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.		110504	1	135
				(2)	HWY. 1 NORTH - WEST (WYNNE) (S)			

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 1 NORTH - WEST (WYNNE) (S)

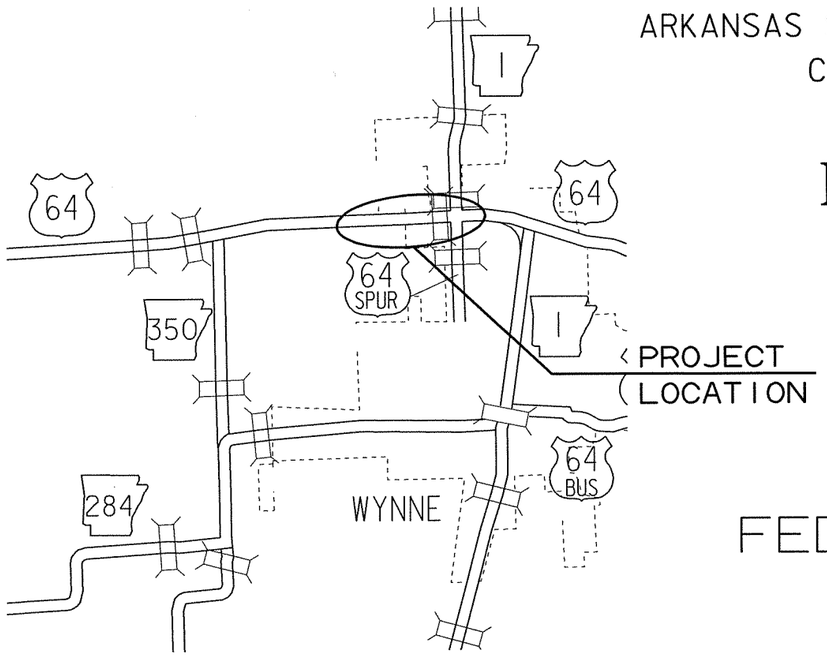
CROSS COUNTY

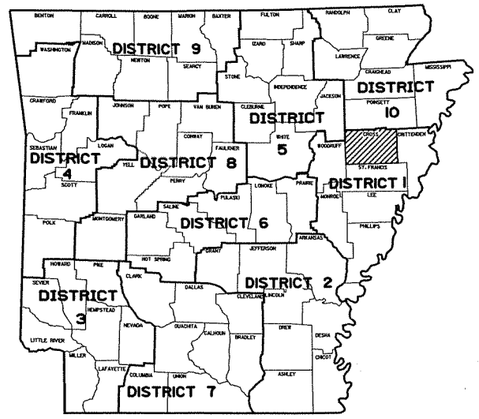
ROUTE 64 SECTIONS 15 & 16

JOB 110504

FED. AID PROJ. STP-0019(33)

SCALE: NOT TO SCALE

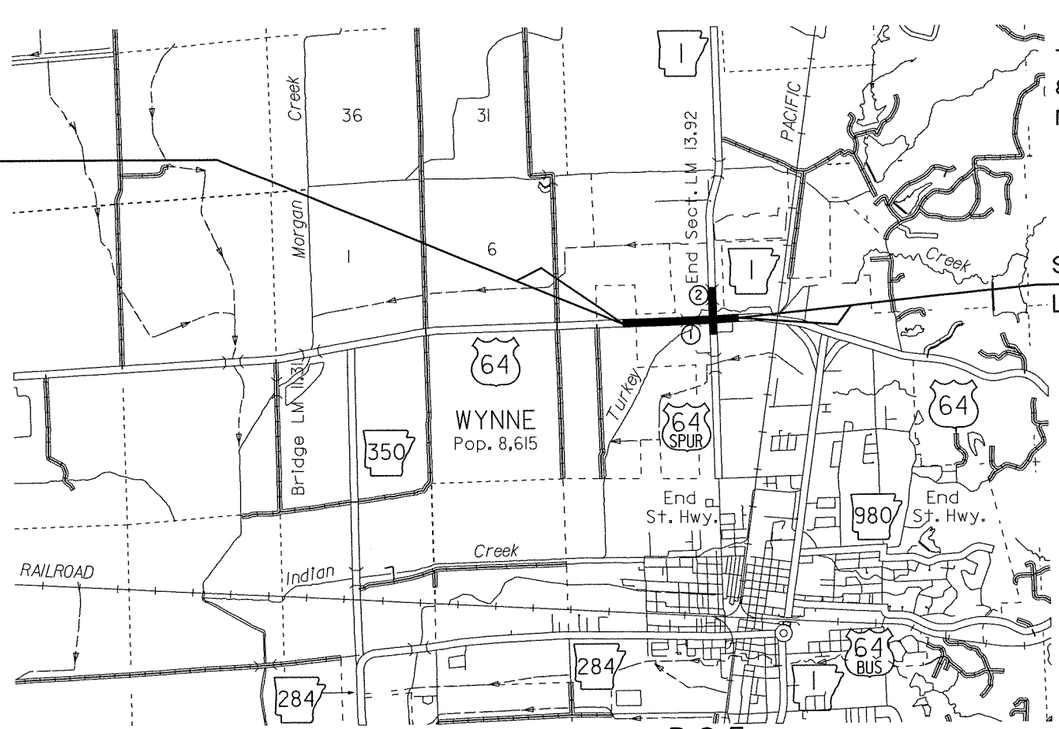




ARK. HWY. DIST. NO. 1

VICINITY MAP

STA. 310+75 - BEGIN JOB 110504
LOG MILE 13.39



· DESIGN TRAFFIC DATA ·

DESIGN YEAR	2030
2010 ADT	6000
2030 ADT	7400
2030 DHV	814
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	24%
DESIGN SPEED	40 MPH

STA. 345+50 - END JOB 110504
LOG MILE 0.07

STRUCTURES OVER 20'-0" SPAN

① STA. 338+35 CONSTRUCT QUAD. 12' X 10' X 103' R.C. BOX ON 15° LT. FWD. SKEW W/3:1 WINGS LT. & RT. SPAN = 54'- 6¼"

② STA. 502+45 CONSTRUCT QUAD. 12' X 10' X 78' R.C. BOX W/3:1 WINGS LT. & RT. SPAN = 52'- 8"

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N 35°15' 15"	N 35°15' 05"	N 35°15' 15"
LON.	W 90°48' 13"	W 90°54' 44"	W 90°47' 31"

GROSS LENGTH OF PROJECT	3,475.00	FEET	OR	0.658	MILES
NET " " ROADWAY	3,367.81	"	"	0.638	"
NET " " BRIDGES	107.19	"	"	0.020	"
NET " " PROJECT	3,475.00	"	"	0.658	"

P.E. 110504
NON-PART.

N

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

12/30/10
DEPUTY DIRECTOR AND CHIEF ENGINEER

r110504.dgn 09/14/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
02-14-2011		12-16-2011		6	ARK.			
06-07-2011		2-14-2012		JOB NO.		110504	2	135
08-10-2011								

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

INDEX OF SHEETS

SHEET NO.	TITLE	DRWG.NO.	DATE
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2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES		
3 - 9	TYPICAL SECTIONS OF IMPROVEMENT		
10 - 11	SPECIAL DETAILS		
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17 - 23	MAINTENANCE OF TRAFFIC DETAILS		
24 - 27	PERMANENT PAVEMENT MARKING DETAILS		
28 - 34	QUANTITY SHEETS		
35 - 36	SUMMARY OF QUANTITIES AND REVISIONS		
37 - 40	SURVEY CONTROL DETAILS		
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48 - 55	SIGNALIZATION PLAN SHEETS		
56 - 62	SIGNALIZATION DETAILS		
63	CONCRETE DITCH PAVING	CDP-1	11-17-10
64	CURBING DETAILS	CG-1	11-29-07
65	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
66	FLARED END SECTION	FES-1	10-18-96
67	FLARED END SECTION	FES-2	10-18-96
68	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11-16-01
69	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
70	DETAILS OF DROP INLETS (TYPE MO)	FPC-9M	8-22-02
71	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	FPC-9S	11-16-01
72	MAILBOX DETAILS	MB-1	11-18-04
73	PRECAST CONCRETE BOX CULVERTS	PBC-1	12-15-11
74	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	12-15-11
75	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	12-15-11
76	PAVEMENT MARKING DETAILS	PM-1	11-17-10
77	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
78	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	12-15-11
79	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11-20-03
80	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
81	DETAILS OF SPECIAL ITEMS	SI-1	4-17-08
82	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	12-15-11
83	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
84	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
85	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-4	10-15-09
86	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-5	10-15-09
87	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
88	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
89	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-03-94
90	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11-10-05
91	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X003-2	12-31-62
92	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-400X-0	3-18-63
93	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X15	6-13-63
94	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X153-2	6-12-63
95	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-415X-0	9-04-63
96 - 135	CROSS SECTIONS		

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

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
2-14-12

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
711-1	CONCRETE PULL BOX
714-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL MAST ARMS AND POLES
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 110504	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 110504	CABINET DRAWER ASSEMBLY
JOB 110504	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 110504	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 110504	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 110504	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 110504	INTERNET BIDDING
JOB 110504	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 110504	LED TRAFFIC SIGNAL HEAD
JOB 110504	LOOP WIRING - CLASSIFIED
JOB 110504	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 110504	MAINTENANCE OF TRAFFIC
JOB 110504	NESTING SITES OF MIGRATORY BIRDS
JOB 110504	PARTNERING REQUIREMENTS
JOB 110504	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB 110504	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 110504	SERVICE POINT ASSEMBLY
JOB 110504	SHORING
JOB 110504	SITE USE (A + C METHOD)
JOB 110504	SOIL STABILIZATION
JOB 110504	STORM WATER POLLUTION PREVENTION PLAN
JOB 110504	STREET NAME SIGN (MAST ARM MOUNTED)
JOB 110504	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 110504	TEMPORARY IMPACT ATTENUATION BARRIER
JOB 110504	TEMPORARY SIGNAL HEAD RELOCATION
JOB 110504	UTILITY ADJUSTMENTS
JOB 110504	VALUE ENGINEERING
JOB 110504	WARM MIX ASPHALT

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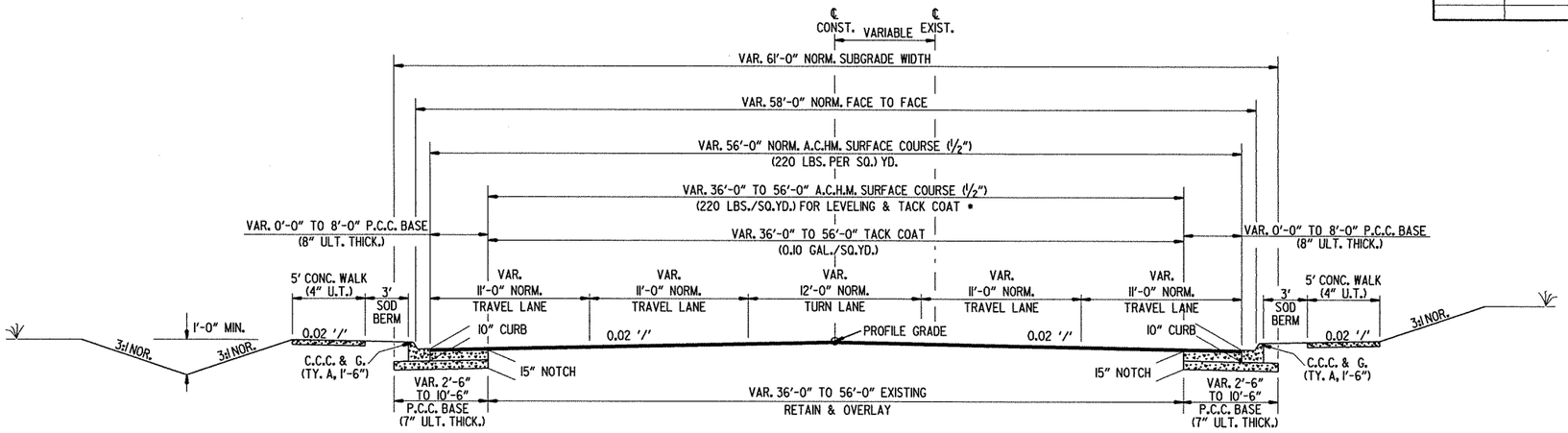
INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	3	135

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



HWY. 64
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - OVERLAY
STA. 311+00 TO STA. 314+00
STA. 342+67 TO STA. 345+25

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

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

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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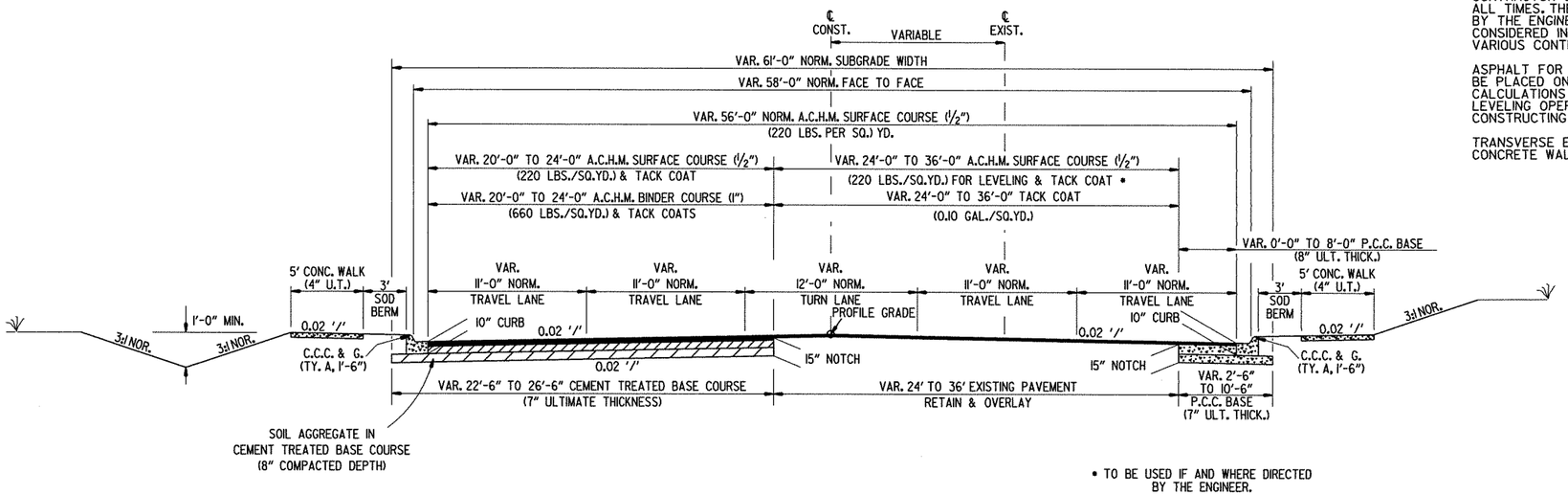
TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

•• REVERSE FOR OVERLAY ON LEFT.

HWY. 64
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - OVERLAY
STA. 314+00 TO STA. 325+20
**STA. 330+75 TO STA. 331+80
**STA. 339+58 TO STA. 340+48

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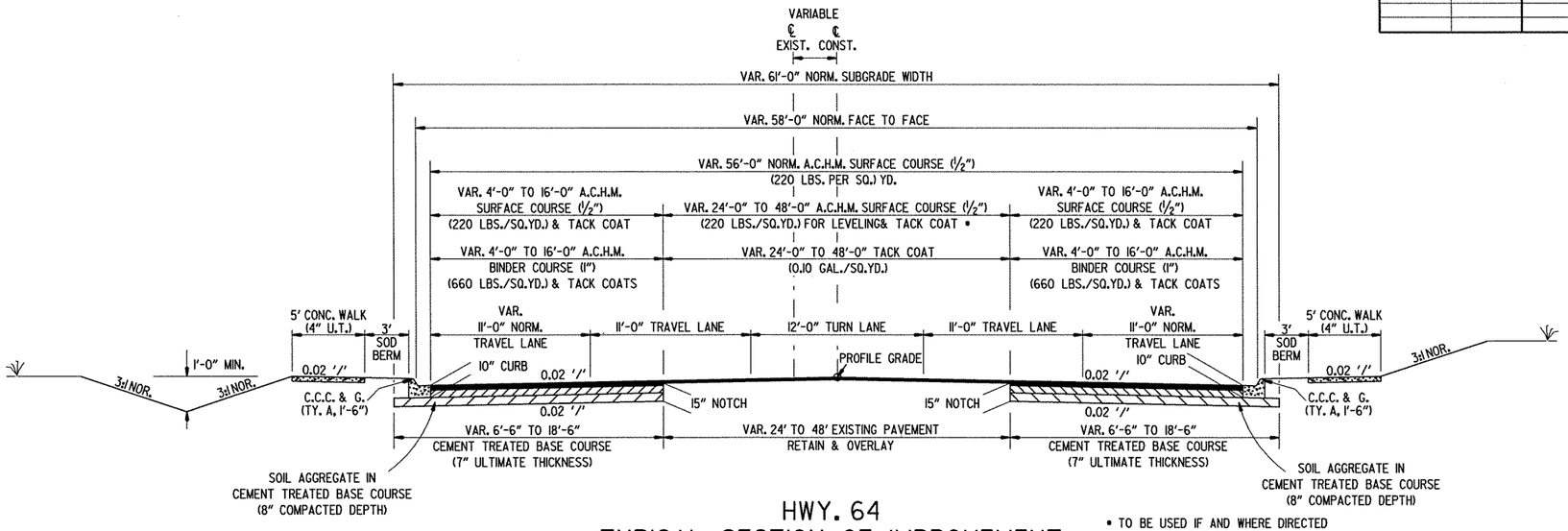
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	4	135

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



HWY. 64
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - OVERLAY, NOTCH AND WIDEN
STA. 325+20 TO STA. 330+75
STA. 340+48 TO STA. 342+67

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

NOTES:
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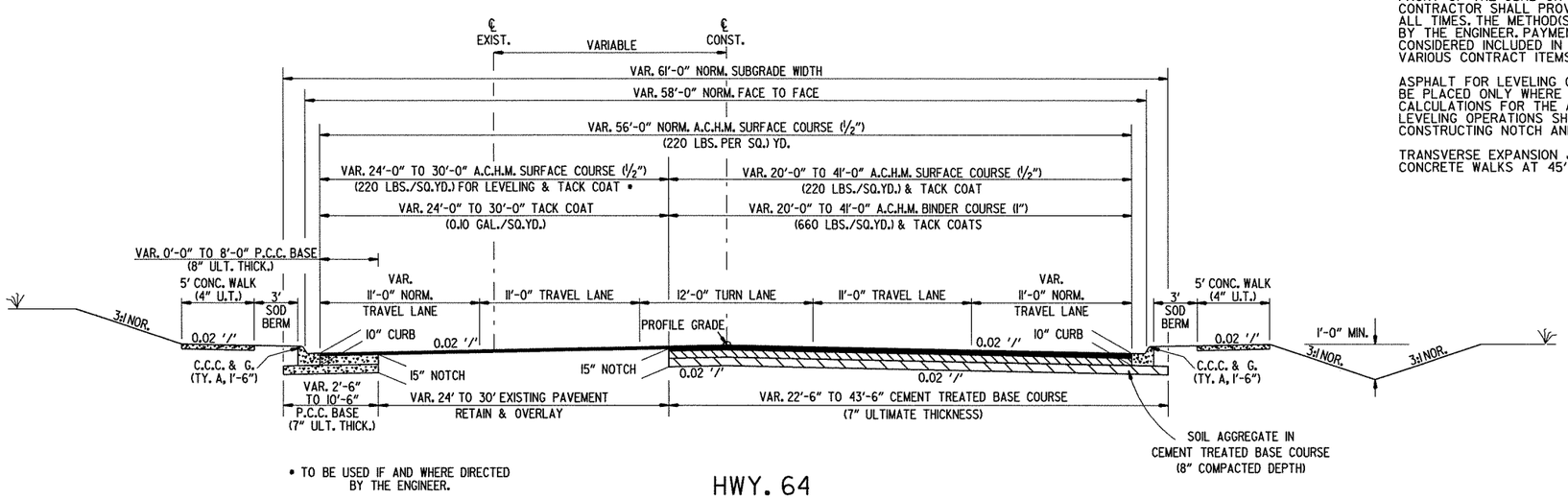


• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

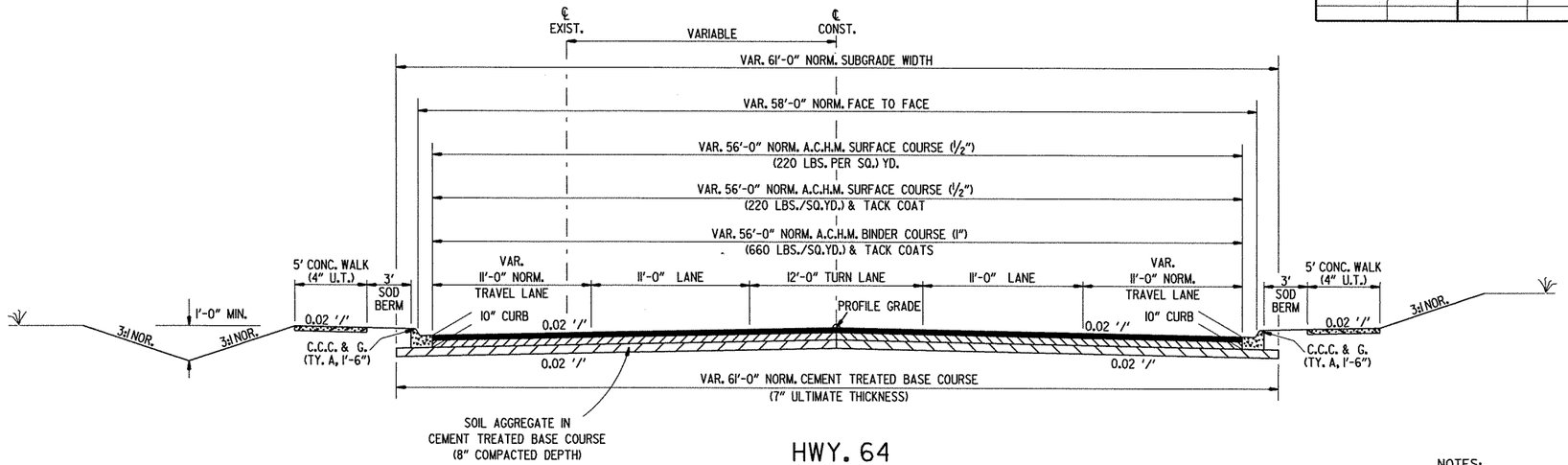
HWY. 64
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - OVERLAY, NOTCH AND WIDEN
STA. 331+80 TO STA. 338+00
STA. 338+75 TO STA. 339+58

r110504.dgn 09/14/2010

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.		110504	5	135

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



HWY. 64
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - FULL DEPTH
STA. 338+00 TO STA. 338+75

NOTES:
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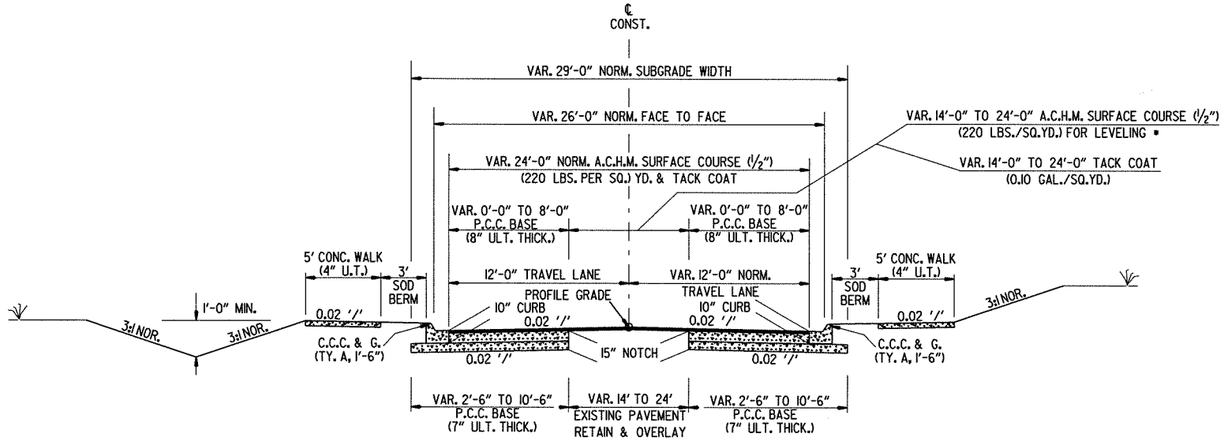


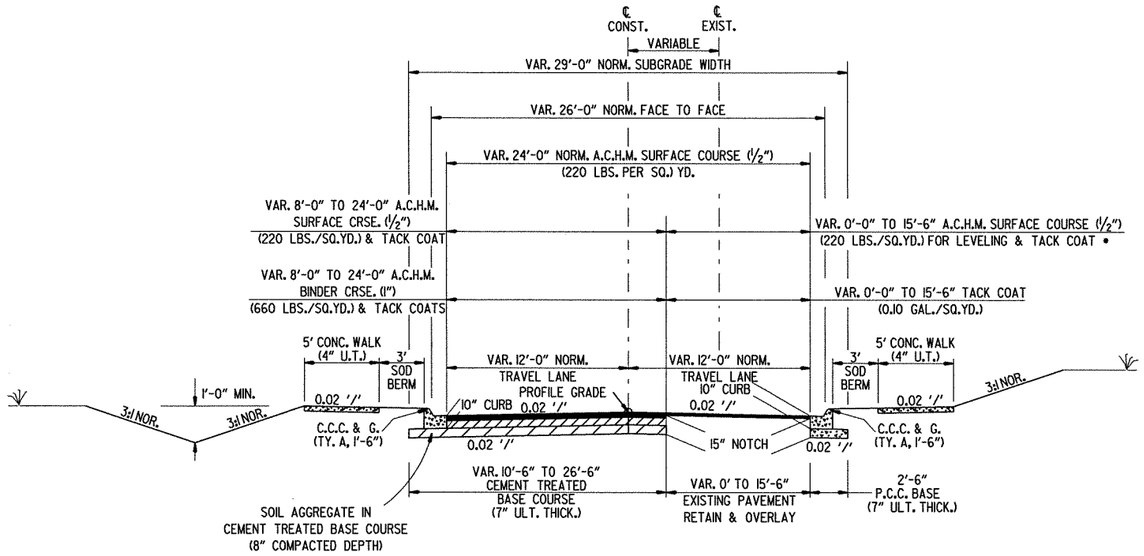
HWY. 64S
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - NOTCH AND WIDEN
STA. 401+75 TO STA. 402+92

r110504.dgn 09/14/2010

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.		110504	6	135

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

HWY. 64S
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - NOTCH & WIDEN
STA. 402+92 TO STA. 404+25

NOTES:
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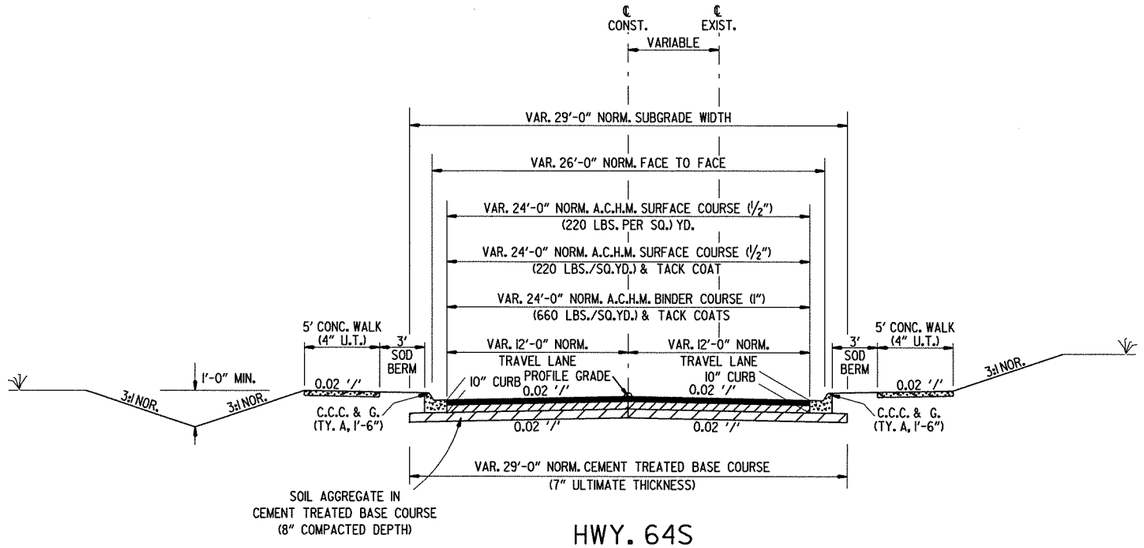

HWY. 64S
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - FULL DEPTH
STA. 404+25 TO STA. 406+04

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TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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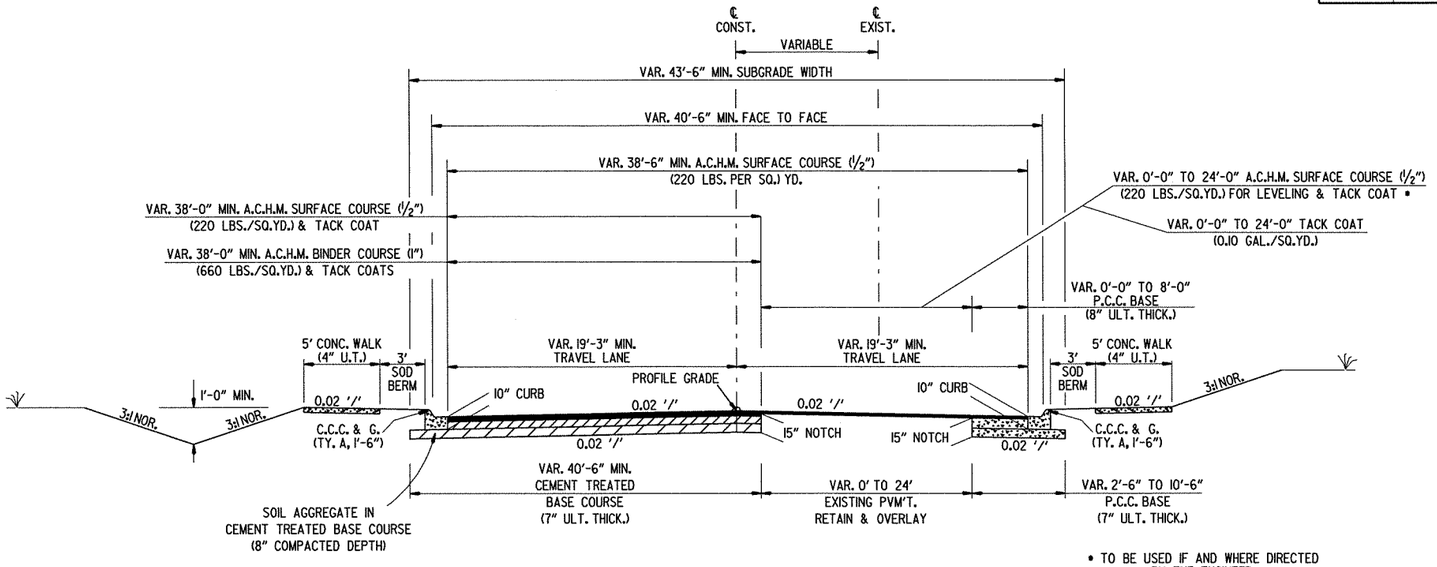
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
12-9-10



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

HWY. 64S
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - NOTCH & WIDEN
STA. 406+04 TO STA. 406+69

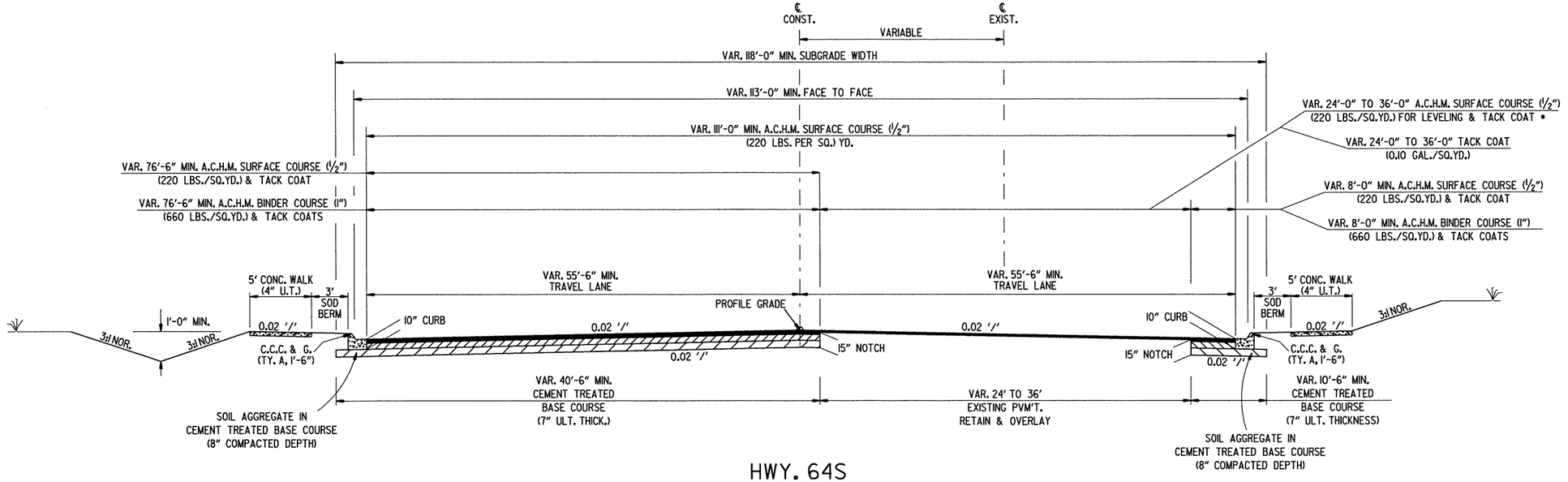
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

HWY. 64S
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - NOTCH & WIDEN
STA. 406+69 TO STA. 407+05.11

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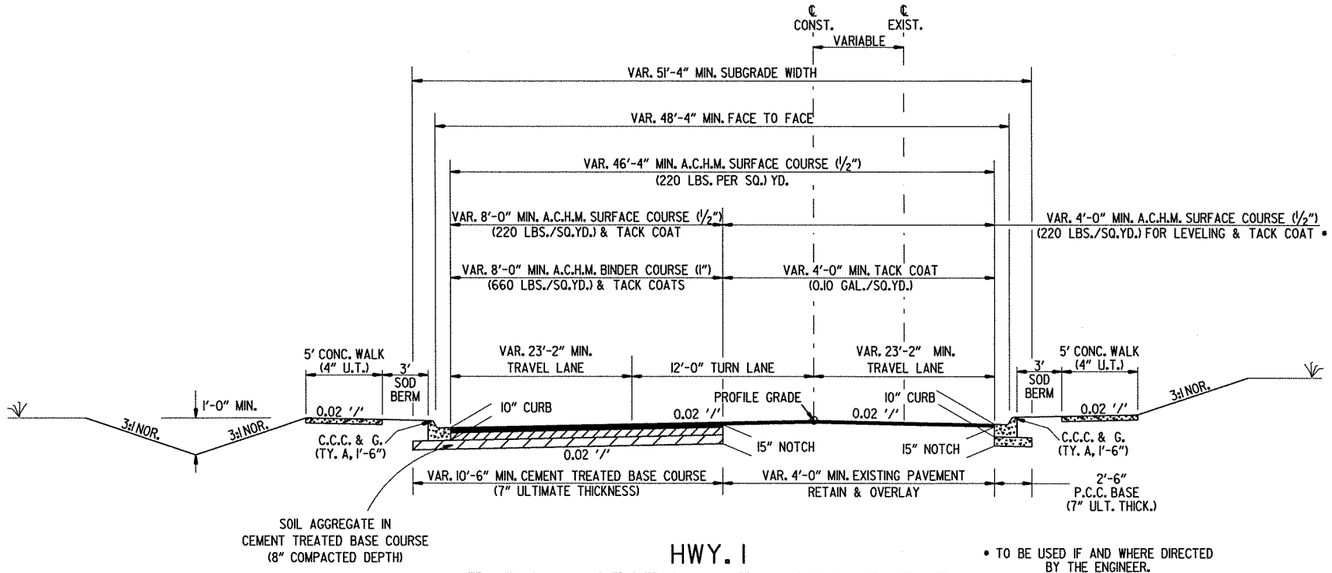
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	8	135

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



HWY. 1
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - NOTCH AND WIDEN
STA. 500+32.56 TO STA. 501+50.00
STA. 502+85.00 TO STA. 503+35.00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

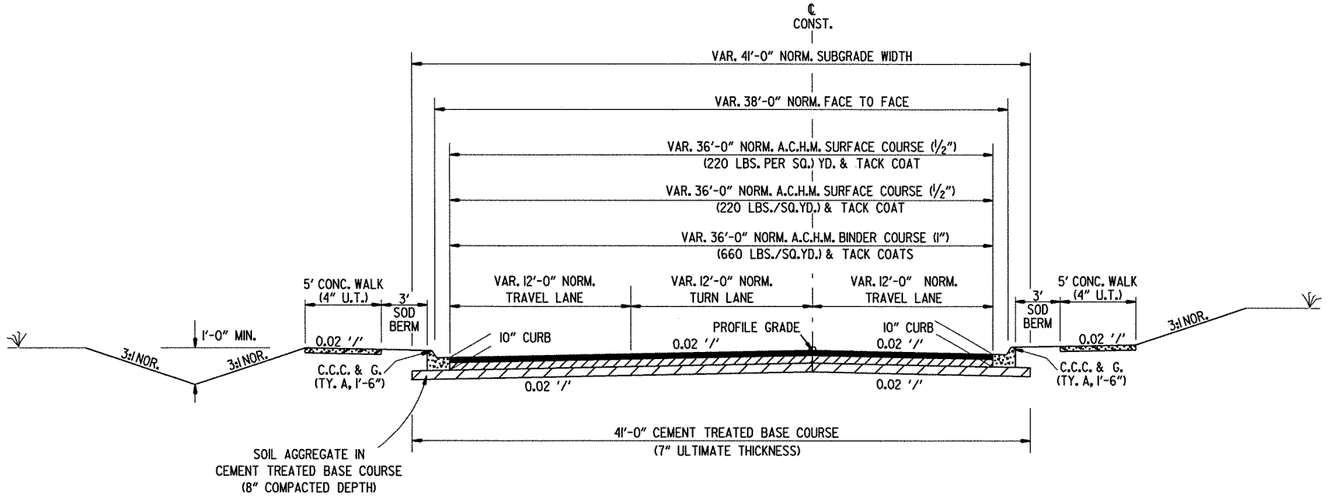
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.



HWY. 1
TYPICAL SECTION OF IMPROVEMENT
CURB AND GUTTER - FULL DEPTH
STA. 501+50.00 TO STA. 502+85.00

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TYPICAL SECTIONS OF IMPROVEMENT

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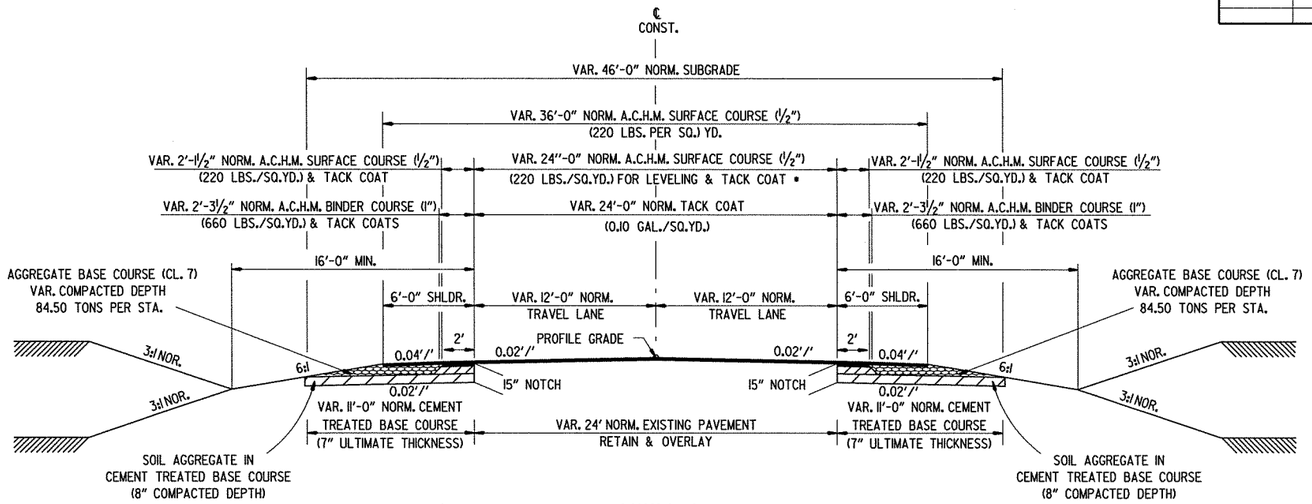
				6	ARK.			
				JOB NO.		110504	9	135

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



HWY. I
TYPICAL SECTION OF IMPROVEMENT
OPEN SHOULDER - NOTCH AND WIDEN
STA. 503+35.00 TO STA. 506+00.00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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

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

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.

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

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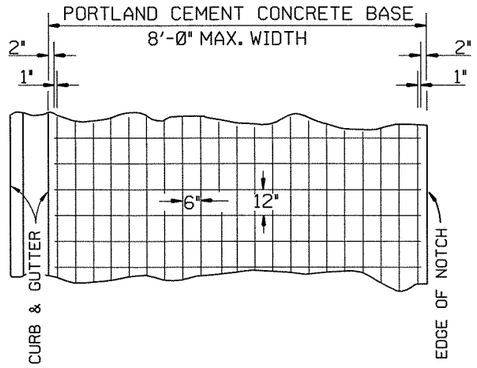
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	10	135

(2) SPECIAL DETAILS

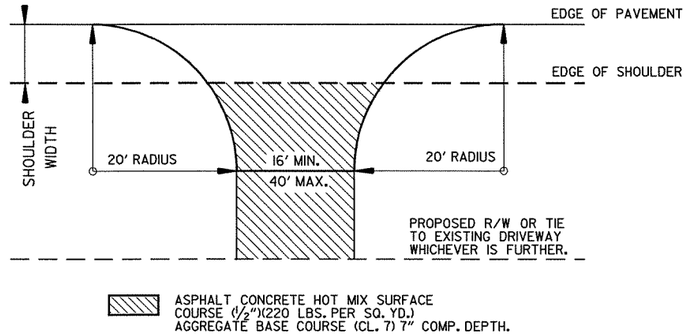


DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

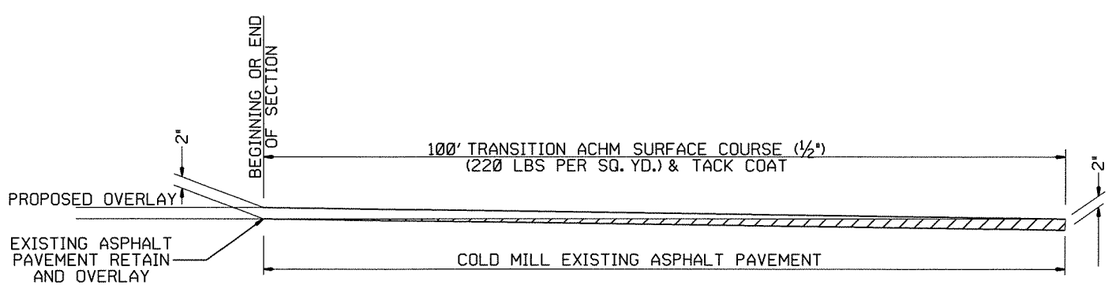
6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ.YD.

NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (7" & 8" U.T.).

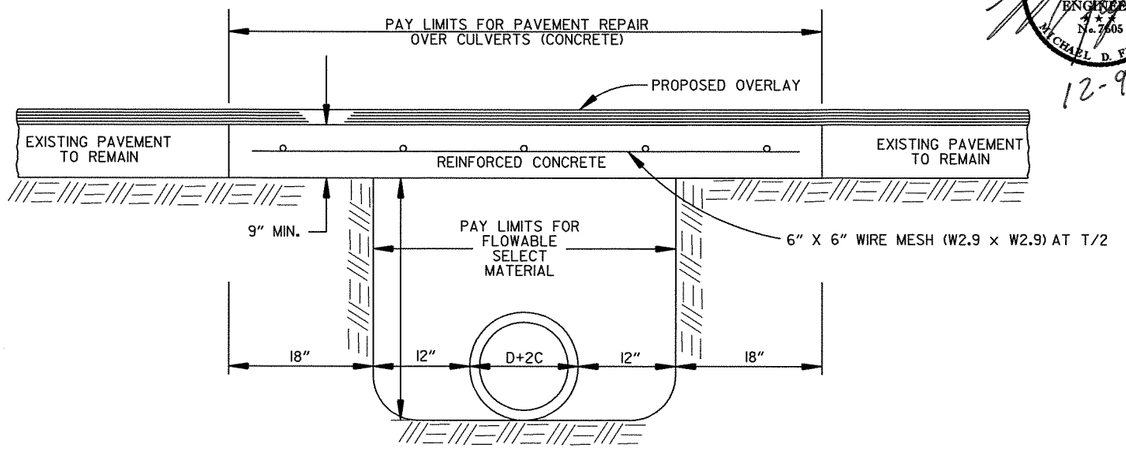


DETAIL FOR DRIVEWAY TURNOUTS

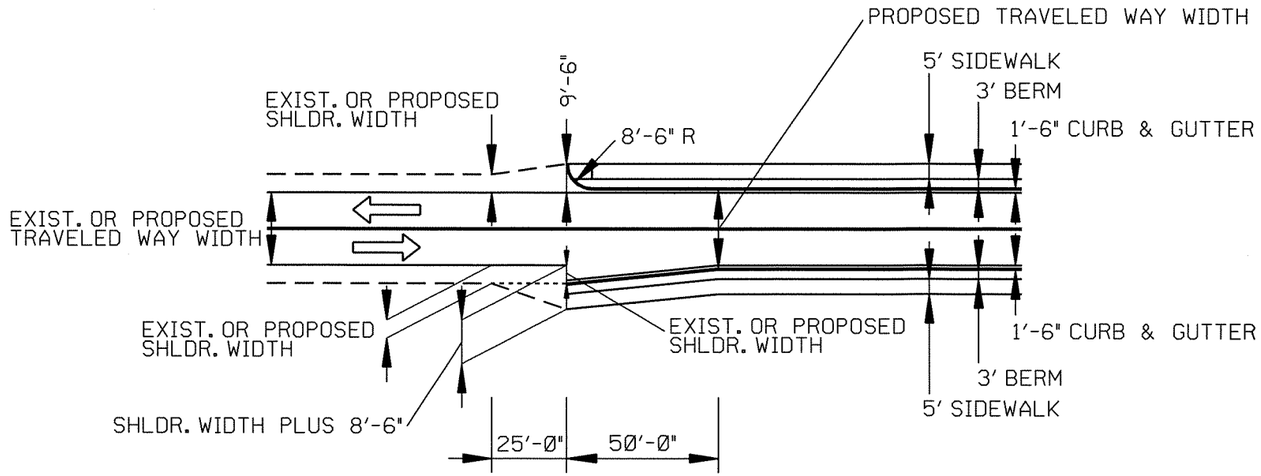


DETAIL FOR TRANSITIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION

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SPECIAL DETAILS

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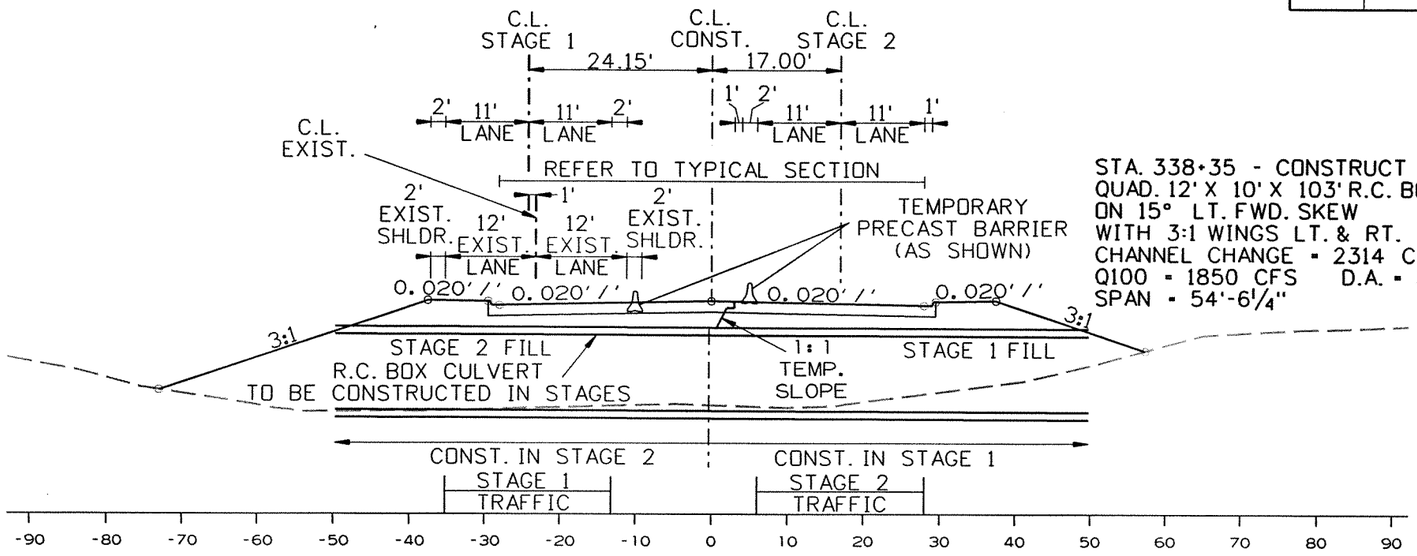
02-16-2011				6	ARK.			
				JOB NO.		110504	11	135

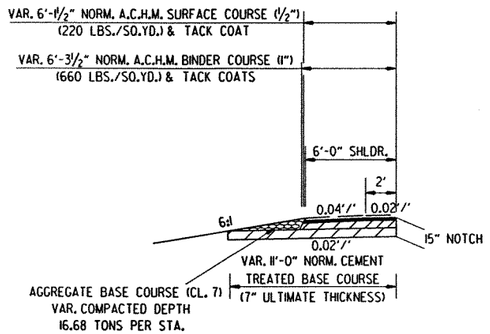
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
2-16-11



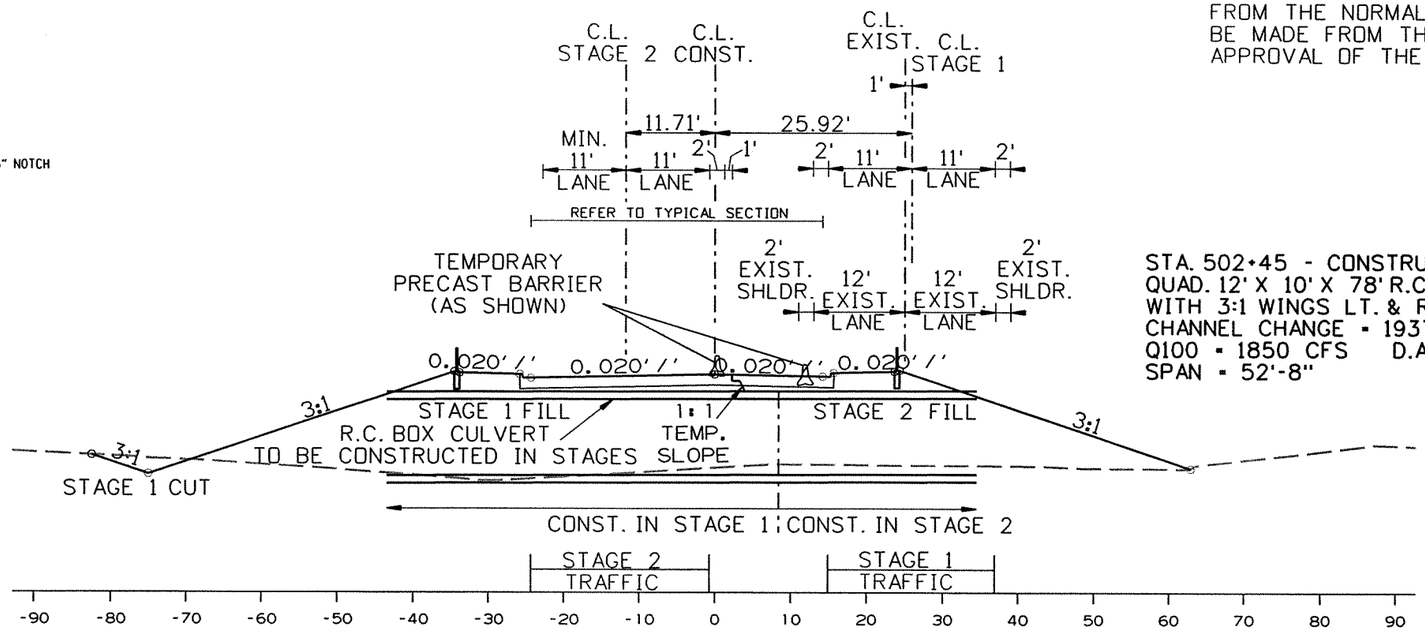
STA. 338+35 - CONSTRUCT
QUAD. 12' X 10' X 103' R.C. BOX CULVERT
ON 15° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
CHANNEL CHANGE = 2314 CU. YDS.
Q100 = 1850 CFS D.A. = 3.16 SQ. MI.
SPAN = 54'-6¼"

R. C. BOX CULVERT AT STA. 338+35
HWY. 64
STAGE CONSTRUCTION



DETAIL OF FULL DEPTH SHOULDER
HWY. 1
STA. 503+35 LT.
TO
STA. 504+25 LT.

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



STA. 502+45 - CONSTRUCT
QUAD. 12' X 10' X 78' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
CHANNEL CHANGE = 1937 CU. YDS.
Q100 = 1850 CFS D.A. = 3.16 SQ. MI.
SPAN = 52'-8"

R. C. BOX CULVERT AT STA. 502+45
HWY. 1
STAGE CONSTRUCTION

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SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	12	135

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12005
MICHAEL D. FUGETT
12-9-10

EROSION CONTROL GENERAL NOTES

SAND BAG DITCH CHECKS (TYPE E-5) ARE ESTIMATED AT 22 BAGS PER DITCH CHECK.

DROP INLET SILT FENCE ESTIMATED AT 25 LIN. FT. PER DROP INLET 5 FT. OR LESS IN DIAMETER AND 30 LIN. FT. PER DROP INLET 6 FT. OR GREATER IN DIAMETER.

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

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

LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
(E-11)	= SILT FENCE
(E-14) XX CU. FT.	= SEDIMENT BASIN

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL ITEMS

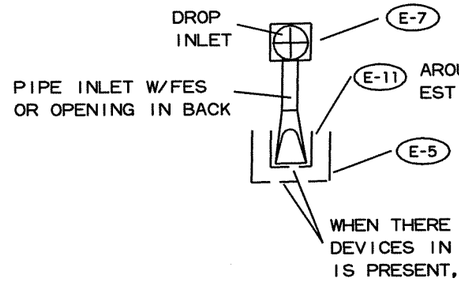
TEMPORARY SEEDING = 0.74 ACRE
MULCH COVER = 0.74 ACRE
WATER = 15.1 M.G.
SAND BAG DITCH CHECKS = 1122 BAGS
SILT FENCE = 2639 LIN. FT.
DROP INLET SILT FENCE = 915 LIN. FT.
SEDIMENT BASINS = 500 CU. YD. *
OBLITERATION OF SEDIMENT BASIN = 500 CU. YD. *
SEDIMENT REMOVAL AND DISPOSAL = 683 CU. YD. *

PERMANENT EROSION CONTROL ITEMS

SEEDING = 2.92 ACRE
MULCH COVER = 2.92 ACRE
SECOND SEEDING = 2.92 ACRE
LIME = 5.84 TON
WATER = 330.0 M.G.
SOLID SODDING = 2555 SQ. YD.

* QUANTITIES ARE ESTIMATED AND ARE TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

NOTE:
SOLID SODDING TO BE PLACED BETWEEN THE CURB AND SIDEWALK FOR THE ENTIRE PROJECT, AROUND FLARED END SECTIONS (SEE STD. DRAWING FES-1), AROUND CONCRETE DITCH PAVING (SEE STD. DRAWING CDP-1), AND AROUND HEADWALLS AND WING WALLS OF R.C. BOX CULVERTS (SEE STD. DRAWING RCB-2).



TYPICAL DEVICE PLACEMENT AT DROP INLETS

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TEMPORARY EROSION CONTROL DETAILS

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				6	ARK.			
				JOB NO.		110504	13	135

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN XX CU. FT.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT

12-9-10

QUANTITIES FOR STAGE 1

SAND BAG DITCH CHECKS = 550 BAGS
SILT FENCE = 2045 LIN. FT.
DROP INLET SILT FENCE = 460 LIN. FT.
SEDIMENT BASINS = 500 CU. YD. *
SEDIMENT REMOVAL AND DISPOSAL = 368 CU. YD. *

* QUANTITIES ARE ESTIMATED AND ARE TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
HWY. 64 - STAGE 1

STA. 334+54 - CONST. 30" X 24' TEMPORARY PIPE CULVERT CROSS DRAIN CONNECT TO J.B. ON RT. FILL AND ABANDON USING 4 CU. YD. FLOWABLE SELECT IN STAGE 2

TEMPORARY EROSION CONTROL DETAILS
HWY. 64 - STAGE 1

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				6	ARK.			
				JOB NO.		110504	14	135

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

REVISION BOX

DATE OF REVISION	REVISION

CONSTRUCT TEMP. DITCH WITH 2:1 SIDE SLOPES
FL OUTLET = 250.55

STA. 501+50 - CONST. TEMPORARY DRIVE ON RT.

STA. 501+00 - CONST. 30" X 160' TEMPORARY PIPE CULVERT ON RT. CONNECT TO D.I. ON RT. SLOPE = 0.05% FL OUTLET = 250.80 REMOVE IN STAGE 2

STA. 403+10 - CONST. 24" X 22' TEMPORARY PIPE CULVERT CROSS DRAIN REMOVE IN STAGE 2

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN XX CU. FT.

TEMPORARY EROSION CONTROL DETAILS
HWY. 64 - STAGE 1

TEMPORARY EROSION CONTROL DETAILS
HWY. 64S & HWY. 1 - STAGE 1

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				6	ARK.			
				JOB NO.		110504	15	135

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

XX CU. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

QUANTITIES FOR STAGE 2

SAND BAG DITCH CHECKS = 572 BAGS
SILT FENCE = 594 LIN. FT.
DROP INLET SILT FENCE = 455 LIN. FT.
OBLITERATION OF SEDIMENT BASIN = 500 CU. YD. *
SEDIMENT REMOVAL AND DISPOSAL = 315 CU. YD. *

* QUANTITIES ARE ESTIMATED AND ARE TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

REVISION BOX

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P.C. STA. 311+00.00
P.I. STA. 313+01.86
P.I. STA. 317+19.40
P.T. STA. 319+35.08
P.C. STA. 324+14.07
P.I. STA. 324+94.57
P.T. STA. 325+75.06
P.C. STA. 335+04.69
P.I. STA. 337+12.87

N89°54'18"E
S89°57'23"E
S89°09'05"E

BILLBOARD
SIGN
PAVED DRAIN
A. H. T. D. DISTRICT 1
CONCRETE PARKING
CALVARY FELLOWSHIP
DAVE'S BODY SHOP
PAVED PARKING
KWYN 1400 AM RADIO
PARKING
BERRY'S AUTO SHOP
BULL MOTOR COMPANY
PETERSON GLASS CO.
SHORT GRASS INDUSTRIES

STA. 26+53 - IN PLACE
30" X 24' TEMPORARY
PIPE CULVERT CROSS DRAIN
FILL AND ABANDON USING
4 CU. YD. FLOWABLE SELECT

TEMPORARY EROSION CONTROL DETAILS
HWY. 64 - STAGE 2

TEMPORARY EROSION CONTROL DETAILS
HWY. 64 - STAGE 2

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				6	ARK.			
				JOB NO.		110504	16	135

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
HWY. 64 - STAGE 2

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN XX CU. FT.

TEMPORARY EROSION CONTROL DETAILS
HWY. 64S & HWY. 1 - STAGE 2

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				6	ARK.			
				JOB NO.		110504	17	135

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

STAGE 1

INSTALL THE ADVANCE WARNING SIGNS AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS AT THE BEGINNING AND END OF THE PROJECT ON HWY. 64, THE BEGINNING OF CONSTRUCTION ON HWY. 64S, AND THE END OF CONSTRUCTION ON HWY. 1.

APPLY LEVELING COURSE TO EXISTING LANES IF AND WHERE DIRECTED BY THE ENGINEER AND RESTRIPE EXISTING ROADWAY AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL THE PRECAST CONCRETE BARRIER AND TEMPORARY IMPACT ATTENUATION BARRIERS ON HWY. 64 FROM STA. 337+47 TO STA. 339+31 AND HWY. 1 FROM STA. 501+50 TO STA. 503+35 AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

USE TRAFFIC DRUMS SPACED 18.75' ON CENTER TO CLOSE THE EASTBOUND SHOULDER ON HWY. 64 AT THE BEGINNING OF THE PROJECT, THE WESTBOUND SHOULDER ON HWY. 64 AT THE END OF THE PROJECT, AND THE SOUTHBOUND SHOULDER ON HWY. 1 AT THE END OF CONSTRUCTION AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

USE VERTICAL PANELS SPACED 40' ON CENTER TO DELINEATE THE WORK ZONE AND TRAFFIC DRUMS TO DELINEATE THE DRIVEWAYS THROUGHOUT THE PROJECT AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

HWY. 64 - NOTCH AND WIDEN ON THE RT. FROM STA. 310+75 TO STA. 338+00. CONSTRUCT FULL DEPTH SECTION RT. OF EXISTING BRIDGE FROM STA. 338+00 TO STA. 338+75. NOTCH AND WIDEN ON THE RT. FROM STA. 338+75 TO STA. 341+50. NOTCH AND WIDEN ON THE LT. FROM STA. 340+15 TO STA. 341+34 AND STA. 342+87 TO 345+50.

HWY. 64S - NOTCH AND WIDEN ON THE LT. FROM STA. 401+50 TO STA. 404+25. CONSTRUCT FULL DEPTH SECTION FROM STA. 404+25 TO STA. 406+05. NOTCH AND WIDEN ON THE LT. FROM STA. 406+05 TO STA. 407+05.

HWY. 1 - NOTCH AND WIDEN ON THE LT. FROM STA. 500+64 TO STA. 501+67. CONSTRUCT FULL DEPTH SECTION LT. OF EXISTING BRIDGE FROM STA. 501+67 TO STA. 502+85. NOTCH AND WIDEN ON THE LT. FROM STA. 502+85 TO STA. 506+00.

CONSTRUCT TEMPORARY CULVERTS ON HWY. 64 AT STA. 334+54, ON HWY. 64S AT STA. 403+10, AND ON HWY. 1 AT STA. 501+00 WHEN NEEDED TO MAINTAIN DRAINAGE. CONSTRUCT TEMPORARY DITCH IN NORTHEAST QUADRANT OF HWY. 64/HWY. 1 INTERSECTION WHEN NEEDED TO MAINTAIN DRAINAGE.

INSTALL R11-2 (ROAD CLOSED) SIGNS WITH TYPE III BARRICADE ON HWY. 64 AND HWY. 1 AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS AS ROAD IS BROUGHT TO GRADE AND LEAVE IN PLACE UNTIL REINFORCED CONCRETE BOXES HAVE BEEN COMPLETED AND ROAD HAS BEEN BROUGHT TO GRADE ACROSS BOXES.

REMOVE EXISTING ISLANDS FROM THE INTERSECTION OF HWY. 64 AND HWY. 1 AND REPAIR PAVEMENT.

QUANTITIES FOR STAGE 1

SIGNS = 294 SQ. FT.
TRAFFIC DRUMS = 189 EACH
VERTICAL PANELS = 91 EACH
TYPE III BARRICADES = 120 LIN. FT.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 346 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 2 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 2 EACH
CONSTRUCTION PAVEMENT MARKINGS = 22,421 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS WORDS = 3 EACH
CONSTRUCTION PAVEMENT MARKINGS ARROWS = 3 EACH
24" TEMPORARY CULVERT = 22 LIN. FT.
30" TEMPORARY CULVERT = 184 LIN. FT.

NOTES:

THE CONSTRUCTION PAVEMENT MARKING QUANTITY FOR STAGE 1 IS BASED ON ONE APPLICATION OF THE EXISTING STRIPING CONFIGURATION.

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				6	ARK.			
				JOB NO.		110504	18	135

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

END ROAD WORK
(I) G20-2 (48" X 24")

* 500'

P.C. STA. 311+00.00

BILLBOARD

PRC 315+03.67

P.I. STA. 317+19.40

310 — N89°54'18"E — 315 — 320 — S89°57'33"E

+80 75' TAPER +55

* 500' * 500' * 500'

* NOT TO SCALE

P.I. STA. 313+01.86

15' WIDE

18'

SIGN

+47 +64 +10

24' 24' 20'

P.T. STA. 319+35.08

A. H. T. D. DISTRICT 1

PAVED DRAIN

CONCRETE PARKING CONCRETE PARKING

CALVARY FELLOWSHIP

ROAD WORK 1500 FT (I) W20-1 (48" X 48")

ROAD WORK 1000 FT (I) W20-1 (48" X 48")

ROAD WORK 500 FT (I) W20-1 (48" X 48")

SHOULDER CLOSED (I) RSP-1 (48" X 30")

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64 - STAGE 1

P.I. STA. 324+94.57

325 — S89°57'33"E — 330 — S89°01'05"E — 335

+61 +30 +71 +29 +21 +56 +28 +80 +40 +81

20' 20' 20' 20' 22' 32' 34' 20' 22' 24'

SIGN

P.C. STA. 324+14.07

P.T. STA. 325+75.06

PAVED PARKING

PARKING BERRY'S AUTO SHOP PAVED

PAVED PARKING BULL MOTOR COMPANY

CONCRETE PAVED PARKING

B PAVED PARKING KWYN 1400 AM RADIO

C DAVE'S BODY SHOP

CONCRETE CONCRETE PARKING

P.C. STA. 335+04.69

CALVARY FELLOWSHIP

SHORT GRASS INDUSTRIES

STA. 334+54 - CONST. 30" X 24' TEMPORARY PIPE CULVERT CROSS DRAIN CONNECT TO J.B. ON RT. FILL AND ABANDON USING 4 CU. YD. FLOWABLE SELECT IN STAGE 2

PETERSON GLASS CO.

P.I. STA. 337+12.87

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64 - STAGE 1

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				6	ARK.			
				JOB NO.		110504	19	135

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

* NOT TO SCALE

HATCHING DENOTES REMOVAL OF EXISTING ISLANDS

CONSTRUCT TEMP. DITCH WITH 2:1 SIDE SLOPES FL OUTLET = 250.55

STA. 501+50 - CONST. TEMPORARY DRIVE ON RT.

STA. 501+00 - CONST. 30" X 160' TEMPORARY PIPE CULVERT ON RT. CONNECT TO D.I. ON RT. SLOPE = 0.05% FL OUTLET = 250.80 REMOVE IN STAGE 2

STA. 403+10 - CONST. 24" X 22' TEMPORARY PIPE CULVERT CROSS DRAIN REMOVE IN STAGE 2

HATCHING DENOTES FULL DEPTH SHOULDER

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64 - STAGE 1

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64S & HWY. 1 - STAGE 1

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				6	ARK.			
				JOB NO.		110504	20	135

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

STAGE 2

STRIPE ROADWAY CONSTRUCTED IN STAGE 1 AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL RSP-1 (SHOULDER CLOSED) SIGN ON HWY. 64S AND USE TRAFFIC DRUMS SPACED 15' ON CENTER TO CLOSE THE NORTHBOUND SHOULDER AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

RELOCATE THE PRECAST CONCRETE BARRIER AND TEMPORARY IMPACT ATTENUATION BARRIERS. INSTALL ON HWY. 64 FROM STA. 29+45 TO STA. 31+28 AND ON HWY. 1 FROM STA. 48+66 TO STA. 50+50 AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

SHIFT TRAFFIC ONTO THE STAGE 1 CONSTRUCTION AND USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 40' ON CENTER TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE THE DRIVEWAYS AND SHOULDER RETURN TAPERS THROUGHOUT THE PROJECT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

INSTALL R11-2 (ROAD CLOSED) SIGNS WITH TYPE III BARRICADE ON HWY. 64 AND HWY. 1 AT EXSITING BRIDGE ENDS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT REMAINING WIDENING THROUGHOUT THE PROJECT ON HWY. 64, HWY. 64S, AND HWY. 1.

FILL AND ABANDON TEMPORARY CULVERT ON HWY. 64 AT STA. 26+53, REMOVE TEMPORARY CULVERT ON HWY. 64S AT STA. 42+25, REMOVE TEMPORARY CULVERT ON HWY. 1 AT STA. 48+13, AND FILL TEMPORARY DITCH IN NORTHEAST QUADRANT OF HWY. 64/HWY. 1 INTERSECTION AS PROPOSED DRAINAGE STURCTURES ARE CONSTRUCTED.

APPLY THE FINAL 2" LIFT OF A.C.H.M. SURFACE COURSE (1/2") AFTER ALL WIDENING HAS BEEN CONSTRUCTED.

QUANTITIES FOR STAGE 2

ADDITIONAL SIGNS - 10 SQ. FT.
TYPE III BARRICADES - 8 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER - 346 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) - 2 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) - 2 EACH
CONSTRUCTION PAVEMENT MARKINGS - 13,203 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS WORDS - 2 EACH
CONSTRUCTION PAVEMENT MARKINGS ARROWS - 2 EACH
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS - 12,038 LIN. FT.
FLOWABLE SELECT MATERIAL - 11 CU. YD.

NOTES:

THE CONSTRUCTION PAVEMENT MARKING QUANTITY FOR STAGE 2 IS BASED ON ONE APPLICATION OF THE STRIPING CONFIGURATION SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

THE REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS QUANTITY FOR STAGE 2 IS BASED ON THE LENGTH REQUIRED TO REMOVE THE STAGE 1 CONSTRUCTION PAVEMENT MARKINGS BETWEEN THE FOLLOWING STATIONS:

HWY. 64 - STA. 12+39 TO STA. 23+00
STA. 31+00 TO STA. 37+50

HWY. 64S - STA. 40+65 TO STA. 46+30

HWY. 1 - STA. 47+55 TO STA. 49+00
STA. 50+15 TO STA. 53+15

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MAINTENANCE OF TRAFFIC DETAILS

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				6	ARK.			
				JOB NO.		110504	21	135

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

CL STAGE 2
P.I. 11+34.88
Δ = 0° 00'54"LT.

N

POB 1+00.00
P.C. STA. 13I+00.00
P.I. STA. 313+01.86 ①
P.I. STA. 317+19.40 ②
P.T. STA. 319+35.08
PRC 315+03.67
P.I. STA. II+34.88

60' TAPER
+94 +54
320' TAPER
+80

N89°54'18"E
S89°56'29"E
S89°57'23"E
S89°57'23"E

FOR ADVANCE WARNING SIGN PLACEMENT DETAILS REFER TO STAGE 1 MAINTENANCE OF TRAFFIC PLANS

BILLBOARD
16'
+62
18'
SIGN
24'
24'
20'
A. H. T. D. DISTRICT I
PAVED DRAIN
CONCRETE PARKING
CONCRETE PARKING
CALVARY FELLOWSHIP

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64 - STAGE 2

320' TAPER
+00
P.I. STA. 16+94.24
P.I. STA. 324+94.57 ③

CL STAGE 2
P.I. 16+94.24
Δ = 0° 48'18"RT.
D = 0° 30'03"
T = 80.38'
L = 160.76'
P.C. 16+13.86
P.T. 17+74.62

P.C. STA. 324+14.07
P.C. STA. 16+13.86
P.T. STA. 325+75.06 Old
P.T. STA. 17+74.62

S89°57'23"E
S89°09'05"E
S89°09'05"E

CALVARY FELLOWSHIP
SHORT GRASS INDUSTRIES
PAVED PARKING
BERRY'S AUTO SHOP
PAVED PARKING
BULL MOTOR COMPANY
PAVED PARKING
CONCRETE
PAVED PARKING
DAVE'S BODY SHOP
PAVED PARKING
KWYN 1400 AM RADIO
CONCRETE
CONCRETE
PARKING
PARKING
PARKING
PETERSON GLASS CO.

CL STAGE 2
P.I. 29+13.04
Δ = 4° 09'42"LT.
D = 0° 59'49"
T = 208.80'
L = 417.41'
P.C. 27+04.24
P.T. 31+21.65

P.C. STA. 27+04.24
P.C. STA. 335+04.69

STA. 26+53 - IN PLACE
30" X 24' TEMPORARY
PIPE CULVERT CROSS DRAIN
FILL AND ABANDON USING
4 CU. YD. FLOWABLE SELECT

P.I. STA. 337+12.87
P.I. STA. 29+13.04 ④

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64 - STAGE 2

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				6	ARK.			
				JOB NO.		110504	22	135

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

CL STAGE 2
P.I. 29+13.04
Δ = 4° 09'42"LT.
D = 0° 59'49"
T = 208.80'
L = 417.41'
P.C. 27+04.24
P.T. 31+21.65

ROAD CLOSED
(I) RII-2 (48" X 30")
32' BARR. TYP. III RT.
32' BARR. TYP. III LT.

CL STAGE 2
P.I. 31+21.65
Δ = 1° 16'21"LT.

165' TAPER
294' TAPER

CL STAGE 2
P.I. 34+59.32
Δ = 0° 01'26"RT.

CL STAGE 2
P.I. 37+52.81
Δ = 3° 34'07"RT.

