DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	1	48
				(2) DITCH NO. 43-WEST (S)				

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

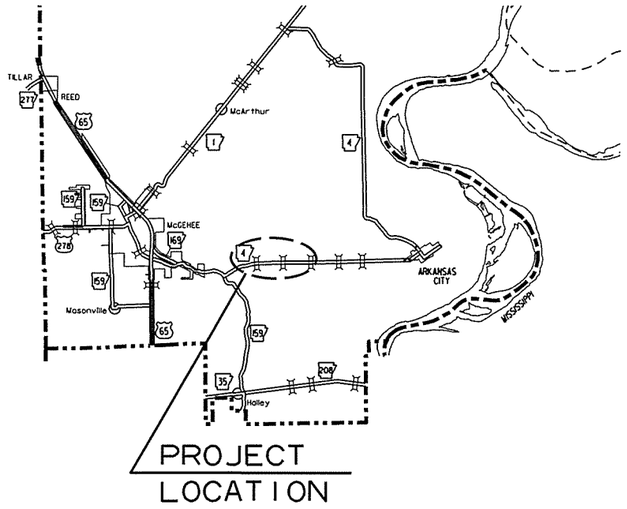
DITCH NO. 43-WEST (S)

DESHA COUNTY

ROUTE 4 SECTION 17

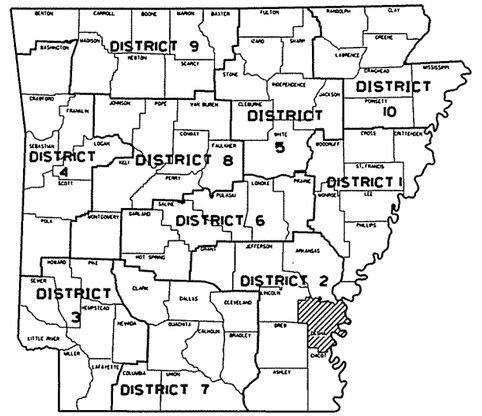
JOB NO. 020580

FED. AID PROJ. STPR-0021(35)



VICINITY MAP

NOT TO SCALE



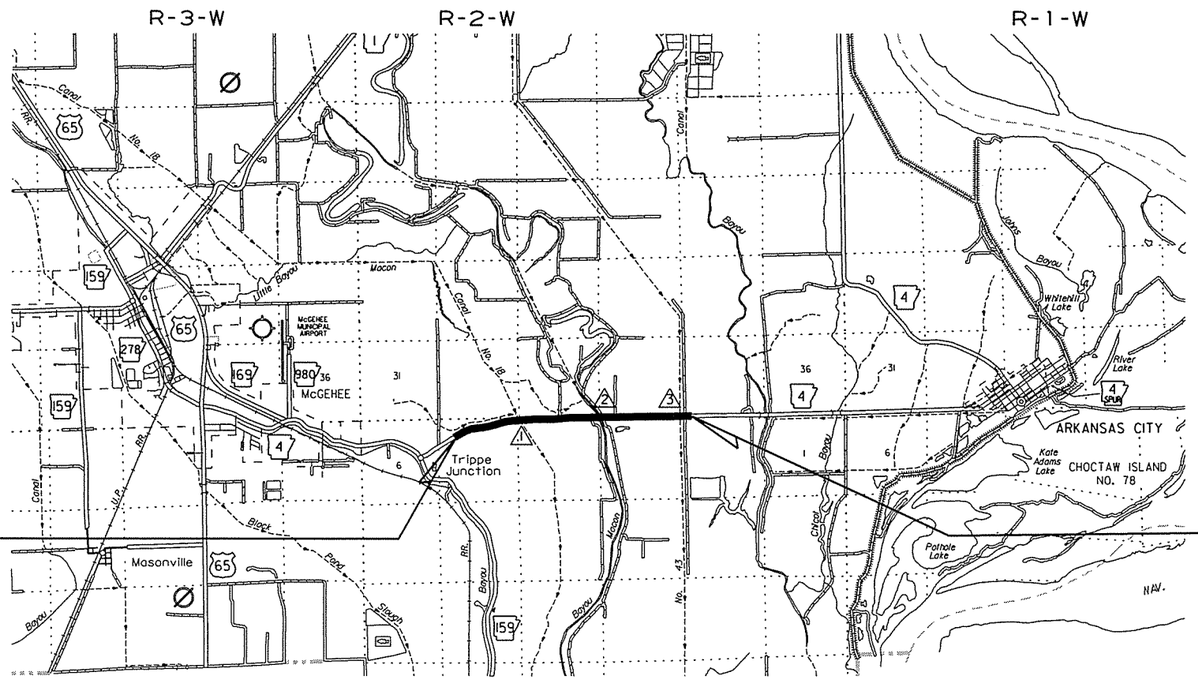
ARK. HWY. DIST. NO. 2

FOR INFORMATION ONLY
BRIDGE DATA

(1) STA. 329+34.11 BR. END
148.79' BRIDGE NO. 03799
24.0' CLEAR ROADWAY
STA. 330+82.90 BR. END
BRIDGE DECK REHAB. (MILL & INLAY)

(2) STA. 381+85.35 BR. END
202.31' BRIDGE NO. 02162
24.0' CLEAR ROADWAY
STA. 383+87.66 BR. END
BRIDGE DECK REHAB. (MILL & POLYMER OVERLAY)

(3) STA. 438+09.00 BR. END
140' BRIDGE NO. 03592
24.0' CLEAR ROADWAY
STA. 439+49.00 BR. END
BRIDGE DECK REHAB. (MILL & POLYMER OVERLAY)



STA. 283+00.00
BEGIN JOB 020580
LOG MILE 3.49

STA. 442+00.00
END JOB 020580

DESIGN TRAFFIC DATA

DESIGN YEAR	2036
2016 ADT	1400
2036 ADT	1700
2036 DHV	187
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	9%
DESIGN SPEED	55 MPH

APPROVED

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

5-17-16

DEPUTY DIRECTOR
AND CHIEF ENGINEER

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 33°36'12"	LATITUDE = N 33°36'22"	LATITUDE = N 33°36'21"
LONGITUDE = W 91°19'43"	LONGITUDE = W 91°18'14"	LONGITUDE = W 91°16'38"

GROSS LENGTH OF PROJECT	15900.00	FEET	OR	3.011	MILES
NET	15408.90			2.918	
NET	491.10			0.093	
NET	15900.00			3.011	

5/13/16

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5-25-16				6	ARK.			
6-9-16				JOB NO.		020580	2	48

(2) INDEX, GOV. SPECS, AND GENERAL NOTES

INDEX OF SHEETS

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
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1	MULCH COVER
JOB 020580	BIDDING REQUIREMENTS AND CONDITIONS
JOB 020580	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS
JOB 020580	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 020580	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 020580	CARGO PREFERENCE ACT REQUIREMENTS
JOB 020580	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 020580	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 020580	ISSUANCE OF PROPOSALS
JOB 020580	MAINTENANCE OF TRAFFIC
JOB 020580	MANDATORY ELECTRONIC CONTRACT
JOB 020580	PARTNERING REQUIREMENTS
JOB 020580	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB 020580	POLYMER OVERLAY
JOB 020580	PORTABLE TRAFFIC SIGNAL SYSTEM
JOB 020580	SOIL STABILIZATION
JOB 020580	STORM WATER POLLUTION PREVENTION PLAN
JOB 020580	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 020580	TEMPORARY PORTABLE RUMBLE STRIPS
JOB 020580	UTILITY ADJUSTMENTS
JOB 020580	VALUE ENGINEERING
JOB 020580	WARM MIX ASPHALT
JOB 020580	WOVEN GEOTEXTILE FABRIC FOR SUBGRADE REINFORCEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-9-16

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. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. 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.
9. PREPARATORY WORK, SUCH AS CLIPPING THE GRASS AND DEBRIS FROM THE EDGE OF THE EXISTING ROADWAY, WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED A PART OF THE OTHER ITEMS OF WORK. AFTER THE ROADWAY IS COMPLETED, THESE "CLIPPINGS' SHALL BE PULLED UP TO THE EDGE OF THE NEW PAVEMENT BY THE CONTRACTOR. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK.

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INDEX OF SHEETS, GOVERNING SPECIFICATIONS, & GENERAL NOTES

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				6	ARK.			
				JOB NO.		020580	3	48

(2) TYPICAL SECTIONS OF IMPROVEMENT

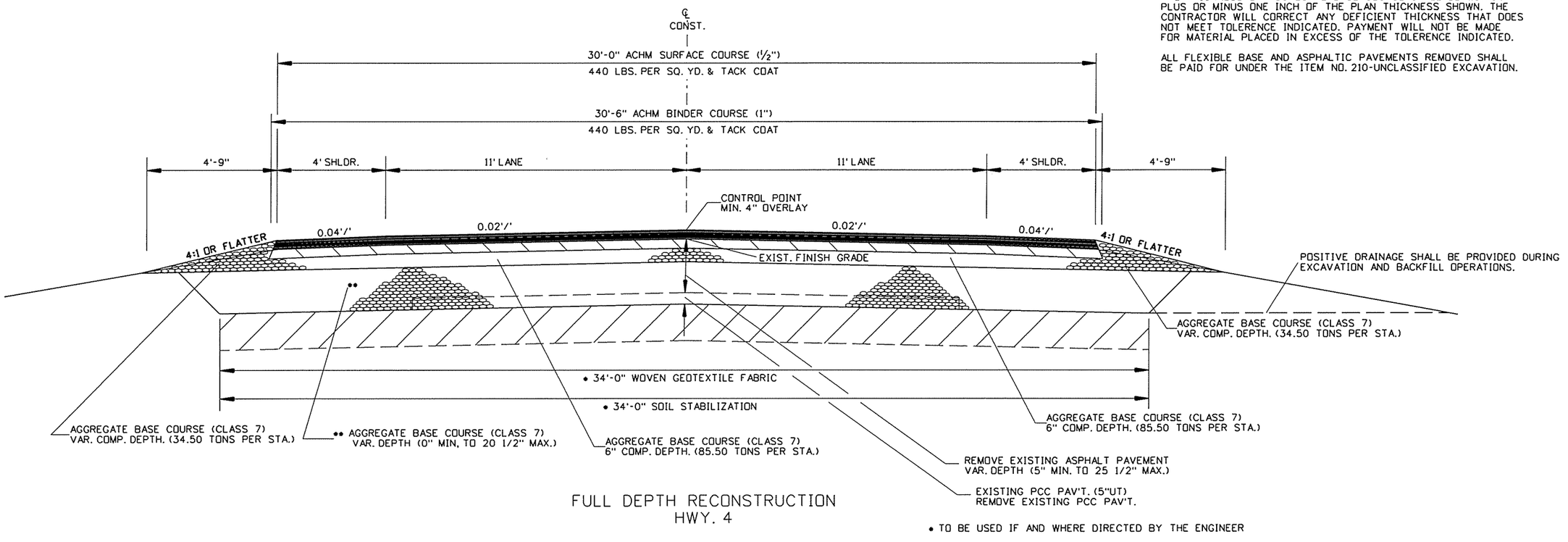
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16

NOTES:

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

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 TOLERENCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERENCE INDICATED.

ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210-UNCLASSIFIED EXCAVATION.



FULL DEPTH RECONSTRUCTION
HWY. 4

STA. 283+00 TO STA. 326+00
STA. 334+00 TO STA. 369+00
STA. 432+00 TO STA. 435+00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

4/25/16

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TYPICAL SECTIONS OF IMPROVEMENT

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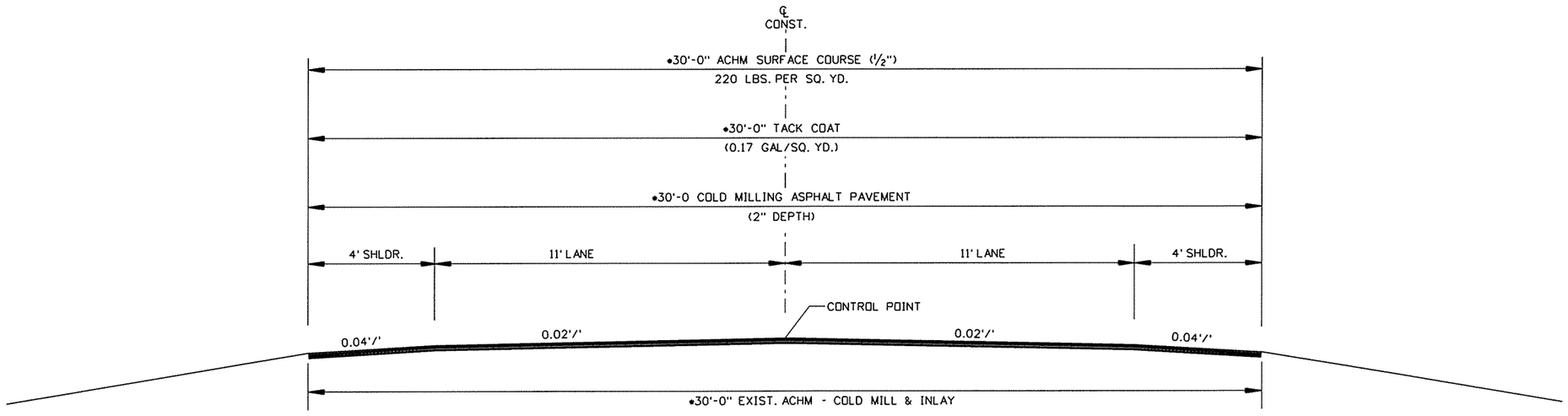
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16

NOTES:

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



• VARIABLE WIDTH BASED ON BRIDGE WIDTH

MILL & INLAY
HWY. 4
STA. 328+00 TO STA. 332+00

5/4/16

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TYPICAL SECTIONS OF IMPROVEMENT

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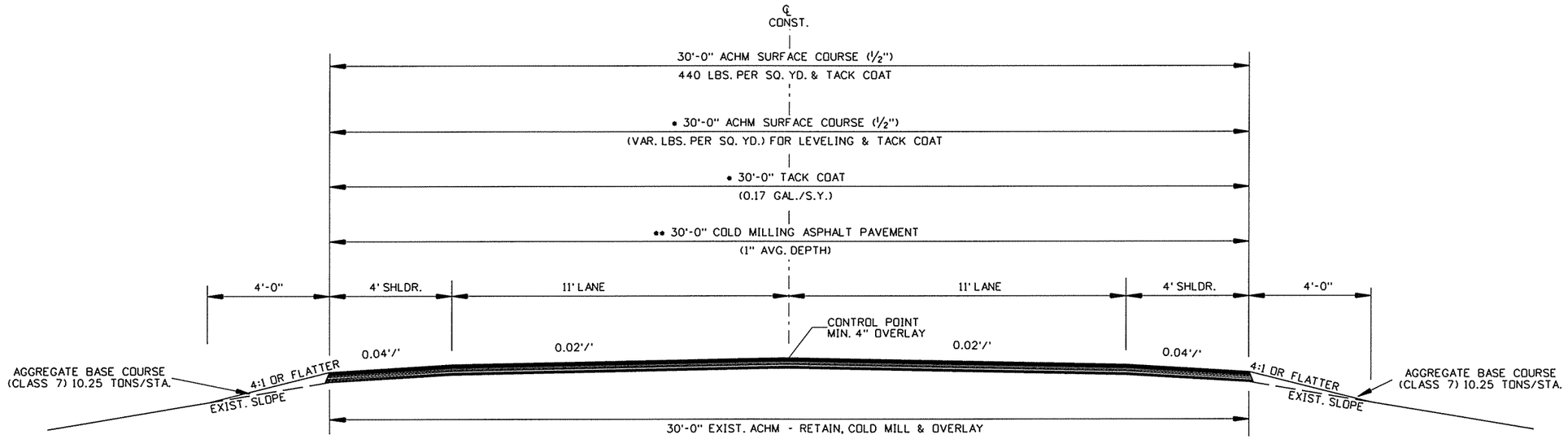
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16

NOTES:

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 OVERLAY OPERATIONS. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS ITEMS.

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



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

•• PROFILE COLD MILLING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

OVERLAY
HWY. 4

STA. 369+00 TO STA. 377+35
STA. 388+38 TO STA. 432+00

5/4/16

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TYPICAL SECTIONS OF IMPROVEMENT

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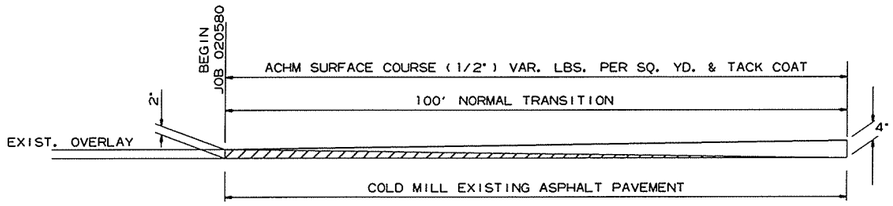
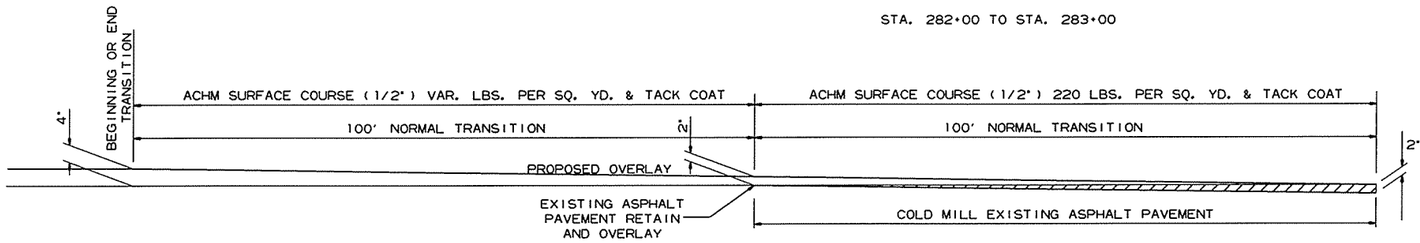
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16



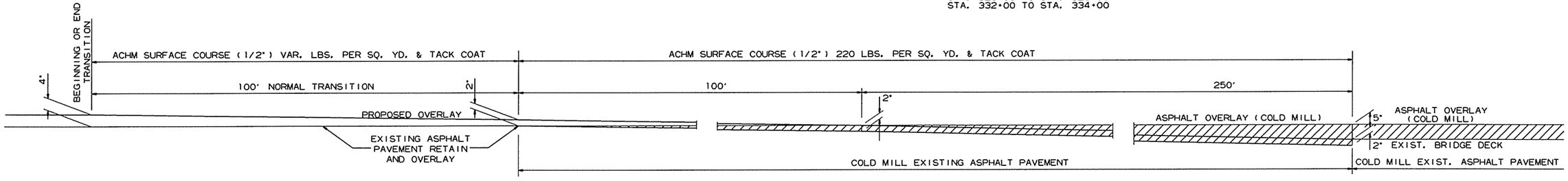
DETAIL FOR COLD MILLING TRANSITIONS

STA. 282+00 TO STA. 283+00



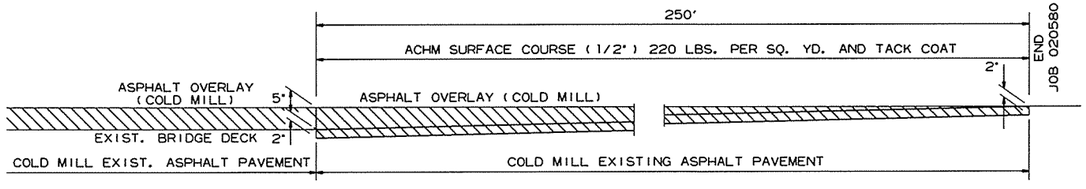
DETAIL FOR COLD MILLING TRANSITIONS

STA. 326+00 TO STA. 328+00
STA. 332+00 TO STA. 334+00



DETAIL FOR COLD MILLING TRANSITIONS

STA. 377+35 TO STA. 381+85
STA. 383+88 TO STA. 388+38
STA. 433+59 TO STA. 438+09



DETAIL FOR COLD MILLING TRANSITIONS

STA. 439+50 TO STA. 442+00

5/4/16

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SPECIAL DETAILS

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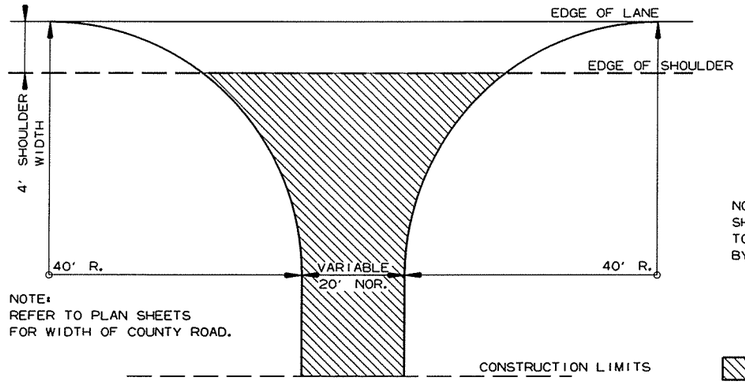
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16

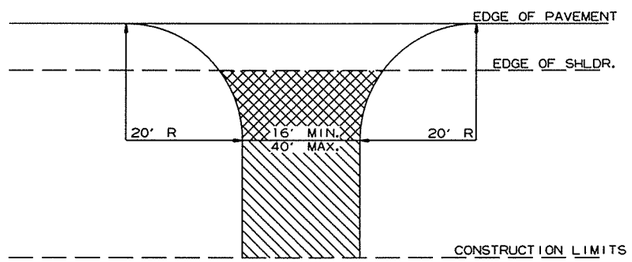


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

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

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

DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.) AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR 6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7) 9" COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY

DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)

4/18/16

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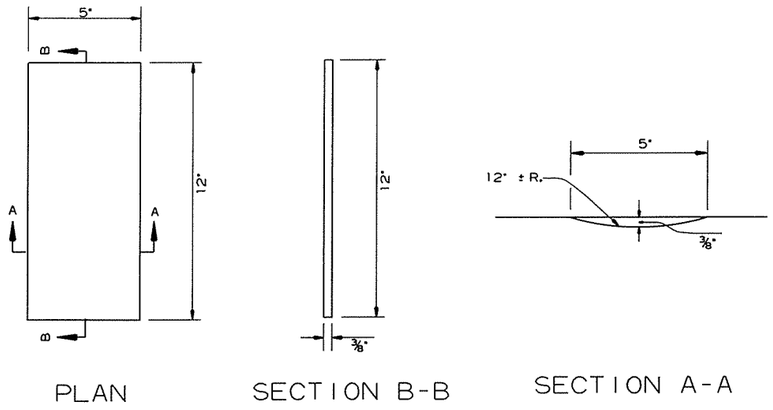
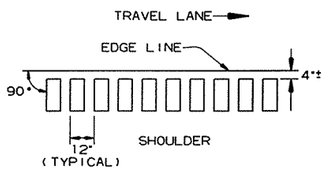
(2) SPECIAL DETAILS

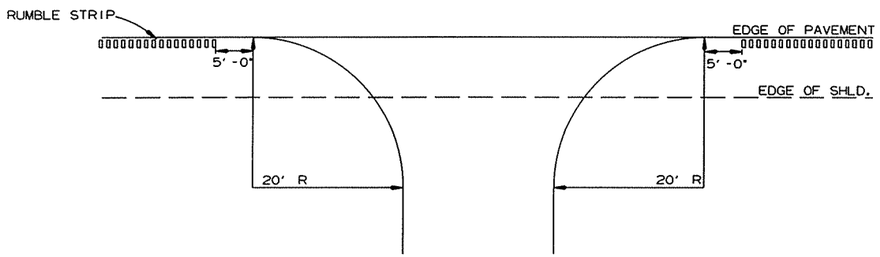
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16



