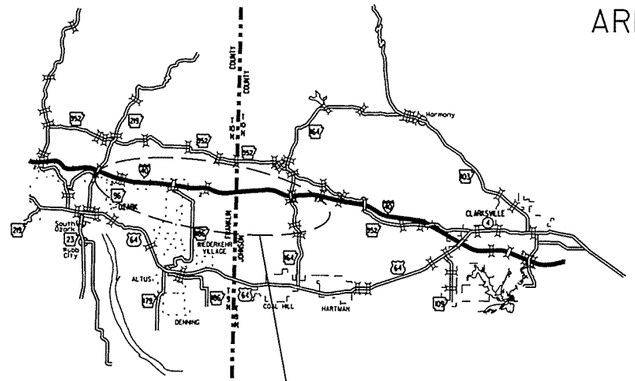
"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	1	82
				(2)	OZARK - HWY. 164 (S)			



VICINITY MAP

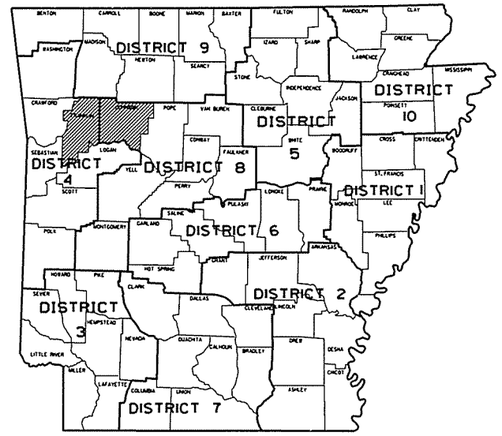
OZARK-HWY. 164 (S)

FRANKLIN & JOHNSON COUNTIES

ROUTE 40 SECTION 12 & 21

JOB BB1103

FEDERAL AID PROJ. BIM-B40-0(228) & 9050



ARK. HWY. DIST. NO. 4 & 8

BRIDGE DATA

① STA. 1356+90.88 BR. END
EXISTING 172' BRIDGE NO. A5110
39'-0" CLEAR ROADWAY
STA. 1358+62.88 BR. END
REHABILITATE BRIDGE DECK-HYDRODEMOLITION

② STA. 1639+09.88 BR. END
EXISTING 190.12' BRIDGE NO. A5113
39'-0" CLEAR ROADWAY
STA. 1641+00.00 BR. END
REHABILITATE BRIDGE DECK-HYDRODEMOLITION

③ STA. 1664+43.55 BR. END
EXISTING 208.45' BRIDGE NO. A5114
39'-0" CLEAR ROADWAY
STA. 1666+52.00 BR. END
REHABILITATE BRIDGE DECK-HYDRODEMOLITION

④ STA. 2051+62.50 BR. END
EXISTING 121' BRIDGE NO. A5131
40'-0" CLEAR ROADWAY
STA. 2052+83.50 BR. END
REHABILITATE BRIDGE DECK-HYDRODEMOLITION

⑤ STA. 2051+62.50 BR. END
EXISTING 121' BRIDGE NO. B5131
40'-0" CLEAR ROADWAY
STA. 2052+83.50 BR. END
REHABILITATE BRIDGE DECK-HYDRODEMOLITION

EXCEPTIONS TO JOB BB1103 (BRIDGES)

△1 STA. 1356+02.55 BR. END
172' BRIDGE NO. B5110
39'-0" CLEAR ROADWAY
STA. 1357+74.55 BR. END

△2 STA. 1508+03.66 BR. END
135' BRIDGE NO. A5111
39'-0" CLEAR ROADWAY
STA. 1509+38.66 BR. END

△3 STA. 1507+49.64 BR. END
135' BRIDGE NO. B5111
39'-0" CLEAR ROADWAY
STA. 1508+84.64 BR. END

△4 STA. 1639+59.19 BR. END
190.12' BRIDGE NO. B5113
39'-0" CLEAR ROADWAY
STA. 1641+49.31 BR. END

△5 STA. 1665+36.63 BR. END
208.62' BRIDGE NO. B5114
39'-0" CLEAR ROADWAY
STA. 1667+45.25 BR. END

△6 STA. 1852+32.71 BR. END
279' BRIDGE NO. A5116
39'-0" CLEAR ROADWAY
STA. 1855+11.71 BR. END

△7 STA. 1852+10.26 BR. END
279' BRIDGE NO. B5116
39'-0" CLEAR ROADWAY
STA. 1854+89.26 BR. END

△8 STA. 2269+69.63 BR. END
248.23' BRIDGE NO. A5132
39'-0" CLEAR ROADWAY
STA. 2272+17.86 BR. END

△9 STA. 2269+36.52 BR. END
237.44' BRIDGE NO. B5132
39'-0" CLEAR ROADWAY
STA. 2271+73.96 BR. END

EXCEPTIONS TO JOB BB1103 (ROADWAY)

STA. 1360+12.77 - STA. 1637+73.38 = 27760.61'
STA. 1642+36.50 - STA. 1663+03.18 = 2066.68'
STA. 1667+91.86 - STA. 2051+62.50 = 35829.11'

TOTAL LENGTH OF EXCEPTIONS
65904.63' MEASURED ALONG ℄ MEDIAN

STRUCTURES OVER 20'-0" SPAN

[1] STA. 1442+71 IN PLACE
DBL. 12' X 8' X 415' R.C. BOX CULV'T.
TYPE "T" DROP INLET IN MEDIAN
2'-6" X 3'-0" X H = 2'-6"
D.A. 693 AC.
RETAIN

[2] STA. 1767+80 IN PLACE
DBL. 10' X 6' X 331' R.C. BOX CULV'T.
TYPE "T" DROP INLET IN MEDIAN
H = 4'-6"
45° RT. FWD. SKEW
D.A. = 627 AC.
RETAIN

[3] STA 2065+00 IN PLACE
TYPE "T" DROP INLET IN MEDIAN
3' X 2'-6" X H = 1'-0" OVER
QUAD. 11' X 7' X 339' R.C. BOX CULV'T.
RETAIN

EQUATIONS

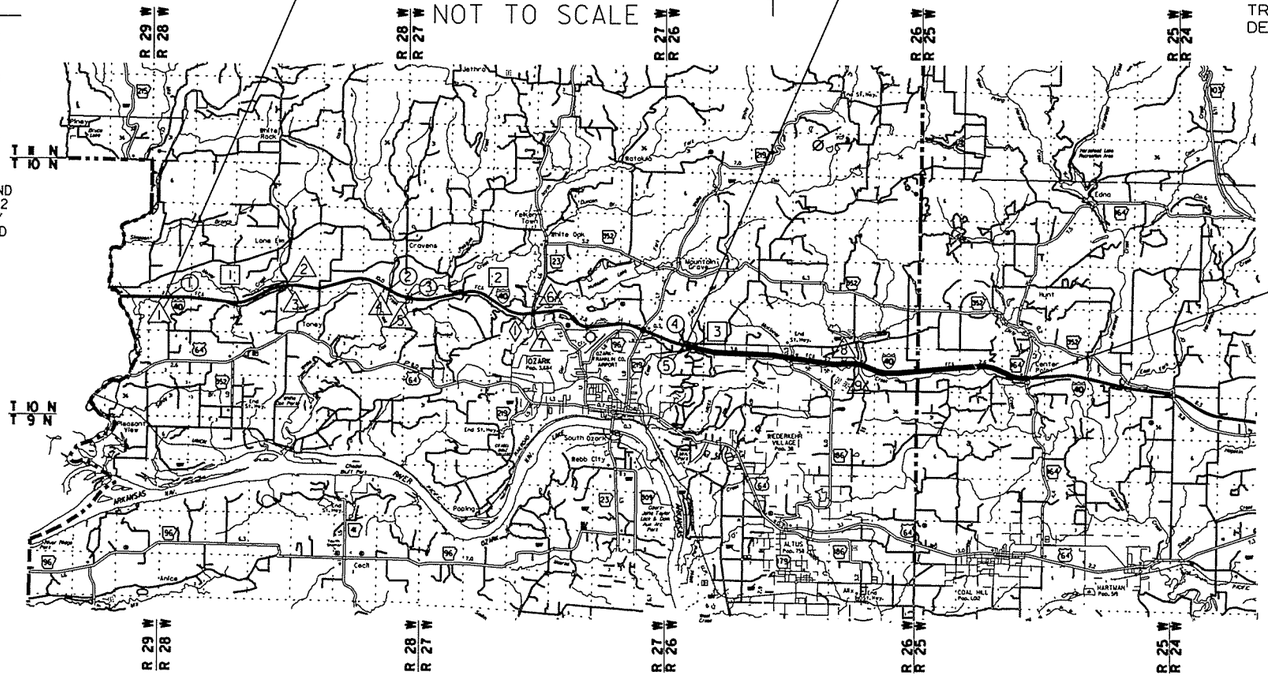
◇ STA. 1817+28.17 BK. =
STA. 1842+69.70 AHD.

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 35°31'40"	LATITUDE = N 35°30'11"	LATITUDE = N 35°29'51"
LONGITUDE = W 94°01'02"	LONGITUDE = W 93°43'51"	LONGITUDE = W 93°39'37"

STA. 1355+41.80
BEGIN JOB BB1103
(LOG MILE 25.65)

NOT TO SCALE

STA. 2053+20.00
BEGIN MILL AND INLAY



STA. 2483+14.22
END JOB BB1103
(LOG MILE 46.53)

DESIGN TRAFFIC DATA

DESIGN YEAR	2034
2014 ADT	25,000
2034 ADT	35,000
2034 DHV	3,850
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	34%
DESIGN SPEED	70 MPH

LENGTH OF PROJECT CALCULATED ALONG C.L. MEDIAN

GROSS LENGTH OF	PROJECT	110230.89	FEET OR	20.887	MILES
NET	" " ROADWAY	43634.69	"	8.264	"
NET	" " BRIDGES	691.57	"	0.131	"
NET	" " PROJECT	44326.26	"	8.395	"

P.E. BB1103
NON.-PART

APPROVED

STATE OF ARKANSAS
3-6-14
REGISTERED PROFESSIONAL ENGINEER
No. 4215
RALPH J. HALL

DEPUTY DIRECTOR
AND CHIEF ENGINEER

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	2	82

(2) INDEX OF SHEETS, GOV. SPECS, & GEN. NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

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2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES			
3 - 4	TYPICAL SECTIONS OF IMPROVEMENT			
5 - 11	SPECIAL DETAILS			
12 - 22	TEMPORARY EROSION CONTROL DETAILS			
23 - 27	MAINTENANCE OF TRAFFIC			
28 - 31	QUANTITIES			
32	SCHEDULE OF BRIDGE QUANTITIES	A5110,A5113,A5114,A&B5131	54866	
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GENERAL NOTES

1. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

2. 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.

3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

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

5. 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.

6. ANY REQUIRED EROSION CONTROL MEASURES FROM WASTING MATERIALS SHALL BE AT THE CONTRACTOR'S EXPENSE.

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
108-1	LIQUIDATED DAMAGES
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
620-1	MULCH COVER
JOB BB1103	BRIDGE DECK REPAIR
JOB BB1103	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB BB1103	CONCRETE DITCH PAVING
JOB BB1103	ELECTRONIC SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB BB1103	EMPLOYMENT REPORTING
JOB BB1103	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB BB1103	HIGH PERFORMANCE PAVEMENT MARKING
JOB BB1103	HYDRODEMOLITION
JOB BB1103	LATEX MODIFIED CONCRETE OVERLAY
JOB BB1103	MAINTENANCE OF TRAFFIC
JOB BB1103	MANAGEMENT OF HYDRODEMOLITION WASTEWATER
JOB BB1103	MANDATORY USE OF INTERNET BIDDING
JOB BB1103	PARTNERING REQUIREMENTS
JOB BB1103	PERCENT WITHIN LIMITS
JOB BB1103	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB BB1103	REMOVAL AND DISPOSAL OF IMPACT ATTENUATION BARRIERS
JOB BB1103	SEQUENCE OF CONSTRUCTION
JOB BB1103	SITE USE (A + C METHOD)
JOB BB1103	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB BB1103	STORM WATER POLLUTION PREVENTION PLAN
JOB BB1103	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB BB1103	TRENCHING AND SHOULDER PREPARATION
JOB BB1103	UNDERDRAIN FLUSHING AND REHABILITATION
JOB BB1103	UTILITY ADJUSTMENTS
JOB BB1103	VALUE ENGINEERING
JOB BB1103	WARM MIX ASPHALT
JOB BB1103	WIRE ROPE SAFETY FENCE MAINTENANCE MATERIALS
JOB BB1103	WIRE ROPE SAFETY FENCE (POST REPAIR)
JOB BB1103	WIRE ROPE SAFETY FENCE (WRSF) SPECIFICATIONS
JOB BB1103	WRSF TRAINING WORKSHOP

12/31/2013

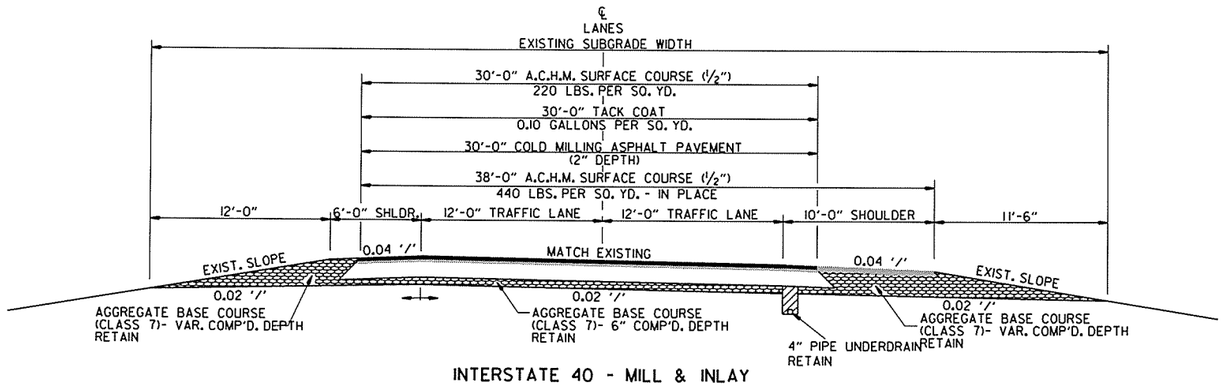
RBB1103.DGN

INDEX OF SHEETS, GOVERNING SPECIFICATIONS, & GENERAL NOTES

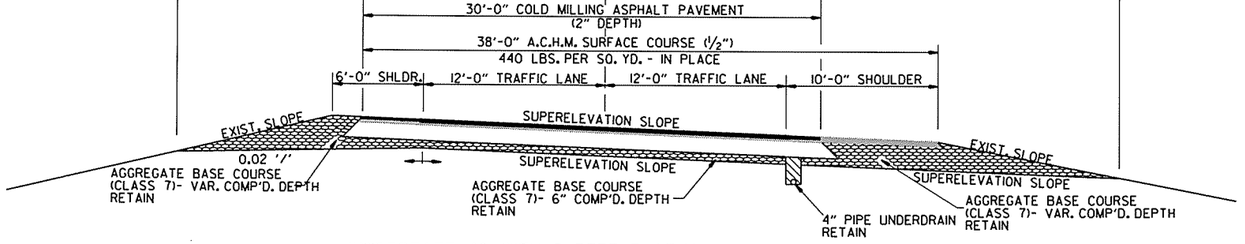
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	3	82

(2) TYPICAL SECTIONS OF IMPROVEMENT

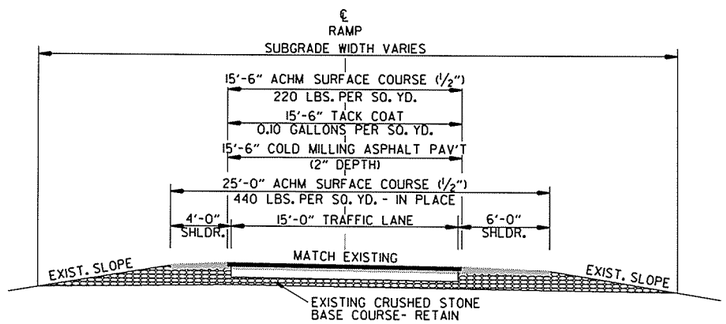
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



INTERSTATE 40 - MILL & INLAY
(SHOWN IN DIRECTION OF TRAFFIC)



INTERSTATE 40 WITH SUPERELEVATION - MILL & INLAY
(SHOWN IN DIRECTION OF TRAFFIC)



TYPICAL RAMP - MILL & INLAY
(SHOWN IN DIRECTION OF TRAFFIC)

2/11/2014

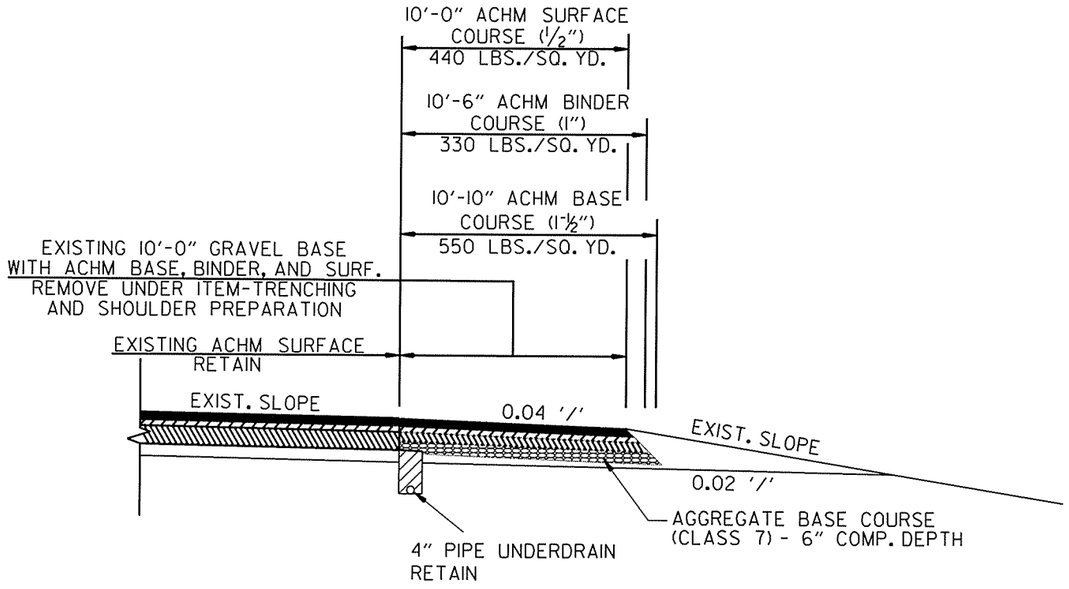
RBB1103.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	4	82

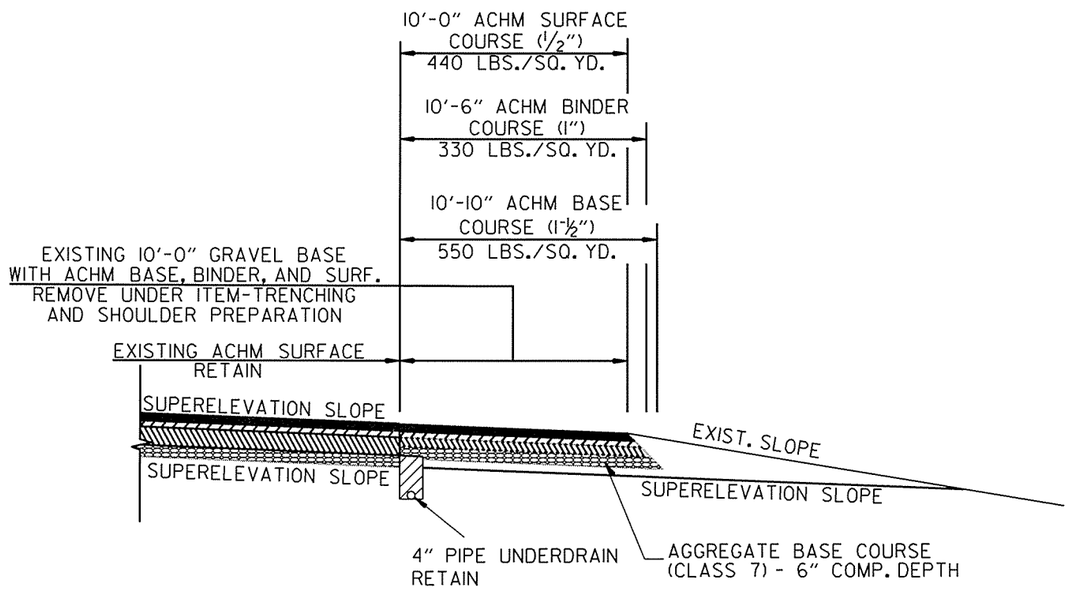
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-25-14



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC

STA. 1354+14.38 TO STA. 1356+54.38 (LT. OF LT. MAIN LANES)
STA. 1358+99.38 TO STA. 1361+39.38 (LT. OF LT. MAIN LANES)
STA. 1636+33.38 TO STA. 1638+73.38 (LT. OF LT. MAIN LANES)
STA. 1641+36.50 TO STA. 1643+76.50 (LT. OF LT. MAIN LANES)
STA. 2048+86.00 TO STA. 2051+26.00 (LT. OF LT. MAIN LANES)
STA. 2053+20.00 TO STA. 2055+60.00 (LT. OF LT. MAIN LANES)



TYPICAL SECTION OF SHOULDER RECONSTRUCTION
FOR MAINTENANCE OF TRAFFIC

STA. 1661+67.05 TO STA. 1664+07.05 (LT. OF LT. MAIN LANES)
STA. 1666+88.50 TO STA. 1669+28.50 (LT. OF LT. MAIN LANES)
STA. 2048+86.00 TO STA. 2051+26.00 (RT. OF RT. MAIN LANES)
STA. 2053+20.00 TO STA. 2055+60.00 (RT. OF RT. MAIN LANES)

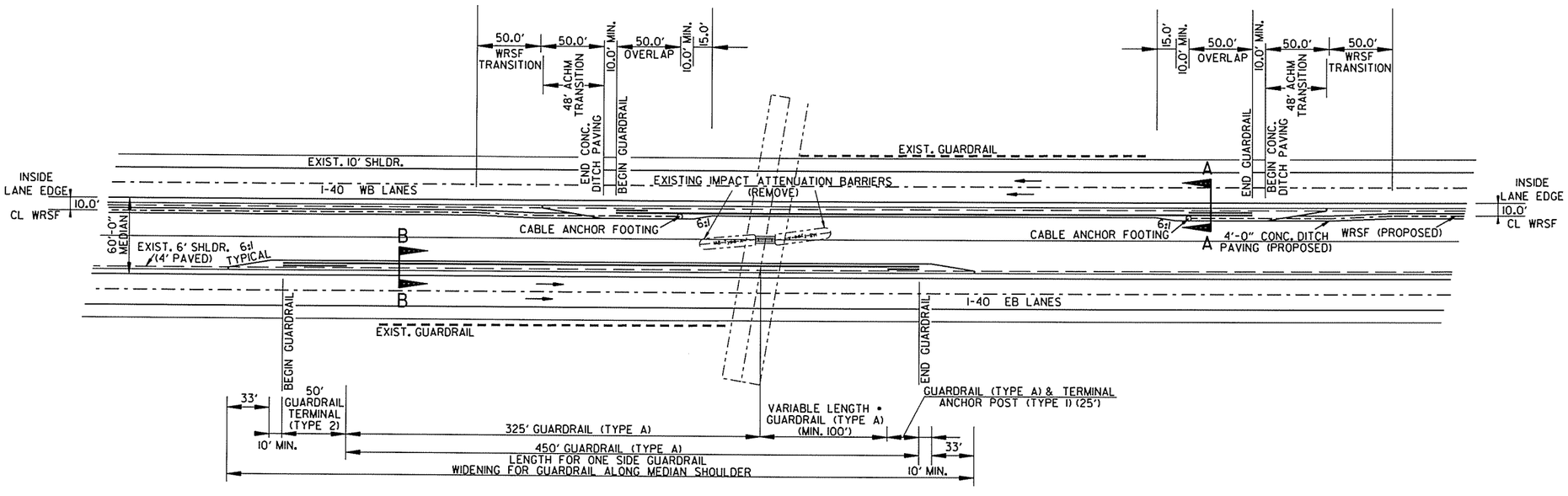
RBB1103.DGN 2/11/2014

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	5	82

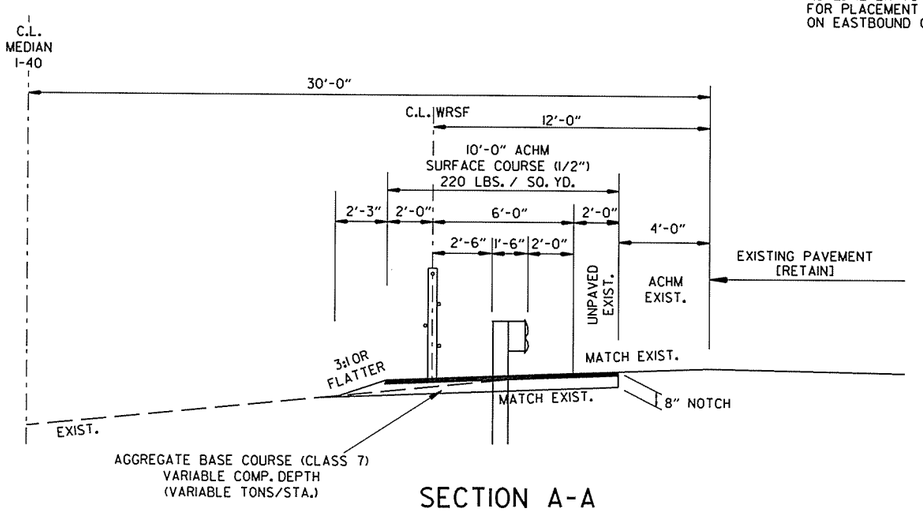
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

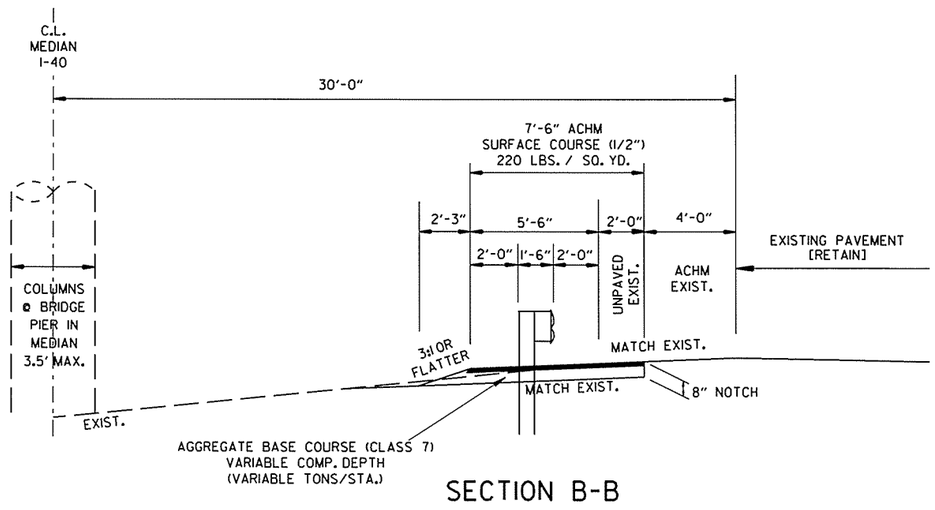


DETAIL AT OVERPASSES

NOTE: REFER TO PLAN SHEETS FOR PLACEMENT OF WIRE ROPE SAFETY FENCE ON EASTBOUND OR WESTBOUND FORESLOPES.



SECTION A-A



SECTION B-B

DETAILS OF SHOULDER WIDENING FOR GUARDRAIL AND OVERLAPS WITH ENDS OF WIRE ROPE SAFETY FENCE

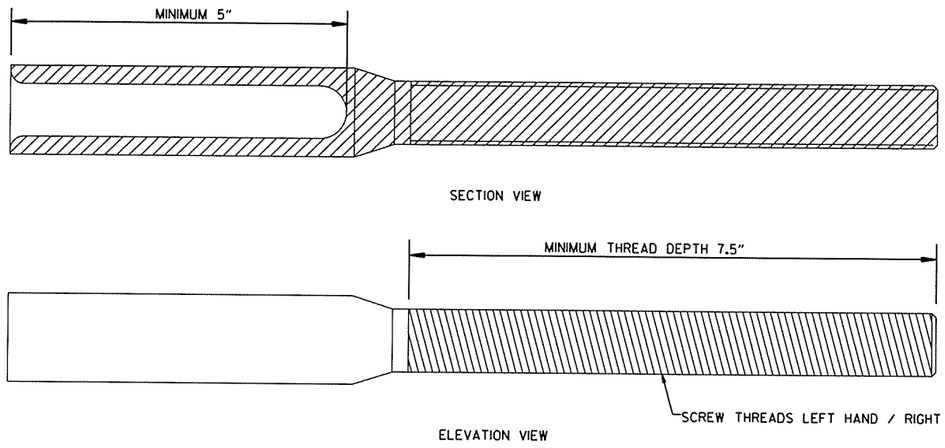
2/19/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
3-24-14				6	ARK.			
				JOB NO.		BB1103	6	82

(2) SPECIAL DETAILS

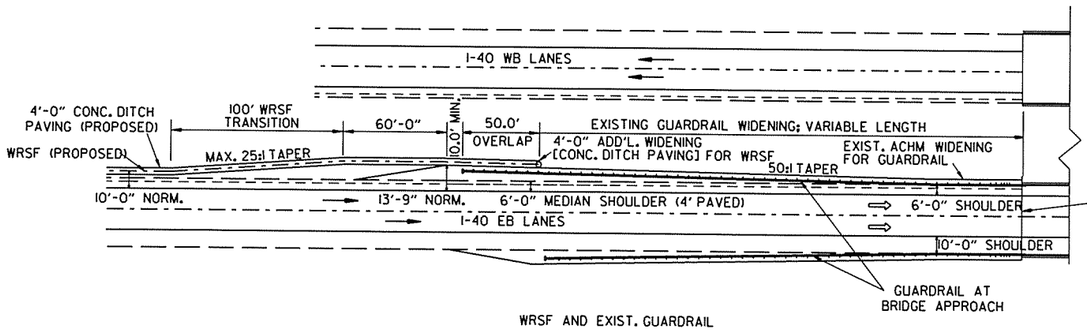
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-24-14



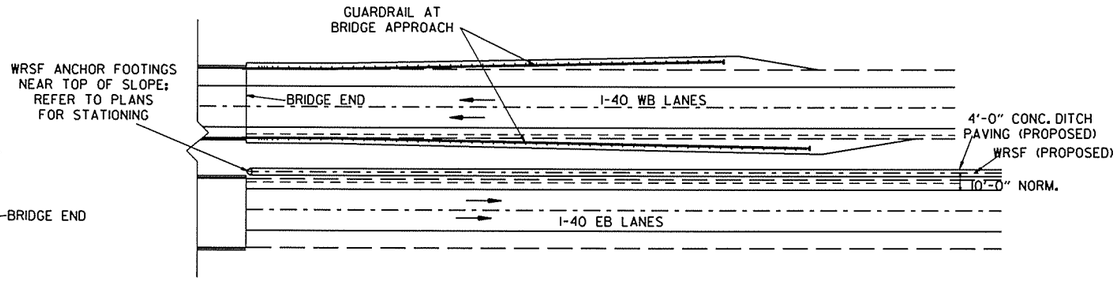
NOTE:

1. ALL THREADED STUDS SHALL BE ONE PIECE CONSTRUCTION. TWO PIECE PINNED THREADED RODS & SWAGE BARRELS ARE NOT PERMITTED.
2. AFTER SWAGING OF ROPE AND STUD FITTING, FITTED ROPE ASSEMBLY SHALL MEET MINIMUM BREAKING LOAD (MBL) OF 36,800 POUNDS.
3. EACH PROJECT SHALL HAVE FULLY FITTED ROPE ASSEMBLY (ROPE-THREADED STUD - RIGGING SCREW - THREADED STUD - ROPE) PROOF TESTED BY INDEPENDENT TESTING FACILITY AND PROVIDE TEST RESULTS EXCEEDING MINIMUM BREAKING LOAD (MBL).
4. ALL THREADED STUDS SHALL BE FACTORY SWAGED ON ROPE.
5. MAXIMUM DISTANCE BETWEEN THREADED STUDS SHALL BE 1010'.

THREADED TERMINAL DETAIL



WRSF AND EXIST. GUARDRAIL ON SAME SIDE OF MEDIAN



WRSF AND EXIST. GUARDRAIL ON OPPOSITE SIDES OF MEDIAN

DETAIL OF WIRE ROPE SAFETY FENCE AT EXISTING BRIDGE ENDS

REFER TO PLANS FOR RELATIVE PLACEMENT OF GUARDRAIL AND WIRE ROPE SAFETY FENCE AT EACH BRIDGE END

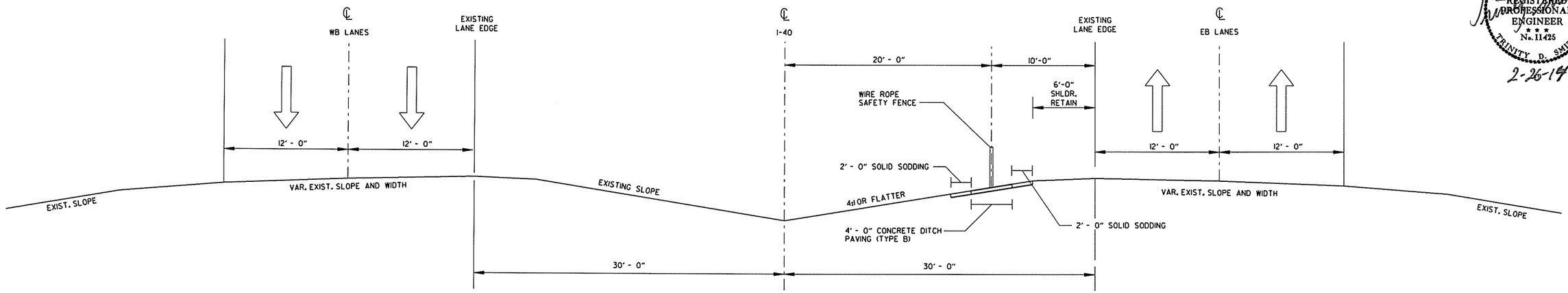
3/24/2014

RBB1103.DGN

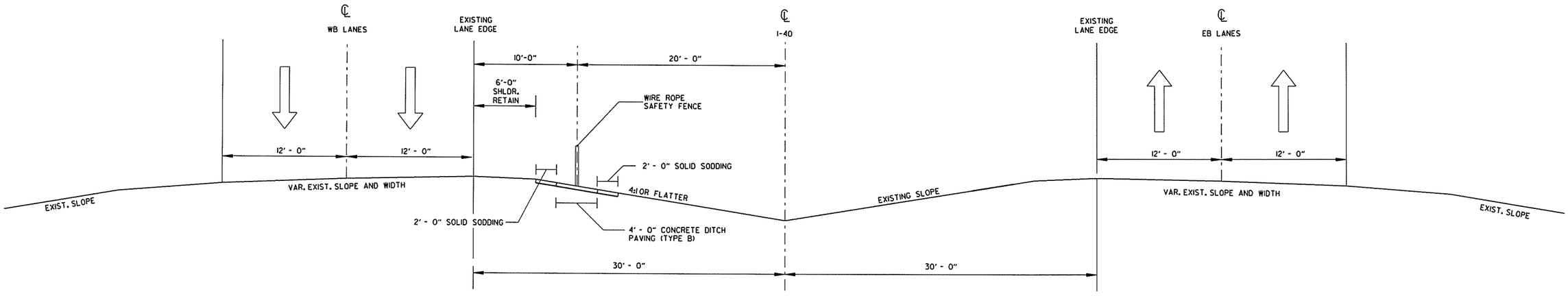
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	7	82

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



TYPICAL SECTION OF IMPROVEMENT
FOR WIRE ROPE SAFETY FENCE RIGHT OF CENTERLINE



TYPICAL SECTION OF IMPROVEMENT
FOR WIRE ROPE SAFETY FENCE LEFT OF CENTERLINE

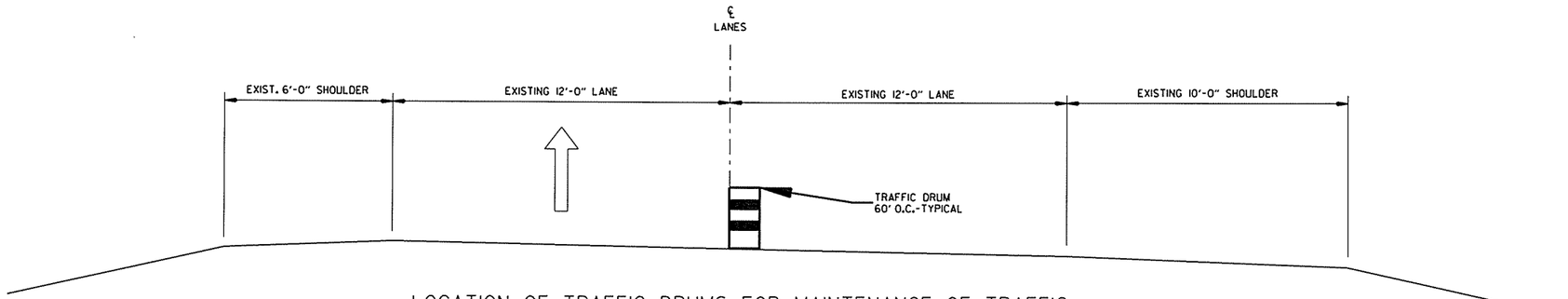
2/19/2014

RBB1103.DGN

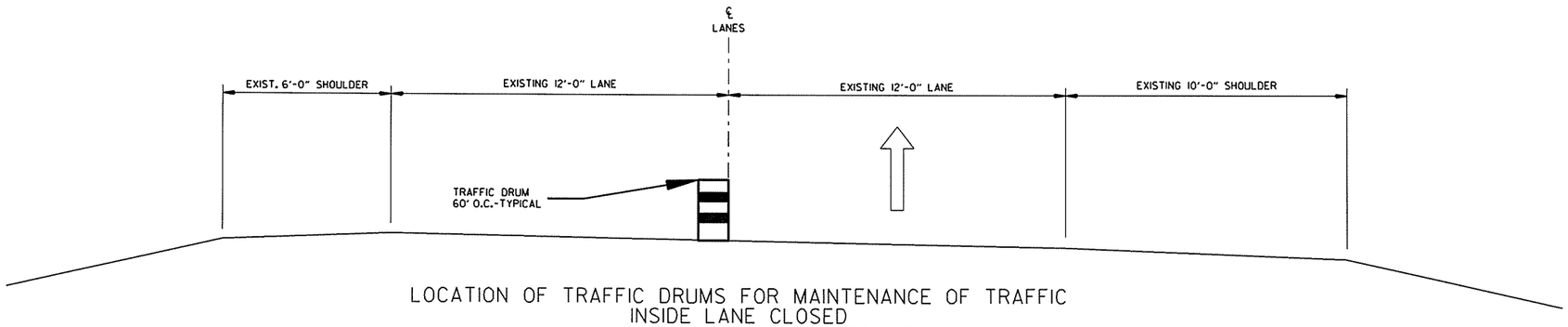
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	8	82

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



LOCATION OF TRAFFIC DRUMS FOR MAINTENANCE OF TRAFFIC
OUTSIDE LANE CLOSED
(SHOWN IN DIRECTION OF TRAFFIC)

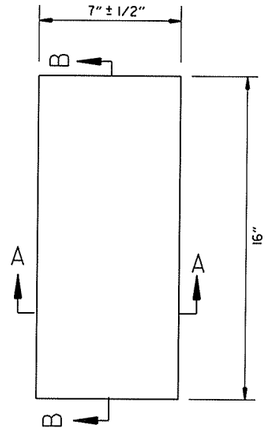


LOCATION OF TRAFFIC DRUMS FOR MAINTENANCE OF TRAFFIC
INSIDE LANE CLOSED
(SHOWN IN DIRECTION OF TRAFFIC)

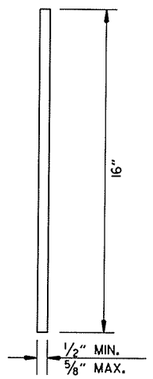
RBB1103.DGN 2/19/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	9	82

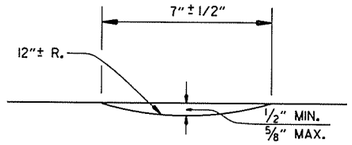
(2) SPECIAL DETAILS



PLAN

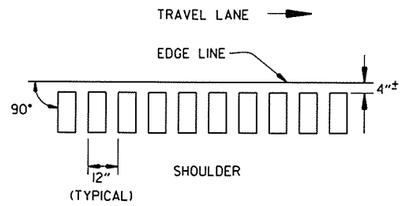


SECTION B-B

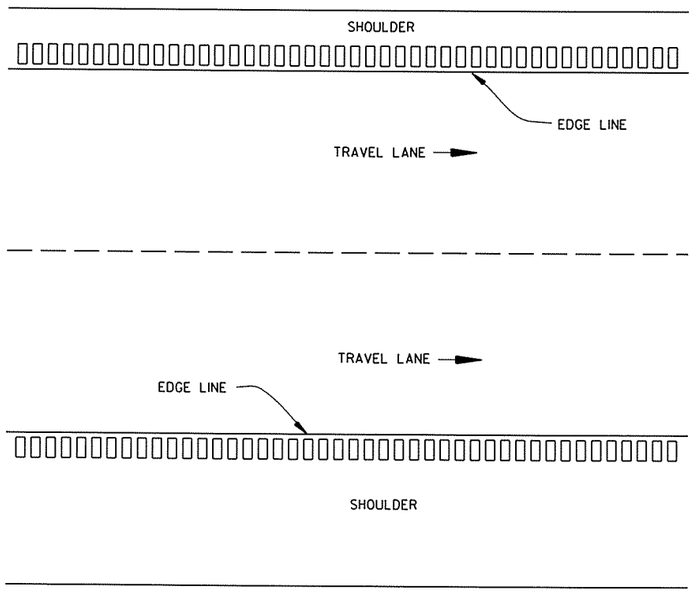


SECTION A-A

DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



PLAN VIEW

NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.
2. THE 1/2" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.

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2-26-14

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SPECIAL DETAILS

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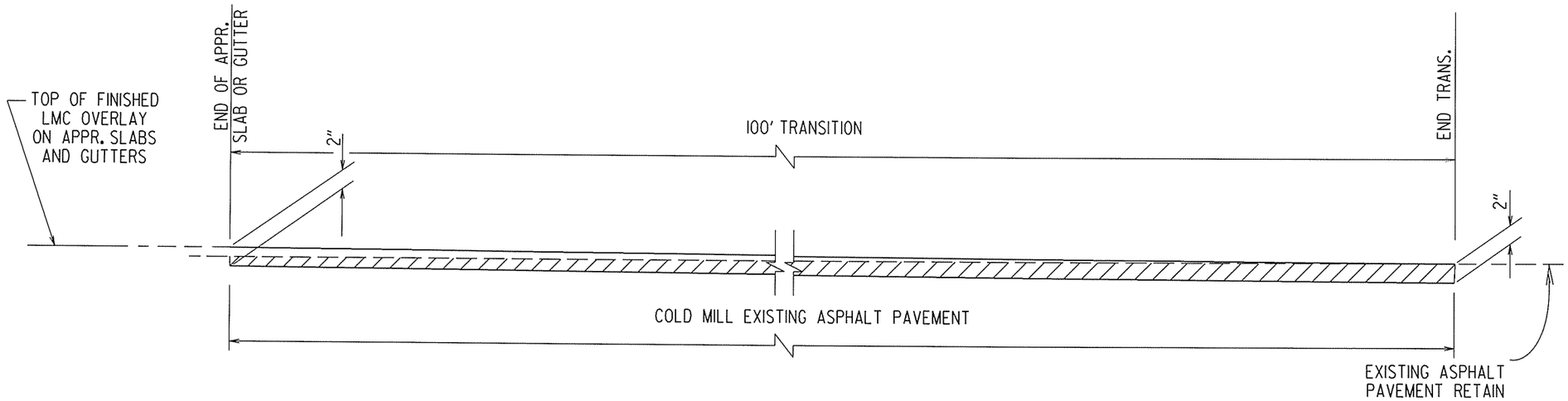
				6	ARK.			
				JOB NO.		BB1103	10	82

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



DETAIL FOR TRANSITIONS

2/19/2014

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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.		BB1103	11	82

(2) SPECIAL DETAILS

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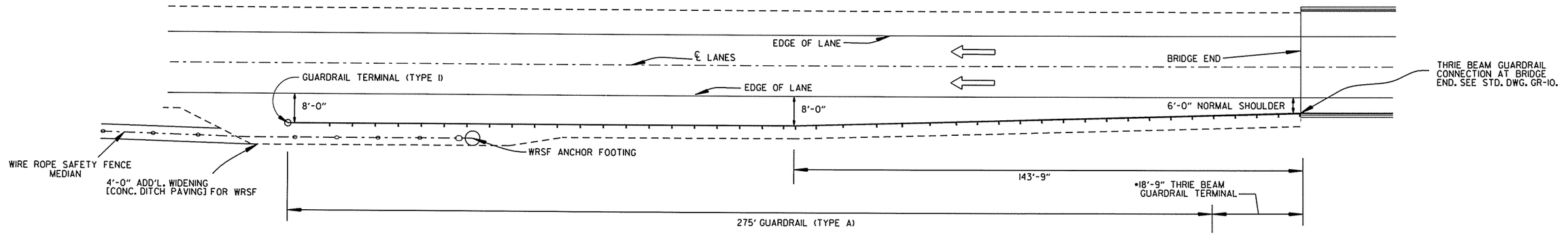
No. 11425
TRINITY D. SMITH
2-26-14

* THE CONTRACTOR SHALL DRILL 1" DIA. HOLES FOR THE NEW THRIE BEAM CONNECTION BOLTS IN THE EXISTING TRANSITION RAIL. CARE SHALL BE EXERCISED TO AVOID THE EXISTING REINFORCING STEEL IN THE RAIL. THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED INCLUDED IN THE VARIOUS CONTRACT ITEMS. SEE STANDARD DRAWING GR-10 FOR ADDITIONAL DETAILS.



TYPICAL LAYOUT OF GUARDRAIL AT BR. NO. A5038

2/19/2014

RBB1103.DGN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 SAND BAG DITCH CHECKS

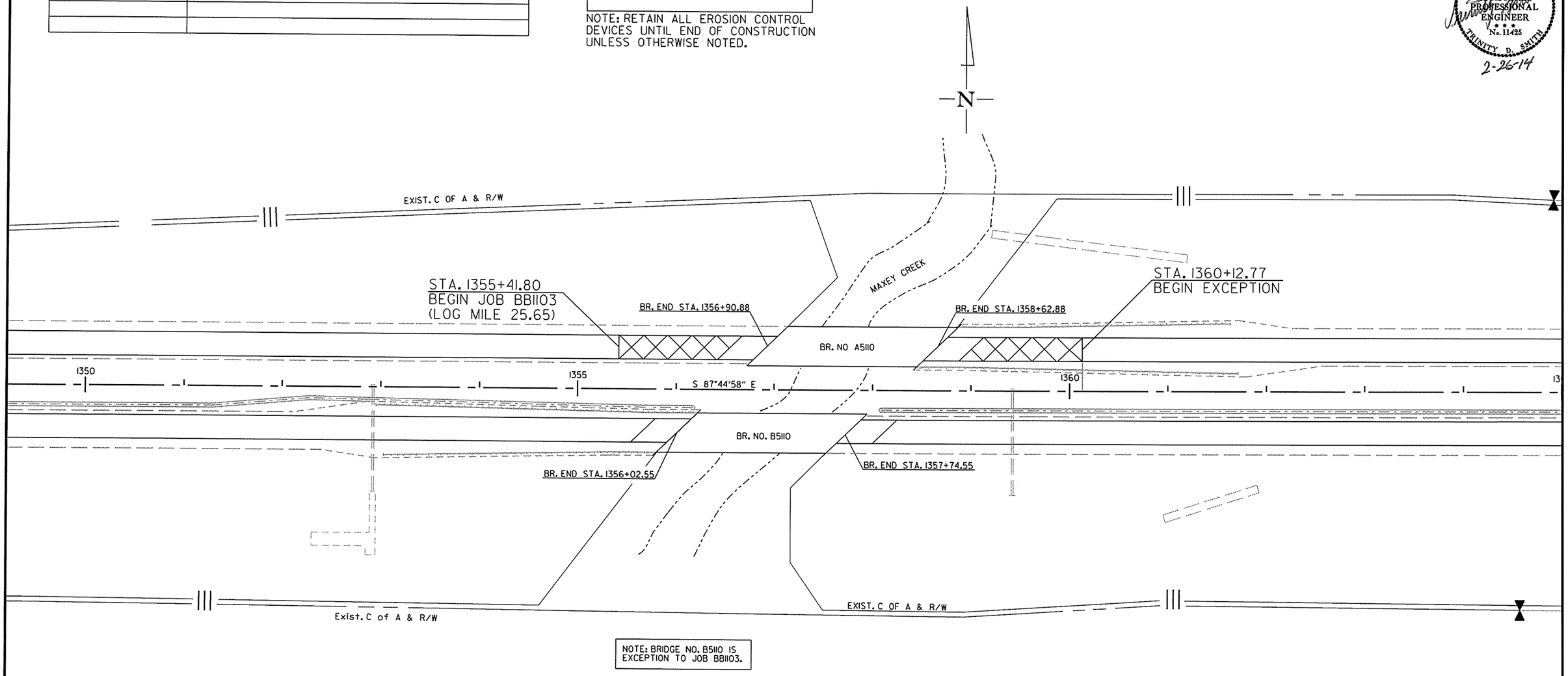
E-7 DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	12	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



NOTE: BRIDGE NO. B5110 IS EXCEPTION TO JOB BB1103.

2/11/2014

RBB1103.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.		BB1103	13	82

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

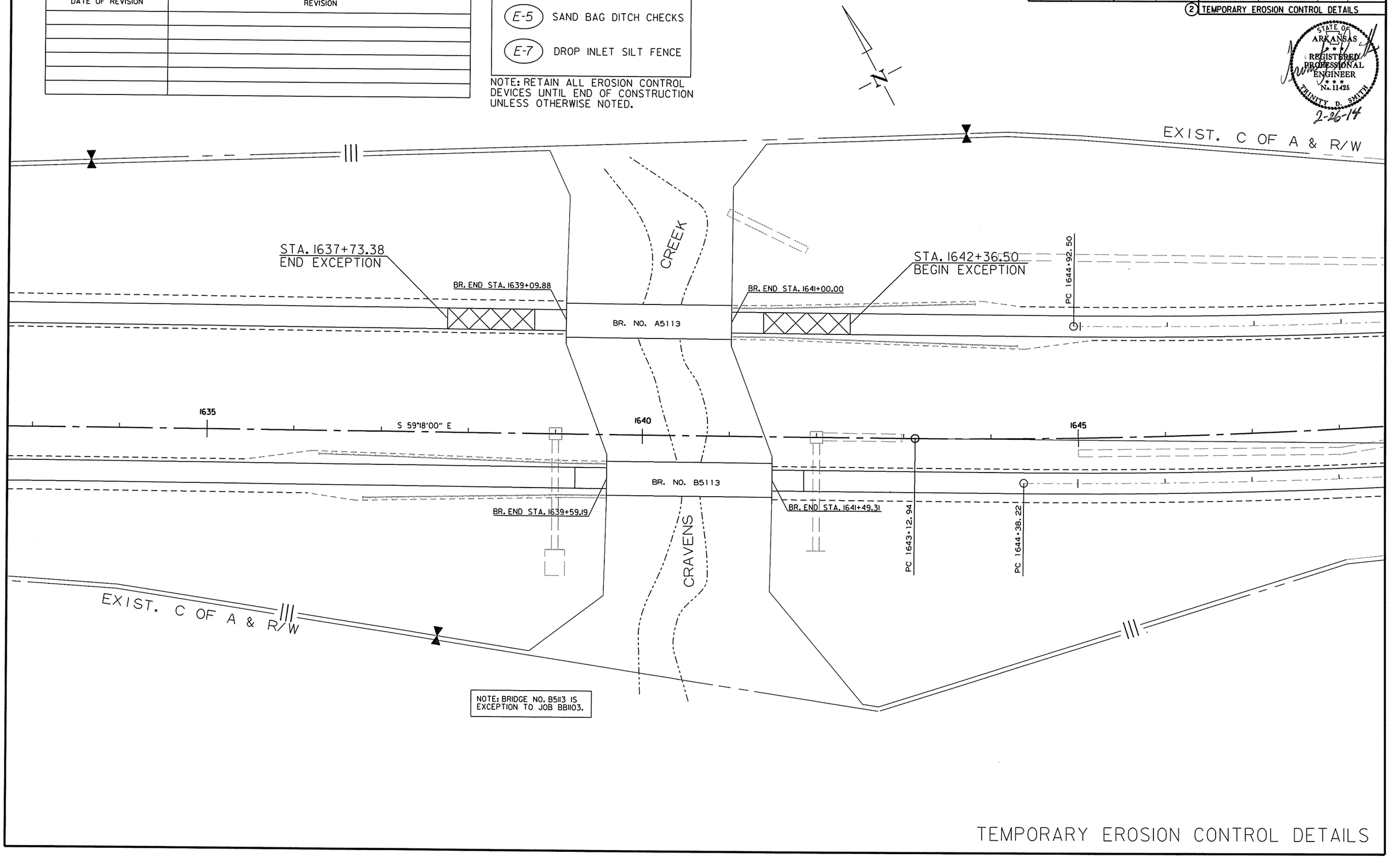
LEGEND

(E-5) SAND BAG DITCH CHECKS

(E-7) DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



NOTE: BRIDGE NO. B5113 IS EXCEPTION TO JOB BB1103.