FOR ADVANCE WARNING SIGN PLACEMENT DETAILS REFER TO STAGE 1 MAINTENANCE OF TRAFFIC PLANS

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64 - STAGE 2

CL STAGE 2
P.I. 41+67.72
Δ = 8° 02'43"LT.
D = 4° 00'00"
T = 100.73'
L = 201.13'
P.C. 40+66.99
P.T. 42+68.12

STA. 42+25 - IN PLACE 24" X 22' TEMPORARY PIPE CULVERT CROSS DRAIN REMOVE

CL STAGE 2
P.I. 43+52.89
Δ = 4° 52'56"RT.
D = 3° 49'11"
T = 63.95'
L = 127.82'
P.C. 42+88.94
P.T. 44+16.76

CL STAGE 2
P.I. 45+73.05
Δ = 3° 48'51"RT.
D = 5° 43'47"
T = 33.30'
L = 66.57'
P.C. 45+39.75
P.T. 46+06.32

CL STAGE 2
P.I. 49+47.75
Δ = 4° 52'38"RT.
D = 5° 43'47"
T = 42.59'
L = 85.12'
P.C. 49+05.16
P.T. 49+90.28

CL STAGE 2
P.I. 50+79.47
Δ = 9° 19'20"RT.
D = 10° 59'50"
T = 42.48'
L = 84.77'
P.C. 50+36.99
P.T. 51+21.76

CL STAGE 2
P.I. 51+86.91
Δ = 14° 15'15"LT.
D = 10° 59'50"
T = 65.14'
L = 129.61'
P.C. 51+21.76
P.T. 52+51.38

FOR ADVANCE WARNING SIGN PLACEMENT DETAILS REFER TO STAGE 1 MAINTENANCE OF TRAFFIC PLANS

SHOULDER CLOSED
(I) RSP-I (48" X 30")

MAINTENANCE OF TRAFFIC DETAILS
HWY. 64S & HWY. 1 - STAGE 2

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				6	ARK.			
				JOB NO.		110504	23	135

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

① CL CONST.
P.I. 313+01.86
Δ = 2° 01'06"LT.
D = 0° 30'00"
T = 201.86'
L = 403.67'
P.C. 311+00.00
P.T. 315+03.67
e = NO SUPER

② CL CONST.
P.I. 317+19.40
Δ = 2° 09'25"RT.
D = 0° 30'00"
T = 215.73'
L = 431.41'
P.C. 315+03.67
P.T. 319+35.08
e = NO SUPER

③ CL CONST.
P.I. 324+94.57
Δ = 0° 48'18"RT.
D = 0° 30'00"
T = 80.50'
L = 161.00'
P.C. 324+14.07
P.T. 325+75.06
e = NO SUPER

④ CL CONST.
P.I. 337+12.87
Δ = 4° 09'42"LT.
D = 1° 00'00"
T = 208.18'
L = 416.18'
P.C. 335+04.69
P.T. 339+20.86
e = NO SUPER

⑤ CL CONST.
P.I. 344+38.77
Δ = 2° 13'13"RT.
D = 1° 00'00"
T = 111.02'
L = 222.02'
P.C. 343+27.75
P.T. 345+49.77
e = NO SUPER

⑥ CL CONST.
P.I. 402+52.72
Δ = 8° 02'43"LT.
D = 4° 00'00"
T = 100.73'
L = 201.13'
P.C. 401+51.99
P.T. 403+53.12
e = NO SUPER

⑦ CL CONST.
P.I. 404+62.03
Δ = 8° 41'47"RT.
D = 4° 00'00"
T = 108.91'
L = 217.41'
P.C. 403+53.12
P.T. 405+70.53
e = NO SUPER

⑧ CL CONST.
P.I. 502+57.08
Δ = 7° 11'10"RT.
D = 4° 00'00"
T = 89.94'
L = 179.65'
P.C. 501+67.14
P.T. 503+46.79
e = NO SUPER

⑨ CL CONST.
P.I. 504+68.85
Δ = 7° 18'49"LT.
D = 3° 00'00"
T = 122.06'
L = 243.79'
P.C. 503+46.79
P.T. 505+90.58
e = NO SUPER

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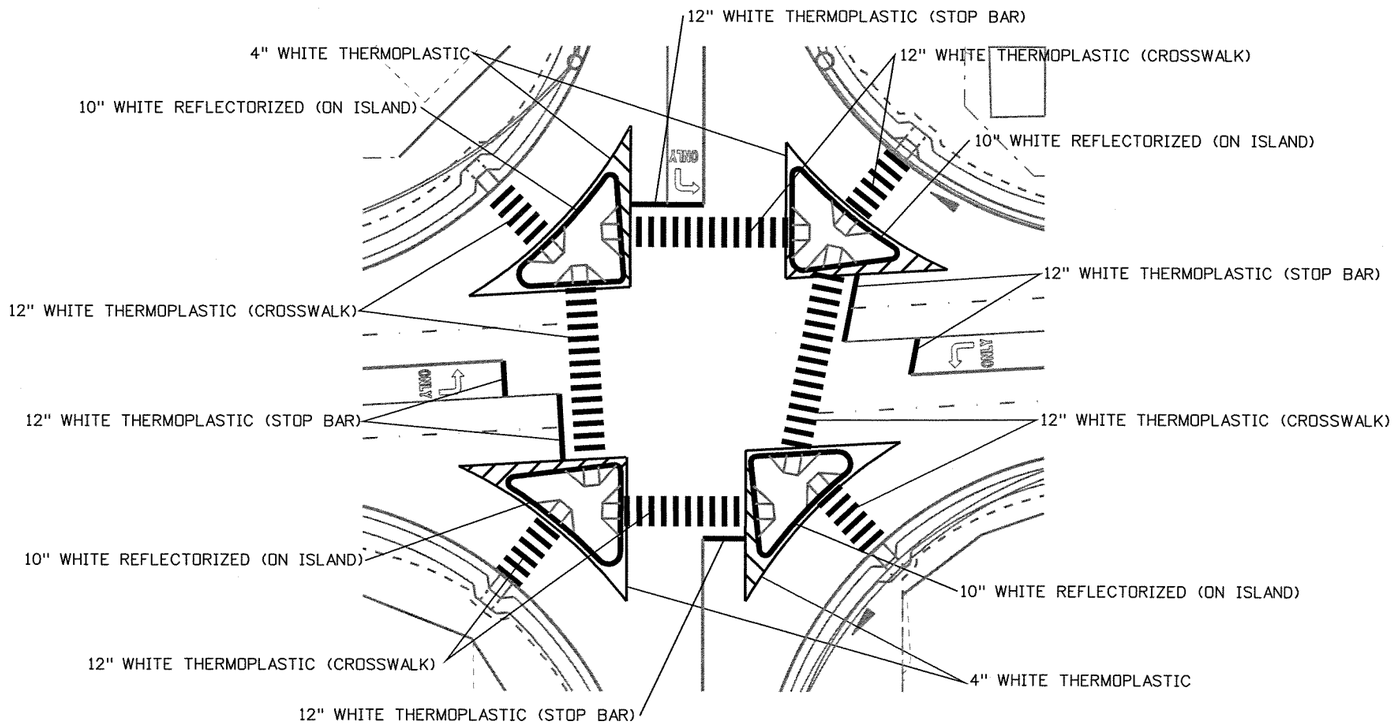
MAINTENANCE OF TRAFFIC DETAILS
HWY. 64, HWY. 64S, & HWY. 1 - CURVE DATA

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.		110504	24	135

(2) PERM. PAVE. MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT

1-19-11



INTERSECTION STRIPING LEGEND

PERMANENT PAVEMENT MARKING QUANTITIES

THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 2632 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 857 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 10916 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING (WORDS) = 3 EACH
THERMOPLASTIC PAVEMENT MARKING (ARROWS) = 6 EACH
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") = 459 LIN. FT.
RAISED PAVEMENT MARKER (TYPE II) (WHITE/RED) = 92 EACH
RAISED PAVEMENT MARKER (TYPE II) (YELLOW/YELLOW) = 101 EACH

NOTES:

RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) ARE TO BE PLACED ON THE LANE LINES AT 80' INTERVALS.

RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW) ARE TO BE PLACED ON THE CENTERLINE AND/OR EACH SIDE OF THE CENTER TURN LANE AT 80' INTERVALS.

4" WHITE THERMOPLASTIC SURROUNDING ISLANDS IS TO BE PLACED ON THE LANE LINES AND SHALL BE A MINIMUM OF 2' FROM THE FACE OF THE ISLAND.

REFER TO THE PERMANENT PAVEMENT MARKING DETAILS, STD. DRWG. PM-1, AND THE LATEST EDITION OF THE MUTCD FOR ADDITIONAL PAVEMENT MARKING DETAILS.

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PERMANENT PAVEMENT MARKING DETAILS

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				6	ARK.			
				JOB NO.		110504	25	135

(2) PERM. PAVE. MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
10-9-10

4" SKIP WHITE THERMOPLASTIC

4" DBL. YELLOW THERMOPLASTIC

4" YELLOW THERMOPLASTIC

4" SKIP YELLOW THERMOPLASTIC

N

P.C. STA. 313+00.00

P.I. STA. 313+01.86

P.I. STA. 317+19.40

P.T. STA. 319+35.08

400'

N89°54'18"E

CULT FLD

MOWED GRS

LAWN & DITCH

LWN-LANDSCPD TRS.

A. H. T. D. DISTRICT 1

CONCRETE PARKING

CONCRETE PARKING

LAWN

CALVARY FELLOWSHIP

PERMANENT PAVEMENT MARKING DETAILS
HWY. 64

P.I. STA. 324+94.57

P.C. STA. 324+14.07

P.T. STA. 325+75.06

P.I. STA. 335+04.69

P.C. STA. 336+37.87

PASTURE

CULT FIELD

PAVED PARKING

KWYN 1400 AM RADIO

DAVE'S BODY SHOP

CONCRETE

PARKING

BERRY'S ROTO SHOP

BULL MOTOR COMPANY

PETERSON GLASS CO.

SHORT GRASS INDUSTRIES

CALVARY FELLOWSHIP

PERMANENT PAVEMENT MARKING DETAILS
HWY. 64

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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.		110504	26	135

(2) PERM. PAVE. MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

4" SKIP WHITE THERMOPLASTIC
4" DBL. YELLOW THERMOPLASTIC
4" WHITE THERMOPLASTIC
4" SKIP WHITE THERMOPLASTIC
4" WHITE THERMOPLASTIC
4" DBL. YELLOW THERMOPLASTIC
4" WHITE THERMOPLASTIC
4" SKIP YELLOW THERMOPLASTIC
4" YELLOW THERMOPLASTIC

N

PERMANENT PAVEMENT MARKING DETAILS
HWY. 64

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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.		110504	27	135

(2) PERM. PAVE. MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
12-9-10

4" WHITE THERMOPLASTIC

4" DBL. YELLOW THERMOPLASTIC

4" WHITE THERMOPLASTIC

4" DBL. YELLOW THERMOPLASTIC

200'

N

PERMANENT PAVEMENT MARKING DETAILS
HWY. 64S & HWY. 1

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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.		110504	28	135

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
1-19-11

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS		REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS					REFLECTORIZED PAINT PAVEMENT MARKINGS
					WORDS	ARROWS		TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	12" WHITE	WORDS	ARROWS	10" WHITE
	LIN.FT. - EACH			LIN.FT.	EACH		LIN.FT.	EACH		LIN.FT.			EACH		LIN.FT.
CONSTRUCTION PAVEMENT MARKINGS	22421	13203		35624											
CONSTRUCTION PAVEMENT MARKINGS (WORDS)	3	2			5										
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	3	2				5									
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		12038					12038								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			92					92							
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			101						101						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")			3492							3492					
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")			11716								11716				
THERMOPLASTIC PAVEMENT MARKINGS WHITE (12")			857									857			
THERMOPLASTIC PAVEMENT MARKINGS WORDS			7										7		
THERMOPLASTIC PAVEMENT MARKINGS ARROWS			7											7	
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10")			459												459
TOTALS:				**35624**	**5**	**5**	**12038**	**92**	**101**	**3492**	**11716**	**857**	**7**	**7**	**459**

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TERMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)
											RIGHT	LEFT					
			LIN.FT. - EACH				NO.	SQ. FT.	EACH		EACH		LIN.FT.		EACH		
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	4	64.0									
W20-1	ROAD WORK 1000 FT.	48"x48"	4	4	4	4	4	64.0									
W20-1	ROAD WORK 500 FT.	48"x48"	4	4	4	4	4	64.0									
G20-2	END ROAD WORK	48"x24"	4	4	4	4	4	32.0									
R11-2	ROAD CLOSED	48"x30"	4	4		4	4	40.0									
R4-1	DO NOT PASS	24"x30"	6	6	6	6	6	30.0									
RSP-1	SHOULDER CLOSED	48"x30"	3	4		4	4	40.0									
	VERTICAL PANELS		91	46		91	91		91								
	TRAFFIC DRUMS		189	167		189	189			189							
	TYPE III BARRICADE-RT. (8')		1			1	1				8						
	TYPE III BARRICADE-LT. (8')			1		1	1					8					
	TYPE III BARRICADE-RT. (16')		3	4		4	4				64						
	TYPE III BARRICADE-LT. (16')		4	3		4	4					64					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		346			346							346				
	RELOCATING PRECAST CONCRETE BARRIER			346		346								346			
	TEMPORARY IMPACT ATTENUATION BARRIER		2			2									2		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		2	2		4										4	
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)			2		2											2
TOTALS:								**334.0**	**91**	**189**	**72**	**72**	**346**	**346**	**2**	**4**	**2**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

r110504.dgn 01/19/2011

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.		110504	29	135

(2) QUANTITY SHEETS

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB	CURB AND GUTTER	POSTS	CONCRETE SLABS	APPROACH SLAB AND GUTTERS	CONCRETE DRIVEWAYS	CONCRETE PARKING AREA	WALKS	HEADWALLS	GUARDRAIL	SIGNS
			LIN.FT.	LIN. FT.	EACH	SQ. YD.	EACH	SQ. YD.	SQ. YD.	SQ. YD.	EACH	LIN.FT.	EACH
HWY. 64													
315+85	316+34	CURB ON RT.		78									
316+59	320+51	CURB ON RT.		440									
320+76	321+13	CURB ON RT.		63									
334+53		HEADWALL ON RT.									1		
335+25		METAL POST ON RT.			1								
335+53		METAL POST ON RT.			1								
336+12		SIGN ON RT.											1
336+69		METAL POST ON RT.			1								
336+98		METAL POST ON RT.			1								
337+04	337+10	WALK ON RT.								6			
337+71	338+01	GUARDRAIL ON LT.										30	
337+72	338+00	GUARDRAIL ON RT.										30	
338+75	339+03	GUARDRAIL ON RT.										30	
338+76	339+04	GUARDRAIL ON LT.										30	
342+07	342+09	CURB ON RT.		48									
342+60	343+03	CURB ISLAND ON RT.	94										
343+00	345+10	CONCRETE PANELS ON RT.							280				
343+03	343+43	DRIVEWAY ON RT.						94					
343+43	344+72	CURB ON RT.	153										
343+52	344+70	PARKING ON RT.							49				
343+86		SIGN ON LT.											1
344+73	345+10	DRIVEWAY ON RT.						74					
344+75		SIGN ON LT.											1
345+02	345+50	CURB ON RT.	70										
HWY. 64S													
406+00	406+45	SLAB ON LT.				150							
HWY. 1													
500+28	500+59	CURB ISLAND ON RT.	125										
500+34	501+26	CURB ISLAND ON LT.	272										
500+36	500+58	CURB ISLAND	77										
500+43	501+25	CURB ISLAND ON RT.	231										
500+46	501+13	CURB ISLAND ON RT.	137										
501+19	501+35	SLAB ON LT.				7							
501+67	502+07	GUARDRAIL ON LT.										40	
501+67	502+07	GUARDRAIL ON RT.										40	
501+85		APPROACH SLAB AND GUTTERS					1						
502+80	503+55	GUARDRAIL ON LT.										75	
502+80	503+55	GUARDRAIL ON RT.										75	
503+05		APPROACH SLAB AND GUTTERS					1						
TOTALS:			**1159**	**629**	**4**	**157**	**2**	**168**	**329**	**6**	**1**	**350**	**3**

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
318+51	328+14	HWY. 64 LT. OF CL.	964
TOTAL:			964

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	BOX CULVERTS	JUNCTION BOXES	DROP INLETS
		EACH	EACH	EACH	EACH
HWY. 64					
314+62	24" x 36' PIPE CULVERT - LT.	1			
321+60	18" x 31' C.M. PIPE CULVERT - RT.	1			
323+68	18" x 30' C.M. PIPE CULVERT - RT.	1			
324+30	18" x 41' C.M. PIPE CULVERT - RT.	1			
326+71	18" x 40' C.M. PIPE CULVERT - RT.	1			
327+29	18" x 30' C.M. PIPE CULVERT - RT.	1			
328+21	18" x 24' C.M. PIPE CULVERT - RT.	1			
331+28	18" x 36' C.M. PIPE CULVERT - RT.	1			
332+72	18" x 25' C.M. PIPE CULVERT - RT.	1			
334+12	18" x 22' STEEL PIPE CULVERT - LT.	1			
334+53	30" R.C. PIPE CULVERT (20' LT.)	1			
335+19	18" x 41' C.M. PIPE CULVERT - LT.	1			
335+40	30" x 31' C.M. PIPE CULVERT - RT.	1			
336+81	30" x 31' C.M. PIPE CULVERT - RT.	1			
337+80	21" x 15" C.M. ARCH PIPE CULVERT - RT.	1			
338+75	21" x 15" C.M. ARCH PIPE CULVERT - RT.	1			
342+00	GRATE D.I. ON RT. W/35" x 24" x 28' R.C. ARCH PIPE	1			1
342+75	GRATE D.I. ON RT. W/30" x 70' R.C. PIPE	1			1
343+87	JUNCT. BOX ON RT. W/30" x 108' R.C. PIPE	1		1	
343+91	3' x 2' R.C. BOX CULVERT (14' LT. & 8' RT.)		1		
344+33	18" x 43' C.M. PIPE CULVERT - LT.	1			
345+84	18" x 40' C.M. PIPE CULVERT - LT.	1			
HWY. 64S					
402+37	42" x 38' C.M. PIPE CULVERT - RT.	1			
402+61	24" x 43' C.M. PIPE CULVERT	1			
402+84	18" x 24' C.M. PIPE CULVERT - LT.	1			
403+49	18" x 23' C.M. PIPE CULVERT - LT.	1			
406+10	28" x 38" x 48' C.M. ARCH PIPE CULVERT - RT.	1			
HWY. 1					
503+93	24" x 49' C.M. PIPE CULVERT - LT.	1			
505+34	24" x 44' C.M. PIPE CULVERT - LT.	1			
TOTALS:		**28**	**1**	**1**	**2**

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
338+35	HDWL. HWY. 64 RT. OF CL.	1
502+20	HDWL. HWY. 1 RT. OF CL.	1
TOTAL:		**2**

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
HWY. 64				
337+00	339+00	HWY. 64	2	2
HWY. 1				
502+00	504+00	HWY. 1	2	2
TOTALS:			**4**	**4**

EROSION CONTROL MATTING

STATION	STATION	LOCATION	CLASS 3
			SQ. YD.
ENTIRE	PROJECT	TO BE USED IF AND WHERE	100.0
		DIRECTED BY THE ENGINEER	
TOTAL:			**100.0**

NOTE: AVERAGE WIDTH = 8'-0"

REMOVAL OF EXISTING BRIDGE STRUCTURES

STATION	STATION	LOCATION	LUMP SUM
HWY. 64			
338+00	338+75	28'x75' SPAN CONC. DECK (SITE NO. 1)	1.00
HWY. 1			
502+05	502+80	28'x75' SPAN CONC. DECK (SITE NO. 2)	1.00

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	AASHTO CLASSIFICATION	LIQUID LIMIT	PLASTICITY INDEX	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
314+00	35	15	14.70	90	48	10.60	15' LT.	0-5	A-4(6)	27	8	BROWN
314+00	35	15	14.80	90	48	10.50	30' LT.	0-5	A-6(10)	33	13	BROWN
314+00	35	15	15.00	90	48	10.60	50' LT.	0-5	A-6(17)	38	17	BROWN
322+00	35	15	14.60	90	48	0.60	12' LT.	0-5	A-6(10)	31	12	BR/GR
322+00	35	15	14.70	90	48	0.60	18' LT.	0-5	A-4(5)	27	8	BR/GR
322+00	35	15	14.80	90	48	0.60	45' LT.	0-5	A-6(14)	34	15	BROWN
330+00	35	15	14.40	90	47	51.10	5' RT.	0-5	A-4(3)	27	4	GRAY
330+00	35	15	14.30	90	47	51.00	18' RT.	0-5	A-4(3)	27	3	GRAY
330+00	35	15	14.20	90	47	51.00	38' RT.	0-5	A-4(2)	28	2	BR/GR
337+00	35	15	14.60	90	47	42.50	5' LT.	0-5	A-4(3)	25	4	GRAY
337+00	35	15	14.70	90	47	42.50	18' LT.	0-5	A-4(8)	30	8	GRAY
337+00	35	15	14.80	90	47	42.50	39' LT.	0-5	A-7-6(16)	43	16	BR/GR

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

QUANTITY SHEETS

r110504.dgn 09/14/2010

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.		110504	30	135

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	LIN.FT.	LIN.FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1	1.26	2.52	1.26	128.5	1.26	0.32	0.32	6.5	550	460	2045			118
ENTIRE	PROJECT	STAGE 2	1.66	3.32	1.66	169.3	1.66	0.42	0.42	8.6	572	455	594			65
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								0.16	0.16	3.3	110	85	161	500	500	509
TOTALS:			**2.92**	**5.84**	**2.92**	**297.8**	**2.92**	**0.90**	**0.90**	**18.4**	**1232**	**1000**	**2800**	**500**	**500**	**692**

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

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

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

CONCRETE WALKS AND HAND RAILING

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS	HAND RAILING	* SOLID SODDING	WATER
			LIN.FT.	SQ.YD.	LIN.FT.	SQ.YD.	M.GAL.
HWY. 64							
311+06	314+00	HWY. 64 RT. OF CL.	294	163		98	1.23
311+08	314+48	HWY. 64 LT. OF CL.	340	189		113	1.42
314+30	315+95	HWY. 64 RT. OF CL.	165	92		55	0.69
314+76	329+85	HWY. 64 LT. OF CL.	1509	838		503	6.34
316+98	320+13	HWY. 64 RT. OF CL.	315	175		105	1.32
321+15	321+44	HWY. 64 RT. OF CL.	29	16		10	0.13
321+76	323+52	HWY. 64 RT. OF CL.	176	98		59	0.74
323+84	324+14	HWY. 64 RT. OF CL.	30	17		10	0.13
324+46	326+55	HWY. 64 RT. OF CL.	209	116		70	0.88
326+87	327+13	HWY. 64 RT. OF CL.	26	14		9	0.11
327+45	328+04	HWY. 64 RT. OF CL.	59	33		20	0.25
328+38	329+34	HWY. 64 RT. OF CL.	96	53		32	0.40
329+78	331+05	HWY. 64 RT. OF CL.	127	71		42	0.53
330+15	333+96	HWY. 64 LT. OF CL.	381	212		127	1.60
331+51	332+64	HWY. 64 RT. OF CL.	113	63		38	0.48
332+96	335+23	HWY. 64 RT. OF CL.	227	126		76	0.96
334+28	334+96	HWY. 64 LT. OF CL.	68	38		23	0.29
335+42	337+32	HWY. 64 LT. OF CL.	190	106		63	0.79
335+57	336+63	HWY. 64 RT. OF CL.	106	59		35	0.44
336+99	339+01	HWY. 64 RT. OF CL.	202	112		67	0.84
337+64	339+38	HWY. 64 LT. OF CL.	174	97		58	0.73
339+53	340+72	HWY. 64 RT. OF CL.	119	66		40	0.50
339+90	340+76	HWY. 64 LT. OF CL.	86	48		29	0.37
342+06	342+88	HWY. 64 RT. OF CL.	82	46		27	0.34
342+21	343+07	HWY. 64 LT. OF CL.	86	48		29	0.37
343+40	344+74	HWY. 64 RT. OF CL.	134	74		45	0.57
343+58	344+07	HWY. 64 LT. OF CL.	49	27		16	0.20
344+59	345+19	HWY. 64 LT. OF CL.	60	33		20	0.25
HWY. 64S							
401+81	402+21	HWY. 64S RT. OF CL.	40	22		13	0.16
401+83	402+70	HWY. 64S LT. OF CL.	87	48		29	0.37
402+55	404+72	HWY. 64S RT. OF CL.	217	121		72	0.91
402+98	403+35	HWY. 64S LT. OF CL.	37	21		12	0.15
403+63	404+78	HWY. 64S LT. OF CL.	115	64		38	0.48
405+08	406+72	HWY. 64S RT. OF CL.	164	91		55	0.69
405+28	406+61	HWY. 64S LT. OF CL.	133	74		44	0.55
HWY. 1							
500+65	501+58	HWY. 1 LT. OF CL.	93	52		31	0.39
500+77	501+75	HWY. 1 RT. OF CL.	98	54		33	0.42
501+98	503+29	HWY. 1 LT. OF CL.	131	73	75	44	0.55
502+08	503+27	HWY. 1 RT. OF CL.	119	66	75	40	0.50
TOTALS:				**3716**	**150**	**2230**	**28.07**

NOTES:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
* SOLID SODDING IS TO BE USED IN THE 3' BERM BETWEEN THE SIDEWALK AND CURB.

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
HWY. 64			
311+00	340+81	HWY. 64 LT. OF CL.	2910
311+00	316+36	HWY. 64 RT. OF CL.	538
316+59	320+52	HWY. 64 RT. OF CL.	434
320+76	340+78	HWY. 64 RT. OF CL.	1978
342+00	345+25	HWY. 64 RT. OF CL.	321
342+15	345+25	HWY. 64 LT. OF CL.	304
HWY. 64S			
401+75	406+68	HWY. 64S LT. OF CL.	494
401+75	406+79	HWY. 64S RT. OF CL.	499
HWY. 1			
500+58	503+35	HWY. 1 LT. OF CL.	282
500+70	503+35	HWY. 1 RT. OF CL.	273
TOTAL:			**8033**

CONCRETE ISLAND

STATION	STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
				SQ.YD.
341+03		HWY. 64 RT. OF CL.	C	56
341+10		HWY. 64 LT. OF CL.	C	57
341+74		HWY. 64 RT. OF CL.	C	49
341+90		HWY. 64 LT. OF CL.	C	48
342+07	342+94	HWY. 64 RT. BEHIND WALK	D	35
342+20	343+13	HWY. 64 LT. BEHIND WALK	D	35
343+34	344+80	HWY. 64 RT. BEHIND WALK	D	70
343+53	344+13	HWY. 64 LT. BEHIND WALK	D	50
345+10	345+50	HWY. 64 RT. BEHIND WALK	D	15
TOTAL:				**415**

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
502+80	503+68	HWY. 1 LT. OF CL.	88.00	6	58.67	39.11	0.49
502+85	503+75	HWY. 1 RT. OF CL.	90.00	6	60.00	40.00	0.50
TOTALS:					**118.67**	**79.11**	**0.99**

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

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3	TYPE 4
		SQ.YD.	
HWY. 64			
311+03	HWY. 64 RT. OF CL.	3.5	
311+05	HWY. 64 LT. OF CL.	4.0	
316+00	HWY. 64 RT. OF CL.	6.4	
316+92	HWY. 64 RT. OF CL.	6.4	
320+18	HWY. 64 RT. OF CL.	6.4	
321+09	HWY. 64 RT. OF CL.	6.4	
340+76	HWY. 64 RT. OF CL.	3.3	
340+79	HWY. 64 LT. OF CL.	3.3	
340+97	HWY. 64 RT. OF CL. IN ISLAND		7.3
340+99	HWY. 64 LT. OF CL. IN ISLAND		7.3
341+08	HWY. 64 LT. OF CL. IN ISLAND		7.3
341+08	HWY. 64 RT. OF CL. IN ISLAND		7.4
341+14	HWY. 64 RT. OF CL. IN ISLAND		7.3
341+19	HWY. 64 LT. OF CL. IN ISLAND		7.4
341+64	HWY. 64 RT. OF CL. IN ISLAND		7.4
341+74	HWY. 64 RT. OF CL. IN ISLAND		8.0
341+81	HWY. 64 LT. OF CL. IN ISLAND		7.3
341+82	HWY. 64 RT. OF CL. IN ISLAND		7.3
341+91	HWY. 64 LT. OF CL. IN ISLAND		8.1
341+96	HWY. 64 LT. OF CL. IN ISLAND		7.3
342+02	HWY. 64 RT. OF CL.	3.3	
342+17	HWY. 64 LT. OF CL.	3.3	
345+20	HWY. 64 RT. OF CL.	4.0	
345+22	HWY. 64 LT. OF CL.	3.5	
HWY. 64S			
401+78	HWY. 64S RT. OF CL.	3.5	
401+80	HWY. 64S LT. OF CL.	4.0	
HWY. 1			
503+30	HWY. 1 RT. OF CL.	4.0	
503+32	HWY. 1 LT. OF CL.	3.5	
TOTALS:		**68.8**	**89.4**

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QUANTITY SHEETS

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.		110504	31	135

(2) QUANTITY SHEETS

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SOIL STABILIZATION
			CU. YD.		TON
HWY. 64					
ENTIRE	PROJECT	STAGE 1-HWY. 64	587	6084	
ENTIRE	PROJECT	STAGE 2-HWY. 64	924	5844	
338+34.97		CHANNEL CHANGE	2314		
HWY. 64S					
ENTIRE	PROJECT	STAGE 1-HWY. 64S	413	350	
ENTIRE	PROJECT	STAGE 2-HWY. 64S	343	639	
HWY. 1					
ENTIRE	PROJECT	STAGE 1-HWY. 1	1241	1558	
ENTIRE	PROJECT	STAGE 2-HWY. 1	704	991	
502+45.00		CHANNEL CHANGE	1937		
ENTIRE PROJECT					
ENTIRE	PROJECT	APPROACHES	5	900	
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			100
		DIRECTED BY THE ENGINEER			
TOTALS:			**8468**	**16366**	**100**

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

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
		EACH	
ENTIRE PROJECT	24	8	8
TOTALS:	**24**	**8**	**8**

4" PIPE UNDERDRAIN

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

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

FLOWABLE SELECT MATERIAL

STATION	LOCATION	CU. YD.
HWY. 64		
334+53	HWY. 64 - 30" R.C. PIPE CULVERT	7
334+54	HWY. 64 - 30" R.C. PIPE CULVERT	4
343+91	HWY. 64 - 3' X 2' R.C. BOX CULVERT	8
HWY. 64S		
403+10	HWY. 64S - PAVEMENT REPAIR	14
TOTAL:		**33**

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS 24"
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.
HWY. 64										
314+15	RT.	DRIVE ON HWY. 64	18	313+92	314+38	26.70	96.5	10.6	39.4	
314+62	LT.	DRIVE ON HWY. 64	16	314+40	314+84	24.90	77.6	8.5	31.7	
316+47	RT.	A.H.T.D. DRIVE ON HWY. 64	24				463.9	51.0		
320+64	RT.	A.H.T.D. DRIVE ON HWY. 64	24				419.3	46.1		
321+60	RT.	DRIVE ON HWY. 64	20	321+36	321+84	28.40	76.4	8.4	31.2	
323+68	RT.	DRIVE ON HWY. 64	20	323+44	323+92	28.40	74.6	8.2	30.5	
324+30	RT.	DRIVE ON HWY. 64	20	324+06	324+54	28.40	74.1	8.2	30.3	
326+71	RT.	DRIVE ON HWY. 64	20	326+47	326+95	28.40	64.5	7.1	26.3	
327+29	RT.	DRIVE ON HWY. 64	20	327+05	327+53	28.40	59.8	6.6	24.4	
328+21	RT.	DRIVE ON HWY. 64	22	327+96	328+46	30.20	57.5	6.3	23.5	
329+56	RT.	DRIVE ON HWY. 64	32	329+26	329+86	39.10	67.3	7.4	27.5	
330+00	LT.	DRIVE ON HWY. 64	18	329+77	330+23	26.70	55.1	6.1	22.5	
331+28	RT.	DRIVE ON HWY. 64	34	330+97	331+59	40.90	85.0	9.4	34.7	
332+80	RT.	DRIVE ON HWY. 64	20	332+56	333+04	28.40	55.5	6.1	22.7	
334+12	LT.	DRIVE ON HWY. 64	20	333+88	334+36	28.40	91.2	10.0	37.2	
335+19	LT.	DRIVE ON HWY. 64	34	334+88	335+50	40.90	167.9	18.5	68.6	
335+40	RT.	DRIVE ON HWY. 64	22	335+15	335+65	30.20	72.4	8.0	29.6	
336+81	RT.	DRIVE ON HWY. 64	24	336+55	337+07	32.00	96.1	10.6	39.2	
337+48	LT.	DRIVE ON HWY. 64	20	337+24	337+72	28.40	104.2	11.5	42.5	
339+27	RT.	DRIVE ON HWY. 64	40	338+93	339+61	46.20	177.1	19.5	72.3	
339+64	LT.	DRIVE ON HWY. 64	40	339+30	339+98	46.20	165.1	18.2	67.4	
343+14	RT.	DRIVE ON HWY. 64	40	342+80	343+48	121.80				
343+32	LT.	DRIVE ON HWY. 64	40	342+98	343+66	46.20	64.7	7.1	26.4	
344+33	LT.	DRIVE ON HWY. 64	40	343+99	344+67	46.20	115.5	12.7	47.2	
344+95	RT.	DRIVE ON HWY. 64	30	344+66	345+24	108.80				
345+84	LT.	DRIVE ON HWY. 64	28				159.0	17.5	64.9	
HWY. 64S										
402+37	RT.	DRIVE ON HWY. 64S	22	402+12	402+62	30.20	92.9	10.2	37.9	
402+84	LT.	DRIVE ON HWY. 64S	16	402+62	403+06	24.90	30.9	3.4	12.6	
403+49	LT.	DRIVE ON HWY. 64S	16	403+27	403+71	24.90	16.8	1.8	6.9	
404+86	RT.	DRIVE ON HWY. 64S	24	404+60	405+12	32.00	150.9	16.6	61.6	
405+03	LT.	DRIVE ON HWY. 64S	38	404+70	405+36	44.40	42.8	4.7	17.5	
HWY. 1										
501+78	LT.	DRIVE ON HWY. 1	28	501+50	502+06	35.60	105.7	11.6	43.2	
501+92	RT.	DRIVE ON HWY. 1	20	501+68	502+16	28.40	163.1	17.9	66.6	
503+93	LT.	DRIVE ON HWY. 1	25				129.1	14.2	52.7	48
505+34	LT.	DRIVE ON HWY. 1	25				117.1	12.9	47.8	44
* ENTIRE PROJECT TEMPORARY DRIVES									350.0	
TOTALS:						**1154.60**		**416.9**	**1536.8**	**92**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

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

** FOR INFORMATION ONLY

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU.YD.	
ENTIRE PROJECT TO BE USED IF		
AND WHERE DIRECTED BY THE	100	150
ENGINEER		
TOTALS:	**100**	**150**

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
403+10	HWY. 64S	8.5	22	6.9
TOTAL:				**6.9**

AVG. DEPTH = 1'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

r110504.dgn 09/14/2010

QUANTITY SHEETS

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.		110504	32	135

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	24"	30"	36"	SIDE DRAIN 12"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	30"	36"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	36"	TEMPORARY PIPE CULVERTS 24"	30"	DROP INLETS TYPE C	TYPE MO	EXT. 4'	JUNCT. BOX (TYPE E)	JUNCT. BOX (TYPE ST)	YARD DRAIN	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.									EACH				LIN. FT.		EACH						LIN. FT.				CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
HWY. 64																																
312+00	CONSTRUCT D.I. ON LT. W/EXT. & FES	15									1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
312+00	CONSTRUCT D.I. ON RT. W/EXT. & FES	10									1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
315+00	CONSTRUCT D.I. ON LT. W/EXT. & FES	9								62	1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
315+00	CONSTRUCT D.I. ON RT. W/EXT.							57										1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
319+00	CONSTRUCT D.I. ON LT. W/EXT. & FES	7								398	1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
319+00	CONSTRUCT D.I. ON RT. W/EXT.							396										1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
321+90	CONSTRUCT D.I. ON RT. W/EXT. & FES	8						287			1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
322+00	CONSTRUCT D.I. ON LT. W/EXT. & FES	6								297	1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
324+00	CONSTRUCT D.I. ON RT. W/EXT. & FES	60						206			2							1	1											10	0.13	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
325+00	CONSTRUCT D.I. ON LT. W/EXT. & FES	6							296		1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
327+00	CONSTRUCT D.I. ON RT. W/EXT. & FES	50					294				2							1	1											10	0.13	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
328+00	CONSTRUCT D.I. ON LT. W/EXT. & FES			9					296				1					1	1											13	0.16	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
328+50	CONSTRUCT D.I. ON RT. W/EXT. & FES	7					146				1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
330+90	CONSTRUCT D.I. ON LT. W/EXT.						292											1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
330+90	CONSTRUCT D.I. ON RT. W/FES	6					147				1							1												5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
332+40	CONSTRUCT D.I. ON RT. W/EXT. & FES	7					210				1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
333+85	CONSTRUCT D.I. ON LT. W/FES	14					65				1							1												5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
334+53	CONSTRUCT J.B. ON LT. W/FES		13						143			1									1									8	0.10	FES-1, FES-2, FPC-9, PCC-1, PCM-1
334+53	CONSTRUCT J.B. ON RT. W/FES	10					144				1										1									5	0.06	FES-1, FES-2, FPC-9, PCC-1, PCM-1
334+54	CONSTRUCT TEMPORARY CROSS DRAIN															24																PCC-1, PCM-1
336+00	CONSTRUCT D.I. ON LT. W/EXT. & FES	17							214		1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
336+00	CONSTRUCT D.I. ON RT. W/EXT. & FES	11					200				1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
339+90	CONSTRUCT YARD DRAIN ON LT.					132																1										FPC-9, PCC-1, PCM-1
342+77	CONSTRUCT D.I. ON RT. W/EXT. & OPENING IN BACK								208									1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
342+90	CONSTRUCT D.I. ON LT. W/EXT.								119									1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
343+06	CONSTRUCT YARD DRAIN ON LT.					15																1										FPC-9, PCC-1, PCM-1
343+95	CONSTRUCT D.I. ON LT W/FES & OPENING IN BACK		208						102			1						1												8	0.10	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
343+95	CONSTRUCT D.I. ON RT. W/OPENING IN BACK & CONNECT TO INLET								114								1															FPC-9E, FPC-9M, PCC-1, PCM-1
HWY. 64S																																
403+10	CONSTRUCT D.I. ON LT. W/OPENING IN BACK							28										1														FPC-9E, FPC-9M, PCC-1
403+10	CONSTRUCT D.I. ON RT. W/FES	9			95						1			1				1												22	0.28	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
403+10	CONSTRUCT TEMPORARY CROSS DRAIN														22																	PCC-1, PCM-1
403+75	CONSTRUCT D.I. ON LT. W/OPENING IN BACK						62											1														FPC-9E, FPC-9M, PCC-1, PCM-1
404+75	CONSTRUCT J.B. ON RT.	44																			1											FPC-9S, PCC-1
405+50	CONSTRUCT D.I. ON RT. W/EXT. & FES	8							70		1							1	1											5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
405+50	CONSTRUCT D.I. ON LT. W/EXT. & OPENING IN BACK						174											1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
HWY. 1																																
501+00	CONSTRUCT D.I. ON LT. W/EXT.						120											1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
501+00	CONSTRUCT D.I. ON RT. W/EXT.								118									1	1													FPC-9E, FPC-9M, PCC-1, PCM-1
501+00	CONSTRUCT TEMPORARY CULVERT															160																PCC-1, PCM-1
501+40	CONSTRUCT YARD DRAIN ON RT.					38																1										FPC-9, PCC-1, PCM-1
SUBTOTALS:		**304**	**221**	**9**	**95**	**185**	**1854**	**974**	**1680**	**757**	**20**	**2**	**1**	**1**	**22**	**184**	**1**	**29**	**23**	**2**	**1**	**3**								**146**	**1.80**	
		STRUCTURES OVER 20' - 0" SPAN																														
HWY. 64																																
338+35	CONSTRUCT QUAD. R.C. BOX CULVERT 15° LT. FWD. SKEW																						12	10	103	591.27	97310	248	51	0.64	R-415-X0, W-X15, W-X153-2, RCB-1, RCB-2, PBC-1
HWY. 1																																
502+45	CONSTRUCT QUAD. R.C. BOX CULVERT																						12	10	78	455.93	72743	201	48	0.61	R-400-X0, W-X003-2, RCB-1, RCB-2, PBC-1
SUBTOTALS:																										**1047.20**	**170053**	**449**	**99**	**1.25**	
TOTALS:		**304**	**221**	**9**	**95**	**185**	**1854**	**974**	**1680**	**757**	**20**	**2**	**1**	**1**	**22**	**184**	**1**	**29**	**23**	**2**	**1**	**3**				**1047.20**	**170053**	**449**	**245**	**3.05**	

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

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

r110504.dgn 09/14/2010

QUANTITY SHEETS

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.		110504	33	135

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT

12-9-10

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22
			FEET			FEET				FEET			TON	FEET			TON
HWY. 64																	
310+75	311+00	HWY. 64 LT. OF C.L.	25.0	49.18	12.3												
310+75	311+00	HWY. 64 RT. OF C.L.	25.0	59.30	14.8												
314+00	330+75	HWY. 64 LT. OF C.L.	1675.0			VAR.	7001.3	0.03	210.0	VAR.	3500.7	660.0	1155.2	VAR.	3500.7	220.0	385.1
325+20	338+00	HWY. 64 RT. OF C.L.	1280.0			VAR.	7626.3	0.03	228.8	VAR.	3813.1	660.0	1258.3	VAR.	3813.1	220.0	419.4
338+00	338+75	HWY. 64 - FULL DEPTH	75.0			VAR.	941.5	0.03	28.2	VAR.	470.8	660.0	155.4	VAR.	470.8	220.0	51.8
338+08	338+62	HWY. 64 - AGG. OVER R.C. BOX CULVERT	54.5	1574.72	858.5												
338+75	342+67	HWY. 64 RT. OF C.L.	392.0			VAR.	1707.5	0.03	51.2	VAR.	853.8	660.0	281.8	VAR.	853.8	220.0	93.9
345+25	345+50	HWY. 64 LT. OF C.L.	25.0	59.30	14.8												
345+25	345+50	HWY. 64 RT. OF C.L.	25.0	49.18	12.3												
309+75	346+50	HWY. 64 - FINAL 2" SURFACE LIFT	3675.0			VAR.	22879.3	0.03	686.4					VAR.	22879.3	220.0	2516.7
310+75	345+50	HWY. 64 - LEVELING	3475.0			VAR.	12158.3	0.10	1215.8					VAR.	12158.3	220.0	1337.4
HWY. 64S																	
401+50	401+75	HWY. 64S LT. OF C.L.	25.0	42.66	10.7												
401+50	401+75	HWY. 64S RT. OF C.L.	25.0	50.73	12.7												
402+91	404+25	HWY. 64S LT. OF C.L.	134.0			VAR.	483.5	0.03	14.5	VAR.	241.7	660.0	79.8	VAR.	241.7	220.0	26.6
404+25	406+04	HWY. 64S - FULL DEPTH	179.0			VAR.	1184.1	0.03	35.5	VAR.	592.0	660.0	195.4	VAR.	592.0	220.0	65.1
406+04	407+05	HWY. 64S LT. OF C.L.	101.0			VAR.	1553.8	0.03	46.6	VAR.	776.9	660.0	256.4	VAR.	776.9	220.0	85.5
406+68	407+12	HWY. 64S RT. OF C.L.	44.0			VAR.	297.8	0.03	8.9	VAR.	148.9	660.0	49.1	VAR.	148.9	220.0	16.4
400+50	407+08	HWY. 64S - FINAL 2" SURFACE LIFT	658.0			VAR.	2668.3	0.03	80.0					VAR.	2668.3	220.0	293.5
401+50	407+08	HWY. 64S - LEVELING	558.0			VAR.	587.7	0.10	58.8					VAR.	587.7	220.0	64.6
HWY. 1																	
500+28	501+50	HWY. 1 LT. OF C.L.	122.0			VAR.	1133.1	0.03	34.0	VAR.	566.6	660.0	187.0	VAR.	566.6	220.0	62.3
501+50	502+85	HWY. 1 - FULL DEPTH	135.0			VAR.	1219.6	0.03	36.6	VAR.	609.8	660.0	201.2	VAR.	609.8	220.0	67.1
502+19	502+71	HWY. 1 - AGG. OVER R.C. BOX CULVERT	52.7	1272.42	670.2												
502+85	503+35	HWY. 1 LT. OF C.L.	50.0			VAR.	358.7	0.03	10.8	VAR.	179.4	660.0	59.2	VAR.	179.4	220.0	19.7
503+35	504+25	HWY. 1 LT. OF C.L. - FULL DEPTH SHOULDER	90.0	16.68	15.0	VAR.	514.5	0.03	15.4	VAR.	258.0	660.0	85.1	VAR.	256.5	220.0	28.2
503+35	506+00	HWY. 1 RT. OF C.L.	265.0	84.50	223.9	VAR.	130.8	0.03	3.9	VAR.	67.9	660.0	22.4	VAR.	62.9	220.0	6.9
504+25	506+00	HWY. 1 LT. OF C.L.	175.0	84.50	147.9	VAR.	231.0	0.03	6.9	VAR.	117.1	660.0	38.6	VAR.	113.9	220.0	12.5
500+25	507+00	HWY. 1 - FINAL 2" SURFACE LIFT	675.0			VAR.	9173.6	0.03	275.2					VAR.	9173.6	220.0	1009.1
500+25	506+00	HWY. 1 - LEVELING	575.0			VAR.	1204.5	0.10	120.5					VAR.	1204.5	220.0	132.5
TOTALS:					**1993.1**				**3168.0**				**4024.9**				**6694.3**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG70-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

COLD MILLING

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
HWY. 64				
309+75	310+75	MAIN LANES	50	555.56
345+50	346+50	MAIN LANES	67	744.44
HWY. 64S				
400+50	401+50	MAIN LANES	30	333.33
HWY. 1				
506+00	507+00	MAIN LANES	40	444.44
TOTAL:				**2077.77**

NOTE: AVERAGE MILLING DEPTH 1".

ACHM PATCHING OF EXISTING ROADWAY

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

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	25	50
DIRECTED BY THE ENGINEER		
TOTALS:	**25**	**50**

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

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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.		110504	34	135

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT

12-9-10

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	CEMENT TREATED BASE COURSE (7" COMP'D. DEPTH)				PORTLAND CEMENT CONCRETE BASE		
				AVG. WID.	PROCESSING (7" U.T.)	CEMENT	SOIL AGG. (8" COMP. DEPTH)	AVG. WID.	7" U.T.	8" U.T.
			FEET	FEET	SQ. YD.	TON	SQ. YD.	FEET	SQ. YD.	SQ. YD.
HWY. 64										
310+75	311+00	HWY. 64 LT. OF C.L.	25.0	13.8	38.3	1.4	38.3			
310+75	311+00	HWY. 64 RT. OF C.L.	25.0	17.3	48.1	1.8	48.1			
311+00	314+00	HWY. 64 LT. OF C.L.	300.0					VAR.	195.8	112.5
311+00	325+20	HWY. 64 RT. OF C.L.	1420.0					VAR.	1002.5	608.1
314+00	330+75	HWY. 64 LT. OF C.L.	1675.0	VAR.	3965.9	146.8	3965.9			
325+20	338+00	HWY. 64 RT. OF C.L.	1280.0	VAR.	4168.7	154.3	4168.7			
330+75	338+00	HWY. 64 LT. OF C.L.	725.0					VAR.	295.8	94.4
338+00	338+75	HWY. 64 - FULL DEPTH	75.0	VAR.	512.4	19.0	512.4			
338+75	340+48	HWY. 64 LT. OF C.L.	173.0					VAR.	74.1	26.1
338+75	342+67	HWY. 64 RT. OF C.L.	392.0	VAR.	889.9	32.9	889.9			
342+45	345+25	HWY. 64 LT. OF C.L.	280.0					VAR.	163.8	86.1
342+67	345+25	HWY. 64 RT. OF C.L.	258.0					VAR.	148.4	76.8
345+25	345+50	HWY. 64 LT. OF C.L.	25.0	17.3	48.1	1.8	48.1			
345+25	345+50	HWY. 64 RT. OF C.L.	25.0	13.8	38.3	1.4	38.3			
HWY. 64S										
401+50	401+75	HWY. 64S LT. OF C.L.	25.0	11.8	32.8	1.2	32.8			
401+50	401+75	HWY. 64S RT. OF C.L.	25.0	14.3	39.7	1.5	39.7			
401+75	402+91	HWY. 64S LT. OF C.L.	116.0					VAR.	82.1	49.9
401+75	404+25	HWY. 64S RT. OF C.L.	250.0					VAR.	85.4	16.0
402+91	404+25	HWY. 64S LT. OF C.L.	134.0	VAR.	279.0	10.3	279.0			
404+25	406+04	HWY. 64S - FULL DEPTH	179.0	VAR.	691.5	25.6	691.5			
406+04	407+05	HWY. 64S LT. OF C.L.	101.0	VAR.	822.8	30.5	822.8			
406+58	406+68	HWY. 64S RT. OF C.L.	10.0					VAR.	7.7	4.4
406+68	407+12	HWY. 64S RT. OF C.L.	44.0	VAR.	173.3	6.4	173.3			
HWY. 1										
500+28	501+50	HWY. 1 LT. OF C.L.	122.0	VAR.	606.6	22.5	606.6			
500+50	501+50	HWY. 1 RT. OF C.L.	100.0					2.5	27.8	
501+50	502+85	HWY. 1 - FULL DEPTH	135.0	VAR.	684.8	25.3	684.8			
502+85	503+35	HWY. 1 LT. OF C.L.	50.0	VAR.	193.2	7.2	193.2			
502+85	503+35	HWY. 1 RT. OF C.L.	50.0					2.5	13.9	
503+35	504+25	HWY. 1 LT. OF C.L. - FULL DEPTH SHOULDER	90.0	VAR.	305.6	11.3	305.6			
503+35	506+00	HWY. 1 RT. OF C.L.	265.0	VAR.	331.2	12.3	331.2			
504+25	506+00	HWY. 1 LT. OF C.L.	175.0	VAR.	284.8	10.5	284.8			
TOTALS:					**14155.0**	**524.0**	**14155.0**		**2097.3**	**1074.3**

BASIS OF ESTIMATE:
CEMENT IN CEMENT TREATED BASE COURSE IS 15.0% OF TOTAL VOLUME (74.0 LBS. PER SQ. YD.)

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SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		4	STATION
201	GRUBBING		4	STATION
202	REMOVAL AND DISPOSAL OF CURB		1159	LIN. FT.
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		629	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		964	LIN. FT.
202	REMOVAL AND DISPOSAL OF POSTS		4	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE SLABS		157	SQ. YD.
202	REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS		2	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		168	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE PARKING AREA		329	SQ. YD.
202	REMOVAL AND DISPOSAL OF WALKS		6	SQ. YD.
202	REMOVAL AND DISPOSAL OF JUNCTION BOXES		1	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS		2	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		28	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS		1	EACH
202	REMOVAL AND DISPOSAL OF HEADWALLS		1	EACH
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL		350	LIN. FT.
202	REMOVAL AND DISPOSAL OF SIGNS		3	EACH
206	FLOWABLE SELECT MATERIAL		33	CU. YD.
210	UNCLASSIFIED EXCAVATION		8468	CU. YD.
210	COMPACTED EMBANKMENT		16366	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		3530	TON
307	SOIL AGGREGATE IN CEMENT TREATED BASE COURSE (8" COMPACTED DEPTH)		14155	SQ. YD.
307	CEMENT IN TREATED BASE COURSE		524	TON
307	PROCESSING CEMENT TREATED BASE COURSE (7" UNIFORM THICKNESS)		14155	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (7" UNIFORM THICKNESS)		2097	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (8" UNIFORM THICKNESS)		1074	SQ. YD.
401	TACK COAT		3218	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		3844	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")		181	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		6720	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		23	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		368	TON
412	COLD MILLING ASPHALT PAVEMENT		2078	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		25	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		50	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY		1154.60	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP, SS, & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	24" TEMPORARY CULVERT		22	LIN. FT.
603	30" TEMPORARY CULVERT		184	LIN. FT.
SS & 604	SIGNS		334	SQ. FT.
SS & 604	BARRICADES		144	LIN. FT.
SS & 604	TRAFFIC DRUMS		189	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		346	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		346	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS		35624	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)		5	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		5	EACH
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		12038	LIN. FT.
SS & 604	VERTICAL PANELS		91	EACH
605	CONCRETE DITCH PAVING (TYPE B)		119	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		304	LIN. FT.
* SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1854	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1854	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		221	LIN. FT.
* SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	974	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	974	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		9	LIN. FT.
* SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1680	LIN. FT.
* 606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1680	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		95	LIN. FT.
* SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	757	LIN. FT.
* 606	36" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	757	LIN. FT.
SS & 606	12" SIDE DRAIN		185	LIN. FT.
SS & 606	24" SIDE DRAIN		92	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		20	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	SELECTED PIPE BEDDING		100	CU. YD.
606	SELECTED PIPE BACKFILL		150	CU. YD.
609	DROP INLETS (TYPE C)		1	EACH
609	DROP INLETS (TYPE MO)		29	EACH
609	JUNCTION BOXES (TYPE ST)		1	EACH
609	JUNCTION BOXES (TYPE E)		2	EACH
609	DROP INLET EXTENSIONS (4')		23	EACH
609	YARD DRAINS		3	EACH
611	UNDERDRAIN OUTLET PROTECTORS		2	EACH
611	4" PIPE UNDERDRAINS		500	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)		6.9	CU. YD.
620	LIME		6	TON
620	SEEDING		2.92	ACRE
620	MULCH COVER		3.82	ACRE
SS & 620	WATER		348.3	M.GAL.
621	TEMPORARY SEEDING		0.90	ACRE
621	SILT FENCE		2800	LIN. FT.
621	SAND BAG DITCH CHECKS		1232	BAG
621	DROP INLET SILT FENCE		1000	LIN. FT.
621	SEDIMENT BASIN		500	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		500	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		692	CU. YD.
623	SECOND SEEDING APPLICATION		2.92	ACRE
624	SOLID SODDING		2554	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)		100	SQ. YD.

*ALTERNATE BID ITEMS

SUMMARY OF QUANTITIES

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	110504	35	135

(2) SUMMARY OF QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
DANIEL D. PUGETT
12-9-10

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
632	CONCRETE ISLAND	415	SQ. YD.
633	CONCRETE WALKS	3716	SQ. YD.
633	HAND RAILING	150	LIN. FT.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	8033	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	24	EACH
637	MAILBOX SUPPORTS (SINGLE)	8	EACH
637	MAILBOX SUPPORTS (DOUBLE)	8	EACH
641	WHEELCHAIR RAMPS (TYPE 3)	69	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 4)	89	SQ. YD.
SP & 701	ACTUATED CONTROLLER TS 2-TYPE 2 (2 PHASES)	1	EACH
SP & 701	ACTUATED CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
704	VEHICLE DETECTOR-RACK MOUNT	14	EACH
704	FEEDER WIRE	3363	LIN. FT.
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	20	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
SP	SIGNAL HEAD RELOCATION	4	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2742	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	240	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	590	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	481	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	230	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	45	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	826	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	40	LIN. FT.
710	NON-METALLIC CONDUIT (1")	292	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	275	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	815	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2)	5	EACH
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)	4	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)	5	EACH
713	SPAN WIRE ASSEMBLY	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (34')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	2	EACH
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 40')	4	EACH
SP	LOOP WIRING CLASS III (2)	3792	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	459	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	3492	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	857	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	11716	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	7	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	7	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	193	EACH
SP	18" STREET NAME SIGN	6	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER	2	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	4	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	2	EACH
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	449	CU. YD.
802	CLASS S CONCRETE - ROADWAY	1047.20	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	170053	POUND

*ALTERNATE BID ITEMS

REVISION BOX

DATE	REVISION	SHEET NUMBER
2/14/2011	ADDED SHORING SPECIAL PROVISION	2, 36
2/16/2011	REVISED R.C. BOX STAGE CONSTRUCTION SPECIAL DETAIL	11, 36
6/7/2011	ADDED FHWA-1273 REVISIONS, BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT,	
	WARM MIX ASPHALT SP, REVISED SIGNALIZATION DETAIL SHEETS, REMOVED LEVEL DATUM GENERAL NOTE	2, 36, 59, 61
8/10/2011	ADDED SITE USE (A+C METHOD) SPECIAL PROVISION	2, 36
12/16/2011	UPDATED STANDARD DRAWINGS AND ADDED SS 804-1	2, 36
2/14/2012	ADDED SS 102-1	2, 36

SUMMARY OF QUANTITIES & REVISIONS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER ALTON D. RUGGETT

2-14-12

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
02-14-2012		08-10-2011	
02-16-2012		12-16-2011	
06-07-2011		2-14-2012	

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		36	135
JOB NO.		110504		

(2) SUMMARY OF QUANTITIES & REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	32	135

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
12-9-10

SURVEY CONTROL COORDINATES

Project Name: s110504
Date: 8/12/2008
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
25	336143.0520	1644778.8699	227.58	CTL	RBR ALUM CAP
26	336142.5964	1645891.0577	227.06	CTL	RBR ALUM CAP
27	336143.5289	1646943.7386	229.46	CTL	RBR ALUM CAP
28	336176.3337	1648080.2116	228.98	CTL	RBR ALUM CAP
29	336672.9151	1658785.2200	226.82	CTL	REBAR+CAP
30	336846.2177	1659952.4849	229.10	CTL	REBAR+CAP FROM JOB 110423
31	337003.5396	1660971.6181	230.09	CTL	RBR ALUM CAP
32	337162.9727	1662011.1002	231.17	CTL	RBR ALUM CAP
33	337266.9819	1663023.8972	232.25	CTL	RBR ALUM CAP
34	337271.3421	1664017.3224	233.49	CTL	RBR ALUM CAP
35	337273.0745	1664974.0781	234.52	CTL	RBR ALUM CAP
36	337278.0066	1666078.9678	236.24	CTL	RBR ALUM CAP
38	337283.8871	1668156.1102	240.20	CTL	RBR ALUM CAP
39	337286.6711	1669024.7621	241.98	CTL	RBR ALUM CAP
40	337295.2802	1670986.9830	250.68	CTL	RBR ALUM CAP
41	337315.1524	1672180.1929	256.37	CTL	RBR ALUM CAP
104	336278.1696	1649047.5097	229.81	GPS	REBAR+CAP 190010A
105	336341.1453	1651188.1081	227.52	GPS	REBAR+CAP 190010 2003
106	337367.4069	1670087.2723	244.17	GPS	RBR ALUM CAP
107	335972.1778	1670101.5221	247.77	GPS	RBR ALUM CAP-190011
108	339677.7822	1672667.0402	257.16	GPS	REBAR+CAP 190001A 1999
109	341338.7127	1672642.0387	257.84	GPS	REBAR+CAP 190001 1999
900	331580.7417	1614598.9471	219.66	BM	NGS POINT M 175 PID FF0572
905	342384.8930	1675771.6542	269.26	BM	NGS POINT A 182 PID FF0703
940	336323.8293	1653938.9449	225.45	TBM	
941	336411.6532	1655817.9869	230.00	TBM	GREGORY DITCH
942	336636.9783	1658529.3045	228.20	TBM	CANEY CREEK
943	336979.9604	1660436.3987	227.95	TBM	CHIS. SQ CTR N.HW
944	337230.1080	1662715.0771	230.31	TBM	CONC NAIL TOP CMP-E.SIDE
945	337326.5783	1664798.6329	233.36	TBM	CHSLD SQ CEN HEADWALL
946	337331.1082	1666992.9405	237.36	TBM	CHSLD SQ CEN HEADWALL
947	337352.6323	1672314.1062	257.67	TBM	
948	337593.2680	1672596.1008	258.04	TBM	BM-948 CH SQ SW COR BR
949	336866.8273	1676404.2088	269.84	TBM	CH. SQ. CNTR. HW.

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped *(standard markings common to all caps), or as indicated (other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.99994189 15 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME S110504GI.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 190010-190011
CONVERGENCE ANGLE: 0-37-58.58792 RIGHT AT POINT NUMBER 714
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

110504 HWY. 64

POINT NO.	TYPE	STATION	NORTHING	EASTING
8020	P.I. STA.	296+77.42	337307.3847	1668118.1128
8021	P.C. STA.	311+00.00	337309.7433	1669540.6929
	P.I. STA.	313+01.86	337310.0780	1669742.5503
8023	PRC	315+03.67	337317.5218	1669944.2707
	P.I. STA.	317+19.40	337325.4773	1670159.8539
8025	P.T. STA.	319+35.08	337325.3128	1670375.5839
8026	P.C. STA.	324+14.07	337324.9476	1670854.5683
	P.I. STA.	324+94.57	337324.8862	1670935.0688
8028	P.T. STA.	325+75.06	337323.6939	1671015.5605
8029	P.C. STA.	335+04.69	337309.9247	1671945.0798
	P.I. STA.	337+12.87	337306.8412	1672153.2363
8031	P.T. STA.	339+20.86	337318.8723	1672361.0677
8032	P.C. STA.	343+27.75	337342.3872	1672767.2756
	P.I. STA.	344+38.77	337348.8034	1672878.1124
8034	P.T. STA.	345+49.77	337350.9210	1672989.1145
8035	POE	350+32.18	337360.1224	1673471.4374

110504 HWY. 64S

POINT NO.	TYPE	STATION	NORTHING	EASTING
8036	POB	400+00.00	336595.8863	1672620.1535
8037	P.C. STA.	401+51.99	336747.8645	1672618.5528
	P.I. STA.	402+52.72	336848.5903	1672617.4918
8039	PRC	403+53.12	336948.1762	1672602.3442
	P.I. STA.	404+62.03	337055.8517	1672585.9662
8041	P.T. STA.	405+70.53	337164.7657	1672586.0568
8042	POE	407+37.67	337331.9047	1672586.1958

110504 HWY. 1

POINT NO.	TYPE	STATION	NORTHING	EASTING
8042	POB	500+00.00	337331.9047	1672586.1958
8043	P.C. STA.	501+67.14	337499.0429	1672586.3348
	P.I. STA.	502+57.08	337588.9863	1672586.4096
8045	PRC	503+46.79	337678.2139	1672597.7350
	P.I. STA.	504+68.85	337799.3035	1672613.1045
8047	P.T. STA.	505+90.58	337921.3646	1672612.9340
8048	POE	508+28.17	338158.9527	1672612.6022

110504 M.O.T. STAGE 2 - HWY. 64

POINT NO.	TYPE	STATION	NORTHING	EASTING
8049	POB	1+00.00	337309.3735	1669340.6944
8050	P.I. STA.	11+34.88	337308.3128	1670375.5709
8051	P.C. STA.	16+13.86	337307.9476	1670854.5554
	P.I. STA.	16+94.24	337307.8863	1670934.9364
8052	P.T. STA.	17+74.62	337306.6958	1671015.3087
8053	P.C. STA.	27+04.24	337292.9266	1671944.8280
	P.I. STA.	29+13.04	337289.8340	1672153.6004
8054	P.T. STA.	31+21.65	337301.9005	1672362.0467
8055	P.I. STA.	31+21.65	337301.9007	1672362.0503
8056	P.I. STA.	34+59.32	337328.8959	1672698.6365
8057	P.I. STA.	37+52.81	337352.2371	1672991.1940
8058	POE	39+00.94	337354.8043	1673139.3034

110504 M.O.T. STAGE 2 - HWY. 64S

POINT NO.	TYPE	STATION	NORTHING	EASTING
8059	POB	40+00.00	336680.8816	1672619.2583
8037	P.C. STA.	40+66.99	336747.8645	1672618.5528
	P.I. STA.	41+67.72	336848.5903	1672617.4918
8039	P.T. STA.	42+68.12	336948.1762	1672602.3442
8060	P.C. STA.	42+88.94	336968.7657	1672599.2125
	P.I. STA.	43+52.89	337031.9865	1672589.5962
8062	P.T. STA.	44+16.76	337095.7964	1672585.3955
8063	P.C. STA.	45+39.75	337218.5225	1672577.3163
	P.I. STA.	45+73.05	337251.7470	1672575.1291
8065	P.T. STA.	46+06.32	337285.0433	1672575.1568
8066	POE	46+40.27	337318.9947	1672575.1850

110504 M.O.T. STAGE 2 - HWY. 1

POINT NO.	TYPE	STATION	NORTHING	EASTING
8066	POB	47+00.00	337318.9947	1672575.1850
8067	P.C. STA.	49+05.16	337524.1542	1672575.3557
	P.I. STA.	49+47.75	337566.7417	1672575.3911
8069	P.T. STA.	49+90.28	337609.1720	1672579.0472
8070	P.C. STA.	50+36.99	337655.7104	1672583.0573
	P.I. STA.	50+79.47	337698.0312	1672586.7040
8072	PRC	51+21.76	337739.2024	1672597.1579
	P.I. STA.	51+86.91	337802.3425	1672613.1900
8074	P.T. STA.	52+51.38	337867.4862	1672613.1819
8075	POE	53+94.69	338010.8008	1672613.1643

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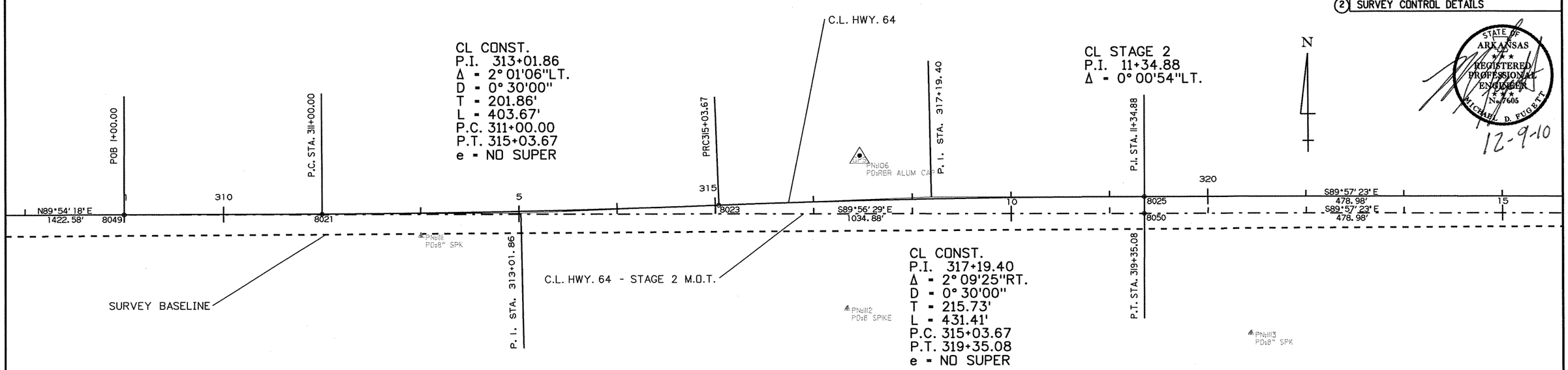
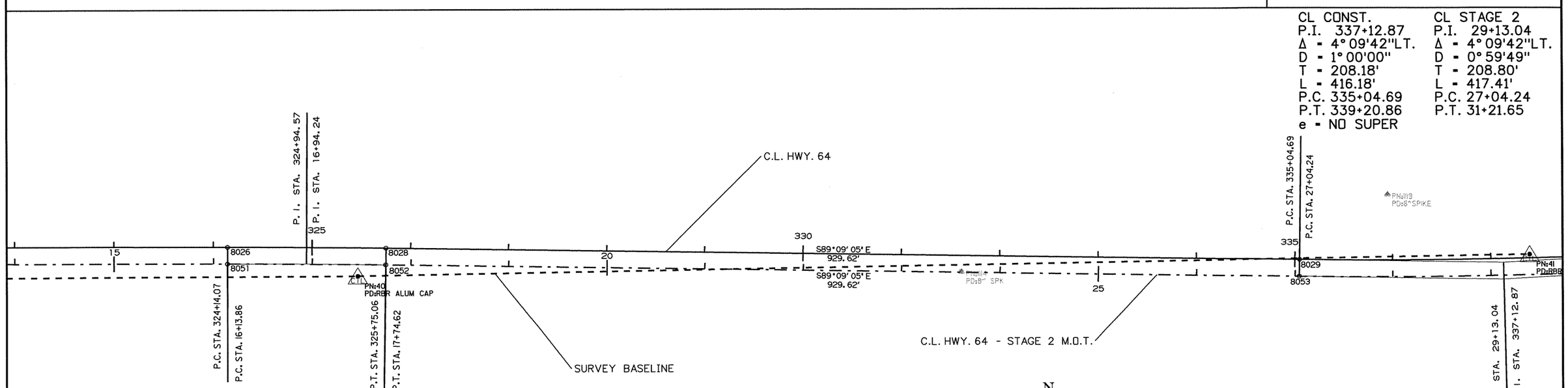
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	38	135

(2) SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS
HWY. 64



SURVEY CONTROL DETAILS
HWY. 64

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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.		110504	39	135

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

C.L. HWY. 1 - STAGE 2 M.O.T.

C.L. HWY. 1

C.L. HWY. 64

C.L. HWY. 64S - STAGE 2 M.O.T.

C.L. HWY. 64 - STAGE 2 M.O.T.

C.L. HWY. 64S

SURVEY BASELINE

CL CONST.
P.I. 337+12.87
Δ = 4° 09'42"LT.
D = 1° 00'00"
T = 208.18'
L = 416.18'
P.C. 335+04.69
P.T. 339+20.86
e = NO SUPER

CL STAGE 2
P.I. 29+13.04
Δ = 4° 09'42"LT.
D = 0° 59'49"
T = 208.80'
L = 417.41'
P.C. 27+04.24
P.T. 31+21.65

CL STAGE 2
P.I. 31+21.65
Δ = 1° 16'21"LT.

CL CONST.
P.I. 344+38.77
Δ = 2° 13'13"RT.
D = 1° 00'00"
T = 111.02'
L = 222.02'
P.C. 343+27.75
P.T. 345+49.77
e = NO SUPER

CL STAGE 2
P.I. 34+59.32
Δ = 0° 01'26"RT.

CL STAGE 2
P.I. 37+52.81
Δ = 3° 34'07"RT.

PN:948 PD:BM-948 CH SQ SW COR BR

PN:III8 PD:8 SPIKE TRIG ELEVATION

PN:III7 PD:8 SPIKE

PN:III5 PD:8 SPIKE

PN:III9 PD:8"SPIKE

PN:947 PD:

PN:41 PD:RBR ALUM CAP

PN:III6 PD:CPS IN S. SH HWY 64

PN:III3 PD:8"SPIKE

N

SURVEY CONTROL DETAILS
HWY. 64

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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.		110504	40	135

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

SURVEY BASELINE

P. I. STA. 29+13.04

P. I. STA. 337+12.87

C.L. HWY. 64

C.L. HWY. 64 - STAGE 2 M.O.T.

P.T. STA. 339+20.86

P.I. STA. 31+21.65
P.T. STA. 31+21.65

C.L. HWY. 64S - STAGE 2 M.O.T.

C.L. HWY. 1 - STAGE 2 M.O.T.

CL CONST.
P.I. 402+52.72
Δ = 8° 02'43"LT.
D = 4° 00'00"
T = 100.73'
L = 201.13'
P.C. 401+51.99
P.T. 403+53.12
e = NO SUPER

CL STAGE 2
P.I. 41+67.72
Δ = 8° 02'43"LT.
D = 4° 00'00"
T = 100.73'
L = 201.13'
P.C. 40+66.99
P.T. 42+68.12

CL CONST.
P.I. 504+68.85
Δ = 7° 18'49"LT.
D = 3° 00'00"
T = 122.06'
L = 243.79'
P.C. 503+46.79
P.T. 505+90.58
e = NO SUPER

CL STAGE 2
P.I. 51+86.91
Δ = 14° 15'15"LT.
D = 10° 59'50"
T = 65.14'
L = 129.61'
P.C. 51+21.76
P.T. 52+51.38

CL CONST.
P.I. 404+62.03
Δ = 8° 41'47"RT.
D = 4° 00'00"
T = 108.91'
L = 217.41'
P.C. 403+53.12
P.T. 405+70.53
e = NO SUPER

CL STAGE 2
P.I. 45+73.05
Δ = 3° 48'51"RT.
D = 5° 43'47"
T = 33.30'
L = 66.57'
P.C. 45+39.75
P.T. 46+06.32

CL STAGE 2
P.I. 43+52.89
Δ = 4° 52'56"RT.
D = 3° 49'11"
T = 63.95'
L = 127.82'
P.C. 42+88.94
P.T. 44+16.76

CL CONST.
P.I. 502+57.08
Δ = 7° 11'10"RT.
D = 4° 00'00"
T = 89.94'
L = 179.65'
P.C. 501+67.14
P.T. 503+46.79
e = NO SUPER

CL STAGE 2
P.I. 49+47.75
Δ = 4° 52'38"RT.
D = 5° 43'47"
T = 42.59'
L = 85.12'
P.C. 49+05.16
P.T. 49+90.28

CL STAGE 2
P.I. 50+79.47
Δ = 9° 19'20"RT.
D = 10° 59'50"
T = 42.48'
L = 84.77'
P.C. 50+36.99
P.T. 51+21.76

SURVEY CONTROL DETAILS
HWY. 64S & HWY. 1

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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.		110504	41	135

(2) PLAN & PROFILE SHEETS

P.I. 313+01.86
Δ = 2° 01'06"LT.
D = 0° 30'00"
T = 201.86'
L = 403.67'
P.C. 311+00.00
P.T. 315+03.67
e = NO SUPER

STA. 314+35 - IN PLACE
8'X 4'X 98' R.C. BOX CULVERT
10° RT. FWD. SKEW
RETAIN

STA. 314+23 LT.
BILLBOARD ON LT. NOT TO BE
DISTURBED DURING CONSTRUCTION

STA. 314+62 LT. - IN PLACE
24" X 36'
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 30 CU.YDS.

P.I. 317+19.40
Δ = 2° 09'25"RT.
D = 0° 30'00"
T = 215.73'
L = 431.41'
P.C. 315+03.67
P.T. 319+35.08
e = NO SUPER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
3-5-10

B
DMPSON WILSON
UNERAL HOME
PARKING
SIGN
N
100' TRANSITION
+75 +75
EXISTING ROW
P.C. STA. 311+00.00
8'
305
HWY. 64
310
N89°54'18"E
N89°54'18"E
R=8.5'
24'
25'
12'
20'
8'
EXISTING ROW
SIGN
+00
400' LANE TAPER
P. I. STA. 313+01.86
313+06.21 88.27'
313+50.00 95.00'
T.C.E.
314+60.19 95.00'
314+59.50 80.81'
PRC 315+03.67
16'
+62
58'
+15
+47
317+05.98 68.21'
P. I. STA. 317+19.40
PROPOSED ROW
18'
SIGN
EXISTING ROW
+00
24'
STA. 317+52 RT. - IN PLACE
DROP INLET ON RT. WITH
18" X 128' R.C. PIPE OUTLET
RT. SIDE DRAIN
RETAIN
A. H. T. D
STA. 316+47 RT.
CONSTRUCT APPROACH - 10 CU.YDS.
CONCRETE PARKING
HWY. 64

STA. 314+15 RT. - IN PLACE
24" X 43' R.C.
PIPE CULVERT RT. SIDE DRAIN
RETAIN
CONSTRUCT APPROACH - 20 CU.YDS.

STA. 316+20 RT. - IN PLACE
DROP INLET ON RT. WITH
18" X 176' R.C. PIPE OUTLET
RT. SIDE DRAIN
RETAIN AND MODIFY DI

STA. 316+31 RT. - IN PLACE
DROP INLET ON RT. WITH
18" X 28' R.C. PIPE OUTLET
RT. SIDE DRAIN
RETAIN AND MODIFY DI

STA. 316+62 RT. - IN PLACE
DROP INLET ON RT. WITH
18" X 27' R.C. PIPE OUTLET
RT. SIDE DRAIN
RETAIN AND MODIFY DI

SPECIAL FLOOD HAZARD AREA
SPECIAL FLOOD HAZARD AREA

STA. 310 + 75
BEG. CONST. HWY. 64

310+75.00 @ 238.71
310+75.00 @ 245.09

312+00
TOP=245.60
FL OUTLET=240.38

312+00
TOP=245.78
FL OUTLET=242.00

LT. DITCH GRADE 0.14%

314+25.00 239.20
315+00.00 242.30

+35
36" X 62' @ 4.08%

315+00
TOP=246.80
FL OUTLET=242.00
FL INLETS=242.00

LT. DITCH GRADE 0.62%
36" X 398' @ 0.44%

0.42%
+35
24" X 57' @ 3.02%

EXISTING
FL INLET RT. = 239.41
FL OUTLET LT. = 239.18

315+00
TOP=246.80
FL OUTLET=242.19
FL INLET=242.19

24" X 396' @ 0.49%

BM: 39 RBR ALUM CAP
22.22 RT. OF STA. 305+84.03
ELEVATION = 241.98

290 280 270 260 250 240 230 220 210 200

303+00 304+00 305+00 306+00 307+00 308+00 309+00 310+00 311+00 312+00 313+00 314+00 315+00 316+00 317+00 318+00

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				6	ARK.			
				JOB NO.		110504	42	135

(2) PLAN & PROFILE SHEETS

P.I. 324+94.57
Δ = 0° 48'18"RT.
D = 0° 30'00"
T = 80.50'
L = 161.00'
P.C. 324+14.07
P.T. 325+75.06
e = NO SUPER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

STA. 318+51 TO STA. 328+14 LT.
WIRE FENCE (TYPE C) - 965 LIN. FT.
FENCING TO BE REMOVED AND REPLACED BY PROPERTY OWNER.