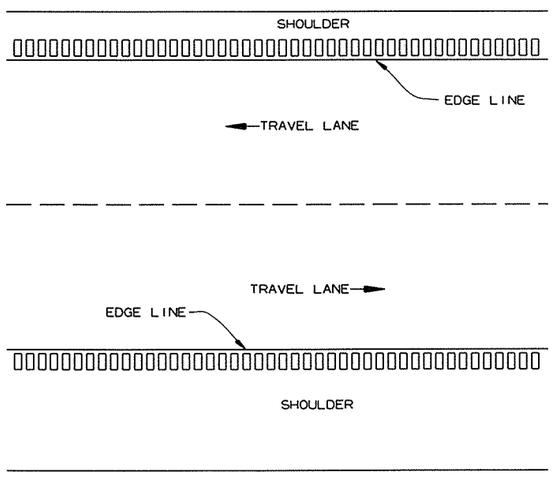
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



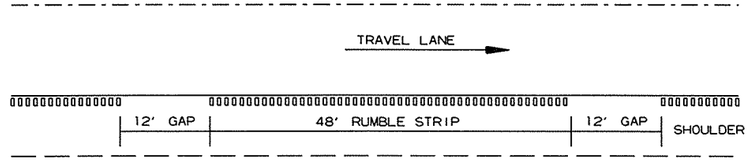
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



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

4/18/16

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SPECIAL DETAILS

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(2) TEMPARARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16

REVISIONS

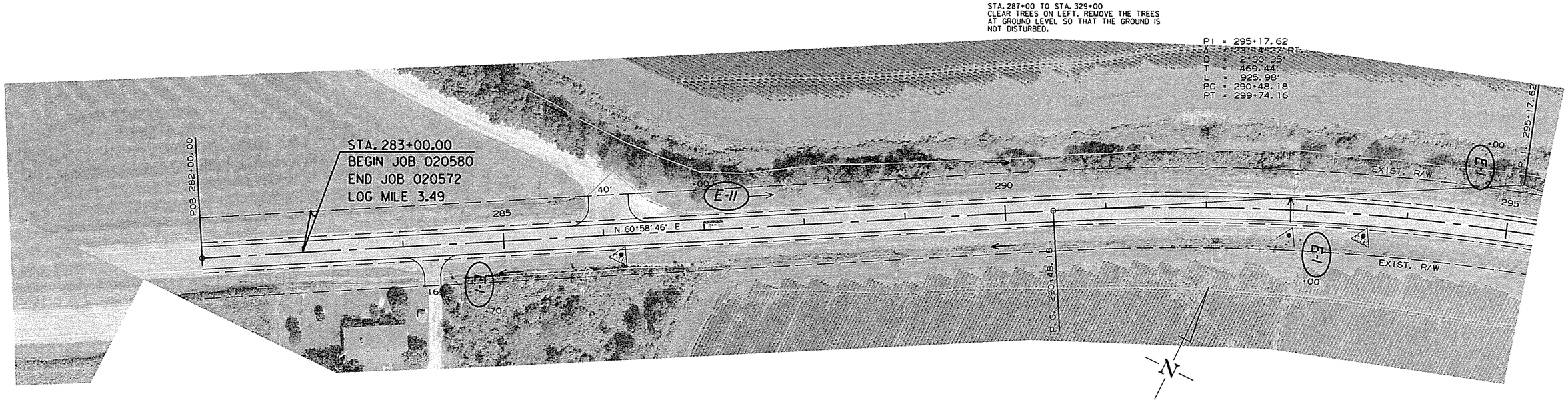
DATE OF REVISION	REVISION

LEGEND

E-I = WATTLE (20") DITCH CHECKS

E-II = SILT FENCE

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



TEMPORARY EROSION CONTROL DETAILS

4/20/16

R020580.DGN

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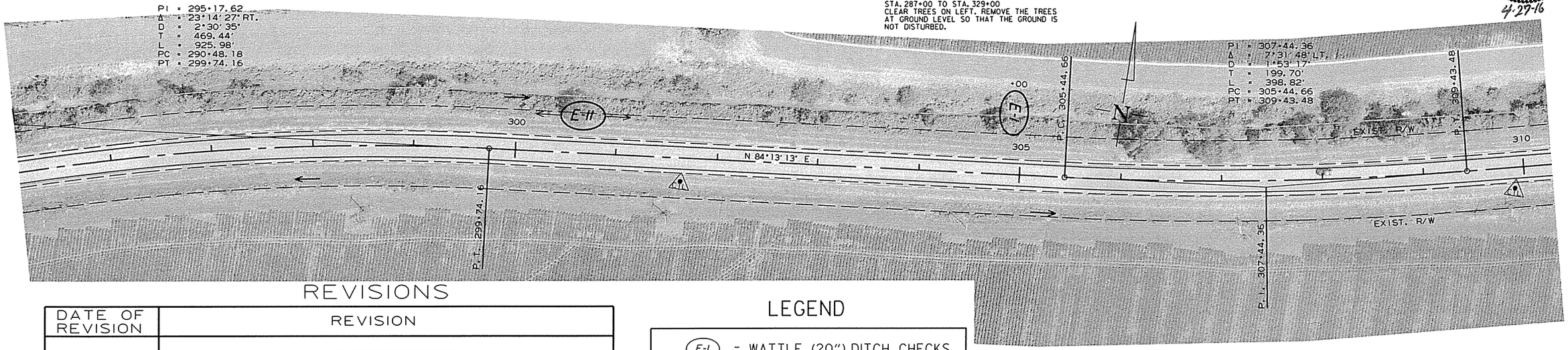
(2) TEMPARARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16



REVISIONS

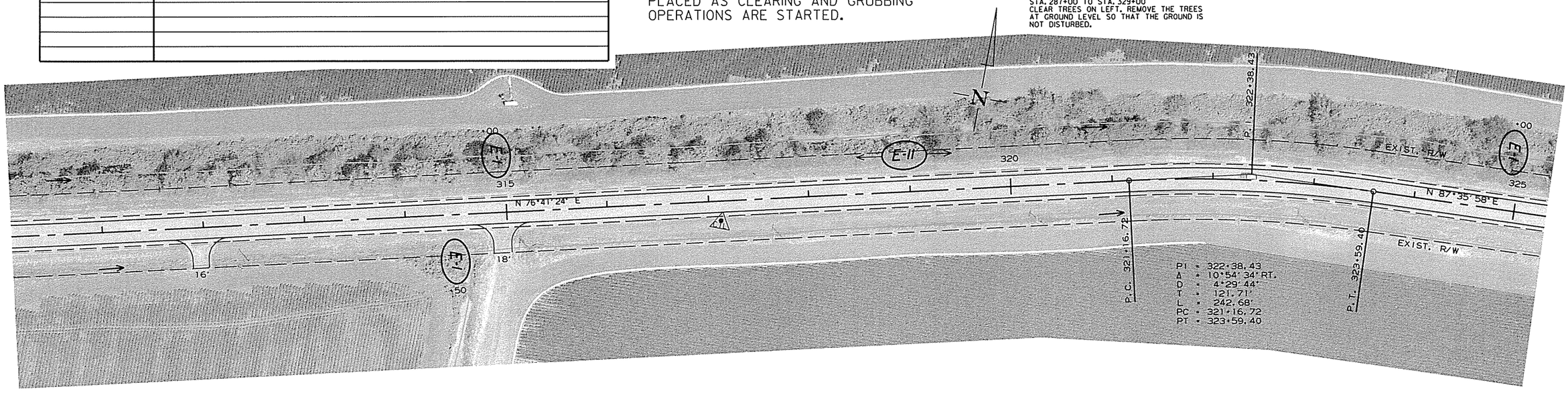
DATE OF REVISION	REVISION

LEGEND

(E-I) = WATTLE (20") DITCH CHECKS

(E-II) = SILT FENCE

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



4/25/16

R020580.DGN

TEMPORARY EROSION CONTROL DETAILS

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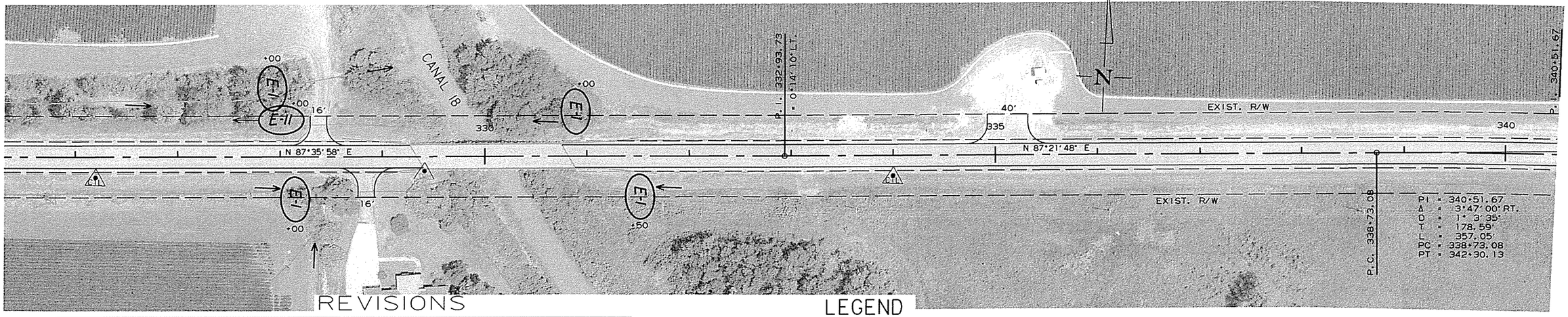
(2) TEMPARARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16

STA. 287+00 TO STA. 329+00
CLEAR TREES ON LEFT. REMOVE THE TREES AT GROUND LEVEL SO THAT THE GROUND IS NOT DISTURBED.



REVISIONS

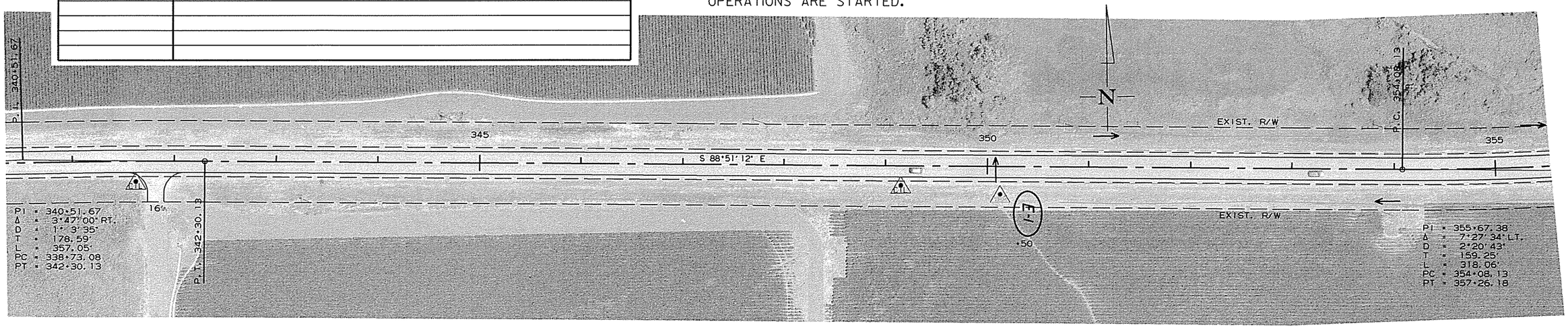
DATE OF REVISION	REVISION

LEGEND

E-I = WATTLE (20") DITCH CHECKS

E-II = SILT FENCE

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



4/25/16

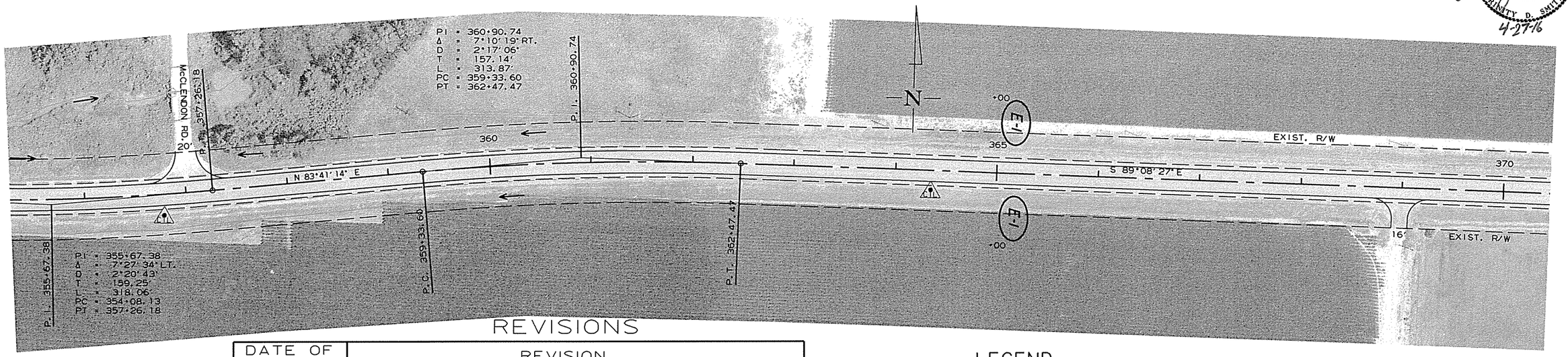
R020580.DGN

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	12	48

(2) TEMPARARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
* * *
No. 11425
TRINITY D. SMITH
4-27-16



REVISIONS

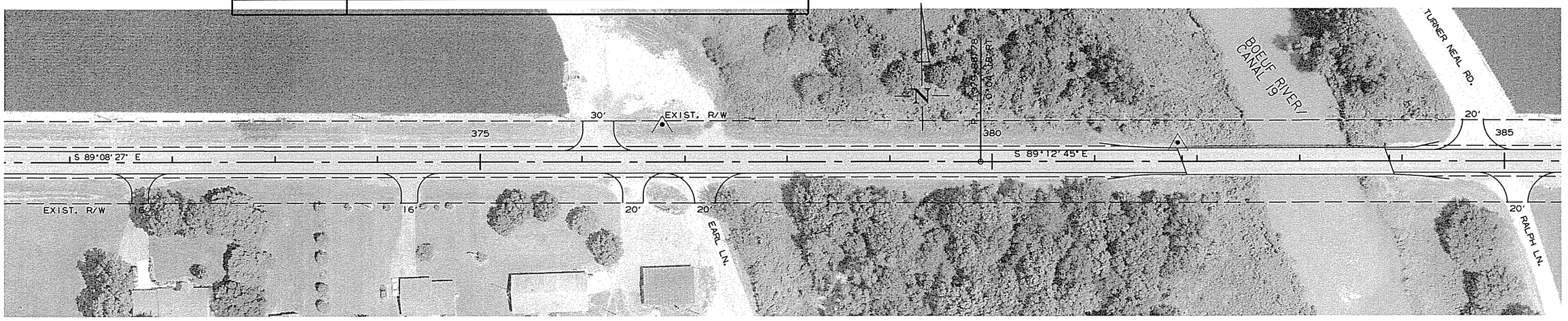
DATE OF REVISION	REVISION

LEGEND

E-I = WATTLE (20") DITCH CHECKS

E-II = SILT FENCE

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



4/20/16

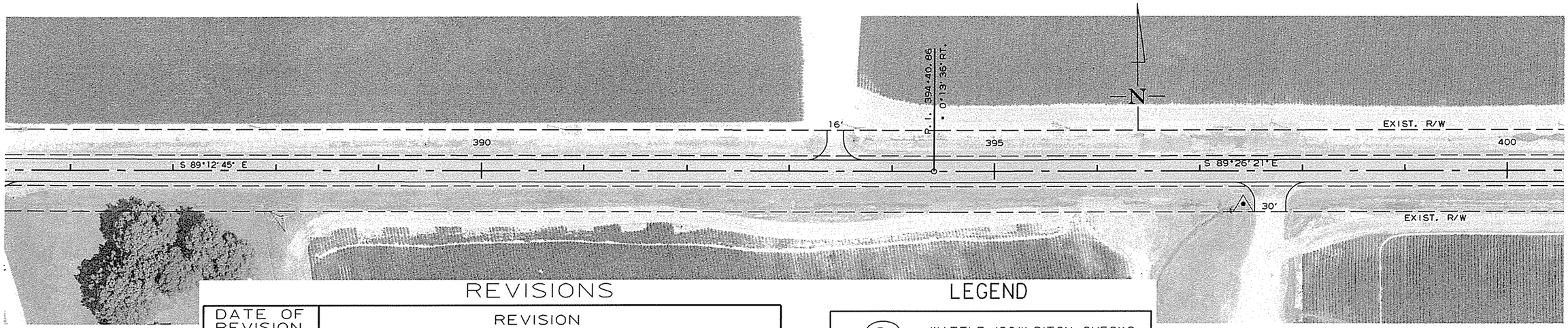
R020580.DGN

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	13	48

(2) TEMPARARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16



REVISIONS

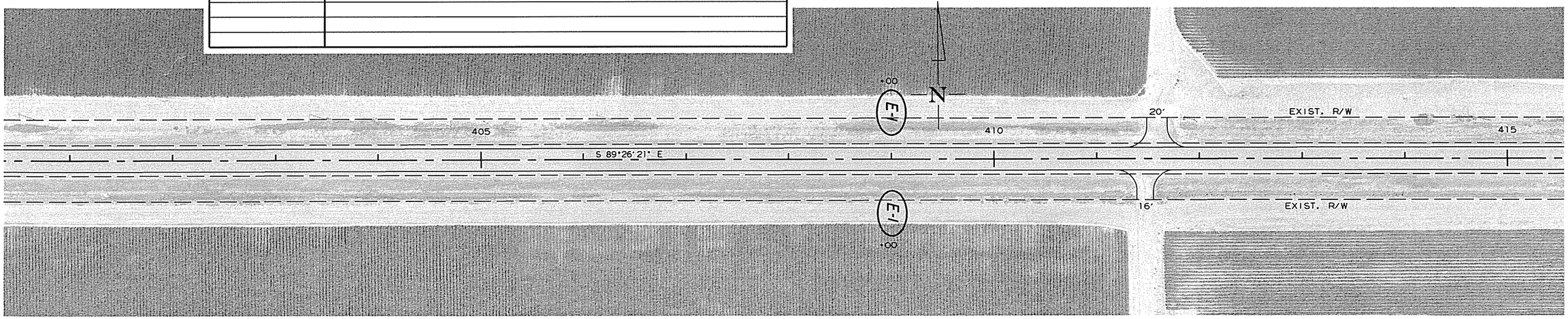
DATE OF REVISION	REVISION

LEGEND

E-I = WATTLE (20") DITCH CHECKS

E-II = SILT FENCE

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



4/25/16

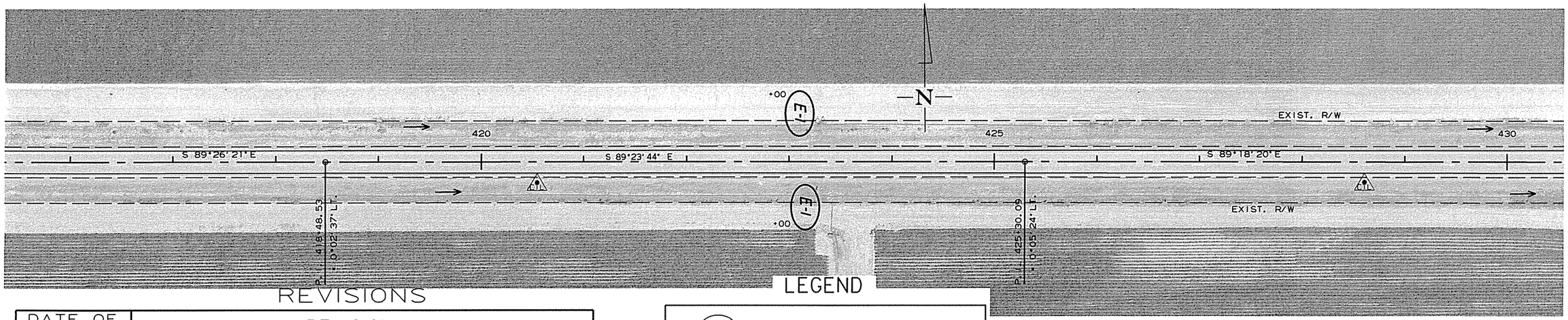
R020580.DGN

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	14	48

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16



REVISIONS

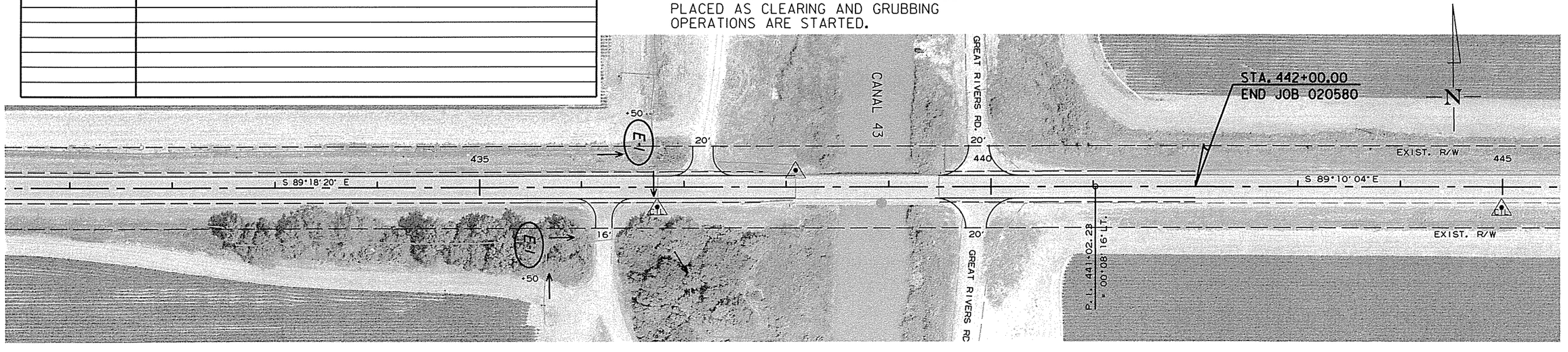
DATE OF REVISION	REVISION

LEGEND

(E-I) = WATTLE (20") DITCH CHECKS

(E-II) = SILT FENCE

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



4/25/16

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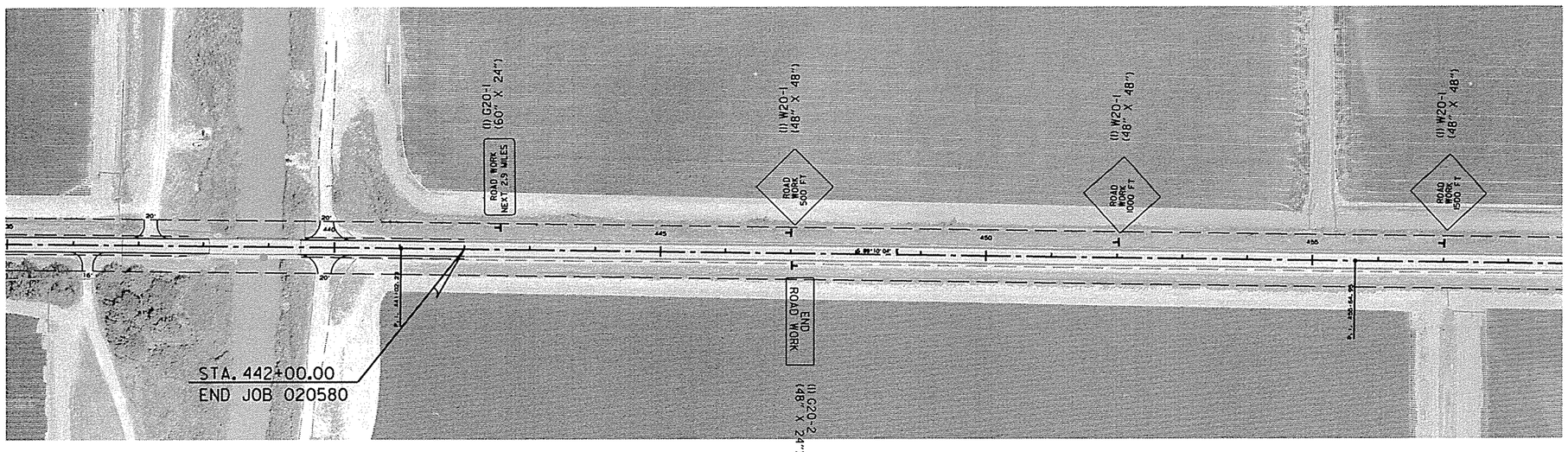
TEMPORARY EROSION CONTROL DETAILS

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.		020580	15	48

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16



DO NOT PASS — (4) R4-1 (24" X 30")

R4-1 SIGNS SHALL BE USED
IF AND WHERE DIRECTED BY THE ENGINEER.

