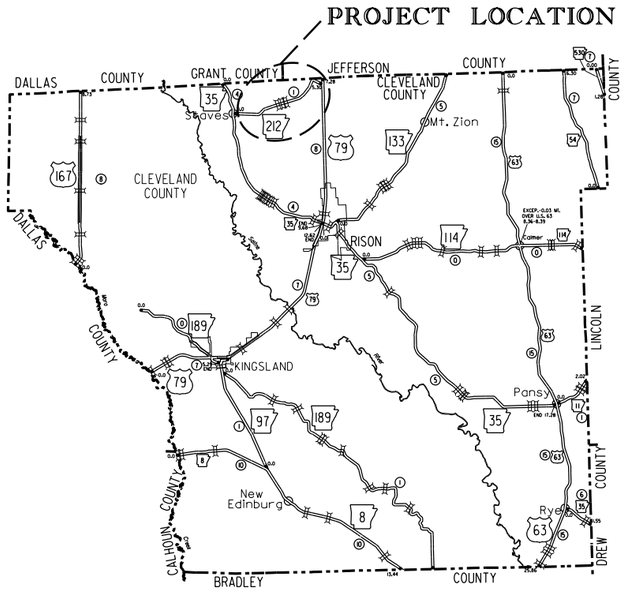
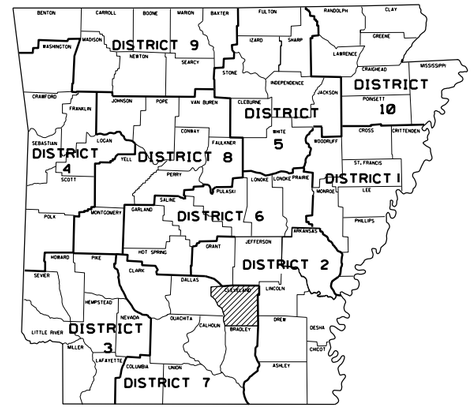
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	1	76
				(2)	BAYOU DERRISEAUX STRS. & APPRS. (S)			



VICINITY MAP

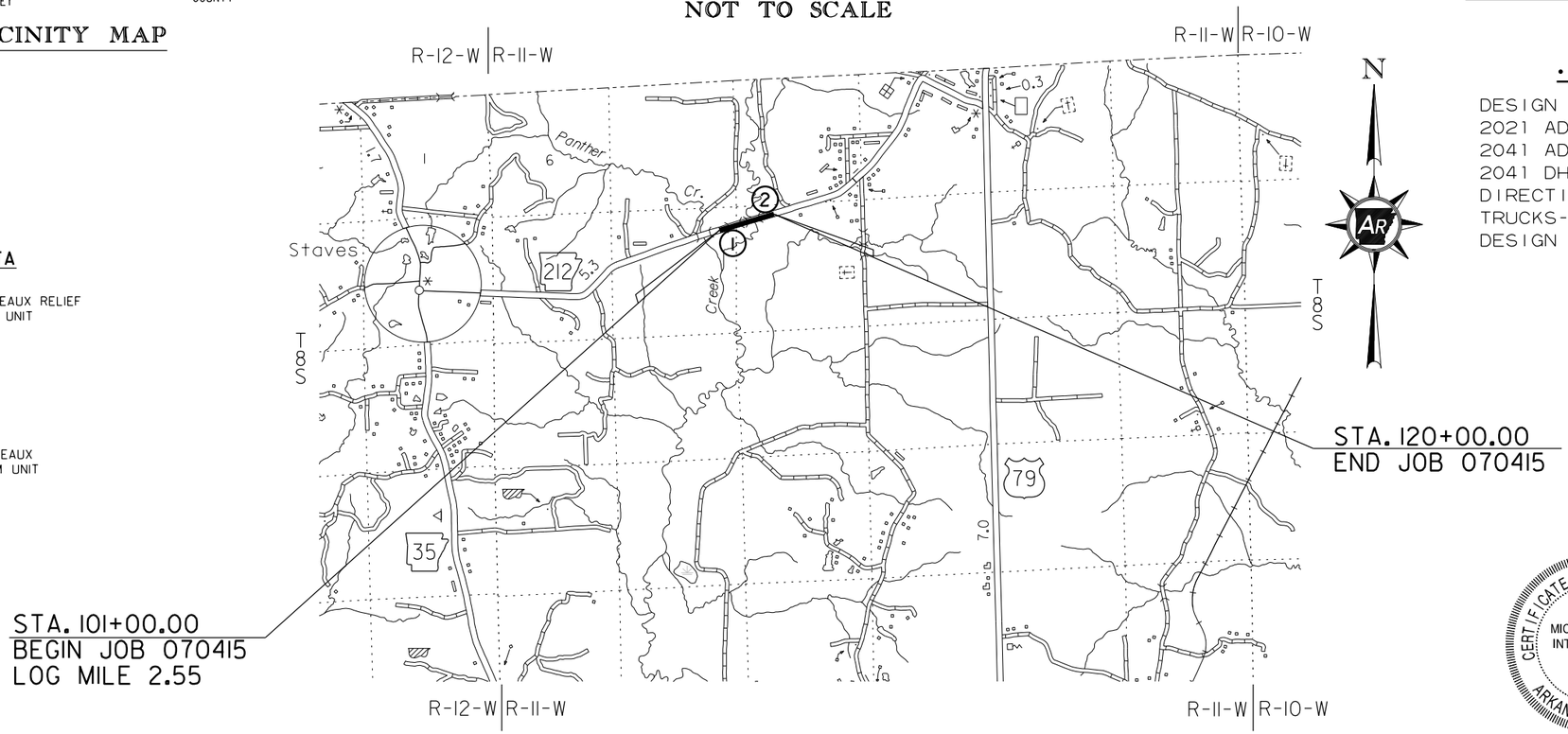
ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS

BAYOU DERRISEAUX
STRS. & APPRS. (S)
CLEVELAND COUNTY
ROUTE 212 SECTION 1
JOB 070415
FED. AID PROJ. NHPP-0013(18)



ARKANSAS HIGHWAY DISTRICT 7

NOT TO SCALE



• DESIGN TRAFFIC DATA •

DESIGN YEAR	2041
2021 ADT	430
2041 ADT	500
2041 DHV	55
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	11%
DESIGN SPEED	55 MPH

BRIDGE CONSTRUCTION DATA

(1) STA. 104+40.50 BRIDGE END
BRIDGE NO. 07469 OVER BAYOU DERRISEAUX RELIEF
143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
(45'-53'-45')
30'-0" CLEAR ROADWAY
144'-0" BRIDGE LENGTH
STA. 105+84.50 BRIDGE END

(2) STA. 112+32.50 BRIDGE END
BRIDGE NO. 07470 OVER BAYOU DERRISEAUX
240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
(42'-52'-52'-52'-42')
30'-0" CLEAR ROADWAY
241'-0" BRIDGE LENGTH
STA. 114+73.50 BRIDGE END

CERTIFICATE OF AUTHORIZATION
MICHAEL BAKER INTERNATIONAL INC
No. 1126
ARKANSAS - ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-3-2020

	BEGIN OF PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°02'43"	N 34°02'46"	N 34°02'48"
LONGITUDE	W 92°14'06"	W 92°13'41"	W 92°13'45"

LENGTH COMPUTED ALONG C.L. HWY. 212		
GROSS LENGTH OF PROJECT	1900.00 FEET	0.360 MILES
NET LENGTH OF ROADWAY	1515.00 FEET	0.287 MILES
NET LENGTH OF BRIDGES	385.00 FEET	0.073 MILES
NET LENGTH OF PROJECT	1900.00 FEET	0.360 MILES

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.		070415	2	76

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG.NO.
1	TITLE SHEET		
2	INDEX OF SHEETS AND STANDARD DRAWINGS		
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
4	TYPICAL SECTIONS OF IMPROVEMENT		
5 - 6	SPECIAL DETAILS		
7 - 15	TEMPORARY EROSION CONTROL DETAILS		
16 - 26	MAINTENANCE OF TRAFFIC DETAILS		
27 - 28	PERMANENT PAVEMENT MARKING DETAILS		
29 - 32	QUANTITIES		
33	SCHEDULE OF BRIDGE QUANTITIES	07649 & 07470	61301
34	SUMMARY OF QUANTITIES AND REVISIONS		
35 - 38	SURVEY CONTROL DETAILS		
39 - 42	PLAN AND PROFILE SHEETS		
43	LAYOUT OF BRIDGE HIGHWAY 212 OVER BAYOU DERRISEAUX RELIEF (SHEET 1 OF 2)	07469	61302
44	LAYOUT OF BRIDGE HIGHWAY 212 OVER BAYOU DERRISEAUX RELIEF (SHEET 2 OF 2)	07469	61303
45	DETAILS OF END BENTS BAYOU DERRISEAUX RELIEF	07469	61304
46	DETAILS OF INTERMEDIATE BENTS BAYOU DERRISEAUX RELIEF	07469	61305
47	DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF (SHEET 1 OF 6)	07469	61306
48	DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF (SHEET 2 OF 6)	07469	61307
49	DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF (SHEET 3 OF 6)	07469	61308
50	DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF (SHEET 4 OF 6)	07469	61309
51	DETAILS OF 143'-0" CONTINUOUS INTERGAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF (SHEET 5 OF 6)	07469	61310
52	DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF (SHEET 6 OF 6)	07469	61311
53	LAYOUT OF BRIDGE HIGHWAY 212 OVER BAYOU DERRISEAUX (SHEET 1 OF 2)	07470	61312
54	LAYOUT OF BRIDGE HIGHWAY 212 OVER BAYOU DERRISEAUX (SHEET 2 OF 2)	07470	61313
55	DETAILS OF END BENTS BAYOU DERRISEAUX	07470	61314
56	DETAILS OF INTERMEDIATE BENTS BAYOU DERRISEAUX	07470	61315
57	DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX (SHEET 1 OF 6)	07470	61316
58	DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX (SHEET 2 OF 6)	07470	61317
59	DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX (SHEET 3 OF 6)	07470	61318
60	DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX (SHEET 4 OF 6)	07470	61319
61	DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX (SHEET 5 OF 6)	07470	61320
62	DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX (SHEET 6 OF 6)	07470	61321
63	DETAILS OF TYPE SPECIAL APPROACH SLAB	07649 & 07470	61322
64 - 76	CROSS SECTIONS		

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020

BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55000	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	02-27-14
55001	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES	02-27-14
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55006	STANDARD GENERAL NOTES FOR STEEL BRIDGE STRUCTURES	09-02-15
55007	STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES	02-11-16
55010	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE	03-24-20
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55030C	STANDARD DETAILS FOR TYPE C APPROACH GUTTERS	02-27-14

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
GR-6	GUARDRAIL DETAILS	11-07-19
GR-7	GUARDRAIL DETAILS	11-07-19
GR-8	GUARDRAIL DETAILS	11-07-19
GR-9	GUARDRAIL DETAILS	11-07-19
GR-10	GUARDRAIL DETAILS	11-07-19
GR-11	GUARDRAIL DETAILS	11-07-19
GR-12	GUARDRAIL DETAILS	05-14-20
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94

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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
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				JOB NO.		070415	3	76

(2) GOVERNING SPECIFICATIONS & GENERAL NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-3-2020

GOVERNING SPECIFICATIONS

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

NUMBER **TITLE**

ERRATA____ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____CONTRACTOR'S LICENSE
100-4_____DEPARTMENT NAME CHANGE
102-2_____ISSUANCE OF PROPOSALS
108-1_____LIQUIDATED DAMAGES
108-2_____WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____PROTECTION OF WATER QUALITY AND WETLANDS
210-1_____UNCLASSIFIED EXCAVATION
303-1_____AGGREGATE BASE COURSE
306-1_____QUALITY CONTROL AND ACCEPTANCE
400-1_____TACK COATS
400-4_____DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____LIQUID ANTI-STRIP ADDITIVE
400-7_____TRACKLESS TACK
404-3_____DESIGN OF ASPHALT MIXTURES
410-1_____CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
600-2_____INCIDENTAL CONSTRUCTION
603-1_____LANE CLOSURE NOTIFICATION
604-1_____RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____TRAFFIC CONTROL DEVICES IN CONSTURCTION ZONES (MASH)
617-1_____GUARDRAIL TERMINAL (TYPE 2)
620-1_____MULCH COVER
621-1_____FILTER SOCKS
800-1_____STRUCTURES
802-3_____CONCRETE FOR STRUCTURES
804-2_____REINFORCING STEEL FOR STRUCTURES
807-2 __STEEL STRUCTURES
JOB 070415__BIDDING REQUIREMENTS AND CONDITIONS
JOB 070415__BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 070415__BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 070415__CARGO PREFERENCE ACT REQUIREMENTS
JOB 070415__CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 070415__CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 070415__DIRECT TENSION INDICATORS FOR HIGH-STRENGTH BOLT ASSEMBLIES
JOB 070415__DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 070415__ESTABLISHING CONTRACT TIME - WORKING DAY CONTRACT
JOB 070415__FLEXIBLE BEGINNING OF WORK
JOB 070415__GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 070415__MANDATORY ELECTRONIC CONTRACT
JOB 070415__MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 070415__NESTING SITES OF MIGRATORY BIRDS
JOB 070415__PARTNERING REQUIREMENTS
JOB 070415__PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 070416__PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 070415__SECTION 404 NATIONWIDE 23 PERMIT REQUIREMENTS
JOB 070415__SHORING FOR CULVERTS
JOB 070415__SOIL STABILIZATION
JOB 070415__STORM WATER POLLUTION PREVENTION PLAN
JOB 070415__SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 070415__UTILITY ADJUSTMENTS
JOB 070415__VALUE ENGINEERING
JOB 070415__WARM MIX ASPHALT
JOB 070415 WELLHEAD PROTECTION

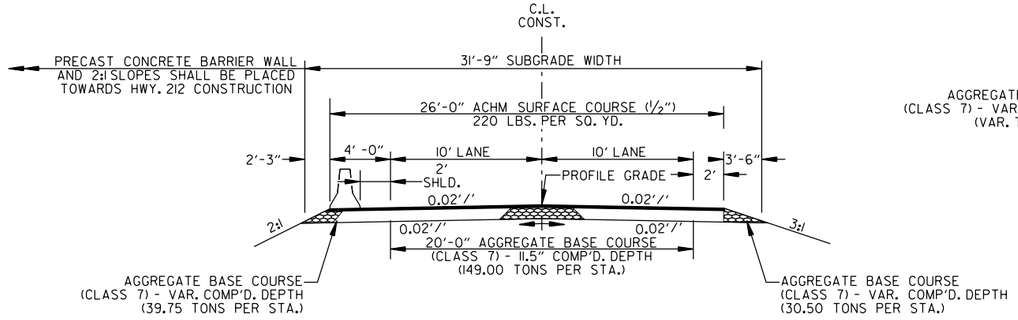
GENERAL NOTES

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

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.		070415	4	76

(2) TYPICAL SECTIONS OF IMPROVEMENT

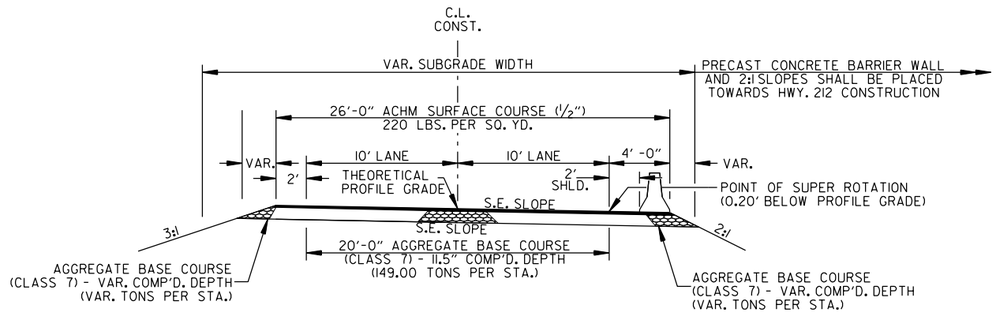
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
10-27-2020



TEMP. DETOUR - TANGENT SECTION

TEMP. DETOUR 1
STA. 10+00.00 TO STA. 13+69.76
STA. 20+57.26 TO STA. 24+39.51

TEMP. DETOUR 2
STA. 20+00.00 TO STA. 22+60.91
STA. 30+53.14 TO STA. 34+61.79



TEMP. DETOUR - SUPERELEVATED SECTION

TEMP. DETOUR 1
STA. 13+69.76 TO STA. 20+57.26

TEMP. DETOUR 2
STA. 22+60.91 TO STA. 30+53.14

NOTES:

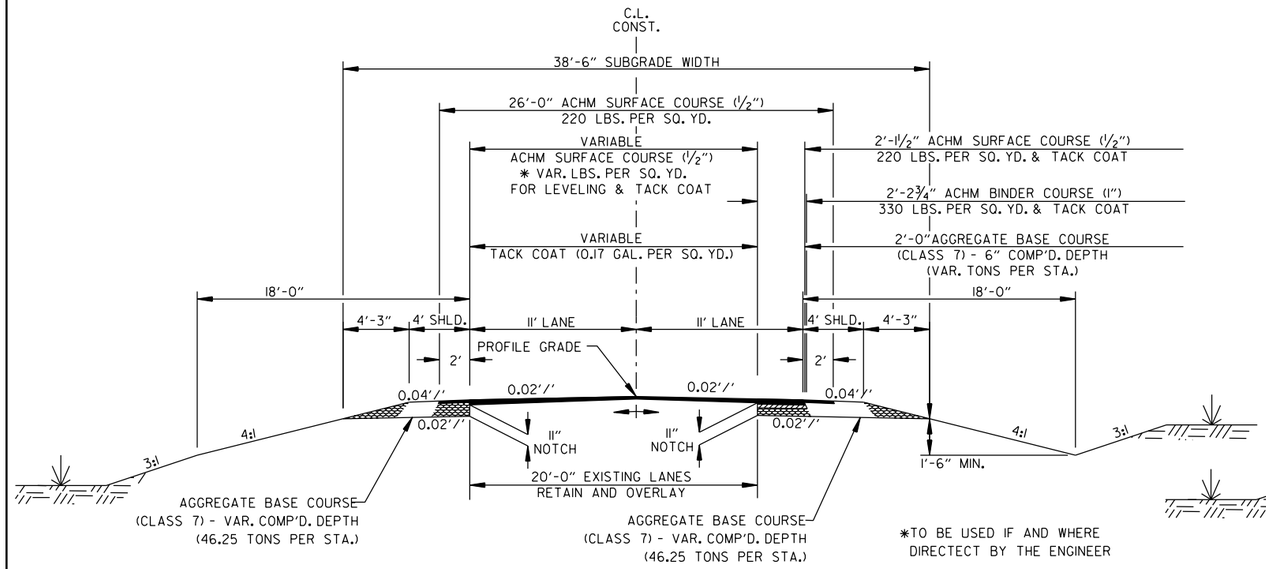
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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

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

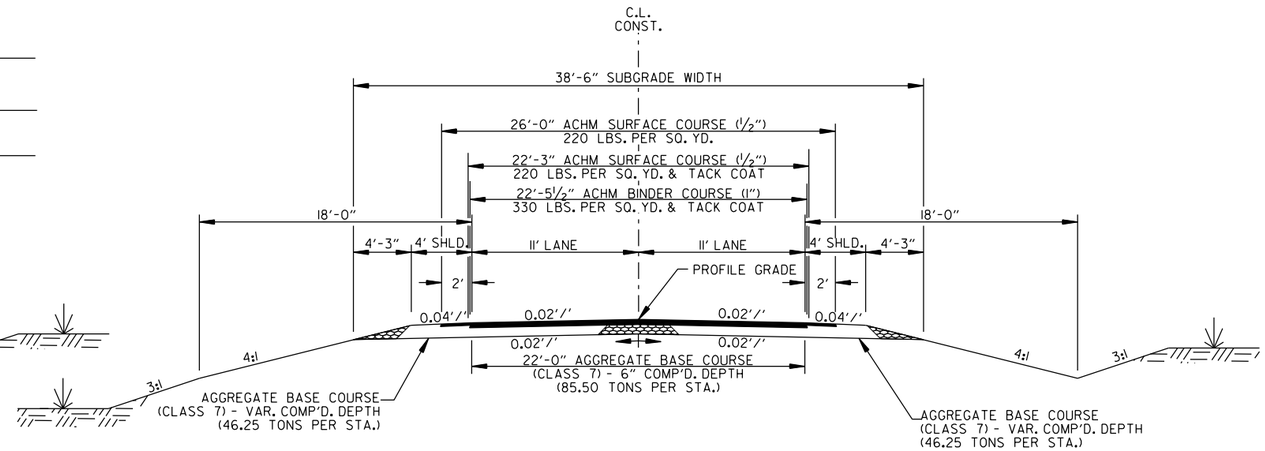
WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



*TO BE USED IF AND WHERE DIRECTECT BY THE ENGINEER

TANGENT SECTION NOTCH AND WIDENING

STA. 101+00.00 TO STA. 102+80.00
STA. 117+00.00 TO STA. 120+00.00



TANGENT SECTION FULL DEPTH

STA. 102+80.00 TO STA. 104+04.00
STA. 106+21.00 TO STA. 111+96.00
STA. 115+10.00 TO STA. 117+00.00

TYPICAL SECTIONS OF IMPROVEMENT

Scott.Thornsberry@9/26/2020 3:15:46 PM
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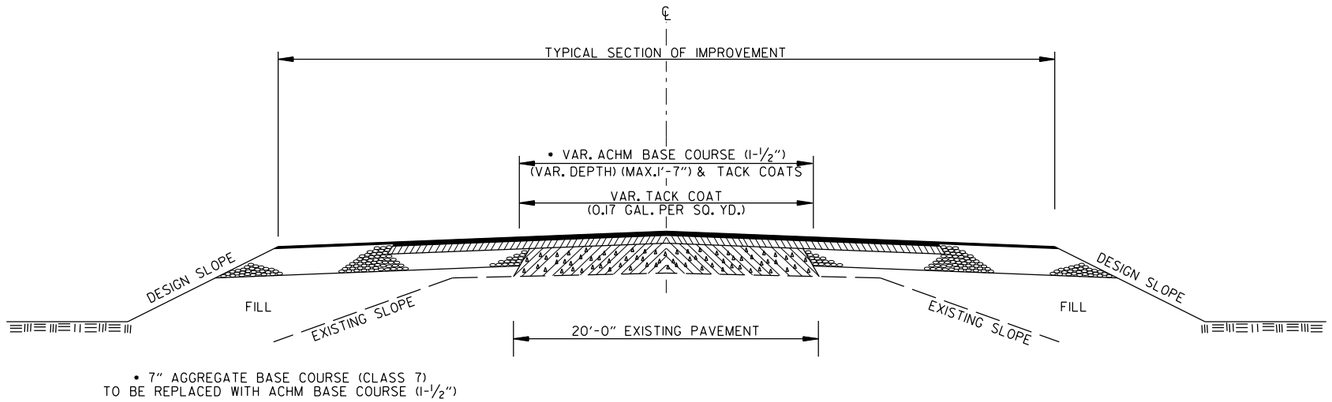
REVISED DATE: $$REVDATE$$

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.		070415	5	76
				(2)	SPECIAL DETAILS			



METHOD OF RAISING GRADE

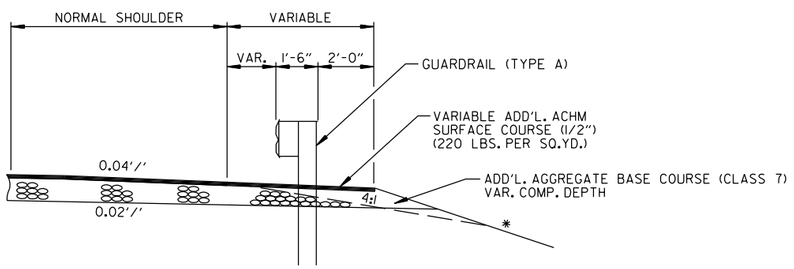
NOTES:

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

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

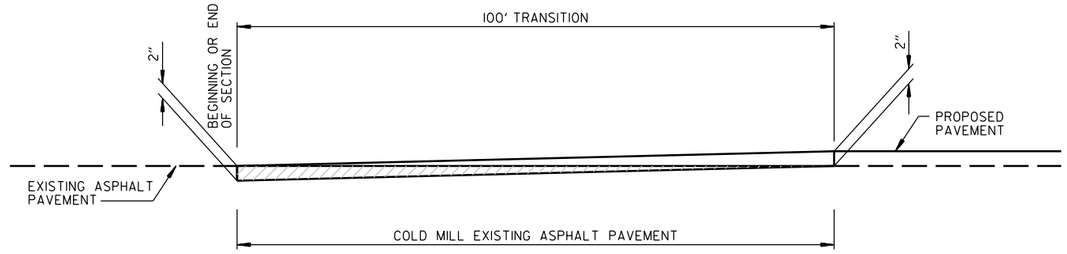
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
10-27-2020

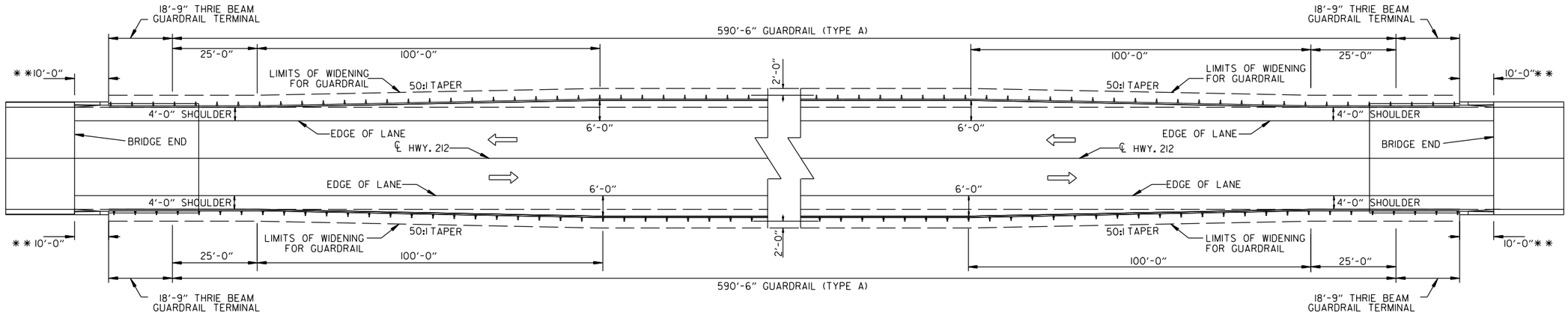


WIDENING FOR GUARDRAIL

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



DETAIL FOR TRANSITIONS



GUARDRAIL DETAIL FOR HWY. 212

STA. 105+94.50 TO STA. 112+22.50

**PARAPET WALL WITH THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE. SEE STD. DWG. GR-10.

SPECIAL DETAILS

Scott.Thornsberry@9/26/2020 3:15:47 PM
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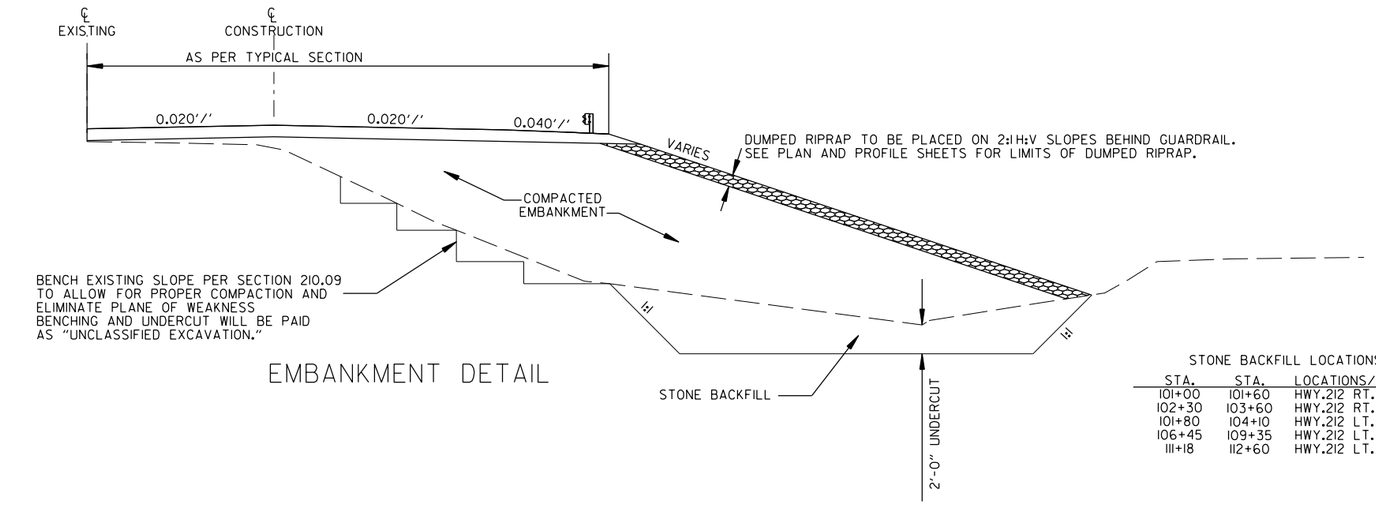
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-22-2020				6	ARK.			
				JOB NO.		070415	6	76
				(2)	SPECIAL DETAILS			

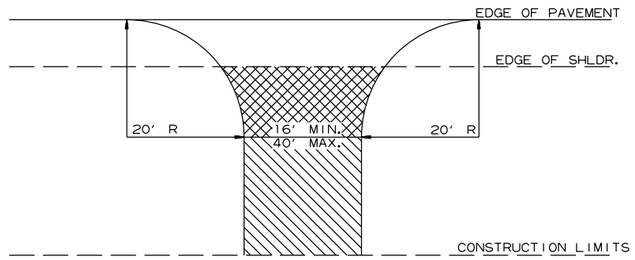


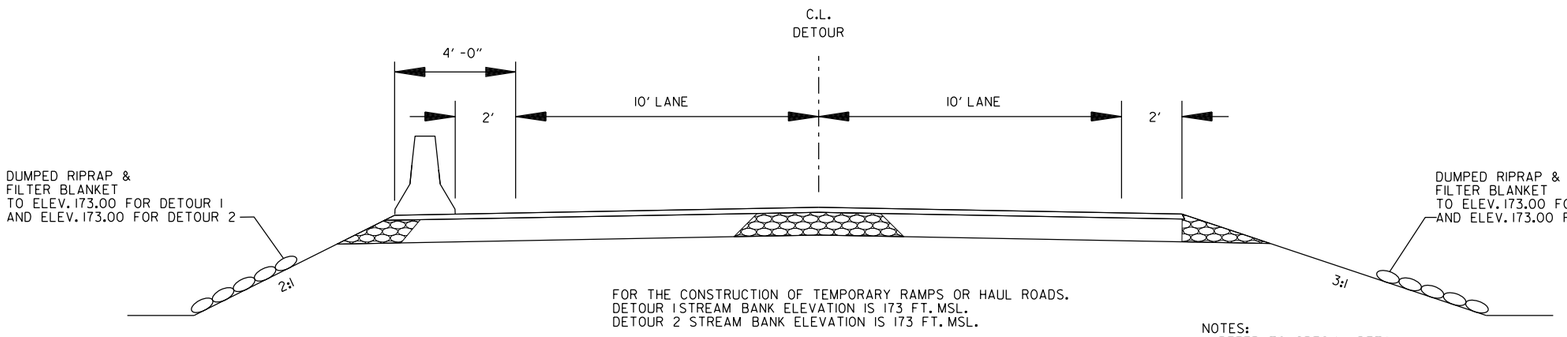
EMBANKMENT DETAIL

STONE BACKFILL LOCATIONS

STA.	STA.	LOCATIONS/DESC.
101+00	101+60	HWY.212 RT. SIDE
102+30	103+60	HWY.212 RT. SIDE
101+80	104+10	HWY.212 LT. SIDE
106+45	109+35	HWY.212 LT. SIDE
111+18	112+60	HWY.212 LT. SIDE

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





FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS.
DETOUR 1 STREAM BANK ELEVATION IS 173 FT. MSL.
DETOUR 2 STREAM BANK ELEVATION IS 173 FT. MSL.

DETOUR DETAIL FOR STREAMS

DETOUR 1: STA. 10+00.00 - STA. 24+39.51
DETOUR 2: STA. 20+00.00 - STA. 34+61.79

NOTES:
1. REFER TO SPECIAL DETAIL "SECTION 404 NATIONWIDE 23 PERMIT REQUIREMENTS" FOR ADDITIONAL INFORMATION.

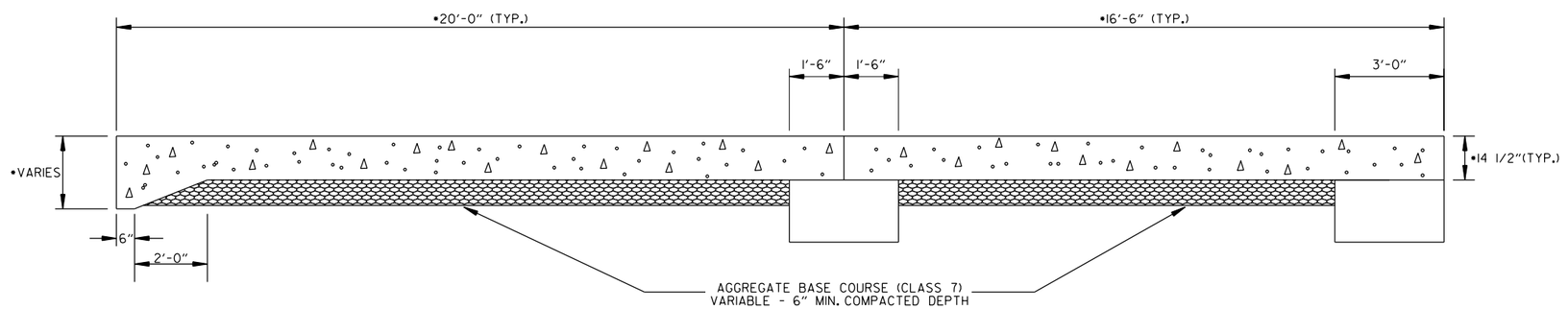
2. REFER TO TYPICAL SECTION PLAN SHEETS FOR TEMPORARY DETOUR PAVEMENT DESIGN.

3. REFER TO QUANTITY SHEETS FOR RIPRAP QUANTITY ON SLOPES OF DETOURS 1& 2.

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

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

DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)



• SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

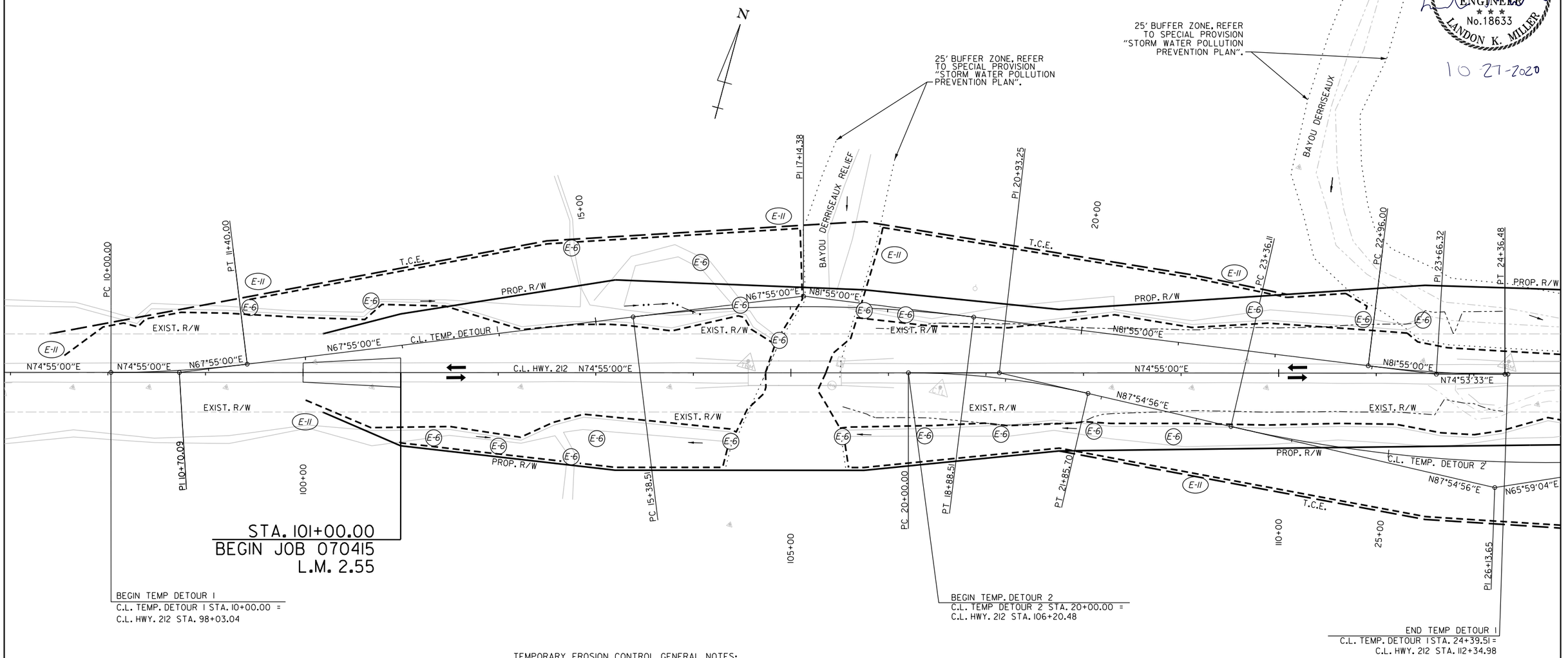
SECTION OF APPROACH SLAB

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.		070415	7	76

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
10-27-2020



REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL GENERAL NOTES:

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THOUGHOUT STAGE 1 AND STAGE 2 OR UNTIL FINAL STABILIZATION.

LEGEND

E-6	= ROCK DITCH CHECKS
E-11	= SILT FENCE

C.L. HWY. 212

ROCK DITCH CHECKS	E-6	INSTALLATION
STA. 99+45 TO STA. 104+88	LT.	6
STA. 101+35 TO STA. 104+50	RT.	5
STA. 105+55 TO STA. 111+50	LT.	5
STA. 105+50 TO STA. 109+00	RT.	5

SILT FENCE	E-11	LIN FT.
STA. 97+55 TO STA. 104+71	LT.	1465
STA. 100+00 TO STA. 104+71	RT.	860
STA. 105+50 TO STA. 112+00	RT.	1390
STA. 105+50 TO STA. 112+00	LT.	1300

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberry@9/26/2020 3:15:49 PM
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Y:\Projects\ArDOT_166382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_05E_EC_CG_001.dgn
REVISED DATE: $$REVDATE$$

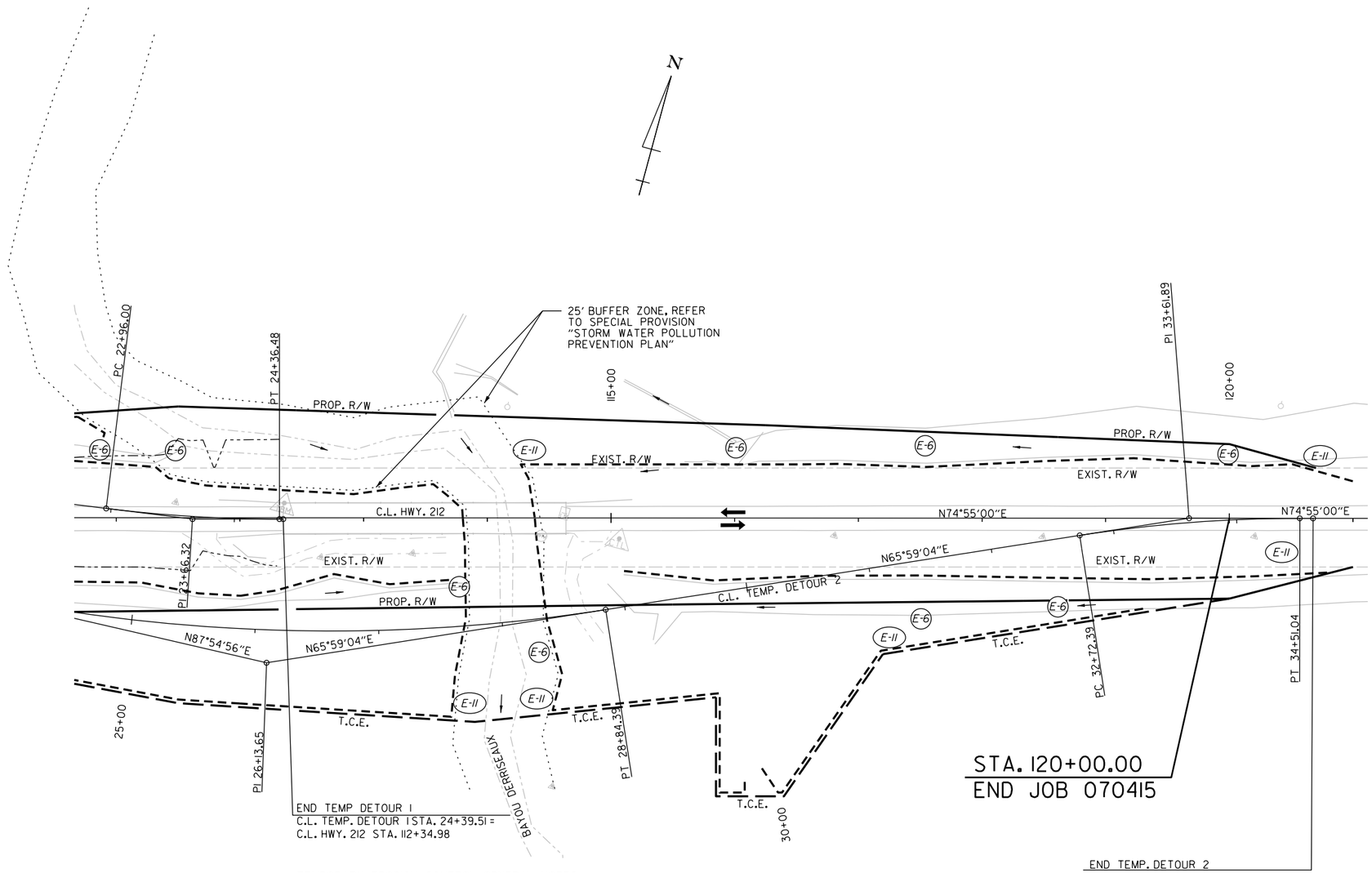
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	8	76

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

10-27-2020



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LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE

C.L. HWY. 212

ROCK DITCH CHECKS	E-6	INSTALLATION
STA. 113+75	RT.	1
STA. 114+50 TO STA. 118+60	RT.	3
STA. 116+00 TO STA. 120+00	LT	3

SILT FENCE	E-11	LIN FT.
STA. 112+00 TO STA. 113+80	RT.	495
STA. 112+00 TO STA. 113+80	LT.	195
STA. 114+45 TO STA. 121+00	LT.	715
STA. 118+45 TO STA. 121+00	RT.	1345

REVISIONS

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

Scott.Thornsberg@9/26/2020 3:5:49 PM
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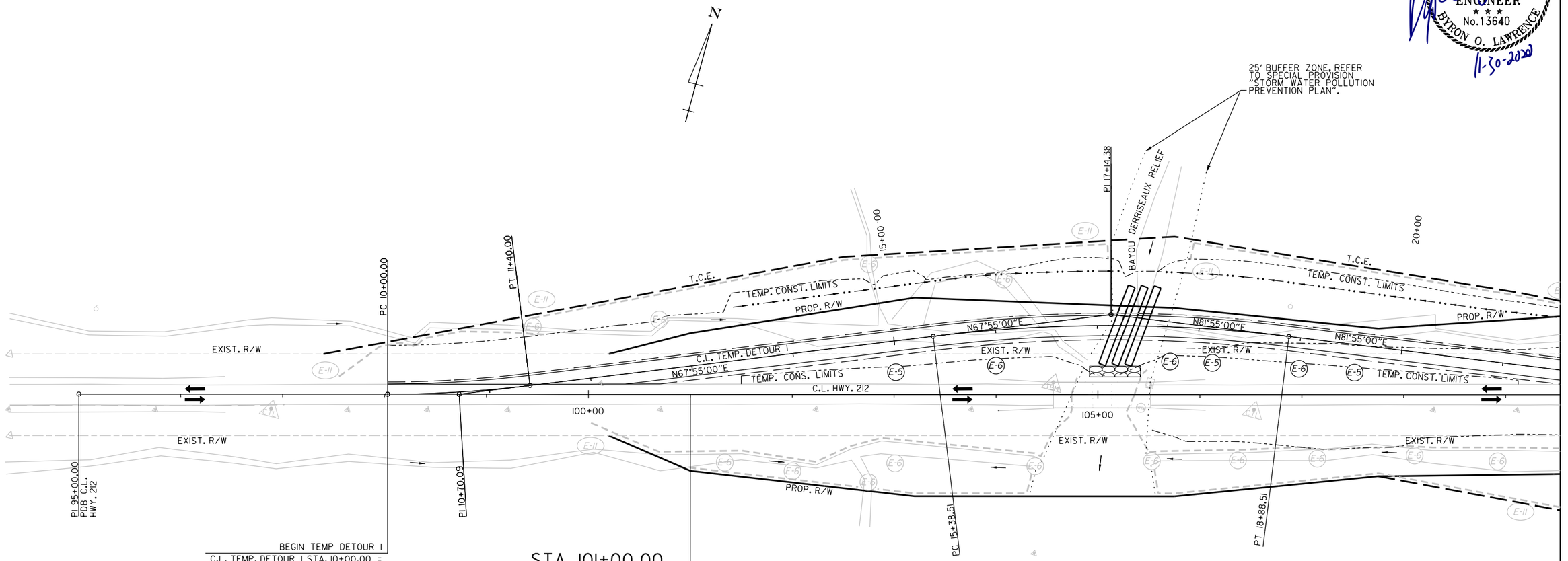
REVISED DATE: $$REVDATE$$

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.		070415	9	76

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020



REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL GENERAL NOTES:

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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LEGEND

- = DUMPED RIPRAP
- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE

• NOTES:
1. DUMPED RIPRAP AT OUTLET OF TEMPORARY PIPE WILL BE REMOVED WITH THE REMOVAL OF TEMPORARY DETOUR - STAGE 2-A.

2. REFER TO SPECIAL DETAILS FOR DUMPED RIPRAP LOCATION AND ELEVATION PLACEMENT ON SLOPES OF DETOUR 1.

C.L. HWY. 212

ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 104+00	LT.	1
STA. 105+70 TO STA. 107+00	LT.	2

SAND BAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 103+00	LT.	1
STA. 106+10 TO STA. 107+50	LT.	2

DUMPED RIPRAP		CU. YDS.
STA. 105+20	LT.	30

STAGE 1A
TEMPORARY EROSION CONTROL DETAILS

Stephane.Bossio 11/30/2020 10:36:01 AM
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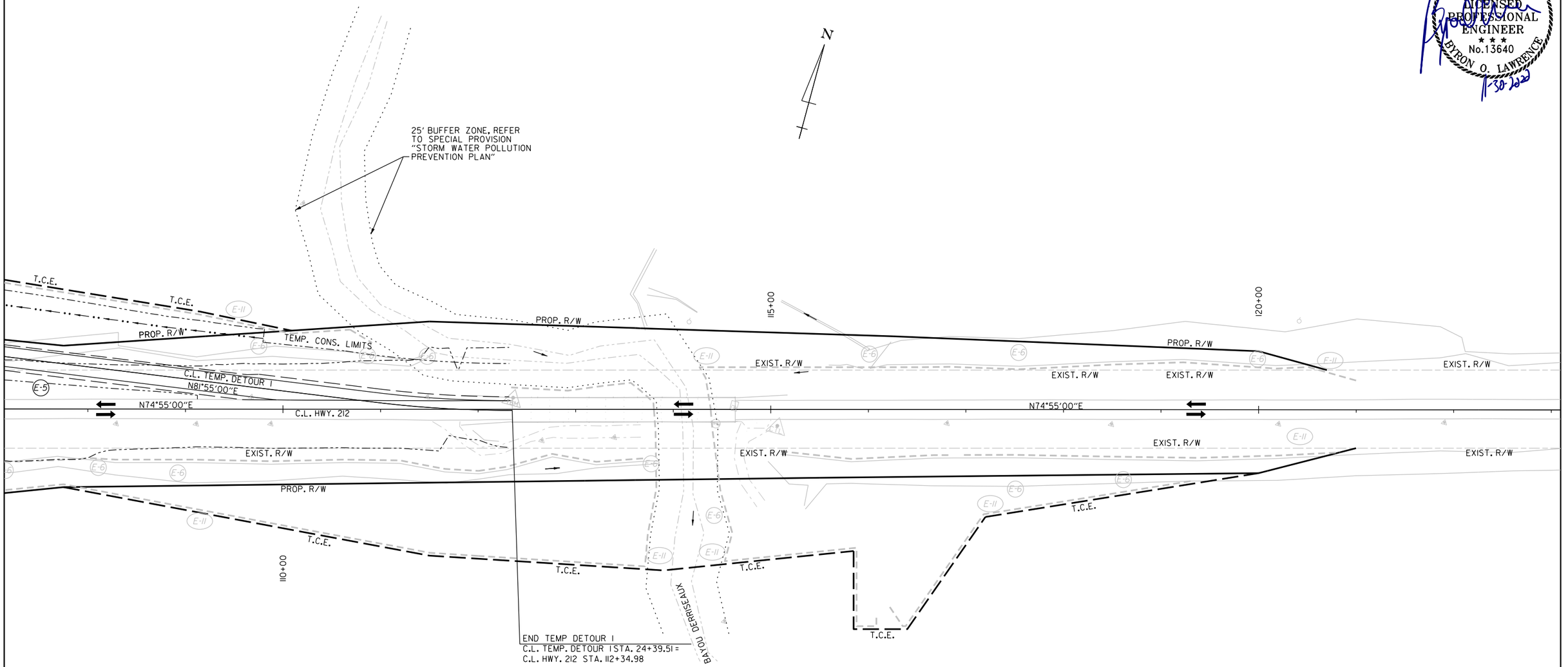
REVISED DATE: $$REVDATE$$

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.		070415	10	76
(2) TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020



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LEGEND

E-6	= ROCK DITCH CHECKS
E-11	= SILT FENCE
- - -	

NOTE: REFER TO SPECIAL DETAILS FOR LOCATION AND ELEVATION PLACEMENT OF DUMPED RIPRAP ON SLOPES OF DETOUR 1.

REVISIONS

DATE OF REVISION	REVISION

STAGE 1A
TEMPORARY EROSION CONTROL DETAILS

Stephane.Bossio 11/30/2020 10:36:03 AM
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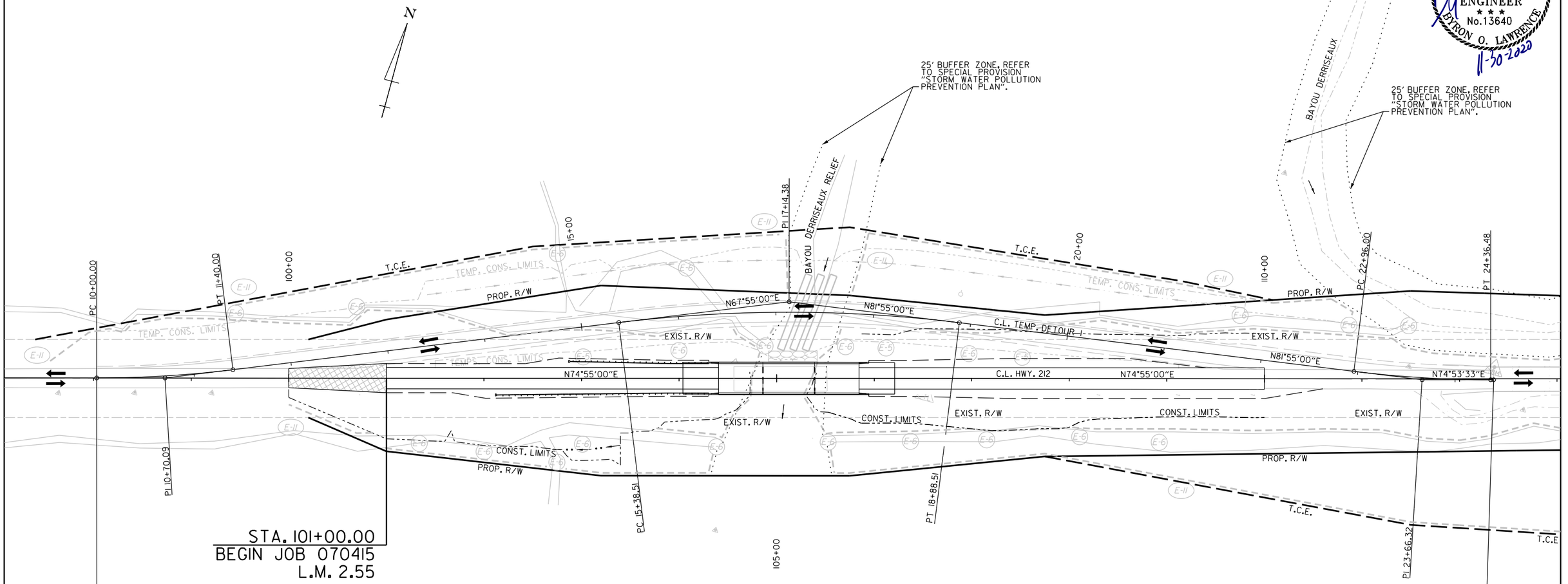
REVISED DATE: $$REVDATE$$

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.		070415	11	76

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020



STA. 101+00.00
BEGIN JOB 070415
L.M. 2.55

BEGIN TEMP DETOUR I
C.L. TEMP. DETOUR I STA. 10+00.00 =
C.L. HWY. 212 STA. 98+03.04

END TEMP DETOUR I
C.L. TEMP. DETOUR I STA. 24+39.51 =
C.L. HWY. 212 STA. 112+34.98

LEGEND

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

* NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 212 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECT IS COMPLETE.

TEMPORARY EROSION CONTROL GENERAL NOTES:

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REVISIONS

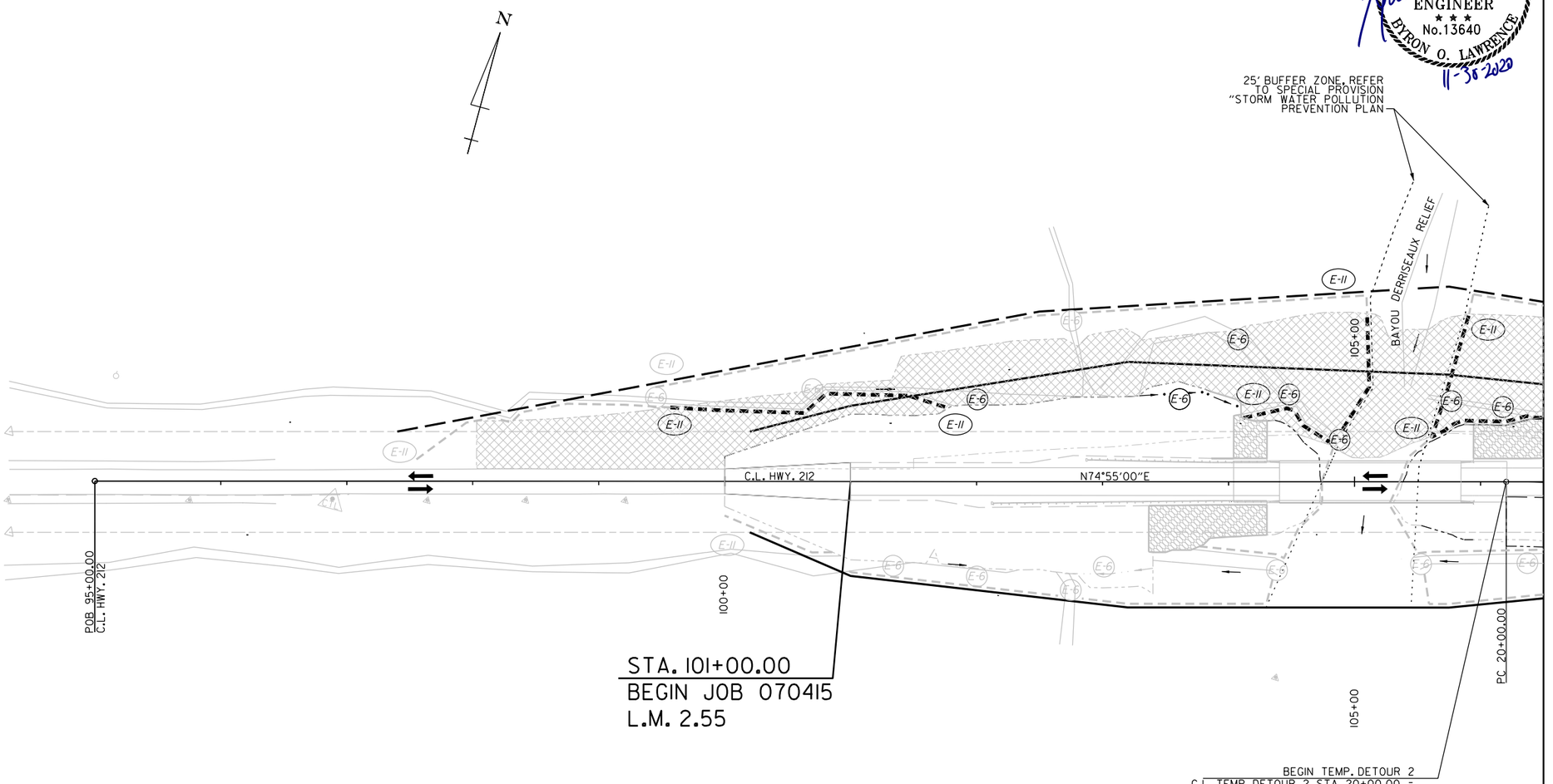
DATE OF REVISION	REVISION

STAGE IB
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.		070415	12	76
(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020



* NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 212 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECT IS COMPLETE.

TEMPORARY EROSION CONTROL GENERAL NOTES:

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LEGEND

(E-6)	= ROCK DITCH CHECKS
(E-II)	= SILT FENCE
	= TEMP. DETOUR REMOVAL
	= PERMANENT DUMP RIPRAP *

C.L. HWY. 212 ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 102+00 TO STA. 104+90	LT.	5

SILT FENCE	(E-II)	LIN FT.
STA. 99+50 TO STA. 101+80	LT.	230
STA. 104+15 TO STA. 105+15	LT.	180

REVISIONS

DATE OF REVISION	REVISION

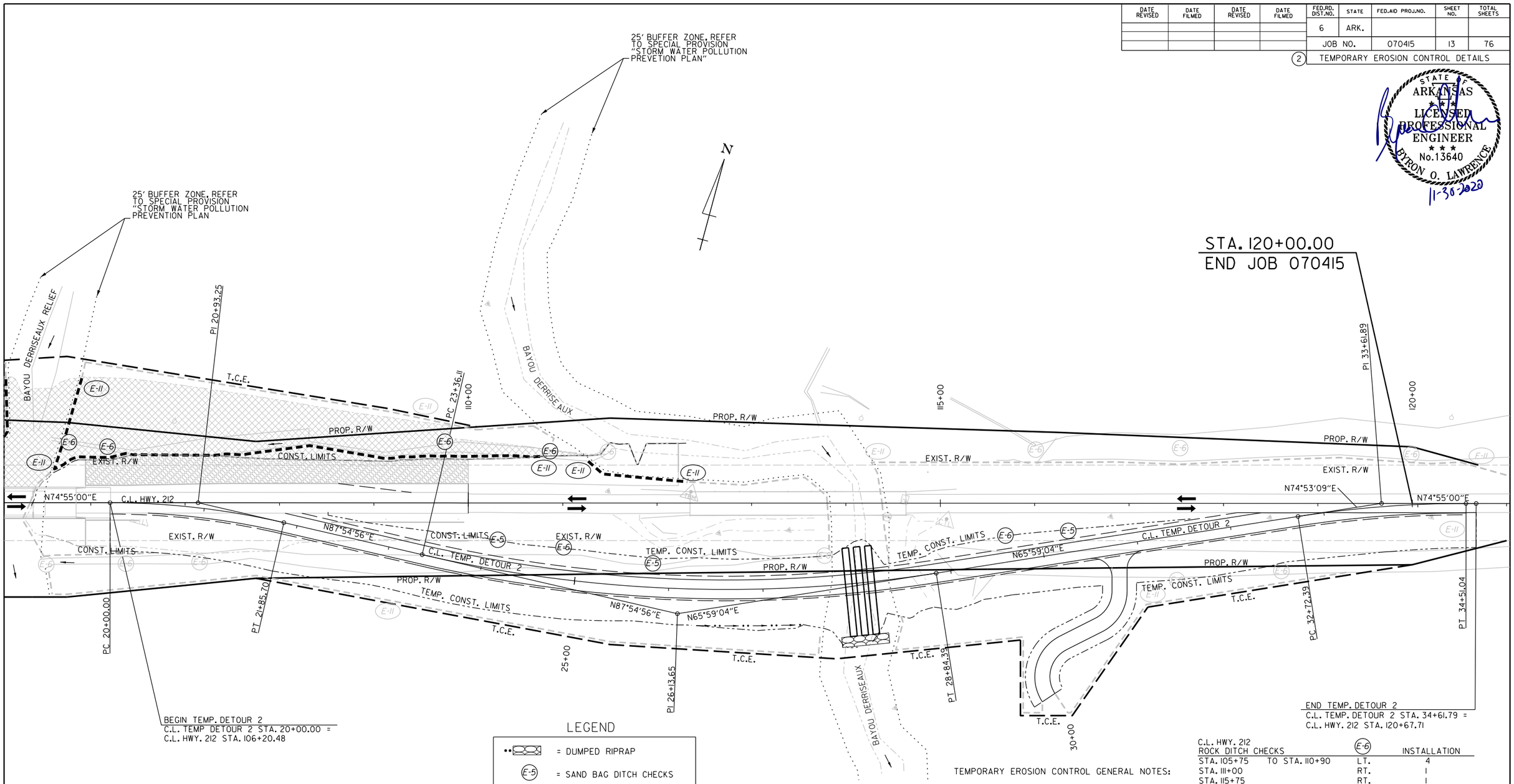
STAGE 2A
TEMPORARY EROSION CONTROL DETAILS

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.		070415	13	76

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020



LEGEND

- •• = DUMPED RIPRAP
- E-5 = SAND BAG DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- = TEMP. DETOUR REMOVAL
- = PERMANENT DUMP RIPRAP *

•• NOTES:
1. DUMPED RIPRAP AT THE END OF THE TEMPORARY PIPES WILL BE REMOVED WITH THE DETOUR 2 IN STAGE 2-C.

2. REFER TO SPECIAL DETAILS FOR LOCATION AND ELEVATION PLACEMENT OF DUMPED RIPRAP ON SLOPES OF DETOUR 2.

* NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 212 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECT IS COMPLETE.

REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL GENERAL NOTES:

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C.L. HWY. 212

ROCK DITCH CHECKS (E-6)		INSTALLATION
STA. 105+75 TO STA. 110+90	LT.	4
STA. 111+00	RT.	1
STA. 115+75	RT.	1

SAND BAG CHECKS (E-5)		INSTALLATION
STA. 110+50 TO STA. 112+00	RT.	2
STA. 116+25	RT.	1

SILT FENCE (E-11)		LIN FT.
STA. 105+60 TO STA. 105+80	LT.	90
STA. 111+25 TO STA. 112+25	LT.	725

DUMPED RIPRAP		CU. YDS.
STA. 114+25	RT.	30

STAGE 2A
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.		070415	14	76
(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

N

BAYOU DERRISEAUX RELIEF

PI 20+93.25

PC 23+36.11

110+00

115+00

PI 33+61.89

120+00

PROP. R/W

EXIST. R/W

CONST. LIMITS

N74°55'00"E

C.L. HWY. 212

N87°54'56"E

C.L. TEMP. DETOUR 2

N65°59'04"E

TEMP. CONST. LIMITS

T.C.E.

PC 20+00.00

PT 21+85.70

25+00

PI 26+13.65

PT 28+84.39

PC 32+72.39

PT 34+51.04

30+00

BAYOU DERRISEAUX

BEGIN TEMP. DETOUR 2
C.L. TEMP DETOUR 2 STA. 20+00.00 =
C.L. HWY. 212 STA. 106+20.48

STA. 120+00.00
END JOB 070415

END TEMP. DETOUR 2
C.L. TEMP. DETOUR 2 STA. 34+61.79 =
C.L. HWY. 212 STA. 120+67.71

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LEGEND

- = DUMPED RIPRAP
- E-5 = SAND BAG DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- = PERMANENT DUMP RIPRAP *

*NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 212 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECT IS COMPLETE.

REVISIONS

DATE OF REVISION	REVISION

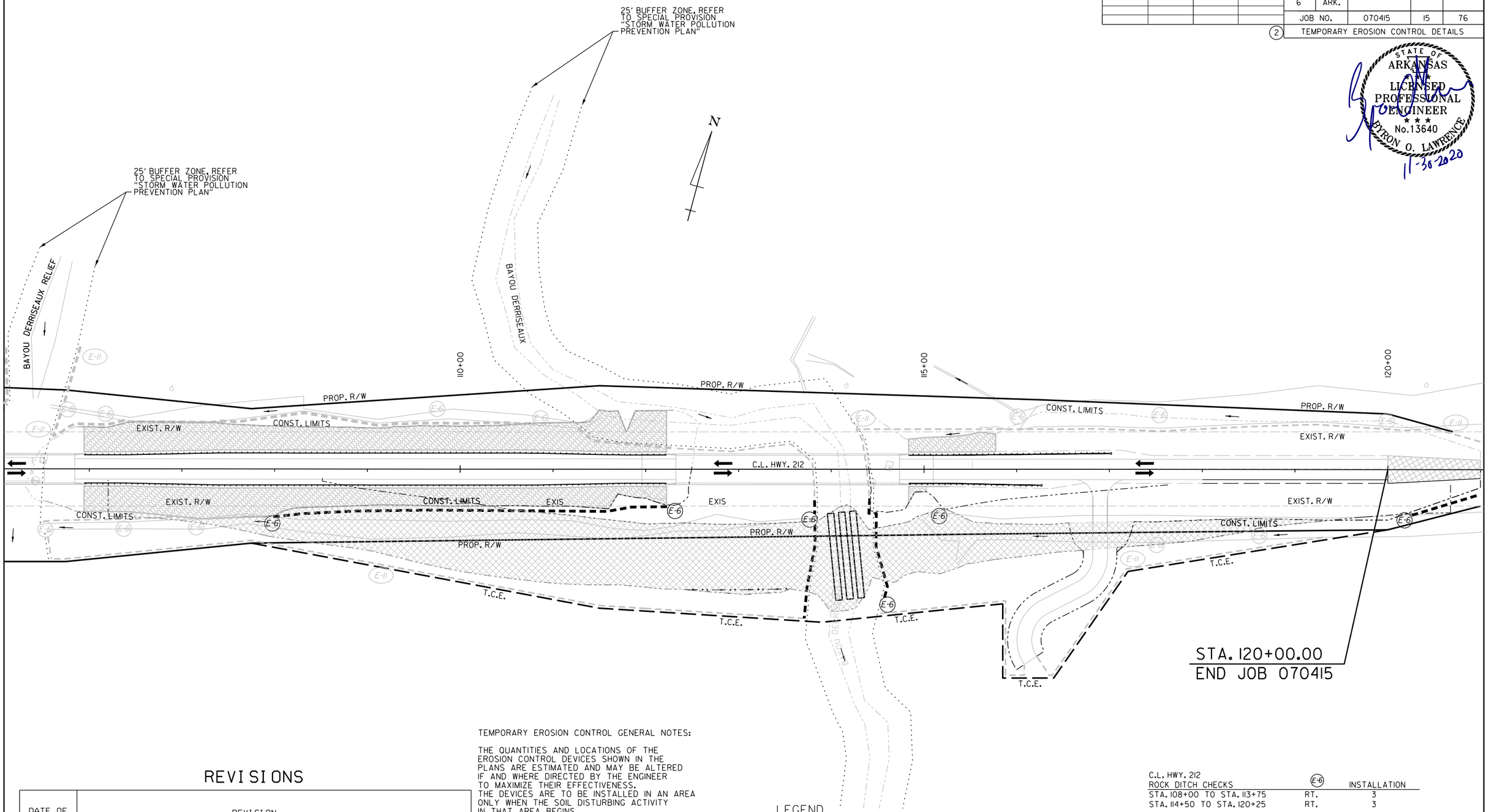
STAGE 2B
TEMPORARY EROSION CONTROL DETAILS

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.		070415	15	76

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020



REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL GENERAL NOTES:

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LEGEND

= TEMP. DETOUR REMOVAL
(E-6) = ROCK DITCH CHECKS
(E-11) = SILT FENCE
= PERMANENT DUMP RIPRAP *

*NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 212 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECT IS COMPLETE.

