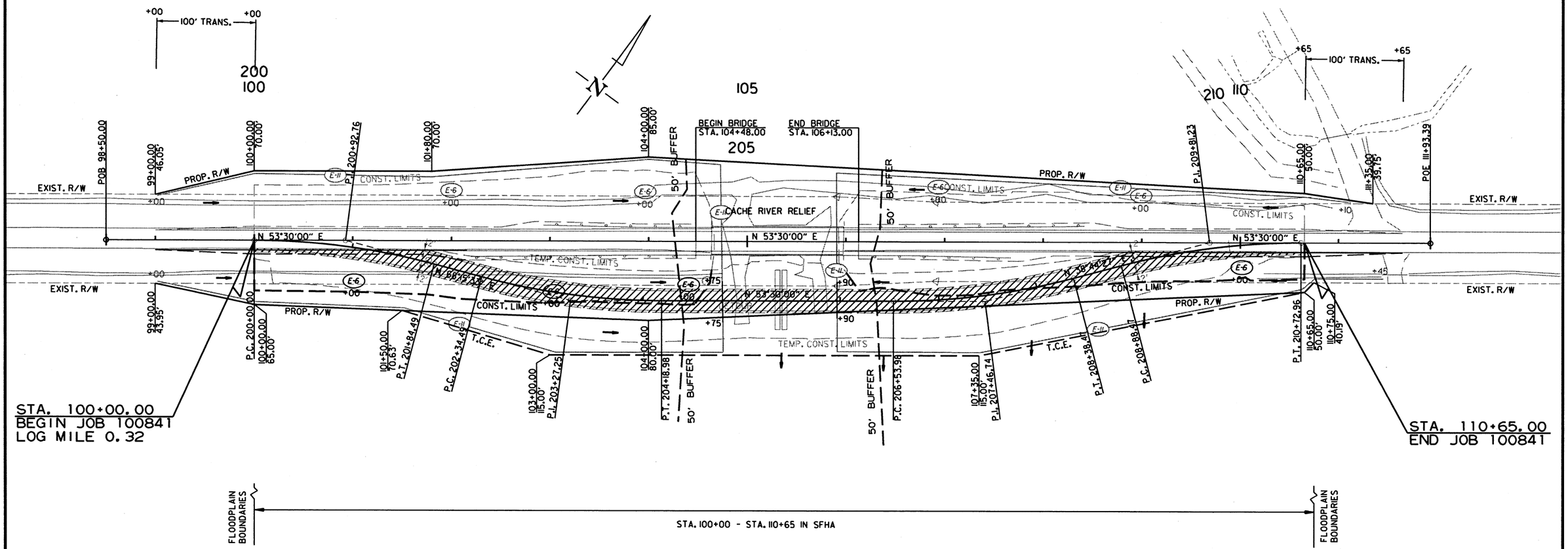
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

LEGEND

(E-6) ROCK DITCH CHECKS
(E-11) SILT FENCE

STAGE 3
ROCK DITCH CHECKS (E-6)
(4 LOCATIONS = 12 CU. YDS.)
SILT FENCE (E-11)
(2 LOCATIONS = 79 LIN. FT.)



OBLITERATE DETOUR

1/15/2019

R100841.DGN

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

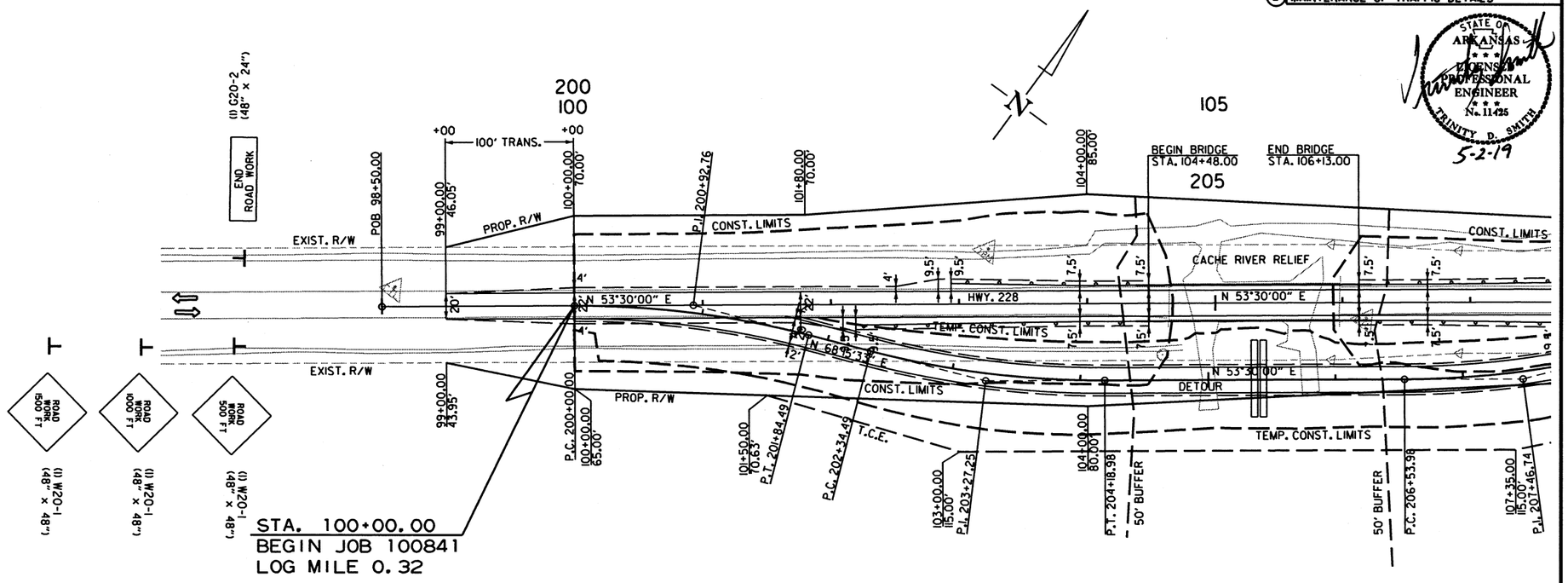
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	11	44