SHOULDER CLOSED — (4) RSP-1 (48" X 30")

RSP-1 SIGNS SHALL BE USED
IF AND WHERE DIRECTED BY THE ENGINEER.

ROAD WORK AHEAD — (4) W20-1 (48" X 48")

W20-1 SIGNS SHALL BE USED
IF AND WHERE DIRECTED BY THE ENGINEER.

5/4/2016

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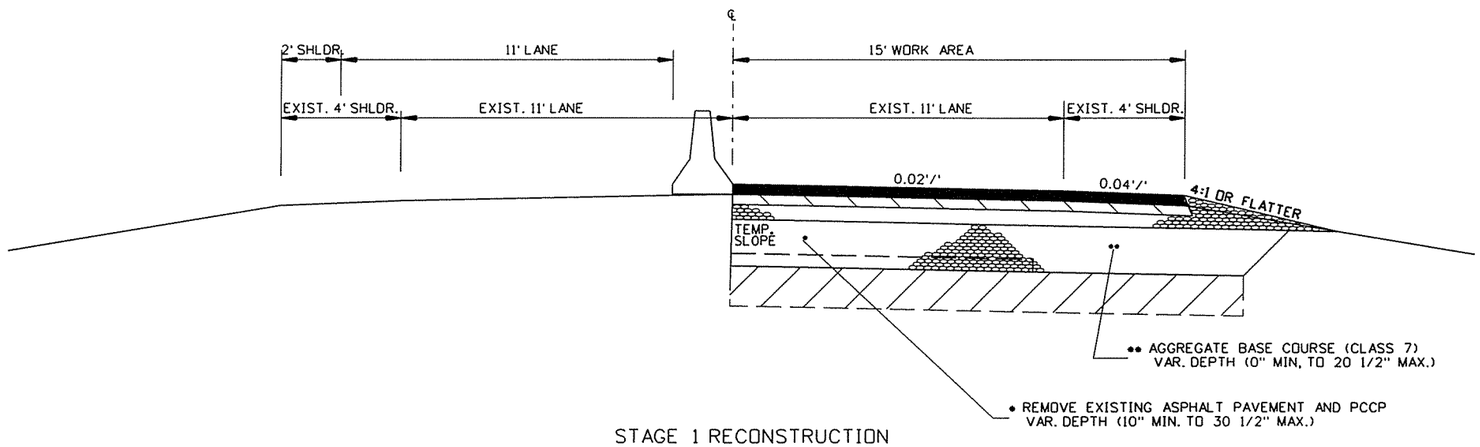
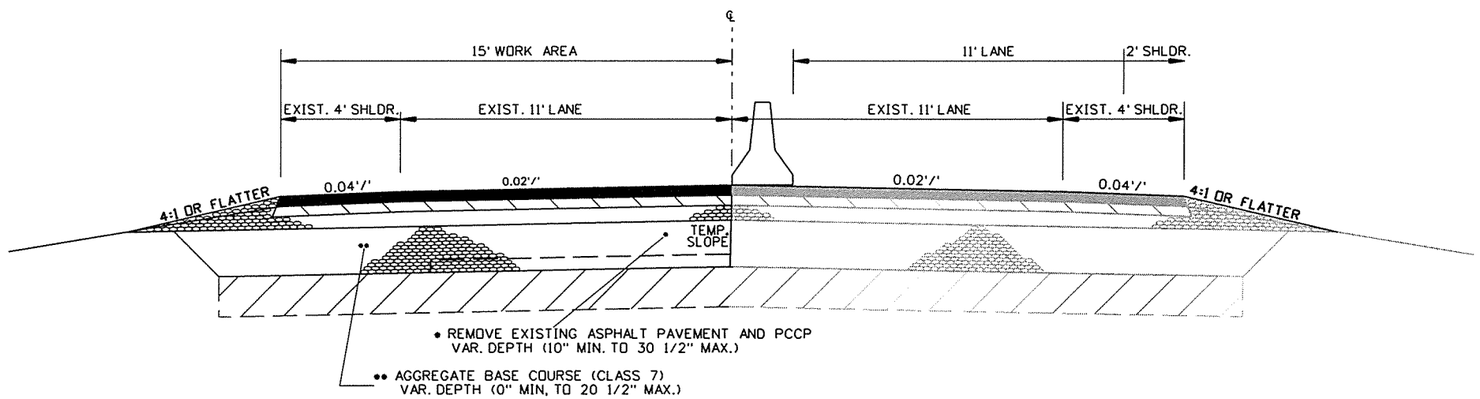
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	16	48

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16



STAGE 1 RECONSTRUCTION
HWY. 4
MAINTENANCE OF TRAFFIC



STAGE 2 RECONSTRUCTION
HWY. 4
MAINTENANCE OF TRAFFIC

STAGE CONSTRUCTION

STAGE 1 - RECONSTRUCTION WESTBOUND LANES

STAGE 2 - RECONSTRUCTION EASTBOUND LANES

STAGE 3 - MILL & INLAY AND OVERLAY

4/20/2016

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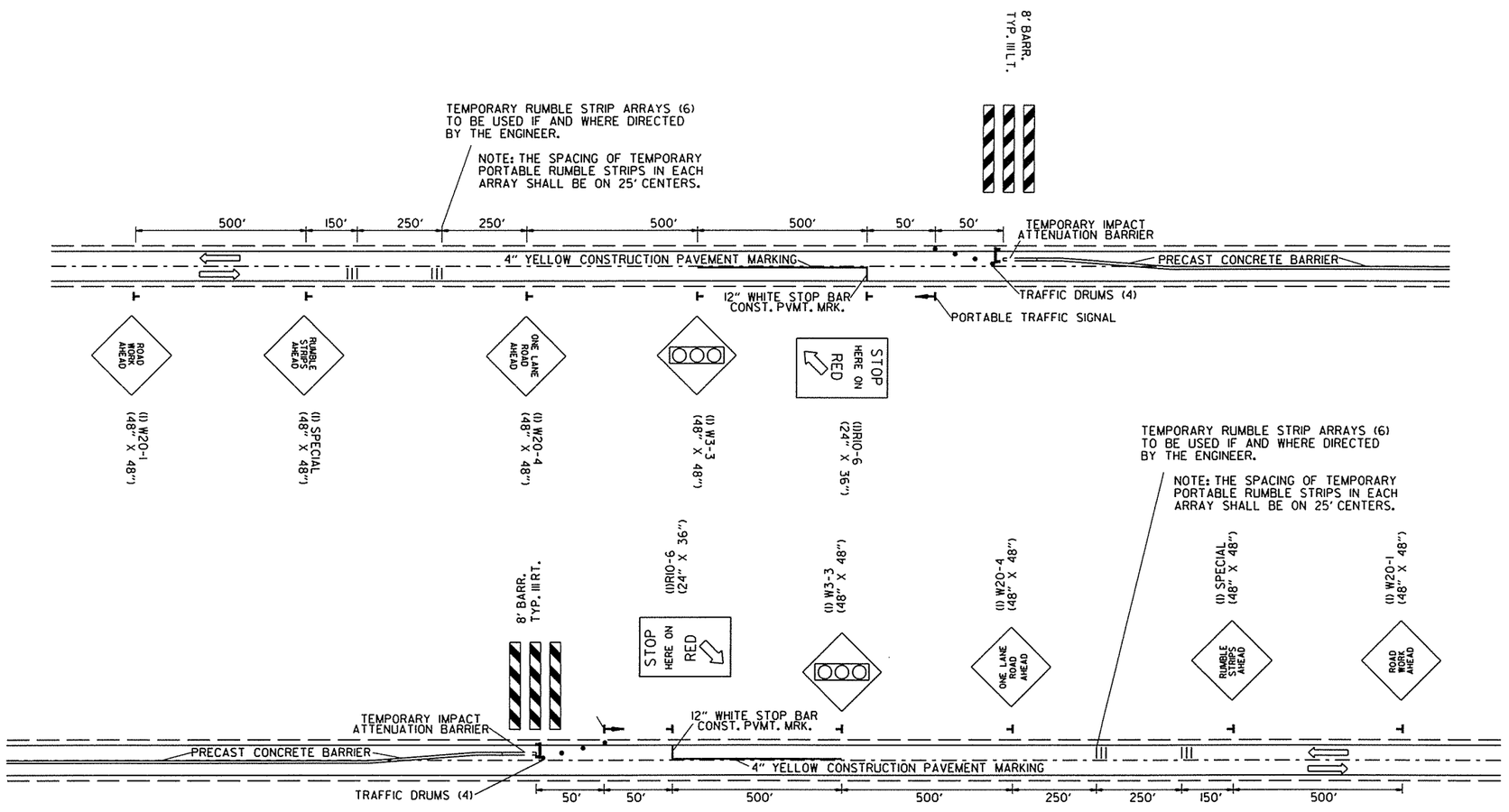
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	17	48

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16



DETAIL OF MOT FOR FULL DEPTH RECONSTRUCTION

4/20/2016

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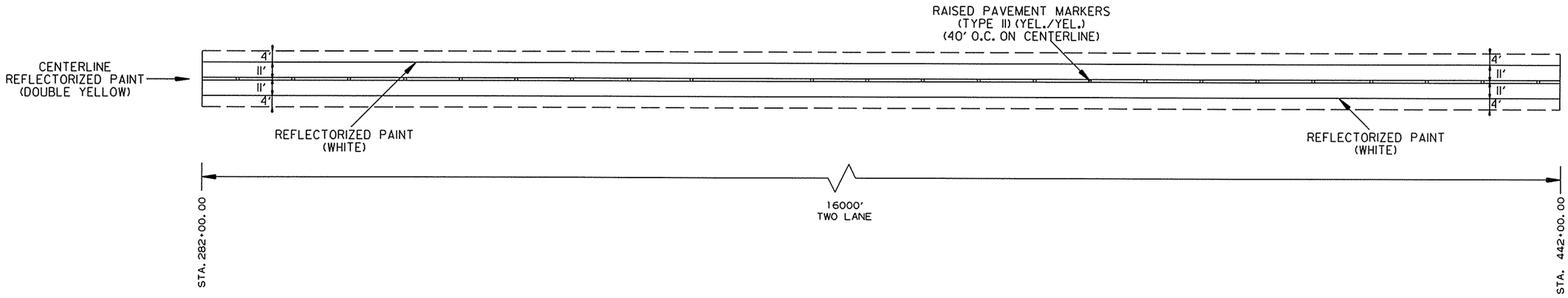
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	18	48

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16



- THE 4" 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.

PERMANENT PAVEMENT MARKING DETAILS:

MAIN LANES:
REFLECTORIZED PAINT PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 32000 LIN. FT. WHITE
DBL. CENTERLINE = 32000 LIN. FT. YELLOW

RAISED PAVEMENT MARKERS:
TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 400 EACH

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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.		020580	19	48

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16

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	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
								TYPE II	4"	
								(YEL/YEL)	WHITE	YELLOW
	LIN. FT. - EACH				LIN. FT.		LIN. FT.	EACH	LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	2000				2000					
CONSTRUCTION PAVEMENT MARKINGS	7120	7120	64000			78240				
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	5120	7120					12240			
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)				400				400		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")				32000					32000	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")				32000						32000
TOTALS:					**2000**	**78240**	**12240**	**400**	**32000**	**32000**

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

NOTE: THE 4" 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.

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TEMPORARY PORTABLE RUMBLE STRIPS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
											RIGHT	LEFT					
			LIN. FT. - EACH				NO.	SQ. FT.	EACH				LIN. FT.		LUMP SUM	EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0									
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0									
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0									
W20-1	ROAD WORK AHEAD	48"x48"	6	6	4	6	6	96.0									
W20-4	ONE LANE ROAD AHEAD	48"X48"	2	2		2	2	32.0									
W3-3	SIGNAL AHEAD	48"X48"	2	2		2	2	32.0									
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	16.0									
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	2	20.0									
R4-1	DO NOT PASS	24"x30"	4	4		4	4	20.0									
R10-6	STOP HERE ON RED	24"X36"	2	2		2	2	12.0									
RSP-1	SHOULDER CLOSED	48"x30"	4	4		4	4	40.0									
SPECIAL	RUMBLE STRIPS AHEAD	48"x48"	2	2		2	2	32.0									
	TEMPORARY RUMBLE STRIPS		12	12		12			12								
	TRAFFIC DRUMS		54	54		54				54							
	TYPE III BARRICADE-RT. (8')		1	1		1					8						
	TYPE III BARRICADE-LT. (8')		1	1		1						8					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		2400			2400							2400				
	RELOCATING PRECAST CONCRETE BARRIER		2460	4760		7220								7220			
	TEMPORARY IMPACT ATTENUATION BARRIER		10	10		20										20	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		2			2											2
	PORTABLE TRAFFIC SIGNAL SYSTEM		1	1		1									1.00		
TOTALS:								**396.0**	**12**	**54**	**8**	**8**	**2400**	**7220**	**1.00**	**20**	**2**

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

5/5/16

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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.		020580	20	48

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
286+00	33	36	13.30	91	19	39.60	5' LT.	0-5	73	51	A-7-6(52)	BROWN
286+00	33	36	13.40	91	19	39.70	14' LT.	0-5	71	48	A-7-6(41)	BROWN
286+00	33	36	13.50	91	19	39.80	26' LT.	0-5	85	57	A-7-6(62)	BROWN
294+00	33	36	19.60	91	19	30.90	6' RT.	0-5	64	44	A-7-6(37)	GRAY
294+00	33	36	16.50	91	19	30.90	14' RT.	0-5	60	33	A-7-6(34)	GRAY
294+00	33	36	16.40	91	19	30.80	28' RT.	0-5	74	42	A-7-5(46)	GRAY
300+00	33	36	17.70	91	19	23.80	5' LT.	0-5	79	52	A-7-6(56)	BROWN
300+00	33	36	17.80	91	19	23.80	13' LT.	0-5	72	51	A-7-6(51)	BROWN
300+00	33	36	17.90	91	19	23.90	27' LT.	0-5	85	56	A-7-6(63)	BROWN
308+00	33	36	18.70	91	19	14.30	6' RT.	0-5	81	53	A-7-6(55)	BROWN
308+00	33	36	18.60	91	19	14.30	14' RT.	0-5	83	57	A-7-6(60)	BROWN
308+00	33	36	18.40	91	19	14.20	30' RT.	0-5	86	59	A-7-6(63)	GRAY
308+00	33	36	18.40	91	19	14.20	30' RT.	0-5	73	44	A-7-6(47)	BROWN
316+00	33	36	20.50	91	19	5.20	6' LT.	0-5	92	62	A-7-5(71)	GRAY
316+00	33	36	20.60	91	19	5.20	14' LT.	0-5	76	48	A-7-6(52)	BROWN
316+00	33	36	20.70	91	19	5.30	30' LT.	0-5	89	55	A-7-5(65)	BROWN
324+00	33	36	21.60	91	18	55.80	6' RT.	0-5	81	49	A-7-5(56)	GRAY
324+00	33	36	21.50	91	18	55.80	14' RT.	0-5	67	33	A-7-5(39)	BROWN
324+00	33	36	21.30	91	18	55.80	30' RT.	0-5	59	34	A-7-6(35)	BR/GR
330+50	33	36	21.80	91	18	48.30	5' RT.	0-5	65	35	A-7-5(38)	GRAY
330+50	33	36	21.70	91	18	48.30	13' RT.	0-5	64	37	A-7-6(36)	GRAY
330+50	33	36	21.60	91	18	48.40	27' RT.	0-5	81	50	A-7-5(46)	GRAY
330+50	33	36	21.60	91	18	48.40	27' RT.	0-5	71	44	A-7-6(34)	GRAY
338+00	33	36	22.20	91	18	39.30	5' LT.	0-5	75	42	A-7-5(49)	GRAY
338+00	33	36	22.30	91	18	39.30	14' LT.	0-5	68	36	A-7-5(33)	BR/GR
338+00	33	36	22.40	91	18	39.30	26' LT.	0-5	43	22	A-7-6(24)	BROWN
346+00	33	36	22.00	91	18	29.70	5' RT.	0-5	72	41	A-7-5(49)	GRAY
346+00	33	36	21.90	91	18	29.80	14' RT.	0-5	74	37	A-7-5(46)	BR/GR
346+00	33	36	21.70	91	18	29.80	26' RT.	0-5	84	42	A-7-5(42)	BR/GR
354+00	33	36	21.90	91	18	20.40	6' LT.	0-5	59	31	A-7-6(30)	BR/GR
354+00	33	36	22.00	91	18	20.40	14' LT.	0-5	40	21	A-6(14)	BR/GR
354+00	33	36	22.10	91	18	20.40	28' LT.	0-5	37	17	A-6(15)	BR/GR
362+00	33	36	22.20	91	18	11.20	5' RT.	0-5	60	33	A-7-6(38)	GRAY
362+00	33	36	22.10	91	18	11.20	14' RT.	0-5	58	31	A-7-6(35)	GRAY
362+00	33	36	22.00	91	18	11.10	27' RT.	0-5	62	33	A-7-6(39)	GRAY
370+00	33	36	22.20	91	18	1.70	5' LT.	0-5	35	15	A-6(15)	GRAY
370+00	33	36	22.30	91	18	1.70	14' LT.	0-5	38	19	A-6(16)	BROWN
370+00	33	36	22.40	91	18	1.70	28' LT.	0-5	32	12	A-6(12)	BROWN
378+00	33	36	21.90	91	17	52.50	5' RT.	0-5	31	11	A-6(10)	BROWN
378+00	33	36	21.80	91	17	52.60	14' RT.	0-5	26	11	A-6(4)	BROWN
378+00	33	36	21.70	91	17	52.60	26' RT.	0-5	40	24	A-6(16)	BROWN
386+00	33	36	21.80	91	17	42.90	5' LT.	0-5	34	15	A-6(15)	BROWN
386+00	33	36	21.90	91	17	42.90	14' LT.	0-5	30	12	A-6(10)	BROWN
386+00	33	36	22.10	91	17	42.90	26' LT.	0-5	33	14	A-6(13)	BROWN
394+00	33	36	21.50	91	17	33.40	6' RT.	0-5	34	18	A-6(15)	BROWN
394+00	33	36	21.50	91	17	33.40	14' RT.	0-5	31	18	A-6(8)	BROWN
394+00	33	36	21.40	91	17	33.40	27' RT.	0-5	35	19	A-6(15)	BROWN
394+00	33	36	21.40	91	17	33.40	27' RT.	0-5	49	29	A-7-6(31)	BROWN
402+00	33	36	21.60	91	17	24.10	6' LT.	0-5	46	28	A-7-6(24)	BROWN
402+00	33	36	21.70	91	17	24.10	14' LT.	0-5	47	31	A-7-6(27)	BROWN
402+00	33	36	21.80	91	17	24.10	27' LT.	0-5	44	29	A-7-6(25)	BROWN
410+00	33	36	21.30	91	17	14.50	6' RT.	0-5	60	39	A-7-6(36)	GRAY
410+00	33	36	21.20	91	17	14.40	14' RT.	0-5	52	33	A-7-6(27)	BR/GR
410+00	33	36	21.10	91	17	14.40	29' RT.	0-5	63	42	A-7-6(39)	BR/GR
418+00	33	36	21.20	91	17	5.00	6' LT.	0-5	60	36	A-7-6(40)	GRAY
418+00	33	36	21.30	91	17	5.00	14' LT.	0-5	65	44	A-7-6(47)	BROWN
418+00	33	36	21.50	91	17	5.00	32' LT.	0-5	62	42	A-7-6(45)	GRAY
426+00	33	36	21.00	91	16	55.40	6' RT.	0-5	70	38	A-7-5(43)	GRAY
426+00	33	36	20.90	91	16	55.40	14' RT.	0-5	56	33	A-7-6(34)	GRAY
426+00	33	36	20.80	91	16	55.40	27' RT.	0-5	71	39	A-7-5(46)	GRAY
434+00	33	36	21.00	91	16	46.50	6' LT.	0-5	55	32	A-7-6(35)	GRAY
434+00	33	36	21.00	91	16	46.50	14' LT.	0-5	53	27	A-7-6(30)	BR/GR
434+00	33	36	21.20	91	16	46.50	27' LT.	0-5	44	22	A-7-6(17)	GRAY
442+00	33	36	20.70	91	16	37.00	6' RT.	0-5	55	29	A-7-6(28)	BROWN
442+00	33	36	20.70	91	16	37.00	14' RT.	0-5	38	20	A-6(14)	BROWN
442+00	33	36	20.50	91	16	37.00	27' RT.	0-5	41	20	A-7-6(15)	BROWN

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

CLEARING

STATION	STATION	LOCATION	CLEARING
			STATION
287+00	329+00	HWY. 4	42
TOTAL:			42

NOTE: REMOVE TREES AT GROUND LEVEL SO THAT THE GROUND IS NOT DISTURBED.

REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT

STATION	STATION	LOCATION	WIDTH	CONCRETE PAVEMENT
			LIN. FT.	SQ. YD.
283+00	326+00	HWY. 4	20.0	9555.6
334+00	369+00	HWY. 4	20.0	7777.8
432+00	435+00	HWY. 4	20.0	666.7
TOTAL:				18000.1

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION
			CU. YD.
283+00	326+00	HWY. 4	9468
334+00	369+00	HWY. 4	5912
432+00	435+00	HWY. 4	578
TOTAL:			15958

4/20/16

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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.		020580	21	48

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				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
			FEET			FEET				FEET			TON	FEET			TON
HWY. 4																	
282+00.00	283+00.00	TRANSITION	100.00	20.50	20.50	30.00	333.33	0.05	16.67					30.00	333.33	330.00	55.00
282+00.00	283+00.00	TRANSITION - COLD MILL	100.00			30.00	333.33	0.17	56.67								
283+00.00	326+00.00	FULL DEPTH	4300.00	154.50	6643.50	60.50	28905.56	0.05	1445.28	30.50	14572.22	440.00	3205.89	30.00	14333.33	440.00	3153.33
326+00.00	327+00.00	TRANSITION	100.00	20.50	20.50	60.00	666.67	0.05	33.33					30.00	333.33	330.00	55.00
327+00.00	328+00.00	TRANSITION	100.00	20.50	20.50	30.00	333.33	0.17	56.67					30.00	333.33	220.00	36.67
328+00.00	332+00.00	MILL AND INLAY	400.00			30.00	1333.33	0.17	226.67					30.00	1333.33	220.00	146.67
332+00.00	333+00.00	TRANSITION	100.00	20.50	20.50	30.00	333.33	0.17	56.67					30.00	333.33	220.00	36.67
333+00.00	334+00.00	TRANSITION	100.00	20.50	20.50	60.00	666.67	0.05	33.33					30.00	333.33	330.00	55.00
334+00.00	369+00.00	FULL DEPTH	3500.00	154.50	5407.50	60.50	23527.78	0.05	1176.39	30.50	11861.11	440.00	2609.44	30.00	11666.67	440.00	2566.67
369+00.00	377+35.00	OVERLAY	835.00	20.50	171.18	60.00	5566.67	0.05	278.33					30.00	2783.33	440.00	612.33
377+35.00	378+35.00	TRANSITION	100.00	20.50	20.50	30.00	333.33	0.17	56.67					30.00	333.33	330.00	55.00
378+35.00	381+85.00	TRANSITION	350.00			30.00	1166.67	0.17	198.33					30.00	1166.67	220.00	128.33
383+88.00	387+38.00	TRANSITION	350.00			30.00	1166.67	0.17	198.33					30.00	1166.67	220.00	128.33
387+38.00	388+38.00	TRANSITION	100.00	20.50	20.50	30.00	333.33	0.17	56.67					30.00	333.33	330.00	55.00
388+38.00	432+00.00	OVERLAY	4362.00	20.50	894.21	60.00	29080.00	0.05	1454.00					30.00	14540.00	440.00	3198.80
432+00.00	435+00.00	FULL DEPTH	300.00	154.50	463.50	60.50	2016.67	0.05	100.83	30.50	1016.67	440.00	223.67	30.00	1000.00	440.00	220.00
435+00.00	438+09.00	TRANSITION	309.00			30.00	1030.00	0.17	175.10					30.00	1030.00	220.00	113.30
439+49.00	442+00.00	TRANSITION	251.00			30.00	836.67	0.17	142.23					30.00	836.67	220.00	92.03
LEVELING AND ADDITIONAL - HWY. 4																	
283+00.00	326+00.00	ADDITIONAL	4300.00	VAR.	24262.00												
334+00.00	369+00.00	ADDITIONAL	3500.00	VAR.	15413.00												
369+00.00	379+00.00	LEVELING	1000.00			30.00	3333.33	0.17	566.67					30.00	3333.33	VAR.	366.67
387+00.00	432+00.00	LEVELING	4500.00			30.00	15000.00	0.17	2550.00					30.00	15000.00	VAR.	1650.00
432+00.00	435+00.00	ADDITIONAL	300.00	VAR.	1501.00												
ENTIRE	PROJECT	COUNTY ROAD TURNOUTS		VAR.	140.00									VAR.	340.64	220.00	37.47
ENTIRE	PROJECT	DRIVEWAY TURNOUTS		VAR.	510.00									VAR.	965.58	220.00	106.21
ENTIRE	PROJECT	TEMPORARY DRIVES		VAR.	400.00												
TOTALS:					55949.39		116296.67		8878.84		27450.00		6039.00		71829.53		12868.48

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
282+00	329+34	HWY. 4	7574
330+83	381+85	HWY. 4	8163
383+88	438+08	HWY. 4	8672
439+50	442+00	HWY. 4	400
TOTAL:			24809

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

COLD MILLING ASPHALT PAVEMENT

	STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
				FEET	SQ. YD.
*	282+00.00	283+00.00	HWY. 4	30.00	333.33
*	327+00.00	328+00.00	HWY. 4	30.00	333.33
	328+00.00	332+00.00	HWY. 4	24.00	1066.67
*	332+00.00	333+00.00	HWY. 4	30.00	333.33
	378+35.00	381+85.00	HWY. 4	30.00	1166.67
	381+85.00	383+88.00	HWY. 4	24.00	541.33
	383+88.00	387+38.00	HWY. 4	30.00	1166.67
	435+00.00	438+60.00	HWY. 4	30.00	1200.00
	438+60.00	439+50.00	HWY. 4	24.00	240.00
	439+50.00	442+00.00	HWY. 4	30.00	833.33
**	ENTIRE	PROJECT	AS DIRECTED BY THE ENGINEER	30.00	10000.00
TOTAL:					17214.66

* AVERAGE MILLING DEPTH 1".