STA. 327+90 LT. - CONSTRUCT DITCH BLOCK ON LT.

STA. 330+00 LT.
CONSTRUCT APPROACH - 5 CU.YDS.
UNCLASSIFIED EXCAVATION - 5 CU. YDS.

HWY. 64

STA. 320+64 RT.
CONSTRUCT APPROACH - 10 CU.YDS.

STA. 321+21 RT. - IN PLACE
DROP INLET ON RT. WITH
18" X 366' R.C. PIPE OUTLET
RT. SIDE DRAIN
RETAIN

STA. 321+60 RT. - IN PLACE
18" X 31' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 15 CU.YDS.

STA. 323+68 RT. - IN PLACE
18" X 30' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 10 CU.YDS.

STA. 324+30 RT. - IN PLACE
18" X 41' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 15 CU.YDS.

STA. 326+71 RT. - IN PLACE
18" X 40' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 15 CU.YDS.

STA. 327+29 RT. - IN PLACE
18" X 30' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 15 CU.YDS.

STA. 328+21 RT. - IN PLACE
18" X 24' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 10 CU. YDS.

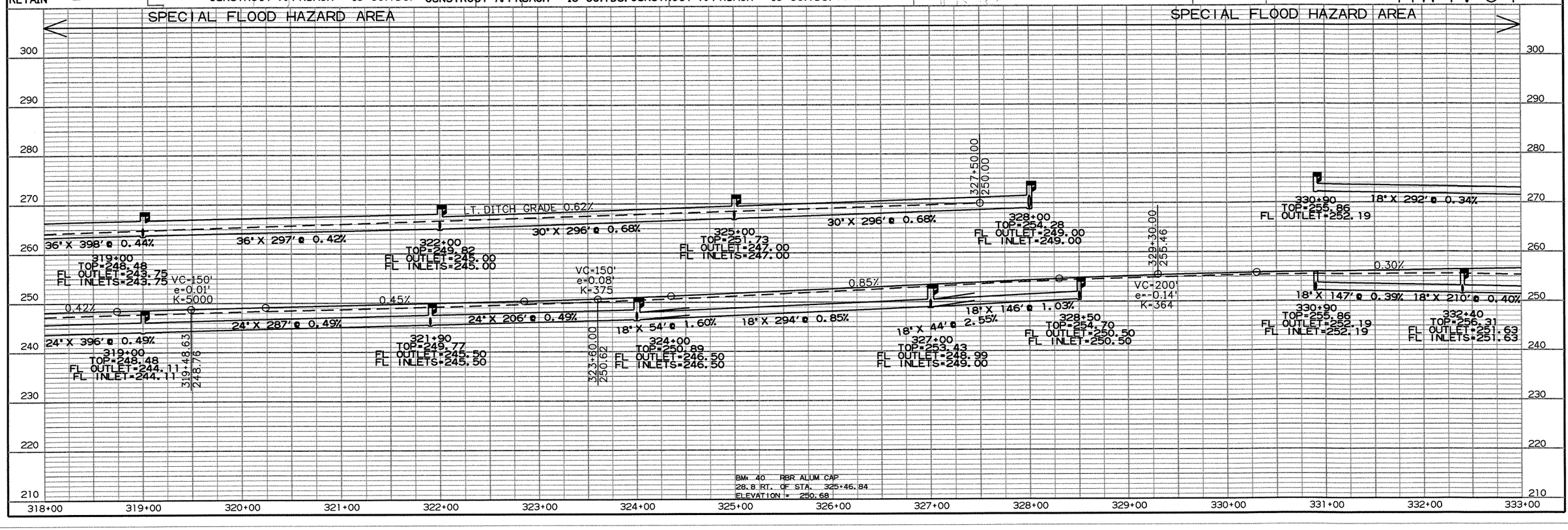
STA. 329+56 RT.
CONSTRUCT APPROACH - 15 CU.YDS.

STA. 331+28 RT. - IN PLACE
18" X 36' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 25 CU. YDS.

STA. 332+72 RT. - IN PLACE
18" X 25' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE

STA. 332+80 RT.
CONSTRUCT APPROACH - 20 CU.YDS.

HWY. 64



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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.		110504	43	135

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
9-10

STA. 334+12 LT. - IN PLACE
18" X 22' STEEL
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 40 CU. YDS.

STA. 335+19 LT. - IN PLACE
18" X 41' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 45 CU. YDS.

TURKEY CREEK IS CLASSIFIED AS AN INTERMITTENT STREAM AND HAS A TOP OF CHANNEL ELEVATION OF 255 FT. MSL

STA. 339+64 LT.
CONSTRUCT APPROACH - 45 CU.YDS.

DAVE'S BODY SHOP
STA. 337+48 LT.
CONSTRUCT APPROACH - 30 CU.YDS.

STA. 338+34.97 - CONSTRUCT
QUAD. 12' X 10' X 103' R.C. BOX CULVERT
ON 15° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
CHANNEL CHANGE - 2314 CU. YDS.
Q100 - 1850 CFS D.A. - 3.16 SQ. MI.
SPAN - 54'-6¼"

150' LANE TAPER

P.I. 344+38.77
Δ - 2°13'13"RT.
D - 1°00'00"
T - 111.02'
L - 222.02'
P.C. 343+27.75
P.T. 345+49.77
e - NO SUPER

STA. 343+32 LT.
CONSTRUCT APPROACH - 10 CU.YDS.

STA. 344+33 LT. - IN PLACE
18" X 43' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 10 CU.YDS.

WYNNE CO. 150' LANE TAPER

PROPOSED ROW GRADE TO DRAIN

STA. 345+84 LT. - IN PLACE
18" X 40' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 5 CU.YDS.

HWY. 64

STA. 334+53 - IN PLACE
30" X 62' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWLS. LT. & RT.
REMOVE 20' LT.
FILL AND ABANDON USING
7 CU. YD. FLOWABLE SELECT
Q50 - 21 CFS D.A. - 7 ACRES

STA. 335+40 RT. - IN PLACE
30" X 31' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 30 CU. YDS.

STA. 336+81 RT. - IN PLACE
30" X 31' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 45 CU. YDS.

STA. 337+80 RT. - IN PLACE
21" X 15" C.M. ARCH
PIPE CULVERT RT. SIDE DRAIN
REMOVE

STA. 338+75 RT. - IN PLACE
21" X 15" C.M. ARCH
PIPE CULVERT RT. SIDE DRAIN
REMOVE

STA. 339+27 RT.
CONSTRUCT APPROACH - 55 CU.YDS.

P.I. 337+12.87
Δ - 4°09'42"LT.
D - 1°00'00"
T - 208.18'
L - 416.18'
P.C. 335+04.69
P.T. 339+20.86
e - NO SUPER

PETERSON GRAIN CO.

STA. 342+00 RT. - IN PLACE
GRATE INLET ON RT. WITH
35" X 24" X 28' R.C. ARCH PIPE OUTLET
RT. SIDE DRAIN
REMOVE

STA. 342+75 RT. - IN PLACE
GRATE INLET ON RT. WITH
30" X 70' R.C. PIPE OUTLET
RT. SIDE DRAIN
REMOVE

STA. 343+14 RT.
CONSTRUCT APPROACH - 10 CU.YDS.

STA. 343+87 RT. - IN PLACE
JUNCT. BOX ON RT. WITH
30" X 108' R.C. PIPE OUTLET
RT. SIDE DRAIN
REMOVE

100' TRANSITION

STA. 343+91 - IN PLACE
3' X 2' X 60' R.C. BOX CULVERT
WITH HDWL. LT.
REMOVE HDWL. LT.
REMOVE 14' LT. & 8' RT.
FILL AND ABANDON USING
8 CU. YD. FLOWABLE SELECT
Q50 - 27 CFS D.A. - 7 ACRES

STA. 344+95 RT.
CONSTRUCT APPROACH - 10 CU.YDS.

STA. 345+05 RT. - IN PLACE
24" X 230' R.C.
PIPE CULVERT RT. SIDE DRAIN
RETAIN

HWY. 64

SPECIAL FLOOD HAZARD AREA

18" X 292' @ 0.34%
18" X 65' @ 0.50%
30" X 143' @ 0.50%
30" X 214' @ 0.50%
333+85 TOP=256.74 FL OUTLET=251.20 FL INLETS=251.20
334+53 TOP=256.95 FL OUTLET=250.88 FL INLETS=250.88
336+00 TOP=257.39 FL OUTLET=250.17 FL INLETS=250.17
0.30%
18" X 210' @ 0.40%
18" X 144' @ 0.35%
18" X 200' @ 0.35%
334+53 TOP=256.95 FL OUTLET=250.80 FL INLETS=250.80
336+00 TOP=257.39 FL OUTLET=250.30 FL INLETS=250.30
+35
FL INLET LT. - 243.80
FL OUTLET RT. - 243.50
Q100 DESIGN H.W. ELEV. - 255.20 FT.
339+90 TOP=256.30 FL OUTLET=254.20
12" X 132' @ 0.46%
339+50.00 258.52
VC=200'
e=-0.16'
K=323
0.32%
343+06 TOP=256.50 FL OUTLET=254.40
12" X 15' @ 0.10%
30" X 119' @ 0.51%
30" X 102' @ 0.50%
24" X 208' @ 1.78%
342+90 TOP=257.41 FL OUTLET=251.60 FL INLET=251.60
343+95 TOP=257.68 FL OUTLET=252.10 FL INLET=252.10
VC=250'
e=0.29'
K=272
0.60%
30" X 208' @ 0.21%
30" X 114' @ 0.19%
342+77 TOP=257.41 FL OUTLET=251.73 FL INLET=251.73
343+95 TOP=257.68 FL OUTLET=251.95
343+25.00 257.32
345+50.00 258.67
STA. 345 + 50
END CONST. HWY. 64

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE TOP OF CHANNEL ELEVATION IS 255 FEET M.S.L. BETWEEN STATIONS 338+20 AND 338+55. REFER TO SECTION 110.06(c) OF THE 2003 STANDARD SPECIFICATIONS.

BM: 41 RBR ALUM CAP
3.88 LT. OF STA. 337+39.92
ELEVATION = 256.37

300 290 280 270 260 250 240 230 220 210

333+00 334+00 335+00 336+00 337+00 338+00 339+00 340+00 341+00 342+00 343+00 344+00 345+00 346+00 347+00 348+00

r110504.dgn 09/14/2010

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.		110504	44	135
				(2) PLAN & PROFILE SHEETS				

STA. 311+03 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.5 SQ. YDS.

STA. 311+05 LT CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 4.0 SQ. YDS.

STA. 312+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 5'3"
WITH 4'EXTENSION
18" X 15'R.C. PIPE CULVERT OUTLET W/FES
(CLASS III) (TYPE 3 BEDDING)
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'

STA. 312+00 RT. - CONSTRUCT
DROP INLET ON RT. H - 3'10"
WITH 4'EXTENSION
18" X 10'R.C. PIPE CULVERT OUTLET W/FES
(CLASS III) (TYPE 3 BEDDING)
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'

STA. 315+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 4'10"
WITH 4'EXTENSION
18" X 9'R.C. PIPE CULVERT INLET W/FES
36" X 62'PIPE CULVERT OUTLET
CONNECT TO EXISTING R.C. BOX CULVERT
TYPE MO DROP INLET - 5'DIA.
TYPE C DROP INLET - 4'X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 9 LIN. FT.
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 62 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) - 62 LIN. FT.

STA. 315+00 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'8"
WITH 4'EXTENSION
24" X 57'PIPE CULVERT OUTLET
CONNECT TO EXISTING R.C. BOX CULVERT
(CLASS III) (TYPE 3 BEDDING)
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 57 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) - 57 LIN. FT.

STA. 316+00 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 6.4 SQ. YDS.

STA. 316+92 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 6.4 SQ. YDS.

STA. 319+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 4'9"
WITH 4'EXTENSION
18" X 7'R.C. PIPE CULVERT INLET W/FES
36" X 398'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 5'DIA.
TYPE C DROP INLET - 4'X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 7 LIN. FT.
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 398 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) - 398 LIN. FT.

STA. 319+00 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'5"
WITH 4'EXTENSION
24" X 396'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 396 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) - 396 LIN. FT.

STA. 320+18 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 6.4 SQ. YDS.

STA. 321+09 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 6.4 SQ. YDS.

STA. 321+90 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'4"
WITH 4'EXTENSION
18" X 8'R.C. PIPE CULVERT INLET W/FES
24" X 287'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 8 LIN. FT.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 287 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) - 287 LIN. FT.

STA. 322+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 4'10"
WITH 4'EXTENSION
18" X 6'R.C. PIPE CULVERT INLET W/FES
36" X 297'PIPE CULVERT OUTLET TO DROP TO INLET ON LT.
TYPE MO DROP INLET - 5'DIA.
TYPE C DROP INLET - 4'X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 6 LIN. FT.
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 297 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) - 297 LIN. FT.

STA. 324+00 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'5"
WITH 4'EXTENSION
18" X 6'R.C. PIPE CULVERT INLET W/FES
18" X 54'R.C. PIPE CULVERT INLET W/FES
24" X 206'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 6'DIA.
TYPE C DROP INLET - 4'X 6'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 60 LIN. FT.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 206 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) - 206 LIN. FT.

STA. 325+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 4'9"
WITH 4'EXTENSION
18" X 6'R.C. PIPE CULVERT INLET W/FES
30" X 296'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 5'DIA.
TYPE C DROP INLET - 4'X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 6 LIN. FT
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 296 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 296 LIN. FT.

STA. 327+00 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'6"
WITH 4'EXTENSION
18" X 6'R.C. PIPE CULVERT INLET W/FES
18" X 44'R.C. PIPE CULVERT INLET W/FES
18" X 294'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 6'DIA.
TYPE C DROP INLET - 4'X 6'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 344 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 294 LIN. FT.

STA. 328+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 5'4"
WITH 4'EXTENSION
30" X 9'R.C. PIPE CULVERT INLET W/FES
30" X 296'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 5'DIA.
TYPE C DROP INLET - 4'X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 305 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 296 LIN. FT.

STA. 328+50 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'3"
WITH 4'EXTENSION
18" X 7'R.C. PIPE CULVERT INLET W/FES
18" X 146'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 153 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 146 LIN. FT.

STA. 330+90 LT. - CONSTRUCT
DROP INLET ON LT. H - 3'9"
WITH 4'EXTENSION
18" X 292'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 292 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 292 LIN. FT.

STA. 330+90 RT. - CONSTRUCT
DROP INLET ON RT. H - 3'9"
18" X 6'R.C. PIPE CULVERT INLET W/FES
18" X 147'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 153 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 147 LIN. FT.

STA. 332+40 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'9"
WITH 4'EXTENSION
18" X 7'R.C. PIPE CULVERT INLET W/FES
18" X 210'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 217 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 210 LIN. FT.

STA. 333+85 LT. - CONSTRUCT
DROP INLET ON LT. H - 5'7"
18" X 14'R.C. PIPE CULVERT INLET W/FES
18" X 65'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 79 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 65 LIN. FT.

STA. 334+53 LT. - CONSTRUCT
JUNCTION BOX ON LT. H - 6'1"
24" X 13'R.C. PIPE CULVERT INLET W/FES
30" X 143'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE E JUNCTION BOX - 4'X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 13 LIN. FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 143 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 143 LIN. FT.

STA. 334+53 RT. - CONSTRUCT
JUNCTION BOX ON RT. H - 6'2"
18" X 10'R.C. PIPE CULVERT INLET W/FES
18" X 144'PIPE CULVERT OUTLET
TYPE E JUNCTION BOX - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 154 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 144 LIN. FT.

STA. 336+00 LT. - CONSTRUCT
DROP INLET ON LT. H - 7'3"
WITH 4'EXTENSION
18" X 17'R.C. PIPE CULVERT INLET W/FES
30" X 214'PIPE CULVERT OUTLET
CONNECT TO R.C. BOX CULVERT
TYPE MO DROP INLET - 5'DIA.
TYPE C DROP INLET - 4'X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 17 LIN. FT
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 214 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 214 LIN. FT.

STA. 336+00 RT. - CONSTRUCT
DROP INLET ON RT. H - 7'2"
WITH 4'EXTENSION
18" X 11'R.C. PIPE CULVERT INLET W/FES
18" X 200'PIPE CULVERT OUTLET
CONNECT TO R.C. BOX CULVERT
TYPE MO DROP INLET - 4'DIA.
TYPE C DROP INLET - 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 211 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 200 LIN. FT.

STA. 339+90 LT. - CONSTRUCT
YARD DRAIN ON LT.
CONNECT TO DROP INLET
HWY. 1 STA. 501+00 LT.
12" X 132'YARD DRAIN OUTLET

STA. 340+76 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.3 SQ. YDS.

STA. 340+79 LT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.3 SQ. YDS.

STA. 340+97 RT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STA. 340+99 LT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STA. 341+03 RT. - CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE C CURB FACE - 56 SQ.YD.

STA. 341+08 LT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STA. 341+08 RT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.4 SQ. YDS.

STA. 341+10 LT. - CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE C CURB FACE - 57 SQ.YD.

STA. 341+14 RT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STA. 341+19 LT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.4 SQ. YDS.

STA. 341+64 RT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.4 SQ. YDS.

STA. 341+74 RT. - CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE C CURB FACE - 49 SQ.YD.

STA. 341+74 RT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 8.0 SQ. YDS.

STA. 341+81 LT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

r110504.dgn 09/14/2010

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.		110504	45	135
				(2) PLAN & PROFILE SHEETS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

STA. 341+82 RT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STA. 341+90 LT. - CONSTRUCT
RAISED CONCRETE ISLAND
WITH TYPE C CURB FACE - 48 SQ.YD.

STA. 341+91 LT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 8.1 SQ. YDS.

STA. 341+96 LT. - CONSTRUCT
TYPE 4 WHEELCHAIR RAMP - 7.3 SQ. YDS.

STA. 342+02 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.3 SQ. YDS.

STA. 342+07 TO STA. 342+94 RT. - CONSTRUCT
RAISED CONCRETE ISLAND BEHIND WALK
WITH TYPE D CURB FACE - 35 SQ.YD.

STA. 342+17 LT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.3 SQ. YDS.

STA. 342+20 TO STA. 343+13 LT. - CONSTRUCT
RAISED CONCRETE ISLAND BEHIND WALK
WITH TYPE D CURB FACE - 35 SQ.YD.

STA. 342+77 RT. - CONSTRUCT
DROP INLET ON RT. H = 5'8"
WITH 4'EXTENSION AND OPENING IN BACK
30" X 208'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 5'DIA.
TYPE C DROP INLET = 4'X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 208 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 208 LIN. FT.

STA. 342+90 LT. - CONSTRUCT
DROP INLET ON LT. H = 5'10"
WITH 4'EXTENSION
30" X 119'PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 5'DIA.
TYPE C DROP INLET = 4'X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 119 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 119 LIN. FT.

STA. 343+06 LT. - CONSTRUCT
YARD DRAIN ON LT.
CONNECT TO DROP INLET
STA. 342+90
12" X 15'YARD DRAIN OUTLET

STA. 343+34 TO STA. 344+80 RT. - CONSTRUCT
RAISED CONCRETE ISLAND BEHIND WALK
WITH TYPE D CURB FACE - 70 SQ.YD.

STA. 343+53 TO STA. 344+13 LT. - CONSTRUCT
RAISED CONCRETE ISLAND BEHIND WALK
WITH TYPE D CURB FACE - 50 SQ.YD.

STA. 343+95 LT. - CONSTRUCT
DROP INLET ON LT. H = 5'7"
WITH OPENING IN BACK
24" X 208'R.C. PIPE CULVERT INLET W/FES
30" X 102'PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET = 5'DIA.
TYPE C DROP INLET = 4'X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 208 LIN. FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 102 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 102 LIN. FT.

STA. 343+95 RT. - CONSTRUCT
DROP INLET ON RT. H = 5'9"
WITH OPENING IN BACK
CONNECT TO EXIST. 24" R.C. PIPE CULVERT INLET
30" X 114'PIPE CULVERT OUTLET
TYPE C DROP INLET = 4'X 8'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 114 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 114 LIN. FT.

STA. 345+10 TO STA. 345+50 RT. - CONSTRUCT
RAISED CONCRETE ISLAND BEHIND WALK
WITH TYPE D CURB FACE - 15 SQ.YD.

STA. 345+20 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 4.0 SQ. YDS.

STA. 345+22 LT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.5 SQ. YDS.

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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.		110504	46	135

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-4-10

STA. 401+80 LT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 4.0 SQ. YDS.

STA. 402+84 LT. - IN PLACE
18" X 24' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 5 CU. YDS.

STA. 403+10 LT. - CONSTRUCT
DROP INLET ON LT. H - 4'5"
WITH OPENING IN BACK
24" X 28' R.C. PIPE CULVERT OUTLET TO DROP INLET ON RT.
(CLASS III) (TYPE 3 BEDDING)
TYPE MO DROP INLET - 4' DIA.
TYPE C DROP INLET - 4' X 3'

STA. 403+75 LT. - CONSTRUCT
DROP INLET ON LT. H - 4'2"
WITH OPENING IN BACK
18" X 62' PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 4' DIA.
TYPE C DROP INLET - 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 62 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 62 LIN. FT.

STA. 403+49 LT. - IN PLACE
18" X 23' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 5 CU. YDS.

P.I. 404+62.03
Δ - 8° 41'47"RT.
D - 4° 00'00"
T - 108.91'
L - 217.41'
P.C. 403+53.12
P.T. 405+70.53
e - NO SUPER

STA. 405+03 LT.
CONSTRUCT APPROACH - 5 CU. YDS.

STA. 405+50 LT. - CONSTRUCT
DROP INLET ON LT. H - 3'3"
WITH 4' EXTENSION & OPENING IN BACK
18" X 174' PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET - 4' DIA.
TYPE C DROP INLET - 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 174 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 174 LIN. FT.

HWY. 64

HWY. 64S

HWY. 1

100' TRANSITION

150' LANE TAPER

PROPOSED ROW

EXISTING ROW

EXISTING RO

P.I. 402+52.72
Δ - 8° 02'43"LT.
D - 4° 00'00"
T - 100.73'
L - 201.13'
P.C. 401+51.99
P.T. 403+53.12
e - NO SUPER

STA. 401+78 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.5 SQ. YDS.

STA. 402+37 RT. - IN PLACE
42" X 38' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 10 CU. YDS.

STA. 402+61 RT. - IN PLACE
24" X 43' C.M. PIPE CULVERT
REMOVE

STA. 403+10 RT. - CONSTRUCT
DROP INLET ON RT. H - 4'7"
18" X 9' R.C. PIPE CULVERT INLET W/FES
36" X 95' R.C. PIPE CULVERT OUTLET W/FES
(CLASS III) (TYPE 3 BEDDING)
TYPE MO DROP INLET - 5' DIA.
TYPE C DROP INLET - 4' X 4'

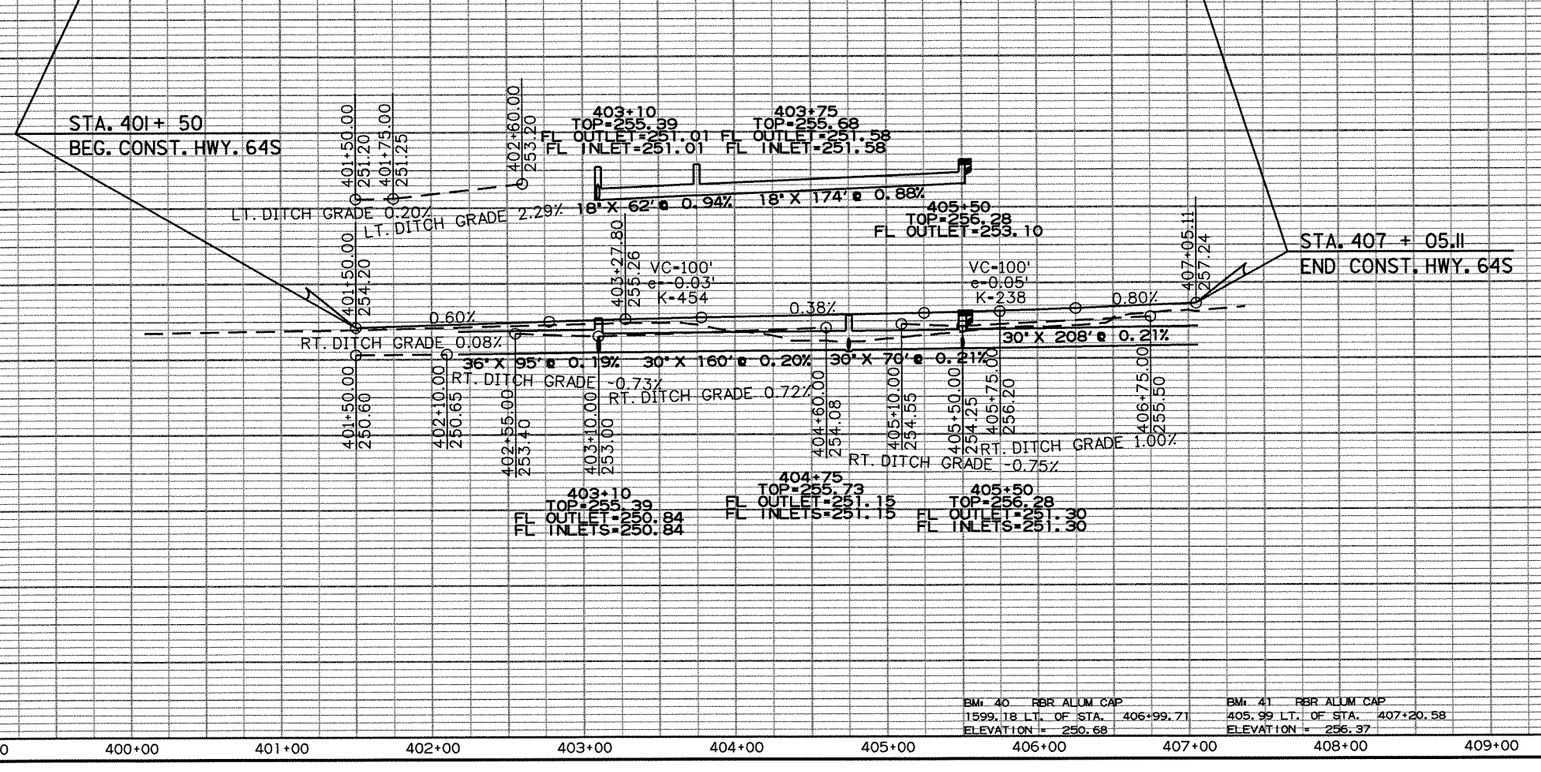
STA. 404+75 RT. - CONSTRUCT
JUNCTION BOX ON RT. H - 4'7"
18" X 44' R.C. PIPE CULVERT INLET
CONNECT TO EXISTING RT. SIDE DRAIN
30" X 160' PIPE CULVERT OUTLET
TYPE ST JUNCTION BOX - 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 44 LIN. FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 160 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 160 LIN. FT.

STA. 404+90 RT.
CONSTRUCT APPROACH - 105 CU. YDS.

STA. 405+50 RT. - CONSTRUCT
DROP INLET ON RT. H - 5'0"
WITH 4' EXTENSION
18" X 8' R.C. PIPE CULVERT INLET W/FES
30" X 70' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET - 5' DIA.
TYPE C DROP INLET - 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 8 LIN. FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 70 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 70 LIN. FT.

STA. 406+10 RT. - IN PLACE
28" X 38" X 48' C.M. ARCH
PIPE CULVERT RT. SIDE DRAIN
REMOVE

HWY. 64S



BM: 40 RBR ALUM CAP
1599.18 LT. OF STA. 406+99.71
ELEVATION = 250.68

BM: 41 RBR ALUM CAP
405.99 LT. OF STA. 407+20.58
ELEVATION = 256.37

r110504.dgn 09/14/2010

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.	110504	47	135

(2) PLAN & PROFILE SHEETS

STA. 501+00 LT. - CONSTRUCT
DROP INLET ON LT. H = 4'0"
WITH 4' EXTENSION
18" X 120' PIPE CULVERT OUTLET
CONNECT TO R.C. BOX CULVERT
TYPE MD DROP INLET - 4' DIA.
TYPE C DROP INLET - 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 120 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) - 120 LIN. FT.

TURKEY CREEK IS CLASSIFIED AS AN INTERMITTENT STREAM AND HAS A TOP OF CHANNEL ELEVATION OF 255 FT. MSL

STA. 501+78 LT.
CONSTRUCT APPROACH - 10 CU. YDS.

STA. 502+45 - CONSTRUCT
QUAD. 12' X 10' X 78' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
CHANNEL CHANGE - 1937 CU. YDS.
Q100 - 1850 CFS D.A. - 3.16 SQ. MI.
SPAN - 52'-8"

P.I. 502+57.08
Δ = 7°11'10"RT.
D = 4°00'00"
T = 89.94'
L = 179.65'
P.C. 501+67.14
P.T. 503+46.79
e = NO SUPER

STA. 503+30 LT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 3.5 SQ. YDS.

STA. 503+93 LT. - IN PLACE
24" X 49' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 105 CU. YDS.

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No. 7605
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12-9-10

STA. 505+34 LT. - IN PLACE
24" X 44' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 70 CU. YDS.

STA. 502+10 TO STA. 502+85 - CONSTRUCT
HANDRAIL ON LT. AND RT. BEHIND SIDEWALK
REFER TO STD. DETAIL SI-1 FOR ADDITIONAL DETAILS

HATCHING DENOTES FULL DEPTH SHOULDER

STA. 501+92
CONSTRUCT APPROACH - 35 CU. YDS.

STA. 503+30 RT. - CONSTRUCT
TYPE 3 WHEELCHAIR RAMP - 4.0 SQ. YDS.

STA. 501+00 RT. - CONSTRUCT
DROP INLET ON RT. H = 6'10"
WITH 4' EXTENSION
30" X 118' R.C. PIPE CULVERT OUTLET
CONNECT TO R.C. BOX CULVERT
TYPE MD DROP INLET - 5' DIA.
TYPE C DROP INLET - 4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 44 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 44 LIN. FT.

STA. 501+40 RT. - CONSTRUCT
YARD DRAIN ON RT.
CONNECT TO DROP INLET
STA. 501+00
12" X 38' YARD DRAIN OUTLET

P.I. 504+68.85
Δ = 7°18'49"LT.
D = 3°00'00"
T = 122.06'
L = 243.79'
P.C. 503+46.79
P.T. 505+90.58
e = NO SUPER

CONCRETE DITCH PAVING HWY. 1

STA.	STA.	SIDE	"W"	SQ. YDS.
502+80	503+68	LT.	6'	58.67
502+85	503+75	RT.	6'	60.00

HWY. 1

HWY. 64S

HWY. 64

SPECIAL FLOOD HAZARD AREA

12" X 132' @ 0.46%
18" X 120' @ 1.34%
12" X 38' @ 1.35%
30" X 119' @ 0.51%
30" X 118' @ 0.51%

STA. 500 + 32.56
BEG. CONST. HWY. I

501+00
TOP=257.58
FL OUTLET=253.60
FL INLET=253.60

501+00
TOP=257.77
FL OUTLET=251.00
FL INLET=251.00

501+40
TOP=256.30
FL OUTLET=254.00

FL INLET RT.= 245.50
FL OUTLET LT.= 245.30

100 YR. DESIGN H.W. ELEV. = 255.20 FT.

VC=100' e=0.12' K-101
VC=150' e=-0.27' K-105
VC-100' e-0.05' K-270

LT. DITCH GRADE 0.45%
LT. DITCH 5.67%
RT. DITCH GRADE 1.10%
RT. DITCH 4.06%
-0.28%
0.09%
1.15%
0.16%

STA. 506 + 00
END CONST. HWY. I

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 255 FEET M.S.L. BETWEEN STATIONS 502+20 AND 502+55. REFER TO SECTION 110.06(c) OF THE 2003 STANDARD SPECIFICATIONS.

r110504.dgn 09/14/2010

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.		110504	48	135
				(2)	SIGNALIZATION PLAN SHEET			

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STAGE 1 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	ACTUATED CONTROLLER TS 2 - TYPE 2 (2 PHASE)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1642	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 2, 40')	4	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/8 A.W.G., EGC)	20	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2c/6 A.W.G.)	20	LIN. FT.
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

STAGE 1
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE ENTIRE STAGE 1 TRAFFIC SIGNAL INSTALLATION CAN BE PLACED INTO OPERATION. THE STAGE 1 TRAFFIC SIGNAL SHALL BE OPERATED ON FIXED TIME. MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1 TRAFFIC SIGNAL PLAN. (REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 2 TRAFFIC SIGNAL QUANTITIES

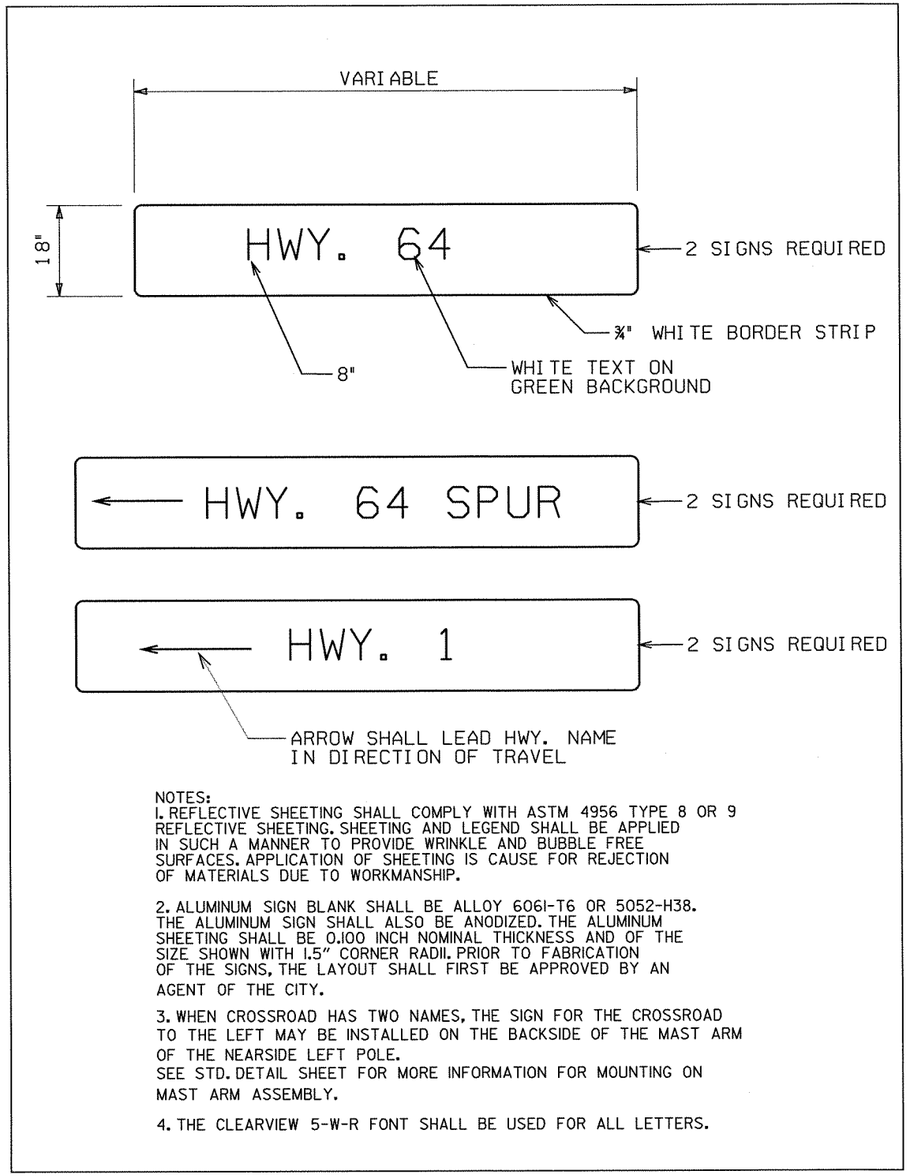
ITEM NO.	ITEM	QUANTITY	UNIT
SP	SIGNAL HEAD RELOCATION	4	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM

STAGE 2
RELOCATE TRAFFIC SIGNAL HEADS AS SHOWN ON THE STAGE 2 TRAFFIC SIGNAL PLAN.
THE STAGE 2 TRAFFIC SIGNAL SHALL BE OPERATED ON FIXED TIME.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 2 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

END JOB TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	ACTUATED CONTROLLER TS 2 - TYPE 2 (8 PHASE)	1	EACH
704	VEHICLE DETECTOR - RACK MOUNT	14	EACH
704	FEEDER WIRE	3363	LIN. FT.
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	12	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	1	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1100	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	240	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	590	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1")	292	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	255	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	815	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1HD)	4	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	5	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	5	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (34')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	2	EACH
SP	LOOP WIRING CLASS III (2)	3792	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	461	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	230	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	25	LIN. FT.
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	826	LIN. FT.
SP	18" STREET NAME SIGN	6	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM

END OF JOB
THE STAGE 2 TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE ENTIRE END OF JOB TRAFFIC SIGNAL INSTALLATION CAN BE PLACED INTO OPERATION.
(REFER TO END OF JOB TRAFFIC SIGNAL PLANS.)
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)



NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEARSIDE LEFT POLE.
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: SIGNAL QUANTITIES AND SIGNS

LOCATION:	HWY. 64/HWYS. 64S AND 1			
CITY:	WYNNE			
COUNTY:	CROSS			
DISTRICT:	1	SCALE: N/A	DRAWN BY:	GWE

t110504.dgn 1/12/2010

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.		110504	49	135

(2) SIGNALIZATION PLAN SHEET

TRAFFIC SIGNAL NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2002) NATIONAL ELECTRICAL CODE, NFPA 101 (2000) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET SHALL HAVE 16 LOAD BAYS AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING PLAN SHEETS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED. 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
17. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
18. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
19. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
20. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO ISMA STANDARDS.
21. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
22. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

STATE OF ARKANSAS
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No. 7605
MICHAEL D. FUGETT
12-9-10

t110504.dgn 1/12/2010

DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: TRAFFIC SIGNAL NOTES

LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: N/A DRAWN BY: GWE

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.		110504	50	135

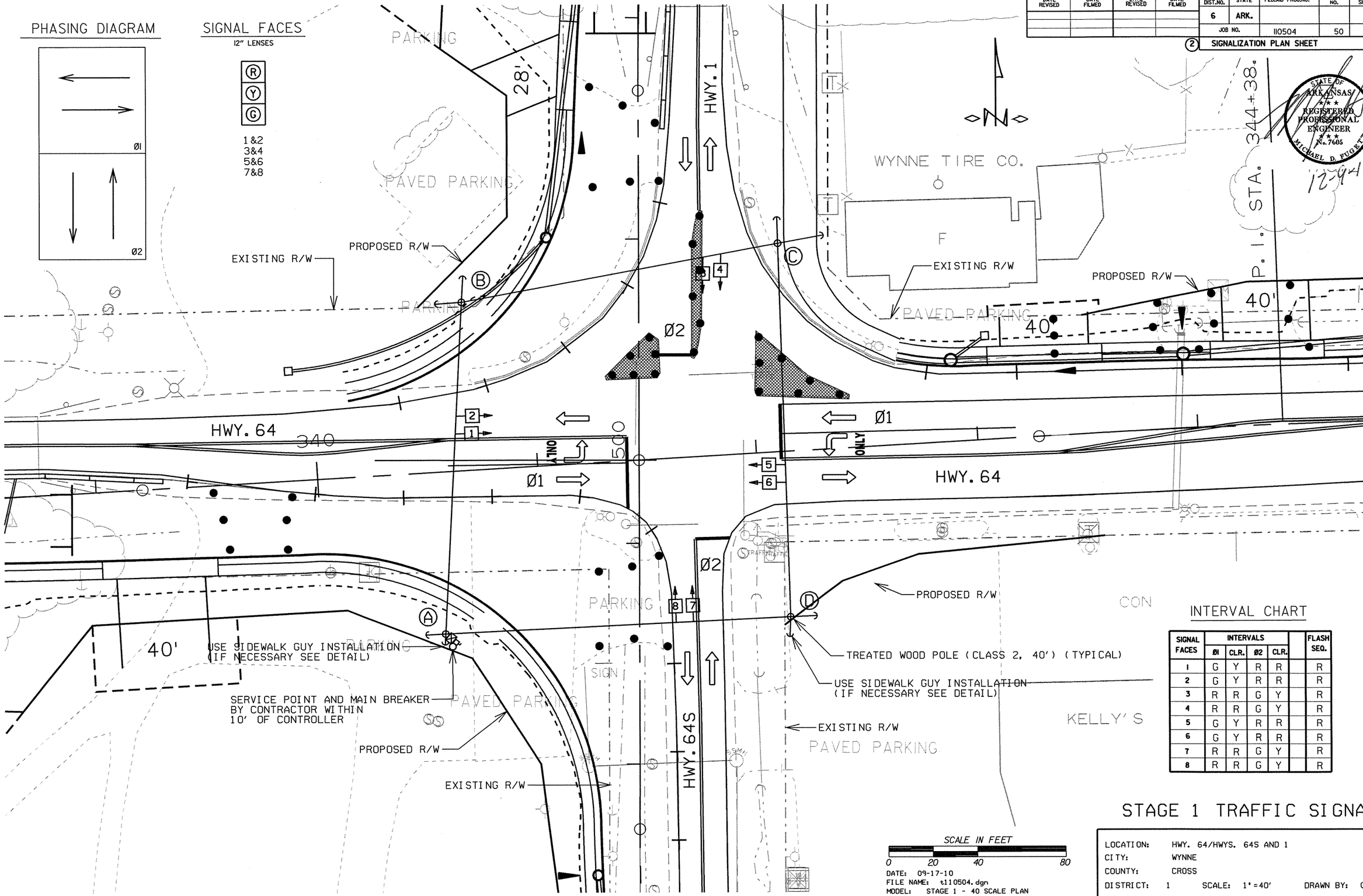
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

1&2
3&4
5&6
7&8



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12-9-10

INTERVAL CHART

SIGNAL FACES	INTERVALS					FLASH SEQ.
	Ø1	CLR.	Ø2	CLR.		
1	G	Y	R	R		R
2	G	Y	R	R		R
3	R	R	G	Y		R
4	R	R	G	Y		R
5	G	Y	R	R		R
6	G	Y	R	R		R
7	R	R	G	Y		R
8	R	R	G	Y		R

STAGE 1 TRAFFIC SIGNAL

SCALE IN FEET
0 20 40 80

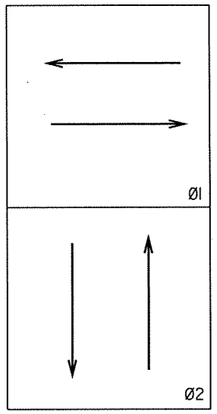
DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: STAGE 1 - 40 SCALE PLAN

LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: 1"=40' DRAWN BY: GWE

t110504.dgn 6/29/2010

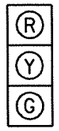
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	51	135
				(2)	SIGNALIZATION PLAN SHEET			

PHASING DIAGRAM

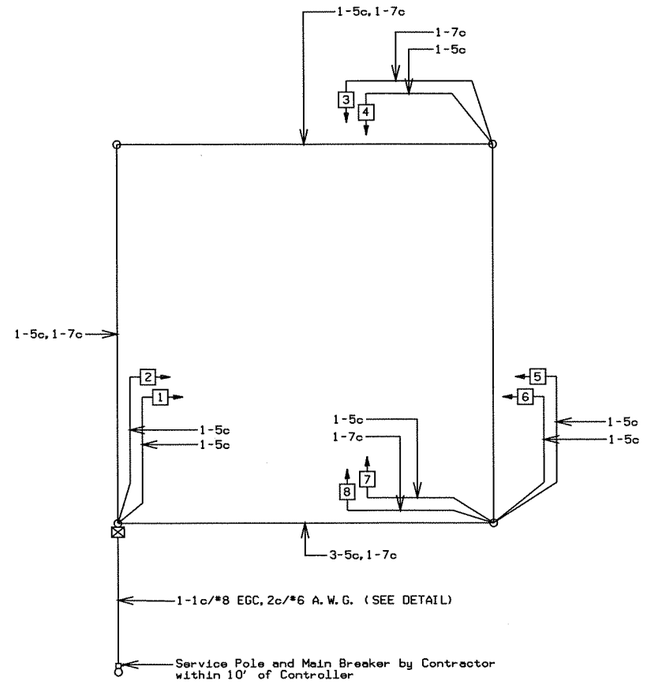


SIGNAL FACES

12" LENSES



1 &2
3&4
5&6
7&8



WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

INTERVAL CHART

SIGNAL FACES	INTERVALS					FLASH SEQ.
	Ø1	CLR.	Ø2	CLR.		
1	G	Y	R	R		R
2	G	Y	R	R		R
3	R	R	G	Y		R
4	R	R	G	Y		R
5	G	Y	R	R		R
6	G	Y	R	R		R
7	R	R	G	Y		R
8	R	R	G	Y		R

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
12-9-10

DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: TEMP. SIGNAL WIRING DIAGRAM

STAGE 1&2 TRAFFIC SIGNAL

LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: N/A DRAWN BY: GWE

t110504.dgn 1/12/2010

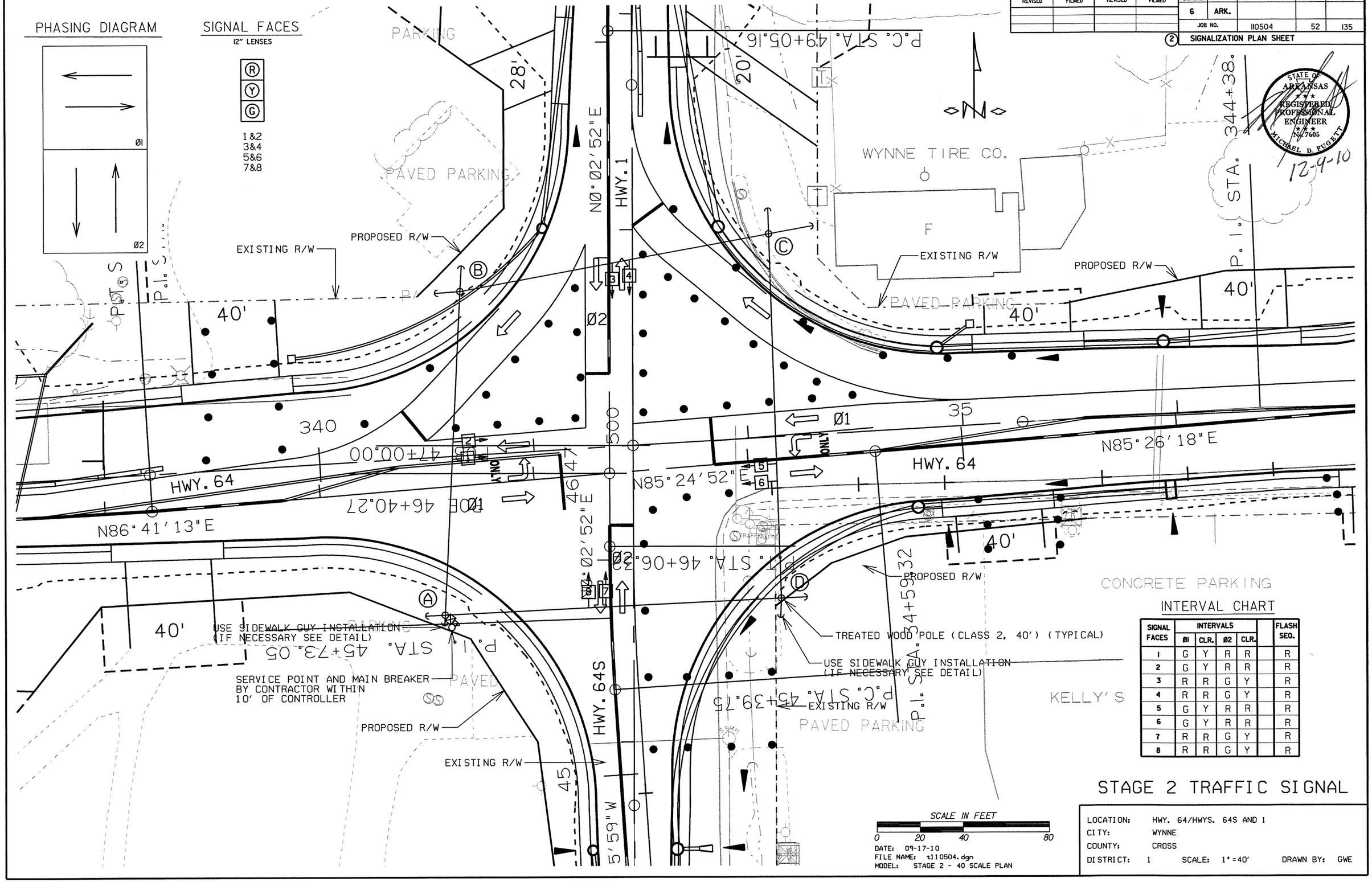
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	52	135

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES
12" LENSES

1&2
3&4
5&6
7&8



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

INTERVAL CHART

SIGNAL FACES	INTERVALS Ø1	CLR.	Ø2	CLR.		FLASH SEQ.
1	G	Y	R	R		R
2	G	Y	R	R		R
3	R	R	G	Y		R
4	R	R	G	Y		R
5	G	Y	R	R		R
6	G	Y	R	R		R
7	R	R	G	Y		R
8	R	R	G	Y		R

STAGE 2 TRAFFIC SIGNAL

SCALE IN FEET
0 20 40 80

DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: STAGE 2 - 40 SCALE PLAN

LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: 1"=40' DRAWN BY: GWE

t110504.dgn 6/29/2010

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.		110504	53	135

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

SIGNAL FACES
12" LENSES

2, 3&21
4&5
7, 8&20
10&11

1&6

9

One Section
(Solid Symbol)

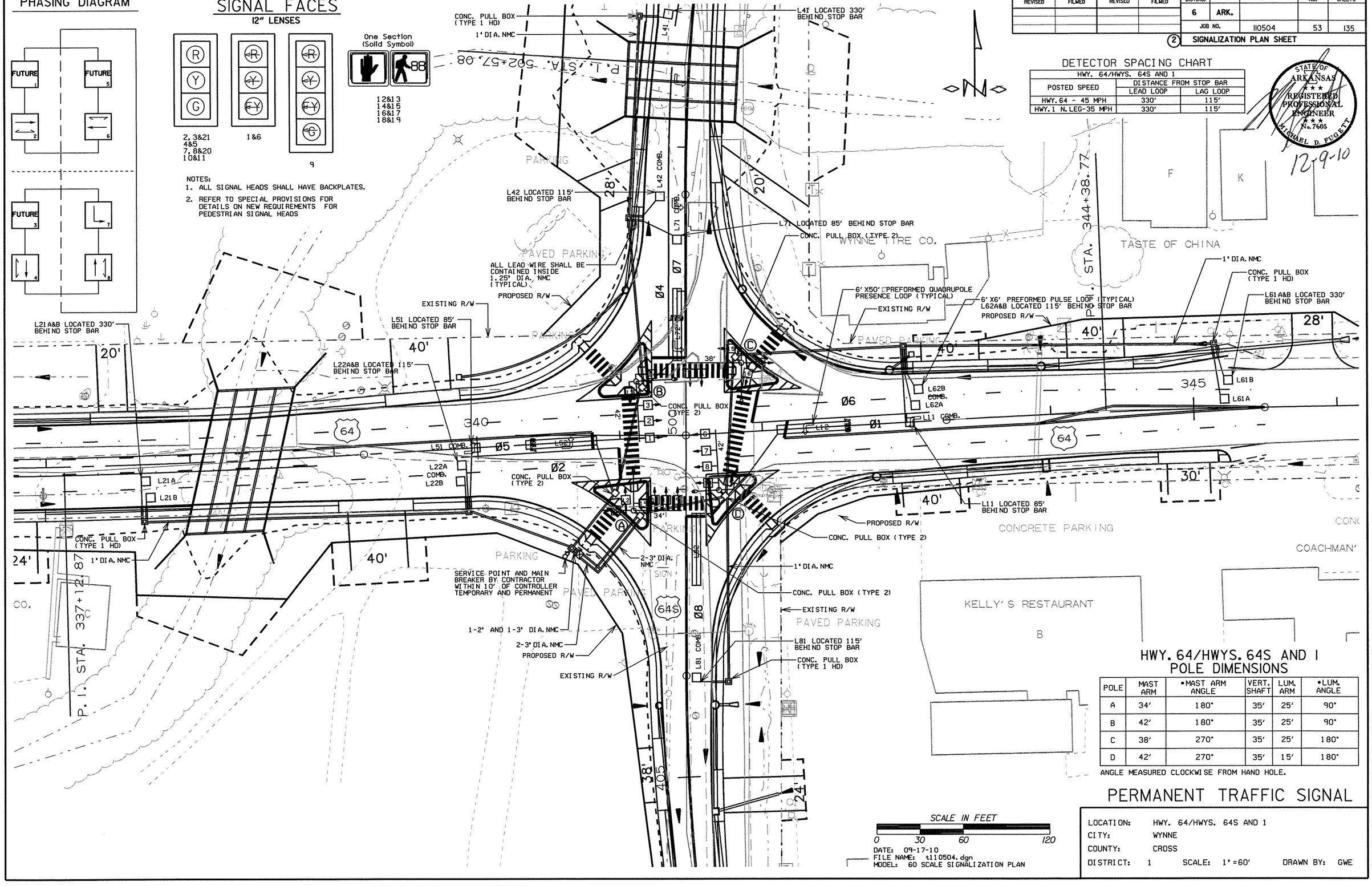
12&13
14&15
16&17
18&19

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS

DETECTOR SPACING CHART

HWY. 64/HWYS. 64S AND 1		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 64 - 45 MPH	330'	115'
HWY. 1 N. LEG-35 MPH	330'	115'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10



HWY. 64/HWYS. 64S AND 1
POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	34'	180°	35'	25'	90°
B	42'	180°	35'	25'	90°
C	38'	270°	35'	25'	180°
D	42'	270°	35'	15'	180°

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

SCALE IN FEET
0 30 60 120

DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: 1"=60' DRAWN BY: GWE

t110504.dgn 1/12/2010

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.		110504	54	135

(2) SIGNALIZATION PLAN SHEET

HWY. 64/HWYS. 64S AND 1
POLE LOCATIONS

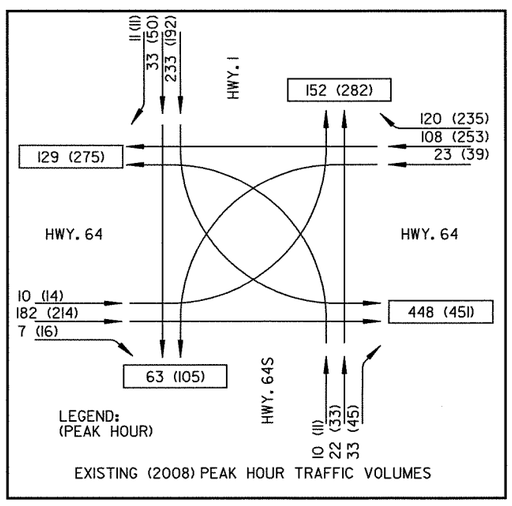
POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 64 - STA. 341+06.36	50' RT.	1672549.15, 337279.64
B	HWY. 64 - STA. 341+13.66	40' LT.	1672551.27, 337369.36
C	HWY. 64 - STA. 341+88.24	48' LT.	1672625.22, 337382.21
D	HWY. 64 - STA. 341+67.16	40' RT.	1672609.22, 337293.85

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N. 7605
MICHAEL D. PUGETT
12-9-10

PARKING
L42 COMB.
28'
L42 LOCATED 115' BEHIND STOP BAR
L71 COMB.
L71 LOCATED 85' BEHIND STOP BAR
CONC. PULL BOX (TYPE 2)
WYNNE TIRE CO.
20'
PAVED PARKING
ALL LEAD WIRE SHALL BE CONTAINED INSIDE 1.25" DIA. NMC (TYPICAL)
PROPOSED R/W
Ø4
Ø7
EXISTING R/W
L51 LOCATED 85' BEHIND STOP BAR
6' X50' PREFORMED QUADRUPOLE PRESENCE LOOP (TYPICAL)
6' X6' PREFORMED PULSE LOOP (TYPICAL)
L62A&B LOCATED 115' BEHIND STOP BAR
PROPOSED R/W
40'
L22A&B LOCATED 115' BEHIND STOP BAR
38'
CONC. PULL BOX (TYPE 2)
42'
Ø6
L62B
L62A
L11 COMB.
L12
Ø1
340
64
L51 COMB.
Ø5
L52
L22A
COMB.
L22B
Ø2
CONC. PULL BOX (TYPE 2)
34'
L11 LOCATED 85' BEHIND STOP BAR
PROPOSED R/W
CONC. PULL BOX (TYPE 2)
2-3" DIA. NMC
SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10' OF CONTROLLER TEMPORARY AND PERMANENT
1" DIA. NMC
CONC. PULL BOX (TYPE 2)
EXISTING R/W
64S
Ø8
1-2" AND 1-3" DIA. NMC
2-3" DIA. NMC
PROPOSED R/W
EXISTING R/W
L81 COMB.
L81 LOCATED 115' BEHIND STOP BAR
CONC. PULL BOX (TYPE 1 HD)

TRAFFIC FLOW DIAGRAM



EXISTING (2008) PEAK HOUR TRAFFIC VOLUMES

DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH NORTH, EAST AND WEST APPROACH
35 MPH SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP BARS SHOWN ON PAVEMENT MARKING PLAN. SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE 1.5 FEET FROM HWYS. 64, 64S AND 1

SCALE IN FEET
0 20 40 80

DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

PERMANENT TRAFFIC SIGNAL

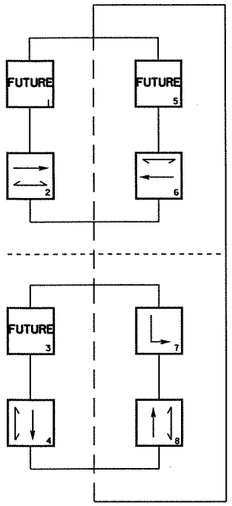
LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: 1"=40' DRAWN BY: GWE

t110504.dgn 1/12/2010

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.		110504	55	135

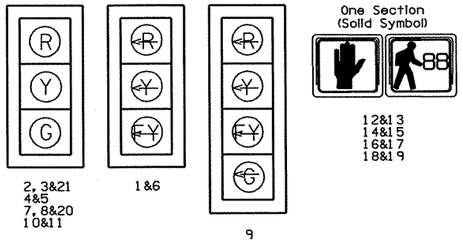
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

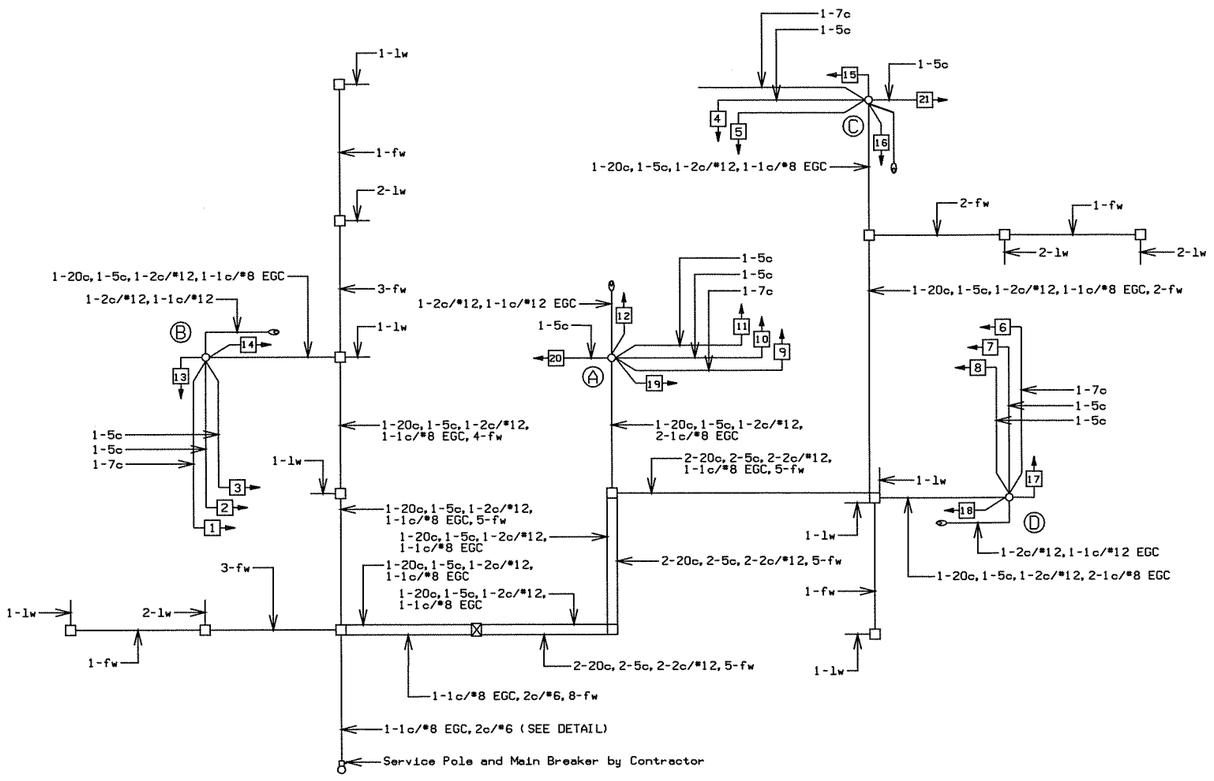


SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS



DETECTOR SYSTEM DESCRIPTION: JOB 110504										
WYNNE - HWY.64/HWYS.64S AND 1 DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			TUBE LENGTHS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS	
DET. ID#	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM #	AMP CHN. #	CON. INP.#	PHS	SYSTEM DET. #		
L11	WB LEFT TURN FAR	COMB.	1			D1	1	1		
L12	WB LEFT TURN	LOCAL	9			V1	1			
L21A&B	EB ADVANCE	LOCAL	10			V2	2			
L22A&B	EB NEAR	COMB.	2			D2	2	2		
L41A&B	SB ADVANCE	LOCAL	12			V4	4			
L42A&B	SB NEAR	COMB.	4			D4	4	4		
L51	EB LEFT TURN FAR	COMB.	5			D5	5	5		
L52	EB LEFT TURN	LOCAL	13			V5	5			
L61A&B	WB ADVANCE	LOCAL	14			V6	6			
L62A&B	WB NEAR	COMB.	6			D6	6	6		
L71	SB LEFT TURN FAR	COMB.	7			D7	7	7		
L72	SB LEFT TURN	LOCAL	15			V7	7			
L81	NB ADVANCE	LOCAL	16			V8	8			
L82	NB NEAR	COMB.	8			D8	8	8		
PB2A&B	HWY. 64B S. LEG	PED.				P2	2			
PB4A&B	HWY. 64 W. LEG	PED.				P4	4			
PB6A&B	HWY. 1 N. LEG	PED.				P6	6			
PB8A&B	HWY. 64 E. LEG	PED.				P8	8			
					SPARE					

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

INTERVAL CHART

SIGNAL FACES	HWY. 64/HWYS. 64S AND 1						FLASH SEQ.
	2+6	CLR.	4+7	CLR.	4+8	CLR.	
1	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2,3&21	G	••	R	R	R	R	R
4&5	R	R	R	R	G	••	R
6	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
7,8&20	G	••	R	R	R	R	R
9	~~R~~	~~R~~	~~G~~	•	~~FY~~	•••	~~R~~
10&11	R	R	G	••	G	••	R
12&13	DW	DW	W	FDW	W	FDW	BLK
14&15	W	FDW	DW	DW	DW	DW	BLK
16&17	DW	DW	DW	DW	W	FDW	BLK
18&19	W	FDW	DW	DW	DW	DW	BLK

• DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
•• DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
••• DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
12-9-10

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 64/HWYS. 64S AND 1
CITY: WYNNE
COUNTY: CROSS
DISTRICT: 1 SCALE: N/A DRAWN BY: GWE

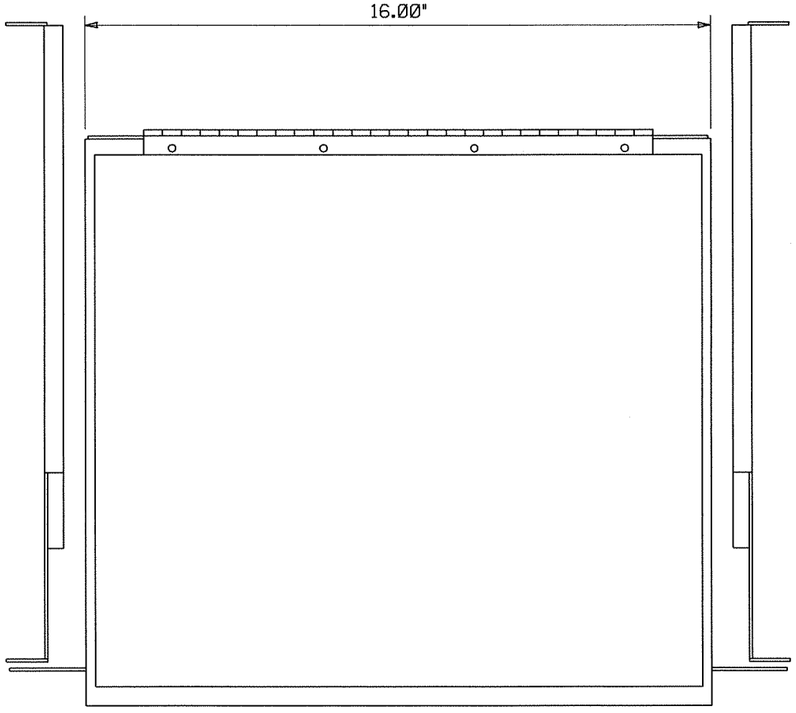
DATE: 09-17-10
FILE NAME: t110504.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

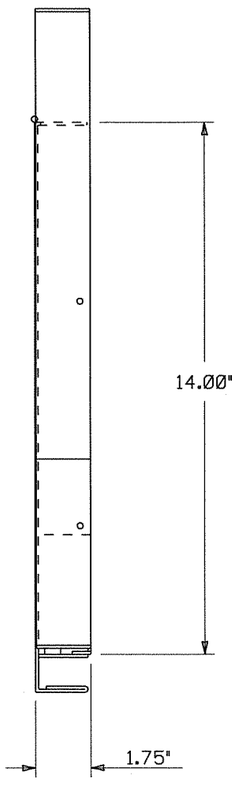
t110504.dgn 1/12/2010

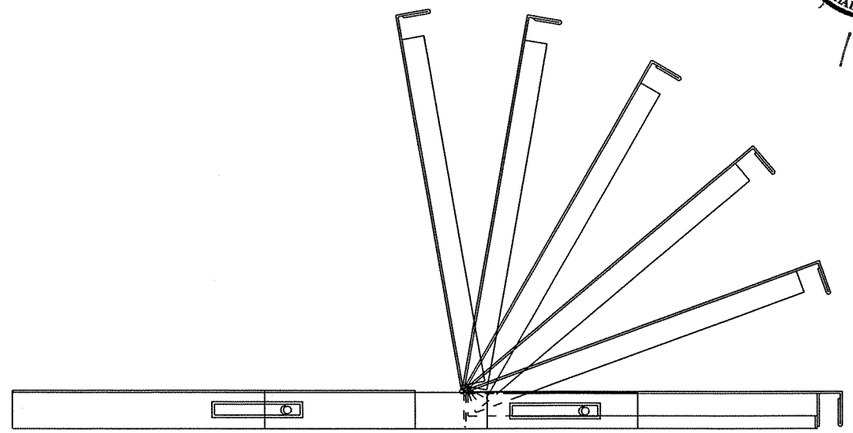
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	56	135
				(2)	SIGNALIZATION DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

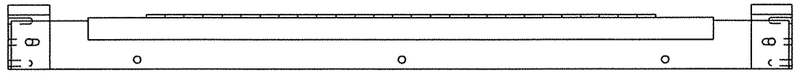
DRAWER PLAN VIEW



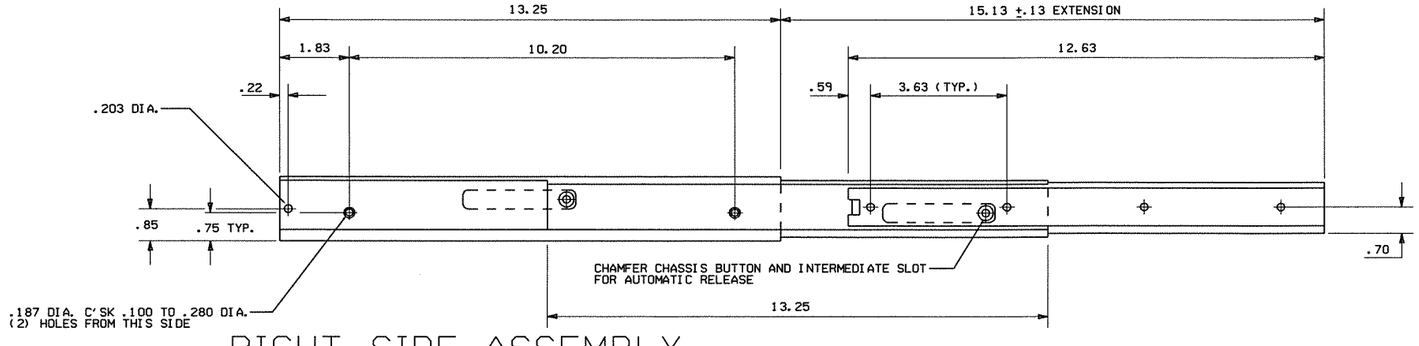




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

6-15-05	ISSUED	
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

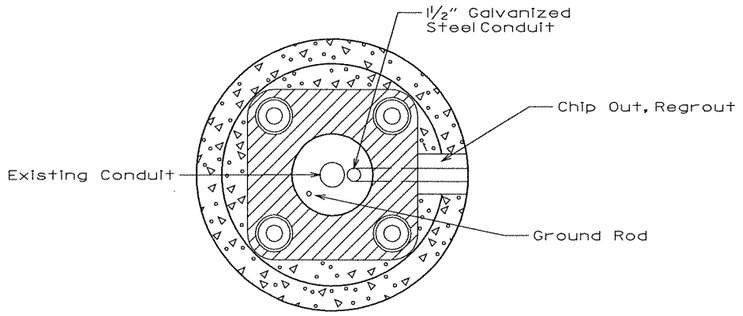
SIGNALIZATION DETAIL
(Controller Cabinet Utility Drawer)

t110504.dgn 7/9/2010

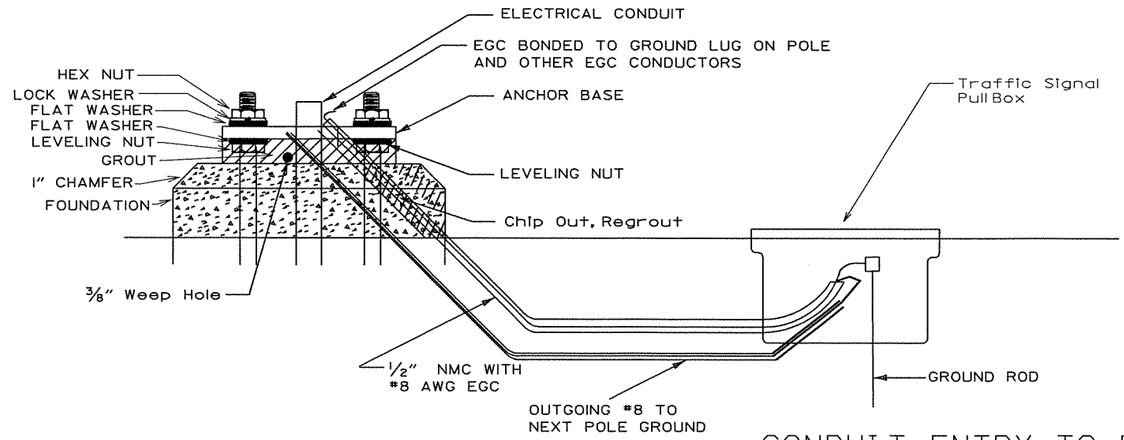
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	57	135
				(2)	SIGNALIZATION DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

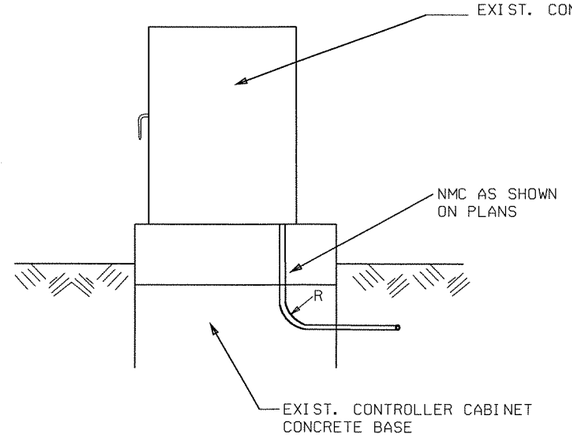
CONDUIT ENTRY TO EXISTING POLE BASE



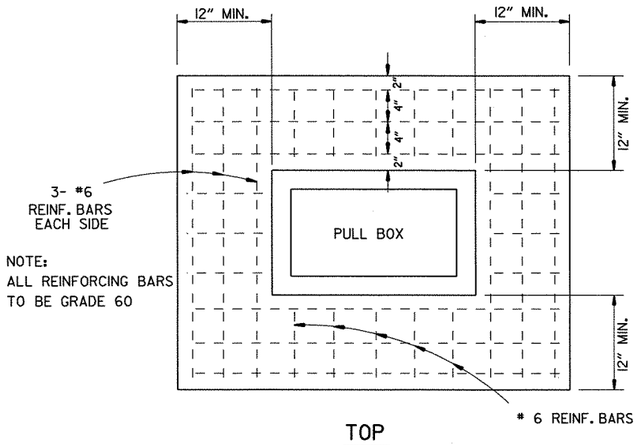
ANCHOR BASE



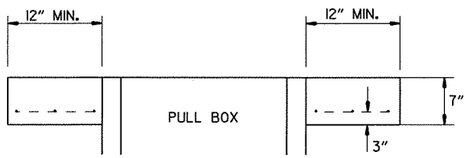
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



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

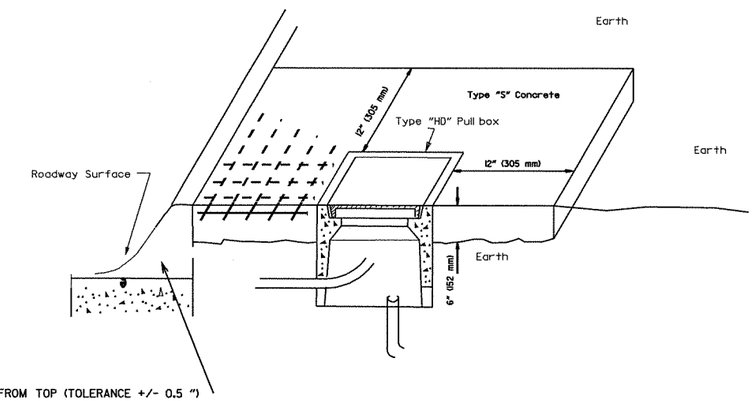


TOP



ELEVATION

Type "HD" Concrete Pull Box Detail



Note: All Type I and Type 2 HD pullboxes are installed with an apron of concrete 12" (305 mm) wide and 6" (152 mm) in depth. All payment shall be included in the price of the Type HD pull box. 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 pull box is required in concrete.

DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	ADDED & REVISED CONDUIT ENTRY	
6-23-04	REVISED CLEARANCE AT CURB ENTRY	
1-4-02	ADDED REINFORCING TO BOX APRON	
7-2-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Heavy Duty Pull Box)

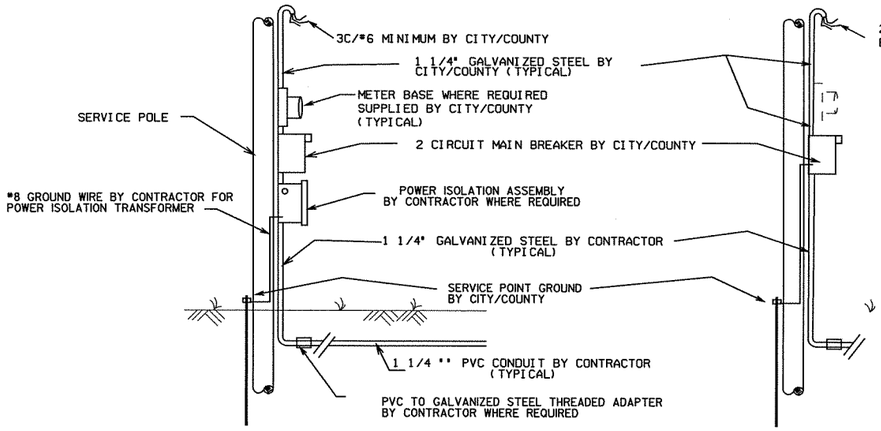
t110504.dgn 7/9/2010

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.		110504	58	135

(2) SIGNALIZATION DETAILS

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

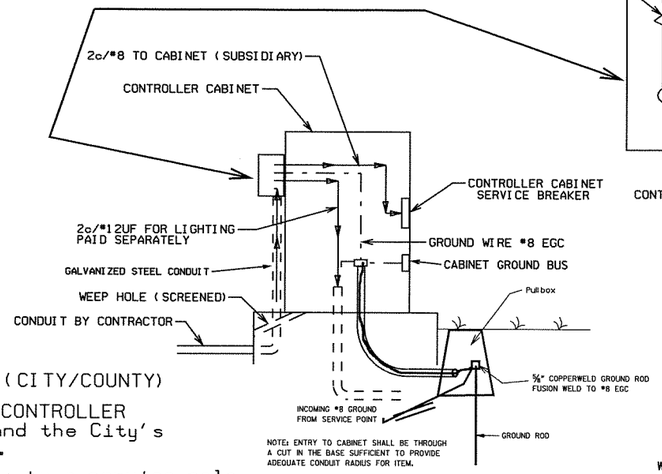
WITH POWER ISOLATION ASSEMBLY

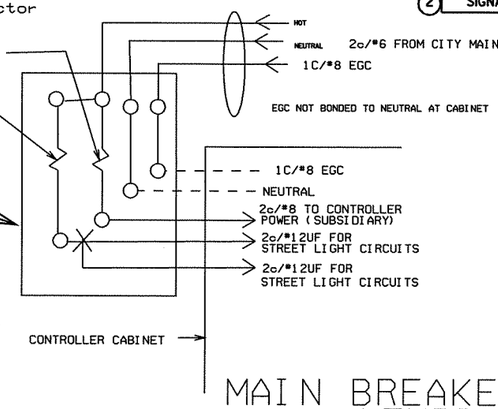


WITHOUT POWER ISOLATION ASSEMBLY

Ground Rod-A 10'x ⅝" ground rod shall be installed in the pull box for each pole and the controller. Payment for the ground rod and ½" NMC shall be included in Item 701. The pull box and conductor box shall be paid for separately.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)





STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT 12-9-10

MAIN BREAKER WIRING (TYPICAL)

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 or County's responsibility varies accordingly as indicated on these details.

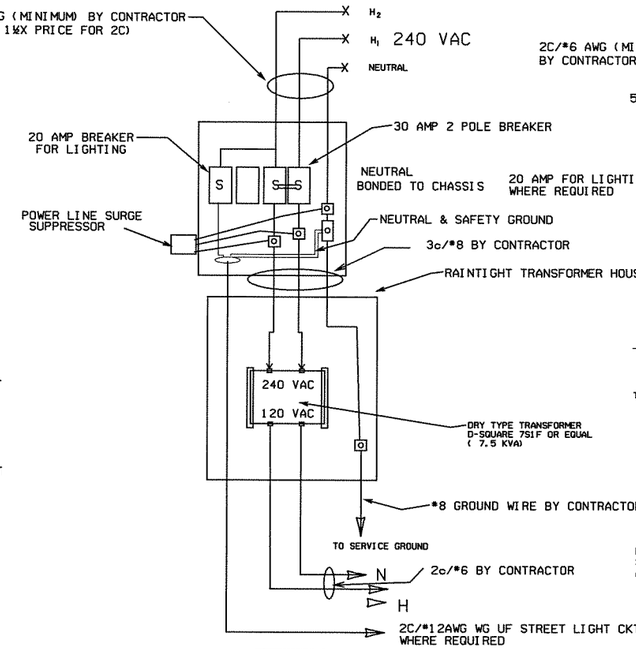
1. ALL SITUATIONS: Electrical service shall be provided by the City/County to a service pole with external raintight breaker (MAIN BREAKER) at a mutually acceptable point within the right-of-way. Service point includes galvanized steel conduit to a point 18" below ground line, two circuit main breaker, power isolation assembly where required, meter loop if required by local utility, electrical conductors and weatherhead. Where street lighting is included as part of signal installation, street lighting circuit (2c/#12 awg 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.

2. 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.

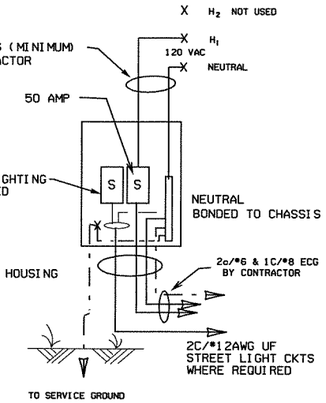
3. MAIN BREAKER NEAR CONTROLLER CABINET: All components of the service point with the exception of the wire and wiring above the Main Breaker is furnished and installed by the Contractor. Wiring from Main Breaker including connection to the utility, is the responsibility of the City/County. If meter loop is required, meter base and hardware is provided by the City/County and installed by the contractor.

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

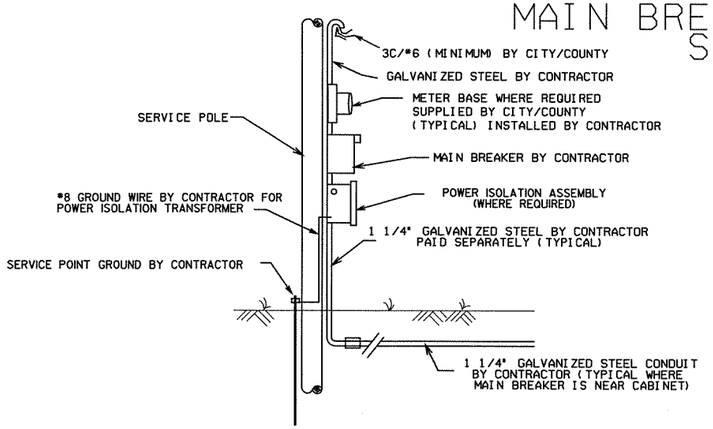


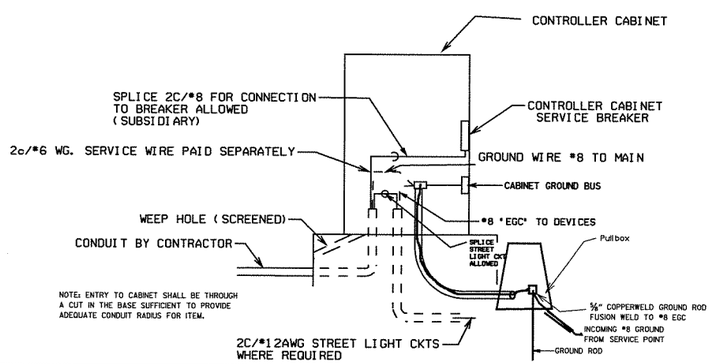
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (ECG) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

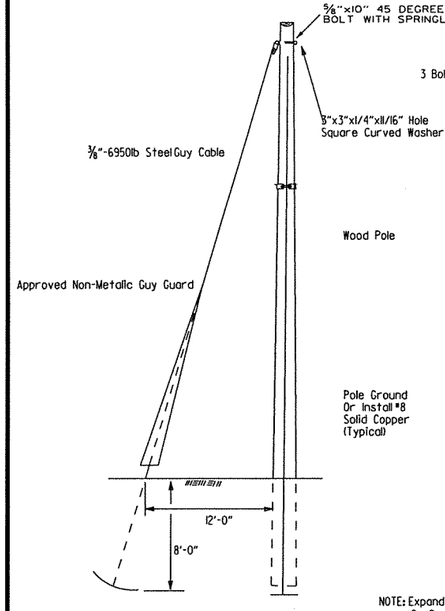
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL (Service Point)

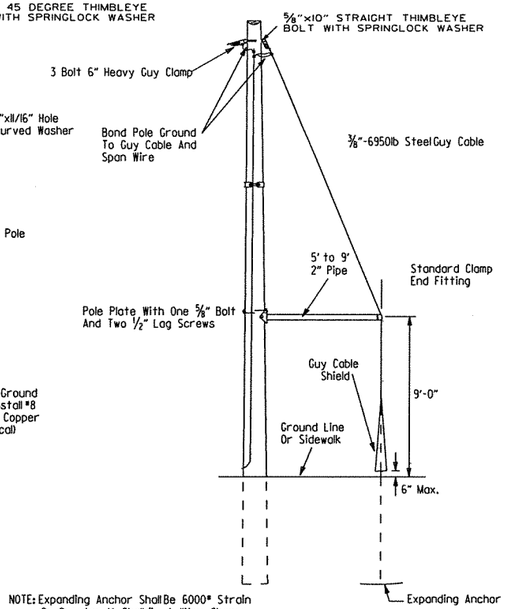
t110504.dgn 7/9/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-7-11				6	ARK.			
				JOB NO.		110504	59	135

(2) SIGNALIZATION DETAILS



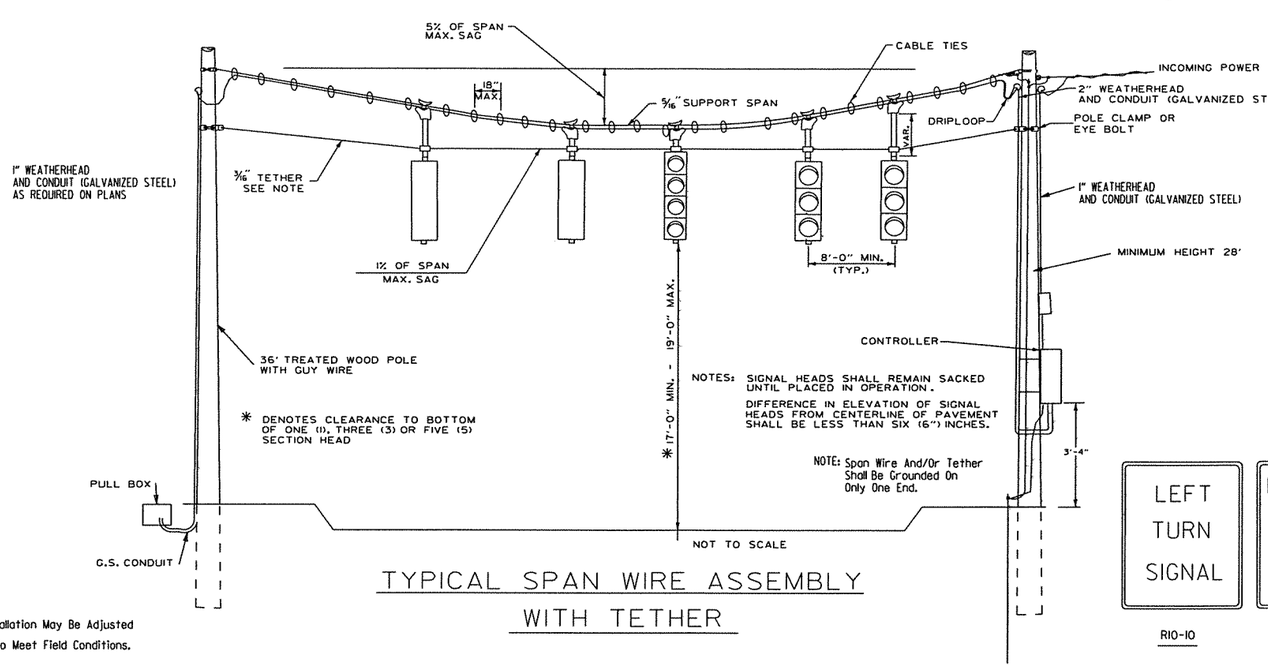
STANDARD GUY INSTALLATION



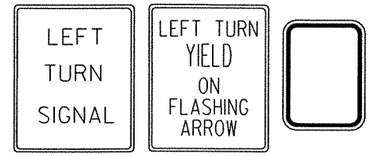
NOTE: Expanding Anchor Shall Be 6000# Strain Or Greater. It Shall Be A "New Chance 8-Way Expanding Anchor", With A 5/8" Minimum Guy Rod.

SIDEWALK GUY INSTALLATION

NOTE: Conduit Installation May Be Adjusted By The Engineer To Meet Field Conditions.



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

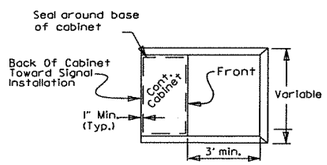


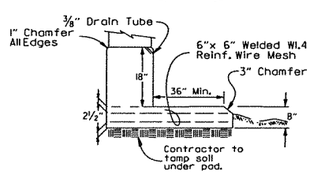
R10-10 SPECIAL R10-3e (SEE MUTCD)

NOTES: Span wire poles shall be mounted a minimum of 4' 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).

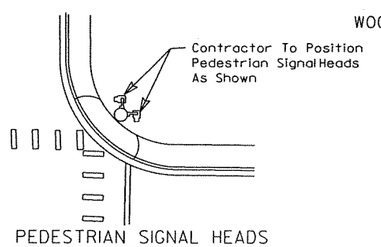
The controller power supply ground buss shall be bonded to the ground rod with a #8 AWG solid copper wire. On existing installations with no ground rod, Contractor shall install a 10' x 5/8" copperweld ground rod.



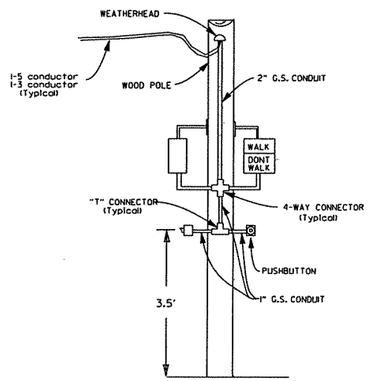


CONCRETE BASE MOUNTED CABINET DETAILS

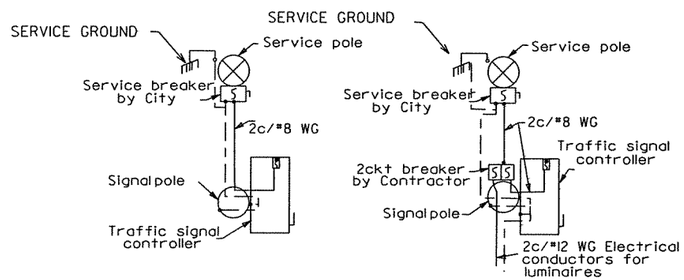
Unless otherwise directed by the engineer, cabinet orientation shall be such that the back of the cabinet is parallel to the street and positioned to allow visibility of the signal display while observing the controller front panel.



PEDESTRIAN SIGNAL HEADS



WOODEN POLE INSTALLATION OF PED HEADS



SERVICE DISCONNECT

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

Each item "TRAFFIC SIGNAL HEAD (4 SEC., I-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.

Sign blank shall be constructed of alluminum alloy (ASTM designation B-209, Alloy 5052-H38) with a thickness of 0.100 inch.

Sign face shall be constructed of high intensity sheeting (Type III) with silkscreen legend and border.

Each item "TRAFFIC SIGNAL HEAD (3 SEC., I-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.

SIGNAL OPERATION NOTES:

Flashing Operation - Prior to normal operation, signal shall be flashed for a period of 3 to 5 working 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.

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: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DATE	REVISION	DATE FILM
7-21-11	REVISED PED SIGN, CABINET GROUNDING	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENT. & SIGNAL OPER.	
5-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAILS

(Span Wire Assembly Wood Pole)

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER 14705 MICHAEL D. FUGETT 6-22-11

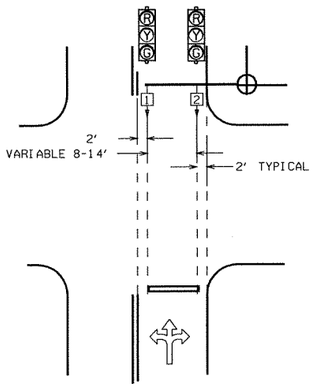
stdsd7.dgn 6-2-11

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.		110504	60	135

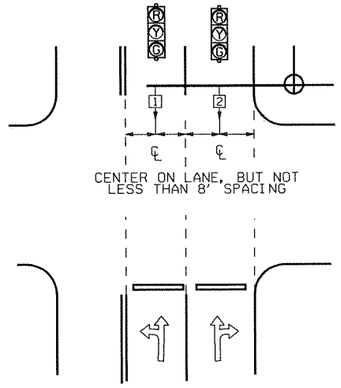
(2) SIGNALIZATION DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12-9-10

(A)



(B)



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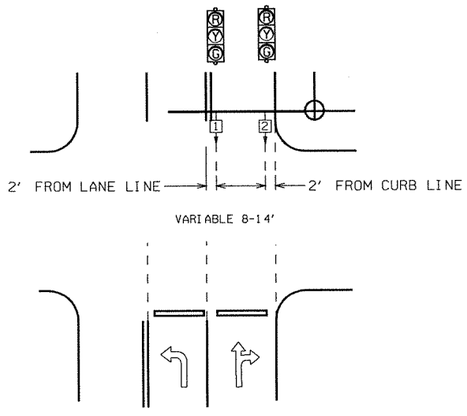

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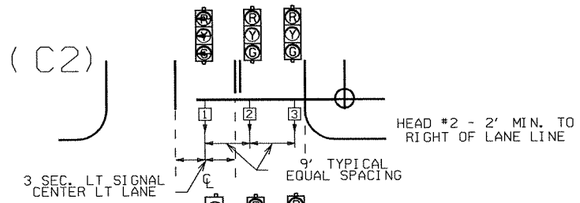
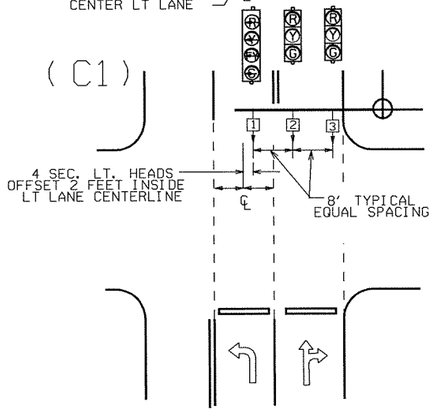


(C1)



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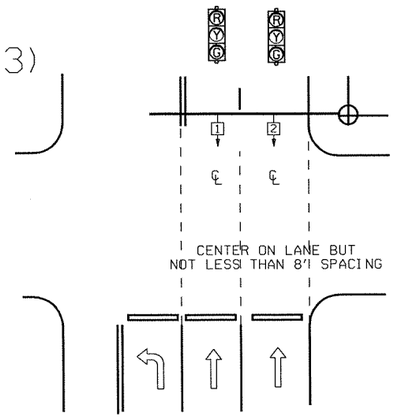
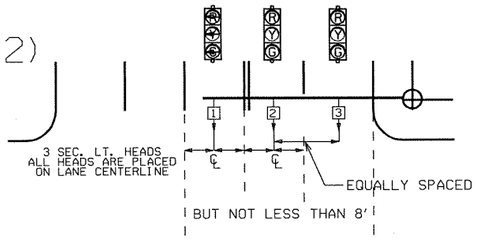
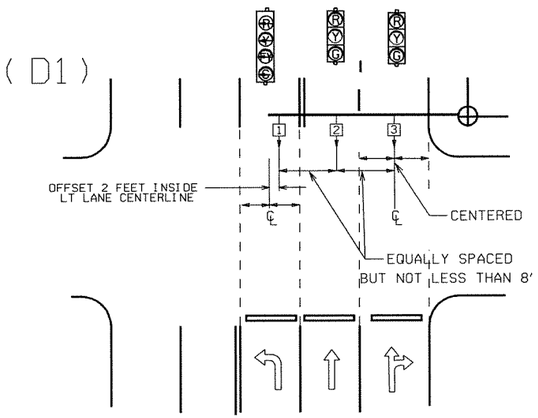


(D2)

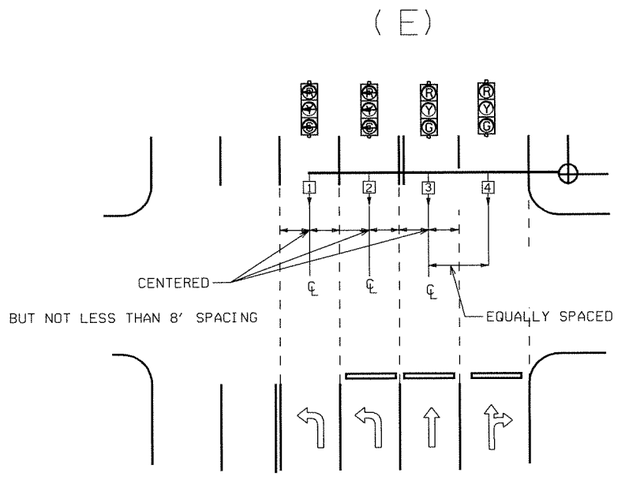


(D1)



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION 'PROTECTED/PERMISSIVE' LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION 'PROTECTED' LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Signal Head Placement)

t110504.dgn 7/9/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-7-11				6	ARK.			
				JOB NO.		110504	61	135

(2) SIGNALIZATION DETAIL

NOTES, PED 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 SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

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 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND 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 SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

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

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

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 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 1/2" 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, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL • 2' X 0' X 2' • 6", 20 LB. REMAINING HEADS SPACED A 8 FT. • 3 SEC., 56 LB., TWO 5 SEC):
14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING
2 HEADS FOR ARMS 10 TO 16 FT.
2 HEADS FOR ARMS 10 TO 16 FT., INCLUDING LB.
3 HEADS FOR 18 TO 24 FT. ARMS;
4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 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.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE.
POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

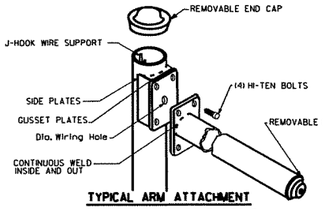
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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

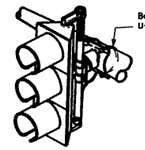
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

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 ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

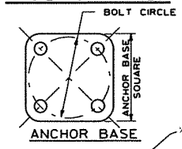
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



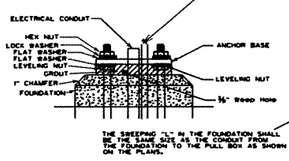
TYPICAL ARM ATTACHMENT

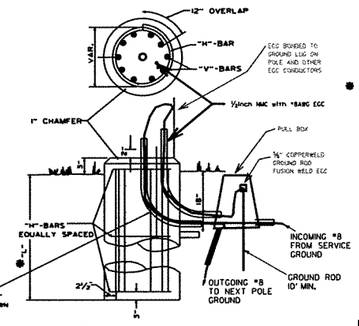


NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



ANCHOR BASE



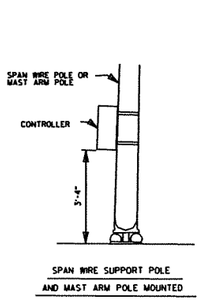


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

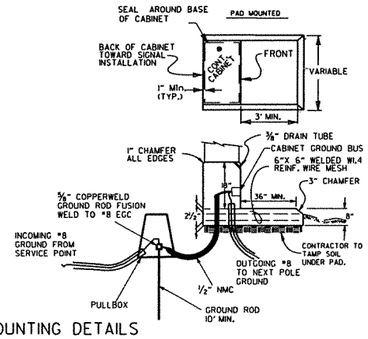
TYPICAL FOUNDATION DETAILS

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

ARM LENGTH	FDN. DIAMETER	DEPTH "L" *	STEEL VERT.	STEEL HORZ.	STEEL 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



CONTROLLER CABINET MOUNTING DETAILS

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 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

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 1/4" 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 PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

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 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.

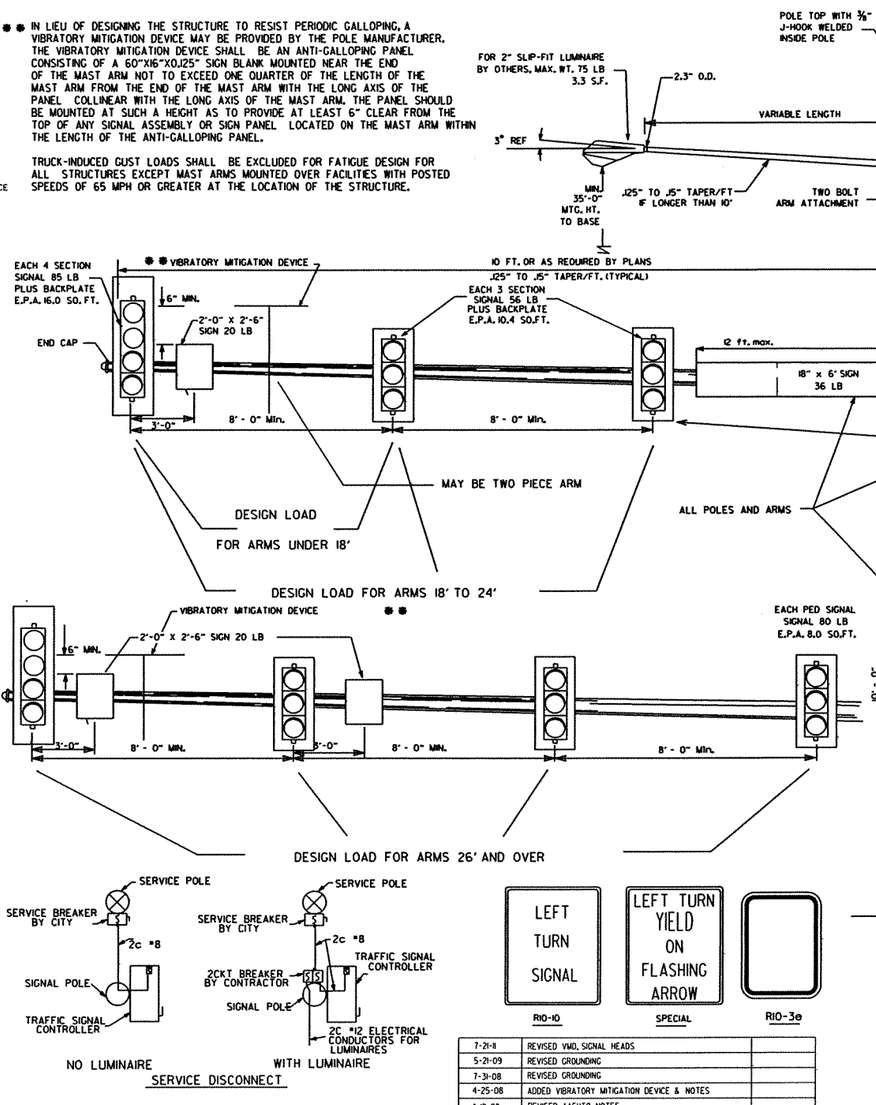
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

6-22-11

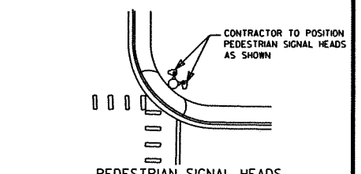
* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL 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 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"X16"X0.125" 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 A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR 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.



SERVICE DISCONNECT



PEDESTRIAN SIGNAL HEADS

DATE	REVISION	DATE FILM
7-21-11	REVISED VMD, SIGNAL HEADS	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
6-23-04	REVISED	
5-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-11-01	REV. NOTES & POLE MAST ARM SLOPE	
4-11-01	REVISED POLE TAPERS	
4-25-00	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

SIGNALIZATION DETAILS (Steel Pole With Mast Arm)

stdsd11.dgn 6-2-11

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.		110504	62	135

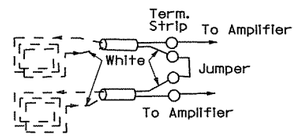
(2) SIGNALIZATION DETAILS

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

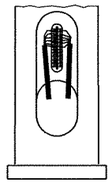
1. Loops with a perimeter greater than 40′ shall have two turns. Loops with a perimeter less than or equal to 40′ shall have three turns, unless otherwise noted on the plans. Quadrupole loops shall be two turns (2-4-2 configuration) unless otherwise noted.
2. Loop and feeder wire shall be continuous without splices except at the loop/feeder wire splice as shown. Splice shall be rosin soldered and waterproofed with an accepted splice kit. Drain wire shall be grounded in cabinet and insulated at loop to feeder splice.
3. The loop to feeder splice, feeder jacket and jacket of loop wire in duct shall be completely sealed and waterproofed.
4. Contractor may make connections to signal cable and loop to feeder connection at terminal strips mounted to pole inside hand hold cover as shown in detail. Terminals must be easily accessible, but protected against accidental contact. Connection of power carrying circuits must be separated from loop or logic circuits. All connections to terminal strips
* shall utilize spade lugs or as approved by the Engineer.
5. Each loop shall have a separate "feeder wire" unless otherwise noted. All feeder wires shall be labeled as to loop number as designated on the plans.
6. All loop wire entering pull boxes shall be enclosed in conduit. Each loop wire shall enter pull box or pole base through a separate piece of one inch (1"Ø) conduit.
7. Loop wire from loop to conduit is not twisted. Loop wire in the conduit must be twisted two to five turns per foot.
8. Warranty period for loops shall not commence until tested by the contractor and accepted by the Engineer. Contractor shall perform test and provide a record to the Engineer as listed in the Detector Loop Testing procedure.
9. Unless otherwise approved by the Engineer, backer rod shall be installed in short sections spaced not more than 18" apart and wedged into slot to hold cable in place. Cable shall be totally encapsulated in sealer.
* 10. "Hot Pour" sealer shall not be allowed with 705-Loop Wiring in Duct.
11. Where underground splices of signal cable are required, connections shall be soldered and completely waterproofed to the satisfaction of the Engineer. Waterproofing shall extend a minimum of two inches past the signal cable jacket and shall completely cover all individual conductors of the signal cable. Waterproofing does not apply to connections made in pole bases.
12. Contractor shall connect a separate neutral for each load switch represented on each signal pole. Only one neutral is required for pedestrian signals. A separate 5c (typical) is provided for pedestrian push buttons.
13. Traffic controller cabinet and layout shall be such that it is not necessary to shut down power or remove load switches in order to easily test or modify detector inputs to controller. Controller cabinet shall be wired such power to load switches cannot backfeed to load switch power buss during flash operation.

SERIES CONNECTED LOOPS

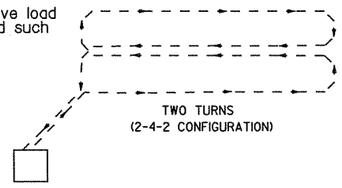


Wind loops counterclockwise; tag wire exiting slot and tie to white lead of feeder wire; when loops are tied to same vehicle detector, series connect in cabinet as shown.

HANDHOLE TERMINAL

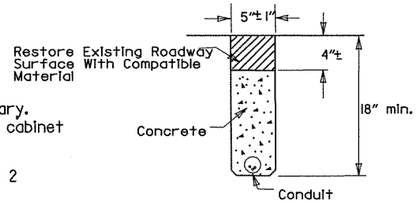


QUADRUPOLE LOOP

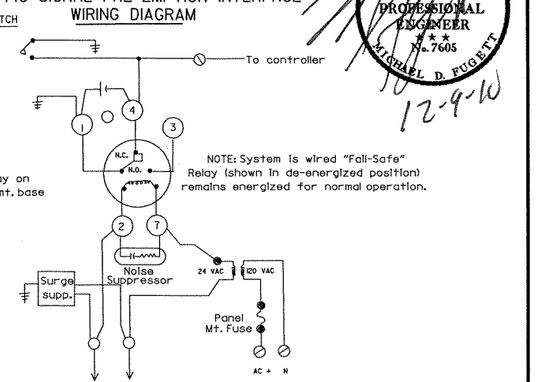


TRENCHING DETAIL

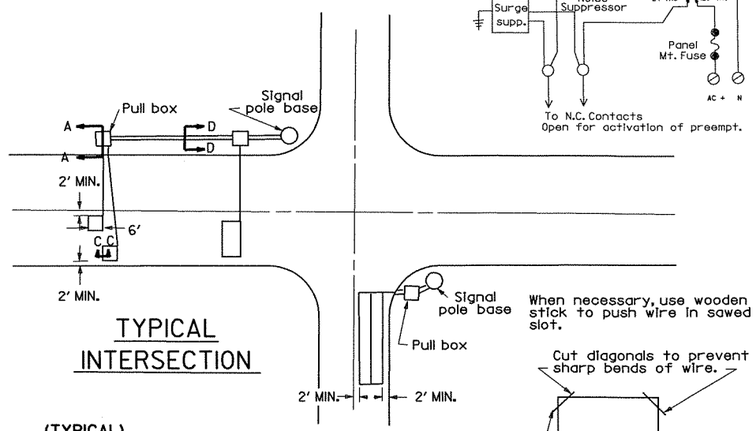
(FOR SAW CUT TRENCH IN ROADWAY)



TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



TYPICAL INTERSECTION



TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

(1) Disconnect and test continuity (< 10 ohms) If continuity is bad, go to test 3

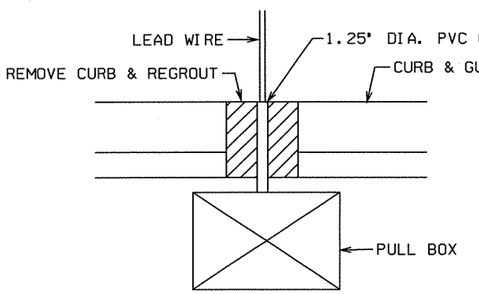
(2) Test insulation (@ 500 volt test > 10 Meg-ohm)

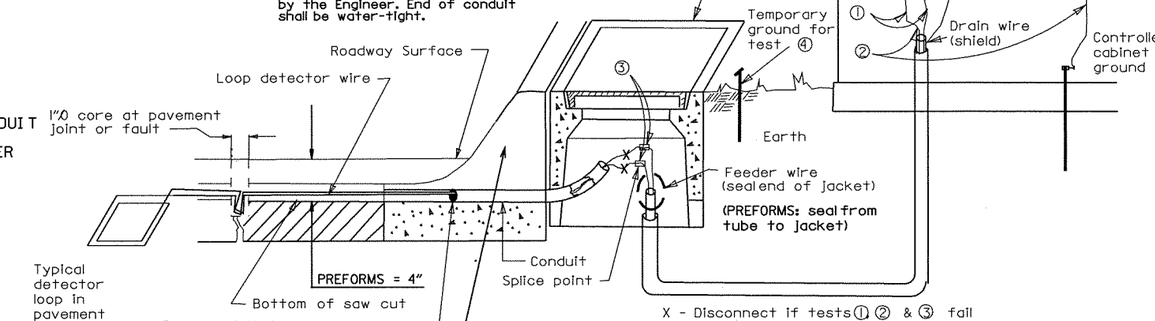
If tests 1& 2 are good, no further testing is necessary. Recorded results consist of tests 1& 2 from control cabinet with feeder wire connected to loop.

(3) Open splice (do not break connection) repeat test 1& 2 If test 3 is bad , go to test 4

(4) Break splice, install jumper in cabinet, repeat tests 1& 2 separately for feeder and for loop

Failures typically result from broken wire in pavement, faulty insulation of loop or feeder wire, or poorly insulated splice connection.





PREFORMS - SAW COMPLETELY THROUGH CURB

ALTERNATE - WHEN INSTALLING PREFORMS ON SUBSTRATE, LEAD-INS MAY BE INSTALLED IN CONDUIT UNDERNEATH THE CURB AND GUTTER.

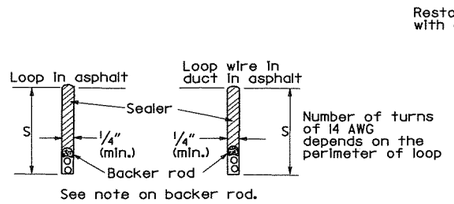
SECTION A-A

1′-6" concrete combination curb and gutter

SPECIAL NOTE

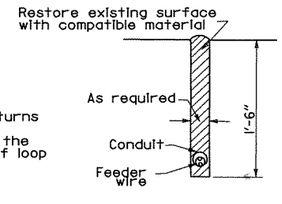
IF FEEDER WIRE JACKET IS LEFT UNSEALED and WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SECTION C-C

S=2½" in asphalt
S=1½" in concrete



SECTION D-D

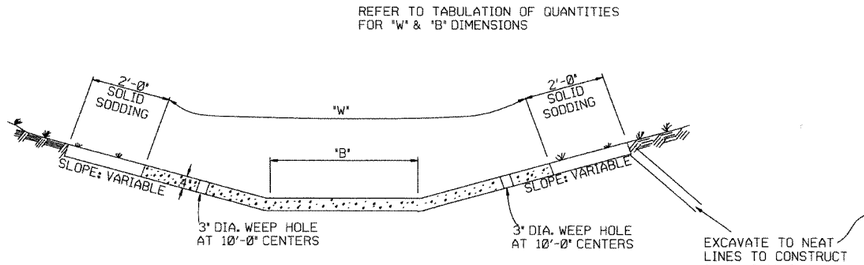
DATE	REVISION	DATE FILM
5-17-01	REVISED	
4-11-01	REVISED	
2-4-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

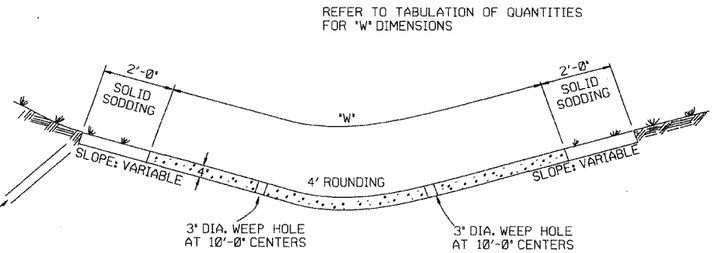
SIGNALIZATION DETAIL (Loop Detector Installation)

STATE OF ARKANSAS ★★★ REGISTERED PROFESSIONAL ENGINEER ★★★ No. 7605 MICHAEL D. FUGETT 12-9-10

t110504.dgn 7/9/2010



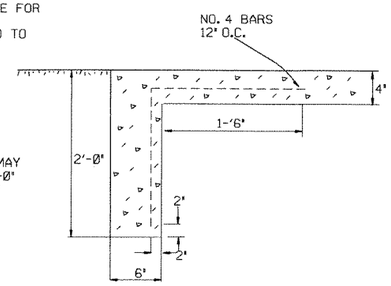
TYPE A



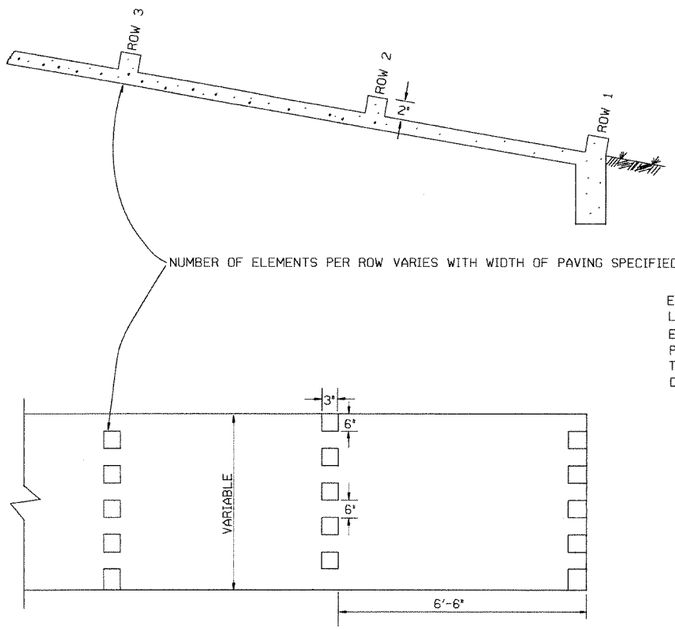
TYPE B

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

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



TOE WALL DETAIL FOR
CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

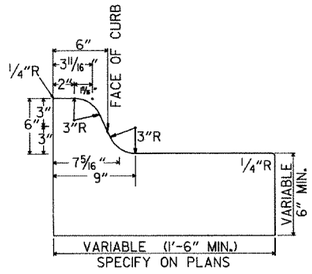
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

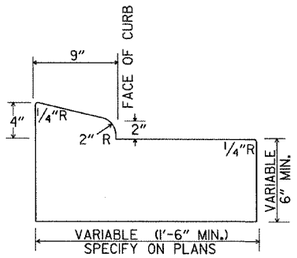
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

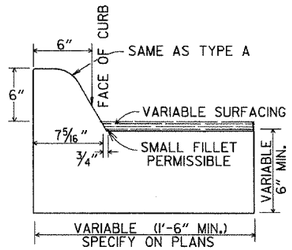
STANDARD DRAWING CDP-1



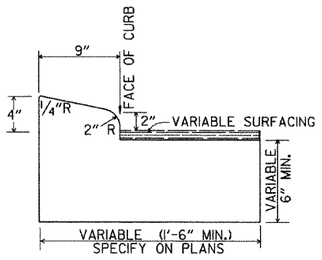
TYPE A



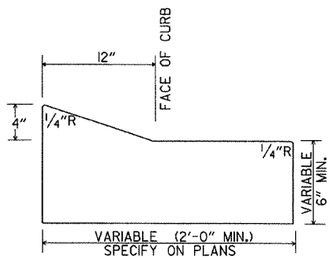
TYPE B-1



TYPE C



TYPE B-2



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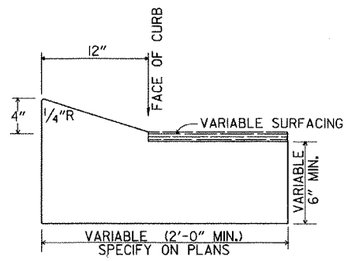
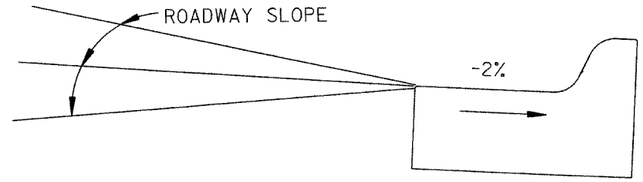


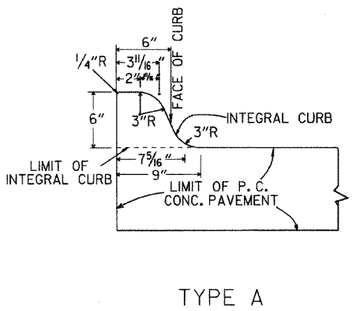
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

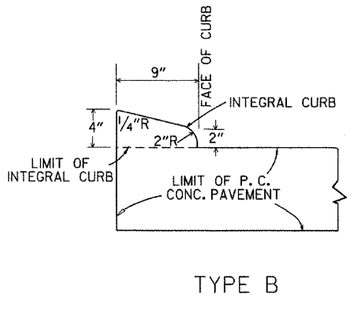


DETAIL OF GUTTER SLOPE

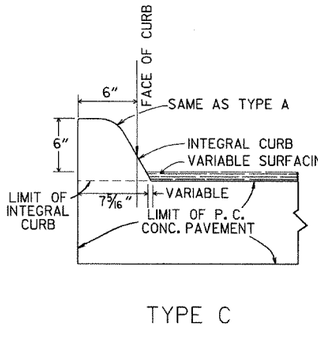
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

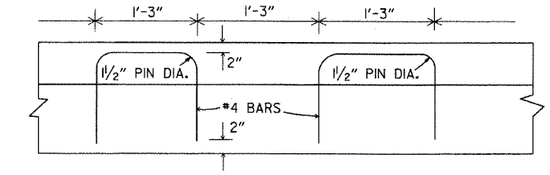


TYPE B

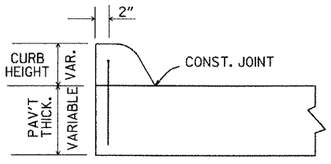


TYPE C

INTEGRAL CURB

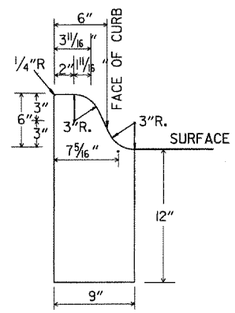


LONGITUDINAL SECTION

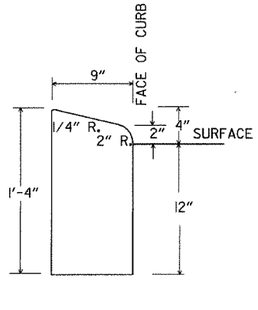


ELEVATION

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



TYPE A



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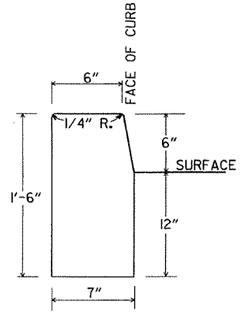
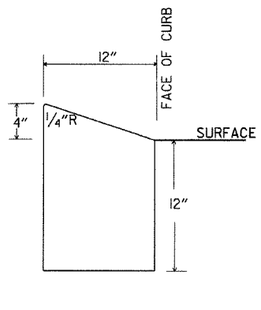
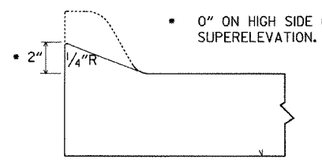


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

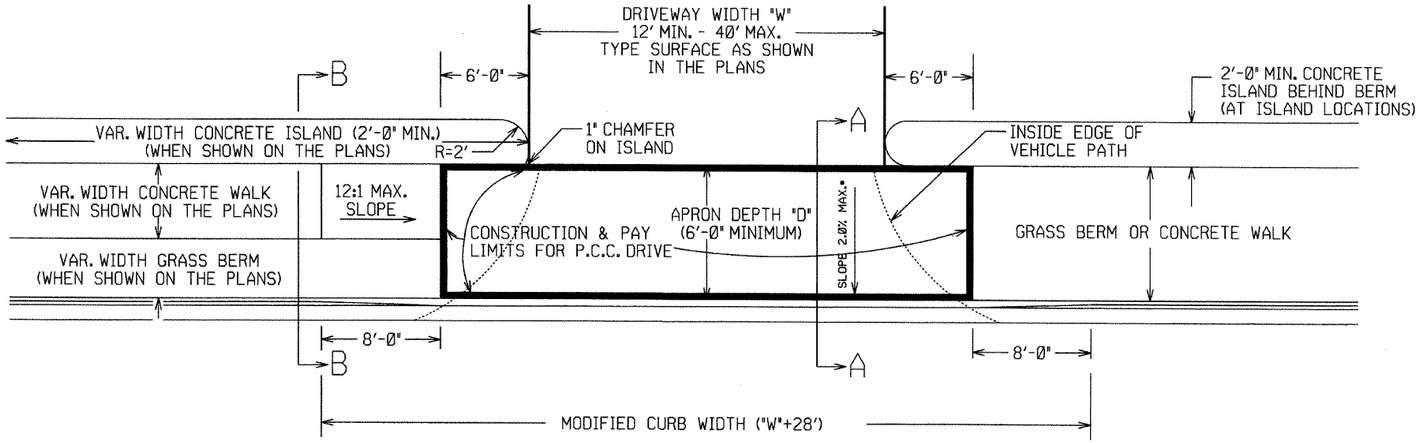
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

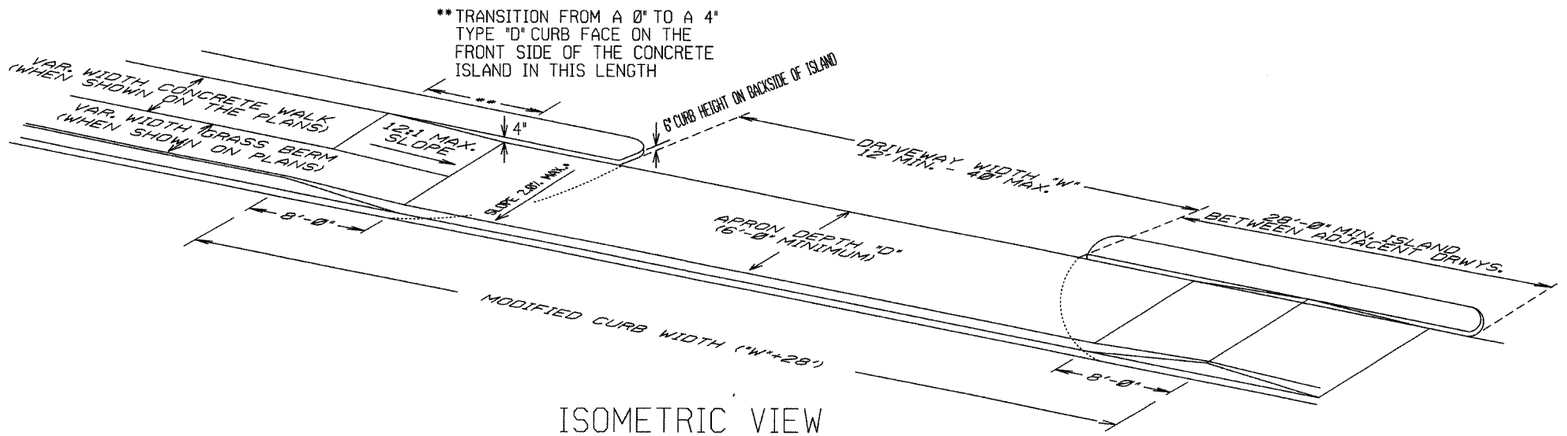
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

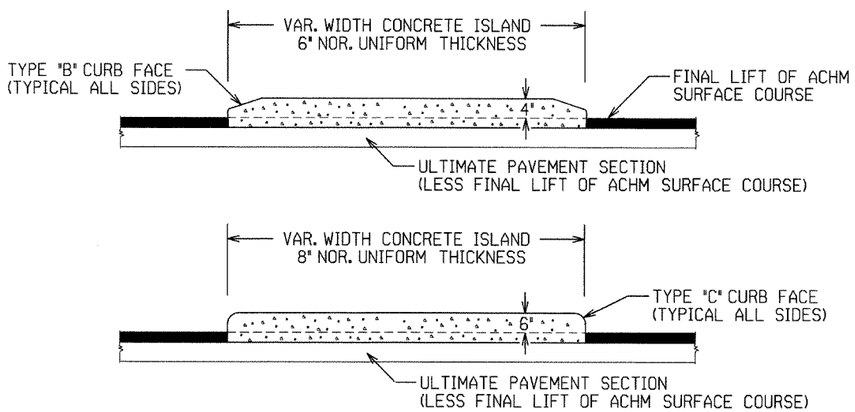
STANDARD DRAWING CG-1



PLAN VIEW

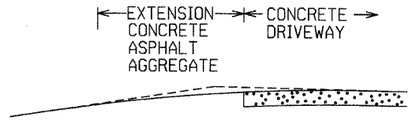


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

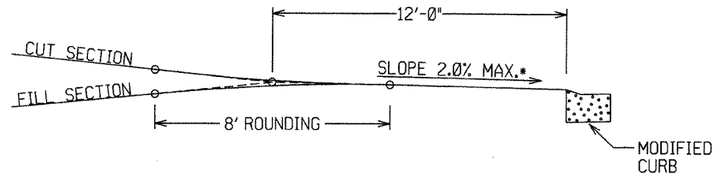
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

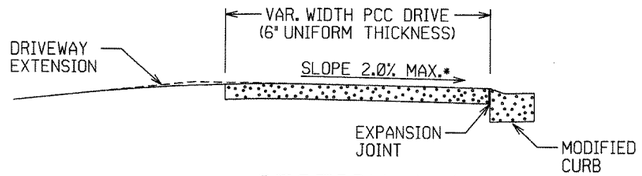
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

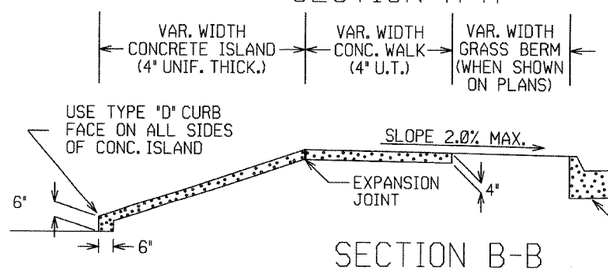


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



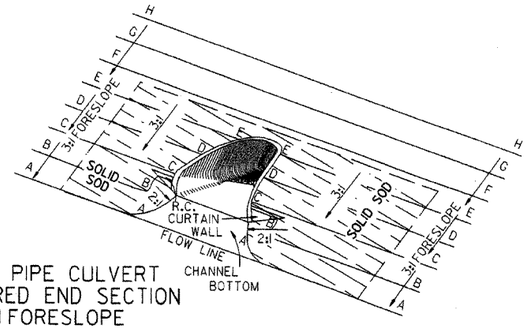
SECTION A-A



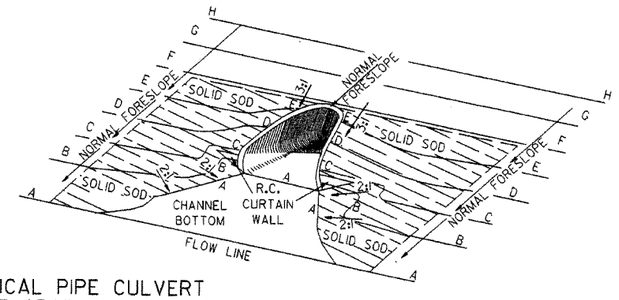
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

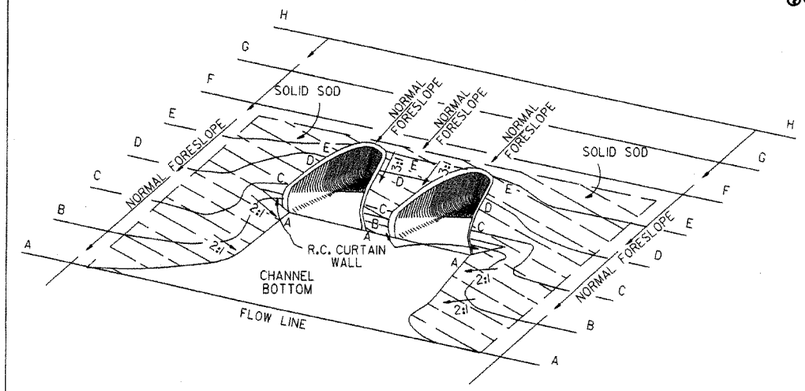
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



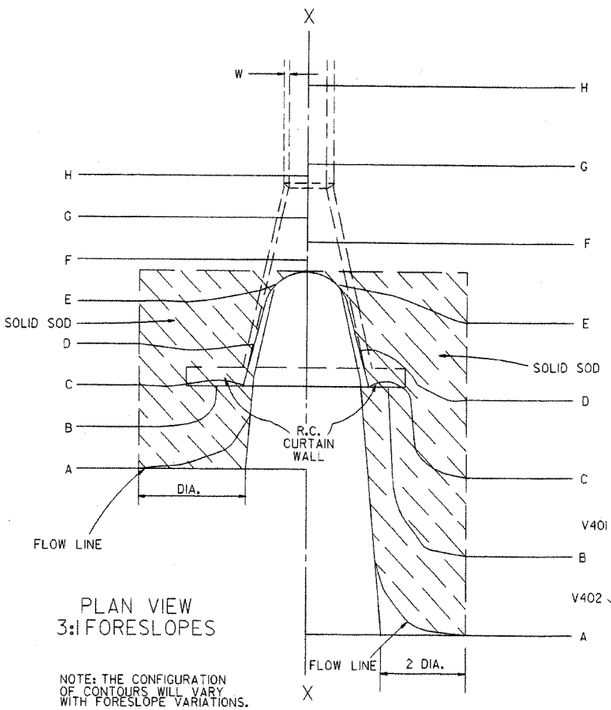
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

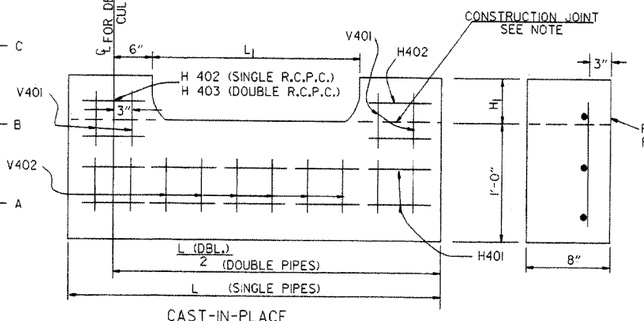
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.

REINFORCING STEEL SCHEDULE

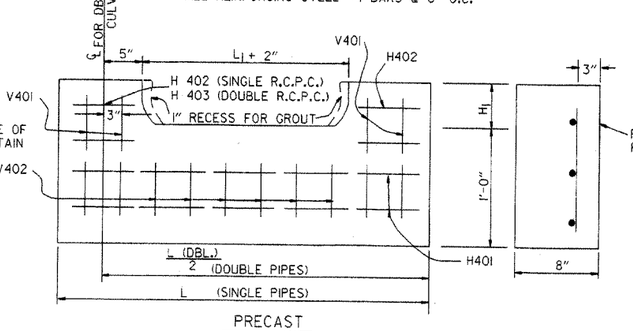
PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.



CAST-IN-PLACE

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS

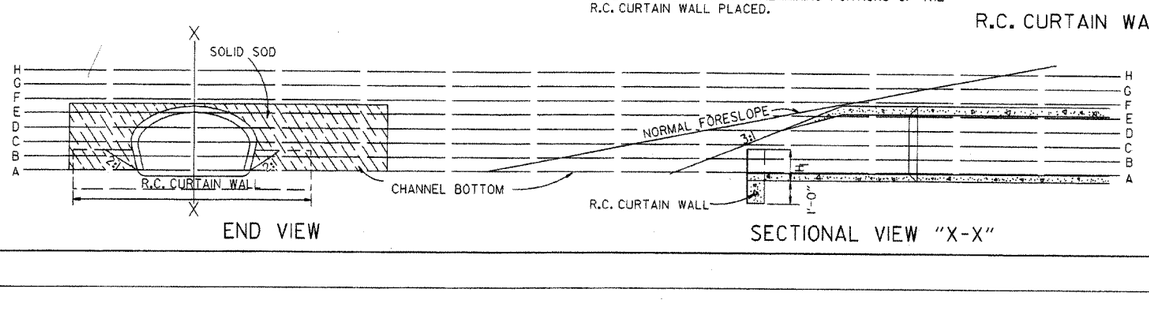
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	4:1	6:1	DOUBLE R.C.P.C. 3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-91	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

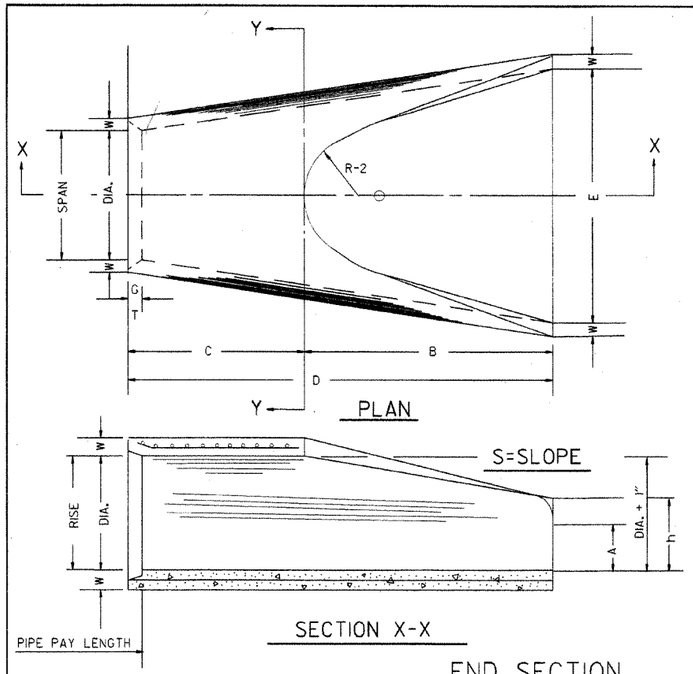
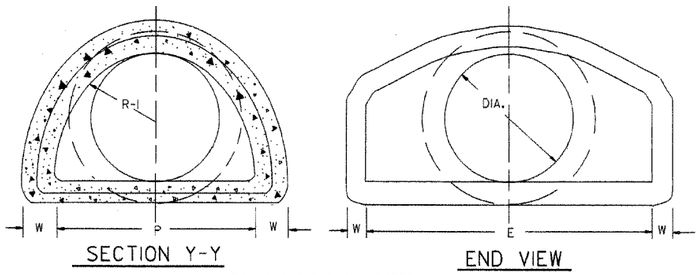


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33⅜"	16¹¹⁄₁₆"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47¹⁄₁₆"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-5"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅜"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36¹¹⁄₁₆"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77¹¹⁄₁₆"	38¹¹⁄₁₆"	24"	5"	13250	4'-6"

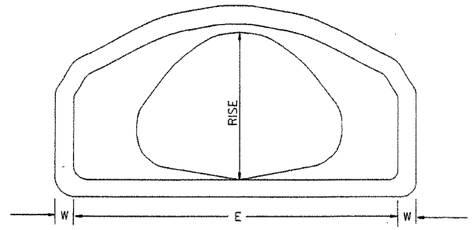


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE

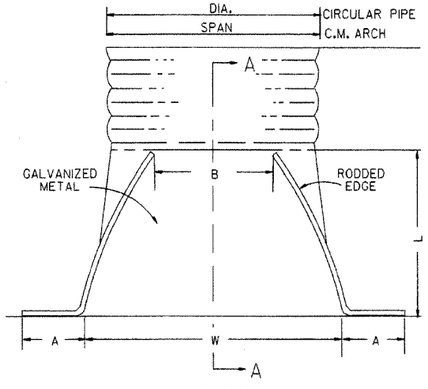
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36¹³⁄₁₆"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-01½"	6'-1½"	6'-0"	47¹³⁄₁₆"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½:1
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72¹⁄₁₆"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77¹¹⁄₁₆"	24"	5"	2¼:1

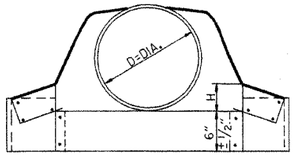
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



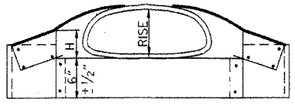
END VIEW
CONCRETE ARCH PIPE

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

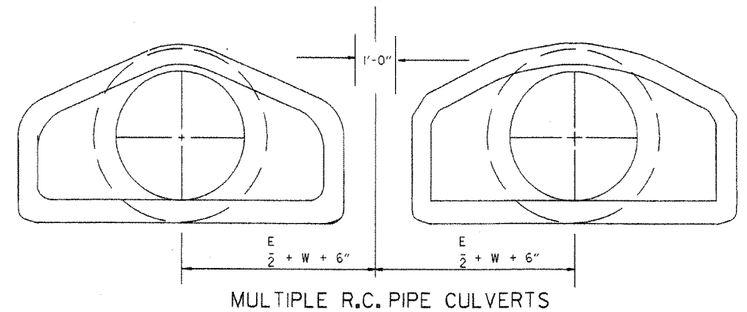
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

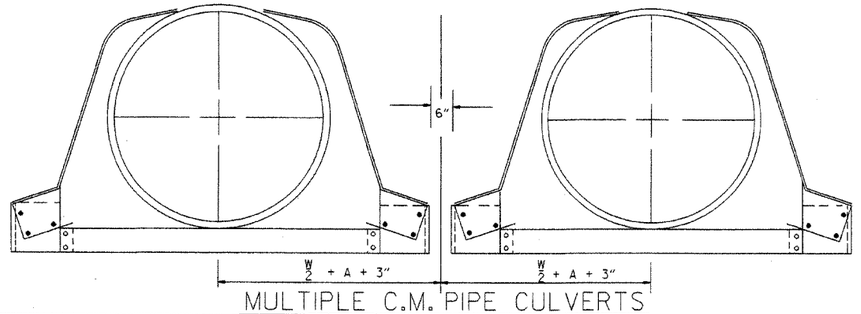
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

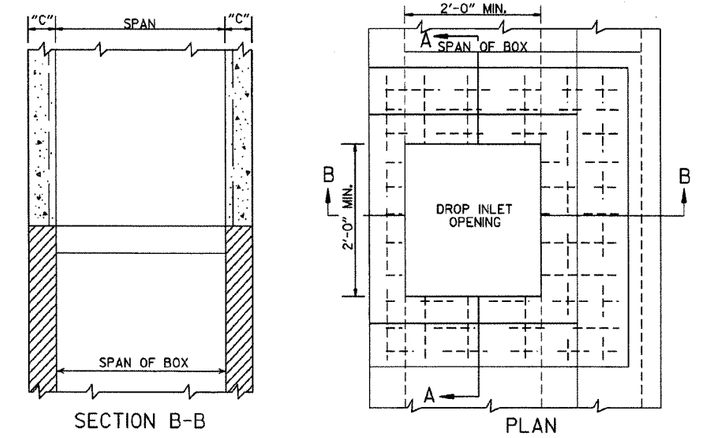
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

ARKANSAS STATE HIGHWAY COMMISION

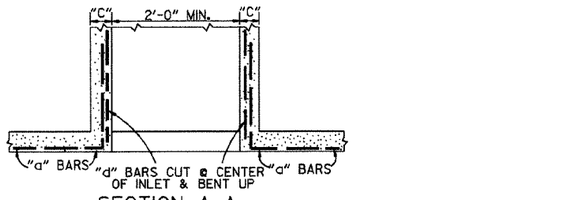
FLARED END SECTION

STANDARD DRAWING FES-2

stdfes2.dgn

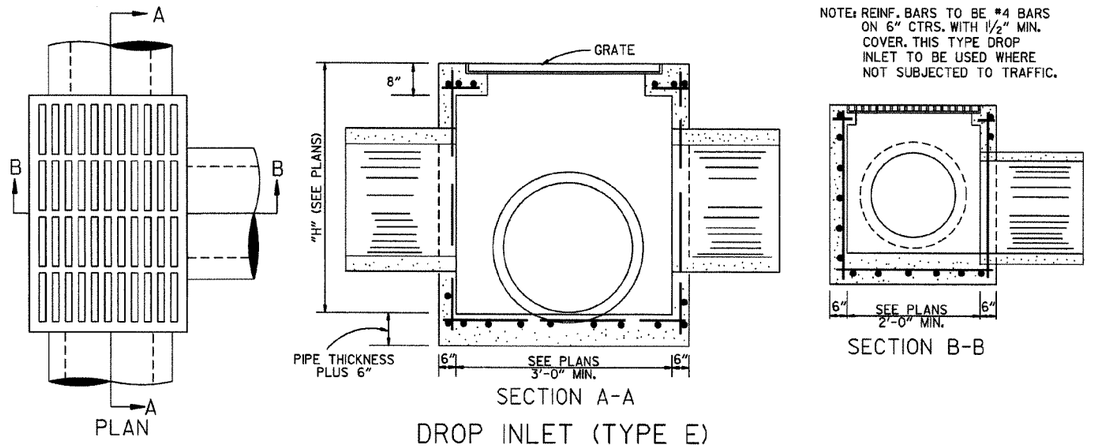


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

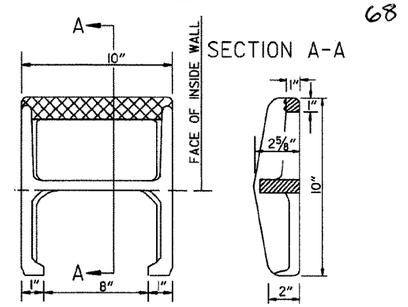


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

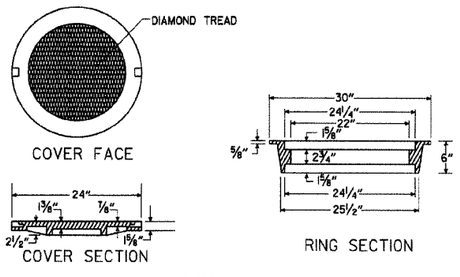


DROP INLET (TYPE E)



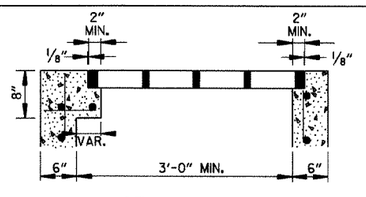
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



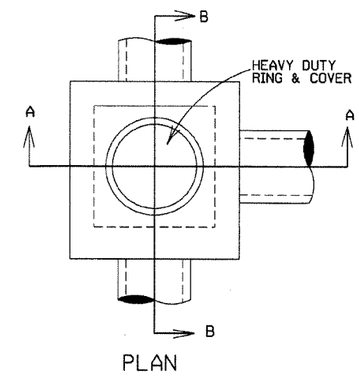
APPROXIMATE TOTAL WEIGHT = 333 LBS.

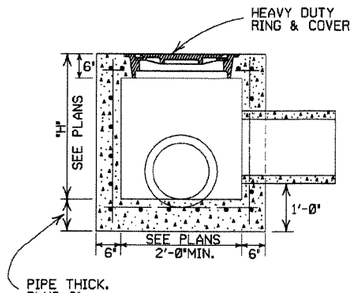
HEAVY DUTY RING & COVER



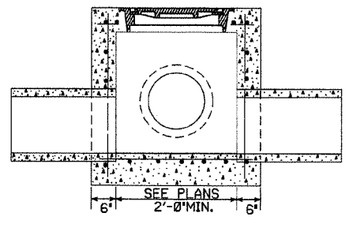
APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

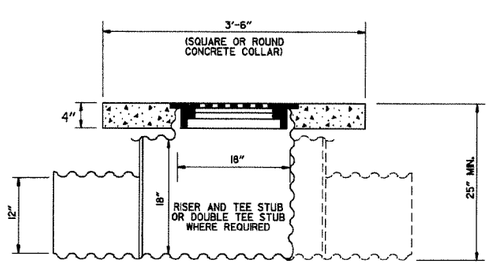


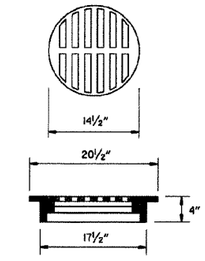


NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



JUNCTION BOX (TYPE E)





DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC. CU. YDS.	HEIGHT 5'-0" REINF. STEEL POUNDS	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

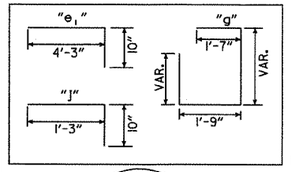
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

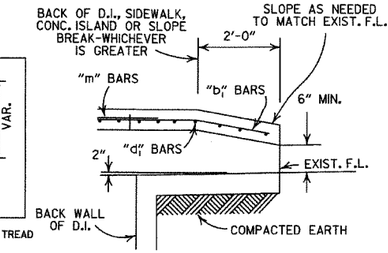
DROP INLET EXTENSION

4'-0" CLASS A CONC. CU. YDS.	4'-0" REINF. STEEL POUNDS	8'-0" CLASS A CONC. CU. YDS.	8'-0" REINF. STEEL POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET		
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

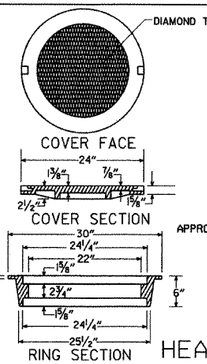
BAR DIAMETER





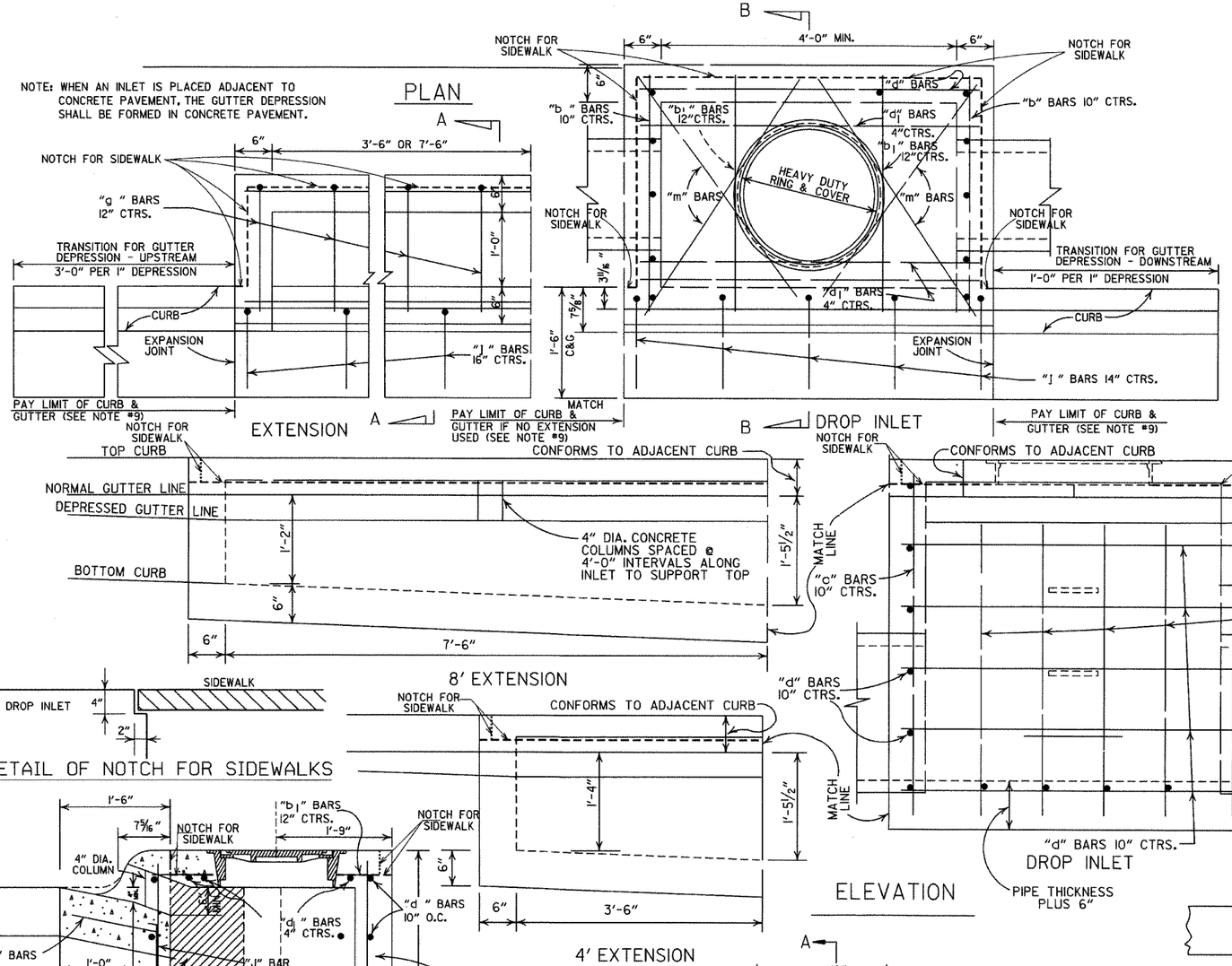
BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).



APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

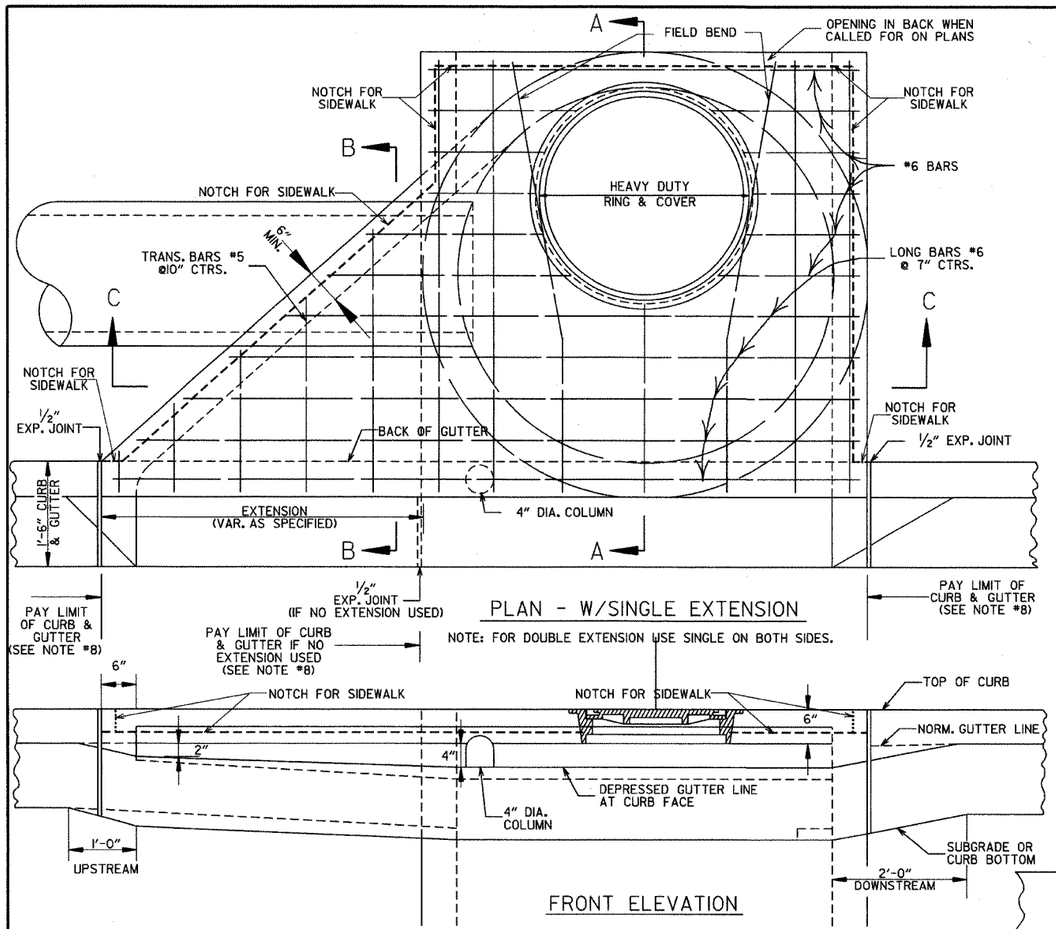
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

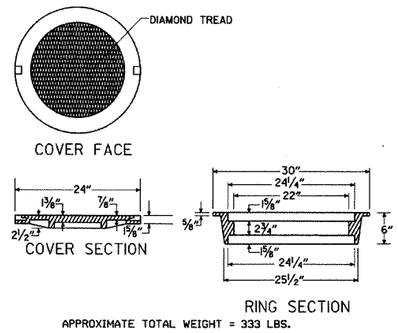
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

STANDARD DRAWING FPC-9E

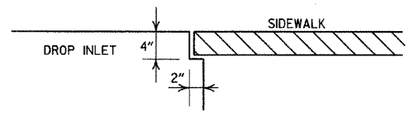




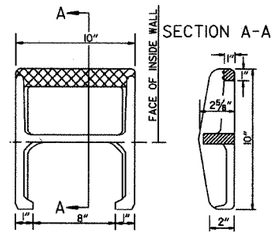
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS

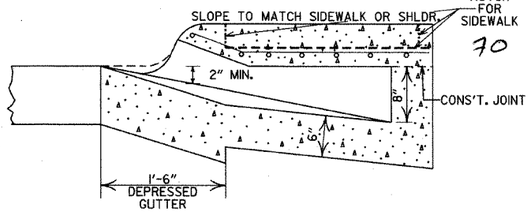


APPROX. WEIGHT = 11 LBS. (CAST IRON)

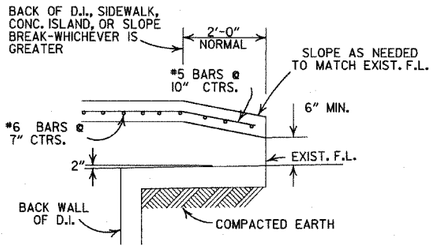
PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B

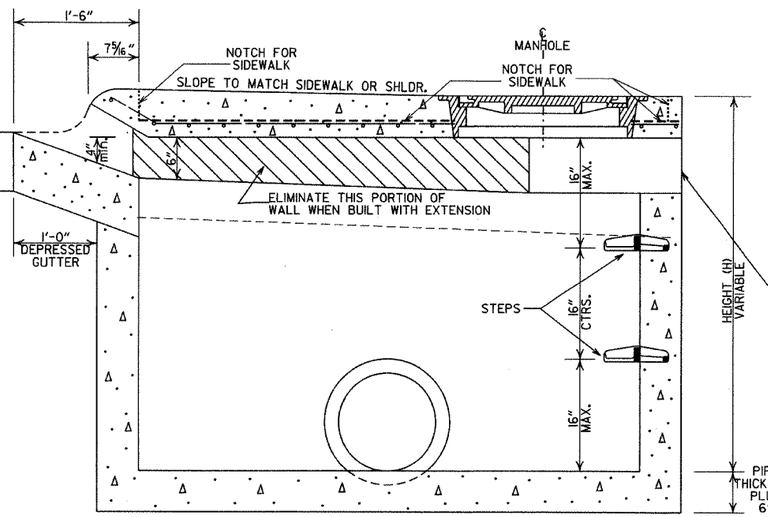


BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION A-A

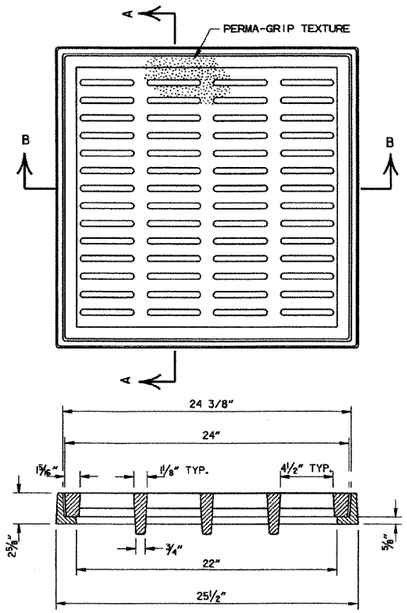
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS CAST IN PLACE	MINIMUM WALL THICKNESS PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-28-96	ADDED NOTE 11 & ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *6 BAR SPACING	
7-26-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE C TO MO (OPEN, BACK DETAIL)	
11-1-94	REVISED GENERAL NOTES	11-1-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 10	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5A-5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	6A-7-15-88
1-14-87	MODIFIED WALL THICKNESS	7A-1-14-87
6-12-87	ISSUED	4-6-12-87

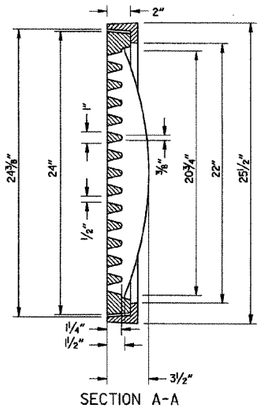
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



SECTION B-B

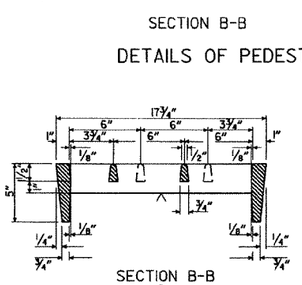


SECTION A-A

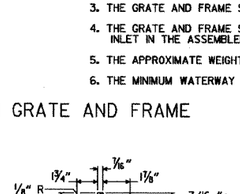
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

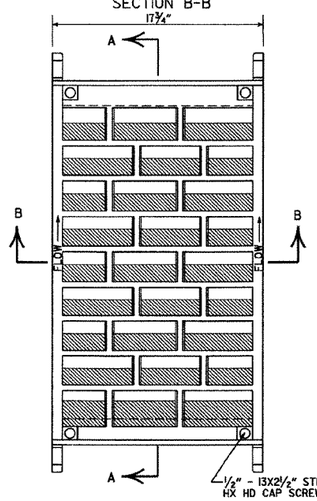
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 211LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

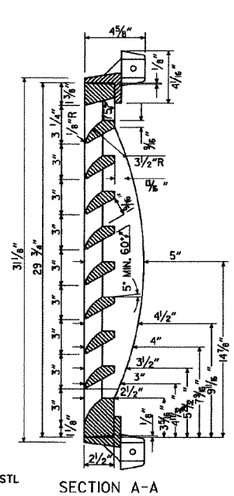


SECTION B-B



SECTION THRU FRAME



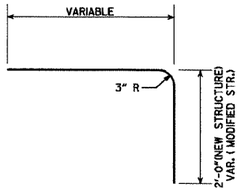


SECTION A-A

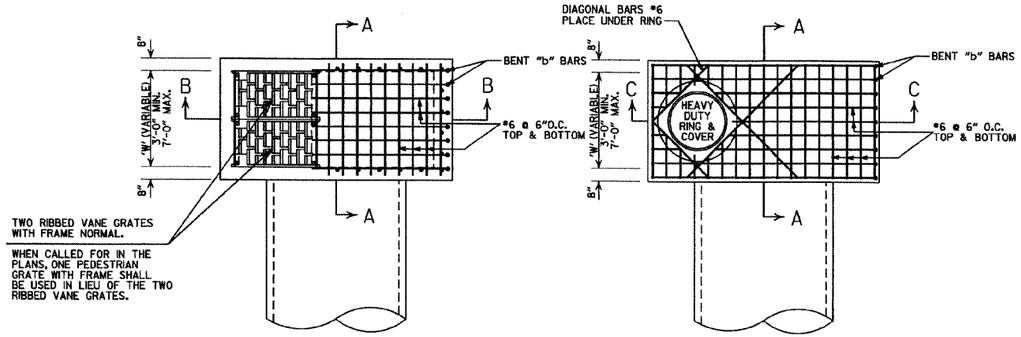
DETAILS OF RIBBED VANE GRATE AND FRAME

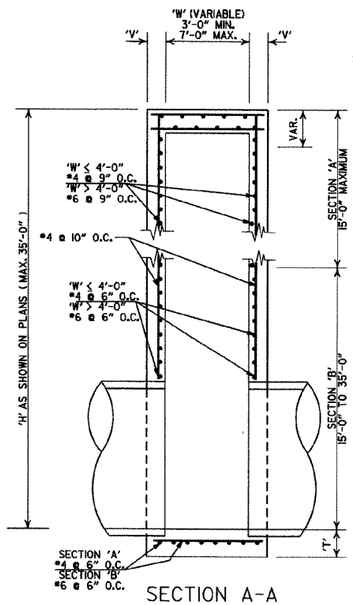
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



DETAIL OF BENT "b" BAR





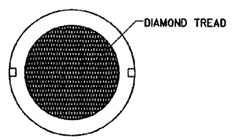
SECTION 'A'
'V' = 8"

SECTION 'B' (W<4'-0")
'V' = 8"

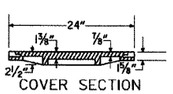
SECTION 'B' (W>4'-0")
'V' = 10"

SECTION A-A

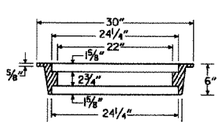
DETAILS OF DROP INLET
(TYPE ST)



COVER FACE



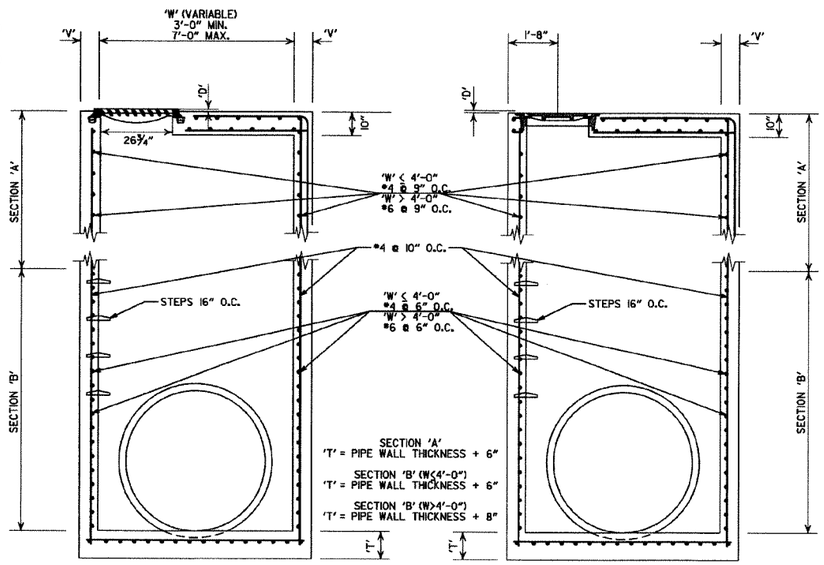
COVER SECTION



RING SECTION

HEAVY DUTY
RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.



SECTION 'A'
'T' = PIPE WALL THICKNESS + 6"

SECTION 'B' (W≤4'-0")
'T' = PIPE WALL THICKNESS + 6"

SECTION 'B' (W>4'-0")
'T' = PIPE WALL THICKNESS + 8"

SECTION B-B

SECTION C-C

DETAILS OF JUNCTION BOX
(TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A ¾" CHAMFER.
4. ALL #4 & #5 REINFORCING BARS ARE TO HAVE A MIN. 1½" COVER. ALL LARGER SIZE BARS ARE TO HAVE A 2" MIN. COVER.

GENERAL NOTES (HEAVY DUTY RING & COVER):

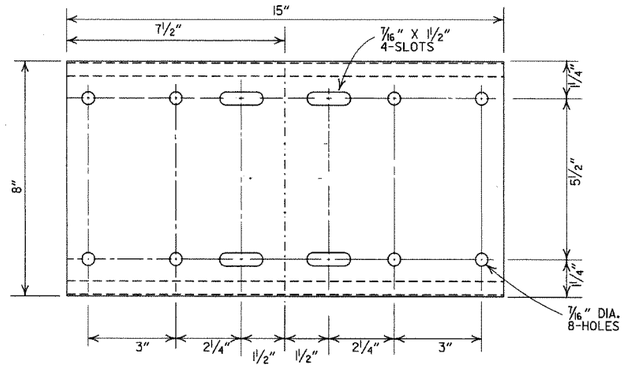
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REVISED	DATE FILMED	DESCRIPTION
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

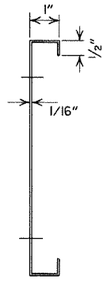
ARKANSAS STATE HIGHWAY COMMISSION

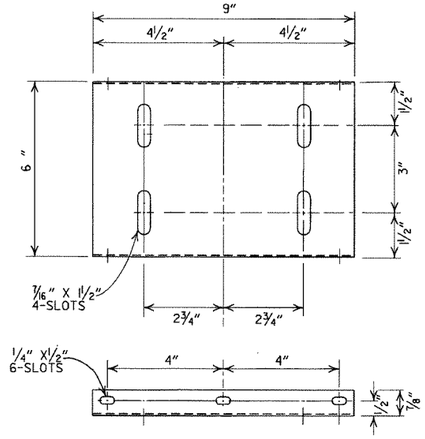
DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

STANDARD DRAWING FPC-9S

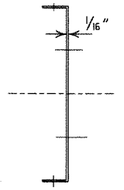


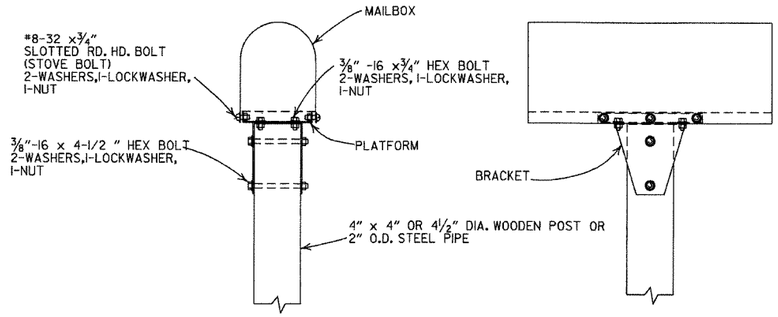
SHELF



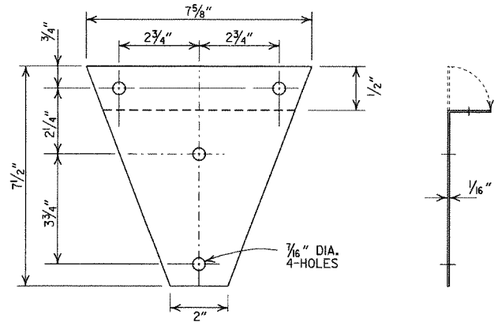


PLATFORM





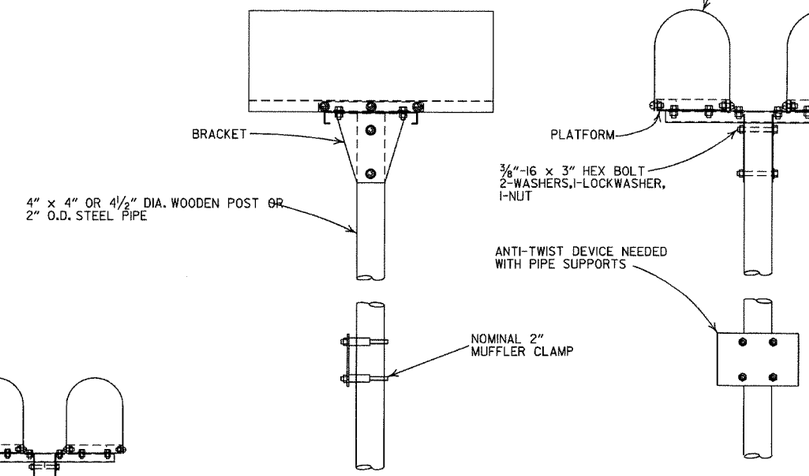
SINGLE INSTALLATION



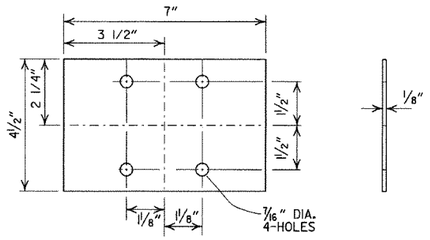
BRACKET

GENERAL NOTES

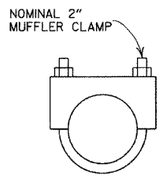
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



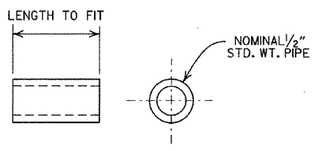
DOUBLE INSTALLATION



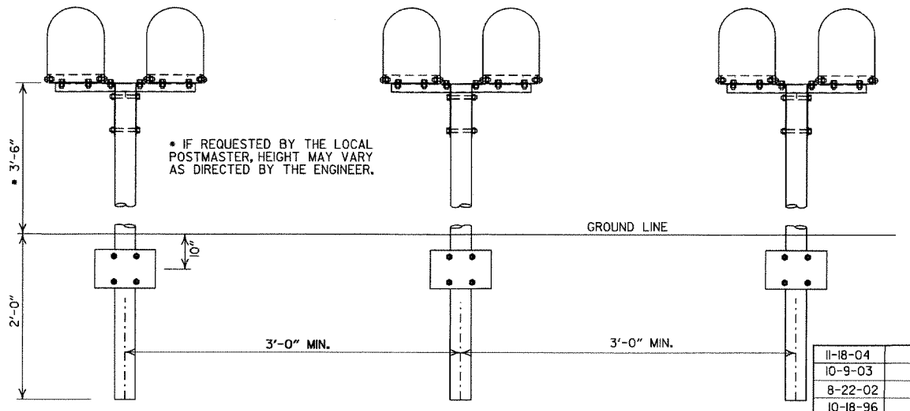
ANTI-TWIST PLATE



CLAMP



SPACER



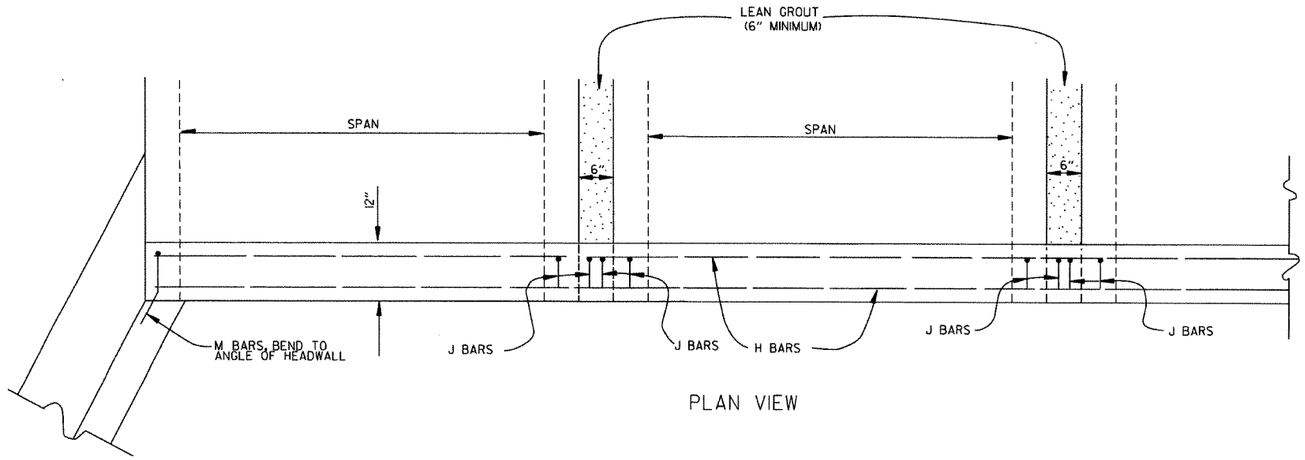
SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

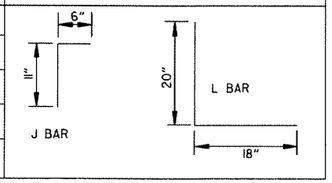
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	*	
I	*	#4	*	
J	*	#4	1'-5"	
L	*	#4	3'-2"	
M	*	#4	1'-8"	



* NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

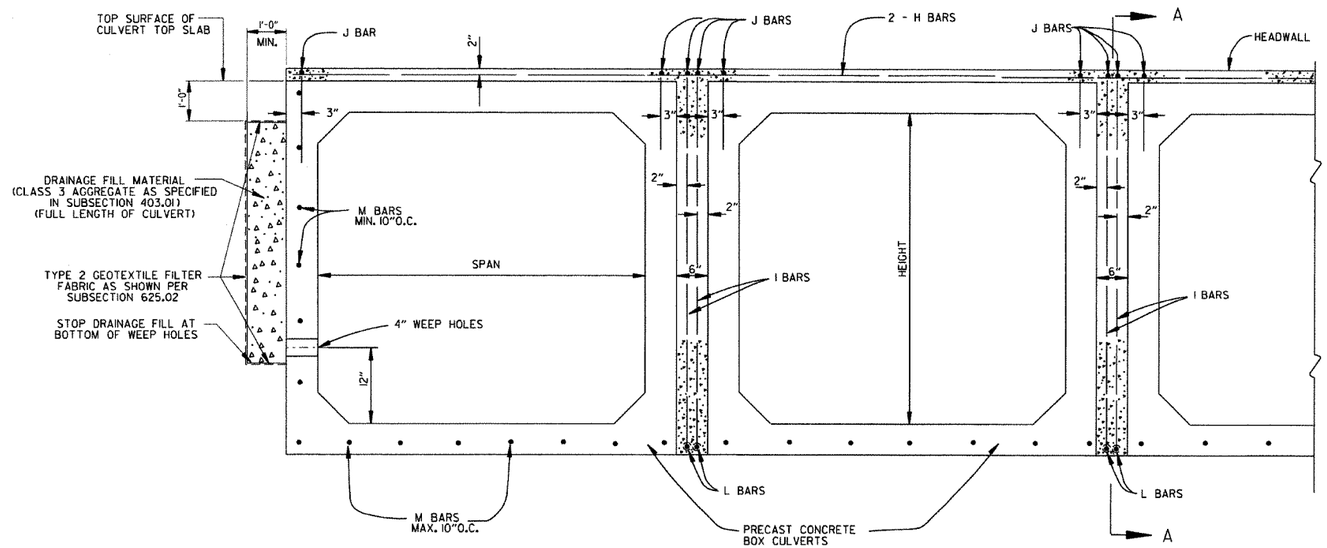
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

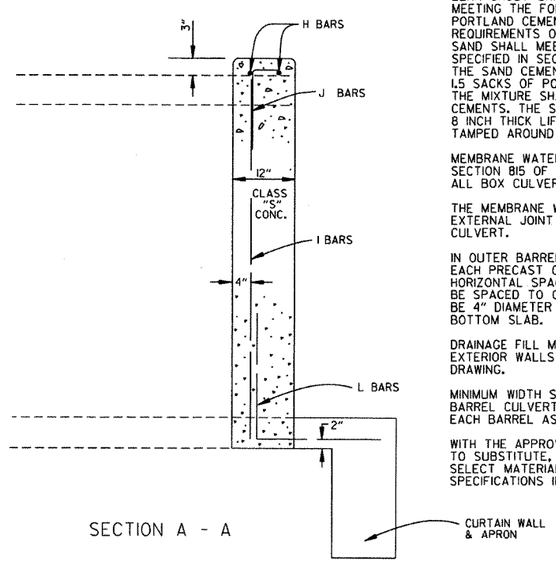
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11-8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

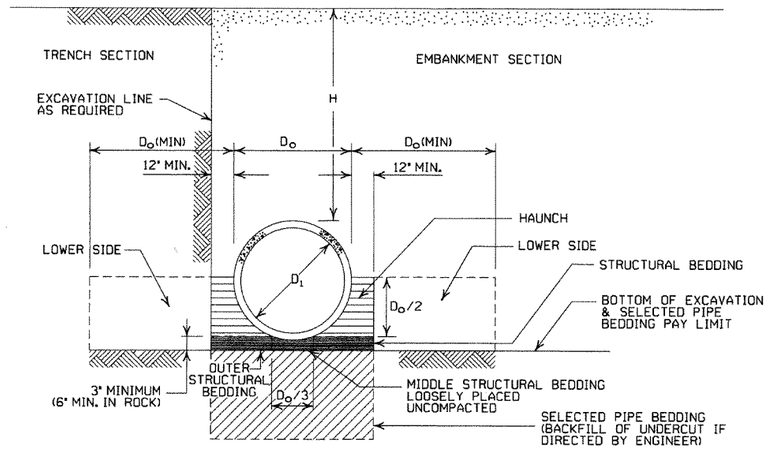
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, 'H' SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, 'H' SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING · PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL MIN. THICKNESS REQUIRED INCHES	STEEL ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	STEEL MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM MIN. THICKNESS REQUIRED INCHES	ALUMINUM ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					
				INSTALLATION TYPE 2	INSTALLATION TYPE 1	INSTALLATION TYPE 2	INSTALLATION TYPE 1	
36	40x31	5	0.079	3	2	12	15	
42	46x36	6	0.079	3	2	13	15	
48	53x41	7	0.079	3	2	13	15	
54	60x46	8	0.079	3	2	13	15	
60	66x51	9	0.079	3	2	13	15	
66	73x55	12	0.079	3	2	15	15	
72	81x59	14	0.079	3	2	15	15	
78	87x63	14	0.079	3	2	15	15	
84	95x67	16	0.109	3	2	15	15	
90	103x71	16	0.109	3	2	15	15	
96	112x75	18	0.109	3	2	15	15	
102	117x79	18	0.109	3	2	15	15	
108	128x83	18	0.138	3	2	15	15	

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

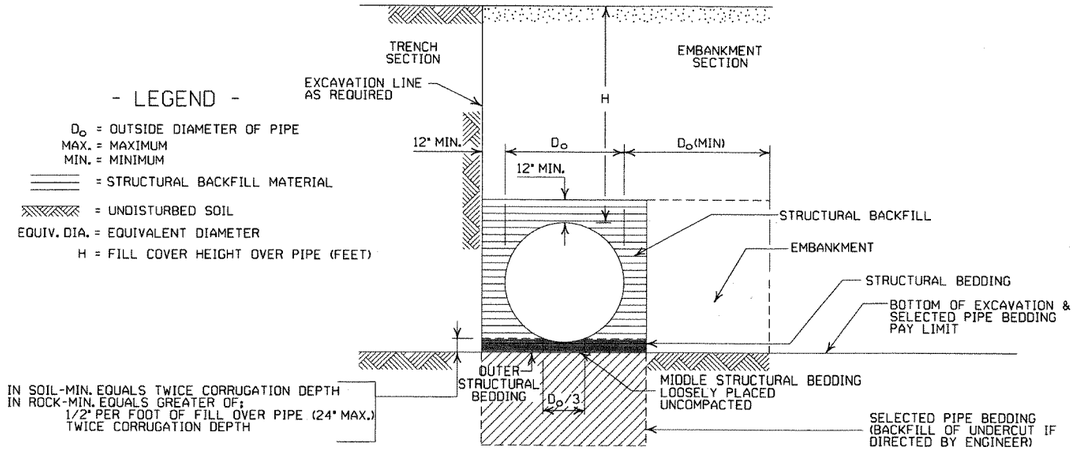
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

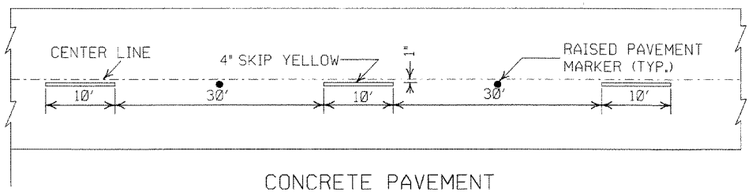
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

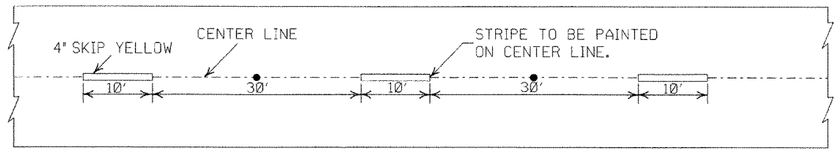
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

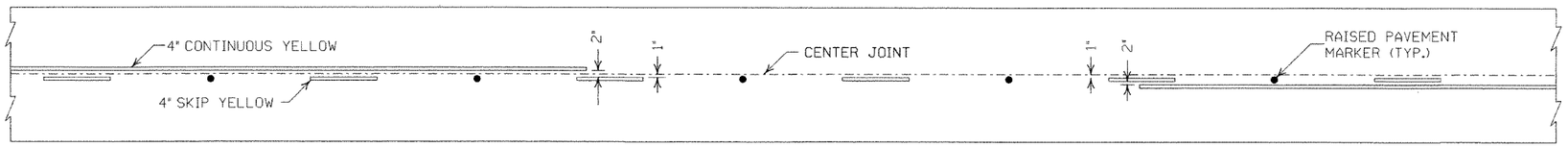


CONCRETE PAVEMENT

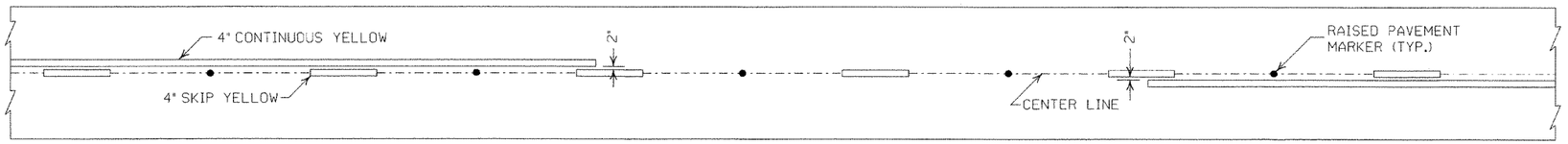


ASPHALT PAVEMENT

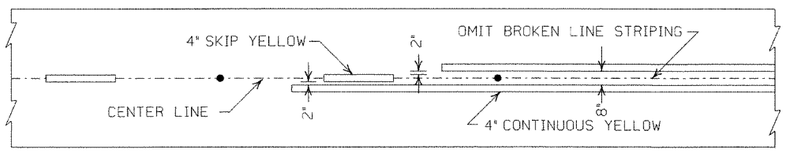
BROKEN LINE STRIPING



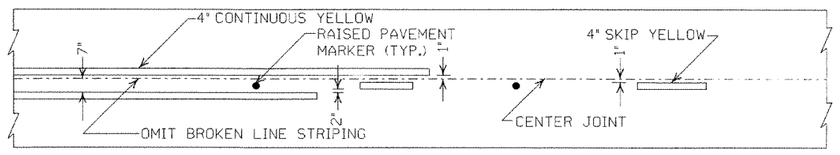
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

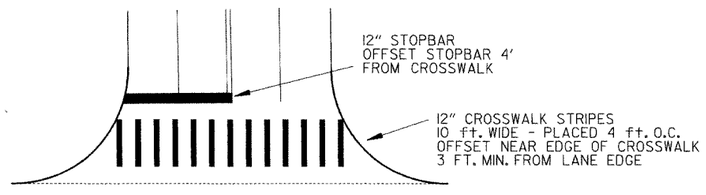


ASPHALT PAVEMENT



CONCRETE PAVEMENT

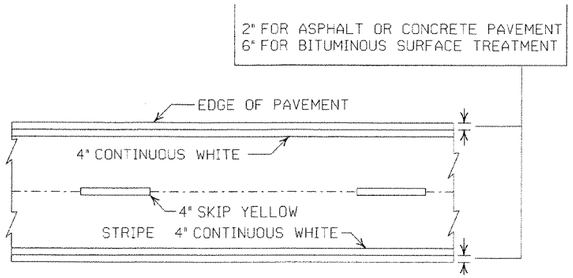
STRIPING AT ADJACENT NO PASSING LANES



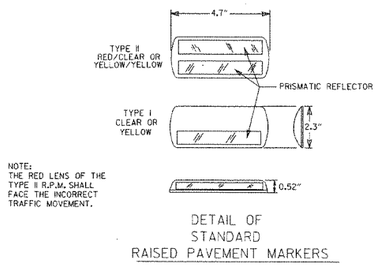
CROSSWALK AND STOPBAR DETAILS

NOTES:

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



PAVEMENT EDGE LINE MARKING



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

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

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

NOTE:

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

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

ARKANSAS STATE HIGHWAY COMMISSION

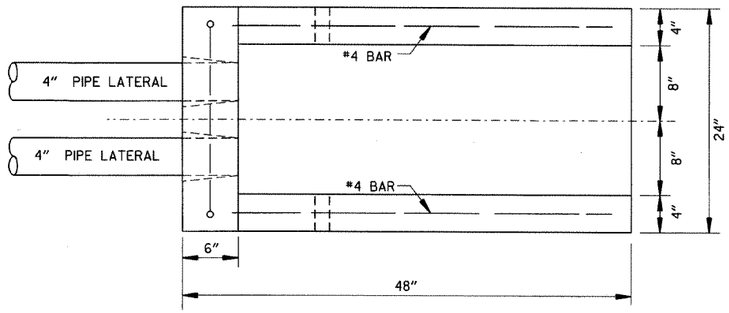
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

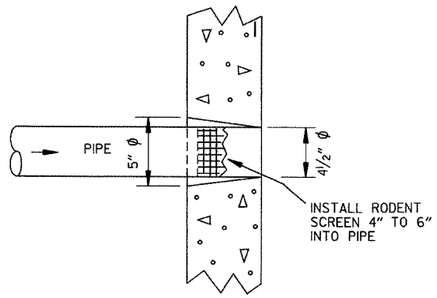
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

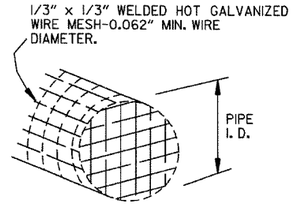
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



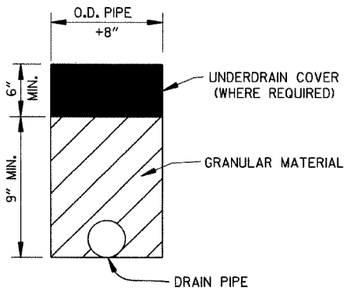
PLAN VIEW

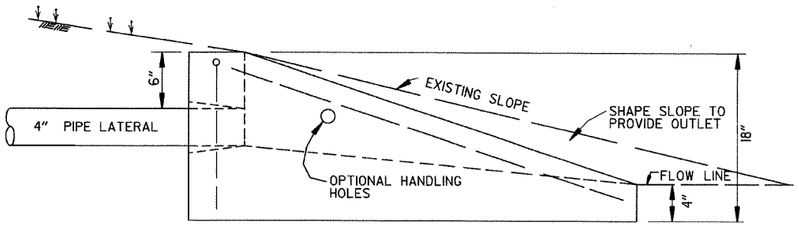


DETAIL OF HOLE FOR 4" PIPE

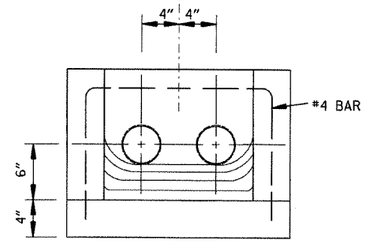


DETAIL OF RODENT SCREEN

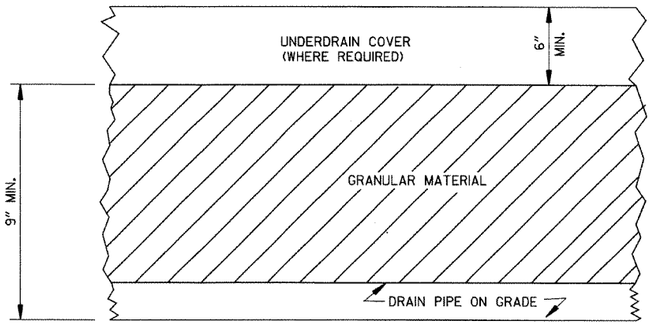




SIDE VIEW

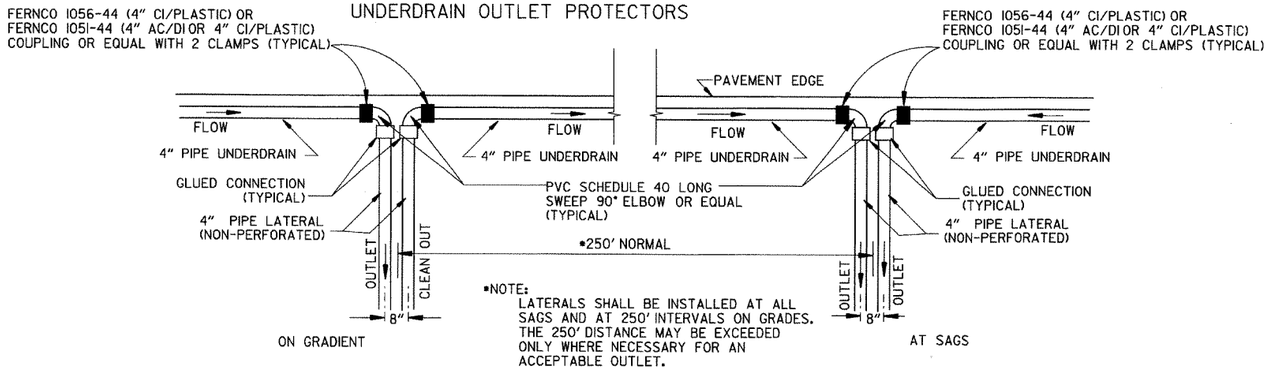


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

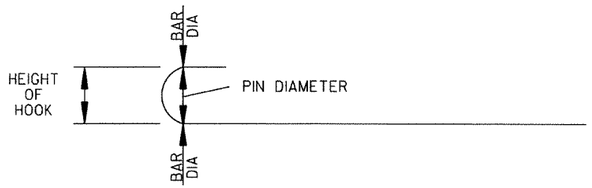
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

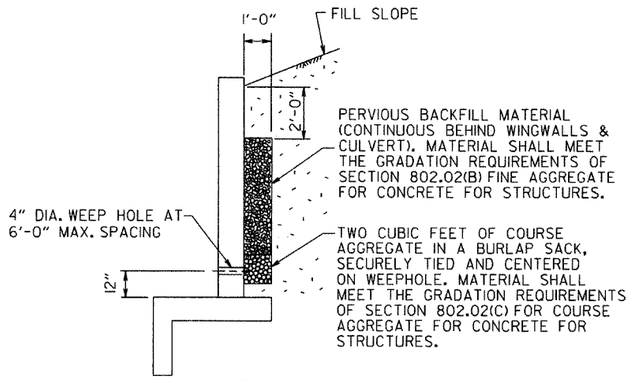
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

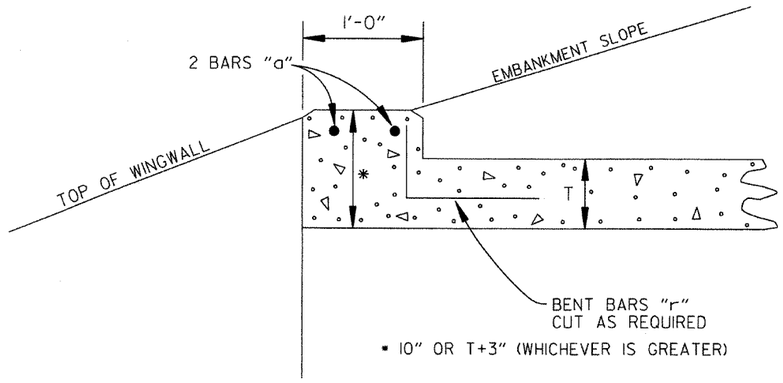
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



* 10" OR T+3" (WHICHEVER IS GREATER)

NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

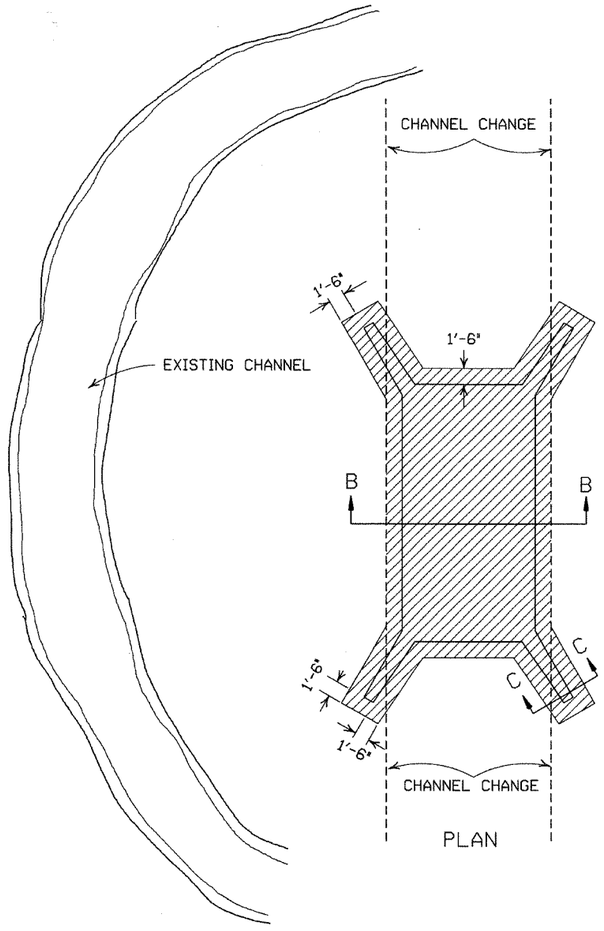
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
12-15-11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

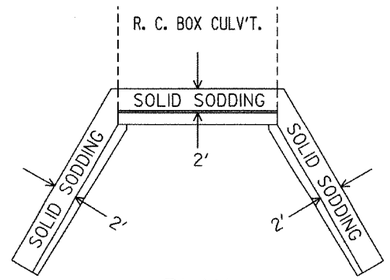
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

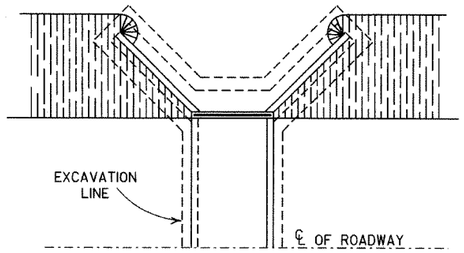
SOLID SODDING



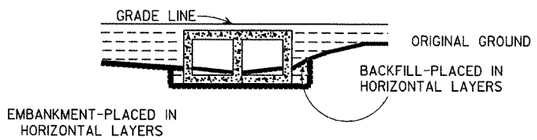
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

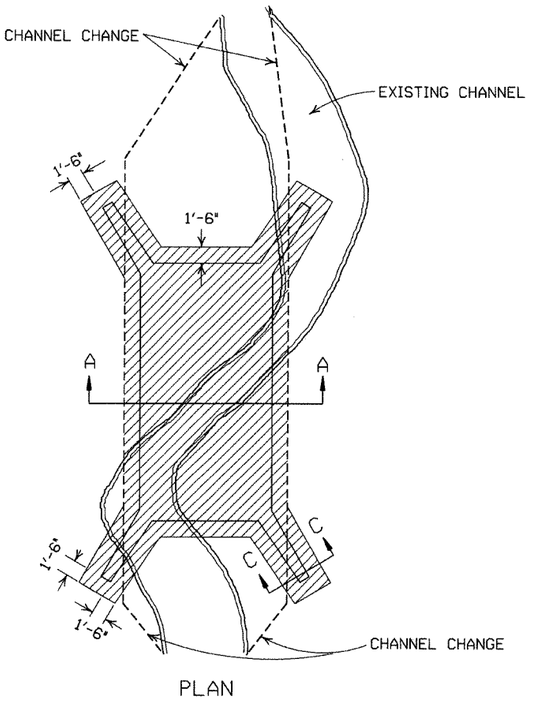


PLAN

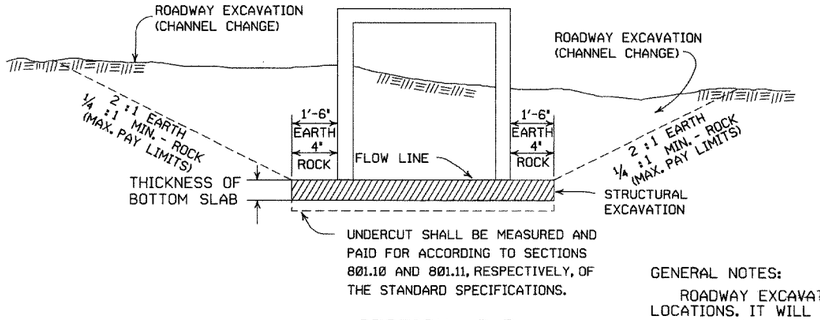


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

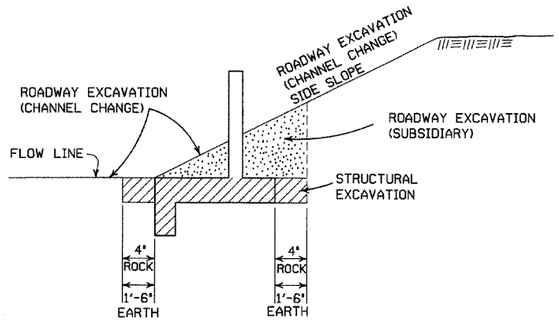


PLAN

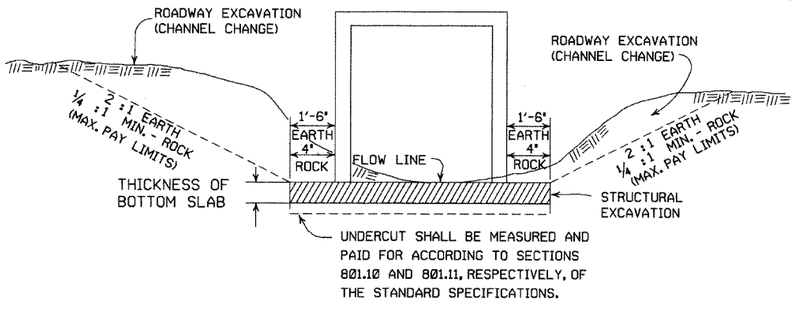


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 18918 AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

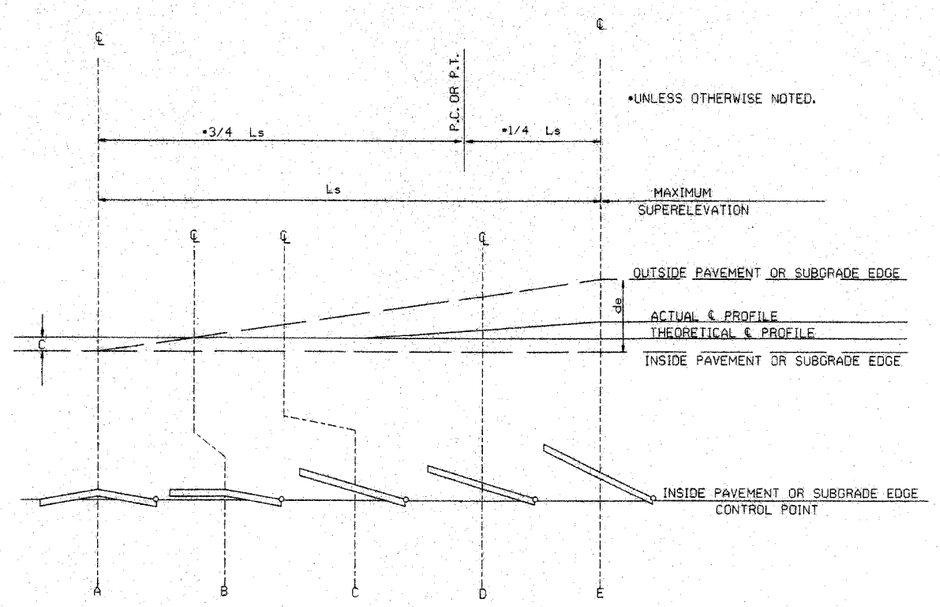
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 30′	N. C.			N. C.			N. C.			0. 022			0. 023			0. 028		
0° 45′	N. C.			N. C.			R. C.			0. 026			0. 030			0. 037	275	300
1° 00′	N. C.			N. C.			0. 021			0. 032			0. 037			0. 046		
1° 15′	N. C.			R. C.			0. 026			0. 037			0. 043			0. 054		
1° 30′	N. C.			0. 021			0. 031	200		0. 043	225		0. 049	250		0. 062		
1° 45′	N. C.			0. 025	175		0. 036			0. 048		300	0. 056		300	0. 070		
2° 00′	R. C.			0. 028			0. 040			0. 053			0. 061			0. 078	300	350
2° 15′	R. C.			0. 031			0. 045		250	0. 058			0. 067			0. 085	315	
2° 30′	0. 021			0. 034			0. 049			0. 063			0. 072			0. 091	335	
2° 45′	0. 023			0. 037		200	0. 053			0. 067	230		0. 077	260		0. 096	350	400
3° 00′	0. 025	150		0. 040			0. 057			0. 072	245		0. 082	275		0. 098	360	
3° 15′	0. 027			0. 043			0. 061			0. 076	255		0. 086	285	350	0. 100	360	
3° 30′	0. 029			0. 046			0. 065	205		0. 080	265		0. 090	295				
3° 45′	0. 031		200	0. 049			0. 069	215		0. 083	270		0. 093	305				
4° 00′	0. 033			0. 051			0. 072	225		0. 087	280		0. 096	315				
4° 30′	0. 037			0. 056			0. 078	240		0. 091	295	350	0. 098	320				
5° 00′	0. 040			0. 061	185		0. 083	250		0. 094	300							
5° 30′	0. 043			0. 066	190		0. 088	260		0. 096	305							
6° 00′	0. 046			0. 070	200		0. 092	270	300	0. 100	315							
6° 30′	0. 050			0. 074	210		0. 095	280										
7° 00′	0. 053			0. 078	215		0. 098	285										
7° 30′	0. 056			0. 081	220		0. 099	290										
8° 00′	0. 058			0. 084	225	250	0. 100	290										
8° 30′	0. 061			0. 087	230													
9° 00′	0. 063			0. 089	235													
10° 00′	0. 068	160		0. 094	250													
11° 00′	0. 072	170		0. 097	250													
12° 00′	0. 076	175		0. 099	250													
13° 00′	0. 080	180		0. 100	250													
14° 00′	0. 083	190																
15° 00′	0. 086	195																
16° 00′	0. 089	200																
17° 00′	0. 091	200																
18° 00′	0. 093	205																
19° 00′	0. 095	210																
20° 00′	0. 097	215	250															
21° 00′	0. 098	215																
22° 00′	0. 099	215																
23° 00′	0. 099	215																
24° 00′	0. 100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

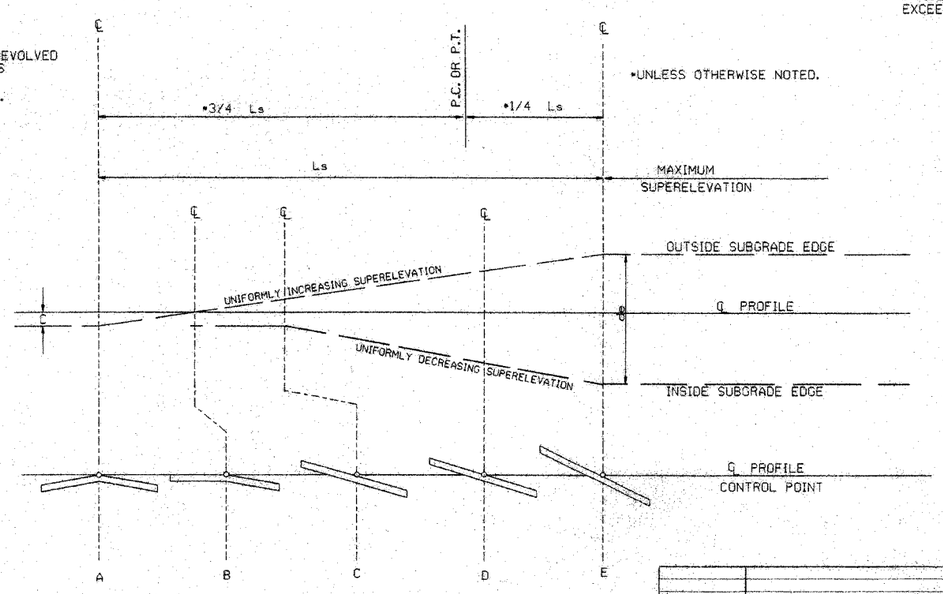
GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

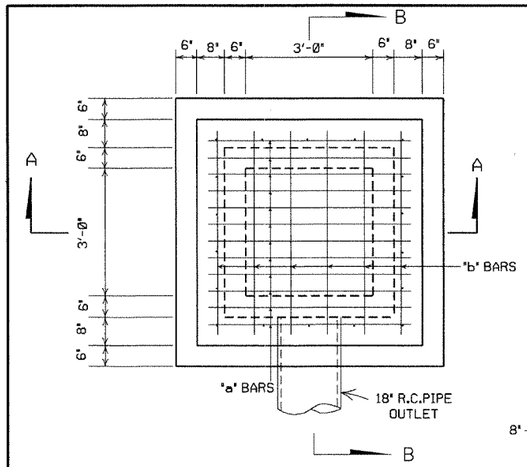
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

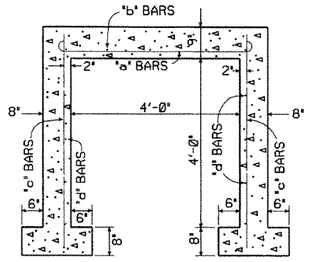
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

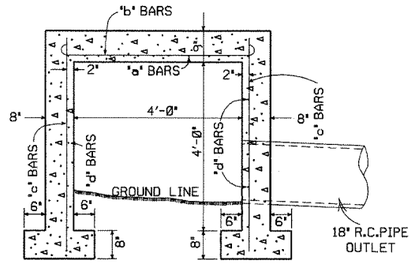
STANDARD DRAWING SE-2

FILE STDSE2.DGN





SEC A-A

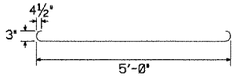


SEC B-B

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
'a'	11	6'-0"	5"
'b'	6	6'-0"	10"
'c'	16	5'-1"	12"
'd'	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



'a' & 'b' BARS

QUANTITIES

CONCRETE 3.40 CU. YDS.
REINFORCING STEEL 176 LB.

GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITTIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX

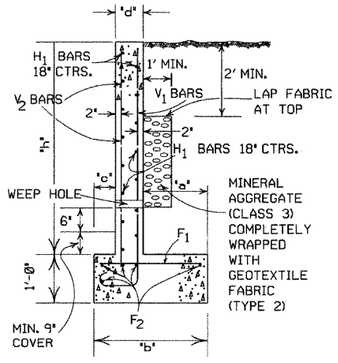
GENERAL NOTES

THE PAY ITEMS FOR THE CONSTRUCTION OF REINFORCED CONCRETE RETAINING WALL SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL AND EXCAVATION FOR STRUCTURES.

MINERAL AGGREGATE WRAPPED WITH GEOTEXTILE FABRIC (CONTINUOUS) TO BE PLACED 1'-0" IN WIDTH AND 1'-0" IN HEIGHT AS A SUBSIDIARY ITEM TO THE VARIOUS PAY ITEMS.

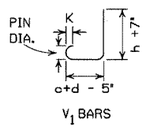
3" WEEP HOLES (MAX. SPACING 10'-0"CTRS.) TO BE PLACED WHERE SPECIFIED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PLACE CONTRACTION JOINTS ON 20' CENTERS AND EXPANSION JOINTS ON 60' CENTERS.

ALL EXPOSED EDGES TO BE CHAMFERED ¾".



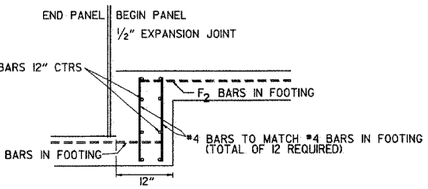
BENDING DIAGRAM

BAR SIZE	K	PIN DIA.
#4	4½"	2½"
#5	5"	3"

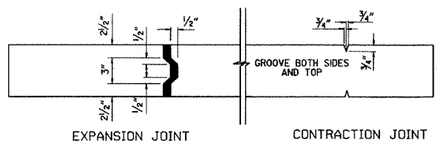


STEEL SCHEDULE

'c'	'd'	'h'	'a'	'b'	V_1 BARS SIZE	V_1 BARS SPACING	F_1 BARS SIZE	F_1 BARS SPACING	H_1 * 4 BARS SPAC.	V_2 * 4 BARS SPAC.	F_2 * 4 BARS NO. REQ'D.
8"	8"	1'-0"	8"	2'-0"	#4	12"	#4	18"	18"	18"	5
8"	8"	2'-0"	8"	2'-0"	#4	12"	#4	18"	18"	18"	5
8"	8"	3'-0"	8"	2'-0"	#4	12"	#4	18"	18"	18"	5
8"	8"	4'-0"	1'-2"	2'-6"	#4	12"	#4	12"	18"	18"	5
8"	8"	5'-0"	1'-8"	3'-0"	#4	9"	#4	9"	18"	18"	5
8"	8"	6'-0"	2'-2"	3'-6"	#4	6"	#4	6"	18"	18"	6
12"	8"	7'-0"	2'-4"	4'-0"	#4	8"	#4	8"	18"	18"	6
12"	8"	8'-0"	2'-10"	4'-6"	#4	6"	#4	6"	18"	18"	6
15"	10"	9'-0"	2'-11"	5'-0"	#4	5"	#4	5"	18"	18"	6
17"	10"	10'-0"	3'-3"	5'-6"	#5	6"	#5	6"	18"	18"	7



FOOTING STEPS

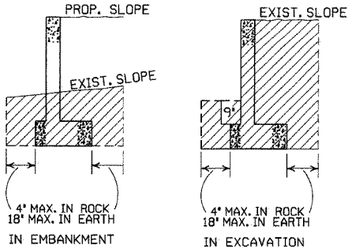


EXPANSION JOINT CONTRACTION JOINT

JOINT DETAILS

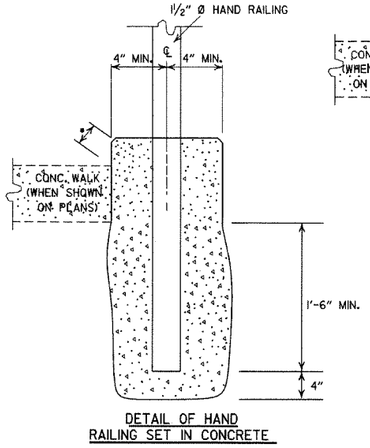
NOTE: JOINT MATERIAL SHALL BE PREFORMED MEETING THE REQUIREMENTS OF SUBSECTION 501.02(h) FOR TYPE 2

REINFORCED CONCRETE RETAINING WALL

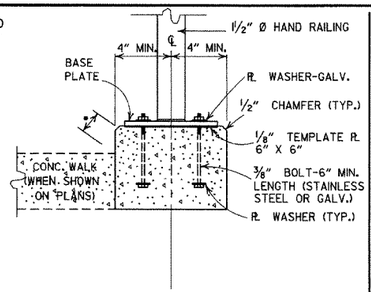


NOTE: HATCHED AREA DENOTES MAX. LIMITS OF EXCAVATION FOR STRUCTURES FOR RETAINING WALL.

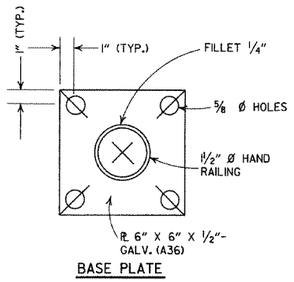
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

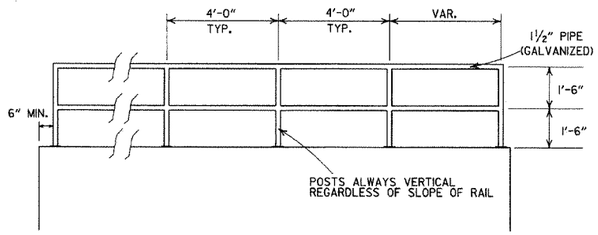


POST CONNECTION TO WALL

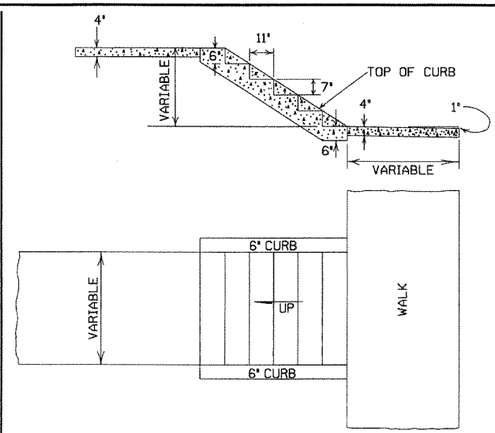


BASE PLATE

POST CONNECTION DETAILS

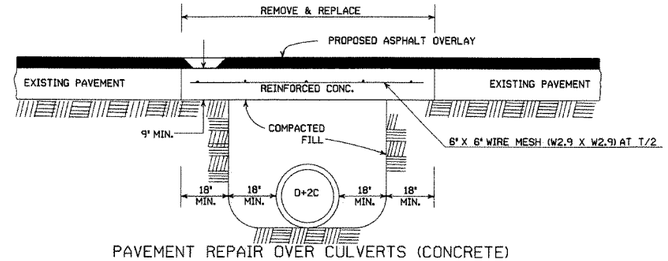


HAND RAILING DETAILS

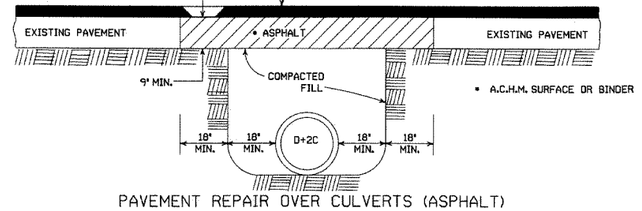


GENERAL NOTES
1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS



PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

DATE	REVISION	DATE FILMED
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V1 BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF 'UNDERDRAIN'	721-3-2-81
4-20-79	REV. UNDERDRAIN DET.& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	

ARKANSAS STATE HIGHWAY COMMISSION

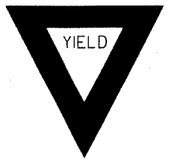
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

R1-1

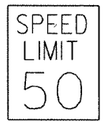
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



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

R2-1



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

R2-5A

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

R2-5C

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

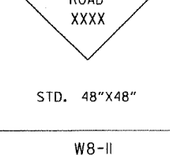
R4-1

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

R4-2

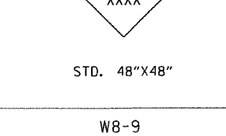
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



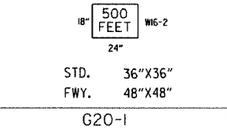
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



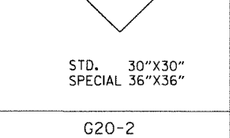
48"X30"

R11-3A



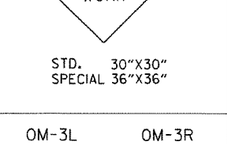
60"X30"

R11-4



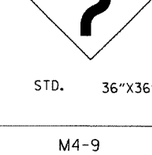
60"X30"

RSP-1



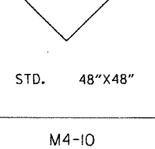
48"X30"

W1-1



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

W1-2

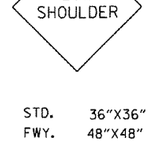


STD. 36"X36"
FWY. 48"X48"

W1-3

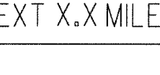
STD. 48"X48"

W1-4



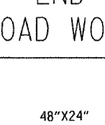
STD. 48"X48"

W1-6



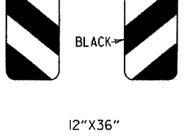
STD. 48"X24"
SPECIAL 60"X30"

W1-8



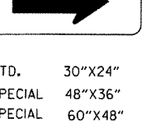
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2

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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

W8-9

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

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

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

M4-10

48"X18"

R55-1

36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

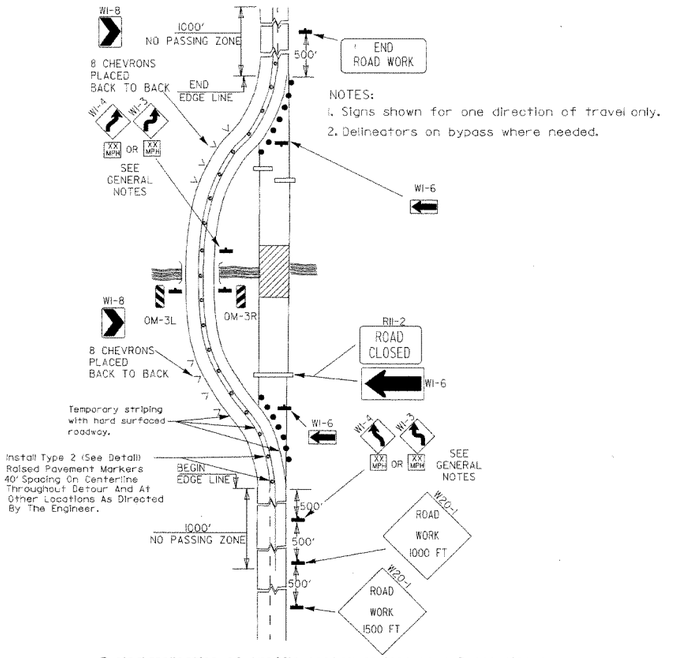
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

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

ARKANSAS STATE HIGHWAY COMMISSION

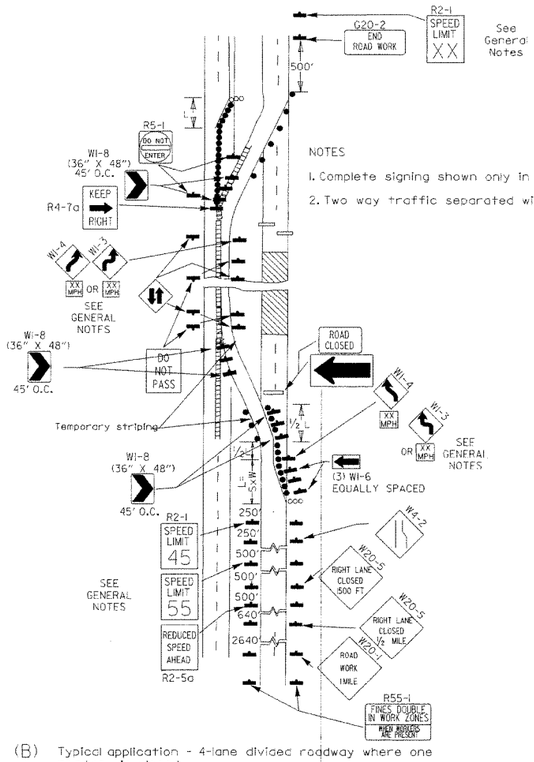
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



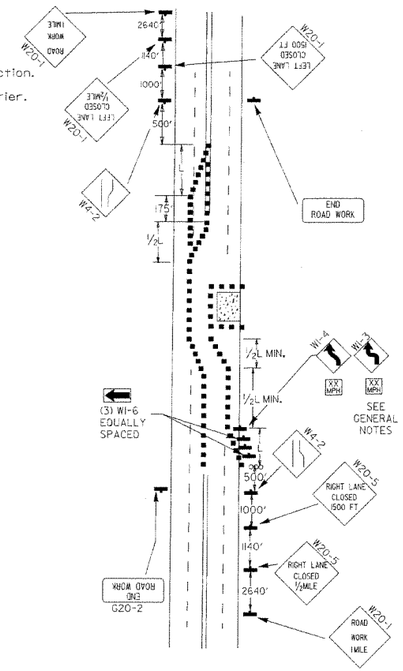
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

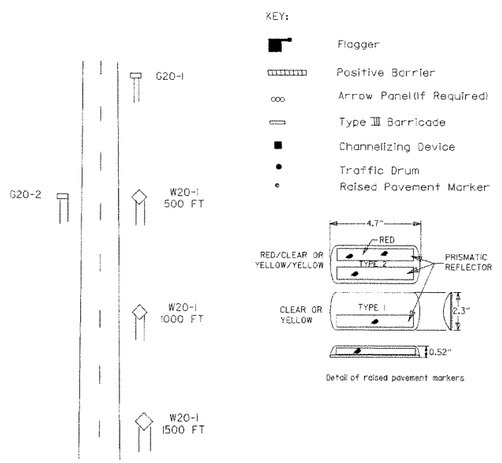


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

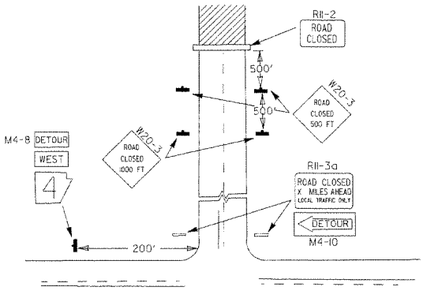
(B) Typical application - 4-lane divided roadway where one roadway is closed.

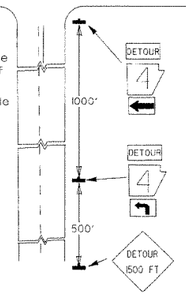


(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



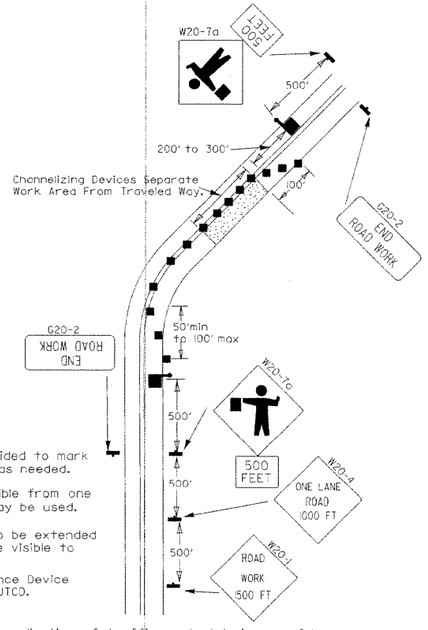
Typical advance warning sign placement





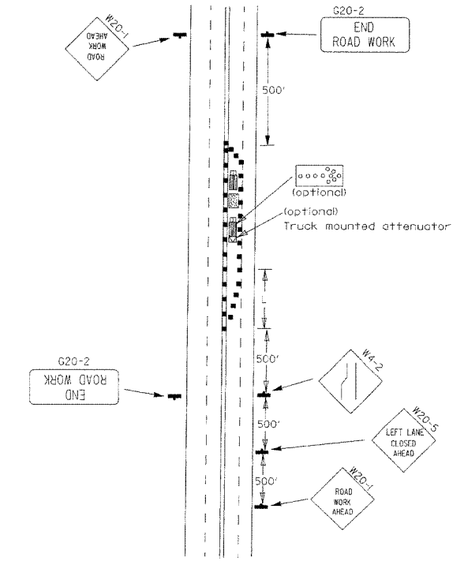
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(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.

Taper formulae:

L=SxW for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ for speeds of 40mph or less.

Where:
L= Minimum length of taper.
S= Numerical value of posted speed limit prior to work or 85th percentile speed.
W= Width of offset.