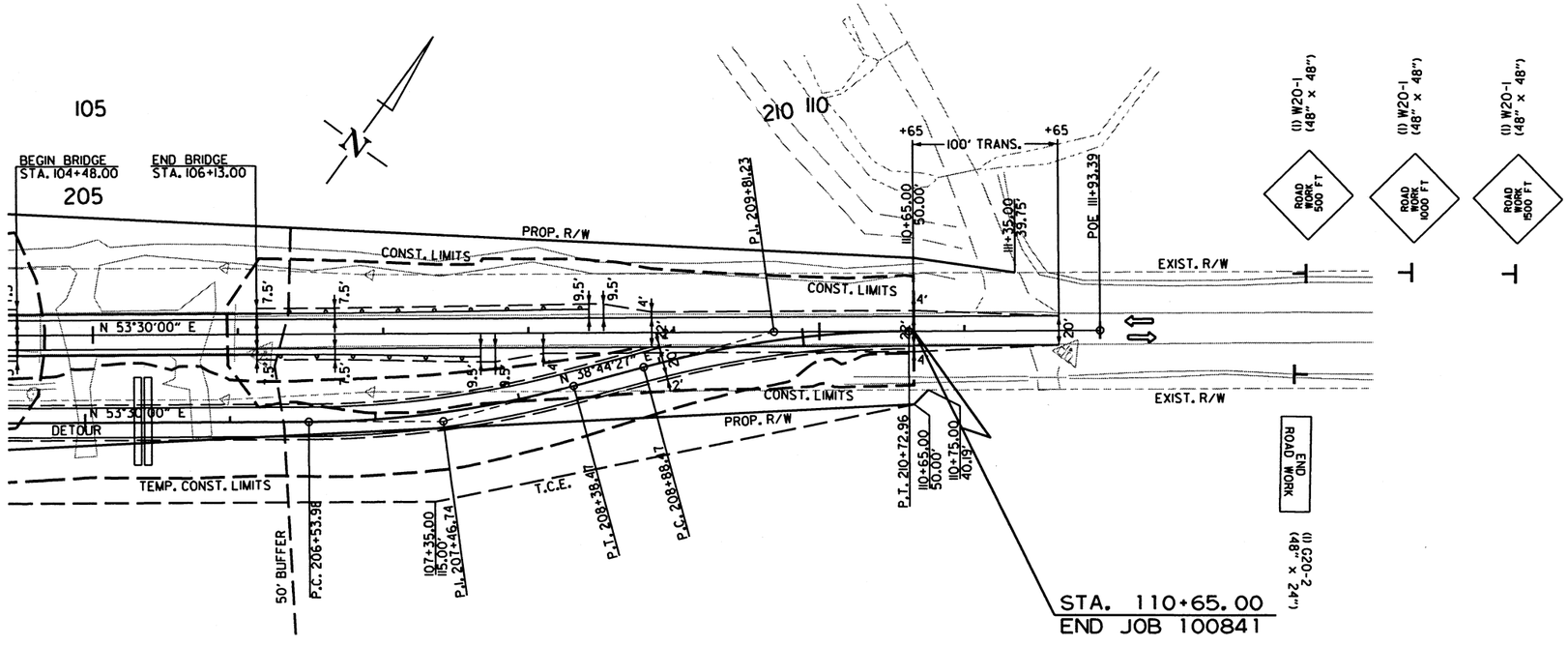
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

DO NOT PASS — (2) R4-1 (24" X 30")

RIGHT SHOULDER CLOSED — (2) W21-5a (36" X 36")





SEQUENCE OF CONSTRUCTION

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT DETOUR ON RT.

STAGE 2:
SHIFT TRAFFIC TO DETOUR CENTERLINE.
NOTCH AND WIDEN LT. SIDE FROM DETOUR.
REMOVE EXISTING BRIDGE.
CONSTRUCT NEW BRIDGE.

STAGE 3:
SHIFT TRAFFIC TO CONSTRUCTION CENTERLINE.
OBLITERATE DETOUR.
NOTCH AND WIDEN ON RT.
COLD MILL TRANSITION AREAS.
PLACE FINAL LAYER OF ACHM SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS.

MAIN LANES ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

1/16/2019

R100841.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	12	44

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
TRINITY D. SMITH
No. 11425
LICENSED PROFESSIONAL ENGINEER
5-2-19

SEQUENCE OF CONSTRUCTION

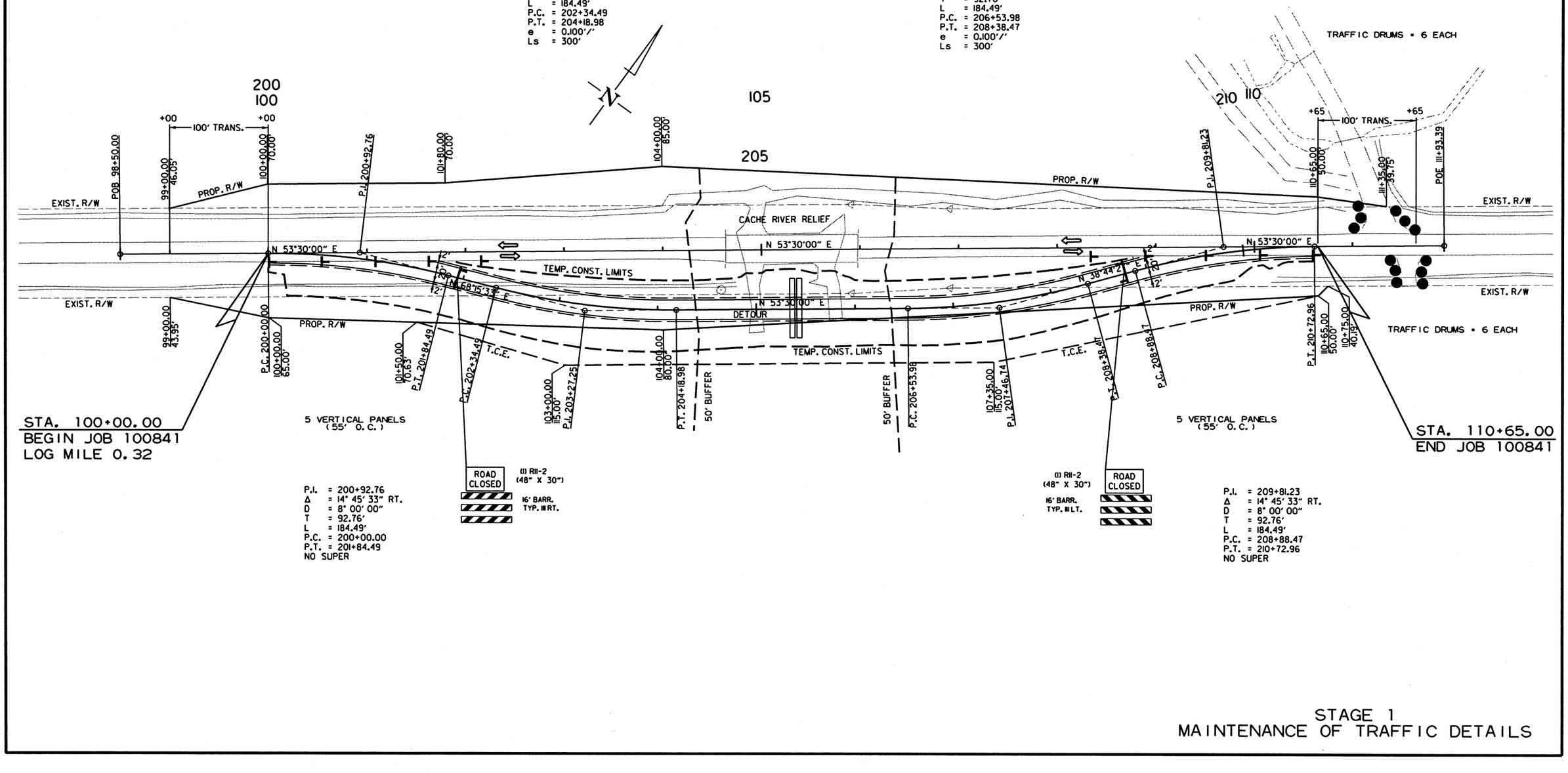
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT DETOUR ON RT.

STAGE 2:
SHIFT TRAFFIC TO DETOUR CENTERLINE.
NOTCH AND WIDEN LT. SIDE FROM DETOUR.
REMOVE EXISTING BRIDGE.
CONSTRUCT NEW BRIDGE.