2/11/2014

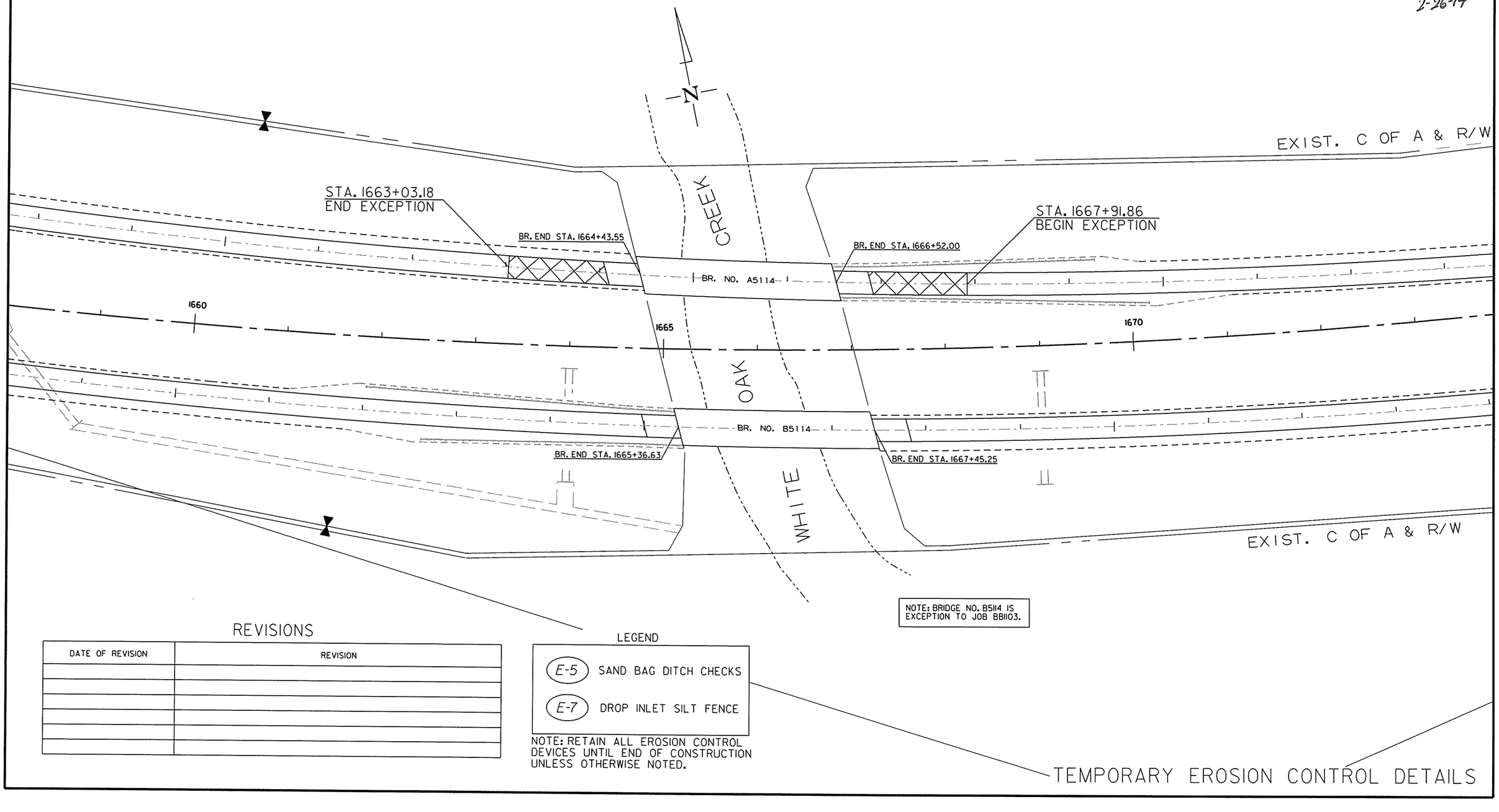
RBB1103.DGN

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.		BB1103	14	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



NOTE: BRIDGE NO. B5114 IS EXCEPTION TO JOB BB1103.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 SAND BAG DITCH CHECKS

E-7 DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

TEMPORARY EROSION CONTROL DETAILS

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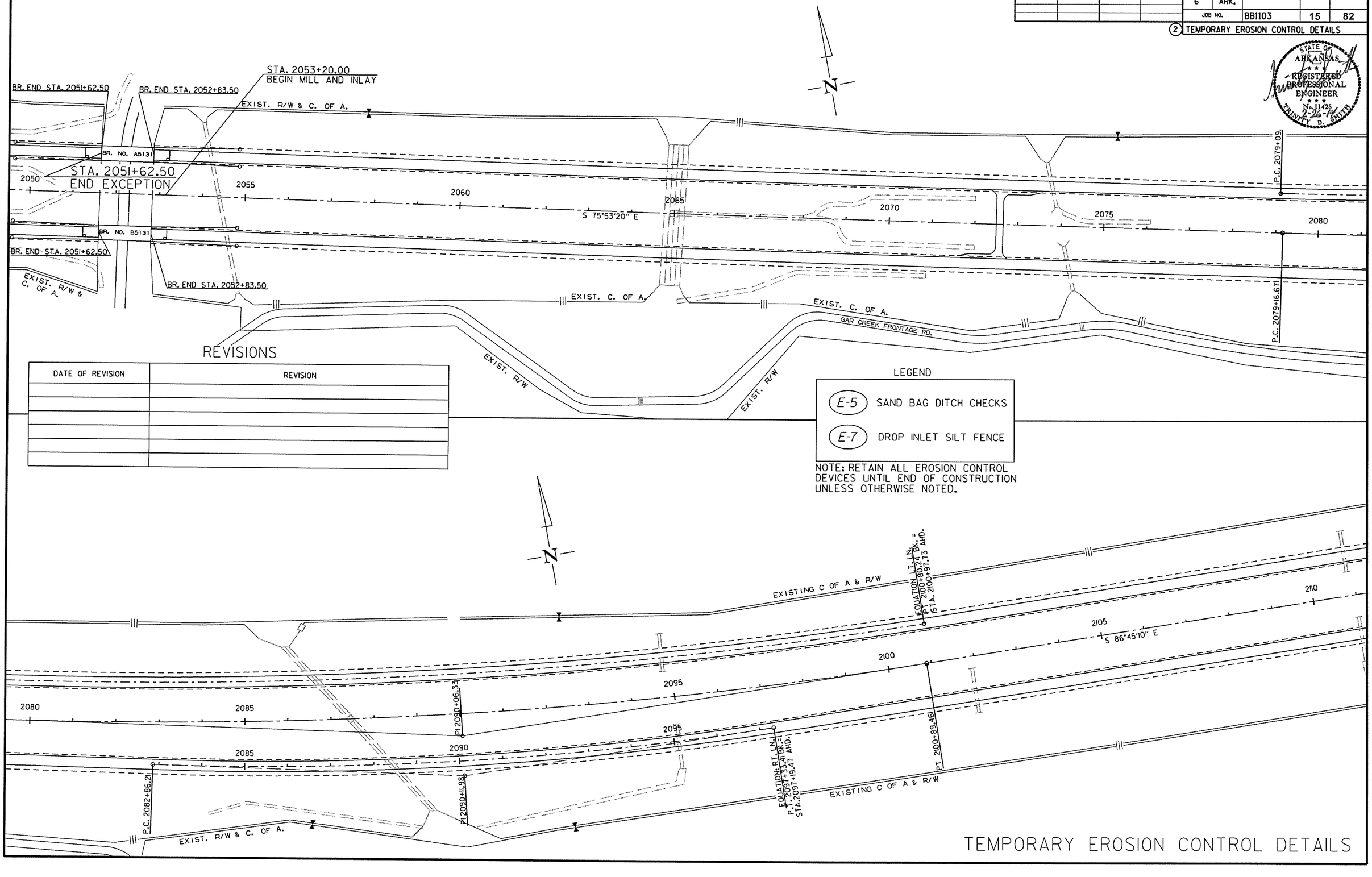
RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	15	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-26-14
TRINITY D. SMITH



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 SAND BAG DITCH CHECKS

E-7 DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

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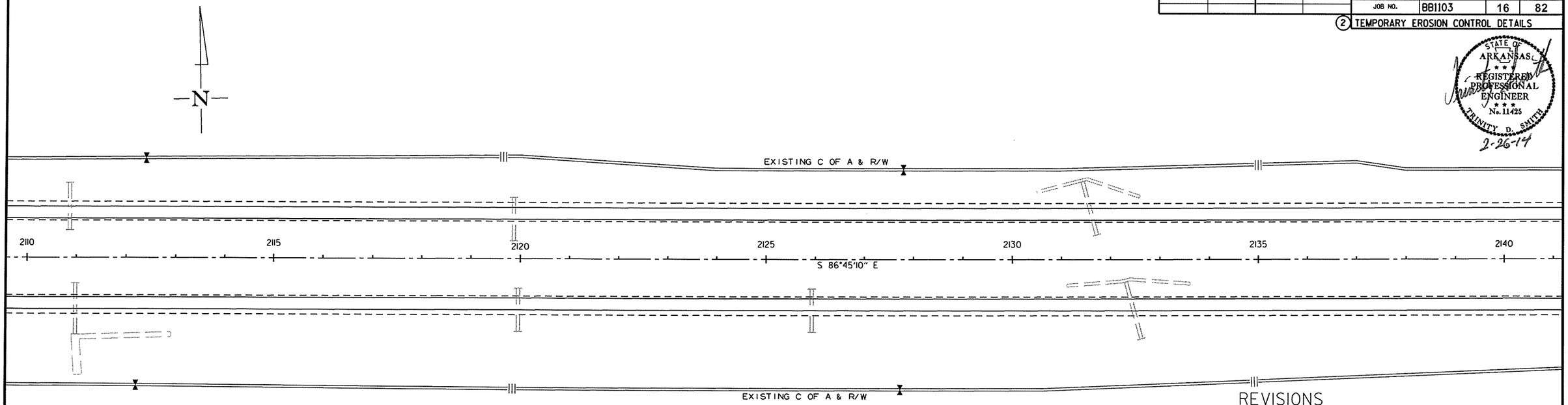
RBB1103.DGN

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.		BB1103	16	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



LEGEND

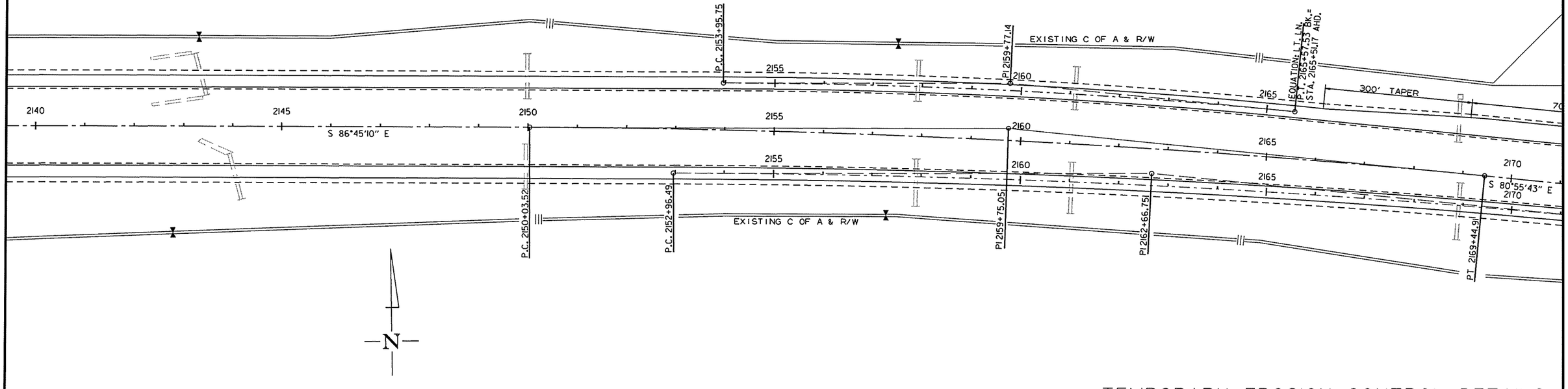
(E-5) SAND BAG DITCH CHECKS

(E-7) DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE OF REVISION	REVISION



TEMPORARY EROSION CONTROL DETAILS

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	17	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

EXIST. R/W
EXIST. C OF A & R/W
RAMP-4
700' ACCELERATION LANE
2170
2175
2180
2185
2190
2195
2200
S 80°55'43" E
HWY. 186
RAMP-1
EXISTING C OF A & R/W
EQUATION: RT. LN. EX. 2172+35.34 BK. = LT. LN. 2172+42.01 AHD.
EXISTING C OF A & R/W
EXIST. R/W
EXIST. C. OF A.
RAMP-3
BR. NO. 05133
RAMP-2
EXIST. C. OF A.
R/W
700' A

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 SAND BAG DITCH CHECKS

E-7 DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

EXISTING C OF A & R/W
2200
2205
2210
2215
2220
2225
2230
S 80°55'43" E
P.C. 2228+18.95
700' ACCELERATION LANE
300' ACCEL. LANE TAPER
EXISTING C OF A & R/W
P.C. 2228+26.56
P.C. 2230+36.67

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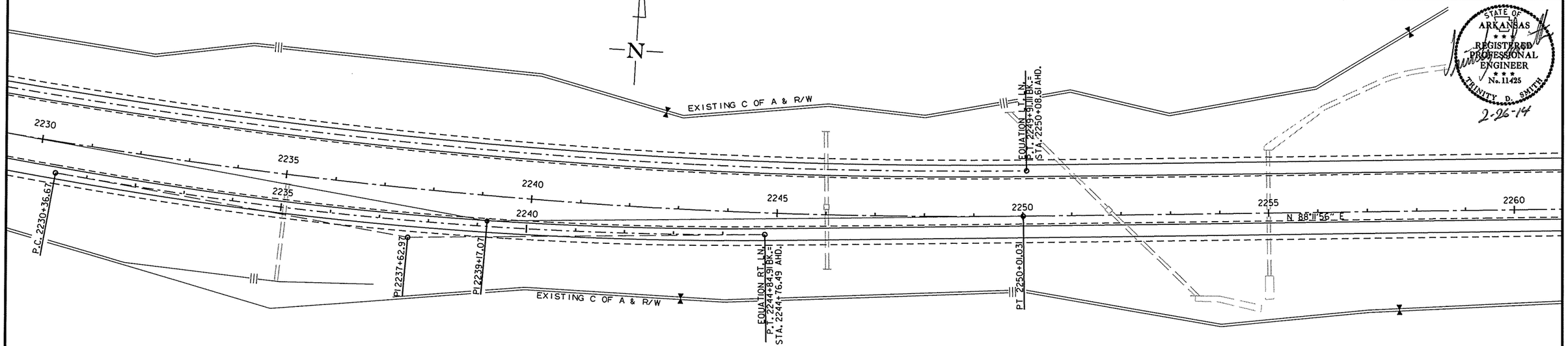
TEMPORARY EROSION CONTROL DETAILS

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.		BB1103	18	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



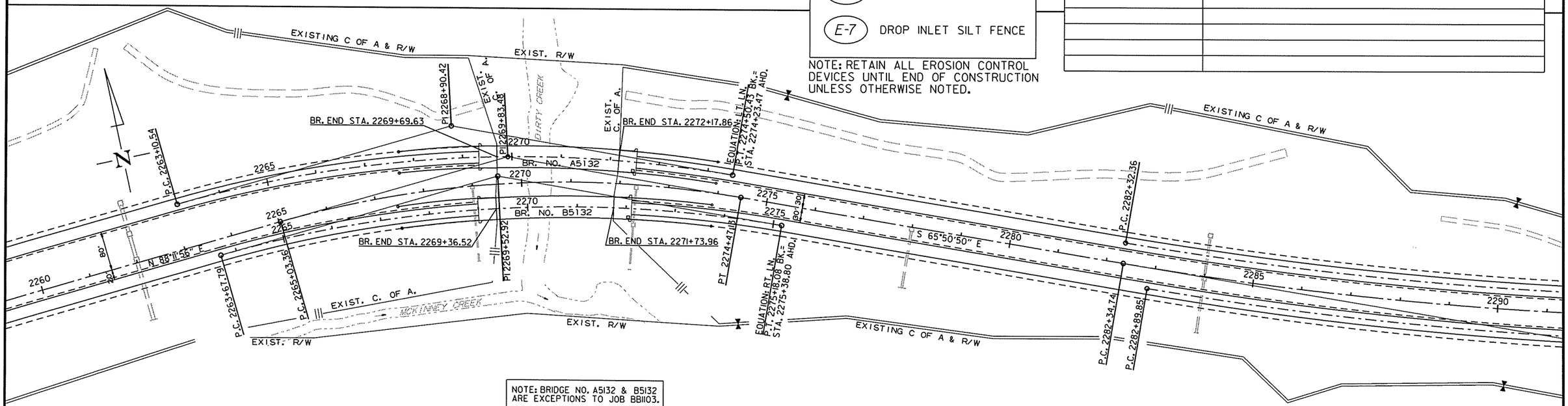
LEGEND

E-5	SAND BAG DITCH CHECKS
E-7	DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE OF REVISION	REVISION



NOTE: BRIDGE NO. A5132 & B5132 ARE EXCEPTIONS TO JOB BB1103.

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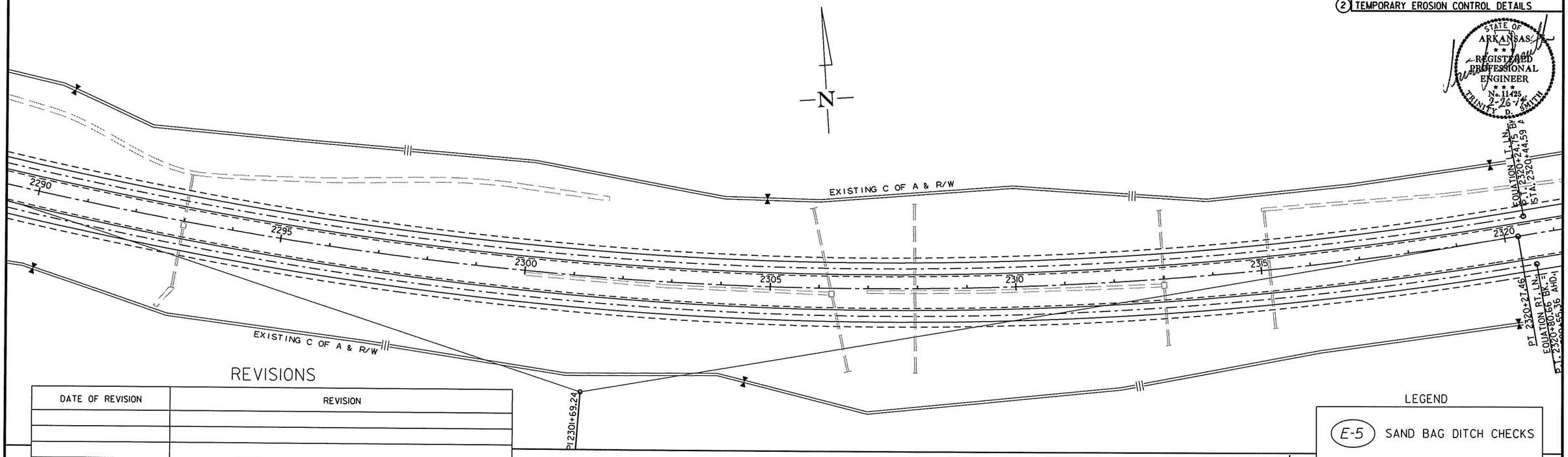
TEMPORARY EROSION CONTROL DETAILS

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.		BBI103	19	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-26-14
TRINITY D. SMITH



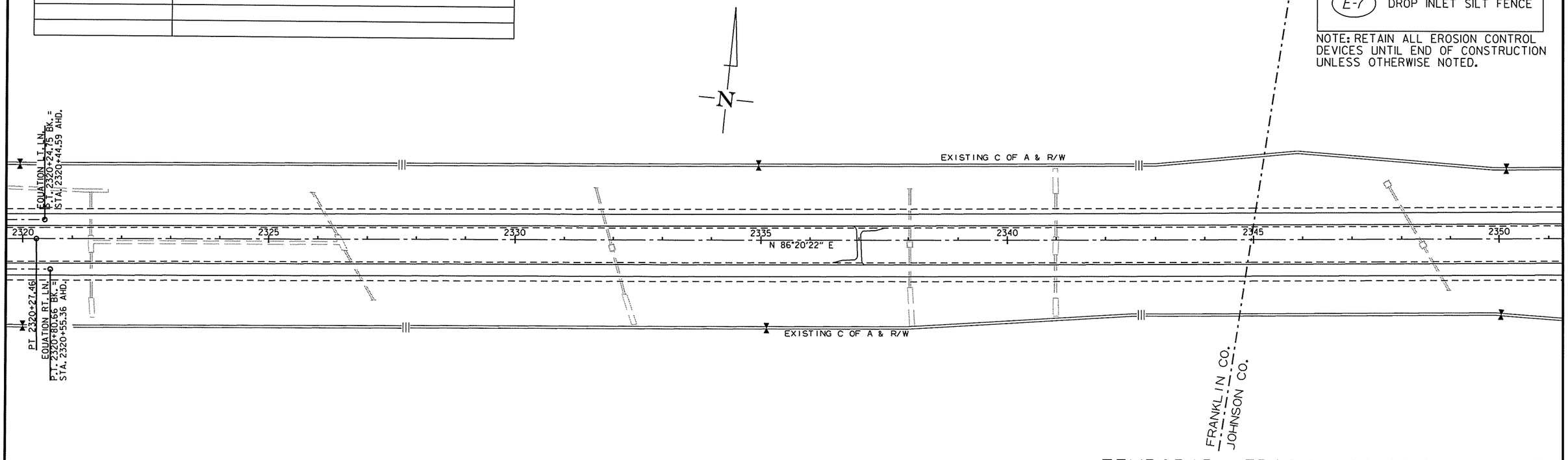
REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-7) DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.



TEMPORARY EROSION CONTROL DETAILS

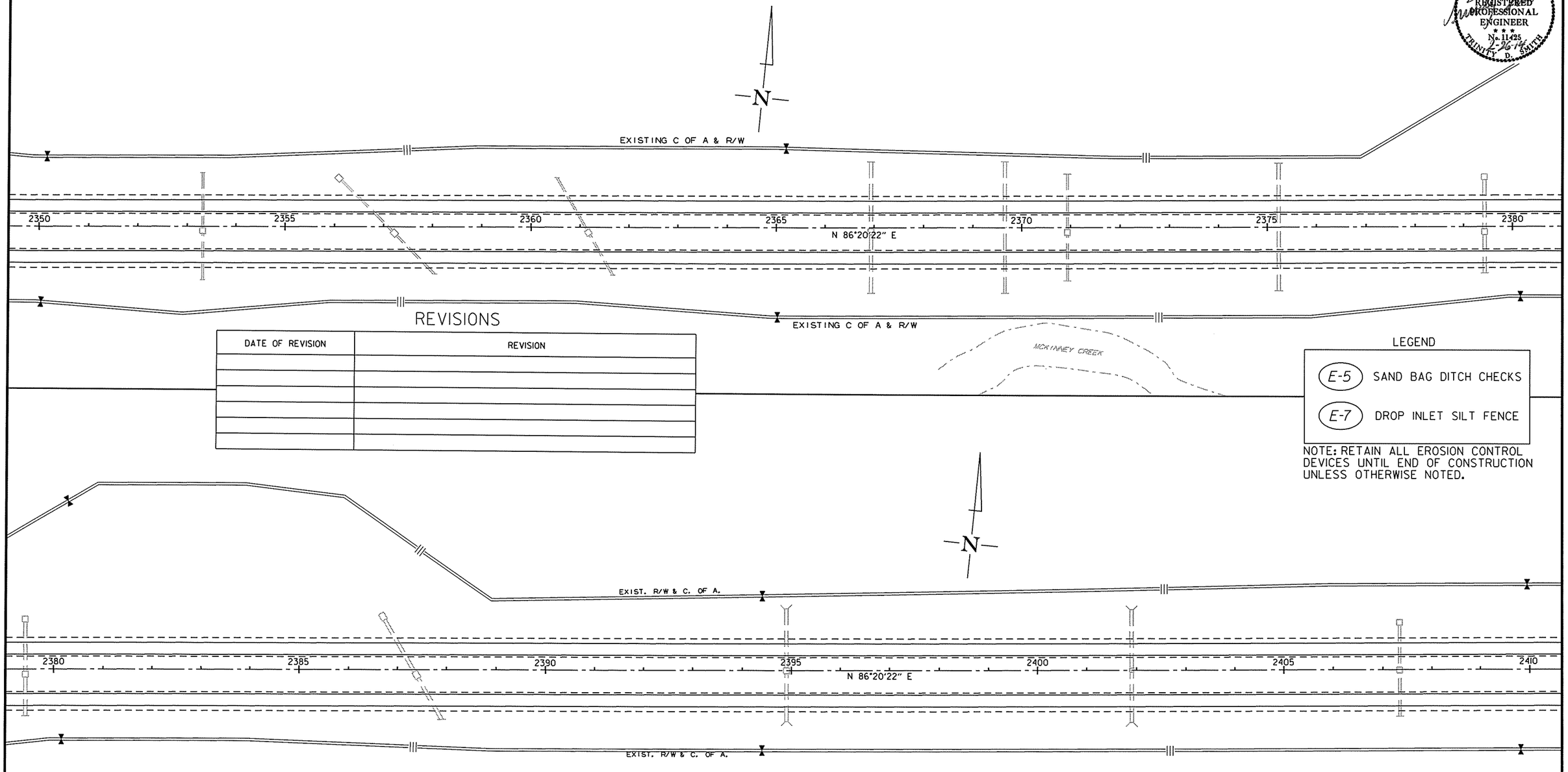
2/11/2014

RBBI103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	20	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 SAND BAG DITCH CHECKS
- E-7 DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

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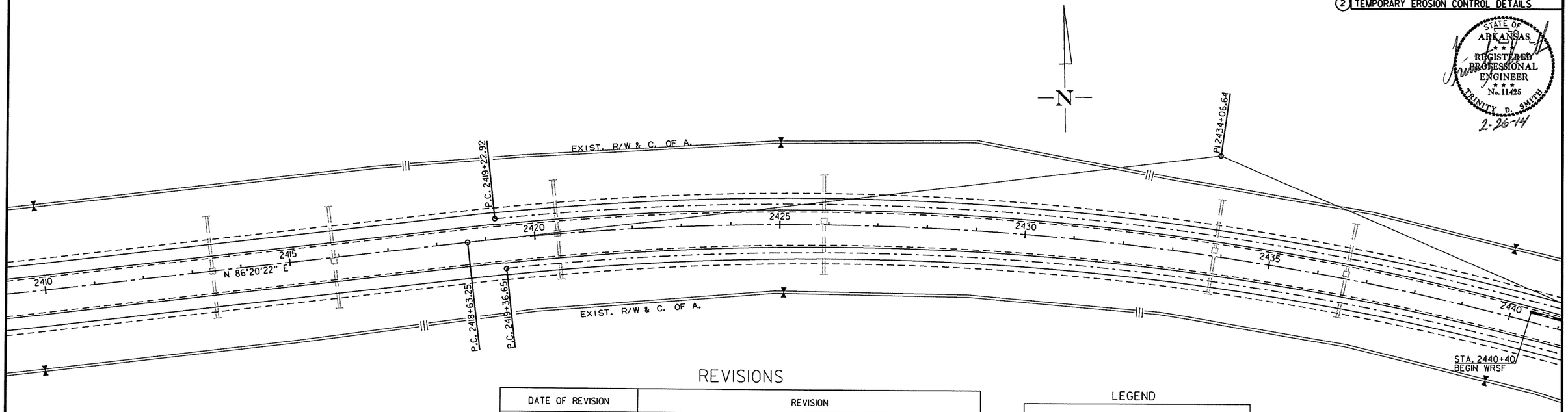
RBB1103.DGN

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.		BB1103	21	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



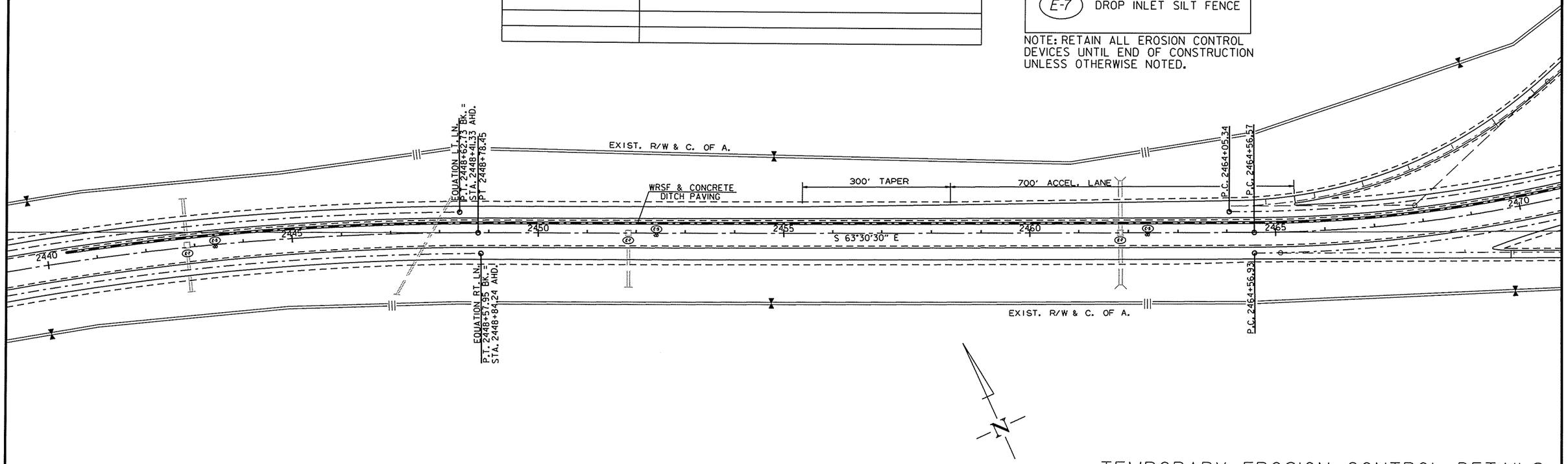
REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5	SAND BAG DITCH CHECKS
E-7	DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.



2/11/2014

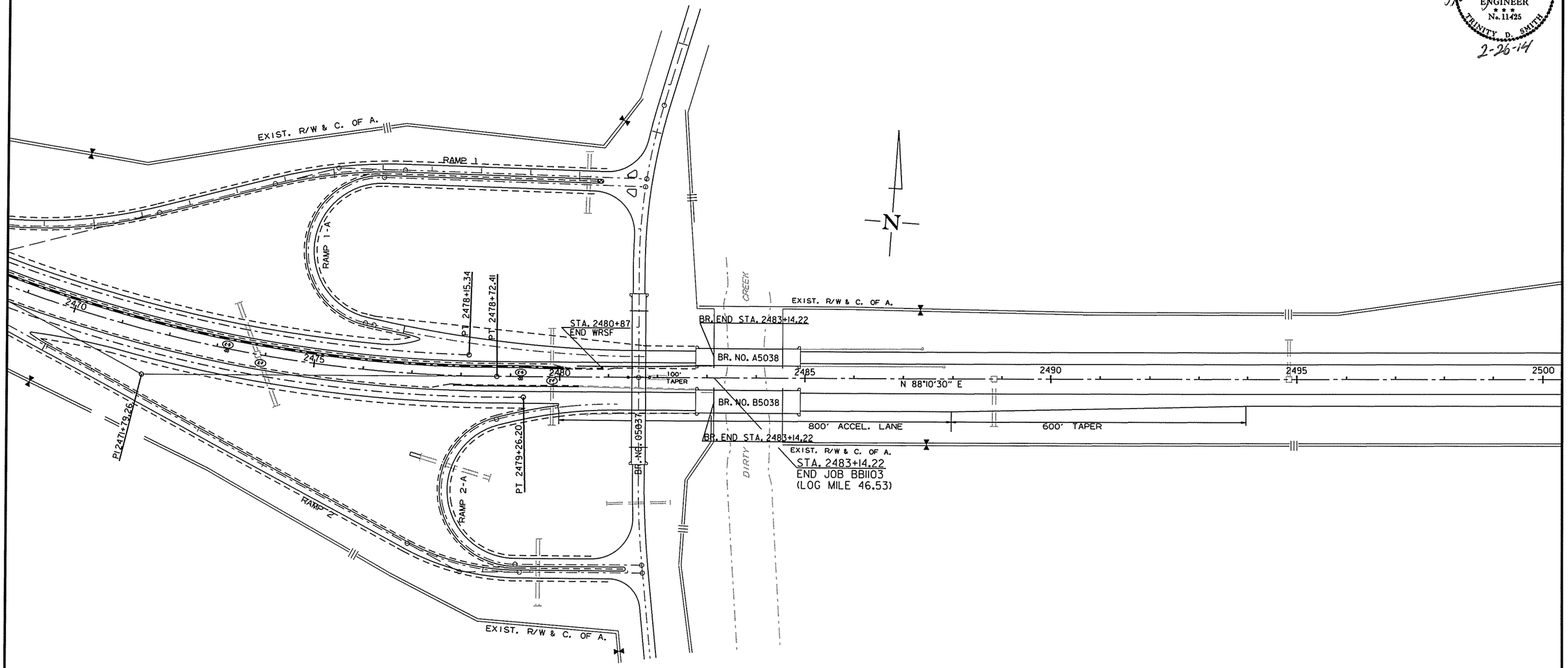
RBB1103.DGN

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.		BB1103	22	82

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5	SAND BAG DITCH CHECKS
E-7	DROP INLET SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

TEMPORARY EROSION CONTROL DETAILS

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	23	82

(2) MAINTENANCE OF TRAFFIC

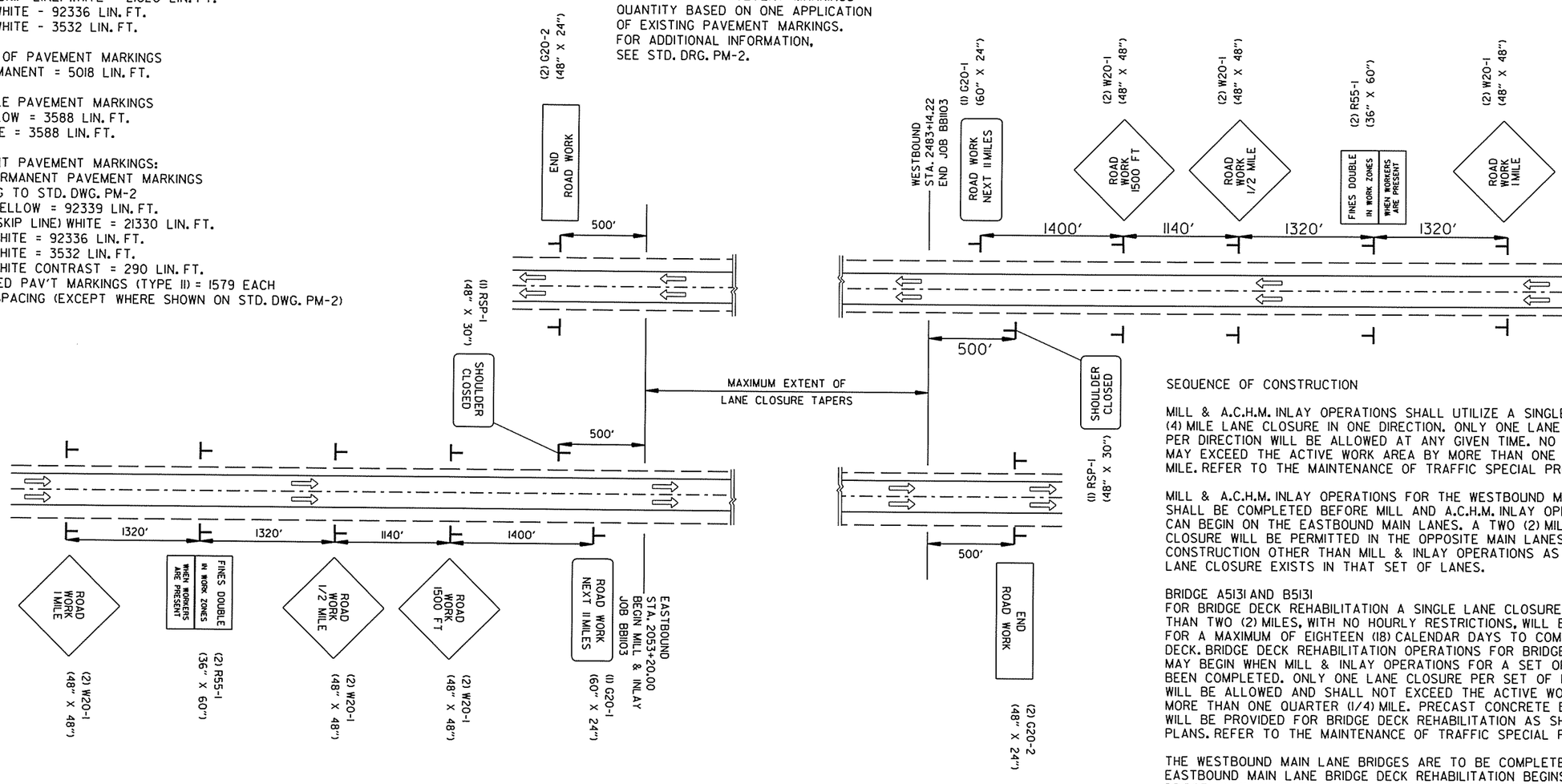
CONSTRUCTION PAVEMENT MARKINGS:
APPLY CONSTRUCTION PAVEMENT MARKINGS
ACCORDING TO STD. DWG. PM-2
- 4" YELLOW - 92339 LIN. FT.
- 4" (SKIP LINE) WHITE - 21620 LIN. FT.
- 4" WHITE - 92336 LIN. FT.
- 8" WHITE - 3532 LIN. FT.

REMOVAL OF PAVEMENT MARKINGS
- PERMANENT = 5018 LIN. FT.

REMOVABLE PAVEMENT MARKINGS
- YELLOW = 3588 LIN. FT.
- WHITE = 3588 LIN. FT.

PERMANENT PAVEMENT MARKINGS:
APPLY PERMANENT PAVEMENT MARKINGS
ACCORDING TO STD. DWG. PM-2
- 4" YELLOW = 92339 LIN. FT.
- 4" (SKIP LINE) WHITE = 21330 LIN. FT.
- 4" WHITE = 92336 LIN. FT.
- 8" WHITE = 3532 LIN. FT.
- 4" WHITE CONTRAST = 290 LIN. FT.
- RAISED PAV'T MARKINGS (TYPE II) = 1579 EACH
- 80' SPACING (EXCEPT WHERE SHOWN ON STD. DWG. PM-2)

NOTE:
CONSTRUCTION PAVEMENT MARKINGS QUANTITY BASED ON ONE APPLICATION OF EXISTING PAVEMENT MARKINGS. FOR ADDITIONAL INFORMATION, SEE STD. DRG. PM-2.



SEQUENCE OF CONSTRUCTION

MILL & A.C.H.M. INLAY OPERATIONS SHALL UTILIZE A SINGLE FOUR (4) MILE LANE CLOSURE IN ONE DIRECTION. ONLY ONE LANE CLOSURE PER DIRECTION WILL BE ALLOWED AT ANY GIVEN TIME. NO LANE CLOSURE MAY EXCEED THE ACTIVE WORK AREA BY MORE THAN ONE QUARTER (1/4) MILE. REFER TO THE MAINTENANCE OF TRAFFIC SPECIAL PROVISION.

MILL & A.C.H.M. INLAY OPERATIONS FOR THE WESTBOUND MAIN LANES SHALL BE COMPLETED BEFORE MILL AND A.C.H.M. INLAY OPERATIONS CAN BEGIN ON THE EASTBOUND MAIN LANES. A TWO (2) MILE LANE CLOSURE WILL BE PERMITTED IN THE OPPOSITE MAIN LANES FOR CONSTRUCTION OTHER THAN MILL & INLAY OPERATIONS AS LONG AS NO OTHER LANE CLOSURE EXISTS IN THAT SET OF LANES.

BRIDGE A5131 AND B5131
FOR BRIDGE DECK REHABILITATION A SINGLE LANE CLOSURE OF NO MORE THAN TWO (2) MILES, WITH NO HOURLY RESTRICTIONS, WILL BE PERMITTED FOR A MAXIMUM OF EIGHTEEN (18) CALENDAR DAYS TO COMPLETE EACH BRIDGE DECK. BRIDGE DECK REHABILITATION OPERATIONS FOR BRIDGE A5131 AND B3131 MAY BEGIN WHEN MILL & INLAY OPERATIONS FOR A SET OF LANES HAS BEEN COMPLETED. ONLY ONE LANE CLOSURE PER SET OF MAIN LANES WILL BE ALLOWED AND SHALL NOT EXCEED THE ACTIVE WORK AREA BY MORE THAN ONE QUARTER (1/4) MILE. PRECAST CONCRETE BARRIER WALL WILL BE PROVIDED FOR BRIDGE DECK REHABILITATION AS SHOWN IN THE PLANS. REFER TO THE MAINTENANCE OF TRAFFIC SPECIAL PROVISION.

THE WESTBOUND MAIN LANE BRIDGES ARE TO BE COMPLETED BEFORE EASTBOUND MAIN LANE BRIDGE DECK REHABILITATION BEGINS. WHILE BRIDGE DECK OPERATIONS ARE UNDERWAY IN ONE DIRECTION, A TWO (2) MILE LANE CLOSURE WILL BE PERMITTED IN THE OPPOSITE MAIN LANES FOR CONSTRUCTION ACTIVITIES OTHER THAN BRIDGE DECK REHABILITATION, AS LONG AS NO OTHER LANE CLOSURE EXISTS IN THAT SET OF LANES. AS THE CONTRACTOR PROCEEDS WITH BRIDGE DECK REHABILITATION IN THE EASTBOUND LANES, BRIDGE DECK GROOVING WILL BE PERMITTED ON THE WESTBOUND LANES BRIDGES UTILIZING THE PERMITTED SINGLE TWO (2) MILE LANE CLOSURE.

BRIDGE A5110, A5113, AND A5114
FOR BRIDGE DECK REHABILITATION A SINGLE LANE CLOSURE OF NO MORE THAN TWO (2) MILES, WITH NO HOURLY RESTRICTIONS, WILL BE PERMITTED FOR A MAXIMUM OF EIGHTEEN (18) CALENDAR DAYS TO COMPLETE EACH BRIDGE DECK. BRIDGE DECK REHABILITATION OPERATIONS FOR BRIDGE A5110, A5113, & A5114 MAY BEGIN AS APPROVED BY THE ENGINEER. ONLY ONE LANE CLOSURE FOR BRIDGE A5110, A5113, & A5114 WILL BE ALLOWED AND SHALL NOT EXCEED ACTIVE WORK AREA BY MORE THAN ONE QUARTER (1/4) MILE. PRECAST CONCRETE BARRIER WALL WILL BE PROVIDED FOR BRIDGE DECK REHABILITATION AS SHOWN IN THE PLANS. REFER TO THE MAINTENANCE OF TRAFFIC SPECIAL PROVISION.

STATE OF ARKANSAS
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TRINITY D. SMITH
2-26-14

MAINTENANCE OF TRAFFIC ADVANCE SIGNS AT JOB ENDS

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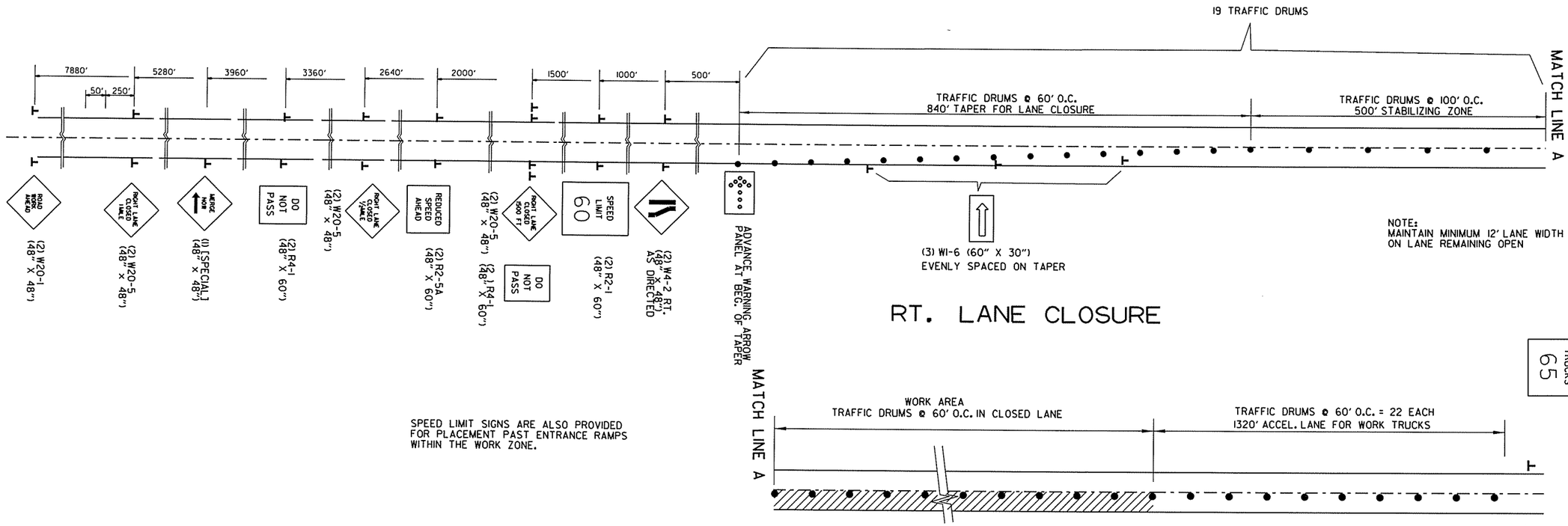
				6	ARK.			
				JOB NO.		BB1103	24	82

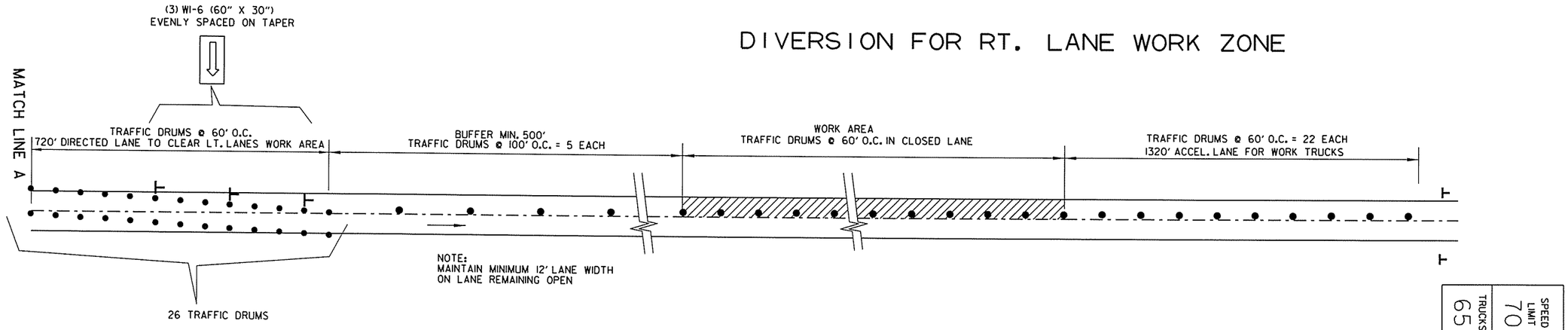
(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



RT. LANE CLOSURE

DIVERSION FOR RT. LANE WORK ZONE



DIVERSION FOR LT. LANE WORK ZONE

MAINTENANCE OF TRAFFIC LANE CLOSURE

2/26/2014

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ADVANCE WARNING SIGNS FOR ENTRANCE AND EXIT RAMPS
ROAD WORK AHEAD (4) = 64 SQ. FT.
END ROAD WORK (4) = 32 SQ. FT.

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				6	ARK.			
				JOB NO.		BB1103	25	82

(2) MAINTENANCE OF TRAFFIC

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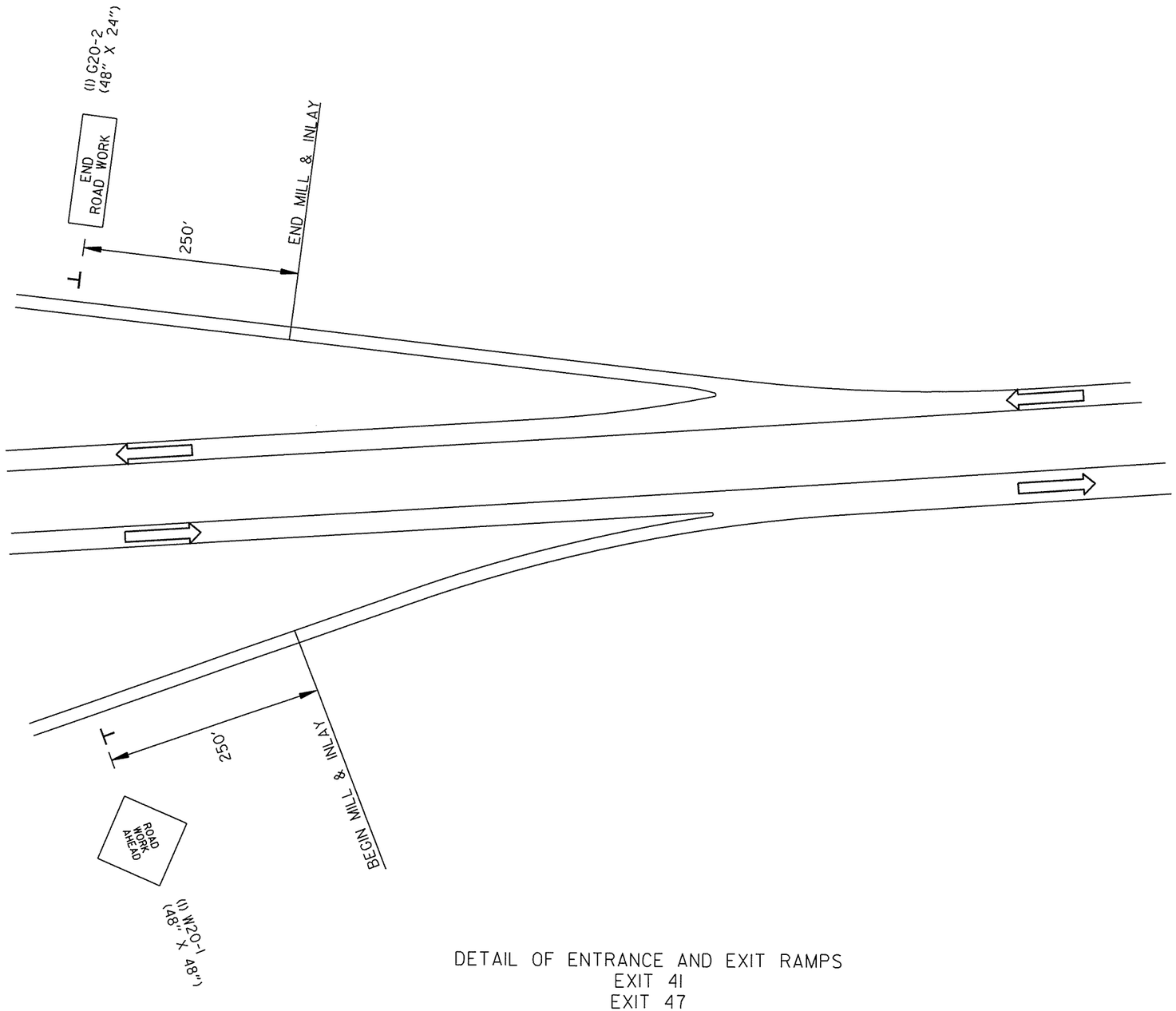
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



DETAIL OF ENTRANCE AND EXIT RAMPS
EXIT 41
EXIT 47

RBB1103.DGN 2/20/2014

MAINTENANCE OF TRAFFIC
DETAIL OF RAMPS

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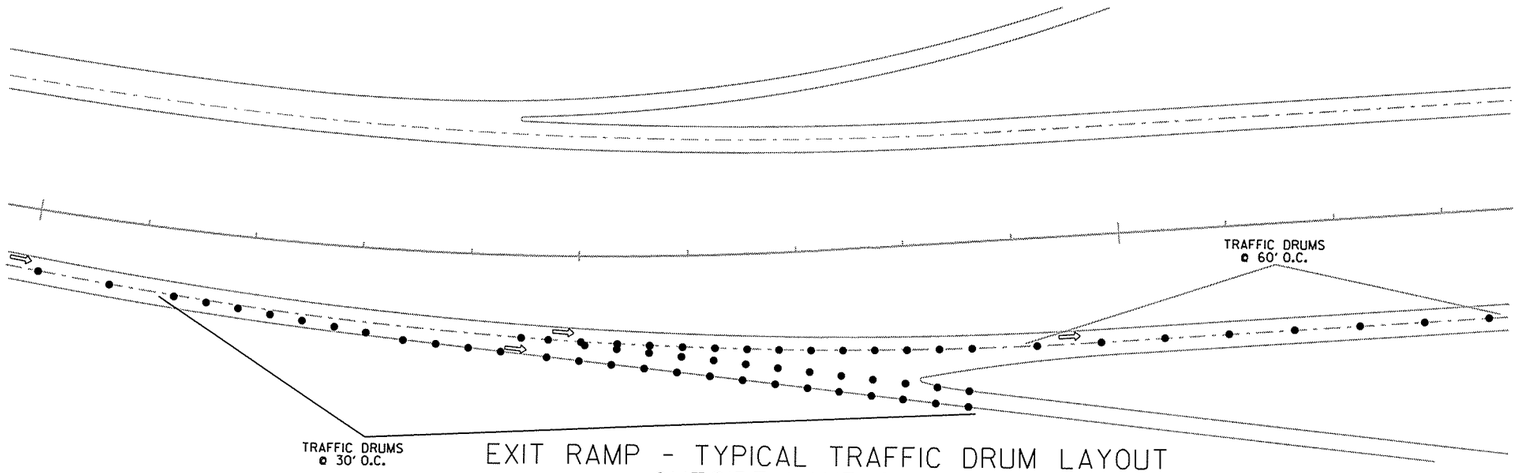
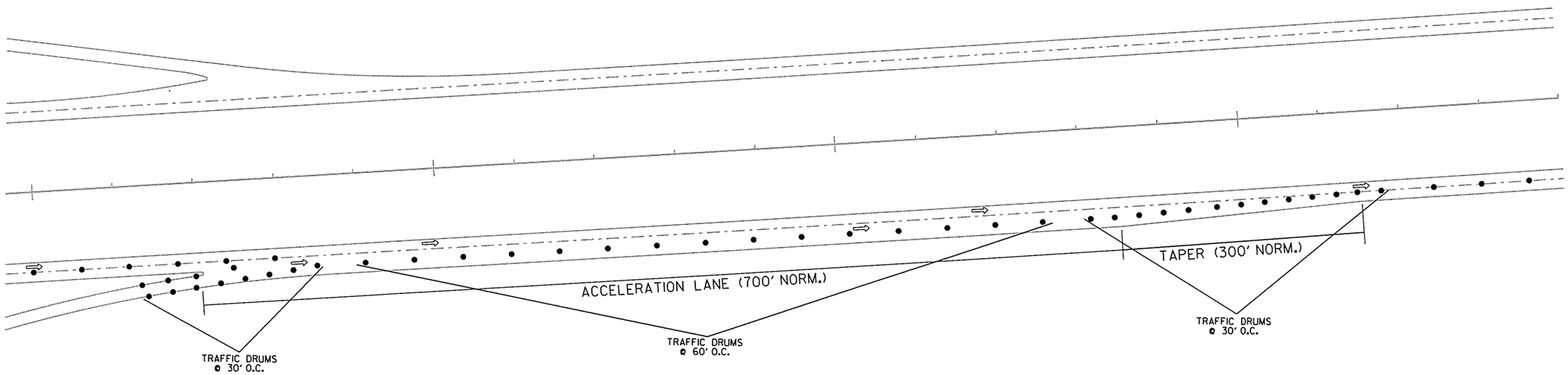
				6	ARK.			
				JOB NO.		BB1103	26	82

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



EXIT RAMP - TYPICAL TRAFFIC DRUM LAYOUT
OUTSIDE LANE CLOSURE



ENTRANCE RAMP - TYPICAL TRAFFIC DRUM LAYOUT
ACCELERATION LANE CLOSURE

EXIT 41:
EASTBOUND EXIT = 40 TRAFFIC DRUMS
EASTBOUND ENTRANCE = 17 TRAFFIC DRUMS

WESTBOUND EXIT = 40 TRAFFIC DRUMS
WESTBOUND ENTRANCE = 17 TRAFFIC DRUMS

EXIT 47:
EASTBOUND EXIT = 40 TRAFFIC DRUMS
EASTBOUND ENTRANCE = 17 TRAFFIC DRUMS

WESTBOUND EXIT = 40 TRAFFIC DRUMS
WESTBOUND ENTRANCE = 17 TRAFFIC DRUMS

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MAINTENANCE OF TRAFFIC
DETAIL OF RAMPS WITH LANE CLOSURE

PRECAST CONCRETE BARRIER WALL (5 LOCATIONS - 10 INSTALLATIONS)
(1) FURNISH AND INSTALL = 573 LIN. FT.
(9) RELOCATE = 573 LIN. FT. (PER INSTALLATION)

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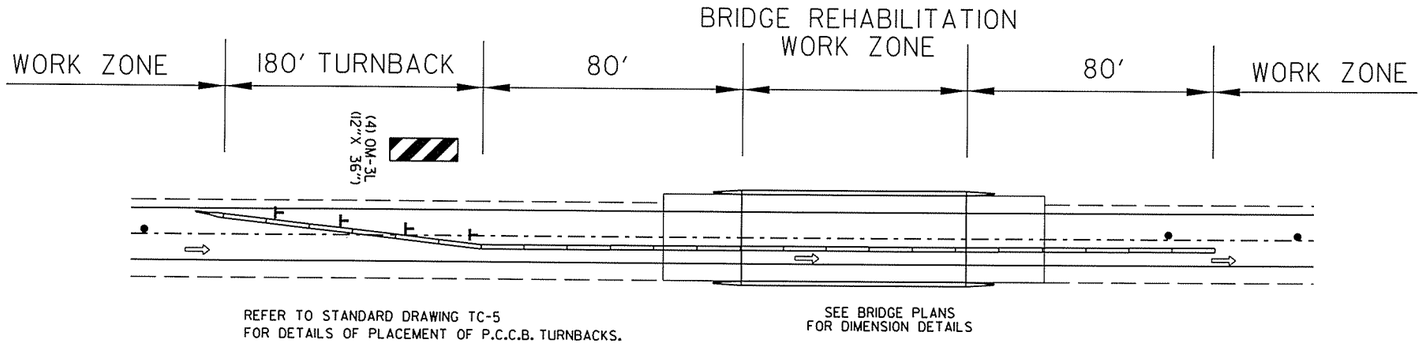
				6	ARK.			
				JOB NO.		BB1103	27	82

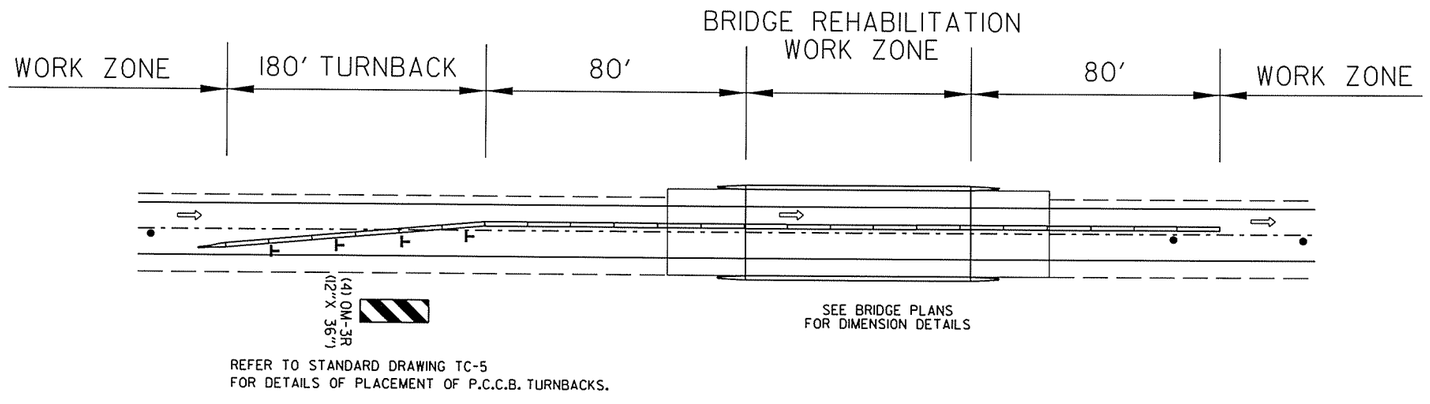
(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



DIVERSION FOR LT. LANE BRIDGE DECK REHABILITATION

1 SET OF THIS NEEDED FOR JOB BB1103.



DIVERSION FOR RT. LANE BRIDGE DECK REHABILITATION

1 SET OF THIS NEEDED FOR JOB BB1103.

NOTE:
BRIDGE DECK REHABILITATION CAN BE PERFORMED FOLLOWING THE COMPLETION OF MAIN LANE MILL & INLAY OPERATIONS. REFER TO SHEET 23 FOR DETAIL OF TRAFFIC SHIFT USING TRAFFIC DRUMS. REFER TO SHEET 22 FOR SEQUENCE OF CONSTRUCTION DETAILS.