C.L. HWY. 212 ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 108+00 TO STA. 113+75	RT.	3
STA. 114+50 TO STA. 120+25	RT.	3

SILT FENCE	(E-11)	LIN FT.
STA. 108+00 TO STA. 113+75	RT.	550
STA. 114+50 TO STA. 121+00	RT.	200

STAGE 2C
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.		070415	16	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

CONSTRUCTION SEQUENCE

STAGE IA:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR IAS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR IAND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR I.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

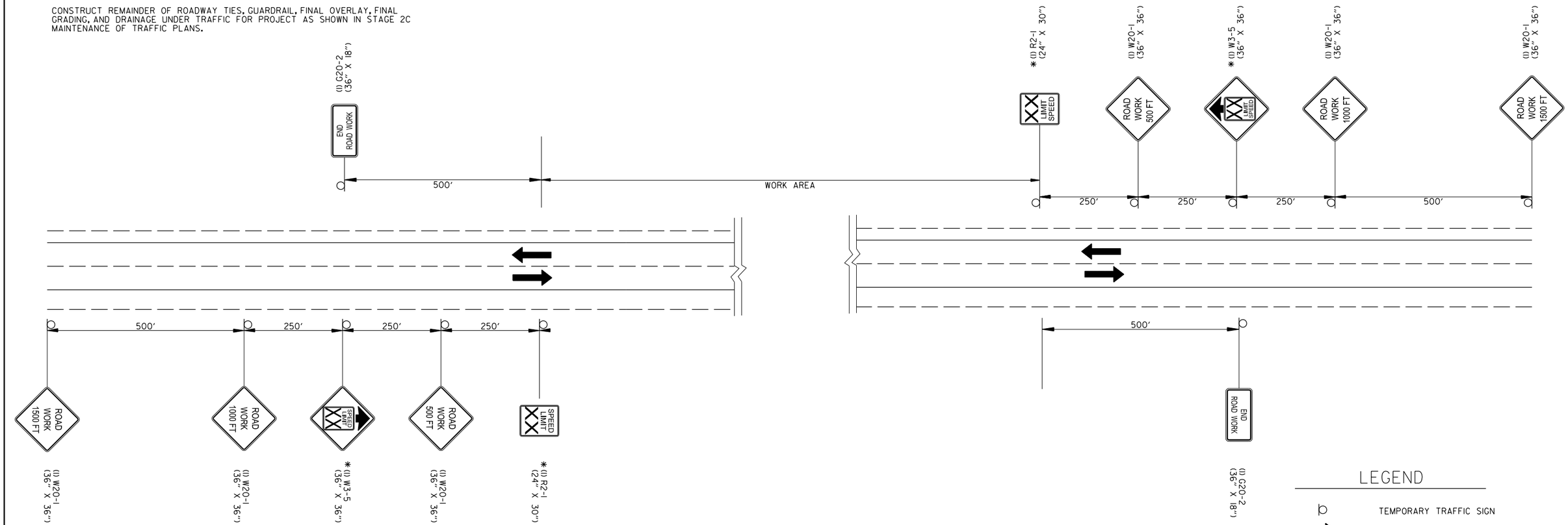
CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.

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

DO NOT PASS — * (2) R4-1 (24" X 30")

* IF AND WHERE DIRECTED BY THE ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
10-27-2020



ADVANCE WARNING DETAILS
ALL SITES - ALL STAGES

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.		070415	17	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

10-27-2020

CONSTRUCTION SEQUENCE

STAGE IA:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR IAS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR I AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR I.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

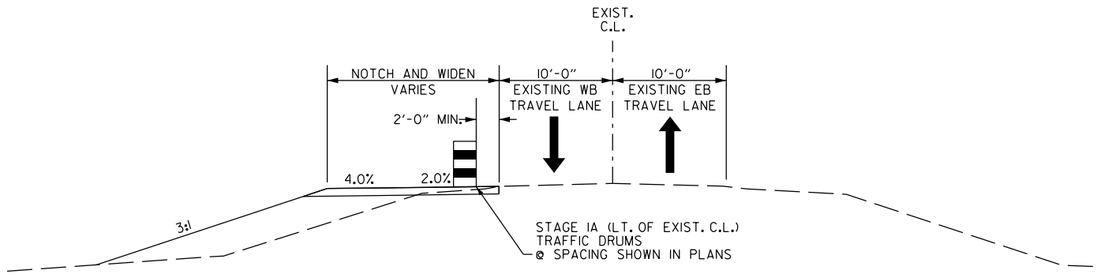
STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

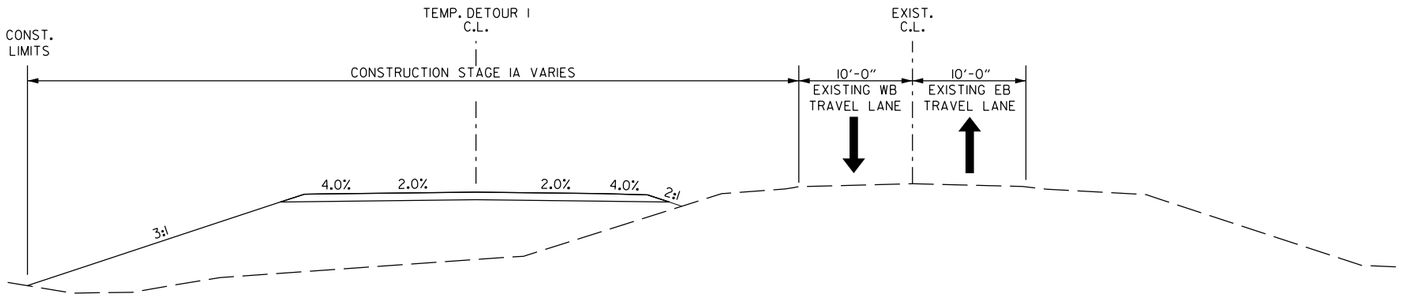
SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.



STAGE IA
TEMP. DETOUR I - NOTCH & WIDEN
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 10+00.00 TO STA. 13+40.00
STA. 21+20.00 TO STA. 24+39.51



STAGE IA - TEMP. DETOUR I
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 13+40.00 TO STA. 21+20.00

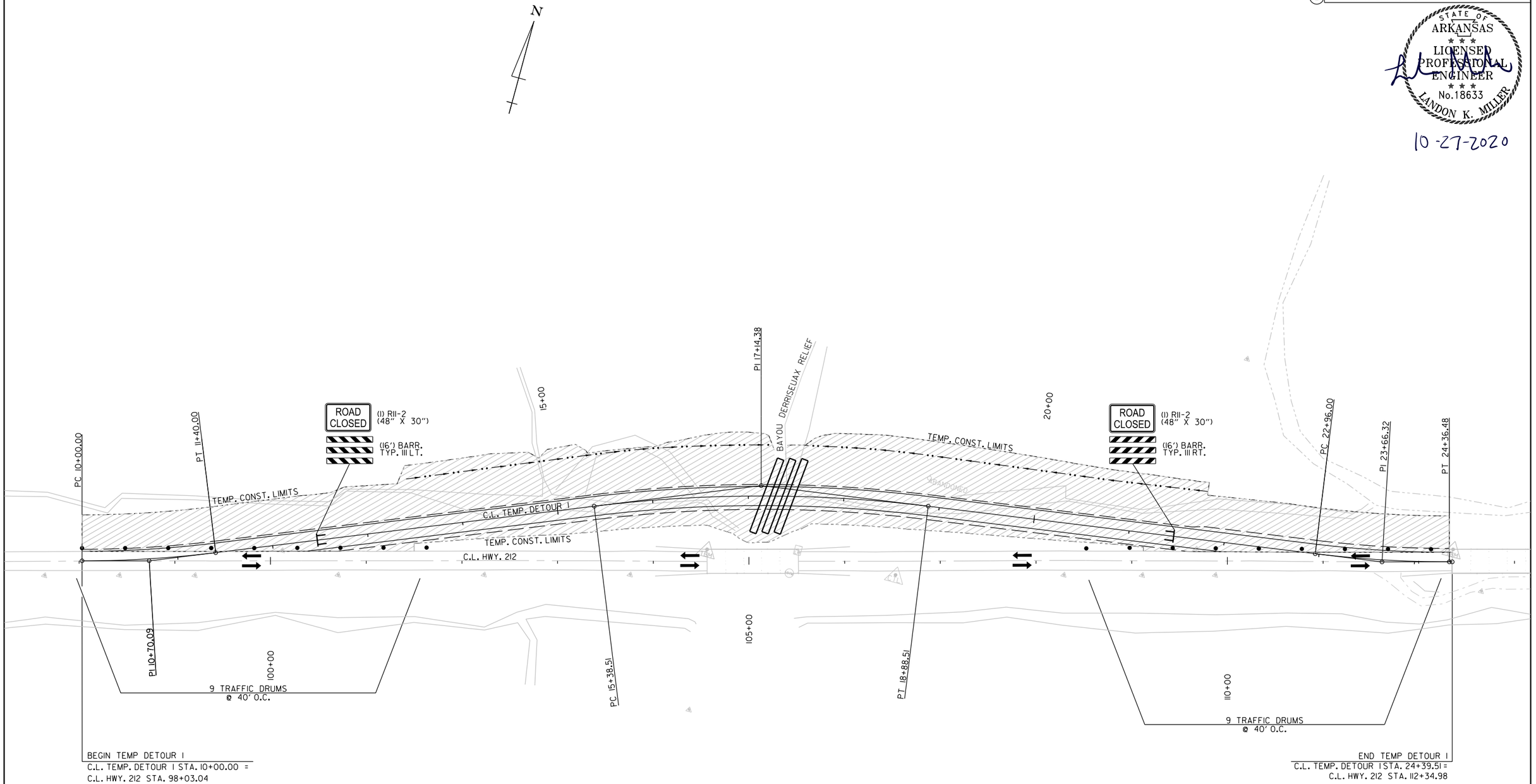
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	18	76

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

10-27-2020



LEGEND

- STAGE CONST. AREA
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS

STAGE IA
MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberg@9/26/2020 3:16:00 PM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_06_MOT_003.dgn
REVISED DATE: $$REVDATE$$

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.		070415	19	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

CONSTRUCTION SEQUENCE

STAGE IA:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR I AS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR I AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR I.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

STAGE 2B:

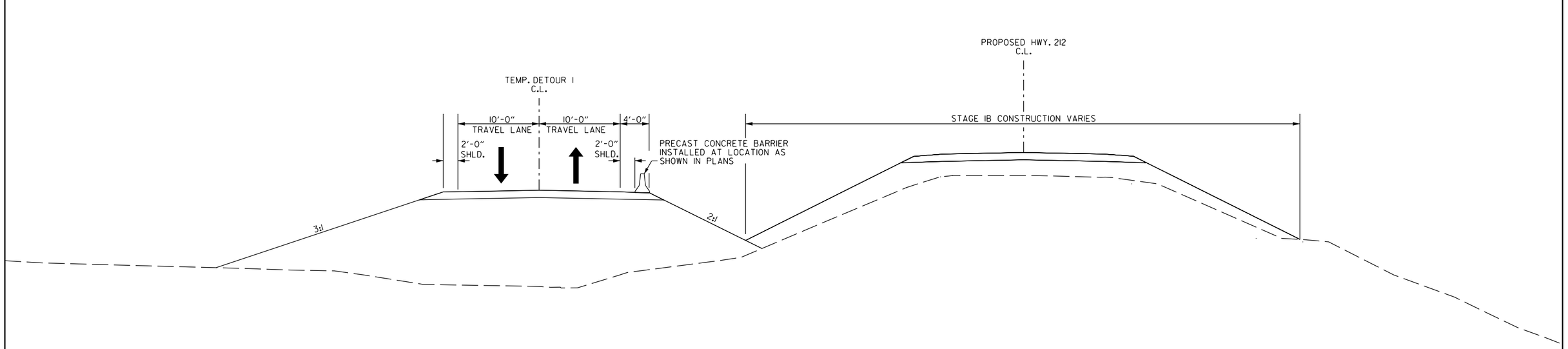
SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
10-27-2020



STAGE IB - HWY. 212
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 100+00.00 TO STA. 110+00.00

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

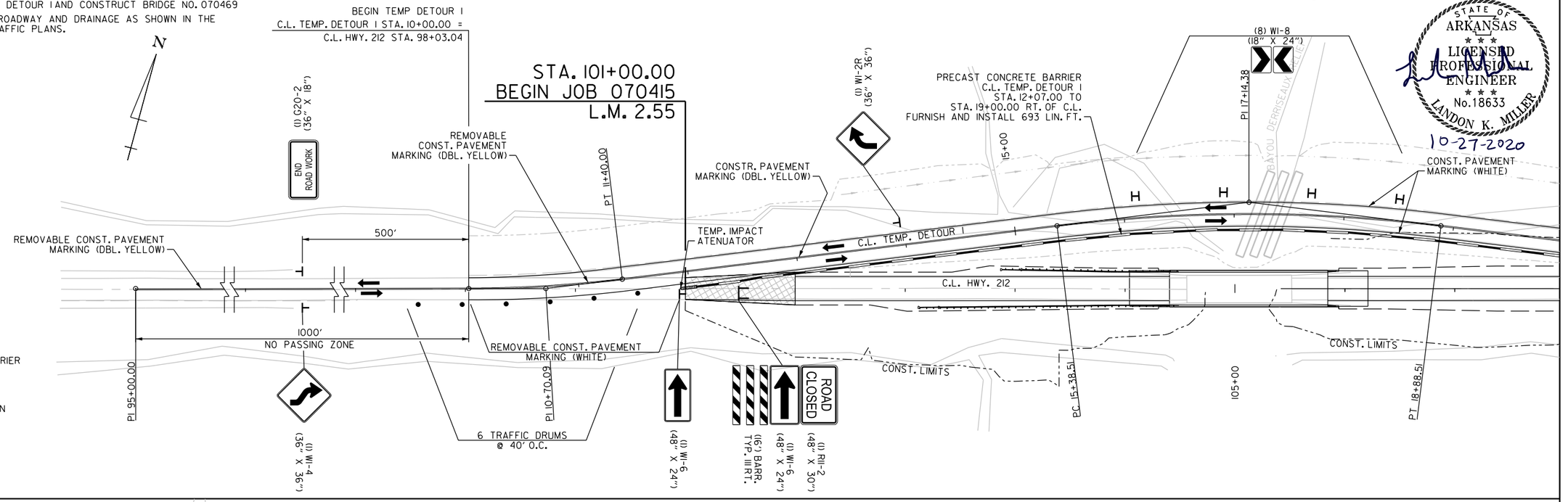
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	20	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

CONSTRUCTION SEQUENCE

STAGE IB:

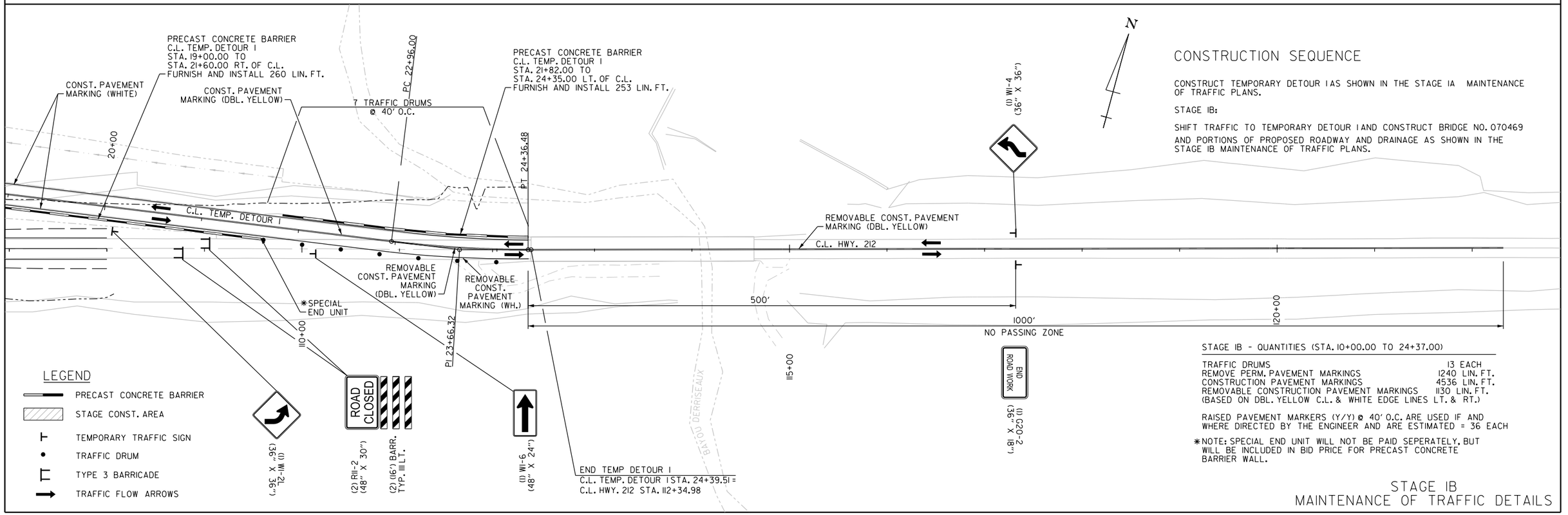
SHIFT TRAFFIC TO TEMPORARY DETOUR I AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
10-27-2020



LEGEND

- PRECAST CONCRETE BARRIER
- STAGE CONST. AREA
- TEMPORARY TRAFFIC SIGN
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS



LEGEND

- PRECAST CONCRETE BARRIER
- STAGE CONST. AREA
- TEMPORARY TRAFFIC SIGN
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS

CONSTRUCTION SEQUENCE

CONSTRUCT TEMPORARY DETOUR I AS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR I AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE IB - QUANTITIES (STA. 10+00.00 TO 24+37.00)

TRAFFIC DRUMS	13 EACH
REMOVE PERM. PAVEMENT MARKINGS	1240 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	4536 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS (BASED ON DBL. YELLOW C.L. & WHITE EDGE LINES LT. & RT.)	1130 LIN. FT.

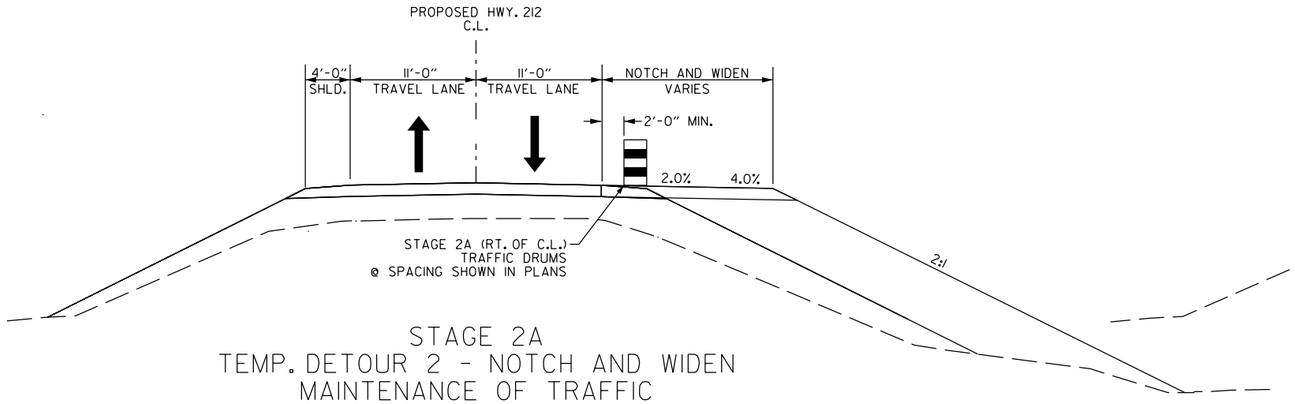
RAISED PAVEMENT MARKERS (Y/Y) @ 40' O.C. ARE USED IF AND WHERE DIRECTED BY THE ENGINEER AND ARE ESTIMATED = 36 EACH

*NOTE: SPECIAL END UNIT WILL NOT BE PAID SEPERATELY, BUT WILL BE INCLUDED IN BID PRICE FOR PRECAST CONCRETE BARRIER WALL.

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

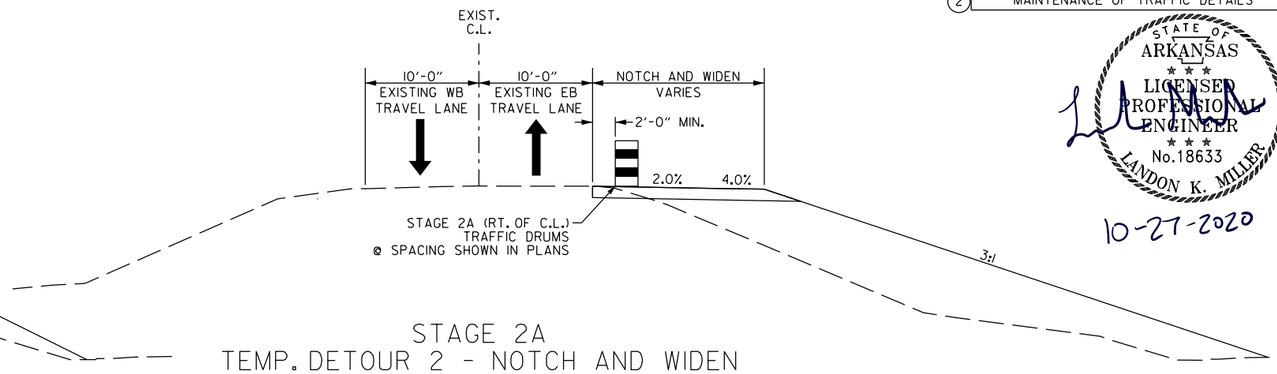
Scott.Thornsberg@9/26/2020 3:16:01 PM
WORKSPACE: ARDOT
Y:\Projects\ARDOT_166382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_06_MOT_005.dgn
REVISED DATE: $$REVDATE$$

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.		070415	21	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			



STAGE 2A
TEMP. DETOUR 2 - NOTCH AND WIDEN
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 20+00.00 TO STA. 22+30.00



STAGE 2A
TEMP. DETOUR 2 - NOTCH AND WIDEN
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. STA. 31+60.00 TO 34+61.79

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
10-27-2020

CONSTRUCTION SEQUENCE

STAGE IA:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR I AS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR I AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR I.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

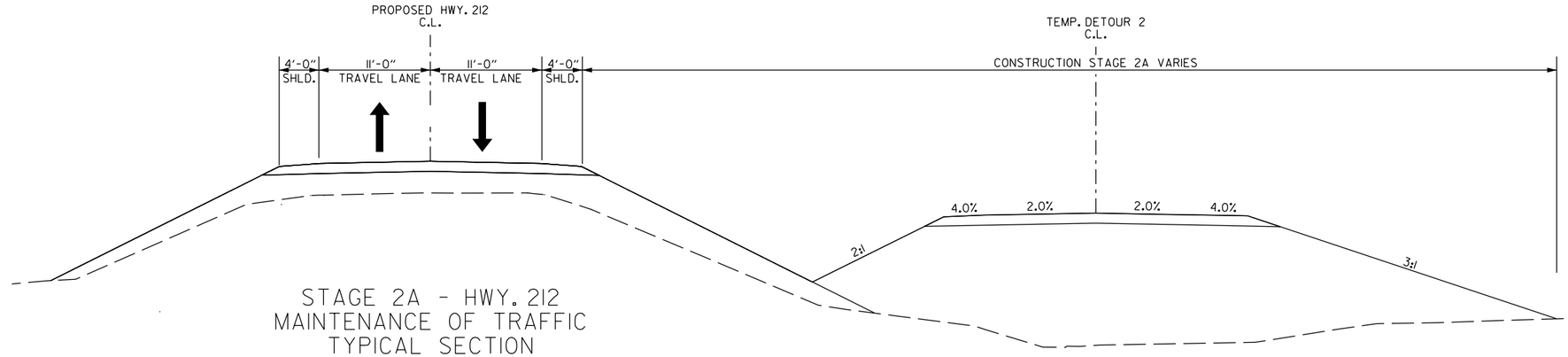
STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

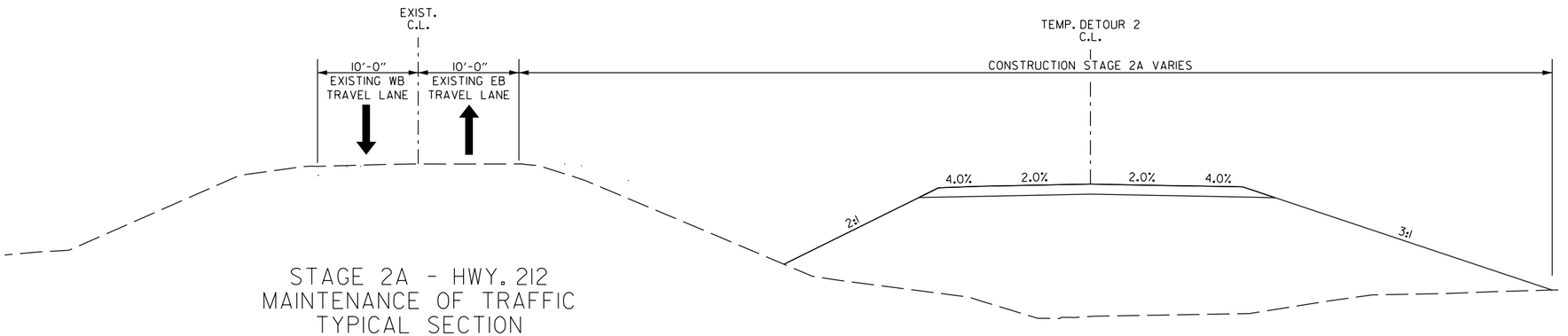
SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.



STAGE 2A - HWY. 212
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 108+20.00 TO STA. 110+00.00



STAGE 2A - HWY. 212
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 110+00.00 TO STA. 118+50.00

STAGE 2A
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	22	76

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
10-27-2020

CONSTRUCTION SEQUENCE

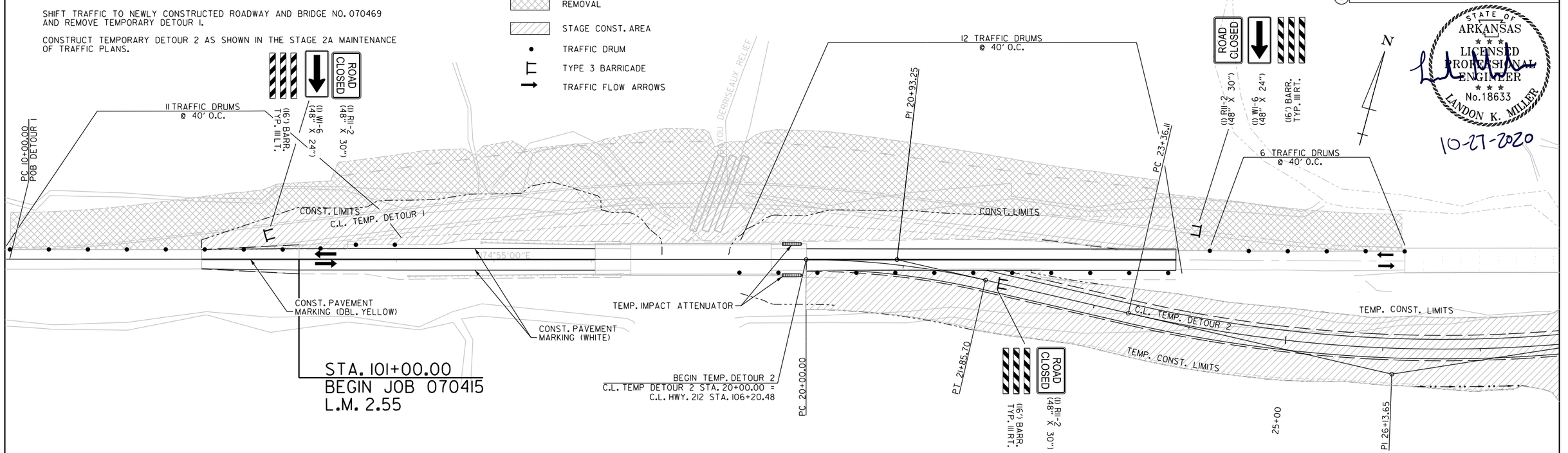
STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR 1.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

LEGEND

- REMOVAL
- STAGE CONST. AREA
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS

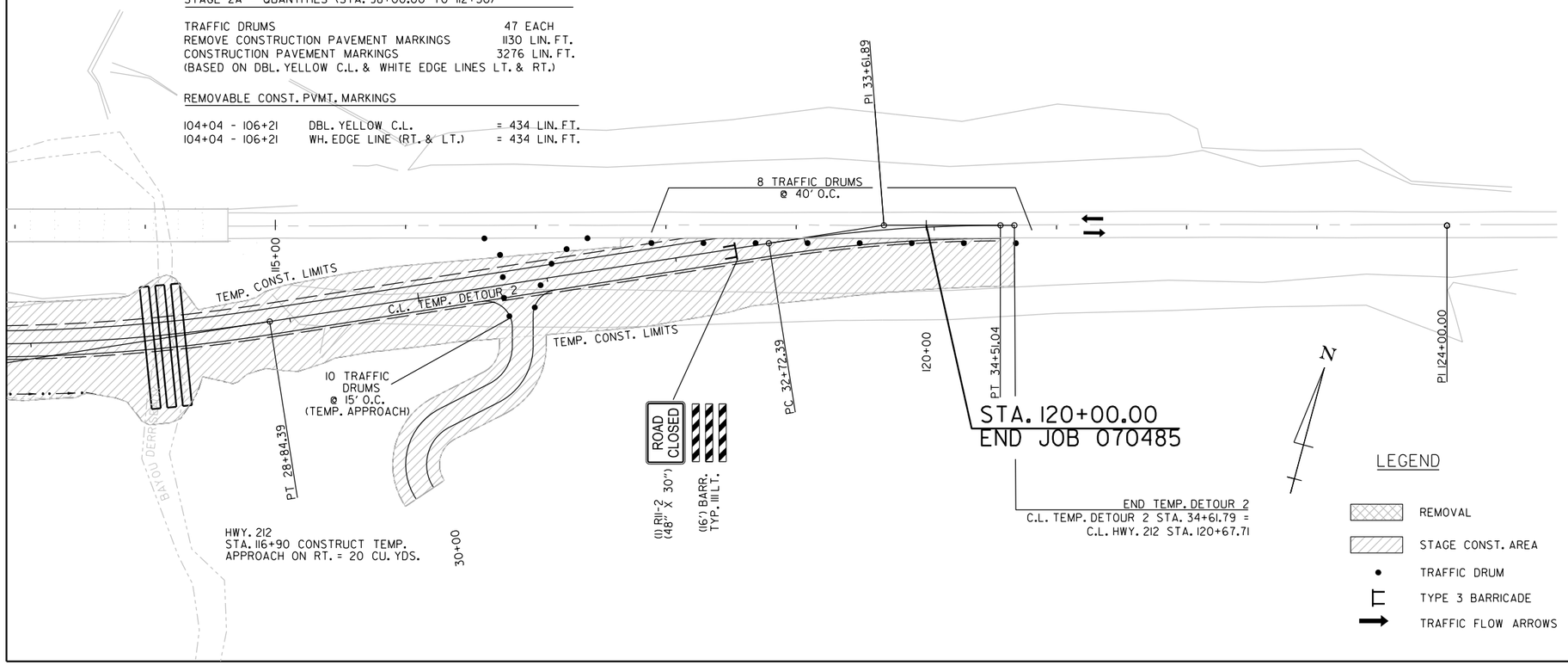


STAGE 2A - QUANTITIES (STA. 98+00.00 TO 112+30)

TRAFFIC DRUMS	47 EACH
REMOVE CONSTRUCTION PAVEMENT MARKINGS	1130 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	3276 LIN. FT.
(BASED ON DBL. YELLOW C.L. & WHITE EDGE LINES LT. & RT.)	

REMOVABLE CONST. PVMT. MARKINGS

104+04 - 106+21	DBL. YELLOW C.L.	= 434 LIN. FT.
104+04 - 106+21	WH. EDGE LINE (RT. & LT.)	= 434 LIN. FT.



LEGEND

- REMOVAL
- STAGE CONST. AREA
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS

CONSTRUCTION SEQUENCE

STAGE 1A:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR 1 AS SHOWN IN THE STAGE 1A MAINTENANCE OF TRAFFIC PLANS.

STAGE 1B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 1 AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 1B MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR 1.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A
MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@9/26/2020 3:16:03 PM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_16382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415.06.MOT.007.dgn
REVISED DATE: $$REVDATE$$

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.		070415	23	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
10-27-2020

CONSTRUCTION SEQUENCE

STAGE IA:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR IAS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR IAND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR I.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

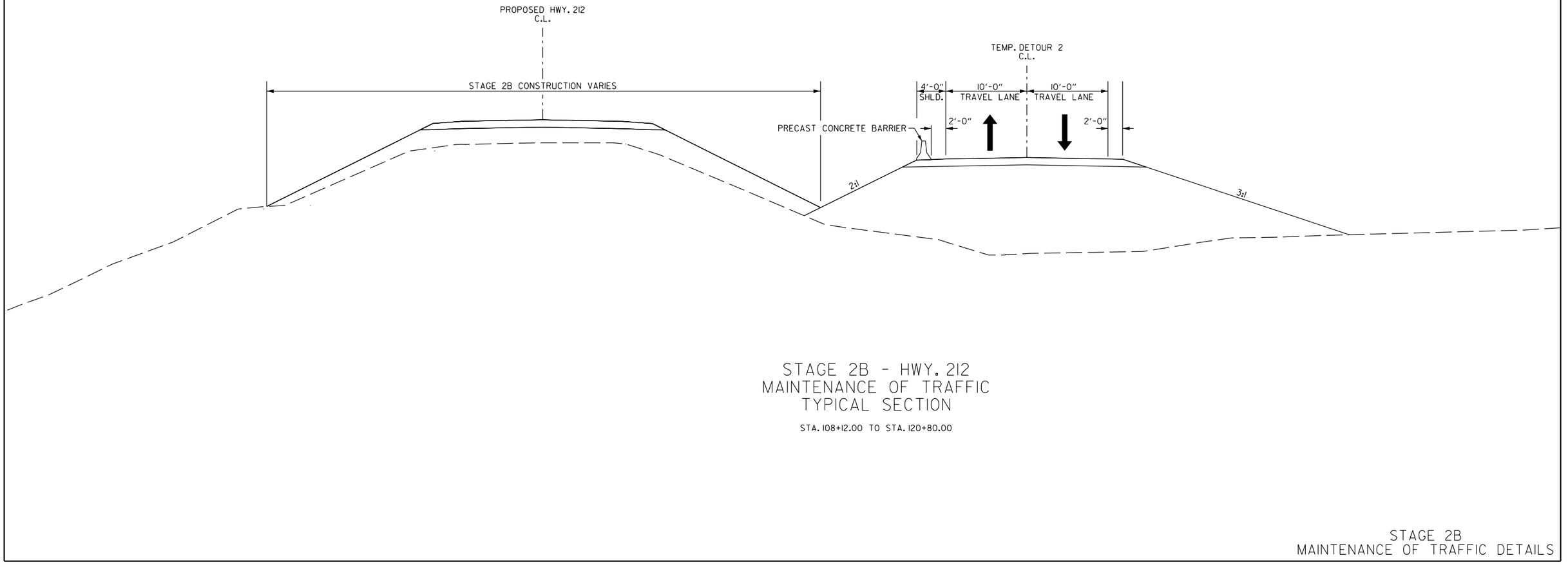
STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.



STAGE 2B - HWY. 212
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 108+12.00 TO STA. 120+80.00

STAGE 2B
MAINTENANCE OF TRAFFIC DETAILS

Scott.Thornsberry@9/26/2020 3:16:04 PM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_06_MOT_008.dgn
REVISED DATE: $$REVDATE$$

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.		070415	24	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

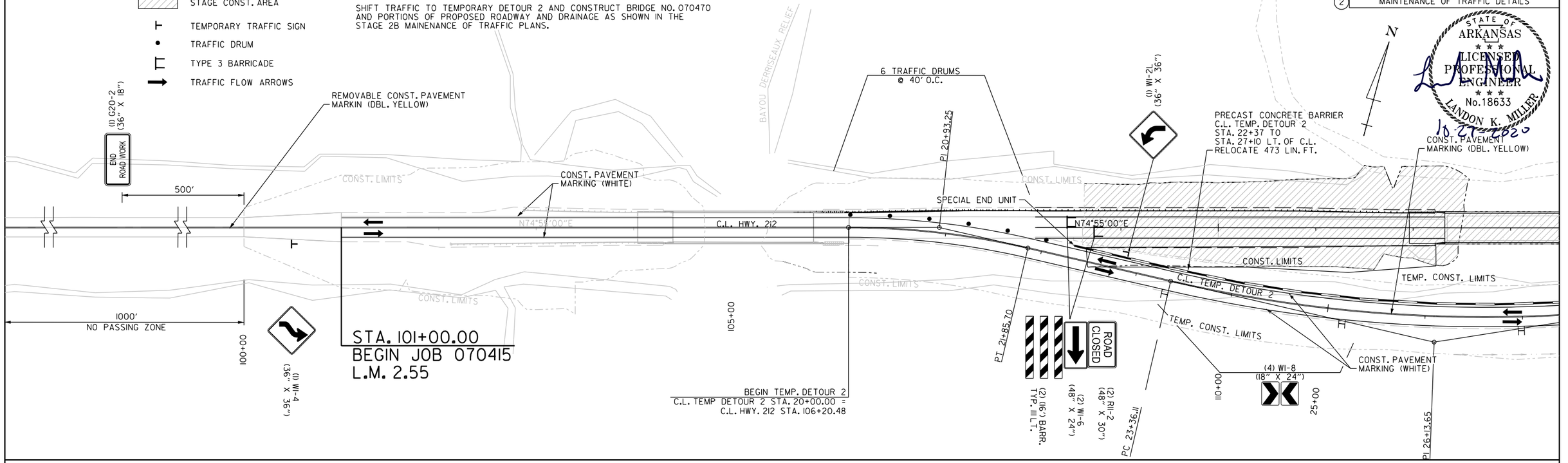
CONSTRUCTION SEQUENCE

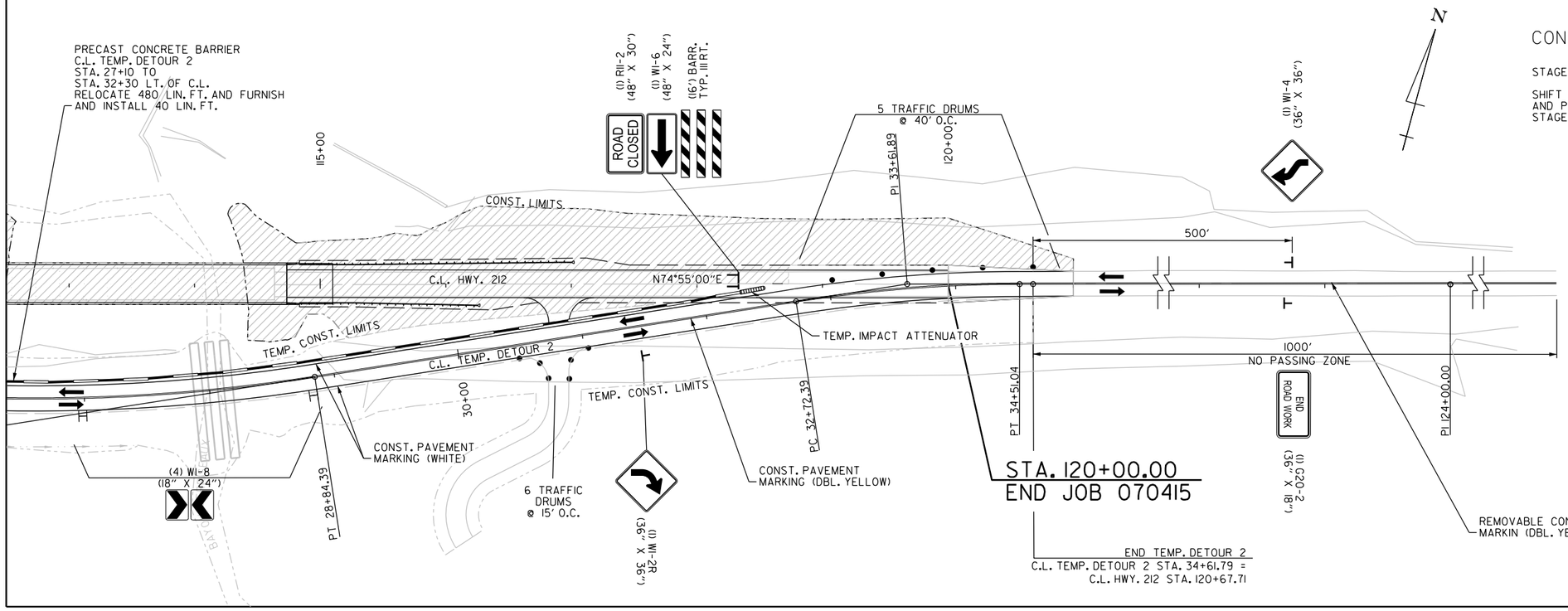
STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

LEGEND

- PRECAST CONCRETE BARRIER
- STAGE CONST. AREA
- TEMPORARY TRAFFIC SIGN
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS





STAGE 2B - QUANTITIES (STA. 20+00.00 TO 34+62.00)

TRAFFIC DRUMS	17 EACH
REMOVE PERM. PAVEMENT MARKINGS	1060 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	4716 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1038 LIN. FT.

(BASED ON DBL. YELLOW C.L. & WHITE EDGE LINES LT. & RT.)

RAISED PAVEMENT MARKERS (Y/Y) @ 40' O.C. ARE USED IF AND WHERE DIRECTED BY THE ENGINEER AND ARE ESTIMATED = 36 EACH

LEGEND

- PRECAST CONCRETE BARRIER
- STAGE CONST. AREA
- TEMPORARY TRAFFIC SIGN
- TRAFFIC DRUM
- TYPE 3 BARRICADE
- TRAFFIC FLOW ARROWS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
10-27-2020

STAGE 2B
MAINTENANCE OF TRAFFIC DETAILS

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WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

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.		070415	25	76
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

CONSTRUCTION SEQUENCE

STAGE IA:

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS FOR MAINTENANCE OF TRAFFIC PLANS.

CONSTRUCT TEMPORARY DETOUR I AS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC PLANS.

STAGE IB:

SHIFT TRAFFIC TO TEMPORARY DETOUR I AND CONSTRUCT BRIDGE NO. 070469 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC PLANS.

STAGE 2A:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE NO. 070469 AND REMOVE TEMPORARY DETOUR I.

CONSTRUCT TEMPORARY DETOUR 2 AS SHOWN IN THE STAGE 2A MAINTENANCE OF TRAFFIC PLANS.

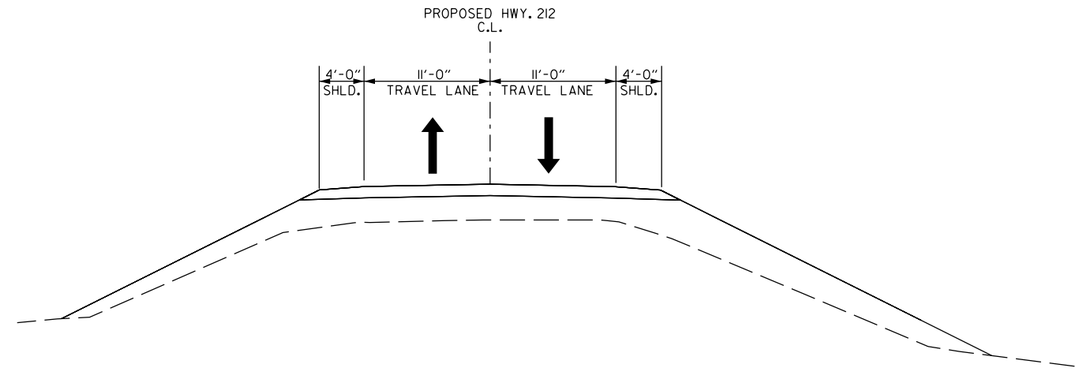
STAGE 2B:

SHIFT TRAFFIC TO TEMPORARY DETOUR 2 AND CONSTRUCT BRIDGE NO. 070470 AND PORTIONS OF PROPOSED ROADWAY AND DRAINAGE AS SHOWN IN THE STAGE 2B MAINENANCE OF TRAFFIC PLANS.

STAGE 2C:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BRIDGE AND REMOVE TEMPORARY DETOUR 2.

CONSTRUCT REMAINDER OF ROADWAY TIES, GUARDRAIL, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 2C MAINTENANCE OF TRAFFIC PLANS.



STAGE 2C - HWY. 212
MAINTENANCE OF TRAFFIC
TYPICAL SECTION

STA. 100+00.00 TO STA. 121+00.00

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
10-27-2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

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6	ARK.			
JOB NO.		070415	26	76

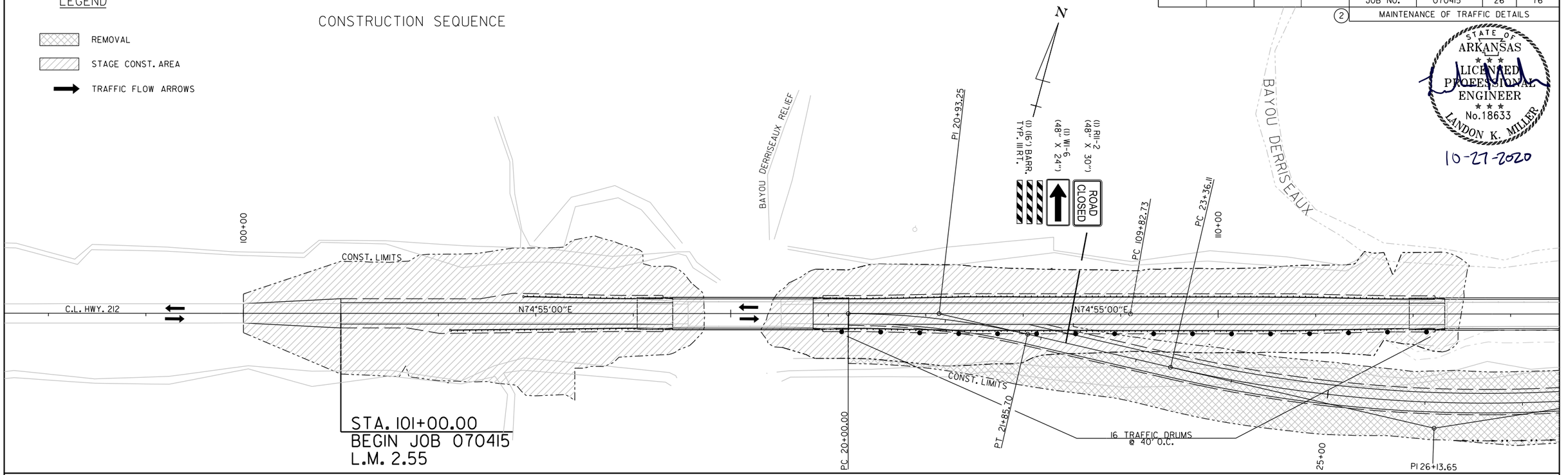
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
10-27-2020

CONSTRUCTION SEQUENCE

LEGEND

- REMOVAL
- STAGE CONST. AREA
- TRAFFIC FLOW ARROWS

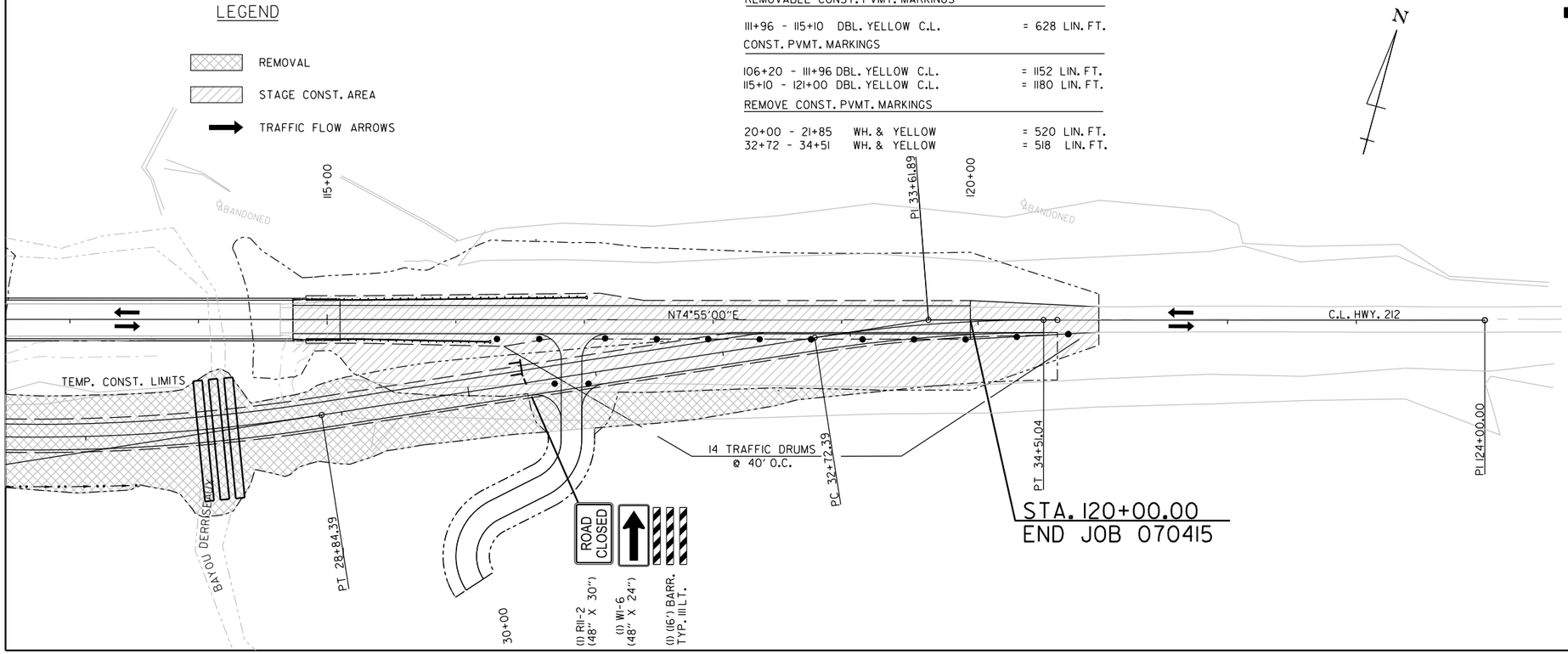


REMOVABLE CONST. PVMT. MARKINGS

111+96 - 115+10 DBL. YELLOW C.L.	= 628 LIN. FT.
CONST. PVMT. MARKINGS	
106+20 - 111+96 DBL. YELLOW C.L.	= 1152 LIN. FT.
115+10 - 121+00 DBL. YELLOW C.L.	= 1180 LIN. FT.
REMOVE CONST. PVMT. MARKINGS	
20+00 - 21+85 WH. & YELLOW	= 520 LIN. FT.
32+72 - 34+51 WH. & YELLOW	= 518 LIN. FT.

LEGEND

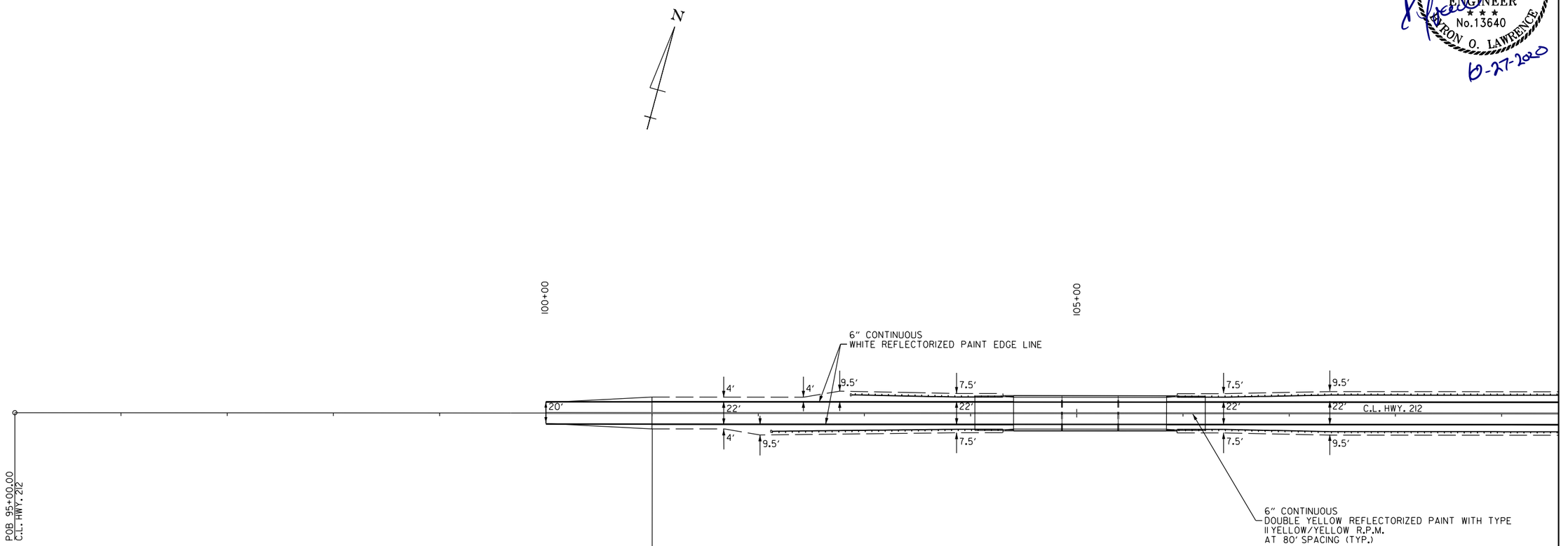
- REMOVAL
- STAGE CONST. AREA
- TRAFFIC FLOW ARROWS



STAGE 2C
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	27	76
				(2)	PERMANENT PAVEMENT MARKING DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
AARON O. LAWRENCE
10-27-2020



PERMANENT STRIPING QUANTITIES
C.L. HWY. 212 (STA. 100+00 TO STA. 109+00)

ITEM	QUANTITIES
6" YELLOW REFLECTORIZED PAINT	1800 L.F.
6" WHITE REFLECTORIZED PAINT	1800 L.F.
RAISED PAVEMENT MARKER (TYPE II) YELLOW/YELLOW	11 EACH

NOTE:

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

PERMANENT PAVEMENT MARKING DETAILS

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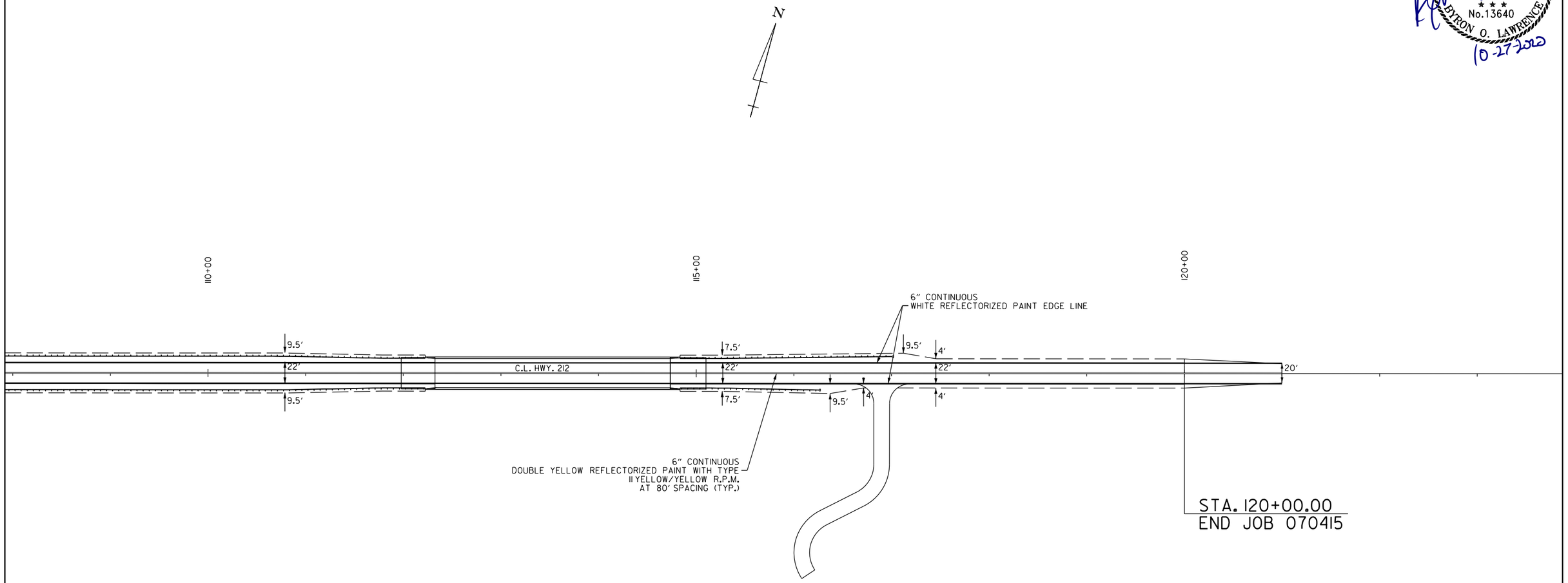
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	28	76
				(2)	PERMANENT PAVEMENT MARKING DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
10-27-2020



PERMANENT STRIPING QUANTITIES
C.L. HWY. 212 (STA. 109+00 TO STA. 121+00)

ITEM	QUANTITIES
6" YELLOW REFLECTORIZED PAINT	2400 L.F.
6" WHITE REFLECTORIZED PAINT	2400 L.F.
RAISED PAVEMENT MARKER (TYPE II) YELLOW/YELLOW	15 EACH

NOTE:

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

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REVISED DATE: $$REVDATE$$

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				6	ARK.			
				JOB NO.		070415	29	76
				(2)	QUANTITIES			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
10-27-2020

ADVANCE WARNING SIGNS AND DEVICES

	SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A	STAGE 1B	STAGE 2A	STAGE 2B	STAGE 2C	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
													RIGHT	LEFT				
				LIN. FT. - EACH						NO.	SQ. FT.	EACH			LIN. FT.		EACH	
	W20-1	ROAD WORK 1500 FT.	36"X36"	2	2	2	2	2	2	2	18.0							
	W20-1	ROAD WORK 1000 FT.	36"X36"	2	2	2	2	2	2	2	18.0							
	W20-1	ROAD WORK 500 FT.	36"X36"	2	2	2	2	2	2	2	18.0							
	G20-2	END ROAD WORK	36"X18"	2	2	2	2	2	2	2	9.0							
	R11-2	ROAD CLOSED	48"x30"	2	3	4	3	2	4	4	40.0							
	W1-2R	RIGHT CURVE	36"X36"		1		1		1	1	9.0							
	W1-2L	LEFT CURVE	36"X36"		1		1		1	1	9.0							
	W1-4R	REVERSE CURVE RIGHT	36"X36"		1		1		1	1	9.0							
	W1-4L	REVERSE CURVE LEFT	36"X36"		1		1		1	1	9.0							
	W1-6	LARGE ARROW	48"x24"		3	2	3	2	3	3	24.0							
	W1-8	CHEVRONS	18"x24"		8		8		8	8	24.0							
*	W3-5	REDUCED SPEED LIMIT AHEAD (XXMPH)*	36"X36"	2	2	2	2	2	2	2	18.0							
*	R2-1	SPEED LIMIT (XXMPH)*	24"X30"	2	2	2	2	2	2	2	10.0							
*	R4-1	DO NOT PASS*	24"x30"	2	2	2	2	2	2	2	10.0							
*	W21-5a	RIGHT SHOULDER CLOSED	36"X36"	2	2	2	2	2	2	2	18.0							
		TRAFFIC DRUMS		18	13	47	17	30	47			47						
		TYPE III BARRICADE-RT. (16')		1	1	2	1	1	2				32					
		TYPE III BARRICADE-LT. (16')		1	2	2	2	1	2					32				
		FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			1206		40		1246						1246			
		RELOCATING PRECAST CONCRETE BARRIER					953		953							953		
		TEMPORARY IMPACT ATTENUATION BARRIER			1	2	1		4								4	
		TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			1	2	1		4									4
	TOTALS:										243.0	47	32	32	1246	953	4	4

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

* SIGNS WILL BE IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1A	STAGE 1B	STAGE 2A	STAGE 2B	STAGE 2C	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS			PERMANENT PAVEMENT MARKINGS		
								CONSTRUCTION PAVEMENT MARKINGS	REMOVE CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKINGS	
											TYPE II	6"	
											(YELLOW/YELLOW)	WHITE	YELLOW
	LIN. FT. - EACH						LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	
CONSTRUCTION PAVEMENT MARKINGS		4536	3276	4716	2332			14860					
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		1130	868	1038	628					3664			
REMOVE PERMANENT PAVEMENT MARKINGS		1240		1060			2300						
REMOVE CONSTRUCTION PAVEMENT MARKINGS			1130		1038	628			2168				
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)		36		36		26					98		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")						4200						4200	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")						4200							4200
TOTALS:							2300	14860	2168	3664	98	4200	4200

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

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

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WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

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.		070415	30	76

(2) QUANTITIES

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
102+11.75	104+30.50	RT. OF C.L. HWY. 212	150	1	1
102+86.75	104+30.50	LT. OF C.L. HWY. 212	75	1	1
105+94.50	112+22.50	RT. OF. C.L. HWY. 212	591	2	
105+94.50	112+22.50	LT. OF C.L. HWY. 212	591	2	
114+83.50	117+02.25	LT. OF C.L. HWY. 212	75	1	1
114+83.50	116+27.25	RT. OF C.L. HWY. 212	150	1	1
TOTALS:			1632	8	4

REMOVAL AND DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL
			LIN. FT.
104+06	104+56	LT. OF C.L. HWY. 212	50
104+06	104+56	RT. OF C.L. HWY. 212	50
105+52	106+02	LT. OF C.L. HWY. 212	50
105+52	106+02	RT. OF C.L. HWY. 212	50
111+85	112+35	RT. OF C.L. HWY. 212	50
111+85	112+35	LT. OF C.L. HWY. 212	50
114+64	115+15	LT. OF C.L. HWY. 212	50
TOTAL:			350

NOTE: THE QUANTITY SHOWN ABOVE FOR THE REMOVAL AND DISPOSAL OF GUARDRAIL SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL GUARDRAIL TERMINALS AND TERMINAL ANCHOR POSTS.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+00.00	101+00.00	C.L. HWY. 212	20.00	222.22
120+00.00	121+00.00	C.L. HWY. 212	20.00	222.22
TOTAL:				444.44

NOTE: AVERAGE MILLING DEPTH 1".

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	7	14
DIRECTED BY THE ENGINEER		
TOTALS:	7	14

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION	STONE BACKFILL
			CU. YD.		TON	TON
98+03.03	112+39.51	STAGE 1A	1368	16655		
100+00	110+00	STAGE 1B	152	5767		
105+52	120+80	STAGE 2A (INCLUDES TEMP. DETOUR REMOVAL)	15523	16230		
110+00	120+00	STAGE 2B	51	4759		
100+00	120+00	STAGE 2C (TEMP DETOUR 2 REMOVAL)	15133	204		
		BRIDGE NO. 07469 - BRIDGE EXCAVATION	647			
		BRIDGE NO. 07470 - BRIDGE EXCAVATION	121			
101+00	101+60	HWY. 212 RT. SIDE				83
102+30	103+60	HWY. 212 RT. SIDE				272
101+80	104+10	HWY. 212 LT. SIDE				514
106+45	109+35	HWY. 212 LT. SIDE				458
111+18	112+60	HWY. 212 LT. SIDE				270
116+90		TEMP. APPROACH		20		
116+90		DRIVEWAY APPROACH		880		
ENTIRE	PROJECT	TO BE USED IF AND WHERE			250	
		DIRECTED BY THE ENGINEER				
TOTALS:			32995	44515	250	1597

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

TEMPORARY CULVERTS

STATION	DESCRIPTION	TEMPORARY CULVERTS	*SELECTED PIPE BEDDING
		84"	
		LIN. FT.	CU.YDS.
17+32	TEMP. DETOUR 1 - TRIPLE	246	180
28+03	TEMP. DETOUR 2 - TRIPLE	282	
TOTALS:		528	180

NOTES: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
* QUANTITY ESTIMATED
SEE SECTION 104.03 OF STD. SPECS

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			500	2
TOTALS:			500	2

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
100+00	121+00	HWY. 212	21	21
TOTALS:			21	21

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE C)	*APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.	CU.YD.	POUND	TON
104+04.00	104+40.50	C.L. HWY. 212	16.60	44.90	6506	43.88
105+84.50	106+21.00	C.L. HWY. 212	16.60	44.90	6506	43.88
111+96.00	112+32.50	C.L. HWY. 212	16.60	44.90	6506	43.88
114+73.50	115+10.00	C.L. HWY. 212	16.60	44.90	6506	43.88
TOTALS:			66,40	179,60	26024	175,52

* REFER TO BRIDGE DRAWING DETAILS OF TYPE SPECIAL APPROACH SLAB.