GENERAL NOTES:

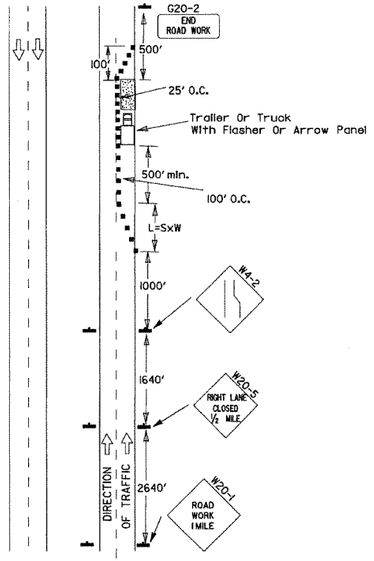
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed 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.

DATE	REVISION	FILMED
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	

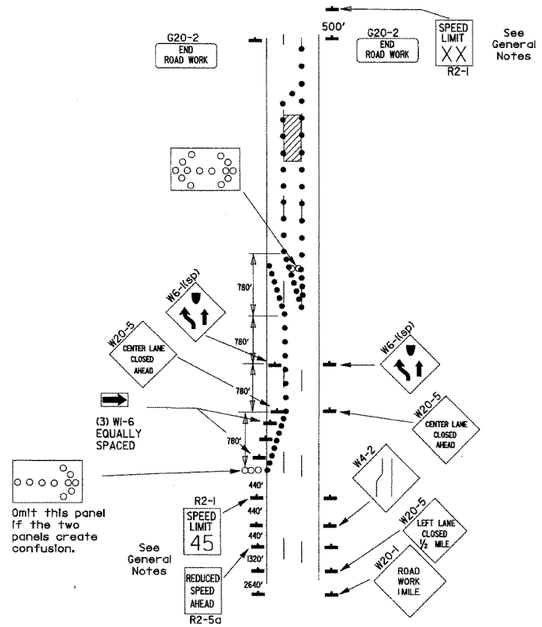
ARKANSAS STATE HIGHWAY COMMISSION

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:

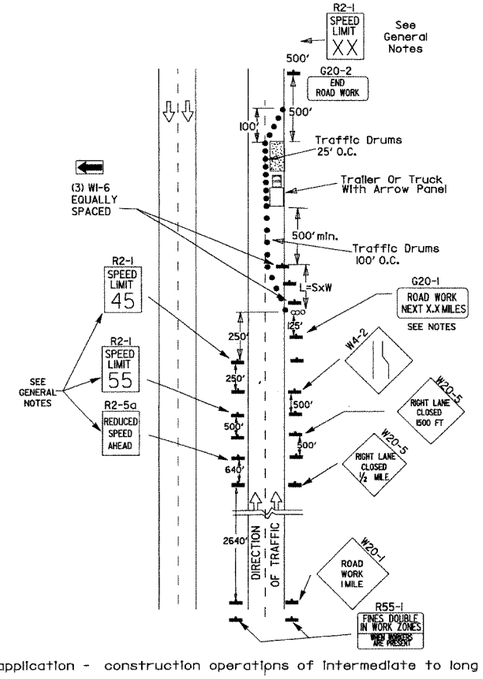
○○○ Arrow Panel (If Required)

■ Channelizing Device

● Traffic drum

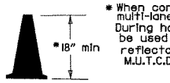
GENERAL NOTES:

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



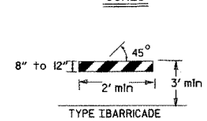
(C) Typical application - construction operatipns of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

Channelizing devices



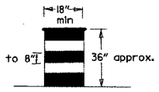
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

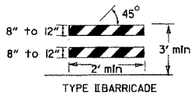
CONES



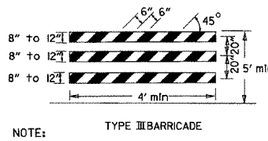
TYPE I BARRICADE

PLASTIC DRUM



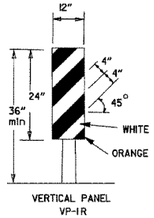


TYPE II BARRICADE



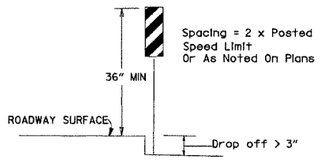
TYPE III BARRICADE

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



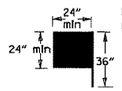
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

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

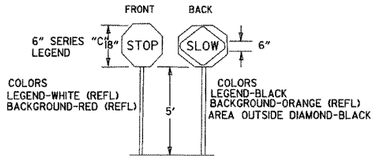
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

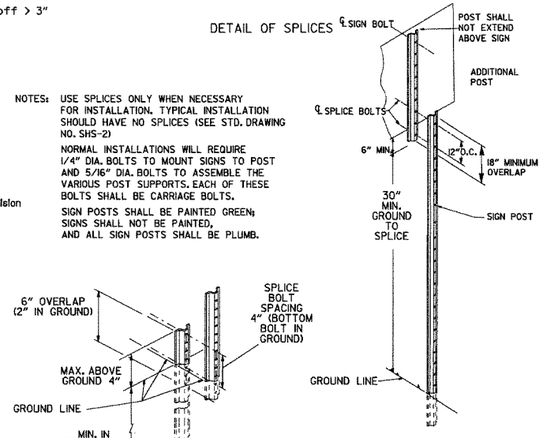
FLAG



Flag shall be of good grade red material

STOP SLOW PADDLE

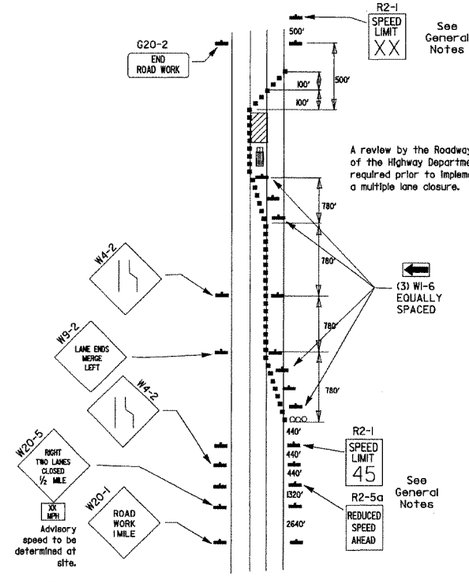




NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

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

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



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.

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

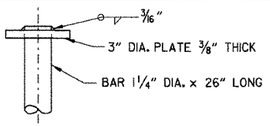
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

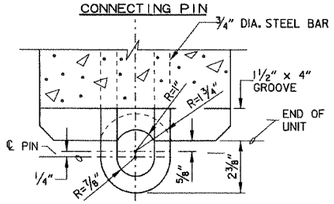
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

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

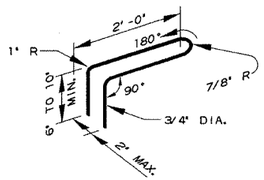


CONNECTING PIN

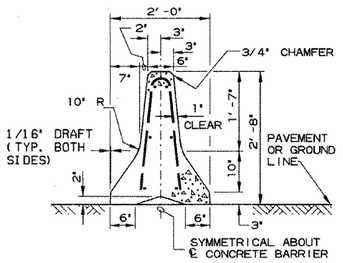


SECTION E-E

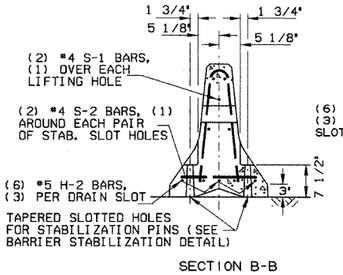
CONNECTION DETAILS



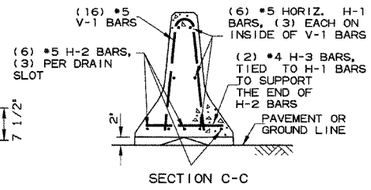
CONNECTION LOOP



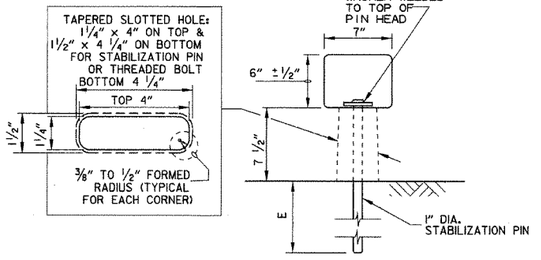
SECTION A-A



SECTION B-B



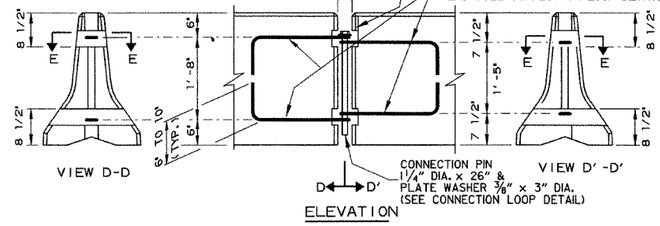
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

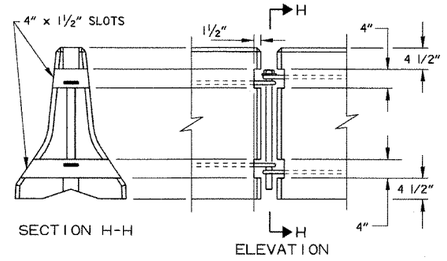
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



VIEW D-D

VIEW D'-D'

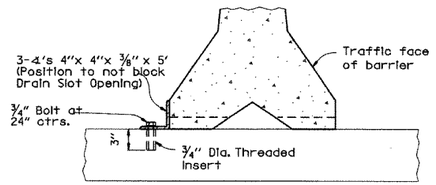
ELEVATION



SECTION H-H

ELEVATION

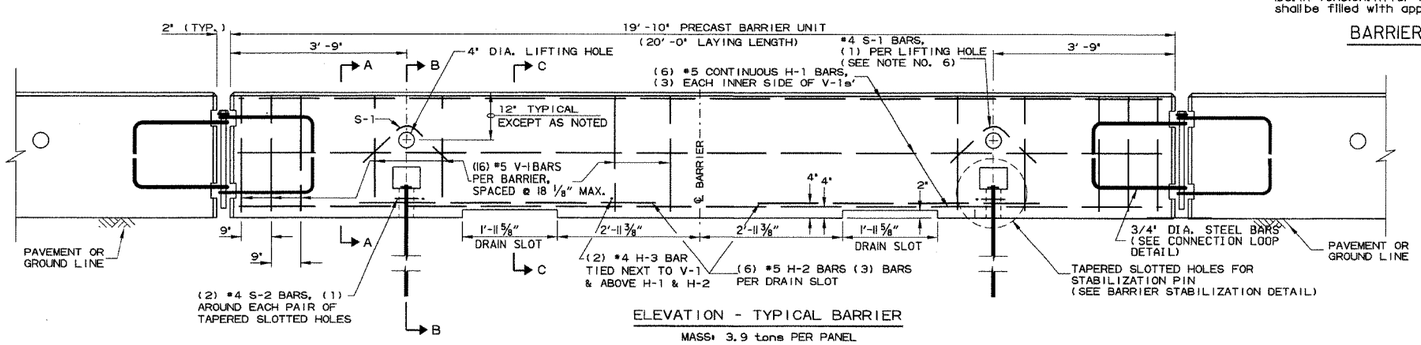
BARRIER REMOVAL SLOT DETAILS



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

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

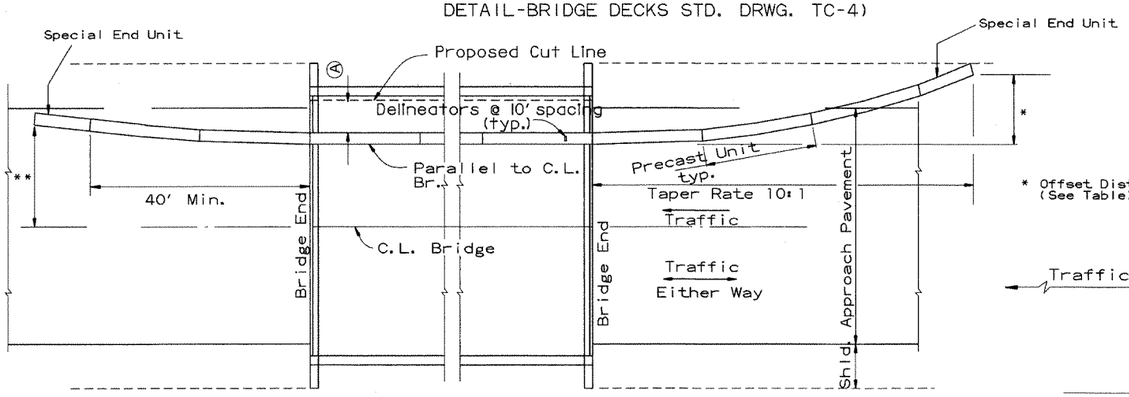
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

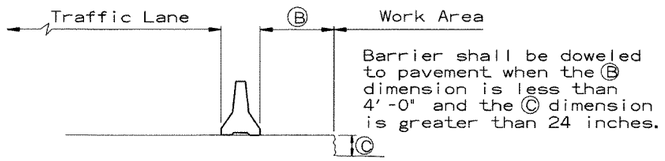
STANDARD DRAWING TC-4

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



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

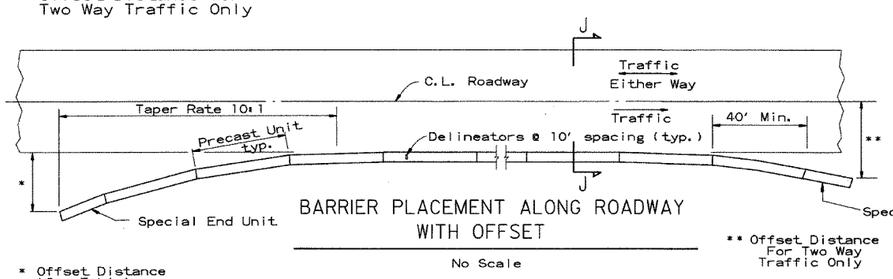


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

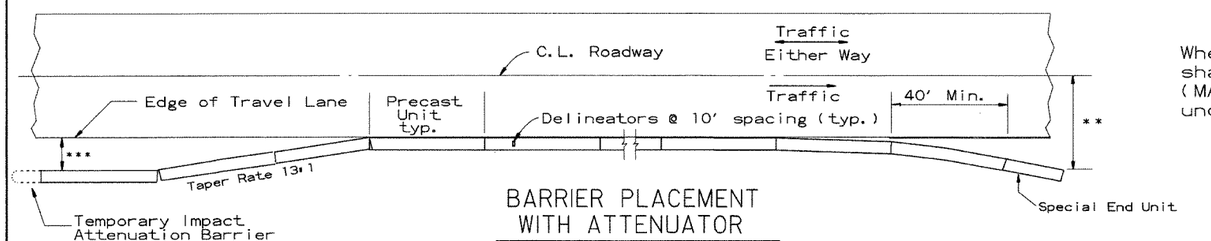
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

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

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

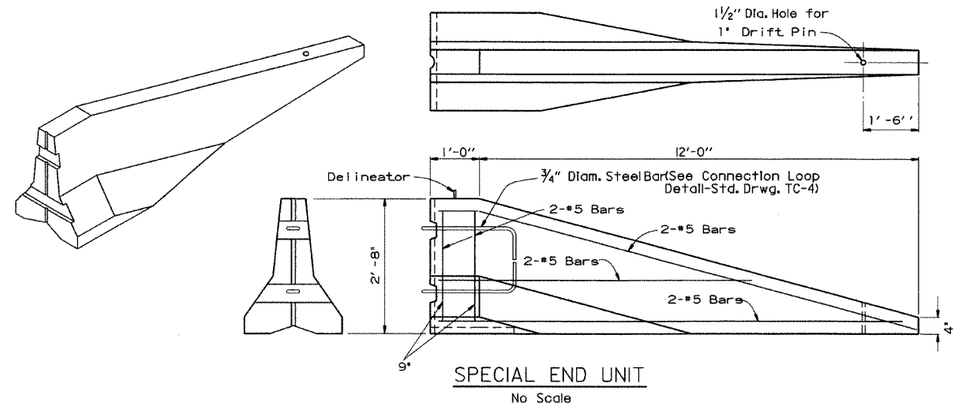


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** 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 an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

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

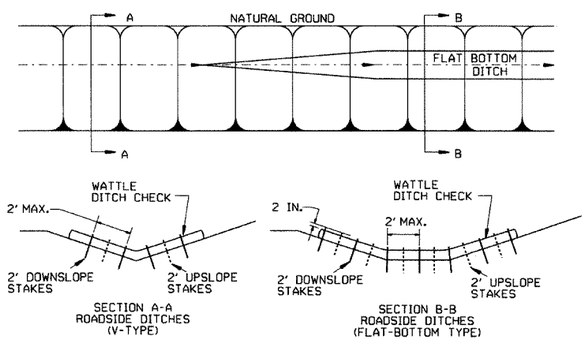
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

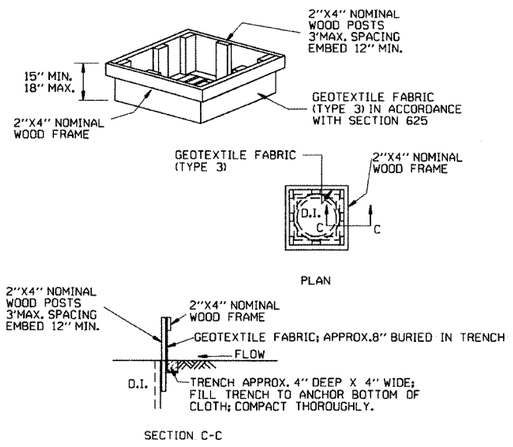
STANDARD DRAWING TC-5

GENERAL NOTES

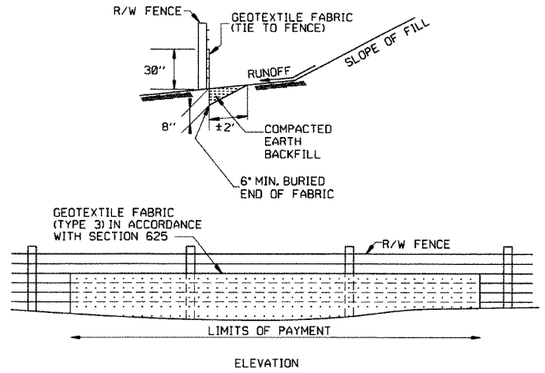
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

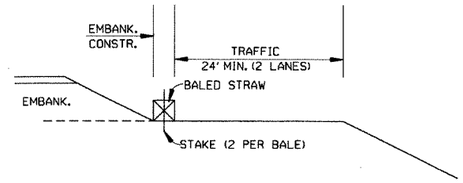
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

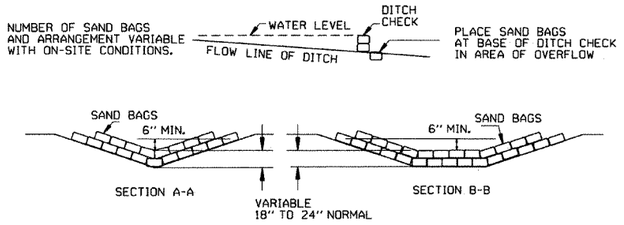
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

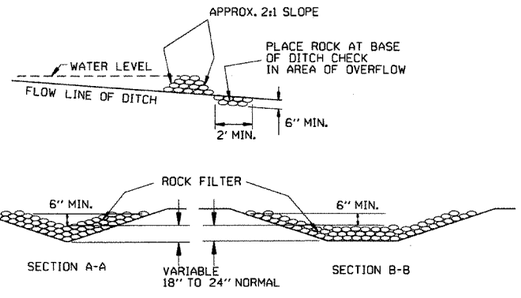
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



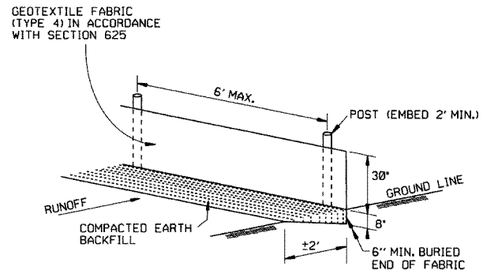
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

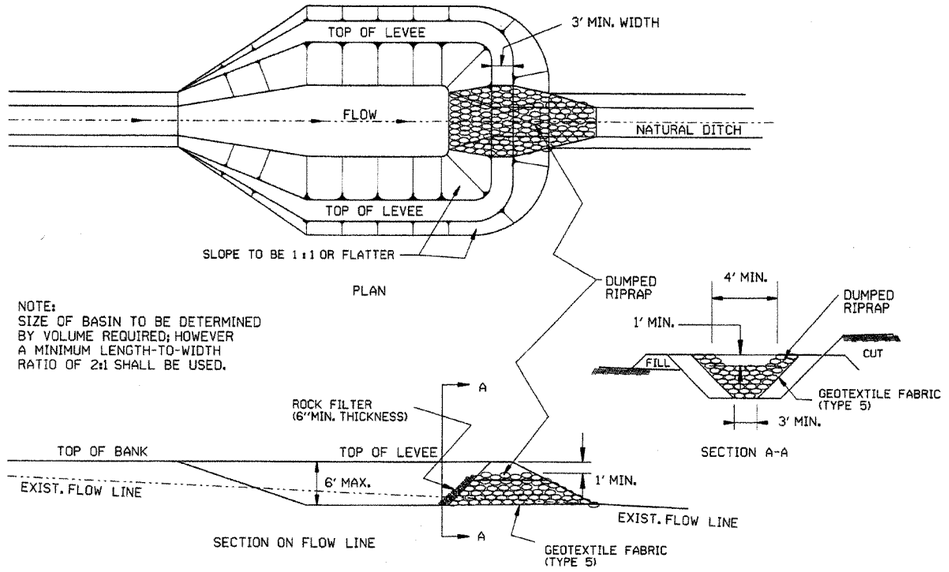
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

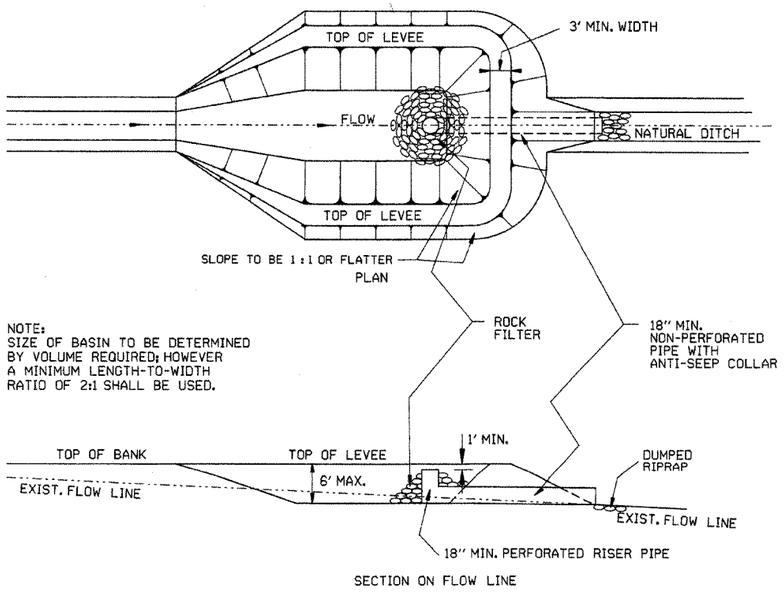
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

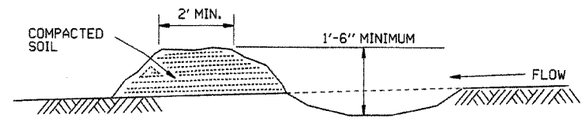
STANDARD DRAWING TEC-1



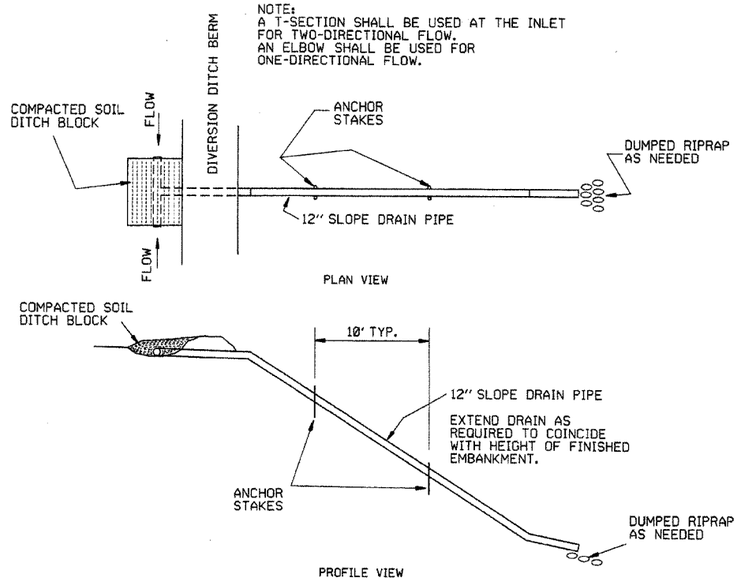
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



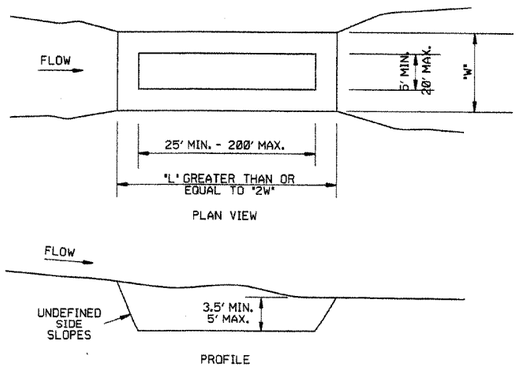
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

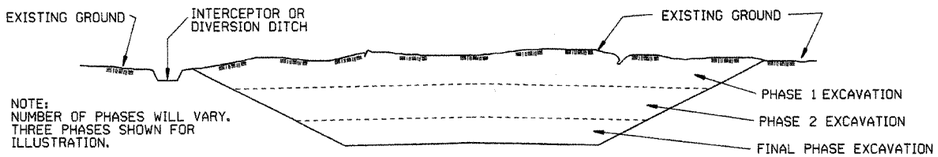
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



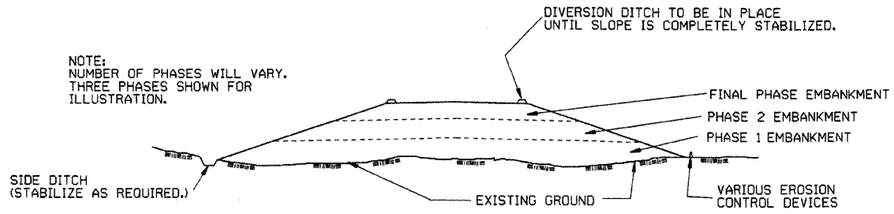
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

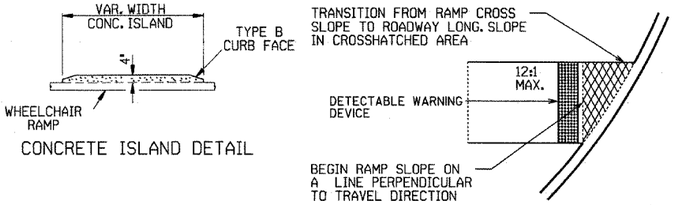
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

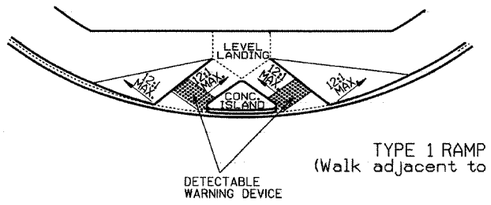
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

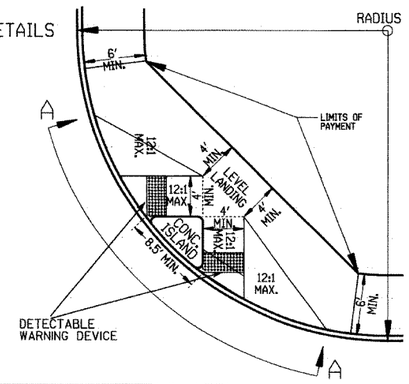


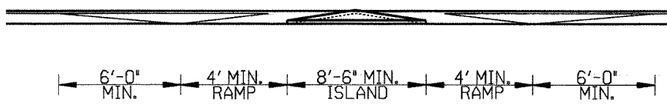
CONCRETE ISLAND DETAIL

SLOPE TRANSITION DETAILS



TYPE 1 RAMP
(Walk adjacent to curb)

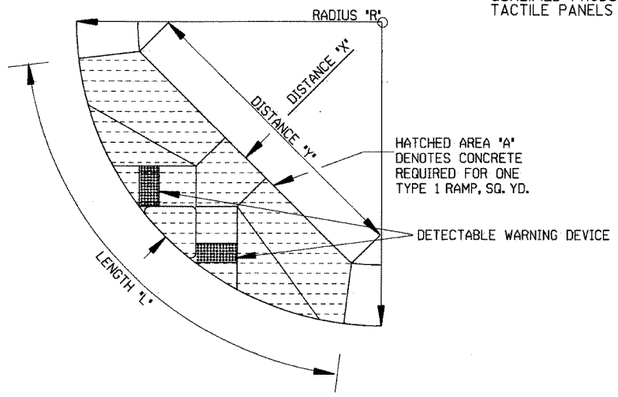




SECTION A-A

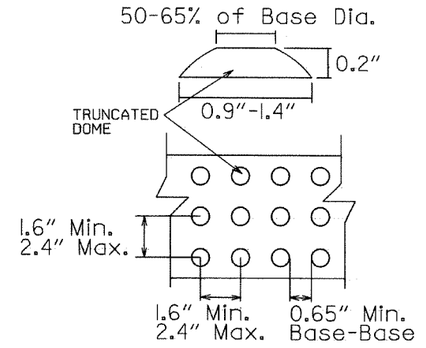
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS "R"	DISTANCE "X"	DISTANCE "Y"	LENGTH "L"	RAMP AREA "A"
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80



GENERAL NOTES FOR DETECTABLE WARNING DEVICES

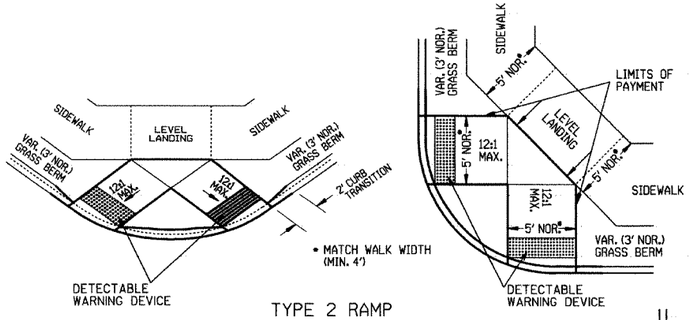
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL

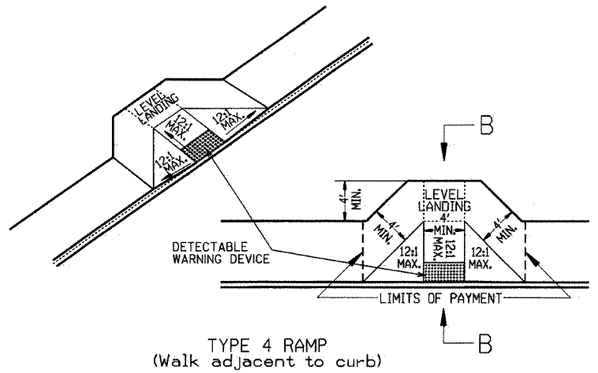
GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

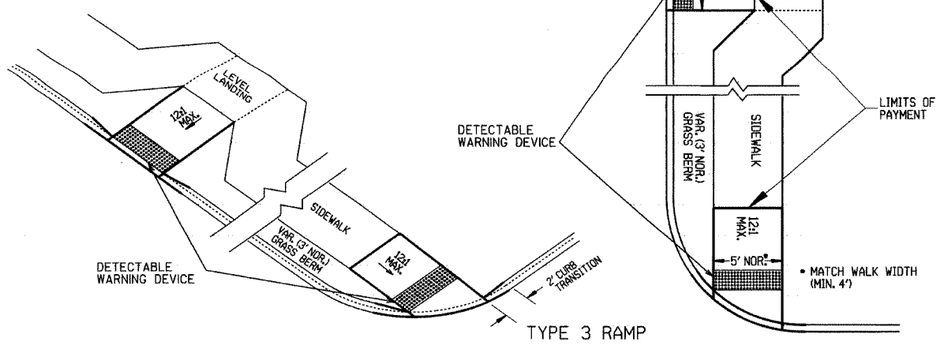


TYPE 2 RAMP

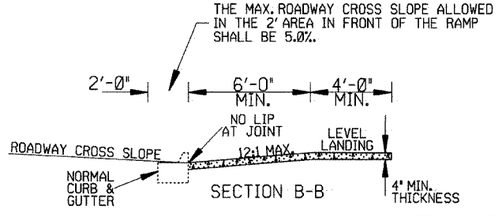
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.



TYPE 4 RAMP
(Walk adjacent to curb)



TYPE 3 RAMP



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD. DETECTABLE WARNING DEVICES	
3-30-00	ADD. SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8ut10:2tMAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

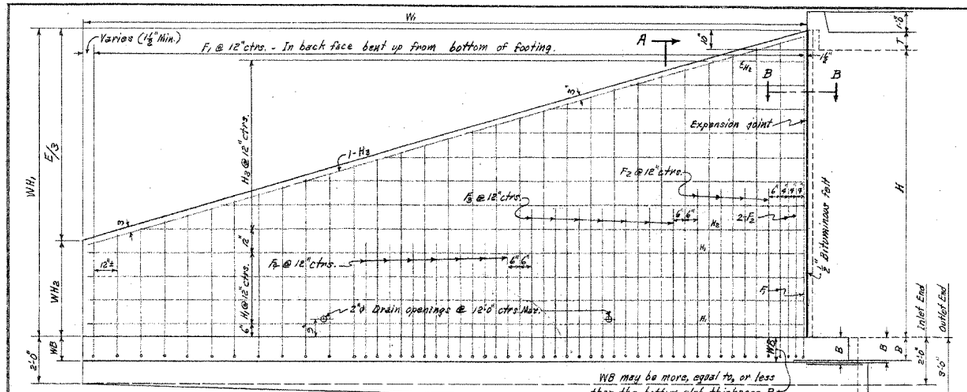
WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1

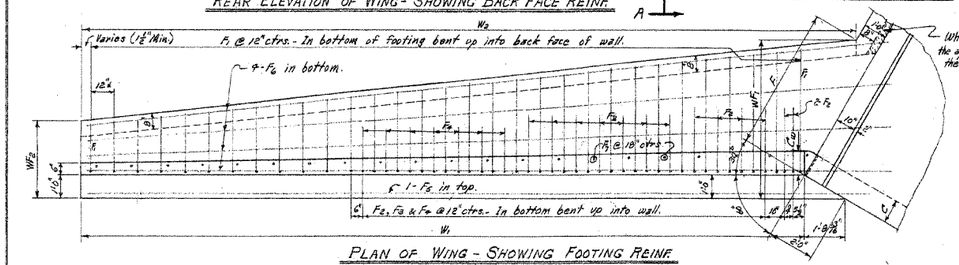
RESHOT 3-4-93

150

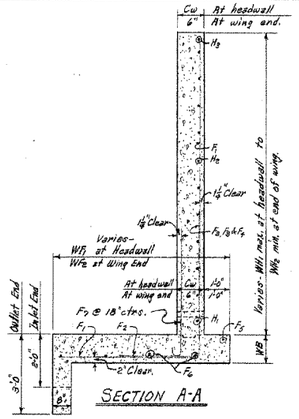
FED. ROAD Proj.	STATE	JOB AND PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
				91	
JOB No.					



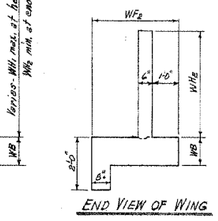
REAR ELEVATION OF WING - SHOWING BACK FACE REINF.



PLAN OF WING - SHOWING FOOTING REINF.

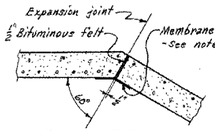


SECTION A-A

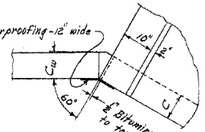


END VIEW OF WING

When B is more than WB, the shaded portion of the apron shall be made the same thickness as the barrel base B.



SECTION B-B THRU EXPANSION JOINT



DETAIL AT TOP OF WING

WING DIMENSIONS

CLEAR HEIGHT AT BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = Cw	WINGWALL HEIGHTS		WIDTHS OF WING FOOTINGS		PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM HDWL TO END OF WING	LENGTH OF WINGWALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE	
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING					INLET END	OUTLET END
H	WB	Cw	WH1	WH2	WF1	WF2	F	E	W1	W2	Cu.Yd.	Cu.Yd.
9'	10"	9"	9'-10"	3'-0"	5'-2"	2'-10½"	4'-3"	20'-6"	23'-8"	24'-11"	7.492	7.810
10'	11"	10"	10'-10"	3'-4"	5'-8"	3'-0"	4'-10"	22'-6"	25'-11⅝"	27'-6¼"	9.584	9.905
11'	12"	11"	11'-10"	3'-8"	6'-2"	3'-1½"	5'-5"	24'-6"	28'-3⅝"	30'-1⅛"	11.977	12.361
12'	13"	12"	12'-10"	4'-0"	6'-8"	3'-3"	6'-0"	26'-6"	30'-7⅛"	32'-8½"	14.791	15.206

* Quantity per wing does not include headwall or that portion of apron or todwall for the length W3.

CLEAR SPAN	CLEAR HEIGHT	2 x FOOTING DIMENSION	W3 = (OW - 2F) SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT		TRIPLE BARREL CULVERT		QUADRUPLE BARREL CULVERT		QUINTUPLE BARREL CULVERT	
S	H	2F	OW	W3	OW	W3	OW	W3	OW	W3	OW	W3
7'												
	9'	6'-6"	8'-6"	0'-0"	16'-5"	7'-1"	24'-4"	15'-10"	32'-3"	23'-9"	40'-2"	31'-8"
8'	9'	8'-6"	9'-4"	1'-0"	18'-5"	9'-11"	27'-4"	18'-10"	36'-3"	27'-9"	45'-2"	36'-8"
	10'	9'-8"	9'-16"	0'-10"	18'-16"	9'-10"	27'-8"	18'-10"	36'-8"	27'-10"	45'-8"	36'-10"
9'	9'	8'-6"	10'-4"	2'-10"	20'-5"	11'-11"	30'-4"	21'-10"	40'-3"	31'-9"	50'-2"	41'-8"
	10'	9'-8"	10'-8"	1'-0"	20'-8"	11'-0"	30'-8"	21'-0"	40'-8"	31'-0"	50'-8"	41'-0"
	11'	10'-10"	10'-10"	0'-10"	20'-10"	10'-0"	30'-10"	20'-0"	40'-10"	30'-0"	50'-10"	40'-0"
10'	9'	8'-6"	11'-6"	3'-0"	22'-5"	13'-11"	33'-9"	24'-10"	44'-3"	35'-9"	55'-2"	46'-8"
	10'	9'-8"	11'-8"	2'-0"	22'-8"	13'-0"	33'-8"	24'-0"	44'-8"	35'-0"	55'-8"	46'-0"
	11'	10'-10"	11'-10"	1'-0"	22'-10"	12'-0"	33'-10"	23'-0"	44'-10"	34'-0"	55'-10"	45'-0"
	12'	12'-0"	12'-0"	0'-0"	23'-0"	11'-0"	34'-0"	22'-0"	45'-0"	33'-0"	56'-0"	44'-0"
11'	9'	8'-6"	12'-6"	4'-8"	24'-5"	15'-11"	36'-9"	27'-10"	48'-5"	39'-9"		
	10'	9'-8"	12'-8"	3'-0"	24'-8"	15'-0"	36'-8"	27'-0"	48'-8"	39'-0"		
	11'	10'-10"	12'-10"	2'-0"	24'-10"	14'-0"	36'-10"	26'-0"	48'-10"	38'-0"		
	12'	12'-0"	13'-0"	1'-0"	25'-0"	13'-0"	37'-0"	26'-0"	49'-0"	37'-0"		
12'	9'	8'-6"	13'-6"	5'-0"	26'-5"	17'-11"	39'-9"	30'-10"	52'-3"	43'-9"		
	10'	9'-8"	13'-8"	4'-0"	26'-8"	17'-0"	39'-8"	30'-0"	52'-8"	43'-0"		
	11'	10'-10"	13'-10"	3'-0"	26'-10"	16'-0"	39'-10"	29'-0"	52'-10"	42'-0"		
	12'	12'-0"	14'-0"	2'-0"	27'-0"	15'-0"	40'-0"	28'-0"	53'-0"	41'-0"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING STEEL - FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	Cw	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
7'									
	9'	9"	10"	2133.2	31.16	32.84	34.51	36.19	37.87
8'	9'	9"	10"	2133.2	31.39	33.26	35.16	37.05	38.94
	10'	10"	11"	2651.5	39.56	41.98	44.39	46.83	47.25
9'	9'	9"	10"	2133.2	31.61	33.73	35.81	37.91	40.01
	10'	10"	11"	2651.6	39.78	41.93	44.05	46.20	48.33
	11'	11"	12"	3243.1	49.39	51.55	53.70	55.87	58.02
10'	9'	9"	10"	2133.2	31.83	34.17	36.47	38.73	41.12
	10'	10"	11"	2651.5	40.01	42.37	44.70	47.05	49.41
	11'	11"	12"	3243.1	49.62	52.00	54.36	56.73	59.11
	12'	12"	13"	4099.2	60.79	63.19	65.57	67.97	70.37
11'	9'	9"	10"	2133.2	32.04	34.64	37.15	39.68	
	10'	10"	11"	2651.5	40.22	42.83	45.37	47.99	
	11'	11"	12"	3243.1	49.84	52.45	55.02	57.61	
	12'	12"	13"	4099.2	61.01	63.64	66.24	68.85	
12'	9'	9"	10"	2133.2	32.27	35.11	37.84	40.69	
	10'	10"	11"	2651.5	40.46	43.30	46.06	48.82	
	11'	11"	12"	3243.1	50.06	52.92	55.68	58.48	
	12'	12"	13"	4099.2	61.24	64.10	66.90	69.73	

* For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, footings and sidewalls shall be only where shown on plans.

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the expansion joints.

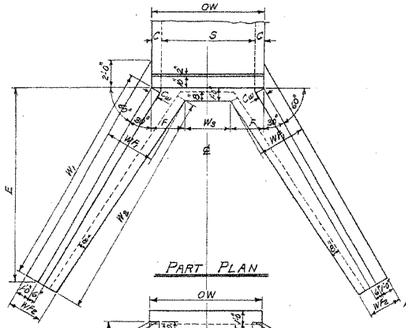
Payment for the membrane waterproofing and bituminous felt shall be included in unit price bid for Class S Concrete.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

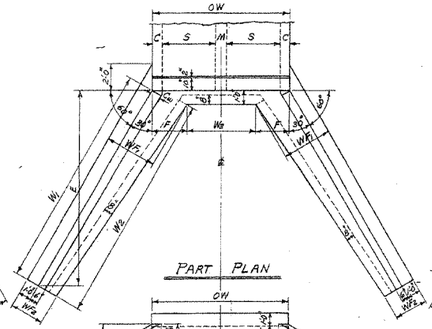
Class S Concrete (n=10) 1200 #/□"

Reinforcing Steel 20,000 #/□"



PART PLAN

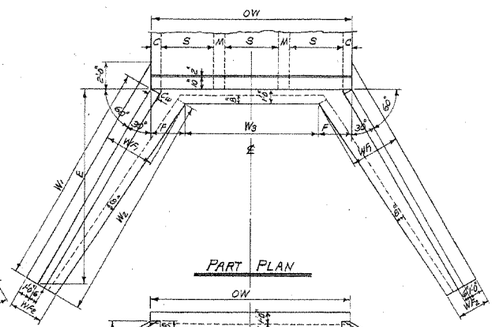
END ELEVATION
SINGLE BARREL CULVERT



PART PLAN

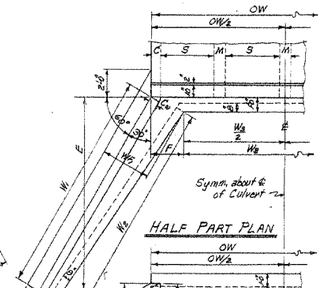
END ELEVATION
DOUBLE BARREL CULVERT

NOTE:- Plans and Elevations are not to scale.



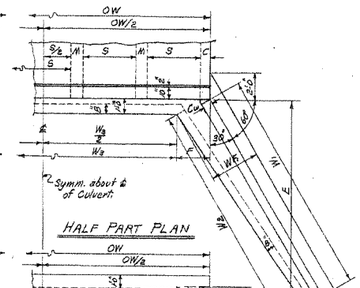
PART PLAN

END ELEVATION
TRIPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION
QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION
QUINTUPLE BARREL CULVERT

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

BAR LIST FOR ONE WING - 4 REQUIRED

| CLEAR HEIGHT | F1 BENT In bottom of footing, bent up into back face of wing. One bar of each length. | | | | | | | F2 BENT In bottom of footing, bent up into back face of wing. Alt. with F1 bars. | | | | | | F3 BENT In bottom of footing, bent up into back face of wing. Alt. with F1 bars. | | | | | | F4 BENT In bottom of footing, bent up into back face of wing. Alt. with F1 bars. | | | | | | F5 STRAIGHT Longitudinal in top of wing footing heel. | | | F6 STRAIGHT Longitudinal in bottom of wing footing toe. | | | H1 STRAIGHT Horizontal in back face of wing. | | | H2 STRAIGHT Horizontal in back face of wing. One bar of each length | | | | H3 BENT In back face of wing at top-on slope | | | F7 BENT Footing dowels extending up into front face of wing. | | | | X | QUANTITY REINFORCING STEEL PER WING | BAR BENDING DIAGRAMS |
|---|---|---|---|---|---|---|---|---|---|---|---|---

KESHOT 3-5-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			92	
JOB No.					

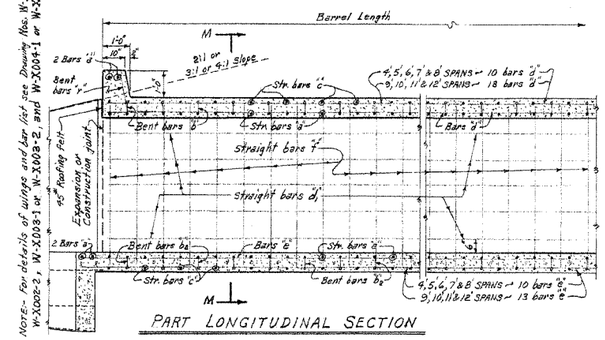
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DIMENSIONS — QUANTITIES

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each.			"b" bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with "a" and "c" bars.							"b2" bars BENT - See Diagram below. In Top of Bottom Slab bent down under Division Walls - hooked. Alternate with "a" and "c" bars.							"c" bars STRAIGHT In Top and Bottom Slab of Barrel. Alternate with "a" and "b2" bars.							"j" bars Longitudinal in Top Slab of Barrel.			"d" bars STRAIGHT Longitudinal in Sidewalls and Division Walls.			"e" bars Longitudinal in Bottom Slab of Barrel.			"f" bars STRAIGHT Vertical in Sidewalls and Division Walls.		
			In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each.			In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with "a" and "c" bars.							In Top of Bottom Slab bent down under Division Walls - hooked. Alternate with "a" and "c" bars.							In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars.							Longitudinal in Top Slab of Barrel.			Longitudinal in Sidewalls and Division Walls.			Longitudinal in Bottom Slab of Barrel.			Vertical in Sidewalls and Division Walls.		
D	S	H	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
0'-0 TO 5'-0" MAXIMUM	4 @ 4'	2'	#5	12"	128	128	18'-9"	#5	12"	59	59	20'-2"	0'-3"	2'-2"	3'-4½"	#5	12"	59	59	20'-1"	0'-2½"	2'-3"	3'-4½"	#5	12"	120	120	14'-0"	#5	12"	30		#4	12"	16		#4	12"	30		#4	12"	980	980	2'-10"
		3'			128	128	18'-5"			59	59	20'-2"	0'-3"	2'-2"	3'-4½"			59	59	20'-1"	0'-2½"	2'-3"	3'-4½"			120	120	14'-0"			30				24			30				980	980	3'-1"
		4'			128	128	18'-9"			59	59	20'-2"	0'-3"	2'-2"	3'-4½"			59	59	20'-1"	0'-2½"	2'-3"	3'-4½"			120	120	14'-0"			30				32			30				980	980	4'-1"
		5'			128	128	18'-9"			59	59	20'-2"	0'-3"	2'-2"	3'-4½"			59	59	20'-1"	0'-2½"	2'-3"	3'-4½"			120	120	14'-0"			30				40			30				980	980	5'-1"
		6'			128	128	19'-2"			59	59	20'-2"	0'-3"	2'-3"	3'-5¾"			59	59	20'-6"	0'-2½"	2'-4"	3'-5¾"			120	120	14'-3"			30				48			30				980	980	6'-1"
	4 @ 4'	3'			186	128	22'-9"			59	59	24'-3"	0'-3½"	2'-7"	4'-1⅛"			59	59	24'-2"	0'-3"	2'-8"	4'-1⅛"			120	120	17'-0"			34				24			34				980	980	3'-11"
		4'			128	128	22'-9"			59	59	24'-3"	0'-3½"	2'-7"	4'-1⅛"			59	59	24'-2"	0'-3"	2'-8"	4'-1⅛"			120	120	17'-0"			34				32			34				980	980	4'-11"
	5 @ 5'	5'	#6	12"	128	128	22'-9"	#5	12"	59	59	24'-3"	0'-3½"	2'-7"	4'-1⅛"	#5	12"	59	59	24'-2"	0'-3"	2'-8"	4'-1⅛"	#5	12"	120	120	17'-0"	#5	11½"	34		#4	12"	40		#4	12"	34		#4	12"	980	980	5'-11"
		6'			128	128	23'-2"			59	59	24'-8"	0'-3½"	2'-8"	4'-2⅝"			59	59	24'-7"	0'-3"	2'-9"	4'-2⅝"			120	120	17'-8"			34				48			34				980	980	6'-11"
		7'			128	128	23'-6"			59	59	25'-0"	0'-3½"	2'-8"	4'-2⅝"			59	59	24'-11"	0'-3"	2'-10"	4'-2⅝"			120	120	17'-4"			34				56			34				980	980	7'-11"
	4 @ 6'	3'			140	140	24'-9"			65	65	28'-4"	0'-4"	3'-0"	4'-10⅝"			65	65	28'-3"	0'-3½"	3'-1"	4'-10⅝"			132	132	20'-0"			38				28			38				980	980	4'-0"
		4'			140	140	24'-9"			65	65	28'-5"	0'-4"	3'-0"	4'-10⅝"			65	65	28'-3"	0'-3½"	3'-1"	4'-10⅝"			132	132	20'-0"			38				32			38				980	980	5'-0"
		5'	#6	11"	140	140	24'-9"	#5	11"	65	65	28'-8"	0'-4"	3'-0"	4'-10⅝"	#5	11"	65	65	28'-3"	0'-3½"	3'-1"	4'-10⅝"	#5	11"	132	132	20'-0"	#5	11½"	38		#4	12"	40		#4	12"	38		#4	12"	980	980	6'-1"
		6'			140	140	25'-2"			65	65	28'-8"	0'-4"	3'-0"	4'-11⅛"			65	65	28'-7"	0'-3½"	3'-2"	4'-11⅛"			132	132	20'-3"			38				48			38				980	980	7'-0"
		7'			140	140	25'-6"			65	65	29'-0"	0'-4"	3'-2"	4'-11⅝"			65	65	29'-0"	0'-3½"	3'-3"	4'-11⅝"			132	132	20'-6"			38				56			38				980	980	8'-0"
		8'			140	140	25'-7"			65	65	29'-2"	0'-4"	3'-2"	5'-0⅛"			65	65	29'-1"	0'-3½"	3'-3"	5'-0⅛"			132	132	20'-6"			38				64			38				980	980	8'-1"
	4 @ 7'	4'			128	128	30'-9"			59	59	32'-8"	0'-4½"	3'-5"	5'-1"			59	59	32'-7"	0'-4"	3'-5½"	5'-1"			120	120	23'-0"			44				32			42				980	980	5'-1"
		5'			128	128	30'-9"			59	59	32'-8"	0'-4½"	3'-5"	5'-1"			59	59	32'-7"	0'-4"	3'-5½"	5'-1"			120	120	23'-0"			44				40			42				980	980	6'-1"
		6'	#6	12"	128	128	31'-2"	#5	12"	59	59	33'-1"	0'-4½"	3'-6"	5'-8"	#5	12"	59	59	33'-0"	0'-4½"	3'-6"	5'-8"	#5	12"	120	120	23'-6"	#5	11½"	44		#4	12"	48		#4	12"	42		#4	12"	980	980	7'-1"
		7'			128	128	31'-6"			59	59	33'-5"	0'-4½"	3'-7"	5'-8½"			59	59	33'-4"	0'-4½"	3'-7½"	5'-8½"			120	120	23'-6"			44				56			42				980	980	8'-1"
		8'			128	128	31-7"			59	59	33'-6"	0'-4½"	3'-7"	5'-9"			59	59	33'-5"	0'-4½"	3'-7½"	5'-9"			120	120	23'-6"			44				64			42				980	980	9'-1"
		9'			128	128	32'-0"			59	59	33'-11"	0'-4½"	3'-8"	5'-10"			59	59	33'-10"	0'-4½"	3'-8"	5'-10"			120	120	23'-9"			44				72			42				980	980	10'-1"
	4 @ 8'	4'			190	140	34'-9"			65	65	36'-9"	0'-5"	3'-10"	6'-4"			65	65	36'-9"	0'-5"	3'-10"	6'-4"			132	132	26'-0"			48				32			46				980	980	5'-2"
		5'			190	140	35'-2"			65	65	37'-2"	0'-5"	3'-11"	6'-5"			65	65	37'-2"	0'-5"	3'-11"	6'-5"			132	132	26'-3"			48				40			46				980	980	6'-2"
		6'			190	140	35'-2"			65	65	37'-2"	0'-5"	3'-11"	6'-5"			65	65	37'-2"	0'-5"	3'-11"	6'-5"			132	132	26'-3"			48				48			46				980	980	7'-2"
		7'	#6	11"	190	140	35'-6"	#6	11"	65	65	37'-6"	0'-5"	4'-0"	6'-5½"	#6	11"	65	65	37'-6"	0'-5"	4'-0"	6'-5½"	#5	11½"	132	132	26'-6"	#5	11½"	48		#4	12"	56		#4	12"	46		#4	12"	980	980	8'-2"
		8'			190	140	35'-7"			65	65	37'-7"	0'-5"	4'-0"	6'-6"			65	65	37'-7"	0'-5"	4'-0"	6'-6"			132	132	26'-6"			48				64			46				980	980	8'-3"
		9'			190	140	36'-0"			65	65	38'-0"	0'-5"	4'-1"	6'-7"			65	65	38'-0"	0'-5"	4'-1"	6'-7"			132	132	26'-9"			48				72			46				980	980	10'-3"
		10'			190	140	36'-5"			65	65	38'-5"	0'-5"	4'-2"	6'-8"			65	65	38'-5"	0'-5"	4'-2"	6'-8"			132	132	27'-0"			48				80			46				980	980	10'-5"
	4 @ 9'	5'			280	280	20'-7"			180	180	21'-8"	0'-5½"	4'-6"	7'-2"			180	180	21'-8"	0'-5½"	4'-6"	7'-2"			132	132	29'-3"			55				40			53				980	980	6'-3"
		6'	Ⓦ		280	280	20'-9"	Ⓦ		180	180	21'-10"	0'-5½"	4'-5"	7'-2½"	Ⓦ		180	180	21'-10"	0'-5½"	4'-5"	7'-2½"			132	132	29'-6"			55				48			53				980	980	7'-3"
		7'			280	280	20'-9"			180	180	21'-10"	0'-5½"	4'-5"	7'-2½"			180	180	21'-10"	0'-5½"	4'-5"	7'-2½"			132	132	29'-6"			55				56			53				980	980	8'-3"
		8'	#6	11"	280	280	20'-10"	#6	11"	180	180	21'-10"	0'-5½"	4'-5"	7'-3"	#6	11"	180	180	21'-10"	0'-5½"	4'-5"	7'-3"	#5	11½"	132	132	29'-6"	#5	11½"	55		#4	12"	64		#4	12"	53		#4	12"	980	980	9'-3"
		9'			280	280	21'-0"			180	180	22'-1"	0'-5½"	4'-6"	7'-4"			180	180	22'-1"	0'-5½"	4'-6"	7'-4"			132	132	29'-9"			55				72			53				980	980	10'-3"
		10'			280	280	21'-3"			180	180	22'-5"	0'-5½"	4'-7"	7'-5"			180	180	22'-5"	0'-5½"	4'-7"	7'-5"			132	132	30'-0"			55				80			53				980	980	10'-7"
		11'			280	280	21'-6"			180	180	22'-8"	0'-5½"	4'-7"	7'-6"			180	180	22'-8"	0'-5½"	4'-7"	7'-6"			132	132	30'-3"			55				88			53				980	980	10'-9"
	4 @ 10'	5'			256	256	22'-2"			118	118	23'-8"	0'-6"	4'-9"	7'-11"			118	118	23'-8"	0'-6"	4'-9"	7'-11"			120	120	32'-5"			59				40			57				980	980	6'-4"
		6'			256	256	22'-11"			118	118	23'-10"	0'-6"	4'-10"	7'-11½"			118	118	23'-10"	0'-6"	4'-10"	7'-11½"			120	120	32'-6"			59				48			57				980	980	7'-4"
		7'	Ⓦ		256	256	22'-11"	Ⓦ		118	118	23'-10"	0'-6"	4'-10"	8'-0"	Ⓦ		118	118	23'-10"	0'-6"	4'-10"	8'-0"			120	120	32'-6"			59				56			57				980	980	8'-4"
		8'			256	256	23'-0"			118	118	23'-11"	0'-6"	4'-10"	8'-0"			118	118	23'-11"	0'-6"	4'-10"	8'-0"			120	120	32'-6"			59				64			57				980	980	9'-4"
		9'	#7	12"	256	256	23'-2"	#6	11"	118	118	24'-1"	0'-6"	4'-11"	8'-1"	#7	12"	118	118	24'-1"	0'-6"	4'-11"	8'-1"	#5	11½"	120	120	32'-9"	#5	11½"	59		#4	12"	72		#4	12"	57		#5	12"	980	980	10'-4"
		10'			256	256	23'-5"			118	118	24'-3"	0'-6"	5'-0"	8'-2"			118	118	24'-3"	0'-6"	5'-0"	8'-2"			120	120	33'-0"			59				80			57				980	980	10'-8"
		11'			256	256	23'-8"			118	118	24'-5"	0'-6"	5'-0"	8'-3"			118	118	24'-5"	0'-6"	5'-0"	8'-3"			120	120	33'-3"			59				88			57				980	980	10'-11"
		12'			256	256	23'-11"			118	118	24'-5"	0'-6"	5'-0"	8'-4"			118	118	24'-5"	0'-6"	5'-0"	8'-4"			120	120	33'-6"			59				96			57				980	980	11'-3"
	4 @ 11'	6'			280	280	25'-0"			180	180	25'-11"	0'-6½"	5'-3"	8'-9"			180	180	26'-0"	0'-7"	5'-2"	8'-9"			132	132	35'-6"			68				48			61				980	980	7'-5"
		7'	Ⓦ		280	280	25'-0"	Ⓦ		180	180	25'-11"	0'-6½"	5'-3"	8'-9"	Ⓦ		180	180	26'-0"	0'-7"	5'-2"	8'-9"			132	132	35'-6"			68				56			61				980	980	8'-5"
		8'			280	280	25'-0"			180	180	25'-11"	0'-6½"	5'-3"	8'-9"			180	180	26'-0"	0'-7"	5'-2"	8'-9"			132	132	35'-6"			68				64			61				980	980	9'-5"
		9'	#7	11"	280	280	25'-2"	#6	11"	180	180	26'-1"	0'-6½"	5'-4"	8'-10"	#7	11"	180	180	26'-1"	0'-7"	5'-3"	8'-10"	#5	11½"	132	132	35'-9"	#5	11½"	68		#4	12"	72		#4	12"	61		#5	12"	980	980	10'-5"
		10'			280	280	25'-5"			180	180	26'-3"	0'-7"	5'-4"	8'-11"			180	180	26'-3"	0'-7"	5'-4"	8'-11"			132	132	36'-0"			68				80			61				980	980	10'-9"
		11'			280	280	25'-8"			180	180	26'-5"	0'-7"	5'-4"	9'-0"			180	180	26'-6"	0'-7"	5'-4"	9'-0"			132	132	36'-3"			68				88			61				980	980	11'-1"
		12'			280	280	25'-11"			180	180	26'-6"	0'-7"	5'-4"	9'-1"			180	180	26'-7"	0'-7"	5'-4"	9'-1"			132	132	36'-6"			68				96			61				980	980	11'-4"
	4 @ 12'	6'			280	280	27'-0"			180	180	28'-0"	0'-7"	5'-8"	9'-6"			180	180	28'-1"	0'-8"	5'-6"	9'-6"			132	132	38'-6"			67				48			65				980	980	7'-7"
		7'	Ⓦ		280	280	27'-0"	Ⓦ		180	180	28'-0"	0'-7"	5'-8"	9'-6"	Ⓦ		180	180	28'-1"	0'-8"	5'-6"	9'-6"			132	132	38'-6"			67				56			65				980	980	8'-7"
		8'			280	280	27'-0"			180	180	28'-0"	0'-7"	5'-8"	9'-6"			180	180	28'-1"	0'-8"	5'-6"	9'-6"			132	132	38'-6"			67				64			65				980	980	9'-7"
		9'	#7	11"	280	280	27'-2"	#6	11"	180	180	28'-3"	0'-7"	5'-9"	9'-7"	#7	11"	180	180	28'-4"	0'-8"	5'-7"	9'-7"	#5	11½"	132	132	38'-9"	#5	11½"	67		#4	12"	72		#4	12"	65		#5	12"	980	980	10'-7"
		10'			280	280	27'-5"			180	180	28'-6"	0'-7"	5'-10"	9'-8"			180	180	28'-6"	0'-8"	5'-8"	9'-8"			132	132	39'-0"			67				80			65				980	980	10'-11"
		11'			280	280	27'-8"			180	180	28'-7"	0'-7"	5'-10"	9'-9"			180	180	28'-7"	0'-8"	5'-8"	9'-9"			132	132	39'-3"			67				88			65				980	980	11'-3"
		12'			280	280	27'-7"			180	180	28'-7"	0'-7"	5'-10"	9'-10"			180	180	28'-8"	0'-8"	5'-8"	9'-10"			132	132	39'-6"			67				96			65				980	980	11'-6"

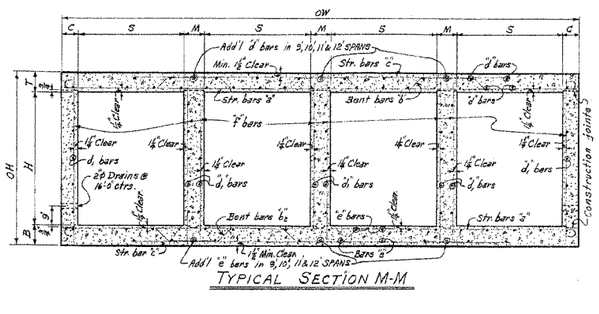
Ⓦ These "a", "b" and "b2" bars are to be spliced at center of middle division wall to make a full length bar. Lap #6 bars 2'-6" min. and #7 bars 2'-9" min.

DESIGN DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	BARREL DIMENSIONS: SAFE OPENING A	OVERALL WIDTH OW	THICKNESS OF TOP SLAB T	THICKNESS OF SIDEWALLS OR DIVISION WALLS C	THICKNESS OF DIVISION WALLS M	THICKNESS OF BOTTOM SLAB B	OVERALL HEIGHT OH	UNIT QUANTITIES: CLASS S CONC. PER LIN. FT. OF BARREL CU.YD.	REINFORCING STEEL PER LIN. FT. OF BARREL LB.	ADDITIONAL PER LAP LB.	ADDITIONAL TWO HEADWALLS & APRONS LB.
D	S	H	A	OW	T	C	M	B	OH	CU.YD.	LB.	LB.	LB.
0'-0 TO 5'-0"	4 @ 4'	2'	32	19'-0"		6"	8"		3'-0½"	0.955	187.46	90.56	261.10
		3'	48	19'-0"		6"	8"		4'-0½"	1.066	198.14	97.24	261.10
		4'	64	19'-0"		6"	8"		5'-0½"	1.177	208.83	103.92	261.10
		5'	80	19'-0"		6"	8"		6'-0½"	1.289	219.52	110.60	261.10
		6'	96	19'-5"		7"	9"		7'-0½"	1.508	232.87	117.28	266.58
	4 @ 5'	3'	60	23'-0"		6"	8"		4'-1⅞"	1.292	265.05	107.53	398.95
		4'	80	23'-0"		6"	8"		5'-1⅞"	1.403	275.73	114.81	398.95
		5'	100	23'-0"	7"	6"	8"	6½"	6'-1⅞"	1.514	286.42	120.89	398.95
		6'	120	23'-5"		7"	9"		7'-1⅞"	1.735	299.98	127.57	408.96
		7'	140	23'-5"		7½"	10"		8'-1⅞"	1.962	313.12	134.25	407.96
	4 @ 6'	3'	72	27'-0"		6"	8"		4'-2⅝"	1.542	320.01	117.88	468.84
		4'	96	27'-0"		6"	8"		5'-2⅝"	1.655	330.70	124.51	468.88
		5'	120	27'-0"	7½"	6"	8"	7"	6'-2⅝"	1.769	341.39	131.19	468.83
		6'	144	27'-5"		7"	9"		7'-2⅝"	1.986	355.21	137.87	478.84
		7'	168	27'-9"		7½"	10"		8'-2⅝"	2.214	368.57	144.55	477.85
		8'	192	27'-10"		8"	10"		9'-2⅝"	2.381	385.39	151.23	478.85
	4 @ 7'	4'	112	31'-0"		6"	8"		5'-3⅜"	1.961	381.96	138.28	538.61
		5'	140	31'-0"		6"	8"		6'-3⅜"	2.063	392.65	144.96	538.61
		6'	168	31'-5"	8"	7"	9"	7½"	7'-3⅜"	2.286	406.53	151.64	548.62
		7'	196	31'-9"		7½"	10"		8'-3⅜"	2.516	420.08	158.32	548.62
		8'	224	31'-10"		8"	10"		9'-3⅜"	2.693	439.93	165.00	599.62
		9'	252	32'-3"		9"	11"		10'-3⅜"	2.989	475.91	171.68	653.63
	4 @ 8'	4'	128	35'-0"		6"	8"		5'-5"	2.281	449.30	148.59	611.28
		5'	160	35'-5"		7"	9"		6'-5"	2.491	463.53	155.25	616.28
		6'	192	35'-5"		7"	9"		7'-5"	2.618	479.22	161.93	616.28
		7'	224	35'-9"	8½"	7½"	10"	8½"	8'-5"	2.846	496.91	168.61	620.29
		8'	256	35'-10"		8"	10"		9'-5"	3.016	508.95	175.29	621.29
		9'	288	36'-3"		9"	11"		10'-5"	3.319	543.89	181.97	626.30
		10'	320	36'-8"		10"	12"		11'-5"	3.652	569.59	188.65	631.30
	4 @ 9'	5'	180	39'-5"		7"	9"		6'-6"	2.823	525.66	173.84	716.89
		6'	216	39'-5"		7½"	10"		7'-6"	3.042	539.35	179.94	720.89
		7'	252	39'-9"		7½"	10"		8'-6"	3.181	550.04	186.62	720.89
		8'	288	39'-10"	9"	8"	10"	9"	9'-6"	3.349	571.16	193.30	722.89
		9'	324	40'-3"		9"	11"		10'-6"	3.653	606.26	199.98	726.89
		10'	360	40'-8"		10"	12"		11'-6"	3.988	632.03	206.66	732.90
		11'	396	40'-10"		11"	12"		12'-6"	4.238	658.72	213.34	739.90
	4 @ 10'	5'	200	43'-5"		7"	9"		6'-7"	3.179	622.21	183.54	991.62
		6'	240	43'-9"		7½"	10"		7'-7"	3.399	634.28	190.24	992.07
		7'	280	43'-9"		7½"	10"		8'-7"	3.538	644.97	196.92	992.07
		8'	320	43'-10"		8"	10"		9'-7"	3.706	666.82	203.60	993.08
		9'	360	44'-3"		9"	11"		10'-7"	4.012	701.92	210.28	1026.24
		10'	400	44'-8"	10"	10"	12"	9½"	11'-7"	4.346	728.27	216.96	1016.92
		11'	440	44'-10"		11"	12"		12'-7"	4.598	755.18	223.64	1016.13
		12'	480	45'-3"		12"	12"		13'-7"	4.861	798.37	230.32	1018.87
	4 @ 11'	6'	264	47'-10"		8"	10"		7'-8½"	3.878	729.59	200.53	1091.98
		7'	308	47'-10"		8"	10"		8'-8½"	4.020	740.28	207.21	1091.98
		8'	352	47'-10"		8"	10"		9'-8½"	4.162	761.03	213.89	1091.98
		9'	396	48'-3"		9"	11"		10'-8½"	4.470	793.14	220.57	1096.33
		10'	440	48'-8"	10½"	10"	12"	10"	11'-8½"	4.808	823.93	227.25	1105.11
		11'	484	48'-10"		11"	12"		12'-8½"	5.059	855.97	233.93	1107.83
		12'	528	49'-3"		12"	12"		13'-8½"	5.323	899.99	240.61	1110.56
	4 @ 12'	6'	288	51'-10"		8"	10"		7'-10"	4.371	782.20	210.82	1189.05
		7'	336	51'-10"		8"	10"		8'-10"	4.513	792.88	217.50	1189.05
		8'	384	51'-10"		8"	10"		9'-10"	4.655	813.82	224.18	1189.05
		9'	432	52'-3"		9"	11"		10'-10"	4.965	850.25	230.86	1189.50
		10'	480	52'-8"		10"	12"		11'-10"	5.305	877.16	237.54	1197.68
		11'	528	52'-10"		11"	12"		12'-10"	5.557	904.35	244.22	1200.91
		12'	576	53'-3"		12"	12"		13'-10"	5.821	944.21	250.90	1203.13

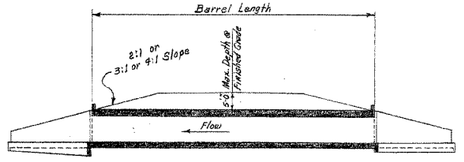


NOTE:- For details of wings and bar list see Drawing Nos. W-X002-1 or W-X002-2, and W-X004-1 or W-X004-2.

PART LONGITUDINAL SECTION



TYPICAL SECTION M-M

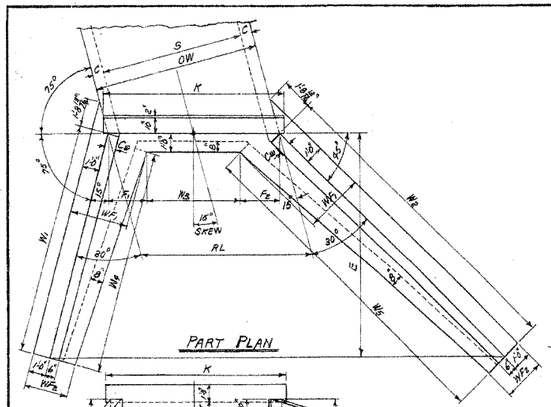


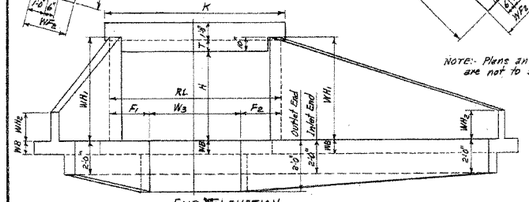
LONGITUDINAL SECTION

BAR SIZE	PIN DIAM.	K	ADD FOR HOOKS
#5	2½"	4½"	0'-11½"
#6	3

Revised 3-5-93

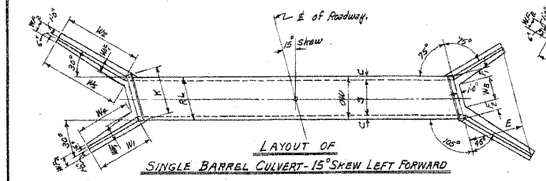
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			93	
JOB No.					



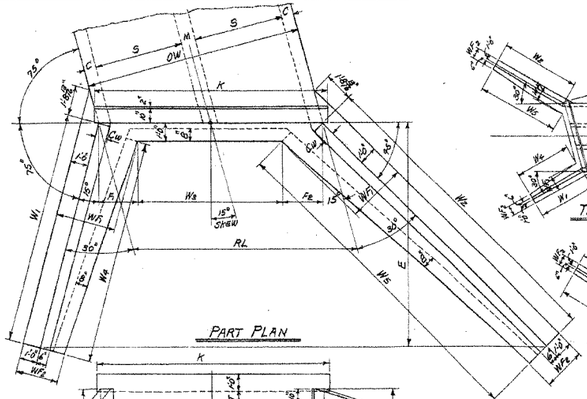


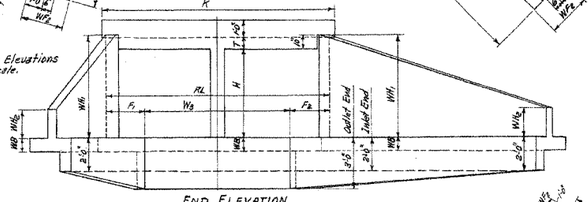
SINGLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed, see Layout below.



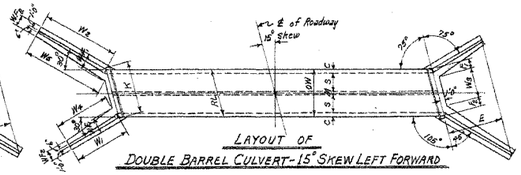
LAYOUT OF SINGLE BARREL CULVERT - 15° SKEW LEFT FORWARD





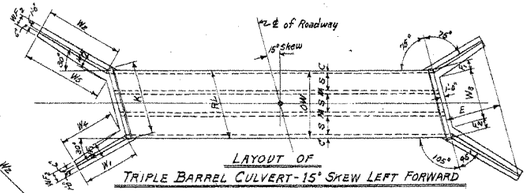
DOUBLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed, see Layout below.

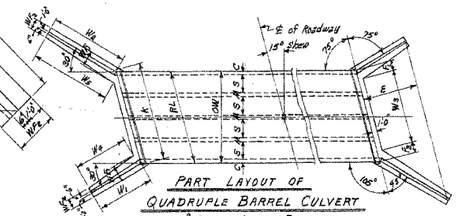


LAYOUT OF DOUBLE BARREL CULVERT - 15° SKEW LEFT FORWARD

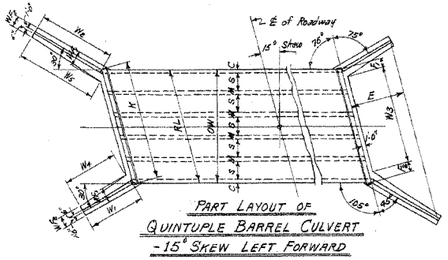
NOTE:- Plans and Elevations are not to scale.