** PROFILE MILLING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
AVERAGE MILLING DEPTH 1".

THE CONTRACTOR SHALL HAUL THE MATERIAL GENERATED FROM COLD MILLING OPERATIONS TO LOCATIONS DESIGNATED BY THE ENGINEER. ONCE PLACED, THE MATERIAL WILL BECOME PROPERTY OF THE DEPARTMENT. THE MATERIAL SHALL BE PLACED AT THE DESIGNATED LOCATION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL STOCK PILE THE MATERIAL IN SUCH A WAT THAT IT CAN BE EASILY MEASURED USING THE AVERAGE END AREA METHOD. THE AREA DESIGNATED FOR COLD MILLING MATERIAL STORAGE FOR MATERIAL GENERATED IS AS FOLLOWS: AHTD MAINTENANCE HEADQUARTERS LOCATED AT 9054 HWY. 65N, McGEHEE.

5/5/16

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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.		020580	22	48

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16

WOVEN GEOTEXTILE FABRIC AND SOIL STABILIZATION

STATION	STATION	LOCATION	LENGTH	WIDTH	WOVEN GEOTEXTILE FABRIC	SOIL STABILIZATION
			LIN. FT.	FEET	SQ. YD.	TON
283+00.00	326+00.00	HWY. 4	4300.00	34.00	16244	
334+00.00	369+00.00	HWY. 4	3500.00	34.00	13222	
432+00.00	435+00.00	HWY. 4	300.00	34.00	1133	
*ENTIRE	PROJECT	TO BE USED IF AND WHERE				1500
		DIRECTED BY THE ENGINEER				
TOTALS:					30599	1500

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

BRIDGE OVERLAY & REPAIR

LOCATION	* REINFORCING STEEL-BRIDGE (GRADE 60)	* BRIDGE DECK REPAIR FOR POLYMER OVERLAYS	POLYMER OVERLAY
	POUND	SQ.FT.	SQ. YD.
BRIDGE NO. 02162	60	480	534
BRIDGE NO. 03592	60	336	374
TOTALS:	120	816	908

*NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
	EACH	
ENTIRE PROJECT	5	5
TOTALS:	5	5

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	800
DIRECTED BY THE ENGINEER	
TOTAL:	800

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	75	150
DIRECTED BY THE ENGINEER		
TOTALS:	75	150

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	WATTLE (20") DITCH CHECKS (E-1)	SAND BAG DITCH CHECKS (E-5)	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.	LIN. FT.	BAG	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	HWY. 4									180		4100			172
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			2.00	4.00	2.00	204.0	2.00	1.00	1.00	20.4	100	220	3000	1400	1400	1511
TOTALS:			2.00	4.00	2.00	204.0	2.00	1.00	1.00	20.4	280	220	7100	1400	1400	1683

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
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION

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

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

5/11/16

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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
5-25-16				6	ARK.			
6-9-16				JOB NO.		020580	23	48

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-9-16

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	42	STATION
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT	18000	SQ. YD.
210	UNCLASSIFIED EXCAVATION	15958	CU. YD.
SP & 210	SOIL STABILIZATION	1500	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	55949	TON
SS & 401	TACK COAT	9029	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	5767	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	272	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	12199	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	669	TON
412	COLD MILLING ASPHALT PAVEMENT	17215	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	75	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY	800	TON
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SP & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	396	SQ. FT.
SS & 604	BARRICADES	16	LIN. FT.
SS & 604	TRAFFIC DRUMS	54	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	2400	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER	7220	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	78240	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	12240	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	2000	LIN. FT.
620	LIME	4	TON
620	SEEDING	2.00	ACRE
SS & 620	MULCH COVER	3.00	ACRE
620	WATER	224.4	M.GAL.
621	TEMPORARY SEEDING	1.00	ACRE
621	SILT FENCE	7100	LIN. FT.
621	SAND BAG DITCH CHECKS	220	BAG
621	SEDIMENT BASIN	1400	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	1400	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	1683	CU. YD.
621	WATTLE (20")	280	LIN. FT.
623	SECOND SEEDING APPLICATION	2.00	ACRE
SP	WOVEN GEOTEXTILE FABRIC	30599	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	5	EACH
637	MAILBOX SUPPORTS (SINGLE)	5	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	24809	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")	32000	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	32000	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	400	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	20	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	2	EACH
SP	TEMPORARY PORTABLE RUMBLE STRIPS	12	EACH
SP	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED	1.00	LUMP SUM
	STRUCTURES OVER 20' SPAN		
804	REINFORCING STEEL-BRIDGE (GRADE 60)	120	POUND
SP	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS	816	SQ. FT.
SP	POLYMER OVERLAY	908	SQ. YD.

REVISIONS

DATE	REVISION	SHEET NUMBER
5/25/2016	REVISED STANDARD DRAWING PM-1	2, 23, 38
6/9/2016	ADDED SPECIAL PROVISION "ISSUANCE OF PROPOSALS"	2,23

6/9/16

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SURVEY CONTROL COORDINATES

Project Name: s020572

Date: 4/8/2015

Coordinate System: Arkansas State Plane Coordinates
Horizontal Control Based on GPS Points 210046 - 210047, Vertical Control Based on Static Obs at PN: 210046 from NGS Mark L 18 42
Projected to Ground Coordinates

Units: U.S. Survey Foot

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

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	1654005.075	0.0110	1517062.137	0.0100	138.058	0.0042	CTL	PD:STD AHTD MON. STAMPED PN:1
2	1654343.229	0.0100	1517717.732	0.0090	137.371	0.004	CTL	PD:STD AHTD MON. STAMPED PN:2
3	1654502.718	0.0100	1518499.105	0.0100	136.777	0.005	CTL	PD:STD AHTD MON. STAMPED PN:3
4	1654620.817	0.0100	1519318.026	0.0090	137.485	0.005	CTL	PD:STD AHTD MON. STAMPED PN:4
5	1654788.220	0.0090	1520019.849	0.0080	136.336	0.005	CTL	PD:STD AHTD MON. STAMPED PN:5
6	1654924.028	0.0090	1520910.739	0.0080	135.453	0.005	CTL	PD:STD AHTD MON. STAMPED PN:6
7	1654957.497	0.0090	1521690.370	0.0080	135.339	0.005	CTL	PD:STD AHTD MON. STAMPED PN:7
8	1654984.885	0.0090	1522450.849	0.0080	135.862	0.006	CTL	PD:STD AHTD MON. STAMPED PN:8
9	1654970.951	0.0090	1523203.481	0.0080	134.394	0.006	CTL	PD:STD AHTD MON. STAMPED PN:9
10	1654969.040	0.0080	1523967.638	0.0070	135.331	0.006	CTL	PD:STD AHTD MON. STAMPED PN:10
11	1655010.218	0.0080	1524721.130	0.0070	135.652	0.006	CTL	PD:STD AHTD MON. STAMPED PN:11
18	1654940.238	0.0068	1530340.137	0.0057	134.016	0.003	CTL	PD:STD AHTD MON. STAMPED PN:18
19	1654931.664	0.0070	1531146.235	0.0058	133.781	0.003	CTL	PD:STD AHTD MON. STAMPED PN:19
20	1654922.225	0.0084	1531959.464	0.0069	133.960	0.003	CTL	PD:STD AHTD MON. STAMPED PN:20
21	1654910.646	0.0079	1532784.434	0.0067	134.454	0.004	CTL	PD:STD AHTD MON. STAMPED PN:21
22	1654897.036	0.0076	1533655.272	0.0064	133.355	0.004	CTL	PD:STD AHTD MON. STAMPED PN:22
23	1654885.062	0.0074	1534498.898	0.0062	133.645	0.004	CTL	PD:STD AHTD MON. STAMPED PN:23
24	1654872.343	0.0073	1535306.573	0.0061	134.202	0.004	CTL	PD:STD AHTD MON. STAMPED PN:24
100	1659176.506	0.0050	1500533.027	0.0040	142.454	0.025	GPS	PD:AHTD GPS MON 210045
101	1657187.751	0.0060	1500195.191	0.0040	143.016	0.026	GPS	PD:AHTD GPS MON 210045A
102	1653713.199	0.0060	1511666.066	0.0050	143.663	0.027	GPS	PD:AHTD GPS MON 210046
103	1653727.247	0.0060	1509905.277	0.0050	142.419	0.027	GPS	PD:AHTD GPS MON 210046A
104	1655047.262	0.0060	1525964.417	0.0050	140.859	0.027	GPS	PD:AHTD GPS MON 210047
105	1654950.894	0.0060	1528028.279	0.0050	134.847	0.027	GPS	PD:AHTD GPS MON 210047A
106	1652811.654	0.0060	1542818.968	0.0050	132.734	0.027	GPS	PD:AHTD GPS MON 210048
107	1654779.289	0.0060	1542863.082	0.0050	134.730	0.027	GPS	PD:AHTD GPS MON 210048A
108	1654797.480	0.0050	1554917.876	0.0040	161.011	0.025	GPS	PD:AHTD GPS MON 210049
109	1656312.420	0.0050	1553795.352	0.0040	135.898	0.025	GPS	PD:AHTD GPS MON 210049A
900	1652614.965	30.0000	1514660.412	30.0000	144.099	0.003	TBM	PD:CHISELED SQR CONC CNTR ISLAND
901	1654311.526	0.0170	1517651.063	0.0180	136.443	0.004	TBM	PD:SQ CUT WEST END OF SOUTH HEADWALL
902	1654943.455	0.0150	1521231.921	0.0180	136.341	0.005	TBM	PD:BRASS CAP SW END OF BRIDGE
903	1652637.783	0.0140	1514677.264	0.0140	131.414	0.006	TBM	PD:CHISLELD SQ CTR HEADWALL
904	1655021.813	0.0220	1526467.565	0.0210	139.835	0.007	TBM	PD:RBR IN CHISELED SQR CONC NW CORNER OF BRIDGE
905	1654956.224	0.0103	1532095.185	0.0085	135.006	0.004	TBM	PD:TBM
906	1654910.825	0.0123	1535870.671	0.0100	131.903	0.005	TBM	PD:CHISLELED SQ
907	1654994.649	30.0000	1537397.912	30.0000	134.849	0.005	TBM	PD:SQ CUT IN NW CORNER OF BRIDGE
908	1655009.367	30.0000	1539427.818	30.0000	130.282	0.005	TBM	PD:SQ CUT IN NW END NORTH HEADWALL
909	1655130.277	30.0000	1542133.613	30.0000	133.368	0.006	TBM	PD:SQ CUT IN NE CORNER OF BRIDGE
950	1673058.474	0.0050	1545974.280	0.0050	146.696	0.000	TBM	PD:NGS BM L 18 42
9033	1654960.774	0.0180	1523301.039	0.0190	131.404	0.036	TBM	PD:TBM

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

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

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

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

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

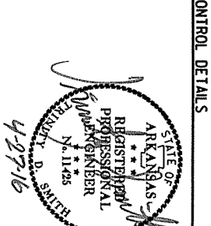
Positional Accuracy:
- Horizontal - GPS (1.0 cm± 1PPM) PN: 100-109
- Horizontal - Primary (2.0cm± 20PPM): PN: 1-24
- Horizontal - Secondary (3 cm ± 50PPM): PN: N/A
- Vertical - NGS 1st Order (±4mm x √dist in km) PN: N/A
- Vertical - NGS 2nd Order (±6mm x √dist in km) PN: N/A
- Vertical - NGS 3rd Order (±8mm x √dist in km) PN: N/A

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0302-South Zone
The adjustment year is based on metadata in the SDMS Control file
A project CAF of: 0.999939534 has been used to compute the above coordinates.
The project CAF shall have a minimum precision of 9 digits right of the decimal.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM:
A project Elevation Factor of: 0.999993447 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 136.992 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points:
From NGS BM: *SEE HEADER

Basis of Bearing: Grid Bearings based on GPS Points: 210046 - 210047
Convergence Angle is: 00-23-05 RIGHT at PN: 7
LT: 33°36'22" N LG: 091°18'44 W
Grid Azimuth = Astronomical Azimuth - Convergence Angle

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



SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	020580	24	48

(2) SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

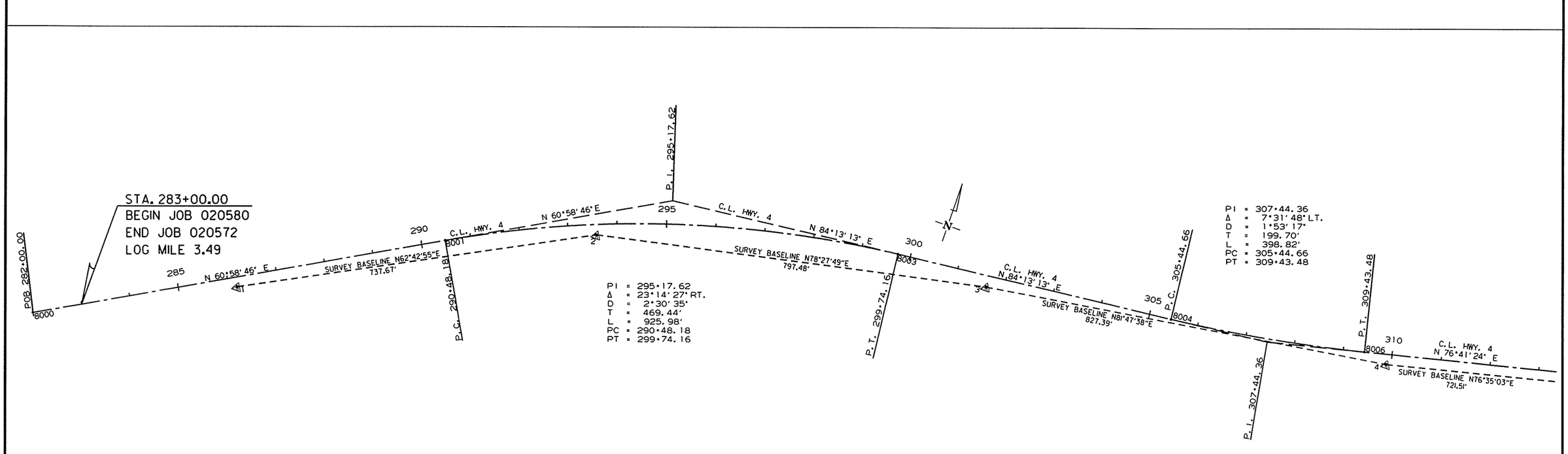
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020580	25	48

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16

Project Name: 020580
Horizontal Alignment Name: const

		STATION	NORTHING	EASTING
8000	POB	282+55.14	1653846.81	1516736.38
8001	P.C.	290+48.18	1654231.54	1517429.85
8003	P.T.	299+74.16	1654506.55	1518307.41
8004	P.C.	305+44.66	1654564.00	1518875.01
8006	P.T.	309+43.48	1654630.09	1519268.02
8007	P.C.	321+16.72	1654900.19	1520409.75
8009	P.T.	323+59.40	1654933.30	1520649.79
8011	P.C.	338+73.08	1654999.09	1522162.04
8013	P.T.	342+30.13	1655003.73	1522518.99
8014	P.C.	354+08.13	1654980.16	1523696.75
8016	P.T.	357+26.18	1654994.48	1524014.26
8017	P.C.	359+33.60	1655017.29	1524220.42
8019	P.T.	362+47.47	1655032.21	1524533.73
8020	P.I.	379+88.78	1655006.10	1526274.84
8021	P.I.	394+40.86	1654986.14	1527726.79
8022	P.I.	418+48.53	1654962.57	1530134.34
8023	P.I.	425+30.09	1654955.38	1530815.86
8024	P.I.	441+02.23	1654936.33	1532387.88
8025	P.I.	455+64.95	1654915.09	1533850.45