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MAINTENANCE OF TRAFFIC DETAILS
WORK ZONE - BRIDGE DECK REHABILITATION

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				6	ARK.			
				JOB NO.		BB1103	28	82

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-5-14

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	ENTIRE JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	HIGH PERFORMANCE CONTRAST PAVEMENT	HIGH PERFORMANCE PAVEMENT MARKING			
					TYPE II (WHITE/RED)	4" WHITE	4" (SKIP LINE) WHITE	4" WHITE	4" YELLOW	8" WHITE
	LIN. FT. - EACH	LIN. FT.		LIN. FT.	EACH	LIN. FT.	LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS	5018	5018								
CONSTRUCTION PAVEMENT MARKINGS	209827		209827							
REMOVABLE CONSTRUCTION PAV'T MARKINGS	7176			7176						
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	1579				1579					
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")	290					290				
HIGH PERFORMANCE PAVEMENT MARKING (SKIP LINE) WHITE (4")	21330						21330			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")	92336							92336		
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")	92339								92339	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")	3532									3532
TOTALS:		**5018**	**209827**	**7176**	**1579**	**290**	**21330**	**92336**	**92339**	**3532**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	ENTIRE PROJECT	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN
			LIN. FT. - EACH		NO.	SQ. FT.	EACH	LIN. FT.		DAY	WEEK
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	64.0					
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	64.0					
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	64.0					
W20-1	ROAD WORK AHEAD	48"x48"	8	8	8	128.0					
G20-2	END ROAD WORK	48"x24"	8	8	8	64.0					
G20-1	ROAD WORK NEXT XX MILES	60"x24"	2	2	2	20.0					
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	4	4	4	64.0					
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	4	4	4	64.0					
W20-5	RIGHT LANE CLOSED 1500 FT.	48"x48"	4	4	4	64.0					
SPECIAL	MERGE NOW W/ ARROW	48"x48"	2	2	2	32.0					
R2-5A	REDUCED SPEED AHEAD	48"X60"	4	4	4	80.0					
R55-1	FINES DOUBLE IN WORK ZONES	36"X60"	4	4	4	60.0					
OM-3L	OBJECT MARKER	12"X36"	4	4	4	12.0					
OM-3R	OBJECT MARKER	12"X36"	4	4	4	12.0					
W1-6	LARGE ARROW	48"X24"	12	12	12	96.0					
R4-1	DO NOT PASS	48"X60"	8	8	8	160.0					
R2-1	SPEED LIMIT 60 MPH	48"X60"	4	4	4	80.0					
R2-1	SPEED LIMIT 70 MPH	48"X60"	4	4	4	80.0					
R2-2	TRUCKS SPEED LIMIT 65 MPH	48"X48"	4	4	4	64.0					
W4-2 RT.	MERGE RIGHT	48"X48"	4	4	4	64.0					
RSP-1	SHOULDER CLOSED	48"X30"	2	2	2	20.0					
	TRAFFIC DRUMS		786	786			786				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		573	573				573			
	RELOCATING PRECAST CONCRETE BARRIER		5157	5157					5157		
	ADVANCE WARNING ARROW PANEL		2	2						160	
	PORTABLE CHANGEABLE MESSAGE SIGN		6	6							108
TOTALS:						**1356.0**	**786**	**573**	**5157**	**160**	**108**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

NOTE: THE QUANTITY OF TRAFFIC DRUMS PROVIDED IS FOR BOTH SIDES OF THE ROADWAY FOR ONE WORK AREA OF TWO MILES AND ONE WORK AREA OF FOUR MILES. HOWEVER, THE INSTALLATION OF TRAFFIC DRUMS SHALL NEVER EXCEED THE ACTUAL WORK AREA BY MORE THAN 1/4 MILE, UNLESS APPROVED BY THE ENGINEER.

3/5/2014

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				6	ARK.			
				JOB NO.		BB1103	29	82

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
2440+40	2480+17	RIGHT OF LEFT MAIN LANES	3977.00	4	1767.56	1767.56	22.27
TOTALS:					1767.56	1767.56	22.27

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	IMPACT ATTENUATION BARRIER	GUARDRAIL
			EACH	LIN. FT.
2479+89.21	2480+39.21	LEFT OF RIGHT MAIN LANES		50
2481+62		HIGHWAY 164 OVERPASS	1	
TOTALS:			1	50

WIRE ROPE SAFETY FENCE

STATION	STATION	LOCATION	WIRE ROPE SAFETY FENCE	* WRSF ANCHOR	WRSF MAINTENANCE MATERIALS	** WRSF POST REPAIR
			LIN. FT	EACH	LUMP SUM	EACH
2440+40.00	2480+87.00	RIGHT OF LEFT MAIN LANES	4047.00	2		
ENTIRE	PROJECT				1.00	50
TOTALS:			4047.00	2	1.00	50

* SHOWN FOR INFORMATION ONLY.
** QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
2477+38	2480+39	LT. OF RT. MAIN LANES SHLDR. WIDENING FOR GUARDRAIL AT HWY. 164 OVERPASS	59	
2479+78	2482+78	RT. OF LT. MAIN LANES SHLDR. WIDENING FOR GUARDRAIL AT HWY. 164 OVERPASS	59	
* ENTIRE	PROJECT	TO BE USED IF AND WHERE		20*
		DIRECTED BY THE ENGINEER		
TOTALS:			118	20

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
COMPACTION WILL BE AT THE SATISFACTION OF THE ENGINEER.
NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH		
2477+87.21	2480+39.21	LEFT OF RIGHT MAIN LANES	200		1	
2480+36.22	2483+14.22	RIGHT OF LEFT MAIN LANES	275	1		1
TOTALS:			475	1	1	1

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
		MAIN LANES		
2053+20.00	2100+80.24	I-40 LT. MAIN LANES	30	15867.47
2100+97.73	2165+57.53	I-40 LT. MAIN LANES	30	21532.67
2165+51.17	2249+91.11	I-40 LT. MAIN LANES	30	28133.13
2250+08.61	2269+33.13	I-40 LT. MAIN LANES	30	6415.07
2272+54.36	2274+50.43	I-40 LT. MAIN LANES	30	653.57
2274+23.47	2320+24.75	I-40 LT. MAIN LANES	30	15337.60
2320+44.59	2448+62.73	I-40 LT. MAIN LANES	30	42727.13
2448+41.33	2482+77.72	I-40 LT. MAIN LANES	30	11454.63
2053+20.00	2097+33.41	I-40 RT. MAIN LANES	30	14711.37
2097+19.47	2172+35.34	I-40 RT. MAIN LANES	30	25052.90
2172+42.01	2244+84.91	I-40 RT. MAIN LANES	30	24143.00
2244+76.49	2269+00.02	I-40 RT. MAIN LANES	30	8078.43
2272+10.46	2275+18.08	I-40 RT. MAIN LANES	30	1025.40
2275+38.80	2320+80.66	I-40 RT. MAIN LANES	30	15139.53
2320+55.36	2448+57.95	I-40 RT. MAIN LANES	30	42675.30
2448+84.24	2482+77.72	I-40 RT. MAIN LANES	30	11311.60
		ADDITIONAL FOR ENTRANCE AND EXIT RAMPS		
2172+56.41	2179+44.35	EXIT 41 RT. MAIN LANES-TURN OUT	VARIES	1003.08
2177+54.11	2183+04.11	EXIT 41 RAMP 1-EXIT RAMP	15.5	947.22
2198+06.49	2208+44.53	EXIT 41 RT. MAIN LANES-ACCELERATION LANE AND TAPER	VARIES	1177.95
2192+57.46	2198+07.46	EXIT 41 RAMP 2-ENTRANCE RAMP	15.5	947.22
2166+13.83	2176+13.55	EXIT 41 LT. MAIN LANES-ACCELERATION LANE AND TAPER	VARIES	1166.29
2176+12.67	2181+62.67	EXIT 41 RAMP 4-ENTRANCE RAMP	15.5	947.22
2196+04.65	2202+95.22	EXIT 41 LT. MAIN LANES-TURN OUT	VARIES	1024.62
2192+37.05	2197+87.05	EXIT 41 RAMP 3-EXIT RAMP	15.5	947.22
2464+56.94	2470+91.32	EXIT 47 RT. MAIN LANES-TURN OUT	VARIES	938.41
2469+65.20	2475+15.20	EXIT 47 RAMP 1-EXIT RAMP	15.5	947.22
2479+96.49	2482+77.72	EXIT 47 RT. MAIN LANES-ACCELERATION LANE AND TAPER	VARIES	412.47
2476+47.87	2479+97.87	EXIT 47 RAMP 2-ENTRANCE RAMP	15.5	602.78
2455+38.28	2465+42.30	EXIT 47 LT. MAIN LANES-ACCELERATION LANE AND TAPER	VARIES	732.07
2465+41.23	2470+91.23	EXIT 47 RAMP 4-ENTRANCE RAMP	15.5	947.22
2476+34.94	2481+73.51	EXIT 47 LT. MAIN LANES-TURNOUT	VARIES	798.52
2471+77.51	2476+77.51	EXIT 47 RAMP 3-EXIT RAMP	15.5	861.11
		ADDITIONAL FOR BRIDGE WORK		
1355+41.80	1356+54.38	I-40 LT. MAIN LANES	40	500.36
1358+99.38	1360+12.77	I-40 LT. MAIN LANES	40	503.96
1637+73.38	1638+73.38	I-40 LT. MAIN LANES	40	444.44
1641+36.50	1642+36.50	I-40 LT. MAIN LANES	40	444.44
1663+03.18	1664+07.05	I-40 LT. MAIN LANES	40	461.64
1666+88.50	1667+91.86	I-40 LT. MAIN LANES	40	459.38
TOTAL:				301473.64

NOTE: VARIABLE MILLING DEPTH. THE DEPTH OF MILLING SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL HAUL THE MATERIAL GENERATED FROM COLD MILLING OPERATIONS TO LOCATIONS DESIGNATED BY THE ENGINEER, AND DISTRIBUTE IT EVENLY UNTIL EACH LOCATION IS FULL. ONCE PLACED, THE MATERIAL WILL BECOME PROPERTY OF THE DEPARTMENT. THE MATERIAL SHALL BE PLACED AT THE DESIGNATED LOCATIONS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL STOCK PILE THE MATERIAL IN SUCH A WAY THAT IT CAN BE EASILY MEASURED USING THE AVERAGE END AREA METHOD. THE AREAS DESIGNATED FOR COLD MILLING MATERIAL STORAGE FOR MATERIALS GENERATED FROM DISTRICT FOUR ARE AS FOLLOWS: 8000 CUBIC YARDS ARE TO BE PLACED AT THE INTERSECTION OF HWY. 219 AND I-40 IN THE NORTHEAST QUANDRANT OF THE INTERCHANGE AND THE REMAINDER IS TO BE STOCKPILED AT THE WESTBOUND REST AREA. THE AREA DESIGNATED FOR COLD MILLING MATERIAL STORAGE FOR MATERIALS GENERATED FROM DISTRICT EIGHT ARE AS FOLLOWS: EXIT 47 WESTBOUND ON-RAMP GORE AREA.

2/21/2014

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				6	ARK.			
				JOB NO.		BB1103	30	82

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

FLUSHING UNDERDRAIN

STA.	STA.	LOCATION	LIN. FT.
2052+84	2100+80	LEFT MAIN LANES	4796
2100+98	2165+58	LEFT MAIN LANES	6460
2165+51	2249+91	LEFT MAIN LANES	8440
2250+09	2269+70	LEFT MAIN LANES	1961
2272+18	2274+50	LEFT MAIN LANES	232
2274+23	2320+25	LEFT MAIN LANES	4602
2320+45	2448+63	LEFT MAIN LANES	12818
2448+41	2483+14	LEFT MAIN LANES	3473
2052+84	2097+33	RIGHT MAIN LANES	4449
2097+19	2172+35	RIGHT MAIN LANES	7516
2172+42	2244+85	RIGHT MAIN LANES	7243
2244+76	2269+37	RIGHT MAIN LANES	2461
2271+74	2275+18	RIGHT MAIN LANES	344
2275+39	2320+81	RIGHT MAIN LANES	4542
2320+55	2448+58	RIGHT MAIN LANES	12803
2448+84	2483+14	RIGHT MAIN LANES	3430
TOTAL:			85570

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL		
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	BAG	LIN. FT.	CU. YD.
ENTIRE	PROJECT	ENTIRE PROJECT	0.91	1.82	0.91	92.8	0.91	110	125	10
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.23	0.46	0.23	23.5	0.23	28	31	1
TOTALS:			1.14	2.28	1.14	116.3	1.14	138	156	11

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING.
DROP INLET SILT FENCE.....25 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 ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

SHOULDER RECONSTRUCTION FOR MAINTENANCE OF TRAFFIC

STATION	STATION	LOCATION	LENGTH	AVG. WIDTH	AREA	TACK COAT 0.10 GAL PER SQ. YD.	ACHM BASE COURSE (1-1/2")		ACHM BINDER COURSE (1")		ACHM SURFACE COURSE (1/2")		TRENCHING AND SHOULDER PREPARATION
			LIN. FT.	FEET	SQ. YD.	GAL.	LBS. PER SQ. YD.	TON	LBS. PER SQ. YD	TON	LBS. PER SQ. YD.	TON	STATION
1354+14.38	1356+54.38	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
1358+99.38	1361+39.38	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
1636+33.38	1638+73.38	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
1641+36.50	1643+76.50	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
1661+67.05	1664+07.05	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
1666+88.50	1669+28.50	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
2048+86.00	2051+26.00	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
2053+20.00	2055+60.00	LT. OF LT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
2048+86.00	2051+26.00	RT. OF RT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
2053+20.00	2055+60.00	RT. OF RT. MAIN LANES	240.00	10	266.7	26.67	550	73.3	330.0	44.0	440	58.7	2.40
TOTALS:						266.70		733.0		440.0		587.0	24.00

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2") MIN AGG = 94.2% ASPH BINDER (PG 76-22) = 5.8%
ACHM BINDER COURSE (1") MIN AGG = 95.2% ASPH BINDER (PG 76-22) = 4.8%
ACHM BASE COURSE (1/2") MIN AGG = 95.8% ASPH BINDER (PG 76-22) = 4.2%
NMAX = 205

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
2048+86	2051+26	RT. OF RT. MAIN LANES	240
2053+20	2097+33	RT. OF RT. MAIN LANES	4413
2097+19	2172+35	RT. OF RT. MAIN LANES	7516
2172+42	2177+54	RT. OF RT. MAIN LANES	512
2179+44	2198+07	RT. OF RT. MAIN LANES	1863
2198+08	2244+85	RT. OF RT. MAIN LANES	4677
2244+76	2269+00	RT. OF RT. MAIN LANES	2424
2272+10	2275+18	RT. OF RT. MAIN LANES	308
2275+39	2320+81	RT. OF RT. MAIN LANES	4542
2320+55	2448+58	RT. OF RT. MAIN LANES	12803
2448+84	2469+64	RT. OF RT. MAIN LANES	2080
2470+91	2479+97	RT. OF RT. MAIN LANES	906
2479+99	2482+78	RT. OF RT. MAIN LANES	279
1354+14	1356+54	LT. OF LT. MAIN LANES	240
1358+99	1361+39	LT. OF LT. MAIN LANES	240
1636+33	1638+73	LT. OF LT. MAIN LANES	240
1641+37	1643+77	LT. OF LT. MAIN LANES	240
1661+67	1664+07	LT. OF LT. MAIN LANES	240
1666+89	1669+29	LT. OF LT. MAIN LANES	240
2048+86	2051+26	LT. OF LT. MAIN LANES	240
2053+20	2100+80	LT. OF LT. MAIN LANES	4760
2100+98	2165+58	LT. OF LT. MAIN LANES	6460
2165+51	2176+12	LT. OF LT. MAIN LANES	1061
2176+14	2196+05	LT. OF LT. MAIN LANES	1991
2197+88	2249+91	LT. OF LT. MAIN LANES	5203
2250+09	2269+33	LT. OF LT. MAIN LANES	1924
2272+54	2274+50	LT. OF LT. MAIN LANES	196
2274+23	2320+25	LT. OF LT. MAIN LANES	4602
2320+45	2448+63	LT. OF LT. MAIN LANES	12818
2448+41	2465+40	LT. OF LT. MAIN LANES	1699
2465+42	2476+35	LT. OF LT. MAIN LANES	1093
2476+79	2482+78	LT. OF LT. MAIN LANES	599
1355+42	1356+42	RT. OF LT. MAIN LANES	100
1358+88	1360+13	RT. OF LT. MAIN LANES	125
1637+74	1638+74	RT. OF LT. MAIN LANES	100
1641+37	1642+37	RT. OF LT. MAIN LANES	100
1663+30	1664+40	RT. OF LT. MAIN LANES	110
1667+24	1668+24	RT. OF LT. MAIN LANES	100
2053+20	2100+80	RT. OF LT. MAIN LANES	4760
2100+98	2165+58	RT. OF LT. MAIN LANES	6460
2165+51	2249+91	RT. OF LT. MAIN LANES	8440
2250+09	2269+33	RT. OF LT. MAIN LANES	1924
2272+54	2274+50	RT. OF LT. MAIN LANES	196
2274+23	2320+25	RT. OF LT. MAIN LANES	4602
2320+45	2448+63	RT. OF LT. MAIN LANES	12818
2448+41	2482+78	RT. OF LT. MAIN LANES	3437
2053+20	2097+33	LT. OF RT. MAIN LANES	4413
2097+19	2172+35	LT. OF RT. MAIN LANES	7516
2172+42	2244+85	LT. OF RT. MAIN LANES	7243
2244+76	2269+00	LT. OF RT. MAIN LANES	2424
2272+11	2275+18	LT. OF RT. MAIN LANES	307
2275+39	2320+81	LT. OF RT. MAIN LANES	4542
2320+55	2448+58	LT. OF RT. MAIN LANES	12803
2448+84	2482+78	LT. OF RT. MAIN LANES	3394
TOTAL:			172563

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

2/20/2014

RBB1103.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	31	82

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22
			FEET			FEET				FEET			TON
MAIN LANES													
2053+20.00	2100+80.24	I-40 LT. MAIN LANES	4760.2			30.0	15867.3	0.10	1586.7	30.0	15867.3	220.0	1745.4
2100+97.73	2165+57.53	I-40 LT. MAIN LANES	6459.8			30.0	21532.7	0.10	2153.3	30.0	21532.7	220.0	2368.6
2165+51.17	2249+91.11	I-40 LT. MAIN LANES	8439.9			30.0	28133.0	0.10	2813.3	30.0	28133.0	220.0	3094.6
2250+08.61	2269+33.13	I-40 LT. MAIN LANES	1924.5			30.0	6415.0	0.10	641.5	30.0	6415.0	220.0	705.7
2272+54.36	2274+50.43	I-40 LT. MAIN LANES	196.1			30.0	653.7	0.10	65.4	30.0	653.7	220.0	71.9
2274+23.47	2320+24.75	I-40 LT. MAIN LANES	4601.3			30.0	15337.7	0.10	1533.8	30.0	15337.7	220.0	1687.1
2320+44.59	2448+62.73	I-40 LT. MAIN LANES	12818.1			30.0	42727.0	0.10	4272.7	30.0	42727.0	220.0	4700.0
2448+41.33	2482+77.72	I-40 LT. MAIN LANES	3436.4			30.0	11454.7	0.10	1145.5	30.0	11454.7	220.0	1260.0
2053+20.00	2097+33.41	I-40 RT. MAIN LANES	4413.4			30.0	14711.3	0.10	1471.1	30.0	14711.3	220.0	1618.2
2097+19.47	2172+35.34	I-40 RT. MAIN LANES	7515.9			30.0	25053.0	0.10	2505.3	30.0	25053.0	220.0	2755.8
2172+42.01	2244+84.91	I-40 RT. MAIN LANES	7242.9			30.0	24143.0	0.10	2414.3	30.0	24143.0	220.0	2655.7
2244+76.49	2269+00.02	I-40 RT. MAIN LANES	2423.5			30.0	8078.3	0.10	807.8	30.0	8078.3	220.0	888.6
2272+10.46	2275+18.08	I-40 RT. MAIN LANES	307.6			30.0	1025.3	0.10	102.5	30.0	1025.3	220.0	112.8
2275+38.80	2320+80.66	I-40 RT. MAIN LANES	4541.9			30.0	15139.7	0.10	1514.0	30.0	15139.7	220.0	1665.4
2320+55.36	2448+57.95	I-40 RT. MAIN LANES	12802.6			30.0	42675.3	0.10	4267.5	30.0	42675.3	220.0	4694.3
2448+84.24	2482+77.72	I-40 RT. MAIN LANES	3393.5			30.0	11311.7	0.10	1131.2	30.0	11311.7	220.0	1244.3
ADDITIONAL FOR ENTRANCE AND EXIT RAMPS													
2172+56.41	2179+44.35	EXIT 41 RT. MAIN LANES-TURN OUT	687.9			VARIES	1003.1	0.10	100.3	VARIES	1003.1	220.0	110.3
2177+54.11	2183+04.11	EXIT 41 RAMP 1-EXIT RAMP	550.0			15.5	947.2	0.10	94.7	15.5	947.2	220.0	104.2
2198+06.49	2208+44.53	EXIT 41 RT. MAIN LANES-ACCELERATION LANE AND TAPER	1038.0			VARIES	1178.0	0.10	117.8	VARIES	1178.0	220.0	129.6
2192+57.46	2198+07.46	EXIT 41 RAMP 2-ENTRANCE RAMP	550.0			15.5	947.2	0.10	94.7	15.5	947.2	220.0	104.2
2166+13.83	2176+13.55	EXIT 41 LT. MAIN LANES-ACCELERATION LANE AND TAPER	999.7			VARIES	1166.3	0.10	116.6	VARIES	1166.3	220.0	128.3
2176+12.67	2181+62.67	EXIT 41 RAMP 4-ENTRANCE RAMP	550.0			15.5	947.2	0.10	94.7	15.5	947.2	220.0	104.2
2196+04.65	2202+95.22	EXIT 41 LT. MAIN LANES-TURN OUT	690.6			VARIES	1024.6	0.10	102.5	VARIES	1024.6	220.0	112.7
2192+37.05	2197+87.05	EXIT 41 RAMP 3-EXIT RAMP	550.0			15.5	947.2	0.10	94.7	15.5	947.2	220.0	104.2
2464+56.94	2470+91.32	EXIT 47 RT. MAIN LANES-TURN OUT	634.4			VARIES	938.4	0.10	93.8	VARIES	938.4	220.0	103.2
2469+65.20	2475+15.20	EXIT 47 RAMP 1-EXIT RAMP	550.0			15.5	947.2	0.10	94.7	15.5	947.2	220.0	104.2
2479+96.49	2482+77.72	EXIT 47 RT. MAIN LANES-ACCELERATION LANE AND TAPER	281.2			VARIES	412.5	0.10	41.3	VARIES	412.5	220.0	45.4
2476+47.87	2479+97.87	EXIT 47 RAMP 2-ENTRANCE RAMP	350.0			15.5	602.8	0.10	60.3	15.5	602.8	220.0	66.3
2455+38.28	2465+42.30	EXIT 47 LT. MAIN LANES-ACCELERATION LANE AND TAPER	1004.0			VARIES	732.1	0.10	73.2	VARIES	732.1	220.0	80.5
2465+41.23	2470+91.23	EXIT 47 RAMP 4-ENTRANCE RAMP	550.0			15.5	947.2	0.10	94.7	15.5	947.2	220.0	104.2
2476+34.94	2481+73.51	EXIT 47 LT. MAIN LANES-TURNOUT	538.6			VARIES	798.5	0.10	79.9	VARIES	798.5	220.0	87.8
2471+77.51	2476+77.51	EXIT 47 RAMP 3-EXIT RAMP	500.0			15.5	861.1	0.10	86.1	15.5	861.1	220.0	94.7
ADDITIONAL FOR GUARDRAIL WIDENING													
2477+38.21	2480+39.21	LT. OF RT. MAIN LANES	301.0	30.75	92.6					VARIES	270.2	220.0	29.7
2479+78.22	2482+77.72	RT. OF LT. MAIN LANES	299.5	30.25	90.6					VARIES	263.1	220.0	28.9
ADDITIONAL FOR BRIDGE WORK													
1355+41.80	1356+54.38	I-40 LT. MAIN LANES	112.6			40.0	500.4	0.10	50.0	40.0	500.4	220.0	55.0
1358+99.38	1360+12.77	I-40 LT. MAIN LANES	113.4			40.0	504.0	0.10	50.4	40.0	504.0	220.0	55.4
1637+73.38	1638+73.38	I-40 LT. MAIN LANES	100.0			40.0	444.4	0.10	44.4	40.0	444.4	220.0	48.9
1641+36.50	1642+36.50	I-40 LT. MAIN LANES	100.0			40.0	444.4	0.10	44.4	40.0	444.4	220.0	48.9
1663+03.18	1664+07.05	I-40 LT. MAIN LANES	103.9			40.0	461.8	0.10	46.2	40.0	461.8	220.0	50.8
1666+88.50	1667+91.86	I-40 LT. MAIN LANES	103.4			40.0	459.6	0.10	46.0	40.0	459.6	220.0	50.6
TOTALS:					**183.2**		**301473.9**		**30147.3**		**302007.2**		**33220.6**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

2/20/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
4/9/14			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB1103	32	82

(1) A5110, A5113 - A5114, A5131, B5131 QUANTITIES - 54866

SCHEDULE OF BRIDGE QUANTITIES - JOB BB1103

LOG MILE	UNIT OF STRUCTURE	ITEM NO.	509	610	802	803	803	804	809	821	SP JOB BB1103	SP JOB BB1103	SP JOB BB1103	SP JOB BB1103
		ITEM	JOINT REHABILITATION (TYPE A)	DROP INLETS ADJUSTED TO GRADE	GROOVING	CLASS 1 PROTECTIVE SURFACE TREATMENT	CLASS 3 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	SILICONE JOINT SEALANT	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)	HYDRODEMOLITION	BRIDGE DECK REPAIR	LATEX MODIFIED CONCRETE OVERLAY (1½" THICK)	LATEX MODIFIED CONCRETE (VARIABLE DEPTH)
		UNIT	LIN. FT.	EACH	SQ. YD.	GAL.	LIN. FT.	LBS.	LIN. FT.	LUMP SUM	SQ. YD.	SQ. FT.	SQ. YD.	CU. YD.
25.69	EXISTING BRIDGE NO. A5110		-	1	(2) 980	21.3	340	500	113	1	(2) 1,056.7	994	(2) 1,058.3	10.3
31.03	EXISTING BRIDGE NO. A5113		-	1	(2) 1,052	22.9	376	500	83	1	(2) 1,134.7	1,100	(2) 1,136.4	11.3
31.51	EXISTING BRIDGE NO. A5114		-	1	(2) 1,126	24.5	413	500	83	1	(2) 1,214.8	1,206	(2) 1,216.7	12.4
38.35	EXISTING BRIDGE NO. A5131		164	-	489	10.6	238	500	82	-	528.5	-	529.6	7.4
38.35	EXISTING BRIDGE NO. B5131		164	-	489	10.6	238	500	82	-	528.5	-	529.6	7.4
	TOTALS FOR JOB NO. BB1103		328	3	4,136	89.9	1,605	2,500 (1)	443		4,463.2	3,300 (1)	4,470.6	48.8 (1)

(1) This quantity shown is for estimating and bidding purposes only. Actual quantity, if any, will be determined in the field.

(2) Includes approach slabs and gutters.

⚠ Removed Pay Item 4/9/14
By: BEF Ckd By: SMP

BRYAN FREELING
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/9/14
CARL J. FUSELIER
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
OZARK - HWY. 164 (S)
FRANKLIN AND JOHNSON COUNTIES

ROUTE 40 SEC. 12 & 13
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BEF DATE: 8/19/13 FILENAME: bbb1103_ql.dgn
CHECKED BY: SMP DATE: 1/21/14 SCALE: NO SCALE
DESIGNED BY: — DATE:

BRIDGE NO. A5110, A5113, A5114 A5131, B5131 DRAWING NO. 54866

PRINT DATE: 08-APR-2014

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		9050	BIM-B40-0(228)	QUANTITY	UNIT
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL			50	50	LIN. FT.
SP	REMOVAL AND DISPOSAL OF IMPACT ATTENUATION BARRIER			1	1	EACH
210	UNCLASSIFIED EXCAVATION			118	118	CU. YD.
210	COMPACTED EMBANKMENT			20	20	CU. YD.
SP & 215	TRENCHING AND SHOULDER PREPARATION			24	24	STATION
303	AGGREGATE BASE COURSE (CLASS 7)			183	183	TON
401	TACK COAT			30414	30414	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")			702	702	TON
SP & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")			31	31	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")			419	419	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")			21	21	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")			31847	31847	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")			1961	1961	TON
412	COLD MILLING ASPHALT PAVEMENT			301474	301474	SQ. YD.
601	MOBILIZATION			1.00	1.00	LUMP SUM
SP & 603	MAINTENANCE OF TRAFFIC			1.00	1.00	LUMP SUM
604	SIGNS			1356	1356	SQ. FT.
604	TRAFFIC DRUMS			786	786	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			573	573	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER			5157	5157	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS			209827	209827	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS			7176	7176	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS			5018	5018	LIN. FT.
604	ADVANCE WARNING ARROW PANEL			160	160	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN			108	108	WEEK
SP & 605	CONCRETE DITCH PAVING (TYPE B)		1768		1768	SQ. YD.
617	GUARDRAIL (TYPE A)			475	475	LIN. FT.
617	GUARDRAIL TERMINAL (TYPE 2)			1	1	EACH
617	TERMINAL ANCHOR POSTS (TYPE 1)			1	1	EACH
617	THRIE BEAM GUARDRAIL TERMINAL			1	1	EACH
620	LIME			2	2	TON
620	SEEDING			1.14	1.14	ACRE
SS & 620	MULCH COVER			1.14	1.14	ACRE
620	WATER			138.6	138.6	M.GAL.
621	SAND BAG DITCH CHECKS			138	138	BAG
621	DROP INLET SILT FENCE			156	156	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL			11	11	CU. YD.
623	SECOND SEEDING APPLICATION			1.14	1.14	ACRE
624	SOLID SODDING			1768	1768	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL			1.00	1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS			172563	172563	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)		290	290	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)		290	290	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING (SKIP LINE) WHITE (4")	(ALTERNATE NO. 1)		21330	21330	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE (SKIP LINE) WHITE (4")	(ALTERNATE NO. 2)		21330	21330	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)		92336	92336	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)		92336	92336	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8")	(ALTERNATE NO. 1)		3532	3532	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (8")	(ALTERNATE NO. 2)		3532	3532	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)		92339	92339	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)		92339	92339	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)			1579	1579	EACH
SP	FLUSHING UNDERDRAIN			85570	85570	LIN. FT.
SP	WIRE ROPE SAFETY FENCE (POST REPAIR)		50		50	EACH
SP	WIRE ROPE SAFETY FENCE		4047		4047	LIN. FT.
SP	WIRE ROPE SAFETY FENCE MAINTENANCE MATERIALS		1.00		1.00	LUMP SUM
	STRUCTURES OVER 20' SPAN					
509	JOINT REHABILITATION (TYPE A)			328	328	LIN. FT.
610	DROP INLETS ADJUSTED TO GRADE			3	3	EACH
636	BRIDGE CONSTRUCTION CONTROL			1.00	1.00	LUMP SUM
802	GROOVING			4136	4136	SQ. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT			89.9	89.9	GAL.
803	CLASS 3 PROTECTIVE SURFACE TREATMENT			1605	1605	LIN. FT.
804	REINFORCING STEEL - BRIDGE (GRADE 60)			2500	2500	LBS.
809	SILICONE JOINT SEALANT			443	443	LIN. FT.
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5110)			1.00	1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5113)			1.00	1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5114)			1.00	1.00	LUMP SUM
SP	HYDRODEMOLITION			4463.2	4463.2	SQ. YD.
SP	BRIDGE DECK REPAIR			3300	3300	SQ. FT.
SP	LATEX MODIFIED CONCRETE OVERLAY (1-1/2" THICK)			4470.6	4470.6	SQ. YD.

* DENOTES ALTERNATE BID ITEMS

REVISIONS

DATE	REVISION	SHEET NUMBER
3/24/2014	ADDED THREADED TERMINAL DETAIL TO SHEET 6	6, 33
4/9/2014	REMOVED PAY ITEM "LATEX MODIFIED CONCRETE (VARIABLE DEPTH)"	32, 33, 45, 63

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TIMOTHY D. BLYTHE
4-16-14

SUMMARY OF QUANTITIES AND REVISIONS

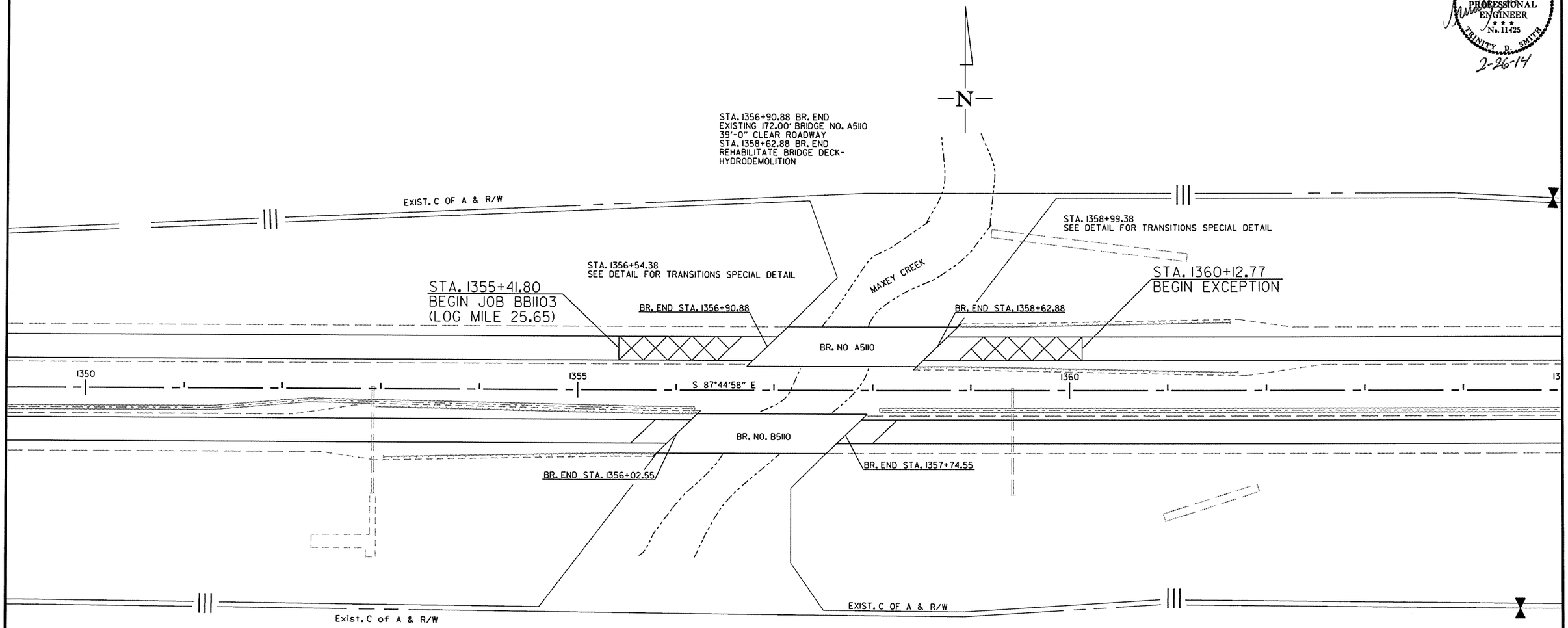
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
3-24-14				6	ARK.		33	82
4-9-14				JOB NO. BB1103				

(2) SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	34	82

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



NOTE: BRIDGE NO. B5110 IS EXCEPTION TO JOB BB1103.

STA. 1352+92 IN PLACE
TYPE "R" DROP INLET IN MEDIAN
3'-0" X 4'-0" X H = 7'-0" WITH
24" X 104' R.C. PIPE CULV'T. OUTLET
RETAIN

STA. 1359+50 IN PLACE
TYPE "R" DROP INLET IN MEDIAN
3'-0" X 4'-0" X H = 6'-0" WITH
24" X 104' R.C. PIPE CULV'T. OUTLET
RETAIN

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	35	82

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

N

EXIST. C OF A & R/W

STA. 1638+73.38
SEE DETAIL FOR TRANSITIONS SPECIAL DETAIL

STA. 1637+73.38
END EXCEPTION

BR. END STA. 1639+09.88

CREEK

BR. NO. A5113

STA. 1641+36.50
SEE DETAIL FOR TRANSITIONS SPECIAL DETAIL

STA. 1642+36.50
BEGIN EXCEPTION

BR. END STA. 1641+00.00

PC 1644+92.50

STA. 1639+09.88 BR. END
EXISTING 190.12' BRIDGE NO. A5113
39'-0" CLEAR ROADWAY
STA. 1641+00.00 BR. END
REHABILITATE BRIDGE DECK-
HYDRODEMOLITION

1635

S 59°18'00" E

1640

1645

BR. NO. B5113

BR. END STA. 1639+59.19

BR. END STA. 1641+49.31

PC 1643+12.94

PC 1644+38.22

CRAVENS

NOTE: BRIDGE NO. B5113 IS EXCEPTION TO JOB BB1103.

EXIST. C OF A & R/W

STA. 1639+00 IN PLACE
TYPE "R" DROP INLET IN MEDIAN
3'-0" X 4'-0" X H = 10'-2" WITH
24" X 176' R.C. PIPE CULV'T.
RETAIN

STA. 1642+00 IN PLACE
TYPE "R" DROP INLET IN MEDIAN
3'-0" X 4'-0" X H = 4'-0" WITH
24" X 160' R.C. PIPE CULV'T.
RETAIN

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	36	82

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

RT. MAIN LANES
P.I. 1673+00.82
Δ = 41°05'00"LT.
D = 00°45'00"
T = 2862.60'
L = 5477.78'

MEDIAN
P.I. 1671+75.56
Δ = 41°05'00"LT.
D = 00°45'00"
T = 2862.60'
L = 5477.78'

LT. MAIN LANES
P.I. 1673+55.10
Δ = 41°05'00"LT.
D = 00°45'00"
T = 2862.60'
L = 5477.78'

N

STA. 1664+43.55 BR. END
EXISTING 208.45' BRIDGE NO. A5114
39'-0" CLEAR ROADWAY
STA. 1666+52.00 BR. END
REHABILITATE BRIDGE DECK-
HYDRODEMOLITION

EXIST. C OF A & R/W

STA. 1664+07.05
SEE DETAIL FOR TRANSITIONS SPECIAL DETAIL

STA. 1663+03.18
END EXCEPTION

BR. END STA. 1664+43.55

CREEK

BR. NO. A5114

STA. 1666+88.50
SEE DETAIL FOR TRANSITIONS SPECIAL DETAIL

STA. 1667+91.86
BEGIN EXCEPTION

BR. END STA. 1666+52.00

1660

1665

1670

OAK

BR. NO. B5114

BR. END STA. 1665+36.63

BR. END STA. 1667+45.25

WHITE

EXIST. C OF A & R/W

NOTE: BRIDGE NO. B5114 IS EXCEPTION TO JOB BB1103.

STA. 1664+18 IN PLACE
42" X 128' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 1669+24 IN PLACE
42" X 132' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	37	82

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-26-14
TRINITY D. SMITH

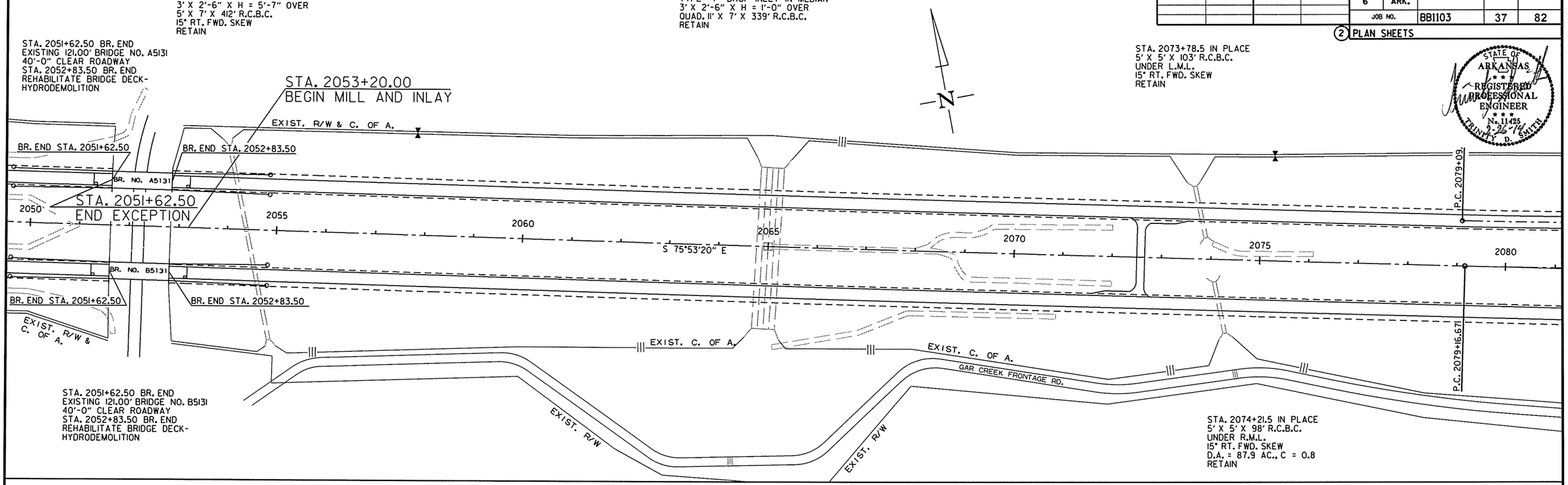
STA. 2054+25 IN PLACE
TYPE "T" DROP INLET IN MEDIAN
3' X 2'-6" X H = 5'-7" OVER
5' X 7' X 412' R.C.B.C.
15° RT. FWD. SKEW
RETAIN

STA. 2065+00 IN PLACE
TYPE "T" DROP INLET IN MEDIAN
3' X 2'-6" X H = 1'-0" OVER
QUAD. 11' X 7' X 339' R.C.B.C.
RETAIN

STA. 2051+62.50 BR. END
EXISTING 121.00' BRIDGE NO. A5131
40'-0" CLEAR ROADWAY
STA. 2052+83.50 BR. END
REHABILITATE BRIDGE DECK-
HYDRODEMOLITION

STA. 2053+20.00
BEGIN MILL AND INLAY

STA. 2073+78.5 IN PLACE
5' X 5' X 103' R.C.B.C.
UNDER L.M.L.
15° RT. FWD. SKEW
RETAIN



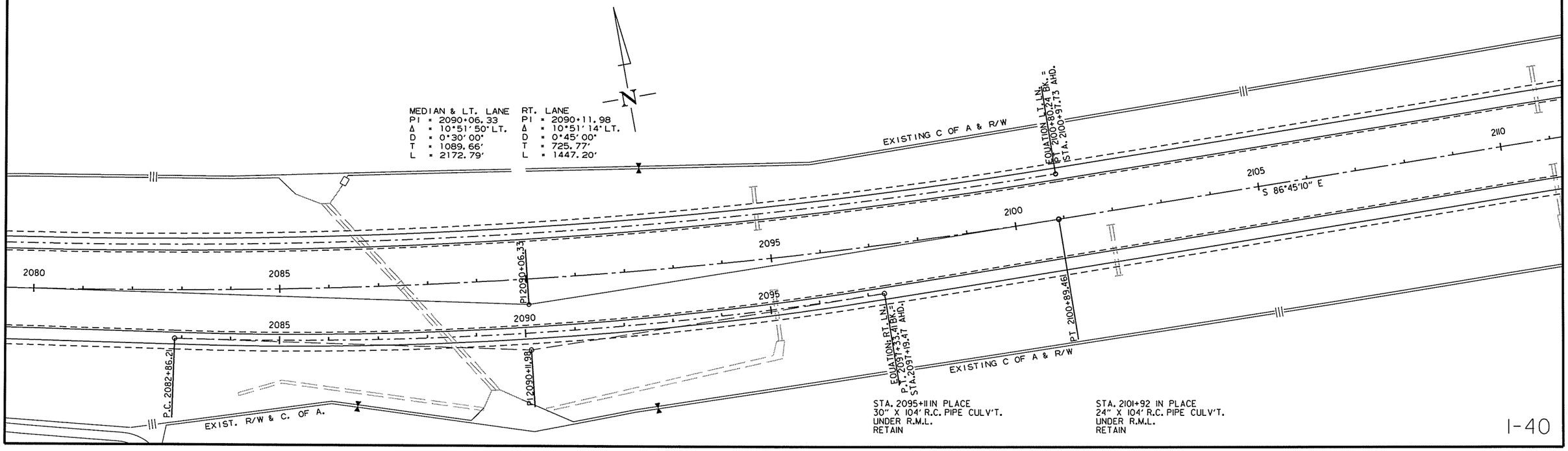
STA. 2051+62.50 BR. END
EXISTING 121.00' BRIDGE NO. B5131
40'-0" CLEAR ROADWAY
STA. 2052+83.50 BR. END
REHABILITATE BRIDGE DECK-
HYDRODEMOLITION

STA. 2074+21.5 IN PLACE
5' X 5' X 98' R.C.B.C.
UNDER R.M.L.
15° RT. FWD. SKEW
D.A. = 87.9 AC., C = 0.8
RETAIN

STA. 2094+79 IN PLACE
24" X 88' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

MEDIAN & LT. LANE
PI = 2090+06.33
Δ = 10°51'50" LT.
D = 0°30'00"
T = 1089.66'
L = 2172.79'

RT. LANE
PI = 2090+11.98
Δ = 10°51'14" LT.
D = 0°45'00"
T = 725.77'
L = 1447.20'



STA. 2095+11 IN PLACE
30" X 104' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2101+92 IN PLACE
24" X 104' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

2/11/2014

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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.		BB1103	38	82

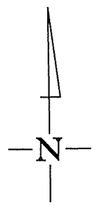
(2) PLAN SHEETS

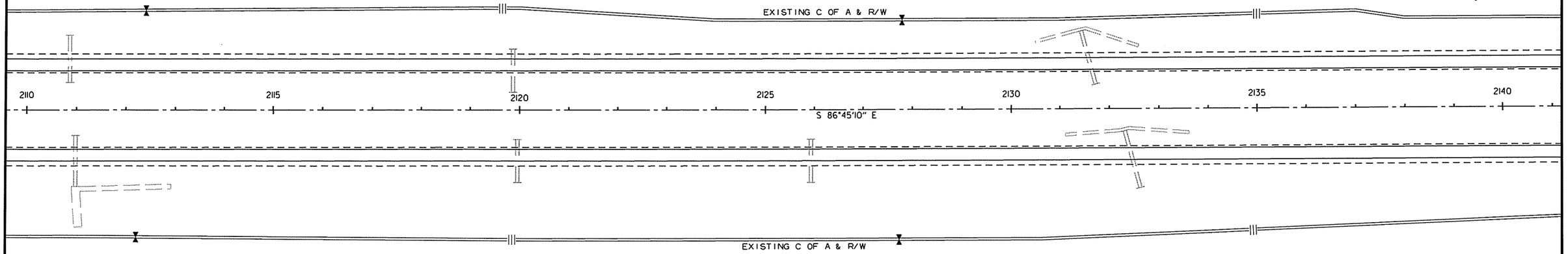
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
1-26-14

STA. 2110+87 IN PLACE
36" X 96' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2119+89 IN PLACE
36" X 88' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2131+62 IN PLACE
42" X 112' R.C. PIPE CULV'T.
15° RT. FWD. SKEW
UNDER L.M.L.
RETAIN





STA. 2111+00 IN PLACE
36" X 104' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2119+96 IN PLACE
36" X 88' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2125+93 IN PLACE
24" X 88' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2132+44 IN PLACE
42" X 120' R.C. PIPE CULV'T.
15° RT. FWD. SKEW
UNDER R.M.L.
RETAIN

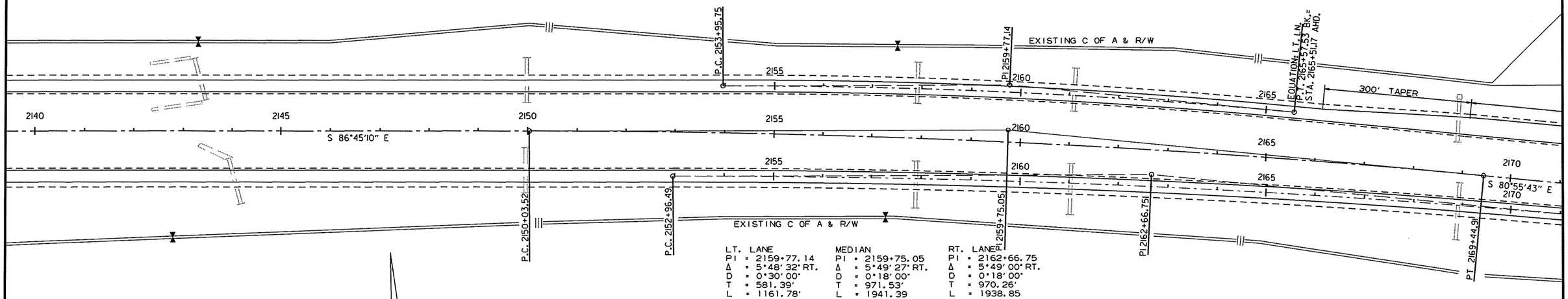
STA. 2143+38 IN PLACE
42" X 88' R.C. PIPE CULV'T.
15° RT. FWD. SKEW
UNDER L.M.L.
RETAIN

STA. 2150+00 IN PLACE
36" X 92' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

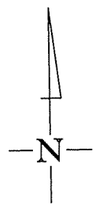
STA. 2157+91 IN PLACE
42" X 84' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2161+10 IN PLACE
30" X 88' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2168+83 IN PLACE
TYPE R DROP INLET 58' LT.
3' X 4' X H = 3'-6"
30" X 88' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN



LT. LANE	MEDIAN	RT. LANE
PI = 2159+77.14	PI = 2159+75.05	PI = 2162+66.75
Δ = 5°48'32" RT.	Δ = 5°49'27" RT.	Δ = 5°49'00" RT.
D = 0°30'00"	D = 0°18'00"	D = 0°18'00"
T = 581.39'	T = 971.53'	T = 970.26'
L = 1161.78'	L = 1941.39	L = 1938.85



STA. 2144+03 IN PLACE
42" X 96' R.C. PIPE CULV'T.
15° RT. FWD. SKEW
UNDER R.M.L.
RETAIN

STA. 2150+00 IN PLACE
42" X 96' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2157+90 IN PLACE
42" X 96' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2161+03 IN PLACE
30" X 104' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2168+91 IN PLACE
30" X 116' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

2/11/2014

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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.		BB1103	39	82

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

STA. 2176+00 IN PLACE
TYPE "T" DROP INLET 17.6' LT.
3' X 2'-6" X H = 1'-0" OVER
DBL. 9' X 7' X 336' R.C.B.C..
15° RT. FWD. SKEW
RETAIN

STA. 2181+00 IN PLACE
TYPE R DROP INLET 63' LT.
3' X 4' X H = 3'-6"
4X 132' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2196+00 IN PLACE
TYPE R DROP INLET 123' LT.
3' X 4' X H = 3'-6"
TYPE R DROP INLET 56.5' LT.
3' X 4" X H = 3'-6"
30" X 63.5' R.C. PIPE INLET
BETWEEN D.I.S
30" X 100' R.C. PIPE OUTLET
RETAIN

EXIST. R/W
EXIST. R/W
EXIST. C OF A & R/W
RAMP-4
700' ACCELERATION LANE
HWY. 186
RAMP-1
EXISTING C OF A & R/W
N
2170
80°55'43" E
2170
2175
2180
2185
S 80°55'43" E
2190
2195
2200
EQUATION: RT. L.N. P.T. 2172+35.34 BK.=
STA. 2172+42.01 AHD.
EXISTING C OF A & R/W
EXIST. R/W
EXIST. C. OF A.
30" R.C. PIPE RETAIN
RAMP-3
BR. NO 05133
STA. 2193+00 IN PLACE
48" X 92' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN
48" R.C. PIPE RETAIN
STA. 2193+00 IN PLACE
48" X 92' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN
48" R.C. PIPE RETAIN
RAMP-2
EXIST. C. OF A.
EXIST. R/W

STA. 2204+16 IN PLACE
42" X 100' R.C. PIPE CULV'T.
UNDER L.M.L.
30° RT. FWD. SKEW
RETAIN

STA. 2214+05 IN PLACE
42" X 120' R.C. PIPE CULV'T.
UNDER L.M.L.
30° RT. FWD. SKEW
RETAIN

STA. 2221+00 IN PLACE
24" X 88' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2223+24 IN PLACE
48" X 116' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2227+93 IN PLACE
48" X 104' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

N
EXISTING C OF A & R/W
P.C. 2228+18.95
2200
2205
2210
2215
S 80°55'43" E
2220
2225
2230
700' ACCELERATION LANE
300' ACCEL. LANE TAPER
EXISTING C OF A & R/W
P.C. 2228+26.56
P.C. 2230+36.67

STA. 2204+30 IN PLACE
48" X 100' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2214+62 IN PLACE
48" X 100' R.C. PIPE CULV'T.
UNDER R.M.L.
15° RT. FWD. SKEW
RETAIN

STA. 2221+00 IN PLACE
24" X 88' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2223+46 IN PLACE
48" X 112' R.C. PIPE CULV'T.
UNDER R.M.L.
15° RT. FWD. SKEW
RETAIN

STA. 2228+18 IN PLACE
48" X 116' R.C. PIPE CULV'T.
UNDER R.M.L.
15° RT. FWD. SKEW
RETAIN

2/11/2014
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				6	ARK.			
				JOB NO.		BB1103	40	82

(2) PLAN SHEETS

STA. 2246+00 IN PLACE
TYPE R DROP INLET 67.5' RT.
3' X 4' X H = 6'-1"
48" X 160' R.C. PIPE CULV'T.
UNDER L.M.L.
RETAIN

STA. 2251+86 IN PLACE
TYPE R DROP INLET 11.0' LT.
3' X 6'-1" X H = 12'-6"
42" X 300' R.C. PIPE INLET
42" X 240' R.C. PIPE OUTLET
45° RT. FWD. SKEW
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

EXISTING C OF A & R/W

2230 2235 2240 2245 2250 2255 2260

P.C. 2230+36.67

PI 2237+62.97

PI 2239+17.07

EQUATION LT. LN. B.K. 2249+91.11 BK.= STA. 2250+08.61 AHD.