STAGE 3:
SHIFT TRAFFIC TO CONSTRUCTION CENTERLINE.
OBLITERATE DETOUR.
NOTCH AND WIDEN ON RT.
COLD MILL TRANSITION AREAS.
PLACE FINAL LAYER OF ACHM SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS.

P.I. = 203+27.25
Δ = 14° 45' 33" LT.
D = 8° 00' 00"
T = 92.76'
L = 184.49'
P.C. = 202+34.49
P.T. = 204+18.98
e = 0.100'/'
Ls = 300'

P.I. = 207+46.74
Δ = 14° 45' 33" LT.
D = 8° 00' 00"
T = 92.76'
L = 184.49'
P.C. = 206+53.98
P.T. = 208+38.47
e = 0.100'/'
Ls = 300'



STA. 100+00.00
BEGIN JOB 100841
LOG MILE 0.32

STA. 110+65.00
END JOB 100841

P.I. = 200+92.76
Δ = 14° 45' 33" RT.
D = 8° 00' 00"
T = 92.76'
L = 184.49'
P.C. = 200+00.00
P.T. = 201+84.49
NO SUPER

P.I. = 209+81.23
Δ = 14° 45' 33" RT.
D = 8° 00' 00"
T = 92.76'
L = 184.49'
P.C. = 208+88.47
P.T. = 210+72.96
NO SUPER

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STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	13	44

(2) MAINTENANCE OF TRAFFIC DETAILS

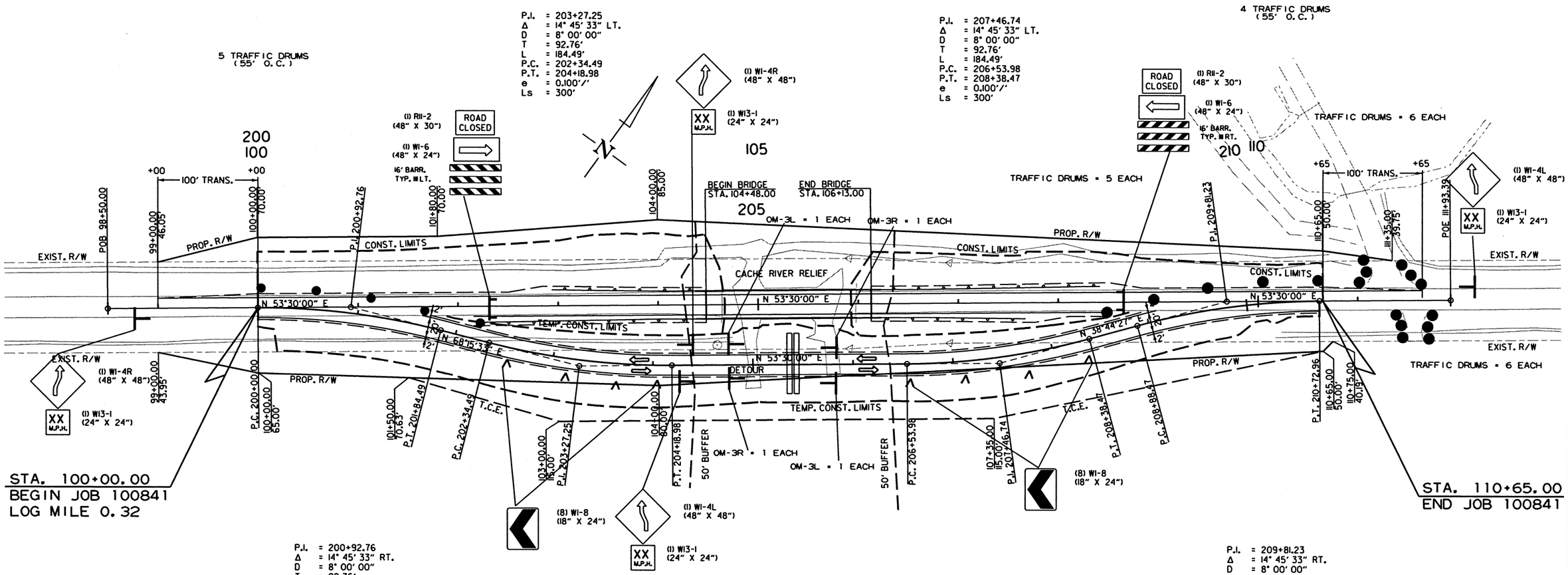
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

SEQUENCE OF CONSTRUCTION

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT DETOUR ON RT.

STAGE 2:
SHIFT TRAFFIC TO DETOUR CENTERLINE.
NOTCH AND WIDEN LT. SIDE FROM DETOUR.
REMOVE EXISTING BRIDGE.
CONSTRUCT NEW BRIDGE.

STAGE 3:
SHIFT TRAFFIC TO CONSTRUCTION CENTERLINE.
OBLITERATE DETOUR.
NOTCH AND WIDEN ON RT.
COLD MILL TRANSITION AREAS.
PLACE FINAL LAYER OF ACHM SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS.



REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
1652 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS
2640 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS
1652 LIN. FT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/16/2019