LAYOUT OF TRIPLE BARREL CULVERT - 15° SKEW LEFT FORWARD

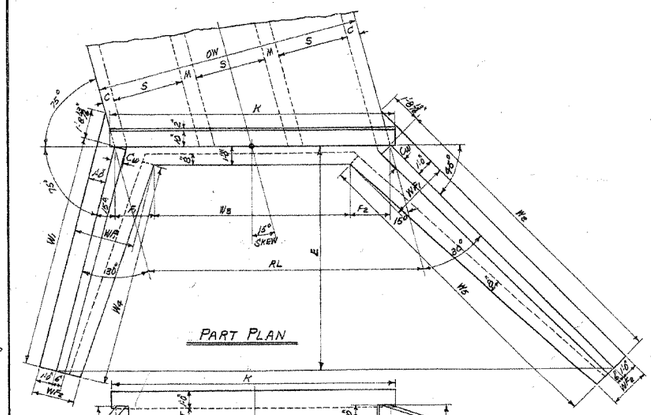


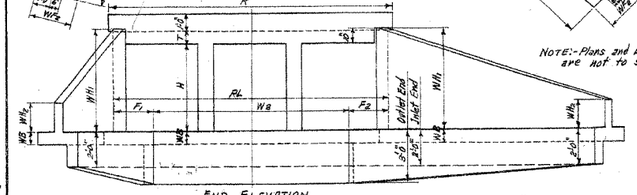
PART LAYOUT OF QUADRUPLE BARREL CULVERT - 15° SKEW LEFT FORWARD



PART LAYOUT OF QUINTUPLE BARREL CULVERT - 15° SKEW LEFT FORWARD

NOTE:- The length of the wings for the Plans, Elevations, and Layouts, as drawn, are proportioned for 3:1 slopes. For 2:1 slopes the wings are proportionally shorter, while for 4:1 slopes they are longer.

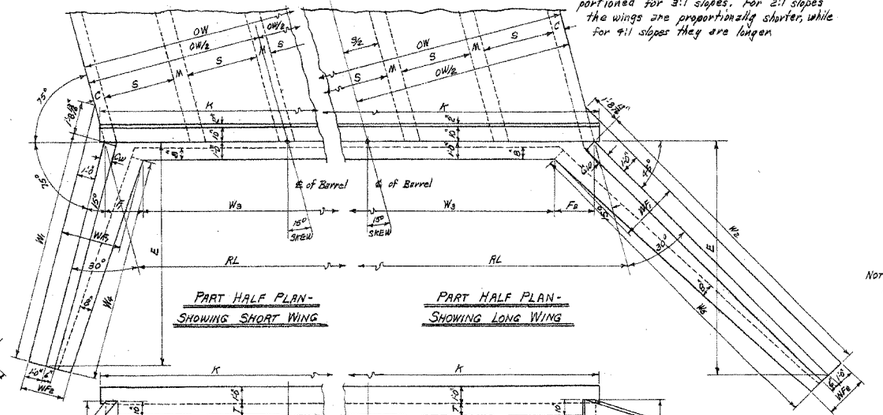


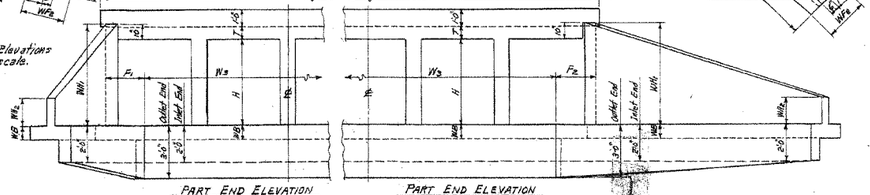


TRIPLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed, see Layout at top center of sheet.

NOTE:- Plans and Elevations are not to scale.





QUADRUPLE BARREL CULVERT - 15° SKEW RT. FWD.

Details of Culvert with 15° Skew Left Forward is reversed, see Layout at above center.

QUINTUPLE BARREL CULVERT - 15° SKEW RT. FWD.

Details of Culvert with 15° Skew Left Forward is reversed, see Layout above.

ROADWAY LENGTH RL — HEADWALL LENGTH K — APRON DIMENSION W_3

RL = OW × 1.035276 — K = RL + (6½″) — W_3 = RL − (F_1 + F_2)

USE WITH DRAWING NO.	CLEAR SPAN	CLEAR HEIGHT	SUM OF DIMENSIONS	SINGLE BARREL CULVERT				DOUBLE BARREL CULVERT				TRIPLE BARREL CULVERT				QUADRUPLE BARREL CULVERT				QUINTUPLE BARREL CULVERT			
	S	H	F_1 & F_2	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3
W-X152-1, W-X153-1 OR W-X154-1. (FOR H=8'0" OR LESS)	4'	2'	2'-0"	5'-0"	5'-2⅛"	5'-8½"	3'-2⅛"	9'-8"	10'-0"	10'-6½"	8'-0"	14'-4"	14'-10"	15'-4½"	12'-10"	19'-0"	19'-8"	20'-2½"	17'-8"	23'-8"	24'-6"	25'-0½"	22'-6"
		3'	2'-9⅜"	5'-0"	"	"	2'-0⅜"	9'-8"	"	"	7'-2⅜"	14'-4"	"	"	12'-0⅜"	19'-0"	"	"	16'-10⅜"	23'-8"	"	"	21'-8⅜"
		4'	3'-7⅛"	5'-0"	"	"	1'-4⅛"	9'-8"	"	"	6'-4⅛"	14'-4"	"	"	11'-2⅛"	19'-0"	"	"	16'-0⅛"	23'-8"	"	"	20'-10⅛"
		5'	4'-5⅜"	5'-0"	"	"	0'-6⅜"	9'-8"	"	"	5'-6⅜"	14'-4"	"	"	10'-4⅜"	19'-0"	"	"	15'-2⅜"	23'-8"	"	"	20'-0⅜"
		6'	5'-3⅝"	5'-2"	5'-4⅝"	5'-10⅝"	0'-1"	9'-11"	10'-3⅝"	10'-9⅝"	5'-0"	14'-8"	15'-2⅝"	15'-8⅝"	9'-11"	19'-5"	20'-1⅛"	20'-7⅝"	14'-10"	24'-2"	25'-0⅛"	25'-6⅛"	19'-9"
	5'	3'	2'-9⅜"	6'-0"	6'-2⅝"	6'-8"	3'-8⅜"	11'-8"	12'-1"	12'-7⅛"	9'-3⅜"	17'-4"	17'-11⅜"	18'-5⅛"	15'-1⅜"	23'-0"	23'-8⅜"	24'-3⅛"	21'-0"	28'-8"	29'-6⅜"	30'-0⅛"	26'-10⅛"
		4'	3'-7⅛"	6'-0"	"	"	2'-7"	11'-8"	"	"	8'-5⅛"	17'-4"	"	"	14'-3⅛"	23'-0"	"	"	20'-2⅛"	28'-8"	"	"	26'-4⅛"
		5'	4'-5⅜"	6'-0"	"	"	1'-9⅜"	11'-8"	"	"	7'-7⅜"	17'-4"	"	"	13'-6"	23'-0"	"	"	19'-7⅜"	28'-8"	"	"	25'-0⅜"
		6'	5'-3⅛"	6'-2"	6'-4⅝"	6'-11⅝"	1'-1½"	11'-11"	12'-4"	12'-10⅝"	7'-0⅛"	17'-8"	18'-3½"	18'-10"	13'-10⅛"	23'-5"	24'-0⅛"	24'-7⅝"	18'-11⅝"	28'-8"	29'-6½"	30'-0⅝"	24'-11⅝"
		7'	6'-5⅝"	6'-8"	6'-10⅝"	7'-0⅝"	Ⓐ 0"	12'-1"	12'-6⅝"	13'-0¼"	6'-0⅝"	17'-11"	18'-6⅝"	19'-1"	12'-0⅝"	23'-9"	24'-7"	25'-1½"	18'-1⅝"	28'-7"	30'-2½"	31'-0⅛"	24'-10⅝"
	6'	3'	2'-9⅜"	7'-0"	7'-1⅝"	7'-7⅝"	4'-5⅜"	13'-8"	14'-1⅜"	14'-8⅝"	11'-4"	20'-0"	21'-0⅝"	21'-7"	18'-2⅜"	27'-0"	27'-11⅜"	28'-5⅛"	25'-1⅜"	33'-8"	34'-10½"	35'-4⅜"	32'-0⅛"
		4'	3'-7⅛"	7'-0"	"	"	3'-7⅛"	13'-8"	"	"	10'-4⅛"	20'-0"	"	"	17'-5"	27'-0"	"	"	23'-7⅛"	33'-8"	"	"	30'-4⅛"
		5'	4'-5⅜"	7'-0"	"	"	2'-5⅜"	13'-8"	"	"	9'-3⅜"	20'-0"	"	"	16'-7⅛"	27'-0"	"	"	22'-8⅜"	33'-8"	"	"	29'-4⅜"
		6'	5'-3⅛"	7'-2"	7'-4⅝"	7'-11⅝"	2'-1⅛"	13'-11"	14'-5"	14'-11⅝"	9'-1⅛"	20'-8"	21'-2⅝"	21'-9"	15'-8"	27'-5"	28'-0⅛"	28'-6⅝"	22'-1⅛"	33'-11"	35'-1"	35'-7⅛"	30'-1⅛"
		7'	6'-5⅝"	7'-5"	7'-7⅛"	8'-1⅛"	1'-0⅝"	14'-1"	14'-7"	15'-1⅛"	8'-1⅛"	20'-11"	21'-5⅛"	22'-0⅛"	15'-2"	27'-8"	28'-3⅛"	28'-9⅛"	21'-1⅛"	34'-2"	35'-4"	35'-10⅛"	29'-3⅛"
		8'	7'-5⅜"	7'-8"	7'-10⅝"	8'-4⅝"	Ⓐ 0"	14'-2"	14'-8"	15'-2⅝"	6'-11⅜"	21'-2"	21'-8⅜"	22'-3⅛"	14'-0⅜"	27'-10"	28'-5⅜"	29'-0⅜"	20'-1⅜"	34'-5"	35'-7"	36'-1⅜"	28'-5⅜"
	7'	3'	2'-9⅜"	8'-0"	8'-3⅝"	8'-9⅜"	4'-7⅜"	15'-8"	16'-2⅝"	16'-9"	12'-7"	23'-0"	24'-1⅜"	24'-10⅝"	20'-6"	31'-0"	32'-1⅜"	32'-7⅝"	28'-5"	38'-8"	40'-0⅝"	40'-6⅝"	36'-4⅝"
		5'	4'-5⅜"	8'-0"	"	"	3'-1⅜"	15'-8"	"	"	11'-3⅜"	23'-9"	"	"	19'-8⅜"	31'-0"	"	"	27'-1⅜"	38'-8"	"	"	35'-7"
		6'	5'-3⅛"	8'-2"	8'-5⅝"	9'-0"	3'-5⅛"	15'-11"	16'-5⅝"	17'-0⅝"	11'-2⅛"	23'-6"	24'-4"	25'-0⅛"	19'-2⅛"	31'-5"	32'-6⅛"	33'-0⅝"	27'-3"	39'-2"	40'-6⅝"	41'-1"	35'-3⅝"
		7'	6'-5⅜"	8'-5"	8'-8⅝"	9'-4"	2'-4⅜"	16'-2"	16'-8⅝"	17'-3⅝"	10'-1"	23'-11"	24'-9⅜"	25'-5⅜"	18'-3⅜"	31'-10"	32'-11½"	33'-6"	25'-5"	39'-5"	41'-0⅜"	41'-6⅜"	33'-2⅜"
		8'	7'-5⅝"	8'-8"	8'-11⅛"	9'-7"	0'-11"	16'-5"	16'-11⅝"	17'-6⅜"	9'-1⅝"	24'-1"	24'-10⅝"	25'-6⅛"	17'-1⅝"	32'-3"	33'-4½"	33'-10⅛"	23'-7⅝"	39'-10"	41'-3⅜"	41'-9⅜"	31'-4⅝"
	8'	3'	2'-9⅜"	9'-0"	9'-3⅝"	9'-10⅝"	5'-6⅜"	17'-8"	18'-2⅝"	18'-10"	14'-8"	26'-4"	27'-3⅜"	27'-9⅝"	23'-2⅝"	35'-0"	36'-2⅜"	36'-9⅜"	32'-7⅛"	43'-8"	45'-2⅝"	45'-9"	41'-7"
		5'	4'-5⅜"	9'-2"	9'-5⅝"	10'-0⅝"	4'-1⅜"	17'-11"	18'-5⅝"	19'-1"	14'-11⅜"	26'-8"	27'-7⅛"	28'-1⅝"	23'-2"	35'-5"	36'-8"	37'-2⅝"	32'-2⅝"	43'-11"	45'-6⅜"	46'-3⅜"	41'-3⅜"
		6'	5'-3⅛"	9'-2"	"	"	3'-1⅛"	17'-11"	"	"	13'-3⅛"	26'-8"	"	"	22'-1⅛"	35'-5"	"	"	31'-0⅛"	43'-8"	"	"	40'-0⅛"
		7'	6'-5⅜"	9'-3"	9'-6⅛"	10'-1⅛"	2'-1"	18'-1"	18'-5⅝"	19'-3"	12'-8⅜"	26'-11"	27'-10⅜"	28'-5⅝"	21'-11⅜"	35'-8"	37'-0⅛"	37'-6⅝"	30'-6⅝"	44'-1"	45'-8⅜"	46'-5⅜"	39'-1⅜"
		8'	7'-5⅝"	9'-4"	9'-8"	10'-2⅝"	1'-11⅛"	18'-2"	18'-8⅜"	19'-6⅜"	11'-10⅛"	27'-0"	27'-11⅜"	28'-6⅝"	20'-10⅛"	35'-10"	37'-1⅛"	37'-7⅝"	29'-4⅝"	44'-3"	45'-10⅜"	46'-6⅜"	38'-0⅛"
	9'	3'	2'-9⅜"	10'-4"	10'-7⅛"	11'-0⅝"	6'-1"	19'-5"	20'-0⅞"	21'-2"	16'-2"	29'-8"	30'-8½"	31'-5"	26'-3⅜"	39'-9"	40'-11⅜"	41'-6⅛"	36'-4⅜"	49'-2"	50'-10⅝"	51'-5⅝"	46'-5⅛"
		5'	4'-5⅜"	10'-5"	10'-7⅝"	11'-1⅝"	5'-1⅜"	20'-1"	20'-8⅜"	21'-5"	16'-6"	29'-11"	30'-11⅝"	31'-6"	25'-10⅜"	39'-11"	41'-1⅜"	41'-8⅛"	35'-10⅛"	49'-7"	51'-5"	51'-10⅝"	46'-6⅛"
		6'	5'-3⅛"	10'-5"	"	"	4'-1⅛"	20'-1"	"	"	16'-3⅛"	29'-11"	"	"	24'-5⅛"	39'-11"	"	"	34'-8"	49'-7"	"	"	44'-1⅛"
		7'	6'-5⅜"	10'-6"	10'-8⅝"	11'-2⅝"	3'-1⅜"	20'-2"	20'-8⅜"	21'-5"	15'-4⅜"	30'-0"	31'-0⅝"	31'-7⅛"	23'-4⅜"	40'-0"	41'-2⅜"	41'-9⅛"	33'-6⅛"	49'-8"	51'-6"	52'-1⅛"	43'-3⅛"
		8'	7'-5⅝"	10'-7"	10'-9⅝"	11'-3⅝"	2'-1⅛"	20'-2"	20'-8⅜"	21'-5"	14'-5⅛"	30'-1"	31'-0⅝"	31'-7⅛"	22'-3⅛"	40'-0"	41'-2⅜"	41'-9⅛"	32'-5⅛"	49'-8"	51'-6"	52'-1⅛"	42'-2⅛"
	10'	3'	2'-9⅜"	11'-0"	11'-3⅛"	11'-9⅝"	7'-1"	21'-5"	21'-11⅜"	22'-7⅝"	18'-0"	31'-8"	32'-7½"	33'-4"	28'-0⅜"	42'-3"	43'-5⅜"	44'-0⅛"	38'-6⅜"	52'-4"	54'-1"	54'-7⅛"	49'-0⅛"
		5'	4'-5⅜"	11'-0"	"	"	6'-1⅜"	22'-1"	"	"	18'-0"	32'-11"	34'-1"	34'-7⅞"	28'-3⅛"	43'-9"	45'-0⅜"	45'-7⅛"	39'-10⅛"	54'-2"	56'-1"	56'-7⅛"	51'-1⅛"
		6'	5'-3⅛"	11'-3"	11'-7⅛"	12'-1⅝"	5'-1⅛"	22'-1"	22'-10⅜"	23'-8⅛"	18'-1⅛"	32'-11"	34'-1"	34'-7⅞"	28'-3⅛"	43'-9"	45'-0⅜"	45'-7⅛"	39'-10⅛"	54'-2"	56'-1"	57'-0⅛"	51'-3"
		7'	6'-5⅜"	11'-3"	"	"	4'-1⅛"	22'-1"	"	"	16'-4⅛"	32'-11"	"	"	26'-5⅛"	43'-9"	"	"	37'-8"	54'-2"	"	"	50'-0⅛"
		8'	7'-5⅝"	11'-4"	11'-8⅝"	12'-2⅝"	3'-1⅛"	22'-2"	22'-10⅜"	23'-8⅛"	15'-2⅝"	33'-0"	34'-2"	34'-9⅛"	26'-5⅛"	43'-10"	45'-2⅜"	45'-9⅛"	37'-8"	54'-3"	56'-2"	57'-1⅛"	48'-10⅛"
	11'	3'	2'-9⅜"	11'-6"	11'-9⅛"	12'-3⅝"	8'-1⅛"	23'-5"	23'-11⅜"	24'-7⅝"	19'-4"	34'-0"	35'-0⅝"	35'-8"	30'-0⅜"	45'-3"	46'-5⅜"	47'-0⅛"	41'-0⅜"	56'-0"	57'-10⅝"	58'-5⅝"	52'-11⅛"
		5'	4'-5⅜"	11'-6"	"	"	7'-1⅜"	23'-5"	"	"	19'-4"	34'-3"	35'-4"	35'-10⅞"	30'-3⅛"	45'-6"	46'-8⅜"	47'-3⅛"	41'-2⅛"	56'-3"	58'-1"	58'-7⅛"	53'-1⅛"
		6'	5'-3⅛"	11'-8"	12'-1⅛"	12'-5⅝"	6'-1⅛"	23'-6"	24'-1"	24'-8⅛"	20'-2⅛"	34'-6"	35'-6"	36'-1"	30'-6"	45'-9"	47'-0"	47'-6"	41'-5"	56'-6"	58'-4"	58'-10"	53'-4"
		7'	6'-5⅜"	11'-8"	"	"	5'-1⅛"	23'-6"	"	"	20'-2⅛"	34'-9"	"	"	27'-6⅛"	45'-9"	"	"	38'-8"	56'-6"	"	"	51'-0⅛"
		8'	7'-5⅝"	11'-9"	12'-1⅝"	12'-6⅝"	4'-1⅛"	23'-7"	24'-1"	24'-8⅛"	19'-2⅛"	34'-9"	35'-6"	36'-1"	29'-6⅛"	45'-10"	47'-0"	47'-6"	40'-5⅛"	56'-7"	58'-4"	58'-10"	52'-0⅛"
	12'	3'	2'-9⅜"	12'-0"	12'-3⅛"	12'-9⅝"	9'-1⅛"	24'-9"	25'-3⅜"	25'-11"	20'-8"	36'-4"	37'-4⅜"	38'-0"	32'-0⅜"	48'-3"	49'-5⅜"	50'-0⅛"	43'-10⅜"	59'-8"	61'-6⅜"	62'-1⅝"	56'-5⅛"
		5'	4'-5⅜"	12'-0"	"	"	8'-1⅜"	24'-9"	"	"	20'-8"	36'-7"	37'-8"	38'-3⅞"	32'-3⅛"	48'-6"	49'-8⅜"	50'-3⅛"	44'-2⅛"	59'-9"	61'-8"	62'-3⅛"	56'-7⅛"
		6'	5'-3⅛"	12'-2"	12'-5⅛"	12'-10⅝"	7'-1⅛"	24'-10"	25'-4⅛"	25'-11⅝"	21'-2⅛"	36'-9"	37'-9⅝"	38'-5"	32'-6"	48'-9"	50'-0"	50'-6"	44'-5"	60'-0"	61'-10"	62'-5"	56'-9"
		7'	6'-5⅜"	12'-3"	"	"	6'-1⅛"	24'-11"	"	"	21'-2⅛"	36'-11"	"	"	28'-6⅛"	48'-9"	"	"	39'-8"	60'-0"	"	"	52'-0⅛"
		8'	7'-5⅝"	12'-4"	12'-7⅝"	13'-1⅝"	5'-1⅛"	24'-11"	25'-4⅛"	25'-11⅝"	20'-2⅛"	36'-11"	37'-9⅝"	38'-5"	31'-6⅛"	48'-10"	50'-0"	50'-6"	43'-5⅛"	60'-1"	61'-10"	62'-5"	55'-9⅛"

Ⓐ Special case for these boxes, See Detail 'A' and Table 'A' for revised values of F_1, F_2, W_3 and W_5, when apron width is more than 1'-0 and W_3 = 0". For Details 'A' and Tables 'A' for each slope, see Drawing Nos. W-X152-1, W-X152-2, or W-X153-1, W-X153-2, or W-X154-1, W-X154-2.

NOTE:- This drawing to be used in conjunction with standard Wing Drawings for 15° Skews for each slope as listed below.

2:1 Slopes	3:1 Slopes	4:1 Slopes
W-X152-1 or W-X152-2	W-X153-1 or W-X153-2	W-X154-1 or W-X154-2.

This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-115X-0	R-215X-0	R-315X-0	R-415X-0	R-515X-0
R-115X-1	R-215X-1	R-315X-1	R-415X-1	R-515X-1
	R-215X-2	R-315X-2		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 15° SKEW

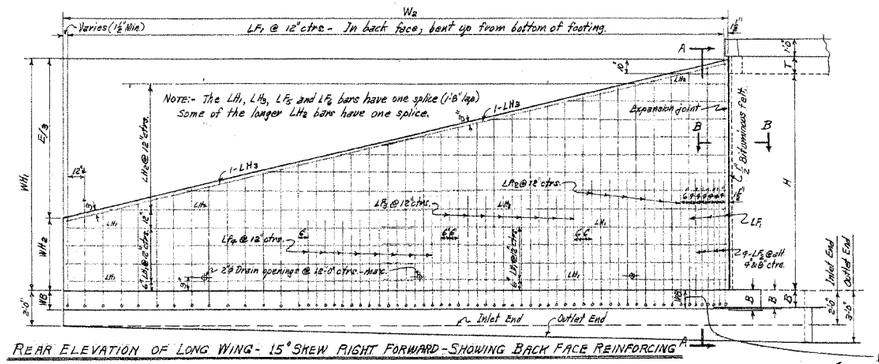
4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS — 2:1, 3:1 & 4:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER H=2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12.

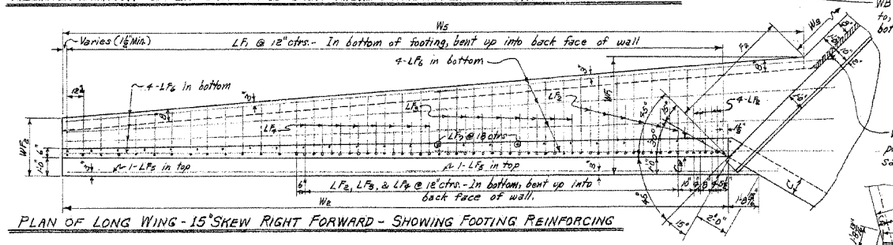
STANDARD DRAWING NO. W-X15

Designed by:- W.C.H. 5-22-63 — Checked by:- J.E.M. 6-20-63
Traced by:- W.C.H. 6-13-63 — Checked by:-
Quantities by:- — Checked by:-

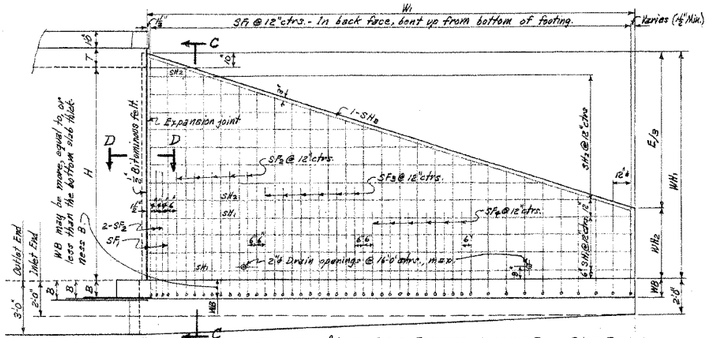
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			94	
JOB No.					



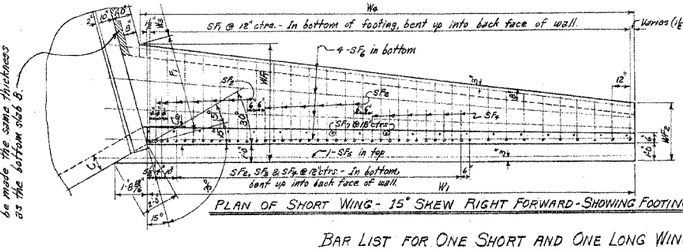
REAR ELEVATION OF LONG WING - 15° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING



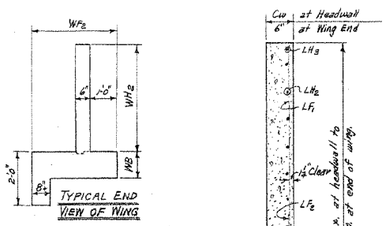
PLAN OF LONG WING - 15° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING



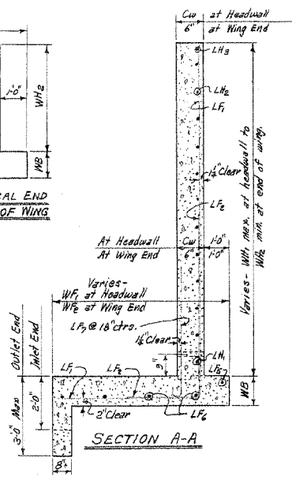
REAR ELEVATION OF SHORT WING - 15° SKEW RIGHT FORWARD - SHOWING BACK FACE REINF.



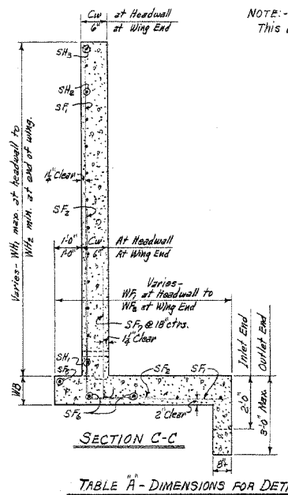
PLAN OF SHORT WING - 15° SKEW RIGHT FORWARD - SHOWING FOOTING REINF.



TYPICAL END VIEW OF WING



SECTION A-A



SECTION C-C

NOTE:- This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-115X-0	R-215X-0	R-315X-0	R-415X-0	R-515X-0
R-115X-1	R-215X-1	R-315X-1	R-415X-1	R-515X-1
	R-215X-2	R-315X-2		

REGULAR WING DIMENSIONS - 3:1 SLOPES

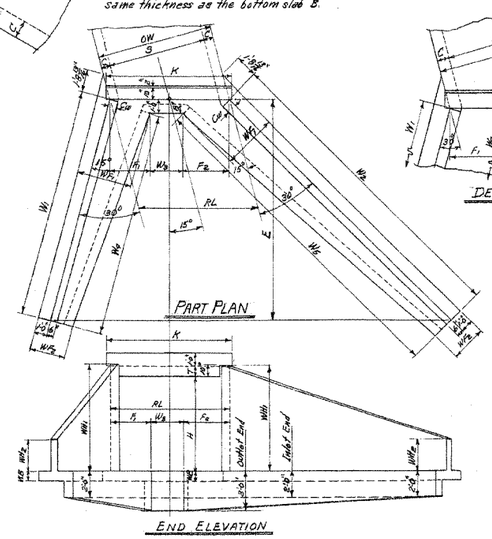
CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HDWL. C.	WINGWALL HEIGHTS		WIDTHS OF WING FOOTINGS		FOOTING DIMENSIONS WING TO HEADWALL		PERPENDICULAR DIST. FROM HDWL TO END OF WING	LENGTHS OF WINGWALLS		INSIDE FOOTING DIMENSIONS		* QUANTITY PER WING CLASS S CONCRETE			
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING	SHORT WING	LONG WING		SHORT WING	LONG WING	SHORT WING	LONG WING	INLET END SHORT WING	INLET END LONG WING	OUTLET END SHORT WING	OUTLET END LONG WING
H	WB	Cw	WH1	WH2	WF1	WF2	F1	F2	E	W1	W2	W4	W5	CU.YD.	CU.YD.	CU.YD.	CU.YD.
9'	10"	9"	8'-10"	3'-0"	5'-2"	2'-10½"	4'-0⅝"	4'-10⅜"	20'-6"	21'-2⅜"	29'-0"	21'-3⅜"	31'-3"	6.651	9.766	6.928	9.647
10'	11"	10"	10'-10"	3'-6"	5'-8"	3'-0"	4'-6⅜"	5'-7⅛"	22'-6"	23'-3⅜"	31'-9⅜"	23'-6"	35'-0⅜"	8.477	11.784	8.782	12.225
11'	12"	11"	11'-10"	3'-8"	6'-2"	3'-1½"	5'-1"	6'-3⅝"	24'-6"	25'-4½"	34'-7⅜"	25'-9⅝"	38'-4⅝"	10.632	14.771	10.969	15.253
12'	13"	12"	12'-10"	4'-0"	6'-8"	3'-3"	5'-7⅝"	7'-0⅝"	26'-6"	27'-5⅝"	37'-11"	27'-11⅝"	41'-8⅝"	13.128	18.248	13.987	18.765

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W4.
* See Table 'A' for special values of F1, F2 & E and W4 & W5 for Single 9'x8', 8'x10', 9'x11' and 10'x12' Box Culverts.

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING ⊛ STEEL - FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	Cw	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
7'	9'	9"	10"	2362	33.07	34.81	36.53	38.27	40.00
8	9'	9"	10"	2362	33.30	35.24	37.21	39.17	41.11
	10'	10"	11"	2932	41.94	43.94	45.92	47.82	49.90
9'	9'	9"	10"	2362	33.53	35.72	37.88	40.06	42.22
	10'	10"	11"	2932	42.18	44.39	46.60	48.81	51.02
	11'	11"	12"	3523	50.37	54.61	56.88	59.07	61.30
10'	9'	9"	10"	2362	33.76	36.19	38.56	40.92	43.32
	10'	10"	11"	2932	42.41	44.86	47.27	49.70	52.13
	11'	11"	12"	3528	52.61	55.07	57.52	59.96	62.42
	12'	12"	13"	4982	64.95	66.94	69.90	71.97	74.36
11'	9'	9"	10"	2362	33.99	36.67	39.28	41.86	——
	10'	10"	11"	2932	42.63	45.33	47.96	50.53	——
	11'	11"	12"	3523	52.88	55.54	58.20	60.87	——
	12'	12"	13"	4982	64.68	67.90	70.09	72.79	——
12'	9'	9"	10"	2362	34.21	37.16	39.99	42.83	——
	10'	10"	11"	2932	42.86	45.82	48.67	51.53	——
	11'	11"	12"	3523	53.07	56.02	58.88	61.78	——
	12'	12"	13"	4982	64.91	67.88	70.78	73.71	——

⊛ For reinforcing steel in Headwalls and Aprons, see Drawings listed at top of sheet.



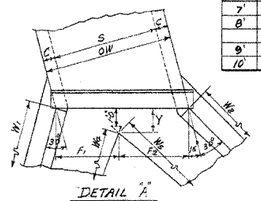
PART PLAN

END ELEVATION

SINGLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed. See Drwg. No. W-X15.

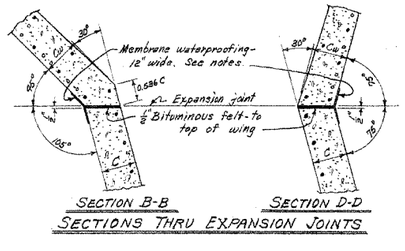
TYPICAL WING DETAILS



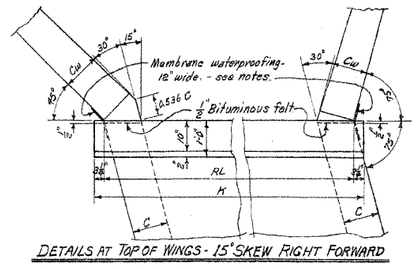
DETAIL "A"

TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F1	F2	W3	Y	W4	W5
7'	9'	4'-0⅛"	4'-9⅜"	0"	1'-1⅜"	21'-2⅜"	31'-7⅛"
8'	10'	4'-6⅜"	5'-5⅛"	0"	1'-1⅝"	23'-3⅛"	34'-11"
9'	11'	5'-0⅝"	6'-2⅞"	0"	1'-1⅞"	25'-7⅛"	38'-2⅝"
10'	12'	5'-6⅝"	6'-10½"	0"	1'-1½"	27'-9⅛"	41'-6⅛"



SECTIONS THRU EXPANSION JOINTS



DETAILS AT TOP OF WINGS - 15° SKEW RIGHT FORWARD

NOTE:- For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple Span Culverts, see Std. Drawing No. W-X15. For values of RL, K and W4 for each box, see above Std. also.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, footings and sidewalls shall be only where shown on plans.

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mopbtops of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the expansion joints.

Payment for the membrane waterproofing and bituminous felt shall be included in unit price bid for Class S Concrete.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

| CLEAR HEIGHT | WING LOCATION | SF1 & LF1 BENT: In bottom of footing, bent up into back face of wing. One bar of each length. | | | | | | SF2 & LF2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. | | | | | | SF3 & LF3 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. | | | | | | SF4 & LF4 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. | | | | | | SF5 & LF5 STRAIGHT: Longitudinal in top of wing footing heel. | | SF6 & LF6 STRAIGHT: Longitudinal in bottom of wing footing toe. | | SF7 & LF7 BENT: Footing dowels extending up into front face of wing. | | | | SH1 & LH1 STRAIGHT: Horizontal in back face of wing. | | | SH2 & LH2 STRAIGHT: Horizontal in back face of wing. One bar of each length. * | | | | SH3 & LH3 STRAIGHT: In back face of wing at top - on slope. | | | BAR BENDING DIAGRAMS | QUANTITY REINFORCING STEEL PER WING - LBS. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

Reshot 3-8-93

4210

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			95	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	'a' bars STRAIGHT In Top and Bottom Slab of Barrel.				'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars.								'b2' bars BENT - See Diagram below. In Top of Bottom Slab bent down under Division Walls - hooked. Alternate with 'a' and 'c' bars.								'c' bars STRAIGHT In Top and Bottom Slab of Barrel. Alt. with 'b' and 'b2' bars.				'd' bars Longitudinal in Top Slab of Barrel.			'd1' bars STRAIGHT Longitudinal in Sidewalls and Division Walls			'e' bars STRAIGHT Longitudinal in Bottom Slab of Barrel.			'f' bars STRAIGHT Verticals in Sidewalls and Division Walls.			'k' bars STRAIGHT 2 in Top of Headwalls and Aprons - Each		
D	S	H	SIZE	SPACING	No. REQ'D	LENGTH	SIZE	SPACING	No. REQ'D	LENGTH	W	X	Y	Z	SIZE	SPACING	No. REQ'D	LENGTH	W	X	Y	Z	SIZE	SPACING	No. REQ'D	LENGTH	SIZE	SPACING	No. REQ'D	LENGTH	SIZE	SPACING	No. REQ'D	LENGTH	SIZE	SPACING	No. REQ'D	LENGTH	SIZE	SPACING	No. REQ'D	LENGTH	SIZE	No. REQ'D	LENGTH
0'-0 TO 5'-0 MAXIMUM	4@4	2'	#5	12"	120	19'-5"	#5	12"	59	20'-9"	2'-1"	0'-3"	2'-3"	3'-5½"			59	20'-8"	2'-1"	0'-2½"	2'-4"	3'-5½"			120	14'-4"	#5	12"	30																
		3'			120	19'-5"			59	20'-9"	2'-1"	"	2'-3"	3'-5½"			59	20'-8"	2'-1"	"	2'-4"	3'-5½"			120	14'-4"			30																
		4'			120	19'-5"			59	20'-9"	2'-1"	"	2'-3"	3'-5½"			59	20'-8"	2'-1"	"	2'-4"	3'-5½"			120	14'-4"			30																
		5'			120	19'-5"			59	20'-9"	2'-1"	"	2'-3"	3'-5½"			59	20'-8"	2'-1"	"	2'-4"	3'-5½"			120	14'-4"			30																
		6'			120	19'-10"			59	21'-2"	2'-1"	0'-3"	2'-4"	3'-6½"			59	21'-1"	2'-1"	0'-2½"	2'-5"	3'-6½"			120	14'-9"			30																
	4@4	3'			120	23'-6"			59	25'-0"	2'-7"	0'-3½"	2'-8"	4'-3"			59	24'-11"	2'-7"	0'-3"	2'-9"	4'-3"			120	17'-7"			34																
		4'			120	23'-6"			59	25'-0"	2'-7"	"	2'-8"	4'-3"			59	24'-11"	2'-7"	"	2'-9"	4'-3"			120	17'-7"			34																
		5'			120	23'-6"			59	25'-0"	2'-7"	"	2'-8"	4'-3"			59	24'-11"	2'-7"	"	2'-9"	4'-3"			120	17'-7"			34																
		6'			120	24'-0"			59	25'-5"	2'-7"	"	2'-9"	4'-4"			59	25'-4"	2'-7"	"	2'-10"	4'-4½"			120	17'-10"			34																
		7'			120	24'-4"			59	25'-9"	2'-7"	0'-3½"	2'-10"	4'-4½"			59	25'-8"	2'-7"	0'-3"	2'-11"	4'-4½"			120	18'-1"			34																
	6@4	3'			132	27'-8"			65	29'-3"	3'-1½"	0'-4"	3'-1½"	5'-0"			65	29'-2"	3'-1½"	0'-3½"	3'-2½"	5'-0"			132	20'-9"			38																
		4'			132	27'-8"			65	29'-3"	3'-1½"	"	3'-1½"	5'-0"			65	29'-2"	3'-1½"	"	3'-2½"	5'-0"			132	20'-9"			38																
		5'			132	27'-8"			65	29'-3"	3'-1½"	"	3'-1½"	5'-0"			65	29'-2"	3'-1½"	"	3'-2½"	5'-0"			132	20'-9"			38																
		6'			132	28'-1"			65	29'-8"	3'-1½"	"	3'-2½"	5'-1"			65	29'-7"	3'-1½"	"	3'-3½"	5'-1"			132	21'-0"			38																
		7'			132	28'-5"			65	30'-0"	3'-1½"	"	3'-3½"	5'-1½"			65	29'-11"	3'-1½"	"	3'-4½"	5'-1½"			132	21'-3"			38																
		8'			132	28'-6"			65	30'-1"	3'-1½"	0'-4"	3'-3½"	5'-2"			65	30'-0"	3'-1½"	0'-3½"	3'-4½"	5'-2"			132	21'-3"			38																
	6@4	4'			120	21'-1"			59	33'-9"	3'-7½"	0'-4½"	3'-7"	5'-9"			59	33'-8"	3'-7½"	0'-4"	3'-7½"	5'-9"			120	23'-8"			98																
		5'			120	21'-1"			59	33'-9"	3'-7½"	"	3'-7"	5'-9"			59	33'-8"	3'-7½"	"	3'-7½"	5'-9"			120	23'-8"			98																
		6'			120	32'-3"			59	34'-2"	3'-7½"	"	3'-8"	5'-10"			59	34'-1"	3'-7½"	"	3'-8½"	5'-10"			120	26'-1"			44																
		7'			120	32'-7"			59	34'-6"	3'-7½"	"	3'-9"	5'-10½"			59	34'-5"	3'-7½"	"	3'-9½"	5'-10½"			120	26'-4"			44																
		8'			120	32'-8"			59	34'-11"	3'-7½"	"	3'-9"	5'-11"			59	34'-10"	3'-7½"	"	3'-9½"	5'-11"			120	26'-7"			44																
		9'			120	33'-1"			59	35'-0"	3'-7½"	0'-4½"	3'-10"	6'-0"			59	35'-0"	3'-7½"	0'-4"	3'-10½"	6'-0"			120	26'-7"			44																
	8@4	4'			132	36'-0"			65	38'-0"	4'-1½"	0'-5"	4'-0"	6'-7"			65	38'-0"	4'-1½"	0'-5"	4'-0"	6'-7"			132	26'-11"			98																
		5'			132	36'-5"			65	38'-5"	4'-1½"	"	4'-1"	6'-8"			65	38'-5"	4'-1½"	"	4'-1"	6'-8"			132	27'-2"			98																
		6'			132	36'-5"			65	38'-5"	4'-1½"	"	4'-1"	6'-8"			65	38'-5"	4'-1½"	"	4'-1"	6'-8"			132	27'-2"			98																
		7'			132	36'-10"			65	38'-9"	4'-1½"	"	4'-2"	6'-8½"			65	38'-9"	4'-1½"	"	4'-2"	6'-9"			132	27'-5"			98																
		8'			132	37'-1"			65	39'-3"	4'-1½"	"	4'-3"	6'-10"			65	39'-3"	4'-1½"	"	4'-3"	6'-10"			132	27'-8"			98																
		9'			132	37'-8"			65	39'-8"	4'-1½"	0'-5"	4'-4"	6'-11"			65	39'-8"	4'-1½"	0'-5"	4'-4"	6'-11"			132	27'-11"			98																
		10'			132	37'-8"			65	39'-8"	4'-1½"	"	4'-4"	6'-11"			65	39'-8"	4'-1½"	"	4'-4"	6'-11"			132	27'-11"			98																
	10@4	4'			264	21'-8"			130	22'-6"	4'-8"	0'-5"	4'-6"	7'-5"			130	22'-5"	4'-8"	0'-5½"	4'-6"	7'-5"			182	30'-5"			55																
		5'			264	21'-5"			130	22'-6"	4'-8"	"	4'-7"	7'-5½"			130	22'-6"	4'-8"	"	4'-7"	7'-5½"			182	30'-6"			55																
		6'			264	21'-5"			130	22'-6"	4'-8"	"	4'-7"	7'-5½"			130	22'-6"	4'-8"	"	4'-7"	7'-5½"			182	30'-6"			55																
		7'			264	21'-6"			130	22'-6"	4'-8"	"	4'-7"	7'-6"			130	22'-6"	4'-8"	"	4'-7"	7'-6"			182	30'-6"			55																
		8'			264	21'-6"			130	22'-9"	4'-8"	"	4'-8"	7'-7"			130	22'-8"	4'-8"	"	4'-8"	7'-7"			182	30'-9"			55																
		9'			264	21'-8"			130	22'-11"	4'-8"	"	4'-9"	7'-8"			130	22'-11"	4'-8"	"	4'-9"	7'-8"			182	31'-0"			55																
		10'			264	21'-11"			130	23'-0"	4'-8"	"	4'-9"	7'-8"			130	23'-0"	4'-8"	"	4'-9"	7'-8"			182	31'-0"			55																
		11'			264	22'-0"			130	23'-0"	4'-8"	0'-5½"	4'-9"	7'-9"			130	23'-0"	4'-8"	0'-5½"	4'-9"	7'-9"			182	31'-0"			55																
	10@4	5'			290	23'-6"			118	24'-5"	5'-2"	0'-6"	4'-11"	8'-3"			118	24'-5"	5'-2"	0'-6"	4'-11"	8'-3"			120	33'-5"			59																
		6'			240	23'-8"			118	24'-7"	5'-2"	"	5'-0"	8'-3½"			118	24'-7"	5'-2"	"	5'-0"	8'-3½"			120	33'-8"			59																
		7'			240	23'-8"			118	24'-7"	5'-2"	"	5'-0"	8'-3½"			118	24'-7"	5'-2"	"	5'-0"	8'-3½"			120	33'-8"			59																
		8'			240	23'-9"			118	24'-8"	5'-2"	"	5'-0"	8'-4"			118	24'-8"	5'-2"	"	5'-0"	8'-4"			120	33'-8"			59																
		9'			240	23'-11"			118	24'-10"	5'-2"	"	5'-1"	8'-5"			118	24'-10"	5'-2"	"	5'-1"	8'-5"			120	33'-11"			59																
		10'			240	24'-2"			118	25'-1"	5'-2"	"	5'-2"	8'-6"			118	25'-1"	5'-2"	"	5'-2"	8'-6"			120	34'-2"			59																
		11'			240	24'-3"			118	25'-2"	5'-2"	"	5'-2"	8'-7"			118	25'-2"	5'-2"	"	5'-2"	8'-7"			120	34'-5"			59																
		12'			240	24'-4"			118	25'-3"	5'-2"	0'-6"	5'-2"	8'-8"			118	25'-3"	5'-2"	0'-6"	5'-2"	8'-8"			120	34'-8"			59																
	12@4	6'			264	25'-0"			130	26'-9"	5'-8"	0'-6½"	5'-5½"	9'-1"			130	26'-10"	5'-8"	0'-7"	5'-4½"	9'-1"			182	36'-9"			63																
		7'			264	25'-10"			130	26'-9"	5'-8"	"	5'-5½"	9'-1"			130	26'-10"	5'-8"	"	5'-4½"	9'-1"			182	36'-9"			63																
		8'			264	25'-10"			130	26'-9"	5'-8"	"	5'-5½"	9'-1"			130	26'-10"	5'-8"	"	5'-4½"	9'-1"			182	36'-9"			63																
		9'			264	26'-0"			130	27'-0"	5'-8"	"	5'-5½"	9'-2"			130	27'-0"	5'-8"	"	5'-5½"	9'-2"			182	37'-0"			63																
		10'			264	26'-8"			130	27'-2"	5'-8"	"	5'-5½"	9'-3"			130	27'-3"	5'-8"	"	5'-5½"	9'-3"			182	37'-3"			63																
		11'			264	26'-5"			130	27'-3"	5'-8"	"	5'-5½"	9'-4"			130	27'-4"	5'-8"	"	5'-5½"	9'-4"			182	37'-6"			63																
		12'			264	26'-5"			130	27'-5"	5'-8"	0'-7"	5'-5½"	9'-5"			130	27'-5"	5'-8"	0'-7"	5'-5½"	9'-5"			182	37'-9"			63																
	12@4	6'			264	27'-11"			130	28'-11"	6'-3"	0'-7"	5'-10½"	9'-10"			130	29'-0"	6'-3"	0'-8"	5'-8½"	9'-10"			182	39'-10"			67																
		7'			264	27'-11"			130	28'-11"	6'-3"	"	5'-10½"	9'-10"			130	29'-0"	6'-3"	"	5'-8½"	9'-10"			182	39'-10"			67																
		8'			264	27'-11"			130	28'-11"	6'-3"	"	5'-10½"	9'-10"			130	29'-0"	6'-3"	"	5'-8½"	9'-10"			182	39'-10"			67																
		9'			264	28'-7"			130	29'-6"	6'-3"	"	5'-10½"	10'-0"			130	29'-7"	6'-3"	"	5'-10½"	10'-0"			182	40'-0"			67																
		10'			264	28'-7"			130	29'-6"	6'-3"	"	5'-10½"	10'-0"			130	29'-7"	6'-3"	"	5'-10½"	10'-0"			182	40'-0"			67																
		11'			264	28'-7"			130	29'-6"	6'-3"	"	5'-10½"	10'-1"			130	29'-6"	6'-3"	"	5'-10½"	10'-1"			182	40'-0"			67																
		12'			264	28'-6"			130	29'-6"	6'-3"	0'-7"	5'-10½"	10'-2"			130	29'-7"	6'-3"	0'-8"	5'-10½"	10'-2"			182	40'-0"			67																

NOTE:- The 'a', 'b', 'b2' and 'c' bars are to be placed parallel with the headwalls, spacing to be parallel with the barrel.

⊛ These 'a', 'b', 'b2' and 'c' bars are to be spliced at center of middle division wall to make a full length bar. Lap #6 bars 2'-0" min. and #7 bars 2'-4" min.

Designed By:- W.C.H. 1-23-63.
Drawn By:- W.C.H. 9-4-63.
Quantities By:- W.C.H. 9-5-63.
Checked By:- R.H.S. 5-21-63
Checked By:- Rws. 10-7-63
Checked By:- R.G. 1-8-64

DIMENSIONS

BARREL DIMENSIONS

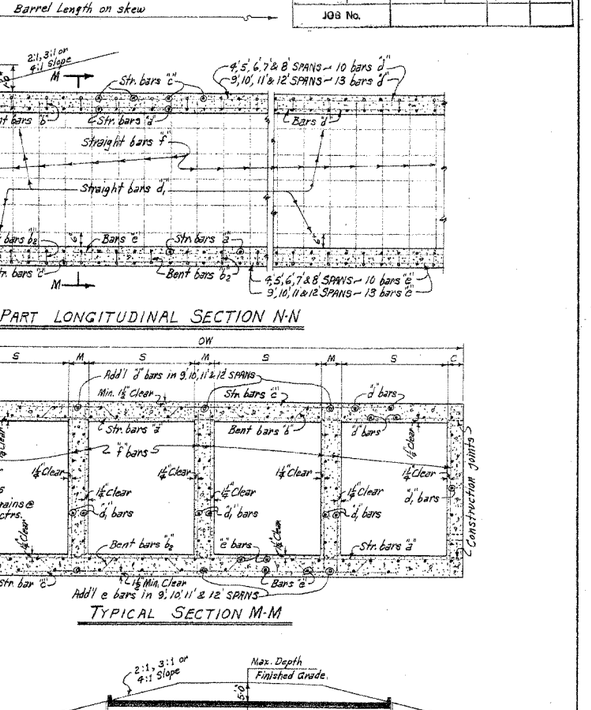
MAX. DESIGN DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	OVERALL WIDTH	Sq. Ft. OPENING	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALL
D	S	H	OW		T	C	M	B	OH	RL	K
5'-0"	4	2'	32	19.0	6½"	6"	8"	6"	3'-0½"	19'-8"	20'-2½"
	4@4'	3'	48	19.0		6"	8"		4'-0½"	"	"
		4'	64	19.0		6"	8"		5'-0½"	"	"
		5'	80	19.0		6"	8"		6'-0½"	"	"
		6'	96	19.5"		7"	9"		7'-0½"	20'-1½"	20'-7½"
	4	3'	60	23.0		6"	8"		4'-1½"	23'-9½"	24'-5½"
	4@5'	4'	80	23.0		6"	8"		5'-1½"	"	"
		5'	100	23.0	7"	6"	8"	6½"	6'-1½"	"	"
		6'	120	23.5		7"	9"		7'-1½"	24'-2½"	24'-9½"
		7'	140	23.9		7½"	10"		8'-1½"	24'-7"	25'-1½"
	4	3'	72	27.0		6"	8"		4'-2½"	27'-11½"	28'-5½"
	4@6'	4'	96	27.0		6"	8"		5'-2½"	"	"
		5'	120	27.0	7½"	7"	9"	7"	6'-2½"	"	"
		6'	144	27.5"		7"	9"		7'-2½"	28'-8½"	29'-1½"
		7'	168	27.9"		7½"	10"		8'-2½"	28'-8½"	29'-3½"
		8'	192	27.10"		8"	10"		9'-2½"	28'-9½"	29'-5½"
	4	3'	112	31.0"		6"	8"		5'-2½"	32'-1½"	32'-7½"
	4@7'	4'	140	31.0"		6"	8"		6'-2½"	"	"
		5'	168	31.5"		7"	9"		7'-2½"	32'-6½"	33'-0½"
		6'	196	31.9"	7½"	7½"	10"	7½"	8'-2½"	32'-10½"	33'-5½"
		7'	224	31.10"		8"	10"		9'-2½"	32'-11½"	33'-6½"
		8'	252	32.3"		9"	11"		10'-2½"	33'-1½"	33'-11½"
	4	4'	128	35.0		6"	8"		5'-2½"	36'-2½"	36'-9½"
	4@8'	5'	160	35.5"		7"	9"		6'-2½"	36'-8"	37'-2½"
		6'	192	35.5"		7"	9"		7'-2½"	"	"
		7'	224	35.9"	8½"	7½"	10"	8½"	8'-2½"	37'-0½"	37'-6½"
		8'	256	36.1"		8"	10"		9'-2½"	37'-1½"	37'-7½"
		9'	288	36.8"		9"	11"		10'-2½"	37'-6½"	38'-0½"
		10'	320	36.8"		10"	12"		11'-2½"	37'-11½"	38'-6"
	5	1'	80	39.5"		7"	9"		6'-6"	40'-9½"	41'-4½"
	4@9'	2'	144	39.9"		7½"	10"		7'-6"	41'-1½"	41'-8½"
		3'	216	39.9"		7½"	10"		8'-6"	"	"
		4'	288	39.10"	9"	8"	10"	9"	9'-6"	41'-2½"	41'-9½"
		5'	360	44.3"		9"	11"		10'-6"	41'-8"	42'-2½"
		6'	432	44.8"		10"	12"		11'-6"	42'-1½"	42'-7½"
		7'	504	44.10"		11"	12"		12'-6"	42'-3½"	42'-9½"
		8'	576	45.0"		12"	12"		13'-6"	44'-7"	47'-1½"
	6	2'	192	47.10"		8"	10"		7'-8½"	49'-6½"	50'-0½"
	4@10'	3'	308	47.10"		8"	10"		8'-8½"	"	"
		4'	352	47.10"	10"	8"	10"	10½"	9'-8½"	"	"
		5'	396	48.3"		9"	11"		10'-8½"	49'-11½"	50'-5½"
		6'	440	48.8"		10"	12"		11'-8½"	50'-4½"	50'-11"
		7'	484	49.1"		11"	12"		12'-8½"	50'-6½"	51'-1"
		8'	528	49.10"		12"	12"		13'-8½"	50'-10½"	51'-5½"
	6	3'	288	51.10"		8"	10"		7'-10"	53'-8"	54'-2½"
	4@11'	4'	336	51.10"		8"	10"		8'-10"	"	"
		5'	384	51.10"	10½"	8"	10"	11"	9'-10"	"	"
		6'	432	52.3"		9"	11"		10'-10"	54'-1½"	54'-7½"
		7'	480	52.6"		10"	12"		11'-10"	54'-4½"	55'-0½"
		8'	528	52.10"		11"	12"		12'-10"	54'-8½"	55'-2½"
		9'	576	53.0"		12"	12"		13'-10"	54'-10½"	55'-4½"

QUANTITIES

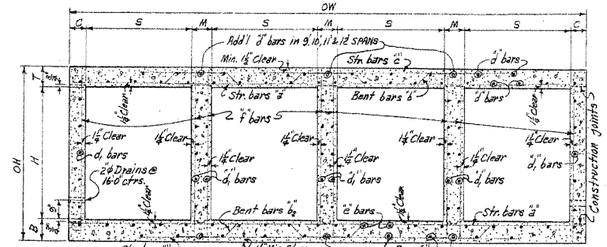
UNIT QUANTITIES — REINFORCING STEEL — ADDITIONAL

CLASS 'S' CONC. IN BARREL	REINFORCING STEEL PER LIN. FT. BARREL	REINFORCING STEEL ADDITIONAL PER LONG. LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS
CU.YD.	LB.	LB.	LB.
0.955	191.11	90.56	270.84
1.066	201.80	97.20	270.84
1.177	212.48	103.92	270.84
1.289	223.17	110.60	270.84
1.508	236.12	117.28	279.31
1.292	270.61	107.53	419.97
1.503	281.30	114.21	419.97
1.514	291.99	120.89	419.97
1.736	305.80	127.57	419.98
1.962	318.94	134.25	423.98
1.592	327.54	117.88	485.86
1.653	338.25	124.51	485.86
1.769	348.94	131.19	485.86
1.986	362.74	137.87	491.87
2.219	376.11	144.55	496.87
2.381	396.88	151.23	496.87
1.951	390.87	138.28	562.20
2.063	401.66	144.94	562.20
2.284	415.60	151.64	567.20
2.516	429.04	158.32	572.21
2.688	448.34	165.00	578.21
2.984	484.43	171.68	578.22
2.281	460.49	148.57	635.98
2.491	474.73	155.25	690.98
2.618	485.42	161.93	690.98
2.868	499.11	168.61	699.99
3.016	520.19	175.29	699.99
3.319	555.08	181.97	651.00
3.452	580.78	188.65	657.01
2.823	537.67	178.26	749.70
3.042	551.37	179.94	798.70
3.181	562.05	186.62	798.70
3.349	583.17	193.30	750.71
3.653	619.28	199.98	756.71
3.988	699.05	206.66	760.72
4.238	670.74	213.34	762.72
3.879	748.04	200.53	1134.93
4.020	758.75	207.21	1139.93
4.162	779.50	213.89	1134.93
4.470	815.34	220.57	1143.10
4.808	842.90	227.25	1148.55
5.059	869.94	233.93	1151.28
5.323	912.94	240.61	1156.00
4.371	802.33	210.82	1230.45
4.513	818.02	217.50	1230.45
4.655	833.95	224.18	1230.95
4.965	870.11	230.86	1235.90
5.305	897.29	237.54	1244.07
5.557	924.98	244.22	1246.80
5.821	948.34	250.90	1249.52

NOTE:- For details of wings and bar list see Drawing Nos. W-X152-1 or W-X152-2 and W-X15; W-X153-1 or W-X153-2 and W-X15; and W-X154-1 or W-X154-2 and W-X15.



PART LONGITUDINAL SECTION N-N



TYPICAL SECTION M-M

LONGITUDINAL SECTION N-N

LAYOUT OF QUADRUPLE BARREL CULVERT
15° SKEW LEFT FORWARD
15° Skew Right Forward is reversed.

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X152-1 or W-X152-2; W-X153-1 or W-X153-2 and W-X154-1 or W-X154-2. Also W-X15.

BENDING DIAGRAM FOR BARS 'b' and 'b2'

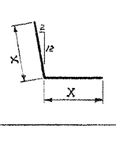
BAR SIZE	PIN DIAM.	K	ADD FOR HOOKS	SPAN
#5	2½"	4½"	0'-11½"	
#6	3"	5"	1'-2" (2 Hooks)	5'-0" MAX.
#6	3"	5"	0'-7" (1 Hook)	5'-0" MAX.

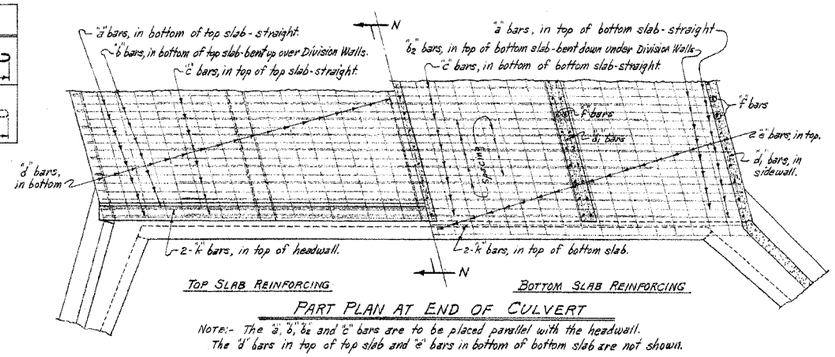
NOTE:- Dimensions are to centers of bars. ('b' and 'b2')

DOWEL BARS FOR TWO HEADWALLS

SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X
4'	#4	12"c	40	2'-5"	1'-2½"
5'	#4	12"c	48	2'-6"	1'-3"
6'	#4	12"c	56	2'-7"	1'-3½"
7'	#4	12"c	66	2'-8"	1'-4"
8'	#4	12"c	74	2'-9"	1'-4½"
9'	#4	12"c	82	2'-10"	1'-5"
10'	#4	12"c	92	2'-11"	1'-5½"
11'	#4	12"c	100	3'-0"	1'-6"
12'	#4	12"c	108	3'-1"	1'-6½"

Bars 'i' — Dowel bars in Headwalls.





TOP SLAB REINFORCING — BOTTOM SLAB REINFORCING

PART PLAN AT END OF CULVERT

NOTE:- The 'a', 'b', 'b2' and 'c' bars are to be placed parallel with the headwall. The 'd' bars in top of top slab and 'e' bars in bottom of bottom slab are not shown.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAP:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961 AND SPECIAL MILITARY LOADING

Two 24,000 Lb. Axles @ 9'-0" ctrs.

UNIT STRESSES:-

Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

15° SKEW

4, 5, 6, 7, 8, 9, 10, 11 & 12' SPANS — 2:1, 3:1 OR 4:1 SLOPES

QUADRUPLES — UNDER 5'-0" COVER

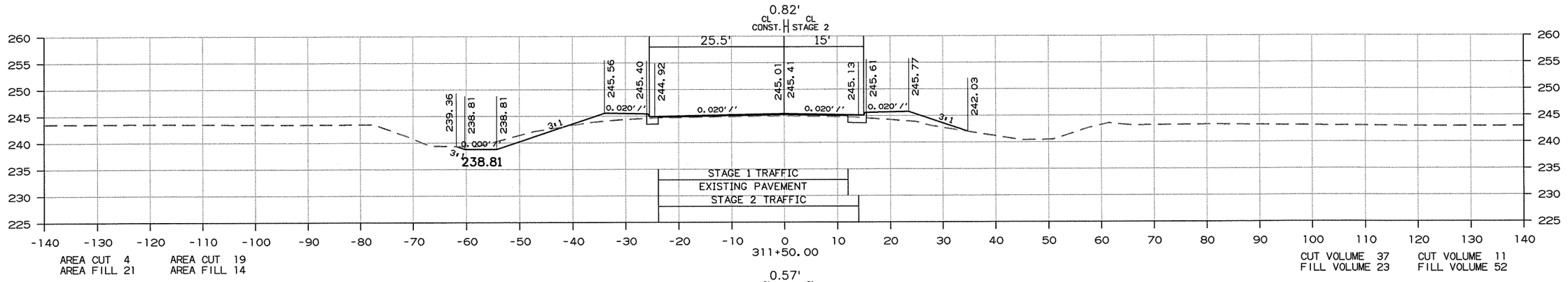
STANDARD DRAWING NO. R-415X-

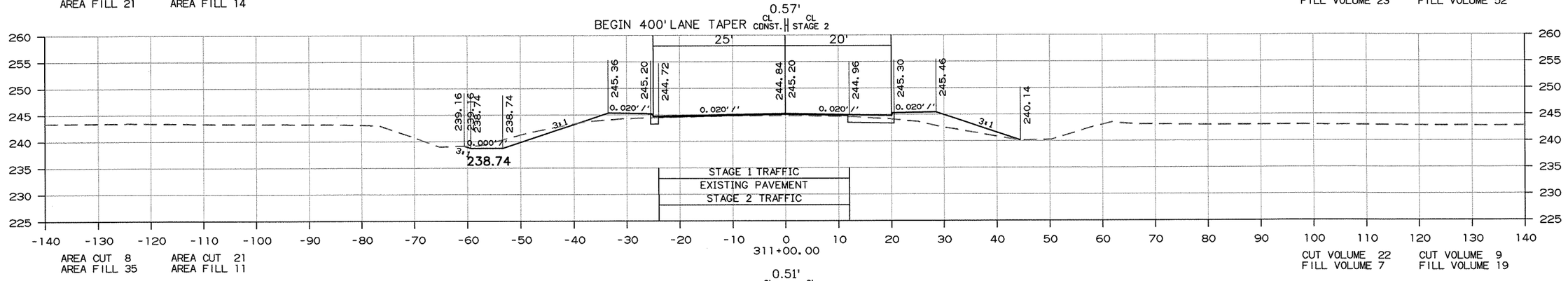
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	96	135

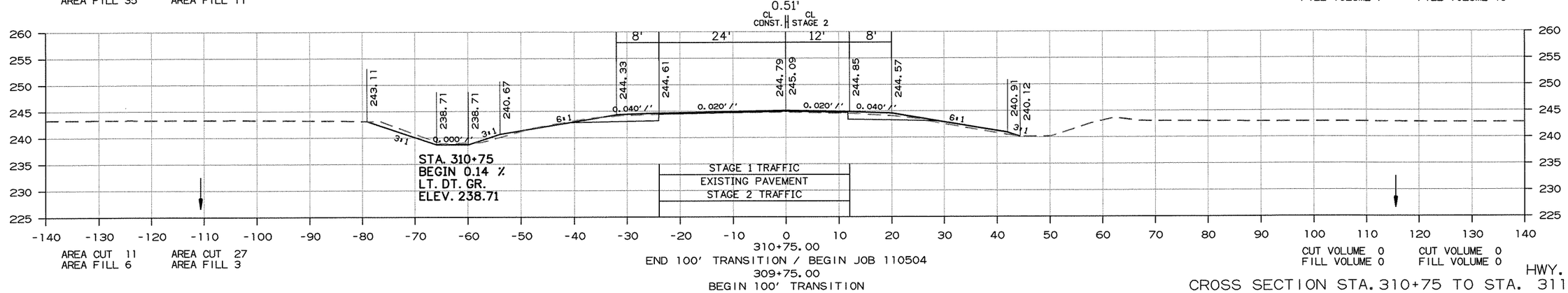
(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1







HWY. 64

CROSS SECTION STA. 310+75 TO STA. 311+50

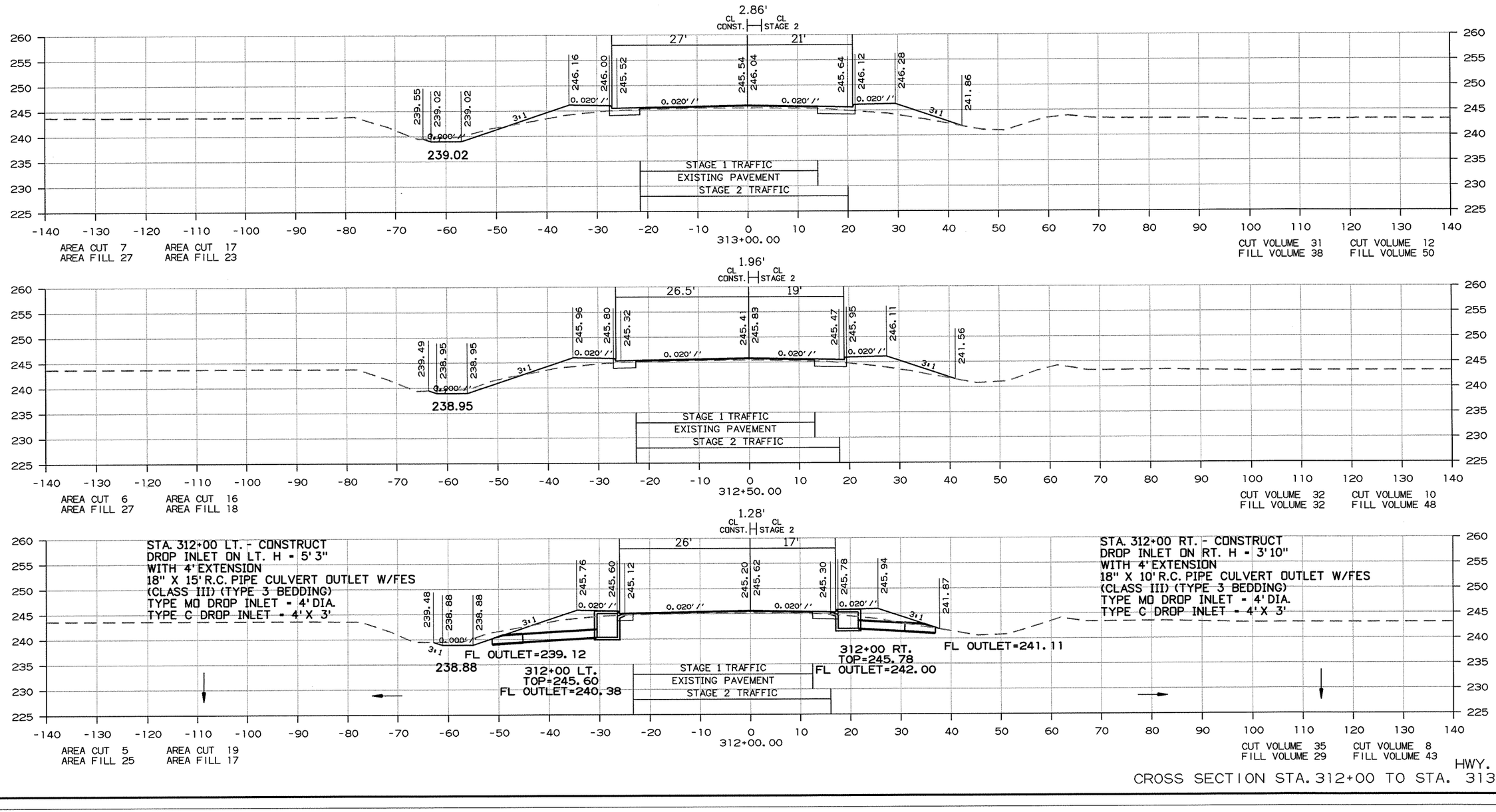
r110504.dgn 09/14/2010

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.		110504	97	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1



HWY. 64

CROSS SECTION STA. 312+00 TO STA. 313+00

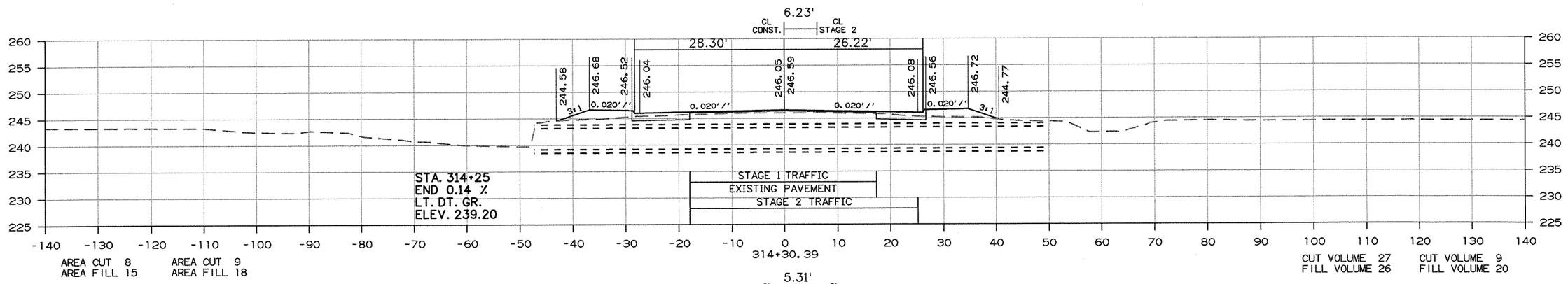
r110504.dgn 09/14/2010

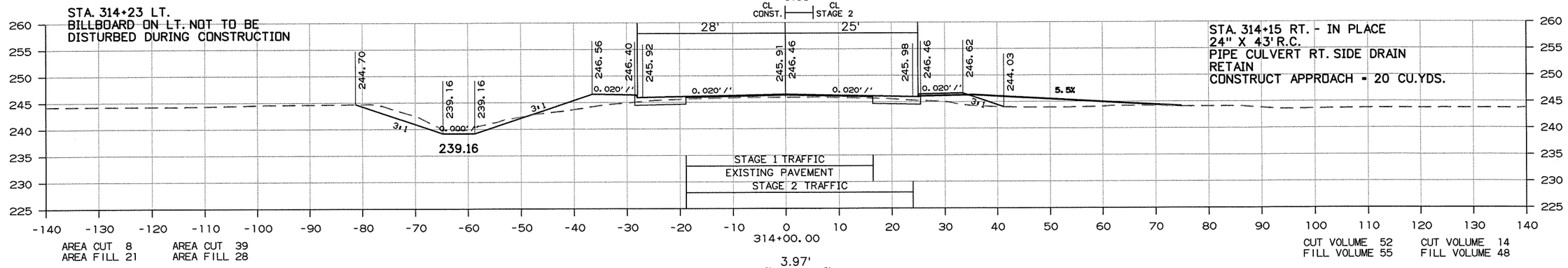
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	98	135

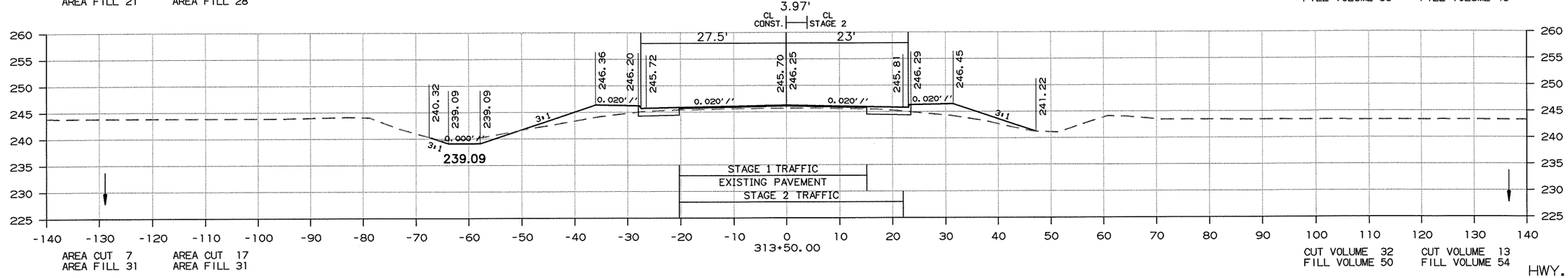
(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1







HWY. 64

CROSS SECTION STA. 313+50 TO STA. 314+30

r110504.dgn 09/14/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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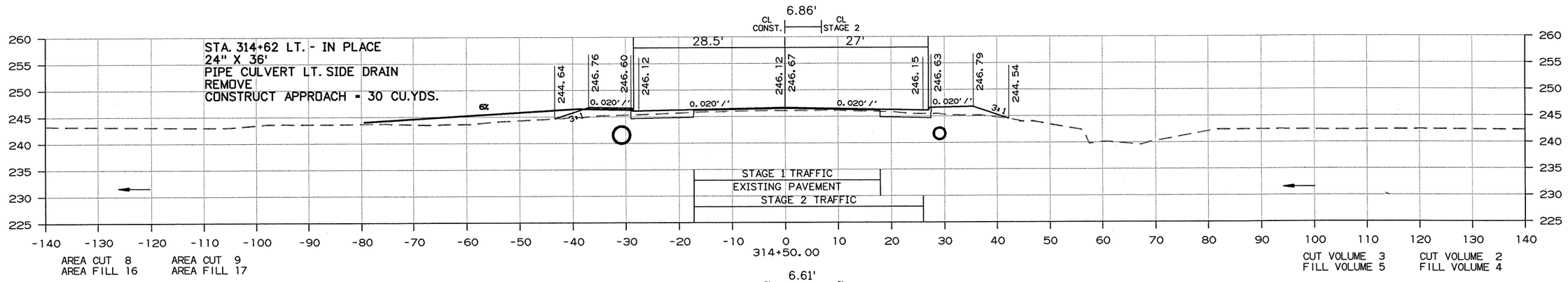
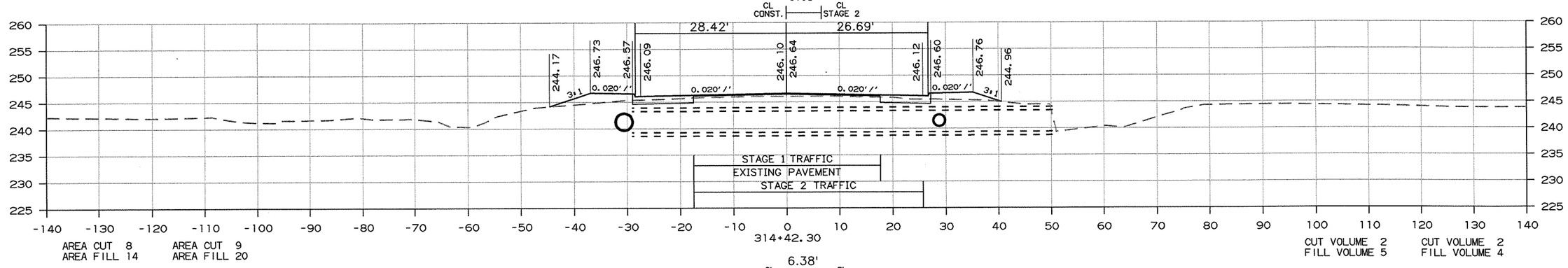
				JOB NO.		110504	99	135