N 88°11'56" E

EXISTING C OF A & R/W

EQUATION RT. LN. P.T. 2244+84.51 BK.= STA. 2244+76.49 AHD.

PT 2250+01.03

MEDIAN & LT. LANE		RT. LANE.	
PI	= 2239+17.07	PI	= 2237+62.97
Δ	= 10°52'21" LT.	Δ	= 10°51'43" LT.
D	= 0°30'00"	D	= 0°45'00"
T	= 1090.51'	T	= 726.30'
L	= 2174.47	L	= 1448.25'

STA. 2235+08 IN PLACE
24" X 200' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2246+00 IN PLACE
48" X 120' R.C. PIPE CULV'T.
UNDER R.M.L.
RETAIN

STA. 2255+00 IN PLACE
30" X 256' R.C. PIPE CULV'T.
RETAIN

EXISTING C OF A & R/W

EXIST. R/W

EXIST. C OF A.

DIRTY CREEK

PI 2268+90.42

PI 2269+83.48

BR. END STA. 2269+69.63

BR. NO. A5132

BR. NO. B5132

BR. END STA. 2269+36.52

PI 2269+52.92

BR. END STA. 2272+17.86

BR. END STA. 2271+73.96

EQUATION LT. LN. P.T. 2274+50.43 BK.= STA. 2274+23.47 AHD.

PT 2274+47.18

EQUATION RT. LN. P.T. 2275+08.08 BK.= STA. 2275+38.80 AHD.

P.C. 2263+10.54

P.C. 2263+61.79

P.C. 2265+03.36

P.C. 2282+32.36

P.C. 2282+34.74

P.C. 2282+89.85

N 88°11'56" E

S 65°50'50" E

2260 2265 2270 2275 2280 2285 2290

90' 30'

LT. LANE		MEDIAN		RT. LANE	
PI	= 2268+90.42	PI	= 2269+83.48	PI	= 2269+52.92
Δ	= 25°55'57" RT.	Δ	= 25°27'14" RT.	Δ	= 25°52'53" RT.
D	= 2°16'30"	D	= 2°45'00"	D	= 2°15'00"
T	= 579.88'	T	= 480.13'	T	= 585.13'
L	= 1139.89'	L	= 943.78'	L	= 1150.29'

NOTE: BRIDGE NO. A5132 & B5132 ARE EXCEPTIONS TO JOB BB1103.

STA. 2262+00 IN PLACE
TYPE R DROP INLET 132' LT.
3' X 4'-0" X H = 4'-0"
30 X 75' R.C. PIPE OUTLET
TYPE R DROP INLET 54' LT.
3' X 4'-0" X H = 4'-0"
30" X 45' R.C. PIPE OUTLET
TYPE R DROP INLET 6' LT.
3' X 4'-0" X 3'-6"
30" X 112' R.C. PIPE OUTLET
RETAIN

STA. 2272+34 IN PLACE
TYPE R DROP INLET 6' RT.
3' X 4'-0" X H = 5'-6"
24" X 69' R.C. PIPE TO DROP INLET
IN APPROACH SLAB FOR RT. LANE
24" X 87' R.C. PIPE OUTLET
RETAIN

STA. 2278+00 IN PLACE
TYPE R DROP INLET 4.5' RT.
3' X 4'-0" X H = 3'-0"
24" X 120' R.C. PIPE OUTLET
RETAIN

STA. 2284+00 IN PLACE
TYPE R DROP INLET 84' LT.
3' X 4'-0" X H = 3'-0"
24" X 83' R.C. PIPE OUTLET &
TYPE R DROP INLET 4' RT.
24" X 108' R.C. PIPE OUTLET
RETAIN

2/11/2014

RBB1103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	41	82

(2) PLAN SHEETS

STA. 2293+00 IN PLACE
TYPE R DROP INLET 13' RT.
3' X 4'-0" X H = 6'-3"
42" X 96' R.C. PIPE INLET &
42" X 124' R.C. PIPE OUTLET
RETAIN

STA. 2306+23 IN PLACE
TYPE R DROP INLET 18' RT.
3' X 4'-0" X H = 24'-0"
42" X 164' R.C. PIPE INLET &
42" X 176' R.C. PIPE OUTLET
15° RT. FWD. SKEW
RETAIN

STA. 2307+95 IN PLACE
36" X 344' R.C. PIPE CUL'T
RETAIN

STA. 2313+00 IN PLACE
TYPE R DROP INLET 15.5' RT.
3' X 4'-0" X H = 15'-6"
30" X 140' R.C. PIPE INLET &
30" X 136' R.C. PIPE OUTLET
RETAIN

STA. 2315+18 IN PLACE
30" X 240' R.C. PIPE CUL'T
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
1-26-14
TRINITY D. SMITH

MEDIAN
PI = 2301+69.24
Δ = 27°48'48" LT.
D = 0°44'00"
T = 1934.50'
L = 3792.72'

N

EXISTING C OF A & R/W

2290 2295 2300 2305 2310 2315 2320

EQUATION LT. LN.
P.I. 2320+24.15 BK. =
STA. 2320+44.59 AHD.

PI 2320+27.46
EQUATION RT. LN.
P.I. 2320+80.66 BK. =
STA. 2320+55.36 AHD.

PI 2301+69.24

STA. 2321+38 IN PLACE
42" X 88' R.C. PIPE CUL'T
UNDER LT. LANES
RETAIN

STA. 2326+20 IN PLACE
36" X100' R.C. PIPE CUL'T
UNDER LT. LANES
30° RT. FWD. SKEW
RETAIN

STA. 2331+92 IN PLACE
42" X 112' R.C. PIPE CULV'T.
15° RT. FWD. SKEW
RETAIN

STA. 2338+03 IN PLACE
36" X 108' R.C. PIPE CULV'T.
RETAIN

STA. 2341+00 IN PLACE
48" X 88' R.C. PIPE CULV'T.
UNDER LT. LANES
RETAIN

STA. 2348+37 IN PLACE
TYPE "K" DROP INLETS
36" X 120' R.C. PIPE INLET
36" X 122' R.C. PIPE OUTLET
30° RT. FWD. SKEW
RETAIN

N

EXISTING C OF A & R/W

2320 2325 2330 2335 2340 2345 2350

N 86°20'22" E

EQUATION LT. LN.
P.I. 2320+24.15 BK. =
STA. 2320+44.59 AHD.

PI 2320+27.46
EQUATION RT. LN.
P.I. 2320+80.66 BK. =
STA. 2320+55.36 AHD.

EXISTING C OF A & R/W

FRANKLIN CO.
JOHNSON CO.

STA. 2321+38 IN PLACE
42" X 92' R.C. PIPE CUL'T
UNDER RT. LANES
RETAIN

STA. 2326+77 IN PLACE
36" X 116' R.C. PIPE CUL'T
UNDER RT. LANES
30° RT. FWD. SKEW
RETAIN

STA. 2332+13 IN PLACE
TYPE R DROP INLET 31.5' LT.
3' X 4'-0" X H = 5'-6"
42" X 112' R.C. PIPE CULV'T.
15° RT. FWD. SKEW
RETAIN

STA. 2338+03 IN PLACE
TYPE R DROP INLET 20.5' LT.
3' X 4'-0" X H = 4'-0"
36" X 96' R.C. PIPE CULV'T.
RETAIN

STA. 2341+00 IN PLACE
48" X 88' R.C. PIPE CULV'T.
UNDER RT. LANES
RETAIN

2/11/2014

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				6	ARK.			
				JOB NO.		BB1103	42	82

(2) PLAN SHEETS

STA. 2353+32 IN PLACE
TYPE "R" DROP INLET
H = 4'-0"
24" X 218' R.C. PIPE CULV'T.
RETAIN

STA. 2357+09 IN PLACE
TYPE "K" DROP INLETS
36" X 130' R.C. PIPE INLET
36" X 130' R.C. PIPE OUTLET
45° RT. FWD. SKEW
RETAIN

STA. 2361+11 IN PLACE
TYPE "R" DROP INLET IN MEDAIN
H = 4'-4"
42" X 218' R.C. PIPE CULV'T.
30° RT. FWD. SKEW
RETAIN

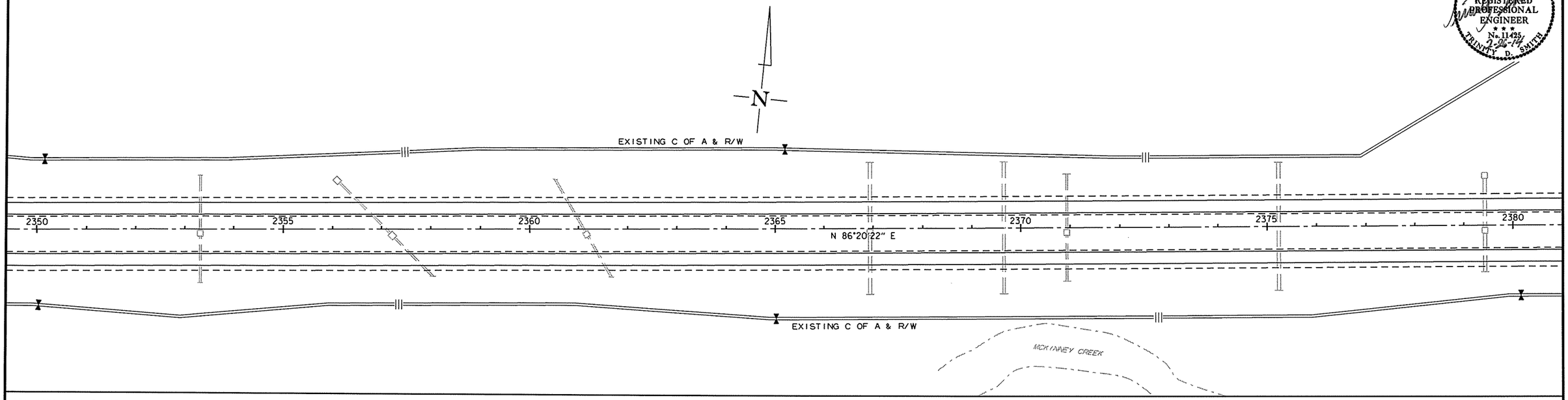
STA. 2366+94 IN PLACE
TYPE "R" DROP INLET IN MEDAIN
H = 10'-2" WITH
48" X 252' R.C. PIPE CULV'T.
RETAIN

STA. 2369+65 IN PLACE
30" X 268' R.C. PIPE CULV'T.
RETAIN

STA. 2370+94 IN PLACE
TYPE "R" DROP INLET IN MEDAIN
H = 4'-2" WITH
24" X 218' R.C. PIPE CULV'T.
RETAIN

STA. 2375+24 IN PLACE
48" X 260' R.C. PIPE CULV'T.
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
2-26-14
TRINITY D. SMITH



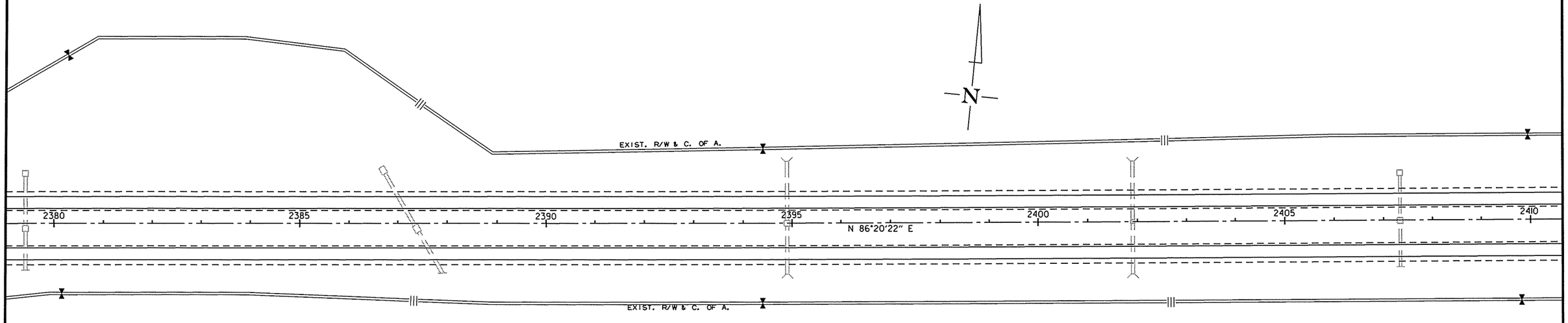
STA. 2379+43 IN PLACE
TYPE "K" DROP INLETS
24" X 190' R.C. PIPE CULV'T.
RETAIN

STA. 2387+33 IN PLACE
TYPE "K" DROP INLETS
42" X 225' R.C. PIPE CULV'T.
30° RT. FWD. SKEW
RETAIN

STA. 2394+91 IN PLACE
TYPE "T" DROP INLETS IN MEDAIN
H = 0'-6" WITH
4' X 3' X 211' R.C.B.C.
RETAIN

STA. 2401+91 IN PLACE
TYPE "T" DROP INLETS IN MEDAIN
H = 0'-6" WITH
4' X 3' X 216' R.C.B.C.
RETAIN

STA. 2407+34 IN PLACE
TYPE "K" DROP INLETS
42" X 184' R.C. PIPE CULV'T.
RETAIN



2/11/2014

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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.		BB1103	43	82

(2) PLAN SHEETS

STA. 2413+41 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 4'-4" WITH
42" X 208' R.C. PIPE CULV'T.
RETAIN

STA. 2145+89 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 4'-4" WITH
42" X 202' R.C. PIPE CULV'T.
RETAIN

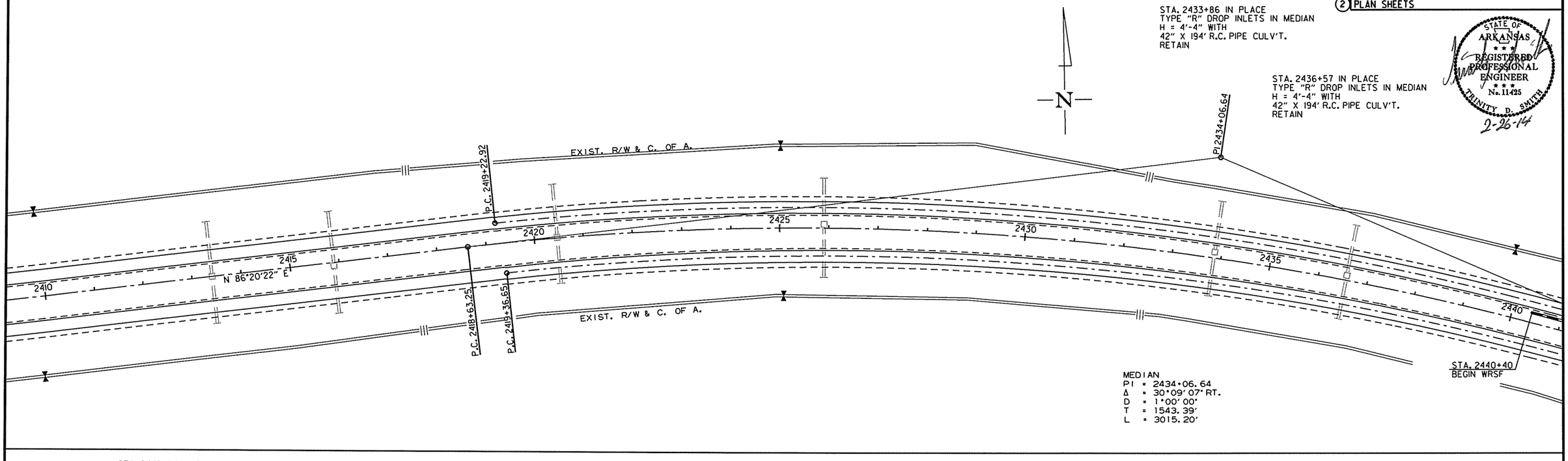
STA. 2420+48 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 4'-4" WITH
42" X 202' R.C. PIPE CULV'T.
RETAIN

STA. 2425+91 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 4'-4" WITH
42" X 192' R.C. PIPE CULV'T.
RETAIN

STA. 2433+86 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 4'-4" WITH
42" X 194' R.C. PIPE CULV'T.
RETAIN

STA. 2436+57 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 4'-4" WITH
42" X 194' R.C. PIPE CULV'T.
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14

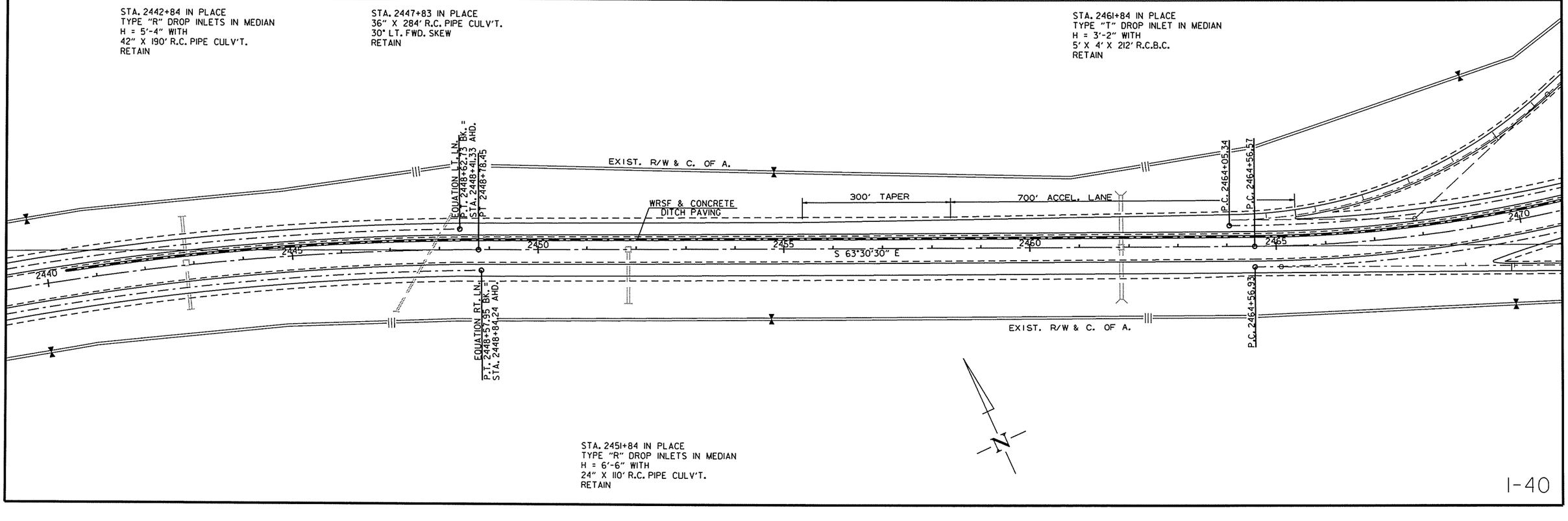


MEDIAN
PI = 2434+06.64
Δ = 30°09'07" RT.
D = 1°00'00"
T = 1543.39'
L = 3015.20'

STA. 2442+84 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 5'-4" WITH
42" X 190' R.C. PIPE CULV'T.
RETAIN

STA. 2447+83 IN PLACE
36" X 284' R.C. PIPE CULV'T.
30° LT. FWD. SKEW
RETAIN

STA. 2461+84 IN PLACE
TYPE "T" DROP INLET IN MEDIAN
H = 3'-2" WITH
5' X 4' X 212' R.C.B.C.
RETAIN



STA. 2451+84 IN PLACE
TYPE "R" DROP INLETS IN MEDIAN
H = 6'-6" WITH
24" X 110' R.C. PIPE CULV'T.
RETAIN

2/11/2014

RBB1103.DGN

STA. 2473+84 IN PLACE
TYPE "R" DROP INLET IN MEDIAN
H = 2'-10" WITH
24" X 222' R.C. PIPE CULV'T.
30° RT. FWD. SKEW
RETAIN

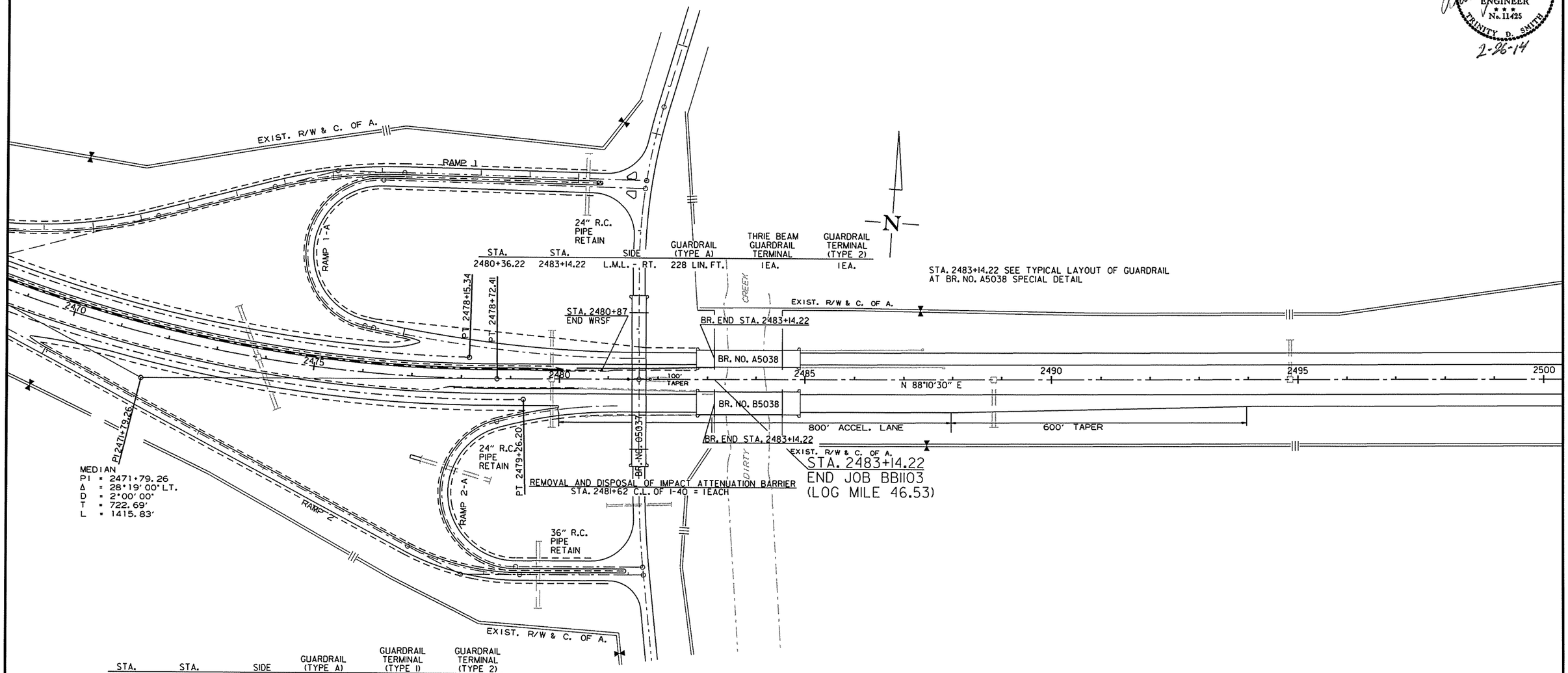
STA. 2479+84 IN PLACE
TYPE "R" DROP INLET IN MEDIAN
H = 3'-0" WITH
24" X 196' R.C. PIPE CULV'T.
RETAIN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BBI103	44	82

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
2-26-14



STA.	STA.	SIDE	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)
2477+87.21	2480+39.21	R.M.L. - LT.	202 LIN. FT.		1EA.

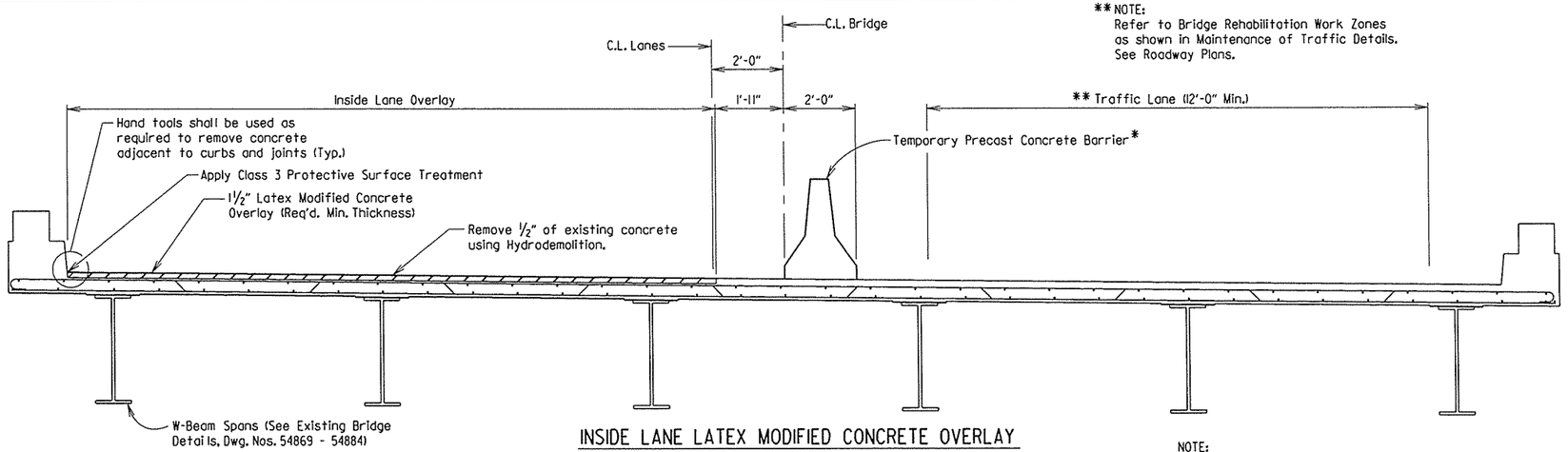
REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 2479+89.21 TO STA. 2480+39.21 LT. OF RT. LANES = 50 LIN. FT.

2/11/2014

RBBI103.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4/9/14				6	ARK.			
				JOB NO.		BBI103	45	82

(1) A5110, A5113, A5114- LMC OVERLAY -54867

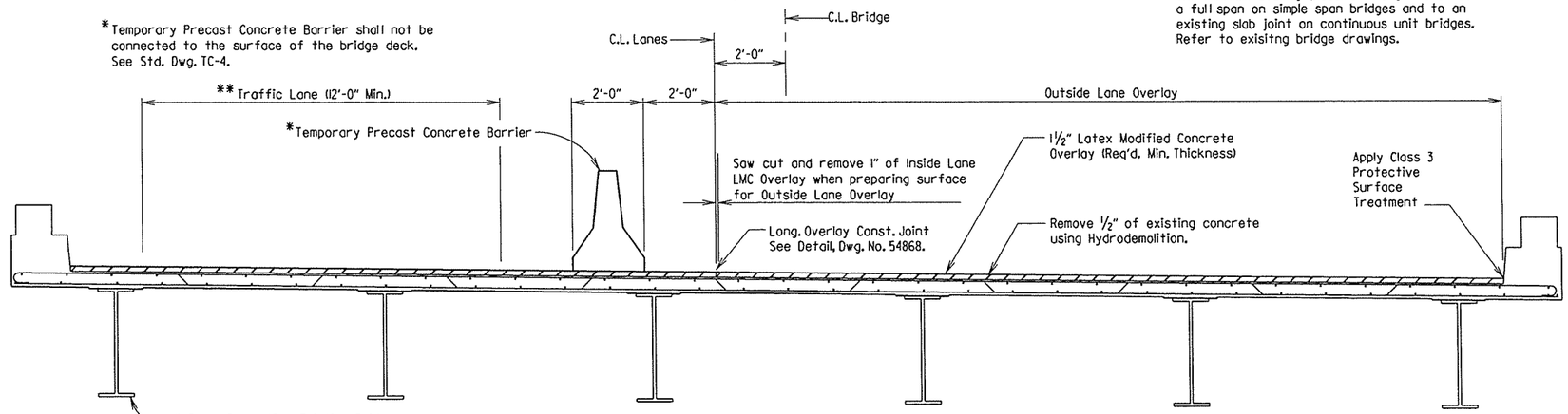


** NOTE:
Refer to Bridge Rehabilitation Work Zones as shown in Maintenance of Traffic Details. See Roadway Plans.

INSIDE LANE LATEX MODIFIED CONCRETE OVERLAY

(Looking in direction of traffic)

NOTE:
The minimum overlay placement length shall be a full span on simple span bridges and to an existing slab joint on continuous unit bridges. Refer to exisitng bridge drawings.



OUTSIDE LANE LATEX MODIFIED CONCRETE OVERLAY

(Looking in direction of traffic)

GENERAL NOTES:
CONSTRUCTION SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications. Unless otherwise noted in the plans Section and Subsection refer to the Standard Specifications.

Drawing shows details and dimensions of existing structures based on the original bridge plans. The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and fit the new work to the existing structure.

The operation or placement of vehicles, equipment and, or materials on the subject bridges necessary for the completion of this work shall be evaluated in accordance with Subsection 105.14. Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

HYDRODEMOLITION: The designated area of the existing bridge deck and the approach slabs and approach gutters shall receive hydrodemolition in accordance with the Job Special Provision "Hydrodemolition" to a planned depth of ½" below the existing bridge deck surface. Deteriorated concrete in the bridge deck below this depth shall be removed at the direction of the Engineer and up to the limits detailed. These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BBI103 "Hydrodemolition."

BRIDGE DECK REPAIR: After hydrodemolition, the deck surface shall be sounded and any areas of unsound, delaminated or otherwise deteriorated concrete shall be removed at the direction of the Engineer and in accordance with SP Job BBI103 "Bridge Deck Repair".

LATEX MODIFIED CONCRETE OVERLAY: The designated area of the existing bridge deck and the approach slabs and approach gutters shall receive a Latex Modified Concrete (LMC) Overlay with a required minimum thickness of 1 ½", in accordance with SP Job BBI103 "Latex Modified Concrete Overlay".

These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BBI103 "Latex Modified Concrete Overlay (1 ½" Thick)". Areas of the existing bridge deck removed at the direction of the Engineer to a depth greater than ½" below the existing bridge deck surface shall be filled with LMC concurrent to the placement of the 1 ½" LMC Overlay. This area shall be measured and paid for ~~as SP Job BBI103 "Latex Modified Concrete (Variable Depth)" at the unit price bid for the item.~~ in accordance with SP Job BBI103 "Latex Modified Concrete Overlay". ⚠

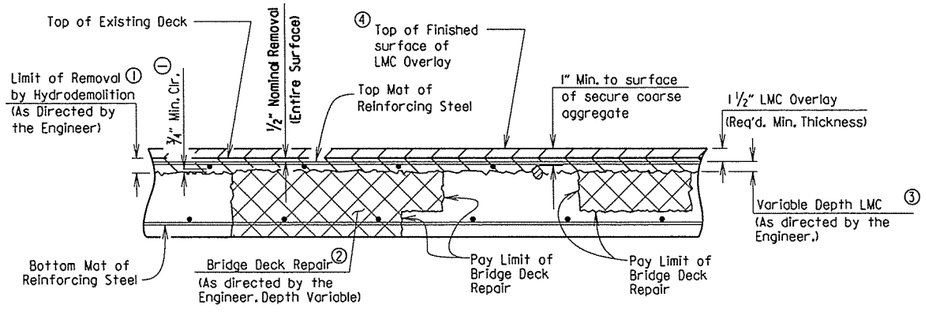
SURFACE FINISH: The LMC Overlay surface of the bridge deck, the approach slabs, and the approach gutters shall be given a grooved finish as specified for final finishing in Subsection 802.19 for Class 7 Grooved Bridge Roadway Surface Finish and in accordance with SP Job BBI103 "Latex Modified Concrete Overlay".

PROTECTIVE SURFACE TREATMENT : The longitudinal joint between the LMC overlay and the adjacent existing concrete curb or rail shall be given a Class 3 Protective Surface Treatment as specified in Section 803 and in accordance with SP Job BBI103 "Latex Modified Concrete Overlay".

Transverse and longitudinal construction joints separating adjacent overlay placements shall be prepared and sealed in accordance with the joint details on Dwg. No. 54868.

The roadway surface of the LMC overlay and top of backwall shall be given a Class 1Protective Surface Treatment as specified in Section 803.

⚠ Revised Payment for Variable Depth LMC 4/9/14
By: BEF Ckd By:



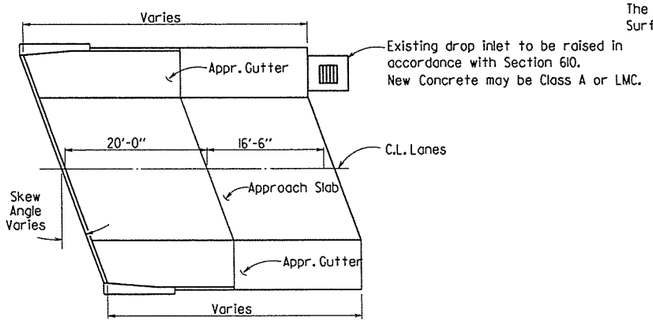
DETAILS OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE OVERLAY

① Removal of unsound concrete beyond ½" below the original surface shall be at the direction of the Engineer. If the bond between existing concrete and the top mat of reinforcing steel is destroyed, then the concrete shall be removed to a minimum of ¾" clearance below the bar.

② Areas requiring additional repair, as determined by the Engineer, shall be repaired in accordance with the Job Special Provision "Bridge Deck Repair".

③ Depth Varies to achieve minimum clearance below top mat of reinforcing steel, where required.

④ Finished Surface of LMC Overlay shall be increased as required to maintain minimum required LMC Overlay thickness and a minimum of 1½" cover to reinforcing steel.



LATEX MODIFIED OVERLAY ON BRIDGE APPROACHES

The Contractor shall remove ½" of existing concrete using hydrodemolition and construct a 1 ½" min. thickness LMC Overlay on the surface of the approach slabs and approach gutters to match increased LMC overlay grade on the bridge decks. All materials and methods shall conform to appropriate Job Special Provisions and the surface finish shall match that specified for the bridge deck. Joint treatments shall conform to the details on Drawing 54868.

See Dwg. No. 54868 for details of backwall modification.

STATE OF ARKANSAS
CARL E. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/9/14
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF LATEX MODIFIED CONCRETE OVERLAY WITH GRADE RAISE

ROUTE SEC.

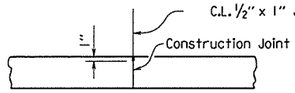
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BEF DATE: 10-02-13 FILENAME: bbi103lmcoverlayr.dgn
CHECKED BY: DATE: 3/21/14 SCALE: NO SCALE
DESIGNED BY: DATE:

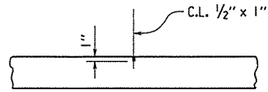
BRIDGE NO. A5110, A5113, A5114 DRAWING NO. 54867

PRINT DATE: 08-APR-2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB1103	46	82
				(1) A5110, A5113, A5114-LMC OVERLAY- 54868				



Use ½" X 1" Type 3 or 4 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer Rod shall not be installed. Joint Sealer shall be measured and paid for as LMC Overlay. Sealant must be gray or other color similar to concrete.

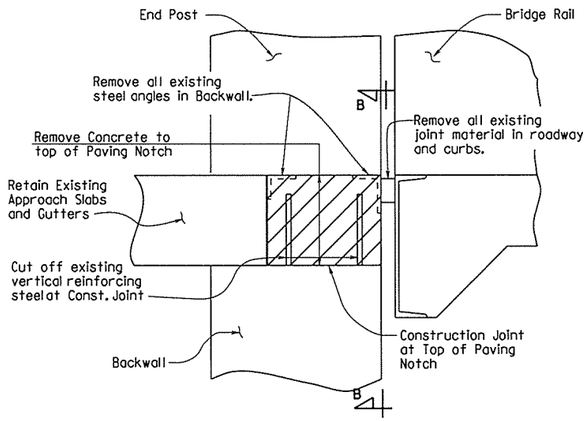


Use ½" X 1" Type 3 or 4 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer rod shall not be installed. Joint Sealer shall be measured and paid for as LMC Overlay. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be placed at all pouring sequence construction joints and are required at existing slab joint locations.

Slab joints and longitudinal construction joints shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the Overlay.

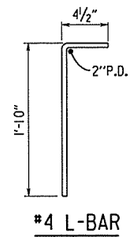
LONGITUDINAL OVERLAY CONSTRUCTION JOINT DETAIL
No Scale

TRANSVERSE OVERLAY JOINT DETAIL
No Scale



REMOVAL DETAILS AT END BENTS
No Scale

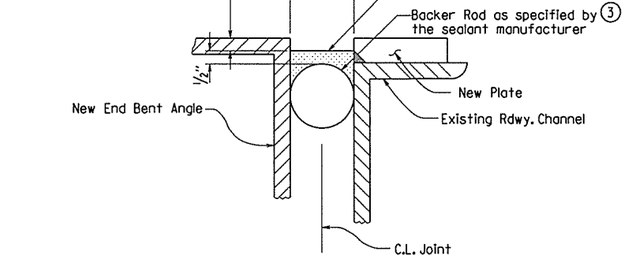
All removed portions of the existing backwall and joint materials shall become the property of the Contractor and shall be disposed of in accordance with Section 205.



#4 L-BAR

DETAILS OF BACKWALL MODIFICATION
No Scale

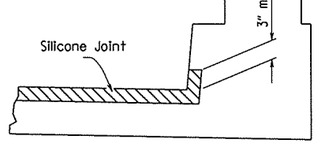
Grout new #4 L-bars into drilled holes spaced to avoid existing reinforcing steel (12" o.c. max.). Grout shall be an approved non-shrink or epoxy grout listed on the QPL. Hole diameter and installation procedure shall be as required by the grout manufacturer.



Existing Joint Seal shall be completely removed, backer rods placed, and Silicone Joint Sealant installed across the entire width of the bridge deck in accordance with these details and Manufacturer's instructions. Removal of existing Joint Seal will not be paid for directly, but shall be considered incidental to the item "Silicone Joint Sealant".

Notes: Backer rods shall be extended beyond the length of the poured joint in the initial joint rehabilitation area so that the two pieces can be properly spliced together prior to installing sealant for the adjacent joint rehabilitaton. Manufacturer's recommendations shall be followed to prevent sealant leakage during rehabilitation work.

POURED SILICONE JOINT SEAL DETAILS
No Scale

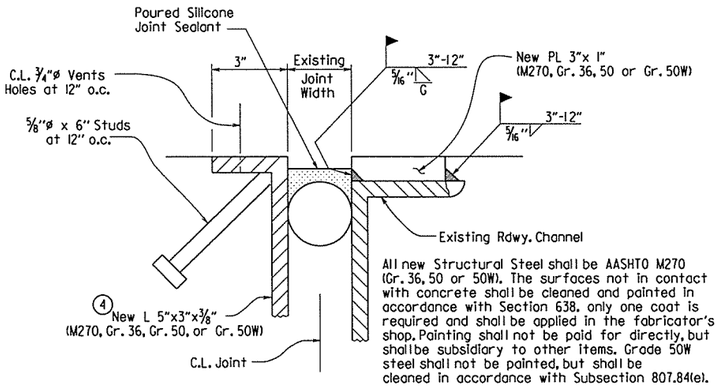


Note: Vertical joints may require forming. The clearance from deck surface to joint material shall be maintained.

JOINT SEAL PLACEMENT AT CURB
No Scale

(3) Backer rods shall be appropriately sized and set to the depth shown in the manufacturer's literature based on the joint width at the time of sealing. Except as noted, do not install more backer rod than can be sealed in the same day. The Contractor shall verify separation of the backer rod from the joint material after joint material has set.

Backer rod shall be notched or otherwise fit around any existing seal supports or bumper plates to maintain its proper depth as defined above.

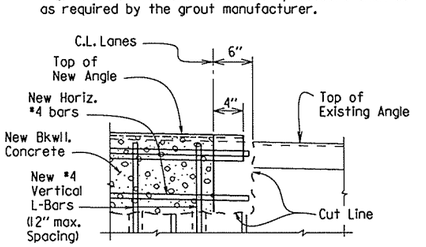


DETAIL A
No Scale

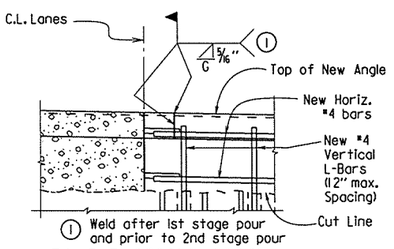
All new Structural Steel shall be AASHTO M270 (Gr. 36, 50 or 50W). The surfaces not in contact with concrete shall be cleaned and painted in accordance with Section 638. only one coat is required and shall be applied in the fabricator's shop. Painting shall not be paid for directly, but shall be subsidiary to other items. Grade 50W steel shall not be painted, but shall be cleaned in accordance with Subsection 807.84(e).

(4) 105.5 linear ft. of fabricated L 5"x3"x⅜" is available for use by the Contractor. This material is stored at the Area Maintenance Headquarters in Ozark. This material and it's transportation will not be paid for directly but shall be considered subsidiary to the item "Modification of Existing Bridge Structrue".
The number and length of the material is as follows:
4 - 20' Long
1 - 14' Long
1 - 11.5' Long

A maximum of two welded splices shall be used for the full length of the backwall.



VIEW B-B FIRST STAGE
No Scale



VIEW B-B SECOND STAGE
No Scale

Structural Steel (lb.)	Reinforcing Steel (lb.)	Concrete (cu. yd.)
20.5	2.67	0.04

APPROXIMATE QUANTITES FOR BACKWALL MODIFICATION (2)
Quantities shown are per foot of backwall and are for information only.

(2) The Contractor shall make measurements for the backwall at each end of the bridge affected prior to beginning work on the bridge. The top surface of the raised backwall shall match the top surface of the finished LMC Overlay on the adjacent bridge deck and the adjacent approach slabs and approach gutters.

Replacement concrete shall be Class S, or LMC. Reinforcing Steel shall conform to Section 804. Structural Steel and welding shall conform to Section 807. All Materials, Labor, Tools and Equipment shall not be paid for directly but shall be considered subsidiary to the item "Modification of Existing Bridge Structrue".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL FUSELIER
1/22/14

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF LATEX MODIFIED CONCRETE OVERLAY WITH GRADE RAISE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BEF DATE: 10-02-13 FILENAME: bbb1103lmcoverlayr.dgn
CHECKED BY: SWP DATE: 1/21/14 SCALE: NO SCALE
DESIGNED BY: — DATE: —

BRIDGE NO. A5110, A5113, A5114 DRAWING NO. 54868

PRINT DATE: 21-FEB-2014

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		41	82
①	A5110 - LAYOUT - 54869				

GENERAL NOTES

Bench Mark - "NIR" 2A' Elev. [illegible] Sta. 1353+85, El. 410.50

All exposed corners of concrete shall be chamfered ¾" unless otherwise noted.

All piling in end bents to be HP12B42 steel bearing piles driven to a bearing capacity of 40 tons per pile after the embankment is in place. Piling to be driven with an approved air, steam or diesel hammer. Order lengths shown; cut-off or build-up, if necessary, shall be used for in accordance with the standard specification.

Footings shall be set a minimum of 1'-0" into material designated as shale. Rock excavations shall be made to neat lines of concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured in the dry trench, against excavated surfaces of rock.

For Channel Change details, see Drwg. No. 14363.

In general, all construction joints in piers shall be provided with keys not less than 12" high covering the middle third of both dimensions.

For End Bent details see Drwg. No. 14364 & 14365
For Interior Bent details see Drwg. No. 14366
For Composite Beam details see Drwg. No. 14369
For Superstructure details see Drwg. No. 14367 through 14370.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 1959, the 1962 Supplemental Specifications thereto and applicable Special Provisions.

DESIGN SPECIFICATIONS: AASHO 1961

Design Live Load: HS 20-44 and special Interstate Loading of two 24,000 lb. axles 4'-0" on centers.

Unit Stresses:

Class "A" Concrete (n = 15)	840 psi
Class "S" Concrete (n = 10)	1,200 psi
Reinforcing Steel	20,000 psi
Structural Steel	20,000 psi
Foundation Pressure	10,000 psf (Ave.)

PLAN

ELEVATION
(Eastbound Structure)
Br. 5110 B

ELEVATION
(Westbound Structure)
Br. 5110 A

LEGEND
A - Firm Brown Sandy Clay.
B - Med. Firm Brown Sandy clay - wet.
C - Comp. clay gravel & small boulders.
D - Hard blue shale.
E - Firm clay gravel & sand.
F - Comp. clay & rock mixed.

FOR INFORMATION ONLY

LAYOUT OF DUAL BRIDGE
OVER MAXEY CREEK
HWY 215 - LONELM
FRANKLIN COUNTY

PREPARED BY
BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

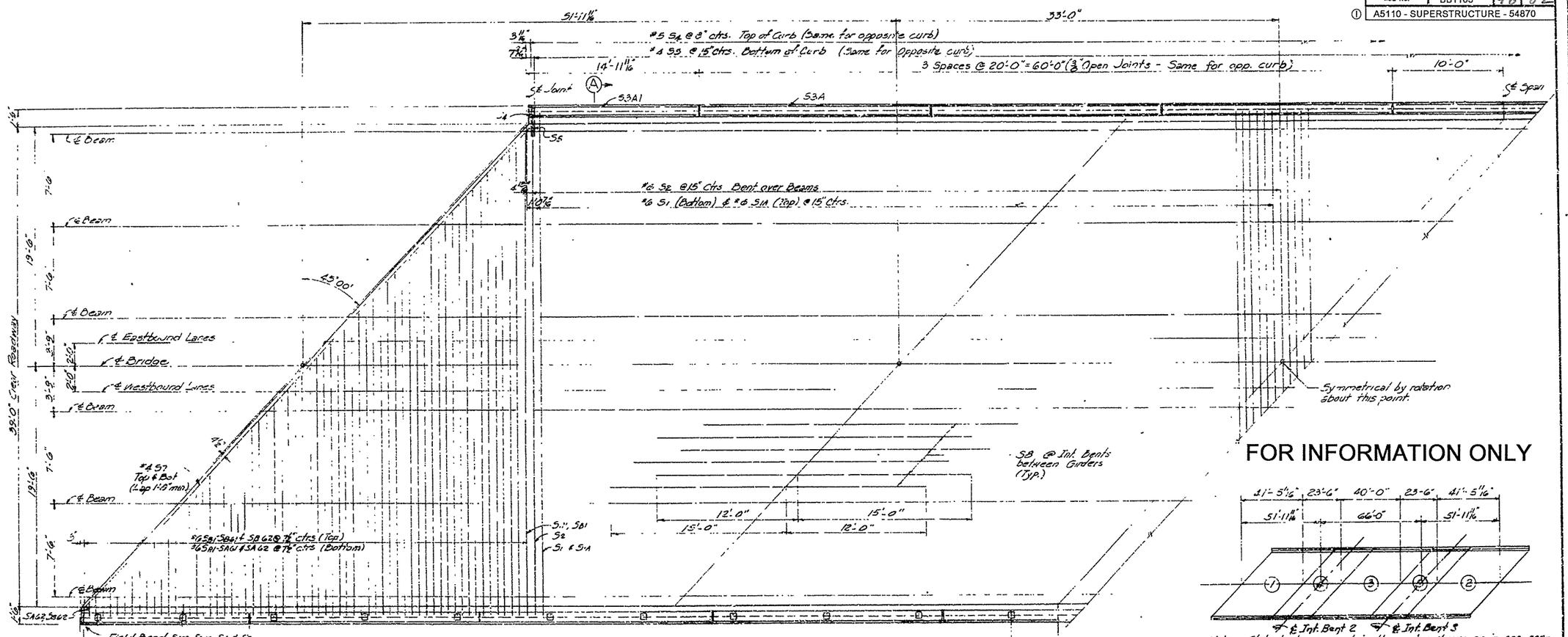
DRAWN BY: DK DATE: 3-66
TRACED BY: DATE:
CHECKED BY: EGM DATE: 3-66
SCALE: 1"=20'

L. P. Nelson
BRIDGE ENGINEER

BRIDGE NO. A5110 DRAWING NO. 54869

FED. ROAD DIV.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.	BB1103			48	82

① A5110 - SUPERSTRUCTURE - 54870



HALF PLAN

FOR INFORMATION ONLY

Note: Slab to be poured in the order shown or in one continuous pour from end to end in less than 10 hours. Construction joints shall be properly formed and carefully cleaned before adjacent section is poured. After the first section is poured and not less than 48 hours, the alternate second section is poured and not less than 72 hours nor more than 96 hours between adjacent pours. A minimum of 72 hours shall elapse between completion of the slab pour and the pouring of the curb section, if poured separately, and curb pours shall be in the same sequence as slab pours. Curb pours includes parapet curb and riser.

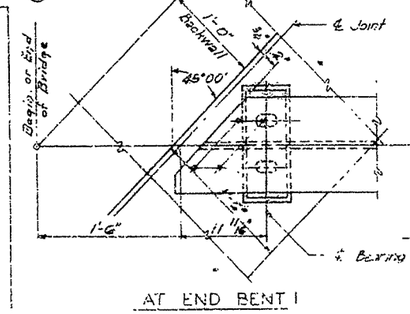
SLAB POURING DIAGRAM

Note: For additional details and Section A-A, see sheets 2, 3 and 4.

BAR LIST - ONE SUPERSTRUCTURE

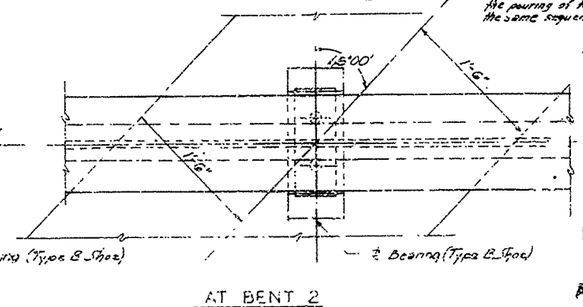
MARK	SIZE (#)	LENGTH	NUMBER	FIN DIA
S1	6	40'-3"	104	3Hr.
S8, to S8G1	6	Varies 33'-6" to 21'-0"	2 Each	4Hr.
S8A2	6	2'-0"	4	5Hr.
S8G2	6	2'-8"	4	3"
S1A	6	42'-0"	104	5"
S2	6	41'-11"	108	24"
S3	5	35'-6"	150	5Hr.
S4	5	3'-10"	510	14"
S5	4	"	272	14"
S6	3	24'-7"	510	5"
S7	4	28'-5"	8	5Hr.
S8	4	19'-9"	28	3Hr.
S8, to S8G1	4	VARIES 40'-5" to 2'-8"	2 Each	3"
S3A1	4	14'-6"	8	3Hr.
S8	4	17'-0"	22	3Hr.