R100841.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	14	44

(2) MAINTENANCE OF TRAFFIC DETAILS

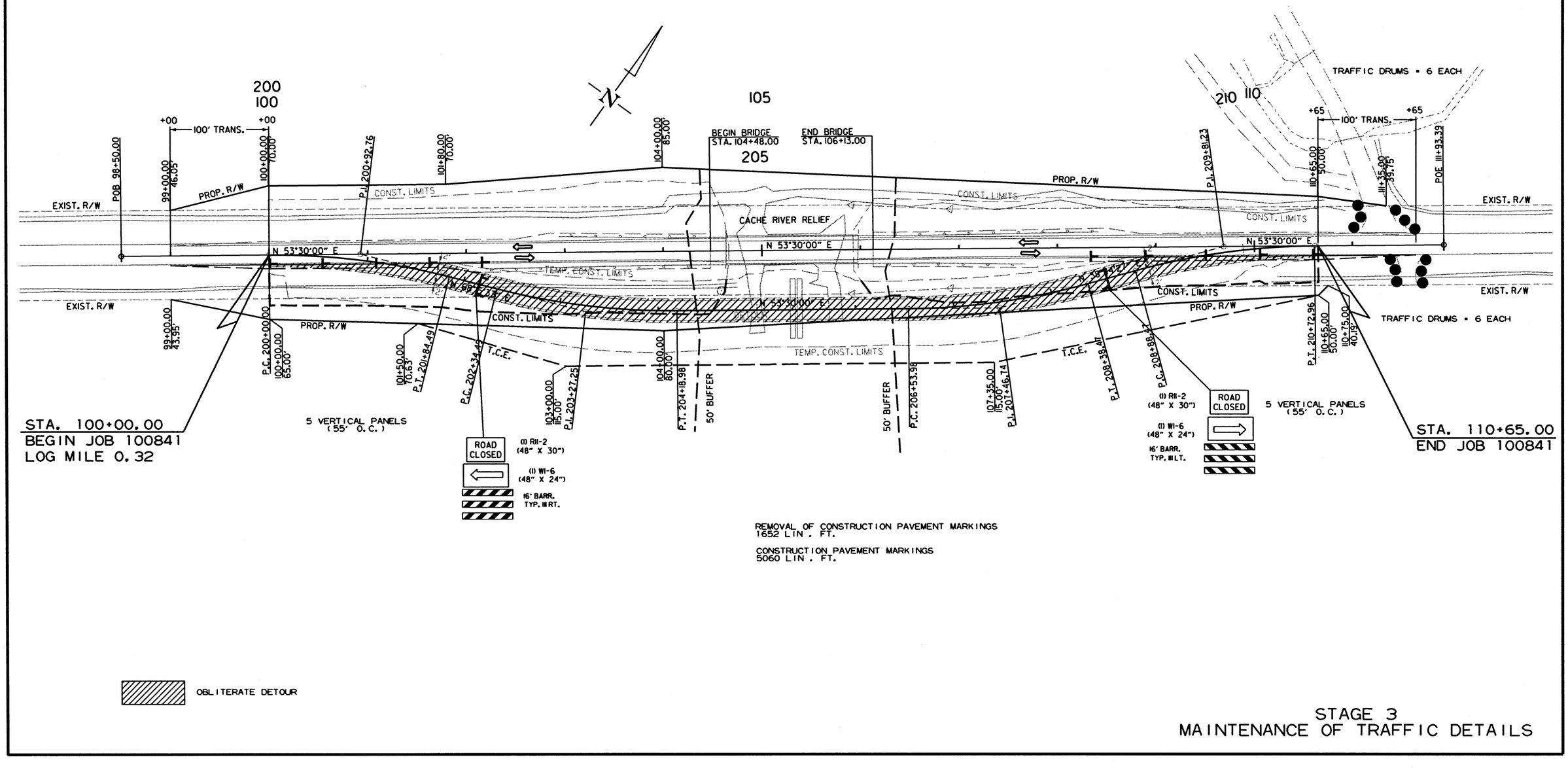
SEQUENCE OF CONSTRUCTION

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT DETOUR ON RT.

STAGE 2:
SHIFT TRAFFIC TO DETOUR CENTERLINE.
NOTCH AND WIDEN LT. SIDE FROM DETOUR.
REMOVE EXISTING BRIDGE.
CONSTRUCT NEW BRIDGE.

STAGE 3:
SHIFT TRAFFIC TO CONSTRUCTION CENTERLINE.
OBLITERATE DETOUR.
NOTCH AND WIDEN ON RT.
COLD MILL TRANSITION AREAS.
PLACE FINAL LAYER OF ACHM SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19



REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
1652 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS
5060 LIN. FT.

OBLITERATE DETOUR

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

1/16/2019

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	15	44

(2) PERMANENT PAVEMENT MARKING DETAILS

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

QUANTITIES:

REFLECTORIZED PAINT PAVEMENT MARKING
6" YELLOW DBL. = 2530 LIN. FT.
6" WHITE SOLID = 2530 LIN. FT.

RAISED PAVEMENT MARKERS (TYPE II) (80' O.C.)
YELLOW/YELLOW = 16 EACH

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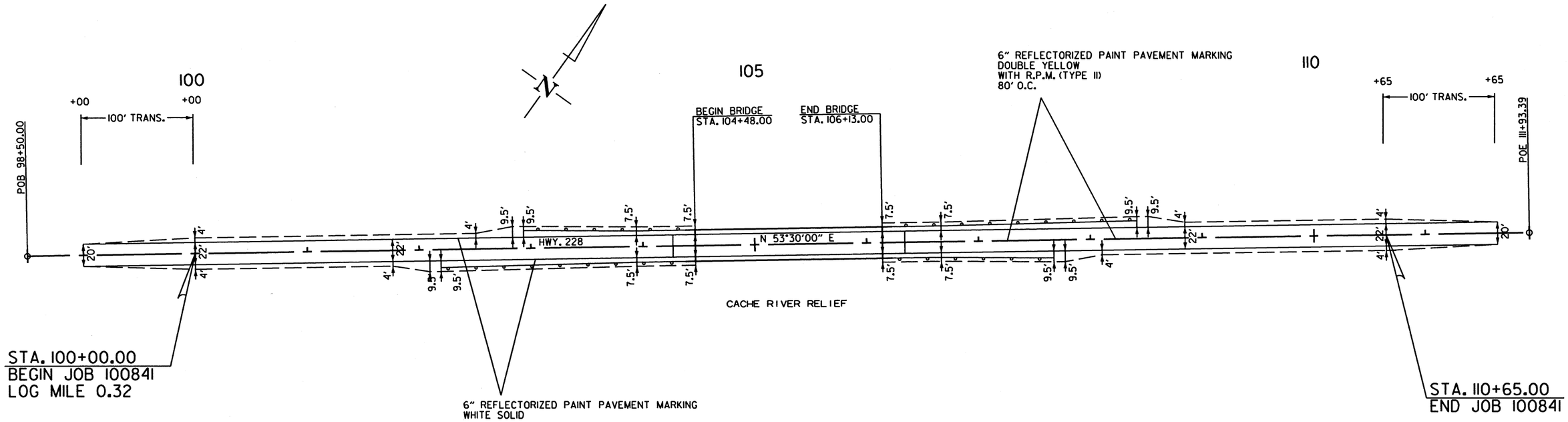

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PERMANENT PAVEMENT MARKING DETAILS

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.		100841	16	44

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	
												RIGHT	LEFT
			LIN. FT. - EACH					NO.	SQ. FT.	EACH		LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	2	32.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	2	32.0				
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	2	32.0				
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	2	16.0				
W1-4AR	REVERSE CURVE RT.	48"x48"		2			2	2	32.0				
W1-4AL	REVERSE CURVE LT.	48"x48"		2			2	2	32.0				
W13-1	SPEED LIMIT (ADVISORY)	24"x24"		4			4	4	16.0				
R11-2	ROAD CLOSED	48"x30"	2	2	2		2	2	20.0				
OM-3L	OBJECT MARKER	12"x36"		2			2	2	6.0				
OM-3R	OBJECT MARKER	12"x36"		2			2	2	6.0				
W1-6	LARGE ARROW	48"x24"		2	2		2	2	16.0				
W1-8	CHEVRONS	18"x24"		16			16	16	48.0				
R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	2	10.0				
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	2	2	2	2	18.0				
	VERTICAL PANELS		10		10		10			10			
	TRAFFIC DRUMS		12	22	12		22				22		
	TYPE III BARRICADE-RT. (16')		1	1	1		1					16	
	TYPE III BARRICADE-LT. (16')		1	1	1		1						16
TOTALS:									316.0	10	22	16	16

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
									TYPE II	6"	
									(YELLOW/YELLOW)	WHITE	YELLOW
	LIN. FT. - EACH				LIN. FT.		LIN. FT.		EACH	LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS		1652			1652						
CONSTRUCTION PAVEMENT MARKINGS		2640	5060			7700					
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			1652				1652				
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		1652						1652			
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)				16					16		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")				2530						2530	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")				2530							2530
TOTALS:					1652	7700	1652	1652	16	2530	2530

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

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

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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
				6	ARK.			
				JOB NO.		100841	17	44

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
101+00	35	59	14.90	90	50	33.10	6' RT.	0-5	44	30	A-7-6(17)	GRAY
101+00	35	59	14.90	90	50	33.10	18' RT.	0-5	38	25	A-6(14)	GRAY
101+20	35	59	14.90	90	50	33.00	18' RT.	0-5	37	25	A-6(13)	GRAY
109+00	35	59	19.70	90	50	25.40	6' LT.	0-5	40	26	A-6(15)	GRAY
109+00	35	59	19.70	90	50	25.50	18' LT.	0-5	44	29	A-7-6(17)	GRAY

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
104+48.00	BRIDGE END	1
TOTAL:		1

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
104+00	105+00	HWY. 228	1	1
110+00	111+00	HWY. 228	1	1
TOTALS:			2	2

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	5	10
DIRECTED BY THE ENGINEER		
TOTALS:	5	10

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

ACHM PATCHING OF EXISTING ROADWAY

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

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
99+00.00	100+00.00	MAIN LANES	20.00	222.22
110+65.00	111+65.00	MAIN LANES	20.00	222.22
TOTAL:				444.44

NOTE: AVERAGE MILLING DEPTH 1".