DUMPED RIPRAP AND FILTER BLANKET

STATION	STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
			CU. YD.	SQ. YD.
10+00.00	24+36.48	DETOUR 1 - LT.	940	1878
16+50.00	17+60.00	DETOUR 1 - RT.	51	102
20+00.00	31+54.04	DETOUR 2 - RT.	123	246
25+95.00	28+22.00	DETOUR 2 - LT.	649	81
102+87	104+31	HWY. 212-RT.	457	326
103+62	104+31	HWY. 212-LT.	236	100
105+94	112+23	HWY. 212-LT.	1359	2038
105+94	112+23	HWY. 212-RT.	1059	1588
114+83	116+27	HWY. 212-LT.	237	182
114+83	115+52	HWY. 212-RT.	100	16
TOTAL:			6509	6557

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

NOTE: FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL										
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	FILTER SOCK (E-13)	DUMPED RIPRAP (E-9)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						14.56	14.56	297.0		84	7765					316
ENTIRE	PROJECT	STAGE 1A						3.42	3.42	69.8	66	9			30			6
ENTIRE	PROJECT	STAGE 1B	2.93	5.86	2.93	298.9	2.93	5.86	5.86	119.5								
ENTIRE	PROJECT	STAGE 2A						5.86	5.86	119.5	66	33	1225		30			59
ENTIRE	PROJECT	STAGE 2B	3.65	7.30	3.65	372.3	3.65	7.30	7.30	148.9								
ENTIRE	PROJECT	STAGE 2C	2.05	4.10	2.05	209.1	2.05	4.10	4.10	83.6		18	750					42
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			1.00	3.00	1.00	132.0	1.00	6.00	6.00	126.0	132	18	1461	500	30	600	600	660
TOTALS:			9,63	20,26	9,63	1012,3	9,63	47,10	47,10	964,3	264	162	11201		90	600	600	1083

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

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

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
11-30-2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	31	76

(2) QUANTITIES

DRIVEWAYS & TURNOUTS

	STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)
				FEET	SQ. YD.	TON	TON
	166+90	RT.	C.L. HWY. 212	16	458.34	50.42	187.16
*	166+90	RT.	C.L. HWY. 212 (TEMP. DRIVE - MOT)	16			37.33
TOTALS:					**458.34**	**50.42**	**224.49**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
104+40.50	SITE 1 BRIDGE ABUTMENT	1
112+32.50	SITE 2 BRIDGE ABUTMENT	1

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
10-27-2020

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																													
100+00.00	101+00.00	C.L. HWY. 212 TRANSITION	100.00	46.25	46.25				20.00	222.22	37.78	37.78													23.00	255.56	220.00	28.11	28.11
101+00.00	102+80.00	C.L. HWY. 212 NOTCH AND WIDEN	180.00	100.25	180.45	4.59	91.80	4.59				4.59					2.46	49.20	330.00	8.12	2.13	42.60	220.00	4.69	26.00	520.00	220.00	57.20	61.89
102+80.00	104+04.00	C.L. HWY. 212 FULL DEPTH	124.00	178.00	220.72	44.71	616.00	30.80				30.80					22.46	309.45	330.00	51.06	22.25	306.56	220.00	33.72	26.00	358.22	220.00	39.40	73.12
106+21.00	108+83.00	C.L. HWY. 212 FULL DEPTH	262.00	178.00	466.36	44.71	1301.56	65.08				65.08					22.46	653.84	330.00	107.88	22.25	647.72	220.00	71.25	26.00	756.89	220.00	83.26	154.51
108+83.00	110+07.00	C.L. HWY. 212 NOTCH AND WIDEN	124.00	100.25	124.31	4.71	64.89	3.24				3.24					2.46	33.89	330.00	5.59	2.25	31.00	220.00	3.41	26.00	358.22	220.00	39.40	42.81
110+07.00	111+96.00	C.L. HWY. 212 FULL DEPTH	189.00	178.00	336.42	44.71	938.91	46.95				46.95					22.46	471.66	330.00	77.82	22.25	467.25	220.00	51.40	26.00	546.00	220.00	60.06	111.46
115+10.00	116+00.00	C.L. HWY. 212 FULL DEPTH	90.00	178.00	160.20	44.71	447.10	22.36				22.36					22.46	224.60	330.00	37.06	22.25	222.50	220.00	24.48	26.00	260.00	220.00	28.60	53.08
116+00.00	120+00.00	C.L. HWY. 212 NOTCH AND WIDEN	400.00	100.25	401.00	4.59	204.00	10.20				10.20					2.46	109.33	330.00	18.04	2.13	94.67	220.00	10.41	26.00	1155.56	220.00	127.11	137.52
120+00.00	121+00.00	C.L. HWY. 212 TRANSITION	100.00	46.25	46.25				20.00	222.22	37.78	37.78													23.00	255.56	220.00	28.11	28.11
10+00.00	12+67.02	C.L. HWY. 212 DETOUR 1 NOTCH SECTION	267.02	100.25	267.69																				11.36	337.04	220.00	37.07	37.07
12+67.02	21+62.95	C.L. HWY. 212 DETOUR 1 TANGENT SECTION	895.93	219.25	1964.33																				26.00	2588.24	220.00	284.71	284.71
21+62.95	24+36.48	C.L. HWY. 212 DETOUR 1 NOTCH SECTION	273.53	100.50	274.90																				11.38	345.86	220.00	38.04	38.04
20+00.00	22+02.00	C.L. HWY. 212 DETOUR 2 NOTCH SECTION	202.00	85.75	173.22																				9.42	211.43	220.00	23.26	23.26
22+02.00	32+09.15	C.L. HWY. 212 DETOUR 2 TANGENT SECTION	1007.15	219.25	2208.18																				26.00	2909.54	220.00	320.05	320.05
32+09.15	34+51.04	C.L. HWY. 212 DETOUR 2 NOTCH SECTION	241.89	93.50	226.17																				10.45	280.86	220.00	30.89	30.89
ADDITIONAL FOR LEVELING/RAISING GRADE																													
101+00.00	102+30.00	C.L. HWY. 212 - LEVELING	130.00			20.00	288.89	14.44	20.00	288.89	49.11	63.55									20.00	288.89	220.00	31.78					31.78
102+30.00	102+80.00	C.L. HWY. 212 - RAISING GRADE	50.00			60.00	333.33	16.67	20.00	111.11	18.89	35.56	20.00	111.11	790.00	43.89	20.00	111.11	330.00	18.33	20.00	111.11	220.00	12.22					12.22
108+83.00	110+07.00	C.L. HWY. 212 - RAISING GRADE	124.00			60.00	826.67	41.33	20.00	275.56	46.85	88.18	20.00	275.56	715.00	98.51	20.00	275.56	330.00	45.47	20.00	275.56	220.00	30.31					30.31
116+00.00	117+00.00	C.L. HWY. 212 - RAISING GRADE	100.00			60.00	666.67	33.33	20.00	222.22	37.78	71.11	20.00	222.22	794.00	88.22	20.00	222.22	330.00	36.67	20.00	222.22	220.00	24.44					24.44
117+00.00	120+00.00	C.L. HWY. 212 - LEVELING	300.00			20.00	666.67	33.33	20.00	666.67	113.33	146.66									20.00	666.67	220.00	73.33					73.33
ADDITIONAL FOR GUARDRAIL WIDENING																													
101+68.75	102+01.75	RT. OF C.L. HWY. 212	33.00	19.50	6.44																				4.75	17.42	220.00	1.92	1.92
102+01.75	102+11.75	RT. OF C.L. HWY. 212	10.00	39.25	3.93																				7.50	8.33	220.00	0.92	0.92
102+11.75	103+86.75	RT. OF C.L. HWY. 212	175.00	32.00	56.00																				6.50	126.39	220.00	13.90	13.90
103+86.75	104+30.50	RT. OF C.L. HWY. 212	43.75	25.00	10.94																				5.50	26.74	220.00	2.94	2.94
102+43.75	102+76.75	LT. OF C.L. HWY. 212	33.00	19.50	6.44																				4.75	17.42	220.00	1.92	1.92
102+76.75	102+86.75	LT. OF C.L. HWY. 212	10.00	39.25	3.93																				7.50	8.33	220.00	0.92	0.92
102+86.75	103+86.75	LT. OF C.L. HWY. 212	100.00	32.00	32.00																				6.50	72.22	220.00	7.94	7.94
103+86.75	104+30.50	LT. OF C.L. HWY. 212	43.75	25.00	10.94																				5.50	26.74	220.00	2.94	2.94
105+94.50	106+38.25	LT. & RT. OF HWY. 212	43.75	50.00	21.88																				11.00	53.47	220.00	5.88	5.88
106+38.25	107+38.25	LT. & RT. OF HWY. 212	100.00	64.00	64.00																				13.00	144.44	220.00	15.89	15.89
107+38.25	110+78.75	LT. & RT. OF HWY. 212	340.50	78.50	267.29																				15.00	567.50	220.00	62.43	62.43
110+78.75	111+78.75	LT. & RT. OF HWY. 212	100.00	64.00	64.00																				13.00	144.44	220.00	15.89	15.89
111+78.75	112+22.50	LT. & RT. OF HWY. 212	43.75	50.00	21.88																				11.00	53.47	220.00	5.88	5.88
114+83.50	115+27.25	RT. OF C.L. HWY. 212	43.75	25.00	10.94																				5.50	26.74	220.00	2.94	2.94
115+27.25	116+27.25	RT. OF C.L. HWY. 212	100.00	32.00	32.00																				6.50	72.22	220.00	7.94	7.94
116+27.25	116+37.25	RT. OF C.L. HWY. 212	10.00	39.25	3.93																				7.50	8.33	220.00	0.92	0.92
116+37.25	116+70.25	RT. OF C.L. HWY. 212	33.00	19.50	6.44																				4.75	17.42	220.00	1.92	1.92
114+83.50	115+27.25	LT. OF C.L. HWY. 212	43.75	25.00	10.94																				5.50	26.74	220.00	2.94	2.94
115+27.25	117+02.25	LT. OF C.L. HWY. 212	175.00	32.00	56.00																				6.50	126.39	220.00	13.90	13.90
117+02.25	117+12.25	LT. OF C.L. HWY. 212	10.00	39.25	3.93																				7.50	8.33	220.00	0.92	0.92
117+12.25	117+45.25	LT. OF C.L. HWY. 212	33.00	19.50	6.44																				4.75	17.42	220.00	1.92	1.92
ADDITIONAL FOR SUPERELEVATION																													
13+69.76	20+57.26	C.L. HWY. 212 DETOUR 1	687.50	7.25	49.84																								
22+60.91	30+53.14	C.L. HWY. 212 DETOUR 2	792.23	7.25	57.44																								
TOTALS:					**7904.02**		**6446.49**	**322.32**		**2008.89**	**341.52**	**663.84**		**608.89**		**230.62**		**2460.86**		**406.04**		**3376.75**		**371.44**		**12709.48**		**1398.04**	**1769.48**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.1% MIN. AGGR.....3.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

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.		070415	32	76

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
12-1-2020

SOIL BORING LOG

SUMMARY SOIL CLASSIFICATION TEST RESULTS - BAYOU DERRISEAUX CROSSING

BORING NO.	APPROX. STATION	OFFSET	ELEVATION	SAMPLE DEPTH (ft.)	WATER CONTENT (%)	ATTERBERG LIMITS			PERCENT PASSING #200	UNIFIED CLASS.	AASHTO CLASS.
						LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX			
B-1	103+87.28	-17.1	185.77	5 - 6.5	25	48	19	29	76	CL	A-7-6
B-1	103+87.28	-17.1	185.77	18.5 - 20	21	37	14	23	50	CL	A-6
B-1	103+87.28	-17.1	185.77	28.5 - 30	18	--	--	--	7	SP	--
B-1	103+87.28	-17.1	185.77	38.5 - 40	35	97	31	66	99	CH	A-7-5
B-1	103+87.28	-17.1	185.77	58.5 - 60	26	51	15	36	56	CH	A-7-6
B-1	103+87.28	-17.1	185.77	78.5 - 80	28	39	15	24	58	CL	A-6
B-1	103+87.28	-17.1	185.77	93.5 - 95	32	53	15	38	83	CH	A-7-6
B-2	105+67.26	-13.4	182.07	3.5 - 5	23	51	20	31	84	CH	A-7-6
B-2	105+67.26	-13.4	182.07	18.5 - 20	22	--	--	--	30	SM	--
B-2	105+67.26	-13.4	182.07	28.5 - 30	11	--	--	--	3	SP	--
B-2	105+67.26	-13.4	182.07	43.5 - 45	42	101	28	73	97	CH	A-7-6
B-2	105+67.26	-13.4	182.07	58.5 - 60	32	70	22	48	87	CH	A-7-6
B-2	105+67.26	-13.4	182.07	73.5 - 75	27	54	17	37	78	CH	A-7-6
R-1	102+39.65	-8.6	181.82	2 - 3.5	8	40	19	21	70	CL	A-6
R-1	102+39.65	-8.6	181.82	5 - 6.5	24	47	19	28	81	CL	A-7-6
R-2	107+15.91	-9.1	181.78	3.5 - 5	19	50	20	30	73	CH	A-7-6
S-1	103+09.72	-20.2	180.16	2 - 3.5	17	36	18	18	58	CL	A-6
S-2	106+48.06	11.8	181.36	2 - 3.5	22	46	20	26	77	CL	A-7-6
B-3	112+01.84	11.2	182.55	2 - 3.5	21	34	23	11	74	CL	A-6
B-3	112+01.84	11.2	182.55	18.5 - 20	22	NP	NP	NP	17	SM	A-2-4
B-3	112+01.84	11.2	182.55	28.5 - 30	41	67	22	45	94	CH	A-7-6
B-3	112+01.84	11.2	182.55	48.5 - 50	38	95	37	58	99	CH	A-7-5
B-3	112+01.84	11.2	182.55	63.5 - 65	32	50	19	31	90	CH	A-7-6
B-4	113+24.32	22.8	174.47	5 - 6.5	27	--	--	--	56	CL	--
B-4	113+24.32	22.8	174.47	13.5 - 15	11	--	--	--	11	GW-GM	--
B-4	113+24.32	22.8	174.47	28.5 - 30	35	33	22	11	54	CL	A-6
B-4	113+24.32	22.8	174.47	48.5 - 50	34	90	23	67	95	CH	A-7-6
B-4	113+24.32	22.8	174.47	58.5 - 60	27	43	18	25	60	CL	A-7-6
B-4	113+24.32	22.8	174.47	78.5 - 80	30	51	18	33	82	CH	A-7-6
B-5	114+53.93	19.7	181.50	8.5 - 10	12	--	--	--	22	SC	--
B-5	114+53.93	19.7	181.50	18.5 - 20	23	--	--	--	31	SM	--
B-5	114+53.93	19.7	181.50	28.5 - 30	17	--	--	--	16	SC	--
B-5	114+53.93	19.7	181.50	43.5 - 45	38	96	28	68	94	CH	A-7-6
B-5	114+53.93	19.7	181.50	58.5 - 60	29	82	22	60	87	CH	A-7-6
B-5	114+53.93	19.7	181.50	68.5 - 70	31	43	13	30	60	CL	A-7-6
R-3	110+95.87	5.0	182.43	3.5 - 5	8	31	16	15	59	CL	A-6
R-4	116+22.30	4.3	182.90	2 - 3.5	15	29	16	13	73	CL	A-6
S-3	111+60.69	-15.7	181.96	3.5 - 5	15	31	17	14	55	CL	A-6

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

Stephone.Bossio 11/30/2020 10:37:26 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_08B_0YT_001.dgn
REVISED DATE: $$REVDATE$$

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.		070415	33	76
(1)	07469 & 07470 - QUANTITIES - 61301			

SCHEDULE OF BRIDGE QUANTITIES - JOB 070415

BRIDGE NUMBER	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NUMBER	205	801	SS & 802	SP, SS & 802	803	SS & 804	SS & 804	SS & 805	SS & 805	SS & 805	SS & 805	SP, SS & 807	812	816	816
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL- BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL SHELL PILING (18" DIA.) (1)	STEEL SHELL PILING (24" DIA.) (1)	PILE ENCASEMENT	PREBORING	STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)	BRIDGE NAME PLATE (TYPE D)	DUMPED RIPRAP	FILTER BLANKET
			UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	POUND	POUND	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	POUND	EACH	CU. YD.	SQ. YD.
07469	HIGHWAY 212 OVER BAYOU DERRISEAUX RELIEF																	
		END BENT NO. 1			31	17.10			1,575	321	340			50			159	320
		INTERMEDIATE BENT NO. 2				15.80			1,985	185		435	75					
		INTERMEDIATE BENT NO. 3				15.80			1,985	185		435	50					
		END BENT NO. 4			29	17.10			1,575	321	340			50			164	329
		143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT					197.90	11.9		41,368					72,460	1		
		EXIST. BRIDGE NO. M3994 (SITE NO. 1)		1														
TOTAL FOR BRIDGE NO. 07469					60	65.80	197.90	11.9	7,120	42,380	680	870	125	100	72,460	1	323	649
07470	HIGHWAY 212 OVER BAYOU DERRISEAUX																	
		END BENT NO. 1			35	17.10			1,575	321	340			50			211	432
		INTERMEDIATE BENT NO. 2				15.80			1,985	185		425	50					
		INTERMEDIATE BENT NO. 3				15.80			1,985	185		425	50					
		INTERMEDIATE BENT NO. 4				15.80			1,985	185		425	50					
		INTERMEDIATE BENT NO. 5				15.80			1,985	185		425	50					
		END BENT NO. 6			28	17.10			1,575	321	340			50			146	304
		240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT					309.40	19.9		67,758					122,480	1		
		EXIST. BRIDGE NO. M3995 (SITE NO. 2)		1														
TOTAL FOR BRIDGE NO. 07470					63	97.40	309.40	19.9	11,090	69,140	680	1,700	200	100	122,480	1	357	736
TOTALS FOR JOB NO. 070415					123	163.20	507.30	31.8	18,210	111,520	1,360	2,570	325	200	194,940	2	680	1,385

(1) Steel Shell Piles shall conform to ASTM A252, Grade 3, Fy = 45 ksi.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SCHEDULE OF BRIDGE QUANTITIES
BAYOU DERRISEAUX
STRS. & APPRS. (S)
CLEVELAND COUNTY
ROUTE 212 SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 09/2019 FILENAME: B070415XL_QXL.dgn
CHECKED BY: SFH DATE: 09/2020
DESIGNED BY: - - DATE: - - SCALE: NONE
BRIDGE NOS. 07469 & 07470 DRAWING NO. 61301

Scott.Thornsberry@26/2020 3:46:3 PM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166382_070415 Bayou Derriseaux Bridges\Design\BRIDGE\Drawings\B070415XL_QXL.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-22-2020				6	ARK.			
				JOB NO.		070415	34	76

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
12-22-2020

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	21	STATION
201	GRUBBING	21	STATION
202	REMOVAL AND DISPOSAL OF GUARDRAIL	350	LIN. FT.
207	STONE BACKFILL	1597	TON
SS & 210	UNCLASSIFIED EXCAVATION	32995	CU. YD.
210	COMPACTED EMBANKMENT	44515	CU. YD.
SP & 210	SOIL STABILIZATION	250	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	8304	TON
SS & 401	TACK COAT	678	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	222	TON
SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")	9	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	388	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	18	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	1724	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	96	TON
412	COLD MILLING ASPHALT PAVEMENT	444	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	7	TON
504	APPROACH SLABS	179.60	CU. YD.
504	APPROACH GUTTERS	66.40	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	84" TEMPORARY CULVERT	528	LIN. FT.
SS & 604	SIGNS	243	SQ. FT.
SS & 604	BARRICADES	64	LIN. FT.
SS & 604	TRAFFIC DRUMS	47	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	1246	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	953	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	14860	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	3664	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	2168	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	2300	LIN. FT.
606	SELECTED PIPE BEDDING	180	CU. YD.
SS & 611	4" PIPE UNDERDRAINS	500	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	2	EACH
SS & 617	GUARDRAIL (TYPE A)	1632	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	8	EACH
620	LIME	20	TON
620	SEEDING	9.63	ACRE
SS & 620	MULCH COVER	56.73	ACRE
620	WATER	1976.6	M. GAL.
621	TEMPORARY SEEDING	47.10	ACRE
621	SILT FENCE	11201	LIN. FT.
621	SAND BAG DITCH CHECKS	264	BAG
621	SEDIMENT BASIN	600	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	600	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	1083	CU. YD.
621	ROCK DITCH CHECKS	162	CU. YD.
SS & 621	FILTER SOCK (18")	500	LIN. FT.
623	SECOND SEEDING APPLICATION	9.63	ACRE
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	4200	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	4200	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	98	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	4	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	4	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	26024	POUND
816	FILTER BLANKET	6557	SQ. YD.
816	DUMPED RIPRAP	6599	CU. YD.
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	123	CU. YD.
SS & 802	CLASS S CONCRETE-BRIDGE	163.20	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	507.30	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	31.8	GAL.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	18210	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	111520	POUND
SS & 805	STEEL SHELL PILING (18" DIAMETER)	1360	LIN. FT.
SS & 805	STEEL SHELL PILING (24" DIAMETER)	2570	LIN. FT.
SS & 805	PREBORING	200	LIN. FT.
SS & 805	PILE ENCASEMENT	325	LIN. FT.
SP, SS, & 807	STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)	194940	POUND
812	BRIDGE NAME PLATE (TYPE D)	2	EACH
816	FILTER BLANKET	1385	SQ. YD.
816	DUMPED RIPRAP	680	CU. YD.

REVISIONS

DATE	REVISION	SHEET NUMBER
12/22/2020	REVISED EMBANKMENT DETAIL.	6, 34

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.		070415	35	76
				(2)	SURVEY CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
10-27-2020

SURVEY CONTROL COORDINATES

Project Name: s070415
Date: 11/21/2017
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1813846.1401	1239830.5182	190.606	CTL	STANDARD ARDOT CAP STAMPED PN: 1
2	1814136.5025	1240836.4680	184.222	CTL	STANDARD ARDOT CAP STAMPED PN: 2
3	1814386.7972	1241767.9524	184.067	CTL	STANDARD ARDOT CAP STAMPED PN: 3
4	1814607.0929	1242592.5890	185.542	CTL	STANDARD ARDOT CAP STAMPED PN: 4
5	1814877.4932	1243582.2296	184.603	CTL	STANDARD ARDOT CAP STAMPED PN: 5
900	1813981.0380	1240277.0123	186.682	TBM	ARDOT DISK IN S/W COR OF BR
901	1814361.3708	1241570.8284	184.906	TBM	CHISELED SQUARE CUT IN N/W CORNER OF BR
902	1814564.1428	1242323.6402	185.986	TBM	CHISELED SQUARE CUT IN N/W CORNER OF BR
903	1814849.1178	1243597.3277	184.173	TBM	CHISELED SQUARE CONC POST BASE OF UM
998	1774388.2933	1248836.9925	186.477	TBM	8" SPIKE IN 12" PINE STUMP 79 RISON
999	1774489.0364	1249005.7157	183.900	BM	RV 185 STANDARD MONEL-METAL RIVET E END CONC CULVERT UNDER RR HWY 79
1000	1814495.3546	1242064.2564	184.383	TV	8 SPIKE
1001	1814245.2265	1241142.3601	184.450	TV	8 SPIKE

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999096019 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s070415gi.ctl
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: BASED ON STATIC GPS PTS 1 - 5
CONVERGENCE ANGLE: 00-07-38 LEFT AT LT: 34-24-45 N LG: 092-14-00 W
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

ALIGNMENT NAME: HWY. 212

POINT	STATION	TYPE	NORTHING	EASTING
8000	95+00.00	POB	1814100.9482	1240650.6422
8001	124+00.00	POE	1814855.5968	1243450.7325

ALIGNMENT NAME: TEMP. DETOUR 1

POINT	STATION	TYPE	NORTHING	EASTING
8002	10+00.00	PC	1814179.8069	1240943.2441
8004	11+40.00	PT	1814224.3949	1241075.8622
8005	15+38.51	PC	1814374.2153	1241445.1334
8007	18+88.51	PT	1814465.0671	1241782.2352
8008	22+96.00	PC	1814522.3656	1242185.6763
8010	24+36.48	PT	1814550.5845	1242323.2046
8011	24+39.51	POE	1814551.3759	1242326.1361

ALIGNMENT NAME: TEMP. DETOUR 2

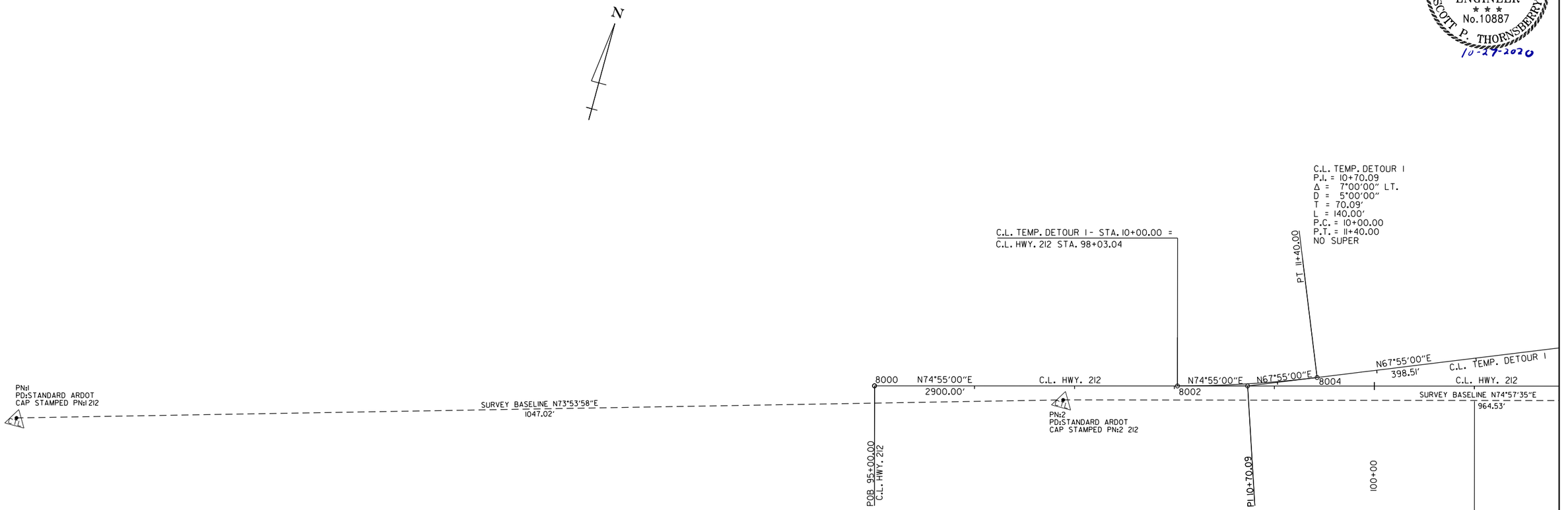
POINT	STATION	TYPE	NORTHING	EASTING
8012	20+00.00	PC	1814392.5225	1241732.5159
8014	21+85.70	PT	1814420.1799	1241915.7398
8015	23+36.11	PC	1814425.6510	1242066.0531
8017	28+84.39	PT	1814548.6996	1242596.9175
8018	32+72.39	PC	1814706.6102	1242951.3293
8021	34+51.04	PT	1814766.3287	1243119.5073
8020	34+61.79	POE	1814769.1261	1243129.8868

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.		070415	36	76

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
10-27-2020



SURVEY CONTROL DETAILS

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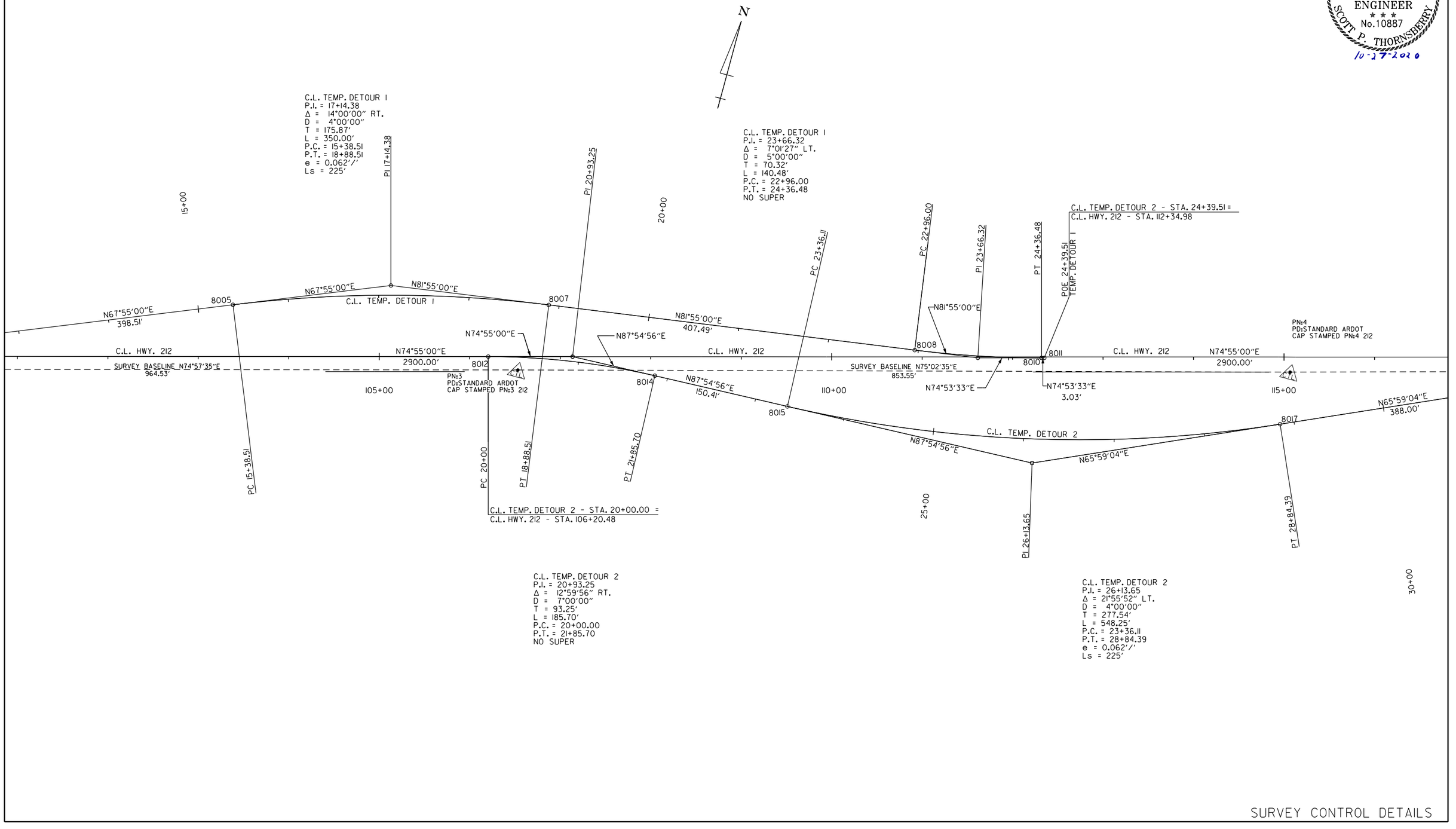
REVISED DATE: $$REVDATE$$

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.		070415	37	76

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
10-27-2020



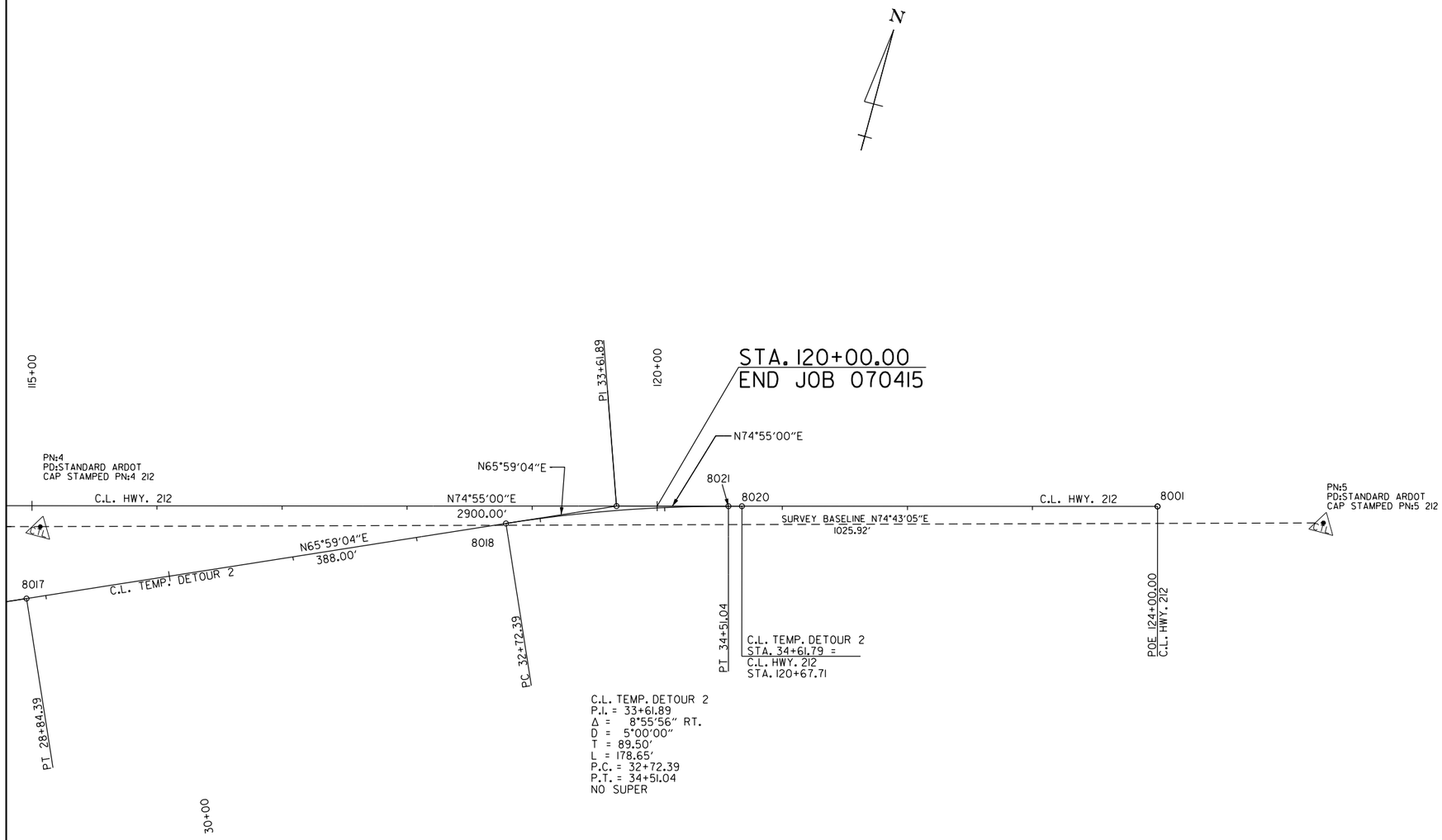
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	38	76

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
10-27-2020



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WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

SURVEY CONTROL DETAILS

STA.	STA.	LOCATION	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	GUARDRAIL TERMINAL (TYPE 2) EACH
102+11.75	104+30.50	RT. OF C.L. HWY. 212	150	1	1
102+86.75	104+30.50	LT. OF C.L. HWY. 212	75	1	1
105+94.50	111+00.00	RT. OF C.L. HWY. 212	487	1	
105+94.50	111+00.00	LT. OF C.L. HWY. 212	487	1	

REMOVAL AND DISPOSAL OF GUARDRAIL

STA.	STA.	LOCATION	
104+06	104+56	LT.	50 LIN. FT.
104+06	104+56	RT.	50 LIN. FT.
105+52	106+02	LT.	50 LIN. FT.
105+52	106+02	RT.	50 LIN. FT.

STA. 104+40.50 BRIDGE END
BRIDGE NO. 07469 OVER BAYOU DERRISEAUX RELIEF
143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
(45'-53'-45')
30'-0" CLEAR ROADWAY
144'-0" BRIDGE LENGTH
STA. 105+84.50 BRIDGE END

APPROACH SLAB AND GUTTERS

STA. 104+04.00 TO STA. 104+40.50
STA. 105+84.50 TO STA. 106+21.00

STA. 104+56 TO STA. 105+52
EXISTING BRIDGE NO. M33994
95' X 25.5' TIMBER SUPERSTRUCTURE WITH
CONCRETE DECK & SUBSTRUCTURE
COMPOSED OF TIMBER PILES (5 SPANS @ 19')
REMOVE AS EXISTING BRIDGE STRUCTURE
SITE NO. 1 = 1.00 LUMP SUM

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.		070415	39	76
				(2)	PLAN AND PROFILE SHEETS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No. 10887
10-27-2020

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

LEGEND

PAVEMENT TRANSITION

DUMPED RIP-RAP

STA. 101+00.00
BEGIN JOB 070415
L.M. 2.55

STA. 102+87 TO 104+31 RT.
INSTALL
457 CU. YDS
DUMPED RIP-RAP

STA. 103+62 TO 104+31 LT.
INSTALL
236 CU. YDS
DUMPED RIP-RAP

STA. 105+94 TO 112+23 LT.
INSTALL
1359 CU. YDS
DUMPED RIP-RAP

STA. 105+94 TO 112+23 RT.
INSTALL
1059 CU. YDS
DUMPED RIP-RAP

HWY. 212

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

FOR THE CONSTRUCTION OF TEMPORARY RAMPS, HAUL ROADS AND TEMPORARY FILL, THIS STREAM IS CLASSIFIED AS BAYOU DERRISEAX RELIEF. THIS STREAM BANK ELEVATION IS BELOW OHW ELEVATION 173 FT. MSL. BETWEEN STATIONS 104+55 - 105+52. REFER TO SECTION 110.5 (c) OF THE 2014 STANDARD SPECIFICATIONS.

VC=240.00'
K=155
e=0.47'

PVC 101+00.00
ELEV. 185.19

PVI 102+20.00
ELEV. 185.19

VC=320.00'
K=136
e=-0.94'

STA. 104+40.50
BEGIN BRIDGE

PVI 105+00.00
ELEV. 189.53

STA. 105+84.50
END BRIDGE

PVC 108+12.00
ELEV. 187.03

PVT 106+60.00
ELEV. 188.25

VC=240.00'
K=150
e=0.48'

PVI 109+32.00
ELEV. 186.07

PVT 110+52.00
ELEV. 187.03

ELEV. 187.41

PVRC 103+40.00
ELEV. 187.05

PROFILE GRADE

EXISTING GROUND

0.00% (EXIST.)
0.00%
1.55%
-0.80%
-0.92%
0.60%
0.80%
0.20% (EXIST.)
-0.89% LT. DT. GR.
0.69% RT. DT. GR.

100' TRANSITION TO MATCH EXIST.

+70.00 RT. 168.61
+25.00 LT. 171.05
+40.00 RT. 169.10
+10.00 LT. 170.29

025 DESIGN HW. ELEV. = 180.20

STA. 108+12.00
ELEV. 186.86
BEGIN STAGE IB TRANSITION

STA. 110+00.00
ELEV. 185.14
END STAGE IB TRANSITION
TIE TO EXIST.

96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00

240 230 220 210 200 190 180 170 160 150

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.		070415	40	76
				(2)	PLAN AND PROFILE SHEETS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
10-27-2020

STA. 112+35 TO STA. 114+64
EXISTING BRIDGE NO. M3995,
229' X 25.5' WOODEN SUPERSTRUCTURE
WITH CONCRETE DECK & SUBSTRUCTURE COMPOSED
OF TIMBER PILES (12 SPANS @ 19')
REMOVE AS EXISTING BRIDGE STRUCTURE
SITE NO. 2 = 1.00 LUMP SUM

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

STA. 112+32.50 BRIDGE END
BRIDGE NO. 07470 OVER BAYOU DERRISEAUX
240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
(42'-52'-52'-52'-42')
30'-0" CLEAR ROADWAY
241'-0" BRIDGE LENGTH
STA. 114+73.50 BRIDGE END

APPROACH SLAB AND GUTTERS

STA.	111+96.00	TO	STA.	112+32.50
STA.	114+73.50	TO	STA.	115+10.00

STA.	STA.	LOCATION	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	GUARDRAIL TERMINAL (TYPE 2) EACH
111+00.00	112+22.50	LT. OF C.L. HWY.212	104	1	
111+00.00	112+22.50	RT. OF C.L. HWY. 212	104	1	
114+83.50	116+27.25	RT. OF C.L. HWY. 212	75	1	1
114+83.50	117+02.25	LT. OF C.L. HWY. 212	150	1	1

REMOVAL AND DISPOSAL OF GUARDRAIL

STA.	STA.	LOCATION	
111+85	112+35	LT.	50 LIN. FT.
111+82	112+35	RT.	50 LIN. FT.
114+64	115+15	LT.	50 LIN. FT.

N

STA. 116+90 CONSTRUCT APPROACH ON RT. = 880 CU. YDS.

STA. 114+83 TO 116+27 LT.
INSTALL
237 CU. YDS
DUMPED RIP-RAP

STA. 114+83 TO 115+52 RT.
INSTALL
100 CU. YDS
DUMPED RIP-RAP

STA. 120+00.00
END JOB 070415

LEGEND
PAVEMENT TRANSITION
DUMPED RIP-RAP

HWY. 212

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

FOR THE CONSTRUCTION OF TEMPORARY RAMPS, HAUL ROADS AND TEMPORARY FILL, THIS STREAM IS CLASSIFIED AS BAYOU DERRISEAX ADJACENT WETLAND. THIS STREAM BANK ELEVATION IS BELOW OHW ELEVATION 173 FT. MSL. BETWEEN STATIONS 112+30-114+63. REFER TO SECTION 110.5 (c) OF THE 2014 STANDARD SPECIFICATIONS.

VC=300.00'
K=188
e=-0.60'

VC=200.00'
K=256
e=0.20'

PROFILE GRADE
EXISTING GROUND
0.80%
-0.80%
-0.02%
-0.42% (EXIST.)

PVC 112+00.00 ELEV.188.21
PVI 113+50.00 ELEV. 189.41
025 DESIGN ELEV. = 180.20
PVT 115+00.00 ELEV.188.21
PVC 117+94.00 ELEV.185.86
PVI 118+94.00 ELEV. 185.06
PVT 119+94.00 ELEV.185.04
PVI 120+00.00 ELEV. 185.04

100' TRANSITION TO MATCH EXIST.

ELEV. 187.43

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WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

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.		070415	41	76

PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No.10887
10-27-2020

C.L. TEMP. DETOUR 1
P.I. = 10+70.09
Δ = 7°00'00" LT.
D = 5°00'00"
T = 70.09'
L = 140.00'
P.C. = 10+00.00
P.T. = 11+40.00
NO SUPER

C.L. TEMP. DETOUR 1
P.I. = 17+14.38
Δ = 14°00'00" RT.
D = 4°00'00"
T = 175.87'
L = 350.00'
P.C. = 15+38.51
P.T. = 18+88.51
e = 0.062'/'
Ls = 225'

C.L. TEMP. DETOUR 1
P.I. = 23+66.32
Δ = 7°01'27" LT.
D = 5°00'00"
T = 70.32'
L = 140.48'
P.C. = 22+96.00
P.T. = 24+36.48
NO SUPER

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

N

PI 17+14.38

BAYOU DERRISEAUX RELIEF

+50 155' 15+00

+75 155' 20+00

+05 100' +08.58 80.57'

PC 22+96.00

PI 23+66.32

PT 24+36.48

PT 11+40.00

PC 10+00.00

+40 39.37'

T.C.E.

TEMP. CONST. LIMITS

CONST. LIMITS

PROP. R/W

EXIST. R/W

C.L. TEMP. DETOUR 1

N67°55'00"E

N81°55'00"E

2'

20'

4'

CONST. LIMITS

ABANDONED

N74°55'00"E

N74°53'33"E

C.L. HWY.212

EXIST. R/W

PROP. R/W

PI 10+70.09

100+00

105+00

110+00

PC 15+38.51

PT 18+88.51

C.L. TEMP. DETOUR 1
STA. 10+00.00 =
C.L. HWY. 212
STA. 98+03.04

C.L. TEMP. DETOUR 1 STA. 17+32.00
INSTALL TRIP. 84" X 82' TEMP. PIPE CULVERT
20° LT. FWD. SKEW

C.L. TEMP. DETOUR 1
STA. 24+39.51 =
C.L. HWY. 212
STA. 112+34.98

TEMP. DETOUR 1

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

STA. 13+69.76 BEGIN SUPERELEVATION
STA. 15+94.76 MAX SUPERELEVATION (0.062'/')
STA. 18+32.26 MAX SUPERELEVATION (0.062'/')
STA. 20+57.26 END SUPERELEVATION

PVI 12+33.69
ELEV. 184.53

PVC 16+26.96
ELEV. 182.25

PROFILE GRADE

VC=200.00'
K=167
e=0.30'

PVT 18+26.96
ELEV. 182.29

PVI 21+97.50
ELEV. 184.58

-0.49% (EXIST.)

-0.58%

0.62%

0.30% (EXIST.)

-0.15% LT. DT. GR.

0.36% LT. DT. GR.

EXISTING GROUND

+47.00 LT. 170.54

+22.00 LT. 170.00

PVI 17+26.96
ELEV. 181.67

+52.00 LT. 170.00

F.L. INLET LT. = 170.00
F.L. OUTLET RT. = 167.04

+77.00 LT. 171.52

220 210 200 190 180 170 160 150 140 130

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

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WORKSPACE: ARDOT
Y:\Projects\ArDOT_166382_070415 Bayou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_12_PP_003.dgn
REVISED DATE: $$REVDATE$$

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.		070415	42	76
(2)	PLAN AND PROFILE SHEETS			

C.L. TEMP. DETOUR 2
P.I. = 20+93.25
Δ = 12°59'56" RT.
D = 7°00'00"
T = 93.25'
L = 185.70'
P.C. = 20+00.00
P.T. = 21+85.70
NO SUPER

C.L. TEMP. DETOUR 2
P.I. = 26+13.65
Δ = 21°55'52" LT.
D = 4°00'00"
T = 277.54'
L = 548.25'
P.C. = 23+36.11
P.T. = 28+84.39
e = 0.062'/'
Ls = 225'

C.L. TEMP. DETOUR 2
P.I. = 33+61.89
Δ = 8°55'56" RT.
D = 5°00'00"
T = 89.50'
L = 178.65'
P.C. = 32+72.39
P.T. = 34+51.04
NO SUPER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
* * *
No.10887
SCOTT P. THORNSBERRY
10-29-2020

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

BAYOU DERRISEAUX RELIEF

BAYOU DERRISEAUX

N

PI 20+93.25

PC 23+36.11

PI 26+13.65

PT 21+85.70

PC 20+00.00

PT 28+84.39

PI 33+61.89

PC 32+72.39

PT 34+51.04

PROP. R/W

EXIST. R/W

6:1 TAPER

C.L. HWY. 212 N74°55'00"E

N87°54'56"E

N65°59'04"E

TEMP. CONST. LIMITS

C.L. TEMP. DETOUR 2

T.C.E.

CONST. LIMITS

22'

4'

2'

R =20'

R =32'

R =48'

C.L. TEMP. DETOUR 2
STA. 20+00.00 =
C.L. HWY. 212
STA. 106+20.48

C.L. TEMP. DETOUR 2
STA. 34+61.79 =
C.L. HWY. 212
STA. 120+67.71

C.L. TEMP DETOUR 2 STA. 28+03.00
INSTALL TRIP. 84" X 94' TEMP. PIPE CULVERT.

STA. 116+90.00 CONSTRUCT
TEMP. APPROACH ON RT. = 20 CU. YD.

TEMP. DETOUR 2

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

STA. 22+60.91 BEGIN SUPERELEVATION
STA. 24+85.91 MAX SUPERELEVATION (0.062'/')
STA. 28+28.14 MAX SUPERELEVATION (0.062'/')
STA. 30+53.14 END SUPERELEVATION

ELEV. 188.38

PVI 21+84.00
ELEV. 186.50

PVC 25+90.00
ELEV. 181.99

VC=220.00'
K=96
e=0.63'

PVI 27+00.00
ELEV. 180.77

PVT 28+10.00
ELEV. 182.06

PVC 29+80.00
ELEV. 184.06

PVI 30+80.00
ELEV. 185.24

VC=200.00'
K=136
e=-0.37'

PVT 31+80.00
ELEV. 184.93

PVI 32+34.00
ELEV. 184.77

-1.05%

-1.11%

-0.52% RT.
DT. GR.

1.17%

-0.30%

-0.30% (EXIST.)

PROFILE GRADE

EXISTING GROUND

HWY. 212
STAGE IB
SURFACE

+30.00 RT. 175.37

+40.00 RT. 174.80

F.L. INLET LT. = 166.45
F.L. OUTLET RT. = 165.88

220
210
200
190
180
170
160
150
140
130

19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	43	76
				①	07469 - LAYOUT - 61302			

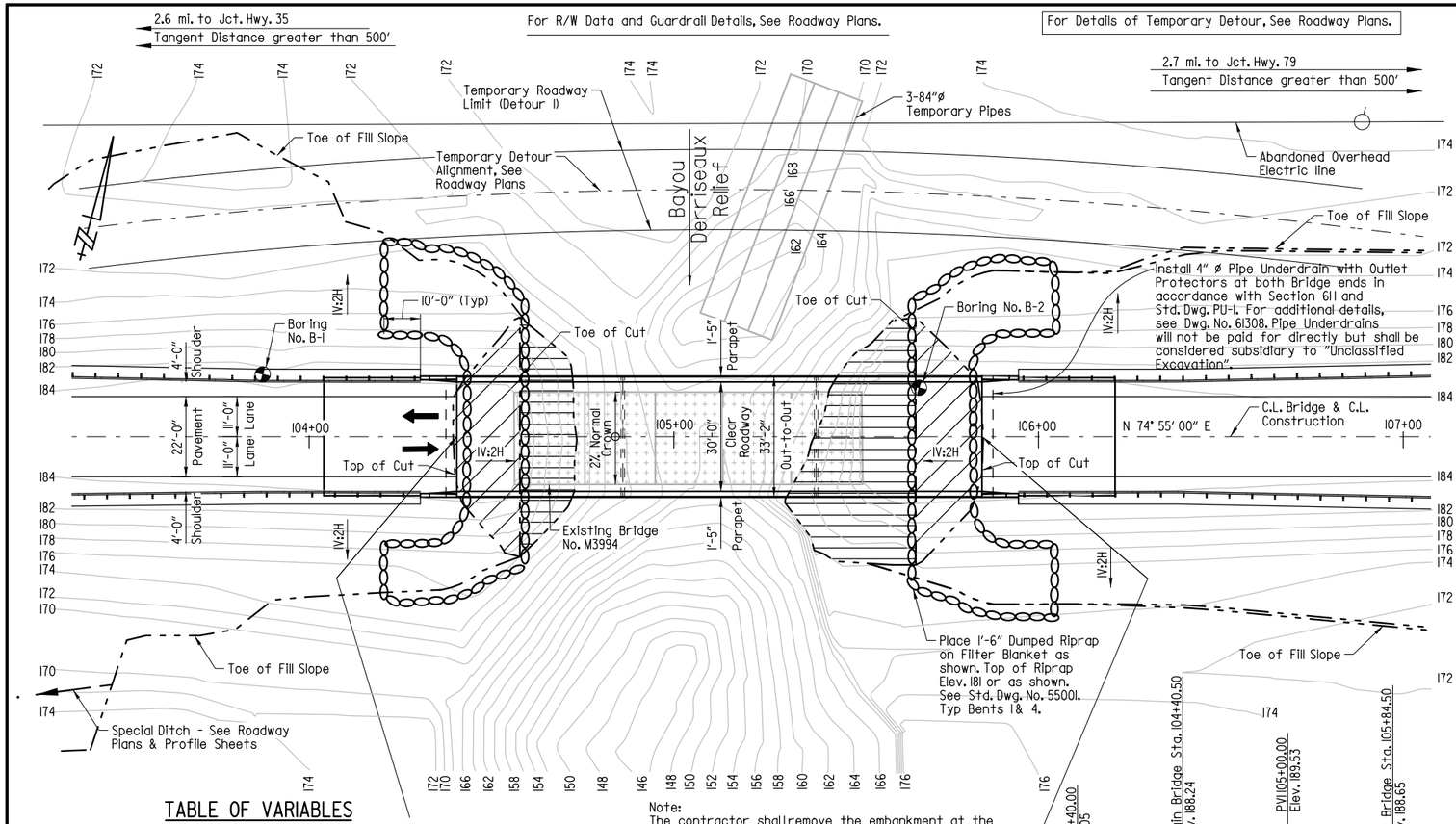
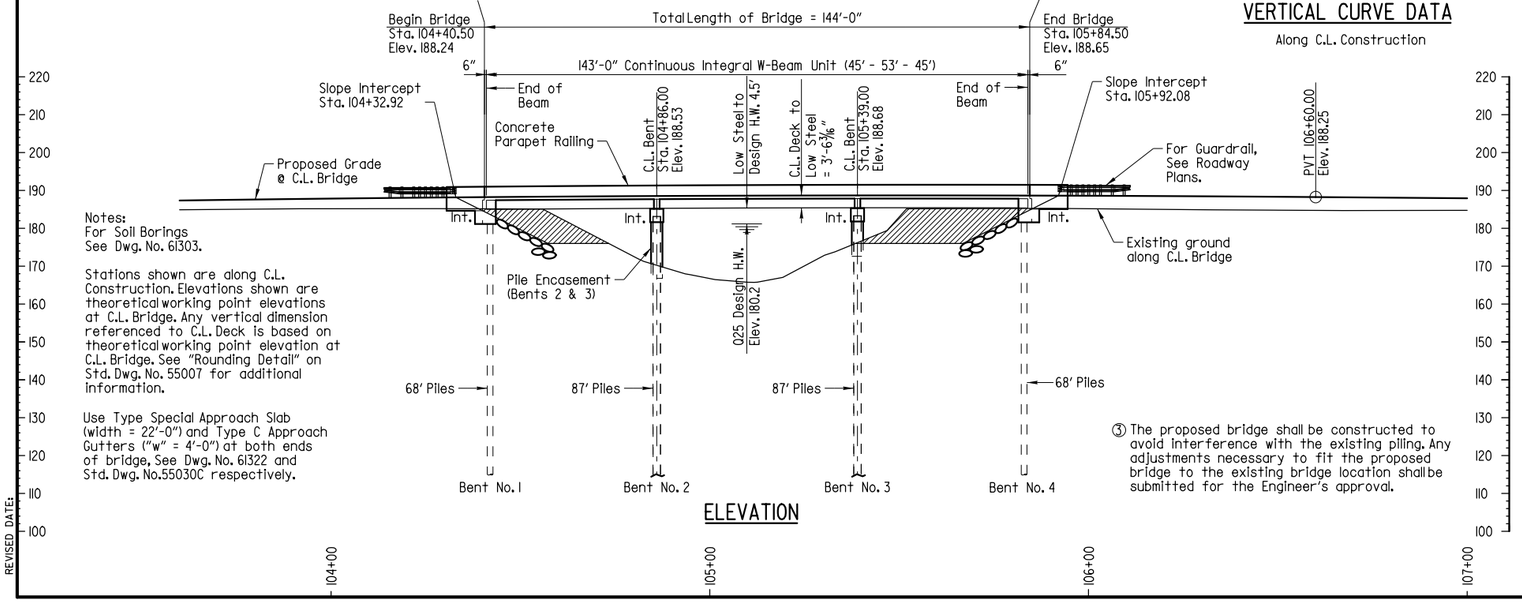


TABLE OF VARIABLES

Bent No(s)	C.L. Deck at C.L. Bent to Low Seat of Cap	Min. Pile Tip Elevation "A"	Min Ultimate Bearing Capacity (Tons)
1	--------	115.00	146
2	3' - 10 3/16"	95.00	284
3	3' - 10 3/16"	95.00	284
4	-------	115.00	146



Notes:
For Soil Borings See Dwg. No. 61303.

Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Std. Dwg. No. 55007 for additional information.

Use Type Special Approach Slab (width = 22'-0") and Type C Approach Gutters ("w" = 4'-0") at both ends of bridge, See Dwg. No. 61322 and Std. Dwg. No.55030C respectively.

③ The proposed bridge shall be constructed to avoid interference with the existing piling. Any adjustments necessary to fit the proposed bridge to the existing bridge location shall be submitted for the Engineer's approval.

ELEVATION

GENERAL NOTES

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Seventh Edition with current interims.

LIVE LOADING: HL-93

SEISMIC ZONE: 2 S_{DI} = 0.179 SITE CLASS = D

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A, Gr, 60)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 50W)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi
Pipe Pile Grade 3, ASTM A252	Fy = 45,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

③ STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 146 tons per pile. Piling in Bents 2 and 3 shall be 24" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 284 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer to a minimum tip elevation "A" shown in the table on this drawing. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

Water jetting or other methods as approved by the Engineer may be required to achieve minimum penetration. This work shall not be paid directly, but shall be considered incidental to the item "Steel Shell Piling (18" Dia.)" and "Steel Shell Piling (24" Dia.)" .

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural ground. See Std. Dwg. No. 55021 for additional information.

PREBORING: Preboring is required for all piling at Bent 1 and 4. Prebored holes shall have a diameter 6" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the item "Preboring".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum hammer energy required to obtain the ultimate bearing capacity for both 18" & 24" piles will be 75,400 foot pounds per blow.

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

PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied to the roadway surface and roadway face and top of parapets. Class 1 Protective Surface Treatment shall meet the requirements of Section 803.

DETAIL DRAWINGS:	DRAWING NO(S).
End Bents	61304
Intermediate Bents	61305
143'-0" Continuous Integral W-Beam Unit	61306 - 61311
General Notes For Steel Bridge Structures	55006
Details For Steel Bridge Structures	55007
Concrete Filled Steel Shell Piling	55021
Type Special Approach Slabs	61322
Type C Approach Gutters	55030C

EXISTING BRIDGE: Existing Bridge No. M3994 (Log Mile. 2.63) is 25.5' wide (24.0' clear roadway) and 97.0' long and consists of timber superstructure (5 spans total) supported by timber piling. The existing bridge is located approximately in the same location as the proposed new bridge. Plans of existing structure, if available, may be obtained upon request to the Construction Contract Procurement Section of the Program Management Division.

REMOVAL AND SALVAGE: After traffic has switched to the detour, the Contractor shall remove existing Bridge No. M3994 in accordance with Section 205. Any concrete debris at the existing bridge shall be removed completely. This work shall be considered subsidiary to the item "Removal of Existing Bridge Structure (Site No. 1)". All material removed from the existing bridge shall become the property of the Contractor.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	② TOTAL DISCHARGE	DISCHARGE THIS SITE	①NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	CFS	FEET	FEET
Design	25	10,000	4942	178.8	180.2
Base	100	14,400	6862	179.6	181.5
Extreme	500	20,000	9310	180.6	182.9
Overtopping	>500	>500	>500	>500	>500

①Unconstricted water surface elevation without structure or roadway approaches.

②The total discharge includes flow at this Site and Site 2. Q100 backwater elevation for existing structure = 182.2 feet. Proposed Low Bridge Chord Elevation = 184.74 feet at Station 104+43.50
Drainage area = 115 square miles.

SHEET 1 OF 2
LAYOUT OF BRIDGE
HIGHWAY 212 OVER
BAYOU DERRISEAUX RELIEF
BAYOU DERRISEAUX STRS. & APPRS. (S)
CLEVELAND COUNTY
ROUTE 212 SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER
10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

DRAWN BY:	SCR	DATE:	06/2019	FILENAME: B070415X1_LX1.dgn
CHECKED BY:	SFH	DATE:	06/2019	
DESIGNED BY:	SCR	DATE:	08/2018	SCALE: 1" = 20'
BRIDGE NO.	07469			DRAWING NO. 61302

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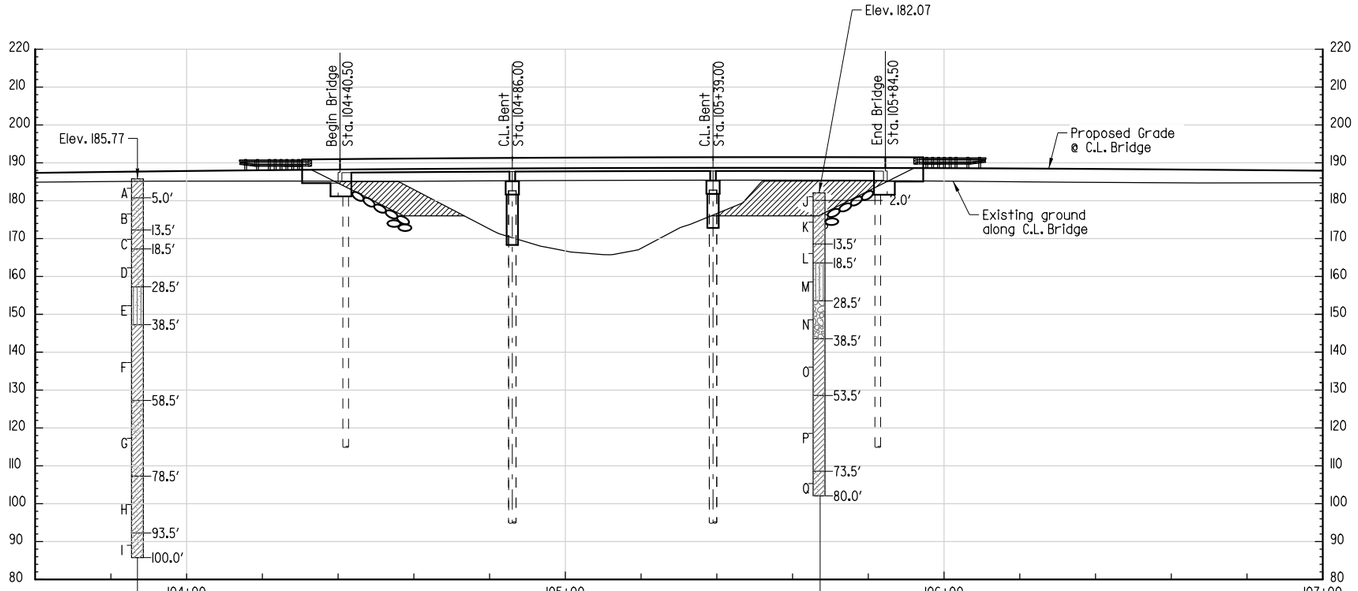
REVISED DATE:

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.		070415	44	76
(1)	07469 - LAYOUT - 61303			



ELEVATION OF SOIL BORINGS

Boring No. B-1
Sta. 103+87
17' Left of Center Line of Construction

Boring No. B-2
Sta. 105+67
13' Left of Center Line of Construction

"N" VALUES

Boring No. B-1
Sta. 103+87 - 17' Left of Center Line of Construction

1.0 - 2.0	N=7	44.0 - 45.0	N=14		
2.5 - 3.5	N=6	49.0 - 50.0	N=19		
4.0 - 5.0	N=6	54.0 - 55.0	N=17		
5.5 - 6.5	N=4	59.0 - 60.0	N=14		
9.0 - 10.0	N=4	64.0 - 65.0	N=16		
14.0 - 15.0	N=4	69.0 - 70.0	N=17		
19.0 - 20.0	N=8	74.0 - 75.0	N=18		
24.0 - 25.0	N=6	79.0 - 80.0	N=15		
29.0 - 30.0	N=14	84.0 - 85.0	N=17		
34.0 - 35.0	N=10	89.0 - 90.0	N=19		
39.0 - 40.0	N=16	94.0 - 95.0	N=47		
		99.0 - 100.0	N=22		

Boring No. B-2
Sta. 105+67 - 13' Left of Center Line of Construction

1.0 - 2.0	N=6	34.0 - 35.0	N=71
2.5 - 3.5	N=5	39.0 - 40.0	N=30
4.0 - 5.0	N=4	44.0 - 45.0	N=16
5.5 - 6.5	N=6	49.0 - 50.0	N=18
9.0 - 10.0	N=4	54.0 - 55.0	N=18
14.0 - 15.0	N=6	59.0 - 60.0	N=16
19.0 - 20.0	N=10	64.0 - 65.0	N=15
24.0 - 25.0	N=7	69.0 - 70.0	N=16
29.0 - 30.0	N=18	74.0 - 75.0	N=18
		79.0 - 80.0	N=15

BORING LEGEND

A- ASPHALT CEMENT CONCRETE - 7 inches, FILL- LEAN CLAY (CL), trace sand and gravel, dark brown and grayish brown
B- LEAN CLAY WITH SAND (CL), trace gravel, brown and gray, medium stiff
C- LEAN CLAY (CL), trace sand, brown and gray, medium stiff
D- SANDY LEAN CLAY (CL), brown and gray, medium stiff
E- POORLY GRADED SAND WITH SILT (SP-SM), trace gravel, fine to coarse grained, brown, medium dense, travel gravel below about 32 feet
F- FAT CLAY (CH), brown and gray, stiff to very stiff, sand seams below about 48.5 feet
G- SANDY FAT CLAY (CH), gray, stiff to very stiff
H- SANDY LEAN CLAY (CL), gray, very stiff
I- FAT CLAY WITH SAND (CH), gray, very stiff to hard, increasing sand seams below about 93.5 feet
J- ASPHALT CEMENT CONCRETE - 6 inches, FILL- LEAN CLAY (CL), with sand and gravel, dark brown and reddish brown
K- FAT CLAY WITH SAND (CH), trace gravel, gray and brown, medium stiff
L- LEAN CLAY (CL), trace sand, brown, medium stiff
M- SILTY SAND (SM), fine grained, brown and gray, medium dense to loose
N- POORLY GRADED SAND WITH GRAVEL (SP), fine to coarse grained, gray, medium dense to very dense
O- FAT CLAY (CH), trace sand, brown and gray, very stiff, laminated and blocky, occasional sand seams
P- FAT CLAY (CH), gray, very stiff
Q- FAT CLAY WITH SAND (CH), gray, very stiff

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 2 OF 2
LAYOUT OF BRIDGE
HIGHWAY 212 OVER
BAYOU DERRISEAUX RELIEF
BAYOU DERRISEAUX STRS. & APPRS. (S)
CLEVELAND COUNTY
ROUTE 212 SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415XL_LX2.dgn
CHECKED BY: SFH DATE: 06/2019
DESIGNED BY: SCR DATE: 08/2018 SCALE: 1" = 20'
BRIDGE NO. 07469 DRAWING NO. 61303

Scott.Thornsberry 10/26/2020 3:22:52 PM
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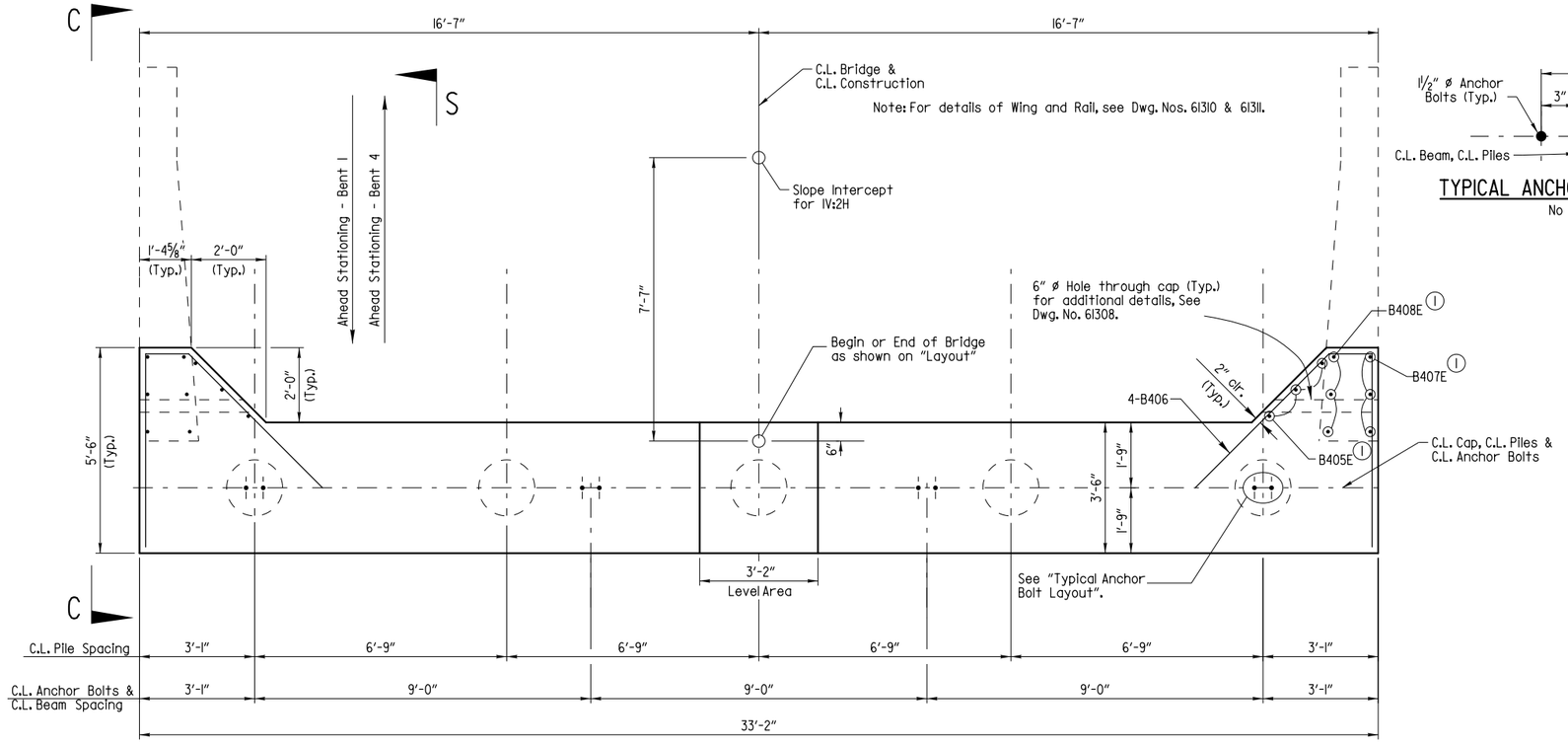
REVISED DATE:

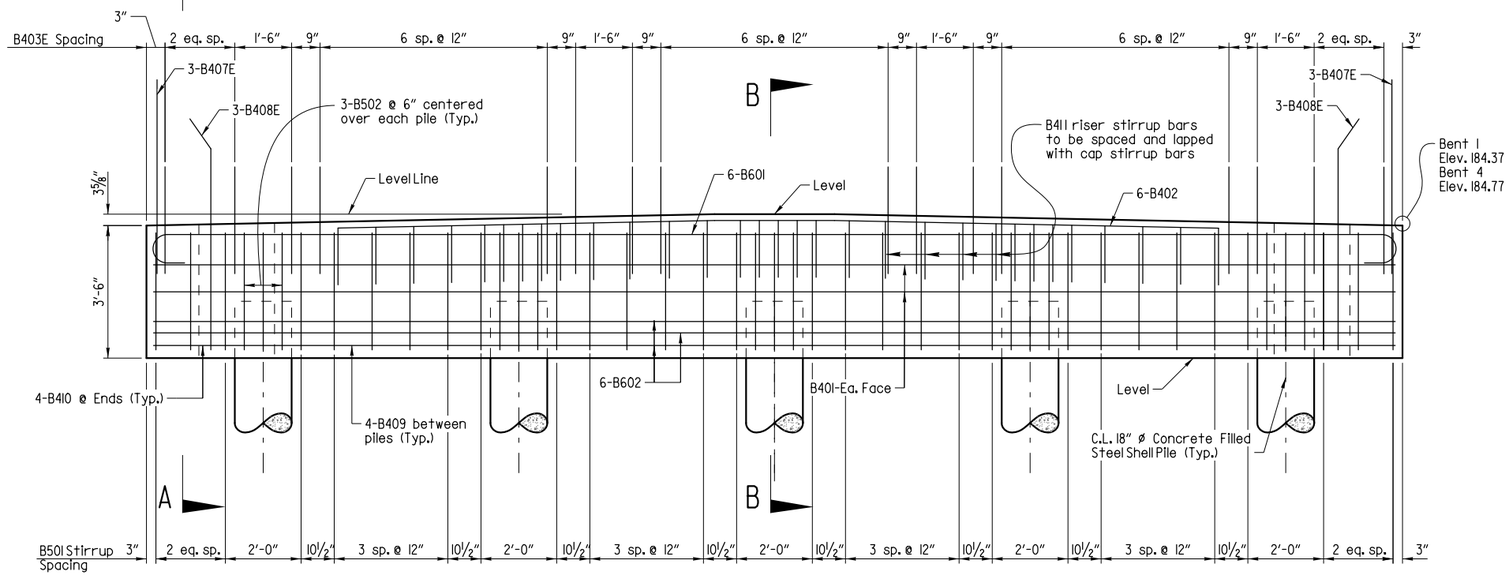
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	45	76
				(1) 07469 - END BENTS - 61304				



PLAN

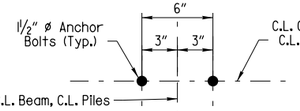
Bent 1- Looking Back,
Bent 4 - Looking Ahead
½" = 1'-0"

Note:
For View C-C and View S-S, see Dwg. No. 61310.



