DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	1	38
		GURDON REST AREA - HWY. 26 (F)				

"A FULLY CONTROLLED ACCESS FACILITY"
ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

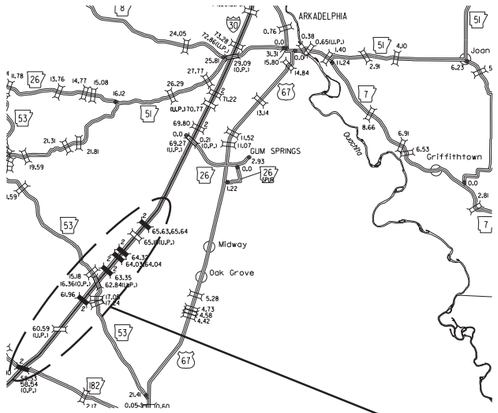
GURDON REST AREA - HWY. 26 (F)

CLARK COUNTY

ROUTE 30 SECTION 14

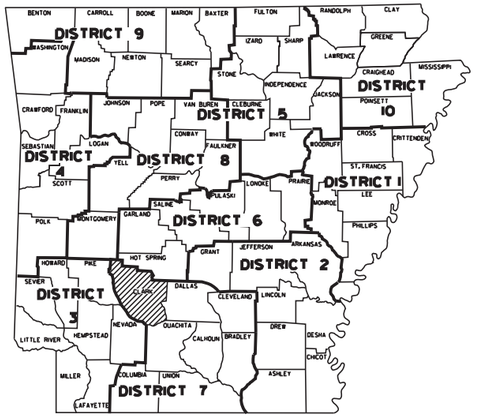
JOB 070561

FED. AID PROJ. NHFP-30-1(160)



VICINITY MAP

BRIDGE LOCATIONS



ARK. HWY. DIST. NO. 7

BRIDGE DATA

① LOG MILE 58.530
40'-0" CLEAR ROADWAY
278.08' TOTAL LENGTH
BRIDGE. NO. A6875
POLYMER OVERLAY

② LOG MILE 58.540
40'-0" CLEAR ROADWAY
278.08' TOTAL LENGTH
BRIDGE. NO. B6875
POLYMER OVERLAY

③ LOG MILE 61.960
40'-0" CLEAR ROADWAY
245.13' TOTAL LENGTH
BRIDGE. NO. A6876
POLYMER OVERLAY

④ LOG MILE 61.960
40'-0" CLEAR ROADWAY
245.13' TOTAL LENGTH
BRIDGE. NO. B6876
POLYMER OVERLAY

⑤ LOG MILE 63.350
40'-0" CLEAR ROADWAY
402.42' TOTAL LENGTH
BRIDGE. NO. A3814
POLYMER OVERLAY

⑥ LOG MILE 63.350
40'-0" CLEAR ROADWAY
402.42' TOTAL LENGTH
BRIDGE. NO. B3814
POLYMER OVERLAY

⑦ LOG MILE 64.040
40'-0" CLEAR ROADWAY
332.63' TOTAL LENGTH
BRIDGE. NO. A3815
POLYMER OVERLAY

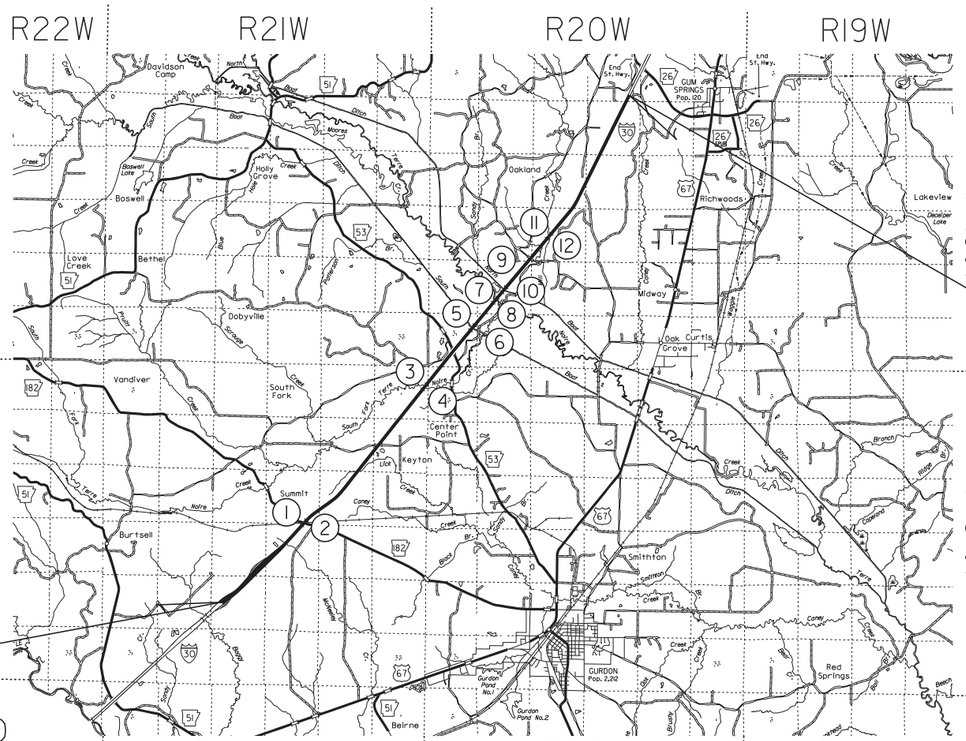
⑧ LOG MILE 64.026
40'-0" CLEAR ROADWAY
332.63' TOTAL LENGTH
BRIDGE. NO. B3815
POLYMER OVERLAY

⑨ LOG MILE 64.320
40'-0" CLEAR ROADWAY
312.16' TOTAL LENGTH
BRIDGE. NO. A3816
POLYMER OVERLAY

⑩ LOG MILE 64.320
40'-0" CLEAR ROADWAY
312.16' TOTAL LENGTH
BRIDGE. NO. B3816
POLYMER OVERLAY

⑪ LOG MILE 65.640
40'-0" CLEAR ROADWAY
152.66' TOTAL LENGTH
BRIDGE. NO. A3818
POLYMER OVERLAY

⑫ LOG MILE 65.630
40'-0" CLEAR ROADWAY
152.66' TOTAL LENGTH
BRIDGE. NO. B3818
POLYMER OVERLAY



· DESIGN TRAFFIC DATA ·

DESIGN YEAR	2042
2022 ADT	32000
2042 ADT	42000
2042 DHV	4620
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	60%
DESIGN SPEED	75 MPH

N

	BEGIN JOB	MID-POINT OF JOB	END JOB
LATITUDE	33°55'48" N	33°59'38" N	34°04'18" N
LONGITUDE	93°15'37" W	93°11'11" W	93°07'16" W

PROJECT LENGTH COMPUTED ALONG C.L. CONSTRUCTION

GROSS LENGTH OF PROJECT	64790.88	FEET OR	12.271 MILES
NET LENGTH OF ROADWAY	63067.80	FEET OR	11.945 MILES
NET LENGTH OF BRIDGES	1723.08	FEET OR	0.326 MILES
NET LENGTH OF PROJECT	64790.88	FEET OR	12.271 MILES

CERTIFICATE OF AUTHORIZATION
BRIDGEFARMER & ASSOCIATES ENGINEERING
No. 945
ARKANSAS-ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
2022-11-17

P.E. JOB 070561

C:\BMS\BRIDGEFARMER-PW\ROBERT.DARRINGTON@BRIDGEFARMER.COM\DMS19812\R070561_01_GN_01.TP_DGN

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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	2	38
		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		
4-5	TYPICAL SECTIONS OF IMPROVEMENT		
6-9	SPECIAL DETAILS		
10-11	TEMPORARY EROSION CONTROL DETAILS		
12-16	MAINTENANCE OF TRAFFIC DETAILS		
17	PERMANENT PAVEMENT MARKING DETAILS		
18-20	QUANTITIES		
21-22	ITS QUANTITIES		
23	SUMMARY OF BRIDGE QUANTITIES	A&B3814, A&B3815, A&B3816, A&B3818, A&B6875, A&B6876	65858
24	SUMMARY OF QUANTITIES AND REVISIONS		
25	DETAILS OF BRIDGE EXP. JT. MODIFICATION (SHEET 1 OF 3)	A&B3814, A&B3815, A&B3816, A&B3818, A&B6875, A&B6876	65859
26	DETAILS OF BRIDGE EXP. JT. MODIFICATION (SHEET 2 OF 3)	A&B3814, A&B3815, A&B3816, A&B3818, A&B6875, A&B6876	65660
27	DETAILS OF BRIDGE EXP. JT. MODIFICATION (SHEET 3 OF 3)	A&B3814, A&B3815, A&B3816, A&B3818, A&B6875, A&B6876	65861
28	ITS SYSTEM MAP		
29-34	ITS SYSTEM		
35	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 1 OF 4)	TM-030-10-01	65798
36	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 2 OF 4)	TM-030-10-01	65799
37	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 3 OF 4)	TM-030-10-01	65800
38	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 4 OF 4)	TM-030-10-01	65801

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
Shahriar Azad 2022-11-17

BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55064	STANDARD DETAILS FOR JOINT REPAIRS & MODIFICATION	11-07-19

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
GR-6	GUARDRAIL DETAILS	05-19-22
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
GRT-1	GUARDRAIL DETAILS	11-07-19
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PM-2	PERMANENT PAVEMENT MARKING ON ACCESS CONSTROLLED ROADWAYS	05-14-20
SD-6	HEAVY DUTY PULL BOX	11-16-17
SD-7	SPAN WIRE ASSEMBLY WOOD POLE	11-16-17
SD-9	SERVICE POINT	11-07-19
SD-11	STEEL POLE WITH MAST ARM	11-16-17
SHS-8	TYPICAL DELINEATOR PLACEMENT ALONG THE INTERSTATE SYSTEM	11-16-17
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17

INDEX OF SHEETS AND STANDARD DRAWINGS

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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	3	38
		GOVERNING SPECIFICATIONS AND GENERAL NOTES				

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 - TRAINING PROGRAM JOB NUMBER 070561
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
105-4	MAINTENANCE DURING CONSTRUCTION
107-2	RESTRAINING CONDITIONS
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
410-4	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
600-2	INCIDENTAL CONSTRUCTION
603-1	LANE CLOSURE NOTIFICATION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONE
604-3	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
620-1	MULCH COVER
621-1	FILTER SOCKS
800-1	STRUCTURES
802-4	CEMENT
804-2	REINFORCING STEEL FOR STRUCTURES
JOB 070561	ASSESSMENT OF WORKING DAYS-MAINTENANCE OF TRAFFIC
JOB 070561	BIDDING REQUIREMENTS AND CONDITIONS
JOB 070561	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS
JOB 070561	BRIDGE EXPANSION JOINT MODIFICATION
JOB 070561	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 070561	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 070561	CARGO PREFERENCE ACT REQUIREMENTS
JOB 070561	COLD MILLING - MILL AND INLAY
JOB 070561	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB 070561	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 070561	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 070561	ENHANCED THERMOPLASTIC PAVEMENT MARKING
JOB 070561	FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 070561	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 070561	INSURANCE, CONSTRUCTION, AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (G&W)
JOB 070561	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 070561	LONGITUDINAL JOINT DENSITIES FOR ACHM SURFACE COURSES
JOB 070561	MAINTENANCE OF TRAFFIC
JOB 070561	MANDATORY ELECTRONIC CONTRACT
JOB 070561	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 070561	OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY
JOB 070561	PAN-TILT-ZOOM CAMERA SYSTEM
JOB 070561	PARTNERING REQUIREMENTS
JOB 070561	PERCENT WITHIN LIMITS
JOB 070561	POLYMER OVERLAY
JOB 070561	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 070561	PRICE ADJUSTMENT FOR FUEL
JOB 070561	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 070561	RESHAPE SLOPES
JOB 070561	RESTRICTIONS ON THE USE OF RECYCLED ASPHALT PAVEMENT MATERIAL
JOB 070561	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 070561	SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB 070561	SPECIAL CLEARING
JOB 070561	SPECIAL SAFETY REQUIREMENTS FOR OVERHEAD SIGNS
JOB 070561	STEEL SIGN STRUCTURES
JOB 070561	STORMWATER POLLUTION PREVENTION PLAN
JOB 070561	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 070561	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 070561	UNDERDRAIN FLUSHING AND INSPECTION
JOB 070561	UTILITY ADJUSTMENTS
JOB 070561	VALUE ENGINEERING
JOB 070561	WARM MIX ASPHALT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12407
SHAHRIAR AZAD
Shahriar Azad 2022-11-29

GENERAL NOTES

1. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
2. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
4. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
5. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT MATERIALS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
6. THE EXISTING PAVEMENT TO BE REMOVED 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 PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
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.

GOVERNING SPECIFICATIONS AND GENERAL NOTES

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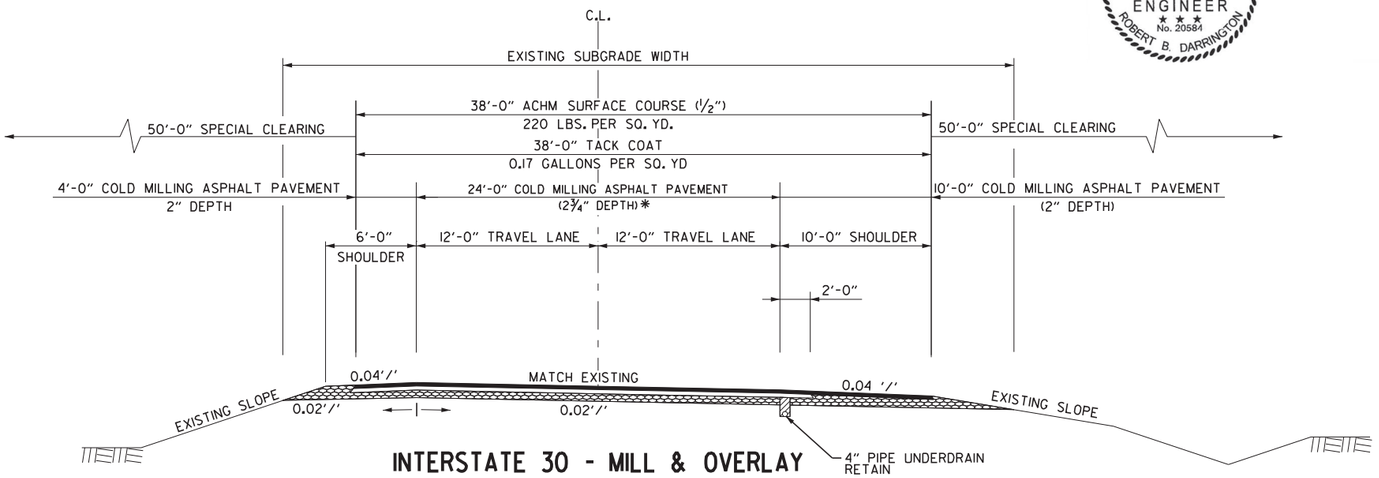
8:15:56 AM 11/17/2022 ROBERT.DARRINGTON

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	4	38
		TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
11-17-2022

BRIDGE:
LOG MILE 58.512 TO LOG MILE 58.579
LOG MILE 61.935 TO LOG MILE 61.995



INTERSTATE 30 - MILL & OVERLAY
(SHOWN IN DIRECTION OF TRAFFIC)

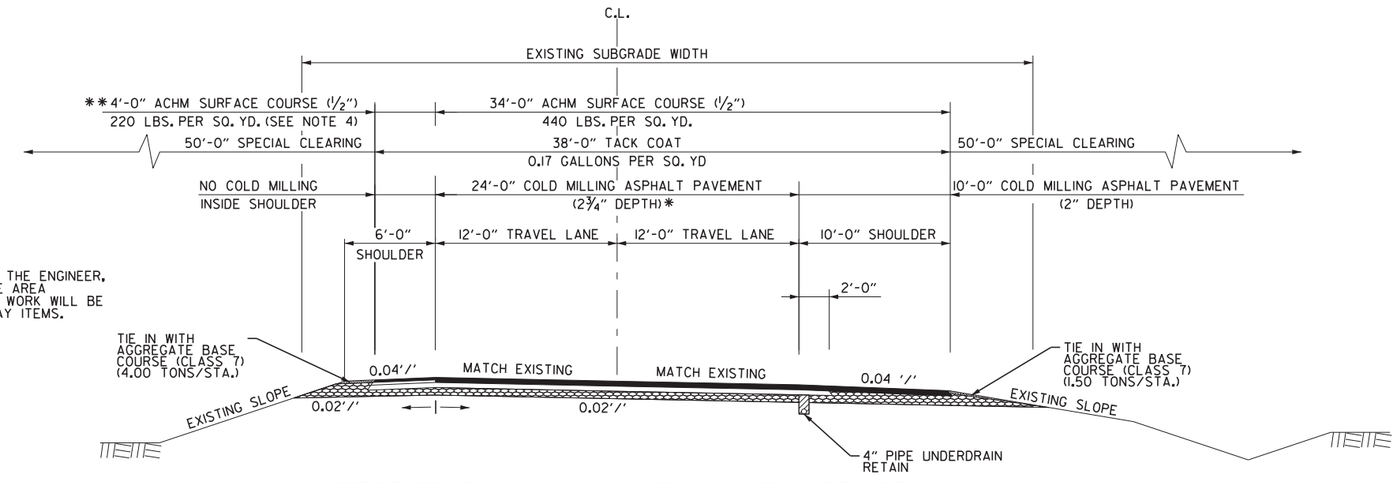
EASTBOUND MAIN LANES
LOG MILE 56.384 TO LOG MILE 56.870
LOG MILE 57.670 TO LOG MILE 62.300

WESTBOUND MAIN LANES
LOG MILE 56.384 TO LOG MILE 56.966
LOG MILE 57.107 TO LOG MILE 62.300

*ADDITIONAL 3/4" MILLING DUE TO EXISTING NOVA CHIP ON MAIN LANE PAVEMENT

NOTES:

1. 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.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. 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.
4. REFER TO INSIDE SHOULDER TRANSITION DETAIL ON SHEET 9.



** THE CONTRACTOR SHALL FIELD VERIFY WITH THE ENGINEER, THE EXACT LIMITS OF THE EXISTING FAILURE AREA ALONG EASTBOUND I-30. PAYMENT FOR THIS WORK WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS PAY ITEMS.

INTERSTATE 30 - MILL & OVERLAY - FAILURE AREA
(SHOWN IN DIRECTION OF TRAFFIC)

EASTBOUND MAIN LANES
** LOG MILE 56.870 TO LOG MILE 57.670

*ADDITIONAL 3/4" MILLING DUE TO EXISTING NOVA CHIP ON MAIN LANE PAVEMENT

TYPICAL SECTIONS OF IMPROVEMENT

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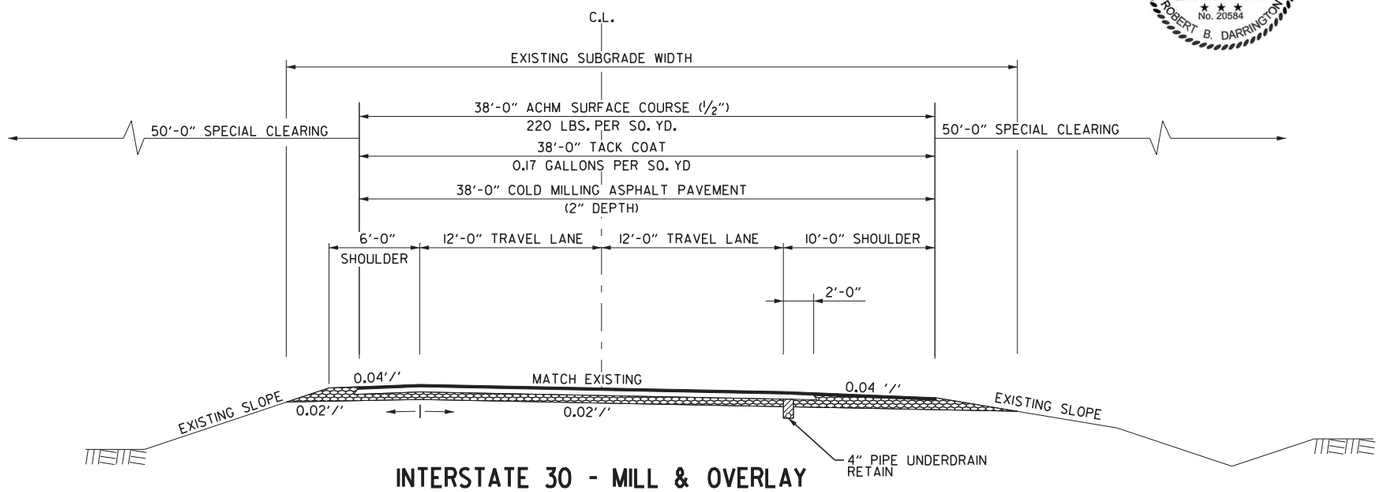
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
12-12-22		6	ARK.	070561	5	38
		TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
12-12-2022

BRIDGE:
LOG MILE 63.324 TO LOG MILE 63.414
LOG MILE 64.011 TO LOG MILE 64.090
LOG MILE 64.293 TO LOG MILE 64.365
LOG MILE 65.598 TO LOG MILE 65.641



INTERSTATE 30 - MILL & OVERLAY
(SHOWN IN DIRECTION OF TRAFFIC)

EASTBOUND MAIN LANES
LOG MILE 62.300 TO LOG MILE 68.655

WESTBOUND MAIN LANES
LOG MILE 62.300 TO LOG MILE 68.655

NOTES:
1. 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.
2. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
3. 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.

REST AREA EASTBOUND I-30 MAIN LANES - ENTRANCE RAMP - ACCELERATION AND TAPER
LOG MILE 56.561 TO LOG MILE 56.711

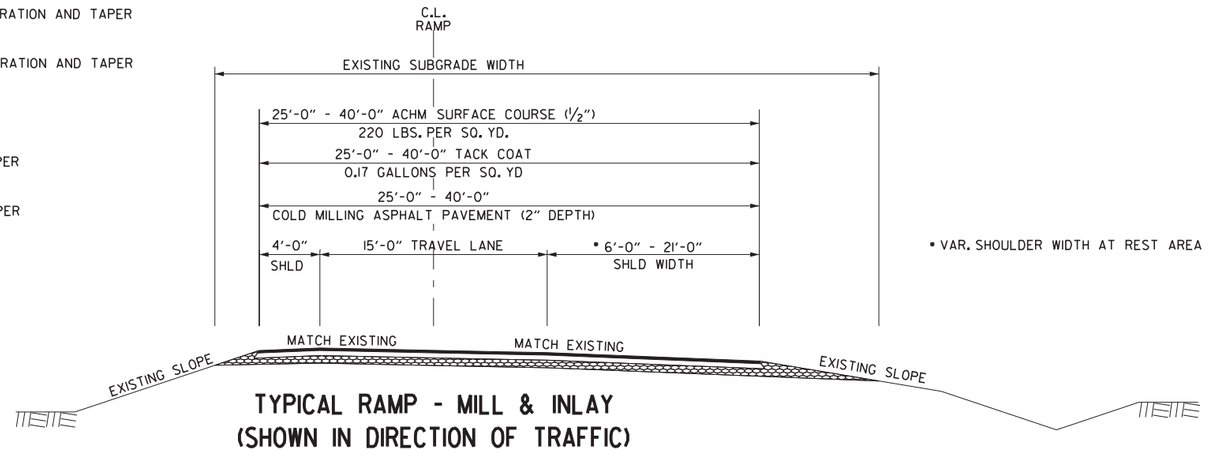
REST AREA WESTBOUND I-30 MAIN LANES - ENTRANCE RAMP - ACCELERATION AND TAPER
LOG MILE 56.909 TO LOG MILE 57.107

REST AREA WESTBOUND I-30 MAIN LANES - EXIT RAMP - TURNOUT
LOG MILE 57.517 TO LOG MILE 57.552

EXIT 63. EASTBOUND I-30 - ENTRANCE RAMP - ACCELERATION AND TAPER
LOG MILE 62.762 TO LOG MILE 63.098

EXIT 63. WESTBOUND I-30 - ENTRANCE RAMP - ACCELERATION AND TAPER
LOG MILE 62.494 TO LOG MILE 62.709

EXIT 63. WESTBOUND I-30 - EXIT RAMP - DECELERATION AND TAPER
LOG MILE 62.809 TO LOG MILE 62.980



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

REST AREA EASTBOUND I-30 MAIN LANES - ENTRANCE RAMP
LOG MILE 56.530 TO LOG MILE 56.711

EXIT 63. EASTBOUND I-30 - EXIT RAMP - TURNOUT
LOG MILE 62.489 TO LOG MILE 62.568

EXIT 63. EASTBOUND I-30 - ENTRANCE RAMP - TURNOUT
LOG MILE 62.747 TO LOG MILE 62.762

REST AREA WESTBOUND I-30 MAIN LANES - ENTRANCE RAMP
LOG MILE 56.909 TO LOG MILE 57.148

REST AREA WESTBOUND I-30 MAIN LANES - EXIT RAMP
LOG MILE 57.460 TO LOG MILE 57.552

EXIT 63. WESTBOUND I-30 - ENTRANCE RAMP - TURNOUT
LOG MILE 62.709 TO LOG MILE 62.725

EXIT 63. WESTBOUND I-30 - EXIT RAMP - TURNOUT
LOG MILE 62.795 TO LOG MILE 62.809

TYPICAL SECTIONS OF IMPROVEMENT

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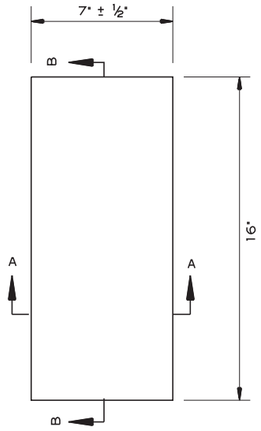
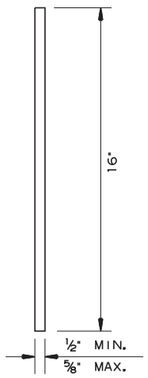
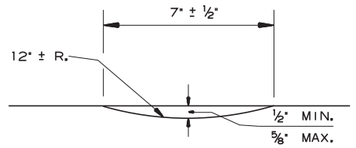
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	6	38
		SPECIAL DETAILS				



PLAN

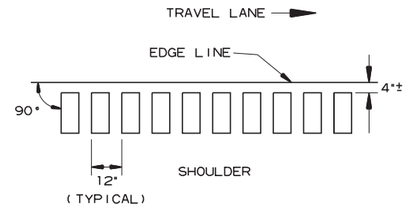


SECTION B-B



SECTION A-A

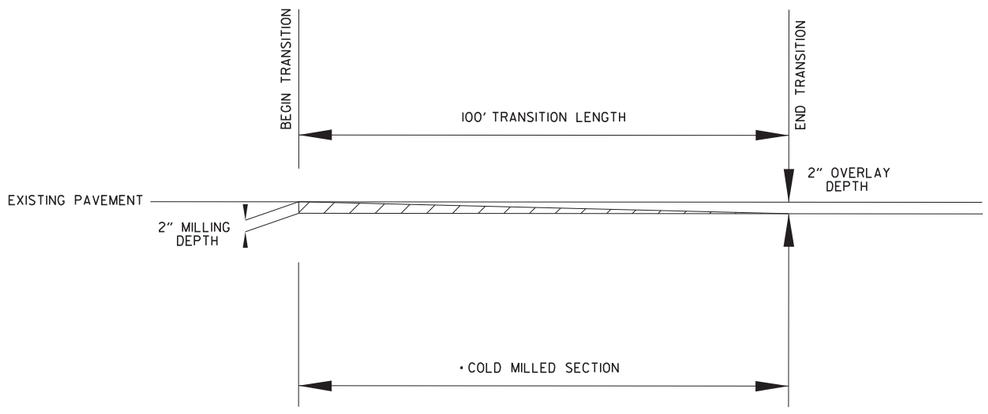
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER

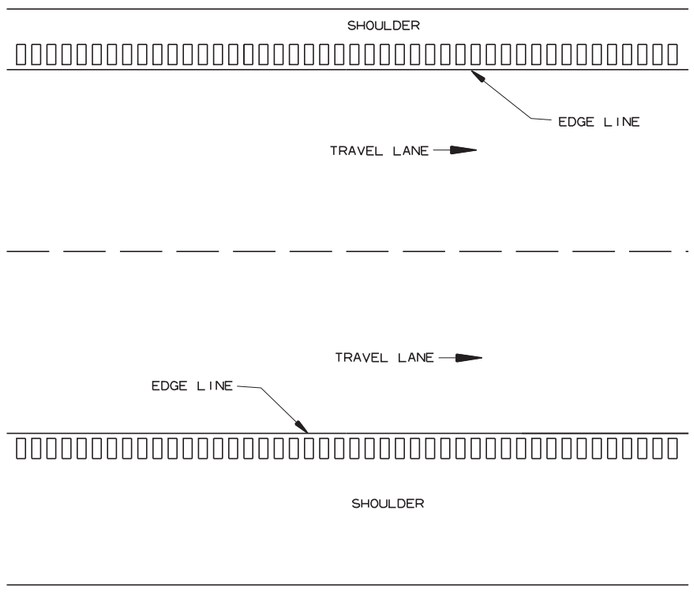
NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.
2. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.



DETAIL SHOWING TAPER TO EXISTING PAVEMENT

• TO BE USED AS DIRECTED BY THE ENGINEER



PLAN VIEW

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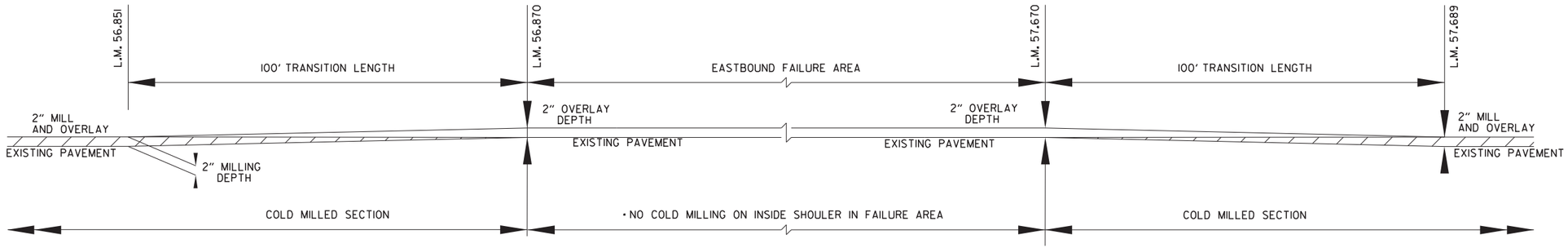
SPECIAL DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	7	38
		SPECIAL DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20984
ROBERT B. DARRINGTON
11-17-2022



DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

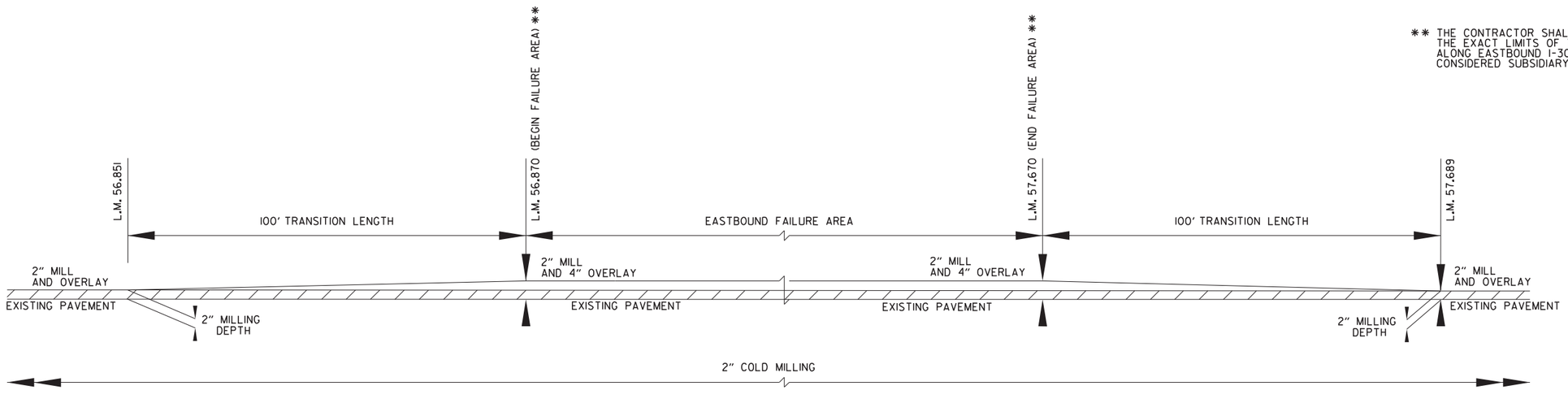
• EASTBOUND INSIDE SHOULDER ONLY

DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

• EASTBOUND INSIDE SHOULDER ONLY

INSIDE SHOULDER - EASTBOUND FAILURE AREA

N.T.S.



** THE CONTRACTOR SHALL FIELD VERIFY WITH THE ENGINEER, THE EXACT LIMITS OF THE EXISTING FAILURE AREA ALONG EASTBOUND I-30. PAYMENT FOR THIS WORK WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS PAY ITEMS.

DETAIL SHOWING TRANSITION FROM 2" TO 4" OVERLAY

EASTBOUND MAINLANES AND OUTSIDE SHOULDER

DETAIL SHOWING TRANSITION FROM 4" TO 2" OVERLAY

EASTBOUND MAINLANES AND OUTSIDE SHOULDER

MAINLANES AND OUTSIDE SHOULDER - EASTBOUND FAILURE AREA

N.T.S.

SPECIAL DETAILS

ROBERT.DARRINGTON 11/17/2022 11:15:01 AM
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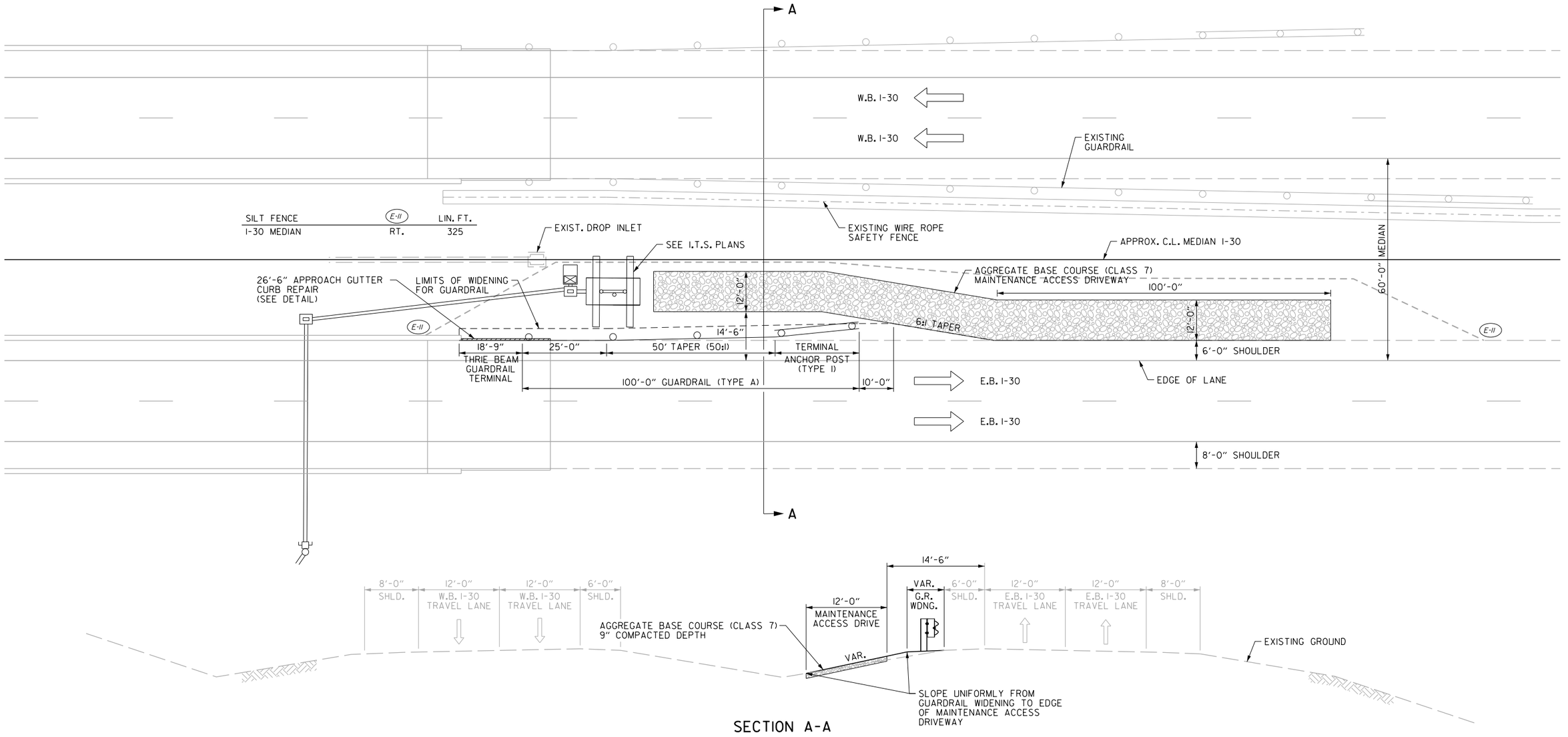
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	8	38
		SPECIAL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 13653
ADAM E. WIERCIAK

DIGITALLY SIGNED 11/16/2022



SECTION A-A

MAINTENANCE ACCESS DRIVEWAY DETAILS

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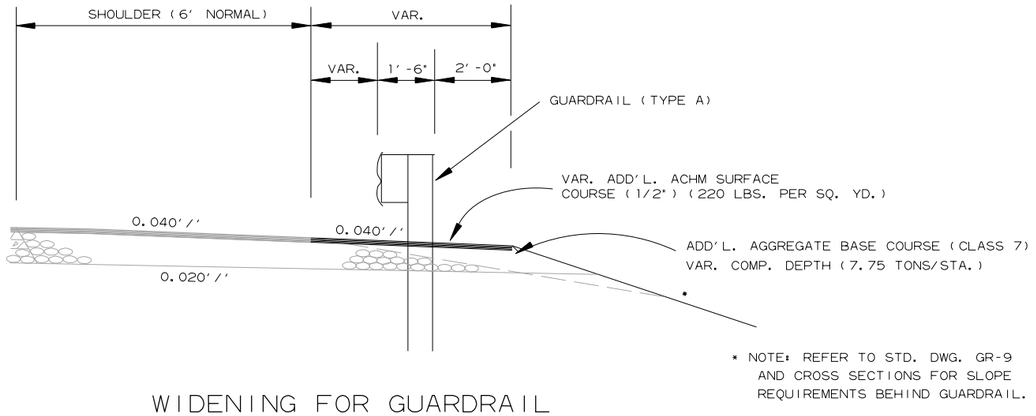
REVISED DATE:

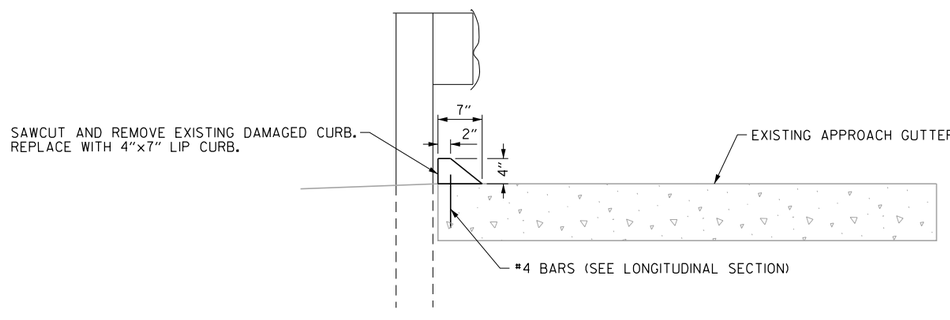
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	9	38
		SPECIAL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13653
ADAM E. WIERCIAK

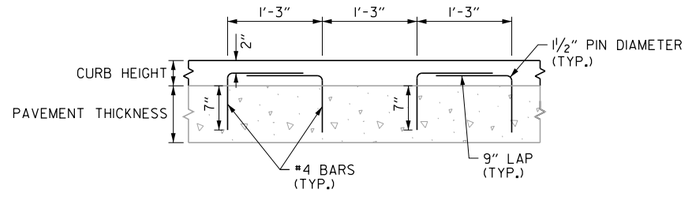
DIGITALLY SIGNED 11/16/2022



WIDENING FOR GUARDRAIL



ELEVATION



LONGITUDINAL SECTION

NOTES:

ALL MATERIALS AND LABOR FOR THE APPROACH GUTTER CURB REPAIR SHALL BE PAID SUBSIDIARY TO PAY ITEM "THRIE BEAM GUARDRAIL TERMINAL"

REFER TO SECTION 634 OF THE STANDARD SPECIFICATIONS FOR CURB CONSTRUCTION.