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			500	4
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			500	4

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

STRUCTURES

STATION	DESCRIPTION	TEMPORARY CULVERTS	STD. DWG. NOS.
		60"	
		LIN. FT.	
205+40	DBL. 60" X 60' TEMP. PIPE CULVERT	120	PCC-1, PCM-1
TOTAL:		120	

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.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
102+94.85	104+38.60	LT. SIDE	75	1	1
102+19.85	104+38.60	RT. SIDE	150	1	1
106+22.40	108+41.15	LT. SIDE	150	1	1
106+22.40	107+66.15	RT. SIDE	75	1	1
TOTALS:			450	4	4

SELECTED PIPE BEDDING

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

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

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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
				6	ARK.			
				JOB NO.		100841	18	44

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	CU.YD.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						4.43	4.43	90.4	30	2616			107
ENTIRE	PROJECT	STAGE 1						0.86	0.86	17.5	18	230			15
ENTIRE	PROJECT	STAGE 2						0.92	0.92	18.8	12				4
ENTIRE	PROJECT	STAGE 3	2.44	4.88	2.44	248.9	2.44	1.35	1.35	27.5	12	79			7
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.56	1.12	0.56	57.1	0.56				15	575	200	200	226
TOTALS:			**3.00**	**6.00**	**3.00**	**306.0**	**3.00**	**7.56**	**7.56**	**154.2**	**87**	**3500**	**200**	**200**	**359**

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
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE C)	APPROACH SLABS (TYPE SPECIAL)	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.	CU.YD.	POUND	TON
104+11.50	104+48.00	LT. SIDE	8.30		445	
104+11.50	104+48.00	MAIN LANES		44.92	5540	31.2
104+11.50	104+48.00	RT. SIDE	8.30		445	
106+13.00	106+49.50	LT. SIDE	8.30		445	
106+13.00	106+49.50	MAIN LANES		44.92	5540	31.2
106+13.00	106+49.50	RT. SIDE	8.30		445	
TOTALS:			**33.20**	**89.84**	**12860**	**62.4**

NOTE: USE T =13" FOR 4' SHOULDER.

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	STAGE 1-MAIN LANES	142	8172	
ENTIRE	PROJECT	STAGE 2-MAIN LANES	554	4701	
ENTIRE	PROJECT	STAGE 3-MAIN LANES	8098	521	
ENTIRE	PROJECT	BRIDGE EXCAVATION	300		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			100
		DIRECTED BY THE ENGINEER			
TOTALS:			**9094**	**13394**	**100**

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

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

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						TOTAL GALLONS	ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								TOTAL PG 64-22
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.) TOTAL WID.	SQ.YD.	GALLON	(0.17 GAL. PER SQ. YD.) TOTAL WID.	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	
			FEET			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																									
99+00.00	100+00.00	TRANSITION	100.00	48.75	48.75	4.36	48.44	2.42	20.00	222.22	37.78	40.20	2.23	24.78	330.00	4.09	2.13	23.67	220.00	2.60	23.00	255.56	220.00	28.11	30.71
100+00.00	102+55.00	NOTCH AND WIDEN	255.00	97.50	248.63	VAR.	852.14	42.61				42.61	VAR.	394.08	330.00	74.02	VAR.	458.06	220.00	54.81	26.00	736.67	220.00	81.03	135.84
102+55.00	104+11.50	FULL DEPTH	156.50	178.00	278.57	44.71	777.46	38.87				38.87	22.46	390.55	330.00	64.44	22.25	386.90	220.00	42.56	26.00	452.11	220.00	49.73	92.29
106+49.50	108+95.00	FULL DEPTH	245.50	178.00	436.99	44.71	1219.59	60.98				60.98	22.46	612.66	330.00	101.09	22.25	606.93	220.00	66.76	26.00	709.22	220.00	78.01	144.77
108+95.00	110+65.00	NOTCH AND WIDEN	170.00	97.50	165.75	VAR.	568.09	28.40				28.40	VAR.	262.72	330.00	49.35	VAR.	305.37	220.00	36.54	26.00	491.11	220.00	54.02	90.56
110+65.00	111+65.00	TRANSITION	100.00	48.75	48.75	4.36	48.44	2.42	20.00	222.22	37.78	40.20	2.23	24.78	330.00	4.09	2.13	23.67	220.00	2.60	23.00	255.56	220.00	28.11	30.71
ADDITIONAL FOR LEVELING																									
100+00.00	101+30.00	MAIN LANES	130.00						20.00	288.89	49.11	49.11									20.00	288.89	220.00	31.78	31.78
109+30.00	110+65.00	MAIN LANES	135.00						20.00	300.00	51.00	51.00									20.00	300.00	220.00	33.00	33.00
ADDITIONAL FOR GRADE RAISE																									
101+30.00	102+55.00	MAIN LANES	125.00			21.38	296.94	14.85	20.00	277.78	47.22	62.07	21.38	296.94	1045.00	155.15									
108+95.00	109+30.00	MAIN LANES	35.00			21.38	83.14	4.16	20.00	77.78	13.22	17.38	21.38	83.14	1045.00	43.44									
ADDITIONAL FOR GUARDRAIL																									
101+64.85	101+76.85	GUARDRAIL WIDENING ON RT.	12.00																		1.00	1.33	220.00	0.15	0.15
101+76.85	102+09.85	GUARDRAIL WIDENING ON RT.	33.00	21.38	7.06																3.75	13.75	220.00	1.51	1.51
102+09.85	102+19.85	GUARDRAIL WIDENING ON RT.	10.00	42.75	4.28																7.50	8.33	220.00	0.92	0.92
102+19.85	103+94.85	GUARDRAIL WIDENING ON RT.	175.00	37.75	66.06																6.50	126.39	220.00	13.90	13.90
103+94.85	104+48.00	GUARDRAIL WIDENING ON RT.	53.15	32.75	17.41																5.50	32.48	220.00	3.57	3.57
102+39.85	102+51.85	GUARDRAIL WIDENING ON LT.	12.00																		1.00	1.33	220.00	0.15	0.15
102+51.85	102+84.85	GUARDRAIL WIDENING ON LT.	33.00	21.38	7.06																3.75	13.75	220.00	1.51	1.51
102+84.85	102+94.85	GUARDRAIL WIDENING ON LT.	10.00	42.75	4.28																7.50	8.33	220.00	0.92	0.92
102+94.85	103+94.85	GUARDRAIL WIDENING ON LT.	100.00	37.75	37.75																6.50	72.22	220.00	7.94	7.94
103+94.85	104+48.00	GUARDRAIL WIDENING ON LT.	53.15	32.75	17.41																5.50	32.48	220.00	3.57	3.57
106+13.00	106+66.15	GUARDRAIL WIDENING ON RT.	53.15	32.75	17.41																5.50	32.48	220.00	3.57	3.57
106+66.15	107+66.15	GUARDRAIL WIDENING ON RT.	100.00	37.75	37.75																6.50	72.22	220.00	7.94	7.94
107+66.15	107+76.15	GUARDRAIL WIDENING ON RT.	10.00	42.75	4.28																7.50	8.33	220.00	0.92	0.92
107+76.15	108+09.15	GUARDRAIL WIDENING ON RT.	33.00	21.38	7.06																3.75	13.75	220.00	1.51	1.51
108+09.15	108+21.15	GUARDRAIL WIDENING ON RT.	12.00																		1.00	1.33	220.00	0.15	0.15
106+13.00	106+66.15	GUARDRAIL WIDENING ON LT.	53.15	32.75	17.41																5.50	32.48	220.00	3.57	3.57
106+66.15	108+41.15	GUARDRAIL WIDENING ON LT.	175.00	37.75	66.06																6.50	126.39	220.00	13.90	13.90
108+41.15	108+51.15	GUARDRAIL WIDENING ON LT.	10.00	42.75	4.28																7.50	8.33	220.00	0.92	0.92
108+51.15	108+84.15	GUARDRAIL WIDENING ON LT.	33.00	21.38	7.06																3.75	13.75	220.00	1.51	1.51
108+84.15	108+96.15	GUARDRAIL WIDENING ON LT.	12.00																		1.00	1.33	220.00	0.15	0.15
ADDITIONAL FOR DETOUR																									
200+00.00	201+71.54	NOTCH AND WIDEN	171.54	77.63	133.17	VAR.	154.89	7.74				7.74					VAR.	154.89	220.00	17.04	VAR.	198.22	220.00	21.80	38.84
201+71.54	209+02.34	FULL DEPTH	730.80	155.25	1134.57	20.25	1644.30	82.22				82.22					20.25	1644.30	220.00	180.87	24.00	1948.80	220.00	214.37	395.24
209+02.34	210+72.96	NOTCH AND WIDEN	170.62	77.63	132.45	VAR.	152.00	7.60				7.60					VAR.	152.00	220.00	16.72	VAR.	187.78	220.00	20.66	37.38
TOTALS:					**2950.25**		**5845.43**	**292.27**		**1388.89**	**236.11**	**528.38**		**2089.65**		**495.67**		**3755.79**		**420.50**		**6444.70**		**708.90**	**1129.40**