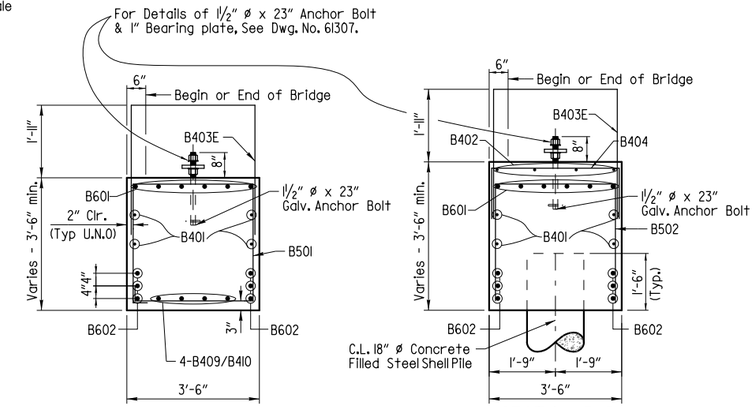
ELEVATION

Bent 1- Looking Back,
Bent 4 - Looking Ahead
½" = 1'-0"



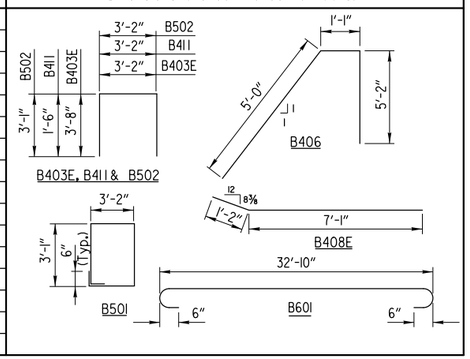
TYPICAL ANCHOR BOLT LAYOUT

No Scale



BAR LIST-PER BENT

MARK	NO. REQ'D.	LENGTH	PIN DIA.	BENDING DIAGRAMS Dimensions are out to out of bars.
B401	4	32'-10"	Str.	
B402	6	23'-3"	Str.	
B403E	33	10'-4"	2"	
B405E	6	5'-6"	Str.	
B406	8	11'-2"	2"	
B407E	6	9'-6"	Str.	
B408E	6	8'-3"	2"	
B409	16	4'-5"	Str.	
B410	8	1'-9"	Str.	
B411	31	6'-0"	2"	
B501	30	13'-0"	2½"	
B502	15	9'-2"	2½"	
B601	6	34'-2"	4½"	
B602	6	32'-10"	Str.	



GENERAL NOTES

For additional information, see Layout.

Granular backfill & pipe underdrain required behind end bent cap. See Dwg. No. 61308.

(1) Bars B405E, B407E & B408E shall have a 3'-4" embedment into the cap.

All bars designated with an "E" suffix are to be epoxy coated

For Concrete Filled Steel Shell Piles See Std Dwg. No. 55021.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

DETAILS OF END BENTS
BAYOU DERRISEAUX RELIEF

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SCR	DATE:	06/2019	FILENAME:	B070415XI_AXI.dgn
CHECKED BY:	HSS	DATE:	07/2019		
DESIGNED BY:	SCR	DATE:	06/2019	SCALE:	½" = 1'-0"
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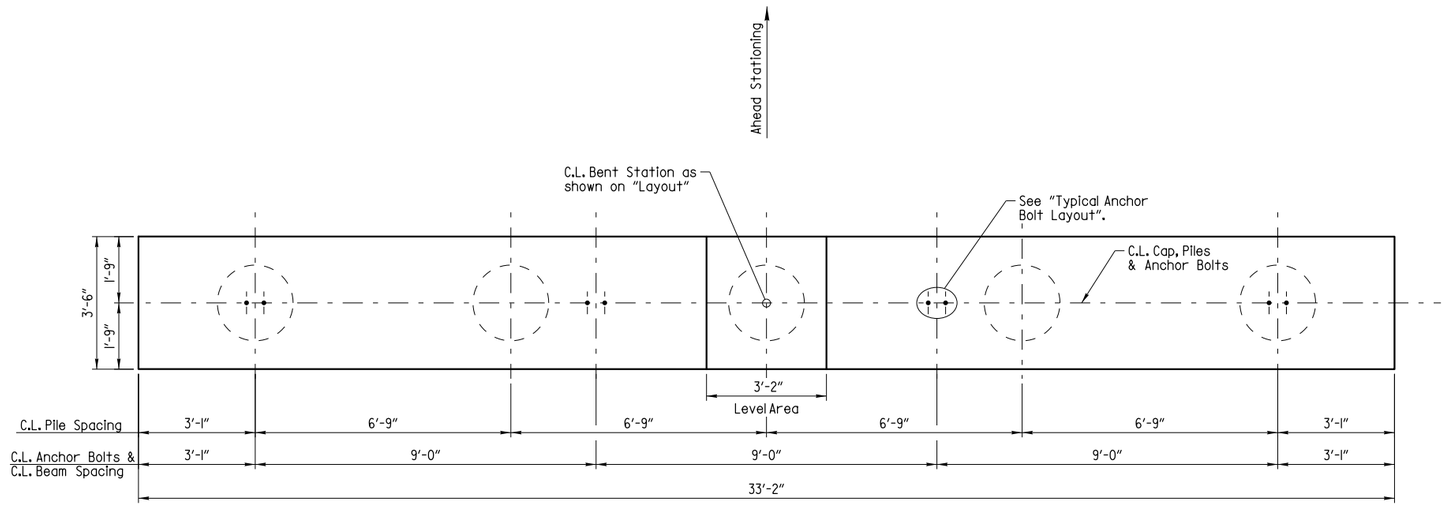
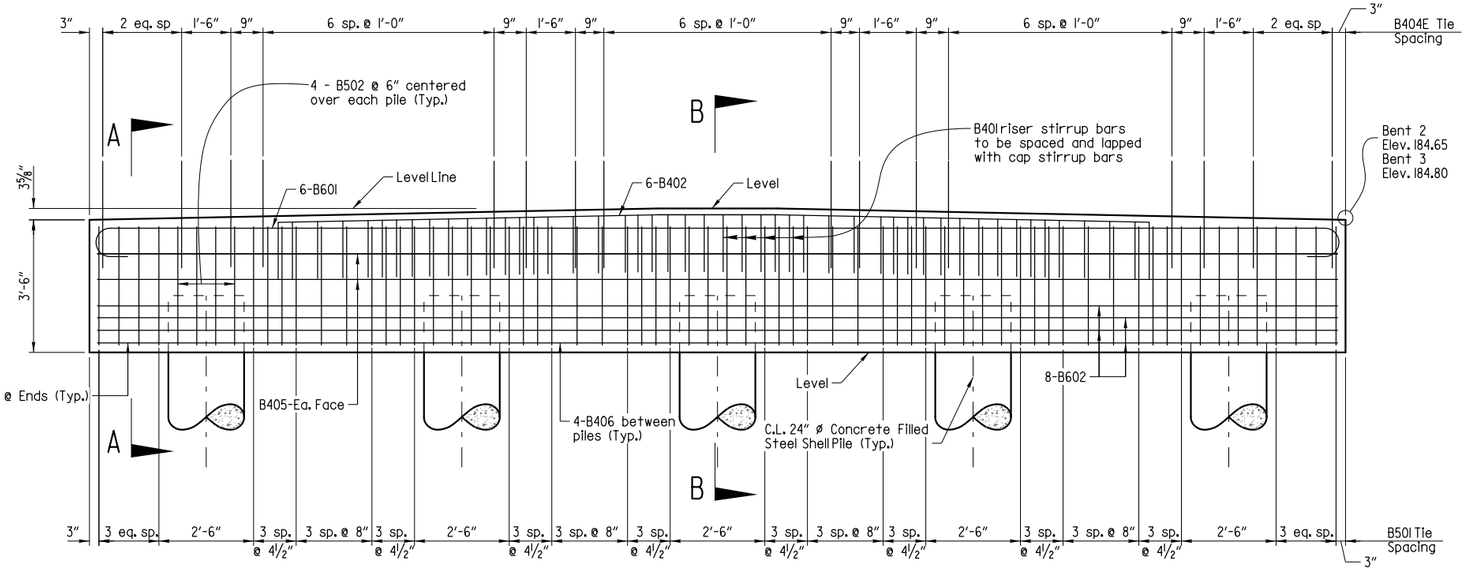
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

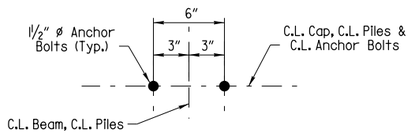
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	46	76
(1)	07469 - INT BENTS - 61305			



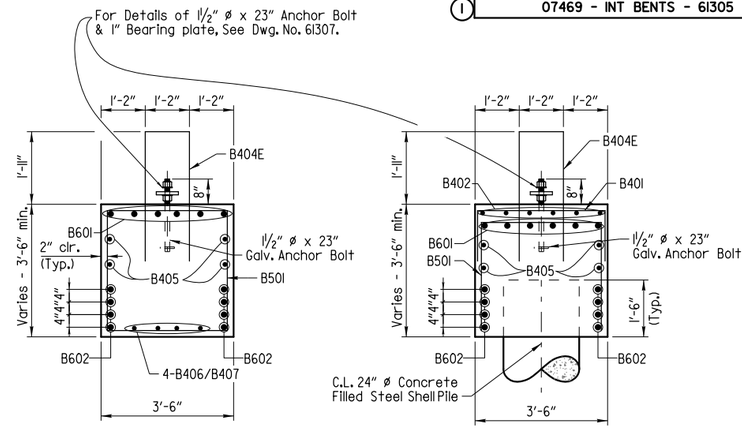
PLAN
½" = 1'-0"



ELEVATION
½" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT
No Scale



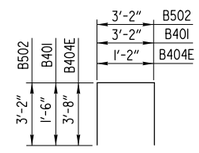
SECTION A-A
½" = 1'-0"

SECTION B-B
½" = 1'-0"

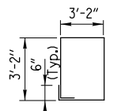
BAR LIST-PER BENT

MARK	NO. REQ'D.	LENGTH	PIN DIA.
B401	48	6'-0"	2"
B402	6	23'-0"	Str.
B404E	33	8'-4"	2"
B405	4	32'-10"	Str.
B406	16	4'-5"	Str.
B407	8	1'-9"	Str.
B501	48	13'-2"	2½"
B502	20	9'-4"	2½"
B601	6	34'-2"	4½"
B602	8	32'-10"	Str.

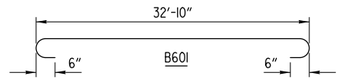
BENDING DIAGRAMS
Dimensions are out to out of bars.



B404E, B401 & B502



B501



GENERAL NOTES

For additional information, see Layout.

All bars designated with an "E" suffix are to be epoxy coated.

For Concrete Filled Steel Shell Piles See Std Dwg. No. 55021.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

DETAILS OF INTERMEDIATE BENTS
BAYOU DERRISEAUX RELIEF
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415XI_BXI.dgn
CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 06/2019 SCALE: ½" = 1'-0"
BRIDGE NO. 07469 DRAWING NO. 61305

Scott.Thornsberry@9/26/2020 3:22:52 PM
WORKSPACE: ARDOT
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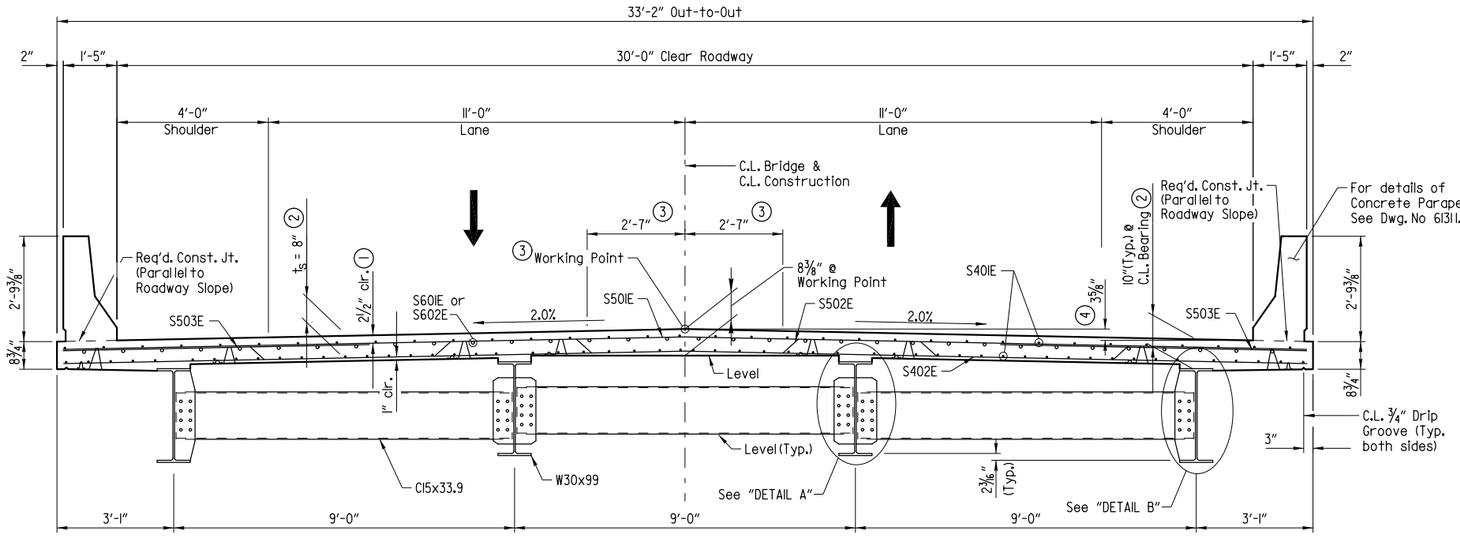
REVISED DATE:

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.		070415	47	76
				(1)	07469 - 143'-0" INT. UNIT - 61306			



TYPICAL SECTION

(Looking Forward)
½" = 1'-0"

Slab Reinforcing:

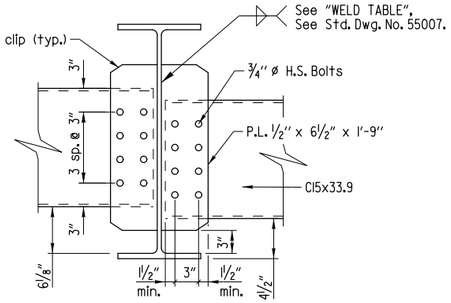
Transverse: S502E @ 12" o.c. bent up over beams
S402E @ 12" o.c. in bottom
S501E @ 12" o.c. in top
} Alternate
S503E @ 6" o.c. under each parapet bundled w/ #5 in top @ both gutterlines

Longitudinal: S401E placed as shown in top and bottom
S601E placed as shown over int. supports
S602E placed as shown at end bents

Notes:
Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

Bar positions and clearances from the forms shall be maintained by means of stays, tie hangers, or other approved devices per Subsection 804.06. Placement of slab bolsters of high-chairs with full-length lower runners directly on removable deck forms will not be allowed.

At the Contractor's option, two straight epoxy coated #5 bars may be substituted for Bar S502E. Payment for reinforcing will be based on the weight of Bar S502E.



DETAIL A

No Scale

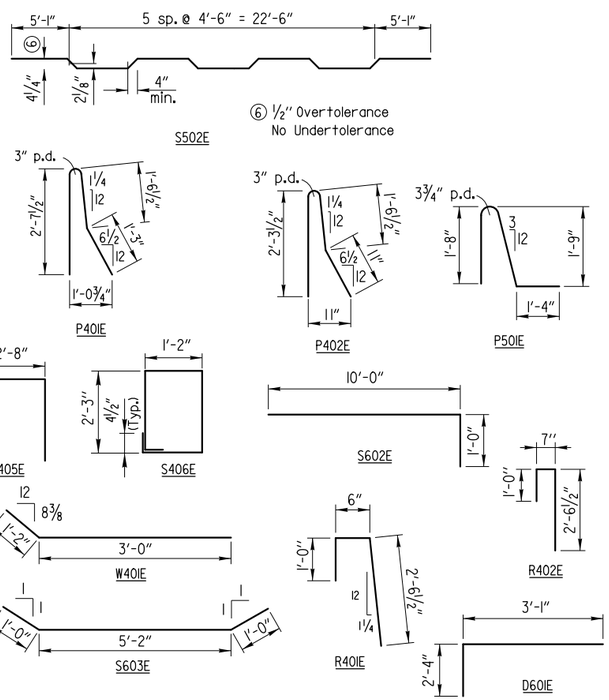
BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
D601E	30	5'-3"	4½"
S401E	364	37'-4"	Str.
S402E	144	32'-10"	Str.
S403E	16	32'-10"	Str.
S404E	12	32'-10"	Str.
S405E	60	7'-0"	2"
S406E	60	7'-2"	2"
S501E	144	32'-10"	Str.
S502E	143	33'-4"	3"
S503E	572	8'-1"	Str.
S601E	66	35'-0"	Str.
S602E	66	13'-10"	4½"
S603E	12	7'-2"	4½"
P401E	512	5'-6"	3"
P402E	64	4'-10"	3"
P403E	72	5'-6"	Str.
P404E	56	9'-8"	Str.
P405E	28	10'-2"	Str.
P406E	28	11'-2"	Str.
P407E	56	14'-8"	Str.
P501E	512	4'-10"	3¾"
R401E	16	3'-11"	2"
R402E	16	4'-0"	2"
R403E	24	9'-8"	Str.
R404E	24	3'-10"	Str.
R601E	32	5'-4"	Str.
R602E	12	5'-0"	Str.
W401E	20	4'-2"	2"
W402E	20	5'-5"	Str.
W701E	40	12'-2"	Str.

BENDING DIAGRAMS

Note: All bars designated with an "E" suffix are to be epoxy coated.

Dimensions are out to out of bars.



① Tolerance: Minus = ¼"; Plus equal to the amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance" on Std. Dwg. No. 55007.

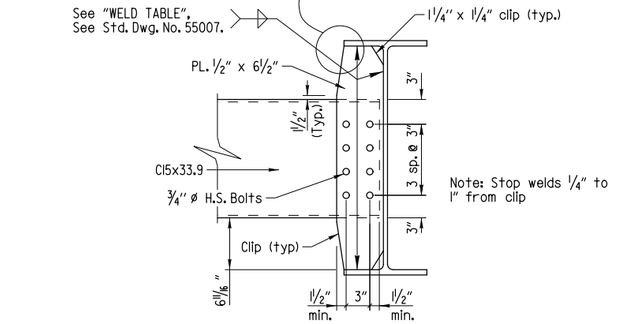
② See "Adjustment for Slab Thickness Tolerance" on Std. Dwg. No. 55007.

③ See "ROUNDING DETAIL" on Std. Dwg. No. 55007.

④ Working point to gutter line

⑤ If permanent steel bridge deck forms are used, the fabricator shall clip plates as necessary to accommodate the deck form supports.

⑤ Clip with 1" min. radius



DETAIL B

No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 1 OF 6

DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415XI_SXI.dgn
CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 08/2018 SCALE: As Shown
BRIDGE NO. 07469 DRAWING NO. 61306

Scott.Thornsberry@9/26/2020 3:22:53 PM
WORKSPACE: ARDOT
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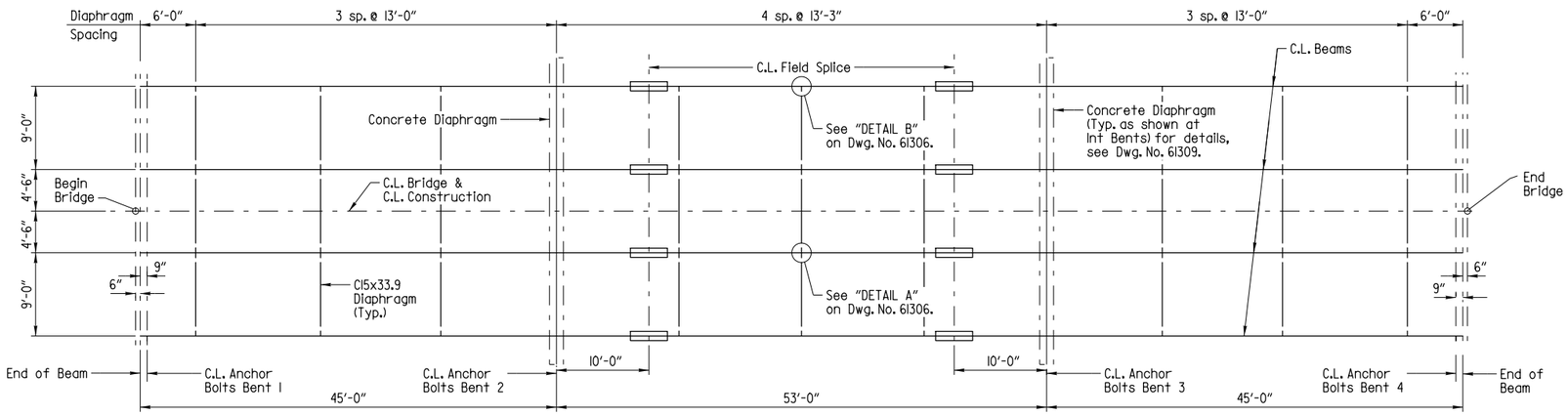
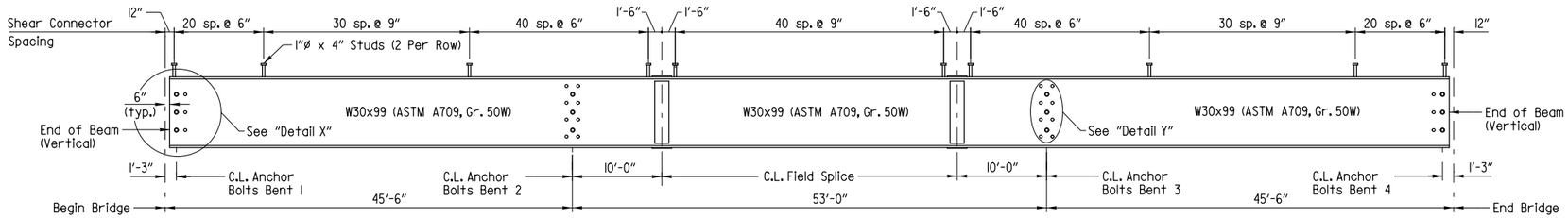
REVISED DATE:

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.		070415	48	76
				(1)	07469 - 143'-0" INT. UNIT - 61307			



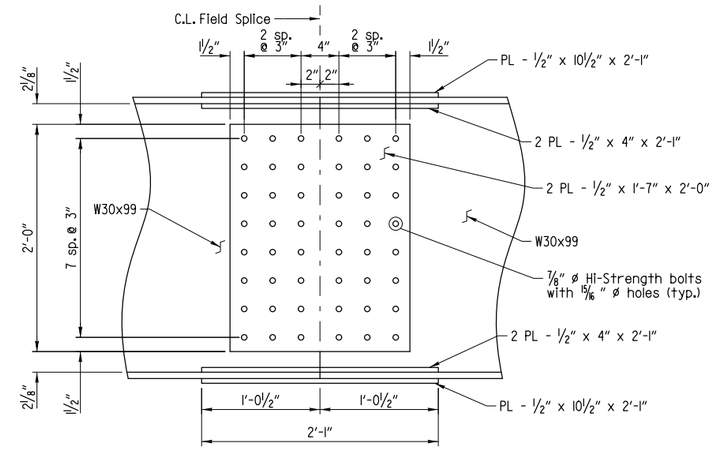
FRAMING PLAN

1/8" = 1'-0"



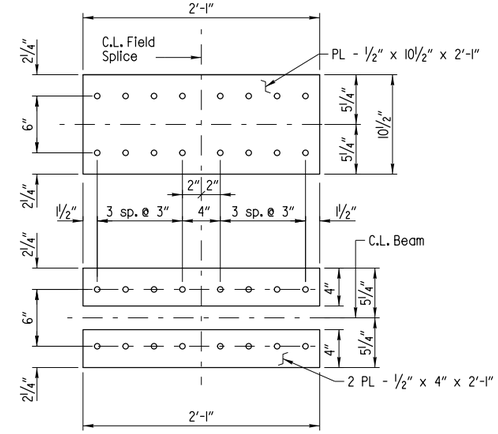
BEAM ELEVATION

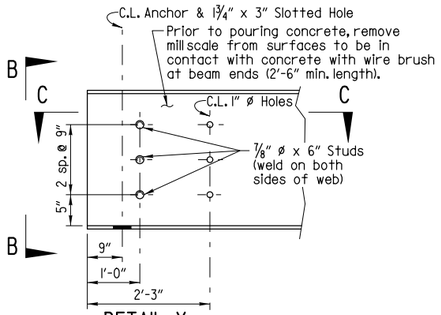
No Scale



DETAIL OF BOLTED FIELD SPLICES

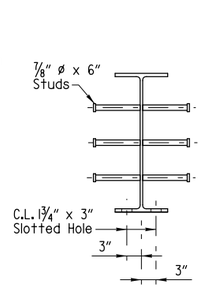
1½" = 1'-0"





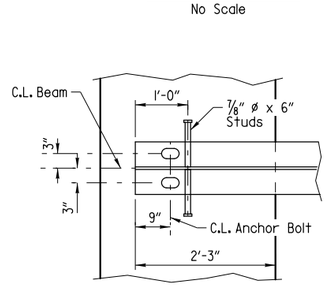
DETAIL X

No Scale



VIEW B-B

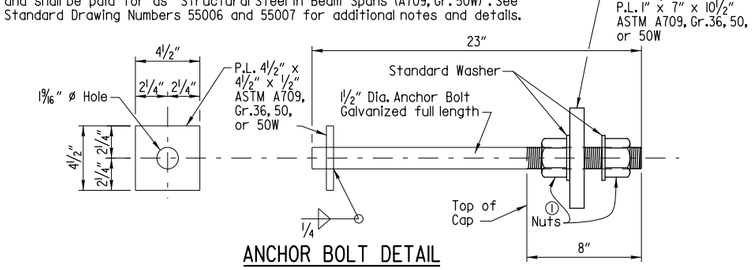
No Scale



SECTION C-C

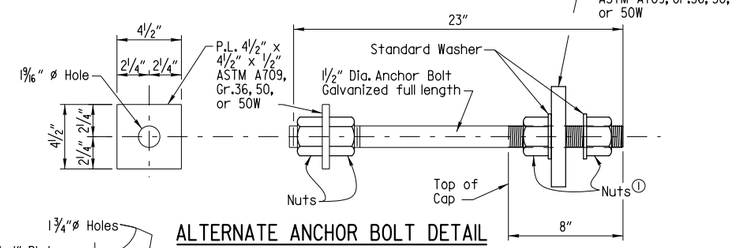
No Scale

Note: All Structural steel shall be ASTM A709, Gr. 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (A709, Gr. 50W)". See Standard Drawing Numbers 55006 and 55007 for additional notes and details.



ANCHOR BOLT DETAIL

No Scale



ALTERNATE ANCHOR BOLT DETAIL

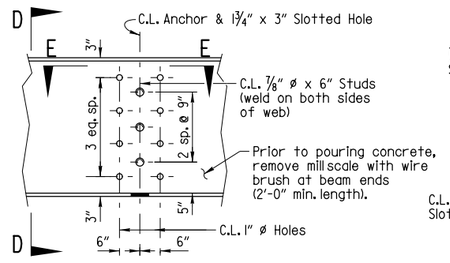
No Scale

Note:
Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

All field splice bolts shall be ⅞" ø Hi-strength bolts.
All holes for splice bolts shall be 15/16" ø.

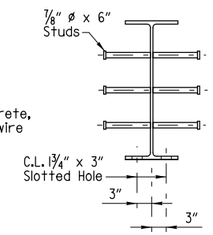
TYP. FLANGE SPLICE DETAIL

1½" = 1'-0"



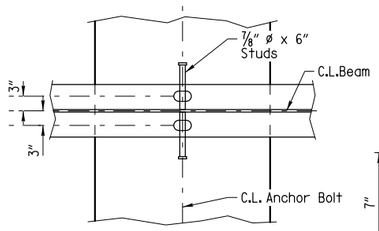
DETAIL Y

No Scale



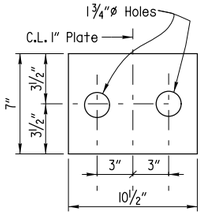
VIEW D-D

No Scale



SECTION E-E

No Scale



BEARING PLATE DETAIL

No Scale

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to subsection 807.07. Nuts for bolts shall be as specified in subsection 807.07. Plates, anchor bolts, nuts and washers shall be paid for at the unit price bid for "Structural Steel in Beam Spans (ASTM A709, Gr.50W)"

① Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 2 OF 6

DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

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CHECKED BY:	HSS	DATE:	07/2019		
DESIGNED BY:	SCR	DATE:	06/2019	SCALE:	As Shown
BRIDGE NO.	07469			DRAWING NO.	61307

Scott.Thornsberry@9/26/2020 3:22:53 PM
WORKSPACE: ARDOT
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REVISED DATE:

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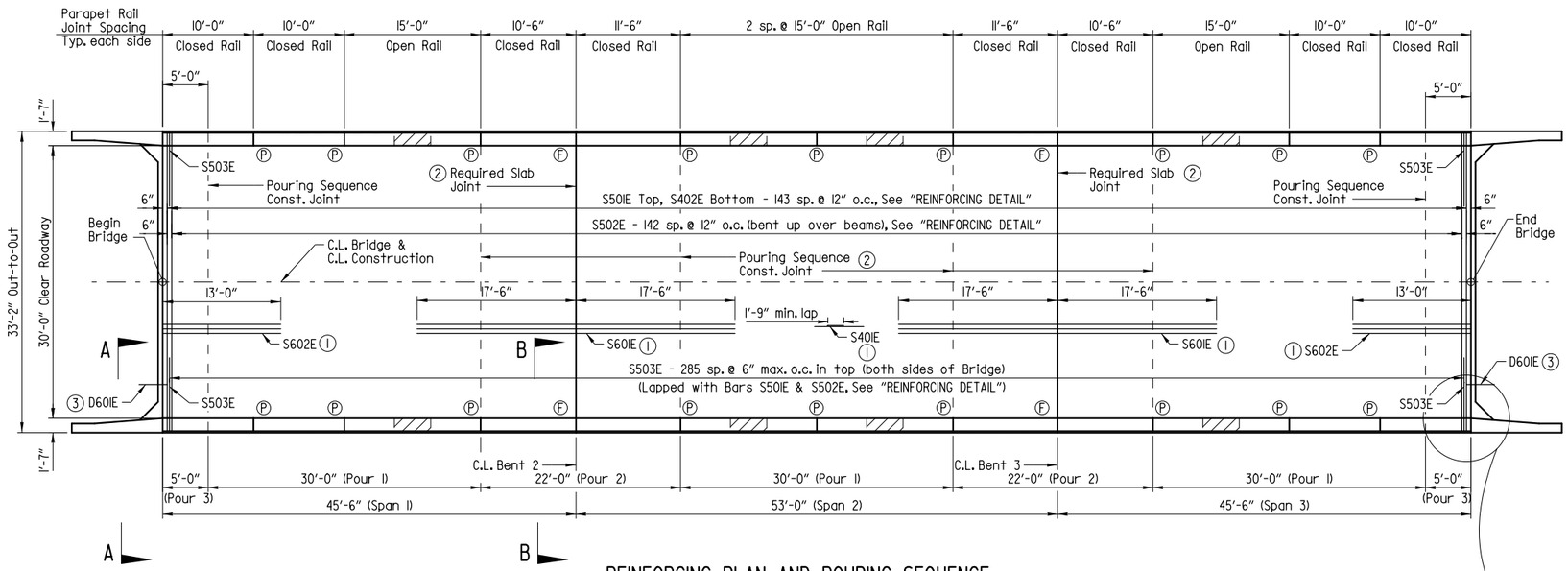
				6	ARK.			
				JOB NO.		070415	49	76
				(1)	07469 - 143'-0" INT. UNIT - 61308			

Note: For Views A-A & B-B, See Dwg. No. 61309.



REINFORCING PLAN AND POURING SEQUENCE

1/8"= 1'-0"

Ⓟ Partial depth parapet joint at this location. (Stop 1'-2" above top of slab)

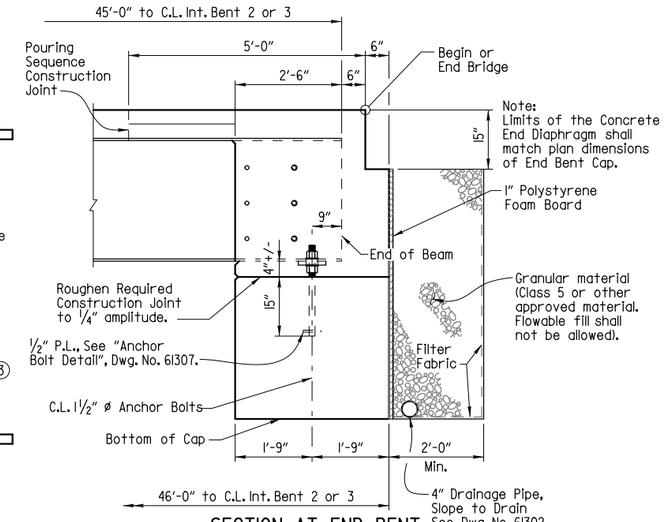
Ⓕ Full depth parapet joint at this location. (Stop 4" above top of slab)

(1) Placed as shown in "Typical Section", See Dwg. No. 61306.

(2) Align with parapet open joint unless noted otherwise.

(3) Place as shown in View A-A on Dwg. No. 61309.

Note:
Pours with the same number may be placed simultaneously or separately. All pours (1) must be placed before pours (2) can be placed. All pours (2) must be placed before pours (3) can be placed. 48 hours shall elapse before the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. 72 hours shall elapse between the completion of the entire deck and the pouring of the parapet. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.



SECTION AT END BENT

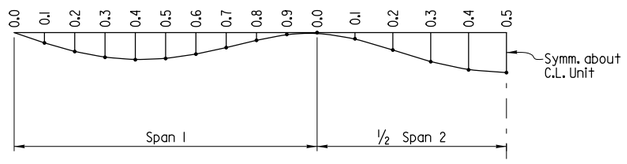
No Scale

Note:
For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611. Pipe underdrains, outlet protectors, granular materials, drain pipe, filter fabric and polystyrene foam board will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures-Bridge".

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

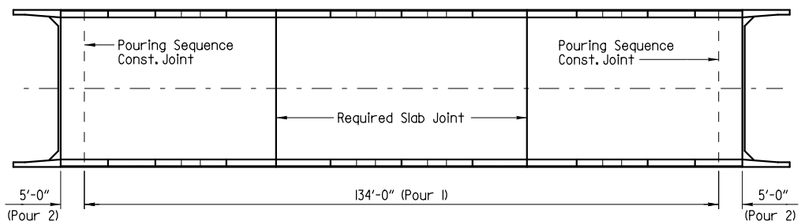
Span	Point of Deflection	Interior			Exterior		
		Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail
1	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.014	0.138	0.147	0.014	0.113	0.122
	0.2	0.026	0.254	0.271	0.025	0.208	0.226
	0.3	0.034	0.334	0.357	0.033	0.274	0.297
	0.4	0.038	0.370	0.395	0.036	0.303	0.329
	0.5	0.037	0.359	0.383	0.035	0.293	0.319
	0.6	0.031	0.305	0.326	0.030	0.250	0.272
	0.7	0.023	0.222	0.237	0.022	0.182	0.197
	0.8	0.013	0.126	0.134	0.012	0.103	0.112
	0.9	0.004	0.041	0.044	0.004	0.034	0.037
1/2 2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.004	0.038	0.040	0.004	0.031	0.033
	0.2	0.013	0.130	0.139	0.013	0.107	0.116
	0.3	0.024	0.231	0.246	0.023	0.189	0.205
	0.4	0.031	0.304	0.325	0.030	0.249	0.271
	0.5	0.034	0.331	0.353	0.033	0.272	0.294

Table is symm. about the C.L. Unit.



DEAD LOAD DEFLECTION DIAGRAM

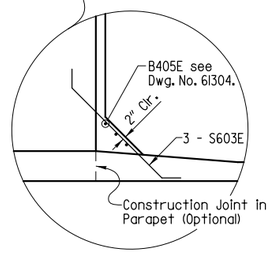
Note:
Camber for Dead Load Deflection plus Vertical curve ± 1/4" tolerance. Deflections shown are along C.L. Beam from a chord from C.L. Anchor Bolts to C.L. Anchor Bolts. Vertical curve corrections not included. Negative sign (-) indicates point above chord.

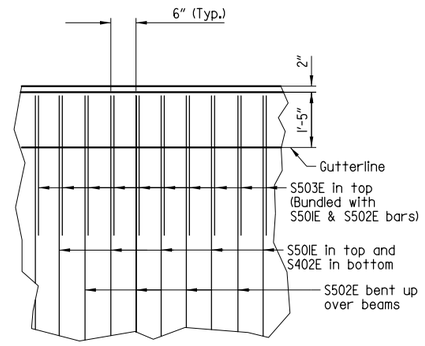


ALTERNATE POURING SEQUENCE

1/16"= 1'-0"

Note:
Pours with the same number may be placed simultaneously or separately. Pour (1) must be placed before pours (2) can be placed. 48 hours shall elapse before the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. 72 hours shall elapse between the completion of the entire deck and the pouring of the parapet. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.





REINFORCING DETAIL

No Scale

Note:
Rails and wings are included in span construction and are included in span quantities.

If a transverse finishing machine is used, the screed rail shall be supported directly over the exterior beams, see "SCREED RAIL SUPPORT DETAIL", Dwg. No. 60309.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 3 OF 6
DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415XL_SX3.dgn
CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 06/2019 SCALE: As Shown
BRIDGE NO. 07469 DRAWING NO. 61308

Scott.Thornsberry@9/26/2020 3:22:54 PM
WORKSPACE: ARDOT
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REVISED DATE:

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.		070415	50	76
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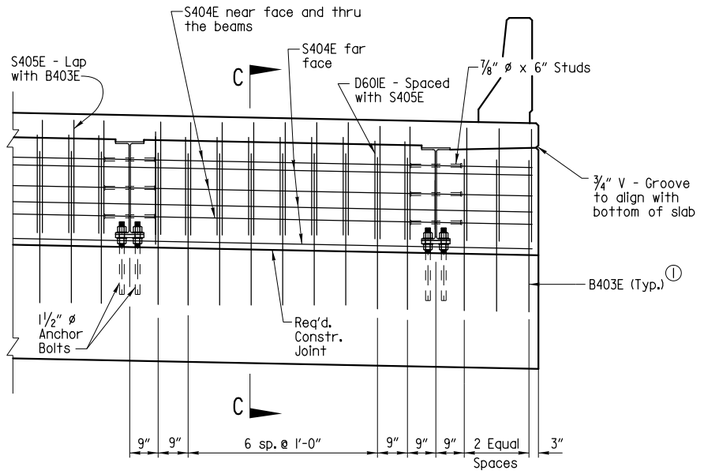
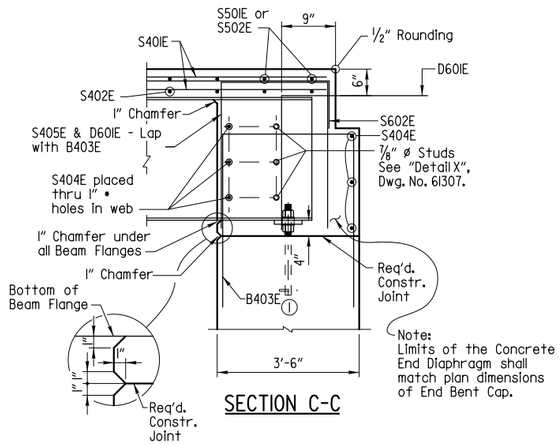
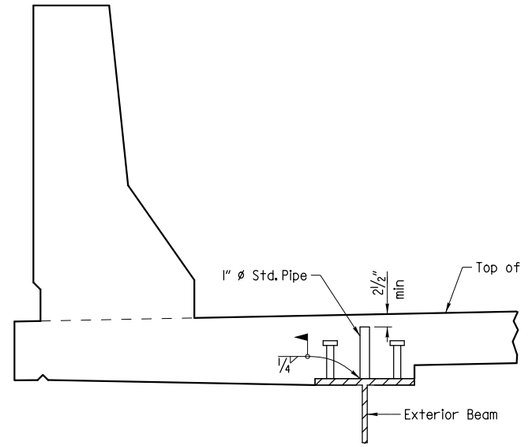


VIEW A-A
End. Bents

Note:
End Diaphragm shall be poured monolithically with deck slab

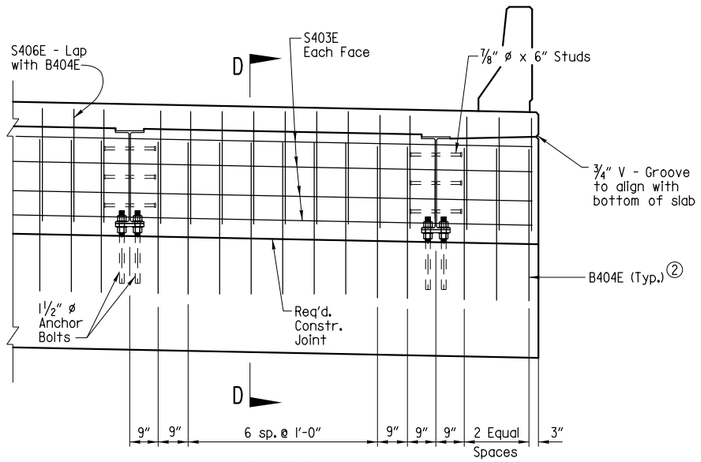


SECTION C-C

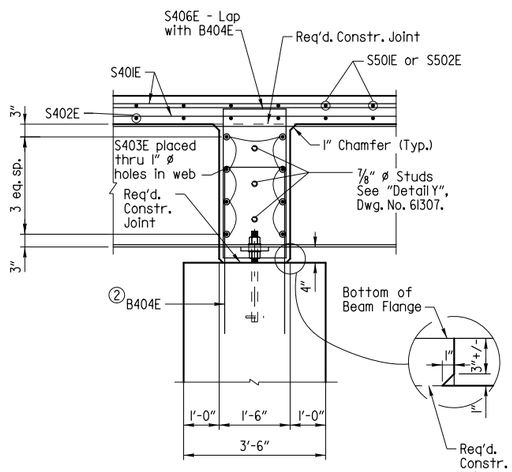


① See End Bent Details on Dwg. No. 61304 for reinforcing and additional details.

② See Intermediate bent Details on Dwg. No. 61305 for reinforcing and additional details.



VIEW B-B
Int. Bents



SECTION D-D

SCREED RAIL SUPPORT DETAIL

Note:
The screed rail supports shall be centered over the beam web and centered between adjacent rows of shear connectors.

The pipe shall not interfere with proper vertical position of the deck reinforcing steel.

The pipe shall be free of dirt, grease, rust, or other foreign substance before the deck is poured.

Care shall be exercised so as air voids do not exist in the pipe after placement of the deck concrete.

Welding shall be done by a certified welder.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 4 OF 6
DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 06/2019 SCALE: No Scale
BRIDGE NO. 07469 DRAWING NO. 61309

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REVISED DATE:

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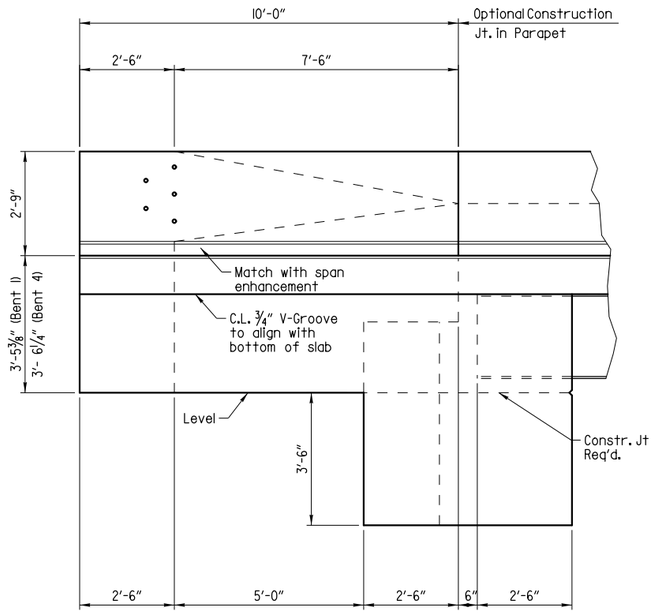
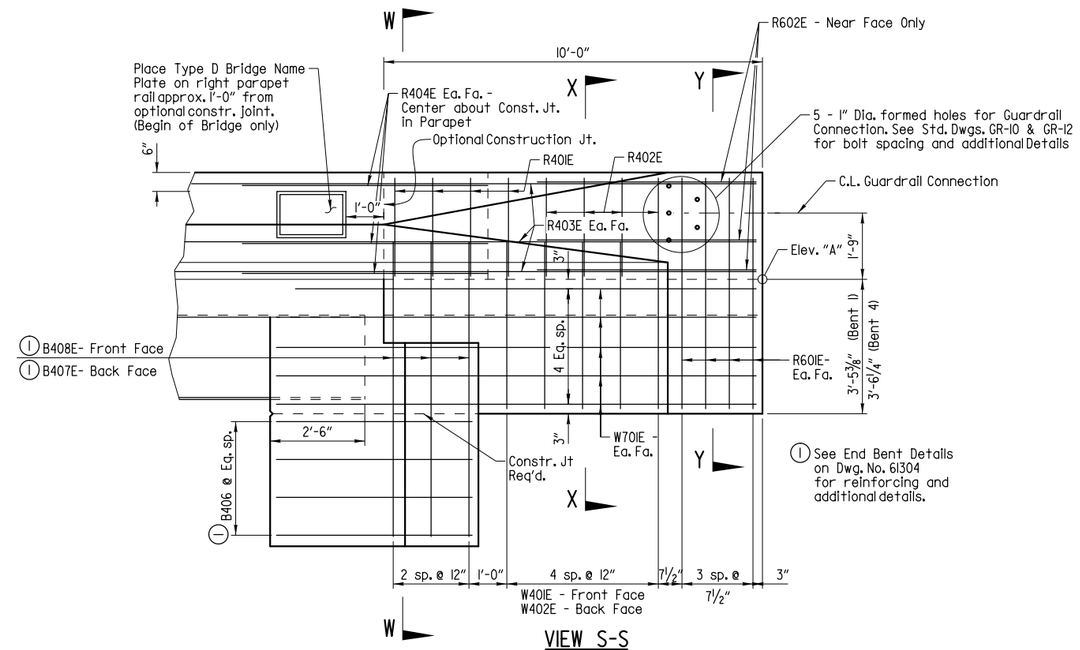
				JOB NO.		070415	51	76
				(1)	07469 - 143'-0" INT. UNIT - 61310			



VIEW C-C
½" = 1'-0"

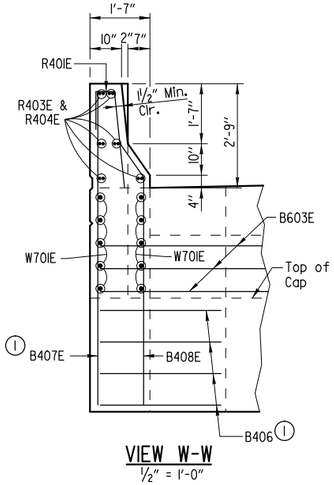


VIEW S-S
½" = 1'-0"

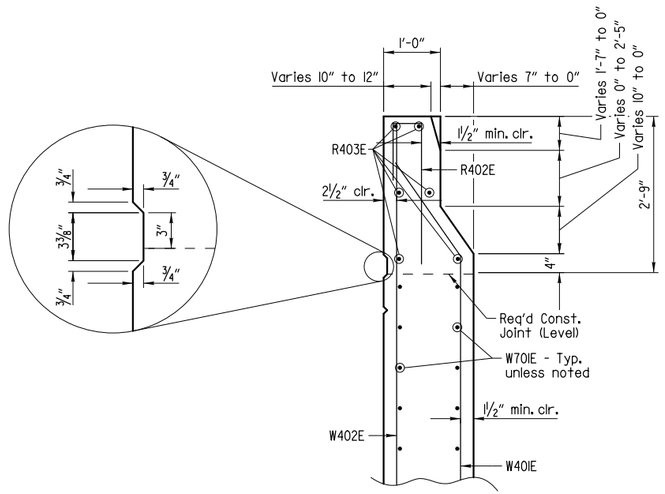
Note:
See Roadway Plans for guardrail locations.

TABLE OF VARIABLES

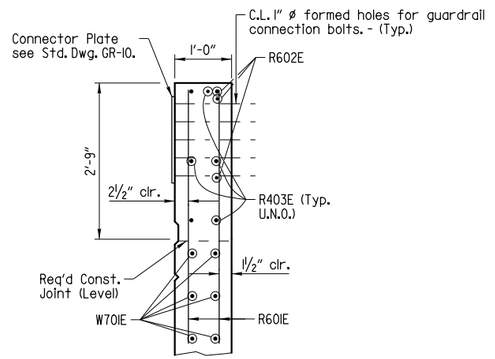
	Bent 1	Bent 4
Elev. "A"	187.84	188.31



VIEW W-W
½" = 1'-0"



VIEW X-X
¾" = 1'-0"



SECTION Y-Y
¾" = 1'-0"

STATE OF ARKANSAS
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STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 5 OF 6
DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
BAYOU DERRISEAUX RELIEF
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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REVISED DATE:

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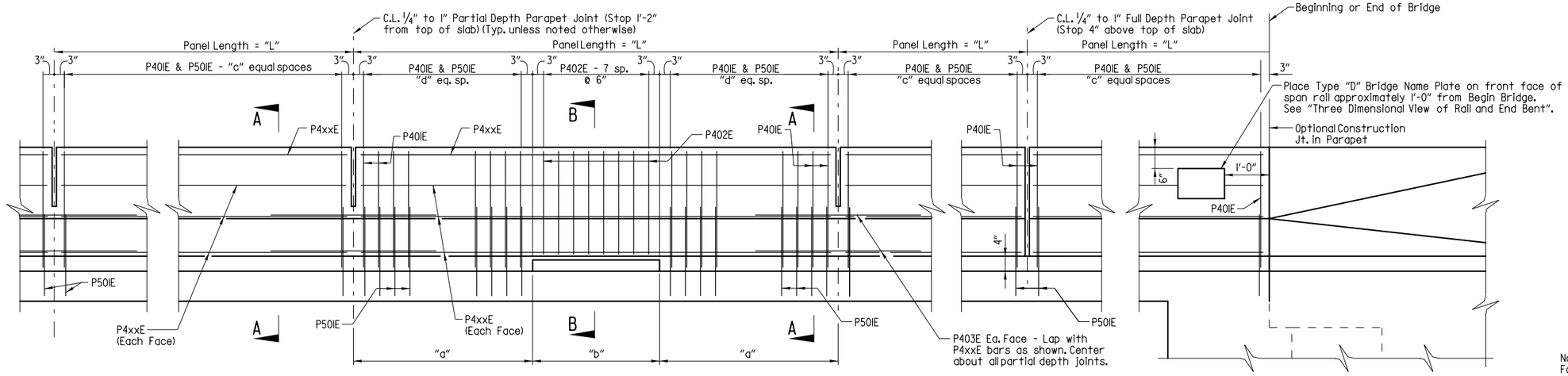
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	52	76

(1) 07469 - 143'-0" INT. UNIT - 61311



TYPICAL CLOSED PANEL PARAPET RAIL

TYPICAL OPEN PANEL PARAPET RAIL

TYPICAL FULL DEPTH JOINT

TYPICAL END PANEL

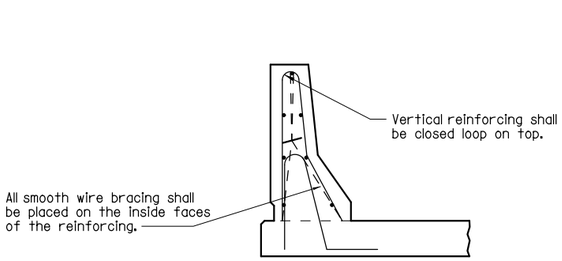
PARAPET RAIL VARIABLES

Panel Length "L"	Panel Type	"a"	"b"	"c"	"d"	P4xxE Bars
10'-0"	closed	-----	-----	19	-----	P404E
10'-6"	closed	-----	-----	20	-----	P405E
11'-6"	closed	-----	-----	22	-----	P406E
15'-0"	open	5'-6"	4'-0"	-----	10	P407E

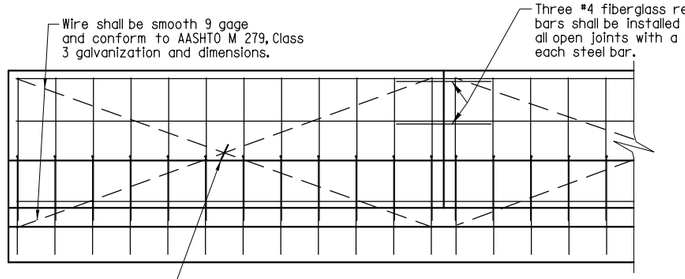
Note:
For location of full and partial depth parapet joints, see Dwg. No. 61308.

ELEVATION - CONCRETE PARAPET RAIL

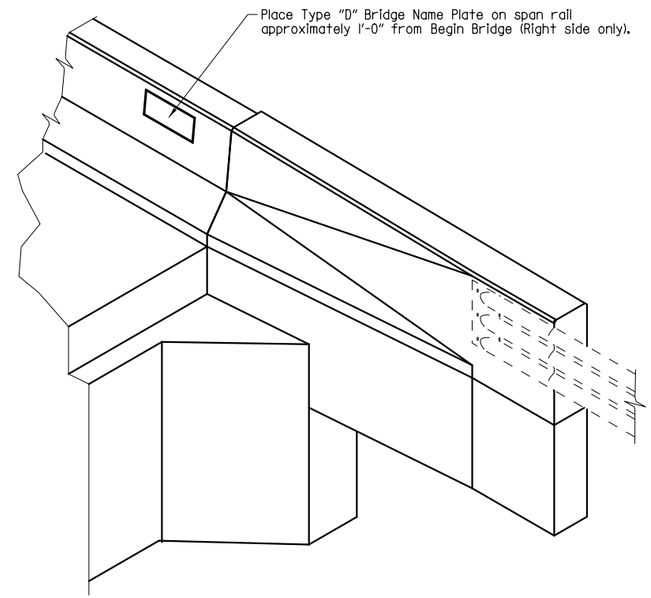
(As viewed from roadway side of Parapet)



The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

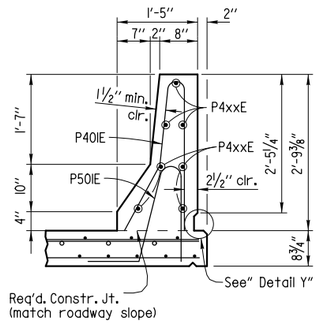


All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

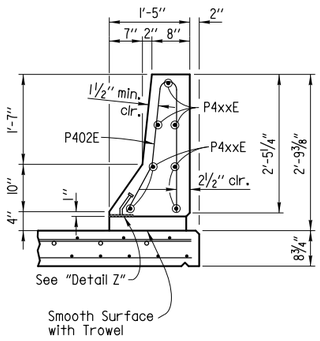


THREE DIMENSIONAL VIEW OF RAIL & END BENT

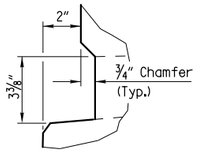
DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL



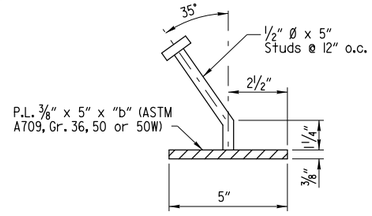
SECTION A-A



SECTION B-B



DETAIL Y



DETAIL Z

Note:
Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel In Beam Spans (ASTM A709, Gr. 50W)". The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638 or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (ASTM A709, Gr 50W)"

STATE OF ARKANSAS
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STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 6 OF 6

DETAILS OF 143'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX RELIEF

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019
CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 06/2019
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FILENAME: B070415XL_SX6.dgn
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DRAWING NO. 61311

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WORKSPACE: ARDOT
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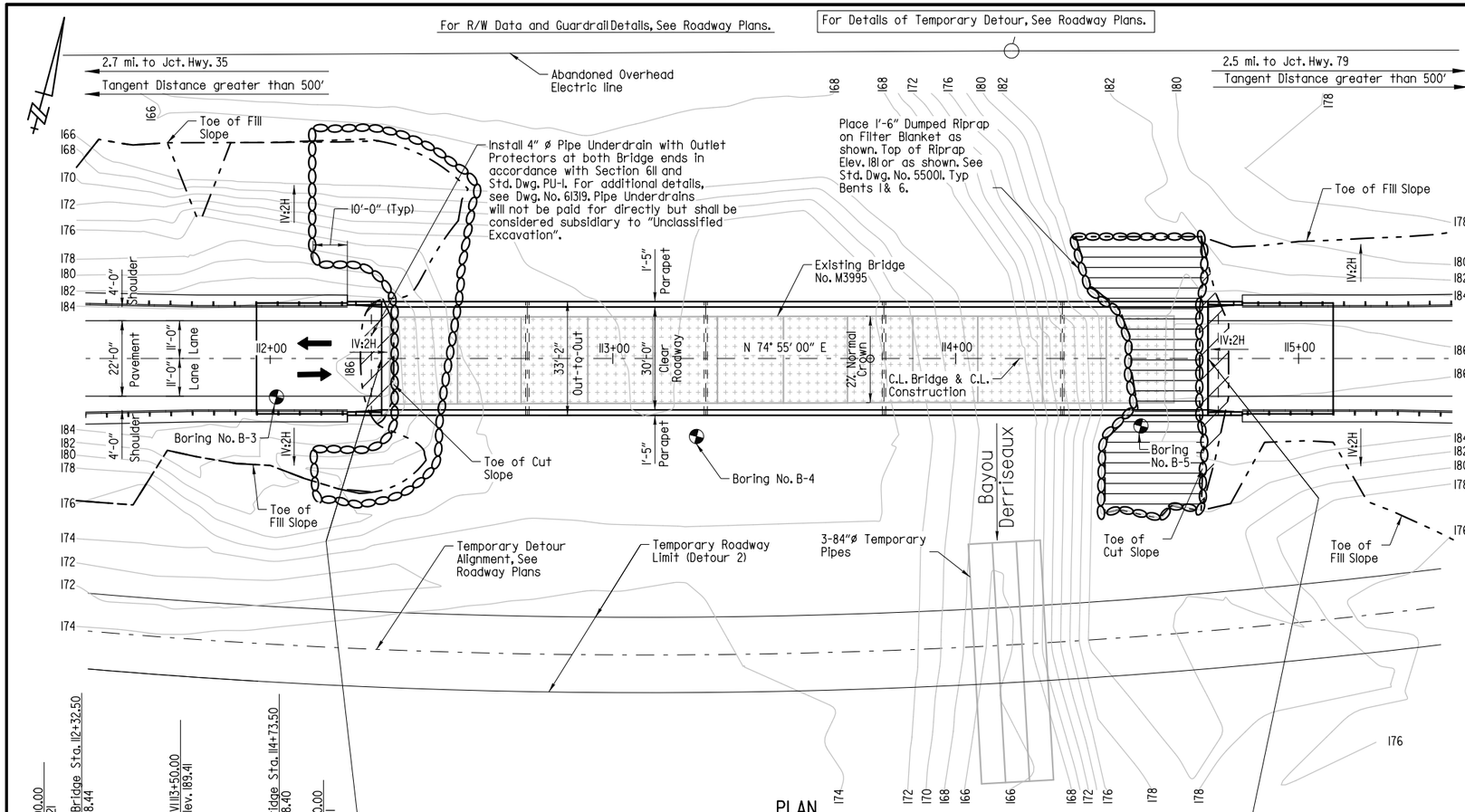
REVISED DATE:

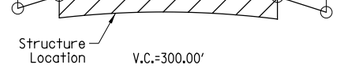
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	53	76
				(1)	07470 - LAYOUT - 61312			

For R/W Data and Guardrail Details, See Roadway Plans.

For Details of Temporary Detour, See Roadway Plans.



PLAN



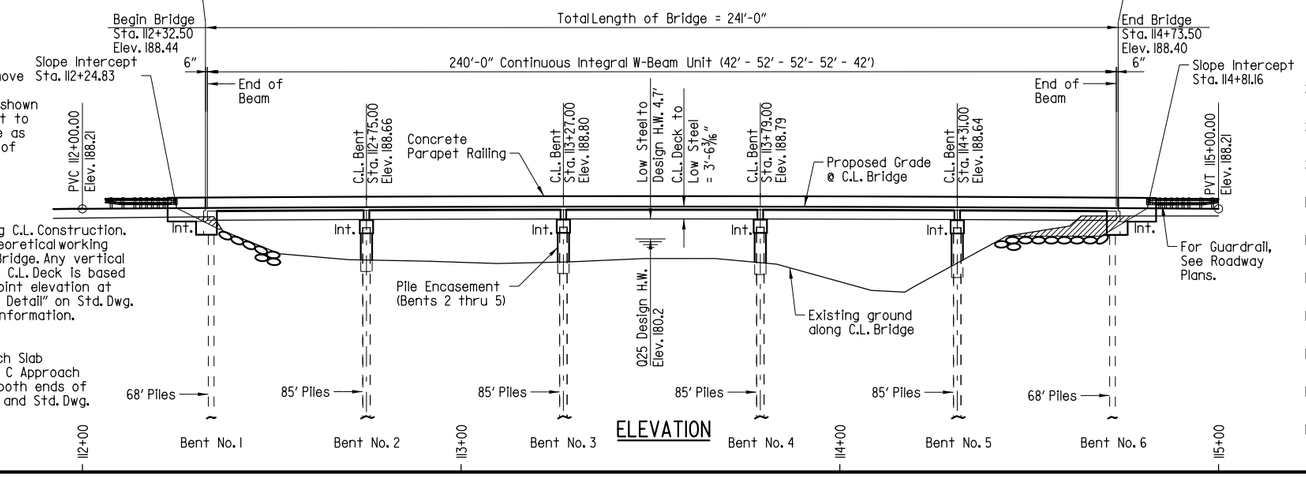
VERTICAL CURVE DATA

Along C.L. Construction

TABLE OF VARIABLES

Bent No(s)	C.L. Deck at C.L. Bent to Low Seat of Cap	Min. Pile Tip Elevation "A"	Min Ultimate Bearing Capacity (Tons)
1	--------	115.00	140
2	3' - 10 3/16"	98.00	266
3	3' - 10 3/16"	98.00	266
4	3' - 10 3/16"	98.00	266
5	3' - 10 3/16"	98.00	266
6	--------	115.00	140

(3) The proposed bridge shall be constructed to avoid interference with the existing piling. Any adjustments necessary to fit the proposed bridge to the existing bridge location shall be submitted for the Engineer's approval.



ELEVATION

Notes:
The contractor shall remove the embankment at the existing bridge ends as shown using 1V:2H cut slopes. Cut to Elev. 182 at End of Bridge as shown. Approx. 121 cu. yds. of excavation.

For Soil Borings See Dwg. No. 61313.

Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Std. Dwg. No. 55007 for additional information.

Use Type Special Approach Slab (width = 22'-0") and Type C Approach Gutters ("w" = 4'-0") at both ends of bridge, See Dwg. No. 61322 and Std. Dwg. No. 55030C respectively.

GENERAL NOTES

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Seventh Edition with current Interims.

LIVE LOADING: HL-93

SEISMIC ZONE: 2 S_{DI} = 0.179 SITE CLASS = D

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A, Gr. 60)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 50W)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi
Pipe Pile Grade 3, ASTM A252	Fy = 45,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

(3) STEEL SHELL PILING: Piling in Bents 1 and 6 shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 140 tons per pile. Piling in Bents 2 thru 5 shall be 24" diameter concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 266 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer to a minimum tip elevation "A" shown in the table on this drawing. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

Water jetting or other methods as approved by the Engineer may be required to achieve minimum penetration. This work shall not be paid directly, but shall be considered incidental to the item "Steel Shell Piling (18" Dia.)" and "Steel Shell Piling (24" Dia.)".

PILE ENCASEMENT: Pile encasement for Bents 2 thru 5 shall extend from bottom of cap to 3' below natural ground. See Std. Dwg. No. 55021 for additional information.

PREBORING: Preboring is required for all piling at Bent 1 and 6. Prebored holes shall have a diameter 6" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the item "Preboring".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum hammer energy required to obtain the ultimate bearing capacity for both 18" and 24" piles will be 75,400 foot pounds per blow.

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

PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and roadway face and top of parapets. Class I Protective Surface Treatment shall meet the requirements of Section 803.

DETAIL DRAWINGS:	DRAWING NO(S).
End Bents	61314
Intermediate Bents	61315
240'-0" Continuous Integral W-Beam Unit	61316 - 61321
General Notes For Steel Bridge Structures	55006
Details For Steel Bridge Structures	55007
Concrete Filled Steel Shell Piling	55021
Type Special Approach Slabs	61322
Type C Approach Gutters	55030C

EXISTING BRIDGE: Existing Bridge No. M3995 (Log Mile. 2.77) is 25.5' wide (24.0' clear roadway) and 229.0' long and consists of timber superstructure (12 spans total) supported by timber piling. The existing bridge is located approximately in the same location as the proposed new bridge. Plans of existing structure, if available, may be obtained upon request to the Construction Contract Procurement Section of the Program Management Division.