APPROACH GUTTER CURB REPAIR

AEWierciak 11/16/2022 4:06:51 PM
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REVISED DATE:

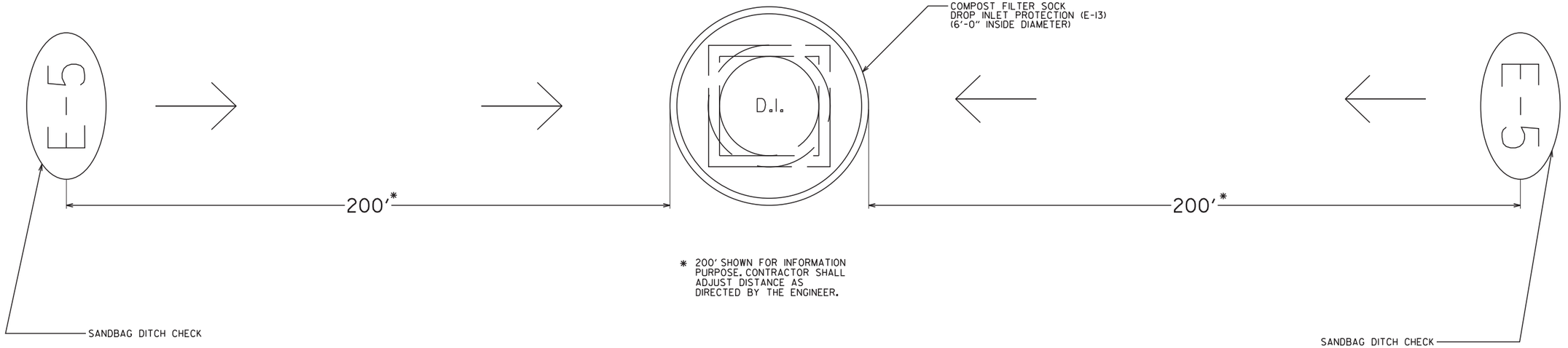
8:16:07 AM 11/17/2022 ROBERT.DARRINGTON

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	10	38
		TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
11-17-2022

REVISIONS

DATE OF REVISION	REVISION



* 200' SHOWN FOR INFORMATION PURPOSE. CONTRACTOR SHALL ADJUST DISTANCE AS DIRECTED BY THE ENGINEER.

TEMPORARY EROSION CONTROL DETAIL AT MEDIAN INLET

LEGEND

FILTER SOCK	— —
DROP INLET FILTER SOCK	▭
SAND BAG DITCH CHECK	(E-5)

TEMPORARY EROSION CONTROL DETAILS

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11/17/2022
ROBERT.DARRINGTON
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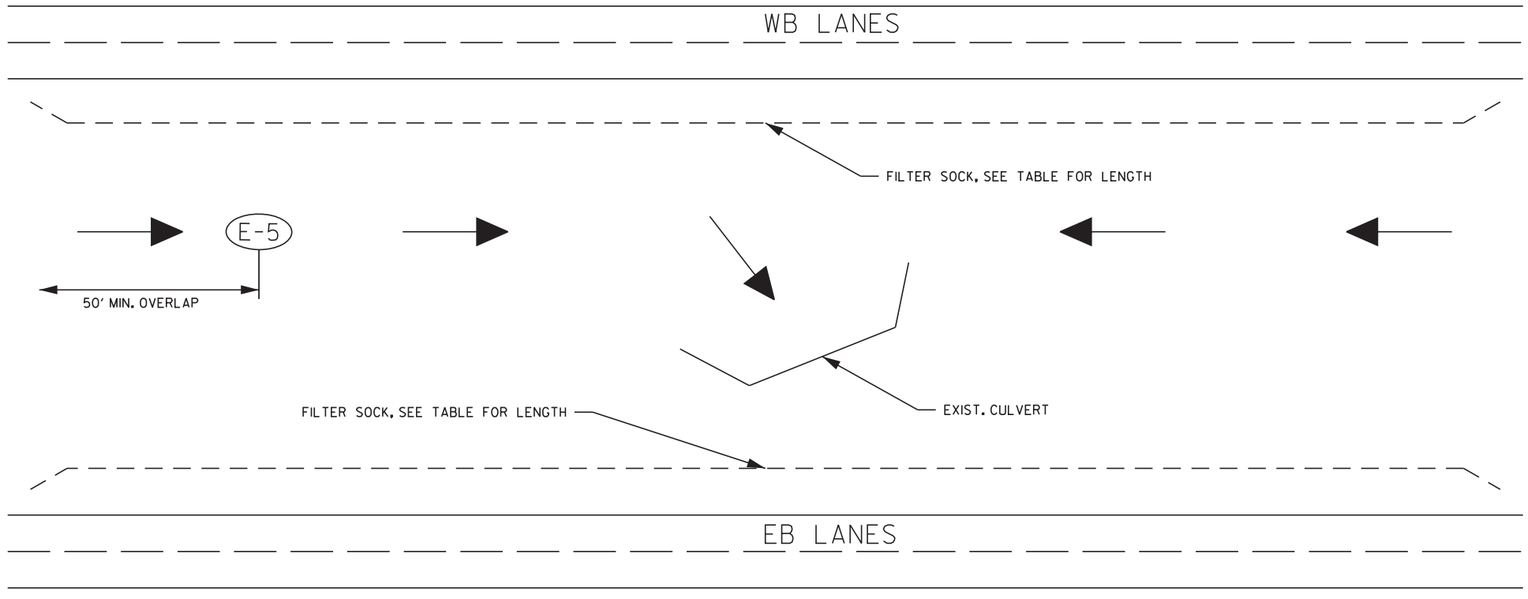
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	11	38
		TEMPORARY EROSION CONTROL DETAILS				

REVISIONS

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
11-17-2022

FILTER SOCK LOCATIONS			
BEGIN L.M.	END L.M.	DESCRIPTION	LENGTH
56.476	56.523	EXIST. CULVERT, RT OF EASTBOUND I-30	250'
56.681	56.776	EXIST. CULVERT, EASTBOUND MEDIAN I-30	500'
56.681	56.776	EXIST. CULVERT, EASTBOUND MEDIAN I-30	500'
57.312	57.359	EXIST. CULVERT, RT OF WESTBOUND I-30	250'
57.385	57.432	EXIST. CULVERT, RT OF WESTBOUND I-30	250'
57.730	57.777	EXIST. CULVERT, EASTBOUND MEDIAN I-30	250'
57.730	57.777	EXIST. CULVERT, WESTBOUND MEDIAN I-30	250'
57.839	57.886	EXIST. CULVERT, EASTBOUND MEDIAN I-30	250'
57.839	57.886	EXIST. CULVERT, WESTBOUND MEDIAN I-30	250'
57.915	57.963	EXIST. CULVERT, EASTBOUND MEDIAN I-30	250'
57.915	57.963	EXIST. CULVERT, WESTBOUND MEDIAN I-30	250'
58.465	58.512	BRIDGE END, EASTBOUND MEDIAN I-30	250'
58.465	58.512	BRIDGE END, WESTBOUND MEDIAN I-30	250'
58.572	58.619	BRIDGE END, EASTBOUND MEDIAN I-30	250'
58.572	58.619	BRIDGE END, WESTBOUND MEDIAN I-30	250'
61.889	61.936	BRIDGE END, EASTBOUND MEDIAN I-30	250'
61.889	61.936	BRIDGE END, WESTBOUND MEDIAN I-30	250'
61.997	62.044	BRIDGE END, EASTBOUND MEDIAN I-30	250'
61.997	62.044	BRIDGE END, WESTBOUND MEDIAN I-30	250'
63.278	63.325	BRIDGE END, EASTBOUND MEDIAN I-30	250'
63.278	63.325	BRIDGE END, WESTBOUND MEDIAN I-30	250'
63.416	63.463	BRIDGE END, EASTBOUND MEDIAN I-30	250'
63.416	63.463	BRIDGE END, WESTBOUND MEDIAN I-30	250'
63.962	64.009	BRIDGE END, EASTBOUND MEDIAN I-30	250'
63.962	64.009	BRIDGE END, WESTBOUND MEDIAN I-30	250'
64.086	64.133	BRIDGE END, EASTBOUND MEDIAN I-30	250'
64.086	64.133	BRIDGE END, WESTBOUND MEDIAN I-30	250'
64.248	64.295	BRIDGE END, EASTBOUND MEDIAN I-30	250'
64.248	64.295	BRIDGE END, WESTBOUND MEDIAN I-30	250'
64.365	64.412	BRIDGE END, EASTBOUND MEDIAN I-30	250'
64.365	64.412	BRIDGE END, WESTBOUND MEDIAN I-30	250'
65.558	65.605	BRIDGE END, EASTBOUND MEDIAN I-30	250'
65.558	65.605	BRIDGE END, WESTBOUND MEDIAN I-30	250'
65.647	65.694	BRIDGE END, EASTBOUND MEDIAN I-30	250'
65.647	65.694	BRIDGE END, WESTBOUND MEDIAN I-30	250'



FILTER SOCK DETAIL
N.T.S.

LEGEND

FILTER SOCK	— —
DROP INLET FILTER SOCK	⬭
SAND BAG DITCH CHECK	E-5

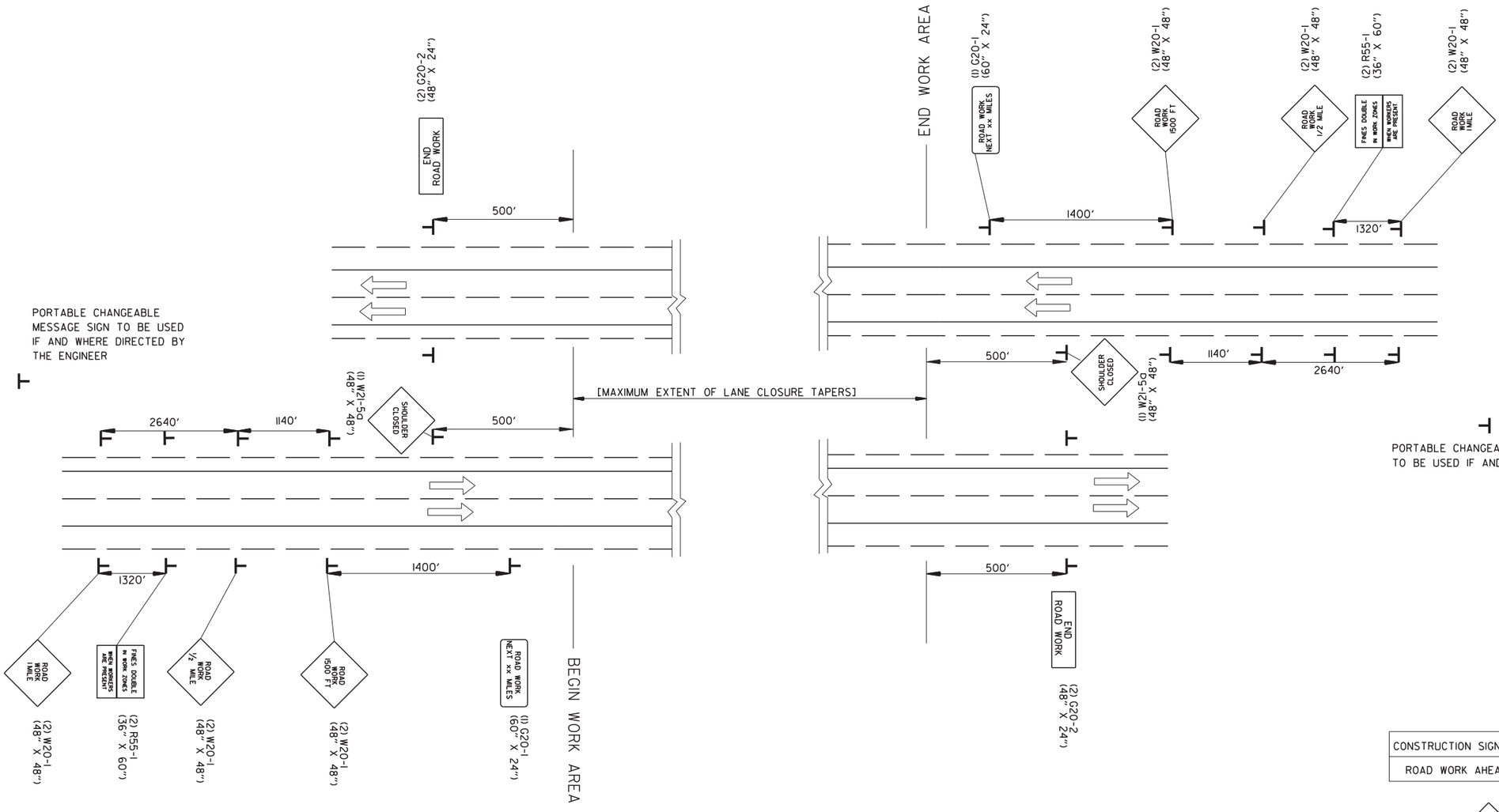
TEMPORARY EROSION CONTROL DETAILS

ROBERT.DARRINGTON 11/17/2022 8:16:17 AM

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	12	38
		MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
11-17-2022

NOTE :
W20-1(VARIOUS DISTANCE) ADVANCE SIGNS
TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS
AS WORKING AREA SHIFTS.



PORTABLE CHANGEABLE MESSAGE SIGN
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

NOTE :
W20-1(VARIOUS DISTANCE) ADVANCE SIGNS
TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS
AS WORKING AREA SHIFTS.

CONSTRUCTION SIGNS FOR ENTRANCE RAMPS	
ROAD WORK AHEAD (W20-1)	4

ROAD WORK AHEAD
(4) W20-1
(48" X 48")
ON ENTRANCE RAMPS

ADVANCE SIGNS AT BEGINNING AND END OF JOB

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE SIGNS AT JOB ENDS

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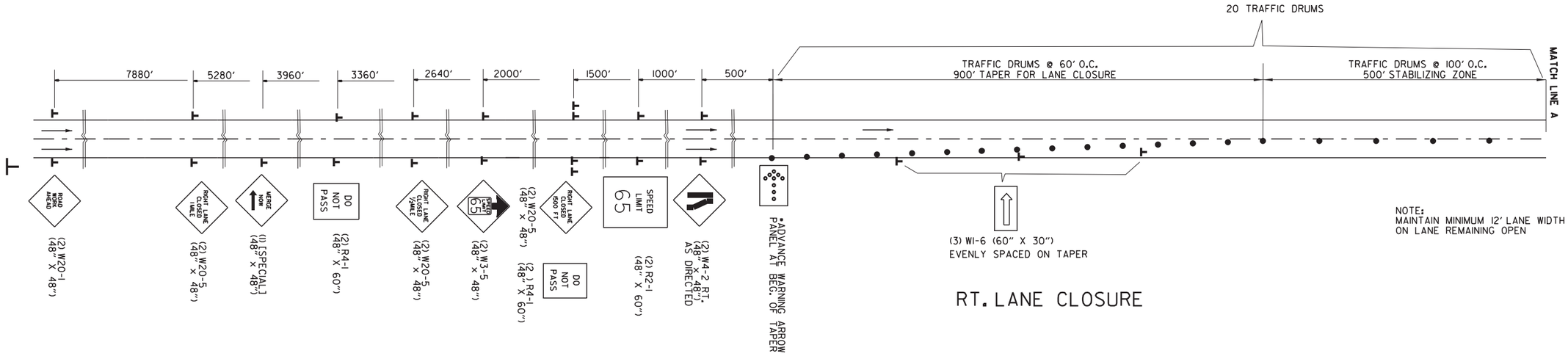
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	13	38
		MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
11-17-2022

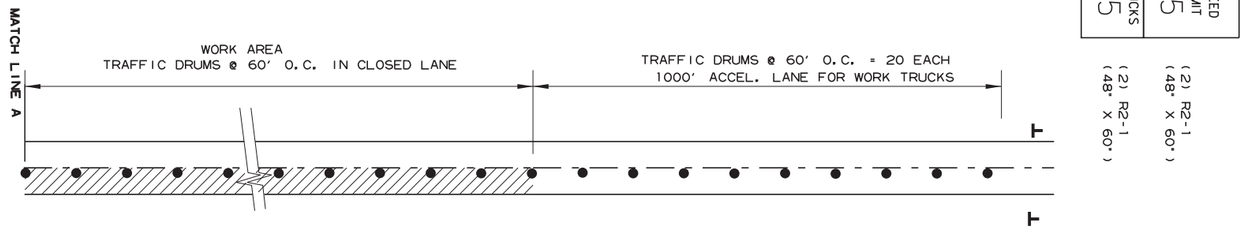


RT. LANE CLOSURE

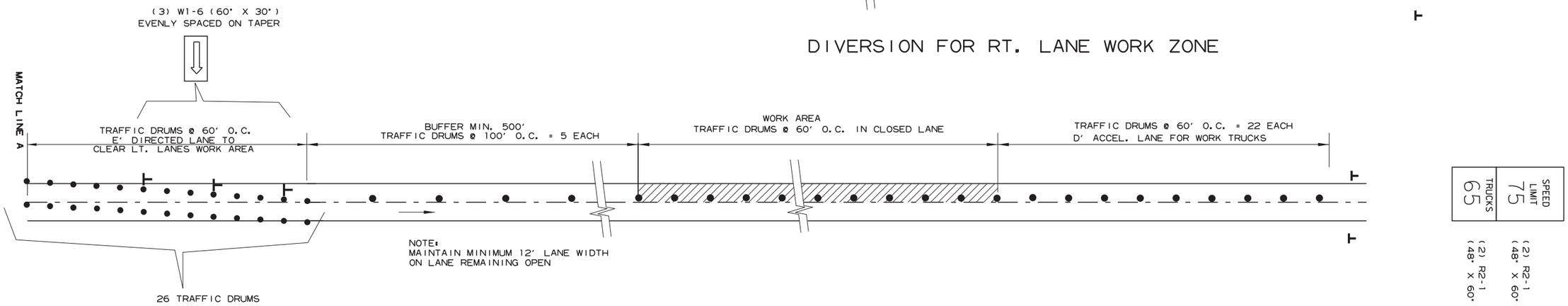
•PORTABLE CHANGEABLE MESSAGE SIGN TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

•TO BE PLACED AT MINIMUM OFFSET OF 12' FROM EDGE OF THROUGH LANE OF TRAFFIC, OR FURTHER IF PRACTICAL.

SPEED LIMIT SIGNS ARE ALSO PROVIDED FOR PLACEMENT PAST ENTRANCE RAMPS WITHIN THE WORK ZONE.



DIVERSION FOR RT. LANE WORK ZONE



DIVERSION FOR LT. LANE WORK ZONE

MAINTENANCE OF TRAFFIC DETAILS LANE CLOSURE

ROBERT.DARRINGTON 11/17/2022 8:16:20 AM
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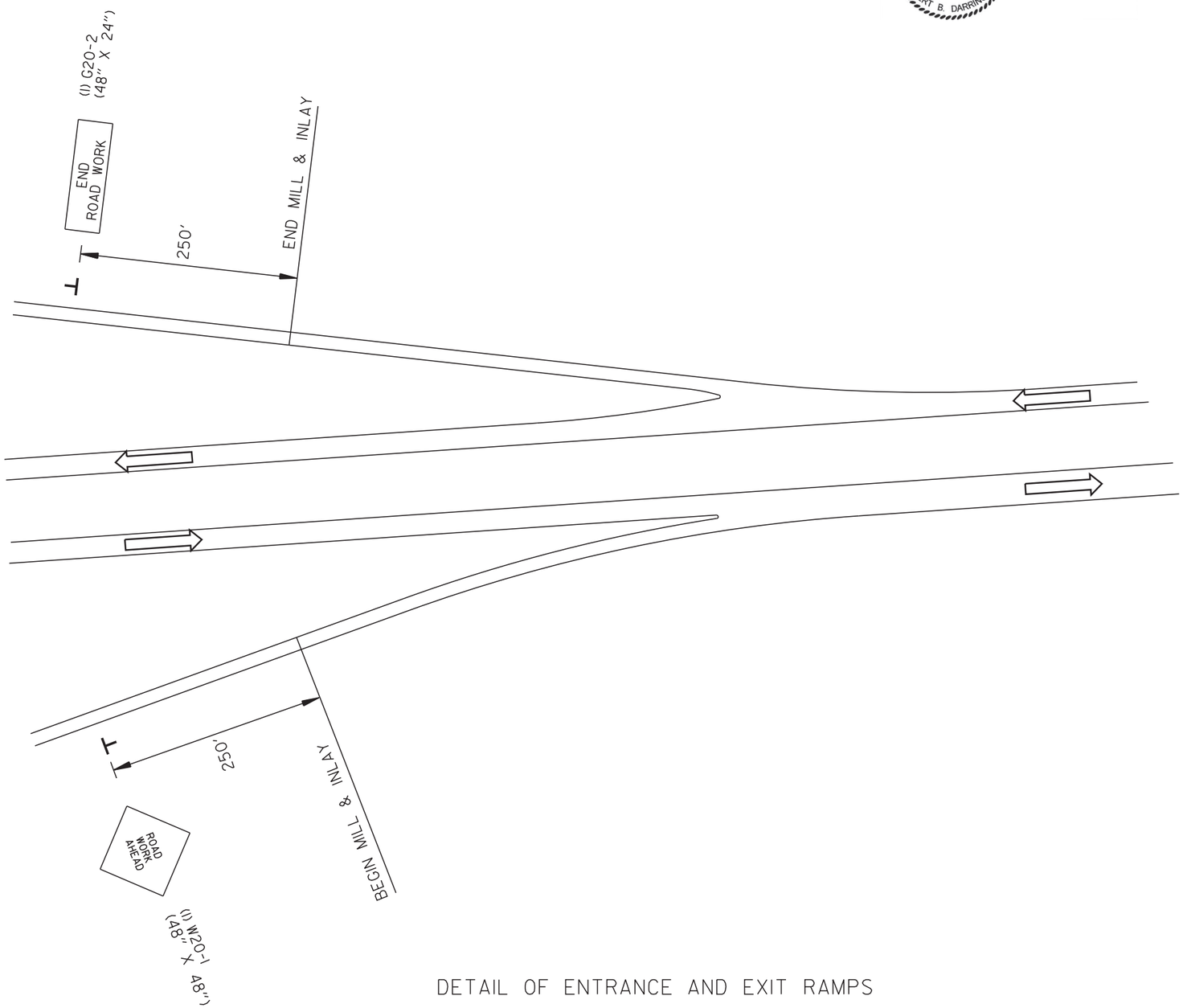
8:16:23 AM 11/17/2022 ROBERT.DARRINGTON

ADVANCE WARNING SIGNS FOR ENTRANCE AND EXIT RAMPS
ROAD WORK AHEAD (X) = 16 SQ. FT.
END ROAD WORK (X) = 8 SQ. FT.



DETAIL OF ENTRANCE AND EXIT RAMPS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. DARRINGTON
No. 20584
11-17-2022

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	14	38
		MAINTENANCE OF TRAFFIC DETAILS				

DETAIL OF RAMPS
MAINTENANCE OF TRAFFIC DETAILS

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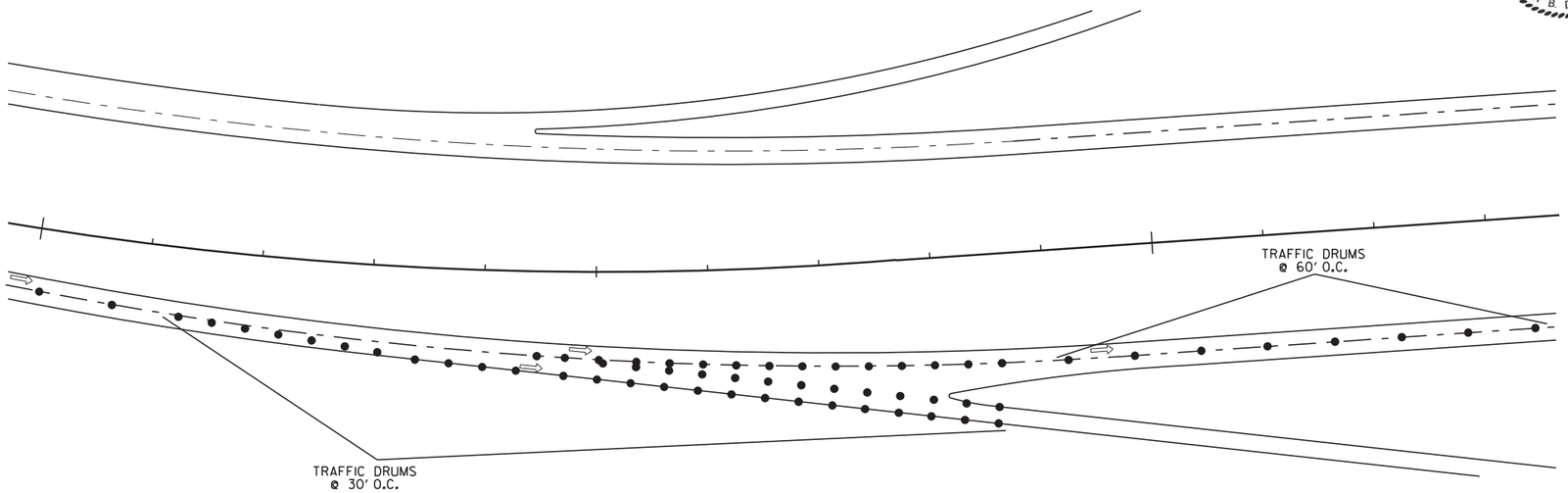
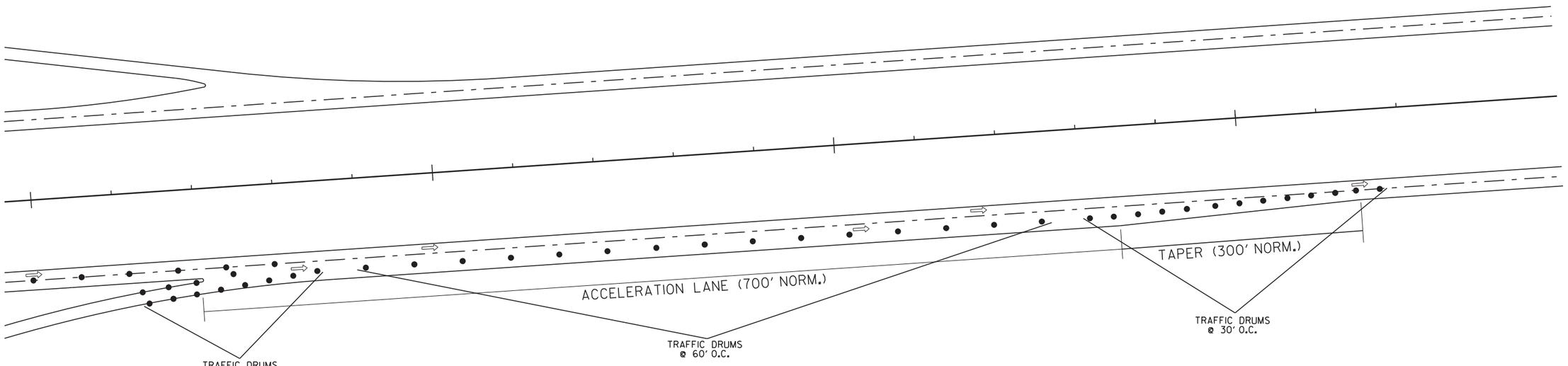
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	15	38
		MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20681
ROBERT B. DARRINGTON
11-17-2022



EXIT RAMP - TYPICAL TRAFFIC DRUM LAYOUT
OUTSIDE LANE CLOSURE



ENTRANCE RAMP - TYPICAL TRAFFIC DRUM LAYOUT
ACCELERATION LANE CLOSURE

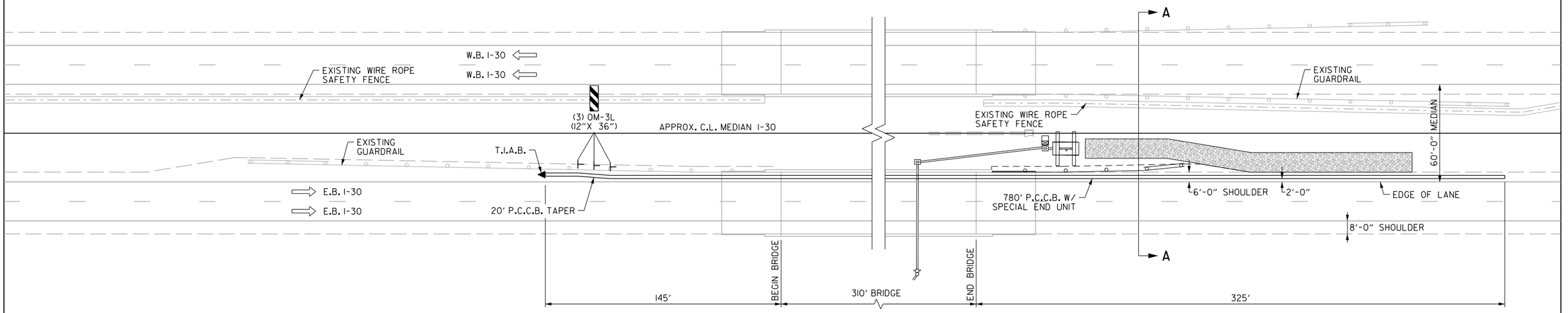
DETAIL OF RAMPS WITH LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

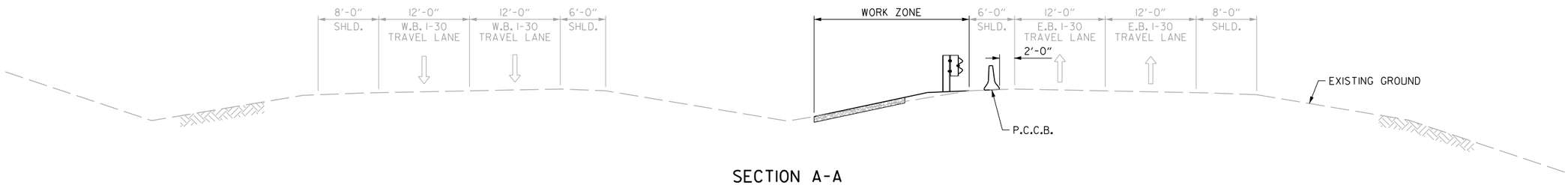
8:16:26 AM 11/17/2022 ROBERT.DARRINGTON
C:\BMS\BRIDGEFARMER-PW\ROBERT.DARRINGTON@BRIDGEFARMER.COM\DMS19821\R070561_MOT_04.DGN.DGN

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	16	38
		MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13653
ADAM E. WIERCIAK

DIGITALLY SIGNED 11/16/2022





SECTION A-A

ITS WORK ZONE DETAIL

ITS WORK ZONE
MAINTENANCE OF TRAFFIC DETAILS

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REVISED DATE:

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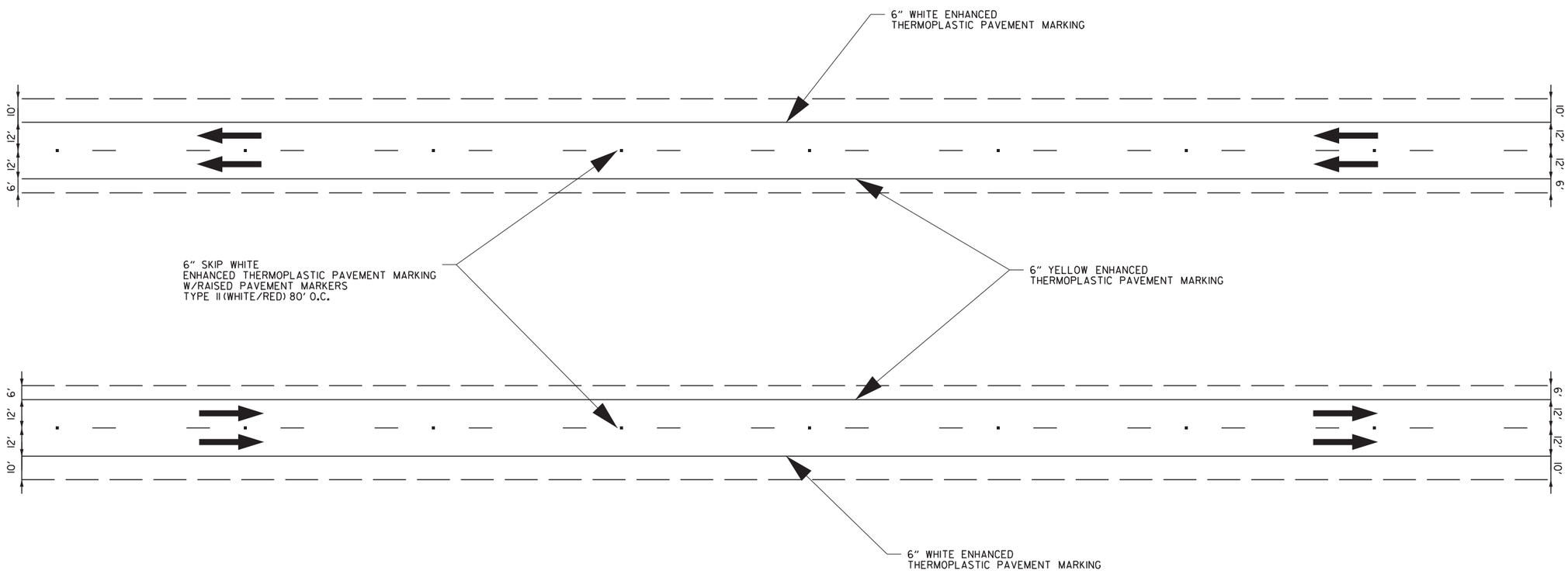
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	17	38
		PERMANENT PAVEMENT MARKING DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. DARRINGTON
No. 20584
11-17-2022



FINAL STRIPING DETAIL

PERMANENT PAVEMENT MARKING DETAILS

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Robert.Darrow@gtc.com 12/12/2022 6:11:55 PM

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
12-12-22		6	ARK.	070561	18	38
		QUANTITIES				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12425
SHAHRIAR AZAD
Shahriar Azad 12-12-22

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE I	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	• ADVANCE WARNING ARROW PANEL	• PORTABLE CHANGEABLE MESSAGE SIGN
			EACH		NO.	SQ. FT.	EACH	DAY	WEEK
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	64.0			
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	64.0			
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	64.0			
W20-1	ROAD WORK AHEAD	48"x48"	6	6	6	96.0			
G20-2	END ROAD WORK	48"x24"	7	7	7	56.0			
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	20.0			
W3-5	SPEED LIMIT CHANGE	48"x48"	2	2	2	32.0			
R2-1	SPEED LIMIT 75 MPH	48"x60"	2	2	2	40.0			
R2-1	SPEED LIMIT 65 MPH	48"x60"	4	4	4	80.0			
W1-6	LARGE ARROW	60"x30"	6	6	6	75.0			
R4-1	DO NOT PASS	48"x60"	4	4	4	80.0			
W21-5a	SHOULDER CLOSED	48"x48"	2	2	2	32.0			
R55-1	FINES DOUBLE IN WORK ZONES	36"x60"	4	4	4	60.0			
W20-5	RIGHT LANE CLOSED 1500 FT	48"x48"	2	2	2	32.0			
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	2	2	2	32.0			
W20-5	RIGHT LANE CLOSED	48"x48"	2	2	2	32.0			
SPECIAL	MERGE NOW	48"x48"	1	1	1	16.0			
W4-2 RT	RIGHT LANE ENDS	48"x48"	2	2	2	32.0			
	TRAFFIC DRUMS		555	555			555		
	ADVANCE WARNING ARROW PANEL		1	1				60	
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2					40
TOTALS:						**907.0**	**555**	**60**	**40**

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

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

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	ENTIRE PROJECT	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	ENHANCED THERMOPLASTIC PAVEMENT MARKING		THERMOPLASTIC PAVEMENT MARKING	
			TYPE II	6"		12"	ARROWS
			(WHITE/RED)	WHITE	YELLOW	WHITE	
	LIN. FT. - EACH	LIN. FT.	EACH	LIN. FT.			EACH
CONSTRUCTION PAVEMENT MARKINGS	300874	300874					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			1945				
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6")	167717			167717			
ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	133157				133157		
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	2368					2490	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	1						1
TOTALS:		**300874**	**1945**	**167717**	**133157**	**2490**	**1**

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

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QUANTITIES

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
12-12-22		6	ARK.	070561	19	38
		QUANTITIES				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12426
SHAHRIAR AZAD
12-12-22

RESHAPE SLOPES

LOG MILE	LOG MILE	LOCATION	RESHAPE SLOPES
			STATION
56.384	58.512	EASTBOUND I-30	112
58.579	61.935	EASTBOUND I-30	177
61.995	63.324	EASTBOUND I-30	70
63.414	64.011	EASTBOUND I-30	32
64.090	64.293	EASTBOUND I-30	11
64.365	65.598	EASTBOUND I-30	65
65.641	68.655	EASTBOUND I-30	159
56.384	58.503	WESTBOUND I-30	112
58.570	61.935	WESTBOUND I-30	178
61.995	63.324	WESTBOUND I-30	70
63.414	64.005	WESTBOUND I-30	31
64.082	64.293	WESTBOUND I-30	11
64.365	65.610	WESTBOUND I-30	66
65.652	68.655	WESTBOUND I-30	159
TOTAL:			**1253**

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	300	600
TOTALS:	**300**	**600**

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	200
TOTAL:	**200**

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

EROSION CONTROL

LOG MILE	LOG MILE	LOCATION	PERMANENT EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	FILTER SOCK (18") (E-3)	SAND BAG DITCH CHECKS (E-5)	DROP INLET FILTER SOCK (18") (E-13)	•SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	LIN. FT.	BAG	LIN. FT.	CU. YD.
ENTIRE	PROJECT	MEDIAN I-30						9250	3322	3390	277
•ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			15.00	30.00	15.00	1530.0	15.00	3053	831	848	39
TOTALS:			**15.00**	**30.00**	**15.00**	**1530.0**	**15.00**	**12303**	**4153**	**4238**	**316**

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
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
FILTER SOCKS.....30 LIN. FT./ 6' DIA. INLET

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.