Dimensions are to centers of bars.



AT END BENT 1

BENT 4 - Similar except use Type A Shoe



AT BENT 2

BENT 3 - Similar except use Type A Shoe

PART PLAN OF BEARINGS

Scale: 1½" = 1'-0"

DETAILS OF SUPERSTRUCTURE
HWY 215 - LONELM
OVER MAXEY CREEK
FRANKLIN COUNTY
SHEET 1

PREPARED BY
BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

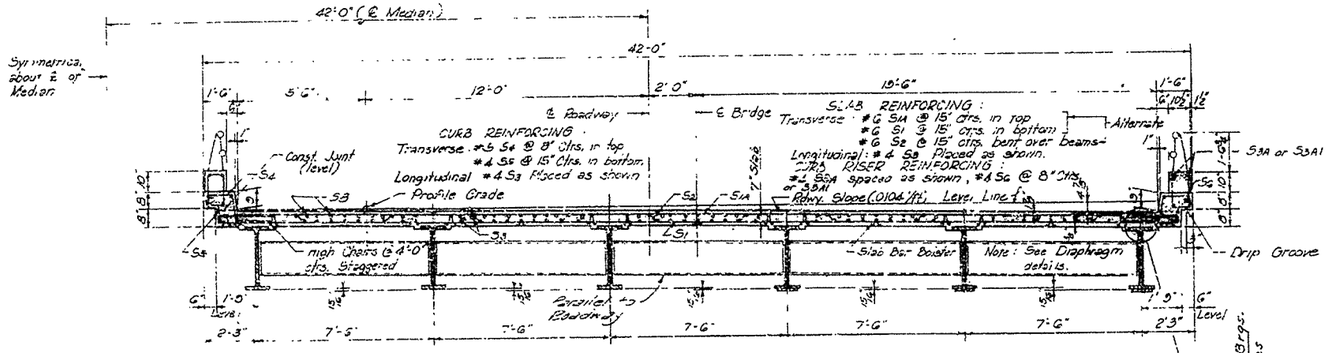
DRAWN BY: CEB DATE: 7-7-66
TRACED BY: DATE:
CHECKED BY: PLH DATE: 10-66
SCALE: 1/4" = 1'-0" & As Noted

BRIDGE NO. A5110 DRAWING NO. 54870

FOR INFORMATION ONLY

FED. ROAD DIV.	STATE	PUB. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	ARK.				
JOB NO.	BB1103	4982			

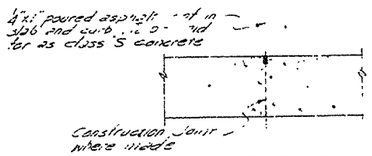
① A5110 - SUPERSTRUCTURE - 54871



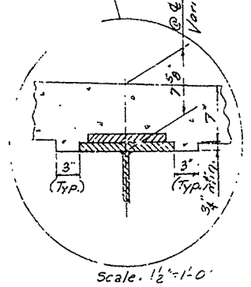
SECTION A-A

Scale 3/8"=1'-0"

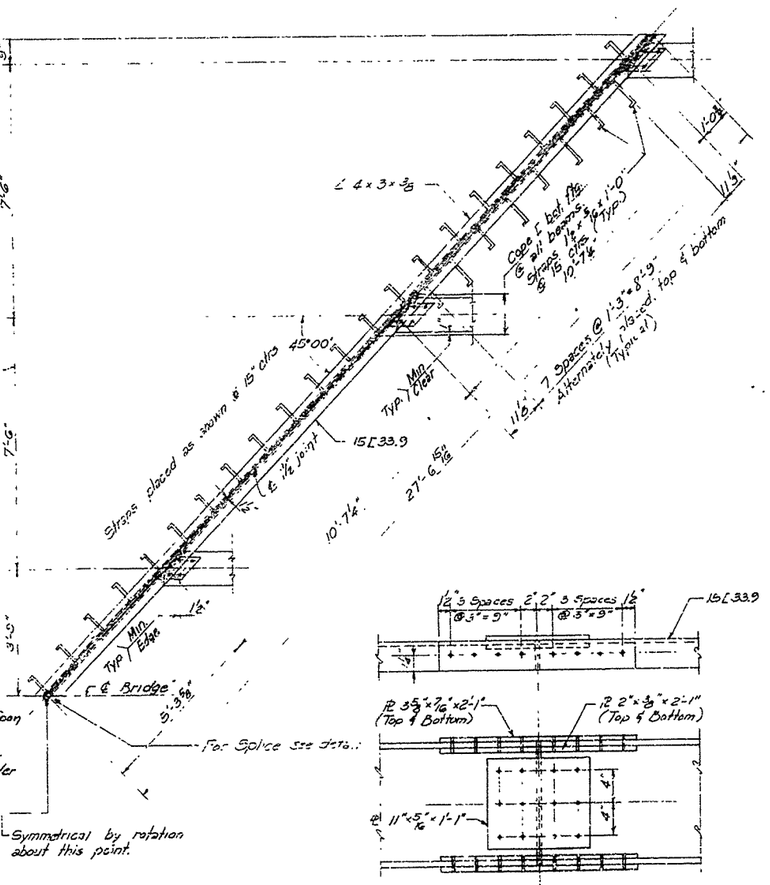
(Bridge 5110 B shown)
(Bridge 5110 A opp. hand)
(See Sheet 3)

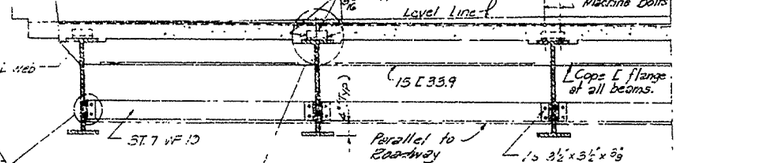


TRANSVERSE SLAB JOINT



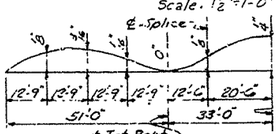
Scale: 1½"=1'-0"





HALF SECTION AT EXPANSION DEVICE

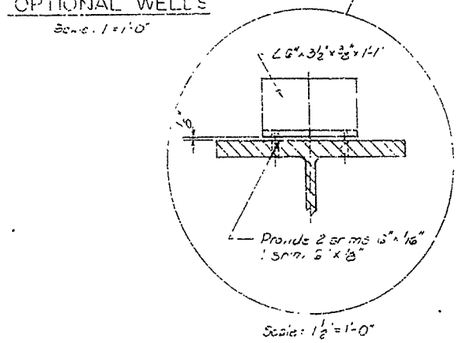
Roadway Channel - 15 C 33.9
Connecting PL - 6" x 3½" x 3/8" x 1'-1"



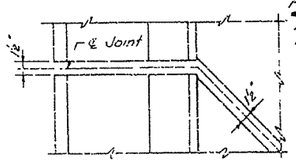
Beams are to be fabricated with the camber shown. All girders shall be cambered such that under total dead load the top of the girder webs will parallel the finished roadway grade, except allowable tolerance for camber is ¼" ±. All girders shall be shop assembled in their true position, field connection holes reamed, and all parts match marked. The shop assembly shall have a minimum assembled sequence of 2 sections.

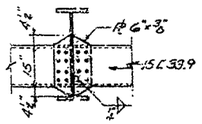
CAMBER DIAGRAM

EXPANSION DEVICE DETAILS



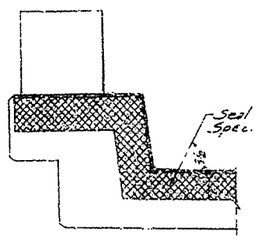
Scale: 1½"=1'-0"





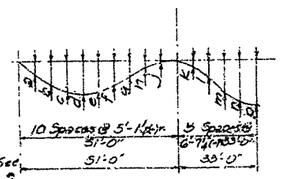
DIAPHRAGM DETAILS

Scale: 1"=1'-0"



DETAIL OF PREFORMED JOINT SEALER

Scale: 1½"=1'-0"



D.L. DEFLECTION DIAGRAM

(See Table)

TABLE OF DEFLECTIONS				
Point	Steel Deflection	Conc. Deflection Int. Beam	Conc. Deflection Ext. Beam	℄ Correction
a	—	1/16 in.	1/16 in.	
b	—	3/16 in.	1/8 in.	- 1/32 in.
c	1/16 in.	3/16 in.	3/16 in.	- 1/16
d	1/16 in.	1/4 in.	1/4 in.	- 1/16
e	1/16 in.	3/16 in.	3/16 in.	- 1/16
f	—	3/16 in.	3/16 in.	- 1/16
g	—	1/4 in.	1/8 in.	- 3/32
h	—	1/16 in.	1/16 in.	
j	—	—	—	
k	—	1/16 in.	1/16 in.	- 1/32
l	—	3/16 in.	1/8 in.	- 1/16
m	1/16 in.	3/16 in.	1/4 in.	- 3/32
n	1/16 in.	3/8 in.	3/16 in.	- 1/8
p	1/16 in.	3/8 in.	3/8 in.	- 1/8

L. J. Carlson
BRIDGE ENGINEER

DETAILS OF SPLICE EXPANSION DEVICE

Scale: 1½"=1'-0"

DETAILS OF SUPERSTRUCTURE HWY. 215 - LONELM OVER MAXEY CREEK FRANKLIN COUNTY

SHEET 2

PREPARED BY

SRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

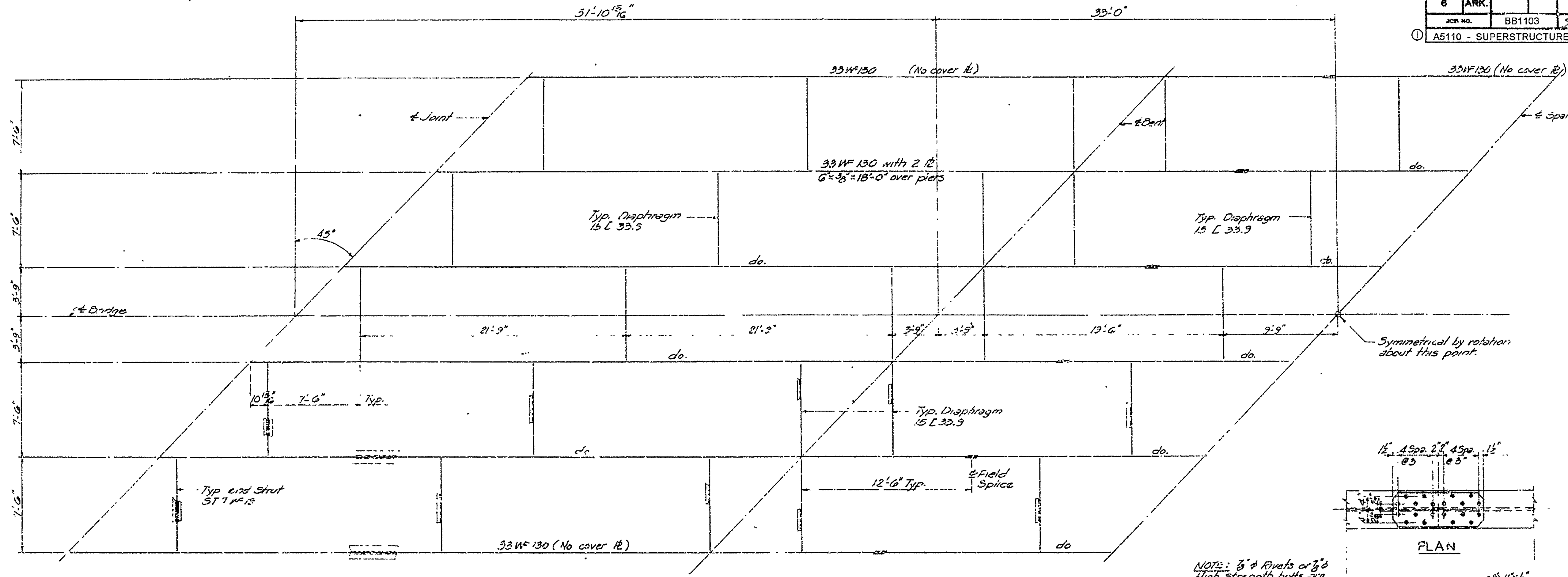
LITTLE ROCK, ARK.

DRAWN BY: S.M.J. DATE: 7-5-66
TRACED BY: DATE:
CHECKED BY: F.C.H. DATE: 7-8-66
SCALE: 1"=1'-0" & as noted

BRIDGE NO. A5110 DRAWING NO. 54871

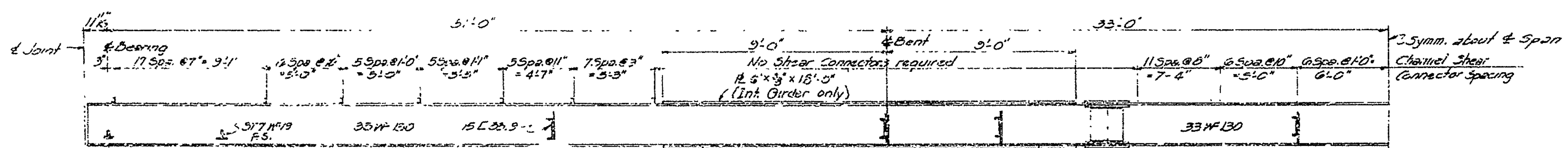
FED. ROAD DIV. NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
	JOB NO.	BB1103		50	82

① A5110 - SUPERSTRUCTURE - 54872



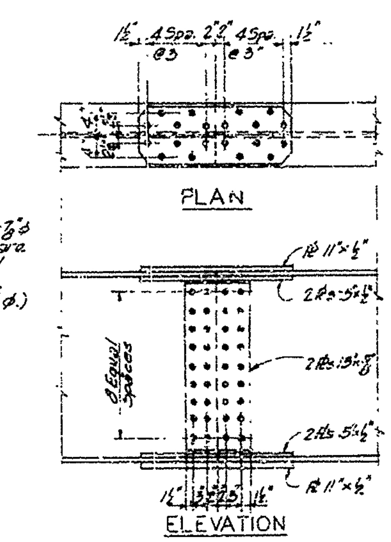
FRAMING PLAN 51' SPAN

HALF FRAMING PLAN 66' SPAN



NOTE: All dimensions are horizontal. Edge of beam and joint are to be vertical.

HALF BEAM ELEVATION



NOTE: 7/8" ϕ Rivets or 7/8" ϕ High strength bolts are to be used in field splice connections. (Open holes are 15/16" ϕ.)

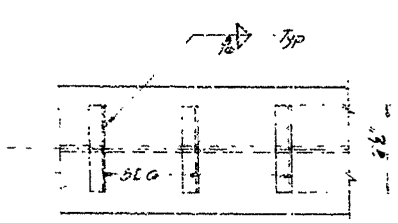
FIELD SPLICE DETAILS

Scale 3/4" = 1'-0"

DESIGN SPECIFICATIONS: AASHO 1961

LIVE LOADING: HS 20 (AASHO 1961) and Special Interstate Loading of 2-24,000 Lb. axles spaced 4'-0" on centers.

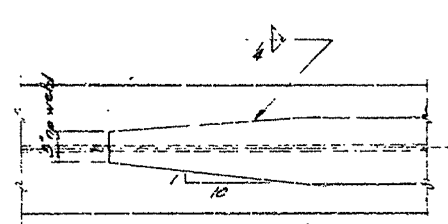
	Int. Beam	Ext. Beam
1. Dead Load (Type "A" Rail)		
a. To WF	806 #/ft.	832 #/ft.
b. To composite	190 #/ft.	190 #/ft.
2. Live Load to each composite Beam	1.3636 wh./lap.	1.2766 wh./lap.



DETAILS OF SHEAR CONNECTORS

Scale: 1 1/2" = 1'-0"

NOTE: Stud shear connectors, granular flux filled, solid fluxed or equal may be used in place of the channels shown at the following ratios: 3/4" diameter stud in place of 1.62 inches of channel. 7/8" diameter stud in place of 2.52 inches of channel. The studs shall be 4" long and automatically end welded to the beam flanges in accordance with the recommendations of the manufacturer. Channel sections will be used as basis for measurement of structural steel in shear connectors.



DETAILS OF COVER PLATES

Scale: 1 1/2" = 1'-0"

All beams shall be shop assembled in their true position, field connection holes reamed, all parts match marked. The shop assembly shall have an assembly sequence of two sections.

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE
HWY. 215 - LONELM
OVER MAXEY CREEK
FRANKLIN COUNTY

SHEET 3

PREPARED BY
BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CEB DATE: 7-6-66
TRACED BY: DATE:
CHECKED BY: PCW DATE: 10-66
SCALE: 1/4" = 1'-0" & As Noted

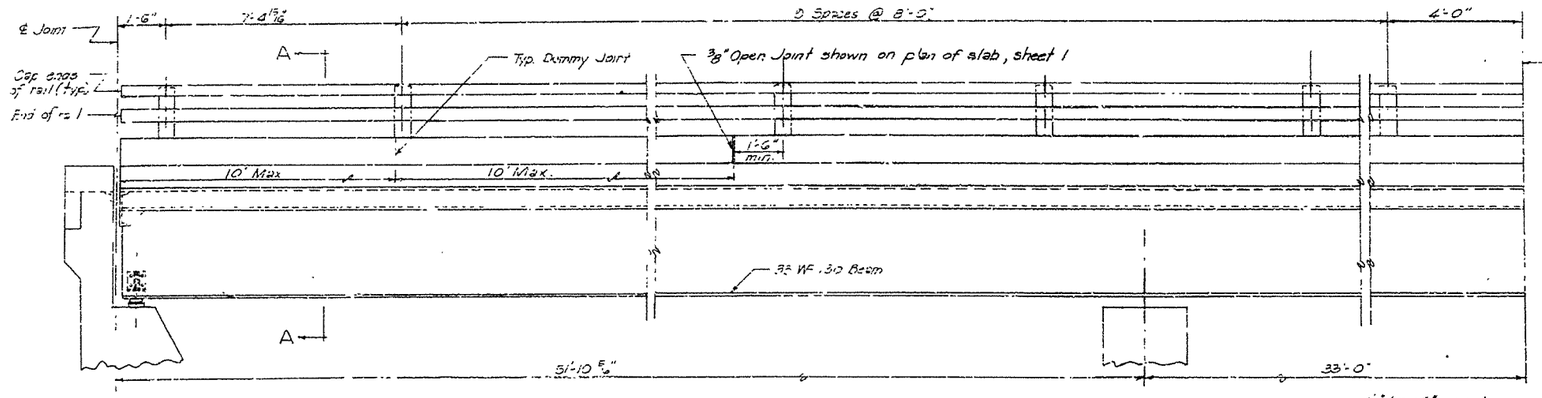
BRIDGE ENGINEER

BRIDGE NO. A5110 DRAWING NO. 54872

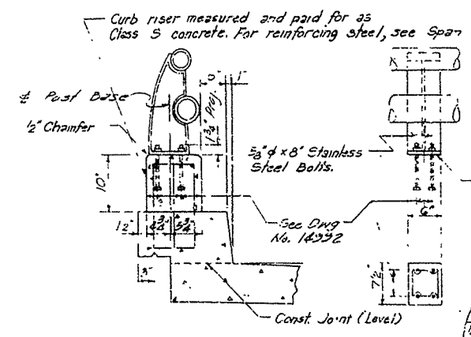
FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.	BB1103			51	82

(1) A5110 - SUPERSTRUCTURE - 54873

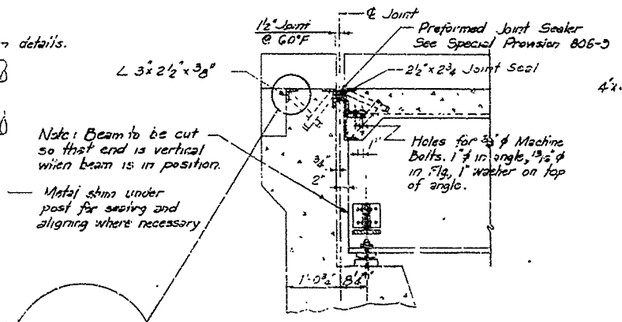
FOR INFORMATION ONLY



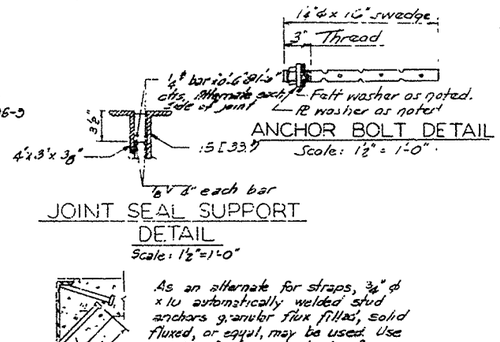
ELEVATION TYPE 'A' RAILING
Scale: 1/2"=1'-0"



DETAILS OF TYPE 'A' RAILING
Scale: 1"=1'-0"



JOINT AT END BENT
Scale: 3/4"=1'-0"



ANCHOR BOLT DETAIL
Scale: 1½" = 1'-0"

JOINT SEAL SUPPORT DETAIL
Scale: 1½"=1'-0"

As an alternate for straps, 3/4" ϕ x 10 automatically welded stud anchors g'anular flux filled, solid fluxed, or equal, may be used. Use weight of straps as basis of measurement of structural steel in anchors.

ALTERNATE ANCHOR DETAIL
Scale: 1"=1'-0"

GENERAL NOTES

All concrete to be Class S A, exposed corners to be chamfered 3/4" unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts.

Rivets: 3/4" ϕ, Open holes 13/16" ϕ except ... otherwise noted.

Structural shapes of equal or greater ... th may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.

... welded connections to be 5/16" fillet shop welds except as noted. All welding shall conform to the American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.

Shop Paint All structural steel, except surfaces in contact with concrete, shall be given one coat of red lead and raw linseed oil before shipment.

Field Paint: First coat-red lead tinted with lamp black. Second coat-aluminum paint.

No shop paint shall be applied to ten flanges or edges of the flange of beams and shear connectors or at points of welded or bolted splices including splice plates.

Finish surfaces to receive ... shop coat of white lead and linseed oil.

All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans." Bearings shall be finally seated in accordance with Sec. 806.54, including alternate, of the Std. Specs. This work and material are to be considered to be subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

All steel shall be ASTM A-36 unless otherwise noted.

Anchor bolts shall be galvanized to conform to ASTM Specification, Designation A153.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item of "Reinforcing Steel."

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.

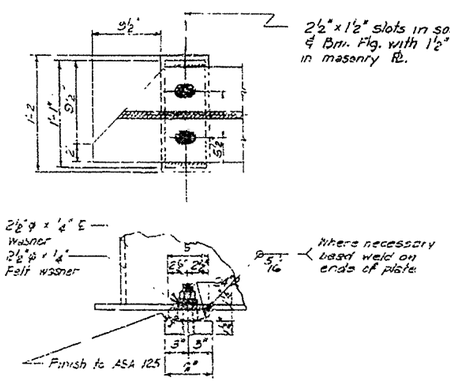
All chamfers on concrete riser for rail are to be 1/2".

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

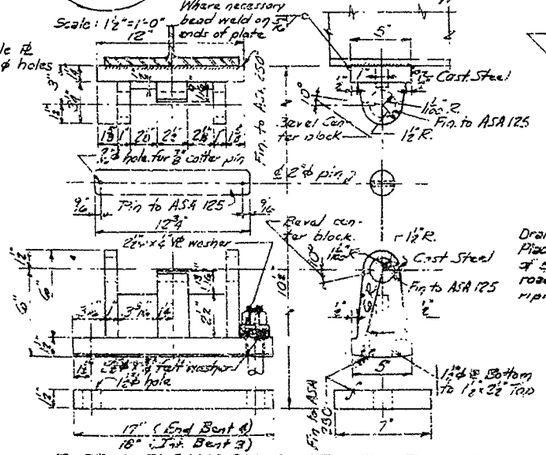
For details of Bridge Railing, see Dwg. No. 14992 as shown on Bridge layout.

This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approval secured before fabrication is begun.

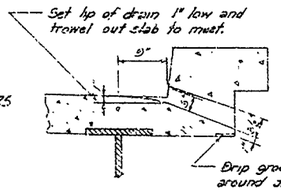
SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959, the 1966 Supplement Specifications thereto and applicable Special Provisions



TYPE 'B' EXPANSION SHOE AT END BENT 1
Scale: 1½"=1'-0"

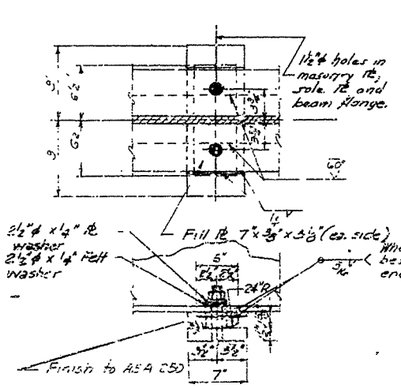


TYPE A EXPANSION SHOE AT INT. BENT 3 AND END BENT 4

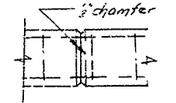


Drain opening 3"x 7" tapered to 8½" x 7½". Place at approx. 20' centers on low side of crowned roadway & each side of crowned roadway. Do not place drains over dumped riprap.

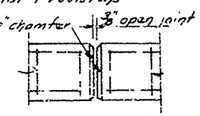
SECTION THRU DRAIN
Scale: 1"=1'-0"



TYPE 'B' FIXED SHOE AT INT. BENT 2
Scale: 1½"=1'-0"



PLAN OF DUMMY JOINT
Scale: 1½"=1'-0"



PLAN OF OPEN JOINT
Scale: 1½"=1'-0"

DETAILS OF SUPERSTRUCTURE
HWY. 215 - LONELM
OVER MAXEY CREEK
FRANKLIN COUNTY

SHEET 4

PREPARED BY
BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JAH DATE: 7-7-66
TRACED BY: DATE:
CHECKED BY: PCW DATE: 10-66
SCALE: As Noted

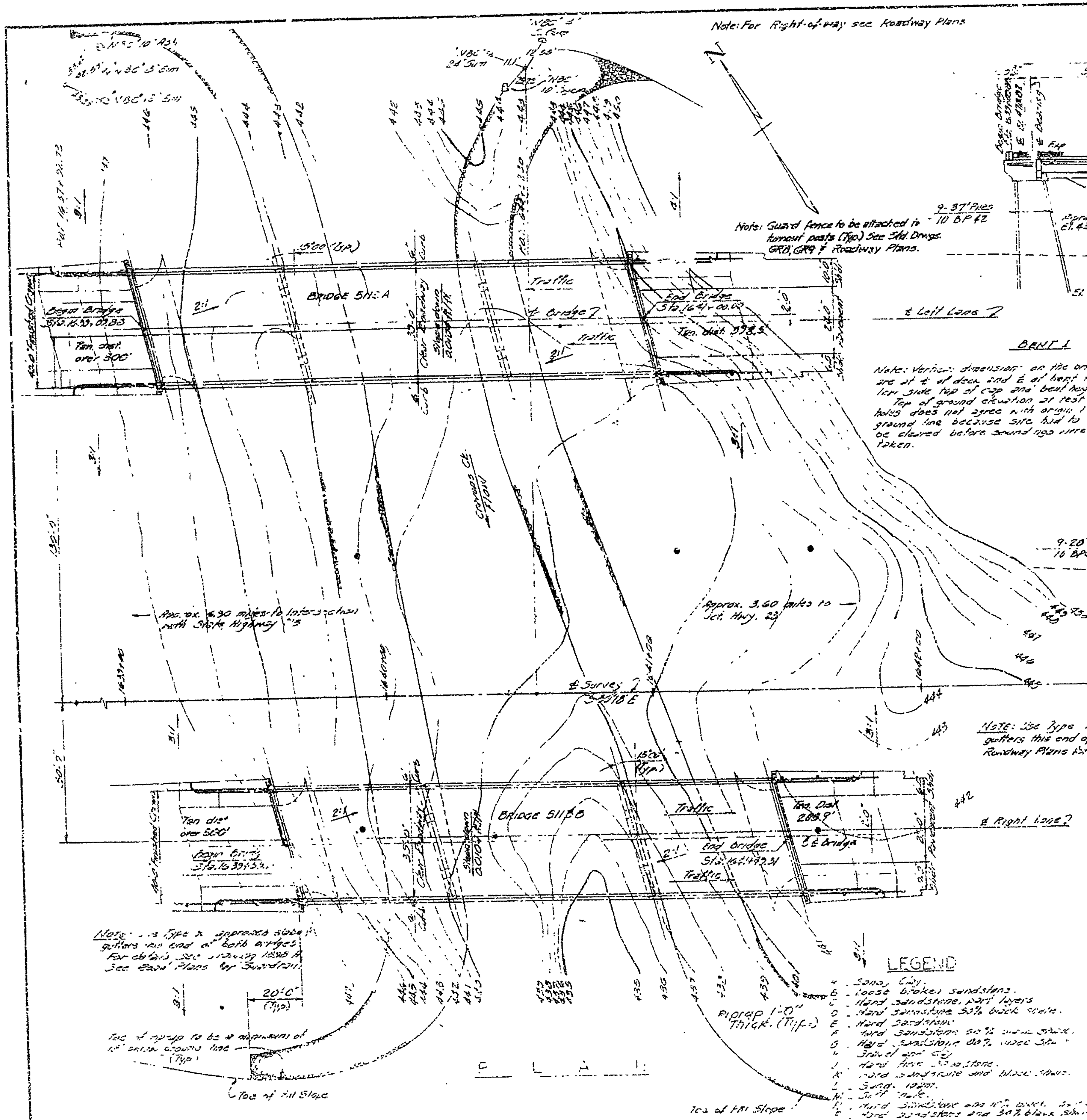
BRIDGE ENGINEER

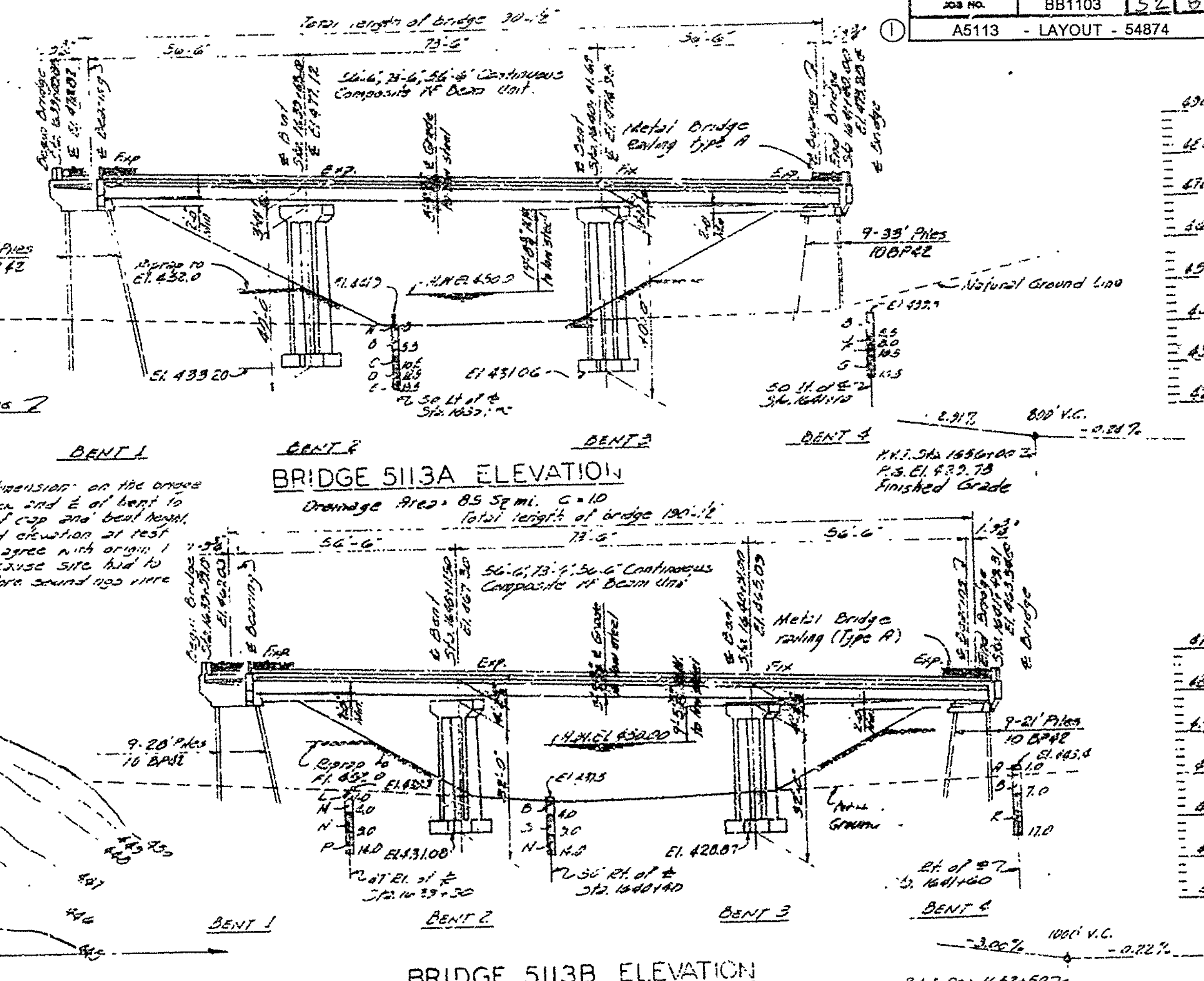
BRIDGE NO. A5110 **DRAWING NO.** 54873

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.			52	82

JOB NO. BB1103

A5113 - LAYOUT - 54874





Note: Vertical dimensions on the bridge are at ℄ of deck and ℄ of bent to low side top of cap and beat height. Top of ground elevation at test holes does not agree with original ground line because site had to be cleared before soundings were taken.

GENERAL NOTES

T.B.M. #1 (M-1) 'NIP' 3' Post Oak 2' Rt. Sta. 1637+40. El. 423.81. (℄ Survey).

All concrete to be Class S except Int. Bent footings, webs & columns, which shall be Class A.

All exposed corners of concrete shall be chamfered ¾" unless otherwise noted.

All piling in end bents to be 10 BP42 steel bearing piles driven to bearing capacity of 40 tons per pile and to the material designated as rock on the boring logs after the embankment is in place. Piling to be driven with an approved air, steam, or diesel hammer. Order lengths shown; cutoff or build up, if necessary, shall be paid for in accordance with Standard Specifications.

Footings shall be set a minimum of 1.0' in to rock. Rock excavations shall be made to neat lines of concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured in the dry directly against excavated surfaces of rock.

In general, all construction joints in piers shall be provided with keys not less than 1½" high covering the middle third of both dimensions.

For End Bent details see Dwg. No. 14391 & 14392.
For Interior Bent details see Dwg. No. 14393.
For composite beam details see Dwg. No. 14376.
For superstructure details see Dwg. No. 14394, 14395, 14396 & 14397.
For Bridge Railing details see Drwg. No. 14992.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, edition of 1959, the 1966 Supplemental Specifications thereto, and applicable Special Provisions.

DESIGN SPECIFICATIONS: AASHO 1961
Design Live Load: HS 20-44 and Special Interstate ...
Unit Stresses: ...
Class A Concrete (n=8) ... 540 psi

LEGEND

FOR INFORMATION ONLY

LAYOUT OF DUAL BRIDGE
OVER CRAVENS CREEK
LONELM - JCT. HWY. 23
FRANKLIN COUNTY

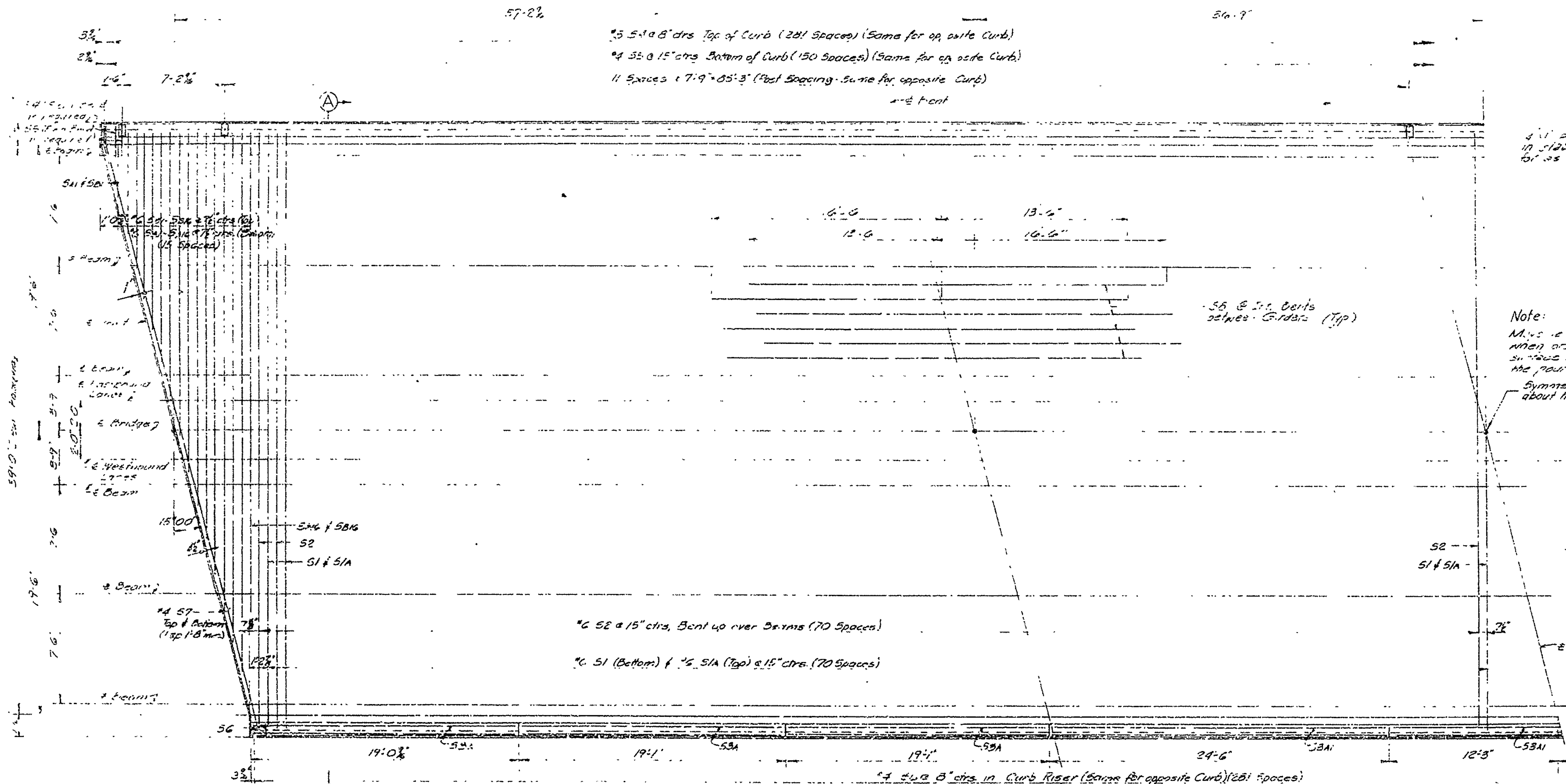
PREPARED BY
BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

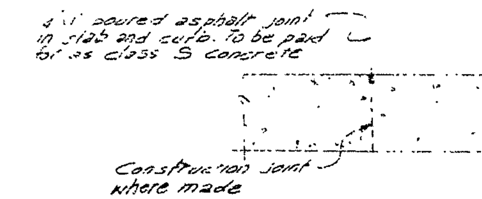
DRAWN BY [illegible] DATE [illegible]-66 SCALE 1"=50'
TRACED BY ____ DATE ____
CHECKED BY [illegible] DATE 1-66

BRIDGE ENGINEER

BRIDGE NO. A5113 DRAWING NO. 54874



HALF PLAN



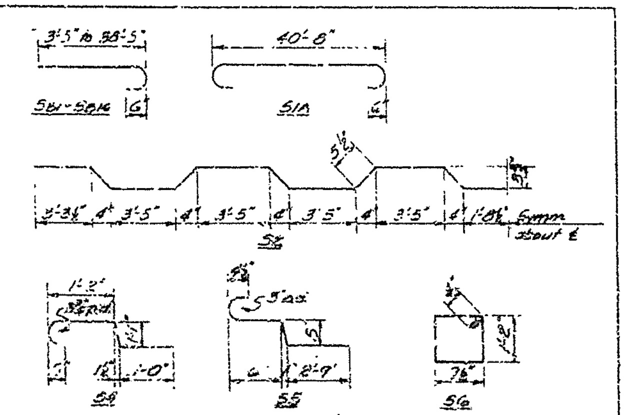
TRANSVERSE SLAB JOINT

Note: Movement in the finishing ... when ... by means of ... based on ... surface shall be prohibited for ... after finishing the pour.

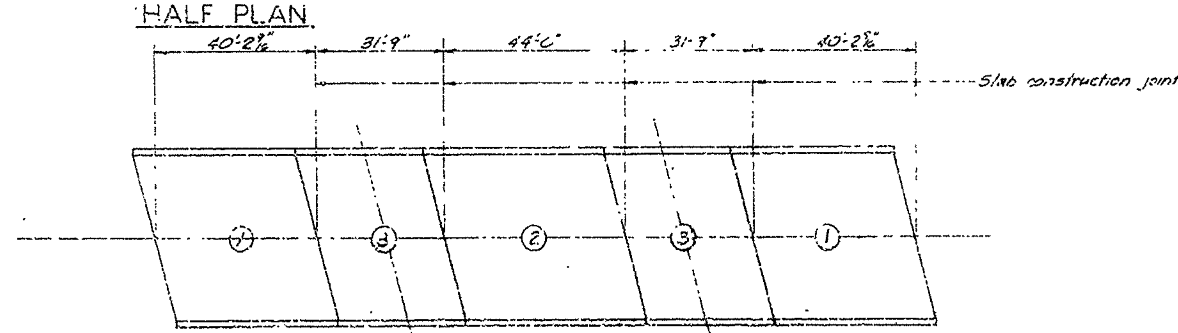
Note: For additional details & Section A-A, see Dwg. 14835.

BAR LIST - ONE BRIDGE

MARK	SIZE (#)	LENGTH	NUMBER	PIN DIA.
S1	6	40'-8"	141	Str.
S1I to S1I6	6	Varies 3'-5" to 38'-5"	2 Each	Str.
S1A	6	42'-1"	141	3"
S2	6	41'-10"	142	2¼"
S3	5	39'-5"	455	Str.
S3A	4	18'-7"	24	Str.
S3A1	4	24'-3"	12	Str.
S4	5	3'-10"	564	1⅞"
S5	4	4'-½"	302	1½"
S6	4	4'-2"	564	1½"
S7	4	27'-[illegible]	[illegible]	Str.
SBI to SBI6	6	Varies 4'-1" to 58'-1"	2 Each	9"
S3	4	30'-[illegible]	60	Str.



Dimensions are to centers of bars



SLAB POURING SEQUENCE

Slab is to be poured in the order shown or in one continuous pour from end to end in less than 10 hours. Construction joints shall be properly formed and carefully cleaned before adjacent section is poured. After the first section is poured not less than 48 hours shall elapse before the second section is poured and not less than 72 hours shall elapse between adjacent pours. A minimum of 72 hours shall elapse between completion of the slab pour and the pouring of the curb section if poured separately, and curb pours shall be in the same sequence as slab pours. Curb pours include outside curb and piers.

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE
LONELM-JCT. HWY. 23
OVER CRAVENS CREEK
FRANKLIN COUNTY

Sheet 1

PREPARED BY
BRIGHTON ENGINEERING COMPANY

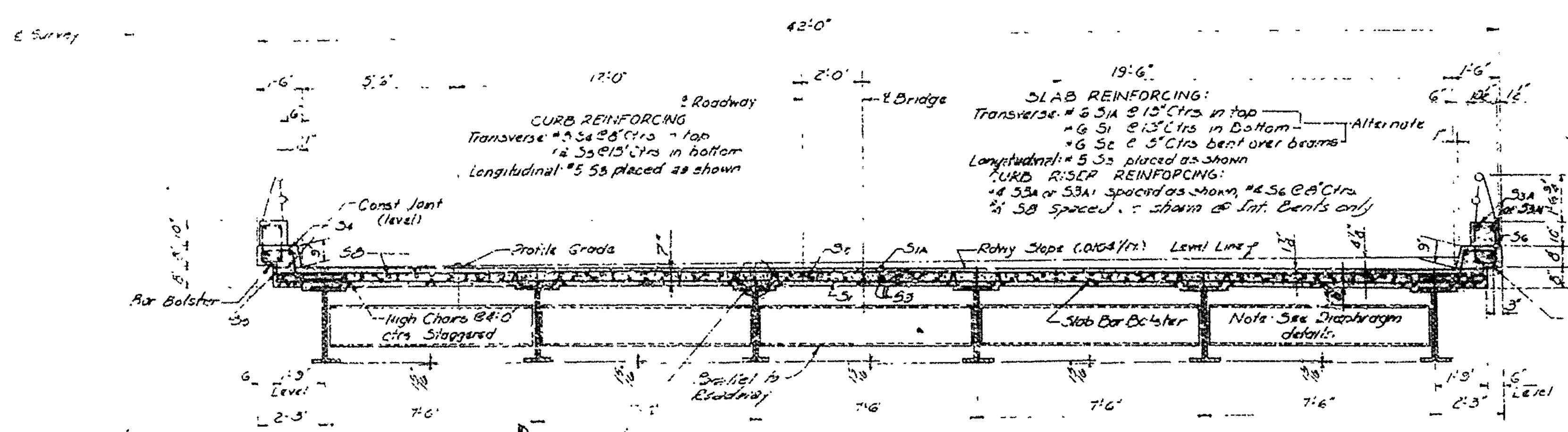
INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

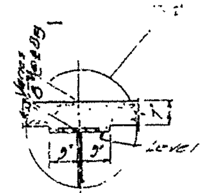
DRAWN BY: JMM DATE: 10-66
TRACED BY: DATE:
CHECKED BY: S. McK DATE: 11-66
SCALE: [illegible]

BRIDGE NO. A5113 DRAWING NO. 54875

F.A.D. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
	JOB NO.	BB1103		54	82

(I) A5113 - SUPERSTRUCTURE - 54876



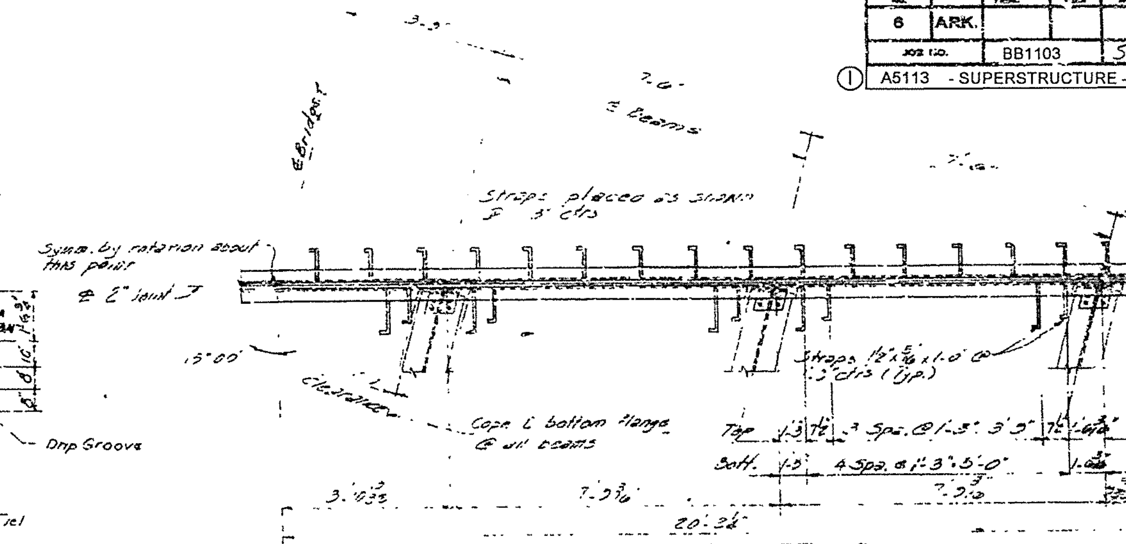


SECTION A-A

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

Br. 5113 A looking back at Stations

Br. 5113 B looking forward at Stations



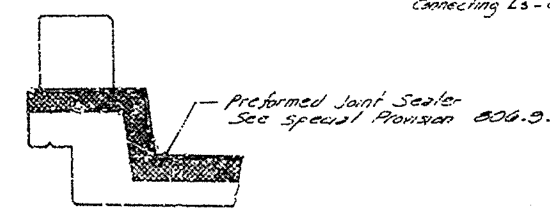
EXPANSION DEVICE DETAILS

Scale: 3/4" = 1'-0"

Expansion Device

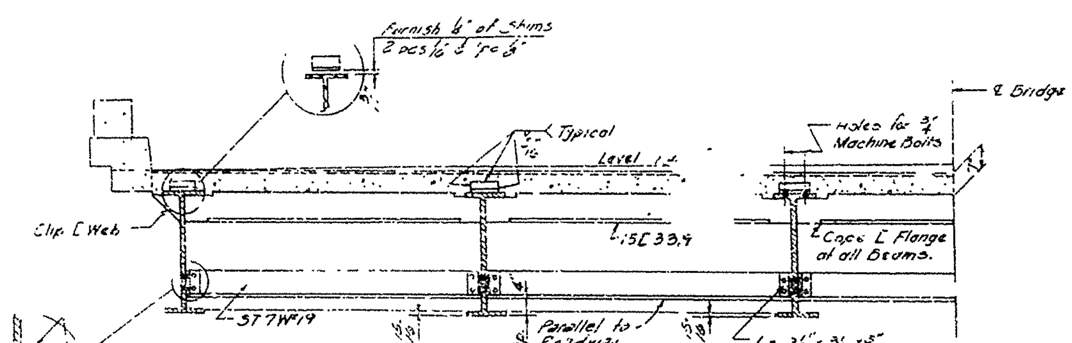
Roadway Channel: 15[33.9

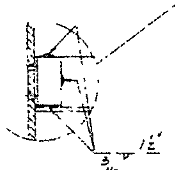
Connecting Ls - 6 x 3½ x 3/8



DETAIL OF PREFORMED JOINT SEALER

Scale: 1" = 1'-0"





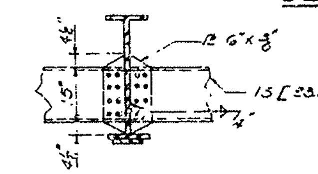
HALF SECTION A1

EXPANSION DEVICE

Scale: 1/2" = 1'-0"

OPTIONAL WELDS

Scale 1" = 1'-0"



DIAPHRAGM DETAILS

Scale: 3/4" = 1'-0"

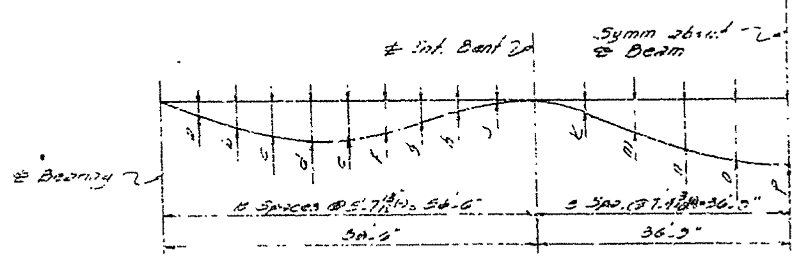
DESIGN SPECIFICATIONS: AASHO 1961

LIVE LOAD:

HS20 (AASHO 1961) and special interstate loading of 2-24,000 lb. axles spaced at 4'-0" on centers.

	Interior Beam	Exterior Beam
1. Dead Load per ft. (Type A Rail)		
a. To W	812 lb.	637 lb.
b. To Composite	190 lb.	190 lb.
2. Live Load to each composite beam	1.3636 wheel + Imp.	1.2766 wheel + Imp.

FOR INFORMATION ONLY

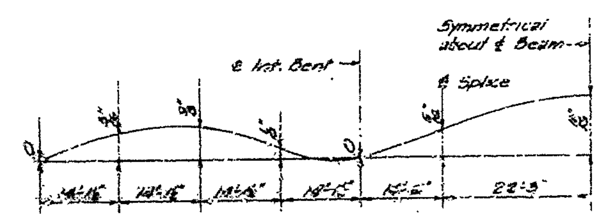


D.L. DEFLECTION DIAGRAM

(See Table)

TABLE OF DEFLECTIONS

Point	Steel Deflection	Conc. Deflection Ext. Beam	Conc. Deflection Int. Beam
a	0.003 ft.	0.009 ft.	0.010 ft.
b	0.003	0.017	0.019
c	0.005	0.023	0.025
d	0.005	0.025	0.027
e	0.005	0.024	0.026
f	0.004	0.020	0.022
g	0.003	0.014	0.015
h	0.001	0.007	[illegible]
j	-	0.002	0.005
k	0.002	0.008	0.009
m	0.004	0.021	[illegible]
n	0.007	0.034	[illegible]
o	0.009	0.043	[illegible]
p	0.009	0.046	[illegible]



CAMBER DIAGRAM

All girders shall be fabricated with camber shown. [illegible]

DETAILS OF SUPERSTRUCTURE

LONELM - JCT. HWY. 23

OVER CRAVENS CREEK

FRANKLIN COUNTY

Sheet 2

PREPARED BY

BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. I

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

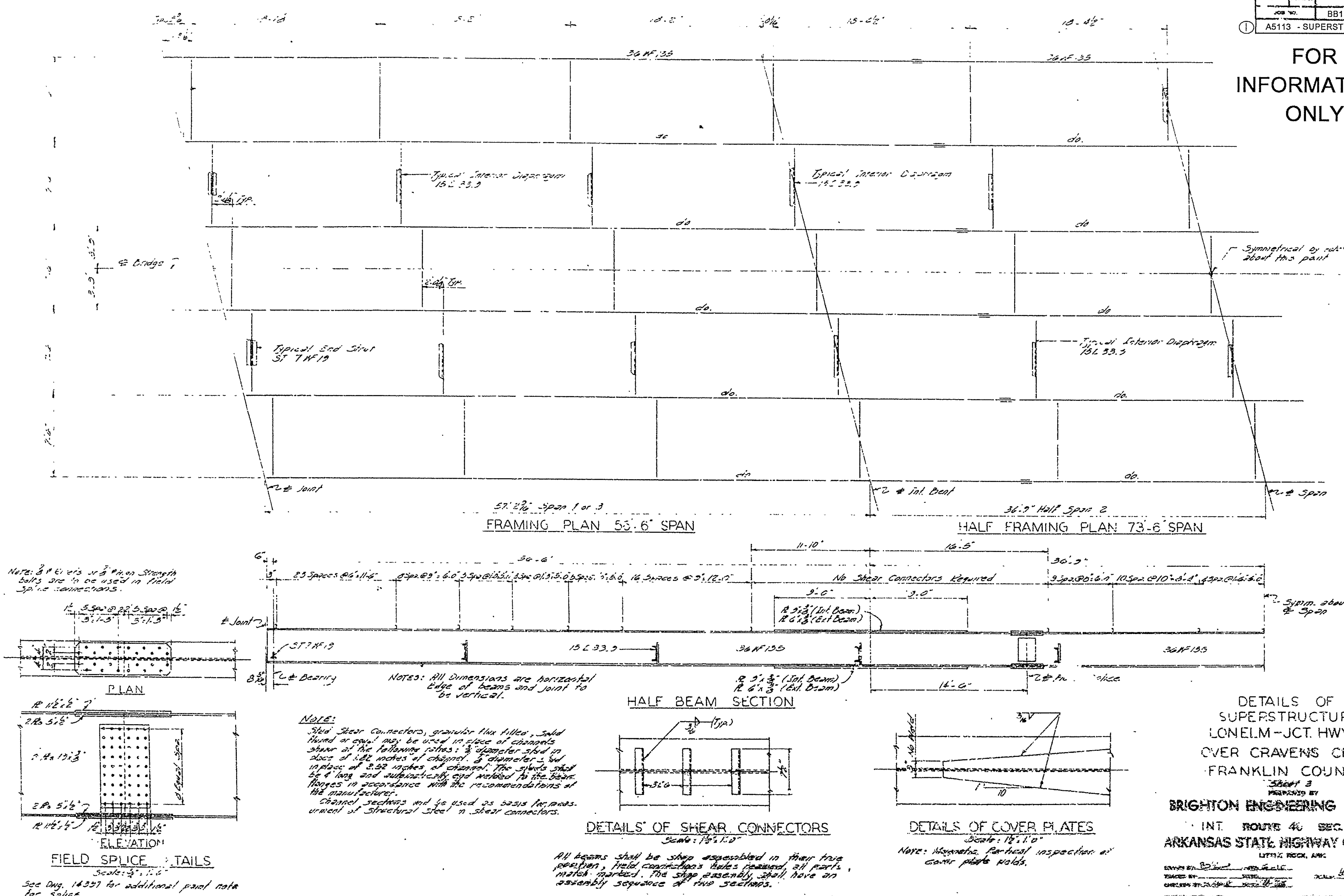
SCALE: As Shown

BRIDGE NO. A5113 DRAWING NO. 54876

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.			55	82
	JOB NO.	BB1103			

A5113 - SUPERSTRUCTURE - 54877

FOR INFORMATION ONLY



Note: ¾" rivets or ¾" high strength bolts are to be used in field splice connections.