REMOVAL AND SALVAGE: After traffic has switched to the detour, the Contractor shall remove existing Bridge No. M3995 in accordance with to Section 205. Any concrete debris at the existing bridge shall be removed completely. This work shall be considered subsidiary to the item "Removal of Existing Bridge Structure (Site No. 2)". All material removed from the existing bridge shall become the property of the Contractor.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	(2) TOTAL DISCHARGE	DISCHARGE THIS SITE	(1) NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	CFS	FEET	FEET
Design	25	10,000	5058	178.8	180.2
Base	100	14,400	7538	179.6	181.5
Extreme	500	20,000	10690	180.6	182.9
Overtopping	>500	>500	>500	>500	>500

(1) Unconstricted water surface elevation without structure or roadway approaches.
(2) The total discharge includes flow at this Site and Site 1.
Q100 backwater elevation for existing structure = 182.2 feet.
Proposed Low Bridge Chord Elevation = 184.90 feet at Station 114+70.50
Drainage area = 115 square miles.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 1 OF 2
LAYOUT OF BRIDGE
HIGHWAY 212 OVER BAYOU DERRISEAUX
BAYOU DERRISEAUX STRS. & APPRS. (S)
CLEVELAND COUNTY
ROUTE 212 SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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REVISED DATE:

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				6	ARK.			
				JOB NO.		070415	54	76
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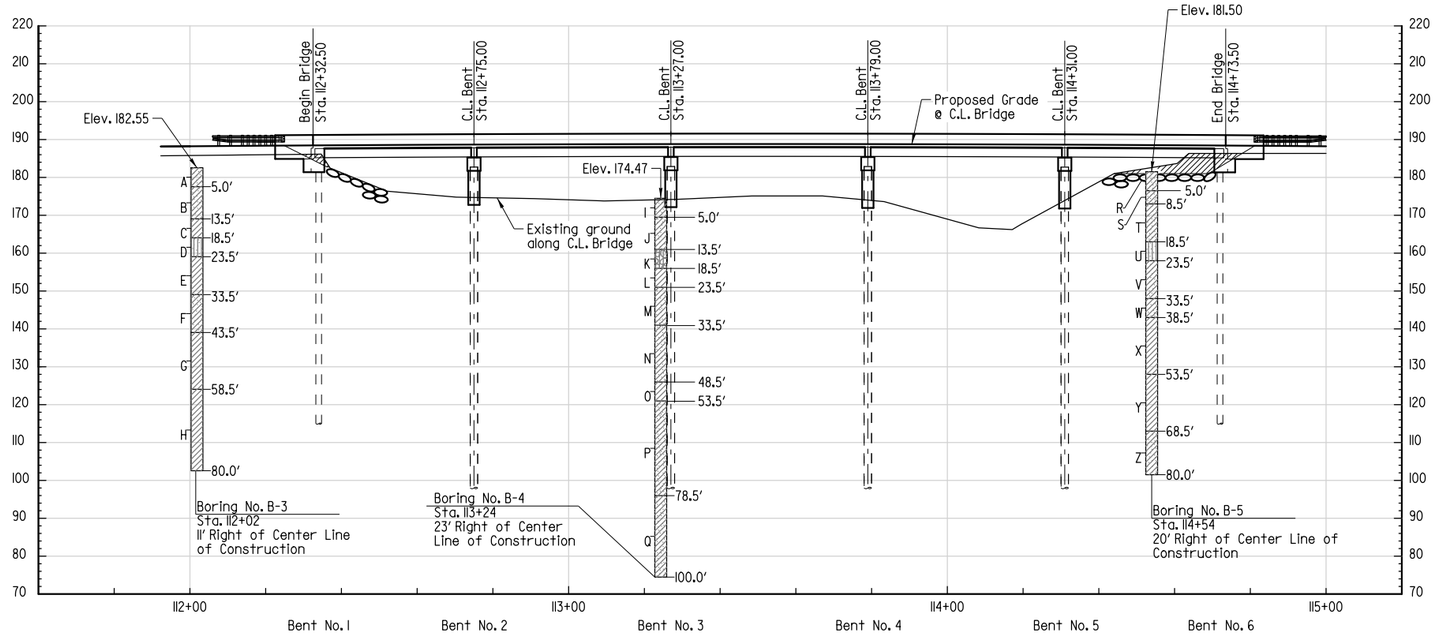

ELEVATION OF SOIL BORINGS

"N" VALUES

Boring No. B-3
Sta. 112+02 - 11′ Right of Center Line of Construction

1.0 - 2.0	N=33	34.0 - 35.0	N=29		
2.5 - 3.5	N=4	39.0 - 40.0	N=44		
4.0 - 5.0	N=4	44.0 - 45.0	N=15		
5.5 - 6.5	N=2	49.0 - 50.0	N=17		
9.0 - 10.0	N=4	54.0 - 55.0	N=18		
14.0 - 15.0	N=0	59.0 - 60.0	N=17		
19.0 - 20.0	N=6	64.0 - 65.0	N=16		
24.0 - 25.0	N=7	69.0 - 70.0	N=37		
29.0 - 30.0	N=29	74.0 - 75.0	N=18		
		79.0 - 80.0	N=19		

Boring No. B-4
Sta. 113+24 - 23′ Right of Center Line of Construction

1.0 - 2.0	N=4	44.0 - 45.0	N=18		
2.5 - 3.5	N=2	49.0 - 50.0	N=16		
4.0 - 5.0	N=0	54.0 - 55.0	N=13		
5.5 - 6.5	N=0	59.0 - 60.0	N=14		
9.0 - 10.0	N=0	64.0 - 65.0	N=16		
14.0 - 15.0	N=34	69.0 - 70.0	N=16		
19.0 - 20.0	N=11	74.0 - 75.0	N=16		
24.0 - 25.0	N=61	79.0 - 80.0	N=15		
29.0 - 30.0	N=35	84.0 - 85.0	N=17		
34.0 - 35.0	N=17	89.0 - 90.0	N=32		
39.0 - 40.0	N=17	94.0 - 95.0	N=20		
		99.0 - 100.0	N=23		

Boring No. B-5
Sta. 114+54 - 20′ Right of Center Line of Construction

1.0 - 2.0	N=12	34.0 - 35.0	N=51		
2.5 - 3.5	N=9	39.0 - 40.0	N=15		
4.0 - 5.0	N=3	44.0 - 45.0	N=17		
5.5 - 6.5	N=9	49.0 - 50.0	N=18		
9.0 - 10.0	N=8	54.0 - 55.0	N=18		
14.0 - 15.0	N=7	59.0 - 60.0	N=17		
19.0 - 20.0	N=14	64.0 - 65.0	N=14		
24.0 - 25.0	N=6	69.0 - 70.0	N=46		
29.0 - 30.0	N=41	74.0 - 75.0	N=20		
		79.0 - 80.0	N=17		

BORING LEGEND

A- FILL - POORLY GRADED SAND (SP), with gravel, red brown, FILL - LEAN CLAY WITH SAND (CL), trace gravel, brown gray
B- SANDY LEAN CLAY (CL), trace gravel, gray and brown, soft to medium stiff
C- LEAN CLAY (CL), trace sand, gray brown, very soft
D- SILTY SAND (SM), fine grained, gray brown, loose
E- FAT CLAY (CH), trace sand, brown and gray, medium stiff to very stiff
F- SANDY LEAN CLAY (CL), gray, very stiff to hard
G- FAT CLAY (CH), trace sand, brown and gray, very stiff, laminated and blocky
H- FAT CLAY (CH), gray, very stiff to hard
I- ASPHALT CEMENT CONCRETE - 6 inches, FILL - SANDY LEAN CLAY (CL), trace gravel and asphalt, gray and brown
J- SANDY LEAN CLAY (CL), brown, very soft
K- WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM), fine to coarse grained, brown, dense
L- FAT CLAY (CH), trace sand, brown and gray, stiff
M- SANDY LEAN CLAY (CL), with sand seams, gray, hard
N- SANDY LEAN CLAY (CL), gray, very stiff, laminated
O- FAT CLAY (CH), trace sand, gray, very stiff, occasional sand seams
P- SANDY LEAN CLAY (CL), gray, stiff to very stiff
Q- FAT CLAY WITH SAND (CH), gray, very stiff to hard, dark gray at about 93.5 feet
R- ASPHALT CEMENT CONCRETE - 3 inches, AGGREGATE BASE COURSE - 3 inches, FILL - SANDY LEAN CLAY (CL), trace gravel, brown
S- SANDY LEAN CLAY (CL), with sand seams, brown, stiff
T- CLAYEY SAND (SC), brown, loose
U- SILTY SAND (SM), brown, medium dense
V- CLAYEY SAND (SC), fine to coarse grained, brown, loose to dense
W- SANDY LEAN CLAY (CL), with sand seams, gray, hard
X- FAT CLAY (CH), trace sand, gray and brown, very stiff
Y- FAT CLAY (CH), gray , very stiff to stiff
Z- SANDY LEAN CLAY (CL), gray, hard to very stiff

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 2 OF 2
LAYOUT OF BRIDGE
HIGHWAY 212 OVER BAYOU DERRISEAUX
BAYOU DERRISEAUX STRS. & APPRS. (S)
CLEVELAND COUNTY
ROUTE 212 SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415X2_LX2.dgn
CHECKED BY: SFH DATE: 06/2019
DESIGNED BY: SCR DATE: 08/2018 SCALE: 1" = 20'
BRIDGE NO. 07470 DRAWING NO. 61313

Scott.Thornsberry 10/26/2020 3:22:56 PM
WORKSPACE: ARDOT
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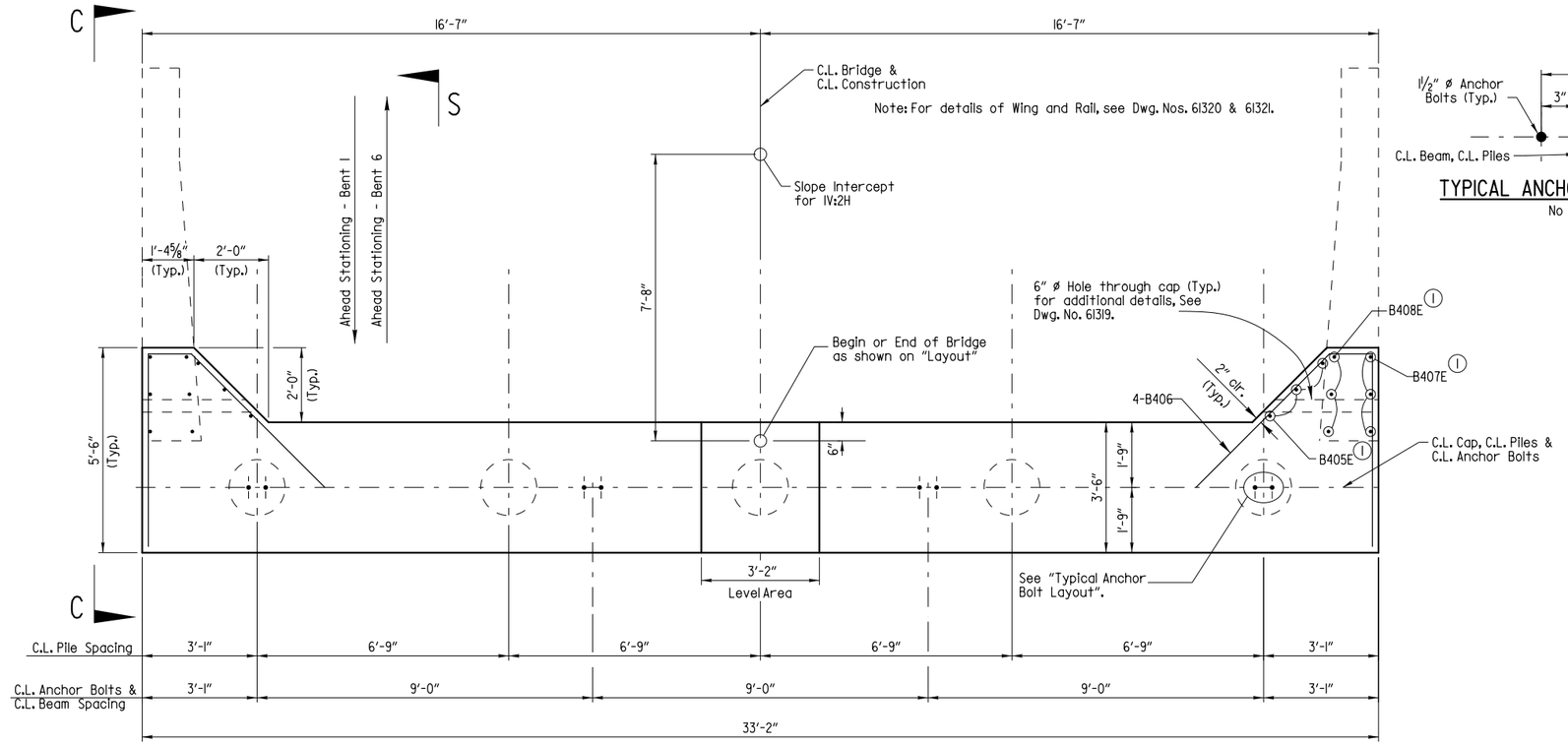
REVISED DATE:

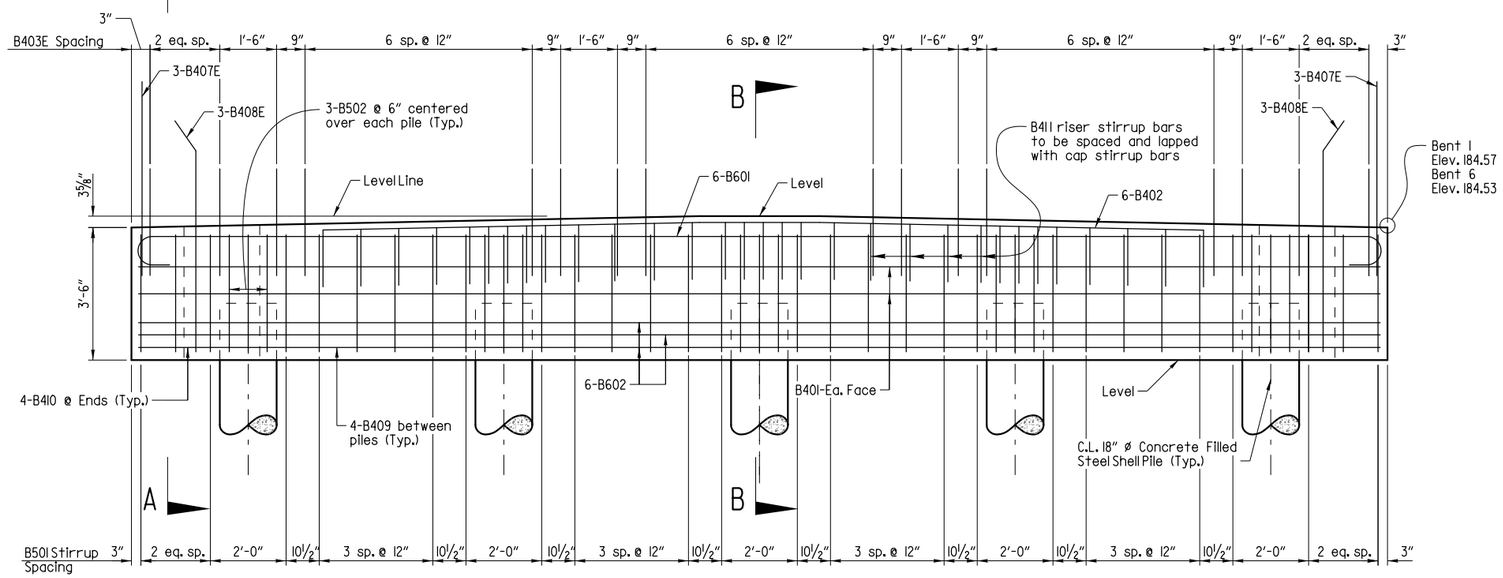
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	55	76
				(1)	07470 - END BENTS - 61314			



PLAN

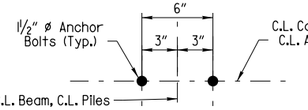
Bent 1- Looking Back,
Bent 6 - Looking Ahead
1/2" = 1'-0"

Note:
For View C-C and View S-S, see Dwg. No. 61320.



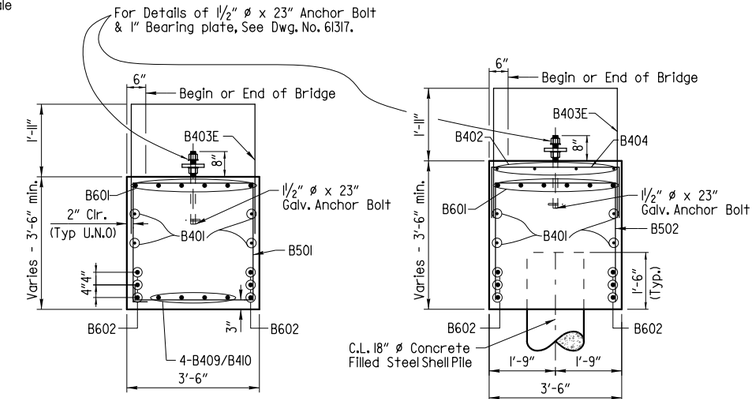
ELEVATION

Bent 1- Looking Back,
Bent 6 - Looking Ahead
1/2" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT

No Scale



SECTION A-A

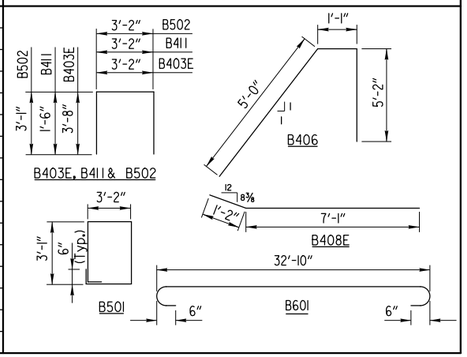
1/2" = 1'-0"

SECTION B-B

1/2" = 1'-0"

BAR LIST-PER BENT

MARK	NO. REQ'D.	LENGTH	PIN DIA.	BENDING DIAGRAMS Dimensions are out to out of bars.
B401	4	32'-10"	Str.	
B402	6	23'-3"	Str.	
B403E	33	10'-4"	2"	
B405E	6	5'-6"	Str.	
B406	8	11'-2"	2"	
B407E	6	9'-6"	Str.	
B408E	6	8'-3"	2"	
B409	16	4'-5"	Str.	
B410	8	1'-9"	Str.	
B411	31	6'-0"	2"	
B501	30	13'-0"	2 1/2"	
B502	15	9'-2"	2 1/2"	
B601	6	34'-2"	4 1/2"	
B602	6	32'-10"	Str.	



GENERAL NOTES

For additional information, see Layout.

Granular backfill & pipe underdrain required behind end bent cap.
See Dwg. No. 61319.

(1) Bars B405E, B407E & B408E shall have a 3'-4" embedment into the cap.

All bars designated with an "E" suffix are to be epoxy coated

For Concrete Filled Steel Shell Piles See Std Dwg. No. 55021.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

DETAILS OF END BENTS
BAYOU DERRISEAUX
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SCR	DATE:	07/2019	FILENAME:	B070415X2_AXI.dgn
CHECKED BY:	HSS	DATE:	07/2019		
DESIGNED BY:	SCR	DATE:	07/2019	SCALE:	1/2" = 1'-0"
BRIDGE NO.	07470			DRAWING NO.	61314

Scott.Thornsberry@9/26/2020 3:22:56 PM
WORKSPACE: ARDOT
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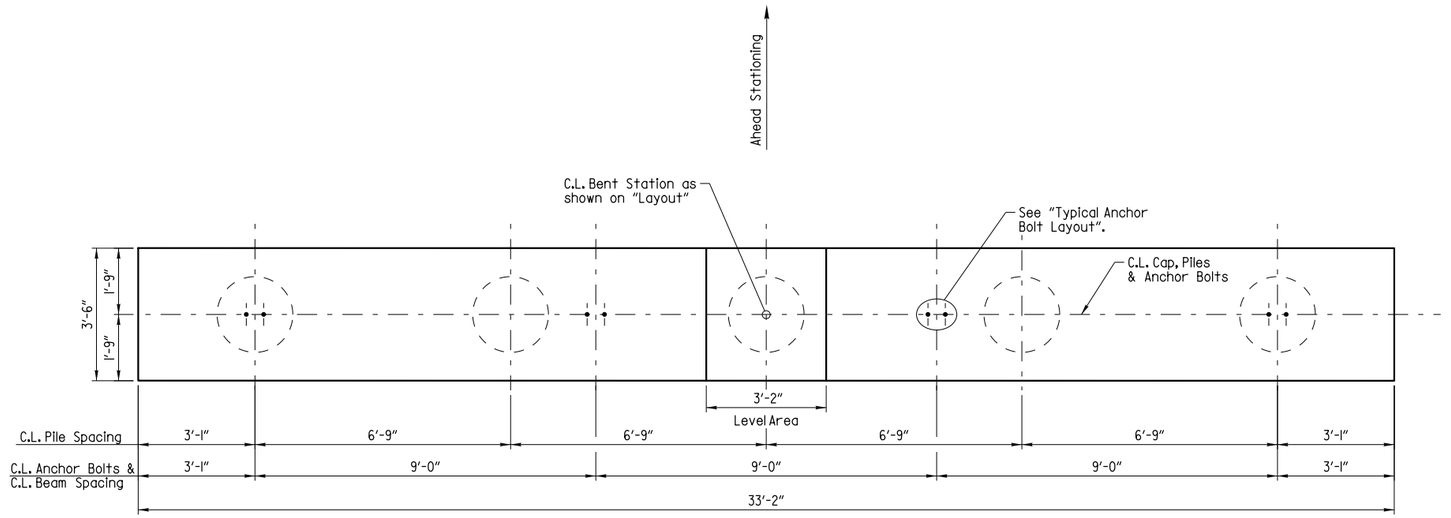
REVISED DATE:

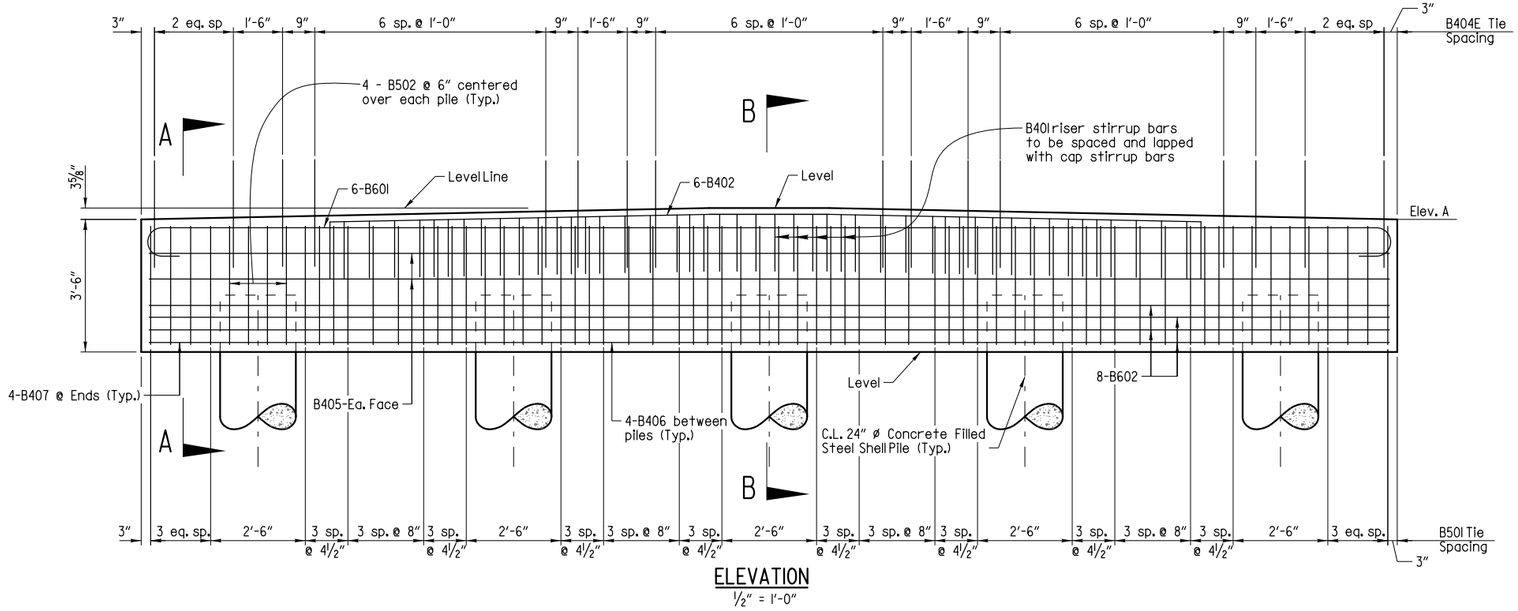
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070415	56	76

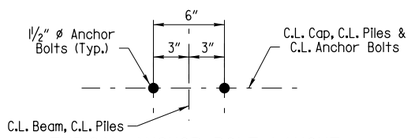
(1) 07470 - INT BENT - 61315



PLAN
1/2" = 1'-0"



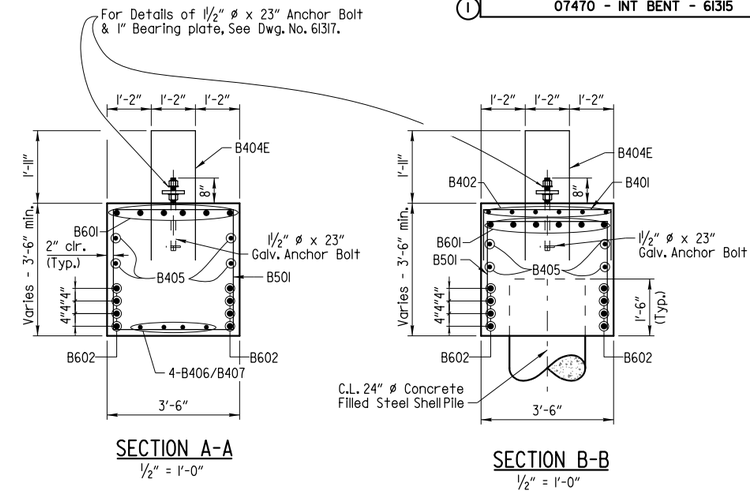
ELEVATION
1/2" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT
No Scale

TABLE OF VARIABLES

	Bent 2	Bent 3	Bent 4	Bent 5
Elev. "A"	184.78	184.92	184.91	184.76



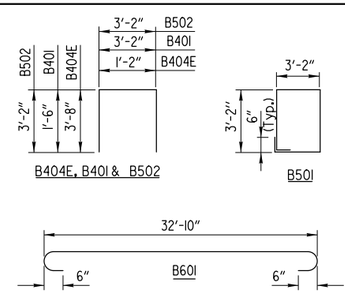
SECTION A-A
1/2" = 1'-0"

SECTION B-B
1/2" = 1'-0"

BAR LIST-PER BENT

MARK	NO. REQ'D.	LENGTH	PIN DIA.
B401	48	6'-0"	2"
B402	6	23'-0"	Str.
B404E	33	8'-4"	2"
B405	4	32'-10"	Str.
B406	16	4'-5"	Str.
B407	8	1'-9"	Str.
B501	48	13'-2"	2 1/2"
B502	20	9'-4"	2 1/2"
B601	6	34'-2"	4 1/2"
B602	8	32'-10"	Str.

BENDING DIAGRAMS
Dimensions are out to out of bars.



GENERAL NOTES

For additional information, see Layout.

All bars designated with an "E" suffix are to be epoxy coated.

For Concrete Filled Steel Shell Piles See Std Dwg. No. 55021.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

DETAILS OF INTERMEDIATE BENTS
BAYOU DERRISEAUX
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415X2_BXI.dgn
CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 06/2019 SCALE: 1/2" = 1'-0"
BRIDGE NO. 07470 DRAWING NO. 61315

Scott.Thornsberry@26/2020 3:22:57 PM
WORKSPACE: ARDOT
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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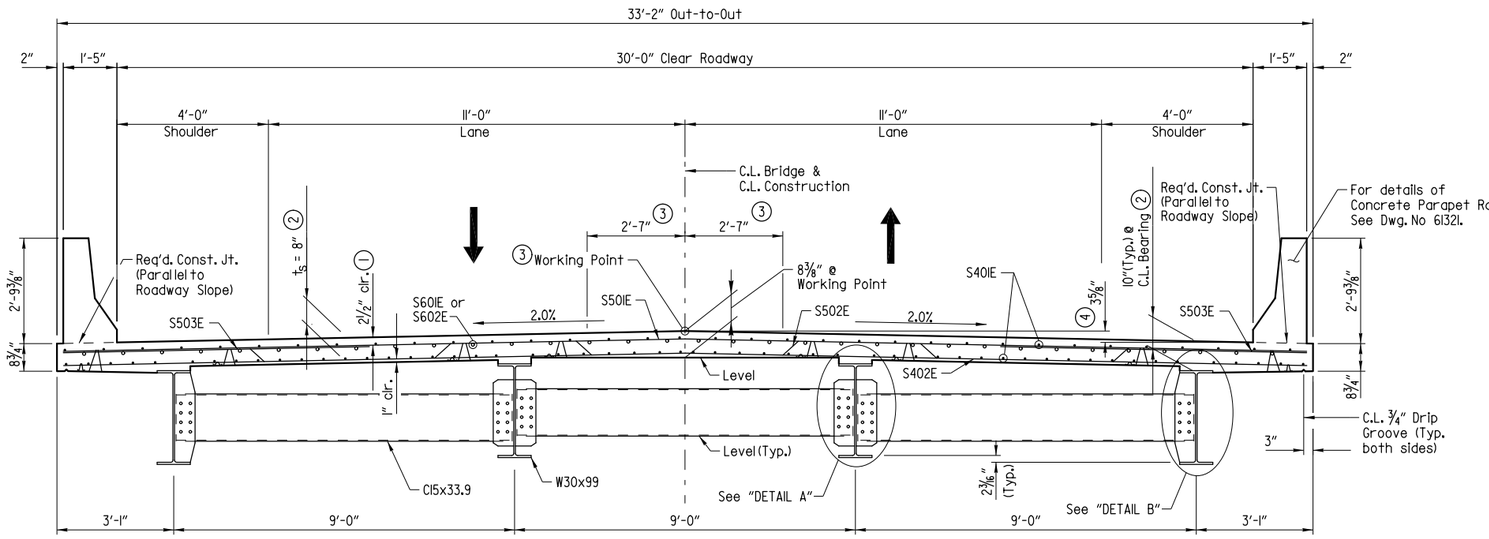
				JOB NO.		070415	57	76
				(1)	07470 - 240'-0" INT. UNIT - 61316			



TYPICAL SECTION
(Looking Forward)

Slab Reinforcing:

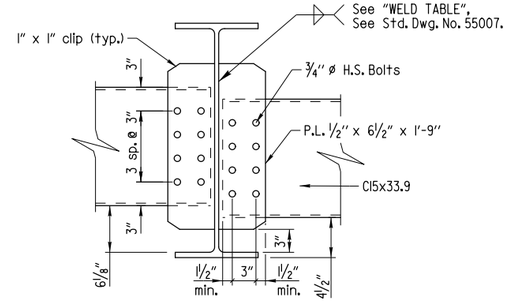
Transverse: S502E @ 12" o.c. bent up over beams — Alternate
S402E @ 12" o.c. in bottom
S501E @ 12" o.c. in top
S503E @ 6" o.c. under each parapet bundled w/ #5 in top @ both gutterlines

Longitudinal: S401E placed as shown in top and bottom
S601E placed as shown over int. supports
S602E placed as shown at end bents

Notes:
Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

Bar positions and clearances from the forms shall be maintained by means of stays, tie hangers, or other approved devices per Subsection 804.06. Placement of slab bolsters of high-chairs with full-length lower runners directly on removable deck forms will not be allowed.

At the Contractor's option, two straight epoxy coated #5 bars may be substituted for Bar S502E. Payment for reinforcing will be based on the weight of Bar S502E.



DETAIL A
No Scale

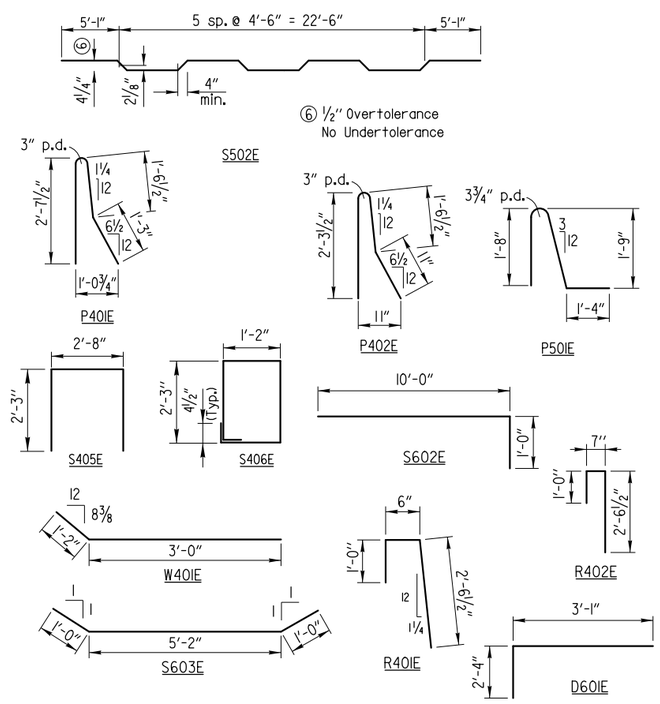
BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
D601E	30	5'-3"	4 1/2"
S401E	546	41'-7"	Str.
S402E	241	32'-10"	Str.
S403E	32	32'-10"	Str.
S404E	12	32'-10"	Str.
S405E	60	7'-0"	2"
S406E	120	7'-2"	2"
S501E	241	32'-10"	Str.
S502E	240	33'-4"	3"
S503E	962	8'-1"	Str.
S601E	132	35'-0"	Str.
S602E	66	13'-10"	4 1/2"
S603E	12	7'-2"	4 1/2"
P401E	836	5'-6"	3"
P402E	128	4'-10"	3"
P403E	120	5'-6"	Str.
P404E	56	8'-2"	Str.
P405E	28	10'-2"	Str.
P406E	84	10'-8"	Str.
P407E	112	14'-8"	Str.
P501E	836	4'-10"	3 3/4"
R401E	16	3'-11"	2"
R402E	16	4'-0"	2"
R403E	24	9'-8"	Str.
R404E	24	3'-10"	Str.
R601E	32	5'-4"	Str.
R602E	12	5'-0"	Str.
W401E	20	4'-2"	2"
W402E	20	5'-5"	Str.
W701E	40	12'-2"	Str.

BENDING DIAGRAMS

Note: All bars designated with an "E" suffix are to be epoxy coated.

Dimensions are out to out of bars.



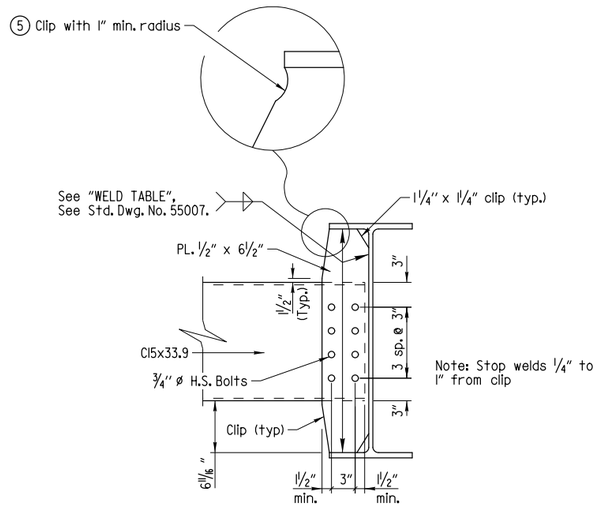
(1) Tolerance: Minus = 1/4"; Plus equal to the amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance" on Std. Dwg. No. 55007.

(2) See "Adjustment for Slab Thickness Tolerance" on Std. Dwg. No. 55007.

(3) See "ROUNDING DETAIL" on Std. Dwg. No. 55007.

(4) Working point to gutter line

(5) If permanent steel bridge deck forms are used, the fabricator shall clip plates as necessary to accommodate the deck form supports.



DETAIL B
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER

10/21/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 1 OF 6
DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
BAYOU DERRISEAUX
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SCR	DATE:	06/2019	FILENAME:	B070415X2_SX1.dgn
CHECKED BY:	HSS	DATE:	07/2019		
DESIGNED BY:	SCR	DATE:	08/2018	SCALE:	As Shown
BRIDGE NO.	07470		DRAWING NO.	61316	

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WORKSPACE: ARDOT
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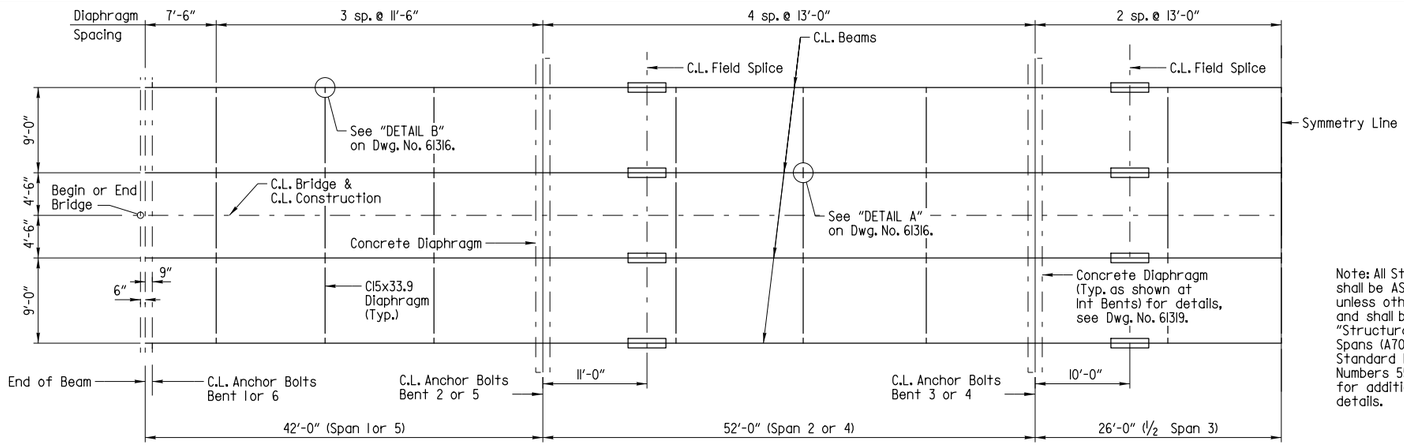
REVISED DATE:

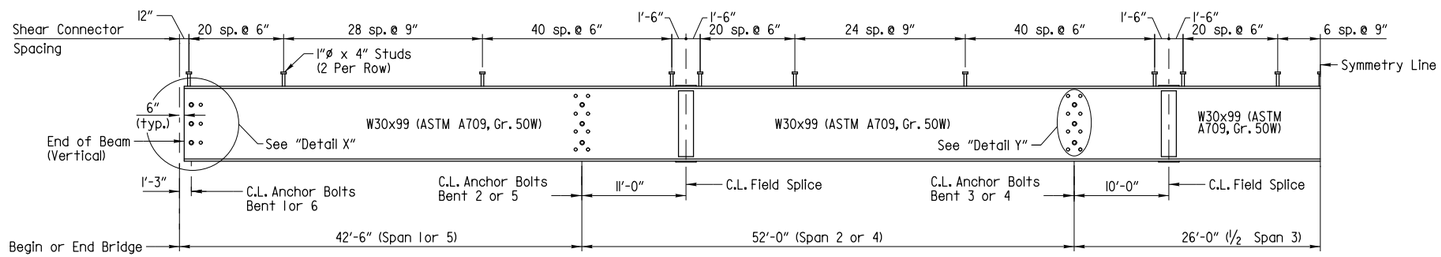
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	58	76
				(1)	07470 - 240'-0" INT. UNIT - 61317			



HALF FRAMING PLAN

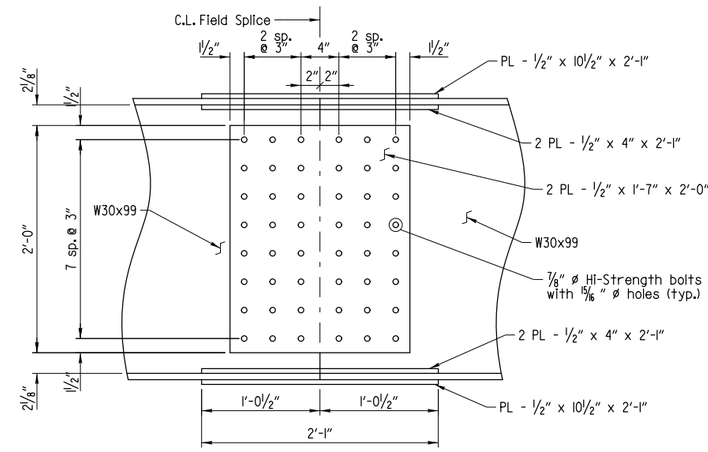
1/8" = 1'-0"

Note: All Structural steel shall be ASTM A709, Gr. 50W unless otherwise noted and shall be paid for as "Structural Steel In Beam Spans (A709, Gr. 50W)". See Standard Drawing Numbers 55006 and 55007 for additional notes and details.



BEAM ELEVATION

No Scale



DETAIL OF BOLTED FIELD SPLICES

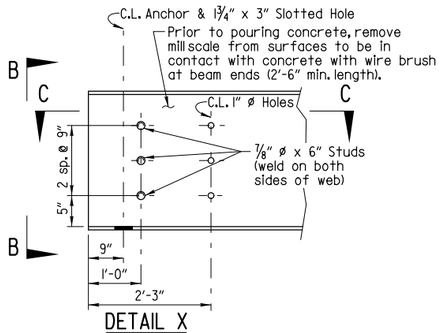
1 1/2" = 1'-0"

TYP. FLANGE SPLICE DETAIL

1 1/2" = 1'-0"

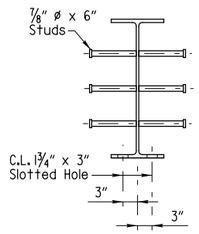
Note:
Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

All field splice bolts shall be 7/8" ø Hi-strength bolts.
All holes for splice bolts shall be 15/16" ø.



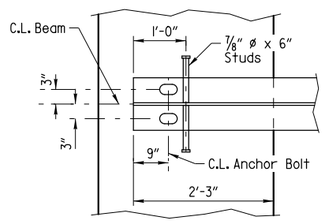
DETAIL X

No Scale



VIEW B-B

No Scale



SECTION C-C

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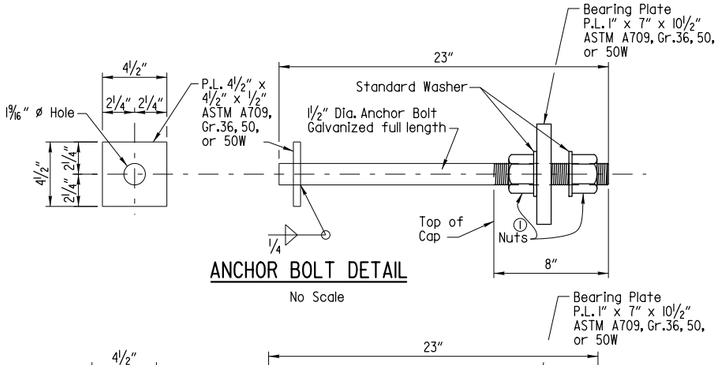
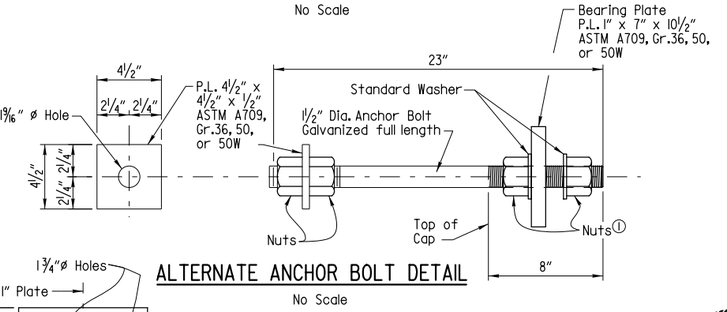


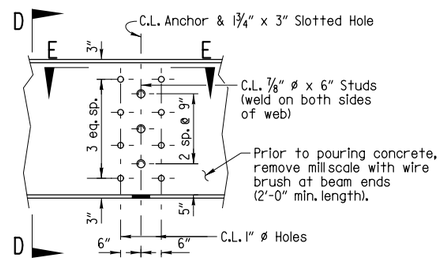
ANCHOR BOLT DETAIL

No Scale



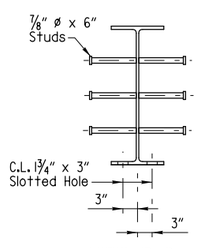
ALTERNATE ANCHOR BOLT DETAIL

No Scale



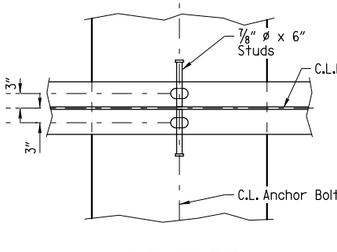
DETAIL Y

No Scale



VIEW D-D

No Scale



SECTION E-E

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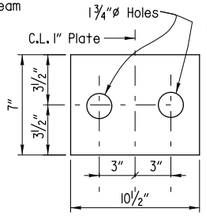

BEARING PLATE DETAIL

No Scale

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to subsection 807.07. Nuts for bolts shall be as specified in subsection 807.07. Plates, anchor bolts, nuts and washers shall be paid for at the unit price bid for "Structural Steel In Beam Spans (ASTM A709, Gr. 50W)"

(1) Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 14501 STEPHEN F. HARPER

10/21/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 2 OF 6

DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT BAYOU DERRISEAUX

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY:	SCR	DATE:	06/2019	FILENAME:	B070415X2_SX2.dgn
CHECKED BY:	HSS	DATE:	07/2019		
DESIGNED BY:	SCR	DATE:	06/2019	SCALE:	As Shown
BRIDGE NO.	07470			DRAWING NO.	61317

Scott.Thornsberry@9/26/2020 3:22:58 PM
WORKSPACE: ARDOT
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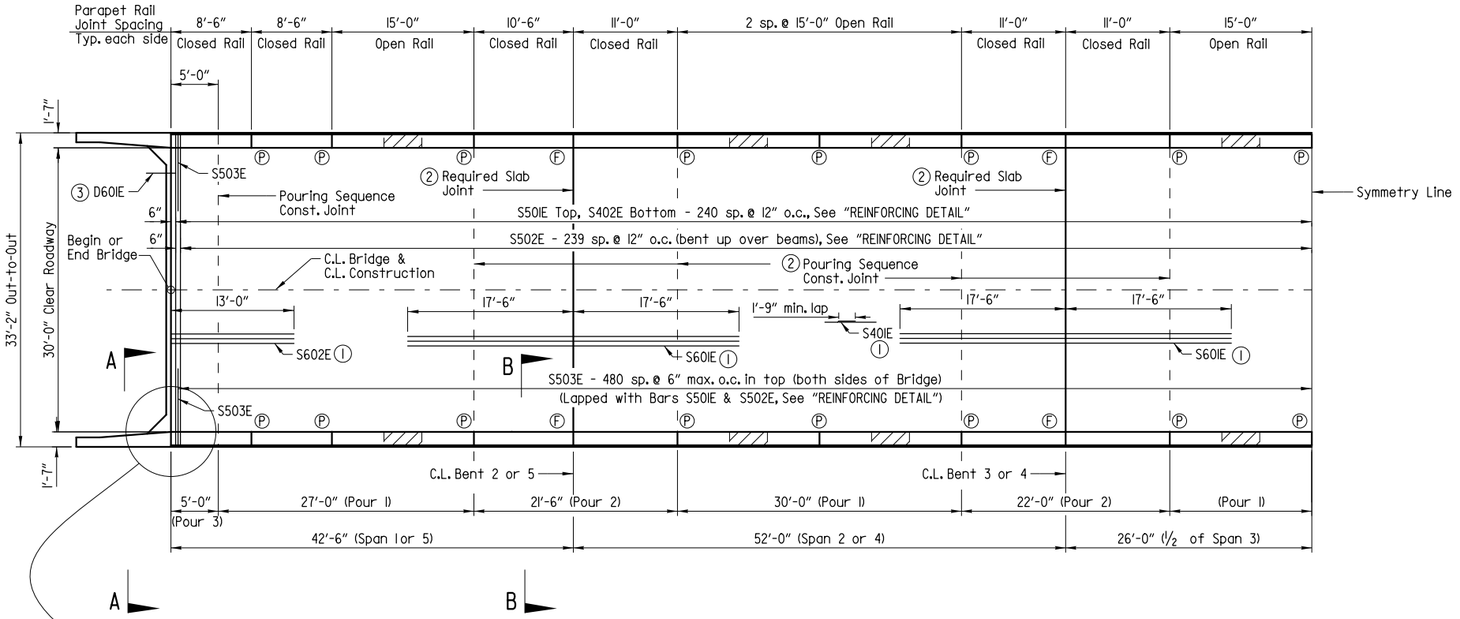
REVISED DATE:

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.		070415	59	76
				(1) 07470 - 240'-0" INT. UNIT - 61318				

Note: For Views A-A & B-B, See Dwg. No. 61319.



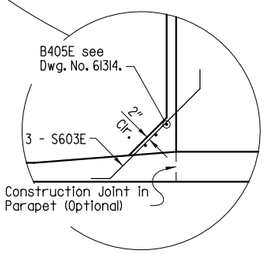


TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Interior			Exterior		
		Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail
1	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.010	0.098	0.104	0.010	0.081	0.087
	0.2	0.019	0.181	0.192	0.018	0.148	0.160
	0.3	0.024	0.235	0.251	0.023	0.193	0.210
	0.4	0.027	0.259	0.276	0.025	0.212	0.230
	0.5	0.025	0.247	0.264	0.024	0.203	0.221
	0.6	0.021	0.207	0.221	0.020	0.169	0.184
	0.7	0.015	0.146	0.155	0.014	0.119	0.130
	0.8	0.008	0.077	0.082	0.008	0.064	0.069
	0.9	0.002	0.020	0.022	0.002	0.017	0.018
2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.005	0.049	0.053	0.005	0.041	0.044
	0.2	0.015	0.146	0.156	0.014	0.119	0.130
	0.3	0.025	0.245	0.262	0.024	0.201	0.219
	0.4	0.033	0.318	0.338	0.031	0.260	0.282
	0.5	0.035	0.342	0.365	0.034	0.281	0.305
	0.6	0.032	0.314	0.336	0.031	0.258	0.280
	0.7	0.025	0.241	0.257	0.024	0.198	0.215
	0.8	0.014	0.140	0.150	0.014	0.116	0.125
	0.9	0.005	0.046	0.049	0.004	0.038	0.041
1/2 3	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.004	0.040	0.043	0.004	0.033	0.036
	0.2	0.013	0.130	0.139	0.013	0.107	0.116
	0.3	0.023	0.226	0.241	0.022	0.185	0.201
	0.4	0.030	0.296	0.316	0.029	0.243	0.264
	0.5	0.033	0.321	0.343	0.032	0.264	0.286

Table is symm. about the C.L. Unit.

HALF REINFORCING PLAN AND POURING SEQUENCE

1/8"= 1'-0"

(P) Partial depth parapet joint at this location. (Stop 1'-2" above top of slab)

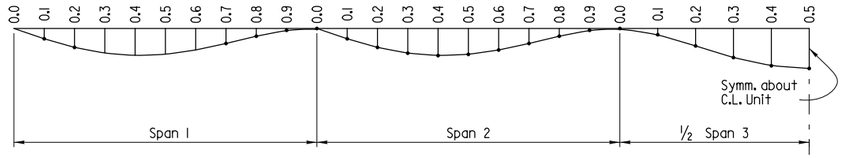
(F) Full depth parapet joint at this location. (Stop 4" above top of slab)

(1) Placed as shown in "Typical Section", See Dwg. No. 61316.

(2) Align with parapet open joint unless noted otherwise.

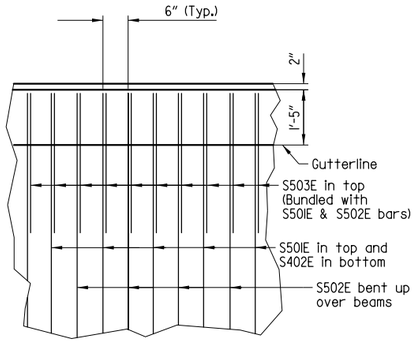
(3) Place as shown in View A-A on Dwg. No. 61319.

Note:
Pours with the same number may be placed simultaneously or separately. All pours (1) must be placed before pours (2) can be placed. All pours (2) must be placed before pours (3) can be placed. 48 hours shall elapse before the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. 72 hours shall elapse between the completion of the entire deck and the pouring of the parapet. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.



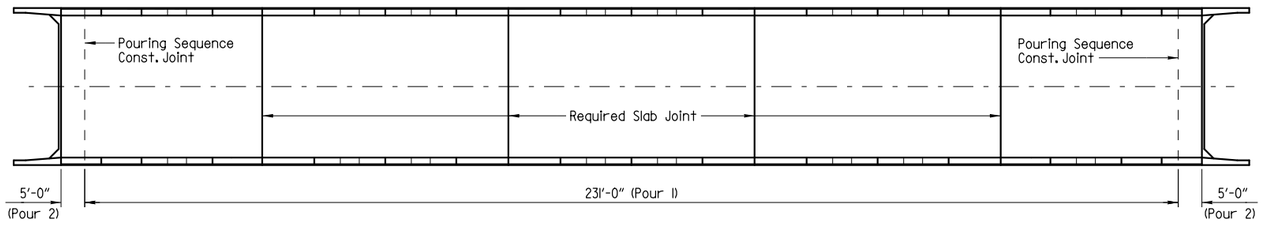
DEAD LOAD DEFLECTION DIAGRAM

Note:
Camber for Dead Load Deflection plus Vertical curve + 1/4" tolerance. Deflections shown are along C.L. Beam from a chord from C.L. Anchor Bolts to C.L. Anchor Bolts. Vertical curve corrections not included. Negative sign (-) indicates point above chord.



REINFORCING DETAIL

Note:
Rails and wings are included in span construction and are included in span quantities.



ALTERNATE POURING SEQUENCE

1/16"= 1'-0"

Note:
Pours with the same number may be placed simultaneously or separately. Pour (1) must be placed before pours (2) can be placed. 48 hours shall elapse before the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. 72 hours shall elapse between the completion of the entire deck and the pouring of the parapet. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

If a transverse finishing machine is used, the screed rail shall be supported directly over the exterior beams, see "SCREED RAIL SUPPORT DETAIL", Dwg. No. 60319.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER
10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 3 OF 6
DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
ROUTE SECTION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B07041SX2_SX3.dgn
CHECKED BY: HSS DATE: 07/2019
DESIGNED BY: SCR DATE: 06/2019 SCALE: As Shown
BRIDGE NO. 07470 DRAWING NO. 61318

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REVISED DATE:

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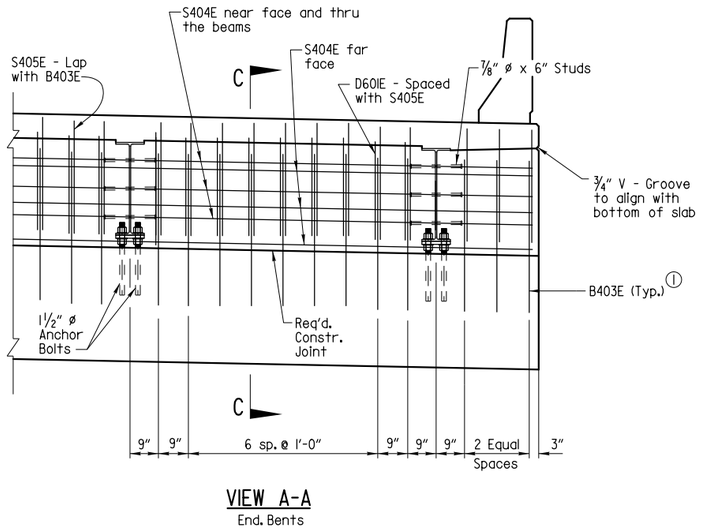
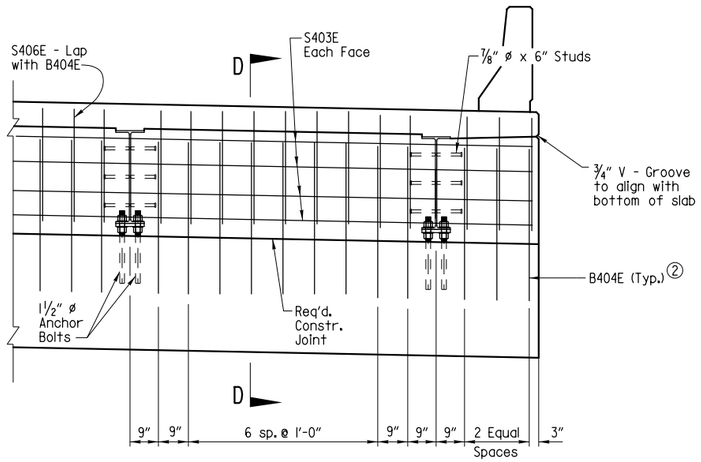
				JOB NO.		070415	60	76
				(1)	07470 - 240'-0" INT. UNIT - 61319			



VIEW A-A
End. Bents

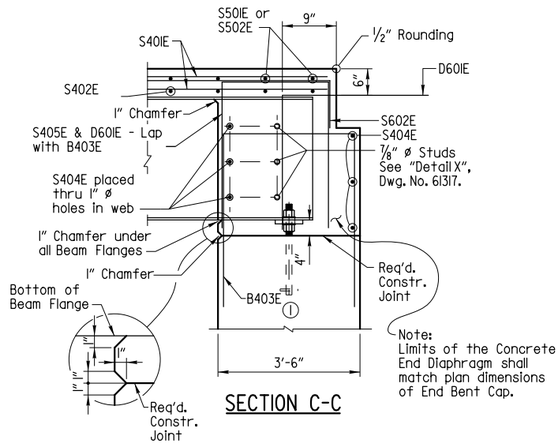


VIEW B-B
Int. Bents

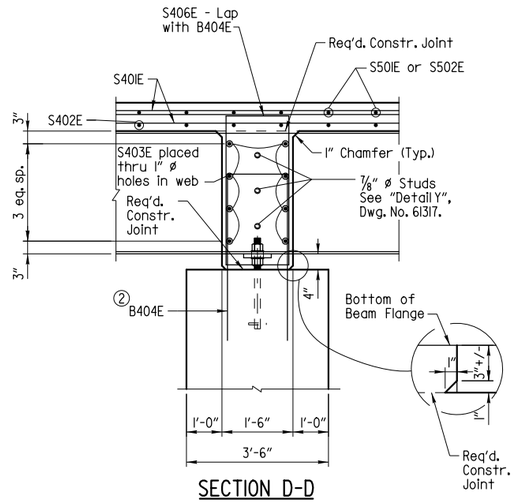
(1) See End Bent Details on Dwg. No. 61314 for reinforcing and additional details.

(2) See Intermediate bent Details on Dwg. No. 61315 for reinforcing and additional details.

Note:
End Diaphragm shall be poured monolithically with deck slab



SECTION C-C



SECTION D-D

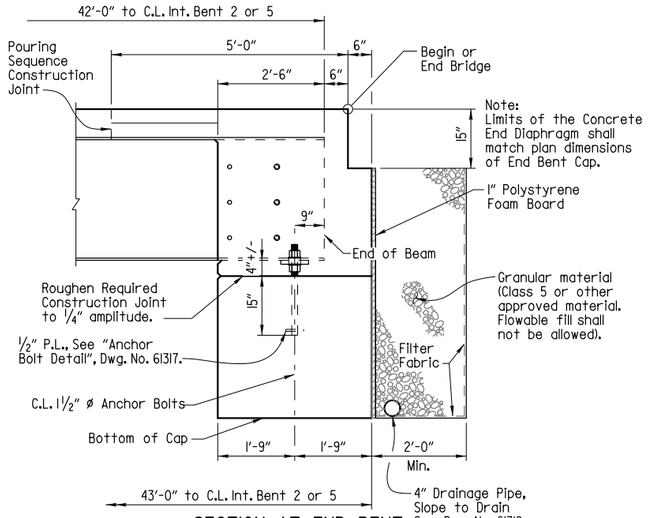
Note:
The screed rail supports shall be centered over the beam web and centered between adjacent rows of shear connectors.

The pipe shall not interfere with proper vertical position of the deck reinforcing steel.

The pipe shall be free of dirt, grease, rust, or other foreign substance before the deck is poured.

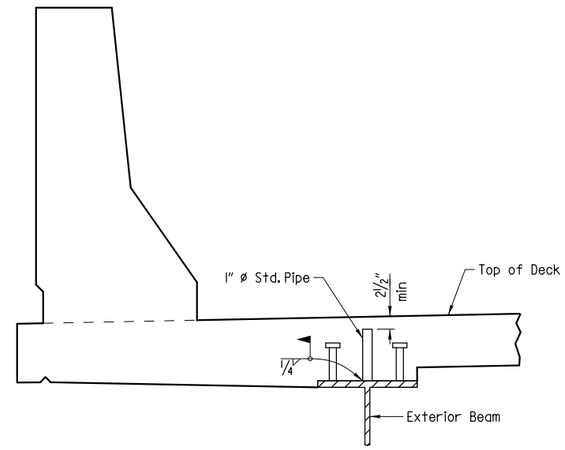
Care shall be exercised so as air voids do not exist in the pipe after placement of the deck concrete.

Welding shall be done by a certified welder.



SECTION AT END BENT

Note:
For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611. Pipe underdrains, outlet protectors, granular materials, drain pipe, filter fabric and polystyrene foam board will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures-Bridge".



SCREED RAIL SUPPORT DETAIL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 4 OF 6
DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
BAYOU DERRISEAUX
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SCR	DATE:	06/2019	FILENAME:	B070415X2_SX4.dgn
CHECKED BY:	SFH	DATE:	07/2019		
DESIGNED BY:	SCR	DATE:	06/2019	SCALE:	As Shown
BRIDGE NO.	07470			DRAWING NO.	61319

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REVISED DATE:

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				JOB NO.		070415	61	76
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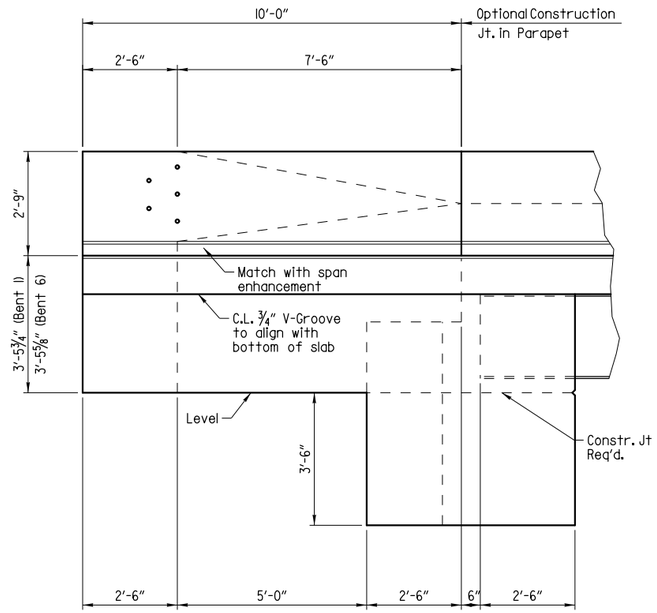
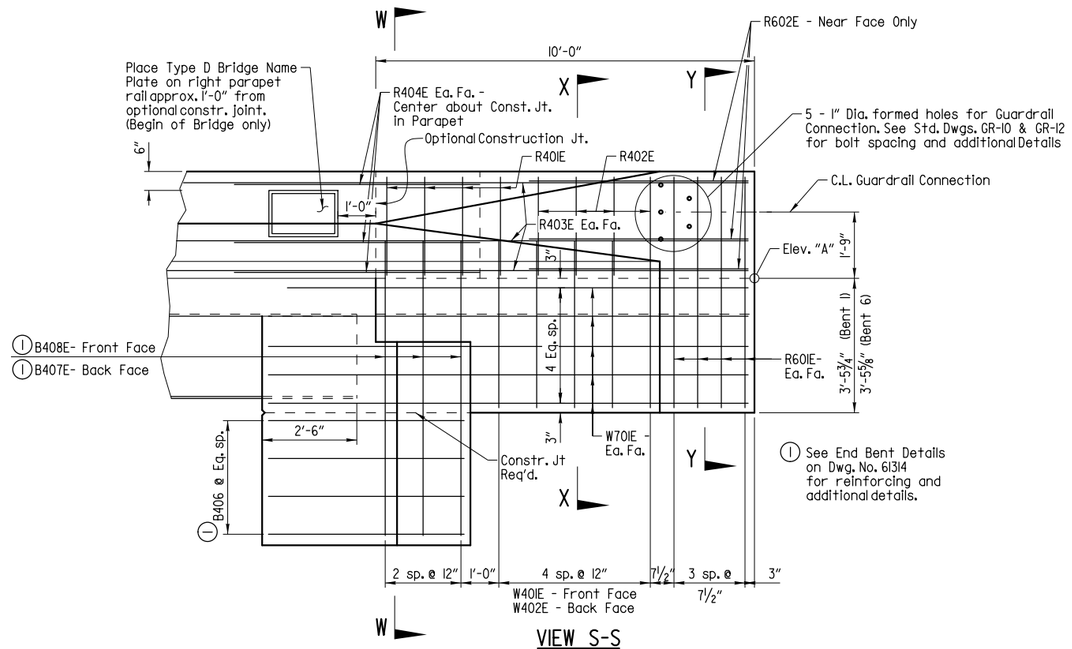


VIEW C-C
½" = 1'-0"

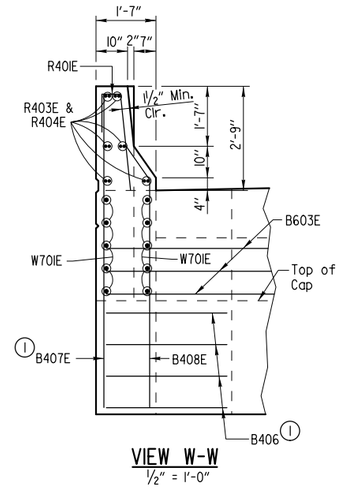


VIEW S-S
½" = 1'-0"

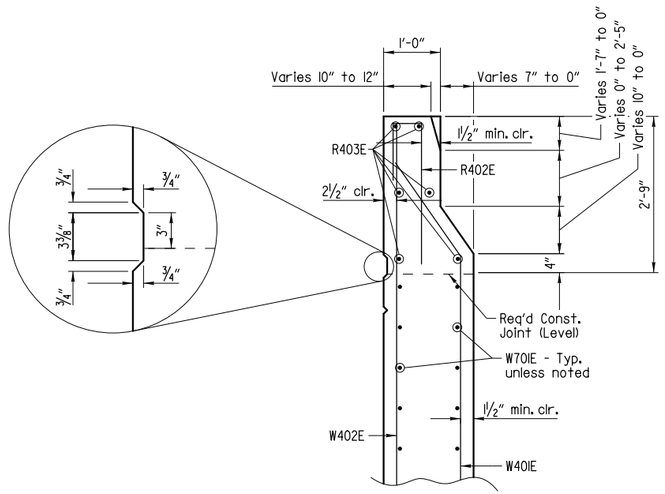
Note:
See Roadway Plans for guardrail locations.