FLUSHING UNDERDRAIN

	LOG MILE	LOG MILE	LOCATION	FLUSHING UNDERDRAIN	UNDERDRAIN VIDEO INSPECTION
				LIN. FT.	
	56.384	58.512	EASTBOUND I-30	11235.84	11235.84
	58.579	61.935	EASTBOUND I-30	17719.68	17719.68
	61.995	63.324	EASTBOUND I-30	7017.12	7017.12
	63.414	64.011	EASTBOUND I-30	3152.16	3152.16
	64.090	64.293	EASTBOUND I-30	1071.84	1071.84
	64.365	65.598	EASTBOUND I-30	6510.24	6510.24
	65.641	68.655	EASTBOUND I-30	15913.92	15913.92
	56.384	58.503	WESTBOUND I-30	11188.32	11188.32
	58.570	61.935	WESTBOUND I-30	17767.20	17767.20
	61.995	63.324	WESTBOUND I-30	7017.12	7017.12
	63.414	64.005	WESTBOUND I-30	3120.48	3120.48
	64.082	64.293	WESTBOUND I-30	1114.08	1114.08
	64.365	65.610	WESTBOUND I-30	6573.60	6573.60
	65.652	68.655	WESTBOUND I-30	15855.84	15855.84
•	ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER		4000
TOTALS:				**125257.44**	**129257.44**

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

NOTE: ALL FLUSHING UNDERDRAIN AND INSPECTION WORK SHALL BE PERFORMED BEFORE THE FINAL SURFACE IS LAID ON THE SHOULDERS.

RUMBLE STRIPS IN ASPHALT SHOULDERS

LOG MILE	LOG MILE	LOCATION	• RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
56.384	58.512	RT. OF EASTBOUND I-30	11235.84
58.579	61.935	RT. OF EASTBOUND I-30	17719.68
61.995	63.324	RT. OF EASTBOUND I-30	7017.12
63.414	64.011	RT. OF EASTBOUND I-30	3152.16
64.090	64.293	RT. OF EASTBOUND I-30	1071.84
64.365	65.598	RT. OF EASTBOUND I-30	6510.24
65.641	68.655	RT. OF EASTBOUND I-30	15913.92
56.384	58.512	LT. OF EASTBOUND I-30	11235.84
58.579	61.935	LT. OF EASTBOUND I-30	17719.68
61.995	63.324	LT. OF EASTBOUND I-30	7017.12
63.414	64.011	LT. OF EASTBOUND I-30	3152.16
64.090	64.293	LT. OF EASTBOUND I-30	1071.84
64.365	65.598	LT. OF EASTBOUND I-30	6510.24
65.641	68.655	LT. OF EASTBOUND I-30	15913.92
56.384	58.503	RT. OF WESTBOUND I-30	11188.32
58.570	61.935	RT. OF WESTBOUND I-30	17767.20
61.995	63.324	RT. OF WESTBOUND I-30	7017.12
63.414	64.005	RT. OF WESTBOUND I-30	3120.48
64.082	64.293	RT. OF WESTBOUND I-30	1114.08
64.365	65.610	RT. OF WESTBOUND I-30	6573.60
65.652	68.655	RT. OF WESTBOUND I-30	15855.84
56.384	58.503	LT. OF WESTBOUND I-30	11188.32
58.570	61.935	LT. OF WESTBOUND I-30	17767.20
61.995	63.324	LT. OF WESTBOUND I-30	7017.12
63.414	64.005	LT. OF WESTBOUND I-30	3120.48
64.082	64.293	LT. OF WESTBOUND I-30	1114.08
64.365	65.610	LT. OF WESTBOUND I-30	6573.60
65.652	68.655	LT. OF WESTBOUND I-30	15855.84
TOTAL:			**250514.88**

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

COLD MILLING ASPHALT PAVEMENT

	LOG MILE	LOG MILE	LOCATION	TOTAL LENGTH	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
					FEET	SQ. YD.
			MAIN LANES			
•	56.384	56.561	MAIN LANES EASTBOUND I-30	934.56	38.00	3945.92
•	56.711	56.870	MAIN LANES EASTBOUND I-30	839.52	38.00	3544.64
•	56.870	57.670	MAIN LANES EASTBOUND I-30	4224.00	34.00	15957.33
•	57.670	58.512	MAIN LANES EASTBOUND I-30	4445.76	38.00	18770.99
•	58.579	61.935	MAIN LANES EASTBOUND I-30	17719.68	38.00	74816.43
•	61.995	62.300	MAIN LANES EASTBOUND I-30	1610.40	38.00	6799.47
	62.300	62.762	MAIN LANES EASTBOUND I-30	2439.36	38.00	10299.52
	63.098	63.324	MAIN LANES EASTBOUND I-30	1193.28	38.00	5038.29
	63.414	64.011	MAIN LANES EASTBOUND I-30	3152.16	38.00	13309.12
	64.090	64.293	MAIN LANES EASTBOUND I-30	1071.84	38.00	4525.55
	64.365	65.598	MAIN LANES EASTBOUND I-30	6510.24	38.00	27487.68
	65.641	68.655	MAIN LANES EASTBOUND I-30	15913.92	38.00	67192.11
•	56.384	56.909	MAIN LANES WESTBOUND I-30	2772.00	38.00	11704.00
•	57.107	58.503	MAIN LANES WESTBOUND I-30	7370.88	38.00	31121.49
•	58.570	61.935	MAIN LANES WESTBOUND I-30	17767.20	38.00	75017.07
•	61.995	62.300	MAIN LANES WESTBOUND I-30	1610.40	38.00	6799.47
	62.300	62.494	MAIN LANES WESTBOUND I-30	1024.32	38.00	4324.91
	62.709	62.809	MAIN LANES WESTBOUND I-30	528.00	38.00	2229.33
	62.980	63.324	MAIN LANES WESTBOUND I-30	1816.32	38.00	7668.91
	63.414	64.005	MAIN LANES WESTBOUND I-30	3120.48	38.00	13175.36
	64.082	64.293	MAIN LANES WESTBOUND I-30	1114.08	38.00	4703.89
	64.365	65.610	MAIN LANES WESTBOUND I-30	6573.60	38.00	27755.20
	65.652	68.655	MAIN LANES WESTBOUND I-30	15855.84	38.00	66946.88
			ADDITIONAL FOR ACCELERATION/DECELERATION LANES, TAPERS AND RAMPS			
	56.530	56.561	EASTBOUND I-30 REST AREA, ENTRANCE RAMP	165.00	VAR.	578.12
•	56.561	56.686	EASTBOUND I-30 REST AREA - ACCELERATION LANE	660.00	VAR.	4000.21
•	56.686	56.711	EASTBOUND I-30 REST AREA - TAPER	132.00	VAR.	664.00
•	56.909	56.966	WESTBOUND I-30 REST AREA - TAPER	300.00	VAR.	1416.35
•	56.966	57.107	WESTBOUND I-30 REST AREA - ACCELERATION LANE	744.48	VAR.	4522.07
	57.107	57.148	WESTBOUND I-30 REST AREA - ENTRANCE RAMP	150.00	VAR.	672.48
	57.460	57.517	WESTBOUND I-30 REST AREA - EXIT RAMP	300.00	25.00	833.33
	57.517	57.552	WESTBOUND I-30 REST AREA, EXIT RAMP-TURNOUT	185.00	VAR.	332.48
	62.489	62.568	EXIT 63 RT. MAIN LANES, EXIT RAMP-TURNOUT	417.12	VAR.	1239.79
	62.747	62.762	EXIT 63 RT. MAIN LANES, ENTRANCE RAMP-TURNOUT	79.20	VAR.	280.60
	62.762	63.041	EXIT 63 RT. MAIN LANES, ACCELERATION LANE	1473.12	VAR.	8273.91
	63.041	63.098	EXIT 63 RT. MAIN LANES, TAPER	300.00	VAR.	1408.48
	62.494	62.589	EXIT 63 LT. MAIN LANES, TAPER	501.60	VAR.	2361.83
	62.589	62.709	EXIT 63 LT. MAIN LANES, ACCELERATION LANE	633.60	VAR.	3341.63
	62.709	62.725	EXIT 63 LT. ENTRANCE RAMP-TURNOUT	84.48	VAR.	289.41
	62.795	62.809	EXIT 63 LT. EXIT RAMP-TURNOUT	73.92	VAR.	258.41
	62.809	62.888	EXIT 63 LT. MAIN LANES, DECELERATION LANE	417.12	VAR.	2326.64
	62.888	62.980	EXIT 63 LT. MAIN LANE, TAPER	485.76	VAR.	2320.79
	TOTAL:					**538254.09**

NOTE: AVERAGE MILLING DEPTH 2". THE CONTRACTOR SHALL HAUL THE MATERIAL GENERATED FROM COLD MILLING OPERATION TO LOCATIONS DESIGNATED BY THE ENGINEER AND DISTRIBUTE IT EVENLY UNTIL EACH LOCATION IS FULL. ONCE PLACED, THE MATERIAL WILL BECOME PROPERTY OF THE DEPARTMENT. THE MATERIAL SHALL BE PLACED AT THE DESIGNATED LOCATIONS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL STOCKPILE THE MATERIAL IN SUCH A WAY THAT IT CAN BE EASILY MEASURED USING THE AVERAGE END AREA METHOD. THE AREAS DESIGNATED FOR COLD MILLING MATERIAL STORAGE FOR THIS PROJECT ARE AS FOLLOWS: HWY. 26 SECTION 5 LOG MILE 0.21 ON THE LEFT SIDE; HWY. 26 SECTION 5 LOG MILE 1.54 ON THE LEFT SIDE AND CLARK COUNTY ROAD SHOP, 1501 HWY. 67, ARKADELPHIA, AR 71923.

•MAIN LANES AVERAGE MILLING DEPTH 2-3/4"

SPECIAL CLEARING

LOG MILE	LOG MILE	LOCATION	SPECIAL CLEARING
			STATION
56.384	68.655	I-30	648
TOTAL:			**648**

NOTE: SPECIAL CLEARING TO BE PERFORMED AT THE FOLLOWING LOCATIONS:
L.M. 56.384 TO L.M. 68.655 RT. OF EASTBOUND I-30
L.M. 56.384 TO L.M. 57.784 MEDIAN OF I-30
L.M. 56.384 TO L.M. 62.655 RT. OF WESTBOUND I-30
L.M. 63.255 TO L.M. 68.655 RT. OF WESTBOUND I-30

QUANTITIES

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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
12-12-22		6	ARK.	070561	20	38
		QUANTITIES				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12465
SHAHRIAR AZAD
Shahriar Azad 2022-12-12

BASE AND SURFACING

LOG MILE	LOG MILE	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT (0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	ACHM SURFACE COURSE (1/2")				
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON		AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TOTAL PG 76-22
			FEET			FEET				FEET			TON	TON
MAIN LANES														
56.384	56.561	MAIN LANES EASTBOUND I-30	934.56			38.00	3945.92	670.81	670.81	38.00	3945.92	220.00	434.05	434.05
56.711	56.870	MAIN LANES EASTBOUND I-30	839.52			38.00	3544.64	602.59	602.59	38.00	3544.64	220.00	389.91	389.91
56.851	56.870	MAIN LANES EASTBOUND I-30	100.32			34.00	378.99	64.43	64.43	34.00	378.99	330.00	62.53	62.53
56.870	57.670	MAIN LANES EASTBOUND I-30	4224.00	1.50	63.36	38.00	17834.67	3031.89	3031.89	34.00	15957.33	440.00	3510.61	3510.61
56.870	57.670	MAIN LANES EASTBOUND I-30, INSIDE SHOULDER	4224.00	4.00	168.96	38.00	17834.67	3031.89	3031.89	4.00	1877.33	220.00	206.51	206.51
57.670	57.689	MAIN LANES EASTBOUND I-30	100.32			34.00	378.99	64.43	64.43	34.00	378.99	330.00	62.53	62.53
57.689	58.512	MAIN LANES EASTBOUND I-30	4345.44			38.00	18347.41	3119.06	3119.06	38.00	18347.41	220.00	2018.22	2018.22
58.579	61.935	MAIN LANES EASTBOUND I-30	17719.68			38.00	74816.43	12718.79	12718.79	38.00	74816.43	220.00	8229.81	8229.81
61.995	62.300	MAIN LANES EASTBOUND I-30	1610.40			38.00	6799.47	1155.91	1155.91	38.00	6799.47	220.00	747.94	747.94
62.300	62.762	MAIN LANES EASTBOUND I-30	2439.36			38.00	10299.52	1750.92	1750.92	38.00	10299.52	220.00	1132.95	1132.95
63.098	63.324	MAIN LANES EASTBOUND I-30	1193.28			38.00	5038.29	856.51	856.51	38.00	5038.29	220.00	554.21	554.21
63.414	64.011	MAIN LANES EASTBOUND I-30	3152.16			38.00	13309.12	2262.55	2262.55	38.00	13309.12	220.00	1464.00	1464.00
64.090	64.293	MAIN LANES EASTBOUND I-30	1071.84			38.00	4525.55	769.34	769.34	38.00	4525.55	220.00	497.81	497.81
64.365	65.598	MAIN LANES EASTBOUND I-30	6510.24			38.00	27487.68	4672.91	4672.91	38.00	27487.68	220.00	3023.64	3023.64
65.641	68.655	MAIN LANES EASTBOUND I-30	15913.92			38.00	67192.11	11422.66	11422.66	38.00	67192.11	220.00	7391.13	7391.13
56.384	56.909	MAIN LANES WESTBOUND I-30	2772.00			38.00	11704.00	1989.68	1989.68	38.00	11704.00	220.00	1287.44	1287.44
57.107	58.503	MAIN LANES WESTBOUND I-30	7370.88			38.00	31121.49	5290.65	5290.65	38.00	31121.49	220.00	3423.36	3423.36
58.570	61.935	MAIN LANES WESTBOUND I-30	17767.20			38.00	75017.07	12752.90	12752.90	38.00	75017.07	220.00	8251.88	8251.88
61.995	62.300	MAIN LANES WESTBOUND I-30	1610.40			38.00	6799.47	1155.91	1155.91	38.00	6799.47	220.00	747.94	747.94
62.300	62.494	MAIN LANES WESTBOUND I-30	1024.32			38.00	4324.91	735.23	735.23	38.00	4324.91	220.00	475.74	475.74
62.709	62.809	MAIN LANES WESTBOUND I-30	528.00			38.00	2229.33	378.99	378.99	38.00	2229.33	220.00	245.23	245.23
62.980	63.324	MAIN LANES WESTBOUND I-30	1816.32			38.00	7668.91	1303.71	1303.71	38.00	7668.91	220.00	843.58	843.58
63.414	64.005	MAIN LANES WESTBOUND I-30	3120.48			38.00	13175.36	2239.81	2239.81	38.00	13175.36	220.00	1449.29	1449.29
64.082	64.293	MAIN LANES WESTBOUND I-30	1114.08			38.00	4703.89	799.66	799.66	38.00	4703.89	220.00	517.43	517.43
64.365	65.610	MAIN LANES WESTBOUND I-30	6573.60			38.00	27755.20	4718.38	4718.38	38.00	27755.20	220.00	3053.07	3053.07
65.652	68.655	MAIN LANES WESTBOUND I-30	15855.84			38.00	66946.88	11380.97	11380.97	38.00	66946.88	220.00	7364.16	7364.16
ADDITIONAL FOR ACCELERATION/DECELERATION LANES, TAPERS AND RAMPS														
56.530	56.561	EASTBOUND I-30 REST AREA, ENTRANCE RAMP	165.00			VAR.	578.12	98.28	98.28	VAR.	578.12	220.00	63.59	63.59
56.561	56.686	EASTBOUND I-30 REST AREA - ACCELERATION LANE	660.00			VAR.	4000.21	680.04	680.04	VAR.	4000.21	220.00	440.02	440.02
56.686	56.711	EASTBOUND I-30 REST AREA - TAPER	132.00			VAR.	664.00	112.88	112.88	VAR.	664.00	220.00	73.04	73.04
56.909	56.966	WESTBOUND I-30 REST AREA - TAPER	300.00			VAR.	1416.35	240.78	240.78	VAR.	1416.35	220.00	155.80	155.80
56.966	57.107	WESTBOUND I-30 REST AREA - ACCELERATION LANE	744.48			VAR.	4522.07	768.75	768.75	VAR.	4522.07	220.00	497.43	497.43
57.107	57.148	WESTBOUND I-30 REST AREA - ENTRANCE RAMP	150.00			VAR.	672.48	114.32	114.32	VAR.	672.48	220.00	73.97	73.97
57.460	57.517	WESTBOUND I-30 REST AREA - EXIT RAMP	300.00			25.00	833.33	141.67	141.67	25.00	833.33	220.00	91.67	91.67
57.517	57.552	WESTBOUND I-30 REST AREA, EXIT RAMP-TURNOUT	185.00			VAR.	332.48	56.52	56.52	VAR.	332.48	220.00	36.57	36.57
62.489	62.568	EXIT 63 RT. MAIN LANES, EXIT RAMP-TURNOUT	417.12			VAR.	1239.79	210.76	210.76	VAR.	1239.79	220.00	136.38	136.38
62.747	62.762	EXIT 63 RT. MAIN LANES, ENTRANCE RAMP-TURNOUT	79.20			VAR.	280.60	47.70	47.70	VAR.	280.60	220.00	30.87	30.87
62.762	63.041	EXIT 63 RT. MAIN LANES, ACCELERATION LANE	1473.12			VAR.	8273.91	1406.56	1406.56	VAR.	8273.91	220.00	910.13	910.13
63.041	63.098	EXIT 63 RT. MAIN LANES, TAPER	300.00			VAR.	1408.48	239.44	239.44	VAR.	1408.48	220.00	154.93	154.93
62.494	62.589	EXIT 63 LT. MAIN LANES, TAPER	501.60			VAR.	2361.83	401.51	401.51	VAR.	2361.83	220.00	259.80	259.80
62.589	62.709	EXIT 63 LT. MAIN LANES, ACCELERATION LANE	633.60			VAR.	3341.63	568.08	568.08	VAR.	3341.63	220.00	367.58	367.58
62.709	62.725	EXIT 63 LT. ENTRANCE RAMP-TURNOUT	84.48			VAR.	289.41	49.20	49.20	VAR.	289.41	220.00	31.84	31.84
62.795	62.809	EXIT 63 LT. EXIT RAMP-TURNOUT	73.92			VAR.	258.41	43.93	43.93	VAR.	258.41	220.00	28.43	28.43
62.809	62.888	EXIT 63 LT. MAIN LANES, DECELERATION LANE	417.12			VAR.	2326.64	395.53	395.53	VAR.	2326.64	220.00	255.93	255.93
62.888	62.980	EXIT 63 LT. MAIN LANE, TAPER	485.76			VAR.	2320.79	394.53	394.53	VAR.	2320.79	220.00	255.29	255.29
TOTALS:					**232.32**		**558300.50**	**94911.06**	**94911.06**		**540465.82**		**61248.24**	**61248.24**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1FOR 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.		070561	21	38

(2) ITS QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11419
DAVID P. PEARCE

Digitally Signed 11/17/2022

ITS QUANTITIES			
ITEM NUMBER	**ITEM**	**TOTAL**	**UNIT**
201	CLEARING	0.12	ACRE
201	GRUBBING	0.12	ACRE
202	REMOVAL AND RELOCATION OF SIGN	1	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP	CELLULAR MODEM	1	EACH
SP	PTZ CAMERA SYSTEM	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/3 A.W.G., #8 E.G.C.)	183	LIN. FT.
710	NON-METALLIC CONDUIT (2")	337	LIN. FT.
710	NON-METALLIC CONDUIT (3")	36	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH
SP	STEEL TEE MOUNT SIGN STRUCTURE (TM-030-10-01)	1	EACH
SP	OVERHEAD DMS ASSEMBLY	2	EACH

VOLTAGE DROP CALCULATIONS												
Location Description	# of Sets	Wire Size*	One-Way Length (ft)	Line Current (Amps)	Voltage (Line-to-Line)	Phase	Load (W)	Wire Type	Conduit Type	Impedance (Ω/1000ft)	Voltage Drop (Volts)	Voltage Drop %
Service to Cabinet	1	#3	185	100.00	240	1	24000	Copper	PVC	0.23	8.51	3.55%

HRHobby 11/8/2022 2:50:02 PM
WORKSPACE: AHTD
L:\2021\2110020 - ARDOT 01244 Prelim Eng and Estimating\Drawings\070561_ITS_QTY.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	22	38
		ITS QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 13653
ADAM E. WIERCIAK

DIGITALLY SIGNED 11/16/2022

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		FURNISHING & INSTALLING PRECAST CONC. BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
			LIN. FT. - EACH		NO.	SQ. FT.	LIN. FT.	EACH	
OM-3L	OBJECT MARKER	12"x36"	3	3	3	9.0			
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		780	780			780		
	TEMPORARY IMPACT ATTENUATION BARRIER		1	1				1	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		1	1					1
TOTALS:						**9.0**	**780**	**1**	**1**

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION
			CU. YD.
ENTIRE	PROJECT	ITS MAINTENANCE ACCESS	67
TOTAL:			**67**

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

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	SILT FENCE
			(E-11)
			LIN. FT.
ENTIRE	PROJECT	I-30 E.B. LANES	325
TOTAL:			**325**

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH	
		I-30 E.B. LANES	100	1	1
TOTALS:			**100**	**1**	**1**

BASE AND SURFACING

LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM SURFACE COURSE (1/2")				
		TON / STATION	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TOTAL PG 76-22
	FEET			FEET			TON	TON
ADDITIONAL FOR GUARDRAIL WIDENING								
I-30 E.B. LANES	158.70	VAR.	12.30	3.67	64.71	220.00	7.12	7.12
ADDITIONAL FOR ITS MAINTENANCE								
I-30 E.B. LANES	201.70	VAR.	141.19					
TOTALS:			**153.49**		**64.71**		**7.12**	**7.12**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

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WORKSPACE: AHTD
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REVISED DATE:

ROBERT.DARRINGTON 11/17/2022 8:16:42 AM

STATE OF ARKANSAS
11-17-2022
REGISTERED PROFESSIONAL ENGINEER
No. 18381
JESSE D. HARRELL

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	23	38
		BRIDGE QUANTITIES				65858

(1) A&B3814, A&B3815, A&B3816, A&B3818, A&B6875, A&B6876

SCHEDULE OF BRIDGE QUANTITIES - JOB 070561

I-30	UNIT	ITEM NO.	SS & 804	SS & 809	SP JOB 070561	SP JOB 070561	SP JOB 070561
		ITEM	EPOXY COATED REINFORCING STEEL (GRADE 60)	SILICONE JOINT SEALANT	BRIDGE EXPANSION JOINT MODIFICATION	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS	POLYMER OVERLAY
		UNIT	LBS.	LIN. FT.	SQ. FT.	SQ. FT.	SQ. YD.
63.35	EXISTING BRIDGE NO. A3814		690	216	216	806	1,789
63.35	EXISTING BRIDGE NO. B3814		690	216	216	806	1,789
64.04	EXISTING BRIDGE NO. A3815		570	239	239	666	1,479
64.03	EXISTING BRIDGE NO. B3815		570	239	239	666	1,479
64.32	EXISTING BRIDGE NO. A3816		540	173	173	625	1,388
64.32	EXISTING BRIDGE NO. B3816		540	173	173	625	1,388
65.64	EXISTING BRIDGE NO. A3818		270	106	106	306	679
65.63	EXISTING BRIDGE NO. B3818		270	106	106	306	679
58.53	EXISTING BRIDGE NO. A6875		480	123	123	557	1,236
58.54	EXISTING BRIDGE NO. B6875		480	123	123	557	1,236
61.96	EXISTING BRIDGE NO. A6876		420	87	87	491	1,090
61.96	EXISTING BRIDGE NO. B6876		420	87	87	491	1,090
	TOTALS FOR JOB NO. 070561		(1) 5,940	1,888	(3) 1,888	(1) 6,902	(2) 15,322

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

(2) This quantity includes the entire bridge deck and end bent backwalls.

(3) This quantity shown is for estimating purposes only.
1½" min. depth of repair is detailed, an average depth of repair can be assumed to be approximately 3" for estimation purposes.
6" min. width of repair is detailed on each side of joint opening. At various exp. jt. locations, repair may only be necessary on one or both sides of joint opening. Actual depth, width, and side of repair will vary and will be determined in the field.

REFERENCE TABLE

BR. NO.	EXISTING DRAWING NUMBERS	APPLICABLE STANDARD DRAWING NUMBERS
A3814	40149	55064
B3814	40150	55064
A3815	40176	55064
B3815	40177	55064
A3816	40193	55064
B3816	40194	55064
A3818	40219	55064
B3818	40220	55064
A6875	43410	55064
B6875	43411	55064
A6876	43445	55064
B6876	43446	55064

SCHEDULE OF BRIDGE QUANTITIES

GURDON REST AREA - HWY. 26 (F)
CLARK COUNTY

ROUTE 30 SECTION 14
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JH DATE: 10/02/22
CHECKED BY: STS DATE: 10/03/22
DESIGNED BY: JH DATE: 10/02/22
FILENAME: b070561_ql.dgn
SCALE: NONE

BRIDGE NO. A&B3814, A&B3815, A&B3816, A&B3818, A&B6875, A&B6876 DRAWING NO. 65858

C:\BMS\BRIDGEFARMER-PW\ROBERT.DARRINGTON@BRIDGEFARMER.COM\DMS19853\B070561_01.DGN

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
12-12-22		6	ARK.	070561	24	38
12-28-22		SUMMARY OF QUANTITIES AND REVISIONS				

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	0.12	ACRE
201	GRUBBING	0.12	ACRE
SP	SPECIAL CLEARING	648	STATION
202	REMOVAL AND RELOCATION OF SIGN	1	EACH
SP, SS, & 210	UNCLASSIFIED EXCAVATION	67	CU. YD.
SP	RESHAPE SLOPES	1253	STATION
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	386	TON
SS & 401	TACK COAT	9511	GAL.
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	58070	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	3185	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT	538254	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	300	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	200	TON
601	MOBILIZATION	1.00	LUMP SUM
SP, SS, & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	916	SQ. FT.
SS & 604	TRAFFIC DRUMS	555	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	780	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	300874	LIN. FT.
SS & 604	ADVANCE WARNING ARROW PANEL	60	DAY
SP, SS, & 604	PORTABLE CHANGEABLE MESSAGE SIGN	40	WEEK
SP, SS, & 611	UNDERDRAIN VIDEO INSPECTION	129257	LIN. FT.
SP	FLUSHING UNDERDRAIN	125257	LIN. FT.
SS & 617	GUARDRAIL (TYPE A)	100	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE I)	1	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	1	EACH
620	LIME	30	TON
620	SEEDING	15.00	ACRE
SS & 620	MULCH COVER	15.00	ACRE
620	WATER	1530.0	M. GAL.
621	SILT FENCE	325	LIN. FT.
621	SAND BAG DITCH CHECKS	4153	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	316	CU. YD.
SS & 621	FILTER SOCK (18")	16541	LIN. FT.
623	SECOND SEEDING APPLICATION	15.00	ACRE
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	250515	LIN. FT.
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP	CELLULAR MODEM	1	EACH
SP	PTZ CAMERA SYSTEM	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/3 A.W.G., #8 E.G.C.)	183	LIN. FT.
710	NON-METALLIC CONDUIT (2")	337	LIN. FT.
710	NON-METALLIC CONDUIT (3")	36	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	2490	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	1	EACH
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6")	167717	LIN. FT.
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	133157	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	1945	EACH
SP	STEEL TEE MOUNT SIGN STRUCTURE (TM-030-10-01)	1	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	1	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	1	EACH
SP	OVERHEAD DMS ASSEMBLY	2	EACH
	STRUCTURES OVER 20' SPAN		
636	BRIDGE CONSTRUCTION CONTROL	1	LUMP SUM
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	5940	POUND
SS & 809	SILICONE JOINT SEALANT	1888	LIN. FT.
SP	BRIDGE EXPANSION JOINT MODIFICATION	1888	SQ. FT.
SP	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS	6902	SQ. FT.
SP	POLYMER OVERLAY	15322	SQ. YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20584
ROBERT B. DARRINGTON
01-03-2023

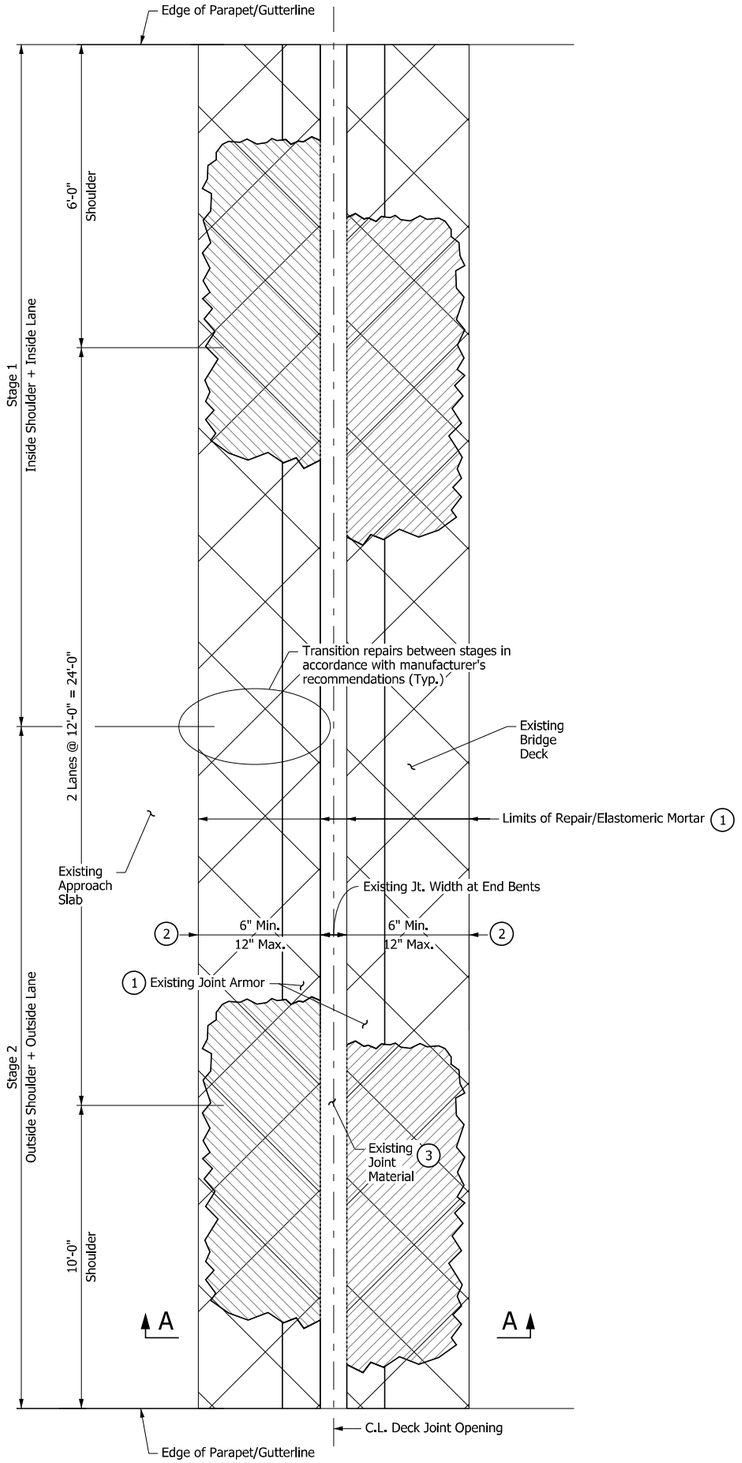
REVISIONS

DATE	REVISION	SHEET NUMBER
12/12/2022	REVISED TYPICAL SECTION SHEET; REVISED PAVEMENT MARKING QUANTITIES; REVISED COLD MILLING QUANTITIES; REVISED BASE AND SURFACING QUANTITIES.	5, 18, 19, 20, 24
12/28/2022	REVISED CAMERA TYPE; REVISED "PAN-TILT-ZOOM CAMERA SYSTEM" SPECIAL PROVISION	24, 29

SUMMARY OF QUANTITIES AND REVISIONS

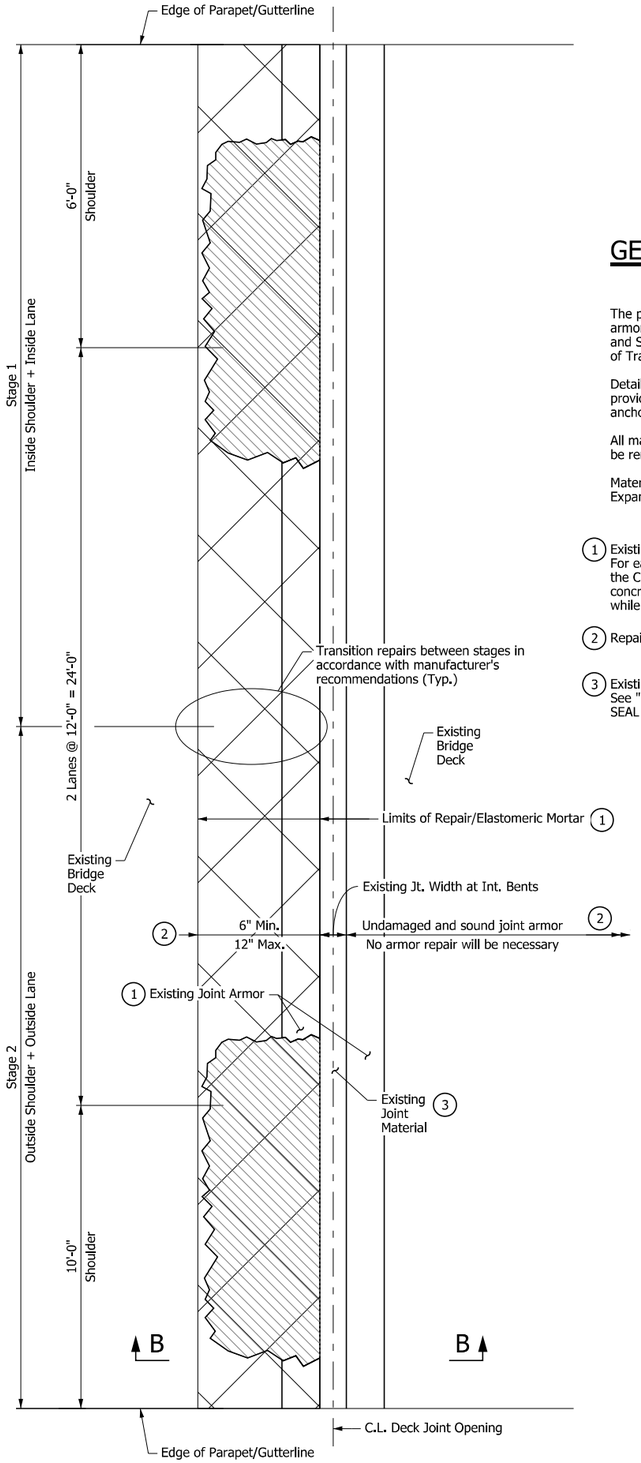
C:\Bentley\projects\Engineering - P2\70561_Sheet Plan Set_Signing\070561_QTY.dgn 8:36:19 AM 1/3/2023 Robert.Darrington

C:\BMS\BRIDGEFARMER-PW\ROBERT.DARRINGTON@BRIDGEFARMER.COM\DMS19853\B070561_BRIDGEEXPJTREPAIR_01.DGN 11/17/2022 8:16:48 AM ROBERT.DARRINGTON



PLAN AT END BENTS

(Showing Expansion Jt. with damage on both side at End Bents, Intermediate Bents similar)
Not to Scale



PLAN AT INTERMEDIATE BENTS

(Showing Expansion Jt. with damage on one side at Intermediate Bents, End Bents similar)
Not to Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18381
JESSE D. HARRELL
11-17-2022

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	25	38
		BRIDGE EXP. JT. MODIFICATION				65859

(1) A3814, B3814, B3815, A3816, B3816, & B3818

GENERAL NOTES

The proposed work is to be done in phases and consists of the removal of unsound and damaged portions of existing joint armor and its adjacent concrete to sound concrete and replacement with elastomeric mortar in accordance with the details and SP Job 070561 "Bridge Expansion Joint Modification". Stage numbering is shown for general purposes, see Maintenance of Traffic Details for specific sequencing.

Details and Dimensions shown are schematic and are drawn for example only. The actual location and dimensions shall be provided by the Engineer. The Contractor shall check measurements and inspect conditions of concrete and joint armor anchorage and make adjustments to lengths and depths as necessary.

All material removed and not incorporated into the finished property shall become the property of the Contractor and shall be removed and disposed of at the Contractors expense.

Material used in the repair areas shall be elastomeric mortar in accordance with the requirements of SP Job 070561 "Bridge Expansion Joint Modification".

(1) Existing Joint Armor may be missing or damaged on one or both sides of joint opening. For each side of joint where a portion of joint armor is missing or damaged and unsound, the Contractor shall carefully cut, chip, or grind using hand tools to remove unsound concrete and/or steel to the dimensions shown and replace with new Elastomeric Mortar, while preserving existing studs and rebar.

(2) Repair dimensions are parallel to joint opening and extend to each gutterline.

(3) Existing Joint Material shall be replaced with new Poured Silicone Joint. See "REMOVAL DETAILS AT EXISTING FILLED JOINTS" and "POURED SILICONE JOINT SEAL DETAILS" on Std. Dwg. No. 55064 for additional information.