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
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

1/15/2019

R100841.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	19	44
				①	07438 -	QUANTITIES	- 60471	

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 100841

BRIDGE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	SS & 802	SP, SS,& 802	SS & 802	803	SS & 804	SS & 804	SS & 805	SS & 805	SS & 805	SS & 805	812	816	816
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	PRESTRESSED CONCRETE GIRDERS (TYPE II)	CLASS 1 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL SHELL PILING (16" DIA.)	STEEL SHELL PILING (24" DIA.)	PILE ENCASEMENT	PREBORING	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
			UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	LIN. FT.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	SQ. YD.	CU. YD.
07438	HIGHWAY 228 OVER CACHE RIVER RELIEF																	
		BENT NOS. 1 & 4			41	24.75				2,350	548	440			80		425	237
		BENT NOS. 2 & 3				36.95				2,640	558		650	16				
		164' INTEGRAL PRESTRESSED CONCRETE GIRDER UNIT					243.50	648.0	14.0		44,224					1		
		SITE NO. 1 (EXISTING BR. NO. M3318)		1														
TOTAL FOR JOB NO. 100841					41	61.70	243.50	648.0	14.0	4,990	45,330	440	650	16	80	1	425	237

STEVEN PEYTON
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
4-22-19

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
CACHE RIVER RELIEF STR. & APPRS. (S)
GREENE COUNTY

ROUTE 228 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 4/4/2019 FILENAME: bl00841xl_ql.dgn
CHECKED BY: SWP DATE: 4/4/2019 SCALE: NO SCALE
DESIGNED BY: — DATE: —

BRIDGE NO. 07438 DRAWING NO. 60471

PRINT DATE: 4/19/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	20	44

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	2	STATION
201	GRUBBING	2	STATION
210	UNCLASSIFIED EXCAVATION	9094	CU. YD.
210	COMPACTED EMBANKMENT	13394	CU. YD.
SP & 210	SOIL STABILIZATION	100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	3013	TON
SS & 401	TACK COAT	538	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	476	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	20	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	1070	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	59	TON
412	COLD MILLING ASPHALT PAVEMENT	444	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	5	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	50	TON
504	APPROACH SLABS	89.84	CU. YD.
504	APPROACH GUTTERS	33.20	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	60" TEMPORARY CULVERT	120	LIN. FT.
SS & 604	SIGNS	316	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 604	TRAFFIC DRUMS	22	EACH
604	CONSTRUCTION PAVEMENT MARKINGS	7700	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1652	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	1652	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	1652	LIN. FT.
SS & 604	VERTICAL PANELS	10	EACH
606	SELECTED PIPE BEDDING	20	CU. YD.
SS & 611	4" PIPE UNDERDRAINS	500	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4	EACH
SS & 617	GUARDRAIL (TYPE A)	450	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	4	EACH
620	LIME	6	TON
620	SEEDING	3.00	ACRE
SS & 620	MULCH COVER	10.56	ACRE
620	WATER	460.2	M. GAL.
621	TEMPORARY SEEDING	7.56	ACRE
621	SILT FENCE	3500	LIN. FT.
621	SEDIMENT BASIN	200	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	200	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	359	CU. YD.
621	ROCK DITCH CHECKS	87	CU. YD.
623	SECOND SEEDING APPLICATION	3.00	ACRE
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	2530	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	2530	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	16	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	12860	POUND
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	41	CU. YD.
SS & 802	CLASS S CONCRETE-BRIDGE	61.70	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	243.50	CU. YD.
SS & 802	PRESTRESSED CONCRETE GIRDERS (TYPE II)	648.0	LIN. FT.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	14.0	GAL.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	4990	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	45330	POUND
SS & 805	STEEL SHELL PILING (16" DIAMETER)	440	LIN. FT.
SS & 805	STEEL SHELL PILING (24" DIAMETER)	650	LIN. FT.
SS & 805	PREBORING	80	LIN. FT.
SS & 805	PILE ENCASEMENT	16	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
816	FILTER BLANKET	425	SQ. YD.
816	DUMPED RIPRAP	237	CU. YD.

REVISIONS

DATE	REVISION	SHEET NUMBER

1/15/2019

R100841.DGN

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	21	44

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

SURVEY CONTROL COORDINATES

Project Name: s100841

Date: 7/19/2016

Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL SEDGWICK BASE 3-96, PROJECTED TO GROUND.

Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	603417.8095	1653840.3555	256.221	CTL	STD AHTD MON. STAMPED PN: 1
2	604003.3528	1654635.1947	256.144	CTL	STD AHTD MON. STAMPED PN: 2
3	604432.2980	1655261.1001	256.591	CTL	STD AHTD MON. STAMPED PN: 3
4	604761.3351	1655707.4072	255.890	CTL	STD AHTD MON. STAMPED PN: 4
5	605110.4262	1656181.1158	255.497	CTL	STD AHTD MON. STAMPED PN: 5
100	600404.1983	1649275.9650	262.365	GPS	AHTD GPS SEDGWICK BASE 3-96
900	601744.2347	1651657.1924	263.283	TBM	CPS IN PP, 41' E of HWY CL
901	602981.0708	1653300.0245	257.871	TBM	ALUM CAP, NE CORN OF BG
902	604300.9682	1654990.8471	251.414	TBM	RR SPKIKE, 145' W OF NW END BG
903	605118.5826	1656101.1136	253.621	TBM	RR SPIKE, 41' NW OF CL HWY 228

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*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 0.9999481827 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: s100841gi.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: SEDGWICK BASE 3-96
CONVERGENCE ANGLE: 00-40-28 RIGHT AT PN: 3 LT: N 35-59-17.86 LG: W 090-50-28.00
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 228

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	98+50.00	603985.0229	1654635.9685
8001	POE	111+93.39	604784.1007	1655715.8602

DETOUR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8002	PC	200+00.00	604074.2463	1654756.5470
8004	PT	201+84.49	604163.7799	1654917.2726
8005	PC	202+34.49	604182.3003	1654963.7161
8007	PT	204+18.98	604271.8339	1655124.4417
8008	PC	206+53.98	604411.6172	1655313.3480
8010	PT	208+38.47	604539.1428	1655445.9611
8011	PC	208+88.47	604578.1421	1655477.2509
8013	PT	210+72.96	604705.6677	1655609.8640

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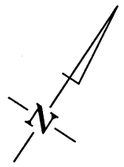
SURVEY CONTROL DETAILS

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.		100841	22	44

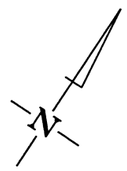
(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19



SURVEY BASELINE N 56°33'56" E
5469.51'

PN:100
PD:AHTD GPS SEDGWICK BASE 3-96



SURVEY BASELINE N 56°33'56" E
5469.51'

PN:900
PD:CPS IN PP 228 SEDGWICK

R100841.DGN 1/14/2019

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.		100841	23	44

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-2-19

SURVEY BASELINE N 56°33'56" E
5469.51'

SURVEY BASELINE N 56°33'56" E
5469.51'

PN:1
PD:STD AHTD MON. STAMPED PN:1 228

SURVEY BASELINE N 53°37'18" E
987.23'