4/25/16

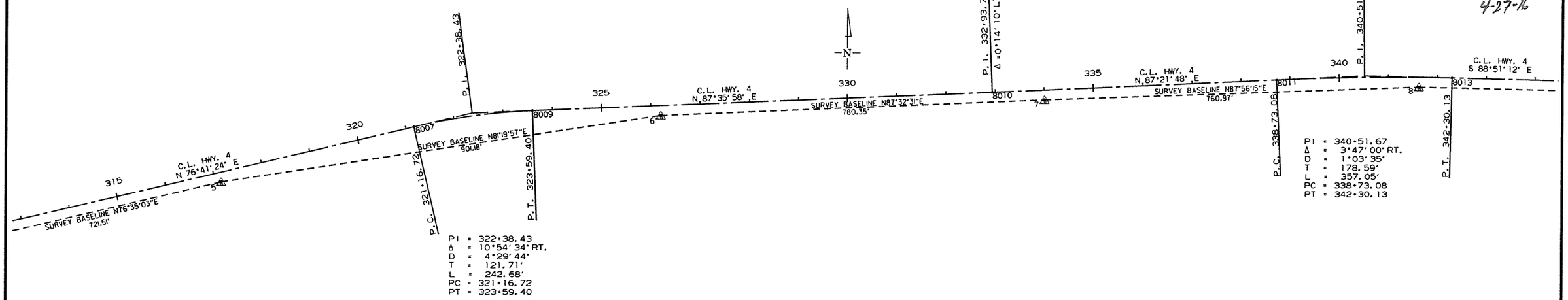
r020580.dgn

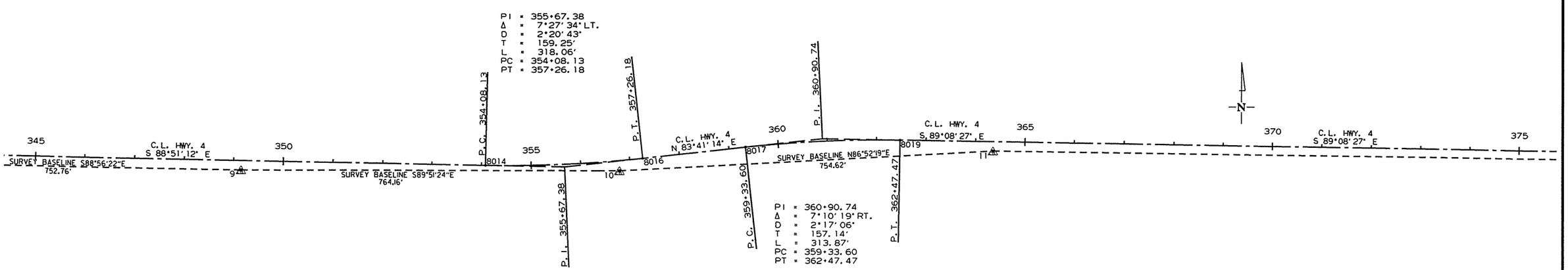
SURVEY CONTROL DETAILS

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.		020580	26	48

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16





4/19/16

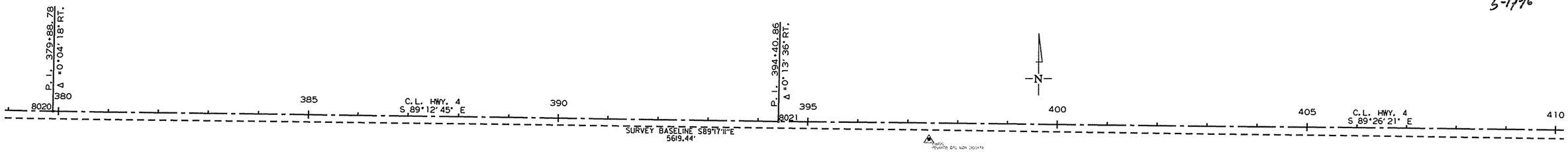
r020580.dgn

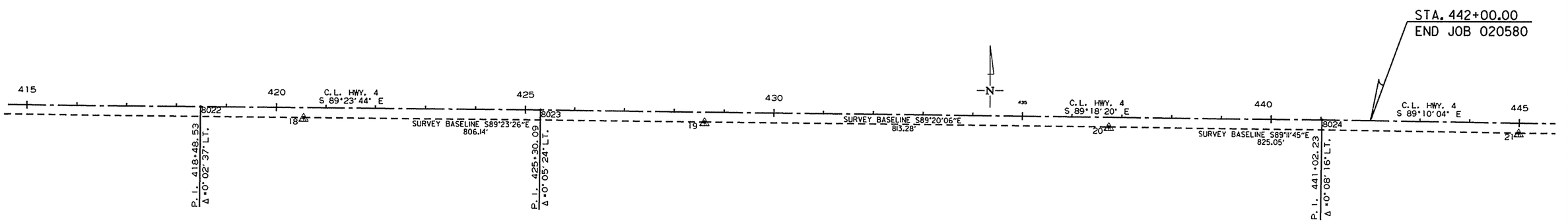
SURVEY CONTROL DETAILS

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.		020580	27	48

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16





5/4/16

r020580.dgn

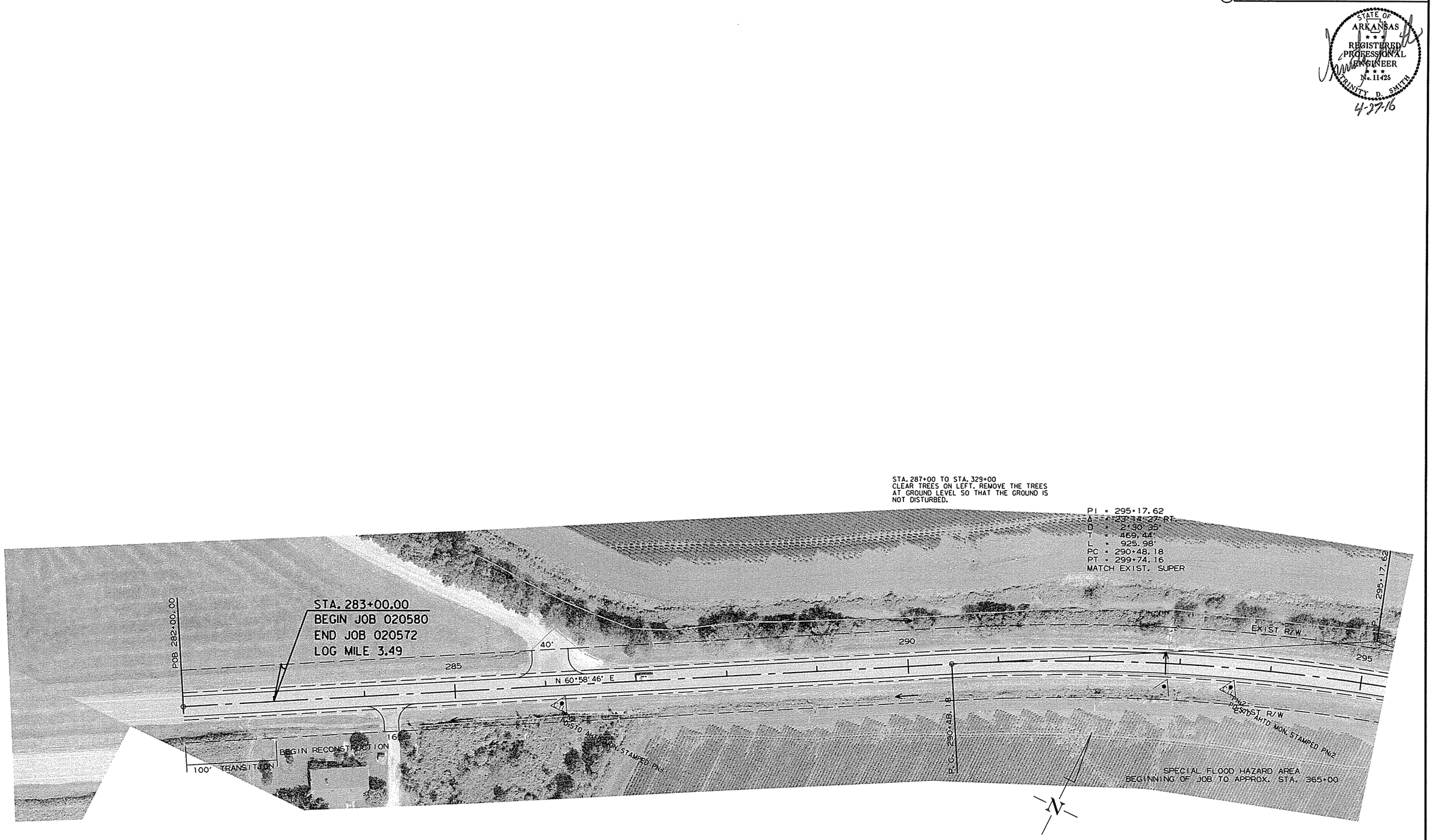
SURVEY CONTROL DETAILS

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.		020580	28	48

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16



4/25/16

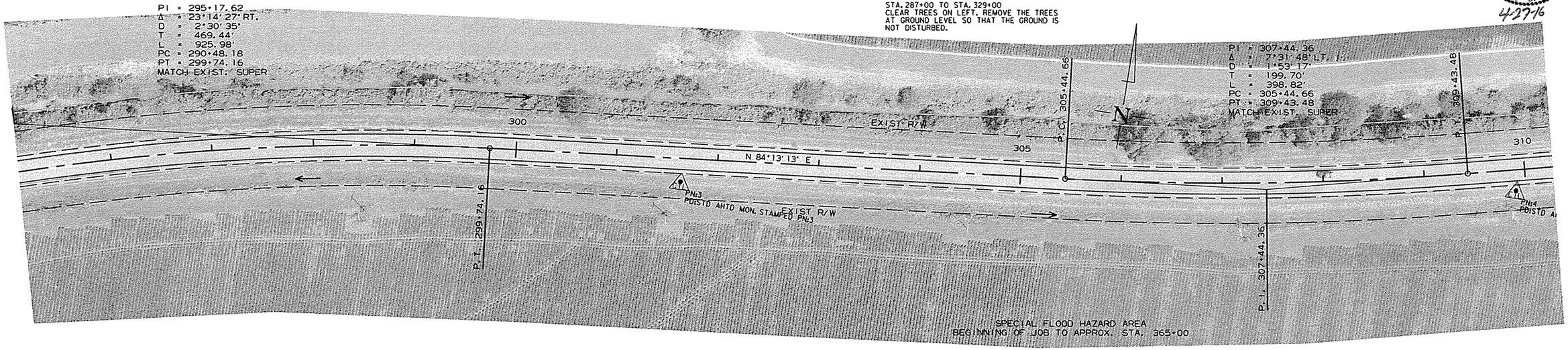
r020580.dgn

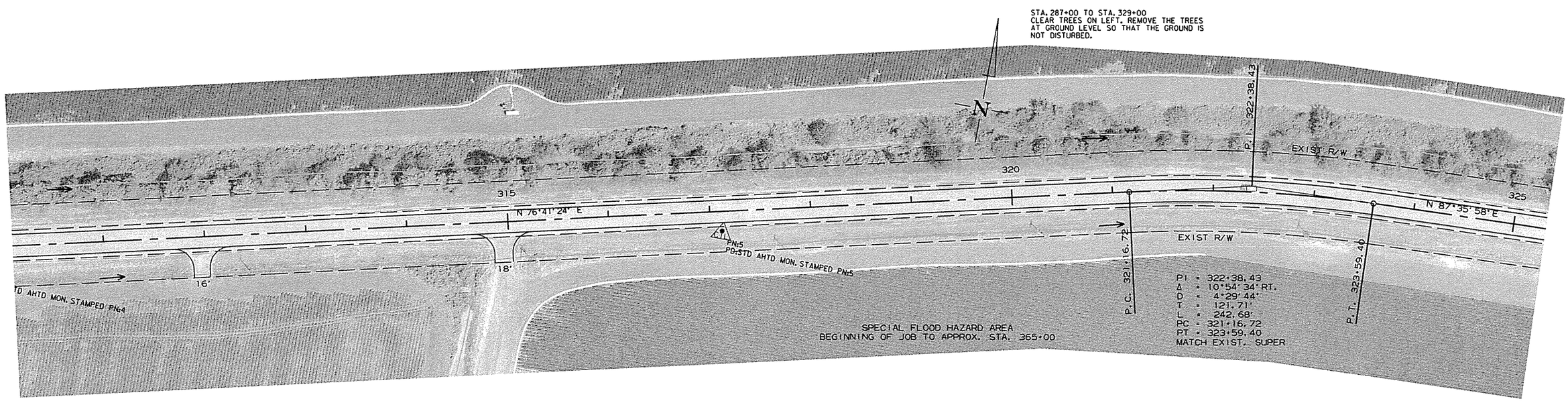
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020580	29	48

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-27-16





4/25/16

r020580.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	30	48

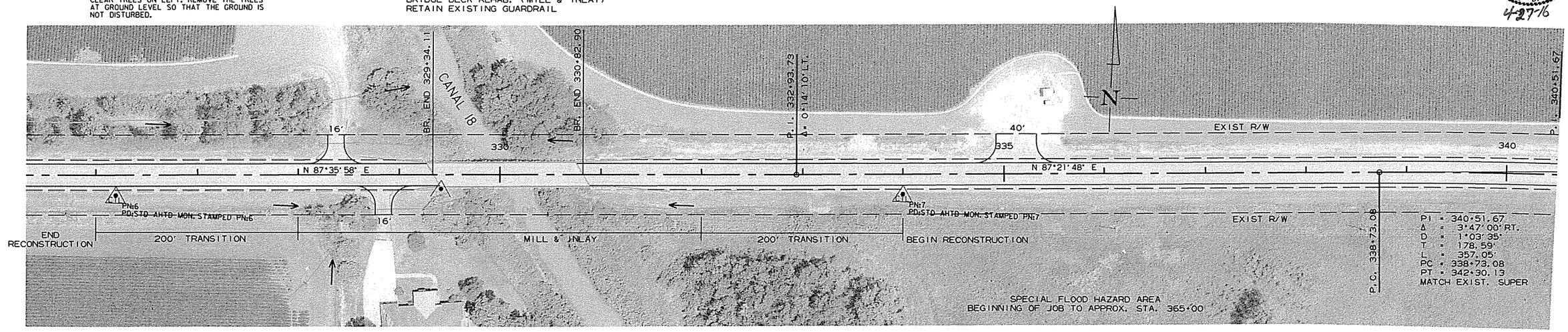
(2) PLAN SHEETS

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

427%

STA. 287+00 TO STA. 329+00
CLEAR TREES ON LEFT. REMOVE THE TREES AT GROUND LEVEL SO THAT THE GROUND IS NOT DISTURBED.

STA. 329+34.11 BR. END
148.79' BRIDGE NO. 03799
24.0' CLEAR ROADWAY
STA. 330+82.90 BR. END
BRIDGE DECK REHAB. (MILL & INLAY)
RETAIN EXISTING GUARDRAIL



4/7/16

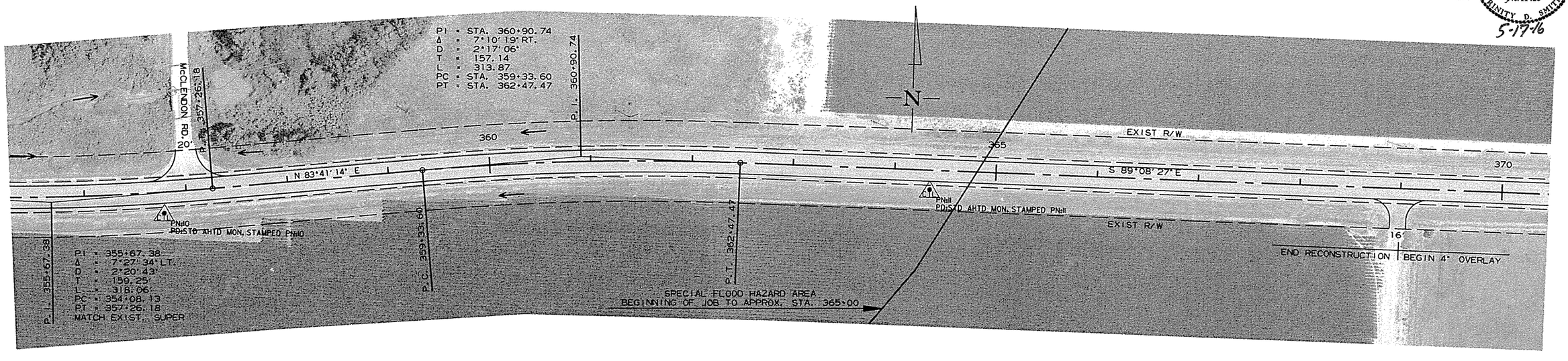
r020580.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

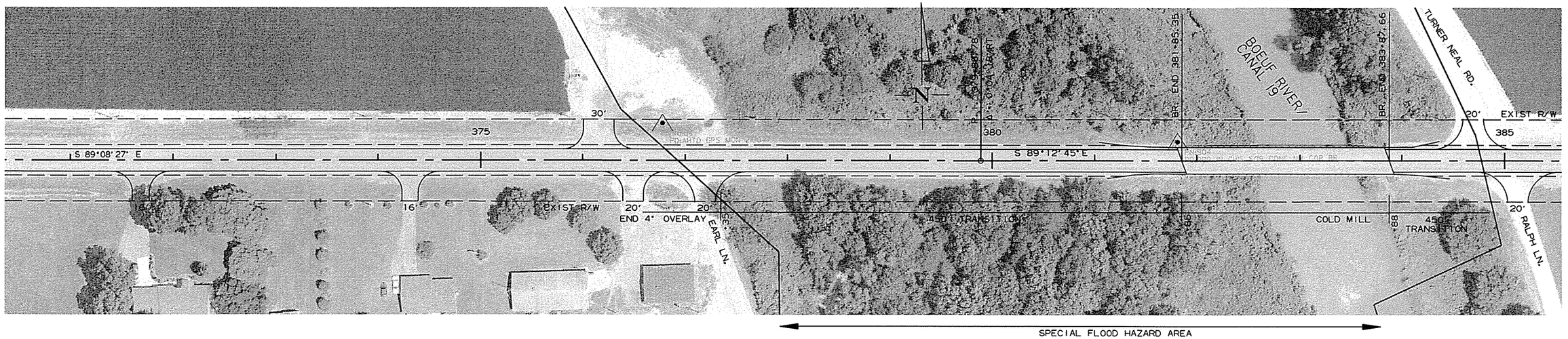
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020580	31	48

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16



STA. 381+85.35 BR. END
202.31' BRIDGE NO. 02162
24.0' CLEAR ROADWAY
STA. 383+87.66 BR. END
BRIDGE DECK REHAB. (MILL & INLAY)
RETAIN EXISTING GUARDRAIL



5/4/16

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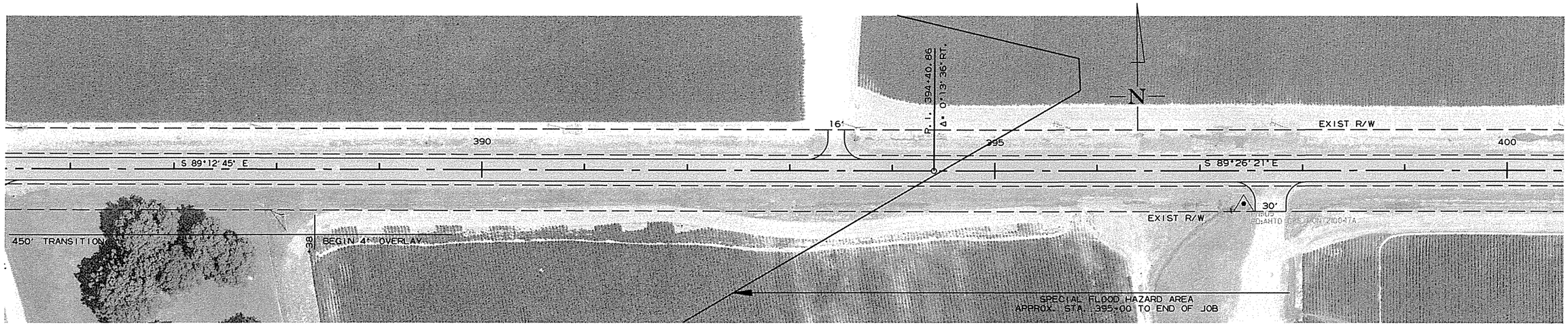
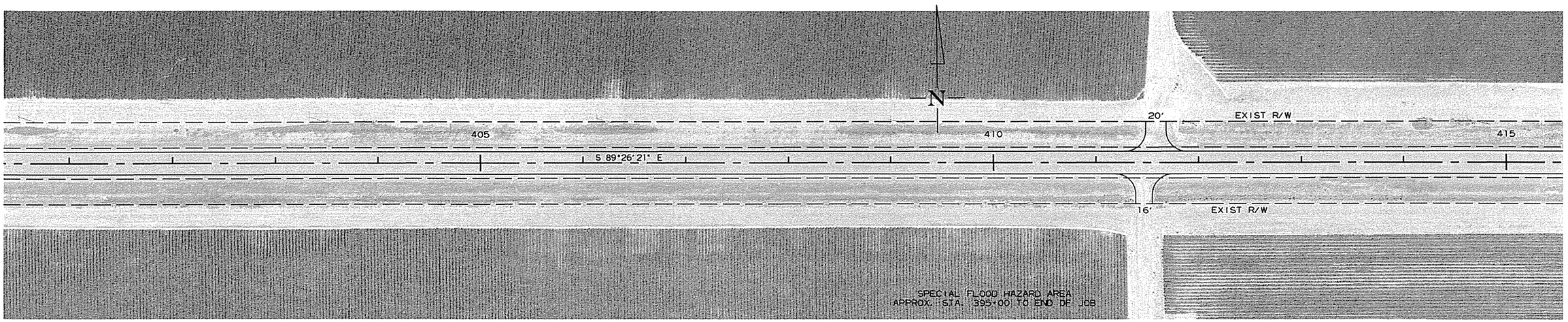
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	32	48

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16





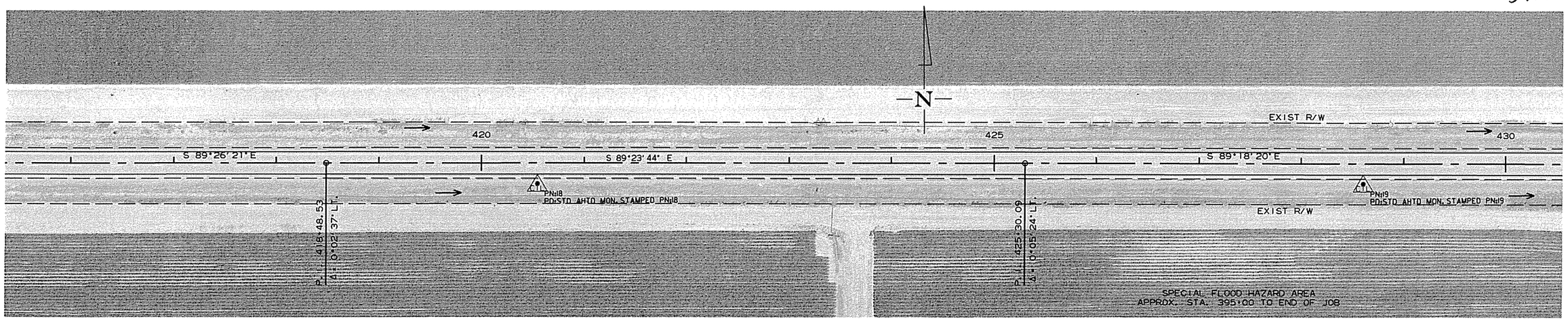
5/4/16

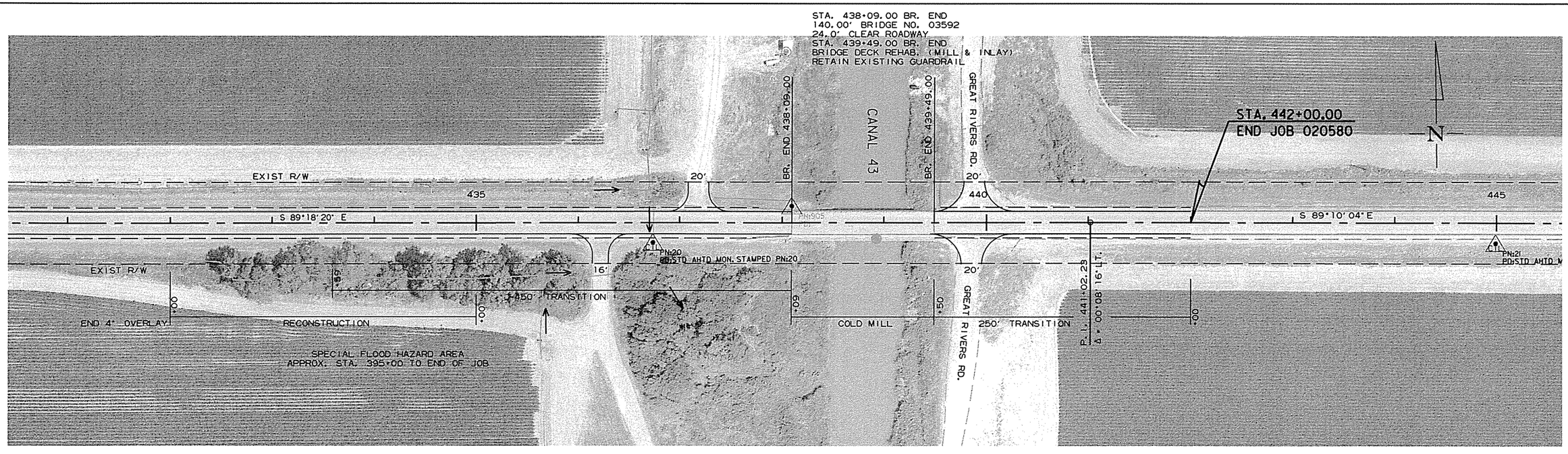
r020580.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020580	33	48

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-17-16





4/25/16 5-4-16

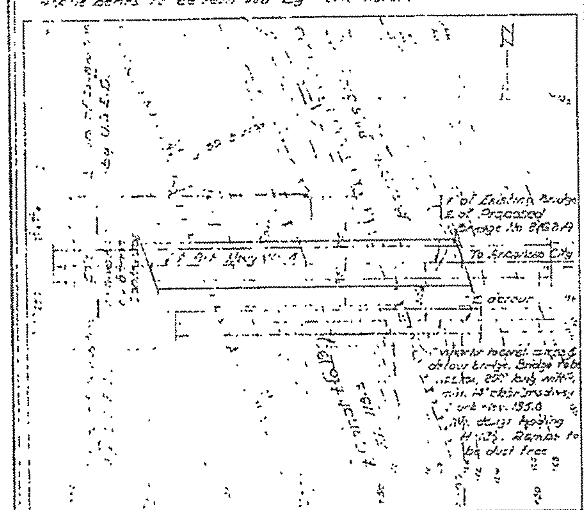
r0205580.dgn

020580 34 48

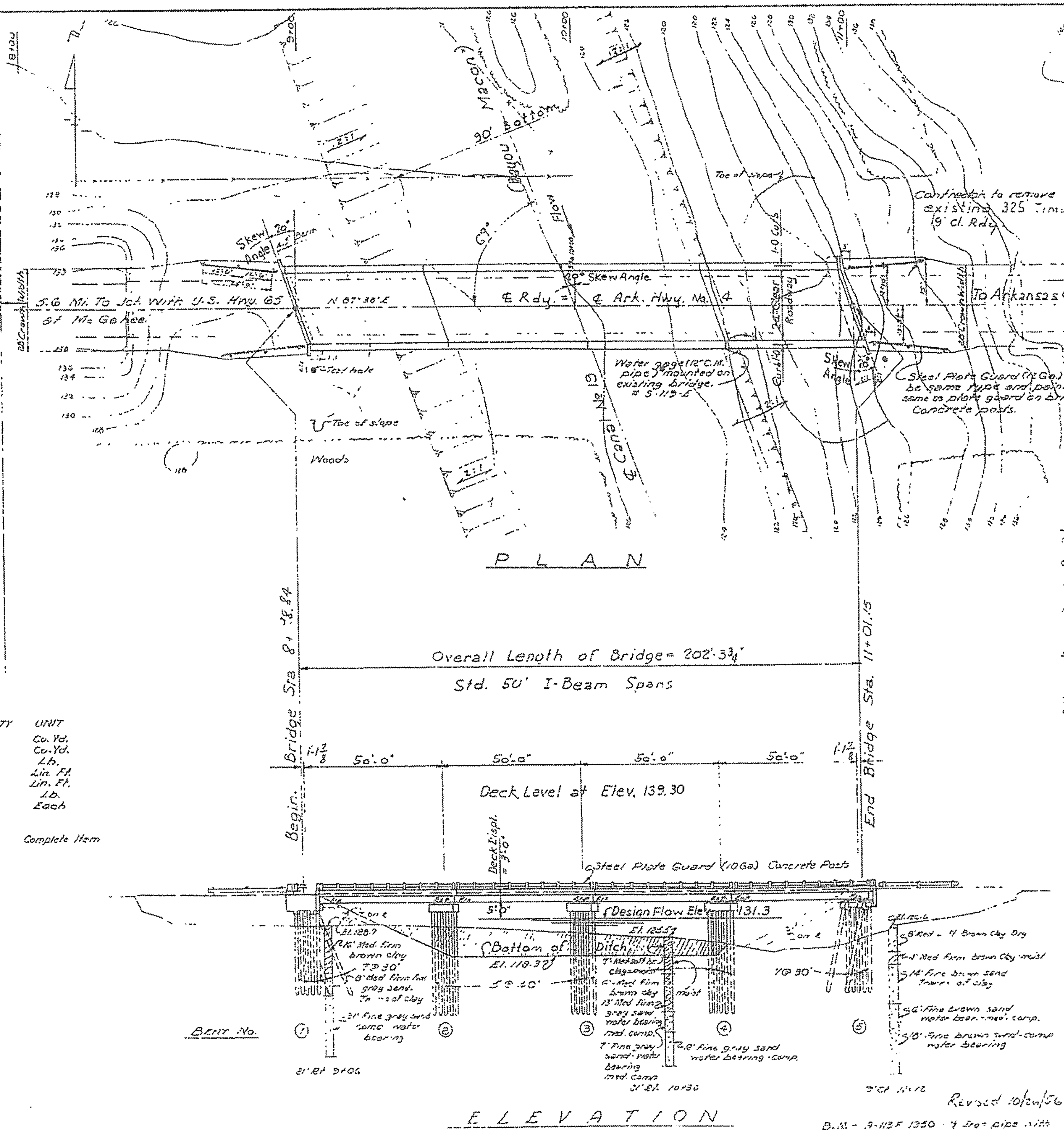
RIGHT OF WAY DATA

Excavation of Canal No. 19 to within 85' of either side of Ark. Hwy. No. 4 to be performed by Corps of Engineers. Excavation under & adjacent to bridge shall be performed by the Contractor. Approximately 1200 cu. yds.