SHEET 1 OF 3
DETAILS OF BRIDGE EXP. JT. MODIFICATION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	JDH	DATE:	10/02/22	FILENAME:	FileName
CHECKED BY:	STS	DATE:	10/03/22	SCALE:	AS SHOWN
DESIGNED BY:	JDH	DATE:	10/02/22		

BRIDGE NO. A3814, B3814, B3815, A3816, B3816, & B3818 DRAWING NO. 65859

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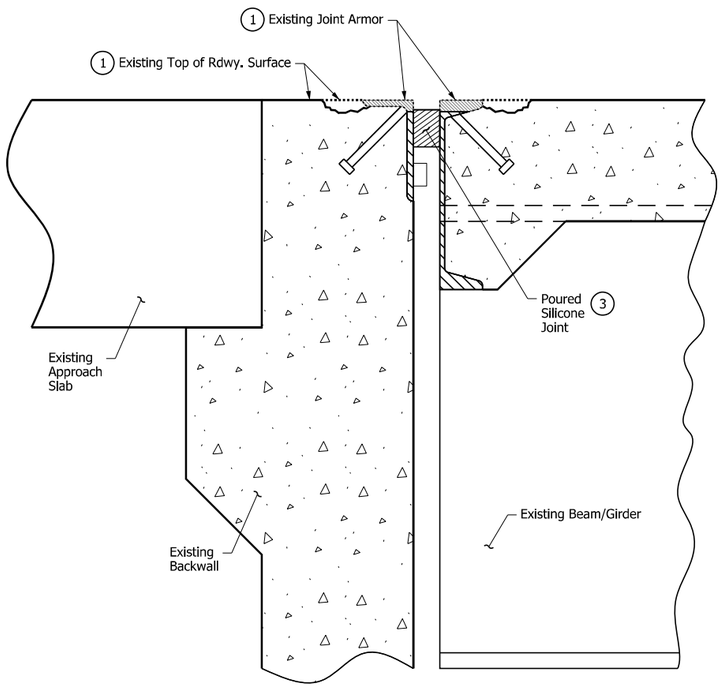
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18381
JESSE D. HARRELL
11-17-2022

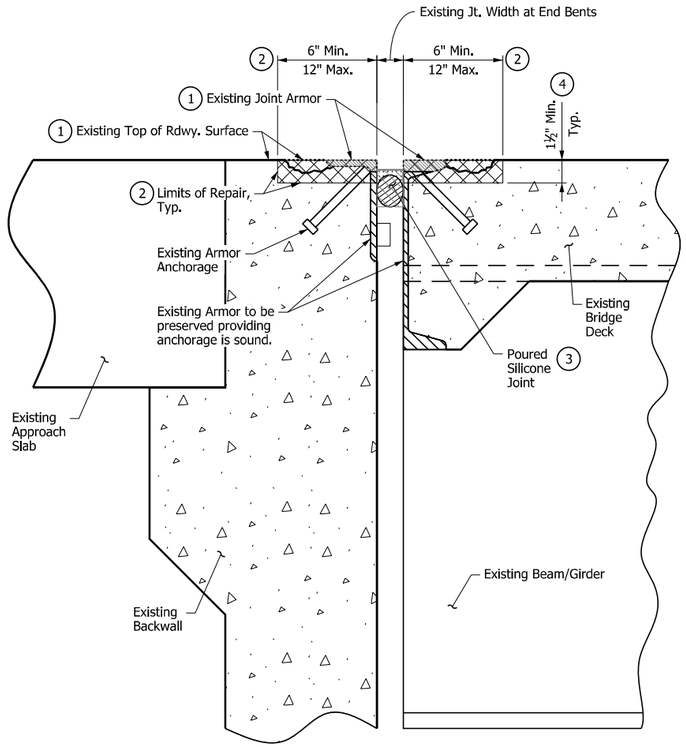
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	26	38
		BRIDGE EXP. JT. MODIFICATION				65860

(1) A3814, B3814, B3815, A3816, B3816, & B3818



SECTION A-A (EXISTING)

(Showing Expansion Jt. at End Bents)
Not to Scale



SECTION A-A (CONSTRUCTION)

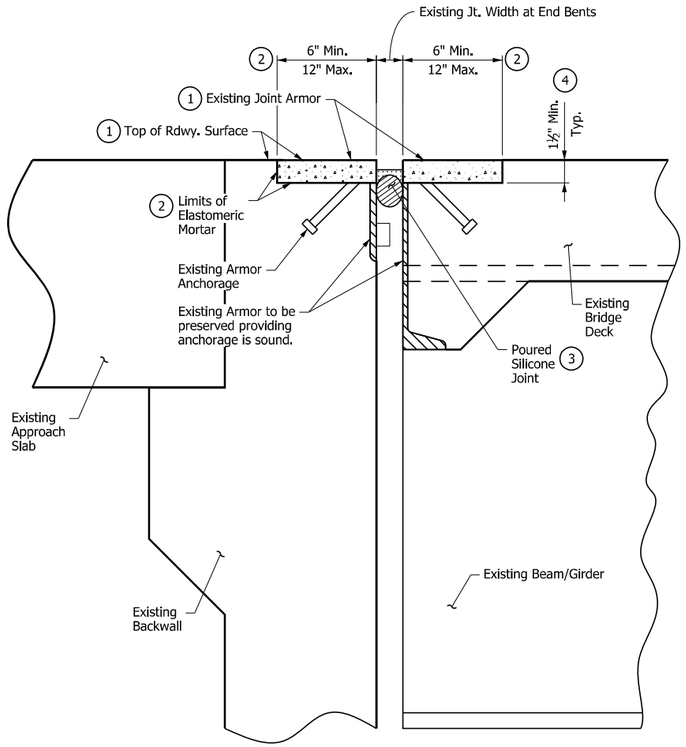
(Showing Expansion Jt. at End Bents)
Not to Scale

(1) Existing Joint Armor may be missing or damaged on one or both sides of joint opening. For each side of joint where a portion of joint armor is missing or damaged and unsound, the Contractor shall carefully cut, chip, or grind using hand tools to remove unsound concrete and/or steel to the dimensions shown and replace with new Elastomeric Mortar, while preserving existing studs and rebar.

(2) Repair dimensions are parallel to joint opening and extend to each gutterline. When broken or spalled concrete is greater than dimension shown, chip to sound concrete and sawcut squares/recctangles around damaged area.

(3) Existing Joint Material shall be replaced with new Poured Silicone Joint. See "REMOVAL DETAILS AT EXISTING FILLED JOINTS" and "POURED SILICONE JOINT SEAL DETAILS" on Std. Dwg. No. 55064 for additional information.

(4) When broken or spalled concrete is greater than dimension shown, chip to sound concrete and sawcut squares/rectangle around damaged area.



SECTION A-A (COMPLETED)

(Showing Expansion Jt. at End Bents)
Not to Scale

GENERAL NOTES

The proposed work is to be done in phases and consists of the removal of unsound and damaged portions of existing joint armor and its adjacent concrete to sound concrete and replacement with elastomeric mortar in accordance with the details and SP Job 070561 "Bridge Expansion Joint Modification".

Details and Dimensions shown are schematic and are drawn for example only. The Contractor shall check measurements and inspect conditions of concrete and joint armor anchorage and make adjustments to lengths and depths as necessary.

All material removed and not incorporated into the finished property shall become the property of the Contractor and shall be removed and disposed of at the Contractors expense.

Material used in the repair areas shall be elastomeric mortar in accordance with the requirements of SP Job 070561 "Bridge Expansion Joint Modification".

SHEET 2 OF 3
DETAILS OF BRIDGE EXP. JT. MODIFICATION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JDH DATE: 10/02/22 FILENAME: FileName
CHECKED BY: STS DATE: 10/03/22 SCALE: AS SHOWN
DESIGNED BY: JDH DATE: 10/02/22

BRIDGE NO. A3814, B3814, B3815, A3816, B3816, & B3818 DRAWING NO. 65860

C:\BMS\BRIDGEFARMER-PW\ROBERT.DARRINGTON@BRIDGEFARMER.COM\DMS19853\B070561_BRIDGEEXPJTREPAIR_03.DGN ROBERT.DARRINGTON 11/17/2022 8:16:54 AM

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	070561	27	38
		BRIDGE EXP. JT. MODIFICATION				65861

(1) A3814, B3814, B3815, A3816, B3816, & B3818

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18381
JESSE D. HARRELL
11-17-2022

(1) Existing Joint Armor may be missing or damaged on one or both sides of joint opening. For each side of joint where a portion of joint armor is missing or damaged and unsound, the Contractor shall carefully cut, chip, or grind using hand tools to remove unsound concrete and/or steel to the dimensions shown and replace with new Elastomeric Mortar, while preserving existing studs and rebar.

(2) Repair dimensions are parallel to joint opening and extend to each gutterline. When broken or spalled concrete is greater than dimension shown, chip to sound concrete and sawcut squares/recctangles around damaged area.

(3) Existing Joint Material shall be replaced with new Poured Silicone Joint. See "REMOVAL DETAILS AT EXISTING FILLED JOINTS" and "POURED SILICONE JOINT SEAL DETAILS" on Std. Dwg. No. 55064 for additional information.

(4) When broken or spalled concrete is greater than dimension shown, chip to sound concrete and sawcut squares/rectangle around damaged area.

GENERAL NOTES

The proposed work is to be done in phases and consists of the removal of unsound and damaged portions of existing joint armor and its adjacent concrete to sound concrete and replacement with elastomeric mortar in accordance with the details and SP Job 070561 "Bridge Expansion Joint Modification".

Details and Dimensions shown are schematic and are drawn for example only. The Contractor shall check measurements and inspect conditions of concrete and joint armor anchorage and make adjustments to lengths and depths as necessary.

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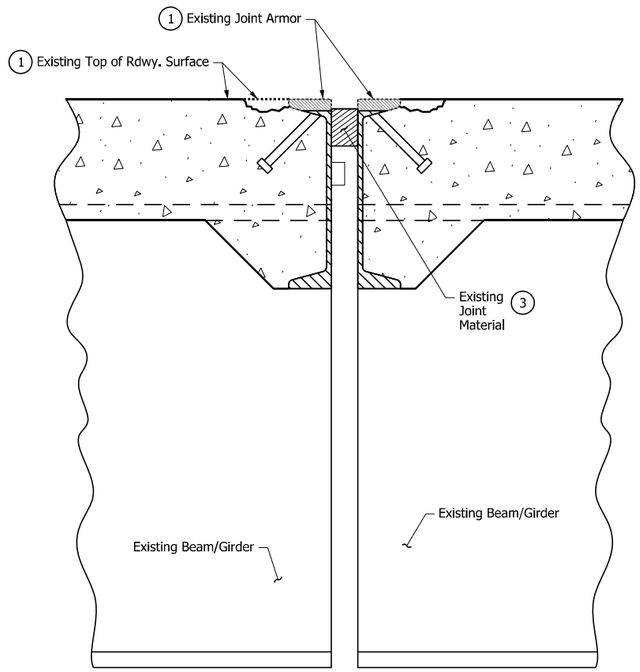
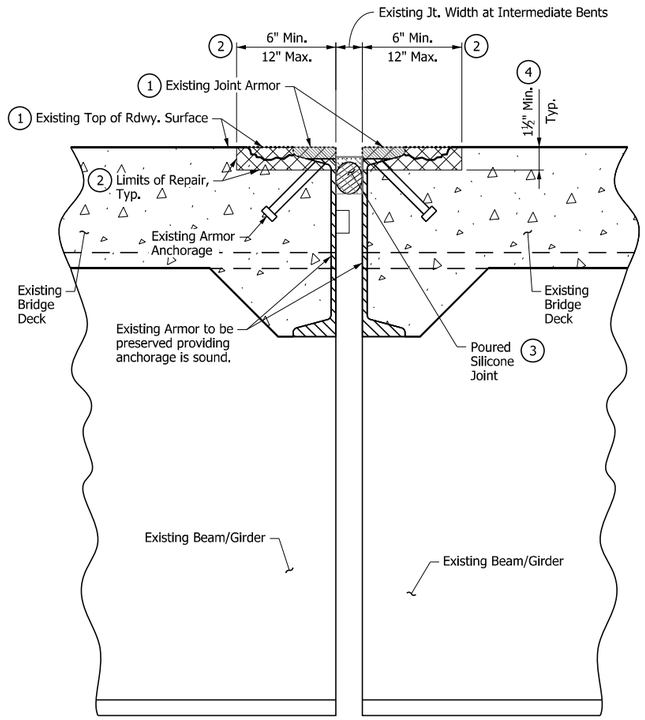
Material used in the repair areas shall be elastomeric mortar in accordance with the requirements of SP Job 070561 "Bridge Expansion Joint Modification".



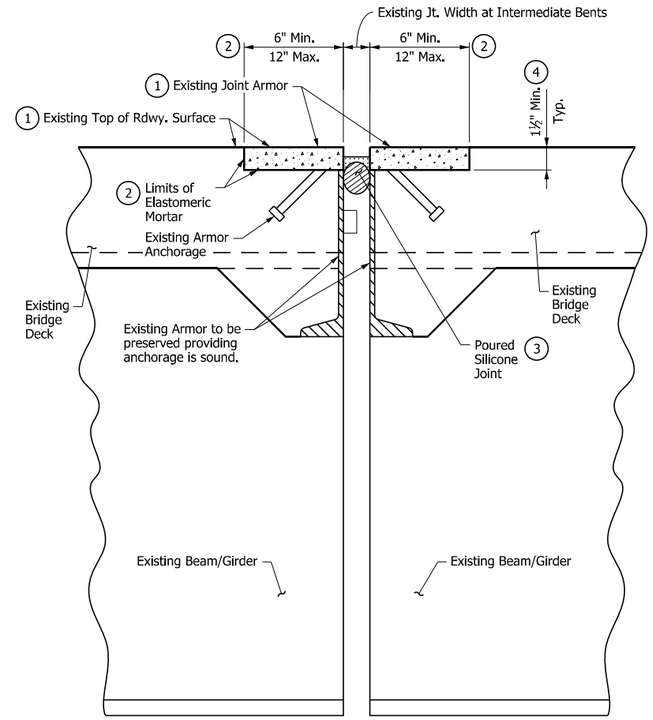
SECTION B-B (EXISTING)

(Showing Expansion Jt. at Intermediate Bents)
Not to Scale



SECTION B-B (CONSTRUCTION)

(Showing Expansion Jt. at Intermediate Bents)
Not to Scale



SECTION B-B (COMPLETED)

(Showing Expansion Jt. at Intermediate Bents)
Not to Scale

SHEET 3 OF 3
DETAILS OF BRIDGE EXP. JT. MODIFICATION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JDH DATE: 10/02/22 FILENAME: FileName
CHECKED BY: STS DATE: 10/03/22 SCALE: AS SHOWN
DESIGNED BY: JDH DATE: 10/02/22

BRIDGE NO. A3814, B3814, B3815, A3816, B3816, & B3818 DRAWING NO. 65861

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.		070561	28	38

2 ITS SYSTEM MAP

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.11419
DAVID P. PEARCE

Digitally Signed 11/17/2022

PROPOSED I-30 DMS EAST AND WEST
I-30 LM 64.371

Boat
Ditch
Moores
Terre Ck.
Holly Grove
Creek
Hole
Ditch
Blue
Patterson
Br.
Dobyville
Scrouge
Creek
South Fork
South Fork Terre
Creek
Sandy
Br.
Oakland
Creek
Mill
Creek
Caney
Midway
Richwoods
Ck.
Waggle
Noire
Noire
Cr.
Boat
Oak Grove
Curtis
Center Point
Lick
Keyton
Creek
Creek
Ditch
South
North
51
53
30
67
26 SPUR
6.0
5.6
6.4
0.3
0.7
1.3
8.7

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REVISED DATE:

ITS SYSTEM MAP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12/28/2022				6	ARK.			
				JOB NO.		070561	29	38

2 ITS SYSTEM

1 REVISED CAMERA TYPE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11419
DAVID P. PEARCE

Digitally Signed 12/28/2022

DMS EB LM 64.371

DMS WB LM 64.371

ITS CONTROLLER CABINET 336S

TYPE 2 HD PULL BOX

EXISTING- W8-13AT

RELOCATE BLUE LOGO SIGN LODGING- EXIT 63

1 AXIS Q6315-LE PAN-TILT-ZOOM CAMERA SYSTEM WITH HEATER

RIGHT OF WAY

PROPOSED RELOCATED BLUE LOGO SIGN LODGING- EXIT 63

EXISTING INLET

800'

EXISTING DRAINAGE PIPE

PROPOSED STABILIZED GRAVEL DRIVE (SEE ROADWAY PLANS)

PROPOSED GUARDRAIL (SEE ROADWAY PLANS)

CLEAR AND GRUB (0.12 ACRES)

INSTALL SERVICE POINT

RIGHT OF WAY

EXISTING OHE POLE WITH PROPOSED TRANSFORMER

ROW (FENCE LINE)

CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER TO PROVIDE 120/240V, 1 PHASE SERVICE AT THIS LOCATION

CONTACT:
SOUTH CENTRAL ARKANSAS ELECTRIC COOPERATIVE
KYLE ARMSTRONG
PHONE 870-246-6701

N

SCALE IN FEET
0 50 100 200

ITS SYSTEM

DPPearce
WORKSPACE: AHTD
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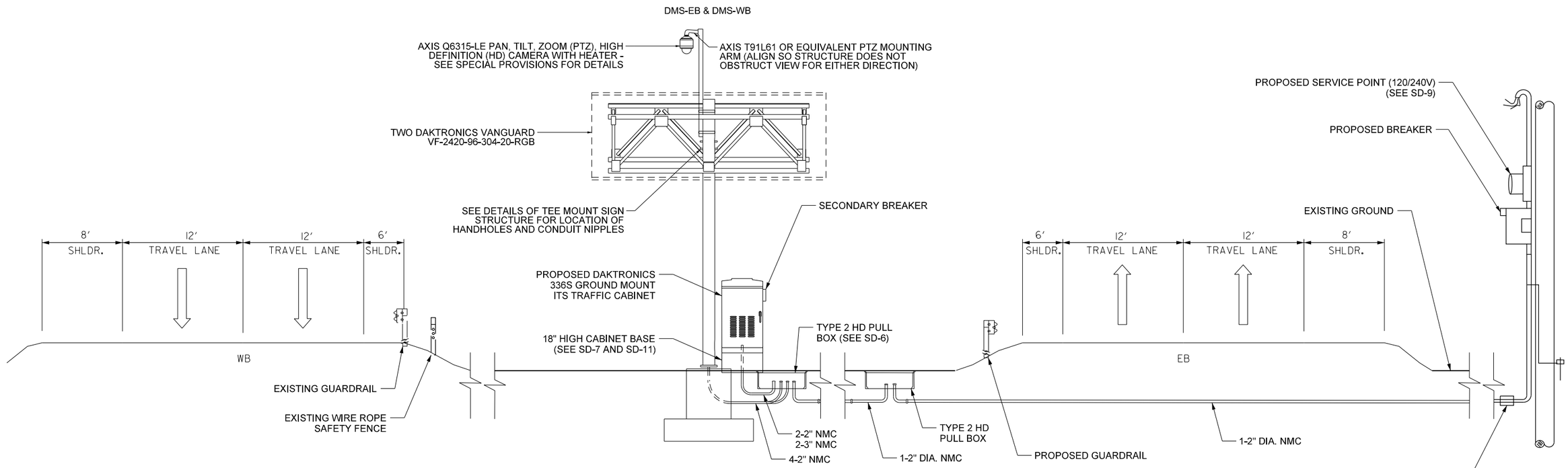
				6	ARK.			
				JOB NO.		070561	30	38

(2) ITS SYSTEM

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11419
DAVID P. PEARCE

Digitally Signed 11/17/2022

DMS-EB & DMS-WB



FRONT ELEVATION
DMS I-30 EB AND WB

NOTES:
1. ALL PULL BOXES ARE TYPE 2 HD UNLESS OTHERWISE INDICATED.
2. MINIMUM CLEARSPACE FROM EDGE OF EB GUARDRAIL TO ITS EQUIPMENT SHALL BE GREATER THAN 5'.
3. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT AND ITS PROPER FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICE BID FOR OVERHEAD DMS ASSEMBLY.
4. COPPER GROUND ROD SHALL BE EXOTHERMICALLY WELDED.
5. THE OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY WILL BE CONSIDERED INSTALLED UPON FINAL REVIEW OF THE FINAL INSTALLATION BY THE ENGINEER. AT THIS TIME A THIRTY DAY PERFORMANCE TEST WILL COMMENCE WHEREIN ANYTHING THAT FAILS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REQUIREMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO CONTRACT UNIT PRICE BID FOR "OVERHEAD DMS ASSEMBLY". SEE "OVERHEAD DMS ASSEMBLY" SPECIAL PROVISION.
6. MINIMUM STRUCTURAL REQUIREMENTS:
   DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, SIXTH EDITION, (2013) WITH CURRENT INTERIM REVISIONS. BASIC WIND SPEED = 90 MPH.
7. FOR DYNAMIC MESSAGE SIGN CONNECTION TO STRUCTURE, SEE MANUFACTURER RECOMMENDATIONS. SEE SPECIAL PROVISION "OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY" FOR ADDITIONAL DETAILS. DYNAMIC MESSAGE SIGN ASSEMBLIES ARE TO BE CENTERED ON THE STRUCTURE OR PLACED AS DIRECTED BY THE ENGINEER.
8. SEE BRIDGE PLANS FOR DETAILS ON OVERHEAD TEE MOUNT STRUCTURE.
9. ITS CABINET FOR DMS ASSEMBLIES SHALL BE INSTALLED WITHIN THE MEDIAN NEXT TO THE MEDIAN MOUNTED TEE MOUNT STRUCTURES.
10. SECONDARY SERVICE BREAKER SHALL BE REQUIRED ON ALL ITS CABINETS WHERE SERVICE POINT IS MOR THAN 10 FEET AWAY FROM ITS CABINET.
11. SECONDARY SERIVCE BREAKER SHALL BE CONSIDERED SUBSIDIARY TO CONTRACT UNIT PRICE BID FOR PAY ITEM "SERVICE POINT ASSEMBLY 1 CIRCUIT".
12. FOUR, 2 INCH CONDUITS FROM ITS CABINET TO DMS SHALL BE USED; TWO FOR POWER WIRING, TWO FOR SIGNAL CABLING.

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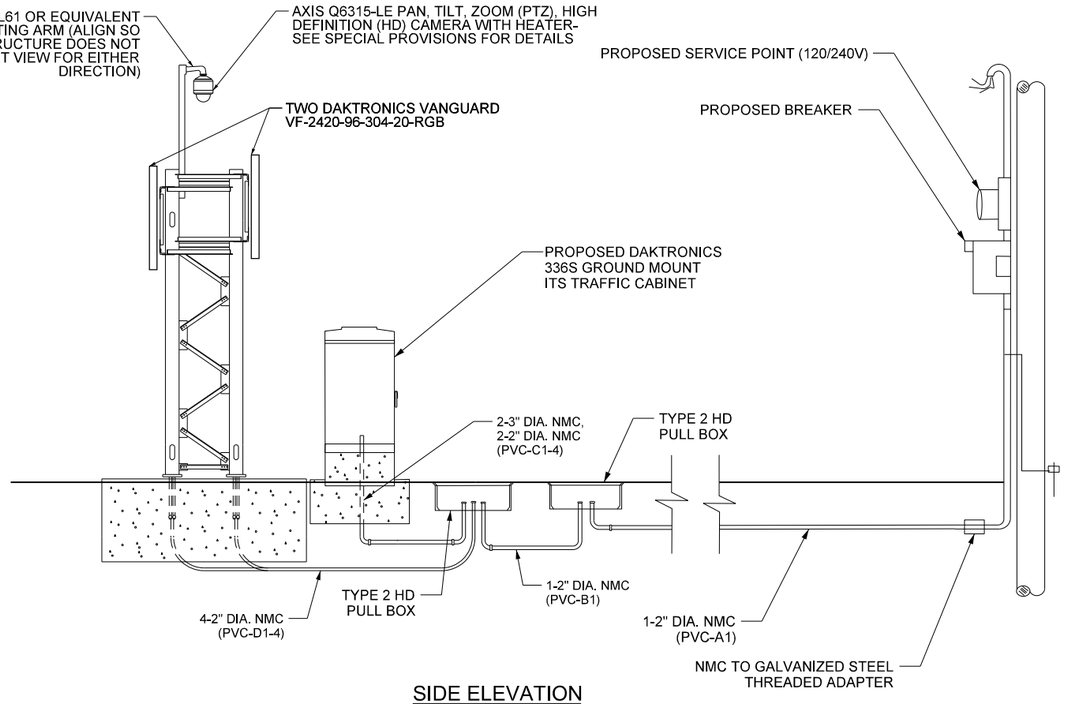
				6	ARK.			
				JOB NO.		070561	31	38

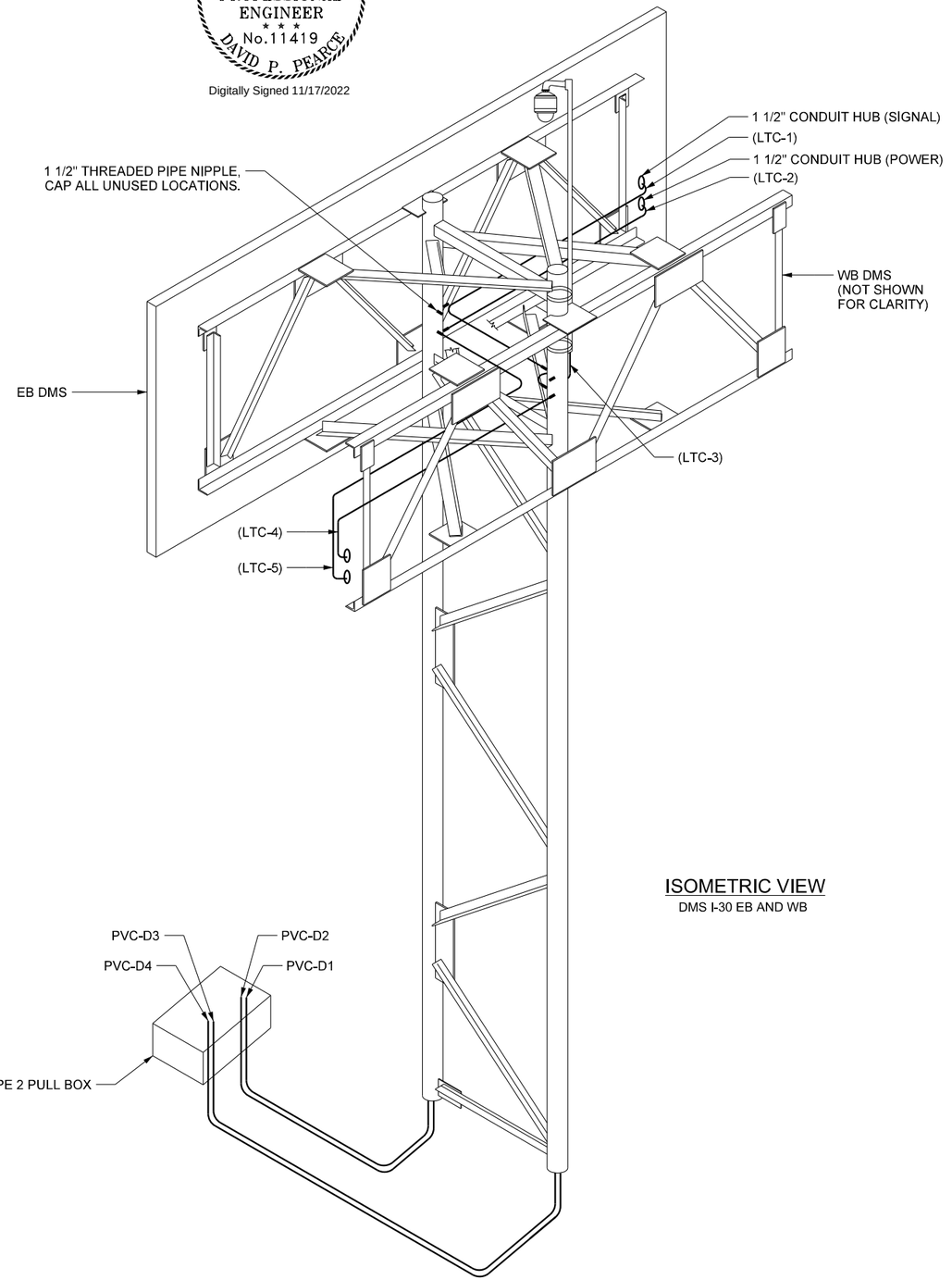
2 ITS SYSTEM

NOTES:
1. SOLID COPPER GROUND WIRE BETWEEN CABINET AND GROUND ROD. FUSION WELDED SOLID GROUND WIRE TO GROUND ROD.
2. SOLID COPPER WIRE FROM POWER CIRCUIT SHALL ALSO BE FUSION WELDED TO GROUND ROD.
3. CONTRACTOR/SUPPLIER TO SIZE STAINLESS STEEL BANDING TO FIT OSS SUPPORT POLE. CONTRACTOR TO SUPPLY ARDOT APPROVED BANDING WITH MOUNTING BRACKET ATTACHMENT TO SECURE CCTV POLE EXTENSION.
4. GSC FITTING SHALL BE PLACED 20' APART MAXIMUM ON OVERHEAD SIGN STRUCTURE AS NEEDED.
5. LIQUID-TIGHT CONDUIT AND FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO CONTRACT UNIT PRICE BID FOR "OVERHEAD DMS ASSEMBLY". SEE "OVERHEAD DMS ASSEMBLY" SPECIAL PROVISION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.11419
DAVID P. PEARCE
Digitally Signed 11/17/2022



SIDE ELEVATION
DMS I-30 EB AND WB



ISOMETRIC VIEW
DMS I-30 EB AND WB

CONDUIT RUNS								
NO.	CONDUIT RUNS	CODUIT SIZE	CONDUIT TYPE	F.O.*	CAT5E*	3C/8 A.W.G., #8 E.C.G.*	1C/8 A.W.G. E.C.G.*	3C/3 A.W.G., #8 E.C.G.
1	LTC-1	1.5"	LTC**	1				
2	LTC-2	1.5"	LTC**			1		
3	LTC-3	1.5"	LTC**		1			
4	LTC-4	1.5"	LTC**	1				
5	LTC-5	1.5"	LTC**			1		
6	PVC-A1	2.0"	PVC					1
7	PVC-B1	2.0"	PVC					1
8	PVC-C1	3.0"	PVC	2	1			
9	PVC-C2	2.0"	PVC	SPARE				
10	PVC-C3	3.0"	PVC			2	1	
11	PVC-C4	2.0"	PVC					1
12	PVC-D1	2.0"	PVC	2				
13	PVC-D2	2.0"	PVC		1			
14	PVC-D3	2.0"	PVC			2	1	
15	PVC-D4	2.0"	PVC	SPARE				

*ALL CABLING FROM CABINET TO DMS IS SUBSIDIARY TO THE OH DMS ASSEMBLY, NO SEPARATE PAYMENT WILL BE MADE.
**LIQUID TIGHT CONDUIT (LTC) IS SUBSIDIARY TO THE OH DMS ASSEMBLY, NO SEPARATE PAYMENT WILL BE MADE.

ITS SYSTEM

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WORKSPACE: AHTD
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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.		070561	32	38

(2) ITS SYSTEM

GENERAL NOTES:

IT IS THE RESPONSIBILTY OF THE ELECTRICAL INSTALLATION CONTRACTOR TO ENSURE THAT ALL ELECTRICAL WORK PERFORMED ON SITE MEETS OR EXCEEDS ALL LOCAL AND NATIONAL ELECTRICAL CODES

FIBER OPTIC REQUIREMENTS:

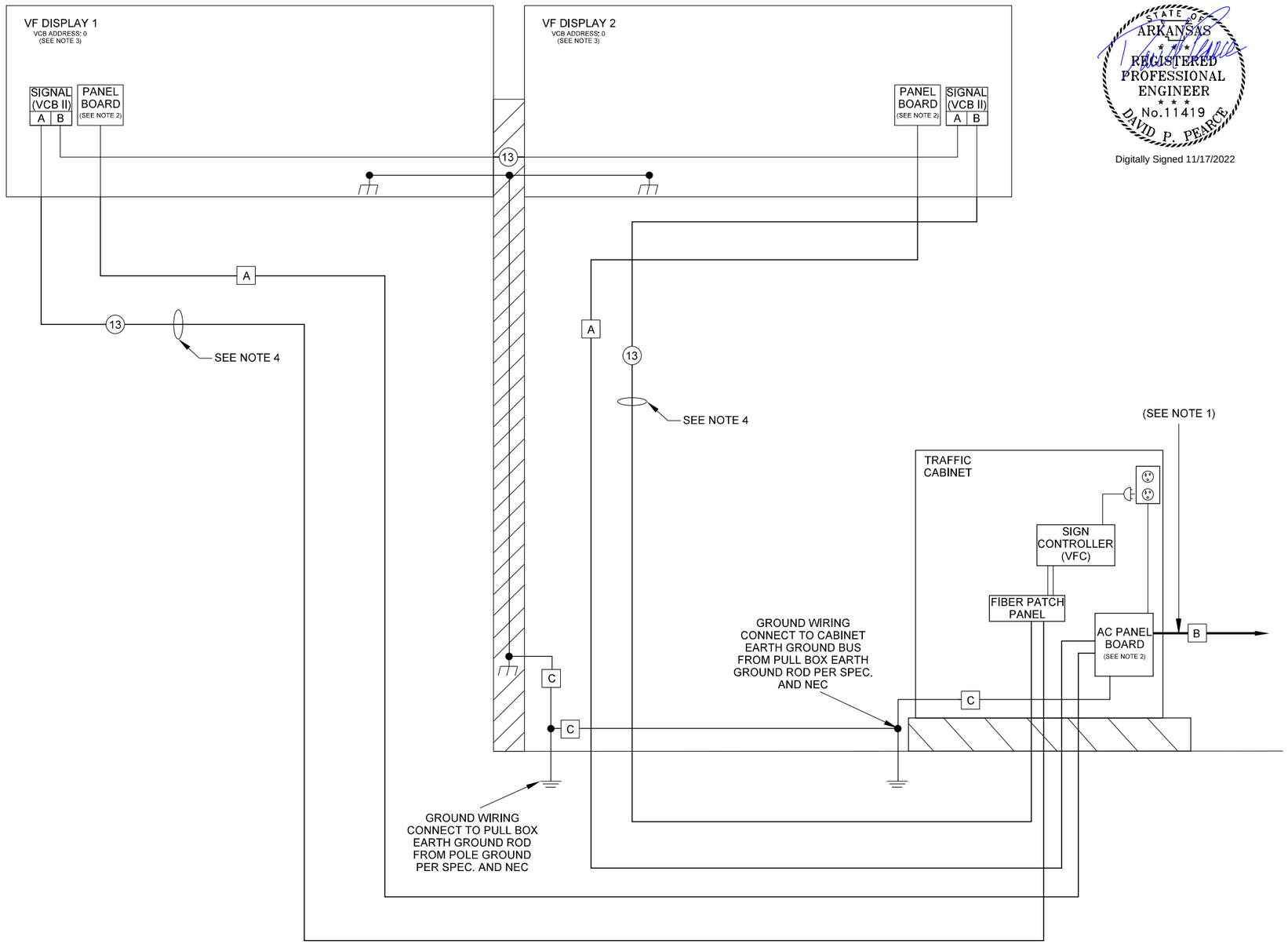
50/125 um MM GRADED INDEX, OM3 STANDARD COMPLIANT LASER OPTIMIZED, STANDARD AND PREFERRED FOR MOST SYSTEMS. FIBER OPTIC CABLE SHALL BE 6 STRAND CORNING/95-050-99-X. FIBER OPTIC CABLE DIAMETER SHALL BE 50/125 um 6 FIBER OD, 0.195" (4.0MM) W-1489-DX. ALL ENDS SHALL HAVE UNICAM LC CONNECTORS WITH TWO STRANDS FOR REDUNDANT TX/RX AND TWO UNUSED FIBERS.

SITE FIBER INTERCONNECT

TRAFFIC CABINET		VF DISPLAY 1	VF DISPLAY 2
SIGN CONTROLLER (VFC)	FIBER PATCH PANEL	VCB II	VCB II
J5 FIBER A TX	FIBER A TX ►	J9 FIBER A RX	
J5 FIBER A RX	FIBER A RX ►	J9 FIBER A TX	
		J8 FIBER B RX	J9 FIBER A RX
		J8 FIBER B TX	J9 FIBER A TX
J6 FIBER B TX	FIBER B TX ◄		J8 FIBER B RX
J6 FIBER B RX	FIBER B RX ◄		J8 FIBER B TX

NOTES:

1. WIRE BETWEEN TRAFFIC CABINET PANEL BOARD AND MAIN DISCONNECT SIZED AS SPECIFIED. CONTACT DAKTRONICS PERSONNEL FOR SITE POWER NUMBER AND SIGN PARAMETERS.
2. DAKTRONICS SUPPLIED PANEL BOARDS IN THE TRAFFIC CABINET AND THE VF-2X20 (DMS) ACCEPTS 8 AWG TO 1 AWG WIRE.
3. SEE DISPLAY MANUAL FOR INSTRUCTIONS ON VCB ADDRESSING.
4. 6 STRAND MM F.O. CABLE, SEE F.O. REQUIREMENTS FOR ADDITIONAL INFORMATION.
5. LIQUID-TIGHT CONDUIT SHALL BE 1.5" FLEXIBLE WATER TIGHT CONDUIT CONNECTING FROM THE 1.5" THREADED CONDUIT NIPPLE OF THE OH TEE STRUCTURE TO THE 1.5" HUB CONNECTOR ON THE DMS FOR COMMUNICATION (SIGNAL) CABLING OR POWER WIRING.