NOTES: All Dimensions are horizontal. Edge of beams and joint to be vertical.

See Dwg. 14337 for additional paint note for Splice.

NOTE:
Stud Shear Connectors, granular flux filled, solid fluxed or equal may be used in place of channels shear at the following rates: ¾" diameter stud in place of 1.82 inches of channel. ⅞" diameter stud in place of 2.52 inches of channel. The studs shall be 4" long and automatically end welded to the beam flanges in accordance with the recommendations of the manufacturer.
Channel sections will be used as basis for measurement of Structural Steel in shear connectors.

All beams shall be shop assembled in their true position, field connections holes reamed, all parts match marked. The shop assembly shall have an assembly sequence of two sections.

Note: Magnetic Particle inspection of cover plate welds.

DETAILS OF SUPERSTRUCTURE
LONELM - JCT. HWY 23
OVER CRAVENS CREEK
FRANKLIN COUNTY
Sheet 3

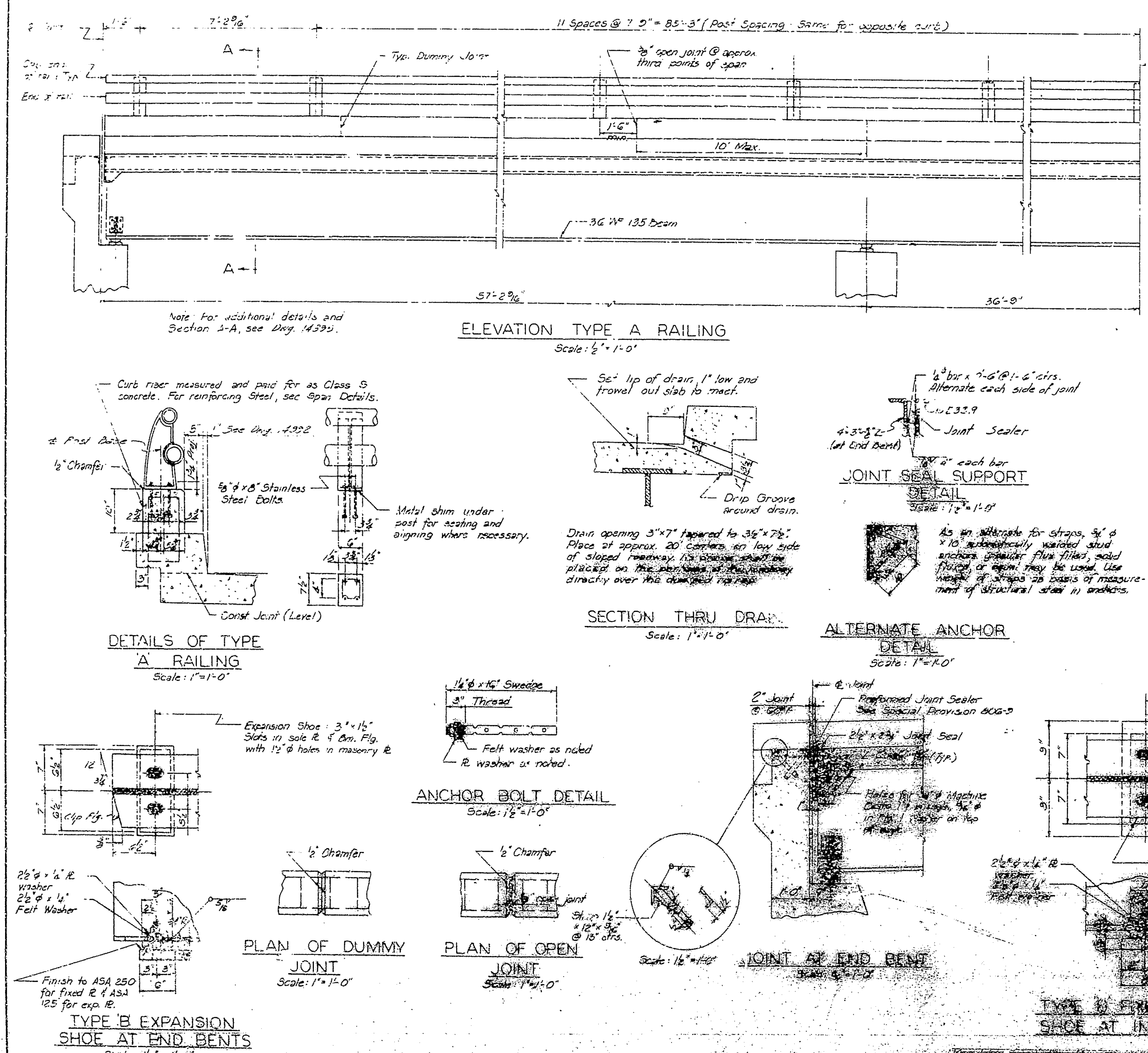
PREPARED BY
BRIGHTON ENGINEERING COMPANY

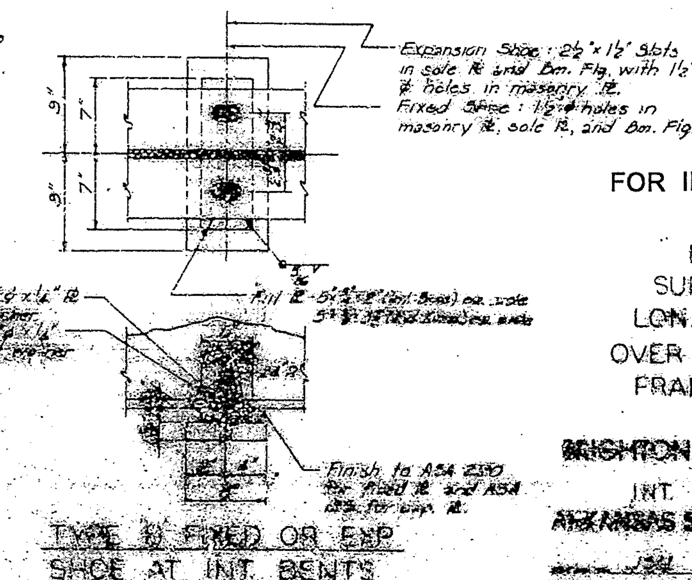
INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

BRIDGE NO. A5113 DRAWING NO. 54877

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		56	82

A5113 - SUPERSTRUCTURE - 54878





GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered 3/4" unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts.

Rivets: 3/4" ɸ Open holes 13/16" ɸ except at beam splices. At beam splices use 7/8" ɸ rivets; open holes 15/16" ɸ.

Structural Shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of the shapes shown or those actually used, whichever is less.

* All welded connections to be 5/16" fillet shop welds, except as noted. All welding shall conform to the American Welding Society "Standard Specifications for Welded Highway and Railway Bridges", current edition.

Shop Paint: All structural steel, except surfaces in contact with concrete, shall be given one coat of red lead and raw linseed oil before shipment.

Field Paint: First coat-red lead tinted with lamp black. Second coat-aluminum paint.

~~No shop paint shall be applied to top flanges or edges of top flange of beams and shear connectors or at points of welded or bolted splices including splice plate.~~

~~Finish surfaces to receive one shop coat of white lead and tallow.~~

~~All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans". Bearings shall be finished in accordance with Sec. 806.54, including alternate, of the Std. Specs. ... are to be considered to be subsidiary to items "Structural Steel in Beam Spans" and will not be paid for directly.~~

All steel shall be ASTM A-36, unless otherwise noted.

Anchor bolts shall be galvanized to conform to ASTM Specification, Designation A153.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item of "Reinforcing Steel."

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.

All chamfers in concrete riser for rail are to be 1/2".

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

For details of Bridge Railing, see Dwg. No. 14592 as shown on Bridge Layout.

~~This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approved before fabrication is begun.~~

* Current Supplemental Specifications shall apply.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959, the 1966 Supplemental Specifications thereto and applicable Special Provisions.

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE
LONELM - JCT. HWY. 23
OVER GRAVENS CREEK
FRANKLIN COUNTY

BRIGHTON ENGINEERING COMPANY

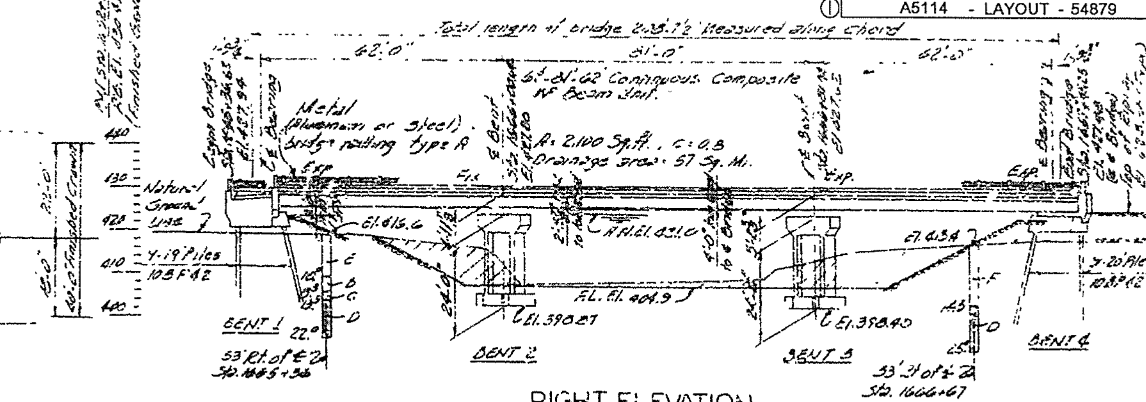
INT. ROUTE 48 SEC. 1

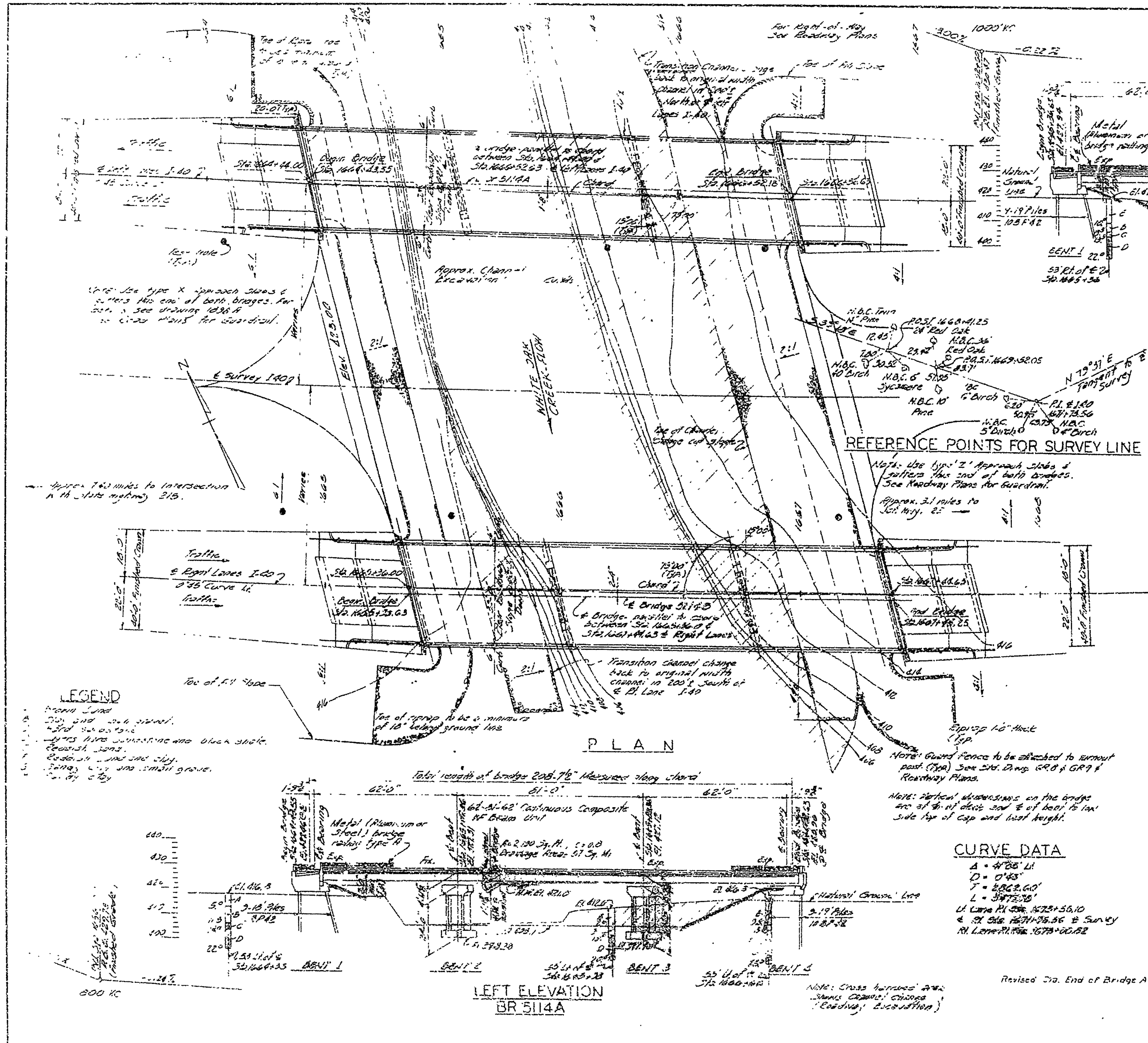
ARKANSAS STATE HIGHWAY COMMISSION

BRIDGE NO. A5113 DRAWING NO. 54878

FED. RD. DIST. NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		57	82

(1) A5114 - LAYOUT - 54879





Revised Sta. End of Bridge A WWW 5-10-69

GENERAL NOTES

T.B.M. #3 (M-1) Nail 30" Elm, 4 left Sta. 1636+60. El. 416.12 ℄ Survey (Tangent)

All concrete to be poured in the dry. All exposed corners of concrete shall be chamfered ¾" unless otherwise noted. All concrete to be Class 'S' except Int. Bent Columns, Webs and Footings are to be Class 'A' concrete.

All piling in End Bents to be 10 BP42 Steel bearing piles driven with an approved air, steam or diesel hammer to a bearing capacity of 40 tons per pile and to the material designated as shale after the embankment is in place. Order lengths shown; cut-off or build-up if necessary, shall be paid for in accordance with the Standard Specifications.

Footings shall be set a minimum of 1'-0" in to rock. Rock excavations shall be made to neat lines of concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured in the dry directly against excavated surfaces of rock.

In general, all construction joints in piers shall be provided with keys not less than 1½" high covering the middle third of both dimensions.

For End Bent details, see Dwgs. 14399 & 14400
For Interior Bent details, see Dwg. 14401
For Composite beam details, see Dwg. 14404
For Superstructure details, see Dwgs. 14402, 14403, 14404, 14405 & 14406.
For Bridge Railing Details, See Std. Dwg. No. 14992

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition 1958, the 1966 Supplemental Specifications thereto, and applicable Special Provisions.

DESIGN SPECIFICATIONS: A.A.S.H.O. 1961
Design Live Load: HS20-44 and special interstate loading of two 24,000 lbs axles 4'-0" on centers.

Unit Stresses:

Class S Concrete (n=10)	1,200 psi
Class A Concrete (n=15)	840 psi
Reinforcing Steel	20,000 psi
Structural Steel (A36)	20,000 psi
Foundation Pressure	10,000 psf (Group I)

FOR INFORMATION ONLY

LAYOUT OF DUAL BRIDGE
OVER WHITE OAK CREEK
LONELM - JCT. HWY. 23
FRANKLIN COUNTY

PREPARED BY
BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

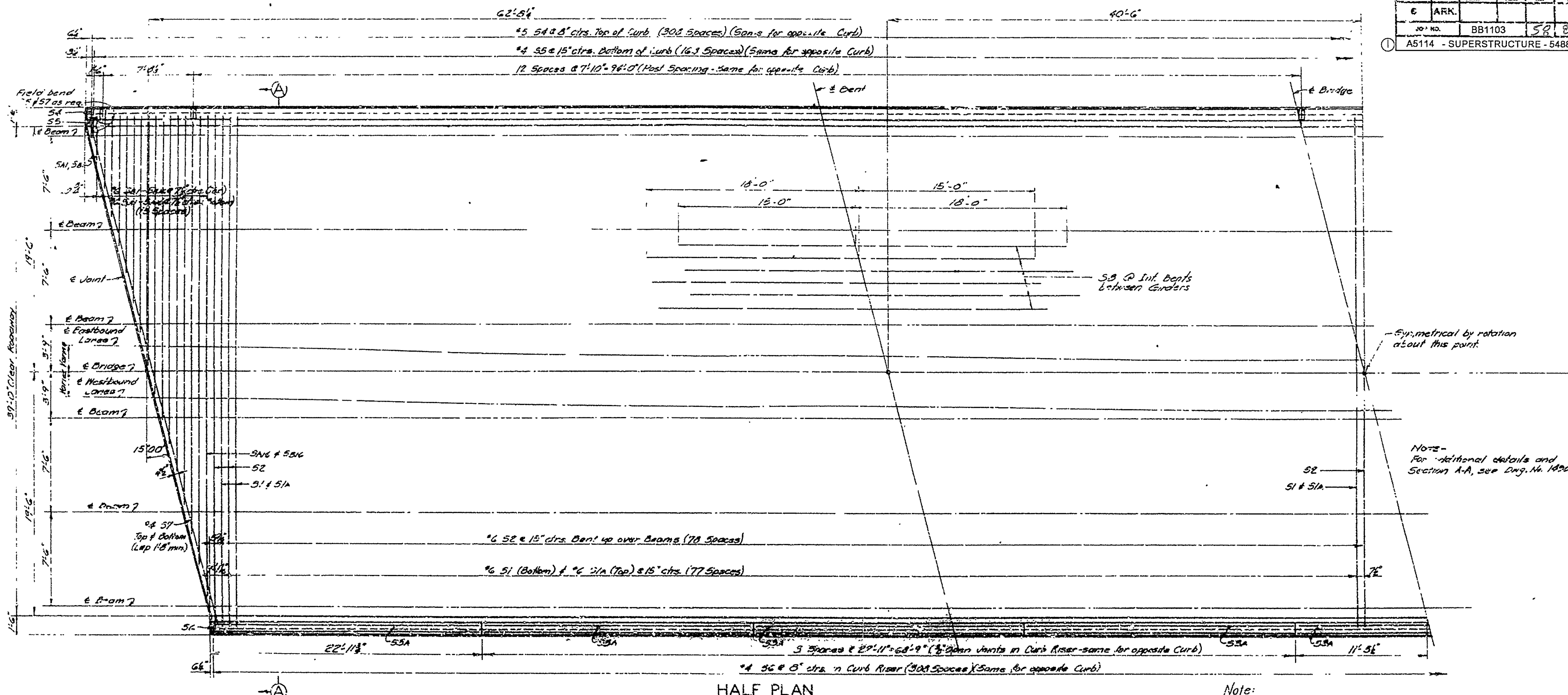
DRAWN BY ______ DATE 1-66
TRACED BY ______ DATE ______ SCALE 1"=30'
CHECKED BY ______ DATE 1-66

BRIDGE ENGINEER

BRIDGE NO. A5114 DRAWING NO. 54879

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		58	82

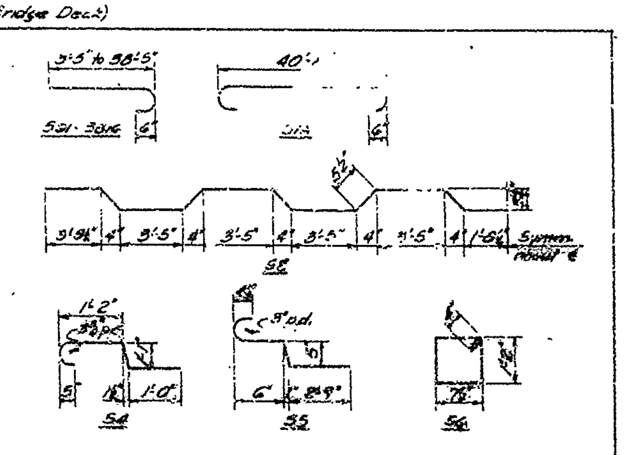
(1) A5114 - SUPERSTRUCTURE - 54880



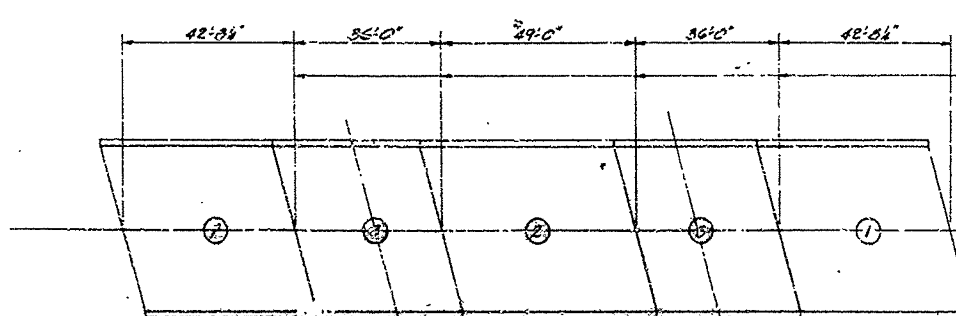
HALF PLAN

BAR LIST (For One Bridge Deck)

MARK	SIZE (#)	LENGTH	NUMBER	PIN DIA
S1	6	40'-8"	156	Str.
S1V to S1V6	6	Varies 3'-5" to 38'-5"	2 Each	Str.
S1A	6	42'-1"	156	5"
S2	[illegible]	41'-10"	157	2¼"
S3	5	36'-1"	540	Str.
S3A	4	28'-8"	35	Str.
S4	5	3'-10"	618	1⅞"
S5	4	4'-8"	330	1½"
S6	4	4'-2"	618	1½"
S7	4	24'-10"	8	Str.
S1V to S1V6	6	Varies 4'-1" to 38'-11"	2 Each	5"
S8	4	33'-0"	60	Str.



Dimensions are to center of Bars



SLAB POURING SEQUENCE

Slab is to be poured in the order shown or in one continuous pour from end to end in less than [illegible] hours. Construction joints shall be properly formed and carefully cleaned before adjacent section is poured. After the first section is poured, no less than [illegible] hours shall elapse before the second section is poured and not less than 72 hours shall elapse [illegible] adjacent pours. A minimum of 72 hours shall elapse between [illegible] of the slab pour and the pouring of the curb section, if poured separately, and curb pours shall be in the same sequence as slab pours. Curb pours include outside curb & riser.

Note:
Movement of the finishing machine across new concrete when protected by means of planking placed on the surface shall be prohibited for 72 hours after finishing the pour.

FOR INFORMATION ONLY

DETAILS OF
SUPERSTRUCTURE
LONELM - JCT. HWY. 23
OVER WHITE OAK CREEK
FRANKLIN COUNTY
Sheet 1

PREPARED BY
BRIGHTON ENGINEERING COMPANY

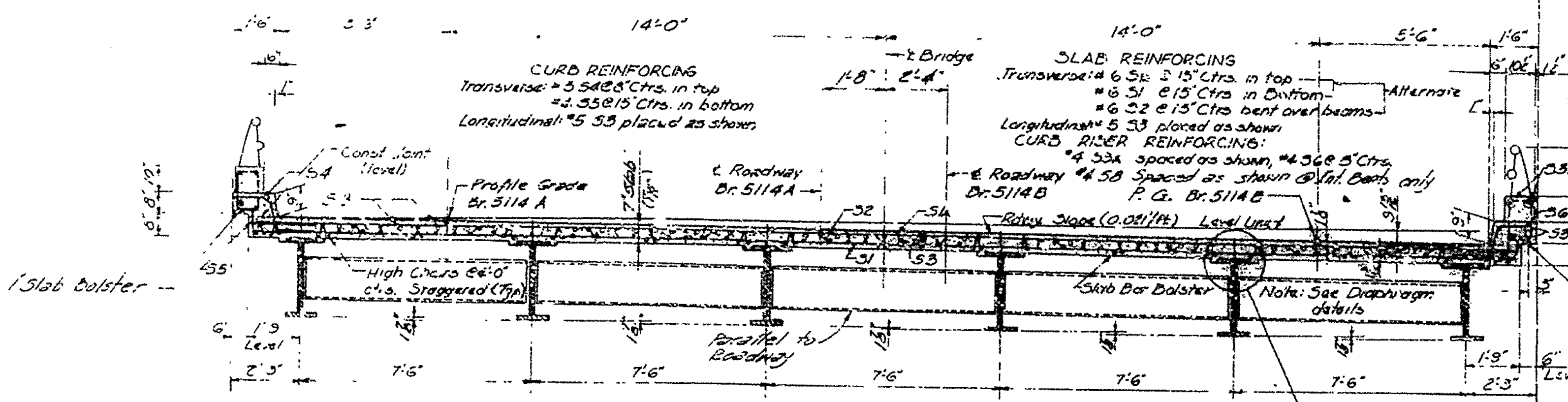
INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JMM DATE: 10-66
TRACED BY: DATE:
CHECKED BY: SKcK DATE: 11-66
SCALE: ⅛" = 1'-0"

BRIDGE NO. A5114 DRAWING NO. 54880

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
	JOB NO.	BB1103		59	82

① A5114 - SUPERSTRUCTURE - 54881

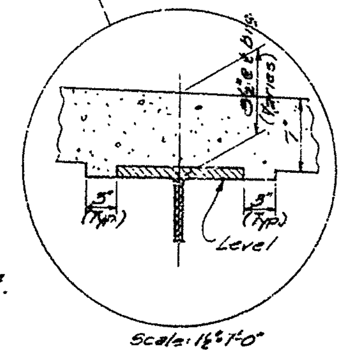


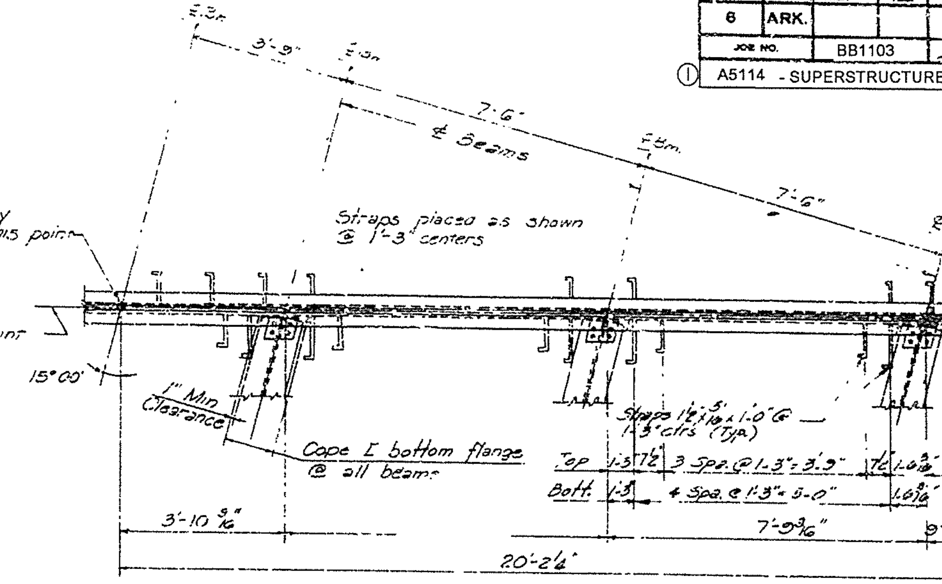
SECTION A-A

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

BR. 5114 A LOOKING BACK AT STATIONS

BR. 5114 B LOOKING BACK AT STATIONS



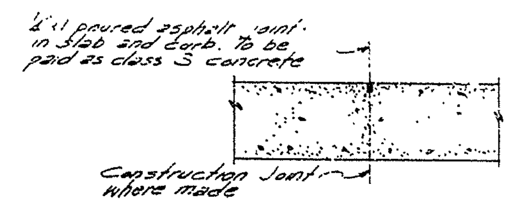


EXPANSION DEVICE DETAILS

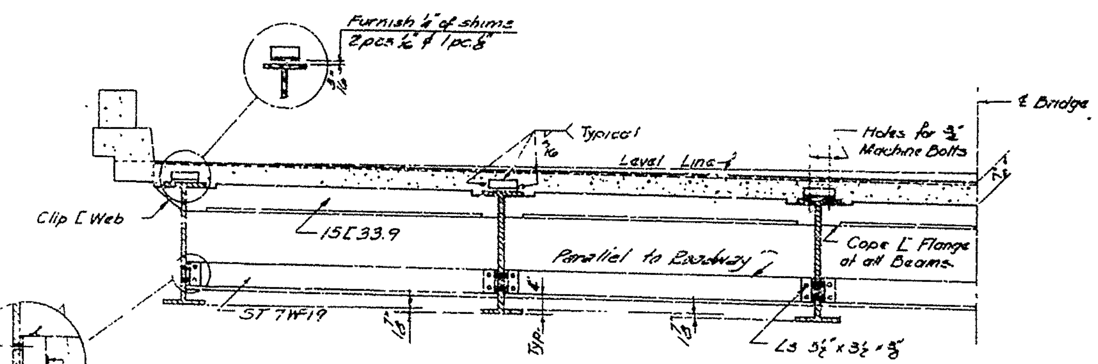
Scale: 1/2" = 1'-0"

Roadway Channel 15 [33.9

Connecting ∠s : 6" x 3 1/2" x 3/8"

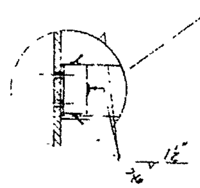


TRANSVERSE SLAB JOINT



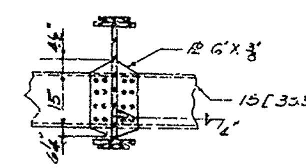
HALF SECTION AT EXPANSION DEVICE

Scale: 1/2" = 1'-0"



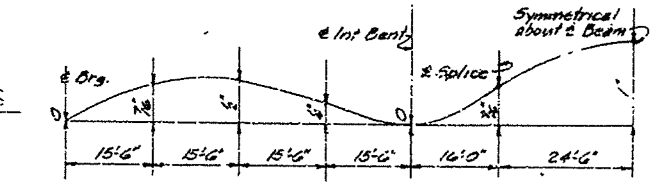
OPTIONAL WELDS

Scale 1" = 1'-0"



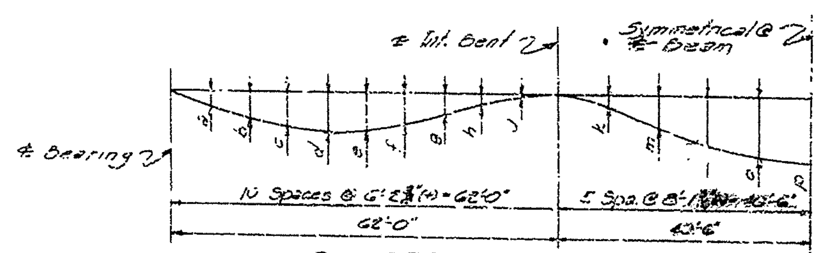
DIAPHRAGM DETAILS

Scale: 1/2" = 1'-0"



CAMBER DIAGRAM

Beams are to be fabricated with the camber shown. All girders shall be cambered such that under total dead load the top of girder webs will parallel the finished roadway grade, except allowable tolerance for camber is 1/4" ±. All girders shall be shop assembled in their true position, field connection holes reamed, and all parts match marked. The shop assembly shall have a minimum assembled sequence of 2 sections.



D.L. DEFLECTION DIAGRAM

(See Table)

TABLE OF DEFLECTIONS			
Point	Steel Deflection	Com. Deflections Ext. Beam	Com. Deflections Int. Beam
a	.004'	.014'	.025'
b	.005'	.026'	.028'
c	.007'	.034'	.037'
d	.007'	.037'	.040'
e	[illegible]	.036'	.038'
f	.006'	.029'	.032'
g	.004'	.020'	.022'
h	.002'	.011'	.012'
j	-	.004'	.005'
k	.003'	.025'	.013'
m	.012'	.051'	.053'
n	.012'	.044'	.054'
o	.013'	.052'	[illegible]
p	.014'	[illegible]	.073'

DESIGN SPECIFICATIONS: AASHO 1961
LIVE LOAD: HS 20-(AASHO) and special Interstate loading of two 24,000 lbs. axles spaced @ 4'-0" ctrs.

1. Dead Load per foot (Type ...) — Int. Beam / Ext. Beam
   a. To WF with construction joint — 812 lbs. / 637 lbs.
   b. To composite with construction joint — 190 lbs. / 190 lbs.
2. Live Load to each ... — 1.3636 Wh + Imp. / 1.2766 Wh + Imp.

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE
LONELM - JCT. HWY. 23
OVER WHITE OAK CREEK
FRANKLIN COUNTY

Sheet 2

PREPARED BY

BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY FDS DATE 10-70

TRACED BY ___ DATE ___ SCALE: As Noted

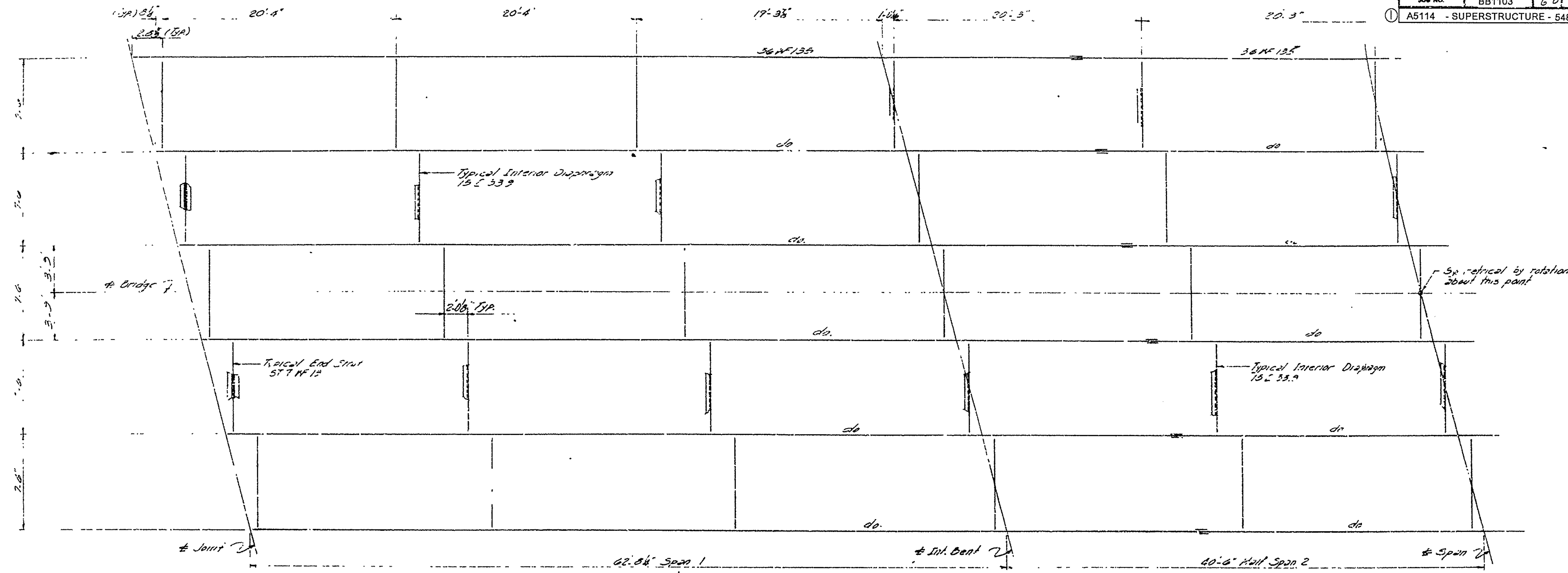
CHECKED BY SMcK DATE 11-66

BRIDGE ENGINEER

BRIDGE NO. A5114 DRAWING NO. 54881

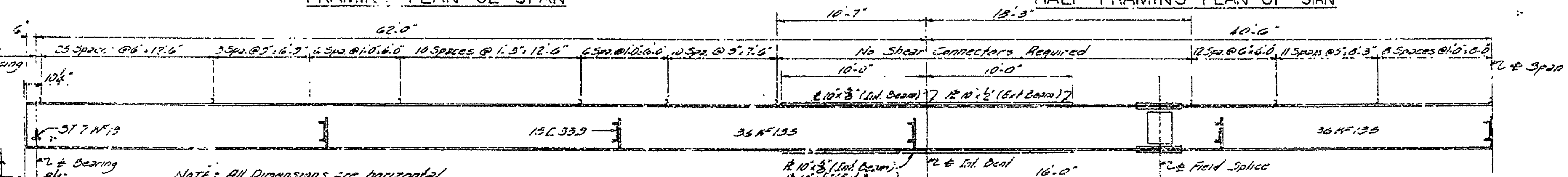
FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		60	82

① A5114 - SUPERSTRUCTURE - 54882



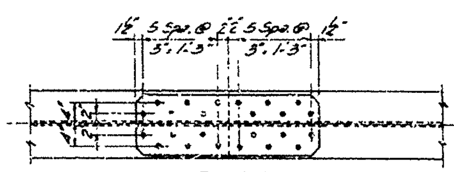
FRAMING PLAN 62' SPAN

HALF FRAMING PLAN 81' SPAN

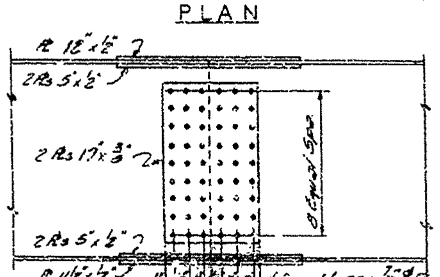


NOTE: All Dimensions are horizontal. Edge of beam and Joint are to be vertical.

HALF BEAM SECTION



PLAN



ELEVATION

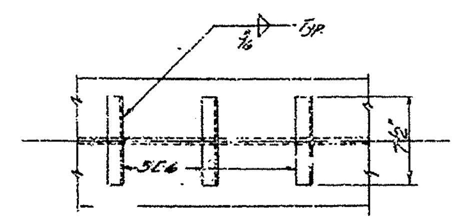
Note: ⅞" Rivets or ⅞" High Strength bolts are to be used in field splice connections.

FIELD SPLICE DETAILS

Scale: ⅜" = 1'-0"

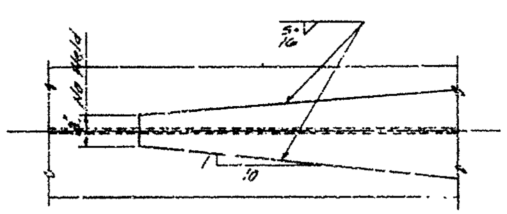
See Dwg. 14606 for additional paint note for splice

NOTE:
Stud shear connectors, granular flux filled, solid fluxed or equal may be used in place of channels shown at the following ratios: ¾" diameter stud in place of 1.87 inches of channel. ⅞" diameter stud in place of 2.52 inches of channel. The stud shall be 4" long and automatically end welded to the beam flanges in accordance with the recommendations of the manufacturer.
Channel sections will be used as basis for measurement of structural steel in shear connectors.



DETAILS OF SHEAR CONNECTORS

All beams shall be shop assembled in their true position, field connection holes reamed, and all parts match marked. The shop assembly shall have an assembly sequence of two sections.



DETAILS OF COVER PLATES

Scale: 1½" = 1'-0"

Note: Magnetic Particle inspection of cover plate welds.

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE
LONELM - JCT. HWY 23
OVER WHITE OAK CREEK
FRANKLIN COUNTY
Sheet 3

PREPARED BY
BRIGHTON ENGINEERING COMPANY

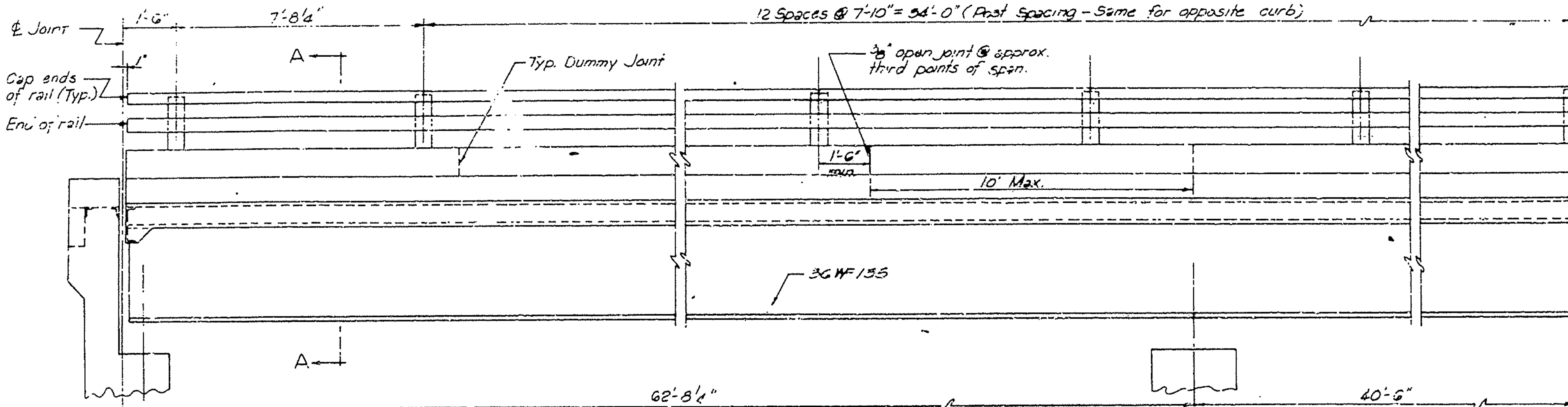
INT. ROUTE 40 SEC. 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ___ DATE: 6-10-66
TRACED BY: ___ DATE: ___
CHECKED BY: SMcK DATE: 11-'66
SCALE: ¼" = 1'-0" & As Noted

BRIDGE NO. A5114 DRAWING NO. 54882

FED. ROAD NO.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		61	82

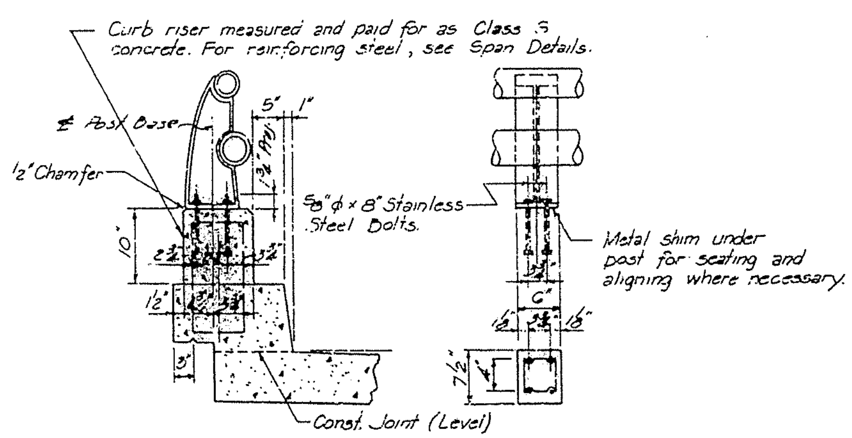
① A5114 - SUPERSTRUCTURE - 54883



Note: For additional details and Section A-A see Drg. 14403

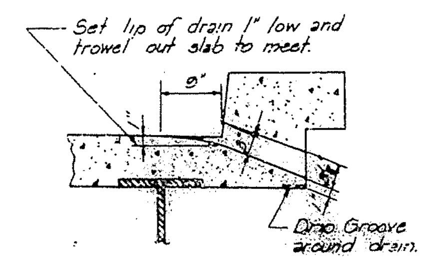
ELEVATION TYPE A RAILING

Scale: ½" = 1'-0"



DETAILS OF TYPE 'A' RAILING

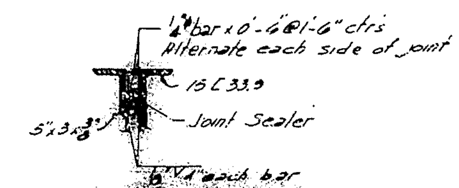
Scale: 1" = 1'-0"



Drain opening 5"x7" tapered to 3½"x7½". Place at approx. 20' centers on low side of sloped roadway. No drains shall be placed over dumped riprap.

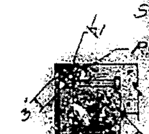
SECTION THRU DRAIN

Scale: 1" = 1'-0"



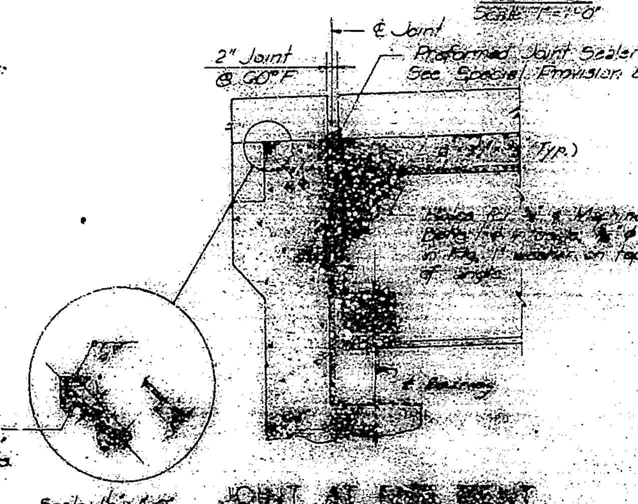
JOINT SEAL SUPPORT DETAIL

Scale: 1½" = 1'-0"



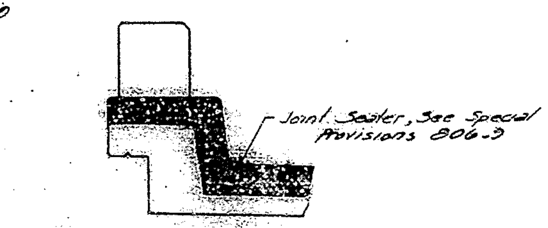
As an alternate for straps, ¾" φ x 6" automatically welded stud anchors granular flux filled, solid fluxing or metal may be used. Use weight of straps as basis of measurement of structural steel in anchors.

ALTERNATE ANCHOR DETAIL



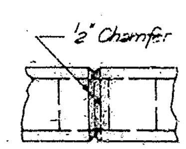
Scale: 1½" = 1'-0"

JOINT AT END BENT



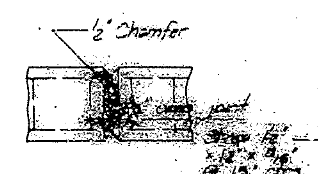
DETAIL OF PREFORMED JOINT SEALER

Scale: 1½" = 1'-0"



PLAN OF DUMMY JOINT

Scale: 1" = 1'-0"



PLAN OF OPEN JOINT

Scale: 1" = 1'-0"

GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered ¾" unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts.

Rivets: ¾" φ, open holes: 13/16" φ except at beam splices. At beam splices use ⅞" φ rivets, open holes 15/16" φ.

Structural Shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of the shapes shown, or those actually used, whichever is less.

* All welded connections to be 5/16" fillet shop welds, except as noted. All welding shall conform to the American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.

Shop Paint: All structural steel, except surfaces in contact with concrete, shall be given one coat of red lead and raw linseed oil before shipment.

Field Paint: First coat - red lead tinted with lamp black. Second coat - Aluminum paint.

No shop paint shall be applied to top flanges or edge of top flanges of beams and shear connectors or at joints of welded or bolted splices including splice plates.

Finished surfaces to receive one shop coat of white lead and tallow.

All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans." Bearings shall be finally seated in accordance with Sec. 806.54, including alternate, of the Std. Specs. This work and material are to be considered to be subsidiary to the item "Structural Steel in Beam Spans," and will not be paid for directly.

All steel shall be ASTM A-36, unless otherwise noted.

Anchor Bolts shall be galvanized to conform to ASTM Specifications Designation A153.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item of "Reinforcing Steel."

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.

All chamfers on concrete riser for rail are to be ½".

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

For details of Bridge Railing, see Drg. No. 14992 as shown on Bridge Layout.

This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approval secured before fabrication is begun.

* Current Supplemental Specifications shall apply.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959, the 1966 Supplemental Specifications thereto and applicable Special Provisions.

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE

LONELM — JCT. HWY. 23

OVER WHITE OAK CREEK

FRANKLIN COUNTY

BRIGHTON ENGINEERING COMPANY

INT. ROUTE 40 SEC. 1

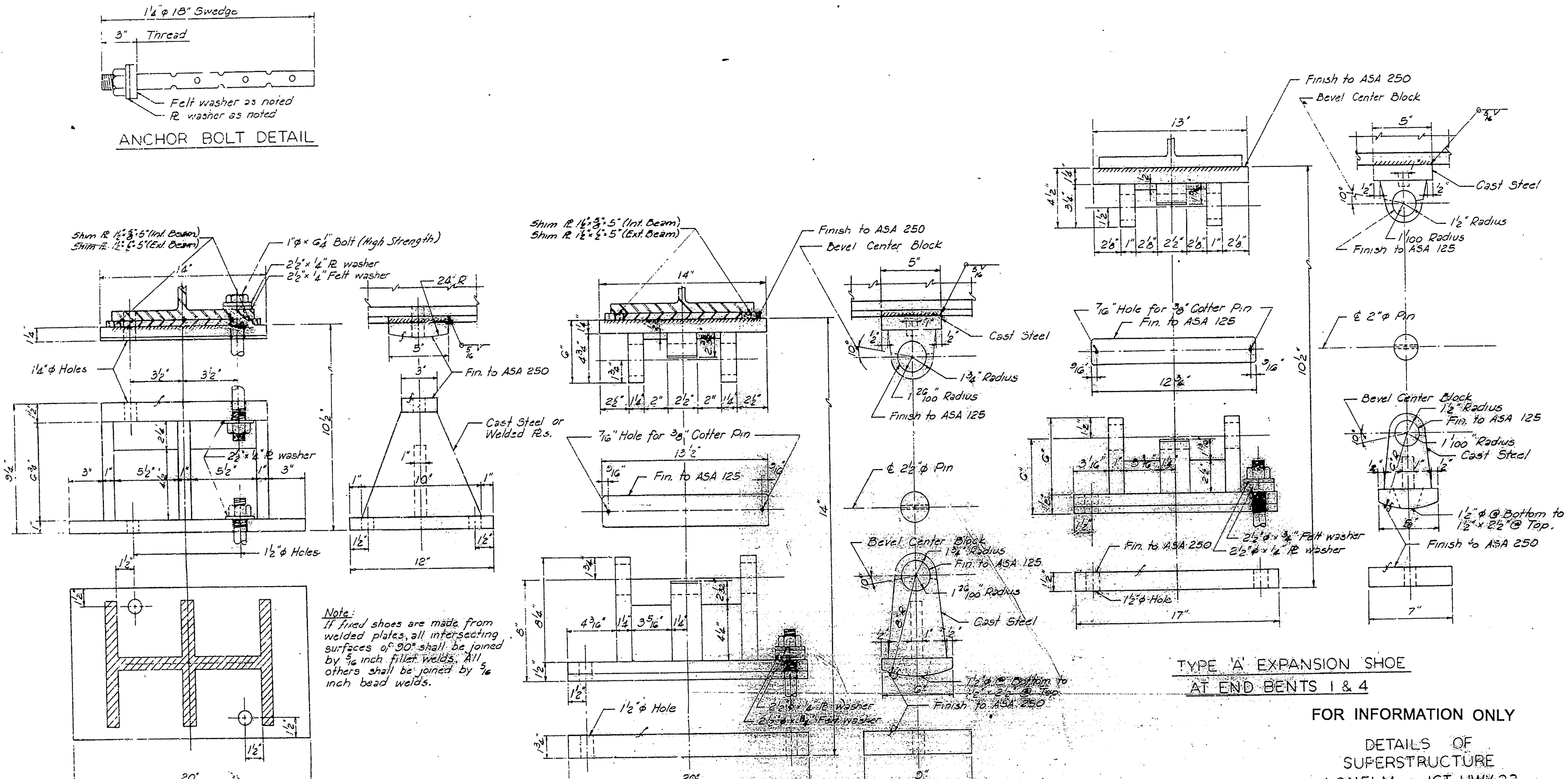
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

10-8-66

As Noted

BRIDGE NO. A5114 DRAWING NO. 54883



TYPE 'A' FIXED SHOE
AT INT. BENT 2

TYPE 'A' EXPANSION SHOE
AT INT. BENT 3

All shoe material shall be Carbon Steel. Masonry plates for expansion shoes shall be ASTM A-36.
All shoes shall be castings of ASTM A-27 grade 65-35. All pins shall be ASTM A-235, Class E or ASTM A-108, grade 1021-1030 inclusive, with a minimum Rockwell Scale B hardness of 85.
Anchor Bolts to be ASTM A-36, galvanized A-153.
High strength bolt shall conform to [illegible]
All shoes and anchor bolts [illegible]
and [illegible]
Finished surfaces [illegible]

FOR INFORMATION ONLY

DETAILS OF SUPERSTRUCTURE
LONELM - JCT. HWY. 23
OVER WHITE OAK CREEK
FRANKLIN COUNTY

BRIGHTON ENGINEERING COMPANY

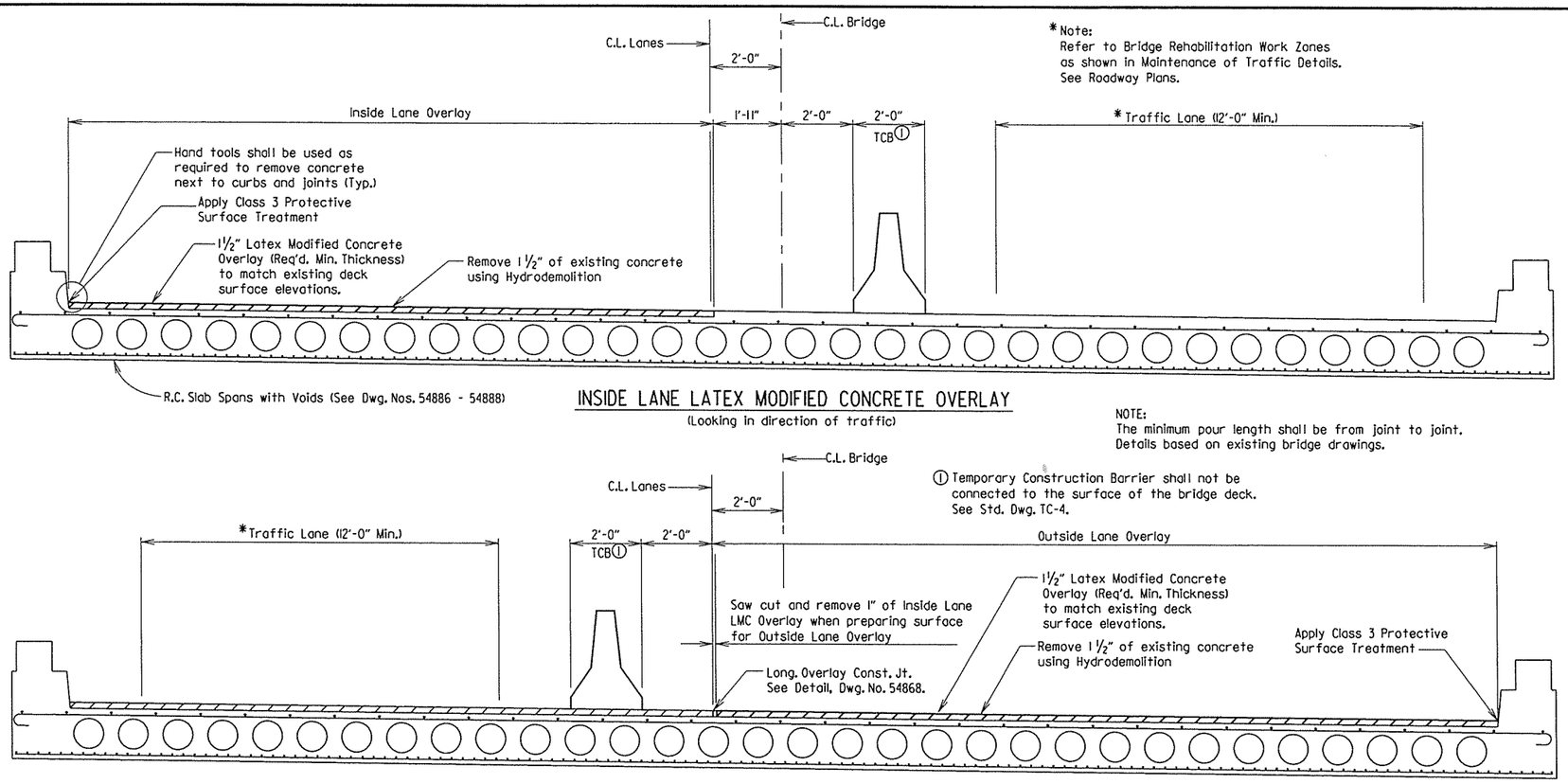
INT. ROUTE 40 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION

JSM 10-8-65
PCW
3" = 1'-0"

BRIDGE NO. A5114
DRAWING NO. 54884

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4/9/14				6	ARK.			
				JOB NO.		BB1103	63	82
				①		A51 31, B51 31 - LMC OVERLAY - 54885		



*Note:
Refer to Bridge Rehabilitation Work Zones as shown in Maintenance of Traffic Details. See Roadway Plans.