Existing treated timber bridge approximately 325' long consisting of ... 15' spans, with 4' concrete ... 4"x12" timber deck, 4x14 timber stringers, ... 6x6 timber post ... bents to be removed by Contractor.



SKETCH OF
PLAN OF LOCATION & CHANNEL CHANGE
Scale 1" = 50'



QUANTITIES

ITEM NO	ITEM	QUANTITY	UNIT
103	Dry Excavation for Structures	74	Cu. Yd.
S.P.&802	Class S Concrete for Bridges	155.46	Cu. Yd.
S.P.&803	Reinforcing Steel	25800	Lb.
S.P.&804	Concrete Piling (16" Octagonal)	1025	Lin. Ft.
S.P.-865-G	Steel Plate Guard (10 Ga.)	416.2	Lin. Ft.
[illegible]	Structural Steel in Beam Spans	128140	Lb.
229	Bridge Name Plate (Type C)	1	Each
[illegible]	Removal of Existing Bridge Structures & Maintenance of Traffic (Br. 2162 A)	100 %	Complete Item

GENERAL NOTES

All concrete to be Class S.

Reinforcing steel to be intermediate grade.

All piling to be 16" octagonal precast concrete. Lengths shown are assumed for estimating purposes only. Actual lengths to be determined in the field.

Piles in end bents to be driven after embankment is in place.

Drive one pile in Bent No. 3 as a test pile. Cast 45' long.

Drive piling to a minimum capacity of 30 tons per pile and a minimum penetration of 20'.

For Details of Std. Pile Bents, see Dwg. No. 5501 M.

For Details of Std. 50' I-Beam Spans 20° Skew, see Dwg. Nos. 5500-D & 5500 I.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Road and Bridge Construction adopted March 1, 1941.

DESIGN SPECIFICATIONS — A.A.S.H.O. 1953.

Revised 10/24/56

B.M. — El. 138.833 ... iron pipe with brass cap ... above ground, 49' ... of bridge, 52' South ... Hwy. #4 ... painted yellow. Elev. 138.833.

FOR INFORMATION ONLY

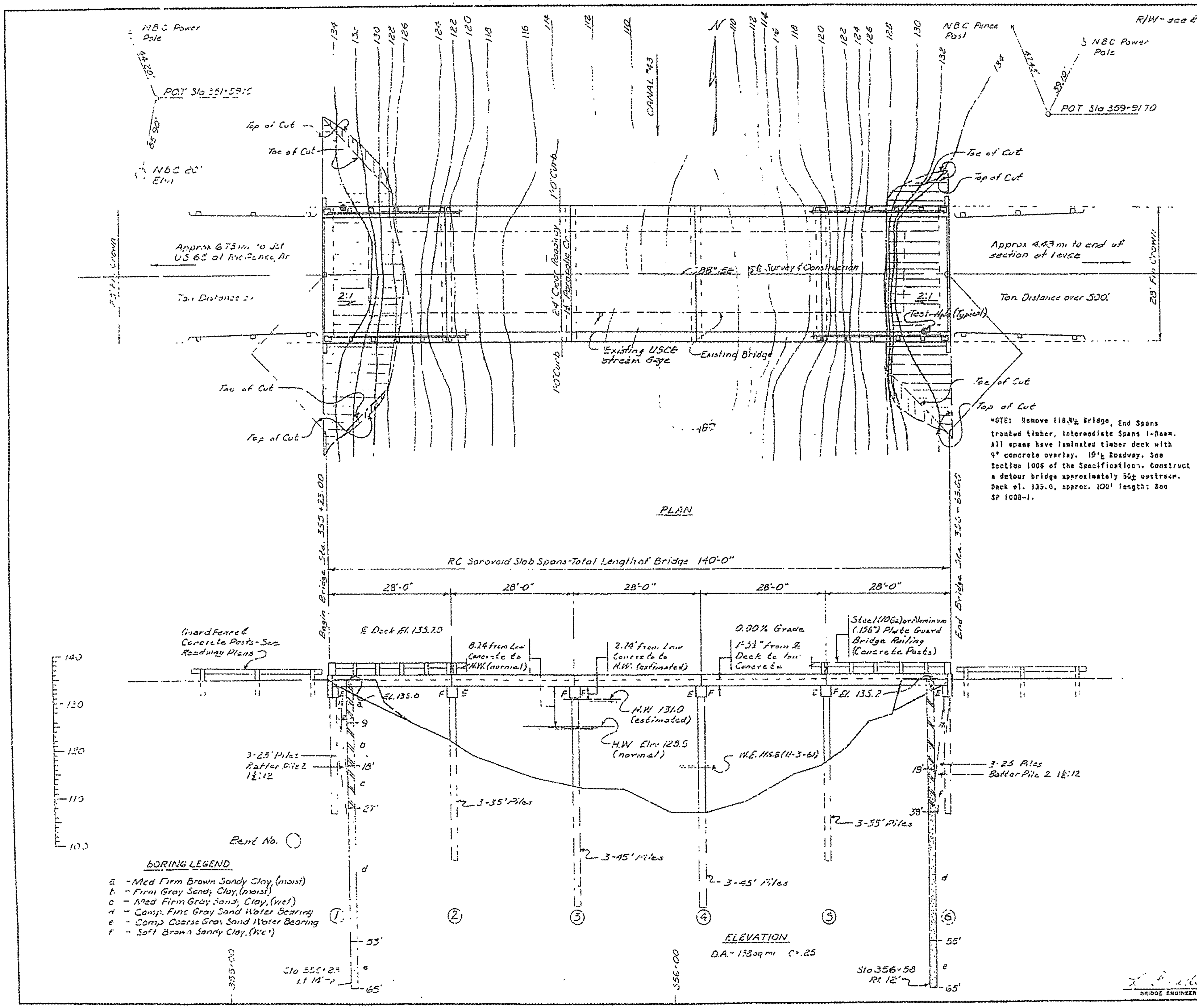
LAYOUT OF BRIDGE
OVER CANAL No 19 (BAYOU MACON)
McGEHEE ARKANSAS CITY ROAD
DESHA COUNTY
ROUTE 4 SEC. 17
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ... DATE: 12-24-55
TRACED BY: ... DATE: ...
CHECKED BY: ... DATE: 7-3-56
SCALE: 1 Inch = 20 feet

BRIDGE DESIGN ENGINEER

BRIDGE NO. 2162 A DRAWING NO. 9/39

020580 35 48



NOTE: Remove 118.4'± Bridge, End Spans treated timber, intermediate Spans I-Beam. All spans have laminated timber deck with 9" concrete overlay. 19'± Roadway. See Section 1006 of the Specifications. Construct a detour bridge approximately 50± upstream. Deck el. 135.0, approx. 100' length; See SP 1008-1.

GENERAL NOTES

Bench Mark - Nail in power pole, 35' Lt. Sta.354+20, Elevation 133.26.

All piling shall be 16" Octagonal Precast Concrete and shall be driven to a minimum bearing capacity of 36 tons per pile, and to a minimum penetration of 20' below the natural ground. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Drive one 40' test pile in Bent 2, and one 40' test pile in Bent 5

For details of substructure see Dwg.No. 5-46-...
For details of superstructure see Dwg.No. 5-46BC
For details of precast concrete piles see Dwg.No.2382.
Concrete removed from existing Bridge deck shall be placed at the Bridge ends as directed by the Engineer.

Loading:	H-15	AASHO	1957
Stresses:	Class S Concrete (n=10)		1,200 psi
	Reinforcing Steel		20,000 psi

SPECIFICAT: ... Kansas State Highway Commission Standard Specific... ...ghway Construction, Edition of 1959.

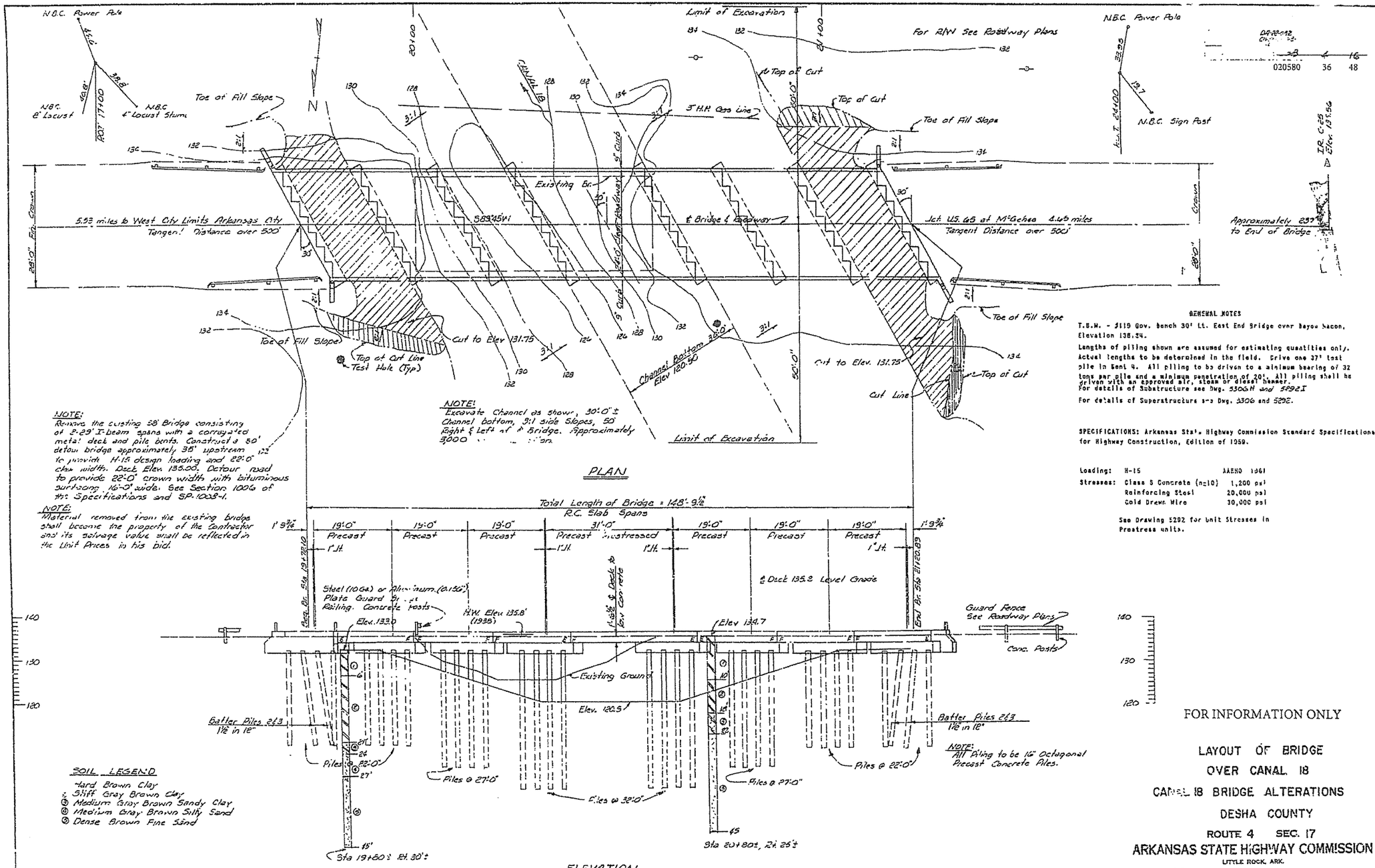
FOR INFORMATION ONLY

LAYOUT OF BRIDGE OVER
CANAL 43
CANAL 43, BOGGY & LITTLE BOGGY BAYOU
BRIDGES & APPROACHES
DESHA COUNTY
ROUTE 4 SEC. 17
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: E.E. DATE 12-7-61
TRACED BY: DATE:
CHECKED BY: C.E.V. DATE: 12-..-61
SCALE: 1"=10'

BRIDGE ENGINEER

BRIDGE NO. 3592 DRAWING NO. 11714



NOTE:
Remove the existing 28 Bridge consisting of 8-29' I-beam spans with a corrugated metal deck and pile bents. Construct a 30' detour bridge approximately 35' upstream to provide H-15 design loading and 22'0" clear width. Deck Elev. 135.00. Detour road to provide 22'0" crown width with bituminous surfacing 16'0" wide. See Section 1006 of the Specifications and SP-1008-1.

NOTE:
Material removed from the existing bridge shall become the property of the Contractor and its salvage value shall be reflected in the Unit Prices in his bid.

NOTE:
Excavate Channel as shown, 30'0" ± Channel bottom, 3:1 side Slopes, 50' Right & Left of ℄ Bridge. Approximately 3000 ... ...on

PLAN

ELEVATION
D.A. = 32 sq. mi.
C=.08

SOIL LEGEND
1. Hard Brown Clay
2. Stiff Gray Brown Clay
3. Medium Gray Brown Sandy Clay
4. Medium Gray Brown Silty Sand
5. Dense Brown Fine Sand

GENERAL NOTES

T.B.M. - 3119 Gov. Bench 30' Lt. East End Bridge over Bayou Bacon, Elevation 138.34.

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Drive one 37' test pile in Bent 4. All piling to be driven to a minimum bearing of 32 tons per pile and a minimum penetration of 20'. All piling shall be driven with an approved air, steam or diesel hammer. For details of Substructure see Dwg. 5306H and 5892I

For details of Superstructure see Dwg. 5306 and 5292.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 1959.

Loading: H-15 AASHO 1961

Stresses: Class S Concrete (n=10) 1,200 psi
Reinforcing Steel 20,000 psi
Cold Drawn Wire 20,000 psi

See Drawing 5292 for Unit Stresses in Prestress units.

FOR INFORMATION ONLY

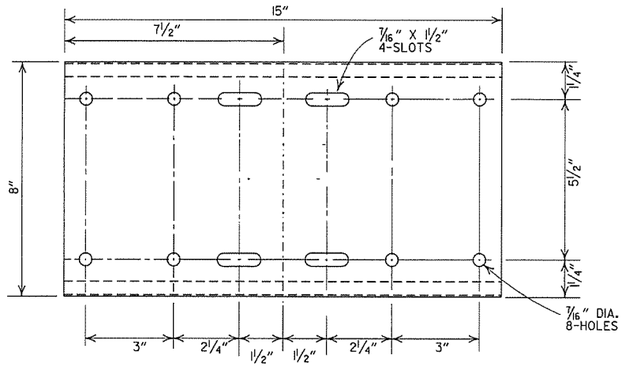
LAYOUT OF BRIDGE
OVER CANAL 18
CANAL 18 BRIDGE ALTERATIONS
DESHA COUNTY
ROUTE 4 SEC. 17

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

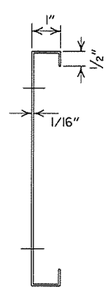
DRAWN BY: DFL DATE: 1-11-63
TRACED BY: DATE:
CHECKED BY: EAH DATE: 1-15-63
SCALE: 1" = 10'

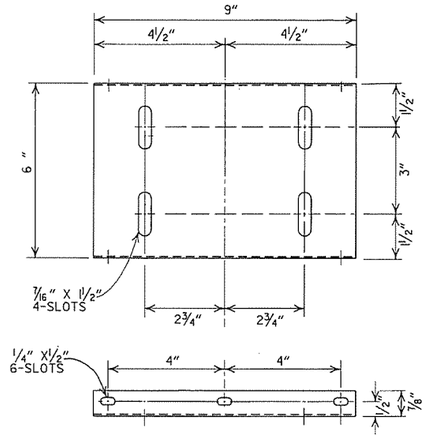
BRIDGE NO. 3799 DRAWING NO. 12453

L. D. Gaither
BRIDGE ENGINEER

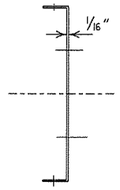


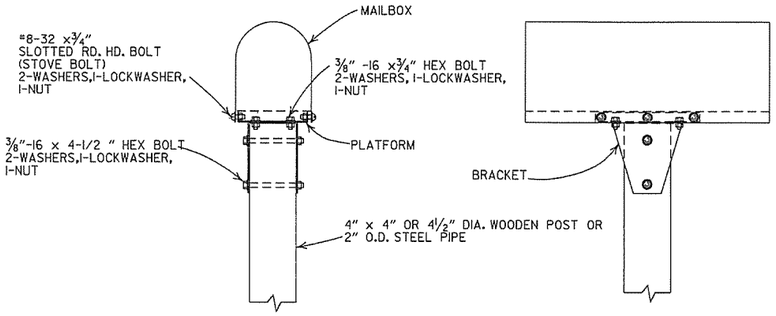
SHELF



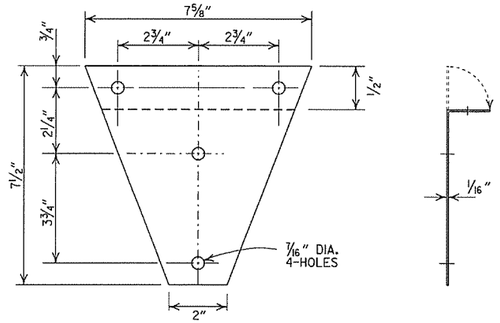


PLATFORM





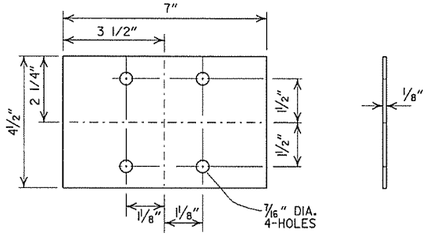
SINGLE INSTALLATION



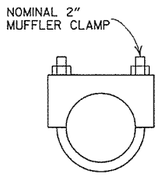
BRACKET

GENERAL NOTES

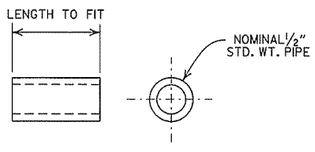
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 2¼" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



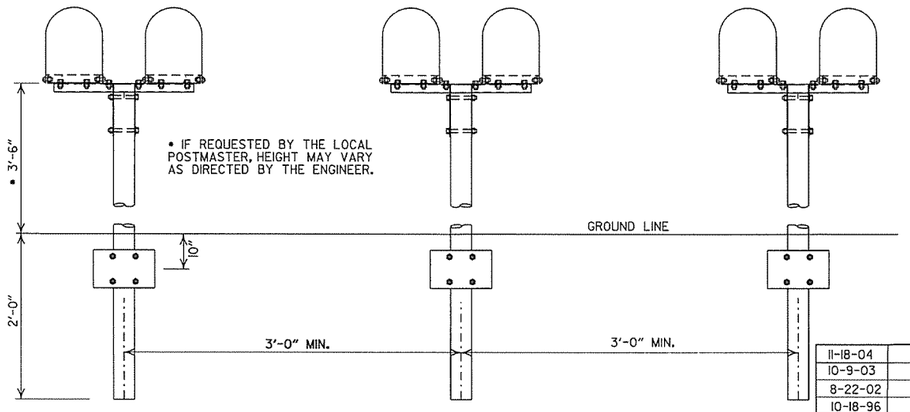
ANTI-TWIST PLATE



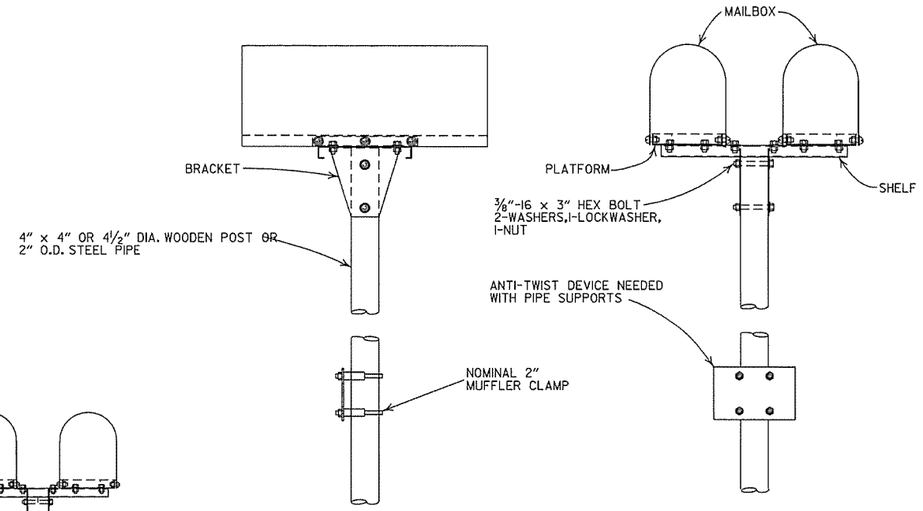
CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION



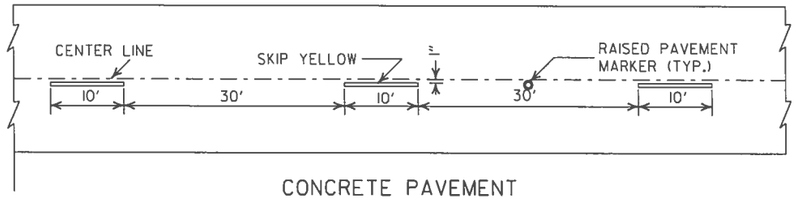
DOUBLE INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

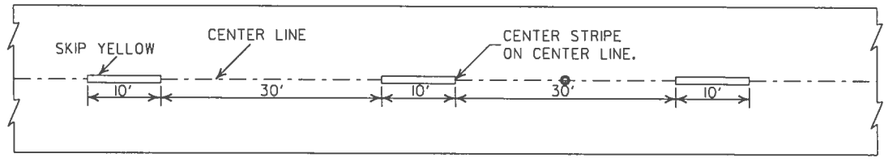
ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

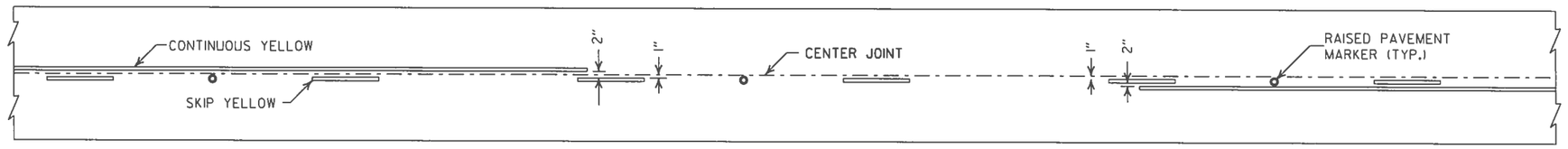


CONCRETE PAVEMENT

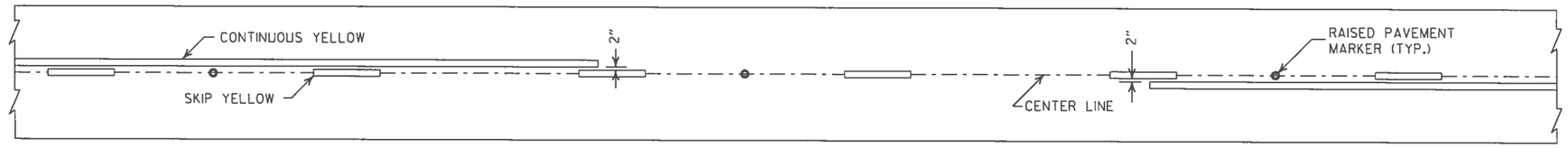


ASPHALT PAVEMENT

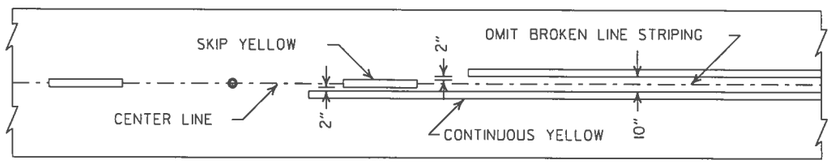
BROKEN LINE STRIPING



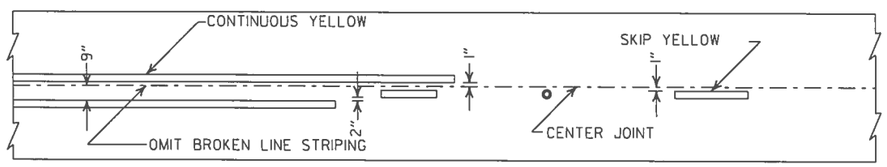
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

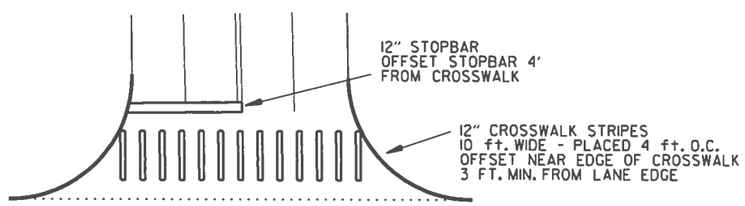


ASPHALT PAVEMENT



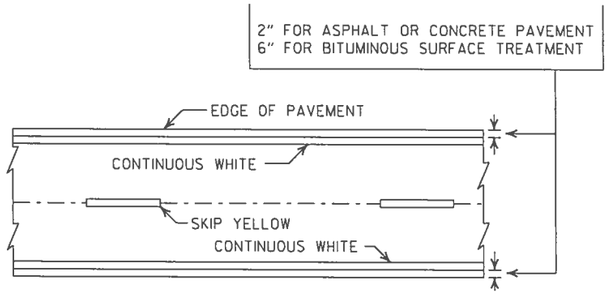
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

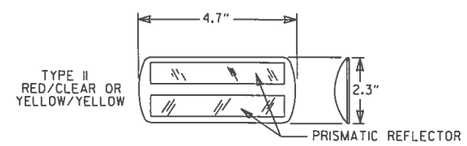


CROSSWALK AND STOPBAR DETAILS

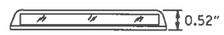
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.