WIRE DETAIL

ID TAG	DESCRIPTION	FUNCTION
13	F.O.CABLE, 6 STRAND, 50/125 uM, LC CONNECTORS (2 SPARE)	SIGNAL
A	3C/8 A.W.G. E.G.C.	120/240 VAC (FROM CABINET TO DMS)
B	3C/3 A.W.G., #8 E.G.C.	120/240 VAC (FROM SERV. POLE TO CABINET)
C	1C/8 A.W.G. E.G.C.	SYSTEM GROUND INTERCONNECTION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.11419
DAVID P. PEARCE

Digitally Signed 11/17/2022

WIRING DIAGRAM
DMS I-30 EB AND WB

ITS SYSTEM

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WORKSPACE: AHTD
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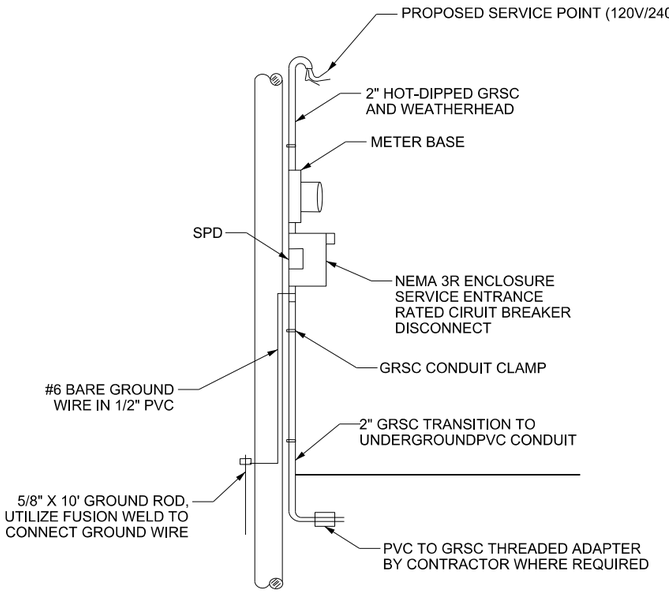
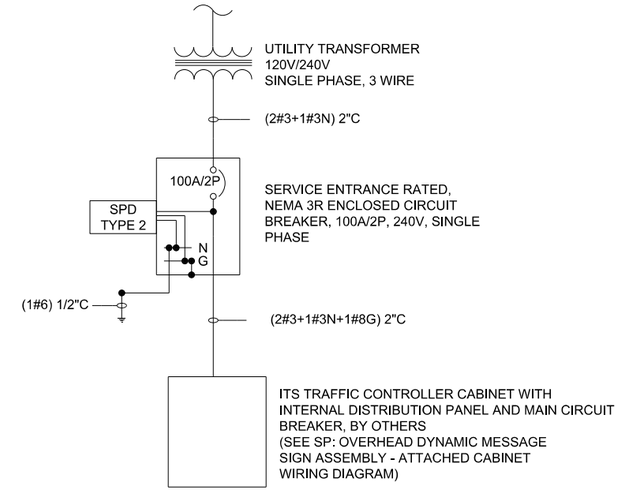
				6	ARK.			
				JOB NO.		070561	33	38
				(2)	ITS SYSTEM			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.11419
DAVID P. PEARCE

Digitally Signed 11/17/2022





ONE LINE DIAGRAM FOR DUAL DMS SYSTEMS

SCALE: NONE

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WORKSPACE: AHTD
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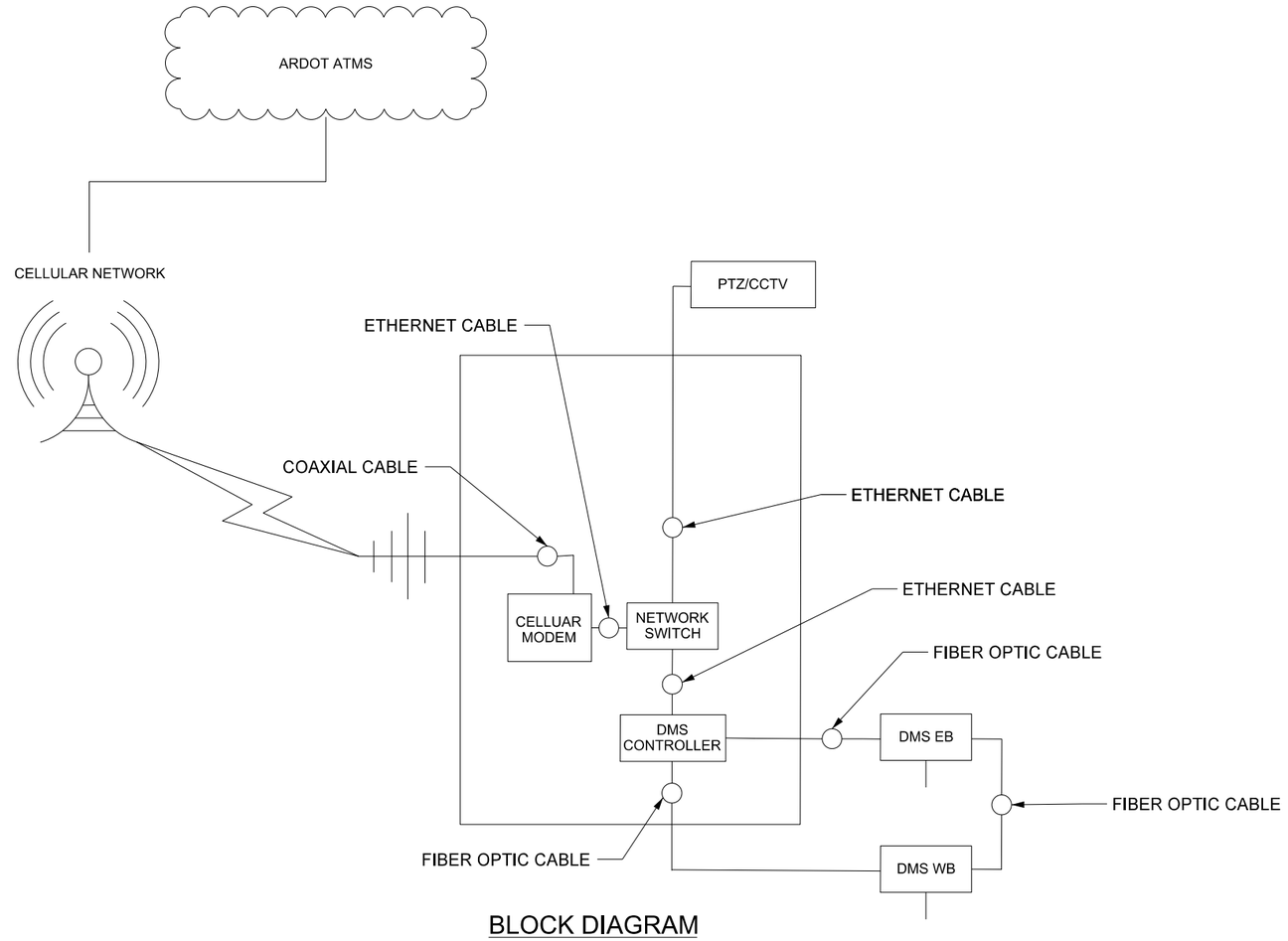
				6	ARK.			
				JOB NO.		070561	34	38

(2) ITS SYSTEM

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.11419
DAVID P. PEARCE

Digitally Signed 11/17/2022



BLOCK DIAGRAM

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WORKSPACE: AHTD
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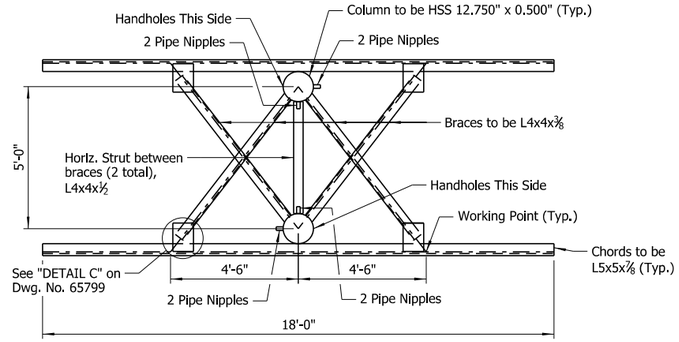
REVISED DATE:

ITS SYSTEM

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.		070561	35	38
				① TM-030-10-01		TEE MOUNT SIGN STR.		65798

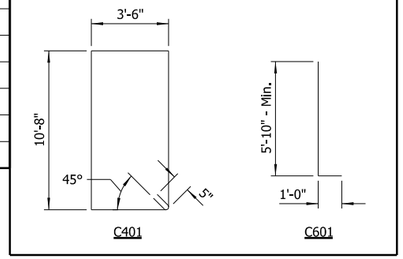


PLAN

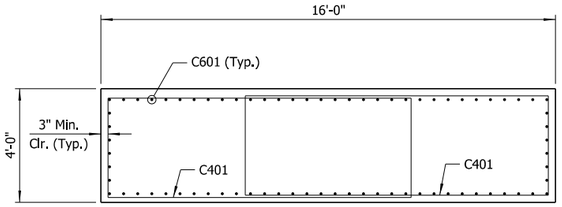
Scale: ⅜" = 1'-0"

BAR LIST			
MARK	NO. REQ'D	LENGTH	P.D.
C401	10	28'-10"	2"
C601	76	6'-8"	4½"
F601	30	15'-6"	Str.
F602	62	7'-6"	Str.

BAR BENDING DIAGRAMS

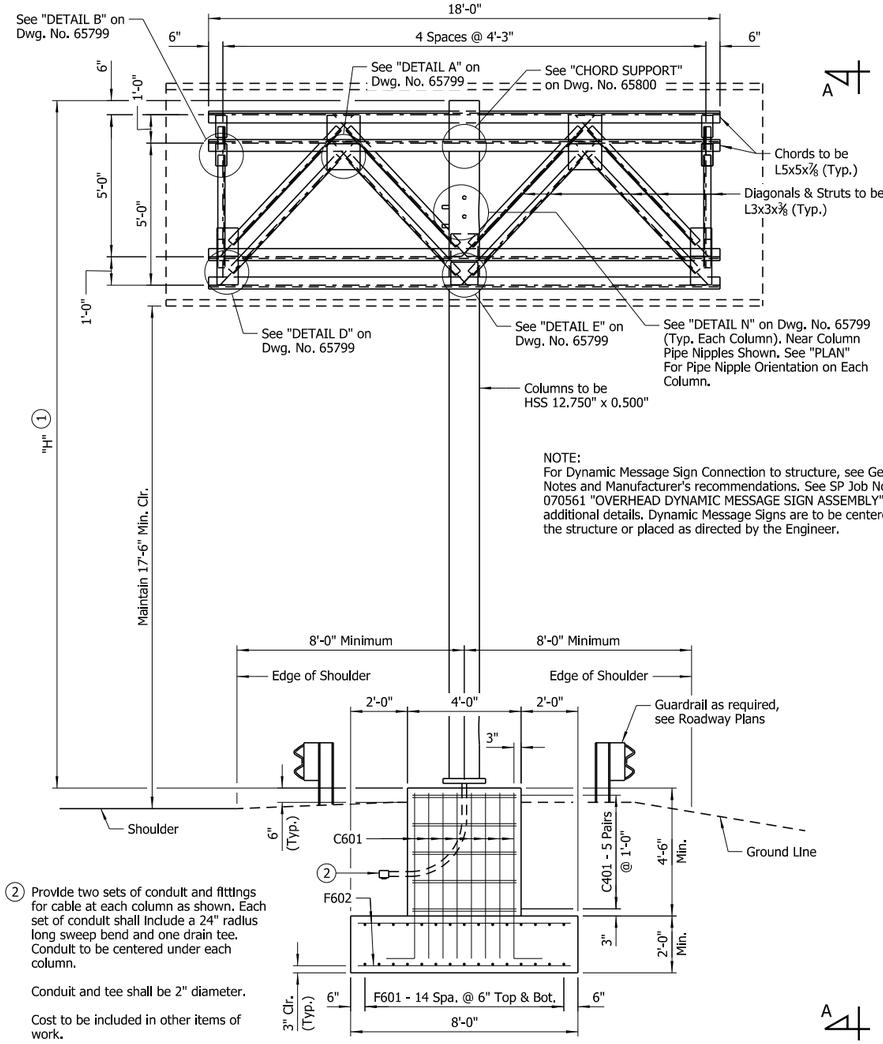


NOTE:
Dimensions of bars are out-to-out.



SECTION B-B

Scale: ⅜" = 1'-0"



NOTE:
For Dynamic Message Sign Connection to structure, see General Notes and Manufacturer's recommendations. See SP Job No. 070561 "OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY" for additional details. Dynamic Message Signs are to be centered on the structure or placed as directed by the Engineer.

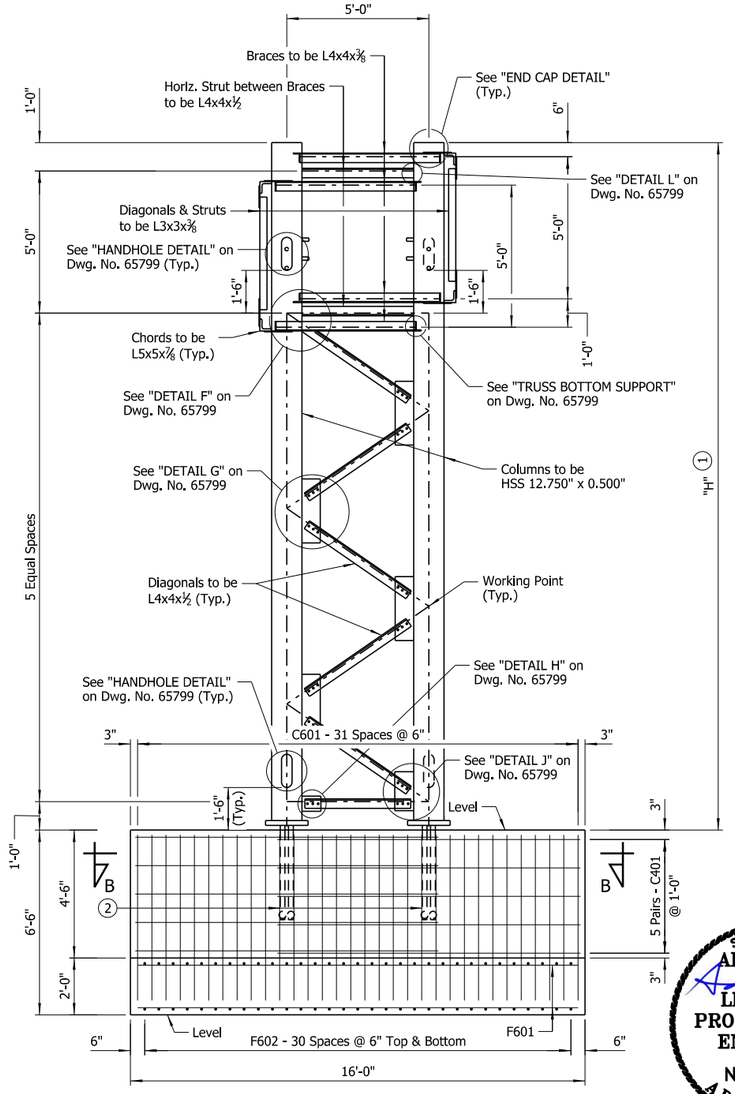
ELEVATION

No Scale

② Provide two sets of conduit and fittings for cable at each column as shown. Each set of conduit shall include a 24" radius long sweep bend and one drain tee. Conduit to be centered under each column.

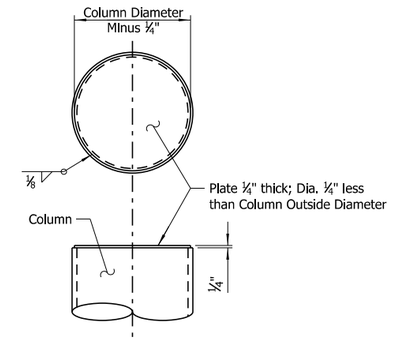
Conduit and tee shall be 2" diameter.

Cost to be included in other items of work.



VIEW A-A

No Scale



END CAP DETAIL

Scale: 1½" = 1'-0"

APPROX. QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

Class S Concrete (Cu. Yds.)	Reinforcing Steel (Lbs.)	Excavation (Cu. Yds.)
20.15	2,348	47

① The Contractor shall make field measurements to determine the column height ("H") that is required to maintain the minimum vertical clearance. The column height shall be shown on the shop drawings with a note stating that the Contractor has made the required field measurements. If the structure height ("H") exceeds 30'-0", contact the Engineer.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 11/17/2022
BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CSW DATE: SEP. 2022 FILENAME: b070561_tm1.dgn
CHECKED BY: ABH DATE: SEP. 2022 SCALE: As Shown
DESIGNED BY: CSW DATE: SEP. 2022

STR. NO. TM-030-10-01 DRAWING NO. 65798

abhall
11/16/20229:09:34 PM
WORKSPACE\RDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2021\21T01020 - ARDOT 012414 Prelim Eng and Estimating\Drawings\b070561_tm1.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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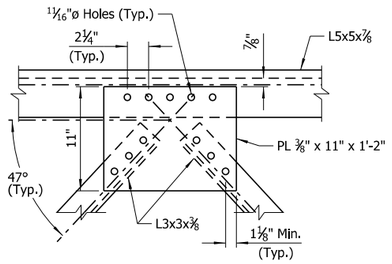
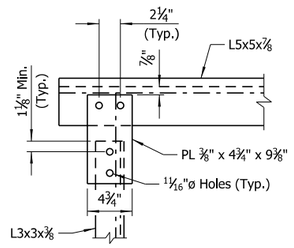
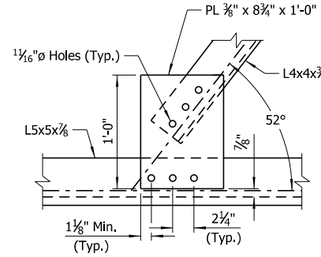
				JOB NO.		070561	36	38
				① TM-030-10-01		TEE MOUNT SIGN STR.		65799



DETAIL A
Scale: 1½" = 1'-0"



DETAIL B
Scale: 1½" = 1'-0"



DETAIL C
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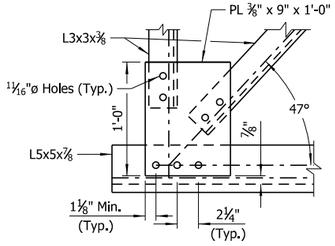

DETAIL D
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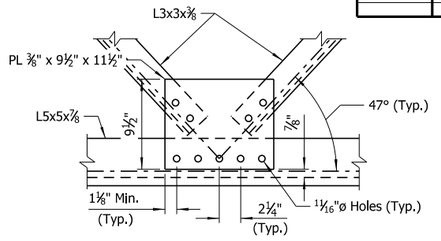
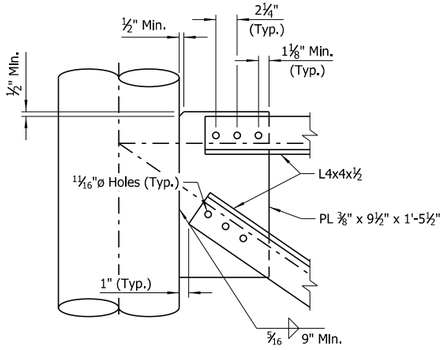
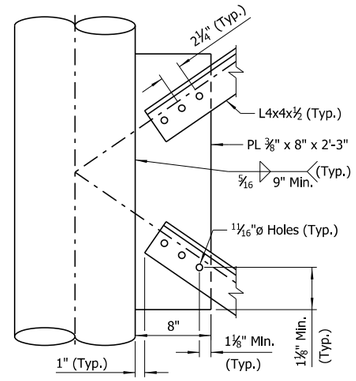


DETAIL E
Scale: 1½" = 1'-0"



DETAIL F
Scale: 1½" = 1'-0"



DETAIL G
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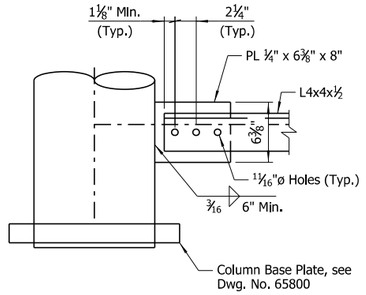
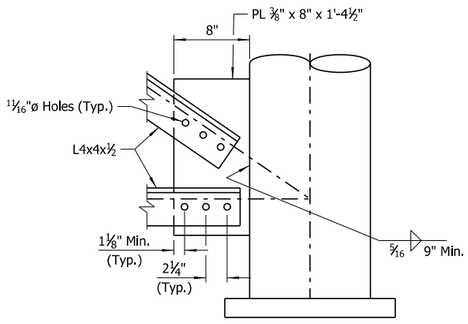
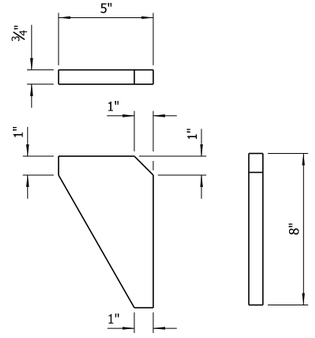


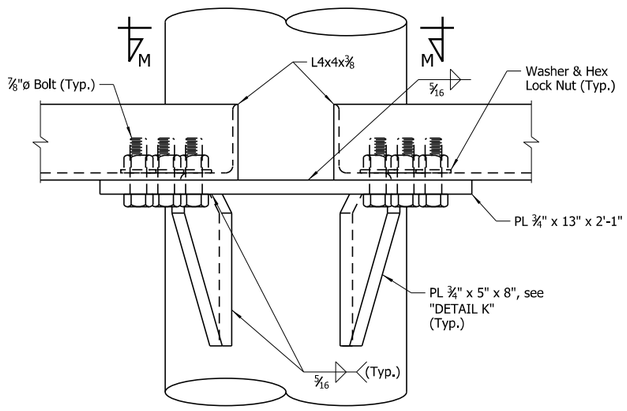
DETAIL H
Scale: 1½" = 1'-0"



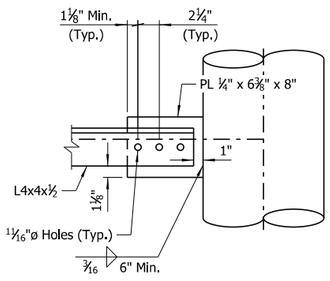
DETAIL J
Scale: 1½" = 1'-0"



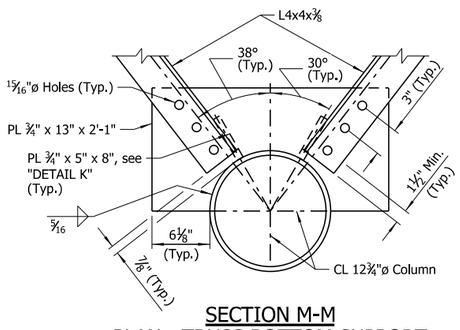
DETAIL K
Scale: 3" = 1'-0"



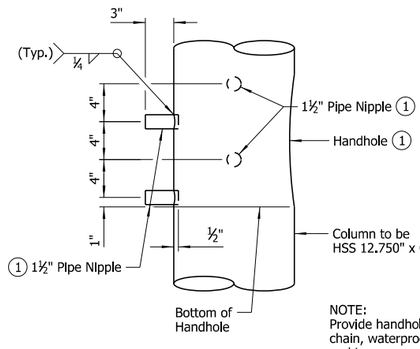
ELEVATION - TRUSS BOTTOM SUPPORT
(Bottom Connection shown, Top Connection similar)
Scale: 3" = 1'-0"



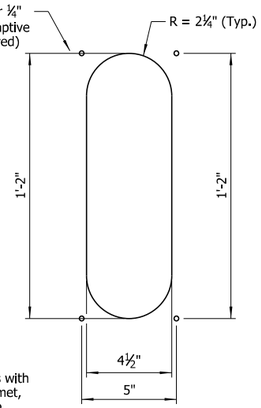
DETAIL L
Scale: 1½" = 1'-0"



SECTION M-M
PLAN - TRUSS BOTTOM SUPPORT
Scale: 1½" = 1'-0"



DETAIL N
Scale: 1½" = 1'-0"



HANDHOLE DETAIL ①
Scale: 3" = 1'-0"

NOTE:
Provide handhole covers with chain, waterproof grommet, and tamperproof captive screws.

① See details on Dwg. No. 65798 for location and orientation of handholes and pipe nipples.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL
DIGITALLY SIGNED 11/17/2022
BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CSW DATE: SEP. 2022 FILENAME: b070561_tm2.dgn
CHECKED BY: ABH DATE: SEP. 2022 SCALE: As Shown
DESIGNED BY: CSW DATE: SEP. 2022

STR. NO. TM-030-10-01 DRAWING NO. 65799

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WORKSPACE\ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2021\21T01020 - ARDOT 012414 Prelim Eng and Estimating\Drawings\b070561_tm2.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		070561	37	38
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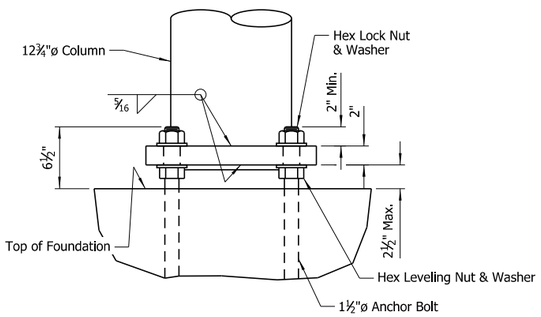
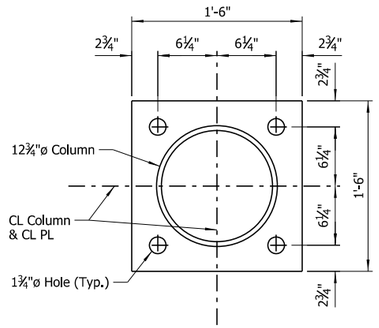


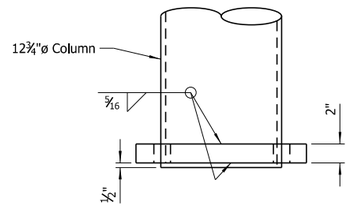
ELEVATION - COLUMN BASE

Scale: 1½" = 1'-0"



PLAN - COLUMN BASE

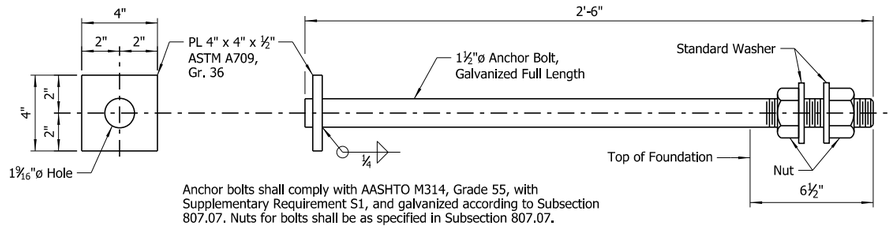
Scale: 1½" = 1'-0"



NOTE:
Diameter of hole in base plate to be ⅛" larger than column diameter.

DETAIL OF COLUMN CONNECTION TO BASE PLATE

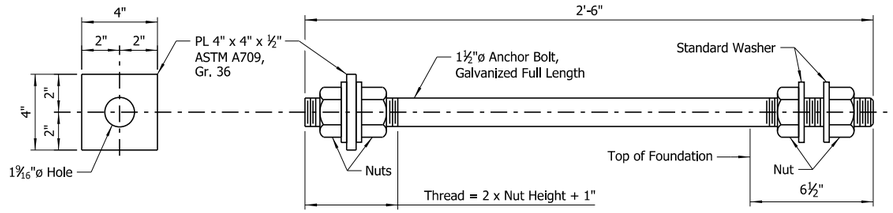
Scale: 1½" = 1'-0"



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.

ANCHOR BOLT DETAIL

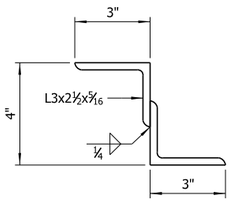
Scale: 3" = 1'-0"



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.

ALTERNATE ANCHOR BOLT DETAIL

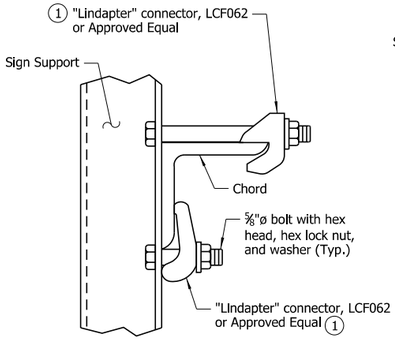
Scale: 3" = 1'-0"

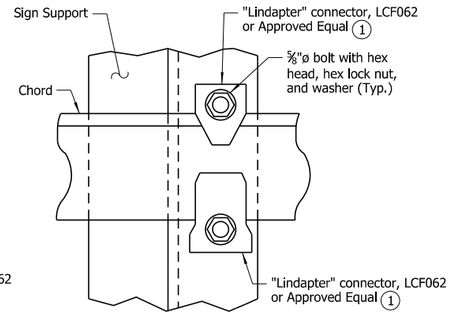


NOTE:
Structural Z support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SUPPORT

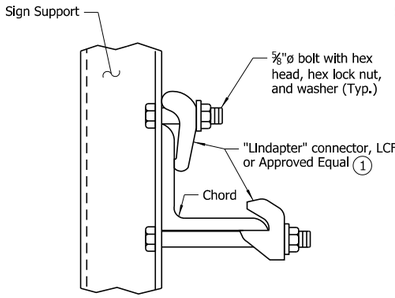
No Scale

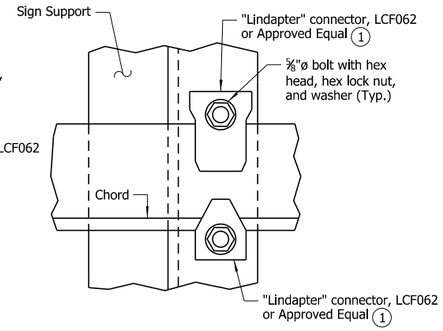




TOP CHORD

No Scale





BOTTOM CHORD

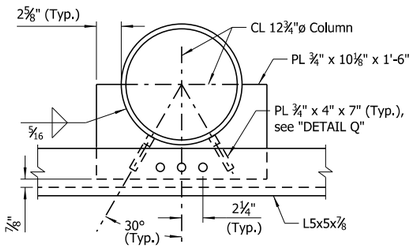
No Scale

(1) All "Lindapter" connectors or approved equal shall be installed according to Manufacturer's recommendations. All connectors, bolts, nuts and washers shall be galvanized.

NOTE:
Install all support connectors clear of the gusset plates and splice locations.

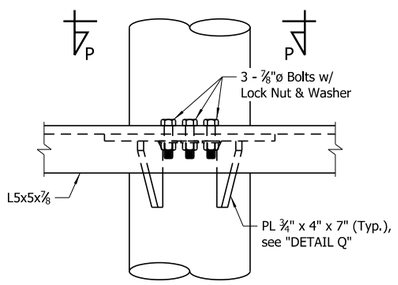
DETAIL OF SIGN SUPPORT CONNECTED TO TRUSS

No Scale



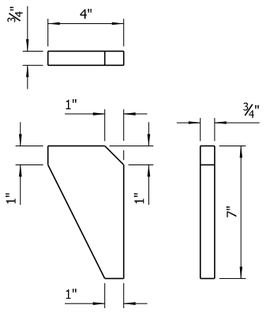
SECTION P-P
PLAN - CHORD SUPPORT

Scale: 1½" = 1'-0"



ELEVATION - CHORD SUPPORT

Scale: 1½" = 1'-0"



DETAIL Q

Scale: 3" = 1'-0"

STATE OF ARKANSAS
ADAM B. HALL
LICENSED PROFESSIONAL ENGINEER
No.14498

DIGITALLY SIGNED 11/17/2022
BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CSW DATE: SEP. 2022 FILENAME: b070561_tm3.dgn
CHECKED BY: ABH DATE: SEP. 2022 SCALE: As Shown
DESIGNED BY: CSW DATE: SEP. 2022

STR. NO. TM-030-10-01 DRAWING NO. 65800

11/16/20229:09:36 PM
abhall
WORKSPACE\ARDOT Bridge (2019)
\\garverInc.local\gdata\Projects\2021\21T01020 - ARDOT 012414 Prelim Eng and Estimating\Drawings\b070561_tm3.dgn
REVISED DATE:

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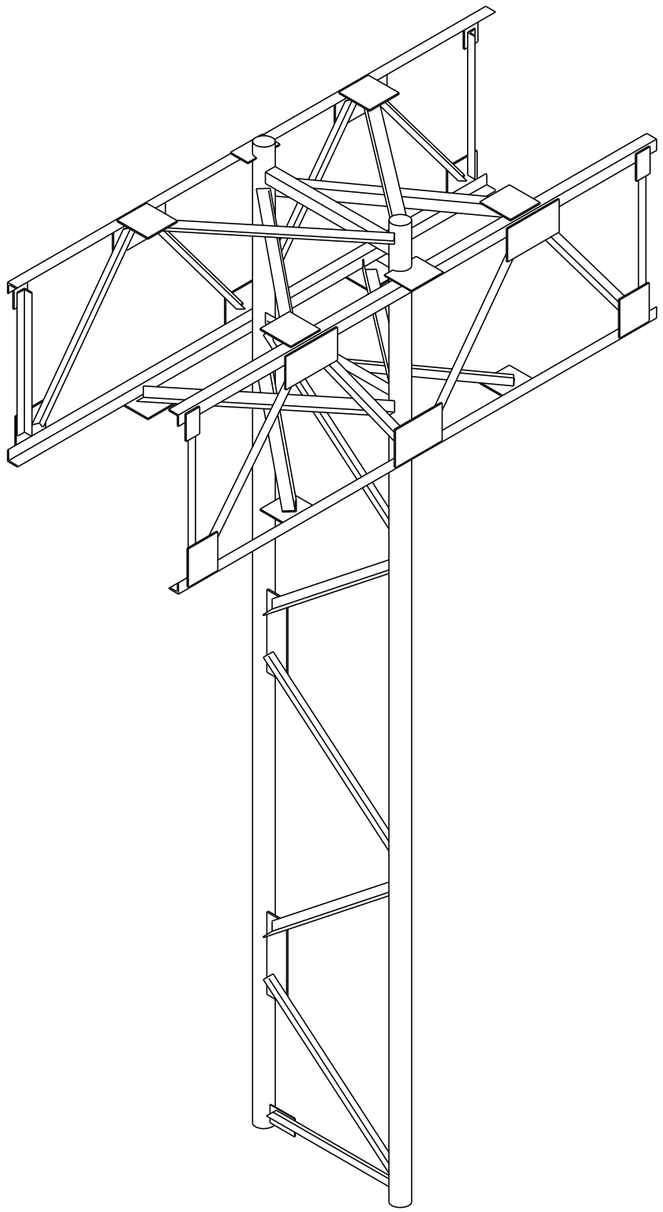


ISOMETRIC VIEW

GENERAL NOTES:

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 Specifications unless otherwise noted in the plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, First Edition, 2015 with current interim revisions.

Basic Wind Speed = 120 mph
Fatigue Category: I

This structure is approved for 165 square feet of sign area and a Dynamic Message Sign (DMS) with a maximum dead load weight of 1770 lbs per side. Use of additional sign area or a heavier DMS must be approved by the Engineer. If the structure height ("H") exceeds 30'-0", contact the Engineer.

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete	f'c = 3,500 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles:	ASTM A709, Gr. 36 (Fy = 36,000 psi)
Plate, W-Section:	ASTM A709, Gr. 50 (Fy = 50,000 psi)
(1) Pipe:	ASTM A139, Gr. C, straight-seam welded (Fy = 42,000 psi), ASTM A500, Gr. B (Fy = 42,000 psi), ASTM A501, Gr. B (Fy = 50,000 psi)
Z-Shapes:	AASHTO M 270, Grade 36 (Fy = 36,000 psi)
Shim Plates:	ASTM A1011, SS, Grade 36, Type 2, or Grade 40
Bolts:	ASTM F3125, Grade A325, Type 1
Lock nuts - Approved Type:	ASTM A563, Grade DH or AASHTO M 292, Grade 2H
Washers:	ASTM F436
Nuts:	ASTM A563, Grade DH or AASHTO M 292, Grade 2H

The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structure to the existing conditions.

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.04, 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. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

All steel shall be galvanized according to Subsection 807.19. Steel completely encased in concrete may not be galvanized. Galvanized coating damaged during transport, handling or erection shall be field repaired in accordance with Subsection 807.88.

All main load carrying tension members greater than ½" in thickness shall conform to the requirements of the Longitudinal Charpy V-Notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with SP Job No. 070561 "STEEL SIGN STRUCTURES."

Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

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 temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to Subsection 807.26 except welding of tubular sections shall conform to AWS D1.1 Structural Welding Code.

No circumferential butt welds will be allowed in any pipe sections.

All fillet welds of critical members shall be tested according to AWS D1.1 Structural Welding Code - Steel using the magnetic particle method. Critical welds shall include: column to base plate and truss bottom support to column.

Connections shall be bolted with high-strength bolts. Unless otherwise noted, bolts shall be ⅝" diameter and open holes shall be $^{11}/_{16}$" diameter. Bolt spacing shall be 2¼" for ⅝" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All truss frame bolts shall comply with ASTM F3125, Grade A325, Type 1, galvanized according to Subsection 807.06. Nuts and washers for ASTM F3125, Grade A325, Type 1 bolts shall be furnished and galvanized in accordance with Subsection 807.06.

Lock nuts to be equipped with nylon locking inserts or other approved type locking system. Lock nuts to be installed according to manufacturer's recommendations.

Anchor bolts shall comply with AASHTO M 314, Grade 55, including Supplementary Requirement S1, and shall be galvanized according to Subsection 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with Subsection 807.07. Anchor bolts shall be pretensioned in accordance with SP Job No. 070561 "STEEL SIGN STRUCTURES."

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "STEEL TEE MOUNT SIGN STRUCTURE." The excavations for the footings shall be backfilled before the structure is attached to the foundations.

The DMS supplier shall be responsible for the attachment method and materials used to attach the DMS and it accessories to the structure. The method of attachment shall not facilitate any corrosion of the structure.

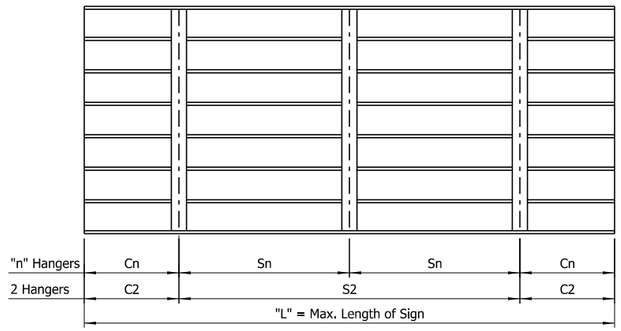
For additional information regarding the DMS, see SP Job No. 070561 "OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY."

(1) In addition to material requirements, all pipe used for welded applications shall have a maximum carbon equivalency (CE) of 0.4 using the following equations:
CE = %C + Mn/6 + %Cu/40 + %Ni/20 + %Cr/10 - %MO/40 - %V/10

HANGER VARIABLES

Max. Length of Sign = "L"	"n" Hangers	Cantilever Length "Cn"	Hanger Spacing "Sn"
15'-0"	2 Hangers	0.21 x "L"	0.58 x "L"
30'-0"	3 Hangers	0.145 x "L"	0.355 x "L"
45'-0"	4 Hangers	0.107 x "L"	0.262 x "L"

NOTE:
Hanger spacing and cantilever length shall be rounded to the nearest inch.



NOTE:
See sign details and plan sheets for number, size and dimensions of signs.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 11/17/2022
BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

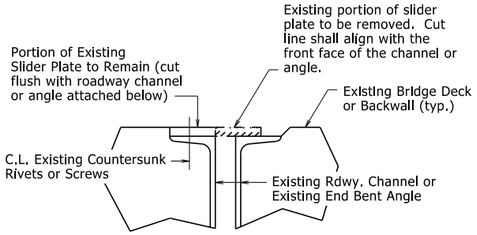
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CSW DATE: SEP. 2022 FILENAME: b070561_tm4.dgn
CHECKED BY: ABH DATE: SEP. 2022 SCALE: No Scale
DESIGNED BY: CSW DATE: SEP. 2022

STR. NO. TM-030-10-01 DRAWING NO. 65801

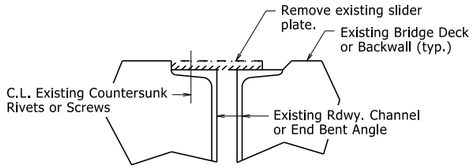
abhall
11/16/20229:09:37 PM
WORKSPACE\ARDOT Bridge (2019)
\\garverInc.local\gdata\Projects\2021\21T01020 - ARDOT 012414 Prelim Eng and Estimating\Drawings\b070561_tm4.dgn
REVISED DATE:

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	JOINT REPAIR - 55064			



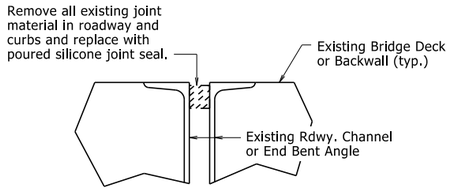
REMOVAL DETAILS AT EXISTING SLIDER PLATE JOINTS

At the direction of the Engineer, the portion of existing slider plate shown shall be removed and replaced with a new plate as shown in "SLIDER PLATE JOINT MODIFICATION". The portion of existing slider plate shall be removed and disposed of in accordance with Section 821. The cut face shall be ground square and flush with the face of the existing angle or channel. Removal and disposal of existing slider plate material will not be paid for directly, but shall be considered subsidiary to the item "Silicone Joint Sealant". Properly functioning slider plates need not be modified.