PN:901
PD:ALUM CAP NE CORN OF BG LM 0.01 228

1/14/2019

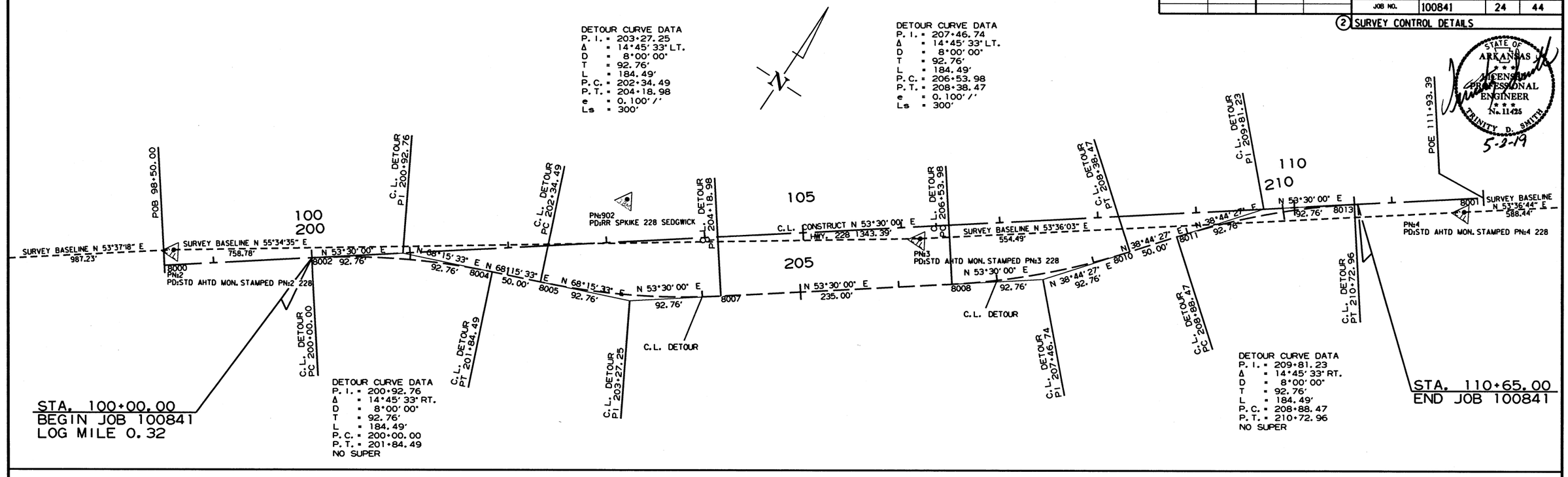
R100841.DGN

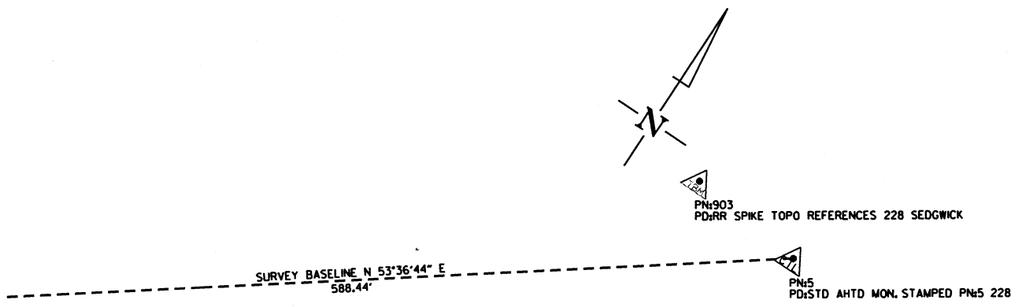
SURVEY CONTROL DETAILS

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.		100841	24	44

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-3-19





1/14/2019

R100841.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.		100841	25	44

(2) PLAN AND PROFILE SHEET

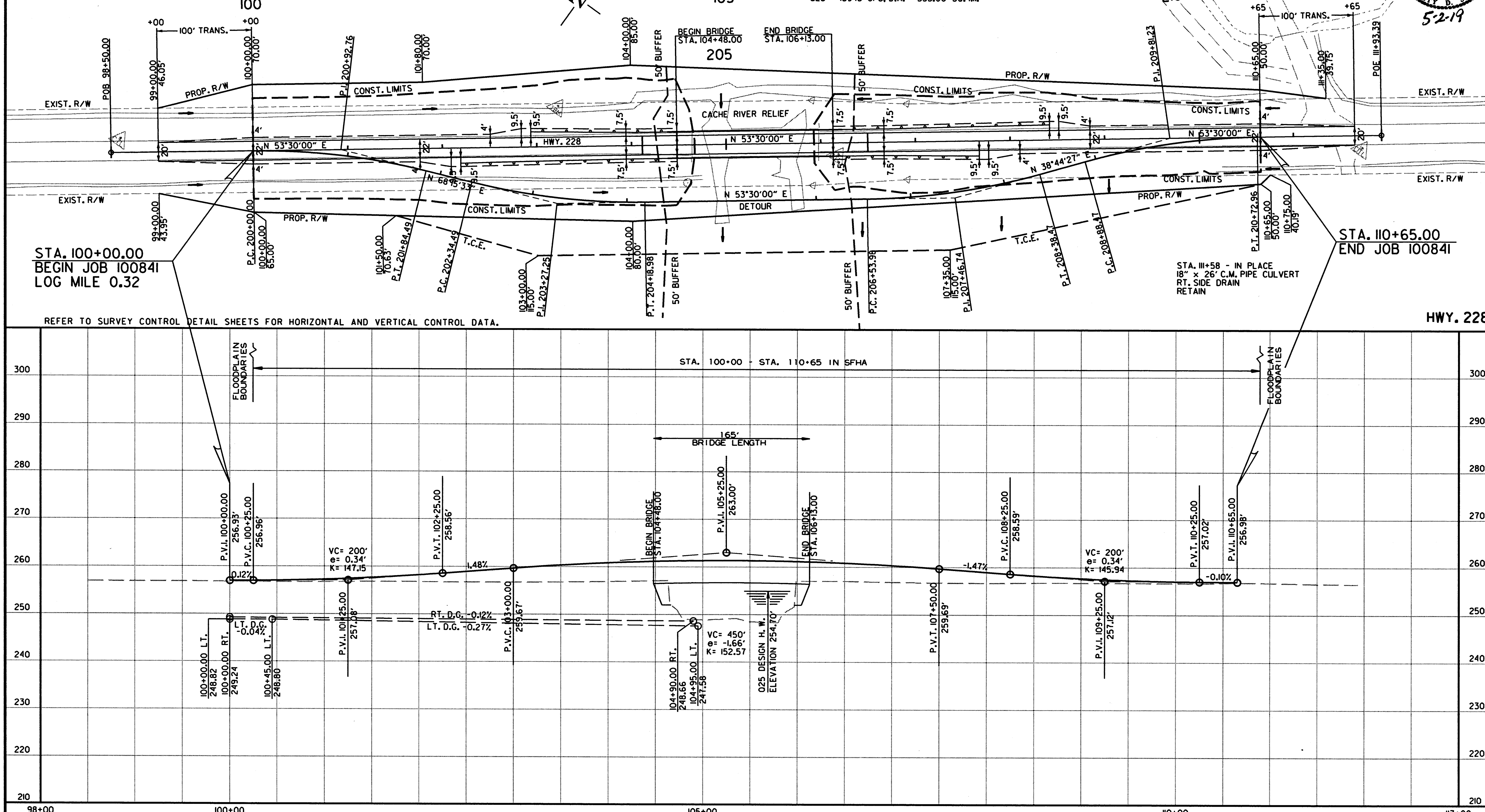
GUARDRAIL

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	GUARDRAIL TERMINAL (TYPE 2) EACH	THRIE BEAM GUARDRAIL TERMINAL EACH
102+94.85	104+38.60	LT.	75	1	1
102+19.85	104+38.60	RT.	150	1	1
106+22.40	108+41.15	LT.	150	1	1
106+22.40	107+66.15	RT.	75	1	1

STA. 204+69.59- STA. 206+03.40 IN PLACE
29'-6" X 133'-0" BRIDGE NO. M3318
CONCRETE DECK W/TIMBER BENTS & PILES
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 1) = 1.00 LUMP SUM

STA. 104+48.00 BRIDGE END
BRIDGE NO. 07438
164'-0" INTEGRAL COMPOSITE PRESTRESSED
CONCRETE GIRDER UNIT (54'-6", 55'-0", 54'-6")
30'-0" CLEAR ROADWAY
165.00' TOTAL LENGTH
STA. 106+13.00 BRIDGE END
Q25 = 13945 CFS, D.A. = 553.00 SQ. MI.

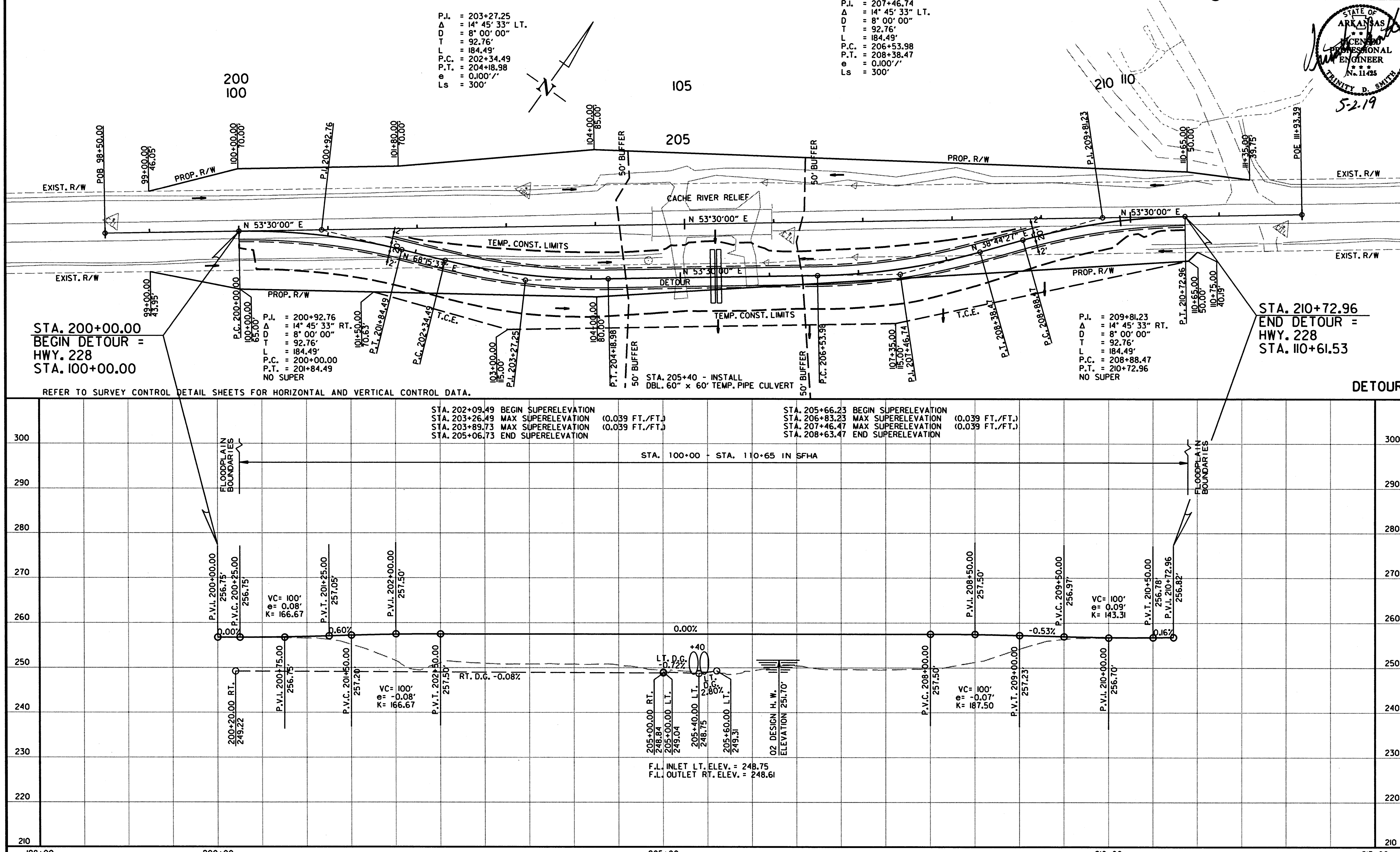
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
[illegible]
5-2-19



R100841.DGN 12/14/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100841	26	44

(2) DETOUR PLAN AND PROFILE SHEET



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