INSIDE LANE LATEX MODIFIED CONCRETE OVERLAY

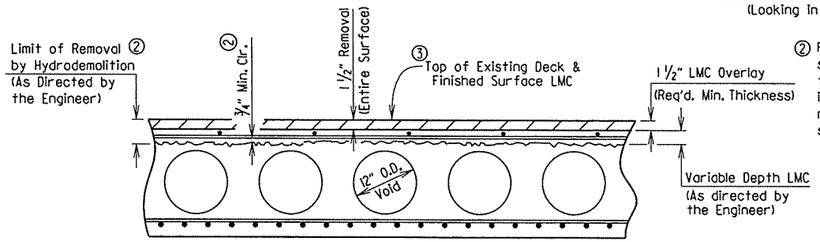
(Looking in direction of traffic)

NOTE:
The minimum pour length shall be from joint to joint. Details based on existing bridge drawings.

① Temporary Construction Barrier shall not be connected to the surface of the bridge deck. See Std. Dwg. TC-4.

OUTSIDE LANE LATEX MODIFIED CONCRETE OVERLAY

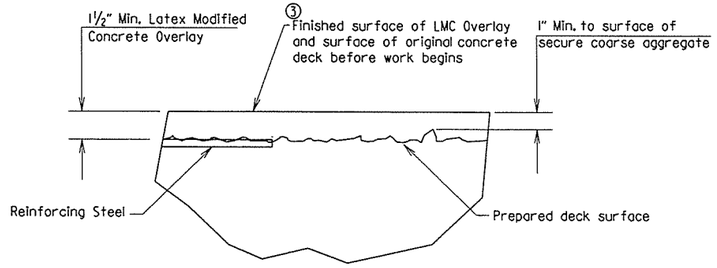
(Looking in direction of traffic)



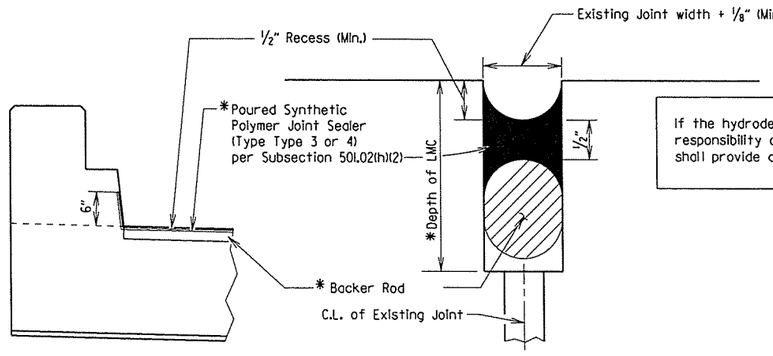
② Removal of unsound concrete beyond 1½" below the original surface shall be at the direction of the Engineer. If the bond between existing concrete and reinforcing steel is destroyed, then the concrete shall be removed to a minimum of ¾" clearance around the bar. This removal shall be subsdidary to the item SP Job BB1103 "Hydrodemolition".

③ Finished surface of LMC overlay shall match existing concrete deck surface unless increase is required to maintain minimum required LMC overlay thickness.

DETAILS OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE OVERLAY



LMC OVERLAY TOLERANCE



DETAILS OF TYPE A JOINT REHABILITATION

NOTE: Saw, cut or router transverse slab joints at intermeidate bents to achieve joint width as shown. Sawing beyond the face of curb is not required. See Section 509 for additional information & payment.

*NOTE: Depth of joint and joint installation shall be in accordance with manufacturer's recommendations.

GENERAL NOTES:
CONSTRUCTION SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications. Unless otherwise noted in the plans Section and Subsection refer to the Standard Specifications.

Drawing shows details and dimensions of existing structures based on the original bridge plans. The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and fit the new work to the existing structure.

The operation or placement of equipment and, or materials on the subject bridges necessary for the completion of this work shall be evaluated in accordance with Subsection 105.14. Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

HYDRODEMOLITION: The designated area of the existing bridge deck shall receive hydrodemolition in accordance with the Job Special Provision "Hydrodemolition" to a planned depth of 1½" below the existing bridge deck surface. Deteriorated concrete below this depth shall be removed at the direction of the Engineer and up to the limits detailed. Cold milling of the concrete deck prior to hydrodemolition will be allowed to a maximum depth of 1" unless there will be a conflict with existing reinforcing steel. These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BB1103 "Hydrodemolition."

LATEX MODIFIED CONCRETE OVERLAY: The designated area of the existing bridge deck shall receive a Latex Modified Concrete (LMC) Overlay with a required minimum thickness of 1½", in accordance with the Job Special Provision "Latex Modified Concrete Overlay". These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item SP Job BB1103 "Latex Modified Concrete Overlay (1½" Thick)". Areas of the existing bridge deck removed at the direction of the Engineer to a depth greater than 1½" below the existing bridge deck surface shall be filled with LMC concurrent to the placement of the 1½" LMC Overlay. This material shall be measured
⚠ and paid for ~~as SP Job BB1103 "Latex Modified Concrete (Variable Depth)" at the unit price bid for the item.~~ in accordance with SP Job BB1103 "Latex Modified Concrete Overlay".

BRIDGE DECK: The LMC Overlay surface shall be given a grooved finish as specified for final finishing in Subsection 802.19 for Class 7 Grooved Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: The longitudinal construction joint between the LMC overlay and the adjacent existing concrete curb or rail shall be given a Class 3 Protective Surface Treatment as specified in Section 803 and in accordance with SP J0b BB1103 "Latex Modified Concrete Overlay".

The roadway surface of the completed LMC Overlay shall be given a Class 1 Protective Surface Treatment as specified in Section 803.

TRANSVERSE JOINT REHABILITATION: After the placement of the LMC Overlay, the existing transverse slab joints at the intermediate bents shall be given a Type A Joint Rehabilitation as specified in Section 509.

Note: For "Longitudinal Overlay Construction Joint Detail" and "Poured Silicone Joint Seal Details", See Dwg. No. 54868. The New Plate shown in the "Poured Silicone Joint Seal Details" is not required.

If the hydrodemolition equipment blows through the deck or into a deck void, that area shall be the responsibility of the Contractor and shall be repaired at the Contractor's expense. The Contractor shall provide a method of handling unexpected blow through of the deck or into a deck void.

⚠ Revised Payment for Variable Depth LMC 4/9/14
By: BEF Ckd By: CMP

STATE OF ARKANSAS
CARL J. FUSSELMAN
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/9/14

BRIDGE ENGINEER

DETAILS OF LATEX MODIFIED CONCRETE OVERLAY

ROUTE SEC.

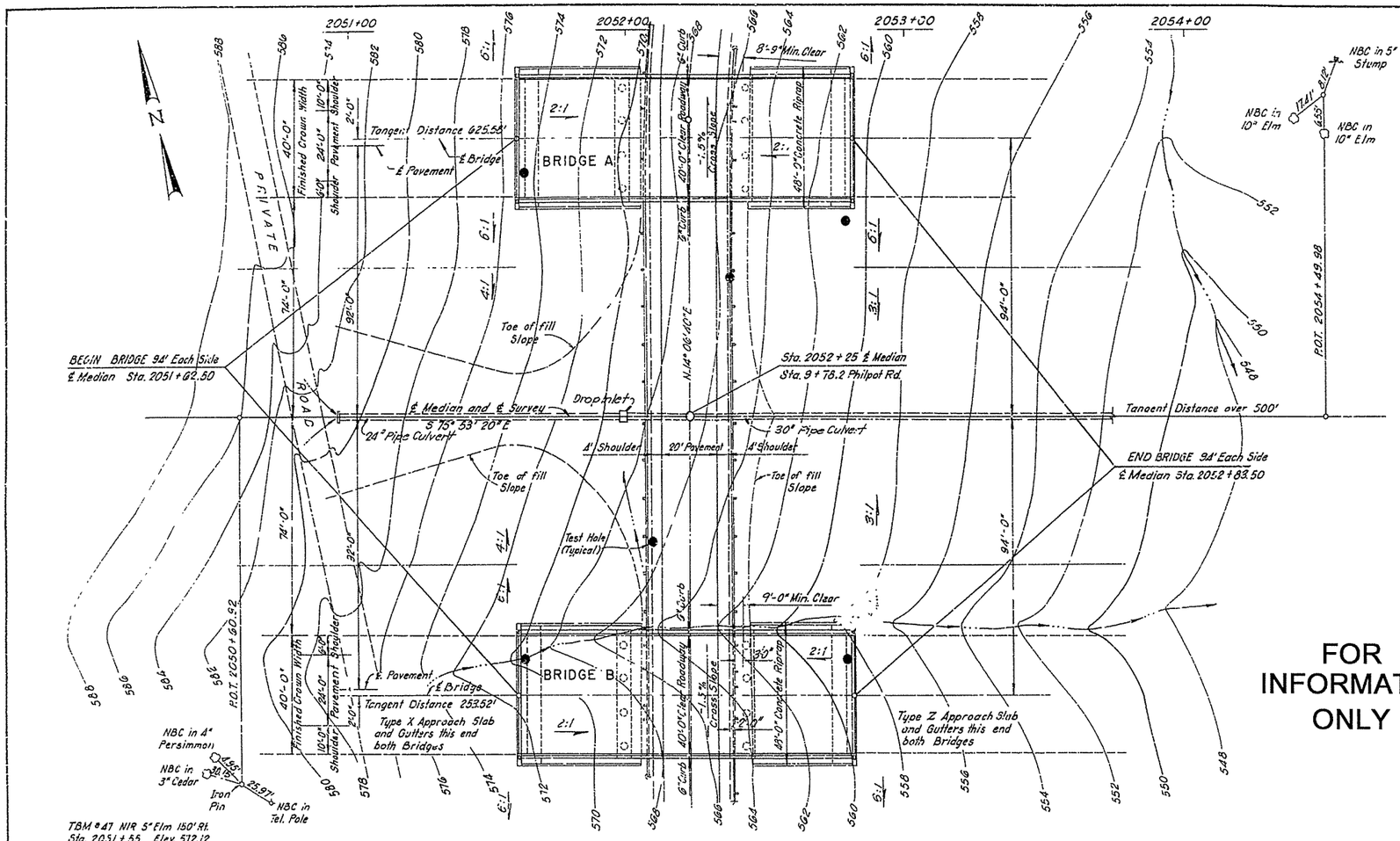
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: BEF DATE: 10-02-13
CHECKED BY: CMP DATE: 1/21/14
DESIGNED BY: — DATE:
FILENAME: bbb1103_lmcoverlay.dgn
SCALE: NO SCALE

BRIDGE NO. A51 31, B51 31 DRAWING NO. 54885

PRINT DATE: 08-APR-2014



FED. ROAD DIST.	STATE	FED. - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.		BB1103		64	82
A&B5131 - LAYOUT - 54886					

GENERAL NOTES

1. All elevations on drawings refer to mean sea level elevation. For elevations of top of caps and columns and bottoms of footings, see Bent and End Bent Details.

2. Roadways, Curbs, Parapets, Columns and End Bents shall be constructed of Class S Concrete. Footings shall be constructed of Class A Concrete. All Concrete to be poured in the dry. All corners to be chamfered 3/4" unless otherwise noted. Chamfer on Parapet to be 1/2".

3. Reinforcing Steel shall be deformed bars of intermediate or hard grade. All splices shall be 32 diameters. On the drawings, bar sizes are designated by number. The first digit of the first two, as the case may be, indicating the size of bar. All reinforcing steel and fiber tubes shall be accurately located and firmly held in place by means of steel wire supports and spacers for tubes of a sufficient number and size to prevent displacement during the course of construction, but in no case of lesser design than that shown. The wire supports and spacers for tubes will not be paid for directly, but will be considered subsidiary to the Item "Reinforcing Steel"

4. All cylindrical tubes used to form voids shall be moisture protected, laminated type construction, minimum thickness 0.225" and shall be furnished complete with end closures. The tubes will not be paid for directly, but will be considered subsidiary to the Item "Class S Concrete."

5. Neoprene pads in End Bent shear keys shall conform to Section 806.2(h)3. Of the Standard and supplemental specifications. These pads placed and accepted shall be measured and paid for at the contract unit price for Class S Concrete.

6. Lengths of 10DP42 Piles shown shall be ordered and driven into the material designated as sandstone on the borings, and to a minimum bearing capacity of 55 tons per pile. Cutoff and/or buildup shall be measured and paid for as provided in the specifications. Pilings shall be driven after embankment is in place.

7. All footings shall be a minimum of one foot into the material designated as sandstone on borings.

8. Shop drawings showing structural steel details, shop lists and diagrams of wire supports and spacers for tubes, reinforcing steel shop list and bending diagrams, elastomeric bearing pad details, and metal railing details, shall be prepared in accordance with specifications, submitted and approval secured before fabrication is begun

9. All Structural Steel shall be A.S.T.M. Designation A-36.

10. All welding shall conform to The American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.

11. Shop Paint: All Structural Steel except surfaces in contact with concrete shall be given one coat of red lead and raw linseed oil before shipment.

12. Field Paint: First Coat - red lead tinted with lamp black
Second Coat - aluminum paint.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959, the 1966 Supplemental Specifications thereto, and designated Special Provisions

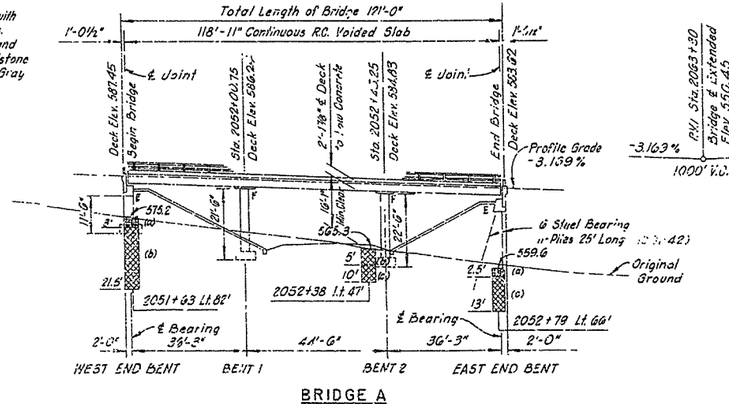
DESIGN SPECIFICATIONS: AASHO 1965
Live Loading H520-44 and Special Interstate Loading of 2-24,000# axles spaced 4' on centers.

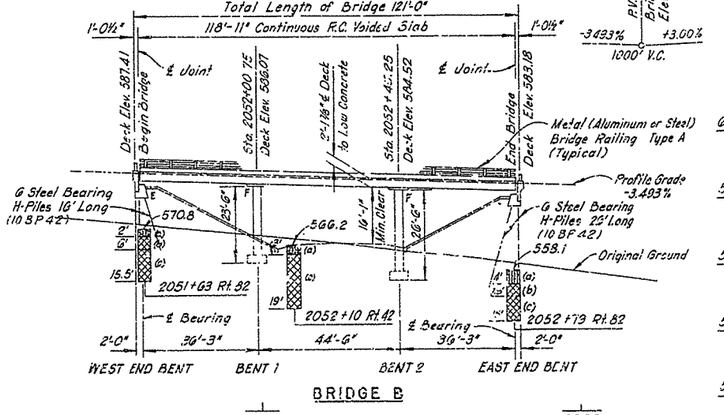
UNIT STRESSES:

Class A Concrete (n=15)	840 p.s.i.
Class S Concrete (n=10)	1,200 p.s.i.
Reinforcing Steel	20,000 p.s.i.

FOR INFORMATION ONLY

BORING LEGEND
(a) Tan Silty Sand with Rock Fragments.
(b) Weathered Tan and Light Gray Sandstone
(c) Tan and Light Gray Sandstone.





ELEVATIONS

BRIDGE NO. 5131 A&B DRAWING NO. 54886

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

INTERSTATE ROUTE 40
JCT. HWY. 23 – EAST GAR CREEK
JOB 4487

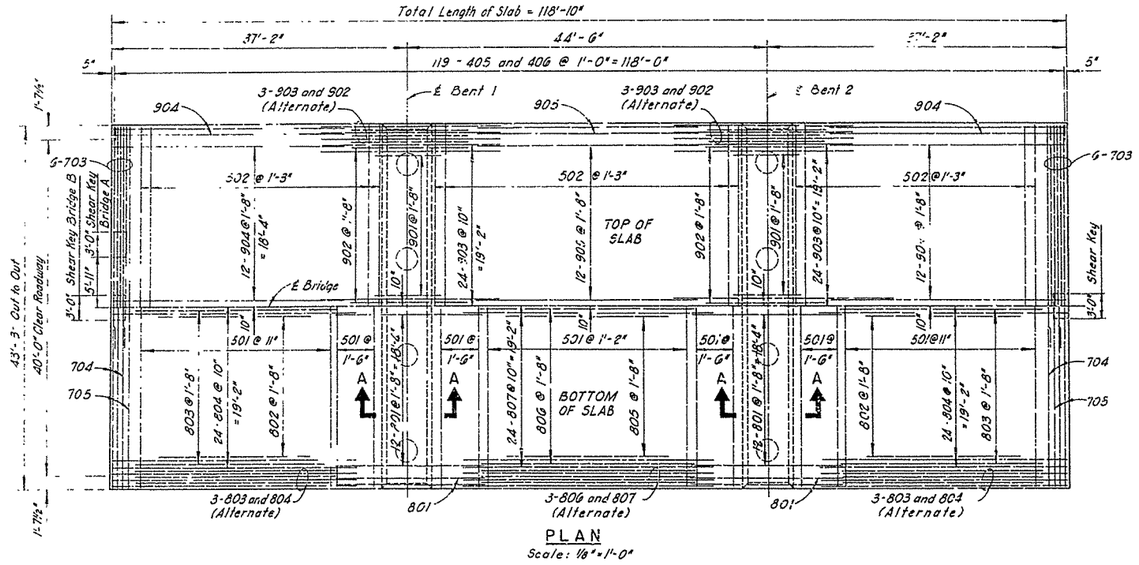
PHILPOT ROAD OVERPASS
PLAN AND ELEVATION

DRAWN BY GEL	GARVER & GARVER, inc. ENGINEERS LITTLE ROCK, ARKANSAS	SCALE 1" = 20'-0"
CHECKED BY TBH		SHEET NO. 77 OF 252
DATE NOV 1968		

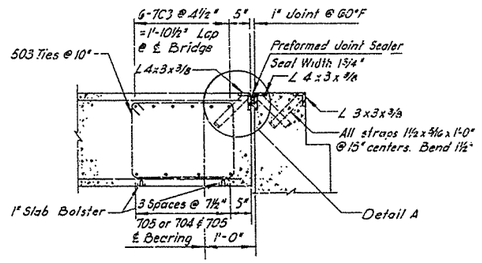
CARROLL B. SCHAER

FED ROAD DIST	STATE	FED AID PROJ NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	ARK				
JOB NO.		BB1103		65	82

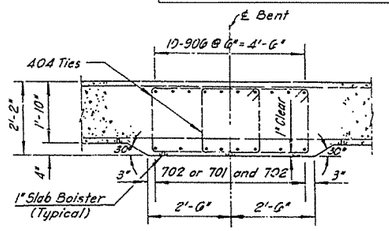
A&B5131 - SUPERSTRUCTURE - 54887



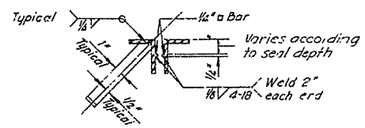
PLAN
Scale: 1/8" = 1'-0"



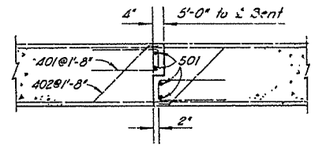
SECTION AT END BENT
Scale: 3/4" = 1'-0"



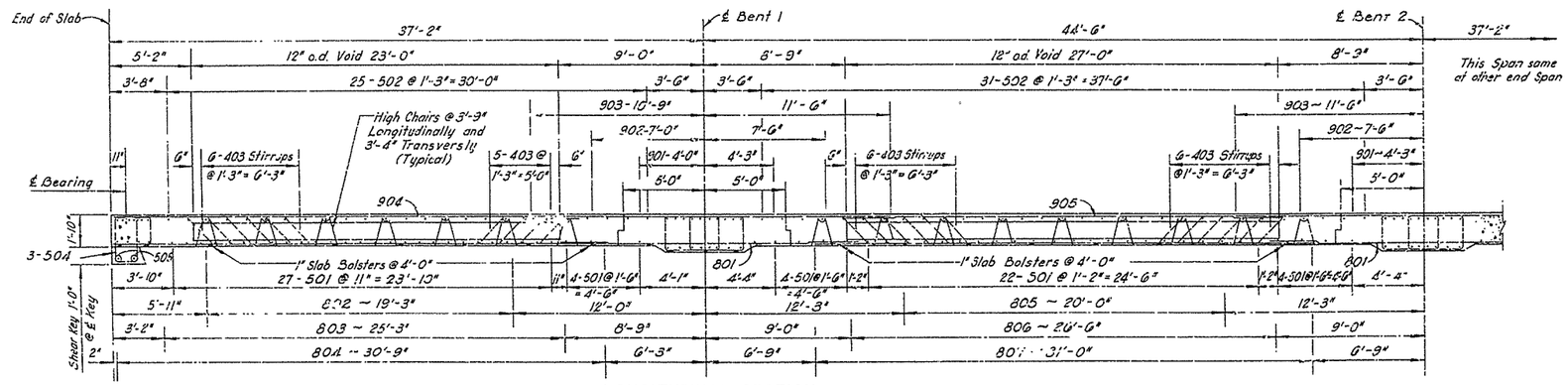
SECTION A-A
Scale: 1½" = 1'-0"



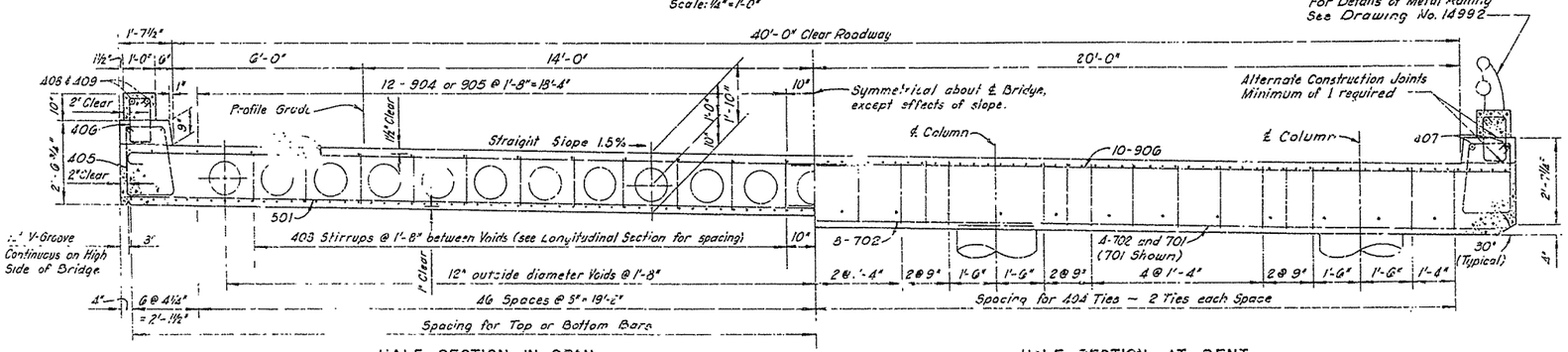
DETAIL A
Scale: 1½" = 1'-0"



CONSTRUCTION JOINT DETAIL
Scale: 1½" = 1'-0"



LONGITUDINAL SECTION
Scale: 1/2" = 1'-0"



HALF SECTION IN SPAN
HALF SECTION AT BENT
Scale: 1/2" = 1'-0"

Notes:

1. All Concrete in Superstructure shall be Class S.
2. As an alternate for Straps, 3/16" ø x 10" Automatically Welded Stud Anchors, granular flux filled, solid fluxed or equal, may be used. Straps shall be used as basis of measurement and payment.

LOAD DISTRIBUTION

Dead Load - 241 p.s.f.
Live Load - 36'-3" Span - .162 wheels/ft. of width + impact
44'-6" Span - .150 wheels/ft of width + impact

UNIT STRESSES:

Class S Concrete (n = 10)	1,200 p.s.i.
Reinforcing Steel	20,000 p.s.i.

FOR INFORMATION ONLY

BRIDGE NO. 5131 A&B DRAWING NO. 54887

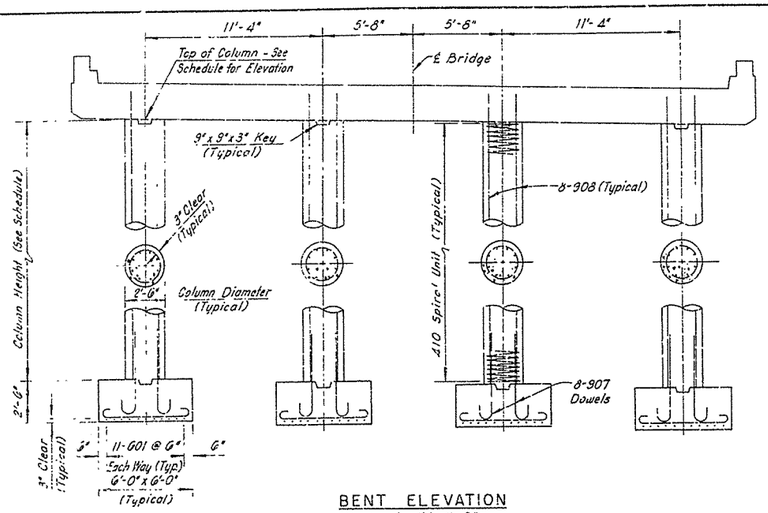
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

INTERSTATE ROUTE 40
JCT. HWY 23 - EAST GAR CREEK
JOB 4487
PHILPOT ROAD OVERPASS
SUPERSTRUCTURE

DRAWN BY GEL CHECKED BY TBH DATE NOV. 1968	GARVER & GARVER, Inc. ENGINEERS LITTLE ROCK, ARKANSAS	SCALE AS NOTED SHEET NO 80 ~ 262

FED ROAD DIST	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
6	ARK				
		BB1103		66	82

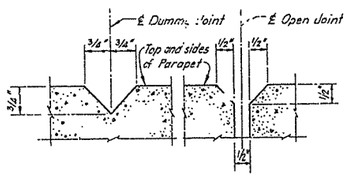
A&B5131 - SUPERSTRUCTURE - 54888



BENT ELEVATION
Scale: 1/4" = 1'-0"

FOUNDATION LOADS

Dead Load	730.4 K	
Live Load	174.4 K	
Base Pressure		
Group I	7.64 KSF Max.	
Group II	8.72 KSF Max	
	0.64 KSF Min.	
Group III	11.17 KSF Max.	
	1.36 KSF Min.	
Allowable	10.0 KSF Group I	
	12.5 KSF Group I and Group III	



DUMMY JOINT OPEN JOINT
PARAPET JOINTS
No Scale

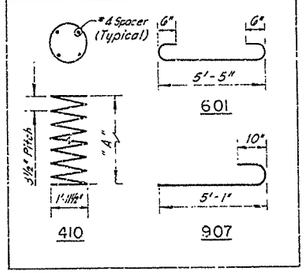
SCHEDULE FOR COLUMN HEIGHTS, COLUMN AND FOOTING ELEVATIONS

	LOCATION	COLUMN HEIGHT	ELEVATIONS TOP OF COLUMN	TOP OF FOOTING	BOTTOM OF FOOTING
BRIDGE A BENT 1	North Exterior	19'-0"	583.82	564.82	562.32
	North Interior	19'-0"	583.99	564.99	562.49
	South Interior	19'-0"	584.16	565.16	562.66
	South Exterior	19'-0"	584.33	565.33	562.83
BRIDGE A BENT 2	North Exterior	20'-0"	582.41	562.41	559.91
	North Interior	20'-0"	582.58	562.58	560.08
	South Interior	20'-0"	582.75	562.75	560.25
	South Exterior	20'-0"	582.92	562.92	560.42
BRIDGE B BENT 1	North Exterior	21'-0"	584.16	563.16	560.66
	North Interior	21'-0"	583.99	562.99	560.49
	South Interior	21'-0"	583.82	562.82	560.32
	South Exterior	21'-0"	583.65	562.65	560.15
BRIDGE B BENT 2	North Exterior	24'-0"	582.51	558.61	556.11
	North Interior	24'-0"	582.44	558.44	555.94
	South Interior	24'-0"	582.27	558.27	555.77
	South Exterior	24'-0"	582.10	558.10	555.60

COLUMN AND FOOTING REINFORCEMENT SCHEDULE

	MARK	NO.	LENGTH	PIN DIA.	"A"
BRIDGE A BENT 1	410	4	419'-0"	1'-11"	18'-10"
	601	88	6'-10"	4½"	——
	907	32	6'-4"	9"	——
	908	32	20'-9"	5tr.	——
BRIDGE A BENT 2	410	4	437'-1"	1'-11"	19'-10"
	601	88	6'-10"	4½"	——
	907	32	6'-4"	9"	——
	908	32	21'-9"	5tr.	——
BRIDGE B BENT 1	410	4	458'-2"	1'-11"	20'-10"
	601	88	6'-10"	4½"	——
	907	32	6'-4"	9"	——
	908	32	22'-9"	5tr.	——
BRIDGE B BENT 2	410	4	521'-6"	1'-11"	23'-10"
	601	88	6'-10"	4½"	——
	907	32	6'-4"	9"	——
	908	32	25'-9"	5tr.	——

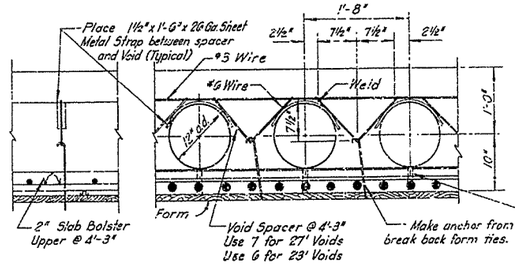
BENDING DIAGRAM



SUPERSTRUCTURE REINFORCEMENT SCHEDULE ONE BRIDGE

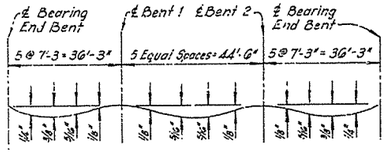
MARK	NO.	LENGTH	PIN DIA.	BENDING DIAGRAM
401	208	4'-6"	1½"	401
402	208	2'-6"	1½"	402
403	148	2'-10"	1½"	403
404	124	10'-7"	1½"	404 AND 406
405	238	7'-6"	1½"	405
406	256	4'-3"	1½"	
407	20	24'-9"	5tr.	502
408	8	14'-7"	5tr.	
409	16	21'-11"	5tr.	
501	216	22'-8"	5tr.	
502	162	22'-11"	3¾"	
503	104	7'-9"	1¾"	503
504	6	6'-5"	1¾"	504
505	4	2'-4"	5tr.	
701	16	[illegible]	5tr.	
702	16	[illegible]	5tr.	
703	24	[illegible]	5tr.	
704	8	18'-11"	5tr.	
705	8	26'-4"	5tr.	
801	56	18'-4"	5tr.	
802	4	19'-3"	5tr.	
803	60	25'-5"	5tr.	
804	106	30'-9"	5tr.	
805	22	20'-0"	5tr.	
806	30	26'-6"	5tr.	
807	53	31'-0"	5tr.	
901	44	8'-3"	5tr.	
902	60	14'-6"	5tr.	
903	106	22'-3"	5tr.	
904	56	29'-3"	5tr.	
905	28	27'-6"	5tr.	
906	40	23'-0"	5tr.	

Note: Dimensions shown in Bending Diagrams are to centers of bars



TUBE PLACEMENT AND SPACER DETAIL
Scale: 1" = 1'-0"

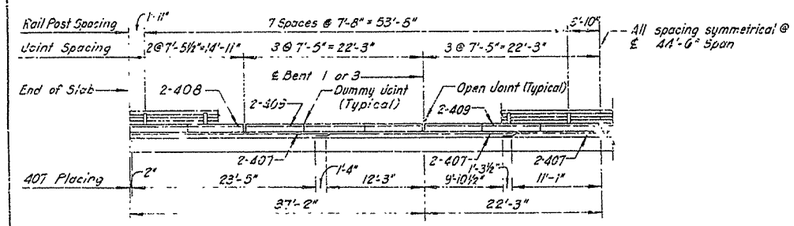
¾" drain for each void. Place at low end if void is not level. Metal drains shall be rust free.



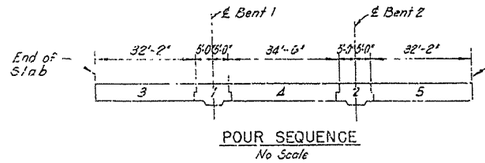
ULTIMATE D.L. DEFLECTION DIAGRAM
No Scale

Notes:
1. Concrete in Columns shall be Class S
2. Concrete in Footings shall be Class A.
3. Spiral reinforcement shall be smooth, cold drawn wire of the size and pitch shown. 1½ extra turns of the spiral shall be made at the top and bottom of each column and at all splices. Four #4 bars with no deformations shall be provided as spacers for each spiral unit and shall be equally spaced around periphery of the coil. The spacers shall be measured and paid for as "Reinforcing Steel".
4. Epoxy adhesive shall be a type suitable for the intended use.

FOR INFORMATION ONLY

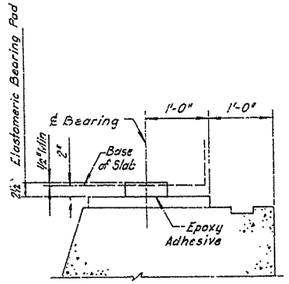


ELEVATION SHOWING CURB, PARAPET AND RAILING POST
Scale: 1/8" = 1'-0"



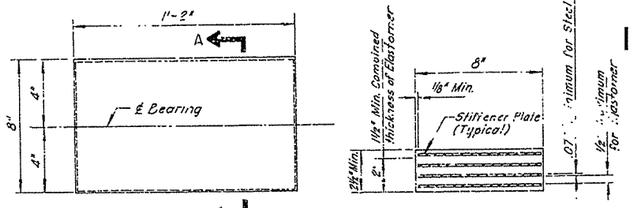
POUR SEQUENCE
No Scale

Notes:
1. No part of falsework shall be removed until all the concrete in the complete bridge deck slab has been placed and cured.
2. Pours 1, and 2 may be made simultaneously. Also pours 3, 4 and 5 may be made simultaneous...



Note: Elastomeric bearing Pads shall be held firmly in place on end bent seat a minimum of two days without being disturbed. This shall be done in such a way to ensure no pockets which might cause adverse deflections. The bottom surface of the pad shall have no sealing rib around the perimeter.

BEARING DETAIL
Scale: 1" = 1'-0"



Note: Neoprene pads shall be 50 Durometer Hardness. The 2½" Bearing Pad may consist of a series of thinner pads which meet above dimensions. Any series used to make the 2½" thick pad must be bonded together by the use of adhesive.

PLAN SECTION A-A

DETAILS OF ELASTOMERIC BEARING PAD
Scale: 3" = 1'-0"

BRIDGE NO. 5131A&B DRAWING NO. 54888

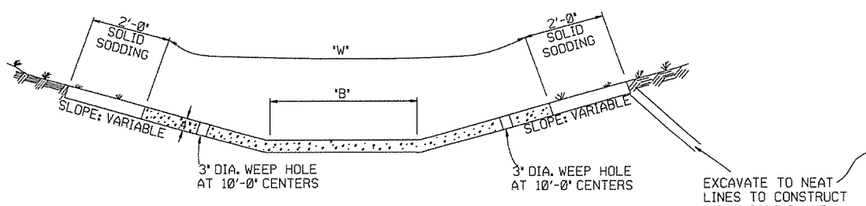
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

INTERSTATE ROUTE 40
JCT. HWY. 23 - EAST GAR CREEK
JOB 4487

PHILPOT ROAD OVERPASS
COLUMNS, REINFORCEMENT SCHEDULE AND MISCELLANEOUS DETAILS

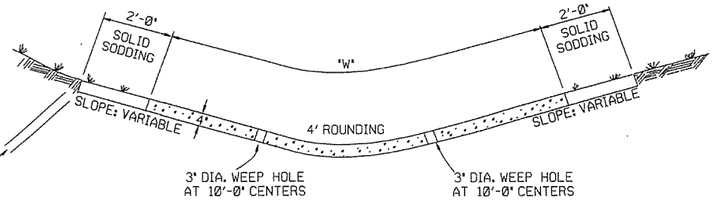
DRAWN BY	GEL	GARVER & GARVER, Inc. ENGINEERS LITTLE ROCK ARKANSAS	SCALE AS SHOWN
CHECKED BY	TBH		SHEET NO. 81 - 262
DATE	NOV. 1968		

REFER TO TABULATION OF QUANTITIES FOR 'W' & 'B' DIMENSIONS



TYPE A

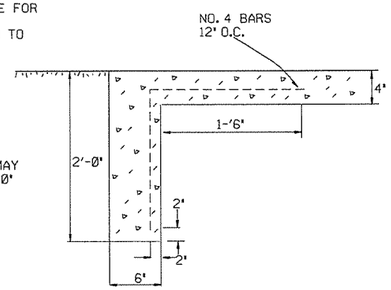
REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



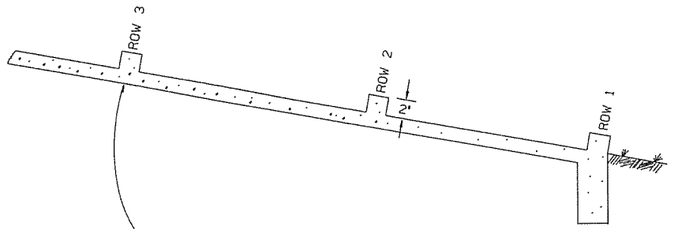
TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'

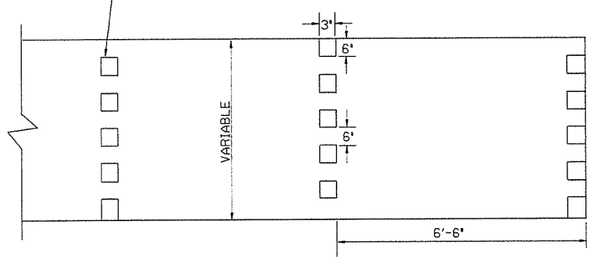
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED



ENERGY DISSIPATORS
(NO SCALE)

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

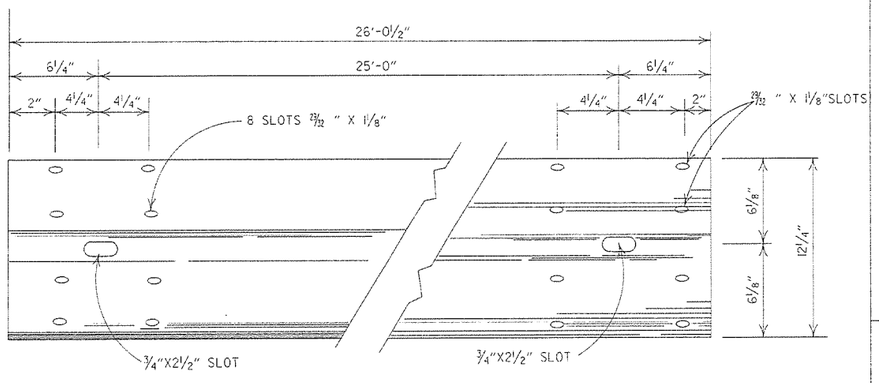
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

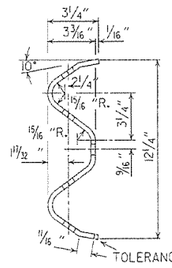
DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	11-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1

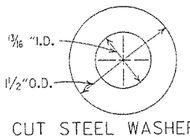




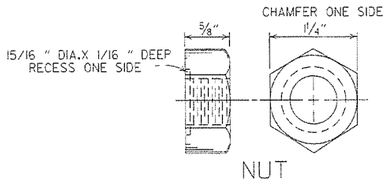
DETAILS OF W-BEAM GUARD RAIL

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

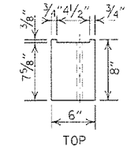
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

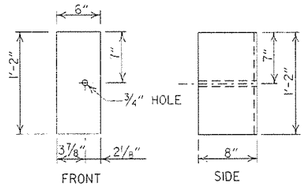


NUT

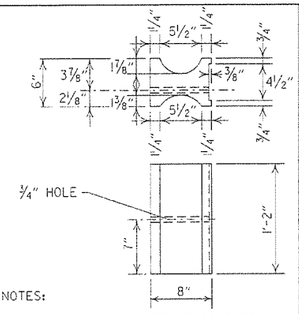


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



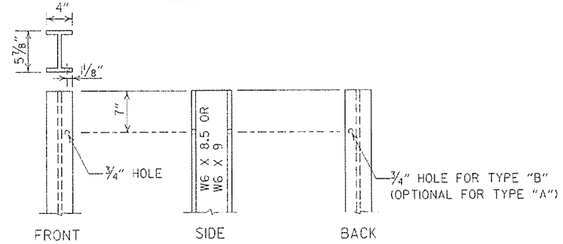
WOOD BLOCKOUT (W-BEAM)



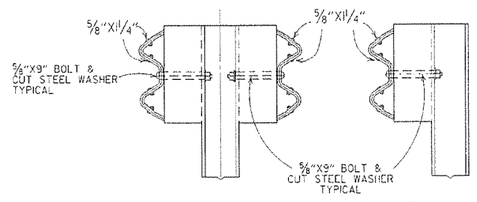
NOTES:

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

PLASTIC BLOCKOUT (W-BEAM)



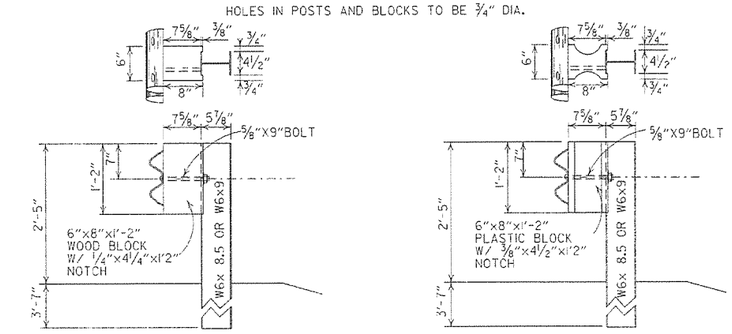
STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

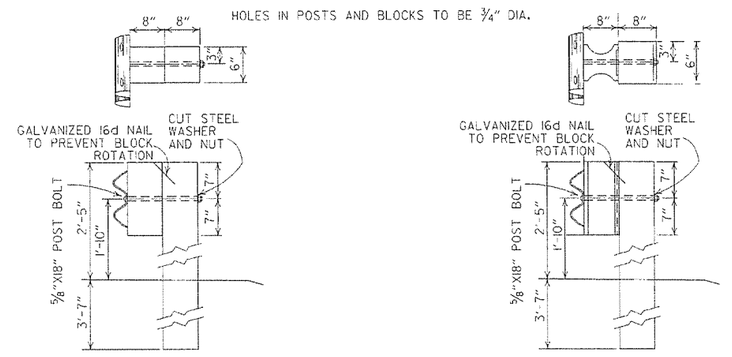


WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

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

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

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

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

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

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

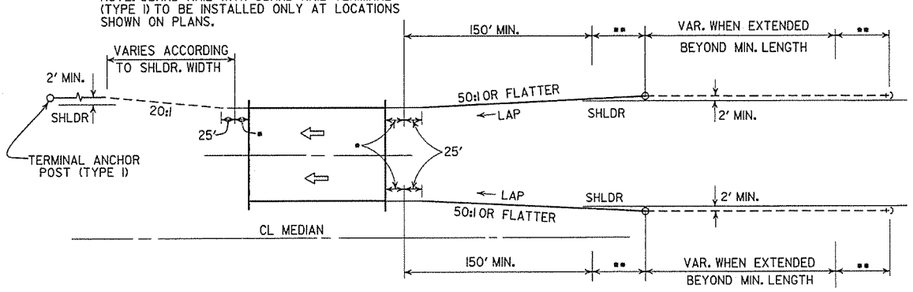
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD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

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

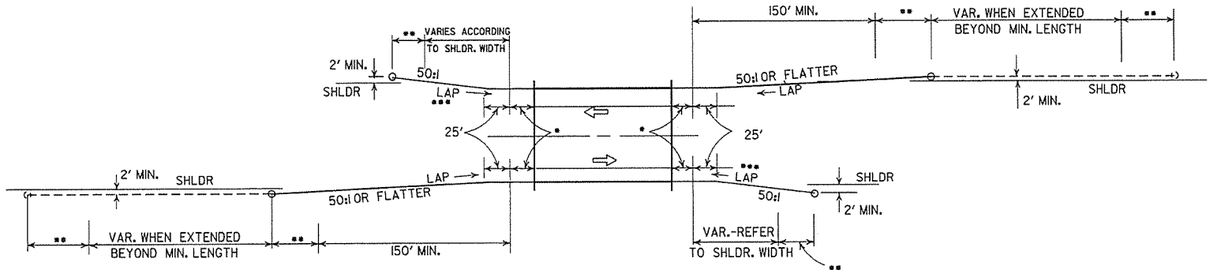
STANDARD DRAWING GR-8

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

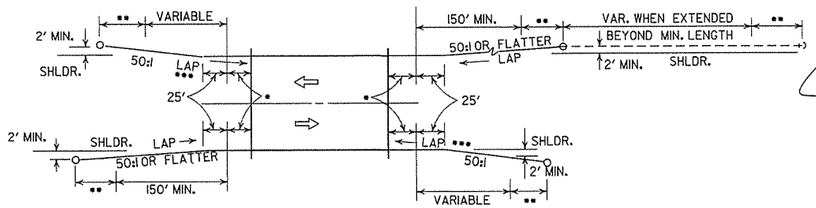
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

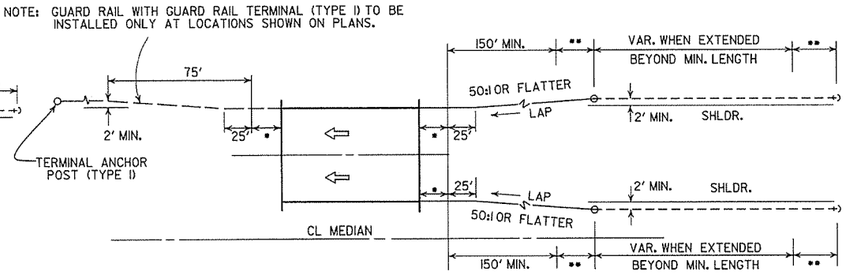
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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



TWO-WAY TRAFFIC

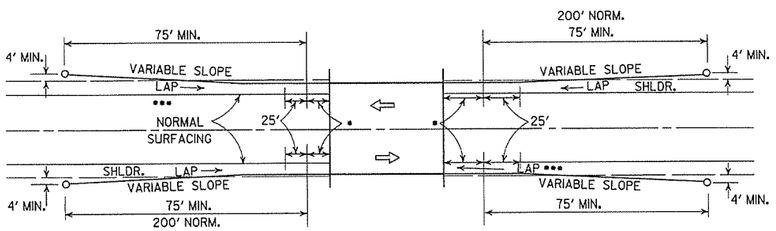
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

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

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



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

LEGEND

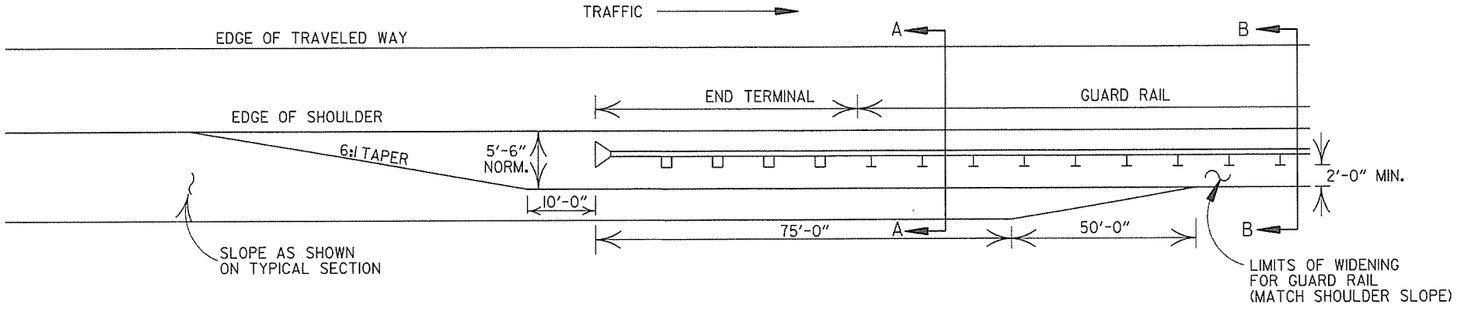
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

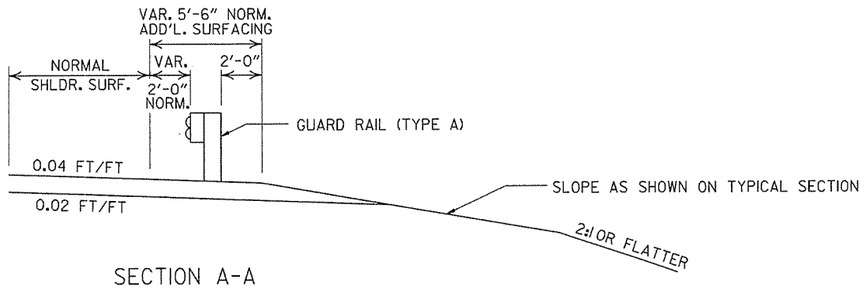
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87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

ARKANSAS STATE HIGHWAY COMMISSION

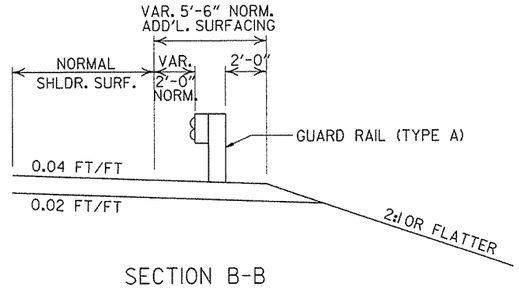
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





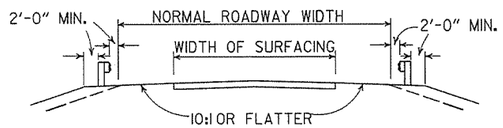
SECTION A-A



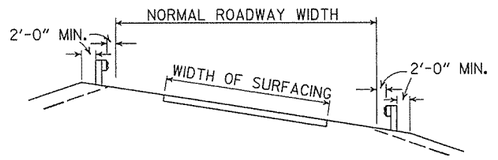
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