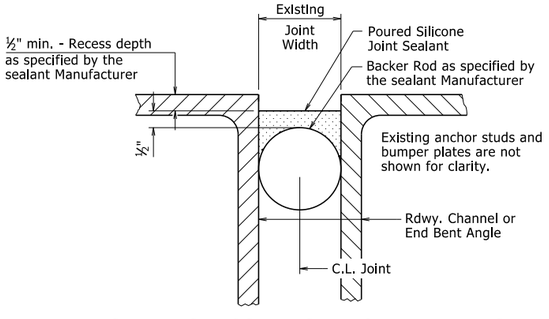
REMOVAL DETAILS AT EXISTING SLIDER PLATE JOINTS WITH GRADE RAISE

The existing slider plate shown shall be removed and replaced with new plates as shown in "JOINT MODIFICATION WITH GRADE RAISE". The existing slider plate shall be removed and disposed of in accordance with Section 821. Removal and disposal of existing slider plate material will not be paid for directly, but shall be considered subsidiary to the item "Silicone Joint Sealant".



REMOVAL DETAILS AT EXISTING FILLED JOINTS

The existing joint material shall be removed and disposed of in accordance with Section 821. Removal and disposal of existing joint material will not be paid for directly, but shall be considered subsidiary to the Item "Silicone Joint Sealant".



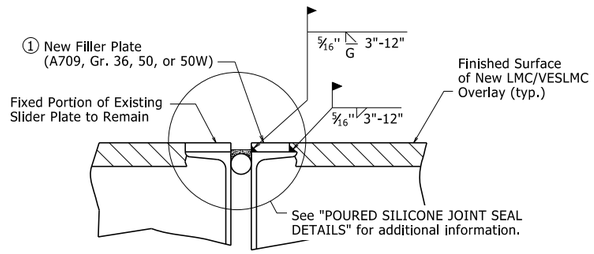
POURED SILICONE JOINT SEAL DETAILS

Existing Joint Seal shall be completely removed, backer rods placed, and Silicone Joint Sealant installed across the entire width of the bridge deck in accordance with these details, Section 809, and the Manufacturer's recommendations. Removal of existing Joint Seal will not be paid for directly, but shall be considered incidental to the item "Silicone Joint Sealant".

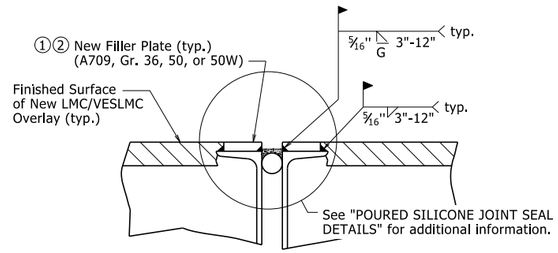
Backer rods shall be extended beyond the length of the poured joint in the initial joint repair area so that the two pieces can be properly spliced together prior to installing sealant for the adjacent joint repair. Manufacturer's recommendations shall be followed to prevent sealant leakage during repair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

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

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



SLIDER PLATE JOINT MODIFICATION

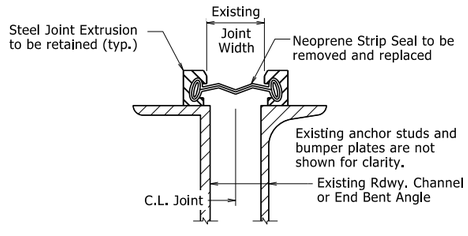


JOINT MODIFICATION WITH GRADE RAISE

① New field attached plates atop existing roadway channels or angles are required. The plate thickness shall be adjusted as necessary to match surface of finished surface of LMC/VESLMC Overlay and the width shall be ⅜" less than the existing channel flange or angle width to allow for fillet weld as shown.

All new Structural Steel shall be ASTM A709 (Gr. 36, 50, or 50W). The surfaces not in contact with concrete shall be cleaned and painted in accordance with Section 638. Only one coat of paint is required and shall be applied in the fabricator's shop. Grade 50W steel shall not be painted, but shall be cleaned in accordance with Subsection 807.84(e). Structural Steel and Painting will not be paid for directly, but shall be subsidiary to the item "Silicone Joint Sealant".

② Details shown are for an expansion joint where two bridge units meet. Eliminate filler plate on backwall and proceed with backwall repair in accordance with "BACKWALL REPAIR REMOVAL DETAIL" and "BACKWALL REPAIR INSTALLATION DETAIL" at end bents for bridge decks with grade raise, see Standard Drawing Number 55065.



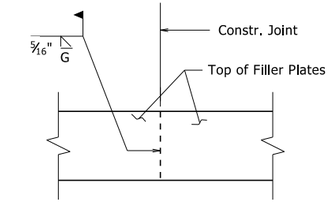
STRIP SEAL JOINT DETAILS

Existing neoprene strip seal joint material shall be completely removed and new neoprene strip seal joint material shall be installed across the entire width of the steel extrusions in accordance with these details, Section 809, and the Manufacturer's recommendations. Prior to installing the new joint material, the Contractor shall clean the steel extrusion at the Engineer's direction and in accordance with the new strip seal joint material Manufacturer's recommendations.

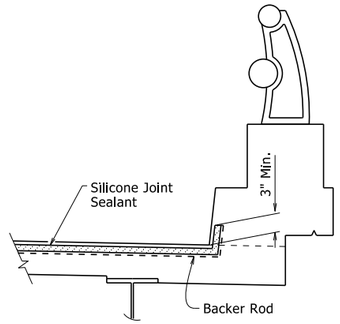
Removal and replacement of the existing neoprene strip seal joint material will require the removal of the parapet slider plates, where present. Parapet slider plates removed for this work shall be reinstalled after installation of the new neoprene strip seal joint material.

The new neoprene strip seal joint material shall provide a movement rating of four inches. The repaired expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

All work and material associated with removing the existing joint material, cleaning the extrusions, removal and reinstallation of parapet slider plates, and installation of new joint material shall be paid for under the item "Modification of Existing Bridge Structure (Bridge No. _)".

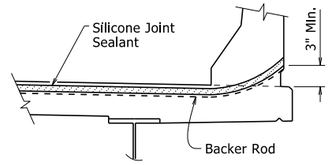


PLAN VIEW OF FILLER PLATE

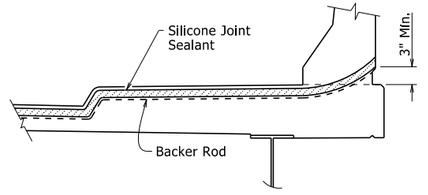


SILICONE JOINT SEAL PLACEMENT AT CURB

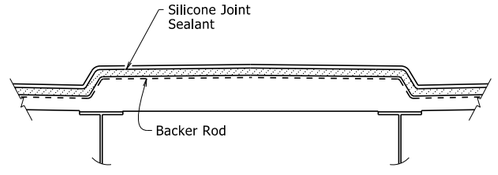
Vertical joints may require forming. The clearance from deck surface to joint material shall be maintained.



SILICONE JOINT SEAL PLACEMENT AT RAIL



SILICONE JOINT SEAL PLACEMENT AT SIDEWALK



SILICONE JOINT SEAL PLACEMENT AT MEDIAN

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on November 7, 2019. This copy is not a signed and sealed document.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

STANDARD DETAILS FOR JOINT REPAIRS & MODIFICATIONS

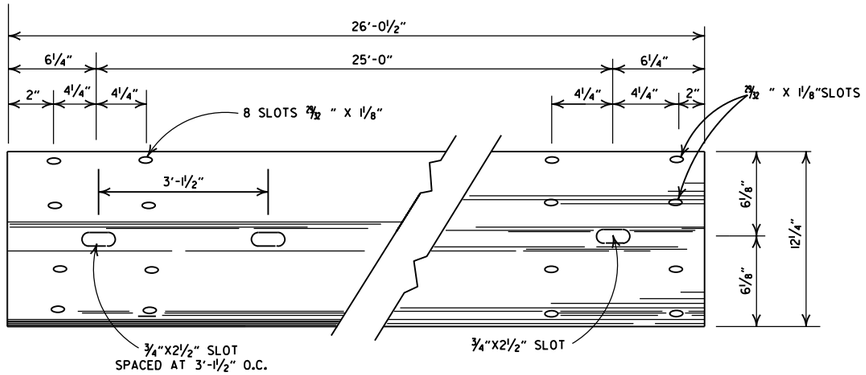
ARKANSAS STATE HIGHWAY COMMISSION

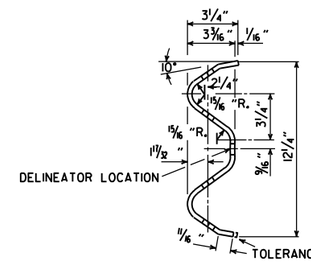
LITTLE ROCK, ARK.

DRAWN BY: KWY DATE: 11/7/2019 FILENAME: b55064.dgn
CHECKED BY: SWP DATE: 11/7/2019 SCALE: None
DESIGNED BY: STD. DATE: -------

DRAWING NO. 55064

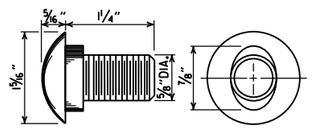
PRINT DATE: 11/4/2020



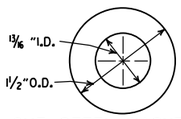


DETAILS OF W-BEAM GUARDRAIL

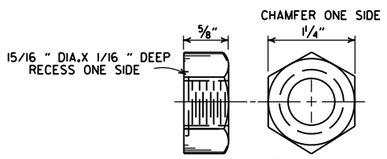
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



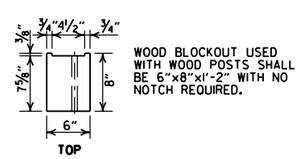
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

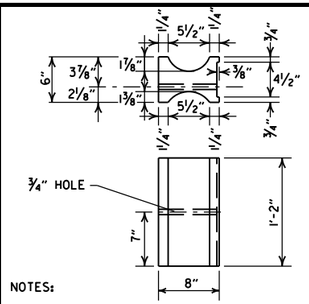


NUT



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

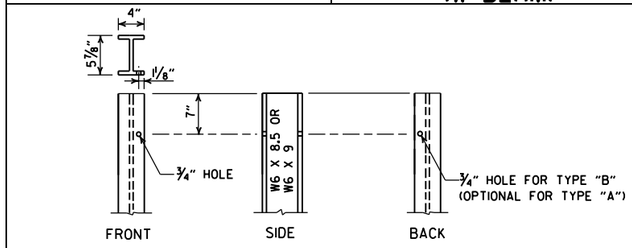
WOOD BLOCKOUT (W-BEAM)



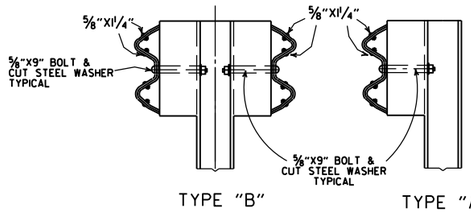
NOTES:

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)



STEEL POST



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.

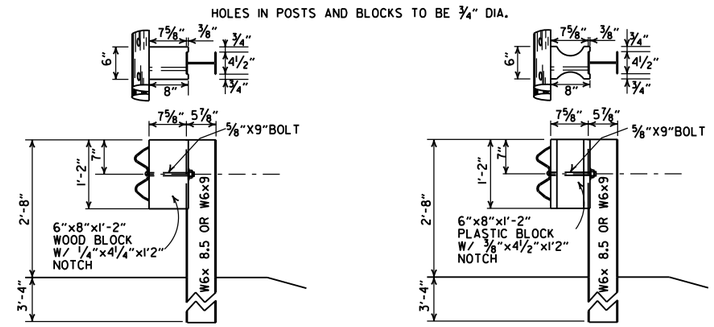
USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

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 9.7 f (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.

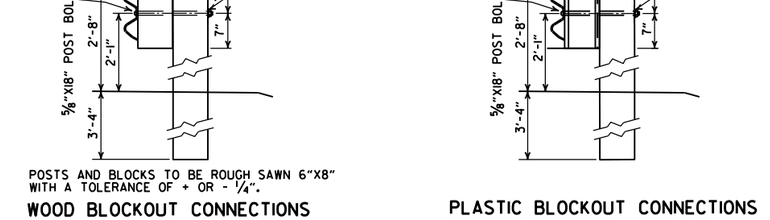
DELINEATORS SHALL BE MOUNTED AT 37.5' SPACING ON THE FRONT FACE OF THE GUARDRAIL. SPACING MAY BE REDUCED IN CURVES, AS DIRECTED BY THE ENGINEER. COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR GUARDRAIL.



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



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

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

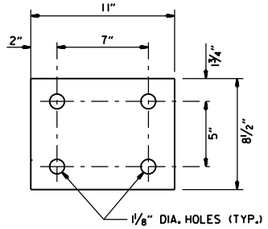
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	FILMED
05-19-22	REVISED GENERAL NOTES, ADDED DELINEATOR LOCATION.	
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

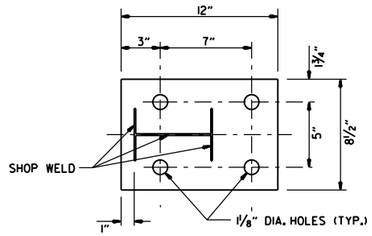
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GR-6

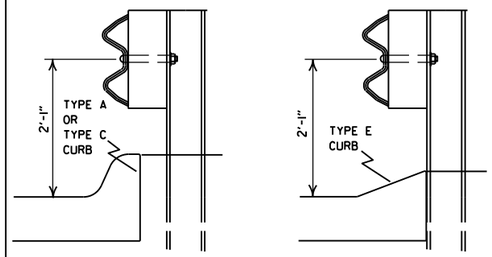


WASHER PLATE



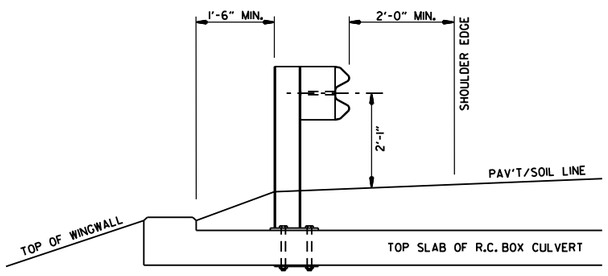
BASE PLATE

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

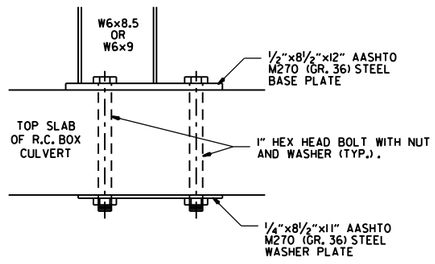


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

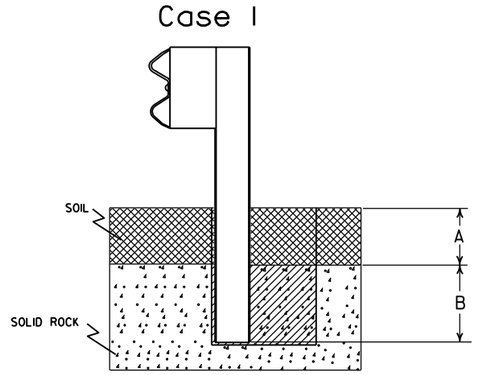
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.

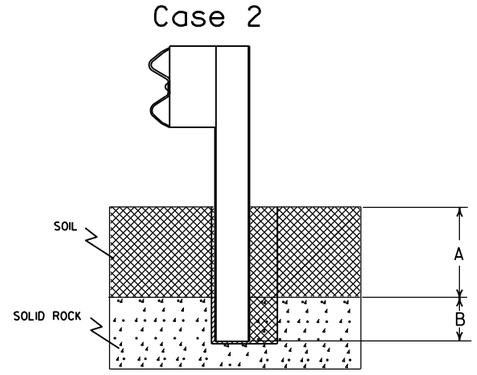


SECTION A-A



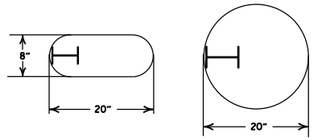
DETAIL OF CONNECTION

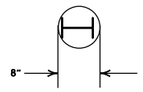




Plan View Steel Posts

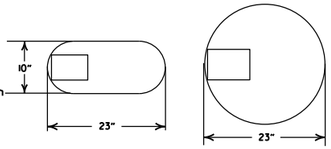
Either hole configuration acceptable

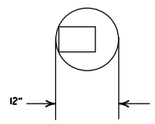




Plan View Wood Posts

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".

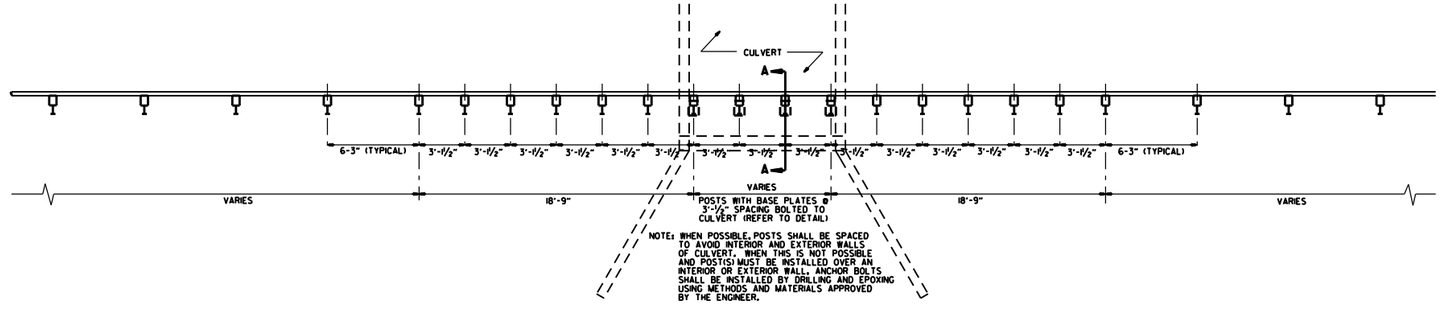
Zone A:
Backfill according to Section 617.03(a).

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.

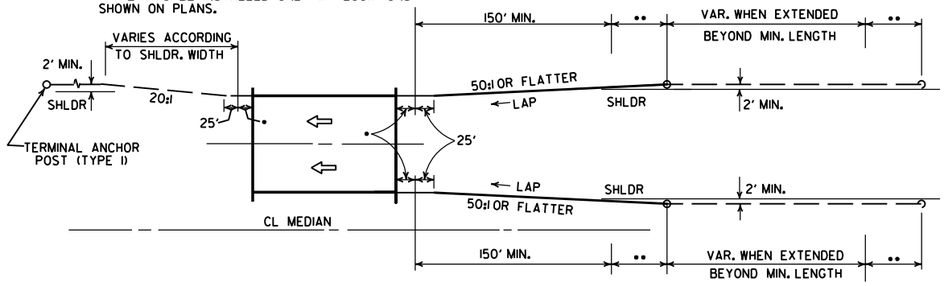
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST 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

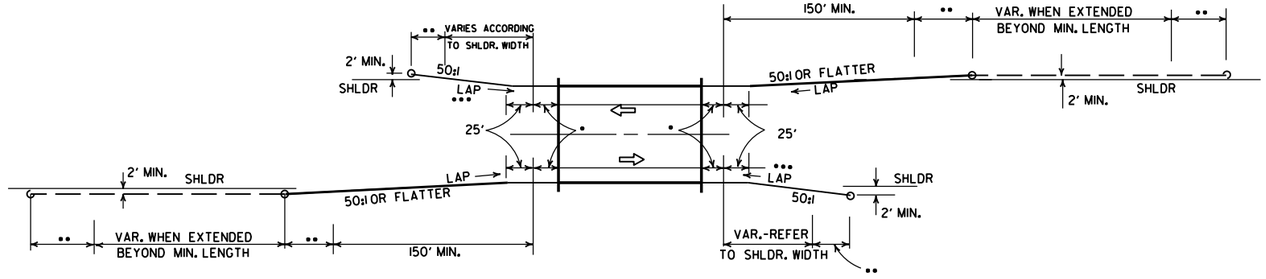
STANDARD DRAWING GR-7

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

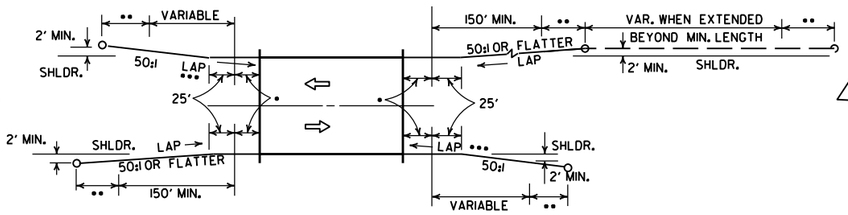
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

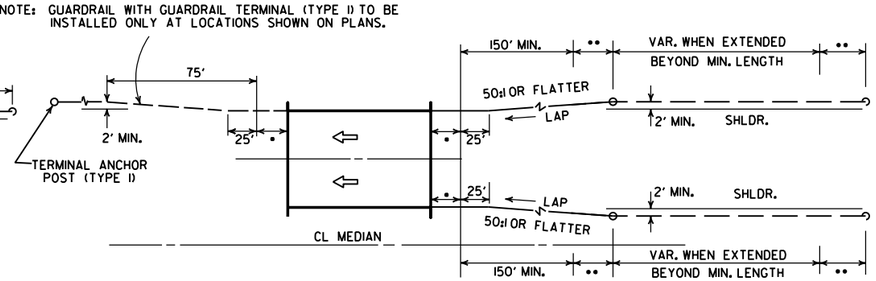
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

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



TWO-WAY TRAFFIC

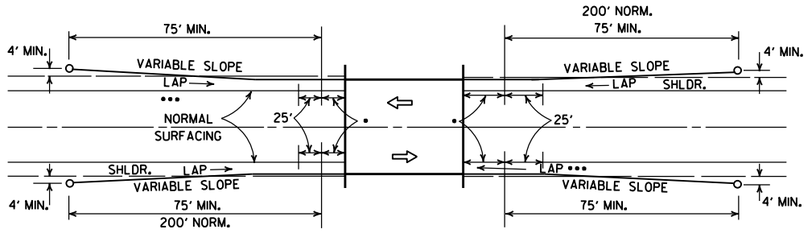
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



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

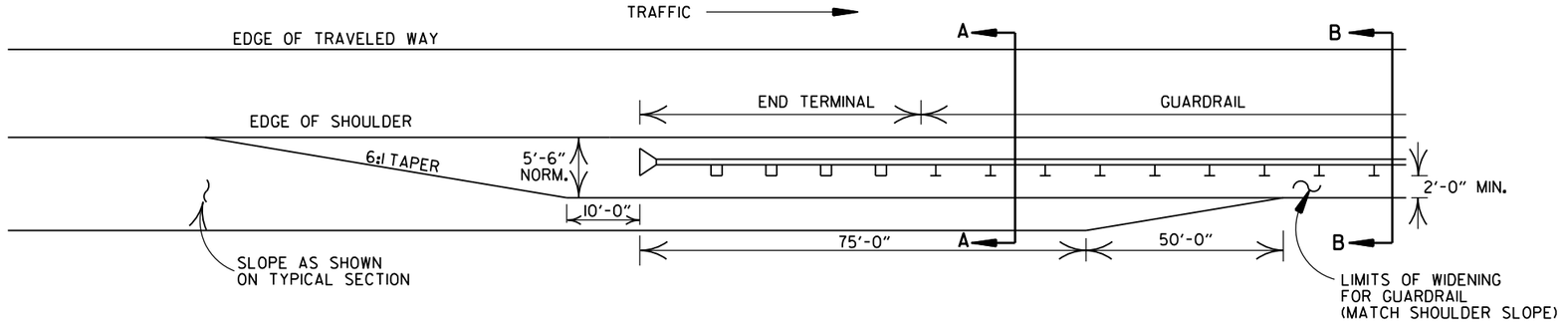
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

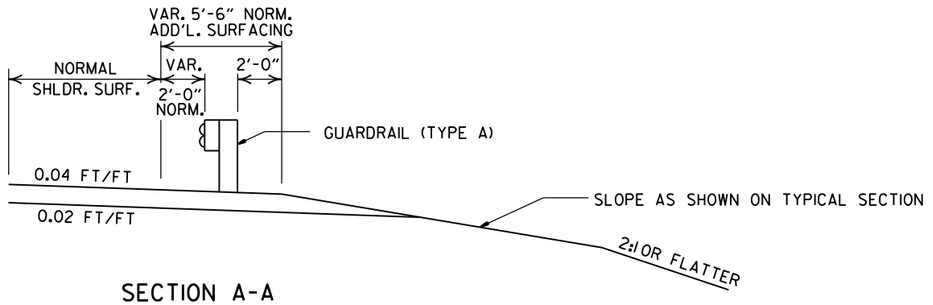
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

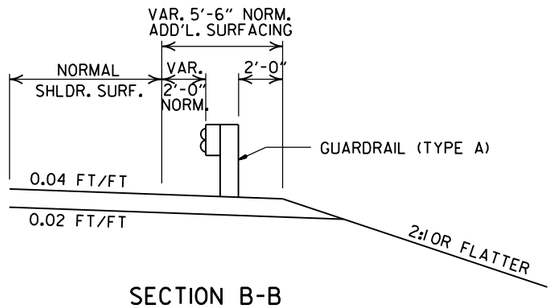
GUARDRAIL DETAILS

STANDARD DRAWING GR-8



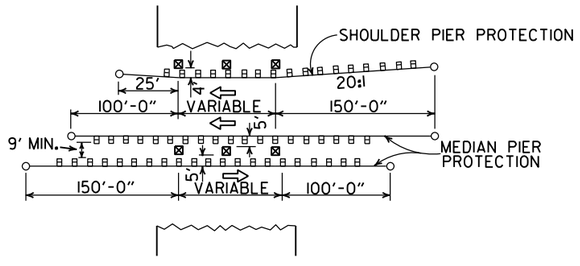


SECTION A-A



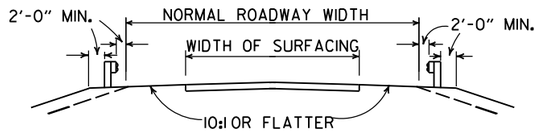
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

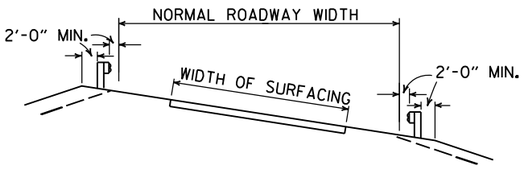


METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

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



SECTION ON TANGENT



SECTION ON CURVE

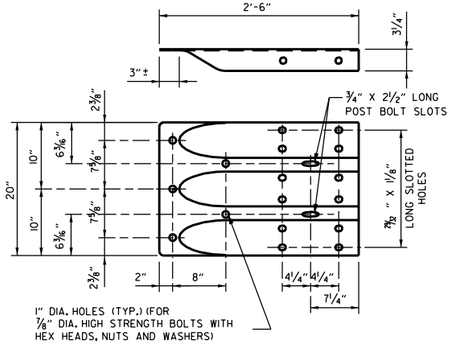
DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

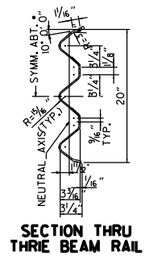
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

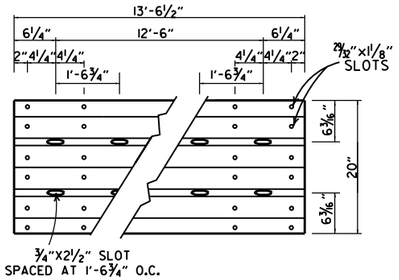
STANDARD DRAWING GR-9



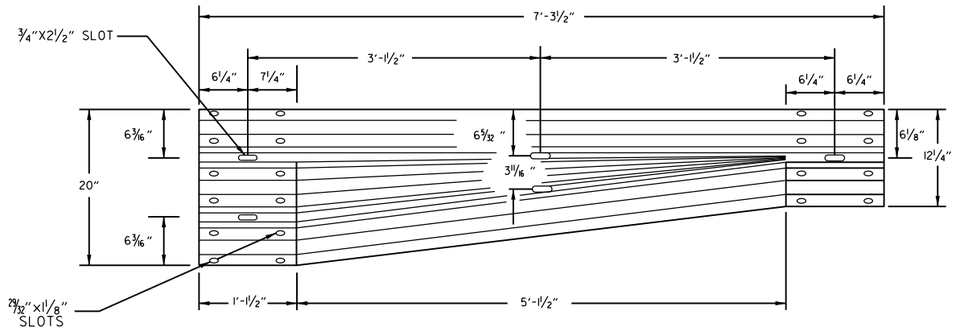
SPECIAL END SHOE



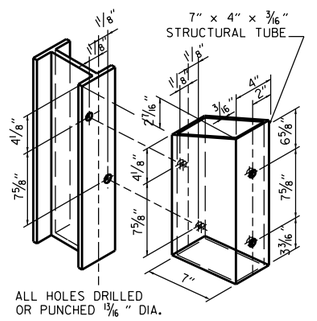
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL

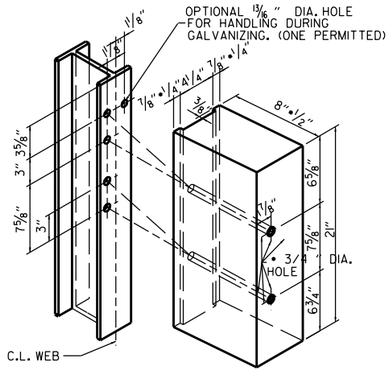


TRANSITION SECTION



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

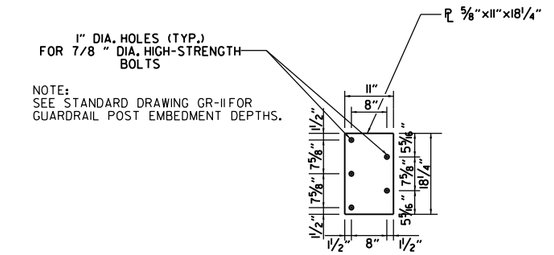
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

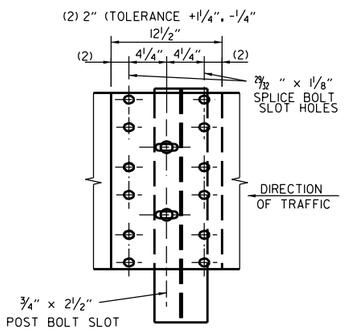
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



NOTE:
SEE STANDARD DRAWING GR-11 FOR GUARDRAIL POST EMBEDMENT DEPTHS.

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.

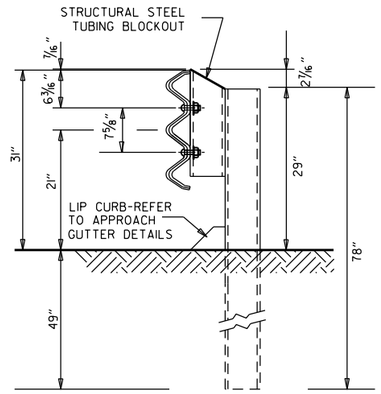
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

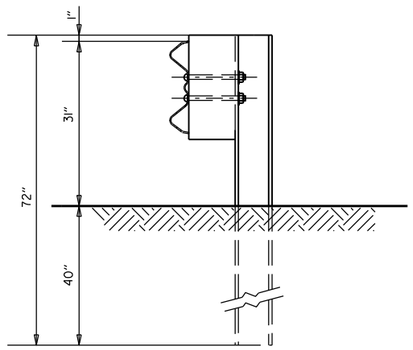
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

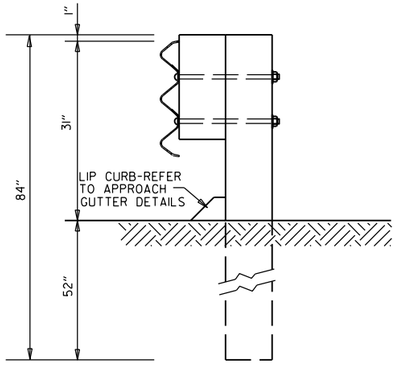
STANDARD DRAWING GR-10



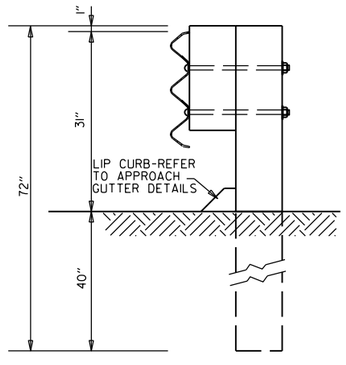
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



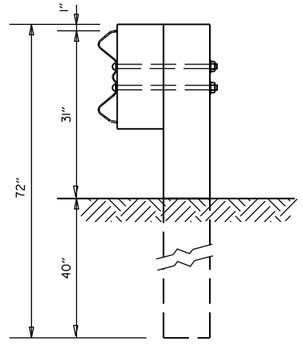
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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.

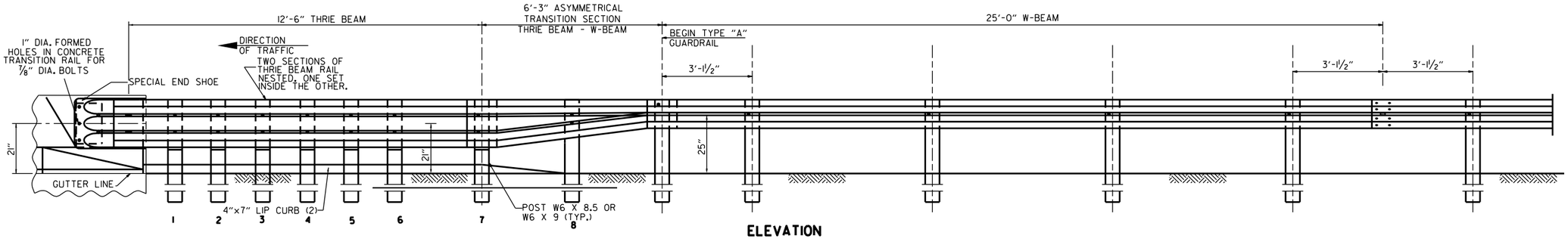
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

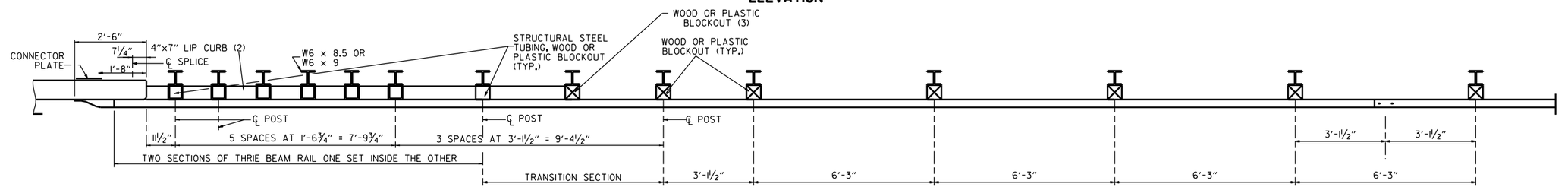
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

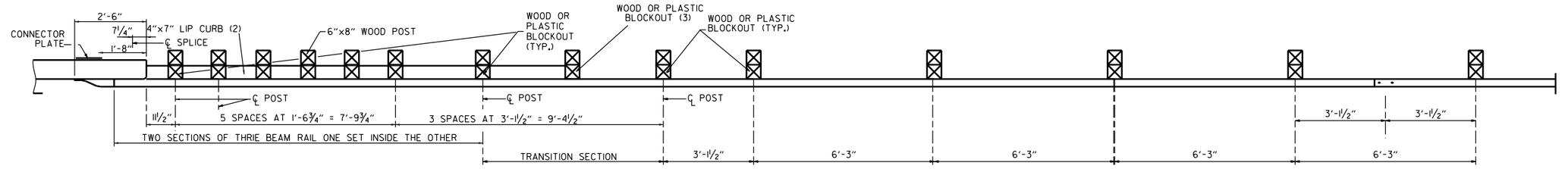
STANDARD DRAWING GR-11



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.

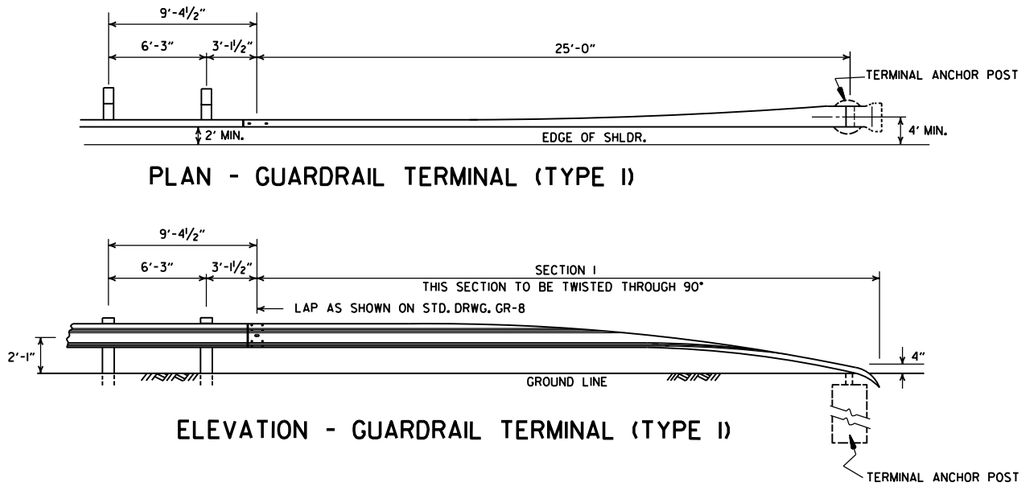
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

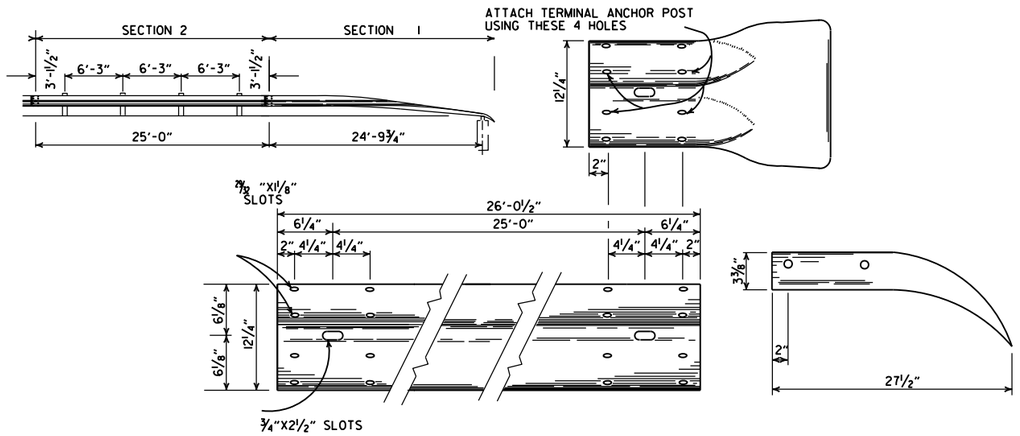
ARKANSAS STATE HIGHWAY COMMISSION

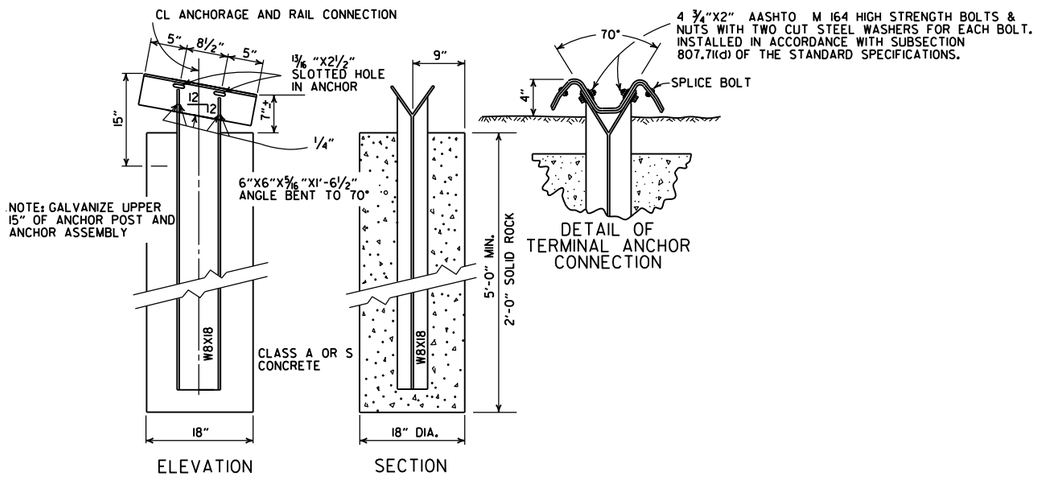
GUARDRAIL DETAILS

STANDARD DRAWING GR-12



NOTE:
SECTIONS 1 AND 2 OF GUARDRAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARDRAIL SPECIFIED.





NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

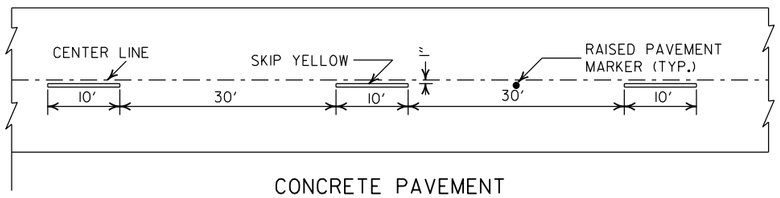
DATE	REVISION	FILMED
11-07-19	RENAMED & REVISED REFERENCE.	
11-16-17	REVISED GUARDRAIL HEIGHT AND LOCATION OF POSTS	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
06-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-03-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-01-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

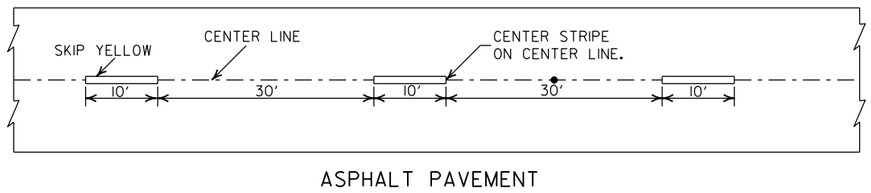
GUARDRAIL DETAILS

STANDARD DRAWING GRT-1

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.

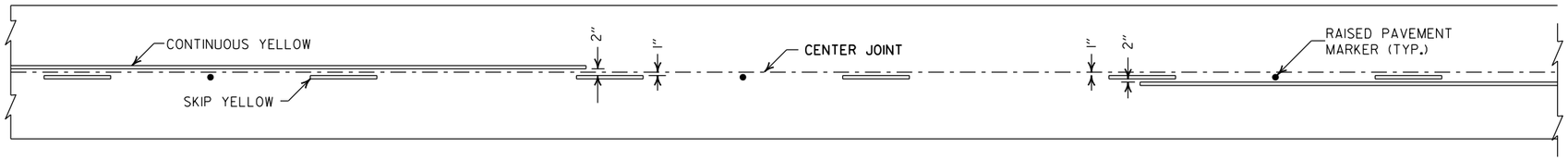


CONCRETE PAVEMENT

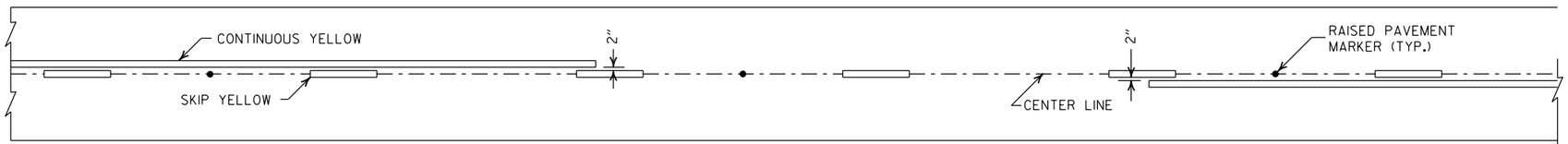


ASPHALT PAVEMENT

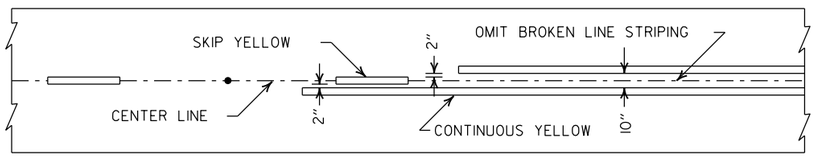
BROKEN LINE STRIPING



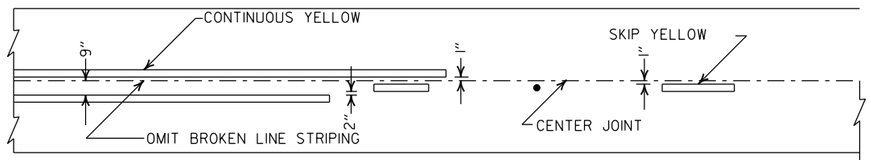
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

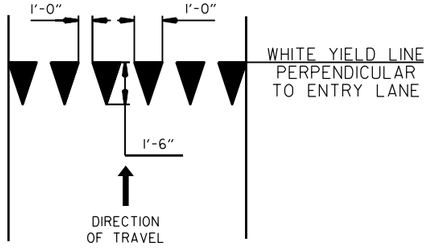


ASPHALT PAVEMENT

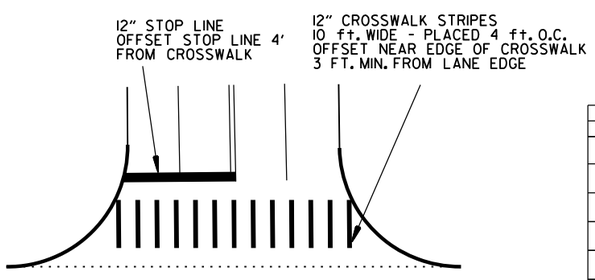


CONCRETE PAVEMENT

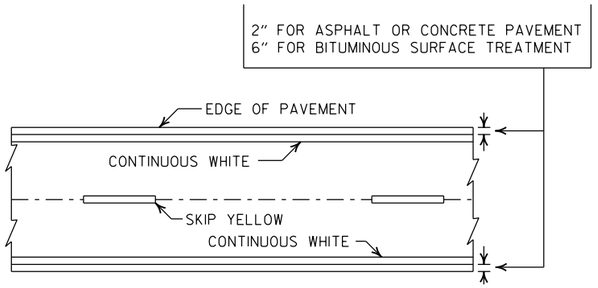
STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL



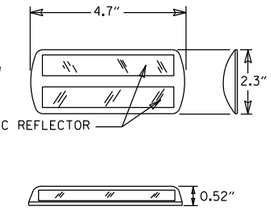
CROSSWALK AND STOP LINE DETAILS



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

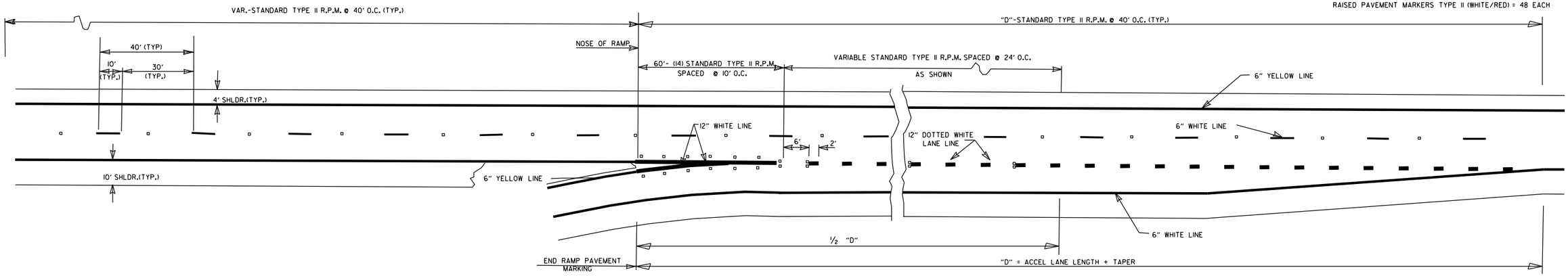
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

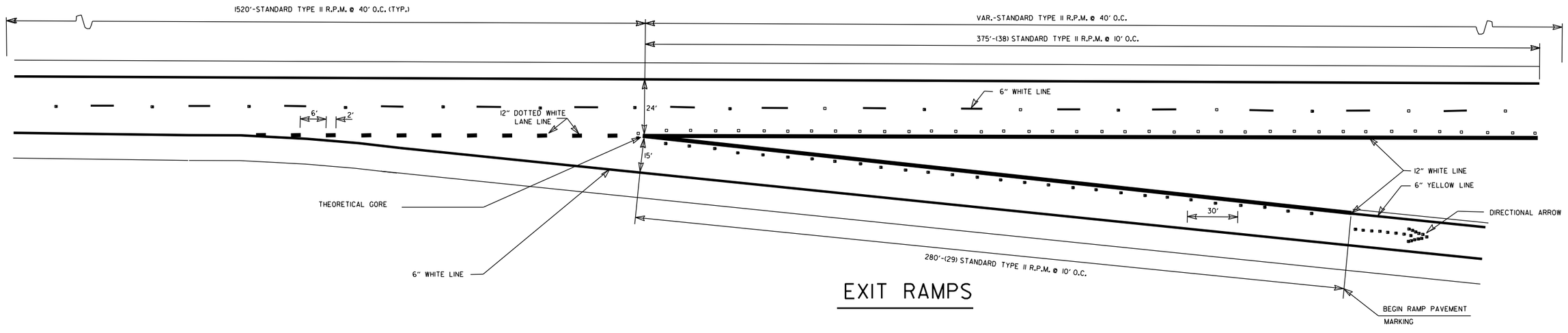
12" WHITE = 370 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

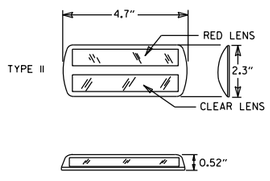
6" WHITE = 280 LIN. FT.
12" WHITE = 815 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH



ENTRANCE RAMPS

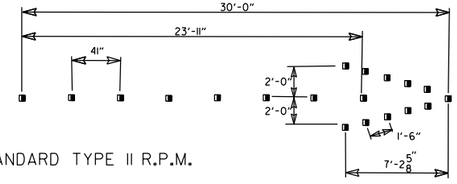


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



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

DIRECTIONAL ARROWS

GENERAL NOTES:

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

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

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

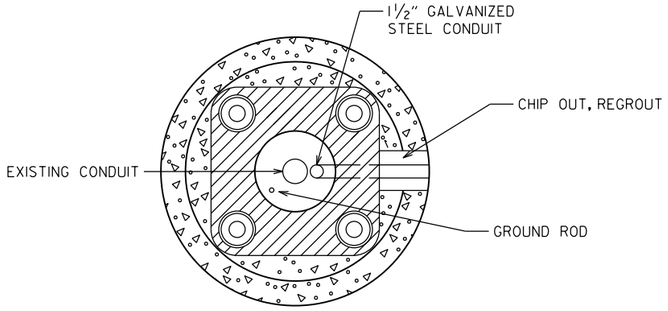
DATE	REVISION	FILMED
05-14-20	REMOVED CROSSHATCH MARKINGS ON EXIT RAMPS	
11-07-19	REVISED DOTTED PAV'T MARKINGS; ADDED CROSSHATCH MARKINGS ON EXIT RAMPS	
12-8-16	REVISED RAISED PAV'T MARKERS FOR 80' SPACING; REVISED WIDTH OF STRIPING	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
7-26-12	REVISED RPM NOTATION	
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

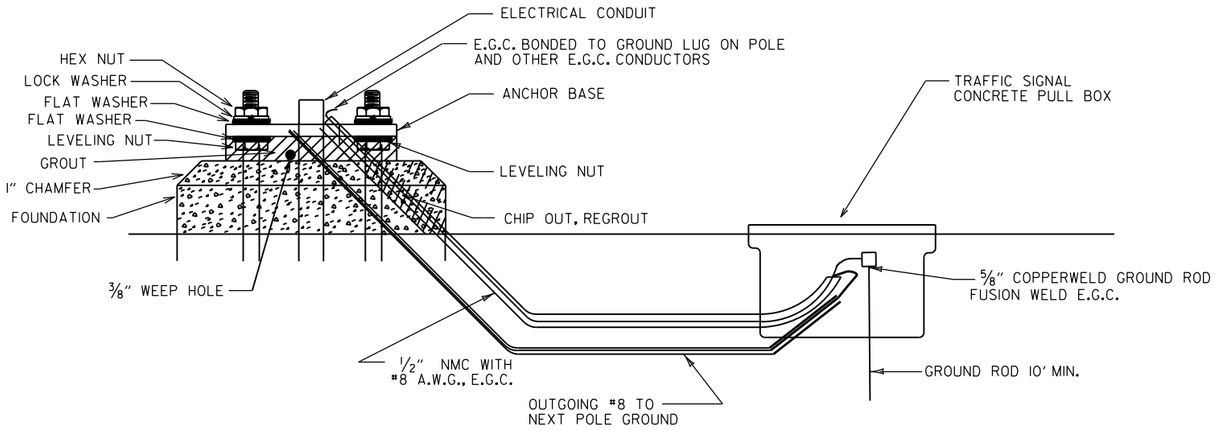
PAVEMENT MARKING DETAILS ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

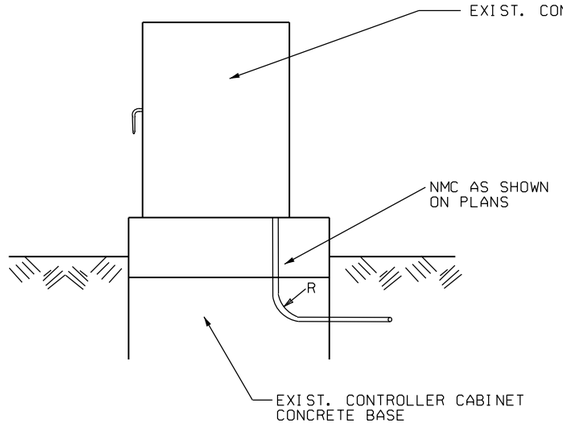
CONDUIT ENTRY TO EXISTING POLE BASE



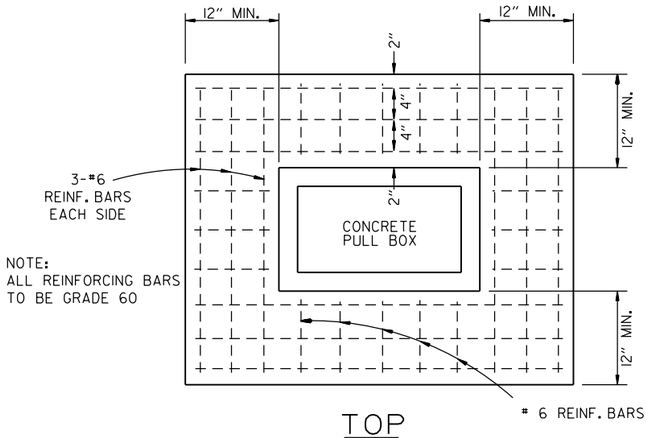
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

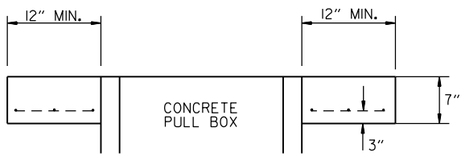


NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



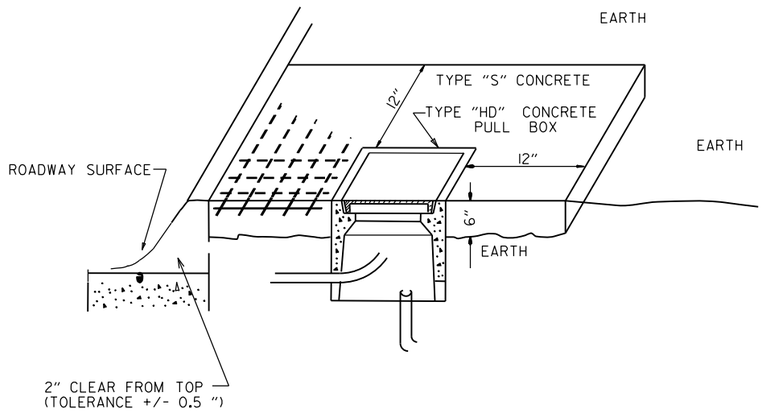
NOTE:
ALL REINFORCING BARS TO BE GRADE 60

TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



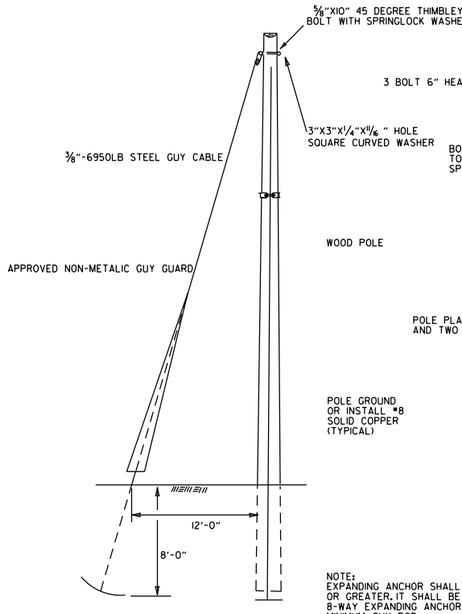
NOTE:
ALL TYPE 1AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

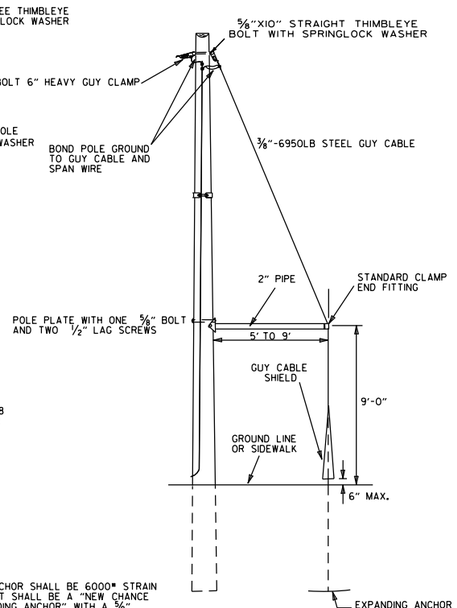
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



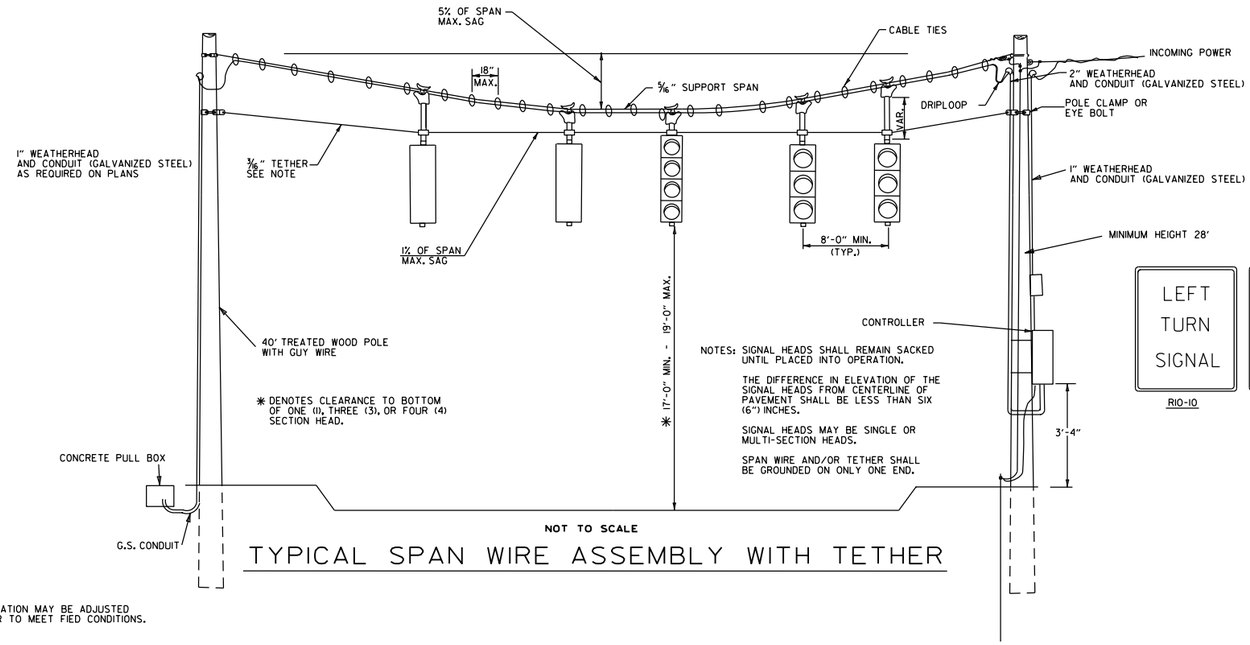
STANDARD GUY INSTALLATION



SIDEWALK GUY INSTALLATION

NOTE:
EXPANDING ANCHOR SHALL BE 6000# STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE 8-WAY EXPANDING ANCHOR", WITH A ⅝" MINIMUM GUY ROD.

NOTE:
CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIED CONDITIONS.



* DENOTES CLEARANCE TO BOTTOM OF ONE (1), THREE (3), OR FOUR (4) SECTION HEAD.

NOTES: SIGNAL HEADS SHALL REMAIN SACKED UNTIL PLACED INTO OPERATION.

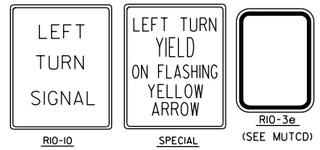
THE DIFFERENCE IN ELEVATION OF THE SIGNAL HEADS FROM CENTERLINE OF PAVEMENT SHALL BE LESS THAN SIX (6") INCHES.

SIGNAL HEADS MAY BE SINGLE OR MULTI-SECTION HEADS.

SPAN WIRE AND/OR TETHER SHALL BE GROUNDED ON ONLY ONE END.

NOT TO SCALE

TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

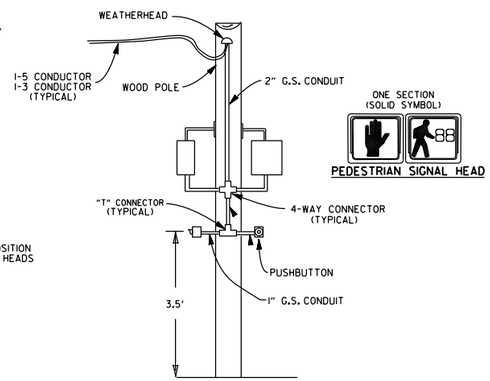


NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

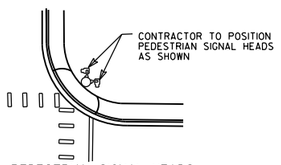
CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE. ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X ⅝" COPPERWELD GROUND ROD.

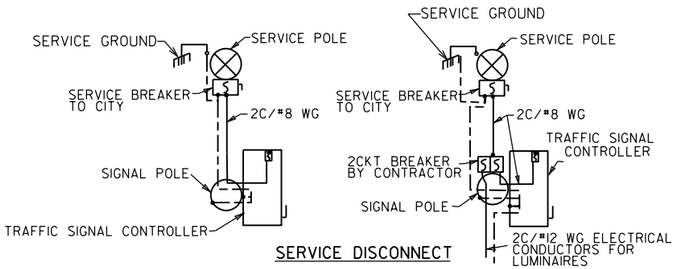


WOODEN POLE INSTALLATION OF PED HEADS

PEDESTRIAN SIGNAL HEAD



PEDESTRIAN SIGNAL HEADS



SERVICE DISCONNECT

NO LUMINAIRE WITH LUMINAIRE

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)", TO BE USED AS A LEFT TURN INDICATION ONLY, SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

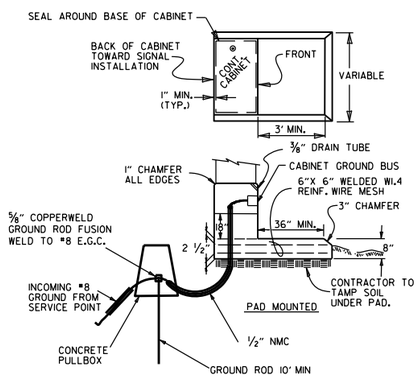
ALL SIGN BLANK SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

ALL SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

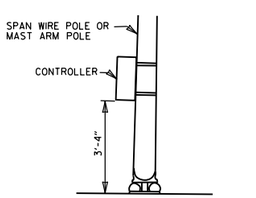
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.



CONCRETE BASE MOUNTED CABINET DETAILS

CABINET NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED

MINIMUM STRUCTURAL REQUIREMENTS:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
05-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	

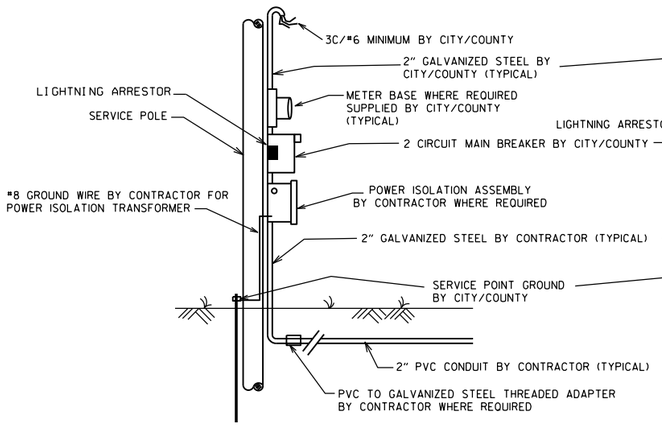
ARKANSAS STATE HIGHWAY COMMISSION

SPAN WIRE ASSEMBLY WOOD POLE

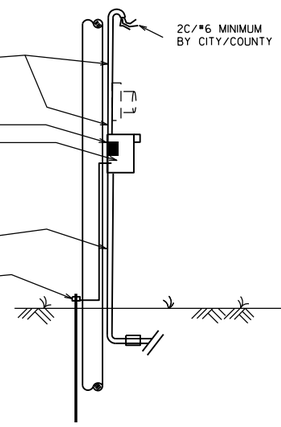
STANDARD DRAWING SD-7

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

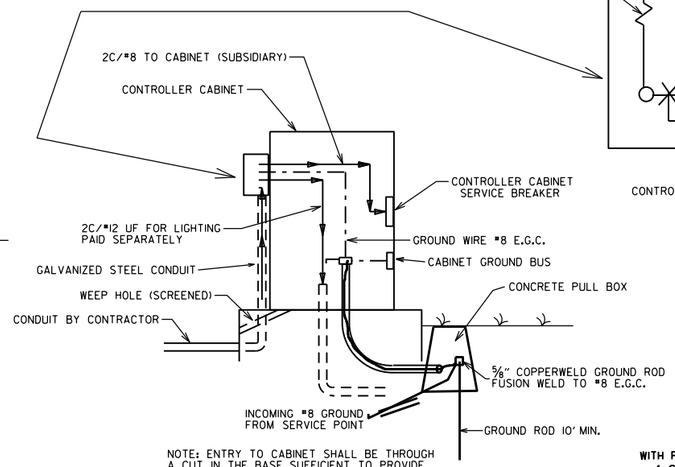
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

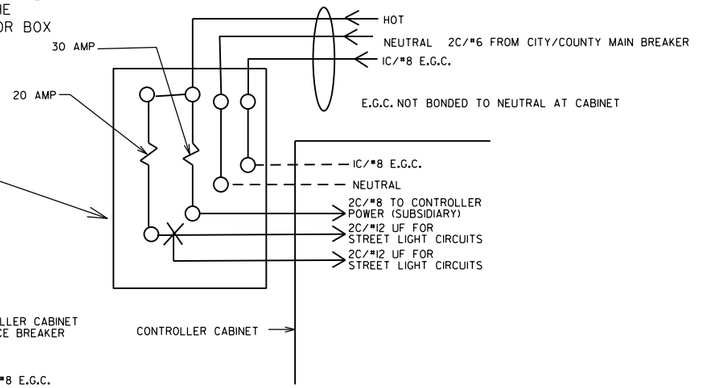
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



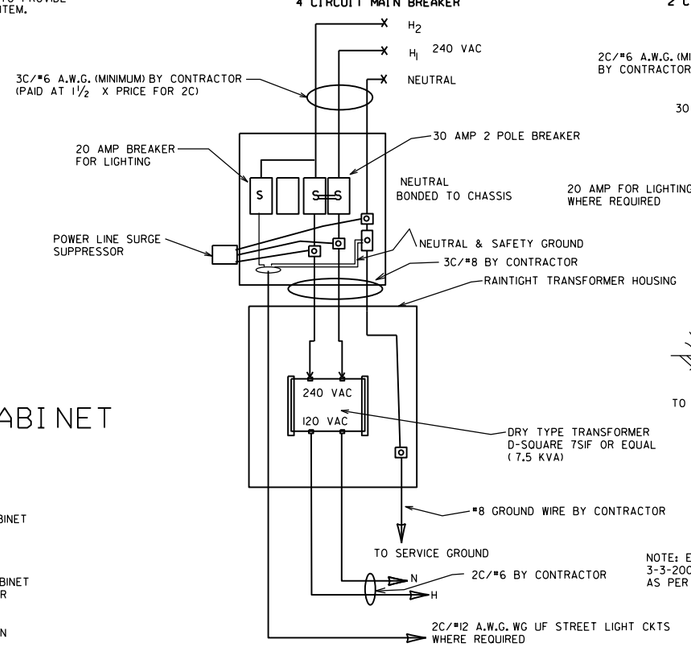
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



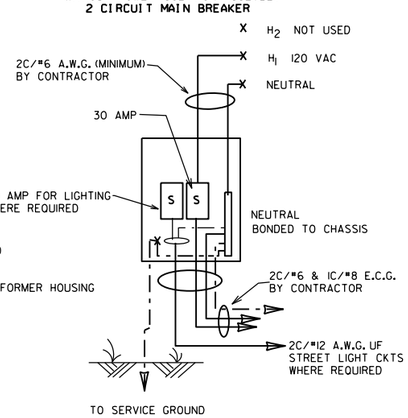
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

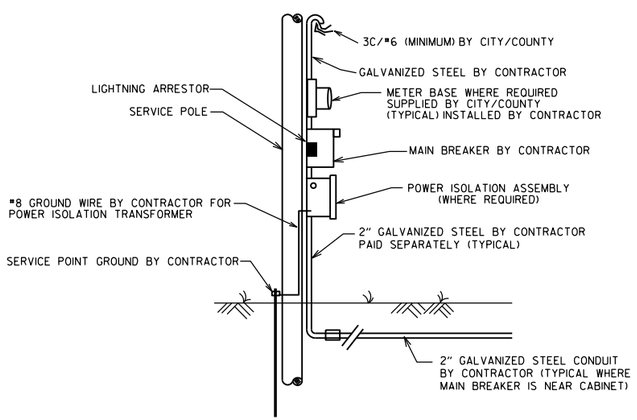


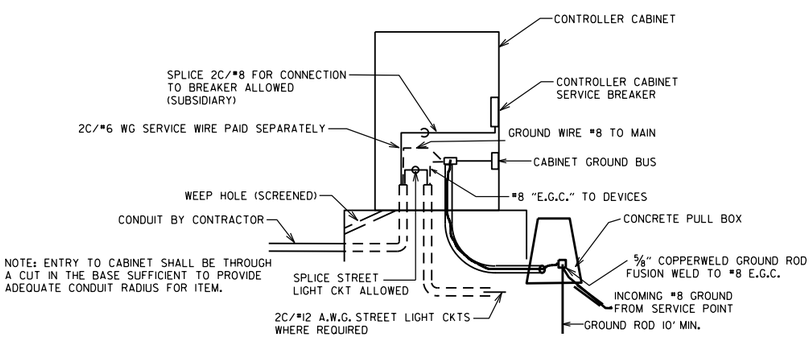
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.):
DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

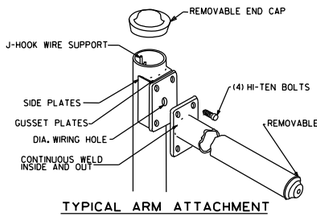
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

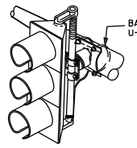
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

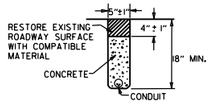
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



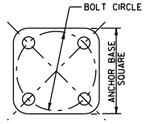
TYPICAL ARM ATTACHMENT



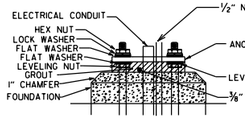
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

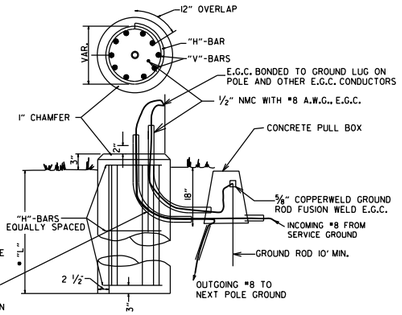


TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE





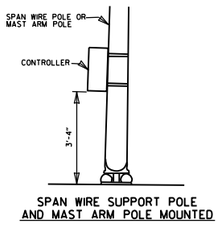
THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A IC/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

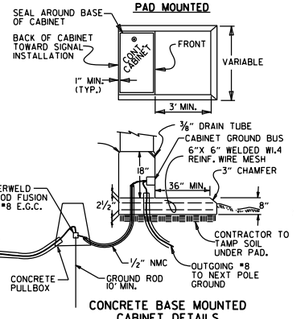
TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL		
			VERTICAL	HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED



CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

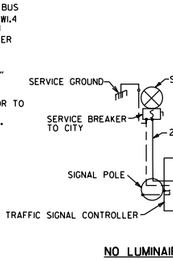
NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

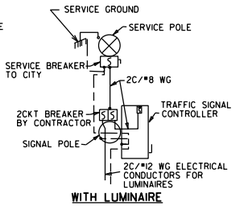
9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.



NO LUMINAIRE



WITH LUMINAIRE

SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

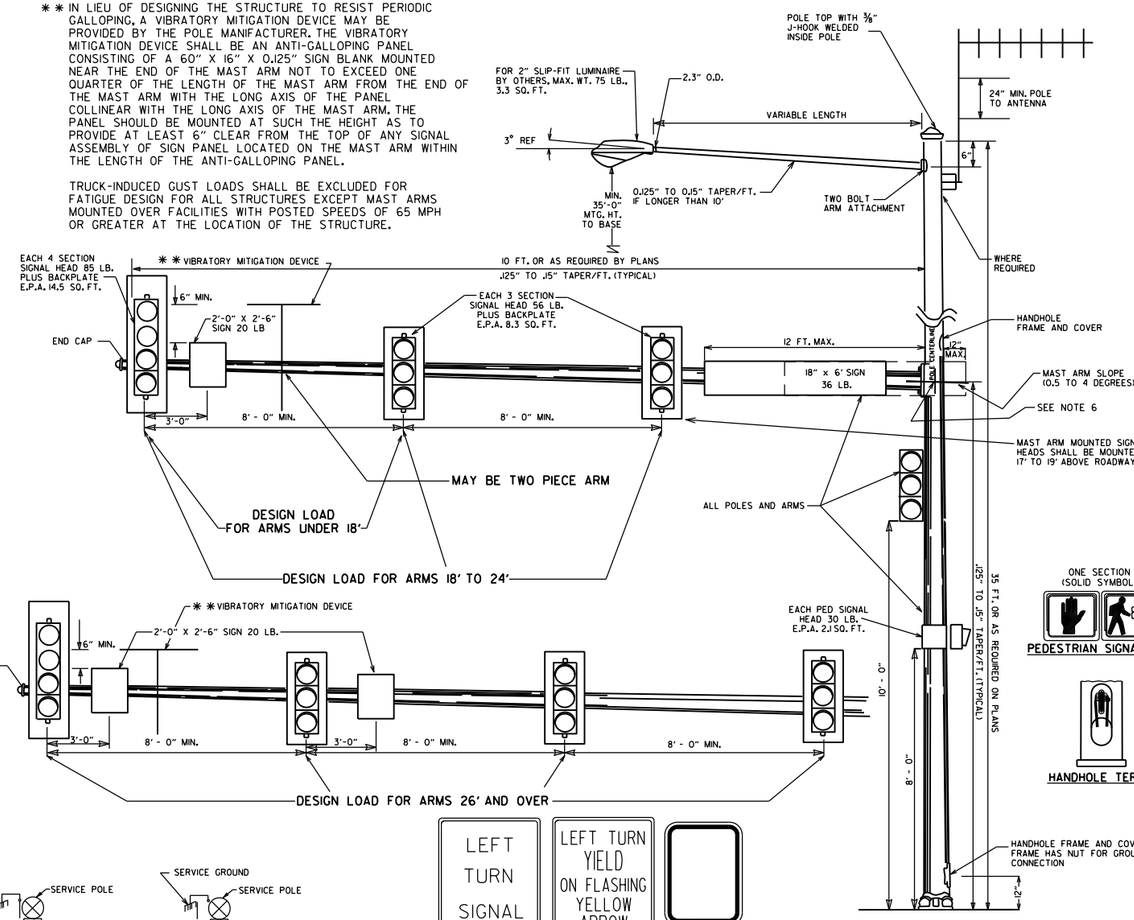
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

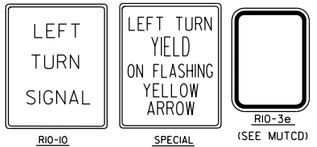
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.