TABLE OF VARIABLES

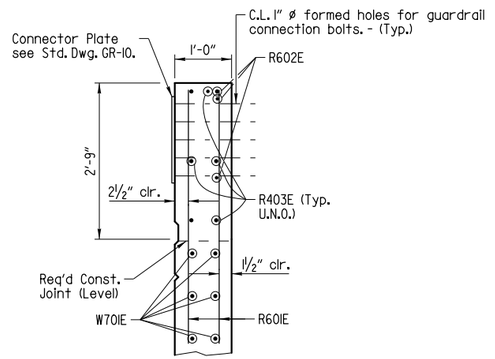
	Bent 1	Bent 6
Elev. "A"	188.07	188.02



VIEW W-W
½" = 1'-0"



VIEW X-X
¾" = 1'-0"



SECTION Y-Y
¾" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 5 OF 6
DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
BAYOU DERRISEAUX
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SCR DATE: 06/2019 FILENAME: B070415X2_SX5.dgn
CHECKED BY: SFH DATE: 07/2019
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BRIDGE NO. 07470 DRAWING NO. 61320

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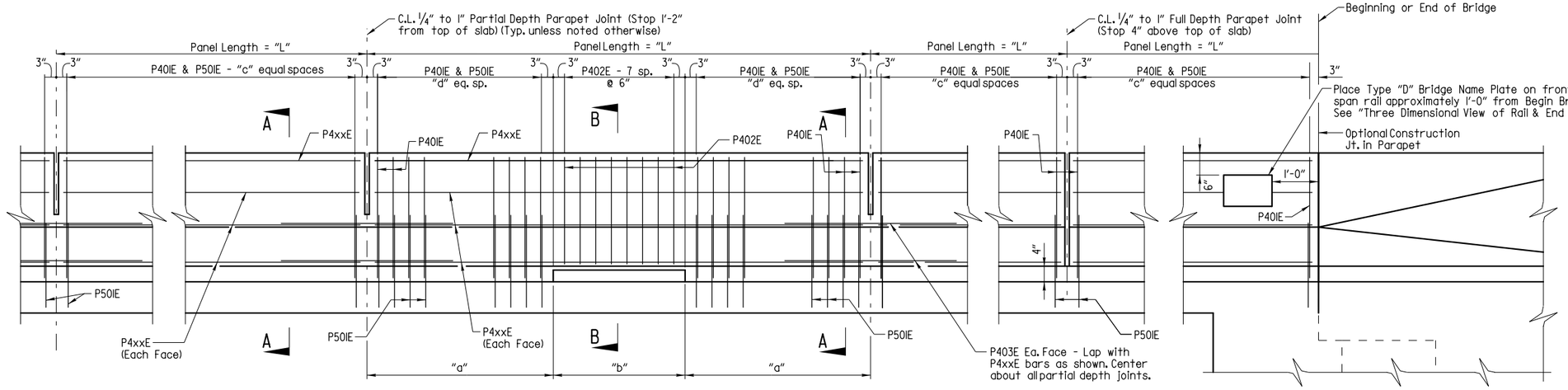
6	ARK.			
JOB NO.		070415	62	76

(1) 07470 - 240'-0" INT. UNIT - 61321



TYPICAL CLOSED PANEL PARAPET RAIL

TYPICAL OPEN PANEL PARAPET RAIL

TYPICAL FULL DEPTH JOINT

TYPICAL END PANEL

PARAPET RAIL VARIABLES

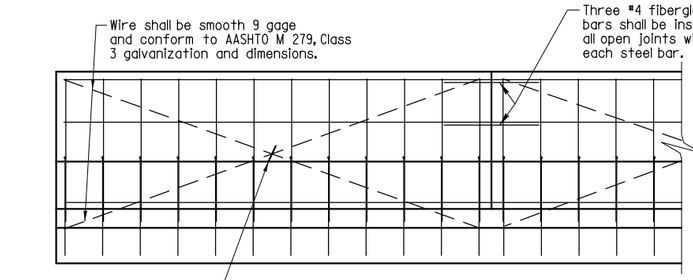
Panel Length "L"	Panel Type	"a"	"b"	"c"	"d"	P4xxE Bars
8'-6"	closed	-----	-----	16	-----	P404E
10'-6"	closed	-----	-----	20	-----	P405E
11'-0"	closed	-----	-----	21	-----	P406E
15'-0"	open	5'-6"	4'-0"	-----	10	P407E

Note:
For location of full and partial depth parapet joints, see Dwg. No. 61318.

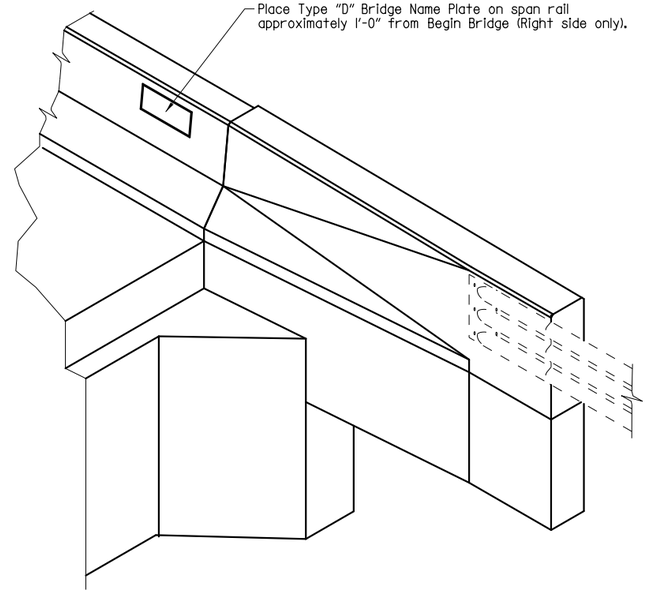
ELEVATION - CONCRETE PARAPET RAIL

(As viewed from roadway side of Parapet)

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

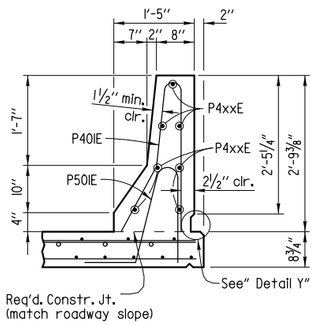


All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

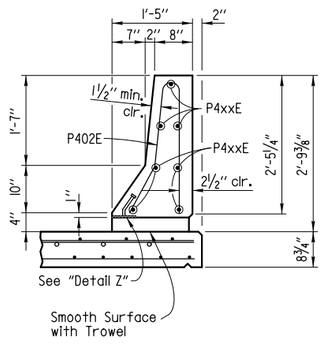


THREE DIMENSIONAL VIEW OF RAIL & END BENT

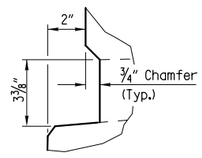
DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL



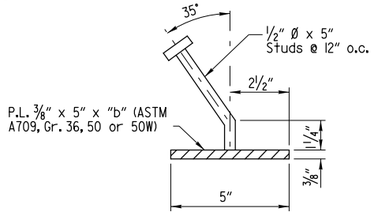
SECTION A-A



SECTION B-B



DETAIL Y



DETAIL Z

Note:
Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel in Beam Spans (ASTM A709, Gr. 50W)". The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638 or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (ASTM A709, Gr 50W)"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14501
STEPHEN E. HARPER
10/27/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

SHEET 6 OF 6
DETAILS OF 240'-0" CONTINUOUS INTEGRAL W-BEAM UNIT
BAYOU DERRISEAUX
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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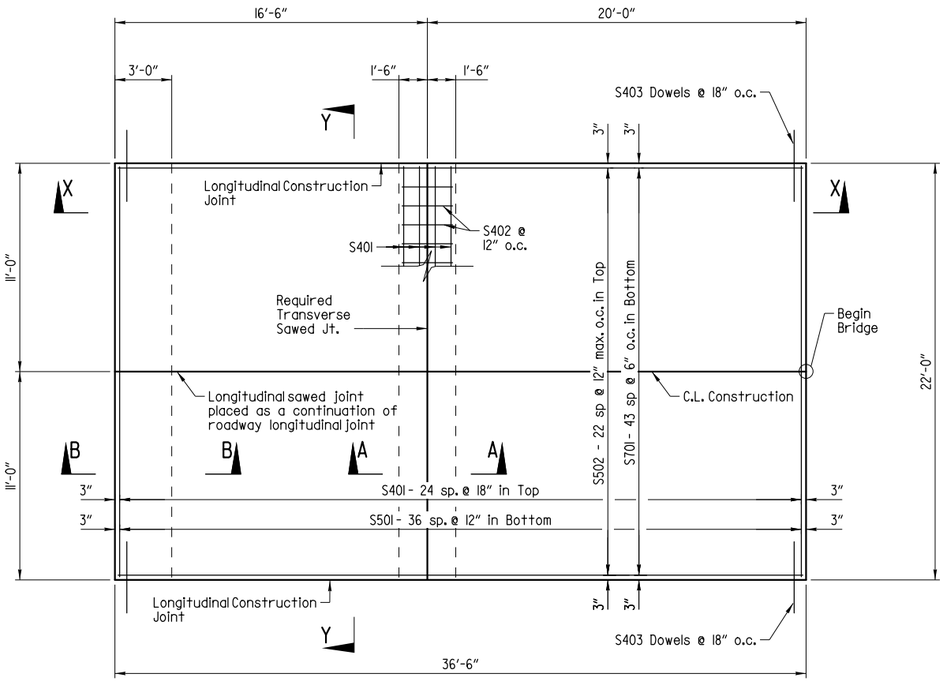
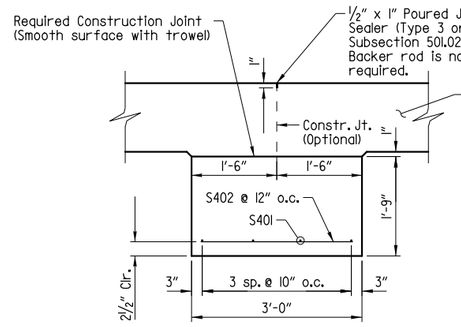
				JOB NO.		070415	63	76

(1) 07469 & 07470 - APPROACH SLAB - 61322



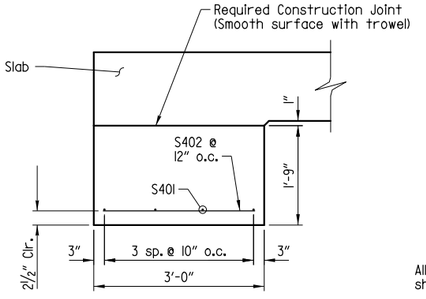
PLAN

(Shown for Begin Bridge - End Bridge Similar)
1/4" = 1'-0"



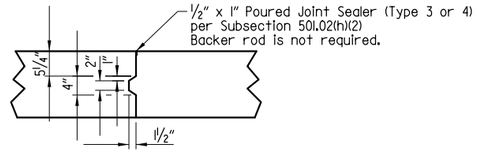
SECTION A-A

3/4" = 1'-0"



SECTION B-B

3/4" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

3/4" = 1'-0"

GENERAL NOTES

All concrete shall be Class S(AE) (f'c = 4,000 psi) and shall be poured in the dry.

Reinforcement Steel shall conform to AASHTO M 31 or M 322, Type A with Mill Test Reports, Gr. 60 (fy = 60,000 psi).

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

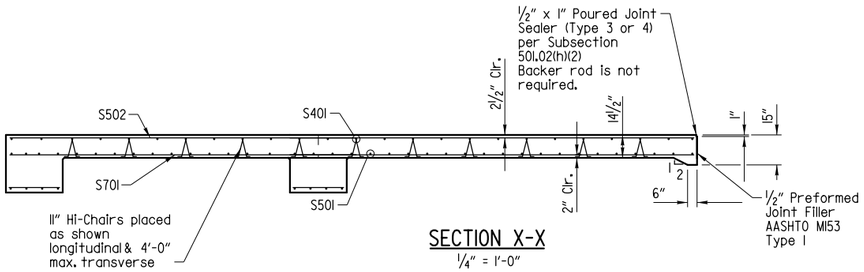
Surface finish for Approach Slabs to match that used on the bridge deck.

QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB

Slab Width	Reinforcing Steel (lbs.)	Concrete (cubic yds)
22'-0"	5,616	44.90

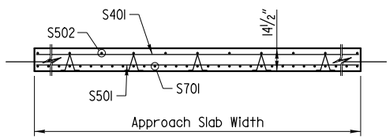
BAR LIST FOR ONE TYPE SPECIAL APPROACH SLAB

MARK	NO. REQ'D.	LENGTH	PIN DIA.
S401	33	21'-8"	Str.
S402	46	2'-8"	Str.
S403	50	3'-0"	Str.
S501	37	21'-8"	Str.
S502	23	36'-2"	Str.
S701	44	36'-2"	Str.



SECTION X-X

1/4" = 1'-0"



SECTION Y-Y

(No Scale)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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STEPHEN F. HARPER

10/21/2020

BRIDGE ENGINEER
PRINT DATE: 10/26/2020

DETAILS OF TYPE SPECIAL APPROACH SLAB

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

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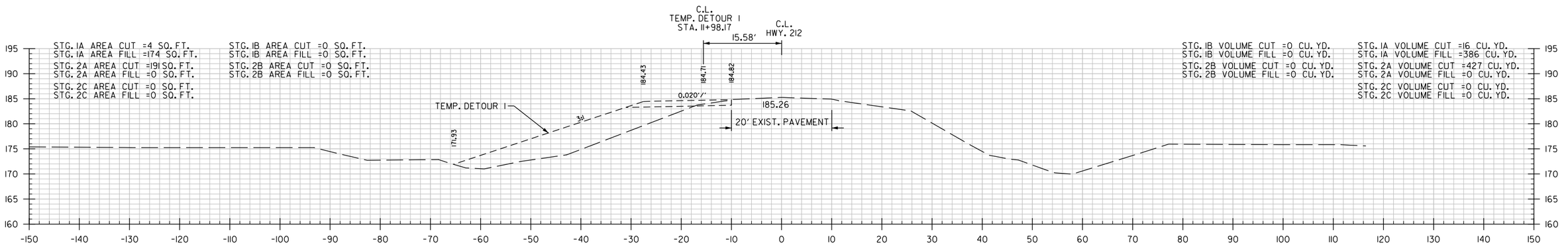
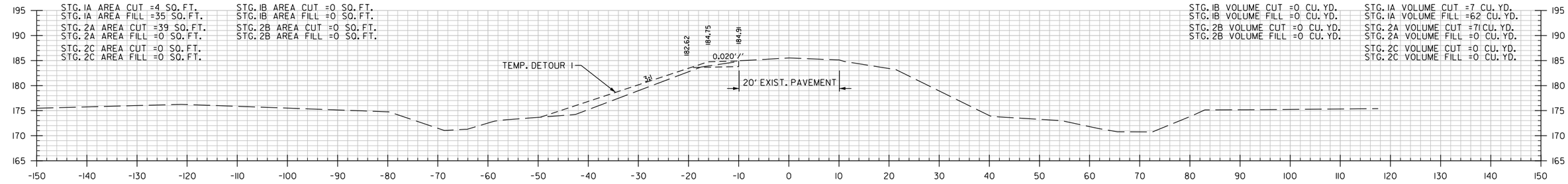
				JOB NO.		070415	64	76
				(2)	CROSS SECTIONS			

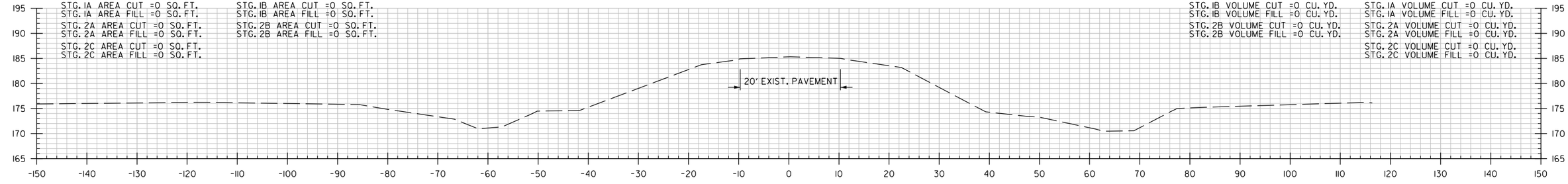


100+00.00

BEGIN 100' TRANSITION
TEMP. DETOUR 1 STA. 10+97.08



99+00.00



98+03.04

C.L. TEMP. DETOUR 1 - STA. 10+00.00

STA. 98+03 TO STA. 100+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	65	76
				(2)	CROSS SECTIONS			

STA. 103+25.00
BEGIN SPECIAL DITCH LT. - 0.89%
ELEV. = 171.05

C.L. TEMP. DETOUR 1
STA. 15+00.25

52.41'

C.L. HWY. 212

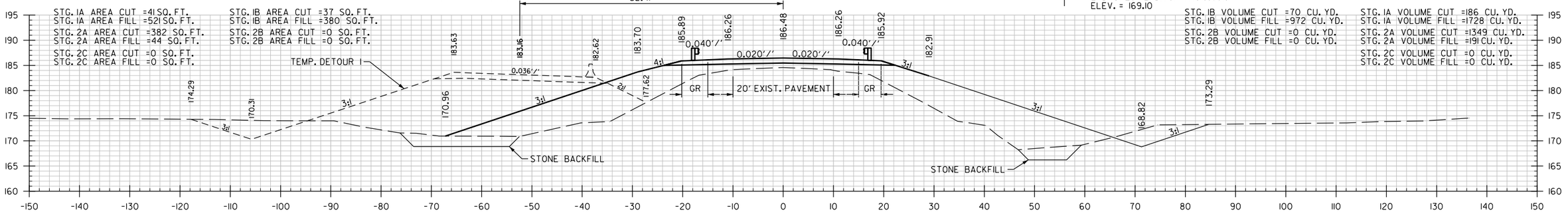
STA. 103+40.00
END SPECIAL DITCH RT. 0.69%
ELEV. = 169.10

STG. 1A AREA CUT =41 SQ. FT.
STG. 1A AREA FILL =521 SQ. FT.
STG. 2A AREA CUT =382 SQ. FT.
STG. 2A AREA FILL =44 SQ. FT.
STG. 2C AREA CUT =0 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. 1B AREA CUT =37 SQ. FT.
STG. 1B AREA FILL =380 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =0 SQ. FT.

STG. 1B VOLUME CUT =70 CU. YD.
STG. 1B VOLUME FILL =972 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =0 CU. YD.

STG. 1A VOLUME CUT =186 CU. YD.
STG. 1A VOLUME FILL =1728 CU. YD.
STG. 2A VOLUME CUT =1349 CU. YD.
STG. 2A VOLUME FILL =191 CU. YD.
STG. 2C VOLUME CUT =0 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.



103+00.00

C.L. TEMP. DETOUR 1
STA. 13+99.76

40.13'

C.L. HWY. 212

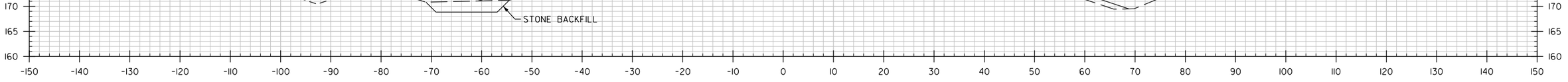
STA. 102+70.00
BEGIN SPECIAL DITCH RT. 0.69%
ELEV. = 168.61

STG. 1A AREA CUT =60 SQ. FT.
STG. 1A AREA FILL =412 SQ. FT.
STG. 2A AREA CUT =346 SQ. FT.
STG. 2A AREA FILL =60 SQ. FT.
STG. 2C AREA CUT =0 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. 1B AREA CUT =0 SQ. FT.
STG. 1B AREA FILL =145 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =0 SQ. FT.

STG. 1B VOLUME CUT =7 CU. YD.
STG. 1B VOLUME FILL =377 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =0 CU. YD.

STG. 1A VOLUME CUT =121 CU. YD.
STG. 1A VOLUME FILL =1292 CU. YD.
STG. 2A VOLUME CUT =1088 CU. YD.
STG. 2A VOLUME FILL =110 CU. YD.
STG. 2C VOLUME CUT =0 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.



102+00.00

C.L. TEMP. DETOUR 1
STA. 13+47.00
BEGIN SPECIAL DITCH LT. -0.15%
ELEV. = 170.54

C.L. TEMP. DETOUR 1
STA. 12+98.13

27.86'

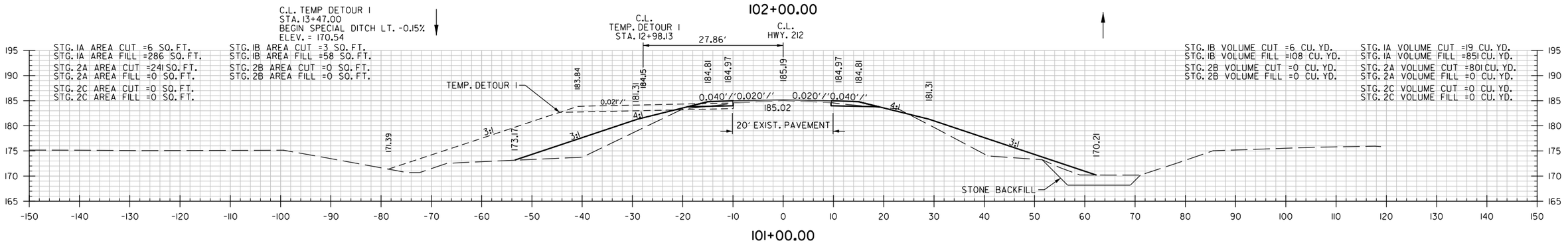
C.L. HWY. 212

STG. 1A AREA CUT =6 SQ. FT.
STG. 1A AREA FILL =286 SQ. FT.
STG. 2A AREA CUT =241 SQ. FT.
STG. 2A AREA FILL =0 SQ. FT.
STG. 2C AREA CUT =0 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. 1B AREA CUT =3 SQ. FT.
STG. 1B AREA FILL =58 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =0 SQ. FT.

STG. 1B VOLUME CUT =6 CU. YD.
STG. 1B VOLUME FILL =108 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =0 CU. YD.

STG. 1A VOLUME CUT =19 CU. YD.
STG. 1A VOLUME FILL =851 CU. YD.
STG. 2A VOLUME CUT =801 CU. YD.
STG. 2A VOLUME FILL =0 CU. YD.
STG. 2C VOLUME CUT =0 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.



101+00.00

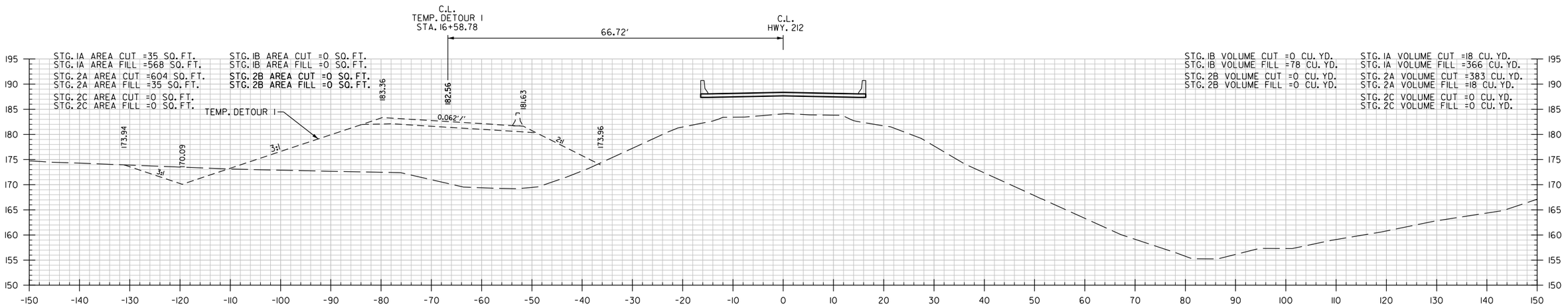
END 100' TRANSITION & BEGIN JOB 070415

NOTE: QUANTITIES AND STATION LIMITS SHOWN IN THE EARTHWORK QUANTITY BOX FOR STONE BACKFILL ARE ESTIMATED BASED OFF OF LOCATIONS SHOWN ON CROSS SECTIONS.

* BEGIN TEMP. DETOUR 1 STA. 10+00.00 OCCURS AT C.L. HWY. 212 STA. 98+03.04. AVERAGE END AREA VOLUME CALCULATIONS ARE BASED ON THIS STATION AND THE FIRST CUT DETOUR STATION 101+00.00. INTERIM SECTION CUTS ARE OMITTED FROM CALCULATIONS.

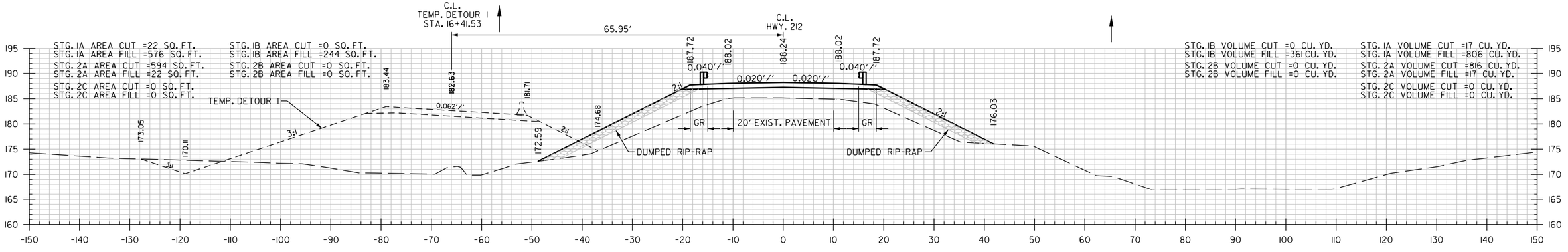
STA. 101+00 TO STA. 103+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	66	76
				(2)	CROSS SECTIONS			



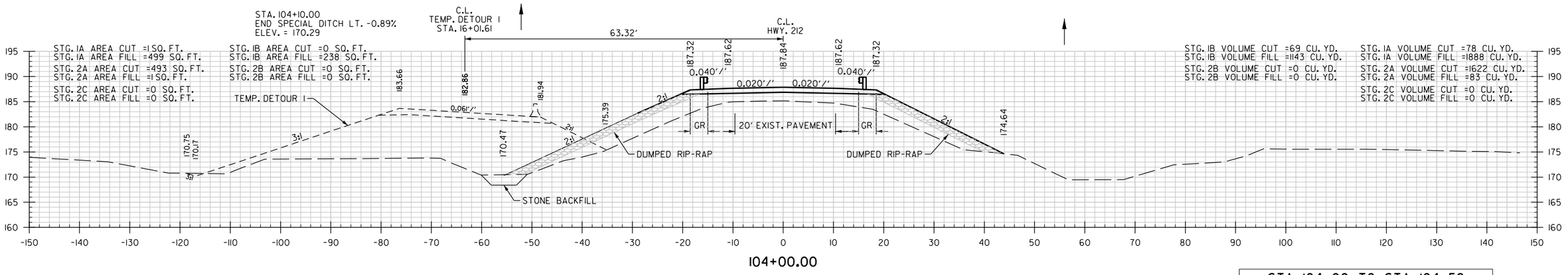
104+57.78

STA. 104+57.78 TOE OF SLOPE



104+40.50

STA. 104+40.50 BEGIN BRIDGE



104+00.00

STA. 104+00 TO STA. 104+58

Scott.Thornsberry@/26/2020 3:46:35 PM
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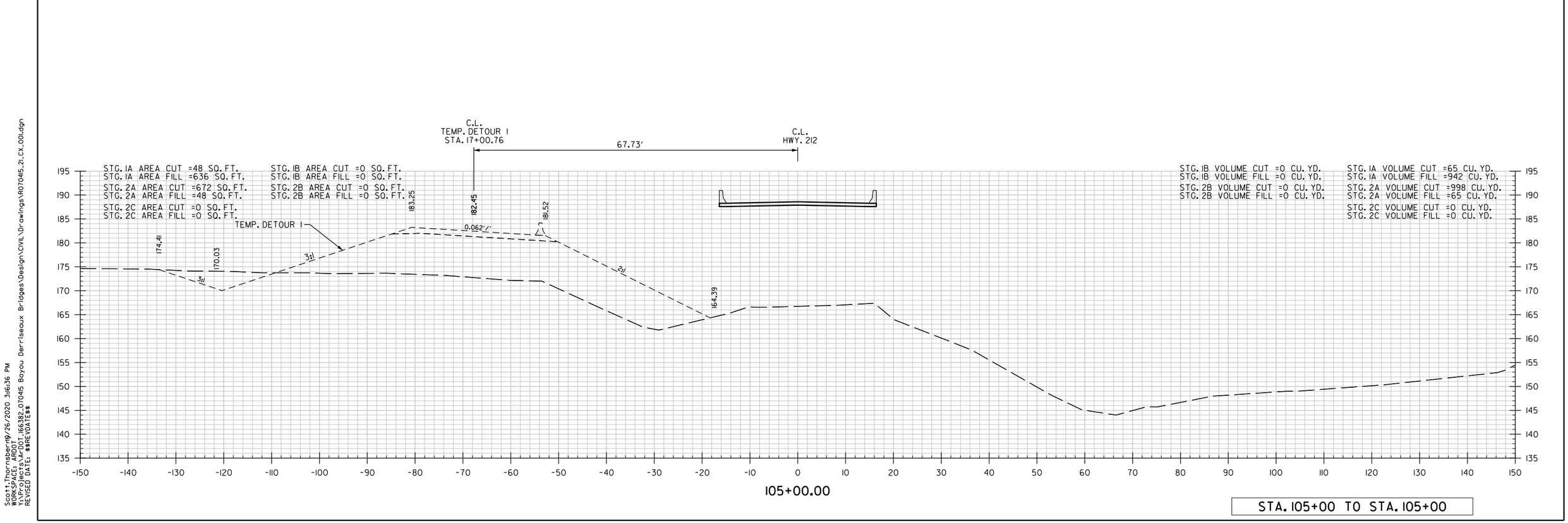
REVISED DATE: $$REVDATE$$

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.		070415	67	76

(2) CROSS SECTIONS



STA. 105+00 TO STA. 105+00

Scott.Thornsberg 9/26/2020 3:16:36 PM
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Y:\Projects\ArDOT_166382_07045 Boyou Derriseaux Bridges\Design\CIVIL\Drawings\R070415_2LCX_001.dgn
REVISED DATE: $$REVDATE$$

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.		070415	68	76
				(2)	CROSS SECTIONS			

C.L. TEMP. DETOUR
STA. 17+52.00
BEGIN SPECIAL DITCH LT. 0.36%
ELEV. = 170.00

STG. IA AREA CUT =0 SQ. FT.
STG. IA AREA FILL =750 SQ. FT.
STG. 2A AREA CUT =786 SQ. FT.
STG. 2A AREA FILL =0 SQ. FT.
STG. 2C AREA CUT =0 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =0 SQ. FT.

C.L. TEMP. DETOUR I STA. 17+52.00

67.26'

C.L. HWY. 212

183.26 182.45 181.53 171.71 170.00

0.062"/'

3:1 2:1

FL IN = 170.00

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =0 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =0 CU. YD.

STG. IA VOLUME CUT =0 CU. YD.
STG. IA VOLUME FILL =638 CU. YD.
STG. 2A VOLUME CUT =664 CU. YD.
STG. 2A VOLUME FILL =0 CU. YD.
STG. 2C VOLUME CUT =0 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.

105+51.49

C.L. TEMP. DETOUR I STA. 17+32.00
INSTALL TRIP. 84" X 82' TEMP. PIPE CULVERT
20° LT. FWD. SKEW

STG. IA AREA CUT =0 SQ. FT.
STG. IA AREA FILL =955 SQ. FT.
STG. 2A AREA CUT =990 SQ. FT.
STG. 2A AREA FILL =0 SQ. FT.
STG. 2C AREA CUT =0 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =0 SQ. FT.

C.L. TEMP. DETOUR I STA. 17+32.00

67.66'

C.L. HWY. 212

183.24 182.43 181.50 171.12 167.19

0.062"/'

3:1 2:1

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =0 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =0 CU. YD.

STG. IA VOLUME CUT =9 CU. YD.
STG. IA VOLUME FILL =490 CU. YD.
STG. 2A VOLUME CUT =509 CU. YD.
STG. 2A VOLUME FILL =9 CU. YD.
STG. 2C VOLUME CUT =0 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.

105+31.29

C.L. TEMP. DETOUR I
STA. 17+22.00
END SPECIAL DITCH LT. -0.15%
ELEV. = 170.00

STG. IA AREA CUT =35 SQ. FT.
STG. IA AREA FILL =867 SQ. FT.
STG. 2A AREA CUT =903 SQ. FT.
STG. 2A AREA FILL =35 SQ. FT.
STG. 2C AREA CUT =0 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =0 SQ. FT.

C.L. TEMP. DETOUR I STA. 17+17.46

67.78'

C.L. HWY. 212

183.24 182.43 181.50 173.64 170.01 167.04 166.72

0.062"/'

3:1 2:1

FL OUT = 167.04

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =0 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =0 CU. YD.

STG. IA VOLUME CUT =26 CU. YD.
STG. IA VOLUME FILL =467 CU. YD.
STG. 2A VOLUME CUT =489 CU. YD.
STG. 2A VOLUME FILL =26 CU. YD.
STG. 2C VOLUME CUT =0 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.

105+16.77

STA. 105+17 TO STA. 105+51

Scott.Thornsberry@9/26/2020 3:16:38 PM
WORKSPACE: ARDOT
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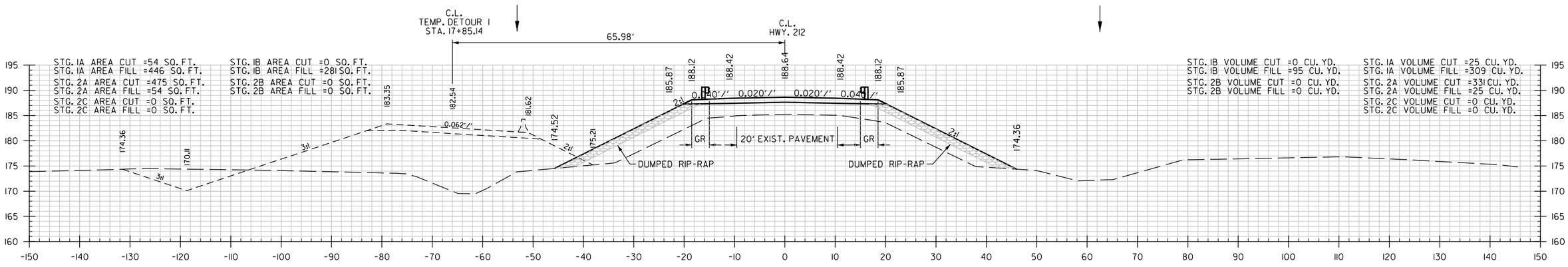
REVISED DATE: $$REVDATE$$

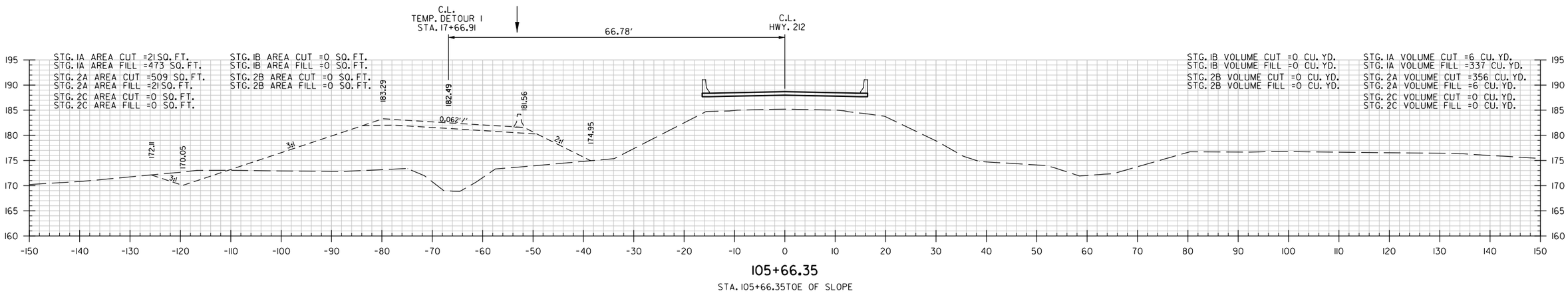
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070415	69	76

(2) CROSS SECTIONS



105+84.50

STA. 105+84.50 END BRIDGE



105+66.35

STA. 105+66.35TOE OF SLOPE

STA. 105+66 TO STA. 105+85

Scott.Thornsberry@9/26/2020 3:16:40 PM
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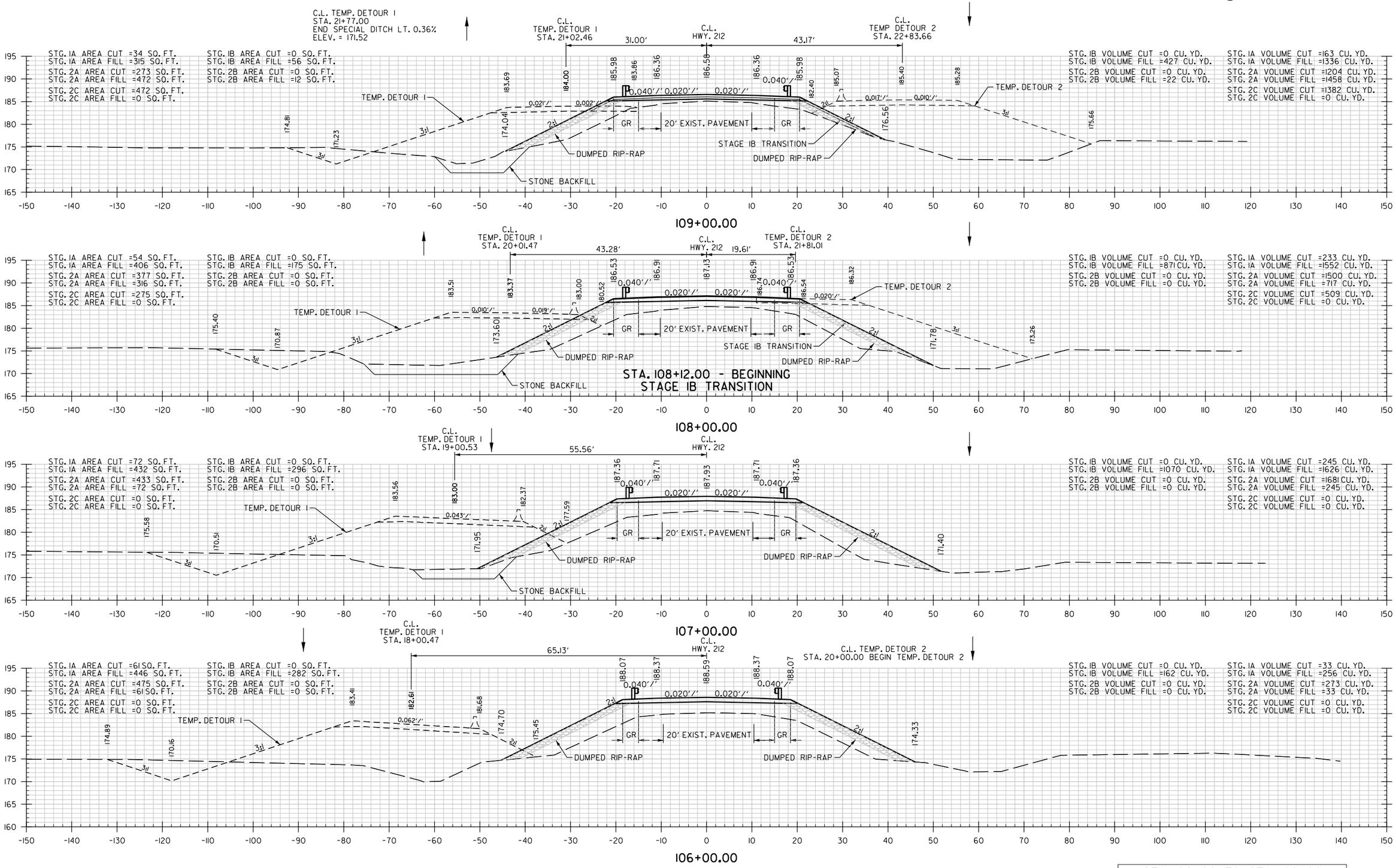
REVISED DATE: $$REVDATE$$

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.		070415	70	76
				(2)	CROSS SECTIONS			



STA. 106+00 TO STA. 109+00

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REVISED DATE: $$REVDATE$$

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.		070415	71	76

(2) CROSS SECTIONS

C.L. TEMP. DETOUR 2
STA. 26+30.00
BEGIN SPECIAL DITCH RT. -0.52%
ELEV. = 175.37

C.L. TEMP DETOUR 2
STA. 26+20.25

90.91'

STG. IA AREA CUT =0 SQ. FT.
STG. IA AREA FILL =0 SQ. FT.
STG. 2A AREA CUT =0 SQ. FT.
STG. 2A AREA FILL =288 SQ. FT.
STG. 2C AREA CUT =322 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =330 SQ. FT.

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =0 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =343 CU. YD.

STG. IA VOLUME CUT =0 CU. YD.
STG. IA VOLUME FILL =0 CU. YD.
STG. 2A VOLUME CUT =0 CU. YD.
STG. 2A VOLUME FILL =352 CU. YD.
STG. 2C VOLUME CUT =392 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.

C.L. HWY. 212
187.92 188.22 188.44 188.22 187.92
0.040'/' 0.020'/' 0.020'/' 0.040'/'
GR 20' EXIST. PAVEMENT GR
2:1 2:1
177.60
165.51
DUMPED RIP-RAP
DUMPED RIP-RAP
STONE BACKFILL

TEMP. DETOUR 2
181.26 182.16 182.90
0.065'/' 0.061'/'
2:1 3:1
172.42 175.56

112+32.50 STA. 112+32.50 BEGIN BRIDGE

C.L. TEMP. DETOUR 1
STA. 24+39.51 END TEMP. DETOUR 1
TEMP. DETOUR 1
STA. 24+04.54

C.L. HWY. 212

89.62'

C.L. TEMP DETOUR 2
STA. 25+87.72

STG. IA AREA CUT =0 SQ. FT.
STG. IA AREA FILL =0 SQ. FT.
STG. 2A AREA CUT =0 SQ. FT.
STG. 2A AREA FILL =296 SQ. FT.
STG. 2C AREA CUT =330 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =240 SQ. FT.

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =0 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =736 CU. YD.

STG. IA VOLUME CUT =9 CU. YD.
STG. IA VOLUME FILL =62 CU. YD.
STG. 2A VOLUME CUT =1 CU. YD.
STG. 2A VOLUME FILL =1276 CU. YD.
STG. 2C VOLUME CUT =1401 CU. YD.
STG. 2C VOLUME FILL =1 CU. YD.

187.69 187.99 188.21 187.99 187.69
0.040'/' 0.020'/' 0.020'/' 0.040'/'
GR 20' EXIST. PAVEMENT GR
2:1 2:1
181.34
165.45
DUMPED RIP-RAP
DUMPED RIP-RAP
STONE BACKFILL

TEMP. DETOUR 2
181.58 182.48 183.21
0.065'/' 0.061'/'
2:1 3:1
173.68 175.86 176.18

112+00.00

TEMP. DETOUR 1
STA. 23+04.14

C.L. HWY. 212

80.97'

C.L. TEMP DETOUR 2
STA. 24+87.32

STG. IA AREA CUT =5 SQ. FT.
STG. IA AREA FILL =33 SQ. FT.
STG. 2A AREA CUT =0 SQ. FT.
STG. 2A AREA FILL =393 SQ. FT.
STG. 2C AREA CUT =427 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =157 SQ. FT.

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =0 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =422 CU. YD.

STG. IA VOLUME CUT =19 CU. YD.
STG. IA VOLUME FILL =370 CU. YD.
STG. 2A VOLUME CUT =192 CU. YD.
STG. 2A VOLUME FILL =1606 CU. YD.
STG. 2C VOLUME CUT =1731 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.

186.83 187.19 187.41 187.19 186.83
184.62
0.040'/' 0.020'/' 0.020'/' 0.040'/'
0.020'/'
GR 20' EXIST. PAVEMENT GR
2:1 2:1 2:1
176.92
171.85
175.95
DUMPED RIP-RAP
DUMPED RIP-RAP

TEMP. DETOUR 1
TEMP. DETOUR 2
182.71 183.59 184.39
0.064'/' 0.060'/'
2:1 3:1
174.07 176.27

111+00.00

C.L. TEMP. DETOUR 1
STA. 22+03.49

18.72'

C.L. HWY. 212

65.17'

C.L. TEMP DETOUR 2
STA. 23+86.06

STG. IA AREA CUT =5 SQ. FT.
STG. IA AREA FILL =166 SQ. FT.
STG. 2A AREA CUT =104 SQ. FT.
STG. 2A AREA FILL =475 SQ. FT.
STG. 2C AREA CUT =508 SQ. FT.
STG. 2C AREA FILL =0 SQ. FT.

STG. IB AREA CUT =0 SQ. FT.
STG. IB AREA FILL =0 SQ. FT.
STG. 2B AREA CUT =0 SQ. FT.
STG. 2B AREA FILL =71 SQ. FT.

STG. IB VOLUME CUT =0 CU. YD.
STG. IB VOLUME FILL =103 CU. YD.
STG. 2B VOLUME CUT =0 CU. YD.
STG. 2B VOLUME FILL =152 CU. YD.

STG. IA VOLUME CUT =72 CU. YD.
STG. IA VOLUME FILL =892 CU. YD.
STG. 2A VOLUME CUT =698 CU. YD.
STG. 2A VOLUME FILL =1753 CU. YD.
STG. 2C VOLUME CUT =1815 CU. YD.
STG. 2C VOLUME FILL =0 CU. YD.

186.10 186.48 186.70 186.48 186.10
184.17 184.53
0.040'/' 0.020'/' 0.020'/' 0.040'/'
0.020'/'
GR 20' EXIST. PAVEMENT GR
2:1 2:1 2:1
176.98 176.37
171.66
173.22
DUMPED RIP-RAP
DUMPED RIP-RAP

TEMP. DETOUR 1
TEMP. DETOUR 2
183.93 184.41 184.81
0.033'/'
2:1 3:1 3:1
176.30

STA. 110+00.00-END
STAGE IB TRANSITION

110+00.00

STA. 110+00 TO STA. 112+33

Scott.Thornsberg@9/26/2020 3:16:43 PM
WORKSPACE: ARDOT
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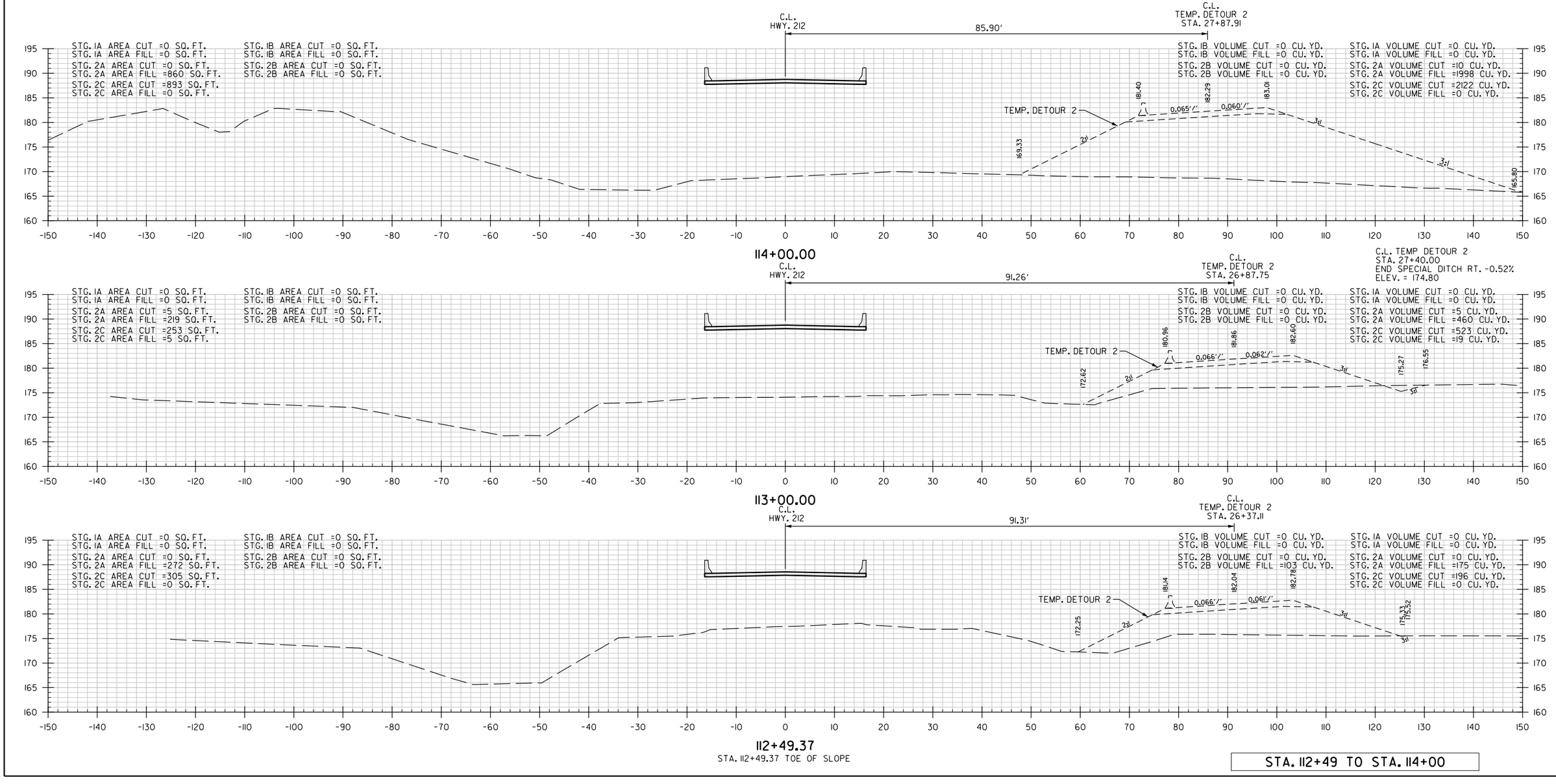
REVISED DATE: $$REVDATE$$

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.		070415	72	76

(2) CROSS SECTIONS



STA. 112+49 TO STA. 114+00

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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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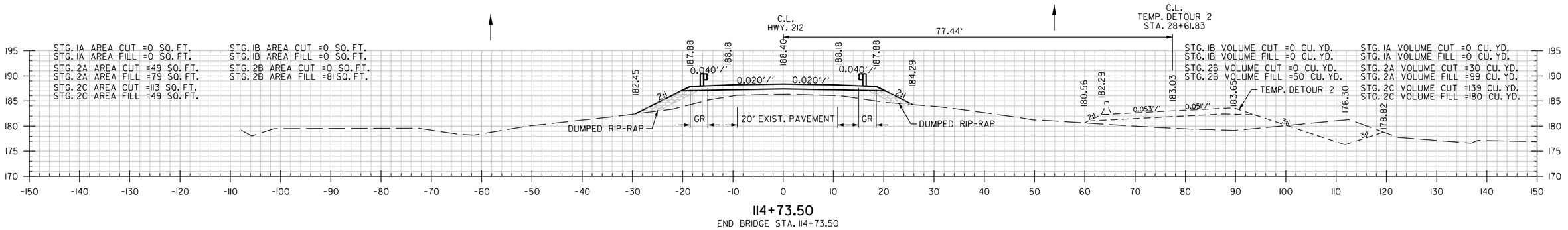
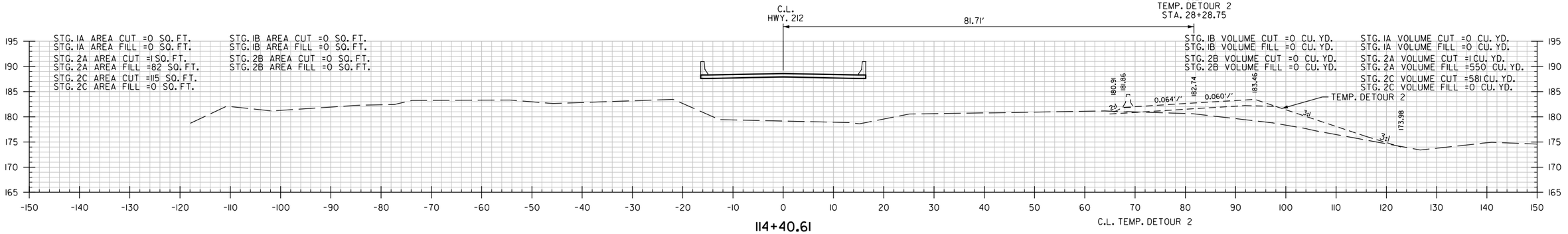
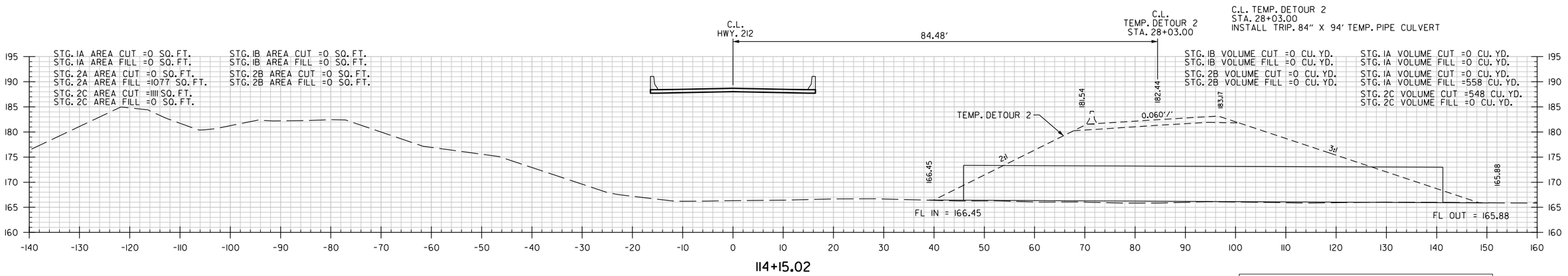


114+73.50
END BRIDGE STA. 114+73.50



114+40.61
BRIDGE TOE OF SLOPE STA. 114+40.61



114+15.02

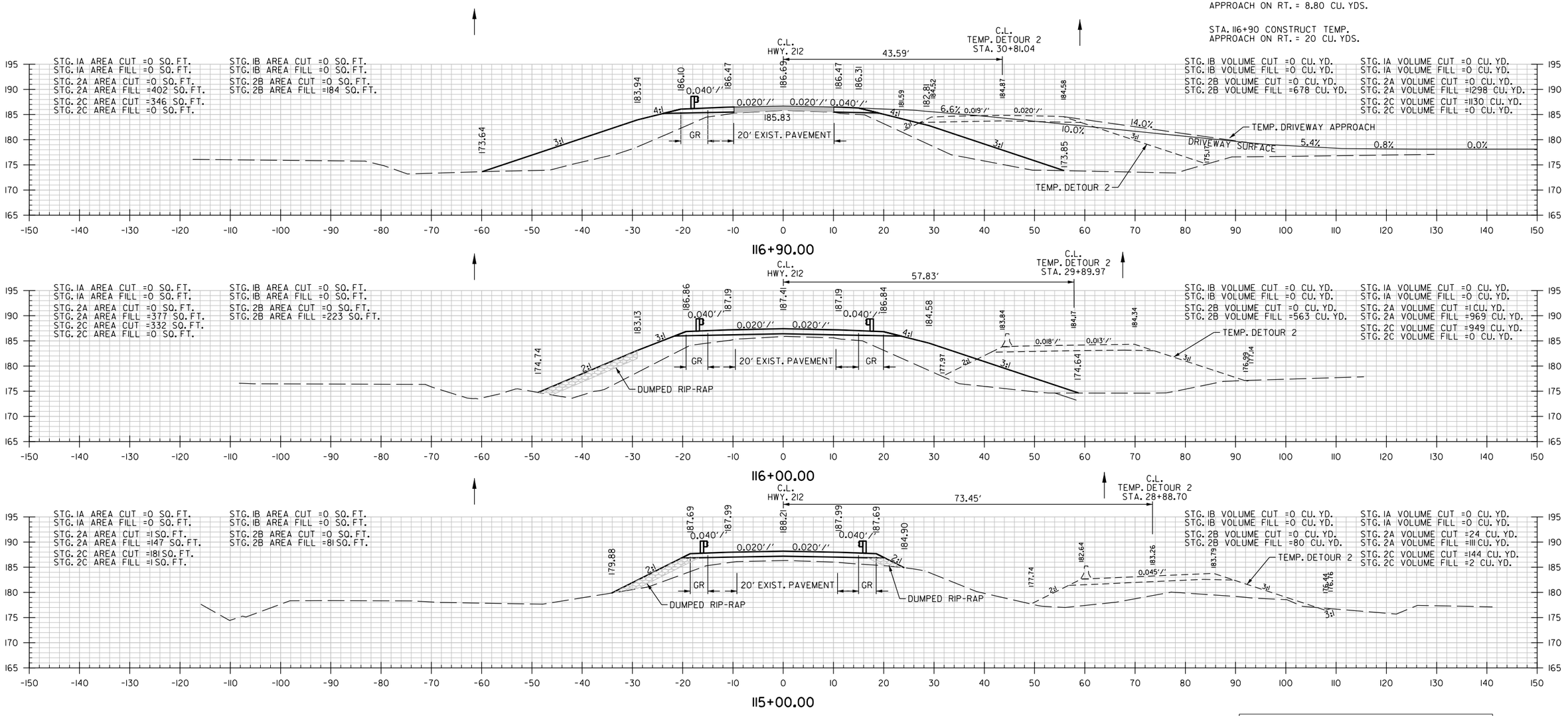
STA. 114+15 TO STA. 114+74

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.		070415	74	76

(2) CROSS SECTIONS

STA. 116+90 CONSTRUCT
APPROACH ON RT. = 8.80 CU. YDS.

STA. 116+90 CONSTRUCT TEMP.
APPROACH ON RT. = 20 CU. YDS.



116+90.00

116+00.00

115+00.00

STA. 115+00 TO STA. 116+90

Scott.Thornsberg@9/26/2020 3:16:47 PM
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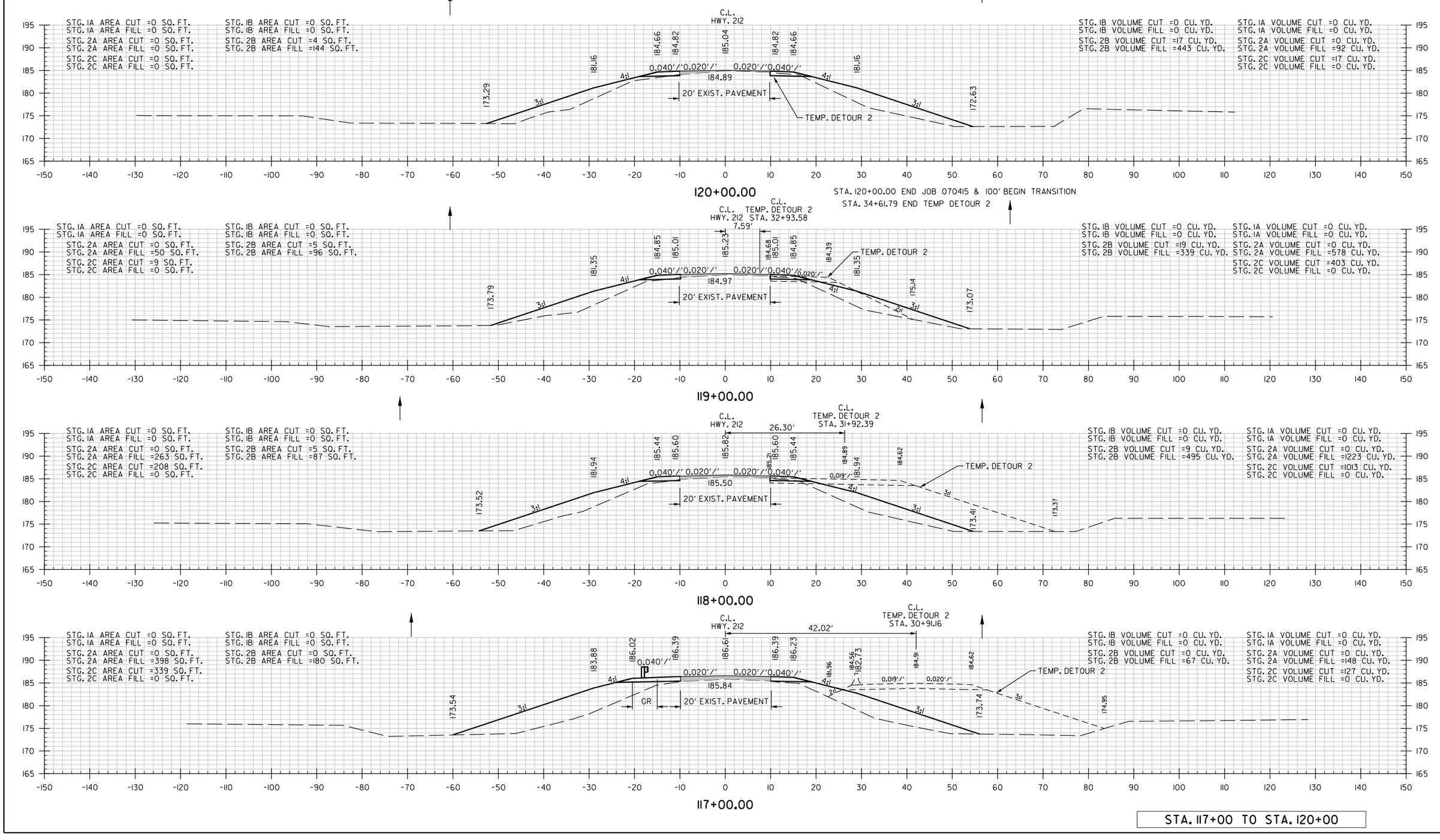
REVISED DATE: $$REVDATE$$

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.		070415	75	76
				(2)	CROSS SECTIONS			



Scott.Thornsberry 9/26/2020 3:16:49 PM
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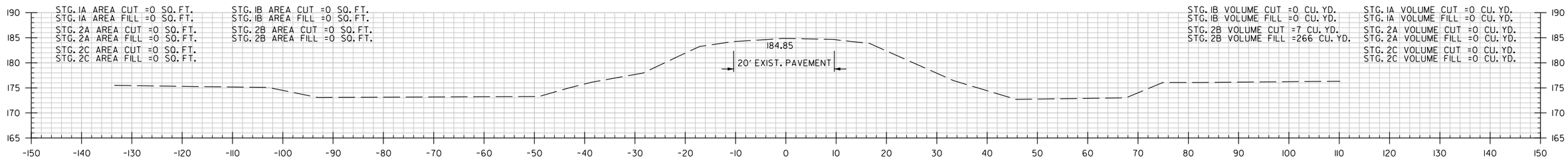
REVISED DATE: $$REVDATE$$

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.		070415	76	76

(2) CROSS SECTIONS

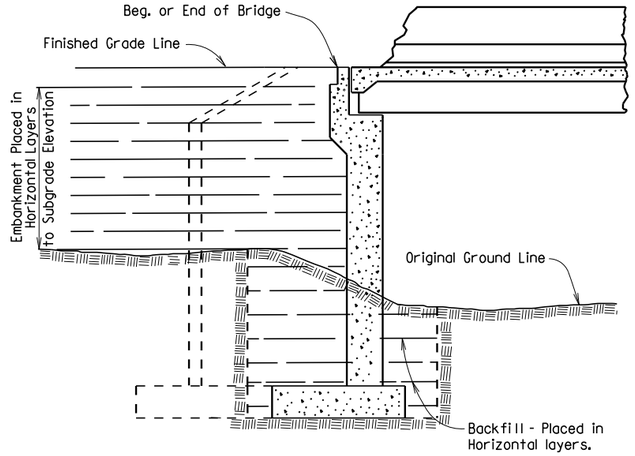


121+00.00
END 100' TRANSITION

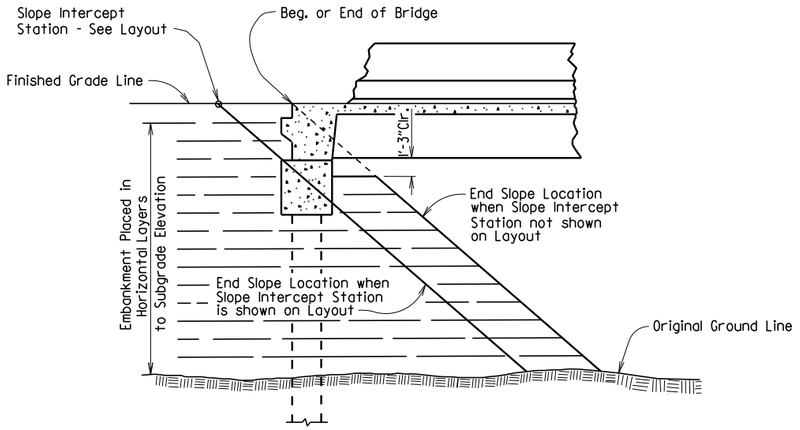
STA. 121+00 TO STA. 121+00

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

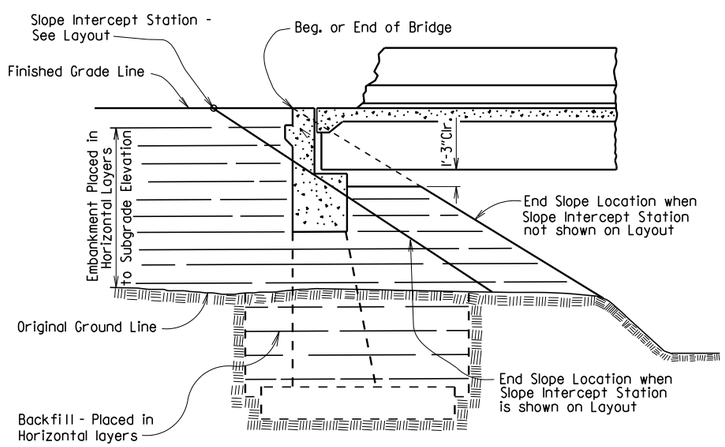
1 EMBANKMENT & BACKFILL 55000



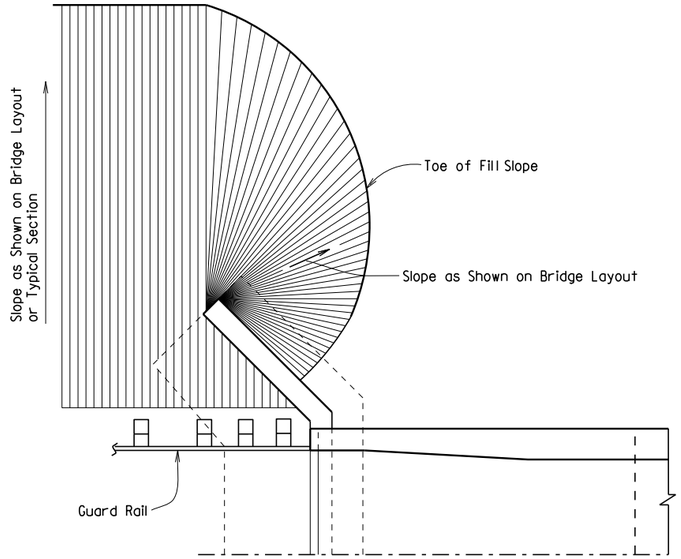
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



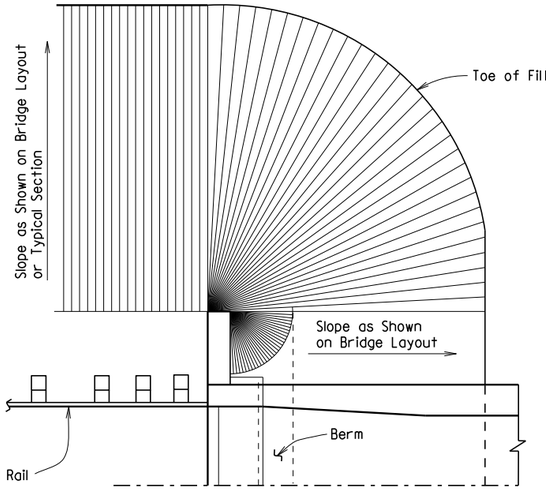
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



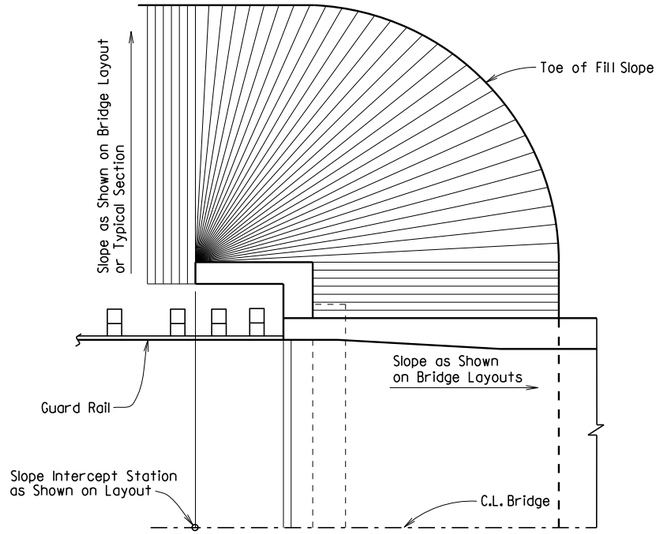
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