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

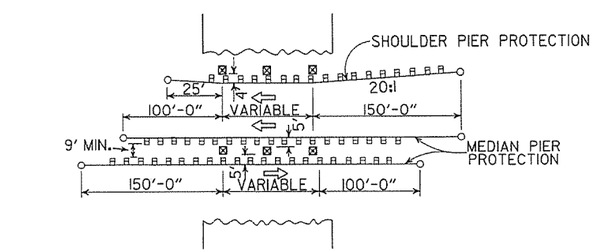


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



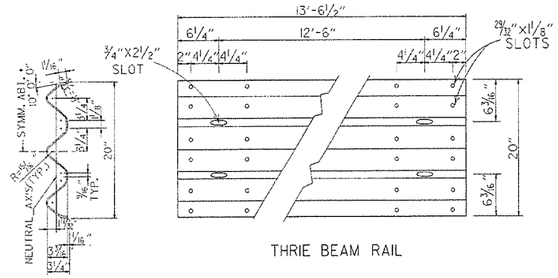
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

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

ARKANSAS STATE HIGHWAY COMMISSION

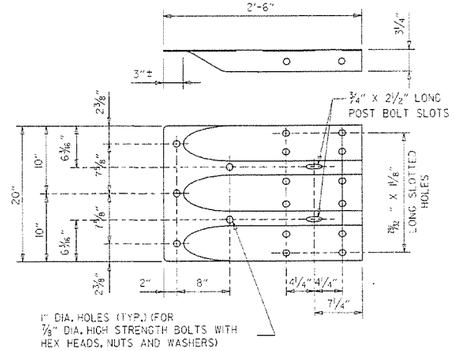
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



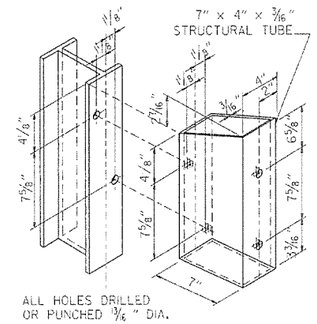
THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL



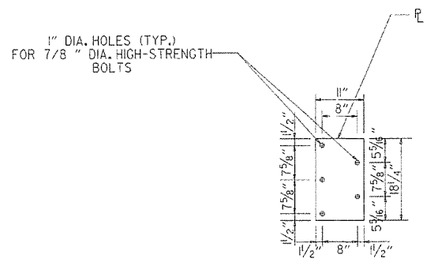
1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

SPECIAL END SHOE



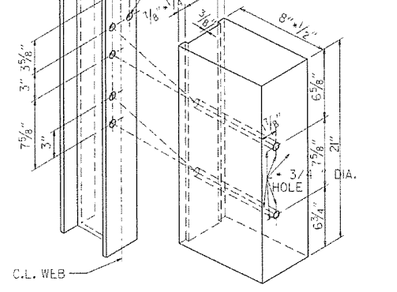
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

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



CONNECTOR PLATE

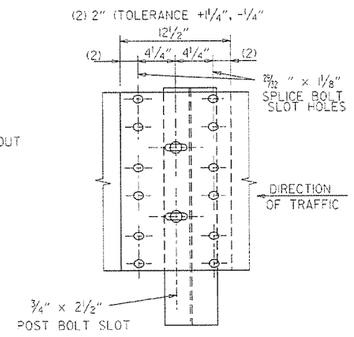
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



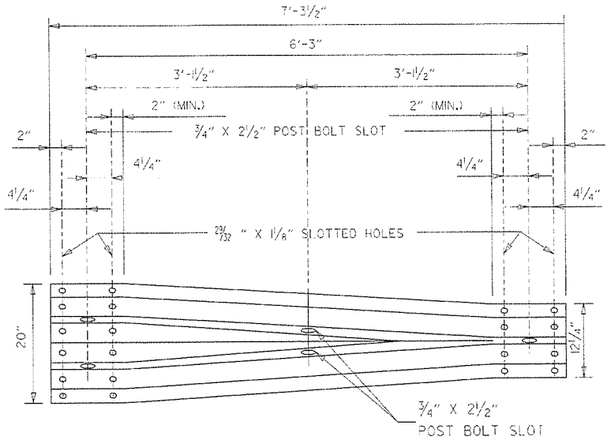
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

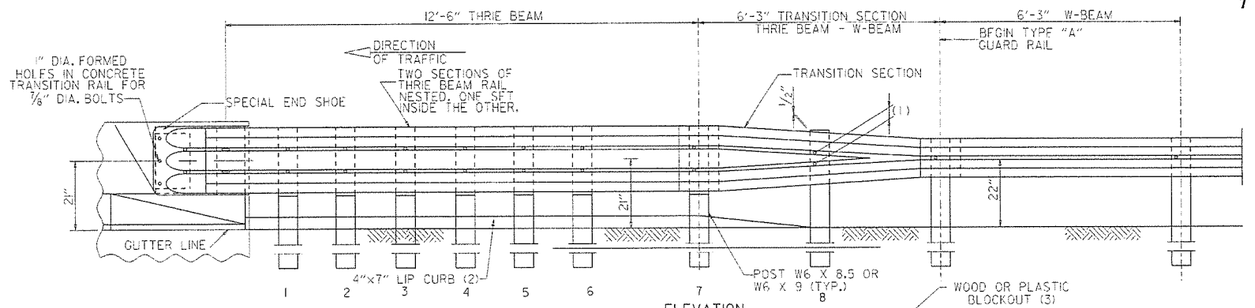
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



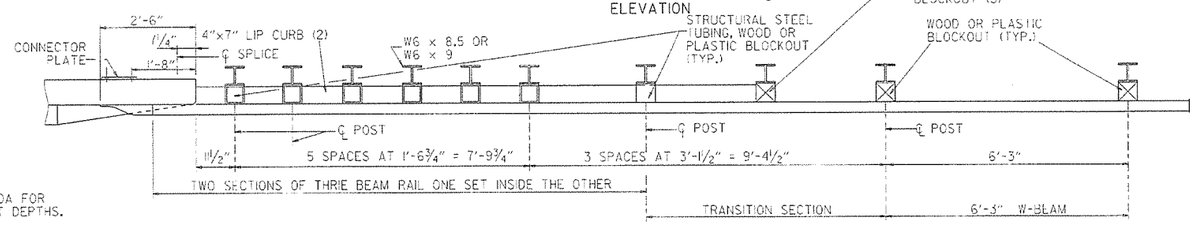
THRIE BEAM RAIL SPLICE AT POST



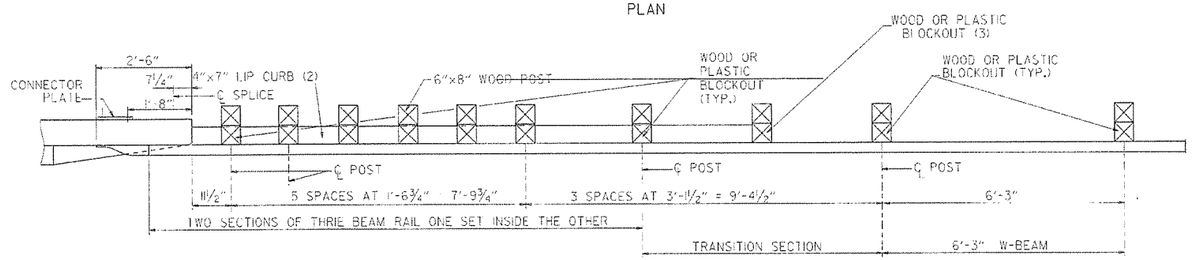
TRANSITION SECTION



ELEVATION



PLAN



PLAN

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

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

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

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

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

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

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

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

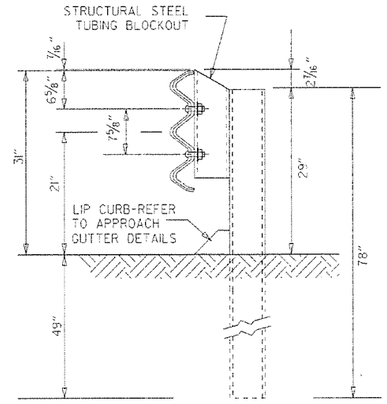
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

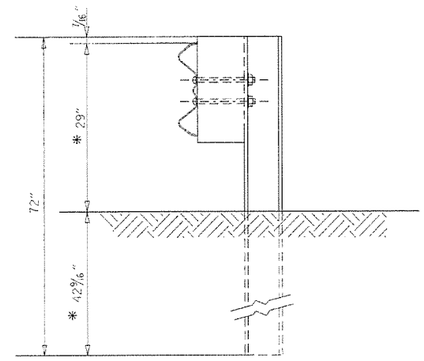
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

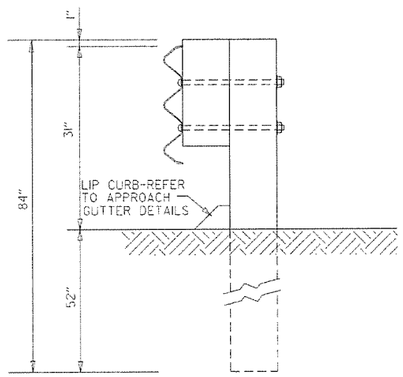


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

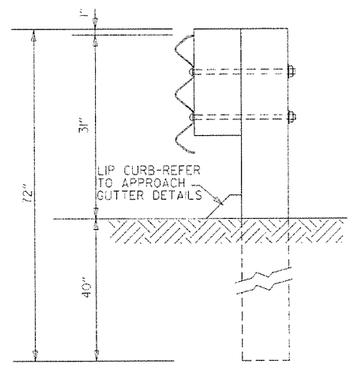


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

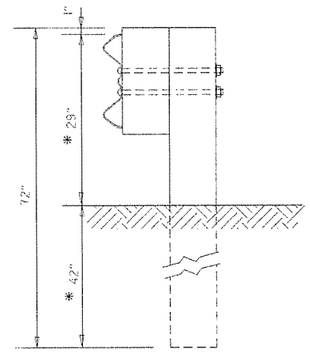
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



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

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

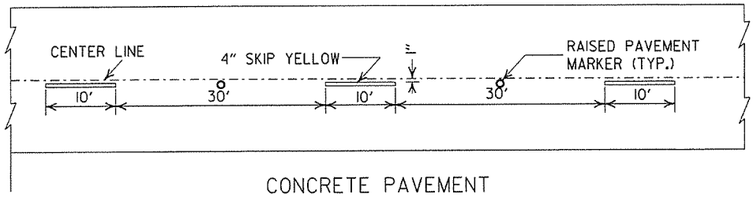
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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

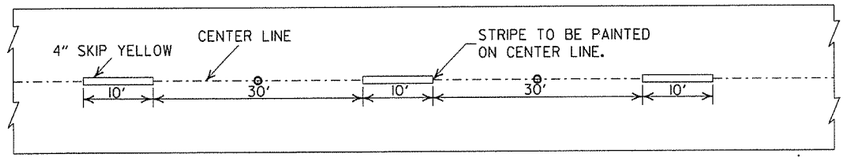
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

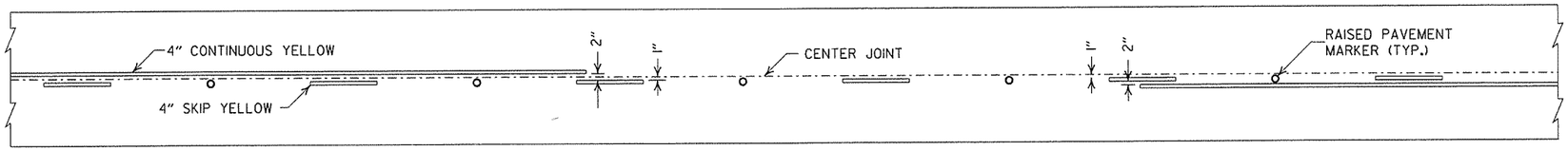


CONCRETE PAVEMENT

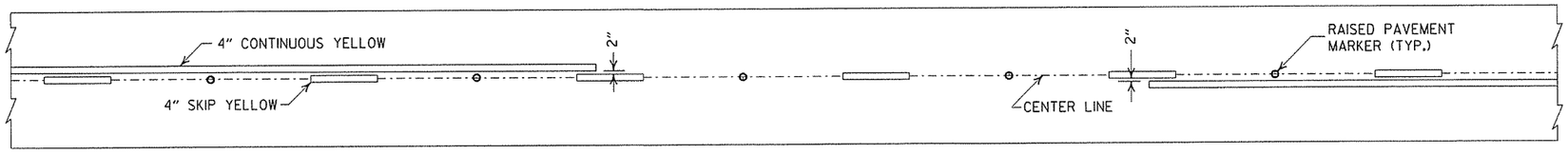


ASPHALT PAVEMENT

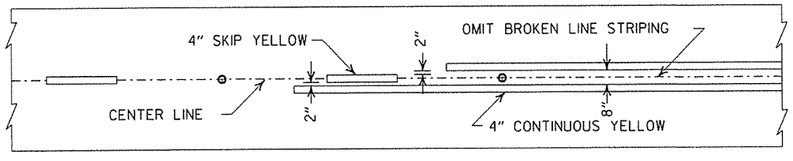
BROKEN LINE STRIPING



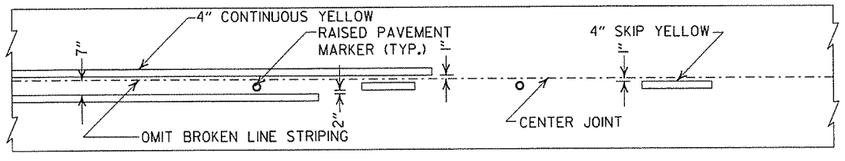
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

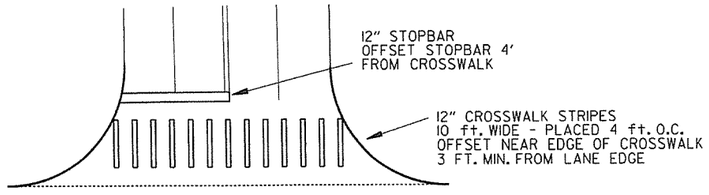


ASPHALT PAVEMENT



CONCRETE PAVEMENT

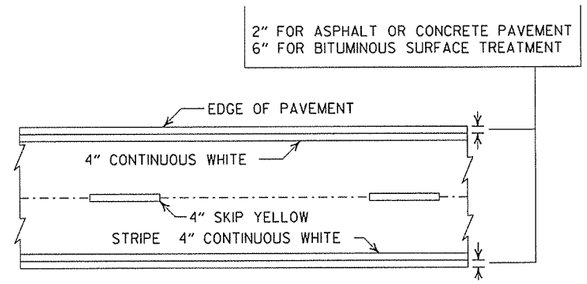
STRIPING AT ADJACENT NO PASSING LANES



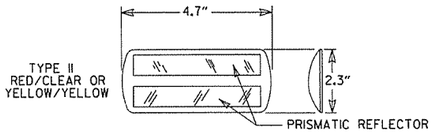
CROSSWALK AND STOPBAR DETAILS

NOTES:

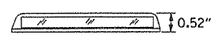
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

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

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

NOTE:

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

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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

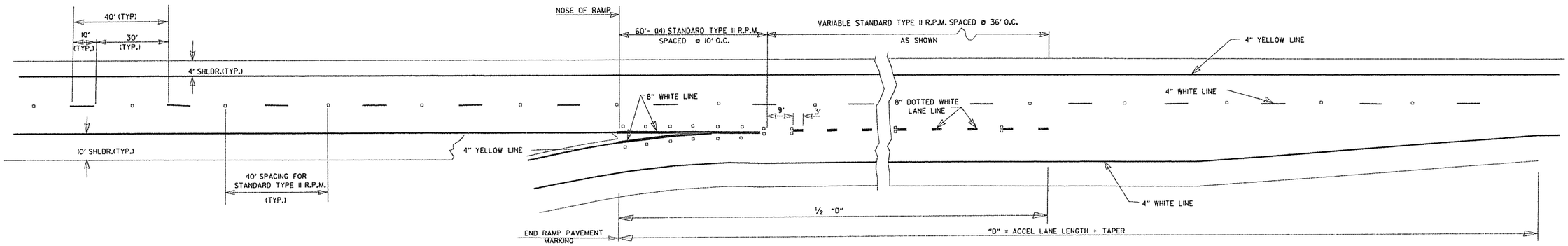
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

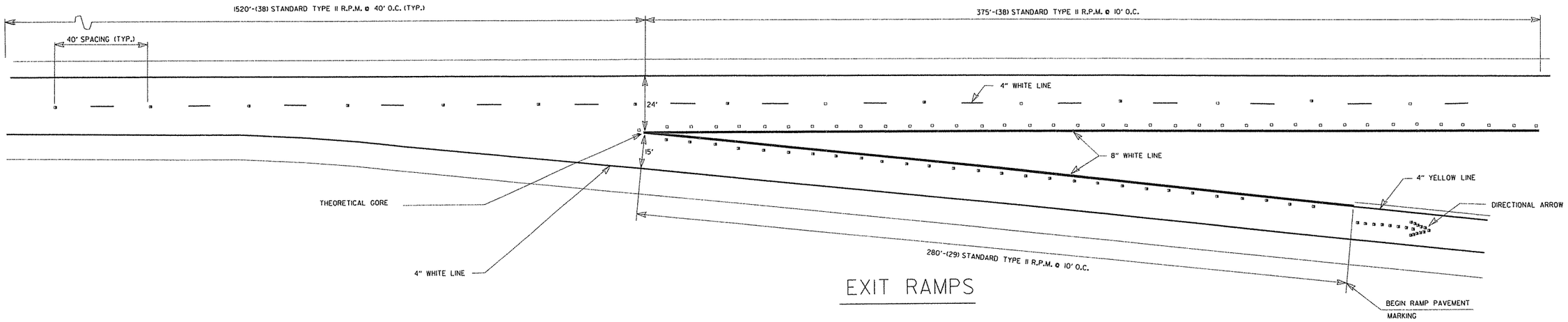
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

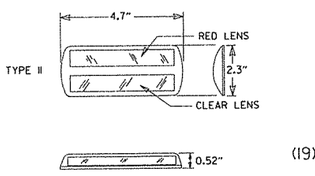
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

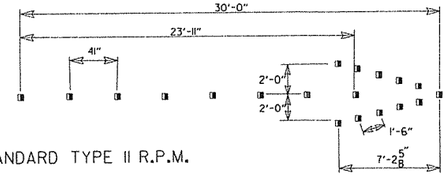


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



(19) STANDARD TYPE II R.P.M.

DIRECTIONAL ARROWS

GENERAL NOTES:

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

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

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

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
7-26-12	REVISED RPM NOTATION	
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

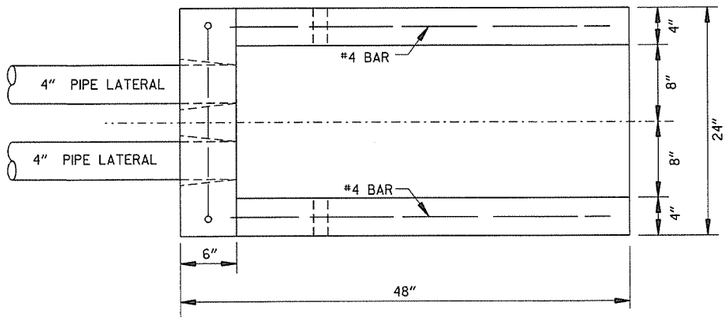
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

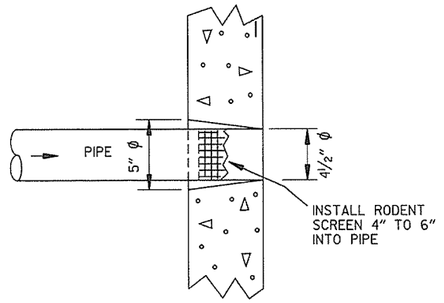
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

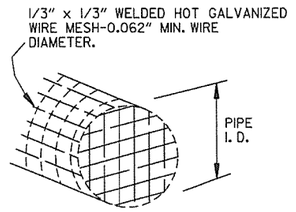
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



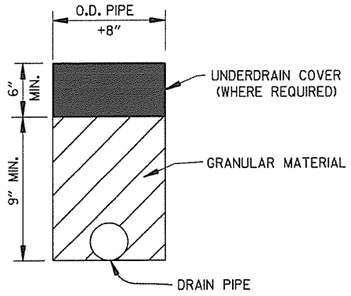
PLAN VIEW

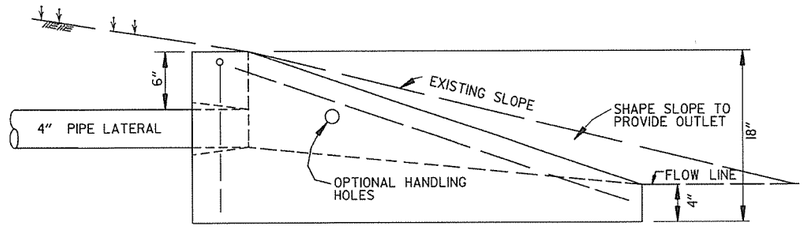


DETAIL OF HOLE FOR 4" PIPE

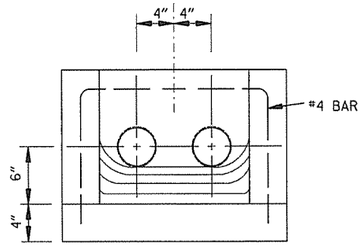


DETAIL OF RODENT SCREEN

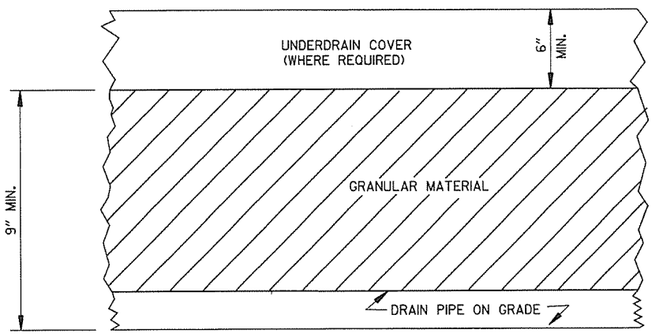




SIDE VIEW

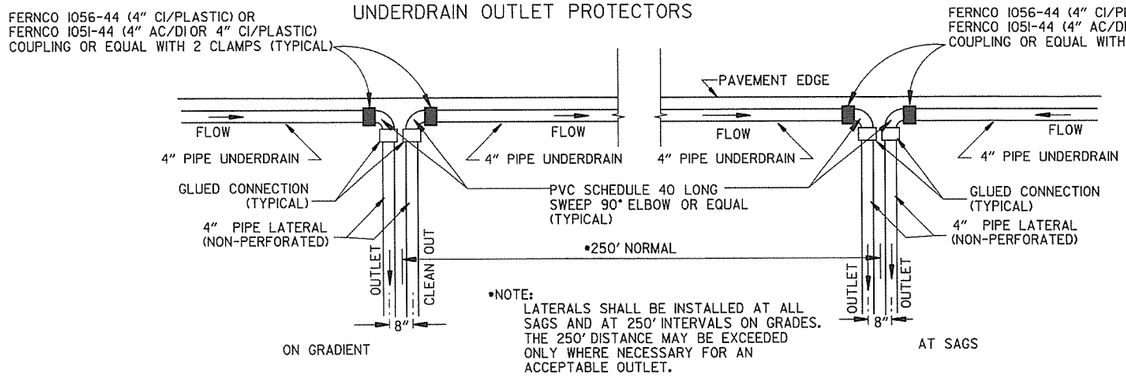


FRONT VIEW



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

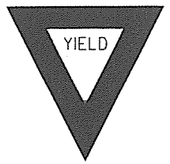
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

R1-1

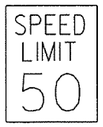
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



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

R2-5A

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

R2-5C

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

R4-1

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

R4-2

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

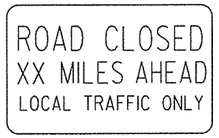
R5-1

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

RII-2

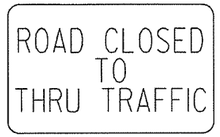
48"X30"

RII-3A



60"X30"

RII-4

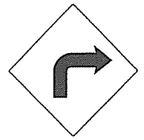


60"X30"

RSP-1

48"X30"

WI-1



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

WI-2

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

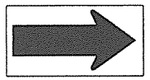
WI-3

STD. 48"X48"

WI-4

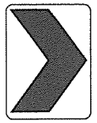
STD. 48"X48"

WI-6



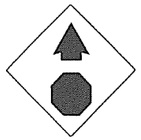
STD. 48"X24"
SPECIAL 60"X30"

WI-8



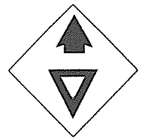
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



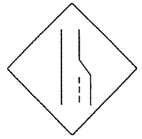
STD. 36"X36"
SPECIAL 48"X48"

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"

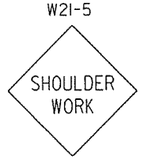
W20-7a

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"

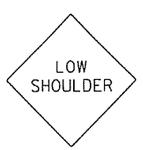
R56-1

STD. 18"X18"

W8-11

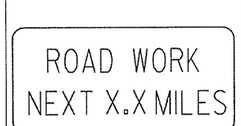
STD. 36"X36"
FWY. 48"X48"

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

FINES DOUBLE
IN WORK ZONES *

WHEN WORKERS
ARE PRESENT **

36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

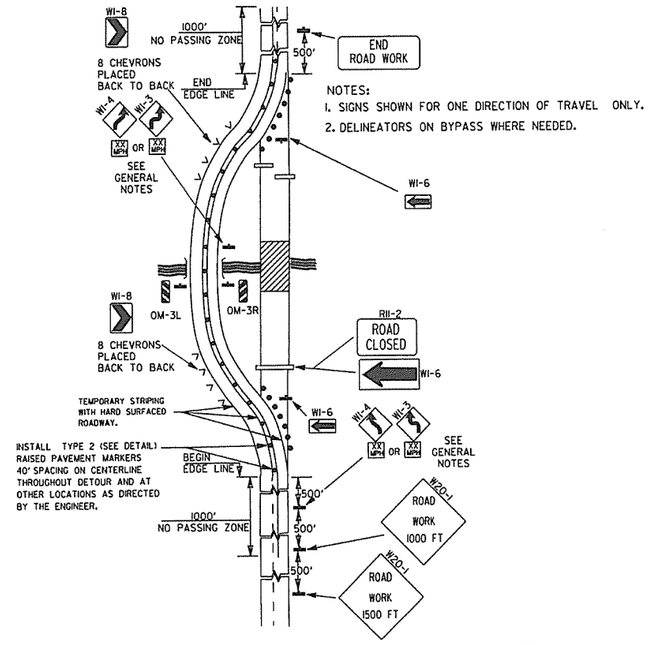
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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

ARKANSAS STATE HIGHWAY COMMISSION

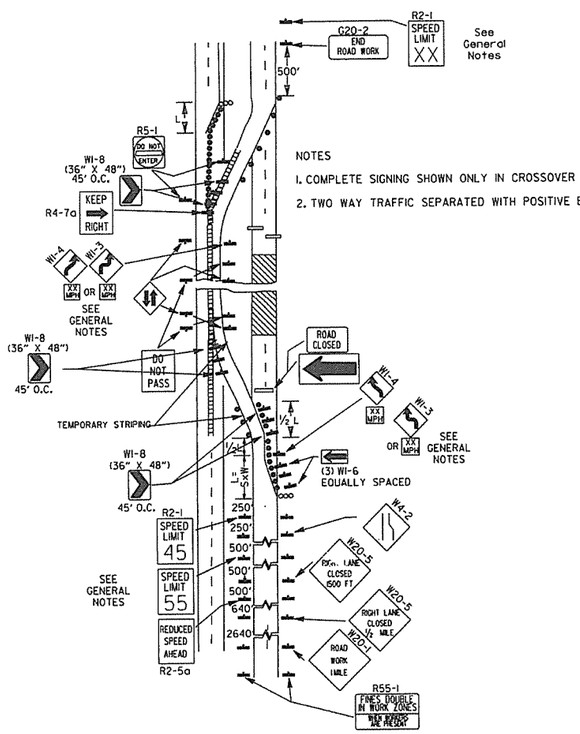
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



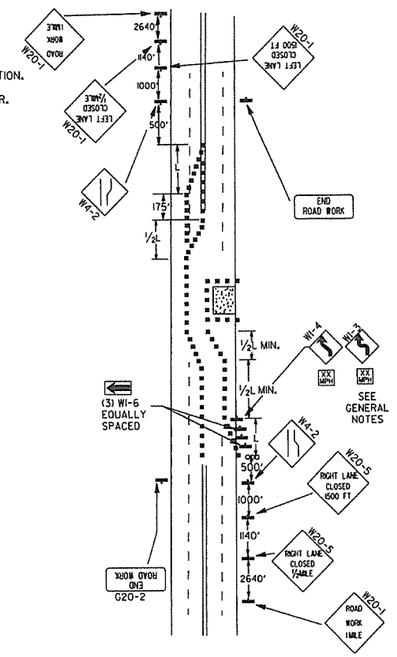
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

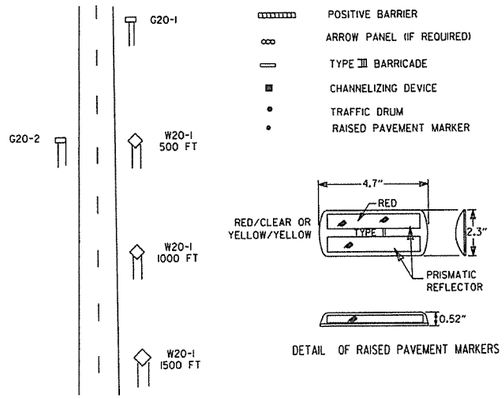


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

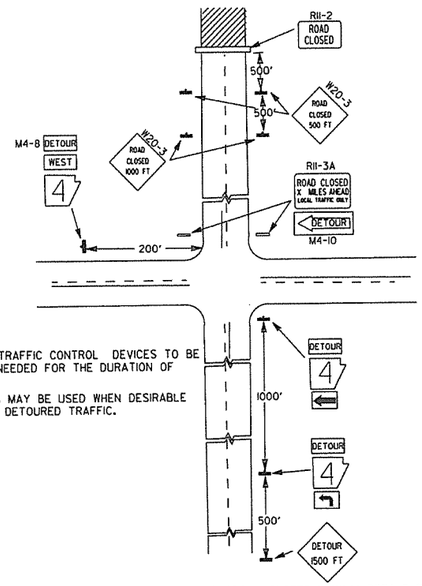
L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

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

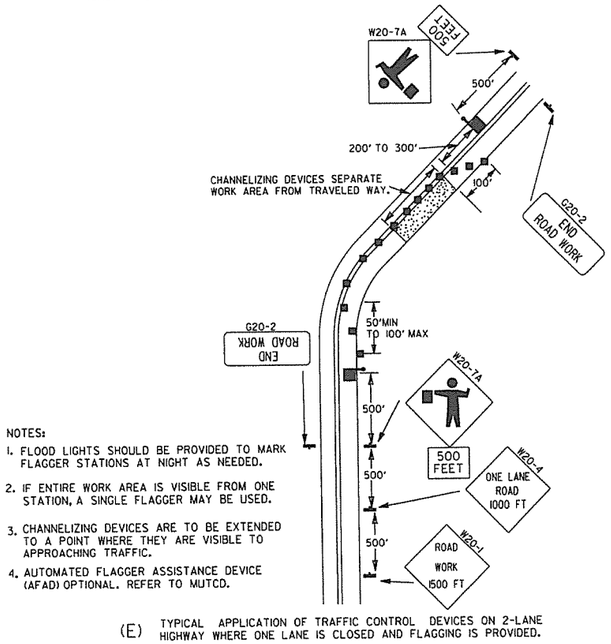
GENERAL NOTES:

1. ADVISORY SPEED POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.



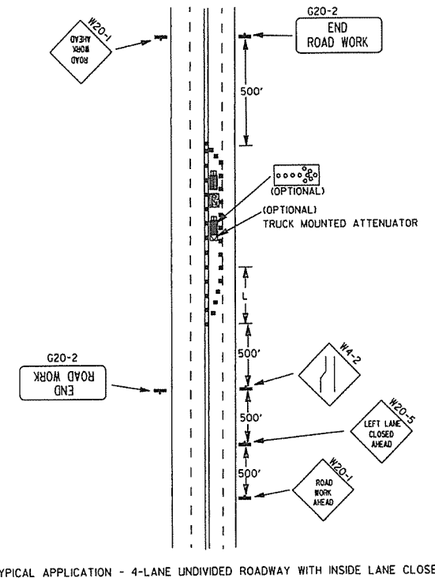
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(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.



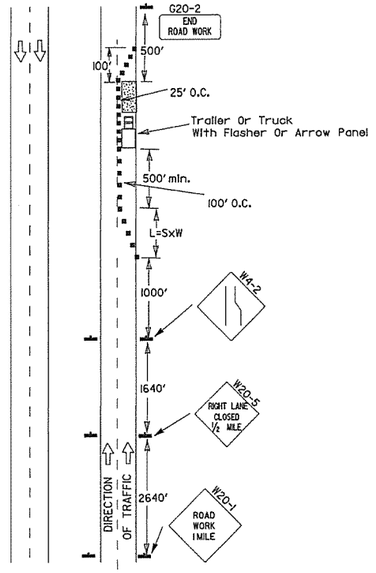
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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

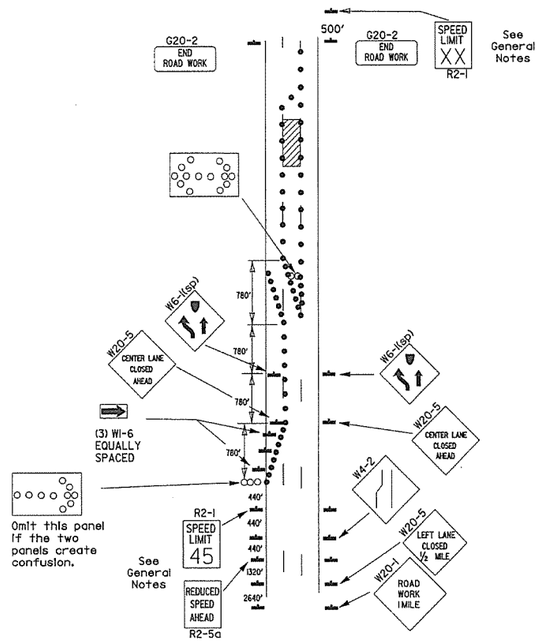
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

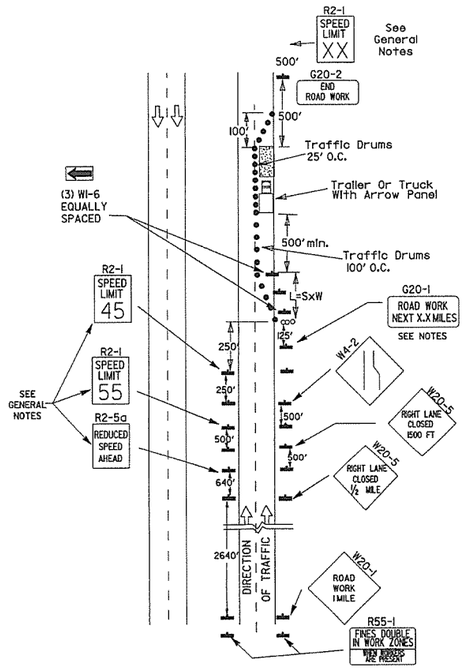
STANDARD DRAWING TC-2



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



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



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

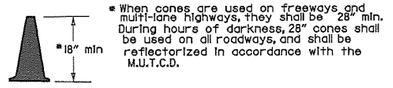
KEY:

- ○○○ Arrow Panel (If Required)
- ■ Channelizing Device
- ● Traffic drum

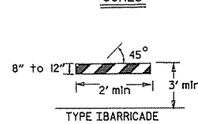
GENERAL NOTES:

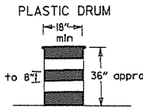
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

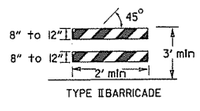
Channelizing devices

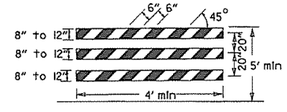


* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

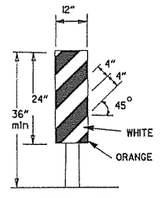


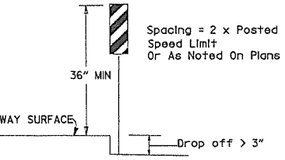






NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



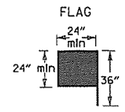


TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

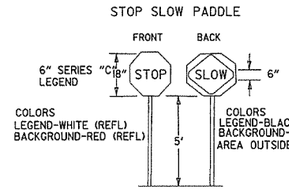
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical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

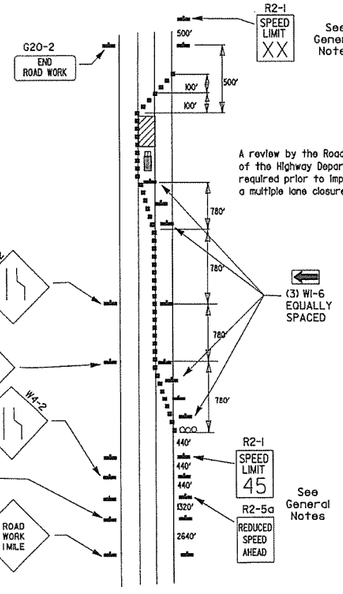
* When shown on the plans concrete barrier will be used.

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.



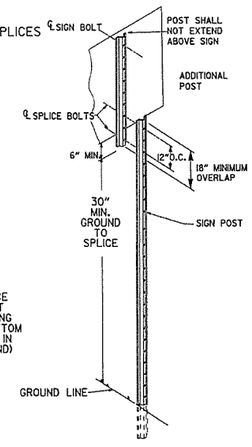
Flag shall be of good grade red material





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

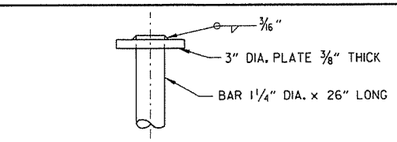
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

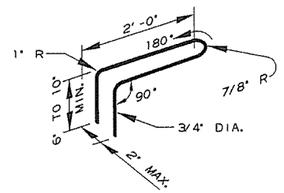
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

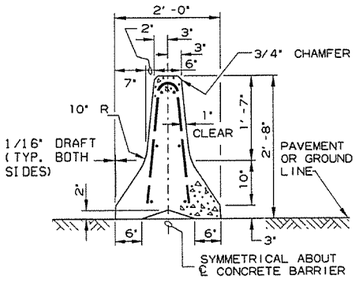
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. 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"



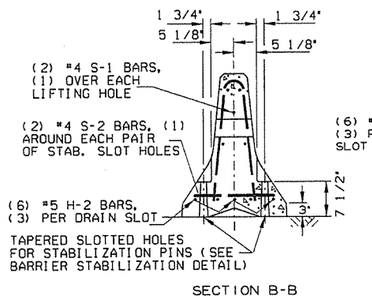
CONNECTION DETAILS



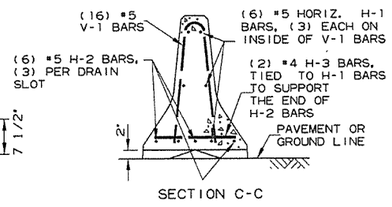
CONNECTION LOOP



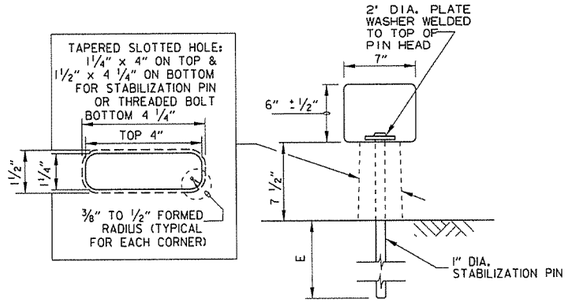
SECTION A-A



SECTION B-B



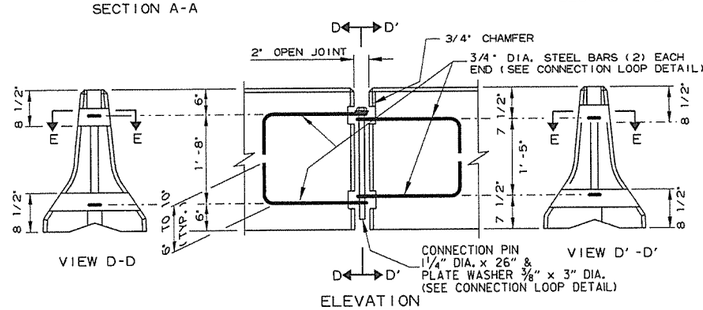
SECTION C-C

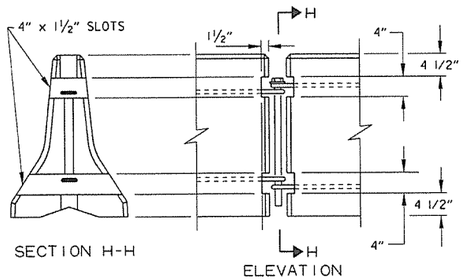


BARRIER STABILIZATION DETAIL

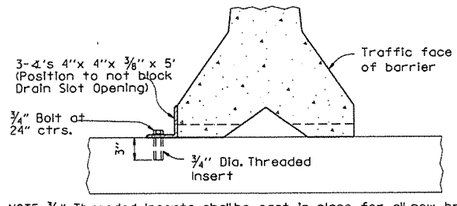
ROADWAY SECTION

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





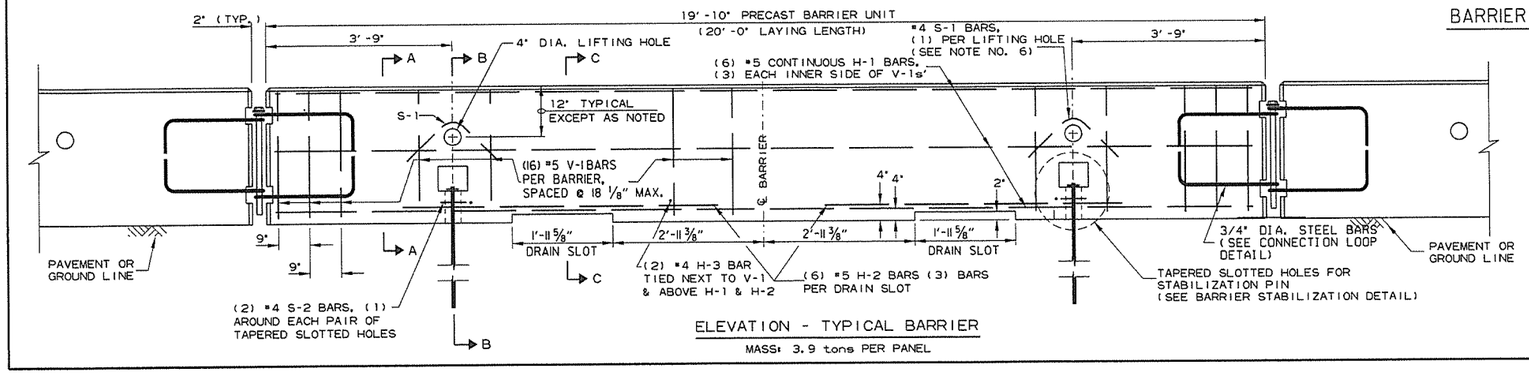
BARRIER REMOVAL SLOT DETAILS



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 - 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.

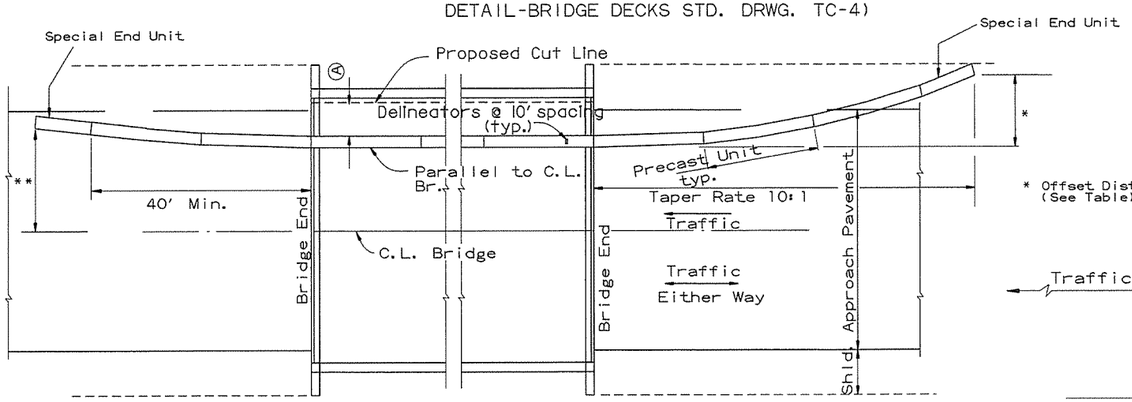
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

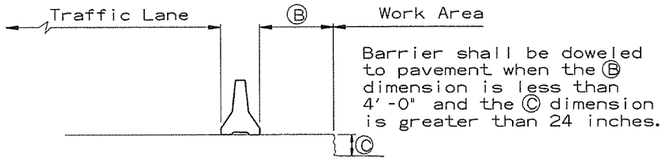
STANDARD DRAWING TC-4

Ⓐ 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

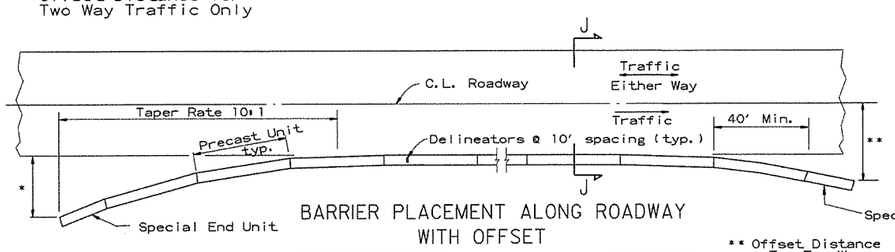


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

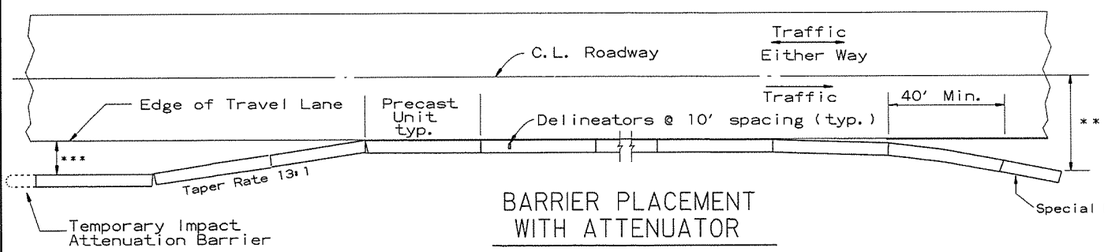
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

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.

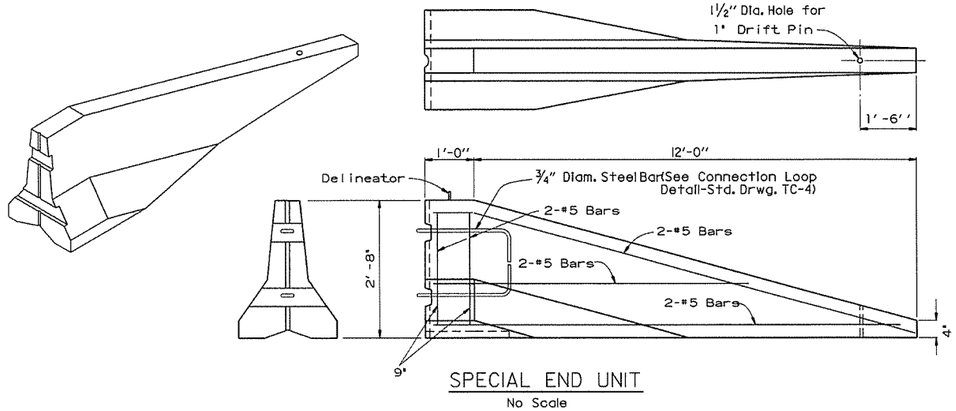


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

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



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	

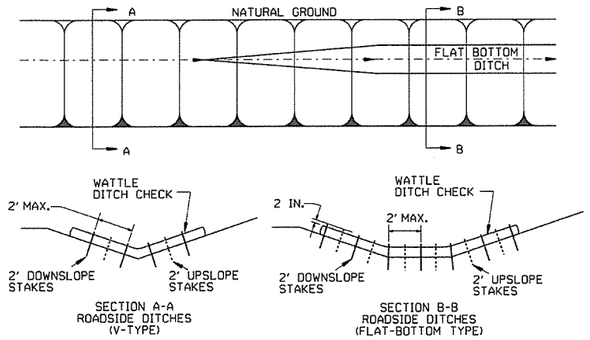
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

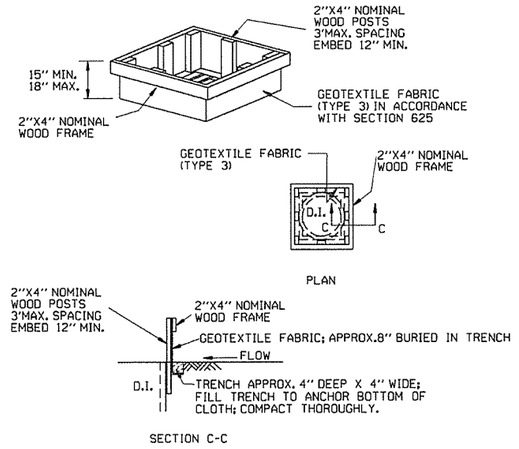
STANDARD DRAWING TC-5

GENERAL NOTES

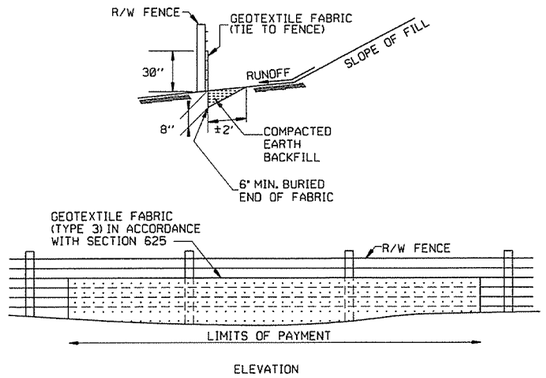
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



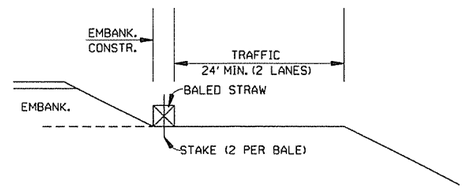
SILT FENCE ON R/W FENCE (E-4)

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.

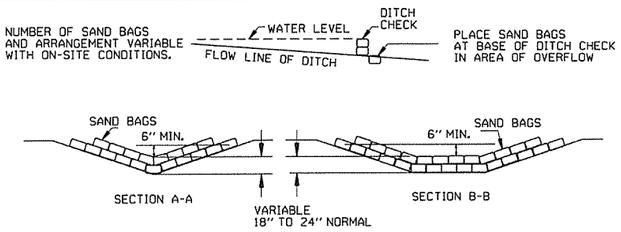
GENERAL NOTES

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.

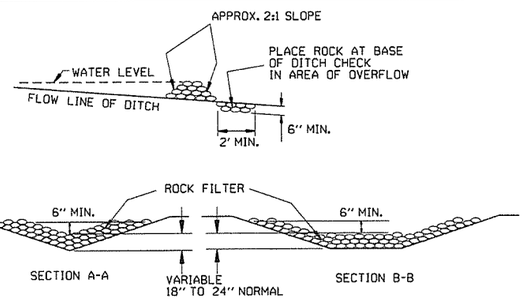


BALED STRAW FILTER BARRIER (E-2)

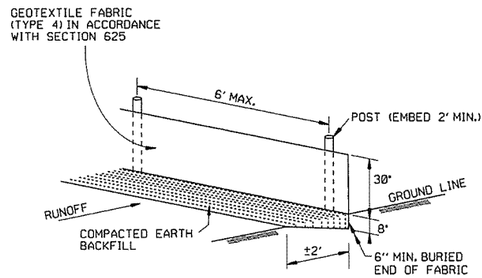
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

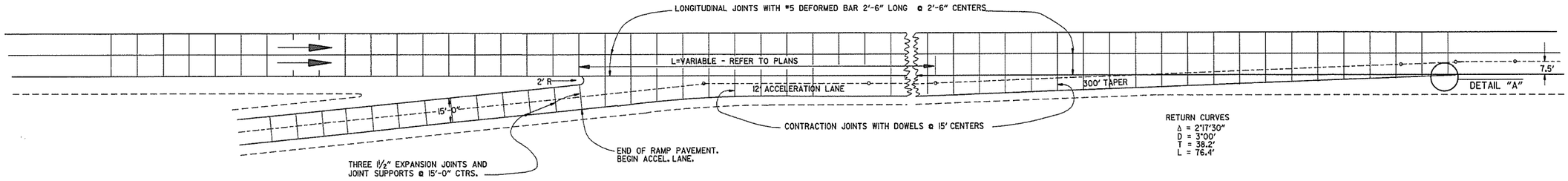
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

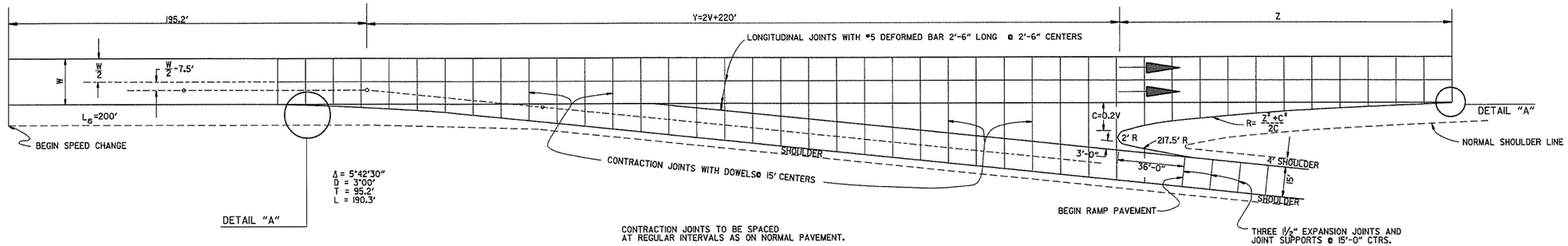
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



ENTRANCE RAMP

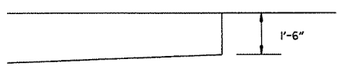
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



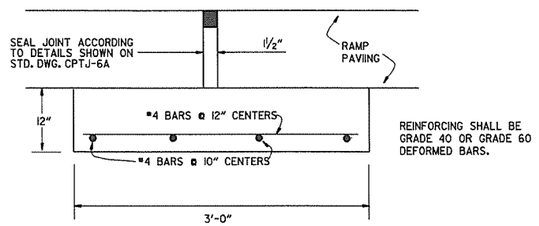
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED. THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

DATE	REVISION	DATE FILM'D
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	65C-7-15-88
3-2-81	ISSUED	511-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

STANDARD DRAWING TR-1A