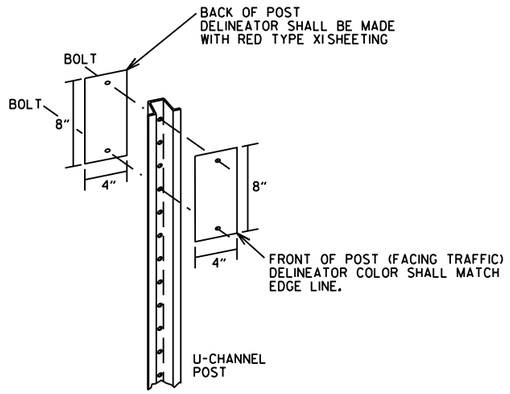
R10-10 SPECIAL R10-3e (SEE MUTCD)

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

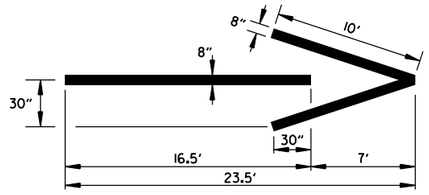
ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11



TYPE 2 DELINEATOR DETAILS



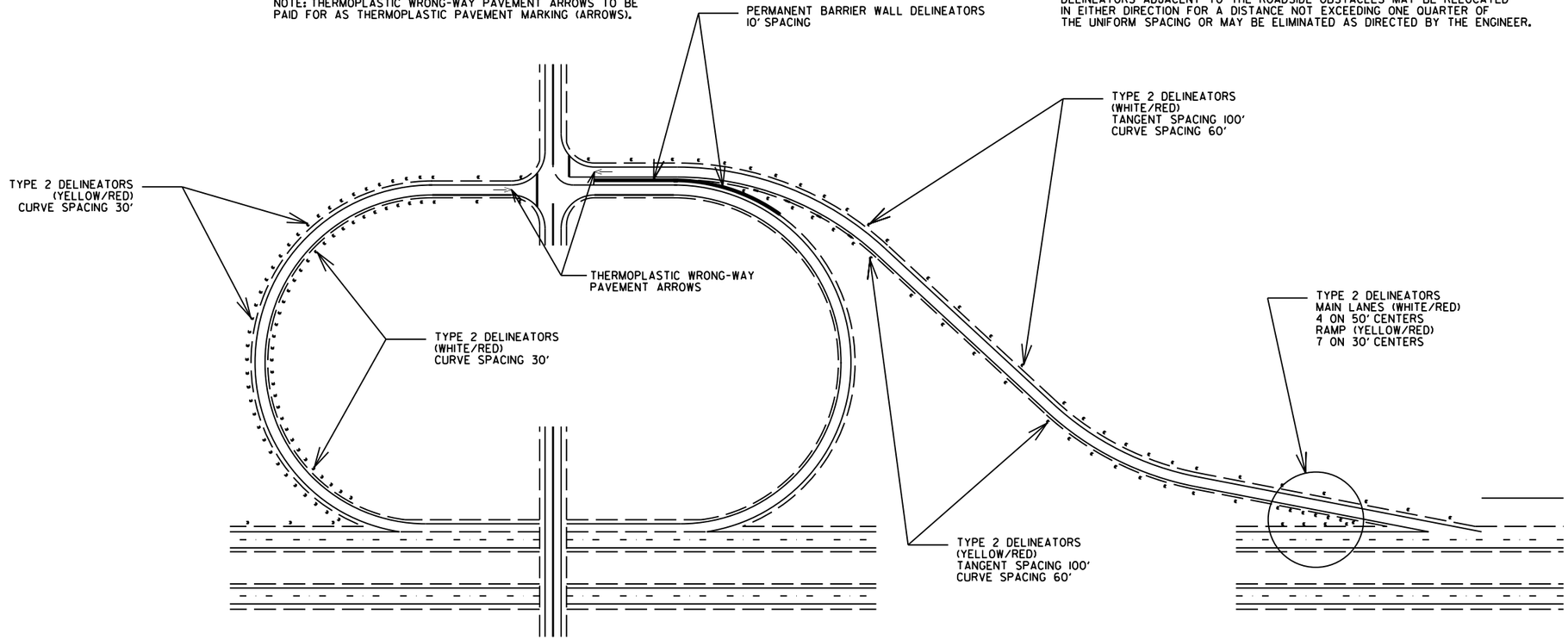
THERMOPLASTIC WRONG-WAY
PAVEMENT ARROWS

NOTE: THERMOPLASTIC WRONG-WAY PAVEMENT ARROWS TO BE PAID FOR AS THERMOPLASTIC PAVEMENT MARKING (ARROWS).

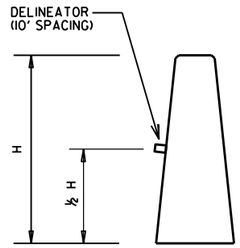
LEGEND

DELINEATOR

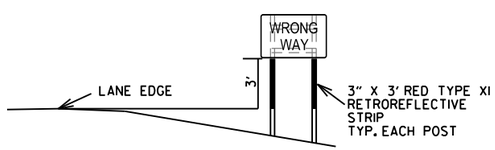
NOTE: WHEN UNIFORM SPACING IS INTERRUPTED BY ROADSIDE OBSTACLES, DELINEATORS ADJACENT TO THE ROADSIDE OBSTACLES MAY BE RELOCATED IN EITHER DIRECTION FOR A DISTANCE NOT EXCEEDING ONE QUARTER OF THE UNIFORM SPACING OR MAY BE ELIMINATED AS DIRECTED BY THE ENGINEER.



TYPICAL EXIT RAMP DELINEATOR PLACEMENT

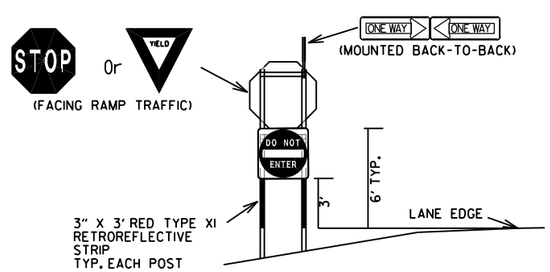


PERMANENT BARRIER WALL
DELINEATOR DETAIL



WRONG-WAY SIGN ASSEMBLY DETAILS

NOTES
1. WRONG-WAY SIGNS MAY BE MOUNTED ON THE BACK SIDE OF EXISTING SIGN SUPPORTS WHERE POSSIBLE.
2. WRONG-WAY SIGNS ARE NORMALLY GATED, BUT MAY BE OFFSET WHEN BARRIER WALLS ARE PRESENT ON THE INSIDE SHOULDER. IN SUCH CASES, THE SIGN ON THE INSIDE SHOULDER SIDE MAY BE LOCATED PAST THE END OF THE BARRIER WALL. IN RARE CASES WHERE THE BARRIER WALL EXTENDS TO OR NEAR THE MAIN LANES, BOTH SIGNS MAY BE LOCATED ON THE OUTSIDE SHOULDER SIDE OF THE RAMP, WITH APPROXIMATELY 300' SPACING BETWEEN THE SIGNS.



RAMP INTERSECTION SIGN ASSEMBLY DETAILS

THE DELINEATORS SHALL BE PLACED AT A 4' HEIGHT MEASURED FROM THE PAVEMENT EDGE TO THE BOTTOM OF THE DELINEATOR. DELINEATOR POSTS SHALL BE PLACED 2 TO 8 FT. OUTSIDE THE OUTER EDGE OF THE SHOULDER, OR IF APPROPRIATE, IN LINE WITH THE ROADSIDE BARRIER THAT IS 8 FT. OR LESS OUTSIDE THE OUTER EDGE OF THE SHOULDER.

DELINEATOR SPACING IN CURVES SHALL BE REDUCED TO 30' WHEN THE RAMP ADVISORY SPEED IS 30 MPH OR LESS.

IF MULTIPLE LANES EXIST AT THE RAMP TERMINAL, THE THERMOPLASTIC WRONG-WAY ARROW SHALL BE PLACED AS CLOSE TO THE RAMP TERMINAL TURNOUT AS POSSIBLE.

DATE	REVISION	FILMED
11-16-17	ADDED NOTES	
06-01-17	RE-DRAWN	
09-12-13	ISSUED AS STANDARD DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

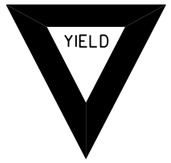
TYPICAL EXIT RAMP SIGN AND DELINEATOR DETAILS

STANDARD DRAWING SHS-8

R1-1

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

R1-2



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

R2-1

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

W3-5

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

W3-5a

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

R4-1

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

R4-2

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

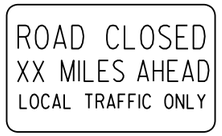
R5-1

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

RII-2

48"X30"

RII-3A



60"X30"

RII-4

60"X30"

W21-5a

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

WI-1

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

WI-2

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

WI-3

STD. 48"X48"

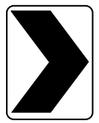
WI-4

STD. 48"X48"

WI-6

STD. 48"X24"
SPECIAL 60"X30"

WI-8



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

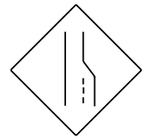
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

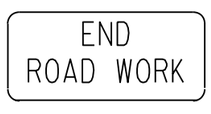
W8-9

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

G20-1

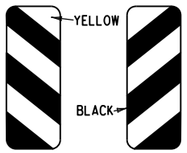
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

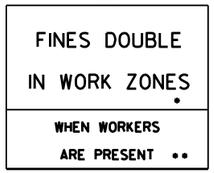
M4-9

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

M4-10

48"X18"

R55-1



36"X60"

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

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.

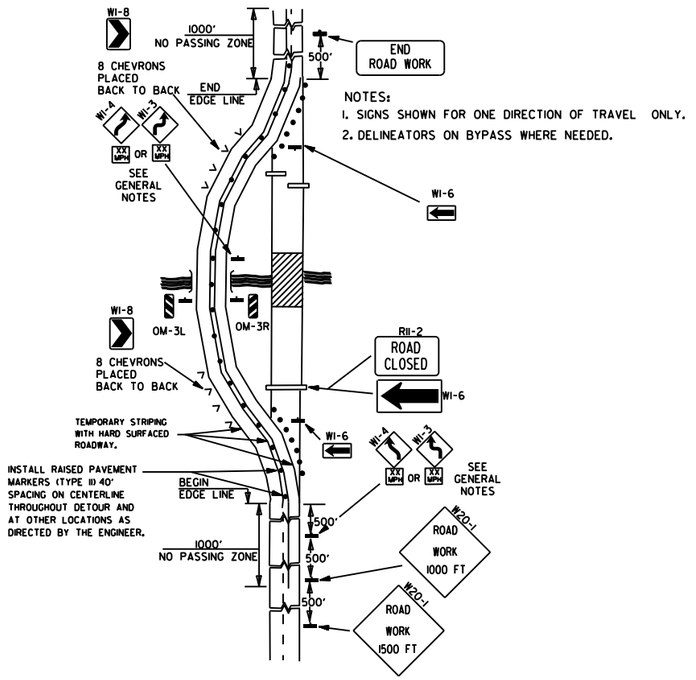
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

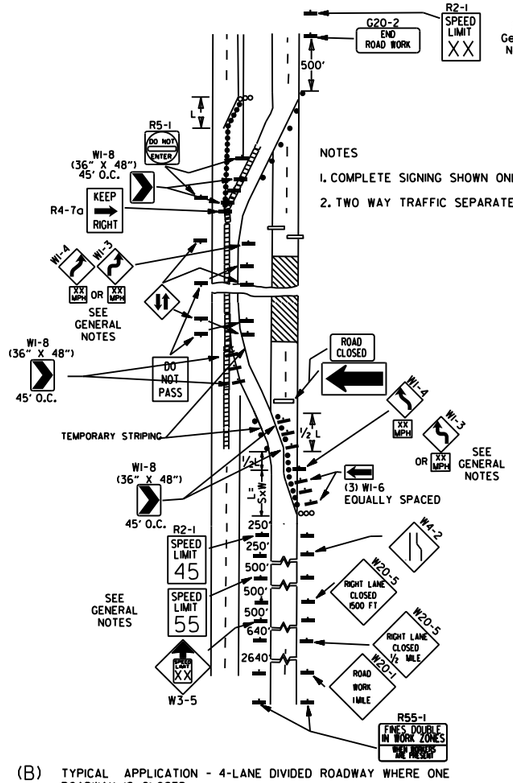
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



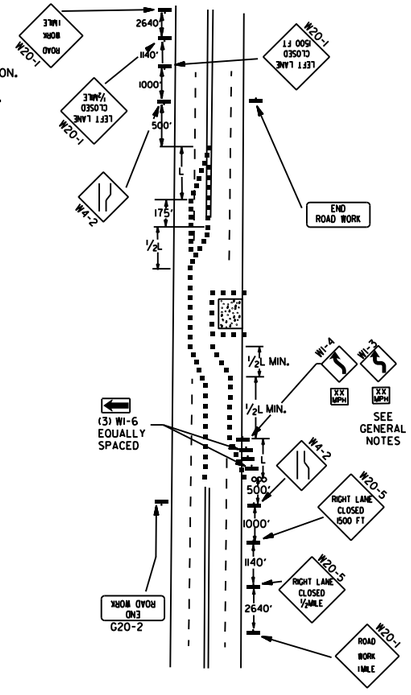
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

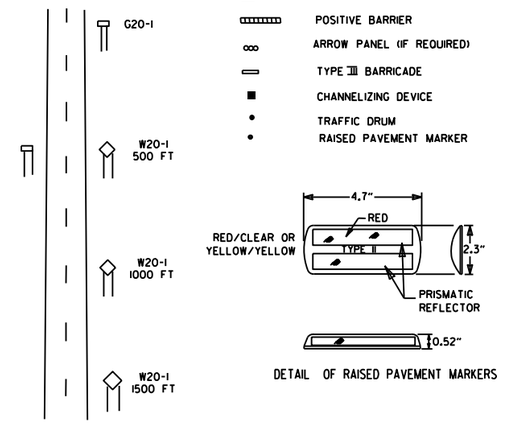


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(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.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

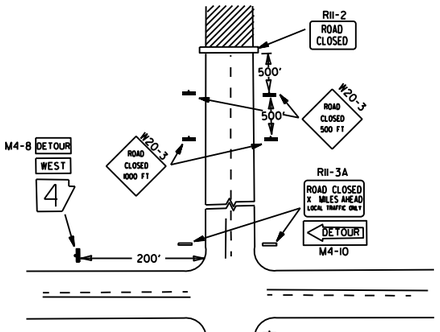
L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

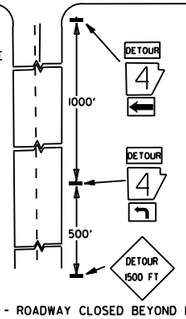
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

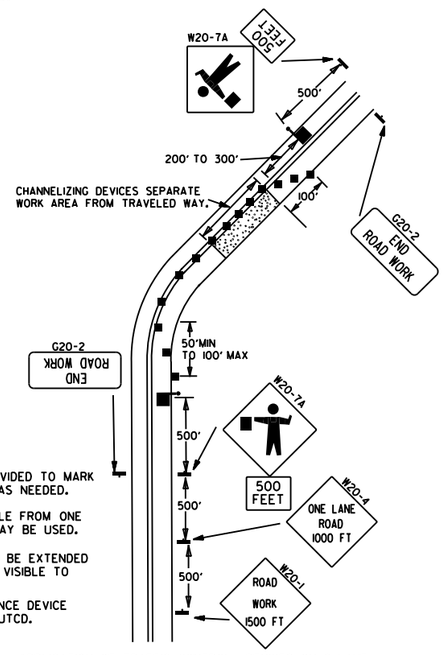
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT 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 R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
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.

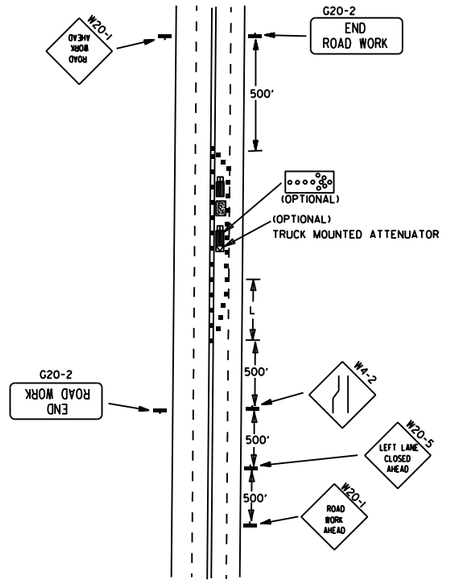


(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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.



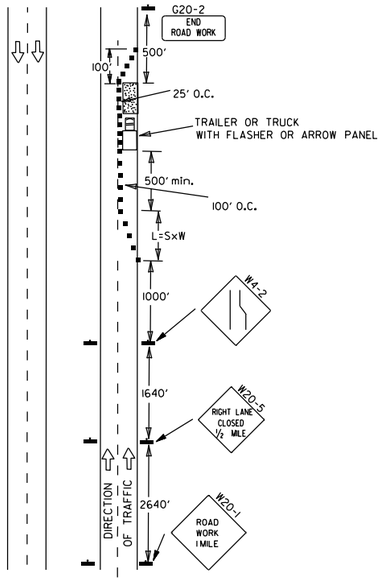
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
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	

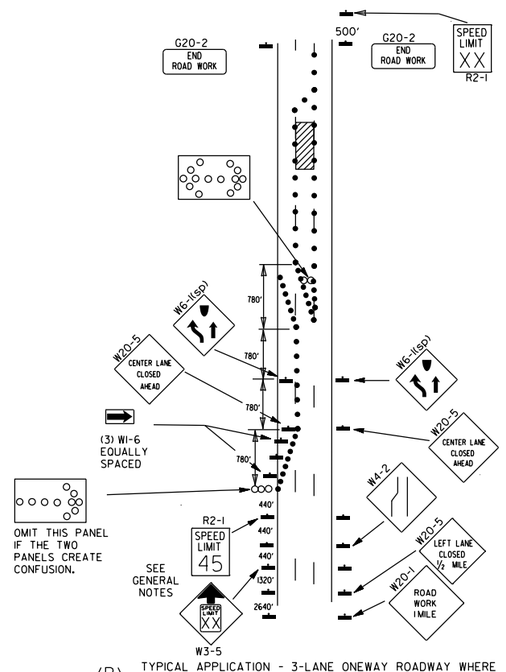
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



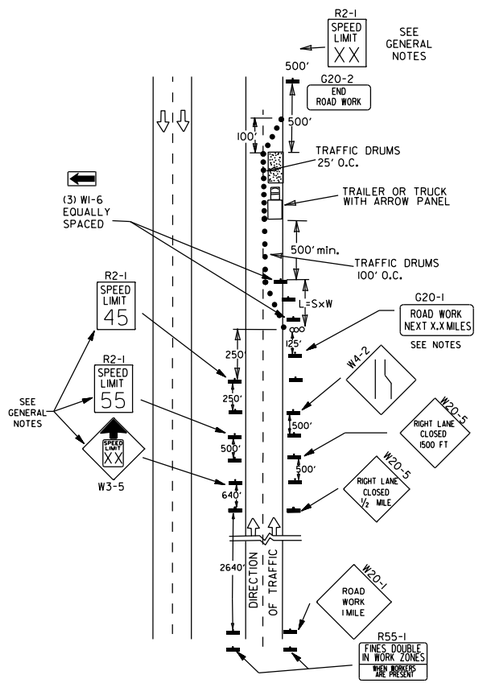
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ARROW PANEL (IF REQUIRED)
- ■ CHANNELIZING DEVICE
- ● TRAFFIC DRUM

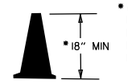
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS, AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. 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. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
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).



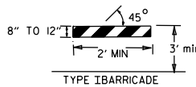
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES



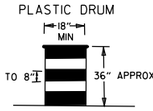
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

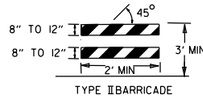
CONES



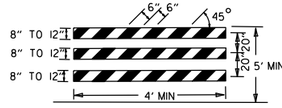
TYPE I BARRICADE

PLASTIC DRUM



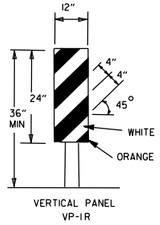


TYPE II BARRICADE



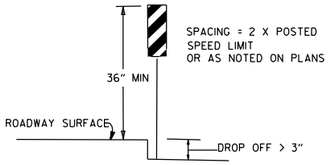
TYPE III BARRICADE

NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

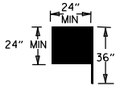


VERTICAL PANEL VP-1R

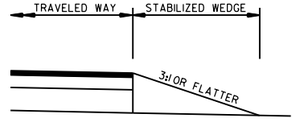
VERTICAL PANEL PLACEMENT



FLAG



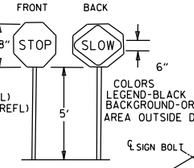
FLAG SHALL BE OF GOOD GRADE RED MATERIAL

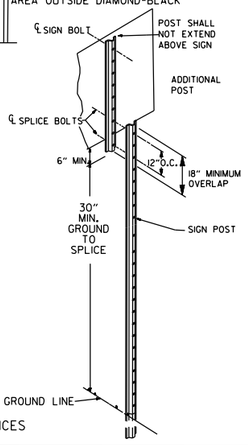


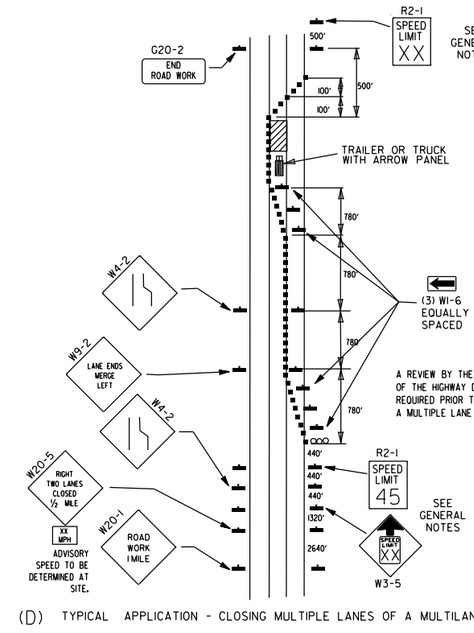
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE







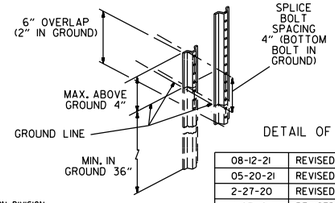
A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

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.



DETAIL OF SPLICES

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	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[1]
> 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
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 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.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
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	

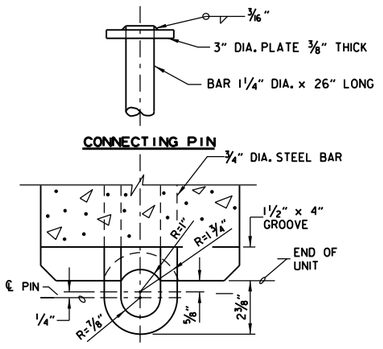
ARKANSAS STATE HIGHWAY COMMISSION

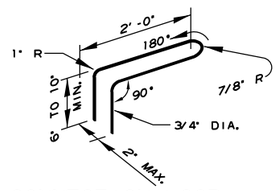
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

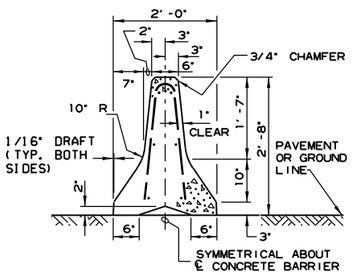
STANDARD DRAWING TC-3

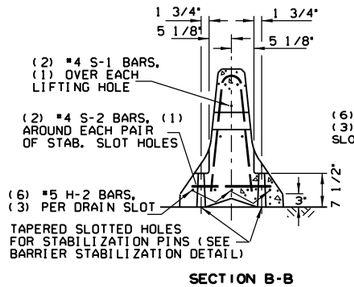
REINFORCING BAR TABLE PER BARRIER UNIT

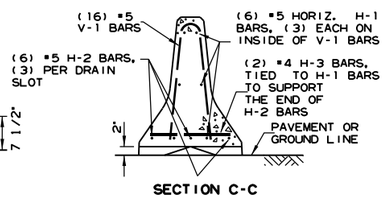
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ.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

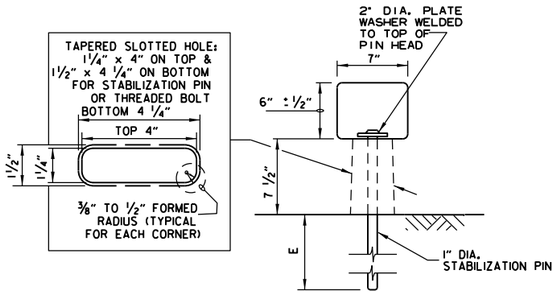




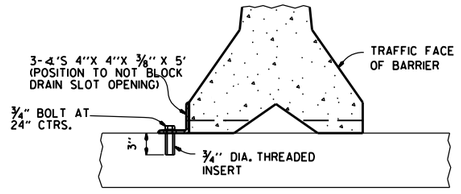






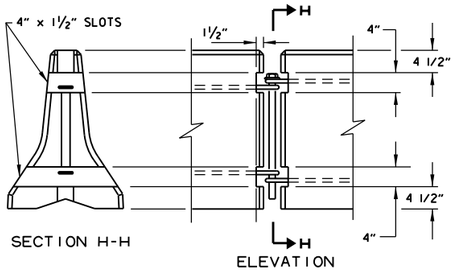


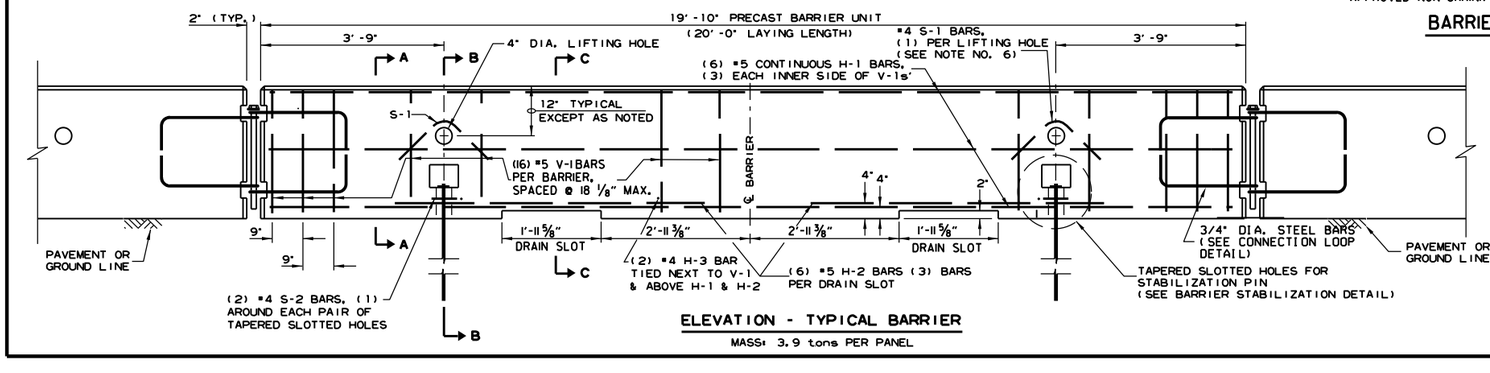
Ⓔ 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



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





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.

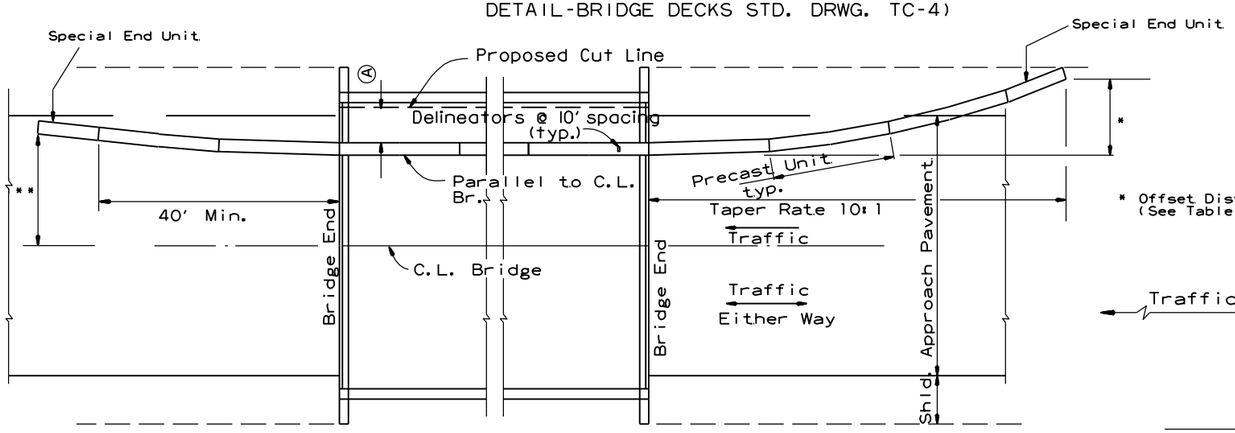
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO WASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED 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

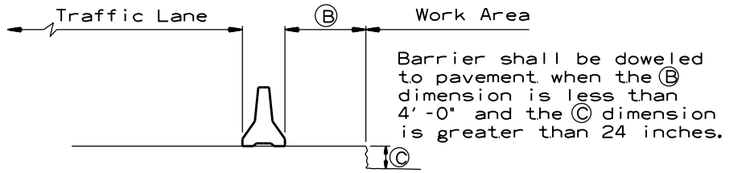
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

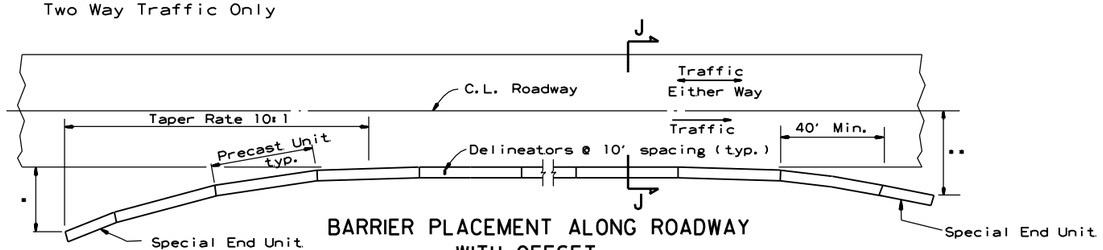
** Offset Distance for Two Way Traffic Only



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

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

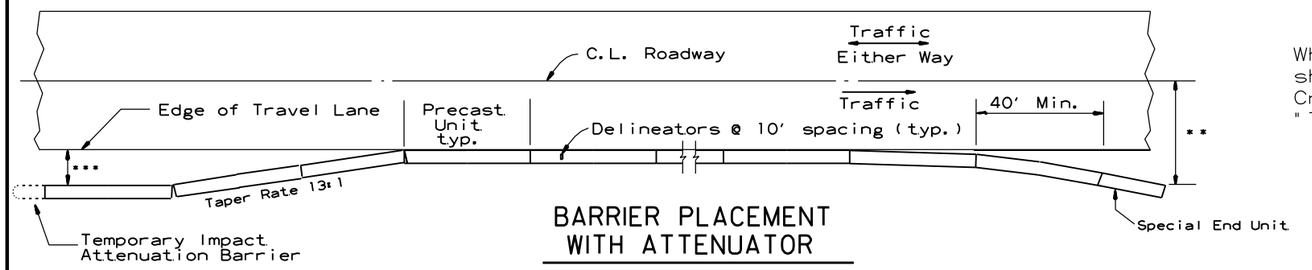
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

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

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

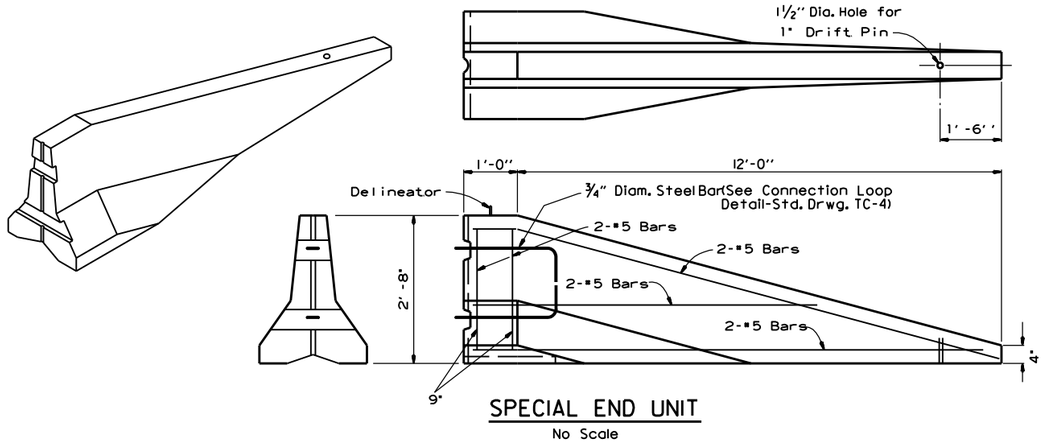


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

** Offset Distance For Two Way Traffic Only



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	

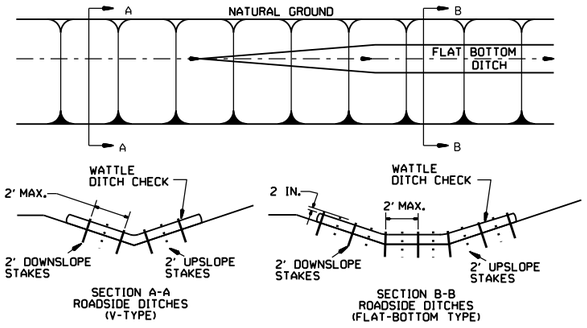
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

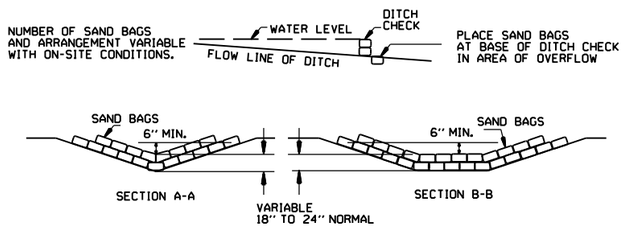
STANDARD DRAWING TC-5

GENERAL NOTES

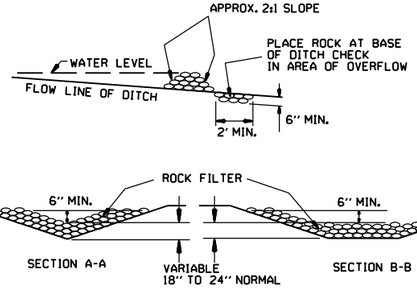
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

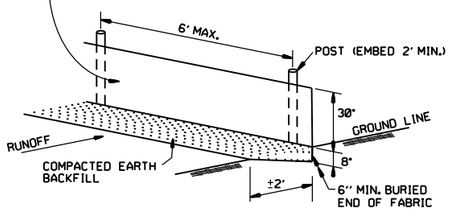


ROCK DITCH CHECK (E-6)

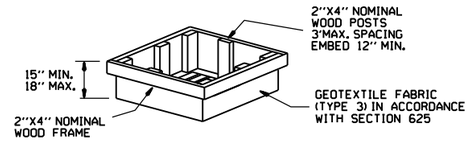
GENERAL NOTES

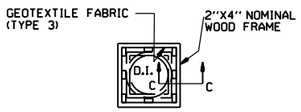
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

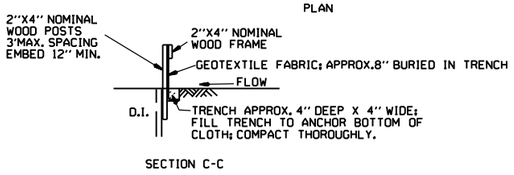
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



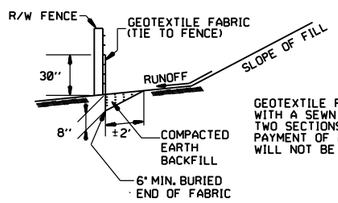
SILT FENCE (E-11)





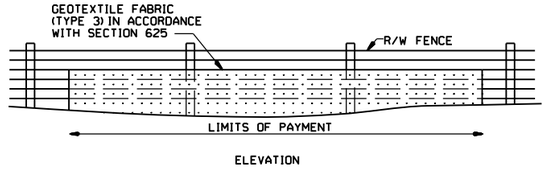


DROP INLET SILT FENCE (E-7)



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.



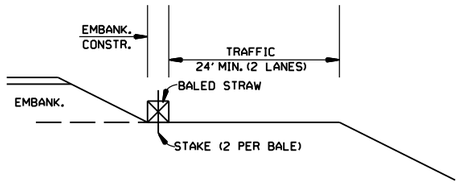
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

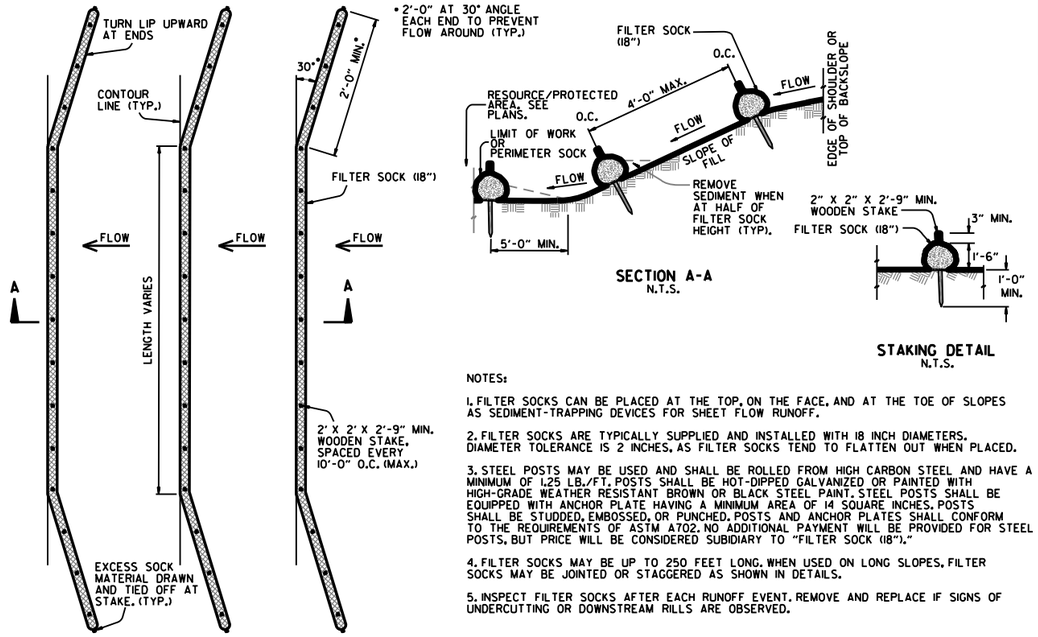
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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.

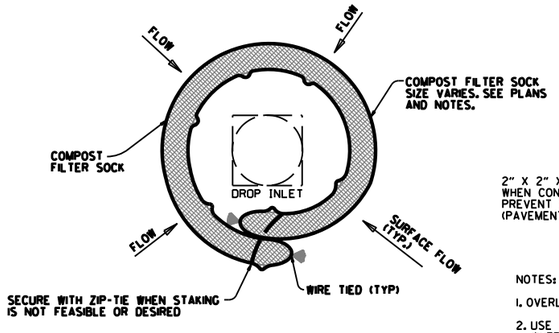
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

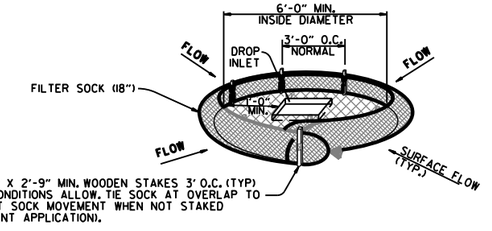
3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. 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