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

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

DATE	REVISION	FILMED
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

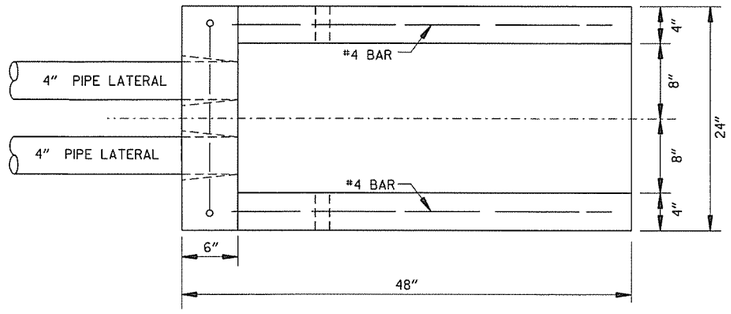
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

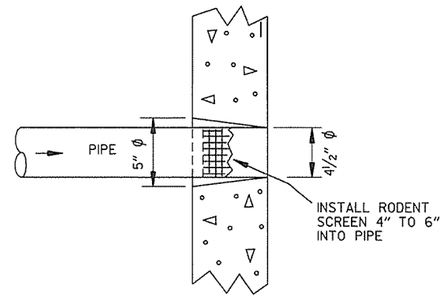
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

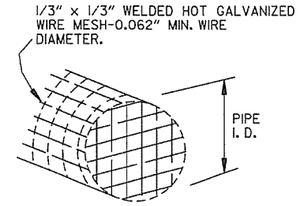
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



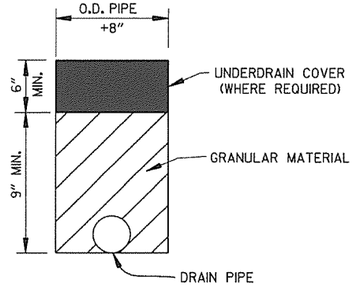
PLAN VIEW

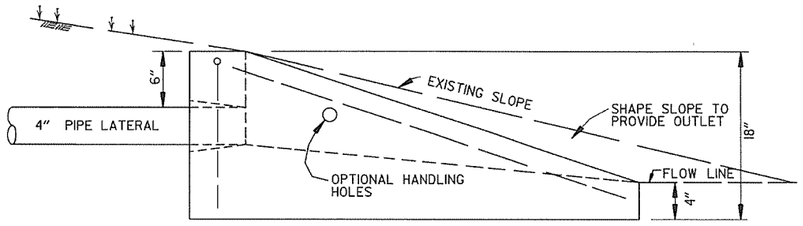


DETAIL OF HOLE FOR 4" PIPE

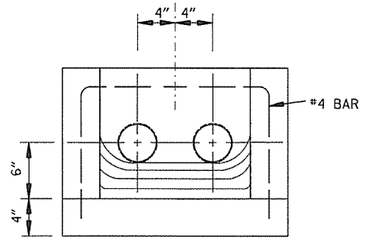


DETAIL OF RODENT SCREEN

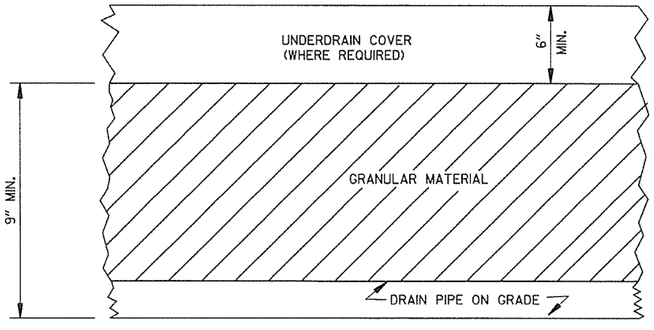




SIDE VIEW

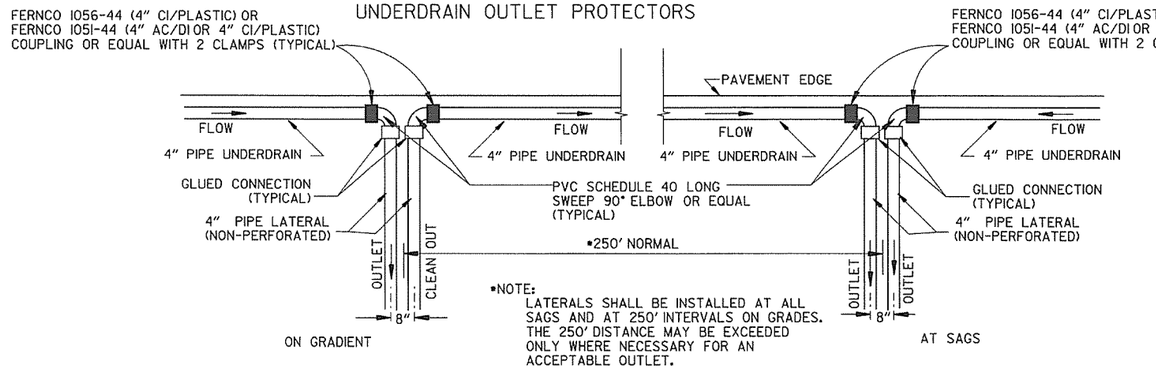


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

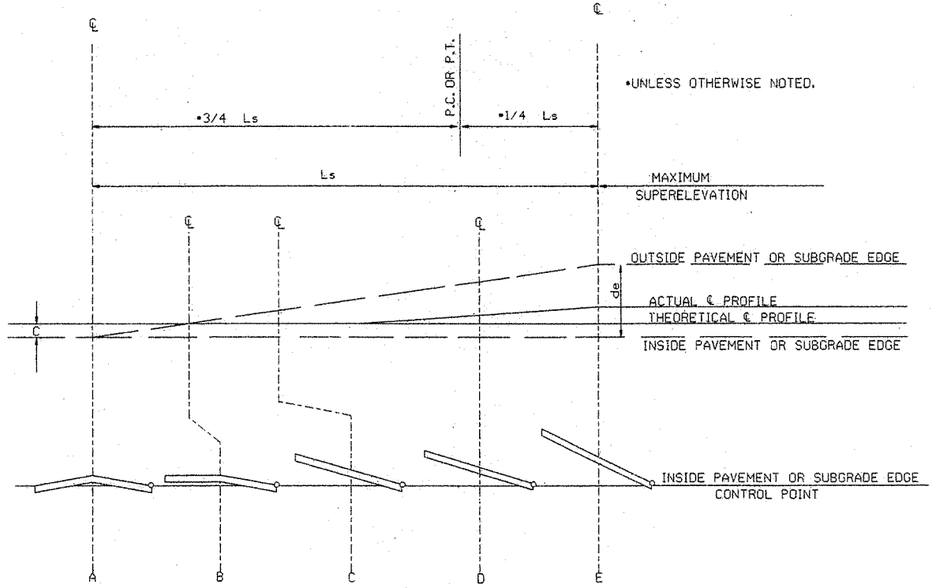
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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			0.031	200		0.037	225		0.043			0.054		
1° 45′	N.C.			0.025	175		0.036			0.043		300	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			0.053			0.063			0.072			0.091	335	
3° 00′	0.025			0.040		200	0.057			0.067	230		0.077	260		0.096	350	400
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.098	360	
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295		D MAX = 3° 30′		
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	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	350	0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300		D MAX = 5° 15′					
6° 00′	0.046			0.070	190		0.092	270	300	0.096	305							
6° 30′	0.050			0.074	200		0.095	280		0.100	315							
7° 00′	0.053			0.078	210		0.098	285		D MAX = 6° 30′								
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	250	D MAX = 8° 15′											
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		D MAX = 13° 15′														
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′

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.

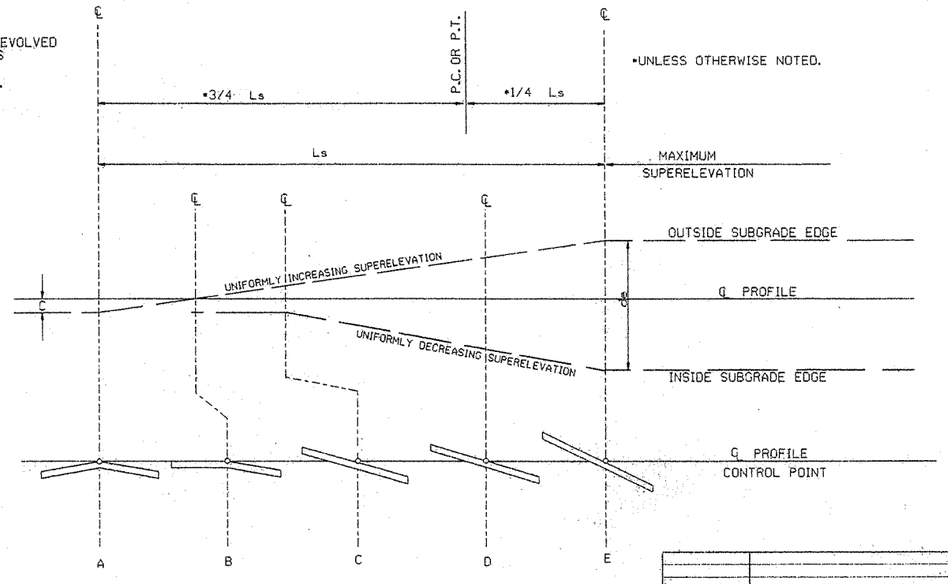
GENERAL NOTES

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

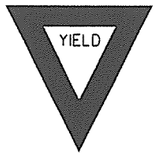
STANDARD DRAWING SE-2

FILE STDSE2.DGN

R1-1

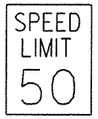
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

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"

W3-5

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

W3-5a

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

R4-1

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

R4-2

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

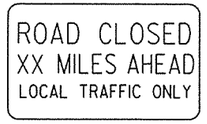
R5-1

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

RII-2

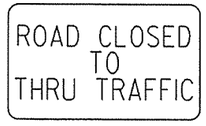
48"X30"

RII-3A



60"X30"

RII-4

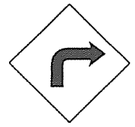


60"X30"

RSP-1

48"X30"

WI-1



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

WI-2

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

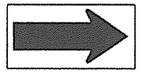
WI-3

STD. 48"X48"

WI-4

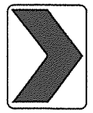
STD. 48"X48"

WI-6



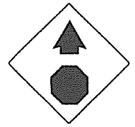
STD. 48"X24"
SPECIAL 60"X30"

WI-8



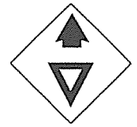
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



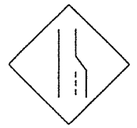
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

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

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

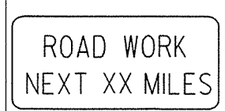
W8-11

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

W8-9

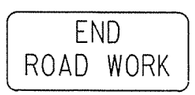
STD. 36"X36"
FWY. 48"X48"

G20-1



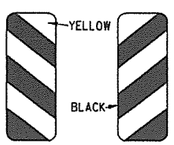
60"X24"

G20-2



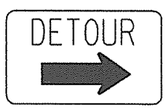
48"X24"

OM-3L OM-3R



12"X36"

M4-9

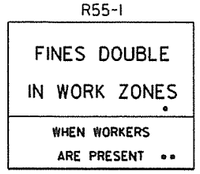


STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

W20-3

STD. 48"X48"

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT, HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

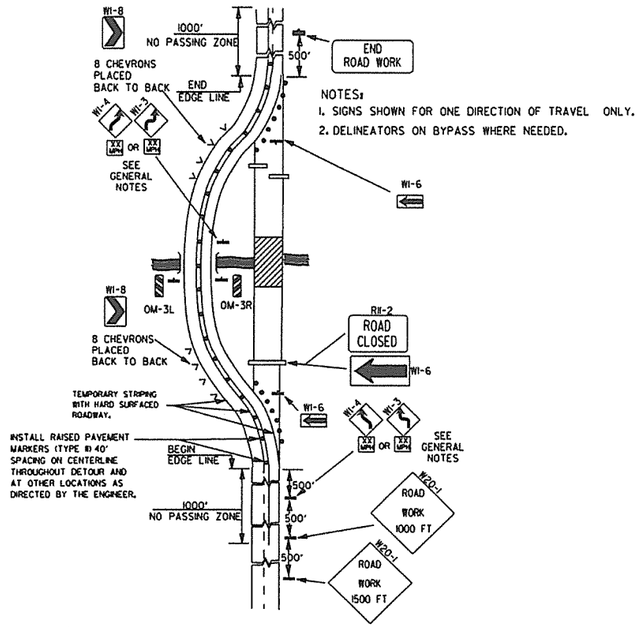
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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

ARKANSAS STATE HIGHWAY COMMISSION

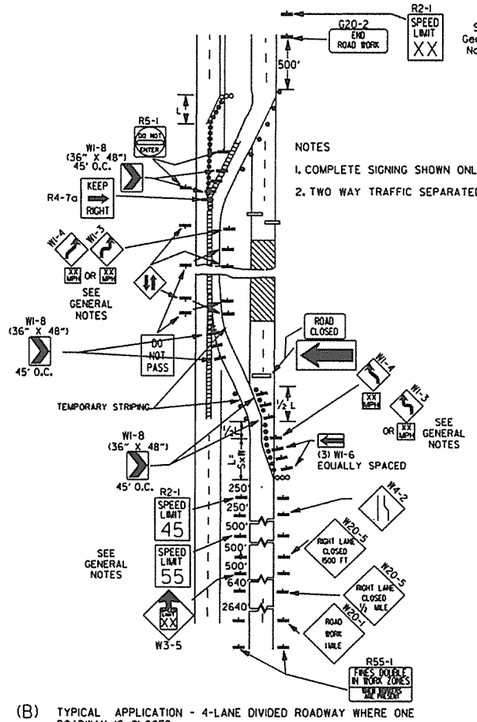
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



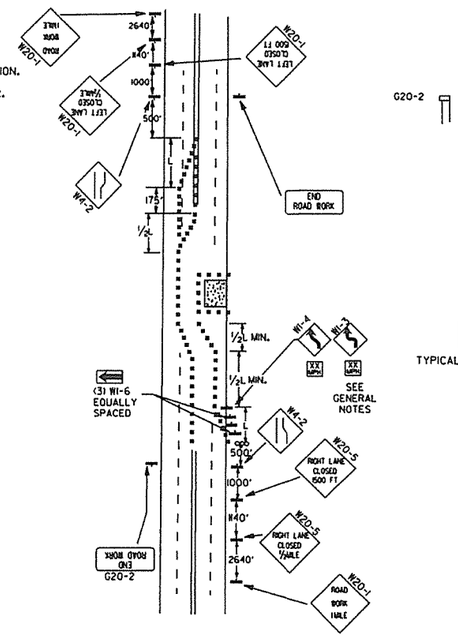
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

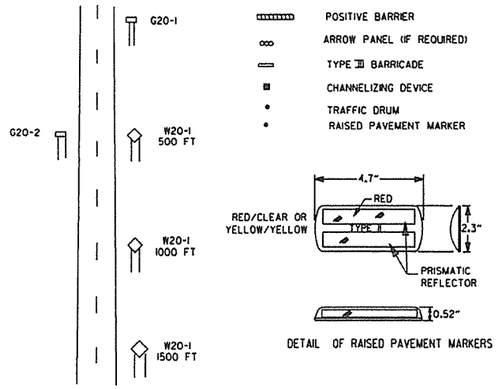


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

DETAIL OF RAISED PAVEMENT MARKERS

TAPER FORMULAE:

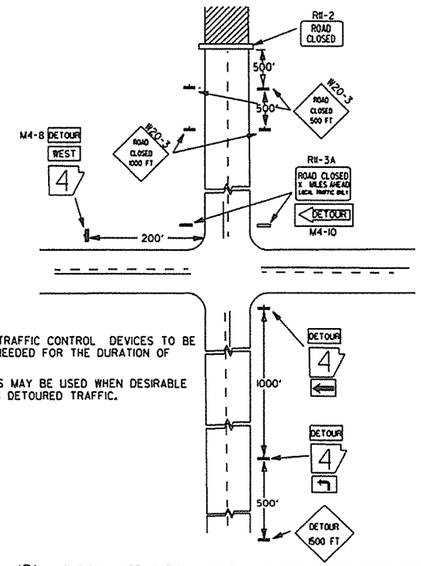
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

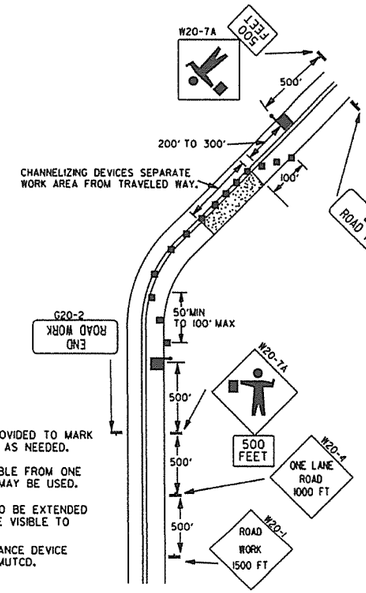
GENERAL NOTES:

1. 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 W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



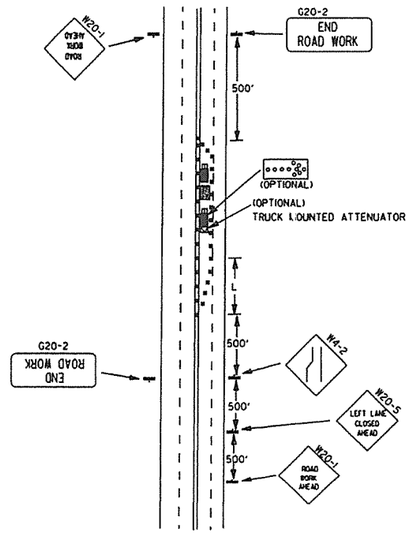
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



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

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



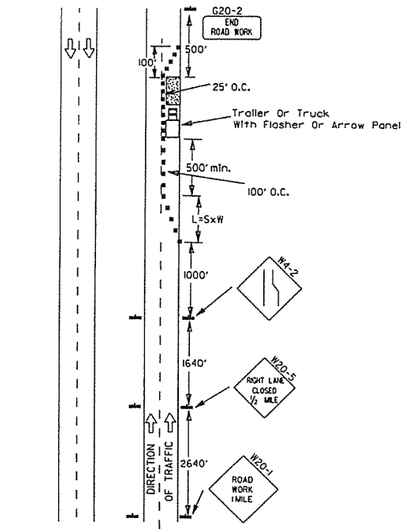
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (G) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

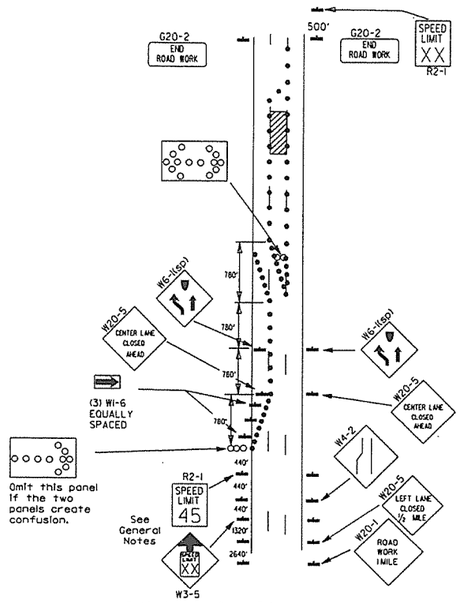
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



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



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

KEY:

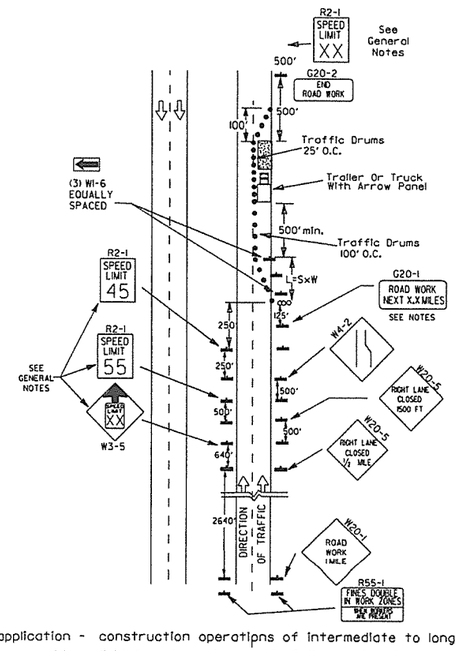
ooo Arrow Panel (If Required)

■ Channelizing Device

● Traffic drum

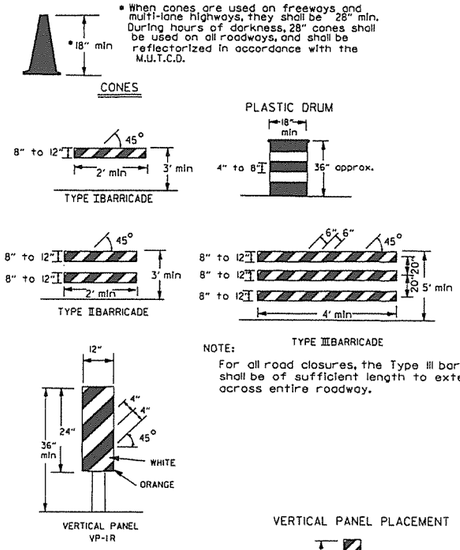
GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 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.