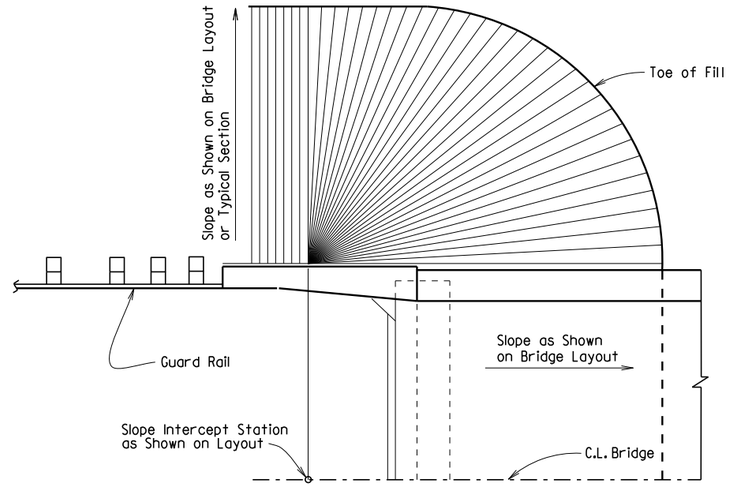
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

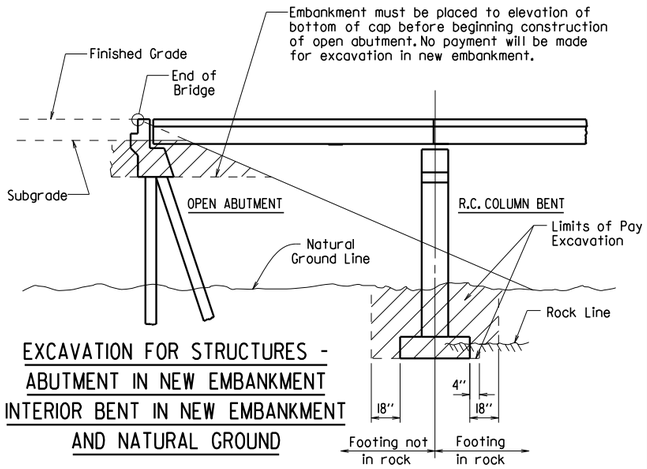
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

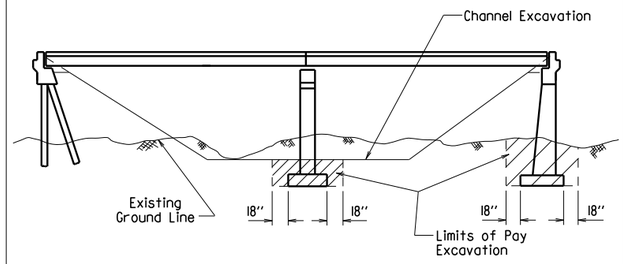
DRAWING NO. 55000

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

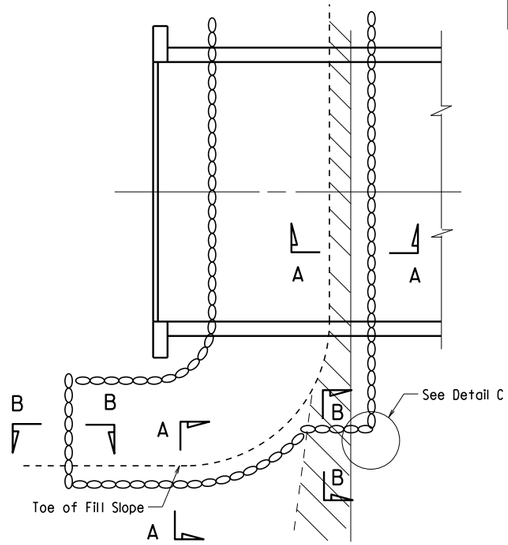
1 RIPRAP & EXCAV. 55001



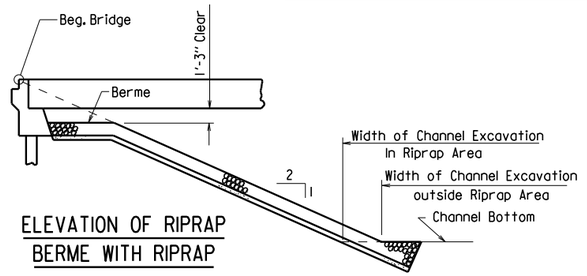
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



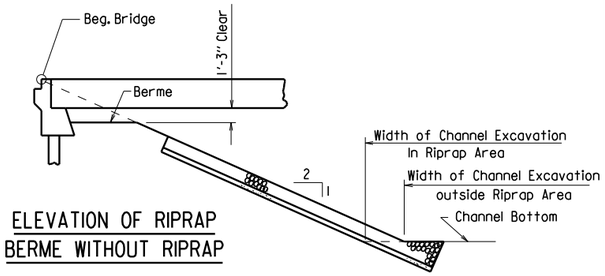
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



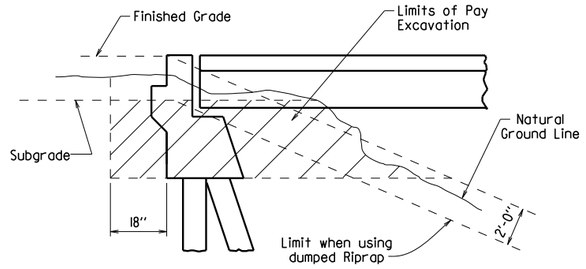
PLAN OF DUMPED RIPRAP



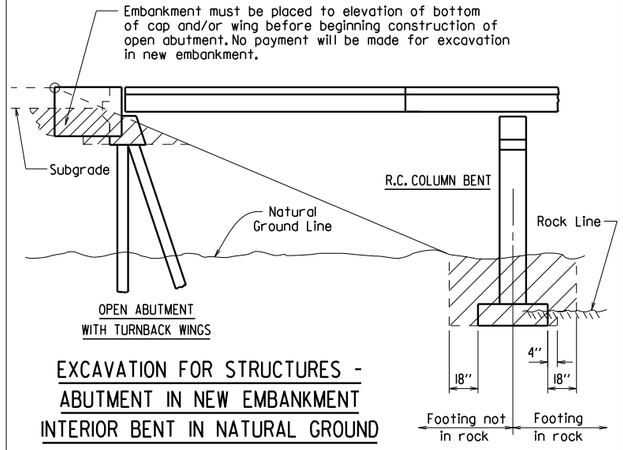
ELEVATION OF RIPRAP BERME WITH RIPRAP



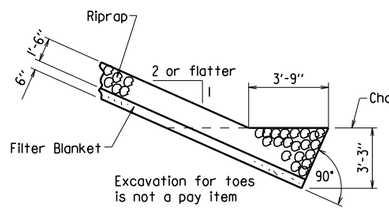
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND

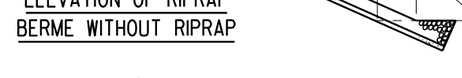


EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND

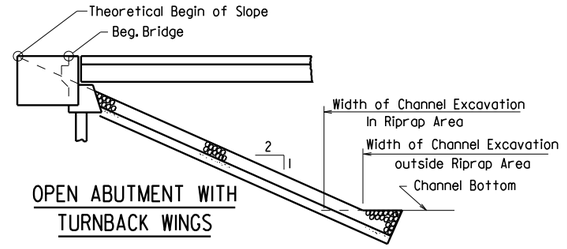


SECTION A-A

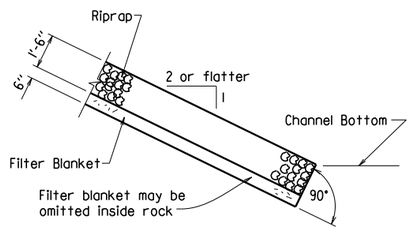
(Toe Excavation in Soil)



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



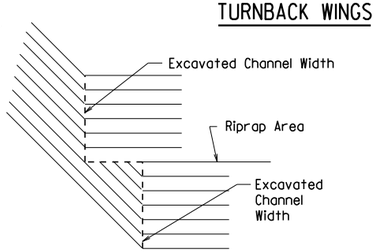
SECTION A-A

(Toe Excavation in Rock)

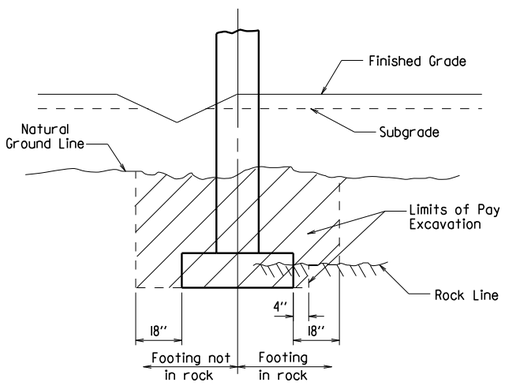
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

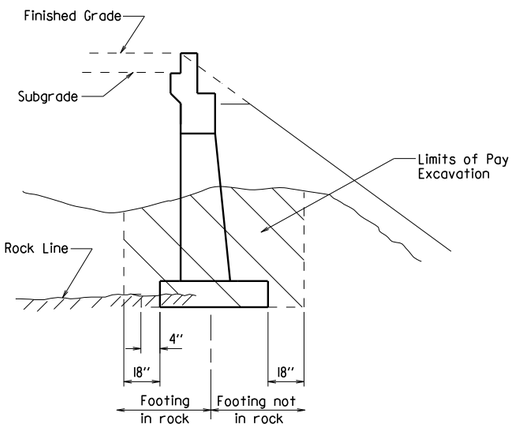
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



DETAIL C



EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

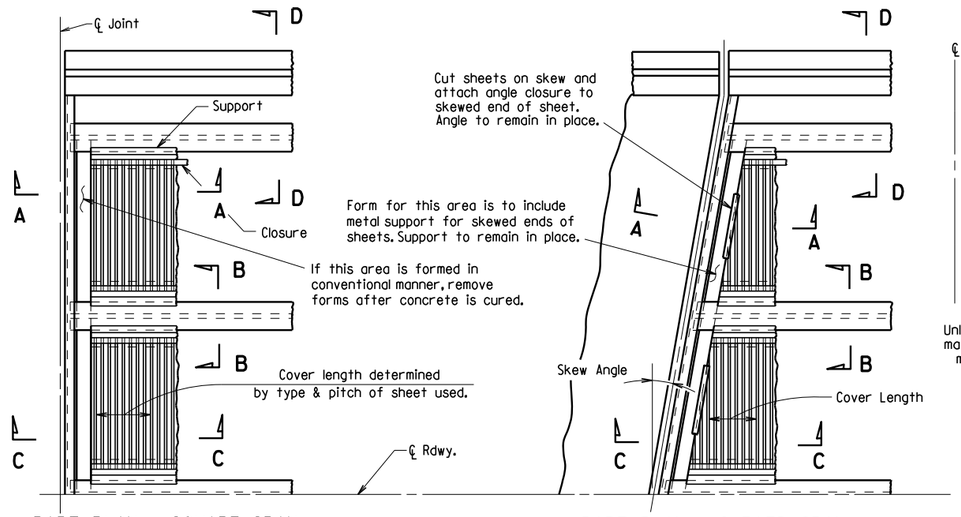
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b5500l.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE:

DRAWING NO. 55001

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				
				①	BRIDGE DECK FORMS		55005	

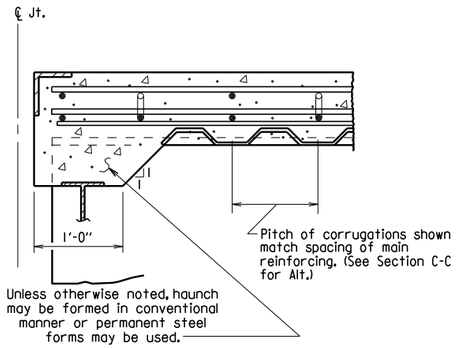


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

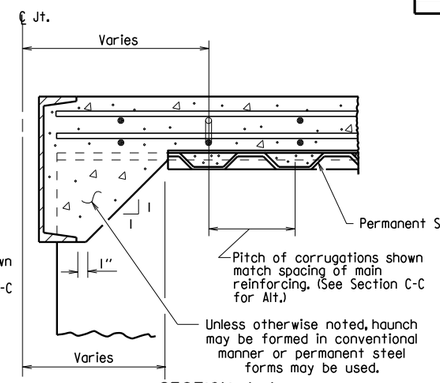
PART PLAN - SKEWED SPAN

3/8" = 1'-0"



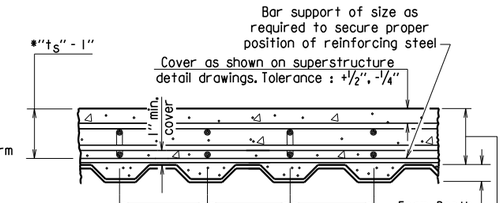
SECTION A-A

N.T.S.
(Angle at end of span)



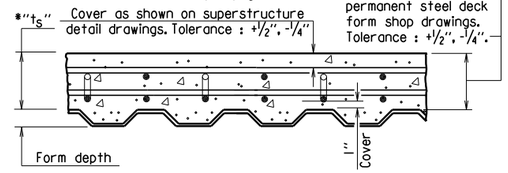
SECTION A-A

N.T.S.
(Channel at end of span)



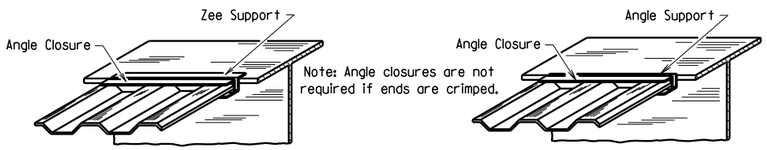
SECTION C-C

1" = 1'-0"



SECTION C-C - ALTERNATE

1" = 1'-0"
(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

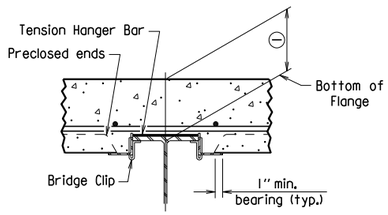
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

③ ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)

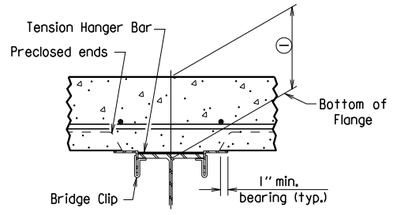
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



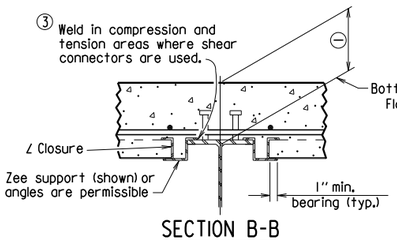
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



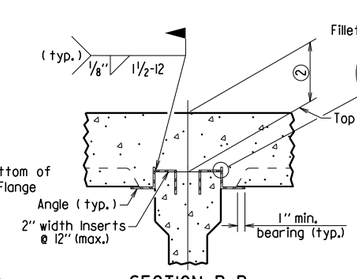
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



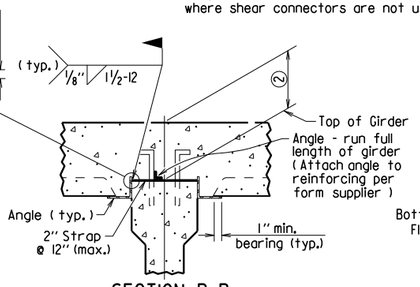
SECTION B-B

1" = 1'-0"
(Showing ∠ Closure)



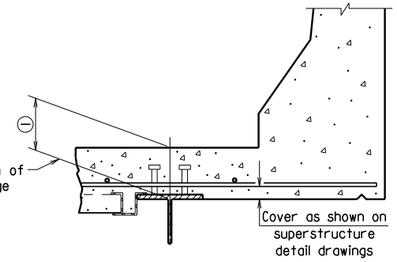
SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Insert cast in girder)



SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Strap)



SECTION D-D

1" = 1'-0"
Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_S + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	KDH	DATE:	2-27-2014	FILENAME:	b55005.dgn
CHECKED BY:	BEF	DATE:	2-27-2014	SCALE:	NONE
DESIGNED BY:	STD.	DATE:	—		

DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①		GENERAL NOTES		55006

GENERAL NOTES

These GENERAL NOTES are applicable unless otherwise shown in the Plan Details, Special Provisions, or Supplemental Specifications.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Specifications.

DESIGN SPECIFICATIONS: See Bridge Layout(s).

SUPERSTRUCTURE NOTES:

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy =	60,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy =	36,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. HPS70W)	Fy =	70,000 psi

See Plan Details for Grade(s) of Structural Steel required.

CONCRETE:

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Use of a longitudinal screed is not permitted on any span of a bridge deck with horizontal curvature.

The concrete deck (roadway surface) shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall receive a broomed finish as specified for final finishing in Subsection 802.19 for Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam or girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment be made in the strike-off to account for the future dead load deflection due to any railings, median barrier, and sidewalks.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports and shall be epoxy coated. 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 "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL (COMMON TO W-BEAMS AND PLATE GIRDERS):

Structural steel shall be AASHTO M 270 with grade and payment as specified in the plans. Grade 50W steel shall not be painted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). Grade 36 and Grade 50 steel shall be painted unless otherwise noted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84. Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Unless otherwise noted, field connections shall be bolted with ¾" ø high-strength bolts using 13/16 " ø open holes. Holes for ¾" ø high-strength bolts may be 15/16 " ø if a washer is supplied for use under both the nut and head of the bolt. The use of oversized holes will not be allowed on main members unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam or girder webs and on the bottom of the beam or girder flanges.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the Manufacturer.

When painting is required, all structural steel except galvanized steel and steel completely encased in concrete shall be painted in accordance with Subsection 807.75. The color of paint shall be as specified in the plans.

STRUCTURAL STEEL (W-BEAMS):

All beams and field splice plates, and all diaphragms and connection plates attached to horizontally curved beams are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. ___)".

All beams in continuous units and simple spans with field splices shall be blocked in their true position in the shop in groups as specified in Subsection 807.54(b)(2) with the webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All beams in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Bent plate diaphragms for horizontally curved beams shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight beams may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved beams.

Unless otherwise noted, diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

STRUCTURAL STEEL (PLATE GIRDERS):

All references to cross-frames shall include "X" or "K" types.

All girder web and flange plates, all field splice plates, and all diaphragms, cross-frames and connection plates attached to horizontally curved girders are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

All girders in continuous units and simple spans with field splices shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All girders in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Web and flange plates for main members and flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with minimum lengths of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with minimum lengths of 25 feet for sections. No additional payment will be made for shop welded splices.

All girder dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Groove welds in web and flange plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Q.C. testing shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

Bent plate diaphragms for horizontally curved girders shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight girders may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved girders.

Unless otherwise noted, cross-frames and diaphragms shall be installed as girders are erected. All bolts in cross-frames, diaphragms, and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

SUBSTRUCTURE NOTES:

CONCRETE:

Unless otherwise noted, concrete in caps, columns and footings (except seal footings) shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. Seal Concrete for footings shall have a minimum 28 day compressive strength f'c = 2,100 psi.

Concrete in drilled shafts shall be Class "S" as modified by Job SP "Drilled Shaft Foundations".

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

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

STRUCTURAL STEEL:

Structural steel in end bents shall be AASHTO M 270 with grade and payment as specified in the plans.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

STANDARD GENERAL NOTES
FOR STEEL BRIDGE STRUCTURES

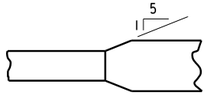
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 9-2-2015 FILENAME: b55006.dgn
CHECKED BY: B.E.F. DATE: 9-2-2015 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55006

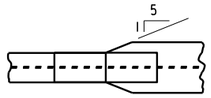
PRINT DATE: 11/7/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	STEEL BRIDGE STRUCTURES 55007			

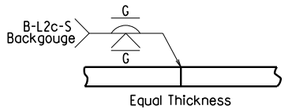


Plan-Unequal Width (Flg.)

FLANGE SPLICE

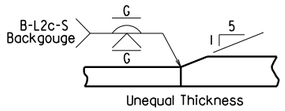


FLANGE SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS



Equal Thickness

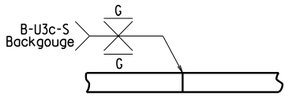
WEB & FLANGE SPLICE



Unequal Thickness

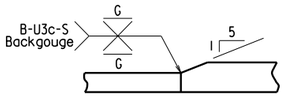
FLANGE SPLICE

(Use when Base Metal Thickness is Equal to or Less than 2")



Equal Thickness

WEB & FLANGE SPLICE

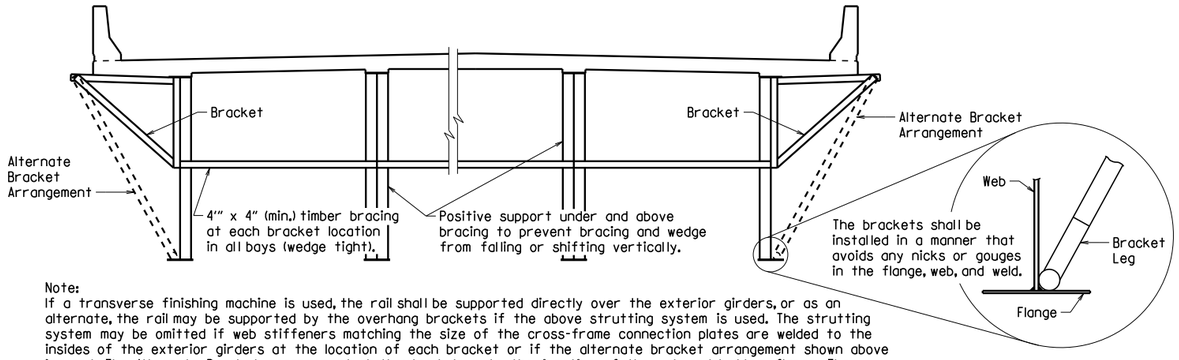


Unequal Thickness

FLANGE SPLICE

(Use when Base Metal Thickness is Greater than 2")

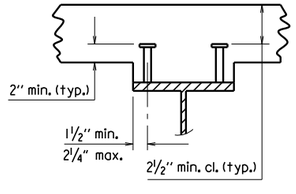
DETAILS OF WELDED SPLICES FOR PLATE GIRDERS



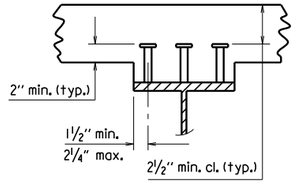
Note:
If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if web stiffeners matching the size of the cross-frame connection plates are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for cross frame connection plates shown on the plans. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (___)".

SCREED RAIL SUPPORT FOR PLATE GIRDERS

(USE WHEN WEB DEPTHS ARE 48" OR GREATER)



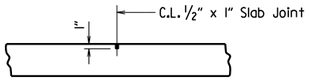
2 STUDS PER ROW



3 STUDS PER ROW

Stud Shear Connectors shall be automatically end welded to the beam or girder flange in accordance with the recommendations of the Manufacturer. See plan details for number and size.

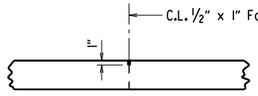
SHEAR CONNECTOR DETAIL



Use Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab Joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.

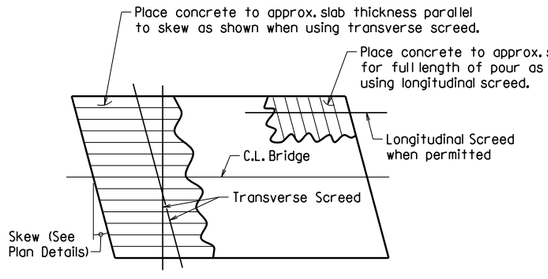
ADDITIONAL NOTES IF SIDEWALKS OR RAISED MEDIANS ARE REQUIRED:
Slab Joints shall be installed before the sidewalk or raised median is poured. After installation of the joint in the sidewalk or raised median and prior to pouring the parapet rail, the joint sealer shall be placed extending across the deck slab from gutterline to gutterline and acrosss the top of the sidwalk or raised median to the edge of the slab. No joint sealer shall be placed on the deck slab under the sidewalk or raised median.

TRANSVERSE SLAB JOINT DETAIL



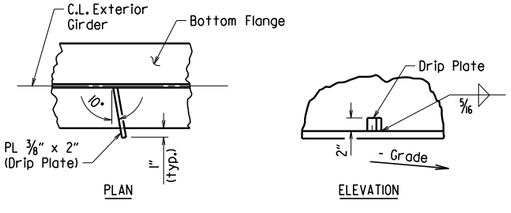
Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal color shall be gray or other color similar to concrete.

LONGITUDINAL CONSTRUCTION JOINT



Note: At the Contractor's option, the transverse screed may be placed parallel to the skew or perpendicular to C. L. Bridge.

CONCRETE PLACEMENT PROCEDURE FOR BRIDGES WITH SKEW



PLAN

ELEVATION

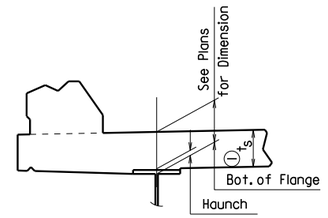
Drip Plate to be welded to the outer side of the bottom flange of the exterior girders.

Locate drip plate 5'-0" from C.L. Bearing on high side of each Bent, unless otherwise noted in the plans.

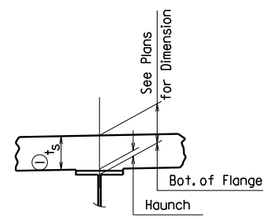
BOTTOM FLANGE DRIP PLATE

(USE WHEN WEB DEPTHS ARE 54" OR GREATER AND UNIT OR SPAN IS NOT IN LEVEL GRADE)

t_s = slab thickness. See "Typical Roadway Section" in the plans.



EXTERIOR BEAM OR GIRDER



INTERIOR BEAM OR GIRDER

① Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

NOTES:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾" unless otherwise noted in the plans. No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

BRIDGES IN NORMAL CROWN

WELD TABLE

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	⅝"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2/11/2016 FILENAME: b55007.dgn

CHECKED BY: AMS DATE: 2/11/2016 SCALE: No Scale

DESIGNED BY: STD. DATE: —

DRAWING NO. 55007

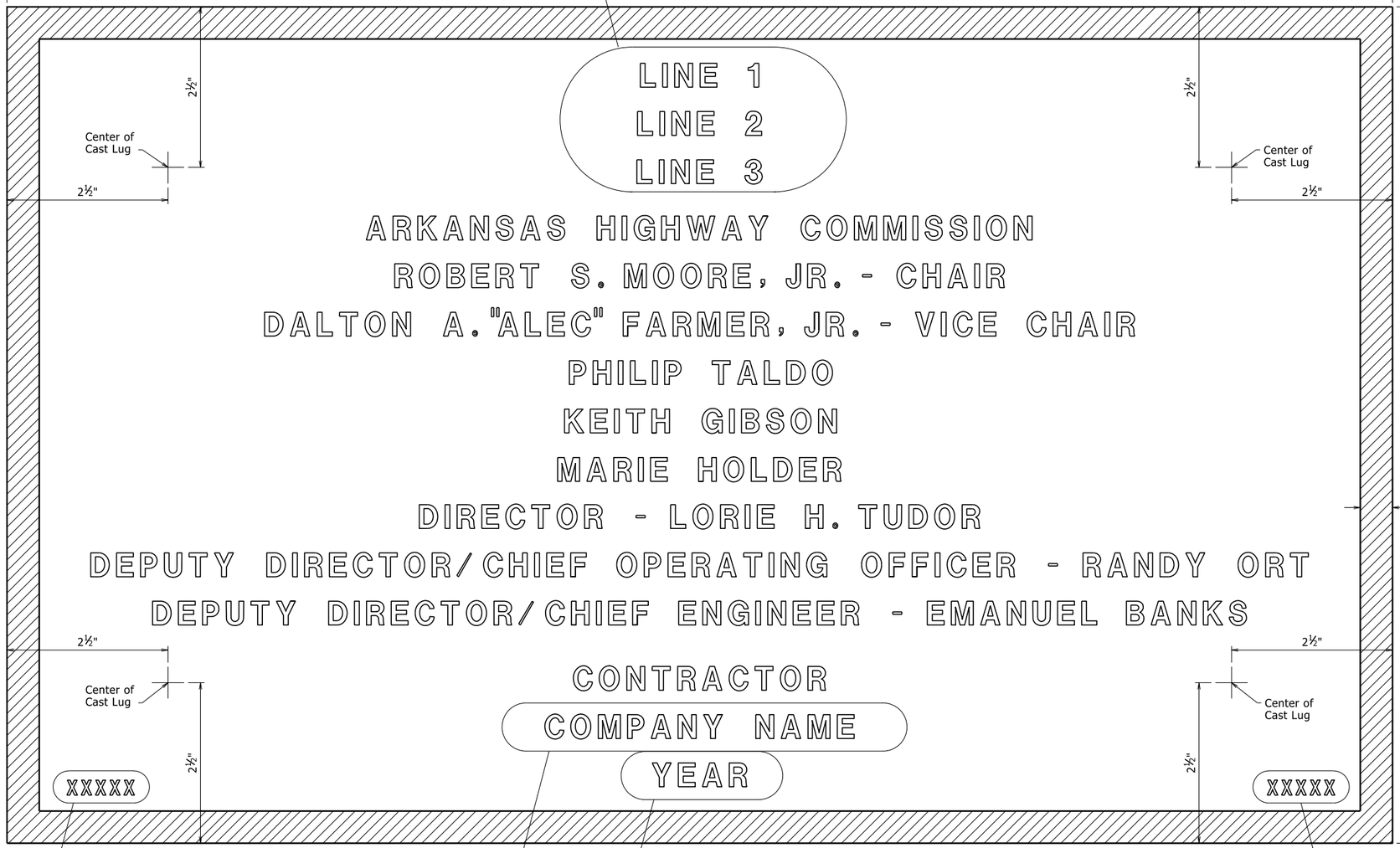
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
12-1-14		1-15-19	
1-14-15		3-24-2020	
1-17-17			

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

(1) TYPE D NAME PLATE - 55010

The name of the bridge as shown on the plans shall be placed on Lines 1-3 using ⅛" raised letters and numerals ⅜" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



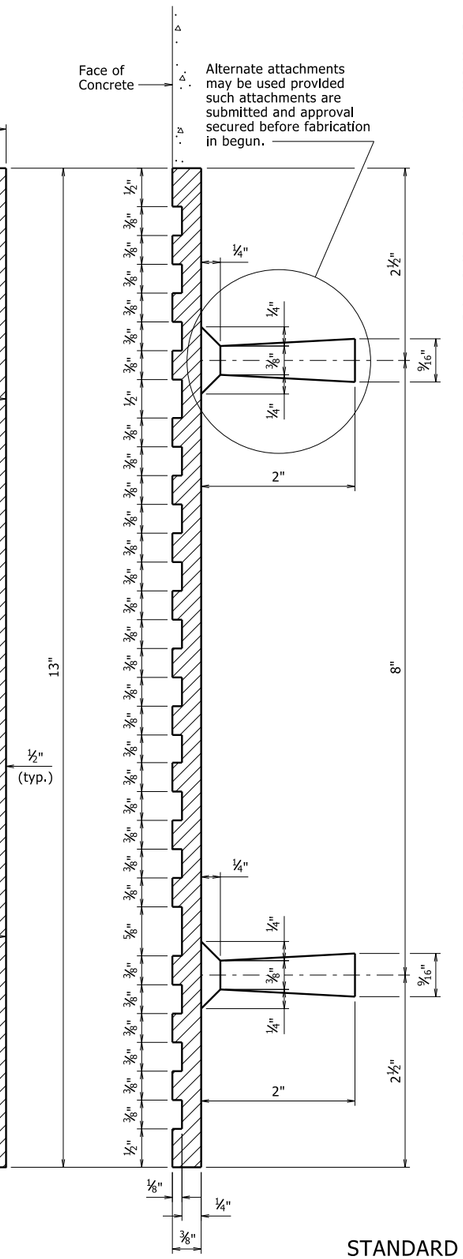
Place the design live loading here using ⅛" raised letters and numerals ¼" high. Examples: HS20, HL-93

Place the Year in which Contract was awarded here using ⅛" raised numerals ⅜" high. Example: 2001

Place the name of the company awarded the construction contract here using ⅛" raised letters and numerals ⅜" high. Example: ABCD CONSTRUCTION, INC.

Place the Bridge number here using ⅛" raised letters and numerals ¼" high. Examples: A1234, 05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be ¼" thick and shall include four tapering cone lugs ⅜" to 9/16" x 2" long. The border and all lettering shall be raised ⅛" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

(5) Revised Director, Deputy Director/Chief Operating Officer, Chair, Vice Chair and added New Commissioner
3-24-2020 CGP Checked By: CRE

(4) Revised Chair and Vice Chair Added New Commissioner
1-15-19 CGP Checked By: CRE

(3) Added New Commissioner
1-17-17 KDH Checked By: CRE

(2) Revised Chair and Vice Chair Added New Commissioner
1-14-15 KDH Checked By: CRE

(1) Revised Deputy DIrector/ Chief Engineer Added Deputy Director/ Chief Operating Officer
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

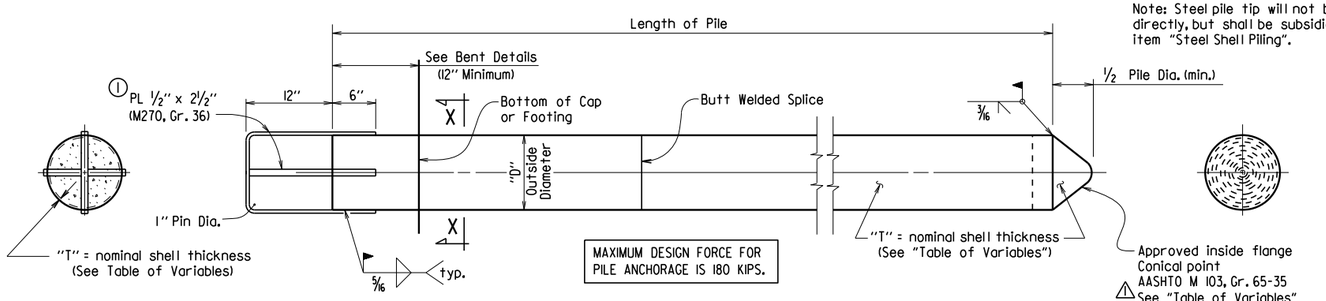
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55010

PRINT DATE: 4/6/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				

(1) STEEL SHELL PILES 55021

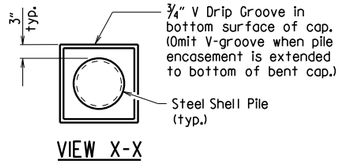


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

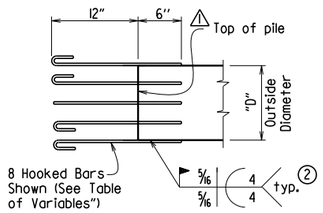
CONCRETE FILLED STEEL SHELL PILE

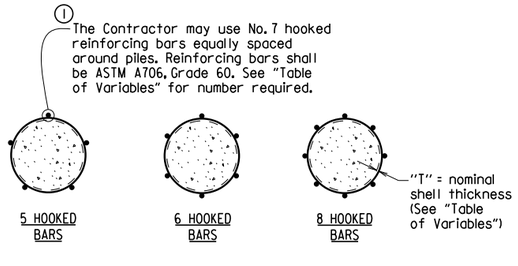
(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

(2) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.



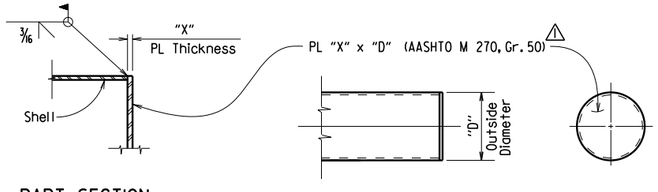
VIEW X-X





ALTERNATE PILE ANCHORAGE DETAIL

Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.

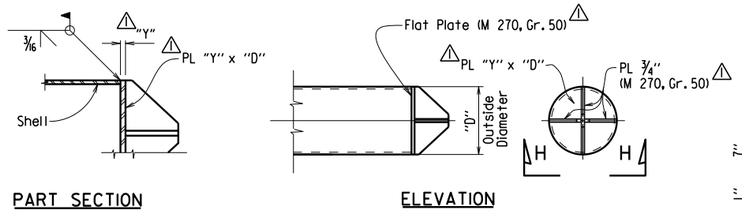


PART SECTION

ELEVATION

ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.

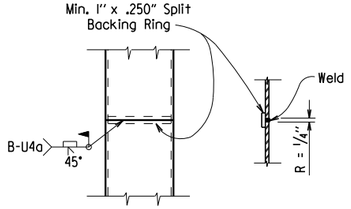


PART SECTION

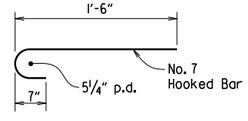
ELEVATION

VIEW H-H

ALTERNATE VANED TIP DETAIL



TYPICAL SPLICE DETAILS



HOOKED BAR DETAIL

TABLE OF VARIABLES

OUTSIDE DIAMETER "D"	NOMINAL SHELL THICKNESS "T"	(1) PLATE THICKNESS "X"	(1) PLATE THICKNESS "Y"	NO. OF HOOKED BARS FOR ALTERNATE PILE ANCHORAGE	(1) MINIMUM CONICAL TIP DESIGN LOAD (KIPS)
14"	0.50"	2¼"	1½"	5	859
16"	0.50"	2¼"	1½"	5	986
18"	0.50"	2½"	1½"	6	1,114
20"	0.50"	2½"	1¾"	6	1,241
24"	0.50"	2¾"	1¾"	8	1,495

(1) Revised and added various details by KWY, Ck'd. by BEF, 3/24/16.

GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with Subsection 805.02.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".

GENERAL NOTES FOR PILE ENCASEMENTS:

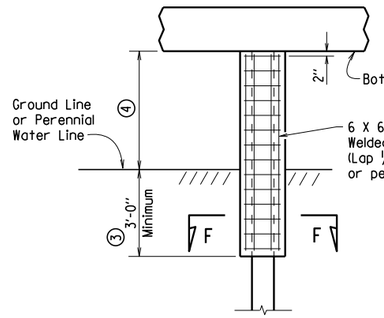
(1) See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

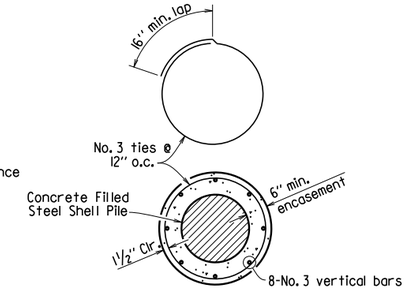
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".





SECTION F-F (REINF. ALTERNATE)

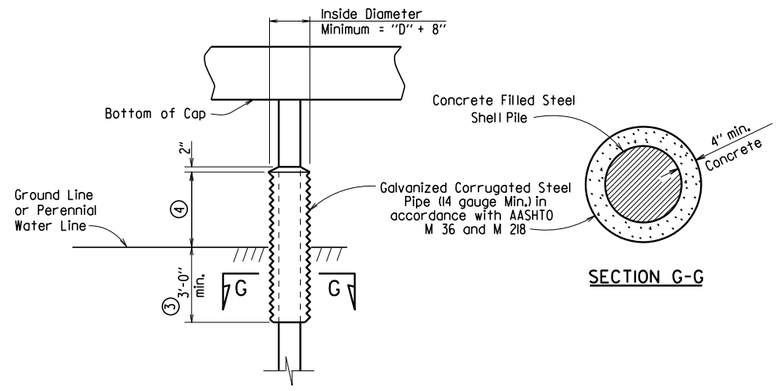
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(5) (Shown with Encasement to Bottom of Cap)

(3) Unless otherwise noted on Bridge Layout.

(4) See Bridge Layout for height of pile encasement (3'-0" Minimum).

(5) Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.



SECTION G-G

ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Partial Height Encasement)

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

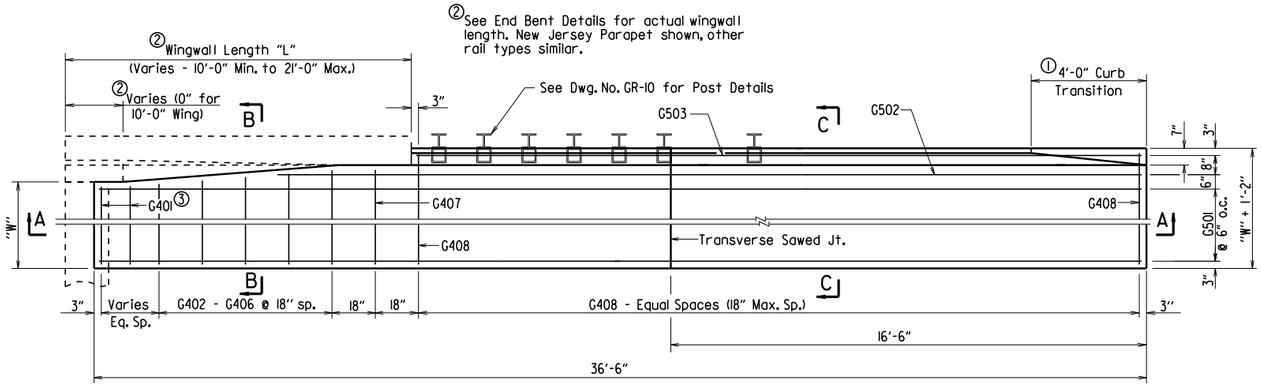
DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55021.dgn
CHECKED BY: B.E.F. DATE: 2/27/2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55021

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	TYPE C GUTTERS		55030C	

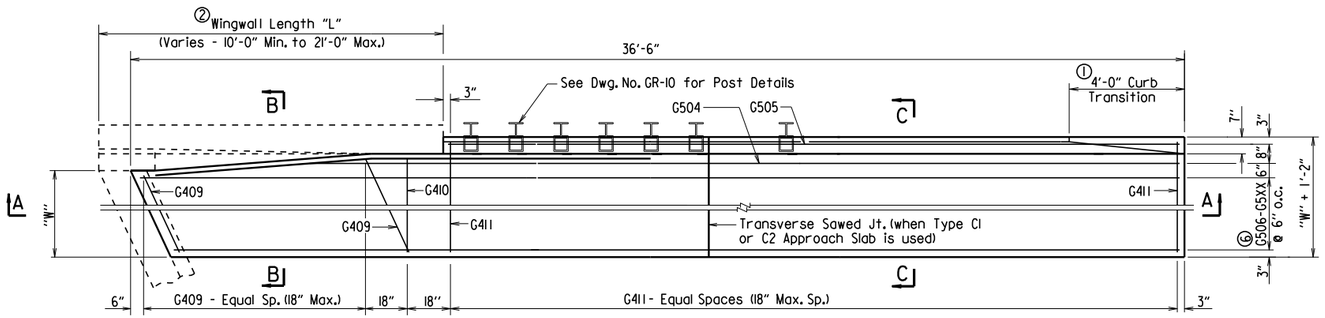
① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

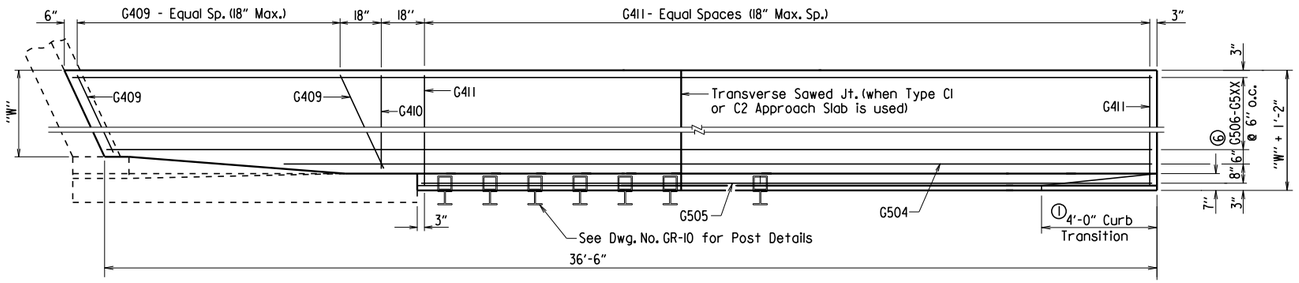
Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



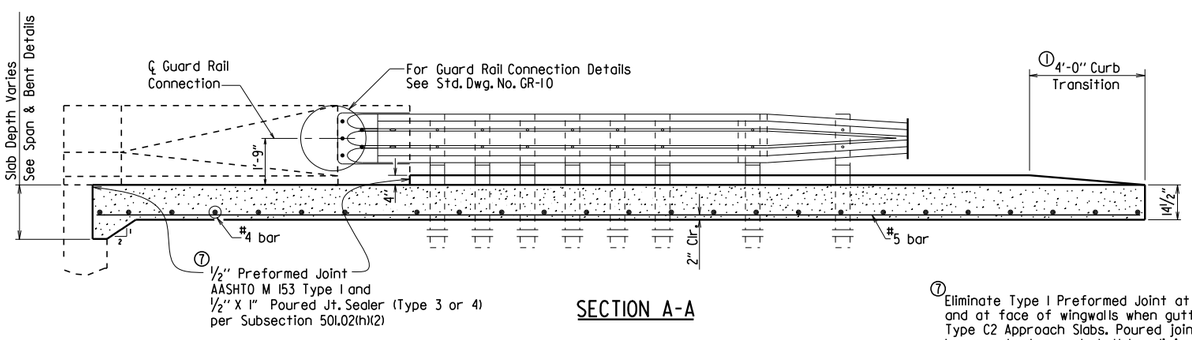
③ Provide G401 bars @ 18" max. spacing. Number of G401 bars vary with wingwall length. No G401 bars required for 10'-0" wingwalls.

HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

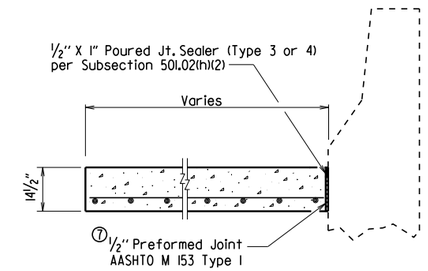




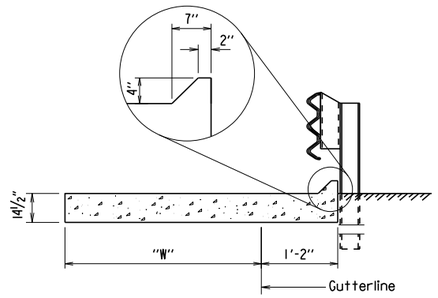
PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE



SECTION A-A



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.

BAR LIST FOR ONE TYPE C GUTTER

	Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length
Square Bridge	G401	④	④	④	④	"W"- 4"
	G402-G406	1 each	1 each	1 each	1 each	"W"-3" to "W"+2"
	G407	1	1	1	1	"W"+3"
	G408	④	④	④	④	"W"+ 10"
	G501	8	12	16	20	36'-2"
	G502	1	1	1	1	(41'-11") - "L"
	G503	1	1	1	1	(37'-2") - "L"
Skewed Bridge	G409	④	④	④	④	⑤
	G410	1	1	1	1	"W"+3"
	G411	④	④	④	④	"W"+ 10"
	G504	1	1	1	1	⑤
	G505	1	1	1	1	⑤
	G506 - G5XX ⑥	1 each	1 each	1 each	1 each	⑤

④ No. Req'd. varies with Skew and Wingwall Length.

⑤ Bar Lengths vary with Skew and Wingwall Length.

⑥ G513 for "W" = 4'
G517 for "W" = 6'
G521 for "W" = 8'
G525 for "W" = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

(FOR INFORMATION ONLY)

"W" Width (ft.)	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
4	445	8.30
6	630	11.55
8	810	14.80
10	995	18.10

Quantities are based on "L" = 10'-0".

Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

⑦ Eliminate Type I Preformed Joint at end bent backwall and at face of wingwalls when gutters used with Type C2 Approach Slabs. Poured joint sealer is required, however backer rod shall be eliminated.

GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

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

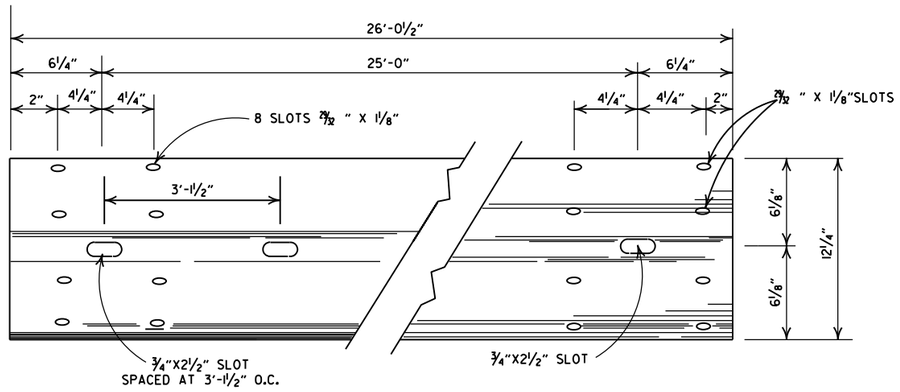
STANDARD DETAILS FOR TYPE C APPROACH GUTTERS

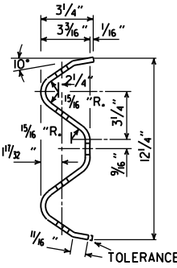
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55030c.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: 3/8" = 1'-0" or As Shown
DESIGNED BY: STD. DATE:

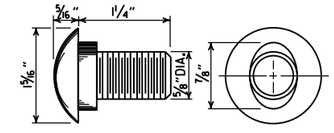
DRAWING NO. 55030C



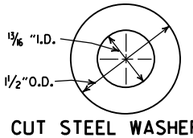


DETAILS OF W-BEAM GUARDRAIL

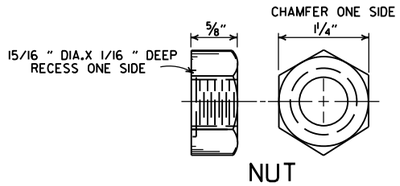
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



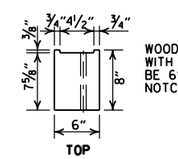
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



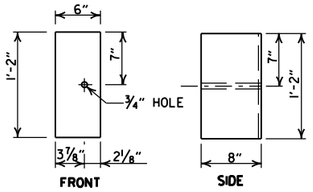
CUT STEEL WASHER



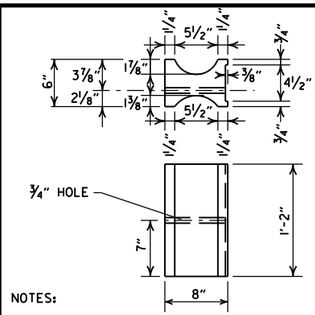
NUT



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



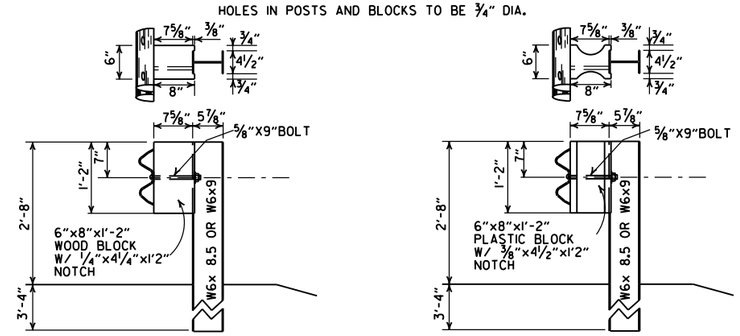
WOOD BLOCKOUT (W-BEAM)



NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

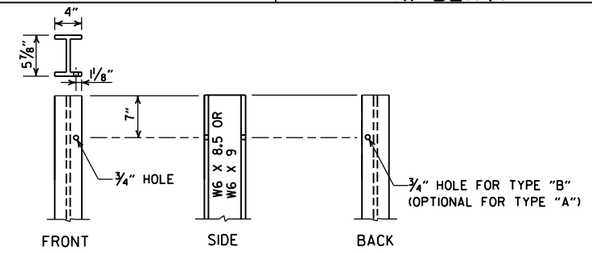
PLASTIC BLOCKOUT (W-BEAM)



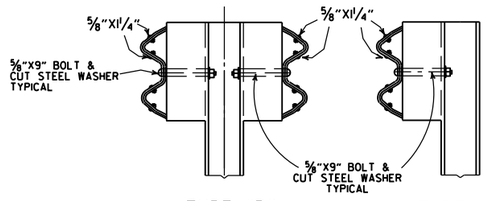
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

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

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

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

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

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

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

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

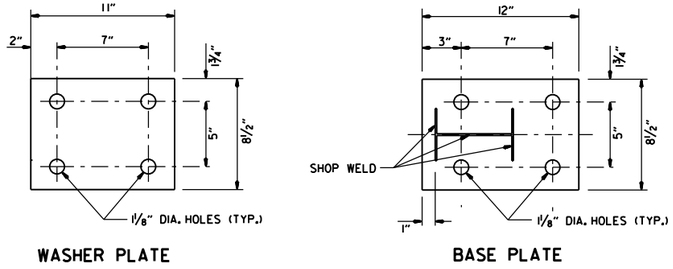
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	FILMED
11-07-19	RENUMBERED AND RENAMED	
11-16-17	REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3"	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
03-30-00	REMOVED GUARDRAIL AT BRIDGE ENDS	
01-12-00	ADDED PLASTIC BLOCKOUT	
08-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
04-03-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
06-02-94	ADDED ALT. STEEL POST SIZE	
08-05-93	REVISED STEEL POST SIZE	8-5-93
10-01-92	REDRAWN & REVISED	10-1-92
08-15-91	REVISED WASHER NOTE	8-15-91
08-02-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
07-15-88	REVISED SECTION 3 & GENERAL NOTES	
03-04-88	REV. ANCHOR POST ,ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-09-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

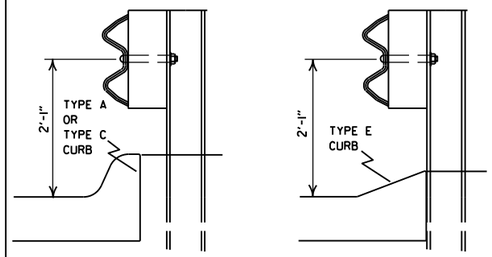
STANDARD DRAWING GR-6



WASHER PLATE

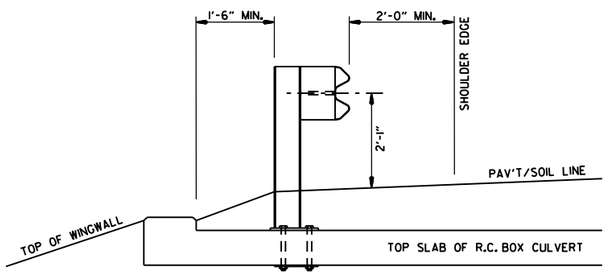
BASE PLATE

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

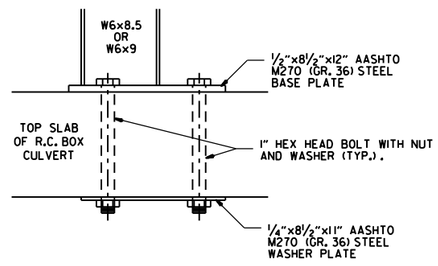


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

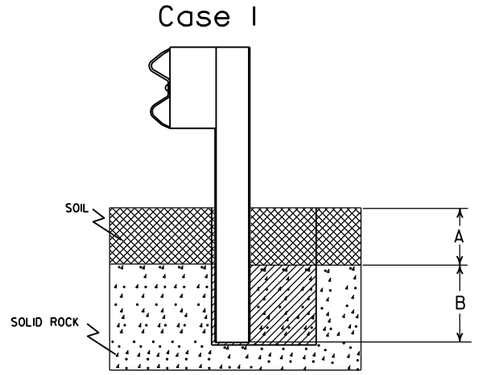
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A

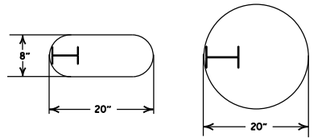


DETAIL OF CONNECTION



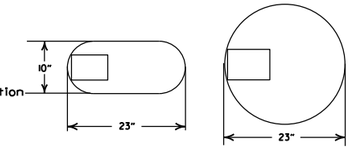
Plan View Steel Posts

Either hole configuration acceptable



Plan View Wood Posts

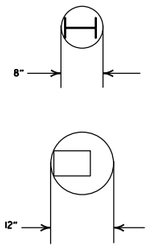
Either hole configuration acceptable



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

Zone A:
Backfill according to Section 617.03(a).

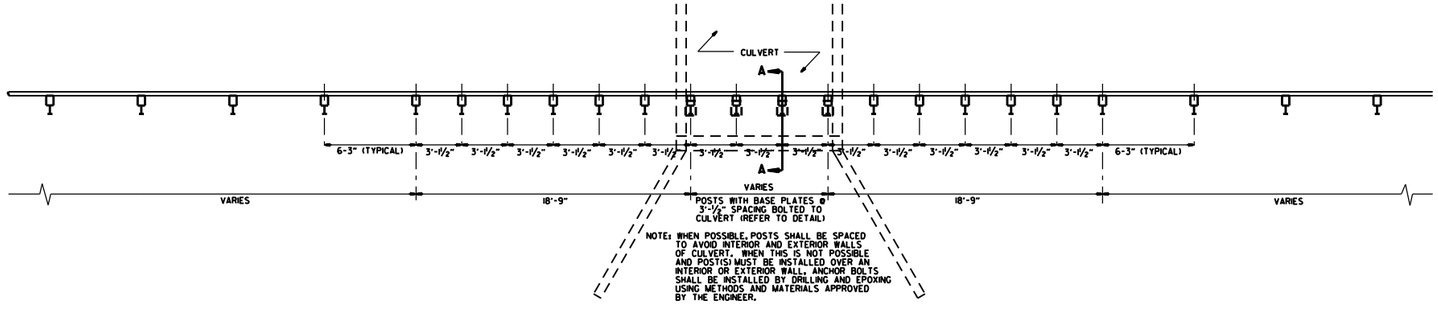
Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.



Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

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



PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

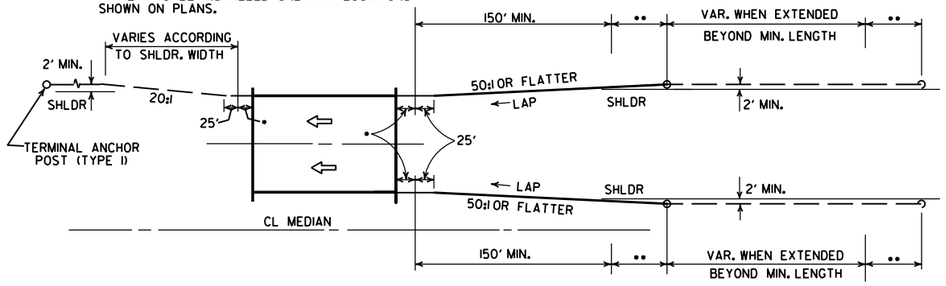
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

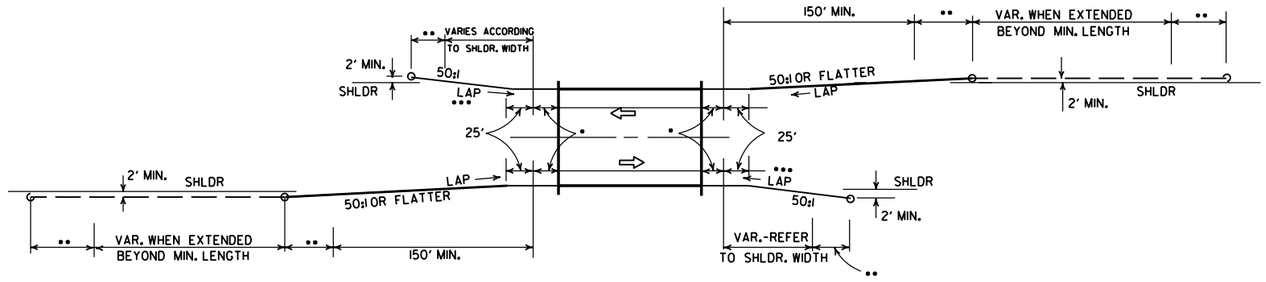
STANDARD DRAWING GR-7

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

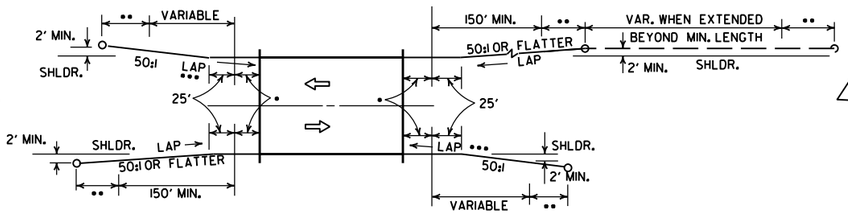
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

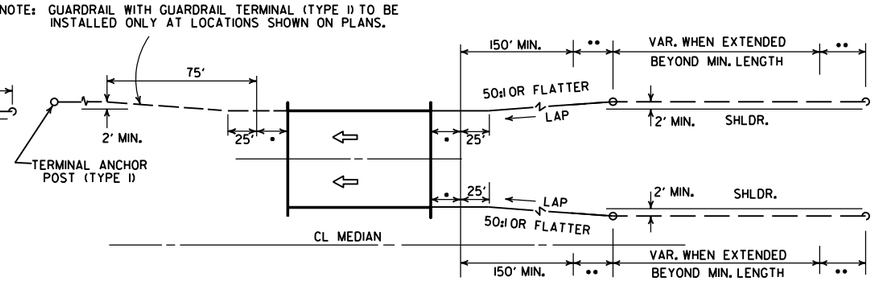
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

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



TWO-WAY TRAFFIC

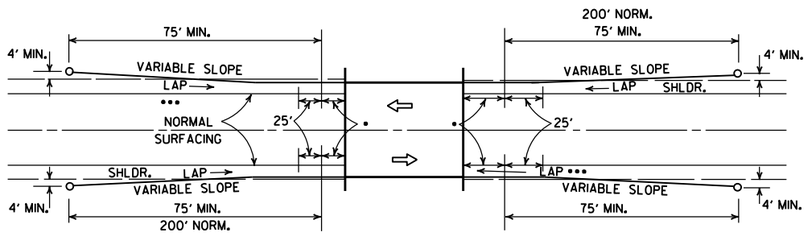
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

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

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



METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

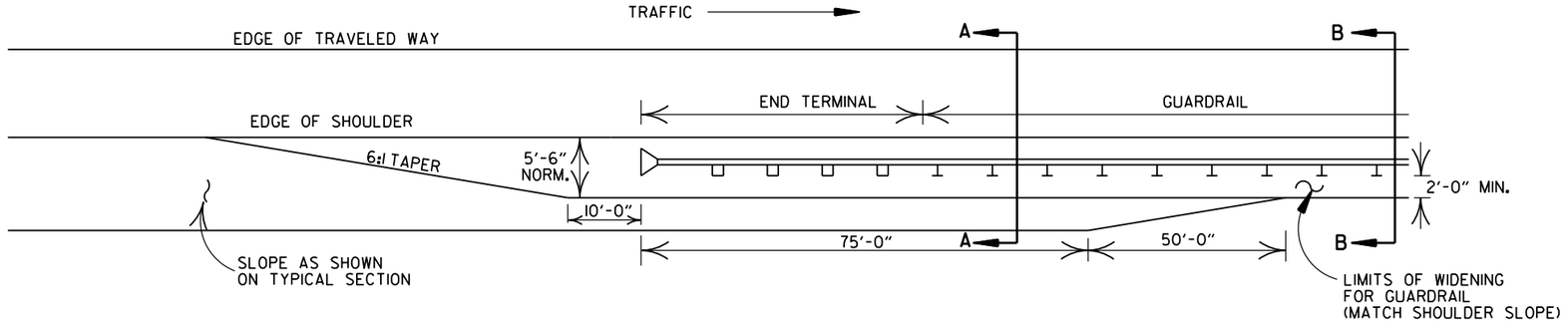
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

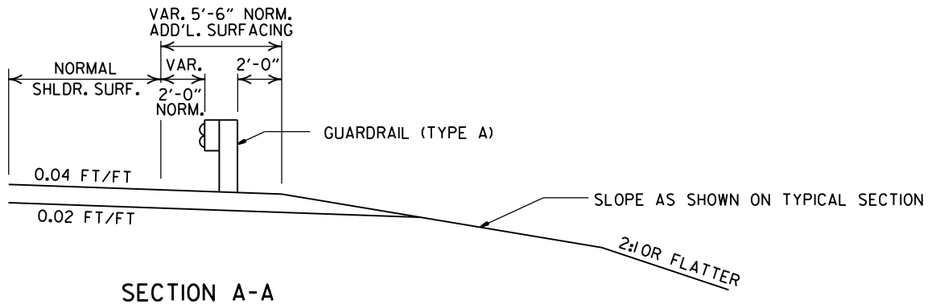
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

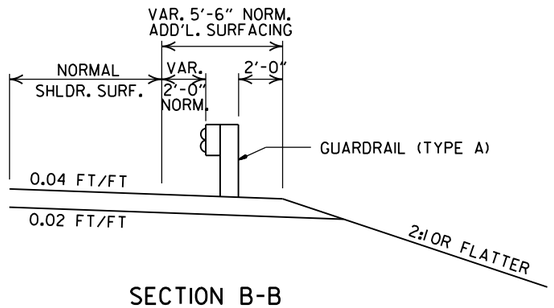
GUARDRAIL DETAILS

STANDARD DRAWING GR-8



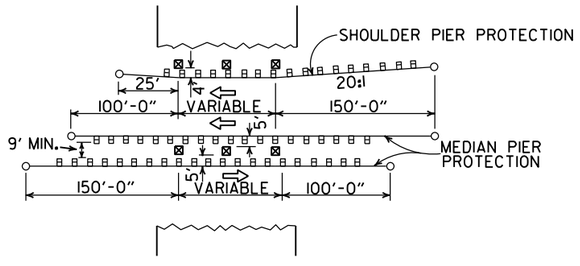


SECTION A-A



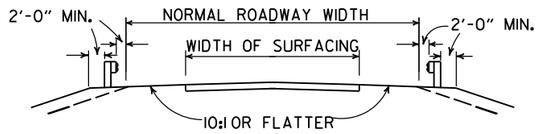
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

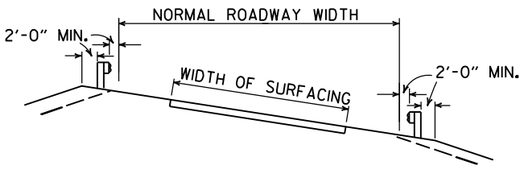


METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

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



SECTION ON TANGENT



SECTION ON CURVE

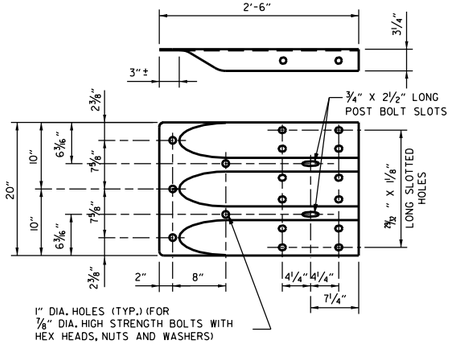
DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

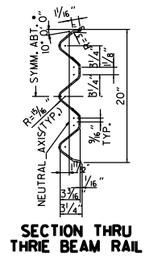
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

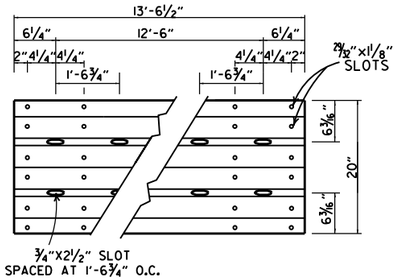
STANDARD DRAWING GR-9



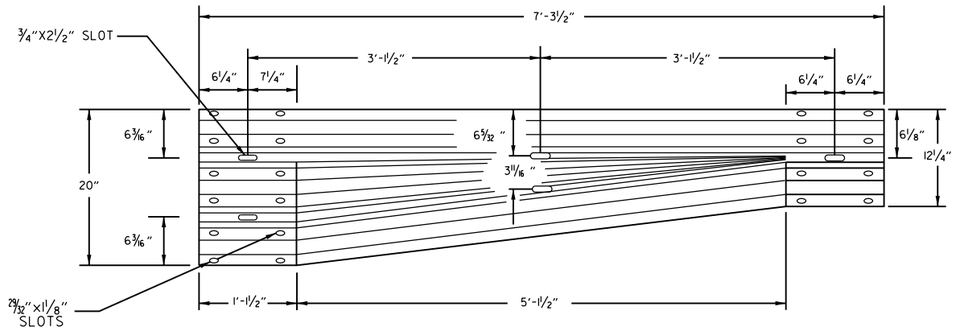
SPECIAL END SHOE



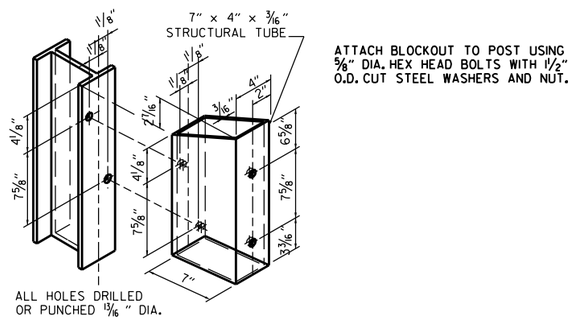
SECTION THRU THRIE BEAM RAIL



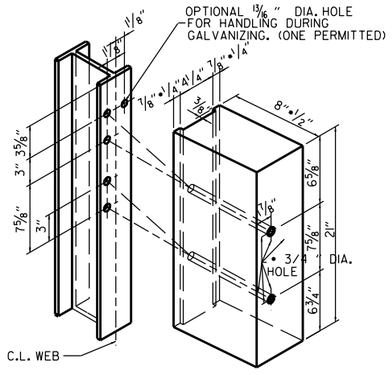
THRIE BEAM RAIL



TRANSITION SECTION



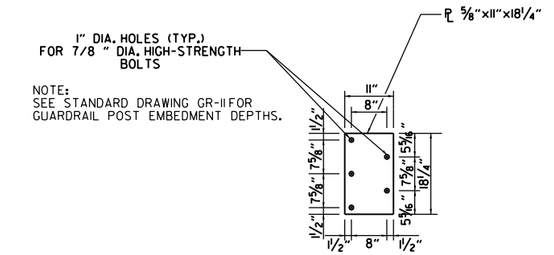
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

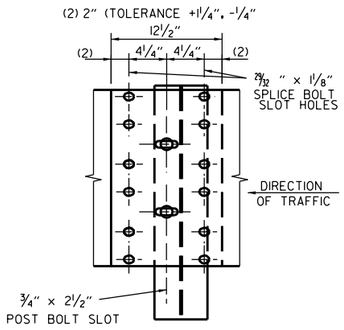
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

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



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.



THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE 1.

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

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3"4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

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

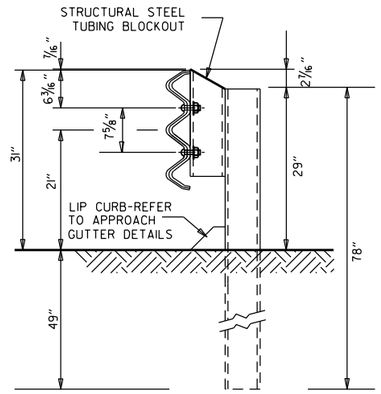
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED AND REVISED REFERENCES	
11-16-17	REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12	
07-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED NOTE (2)	
06-29-00	MOVED DIMENSION LINES	
05-18-00	ADDED NOTE	
03-30-00	DRAWN & ISSUED	

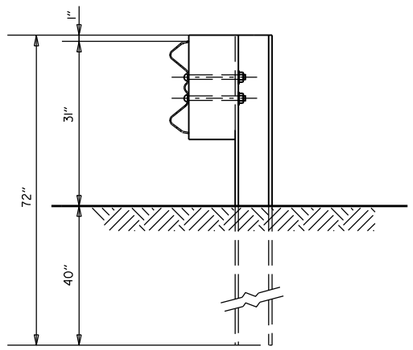
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

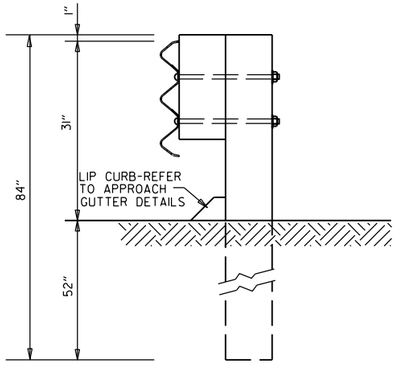
STANDARD DRAWING GR-10



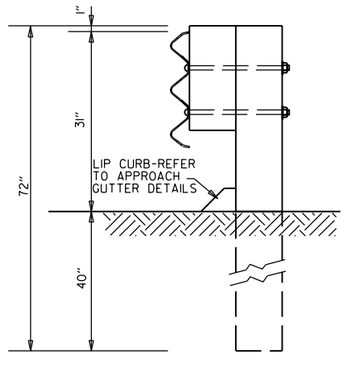
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



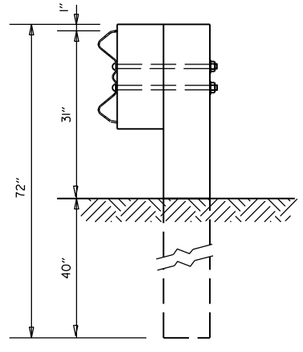
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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



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



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

GENERAL NOTES:

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

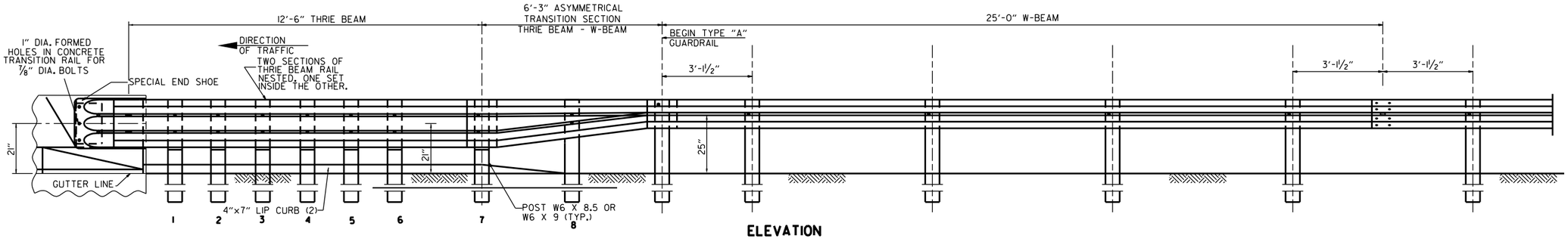
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO.1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED	
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11	
07-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
08-22-02	REVISED LIP CURB NOTE	
03-30-00	DRAWN & ISSUED	

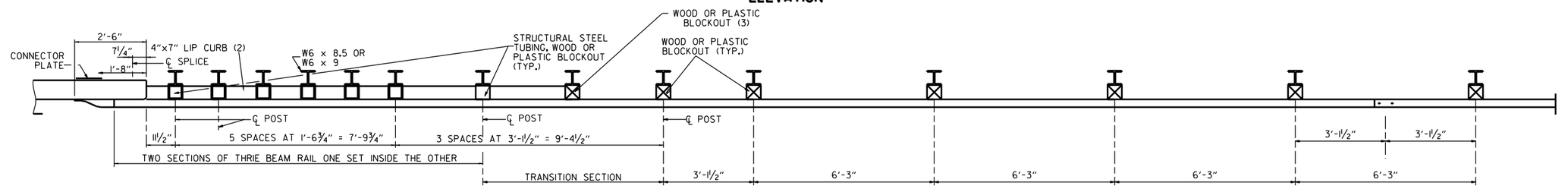
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

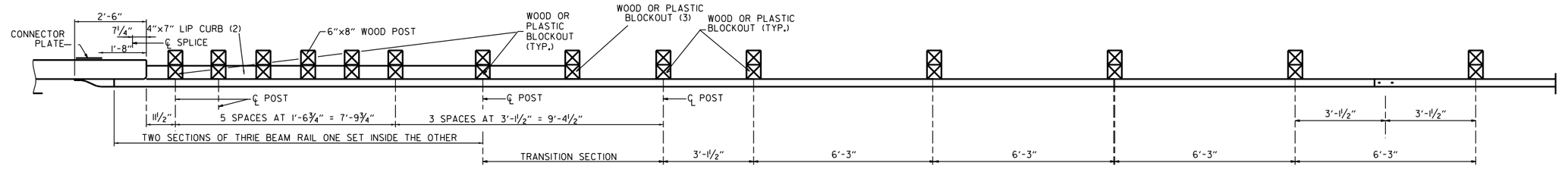
STANDARD DRAWING GR-11



ELEVATION



PLAN



PLAN

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

THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

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

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

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

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

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

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	FILMED
05-14-20	REVISED NOTES	
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GR-12

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅜	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

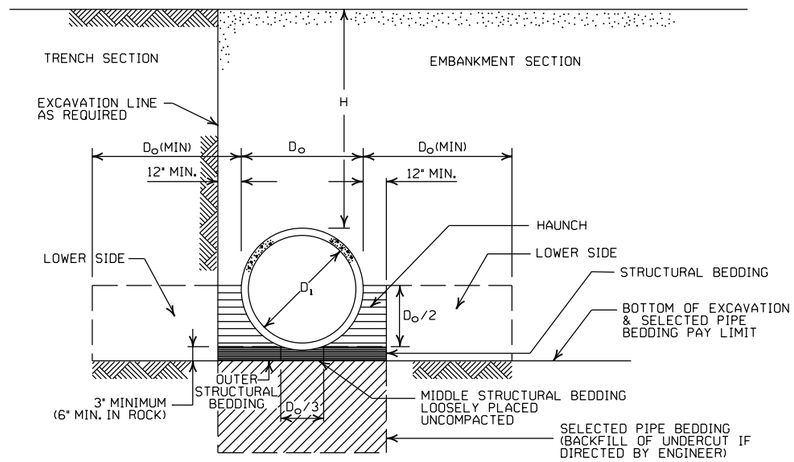
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

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

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

CORRUGATED METAL PIPE ARCHES

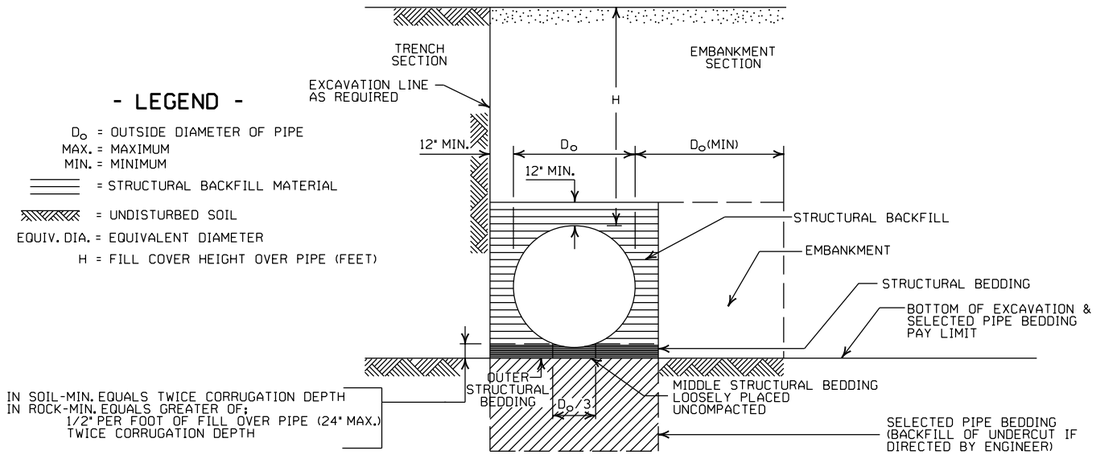
EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	
				INSTALLATION	INSTALLATION			INSTALLATION	INSTALLATION	
				TYPE 1	TYPE 1			TYPE 1	TYPE 1	
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2	15		0.060	2	15	
18	21x15	3	0.064	2	15		0.060	2	15	
21	24x18	3	0.064	2.25	15		0.060	2.25	15	
24	28x20	3	0.064	2.5	15		0.075	2.5	15	
30	35x24	3	0.079	3	12		0.075	3	12	
36	42x29	3½	0.079	3	12		0.105	3	12	
42	49x33	4	0.079	3	12		0.105	3	12	
48	57x38	5	0.109	3	13		0.135	3	13	
54	64x43	6	0.109	3	14		0.135	3	14	
60	71x47	7	0.138	3	15		0.164	3	15	
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

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

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

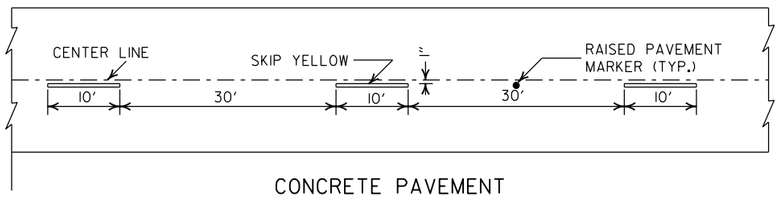
1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

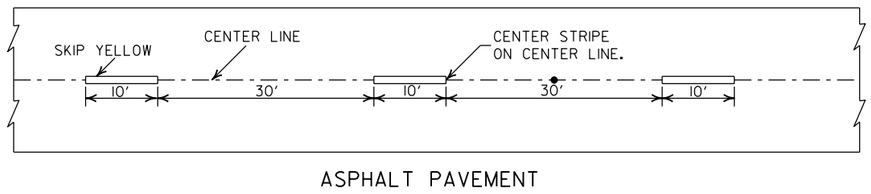
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

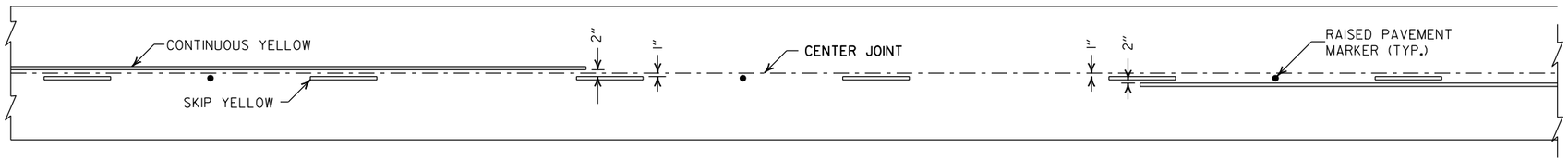


CONCRETE PAVEMENT

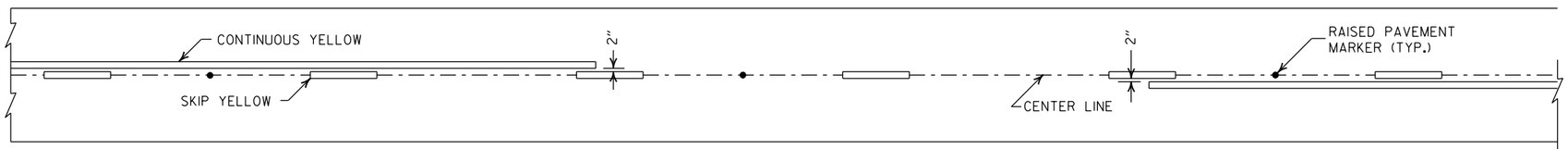


ASPHALT PAVEMENT

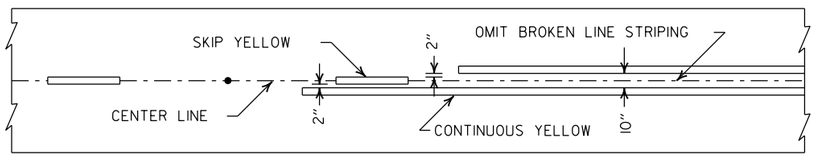
BROKEN LINE STRIPING



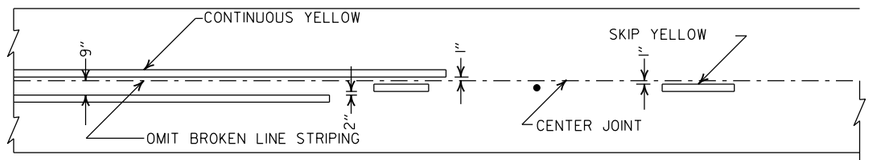
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

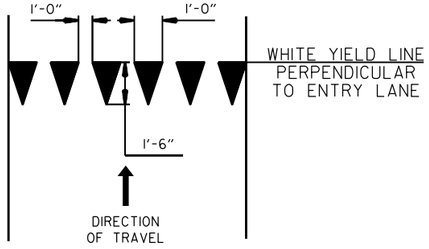


ASPHALT PAVEMENT

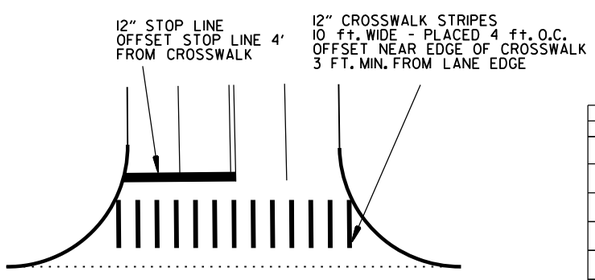


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

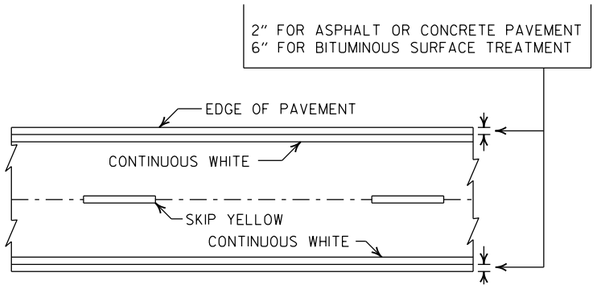


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

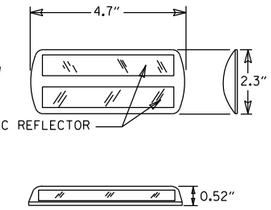
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

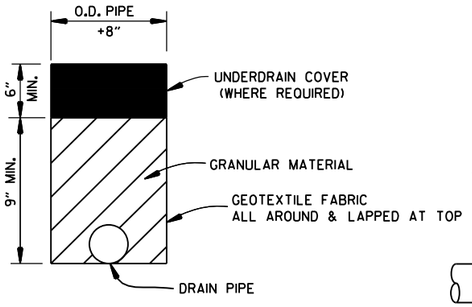
PAVEMENT MARKING DETAILS

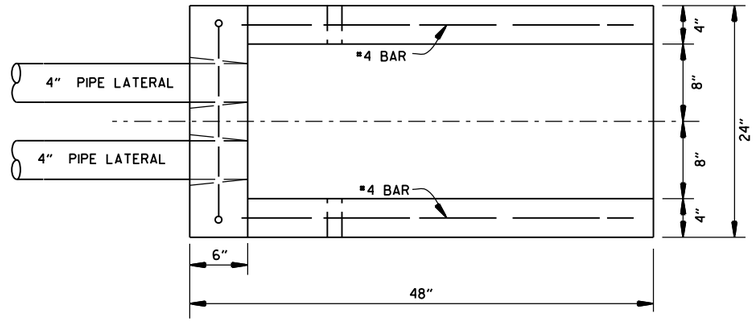
STANDARD DRAWING PM-1

NOTE:

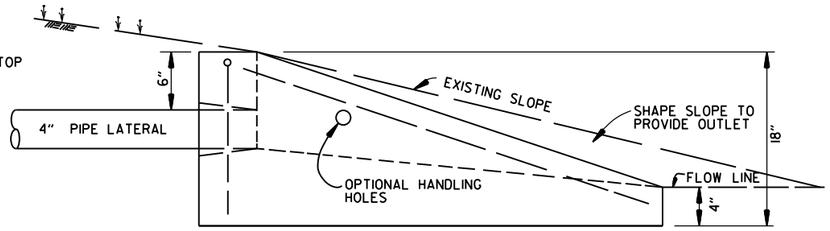
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

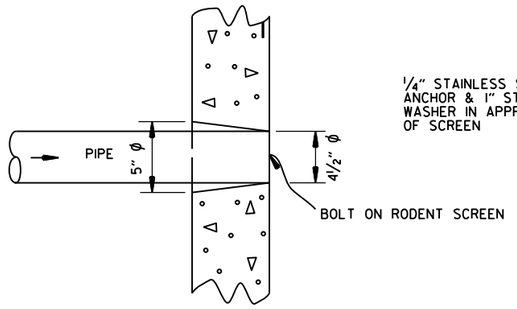




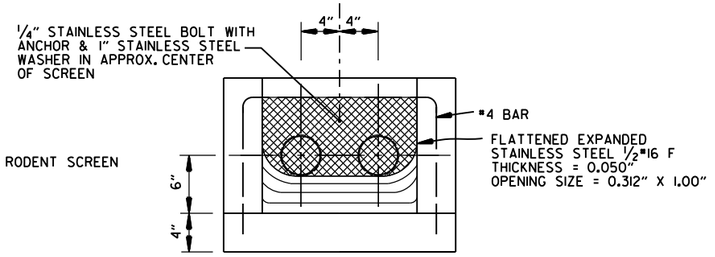
PLAN VIEW



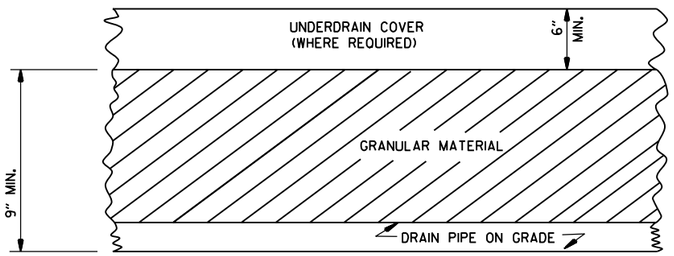
SIDE VIEW



DETAIL OF HOLE
FOR 4" PIPE



FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

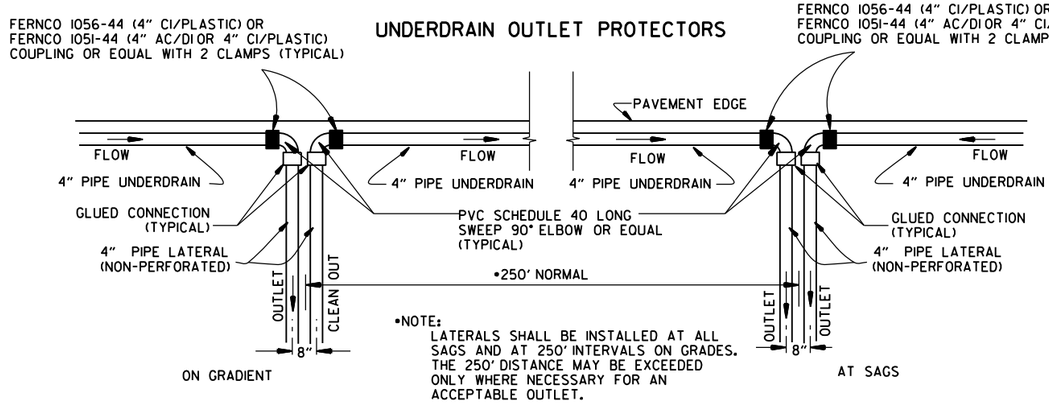
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139	300	0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158		0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168	300	0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168	300	0.056	182		0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.080	240	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178	300	0.062	197		0.070	216		0.078	235	350	0.088	259	350
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		0.068	211		0.076	230		0.086	254		0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187	250	0.068	211		0.078	235		0.088	259		0.098	283	400	D MAX = 2° 45'		
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288				
3° 30'	0.030	90		0.038	113		0.046	139	200	0.056	171		0.066	206		0.076	230		0.086	254		0.096	278	350	D MAX = 3° 30'					
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283							
4° 00'	0.034	97		0.042	121	200	0.052	151		0.062	185		0.072	221		0.084	250		0.094	274	350	0.100	288							
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.086	254	350	0.096	278		D MAX = 4° 15'								
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104	200	0.048	133		0.060	168		0.070	203		0.082	245		0.092	269		0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		D MAX = 5° 15'										
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221	250	0.088	259		0.098	283												
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288												
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278	300	D MAX = 6° 30'													
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283															
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288															
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257	300	D MAX = 8° 25'																
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261																		
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																		
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																		
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																			
11° 00'	0.070	162		0.084	203		0.096	244																					
12° 00'	0.074	169		0.088	211	250	0.098	248																					
13° 00'	0.076	173		0.090	215		0.100	252	300	D MAX = 13° 45'																			
14° 00'	0.080	180		0.094	222																								
15° 00'	0.082	184		0.096	226																								
16° 00'	0.086	191		0.098	230																								
17° 00'	0.088	194		0.100	234																								
18° 00'	0.090	198	250	D MAX = 19° 30'																									
19° 00'	0.092	202																											
20° 00'	0.094	205																											
21° 00'	0.096	209																											
22° 00'	0.096	209																											
23° 00'	0.098	212																											
24° 00'	0.098	212																											
25° 00'	0.100	216																											
D MAX = 28° 30'																													

ABBREVIATIONS

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

GENERAL NOTES

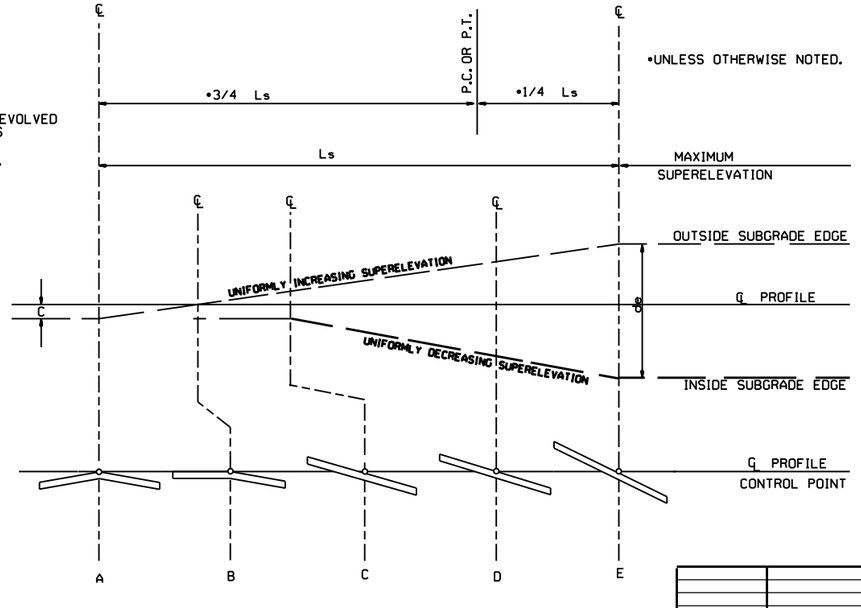
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

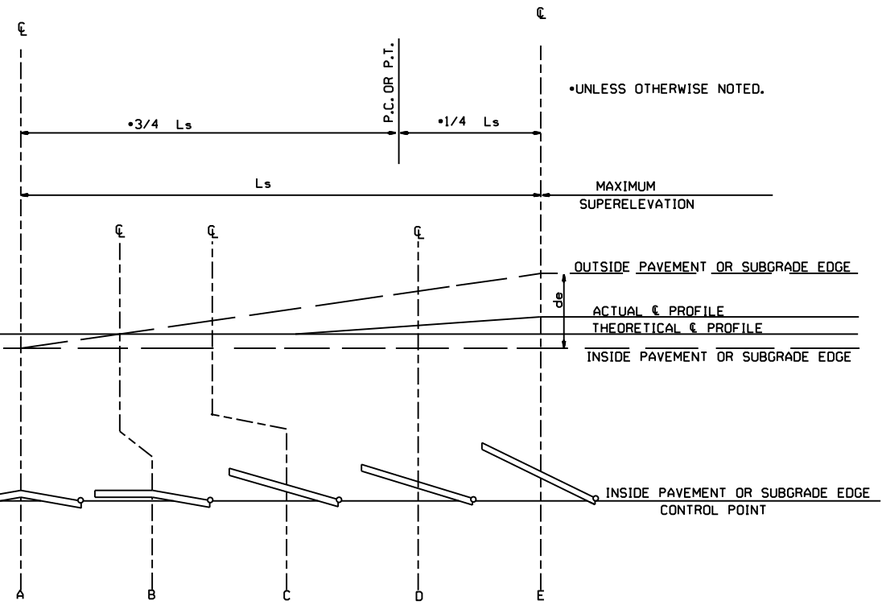
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



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

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

DATE	REVISION	DATE FILLMED
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

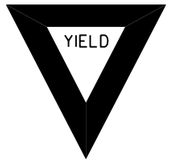
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1

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

R1-2



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

R2-1

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

W3-5

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

W3-5a

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

R4-1

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

R4-2

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

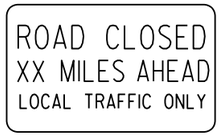
R5-1

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

R11-2

48"X30"

R11-3A



60"X30"

R11-4

60"X30"

W21-5a

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

W1-1

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

W1-2

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

W1-3

STD. 48"X48"

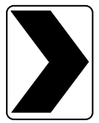
W1-4

STD. 48"X48"

W1-6

STD. 48"X24"
SPECIAL 60"X30"

W1-8



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

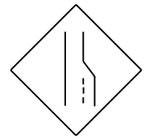
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

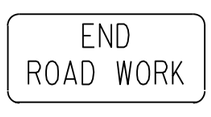
W8-9

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

G20-1

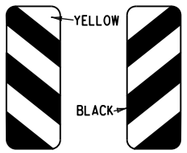
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

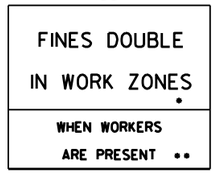
M4-9

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

M4-10

48"X18"

R55-1



36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

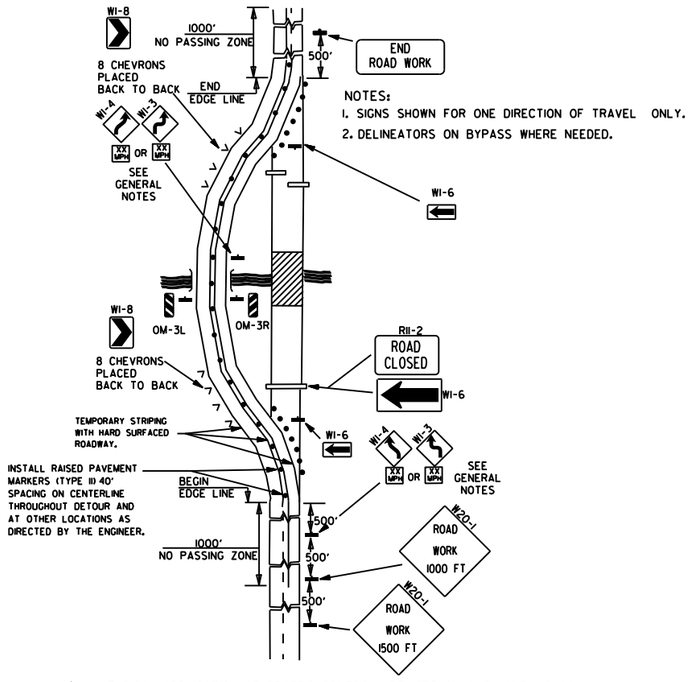
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

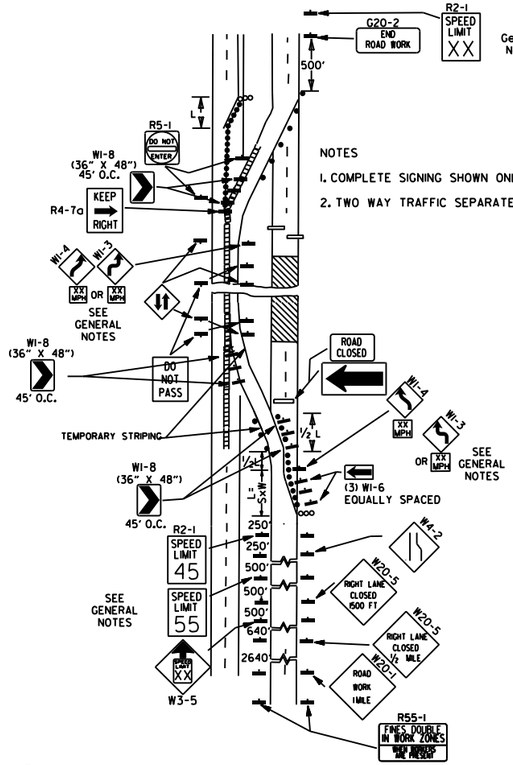
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



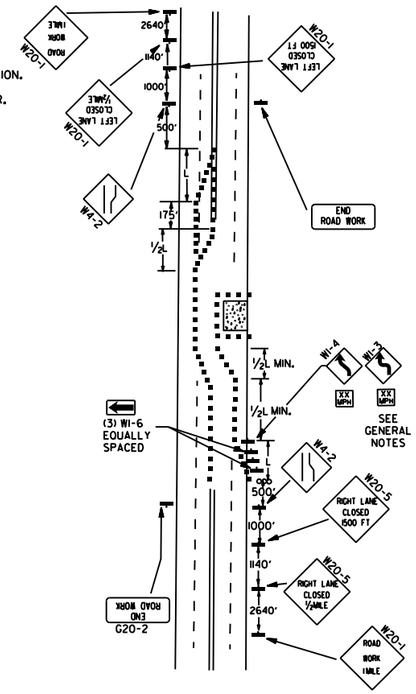
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

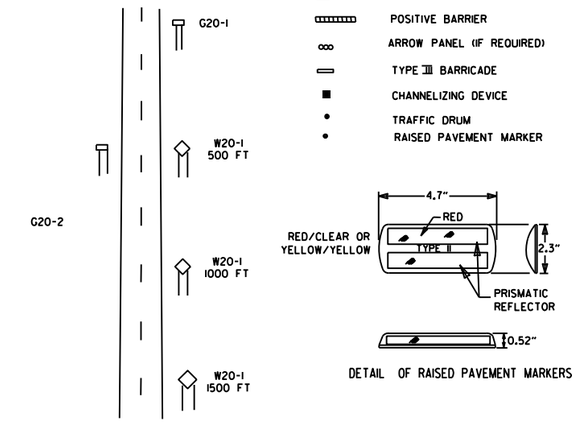


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

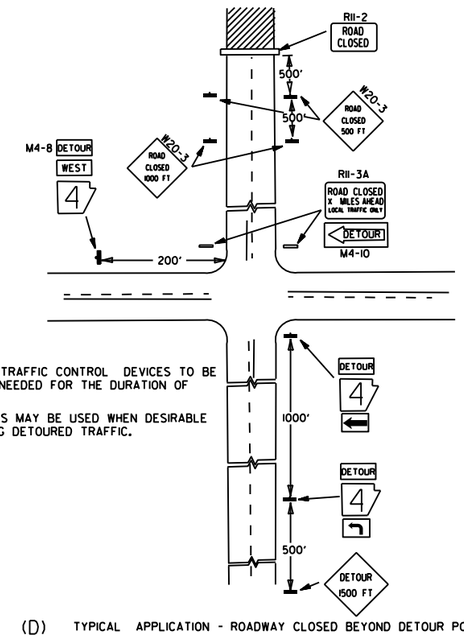
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

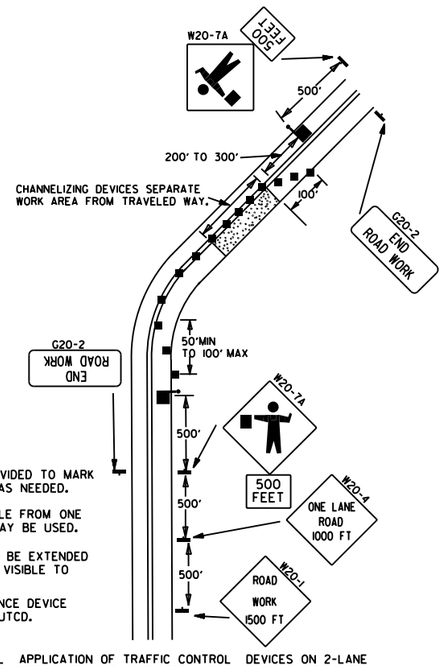
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 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.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



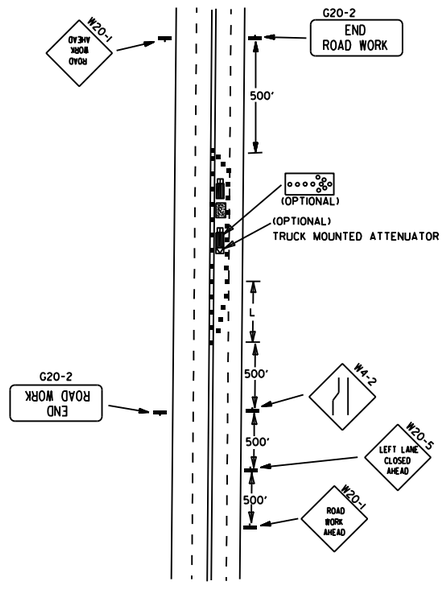
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



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

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



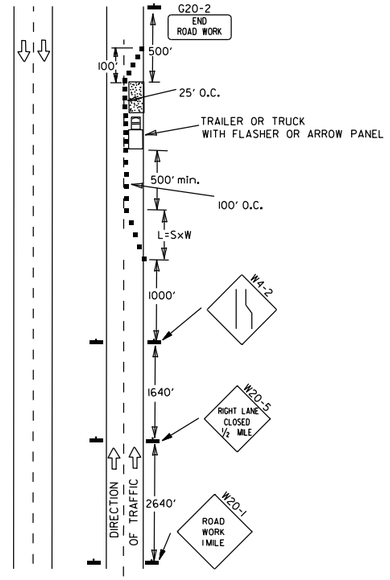
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

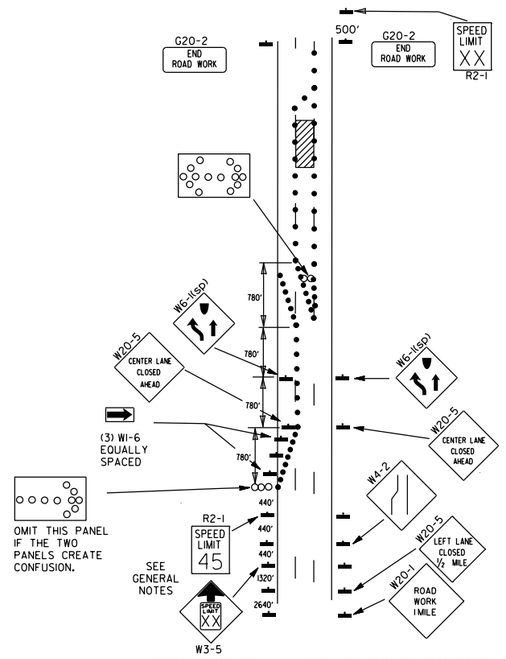
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

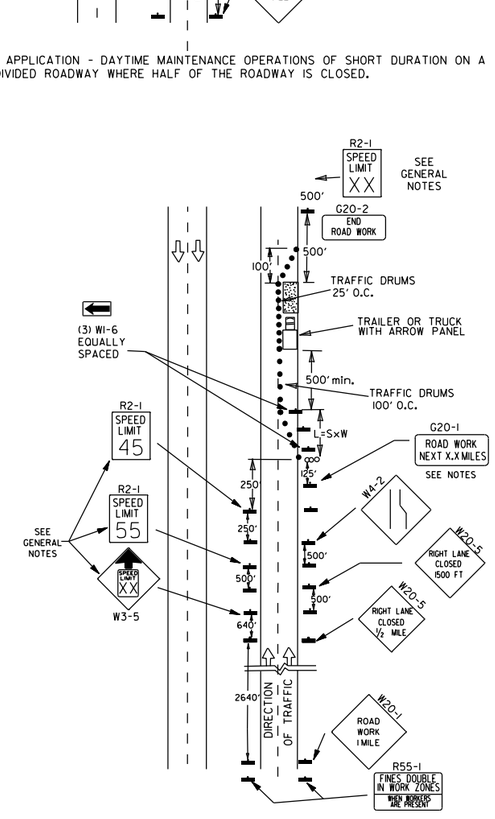
STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.



(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

KEY:

ooo ARROW PANEL (IF REQUIRED)

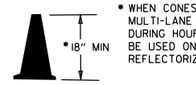
■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

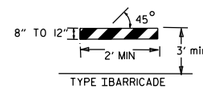
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH 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. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

CHANNELIZING DEVICES

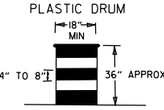


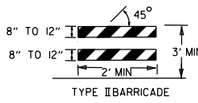
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

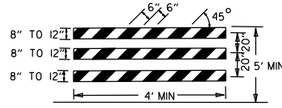
CONES



PLASTIC DRUM

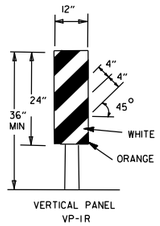




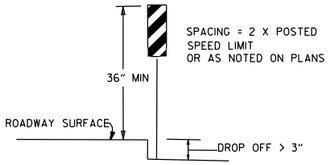


TYPE III BARRICADE

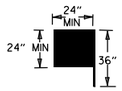
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



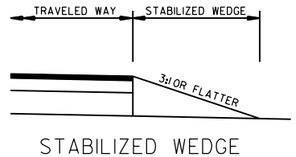
VERTICAL PANEL PLACEMENT



FLAG

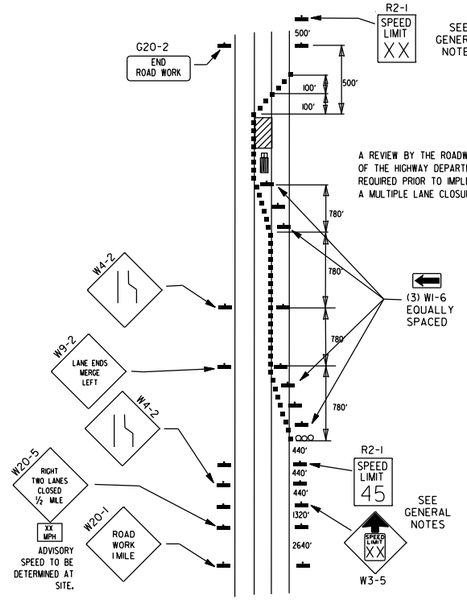


FLAG SHALL BE OF GOOD GRADE RED MATERIAL



STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.



(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

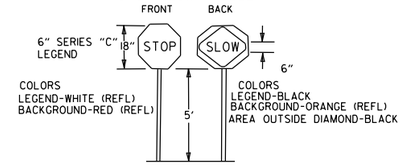
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS(3)
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER(4) & EDGE LINES	PRECAST CONCRETE BARRIER(4) & EDGE LINES

INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 2" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

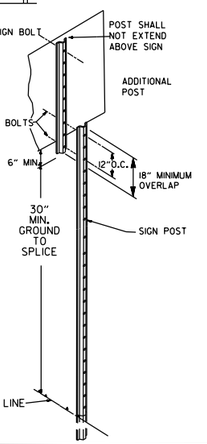
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

STOP SLOW PADDLE



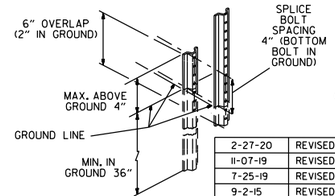
DETAIL OF SPLICES



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

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

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



DATE	REVISION	FILMED
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

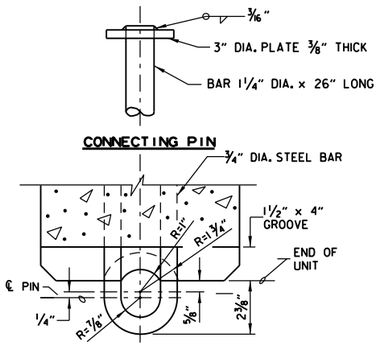
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

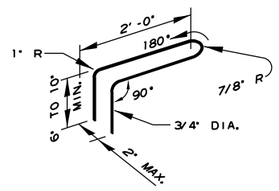
REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-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°; 1 1/2"; 9"; 2'-1 3/8"; 4 3/8"

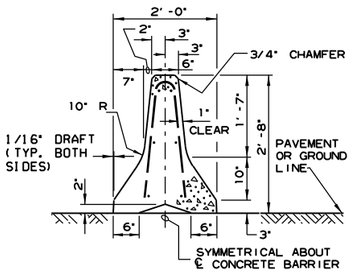


SECTION E-E

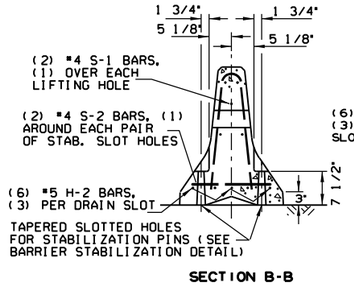
CONNECTION DETAILS



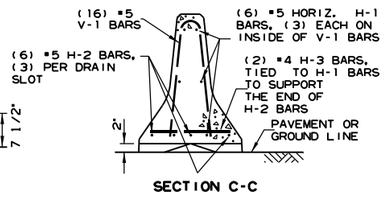
CONNECTION LOOP



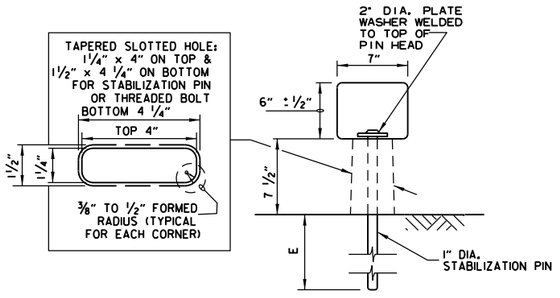
SECTION A-A



SECTION B-B



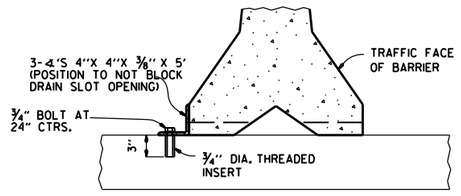
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

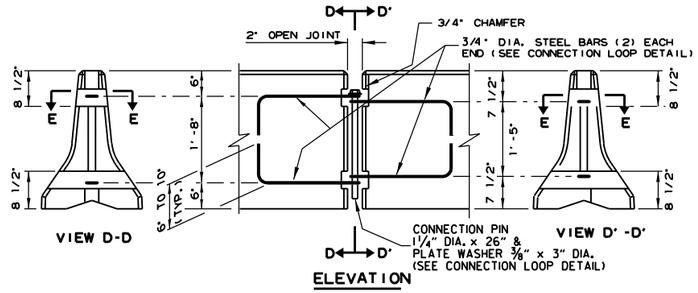
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



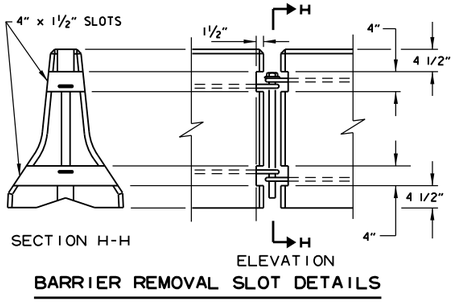
NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

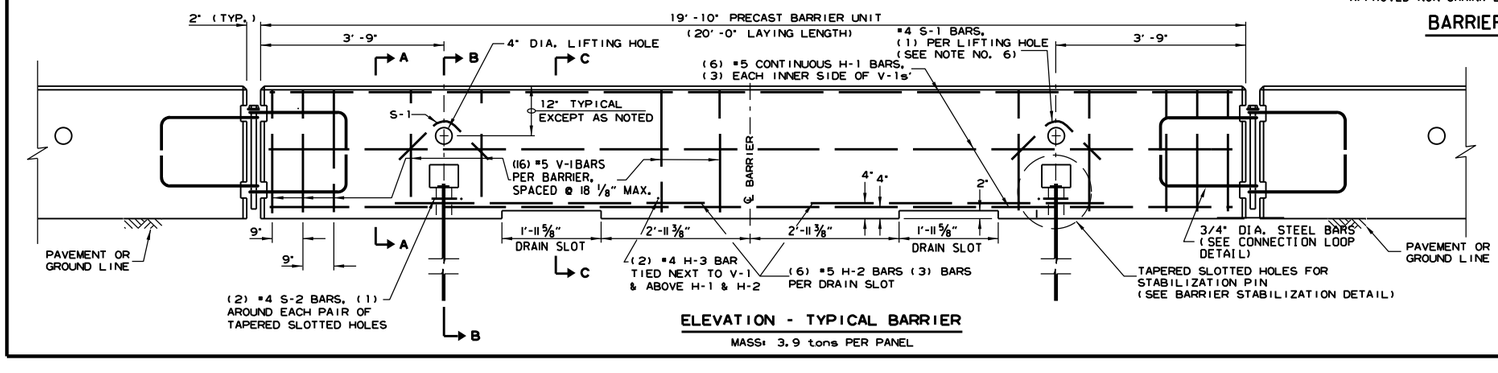
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

(1) THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

(2) MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

(3) OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

(4) DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

(5) ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

(6) A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

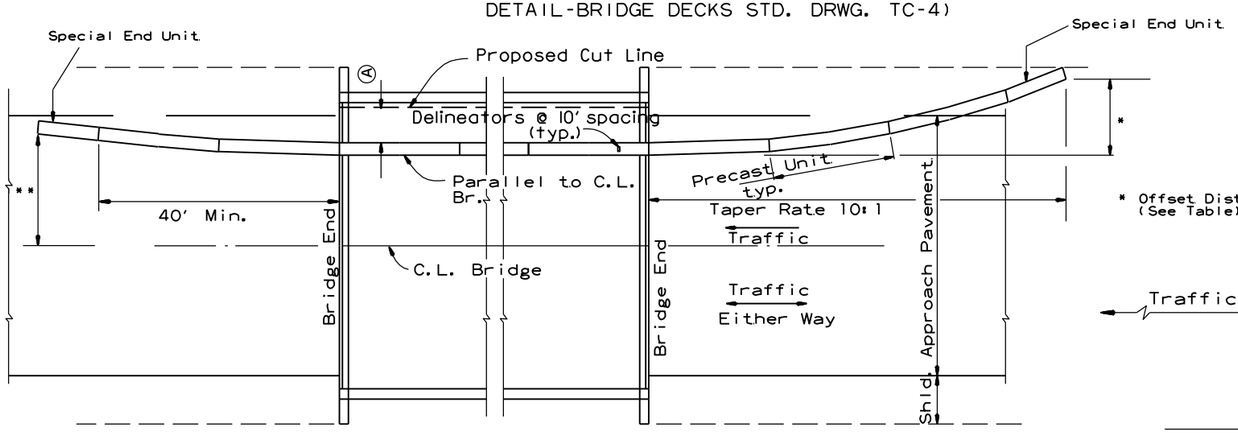
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO WASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED 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

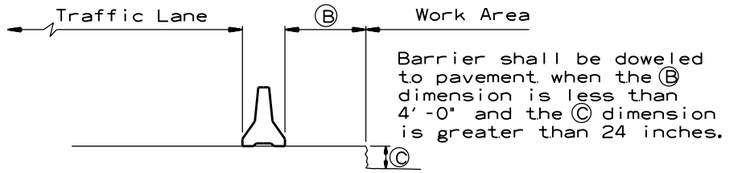
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

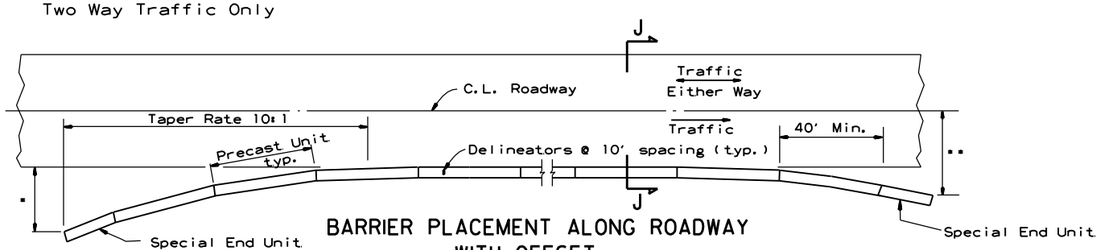


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

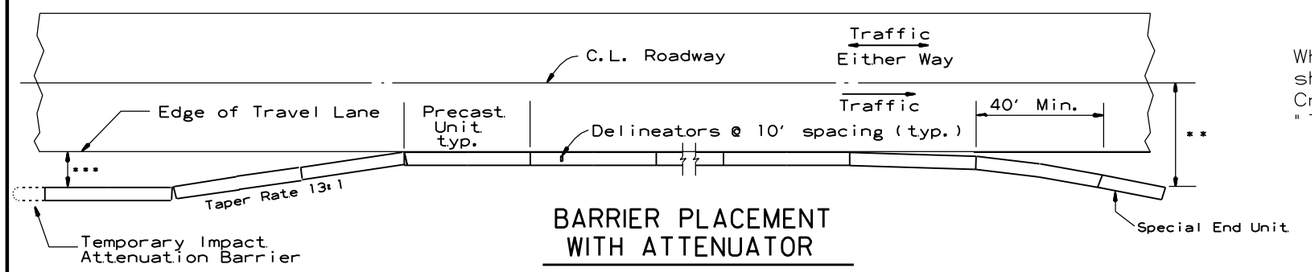
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

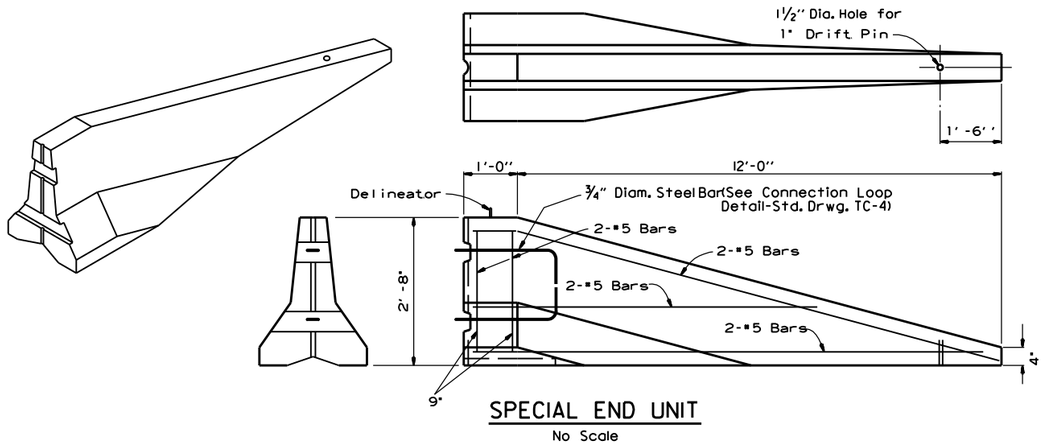


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** 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 a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

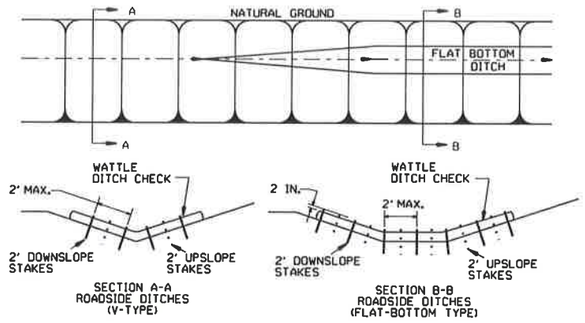
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

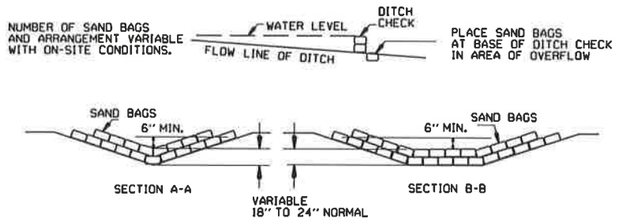
STANDARD DRAWING TC-5

GENERAL NOTES

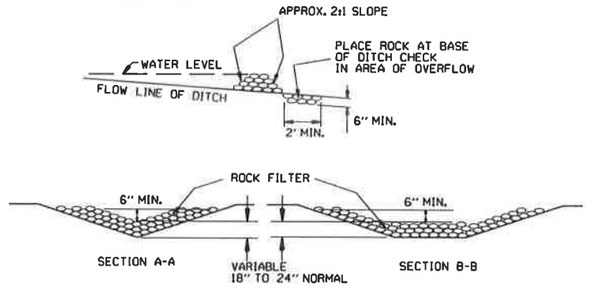
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

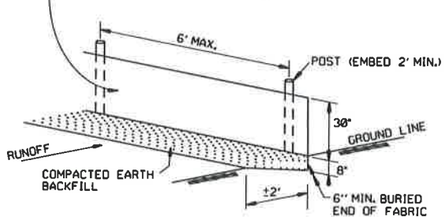


ROCK DITCH CHECK (E-6)

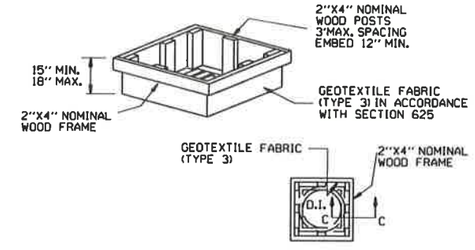
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

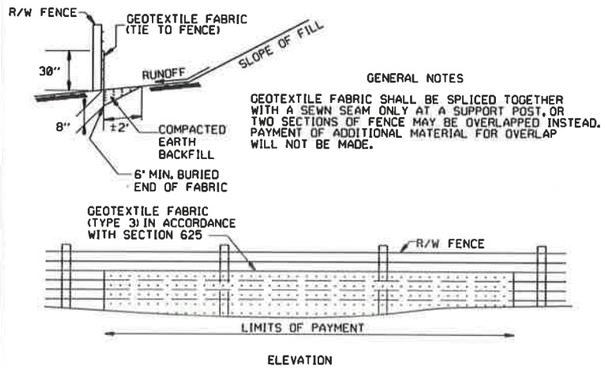
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



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.

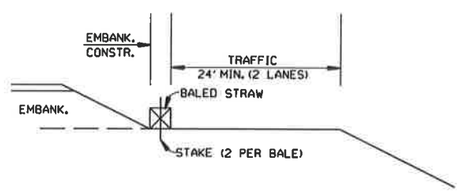
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

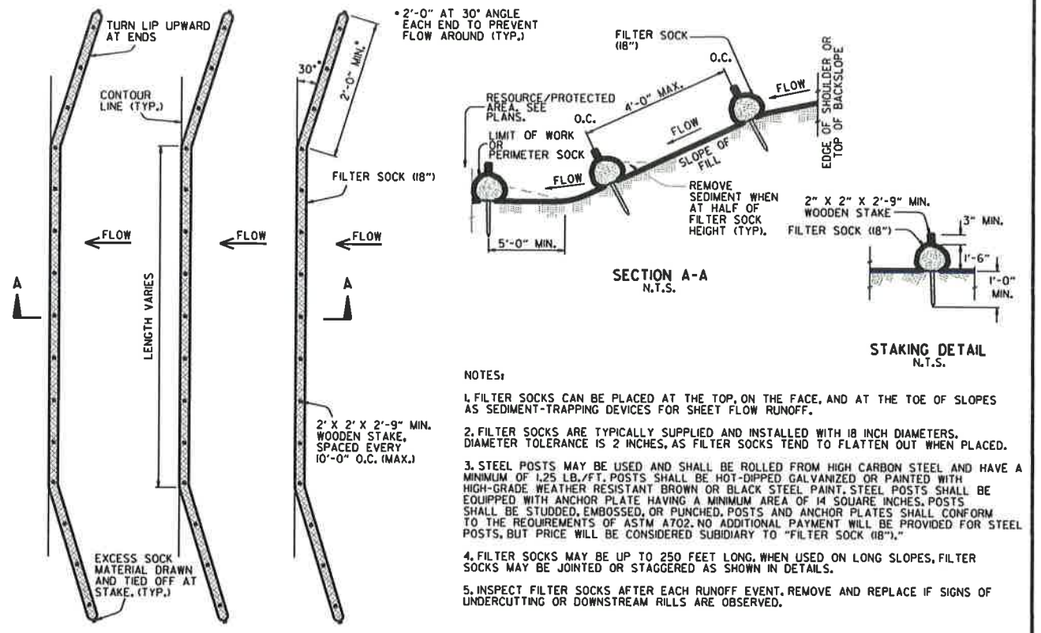
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

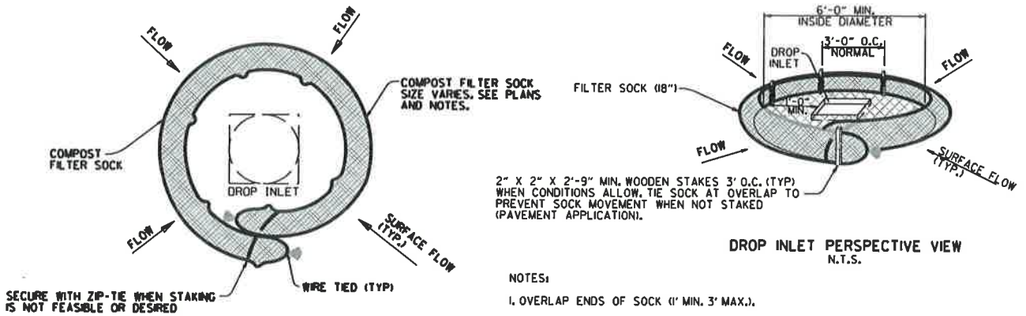
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

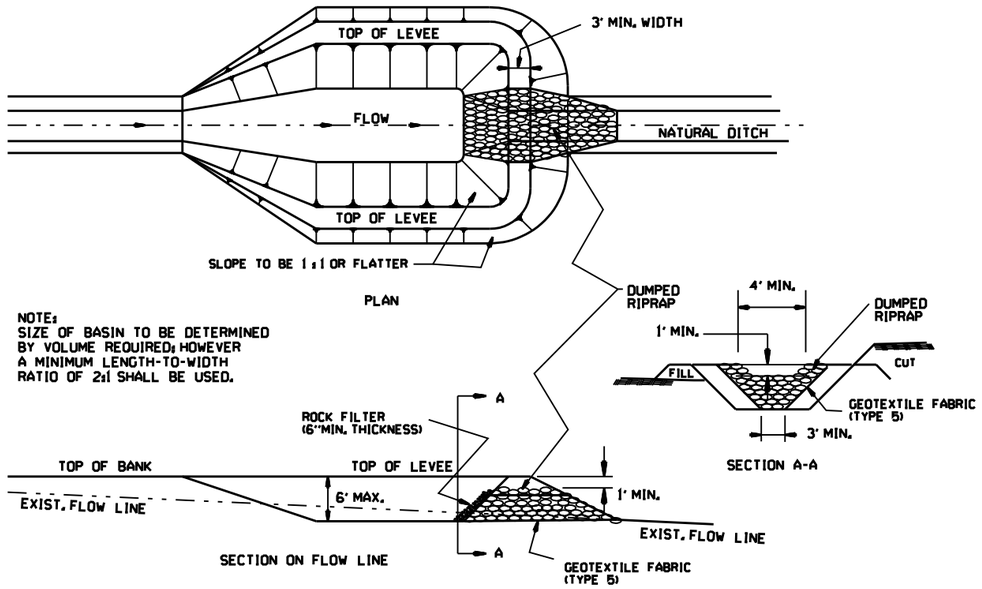
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

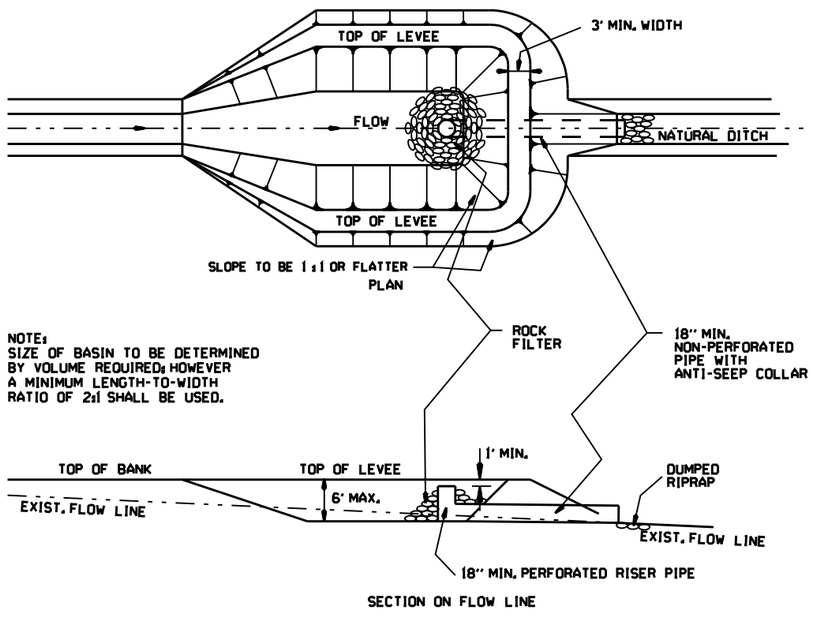
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

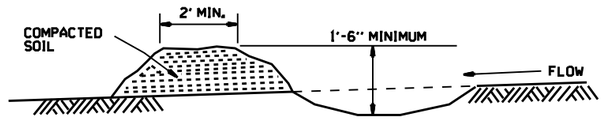
STANDARD DRAWING TEC-1



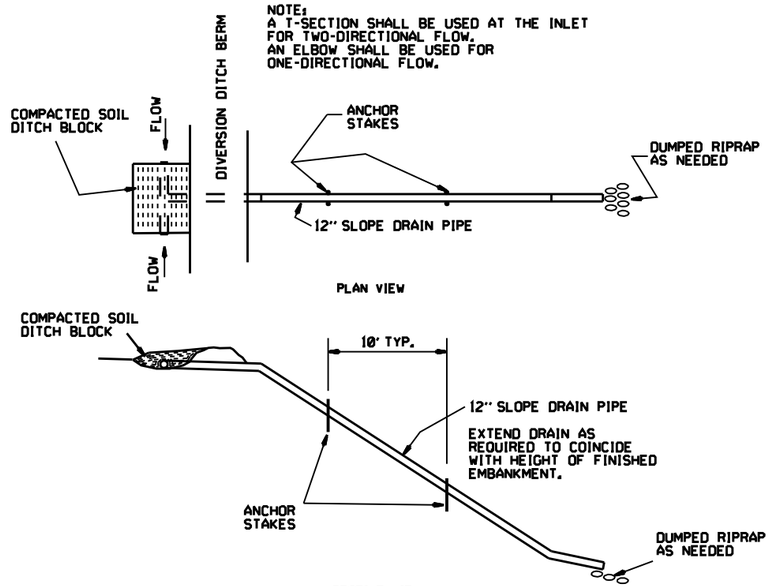
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



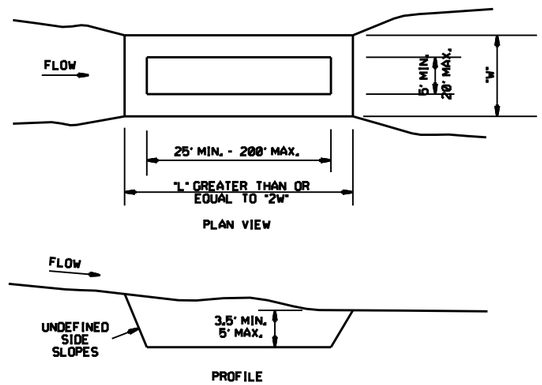
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

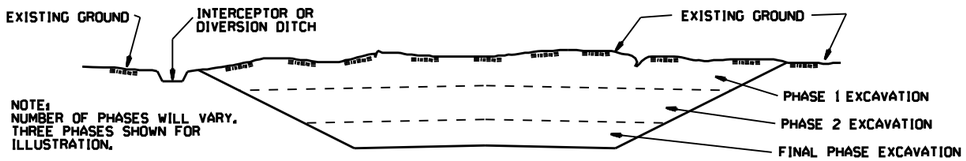
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



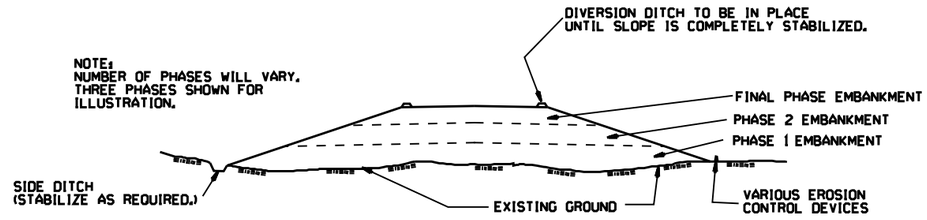
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3