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

Channelizing devices



* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

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

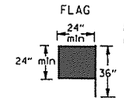
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

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.

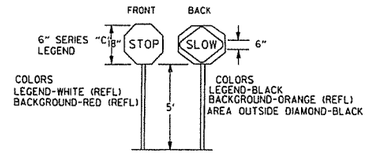
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

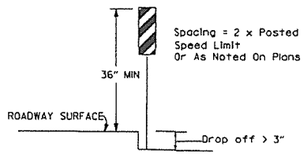


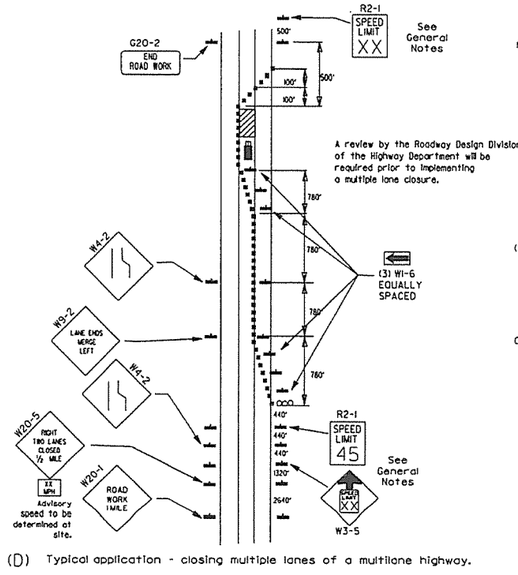
Flag shall be of good grade red material

STOP SLOW PADDLE



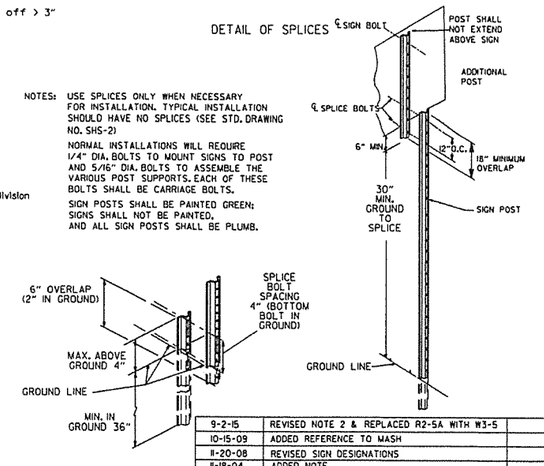
VERTICAL PANEL PLACEMENT





(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-2)

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

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

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

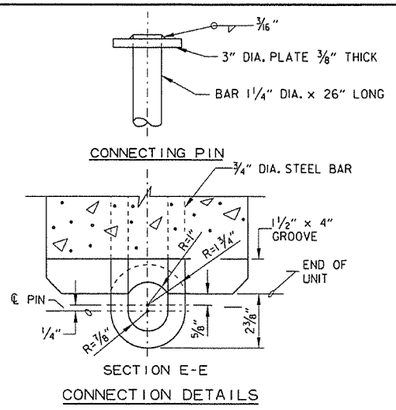
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

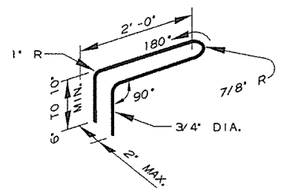
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

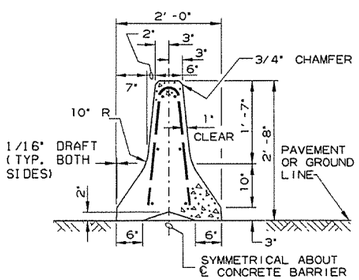
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"



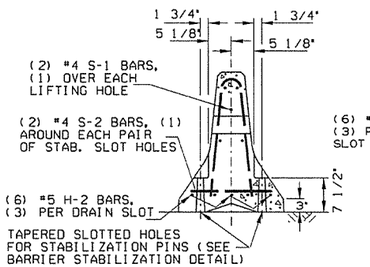
CONNECTION DETAILS



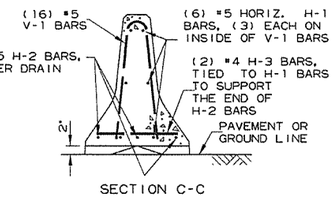
CONNECTION LOOP



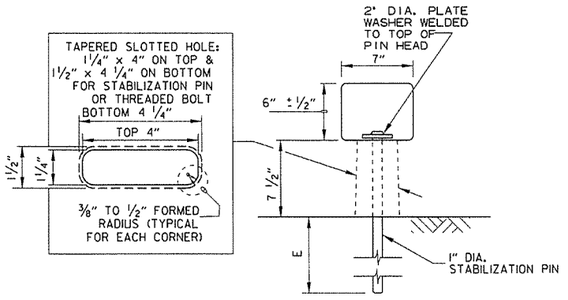
SECTION A-A



SECTION B-B



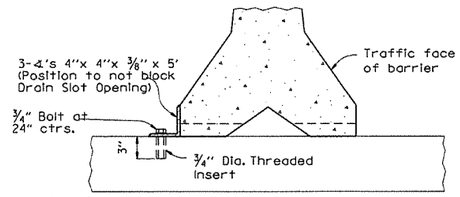
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

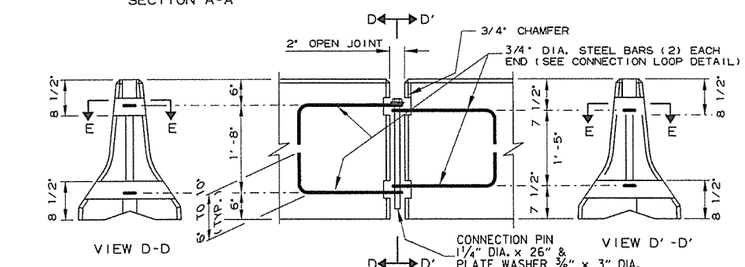
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



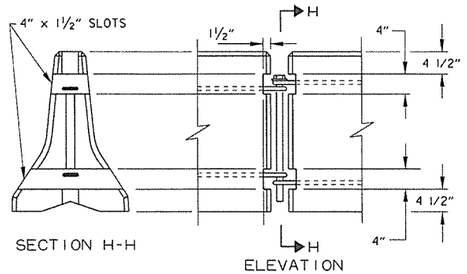
NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the Inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

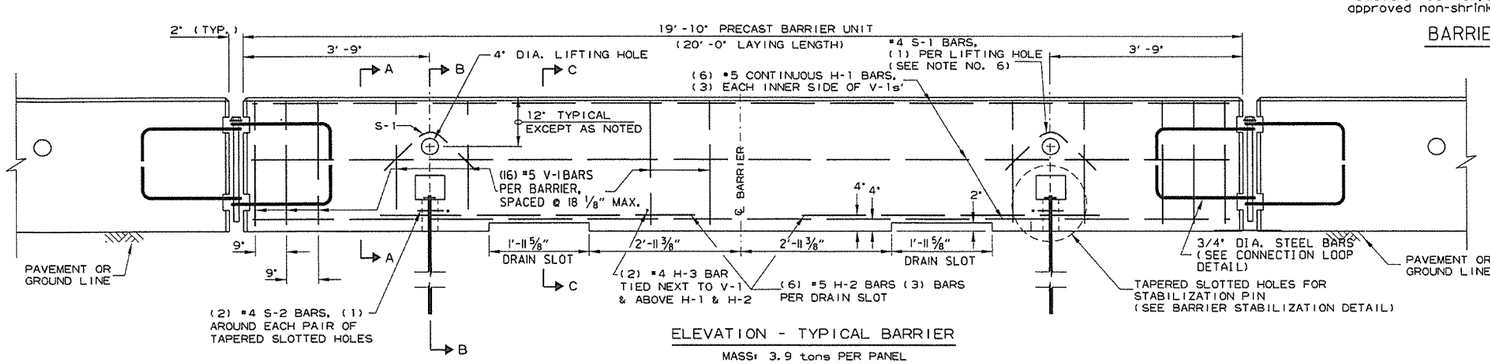
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

1. The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
2. Materials shall meet the following minimum requirements:
   Concrete: 2500 psi compressive strength at 28 days.
   Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
   Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
   Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

   In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
   Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
   Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
3. Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
4. Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.
5. Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
6. A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

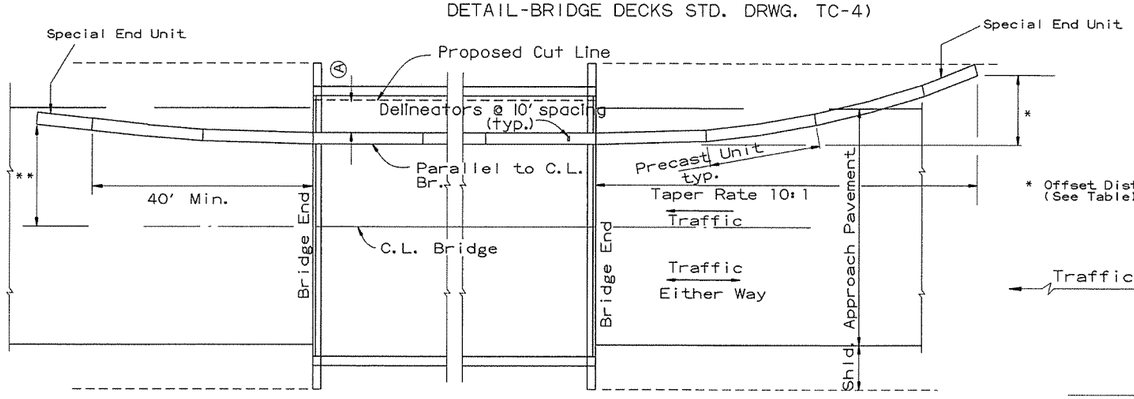
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

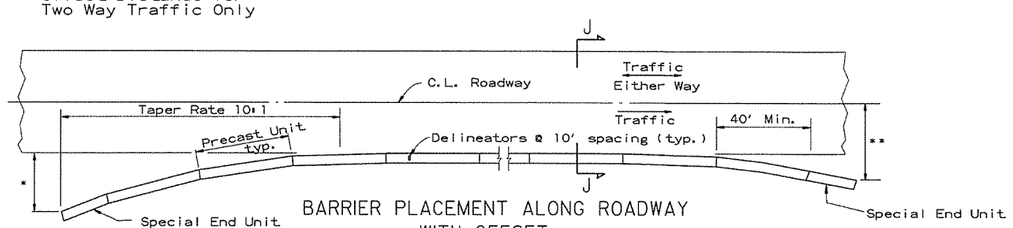


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

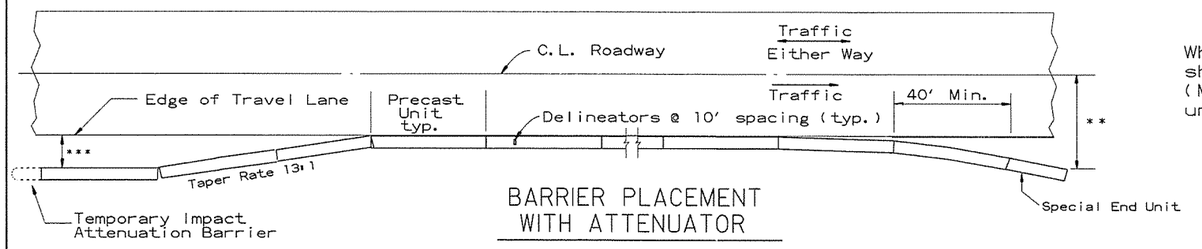
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

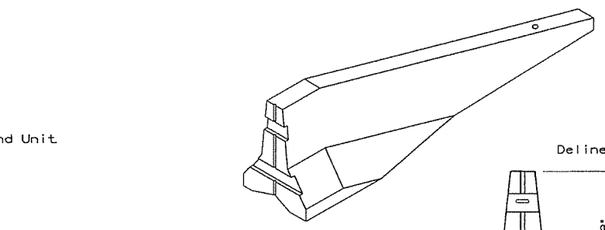


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

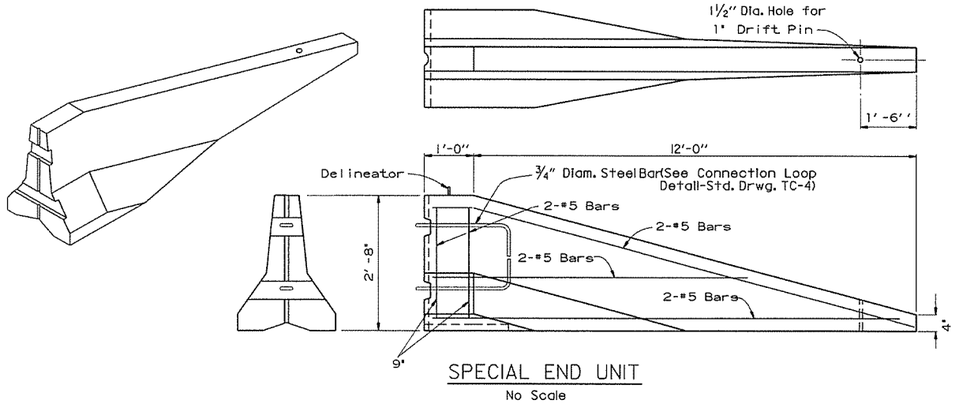
** Offset Distance For Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

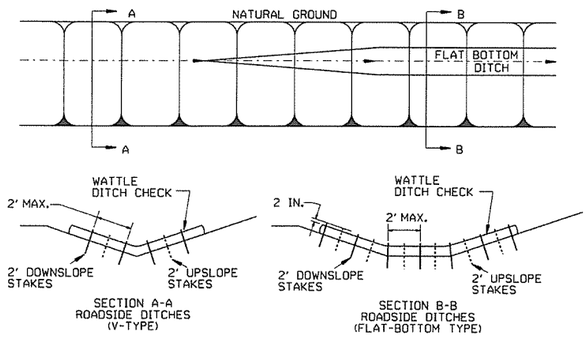
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

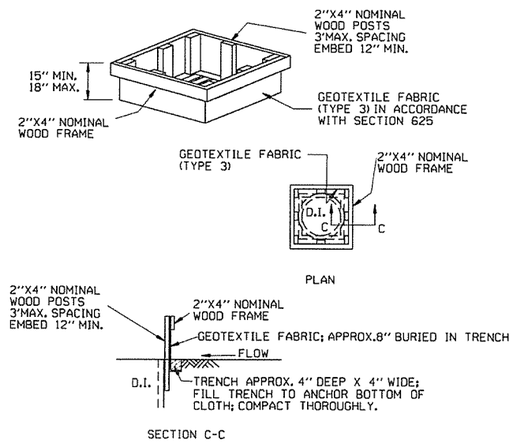
STANDARD DRAWING TC-5

GENERAL NOTES

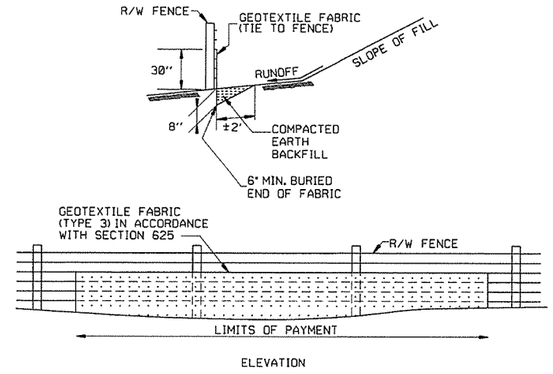
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

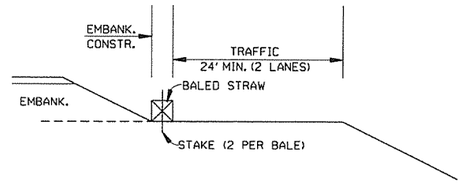
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

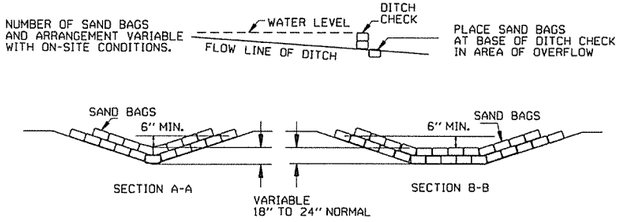
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

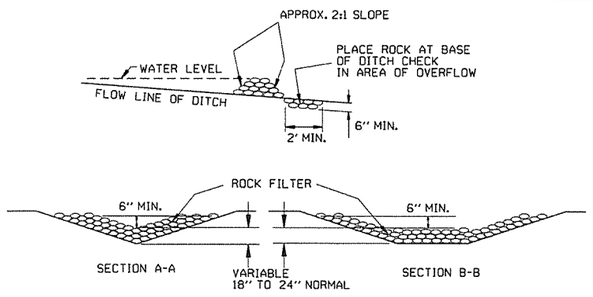
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



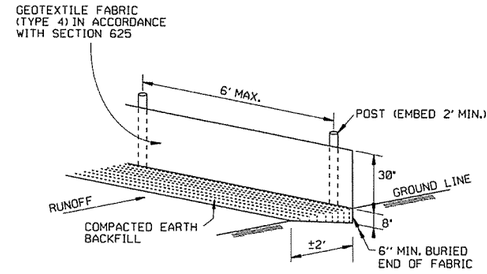
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

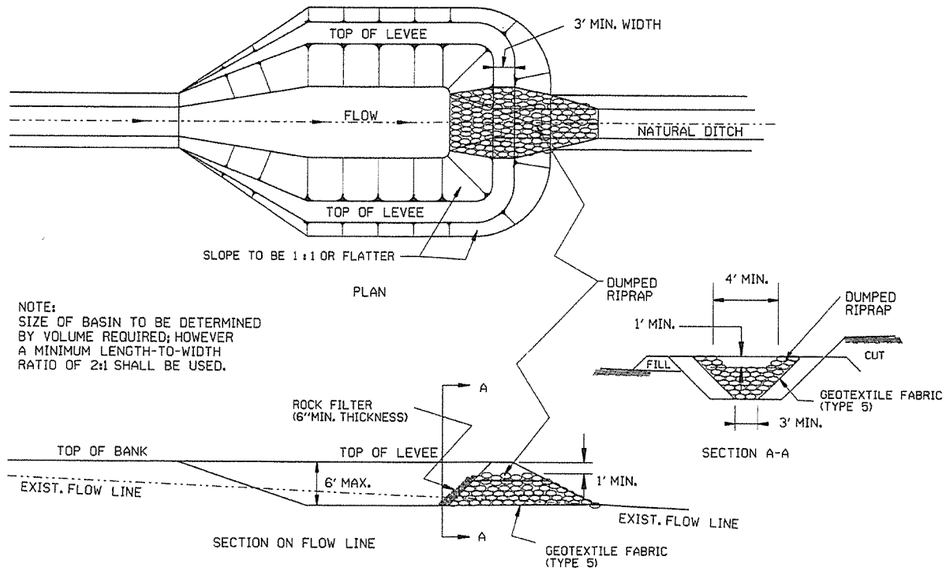
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

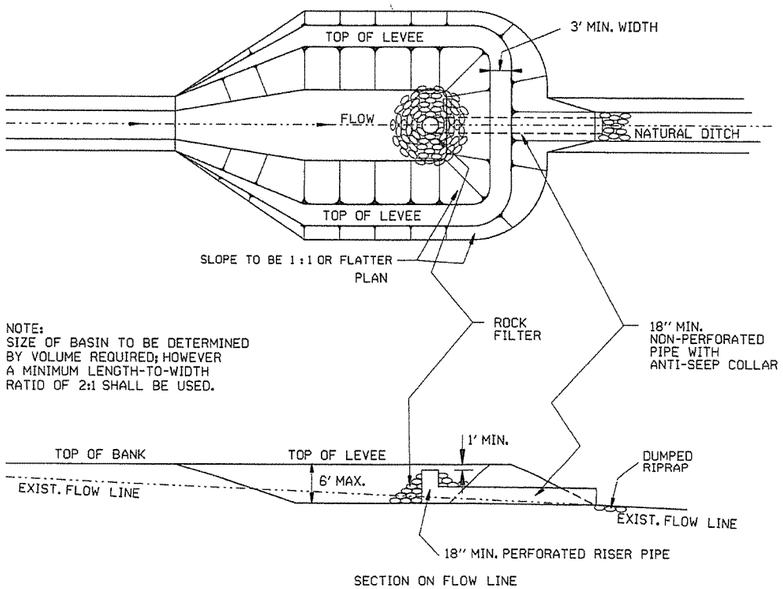
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

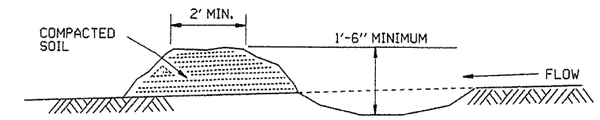
STANDARD DRAWING TEC-1



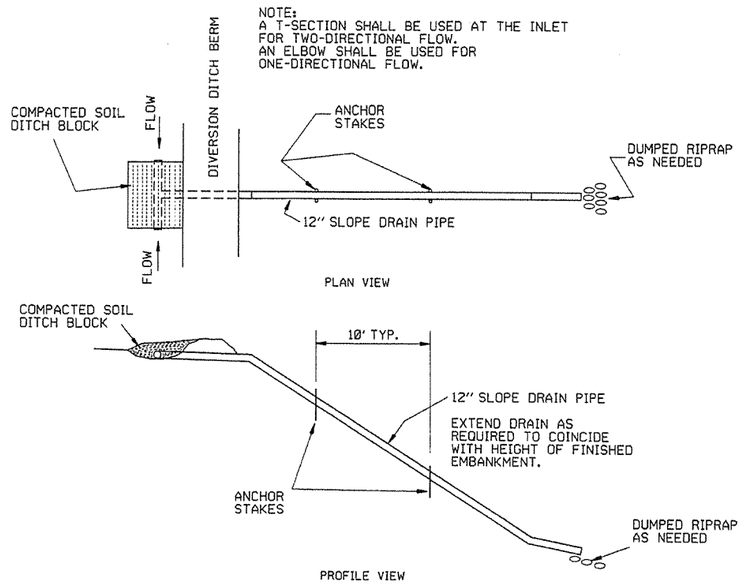
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



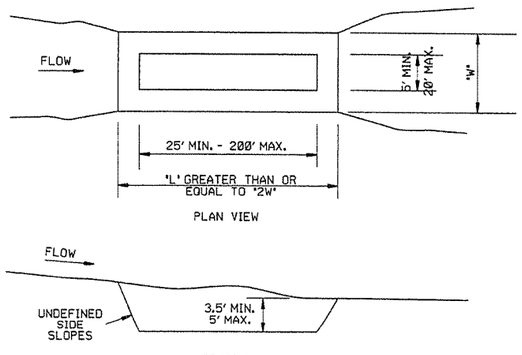
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

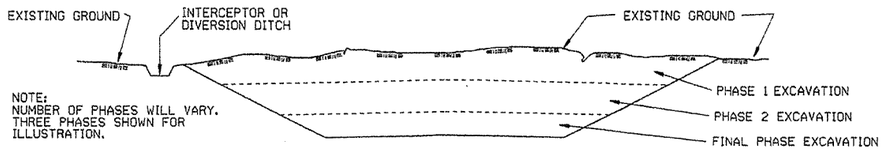
STANDARD DRAWING TEC-2

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



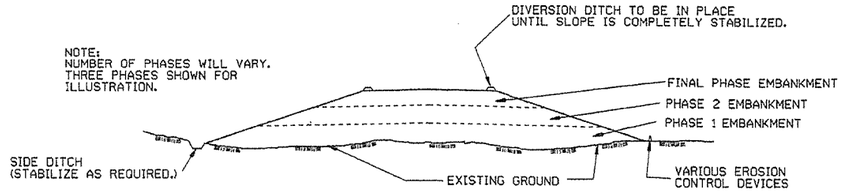
GENERAL NOTE

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