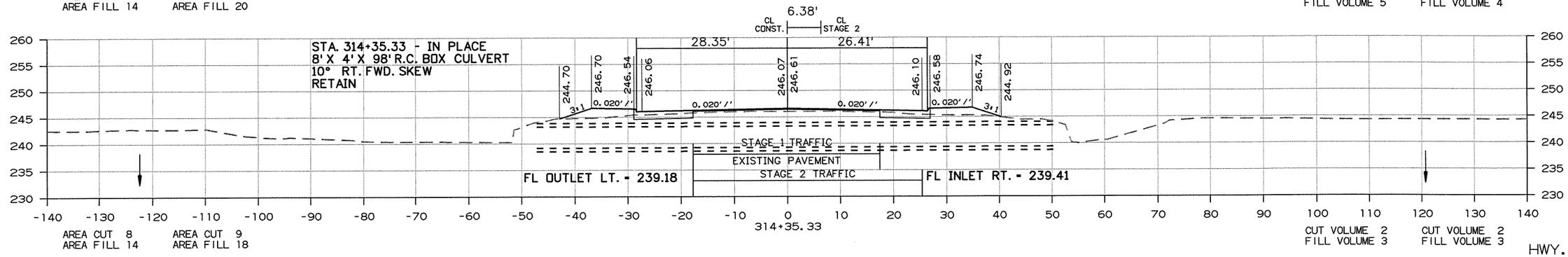
(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1







HWY. 64

CROSS SECTION STA. 314+35 TO STA. 314+50

r110504.dgn 09/14/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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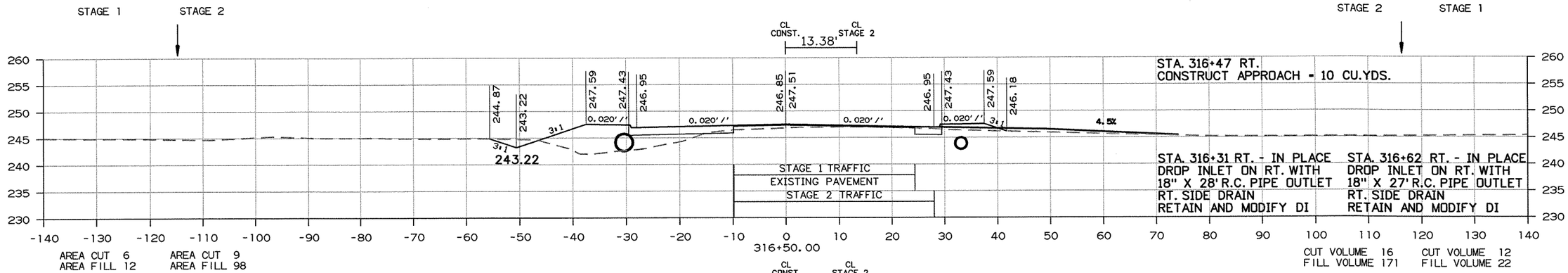
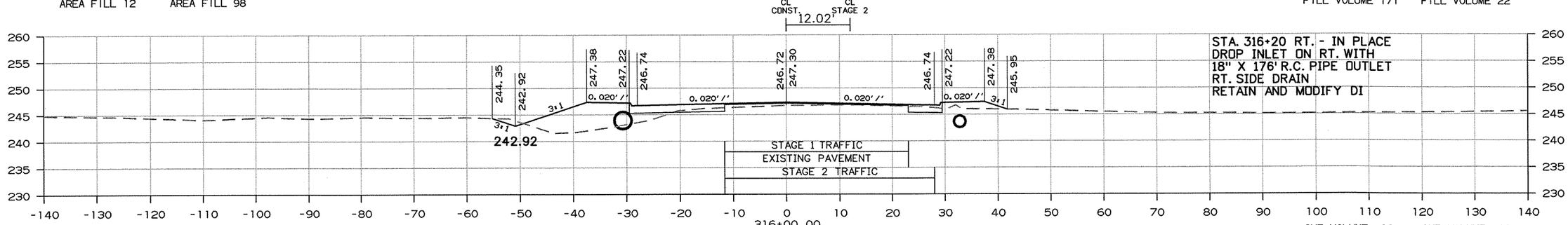
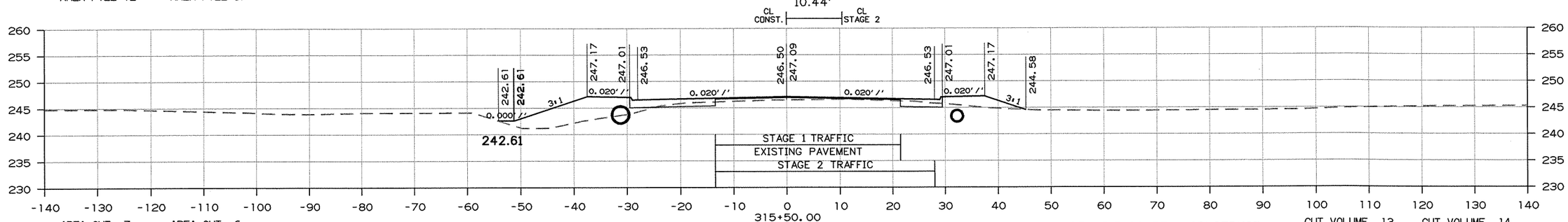
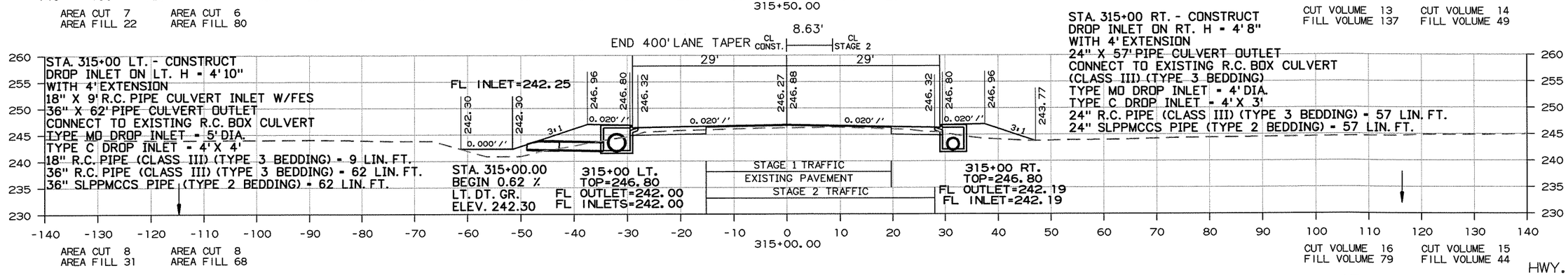
				JOB NO.		110504	100	135

(2) CROSS SECTIONS









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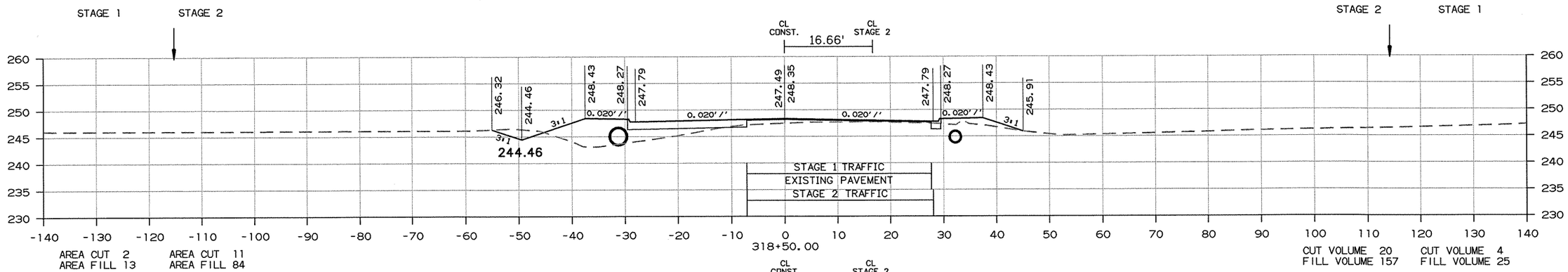
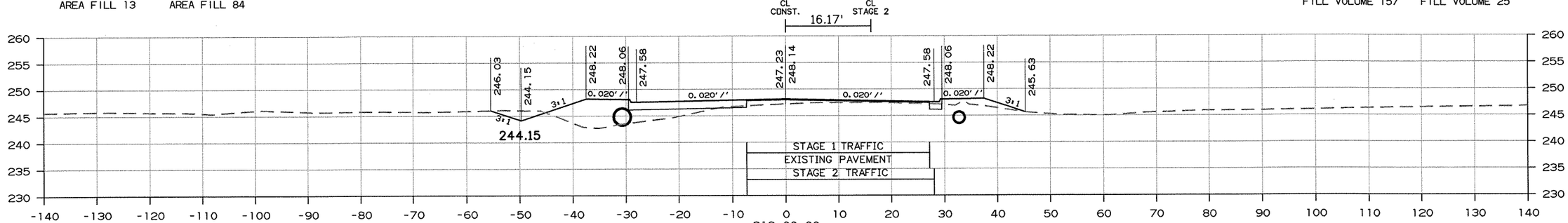
HWY. 64

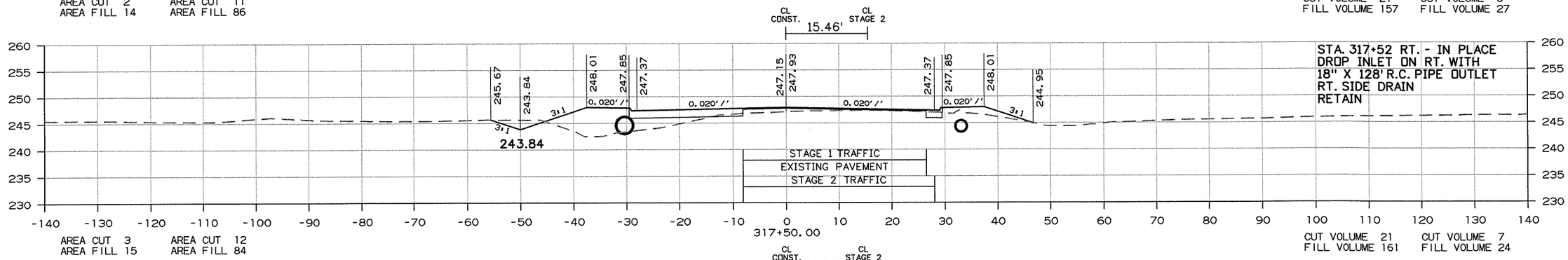
CROSS SECTION STA. 315+00 TO STA. 316+50

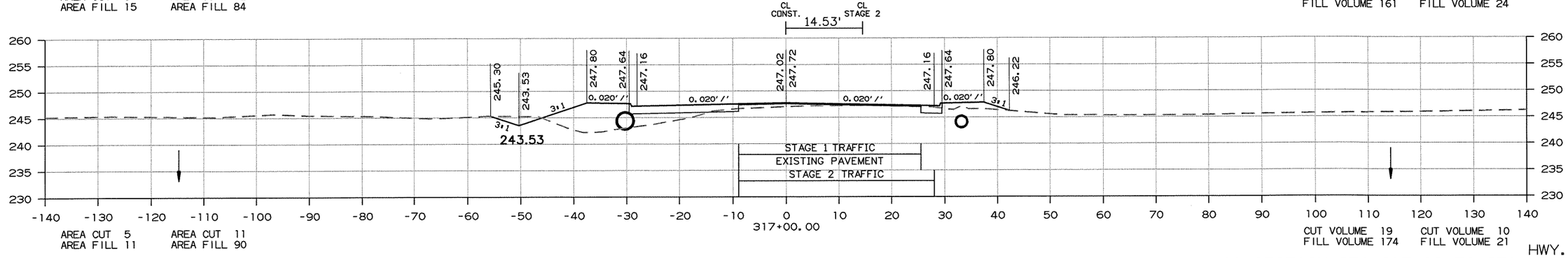
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	101	135

(2) CROSS SECTIONS







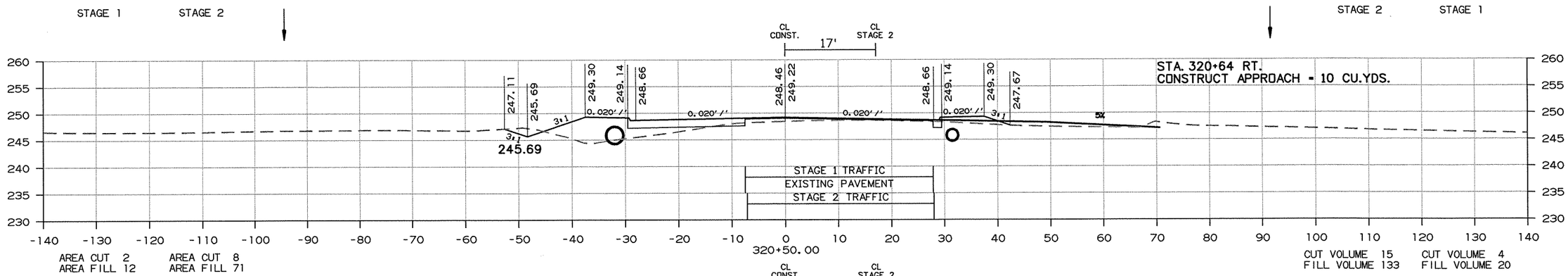


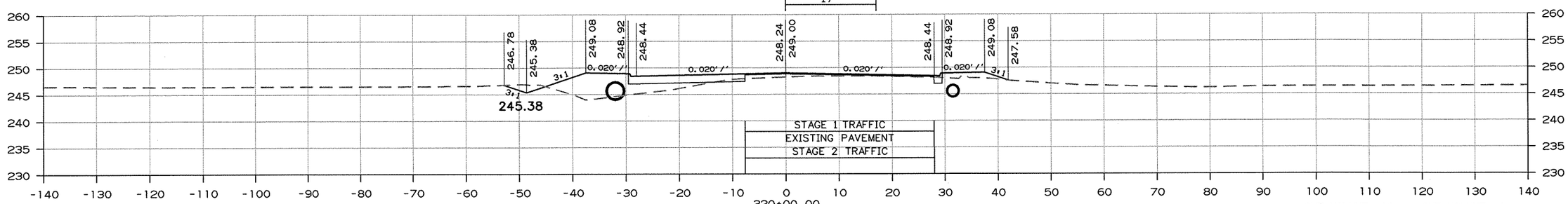
HWY. 64
CROSS SECTION STA. 317+00 TO STA. 318+50

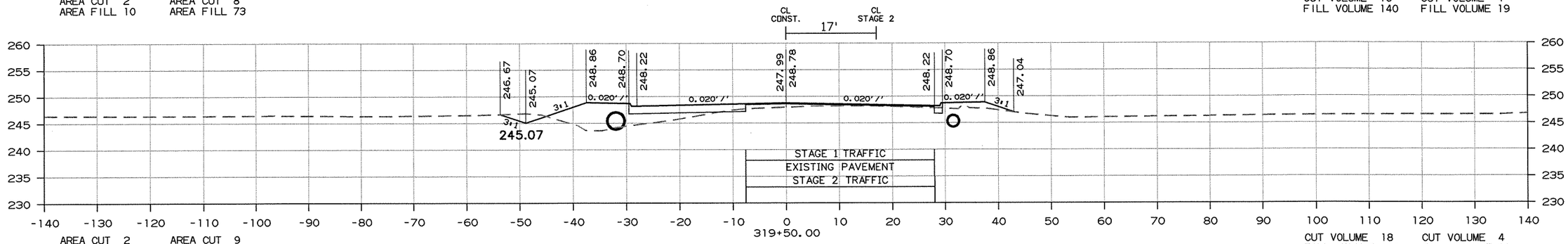
r110504.dgn 09/14/2010

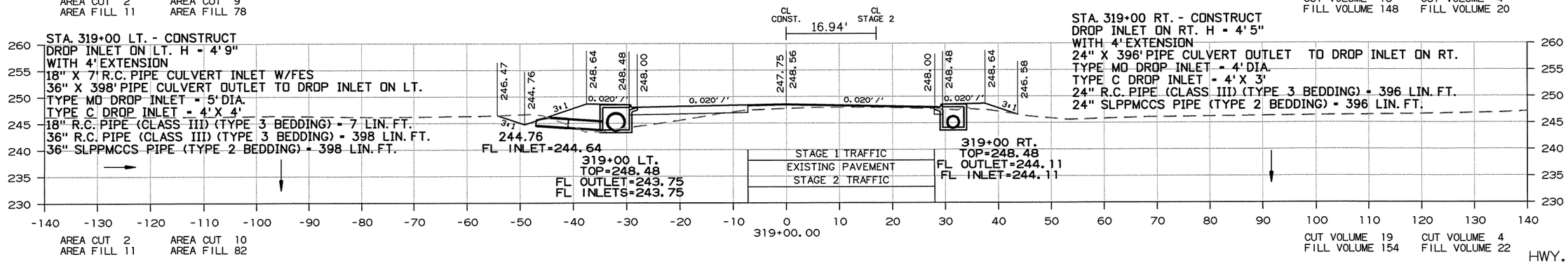
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	102	135

(2) CROSS SECTIONS









STAGE 2 STAGE 1

STA. 319+00 LT. - CONSTRUCT
DROP INLET ON LT. H = 4'9"
WITH 4'EXTENSION
18" X 7' R.C. PIPE CULVERT INLET W/FES
36" X 398' PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MD DROP INLET = 5' DIA.
TYPE C DROP INLET = 4'X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 7 LIN. FT.
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 398 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 398 LIN. FT.

STA. 319+00 RT. - CONSTRUCT
DROP INLET ON RT. H = 4'5"
WITH 4'EXTENSION
24" X 396' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MD DROP INLET = 4' DIA.
TYPE C DROP INLET = 4'X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 396 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 396 LIN. FT.

HWY. 64
CROSS SECTION STA. 319+00 TO STA. 320+50

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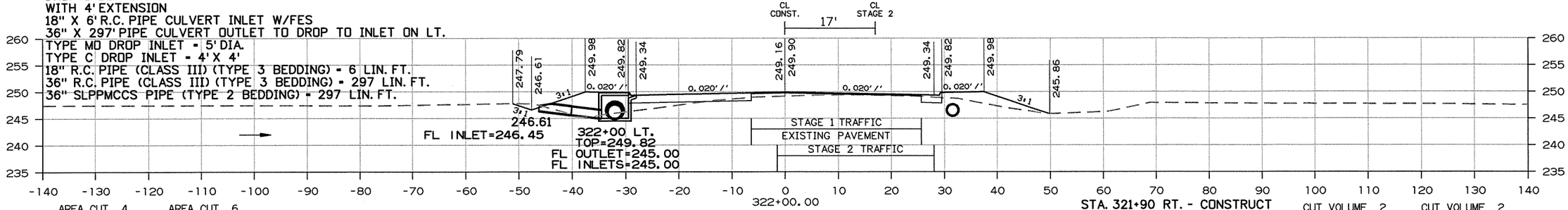
				6	ARK.			
				JOB NO.		110504	103	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STA. 322+00 LT. - CONSTRUCT
DROP INLET ON LT. H = 4'10"
WITH 4' EXTENSION
18" X 6' R.C. PIPE CULVERT INLET W/FES
36" X 297' PIPE CULVERT OUTLET TO DROP TO INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 6 LIN. FT.
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 297 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 297 LIN. FT.



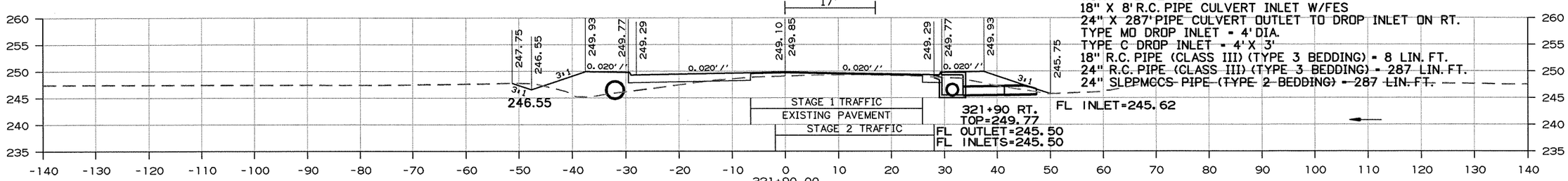
AREA CUT 4
AREA FILL 26

AREA CUT 6
AREA FILL 65

STA. 321+90 RT. - CONSTRUCT
DROP INLET ON RT. H = 4'4"
WITH 4' EXTENSION
18" X 8' R.C. PIPE CULVERT INLET W/FES
24" X 287' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 8 LIN. FT.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 287 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 287 LIN. FT.

CUT VOLUME 2
FILL VOLUME 26

CUT VOLUME 2
FILL VOLUME 12



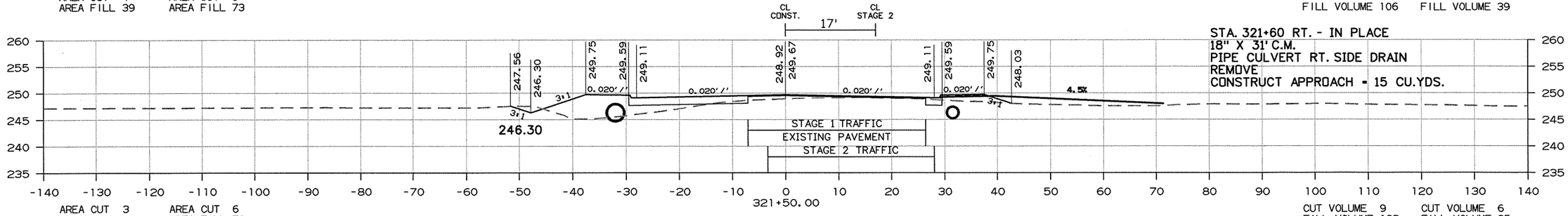
AREA CUT 4
AREA FILL 39

AREA CUT 5
AREA FILL 73

CUT VOLUME 8
FILL VOLUME 106

CUT VOLUME 5
FILL VOLUME 39

STA. 321+60 RT. - IN PLACE
18" X 31' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 15 CU.YDS.



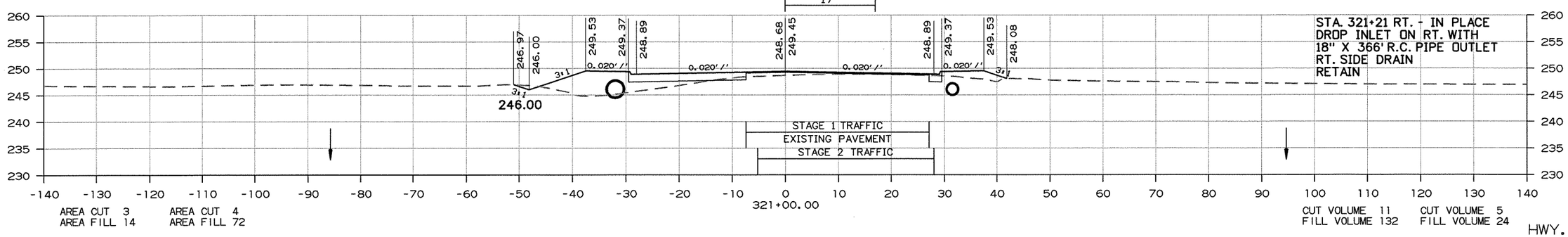
AREA CUT 3
AREA FILL 13

AREA CUT 6
AREA FILL 70

CUT VOLUME 9
FILL VOLUME 132

CUT VOLUME 6
FILL VOLUME 25

STA. 321+21 RT. - IN PLACE
DROP INLET ON RT. WITH
18" X 366' R.C. PIPE OUTLET
RT. SIDE DRAIN
RETAIN



AREA CUT 3
AREA FILL 14

AREA CUT 4
AREA FILL 72

CUT VOLUME 11
FILL VOLUME 132

CUT VOLUME 5
FILL VOLUME 24

HWY. 64
CROSS SECTION STA. 321+00 TO STA. 322+00

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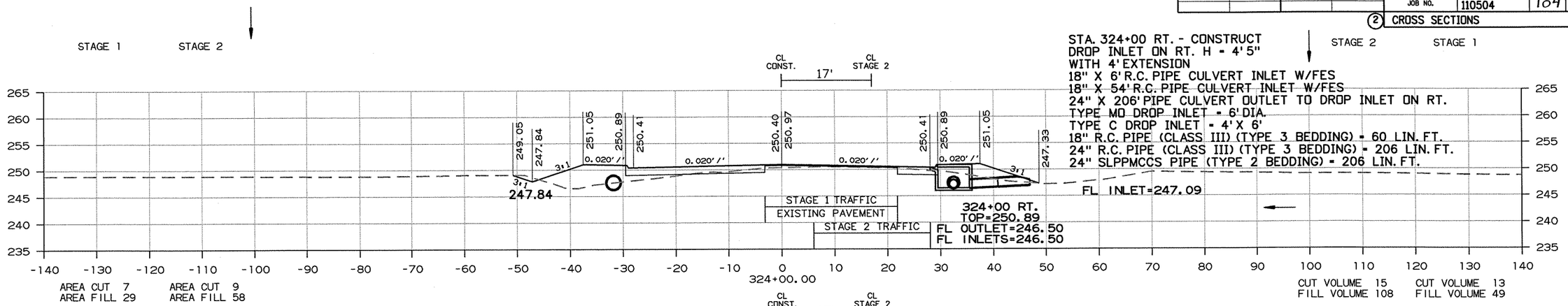
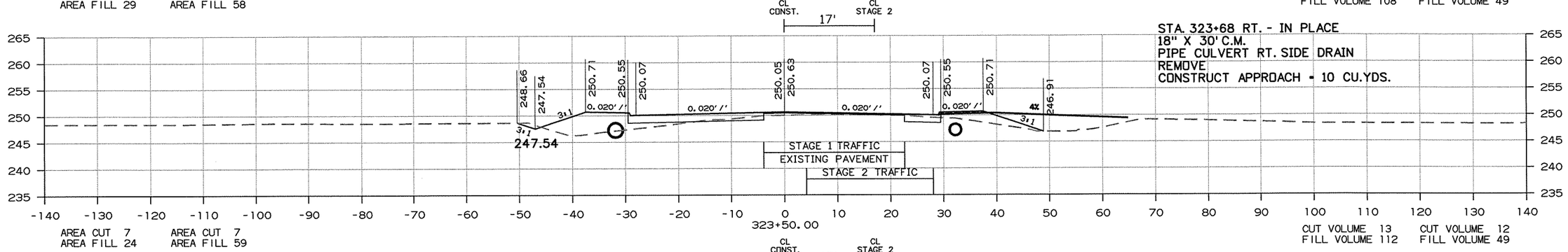
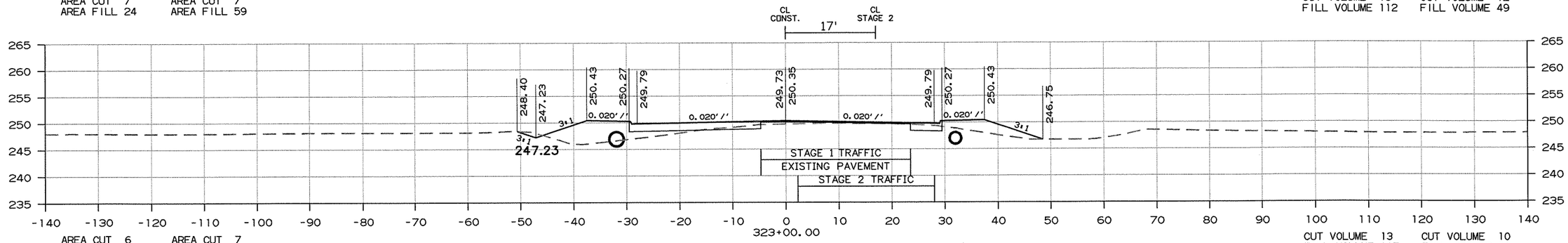
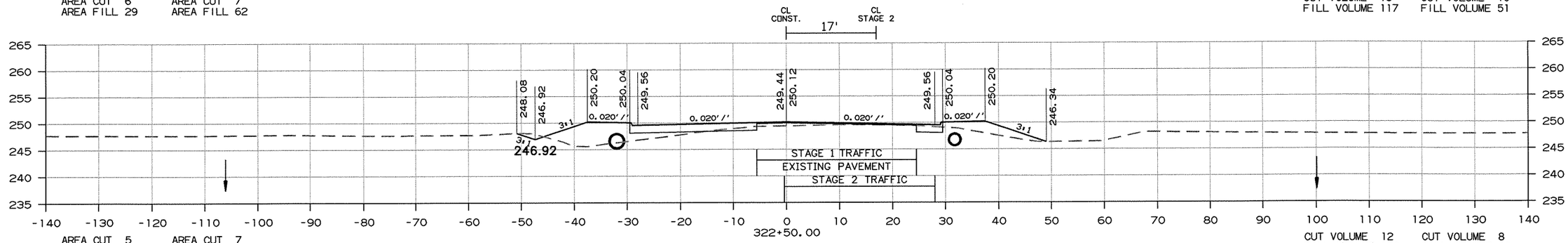
				6	ARK.			
				JOB NO.		110504	104	135

(2) CROSS SECTIONS









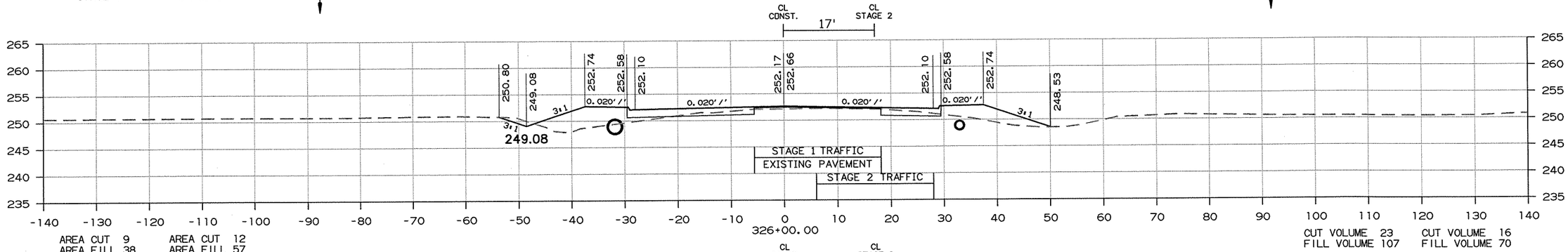
HWY. 64
CROSS SECTION STA. 322+50 TO STA. 324+00

r110504.dgn 09/14/2010

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.		110504	105	135

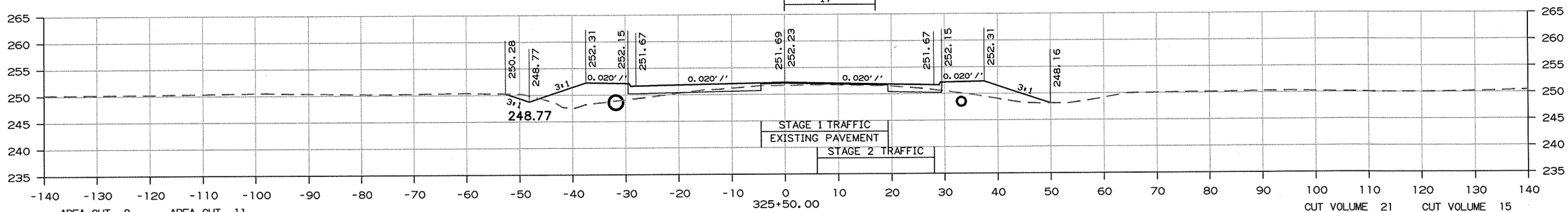
(2) CROSS SECTIONS

STAGE 1 STAGE 2

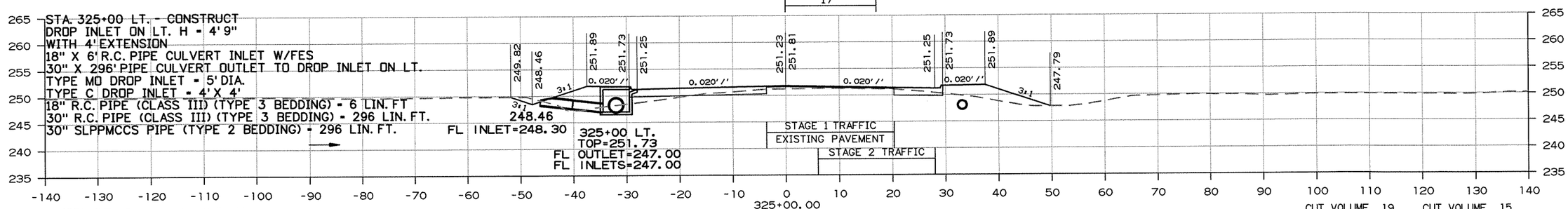


AREA CUT 9 AREA FILL 38
AREA CUT 12 AREA FILL 57
CUT VOLUME 23 FILL VOLUME 107
CUT VOLUME 16 FILL VOLUME 70

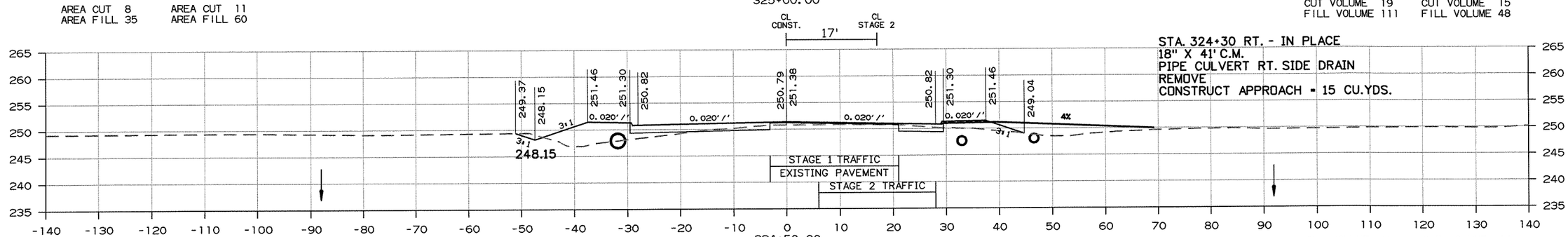
STAGE 2 STAGE 1



AREA CUT 8 AREA FILL 38
AREA CUT 11 AREA FILL 58
CUT VOLUME 21 FILL VOLUME 109
CUT VOLUME 15 FILL VOLUME 68



AREA CUT 8 AREA FILL 35
AREA CUT 11 AREA FILL 60
CUT VOLUME 19 FILL VOLUME 111
CUT VOLUME 15 FILL VOLUME 48



AREA CUT 8 AREA FILL 17
AREA CUT 9 AREA FILL 60
CUT VOLUME 17 FILL VOLUME 109
CUT VOLUME 14 FILL VOLUME 43

HWY. 64
CROSS SECTION STA. 324+50 TO STA. 326+00

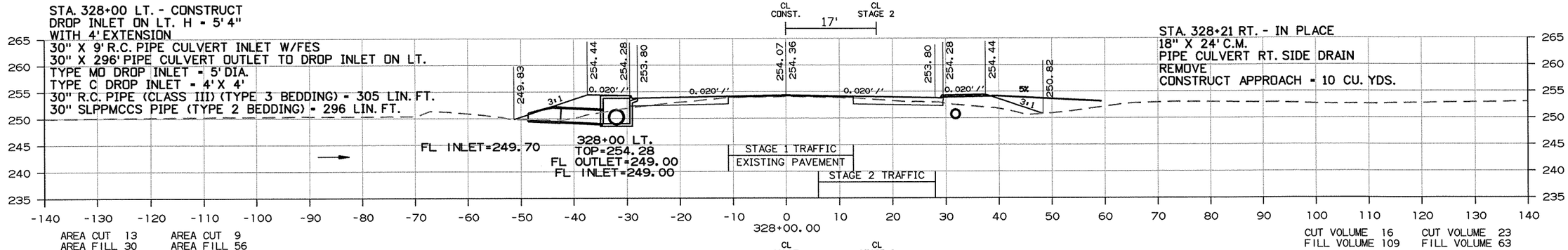
r110504.dgn 09/14/2010

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.		110504	106	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STA. 328+00 LT. - CONSTRUCT
DROP INLET ON LT. H = 5'4"
WITH 4' EXTENSION
30" X 9' R.C. PIPE CULVERT INLET W/FES
30" X 296' PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 305 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

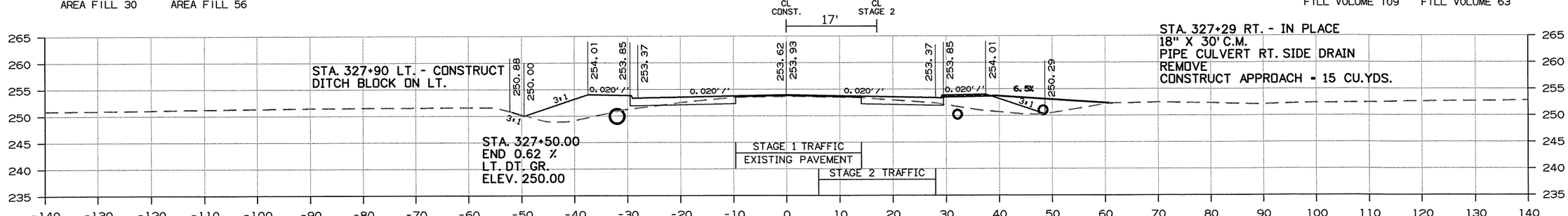


STA. 328+21 RT. - IN PLACE
18" X 24' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 10 CU. YDS.

AREA CUT 13 AREA CUT 9
AREA FILL 30 AREA FILL 56

CUT VOLUME 16 CUT VOLUME 23
FILL VOLUME 109 FILL VOLUME 63

STA. 327+90 LT. - CONSTRUCT
DITCH BLOCK ON LT.

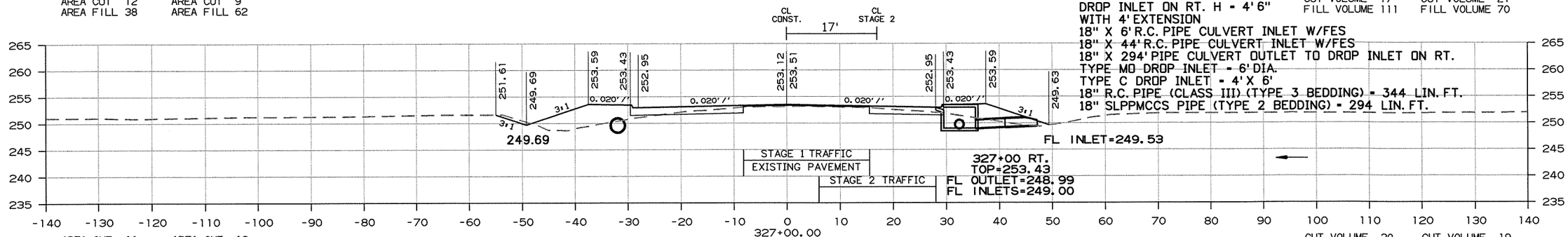


STA. 327+29 RT. - IN PLACE
18" X 30' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 15 CU.YDS.

AREA CUT 12 AREA CUT 9
AREA FILL 38 AREA FILL 62

CUT VOLUME 17 CUT VOLUME 21
FILL VOLUME 111 FILL VOLUME 70

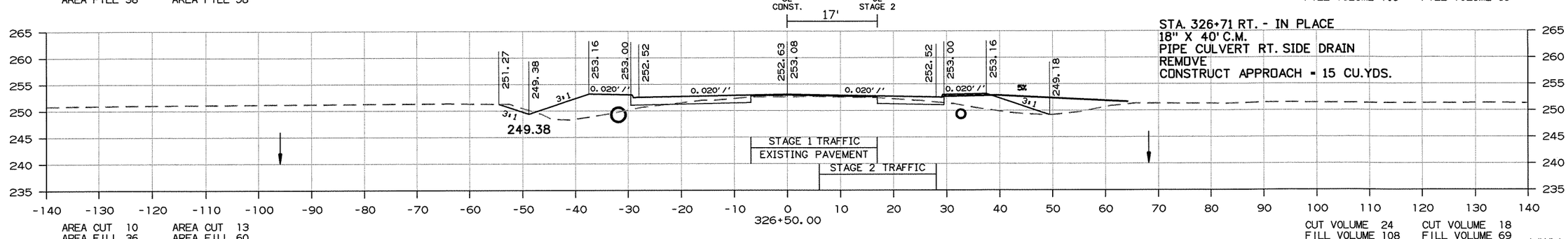
STA. 327+00 RT. - CONSTRUCT
DROP INLET ON RT. H = 4'6"
WITH 4' EXTENSION
18" X 6' R.C. PIPE CULVERT INLET W/FES
18" X 44' R.C. PIPE CULVERT INLET W/FES
18" X 294' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 4' X 6'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 344 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 294 LIN. FT.



AREA CUT 11 AREA CUT 13
AREA FILL 38 AREA FILL 58

CUT VOLUME 20 CUT VOLUME 19
FILL VOLUME 109 FILL VOLUME 69

STA. 326+71 RT. - IN PLACE
18" X 40' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 15 CU.YDS.



AREA CUT 10 AREA CUT 13
AREA FILL 36 AREA FILL 60

CUT VOLUME 24 CUT VOLUME 18
FILL VOLUME 108 FILL VOLUME 69

HWY. 64
CROSS SECTION STA. 326+50 TO STA. 328+00

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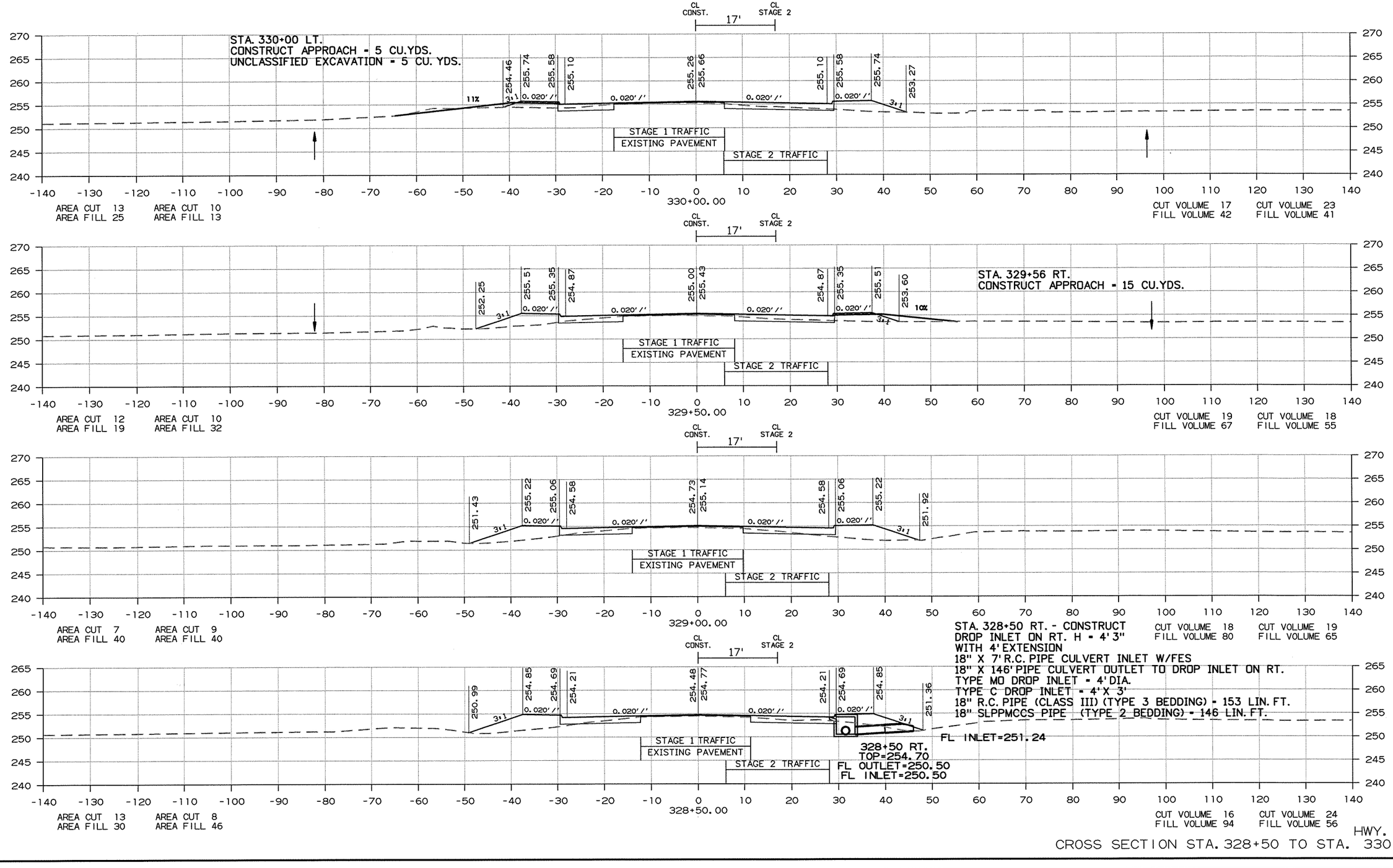
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	107	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1



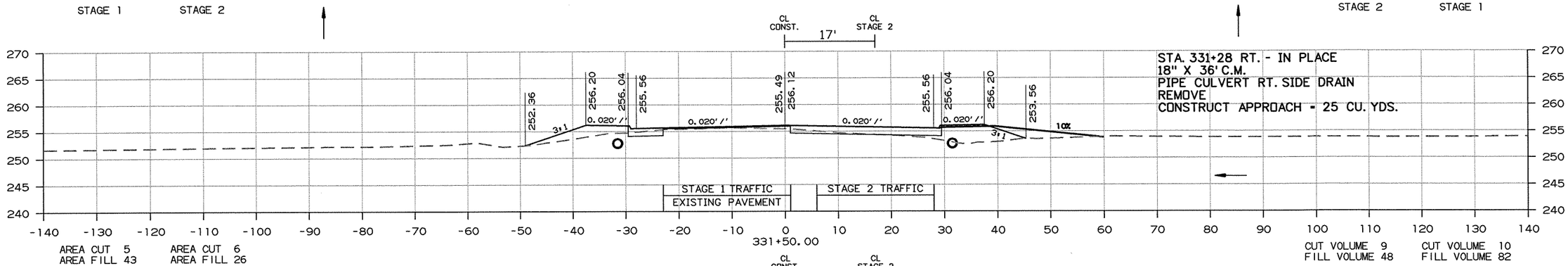
HWY. 64

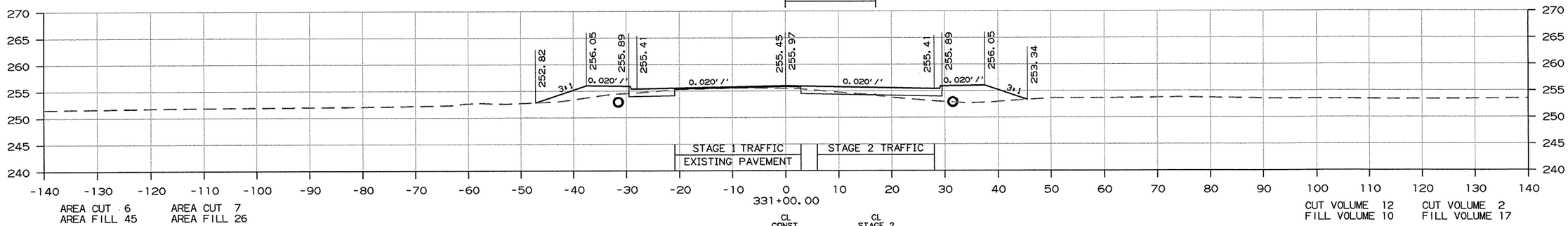
CROSS SECTION STA. 328+50 TO STA. 330+00

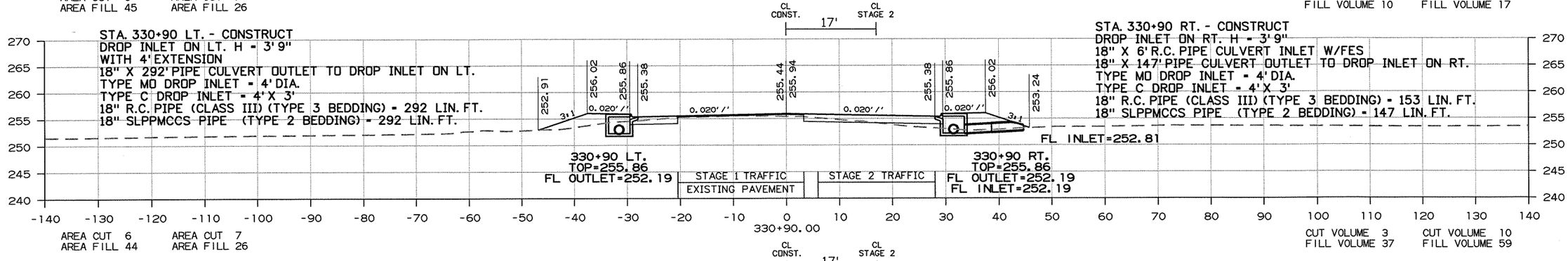
r110504.dgn 09/14/2010

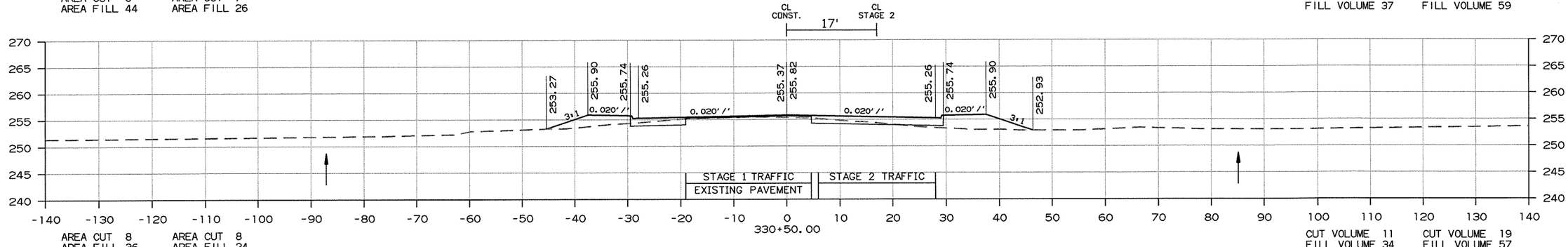
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	108	135

(2) CROSS SECTIONS









HWY. 64

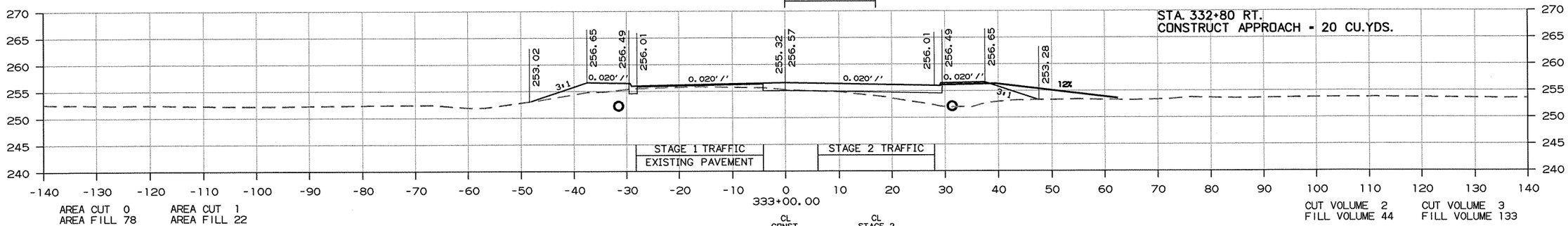
CROSS SECTION STA. 330+50 TO STA. 331+50

r110504.dgn 09/14/2010

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.		110504	109	135

(2) CROSS SECTIONS

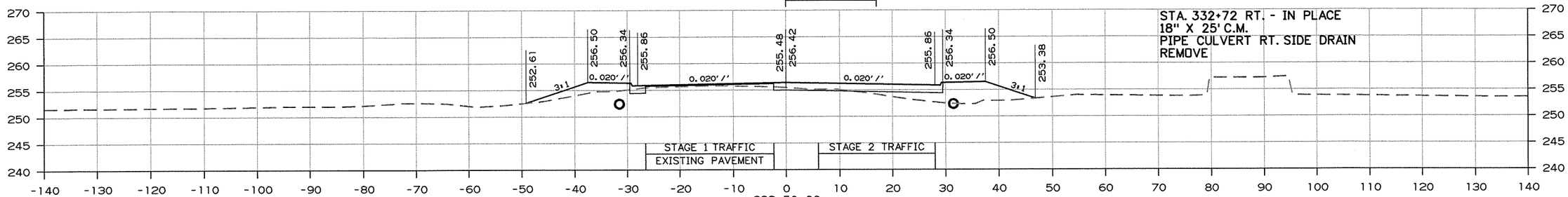
STAGE 1 STAGE 2



STA. 332+80 RT.
CONSTRUCT APPROACH - 20 CU.YDS.

AREA CUT 0 AREA CUT 1
AREA FILL 78 AREA FILL 22

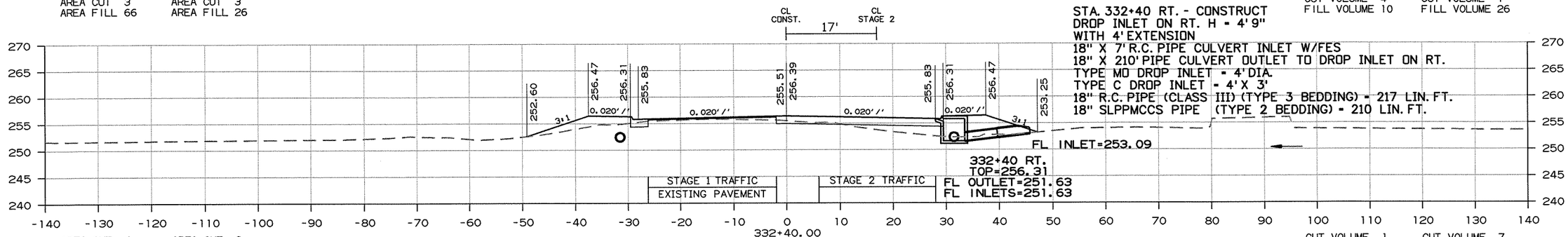
CUT VOLUME 2 CUT VOLUME 3
FILL VOLUME 44 FILL VOLUME 133



STA. 332+72 RT. - IN PLACE
18" X 25' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE

AREA CUT 3 AREA CUT 3
AREA FILL 66 AREA FILL 26

CUT VOLUME 4 CUT VOLUME 1
FILL VOLUME 10 FILL VOLUME 26



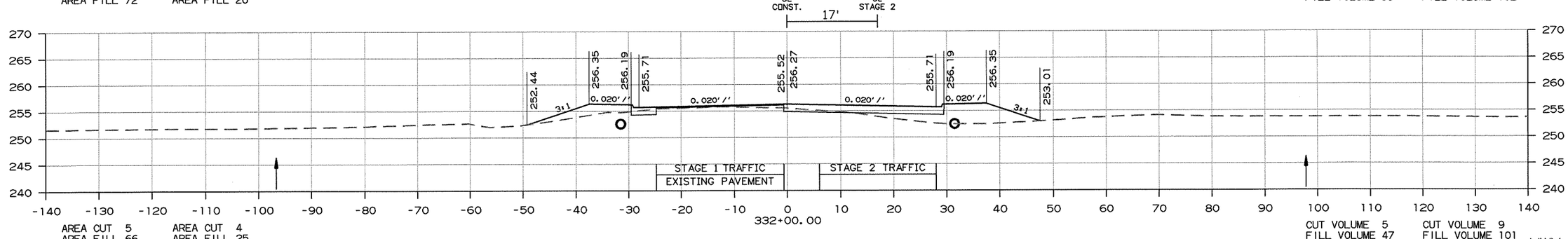
STA. 332+40 RT. - CONSTRUCT
DROP INLET ON RT. H = 4'9"
WITH 4' EXTENSION
18" X 7' R.C. PIPE CULVERT INLET W/FES
18" X 210' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 217 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 210 LIN. FT.

FL INLET=253.09

332+40 RT.
TOP=256.31
FL OUTLET=251.63
FL INLETS=251.63

AREA CUT 4 AREA CUT 3
AREA FILL 72 AREA FILL 26

CUT VOLUME 1 CUT VOLUME 7
FILL VOLUME 38 FILL VOLUME 102



AREA CUT 5 AREA CUT 4
AREA FILL 66 AREA FILL 25

CUT VOLUME 5 CUT VOLUME 9
FILL VOLUME 47 FILL VOLUME 101

HWY. 64
CROSS SECTION STA. 332+00 TO STA. 333+00

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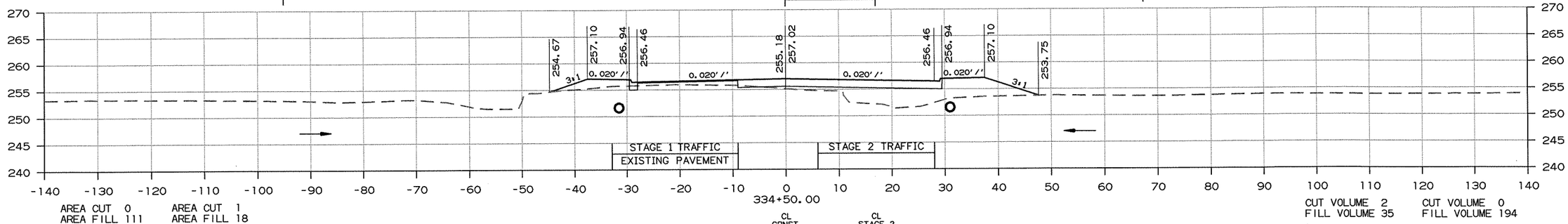
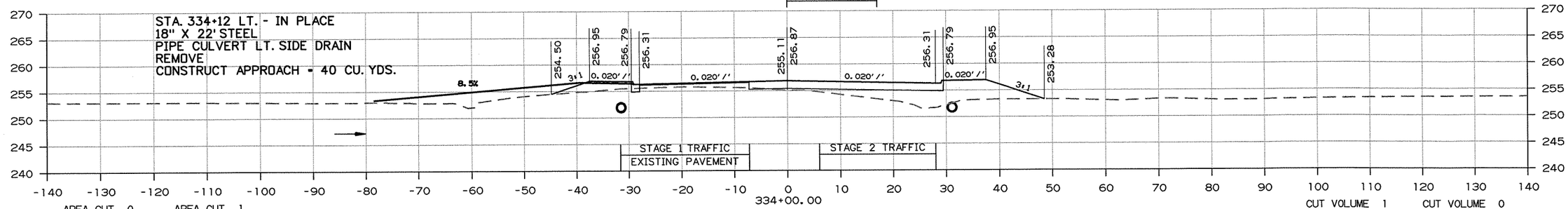
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	110	135

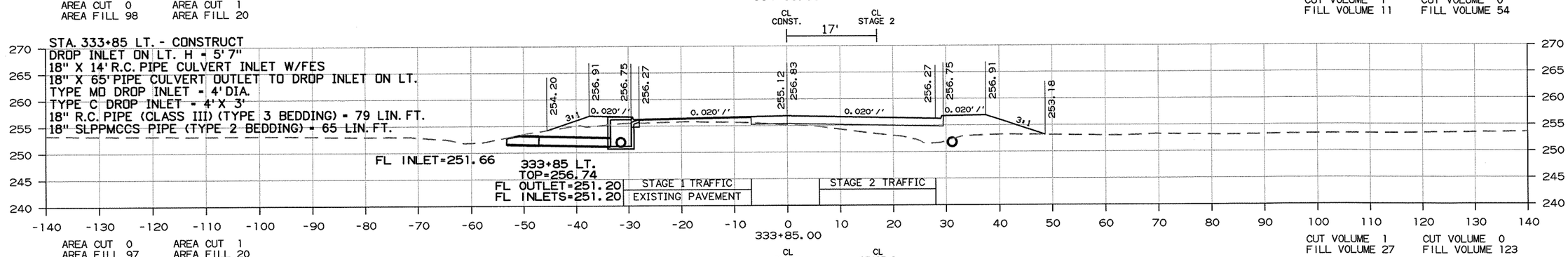
(2) CROSS SECTIONS

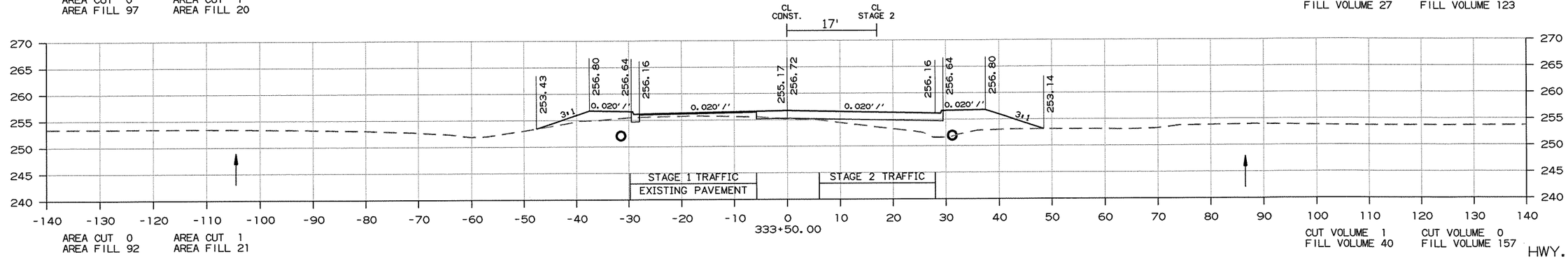
STAGE 1 STAGE 2



STAGE 2 STAGE 1







HWY. 64

CROSS SECTION STA. 333+50 TO STA. 334+50

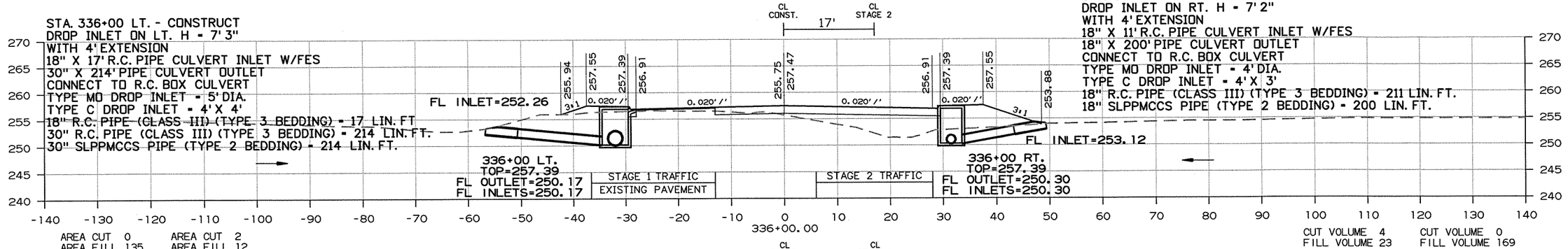
r110504.dgn 09/14/2010

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.		110504	111	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STA. 336+00 LT. - CONSTRUCT
DROP INLET ON LT. H = 7' 3"
WITH 4' EXTENSION
18" X 17' R.C. PIPE CULVERT INLET W/FES
30" X 214' PIPE CULVERT OUTLET
CONNECT TO R.C. BOX CULVERT
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 17 LIN. FT
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 214 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 214 LIN. FT.

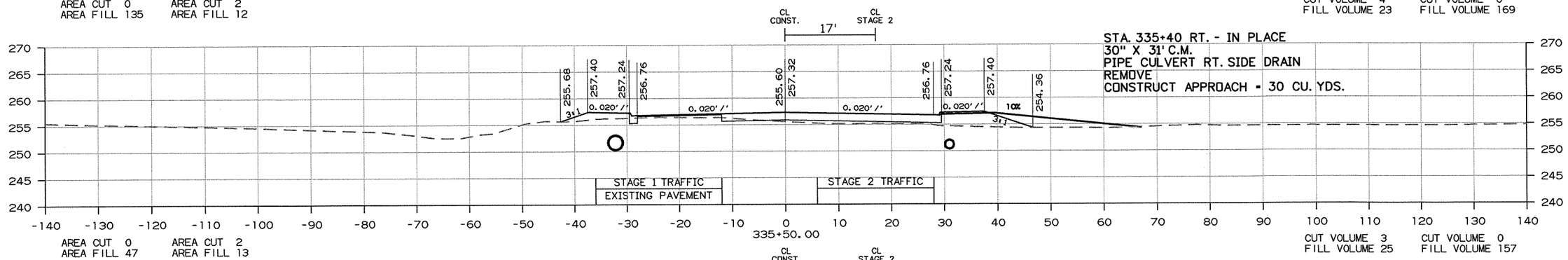


AREA CUT 0 AREA CUT 2
AREA FILL 135 AREA FILL 12

CUT VOLUME 4 CUT VOLUME 0
FILL VOLUME 23 FILL VOLUME 169

STAGE 2 STAGE 1

STA. 336+00 RT. - CONSTRUCT
DROP INLET ON RT. H = 7' 2"
WITH 4' EXTENSION
18" X 11' R.C. PIPE CULVERT INLET W/FES
18" X 200' PIPE CULVERT OUTLET
CONNECT TO R.C. BOX CULVERT
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 211 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 200 LIN. FT.

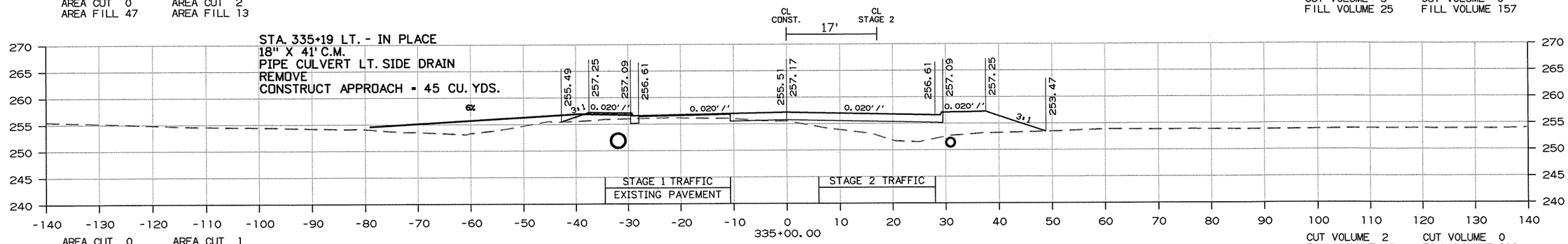


AREA CUT 0 AREA CUT 2
AREA FILL 47 AREA FILL 13

CUT VOLUME 3 CUT VOLUME 0
FILL VOLUME 25 FILL VOLUME 157

STA. 335+40 RT. - IN PLACE
30" X 31' C.M.
PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 30 CU. YDS.

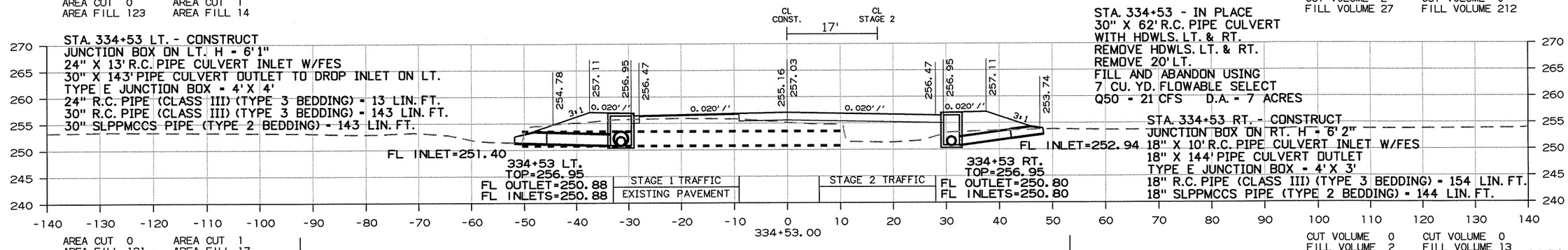
STA. 335+19 LT. - IN PLACE
18" X 41' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 45 CU. YDS.



AREA CUT 0 AREA CUT 1
AREA FILL 123 AREA FILL 14

CUT VOLUME 2 CUT VOLUME 0
FILL VOLUME 27 FILL VOLUME 212

STA. 334+53 LT. - CONSTRUCT
JUNCTION BOX ON LT. H = 6' 1"
24" X 13' R.C. PIPE CULVERT INLET W/FES
30" X 143' PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE E JUNCTION BOX = 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 13 LIN. FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 143 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 143 LIN. FT.



AREA CUT 0 AREA CUT 1
AREA FILL 121 AREA FILL 17

CUT VOLUME 0 CUT VOLUME 0
FILL VOLUME 2 FILL VOLUME 13

STA. 334+53 - IN PLACE
30" X 62' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWLS. LT. & RT.
REMOVE 20' LT.
FILL AND ABANDON USING
7 CU. YD. FLOWABLE SELECT
Q50 = 21 CFS D.A. = 7 ACRES

STA. 334+53 RT. - CONSTRUCT
JUNCTION BOX ON RT. H = 6' 2"
18" X 10' R.C. PIPE CULVERT INLET W/FES
18" X 144' PIPE CULVERT OUTLET
TYPE E JUNCTION BOX = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 154 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 144 LIN. FT.

HWY. 64
CROSS SECTION STA. 334+53 TO STA. 336+00

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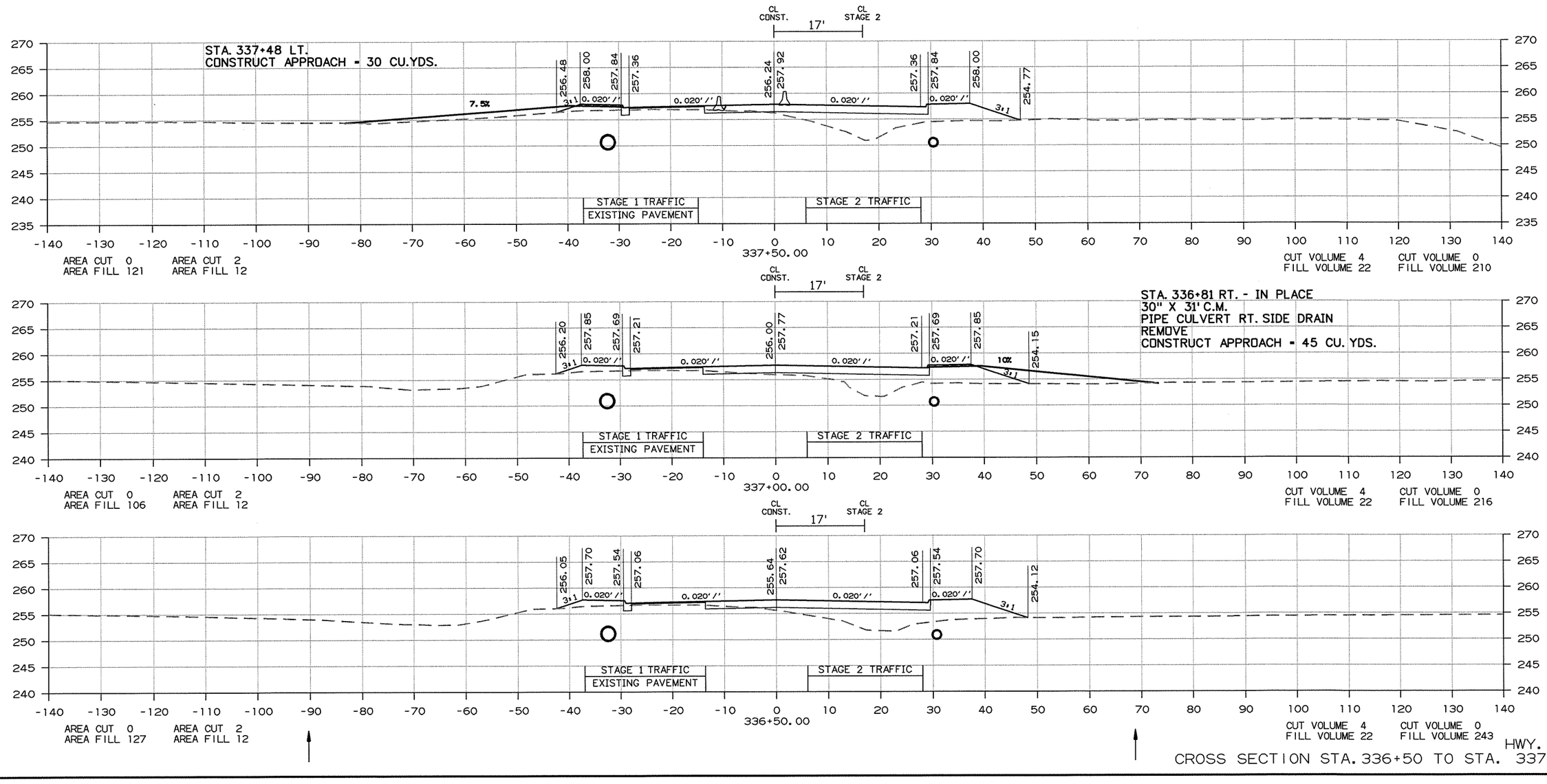
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	112	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1



HWY. 64

CROSS SECTION STA. 336+50 TO STA. 337+50

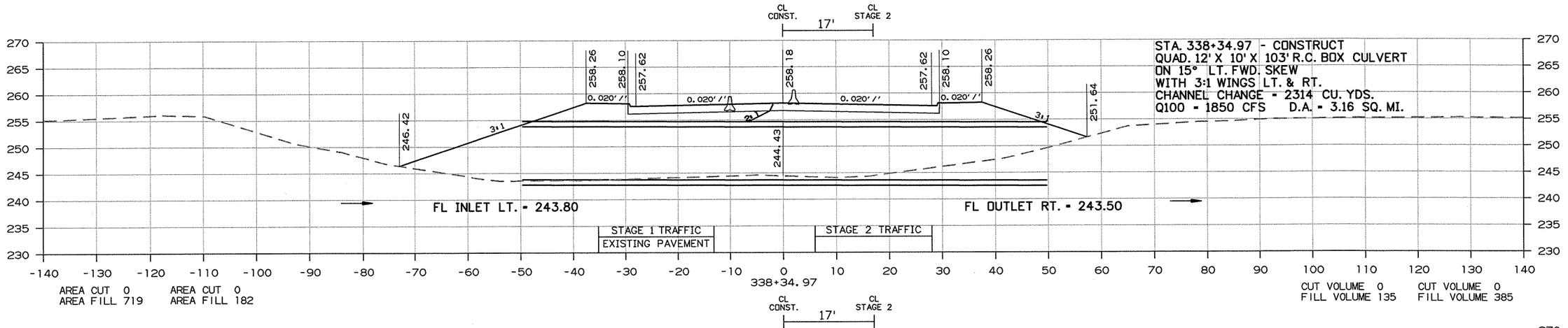
r110504.dgn 09/14/2010

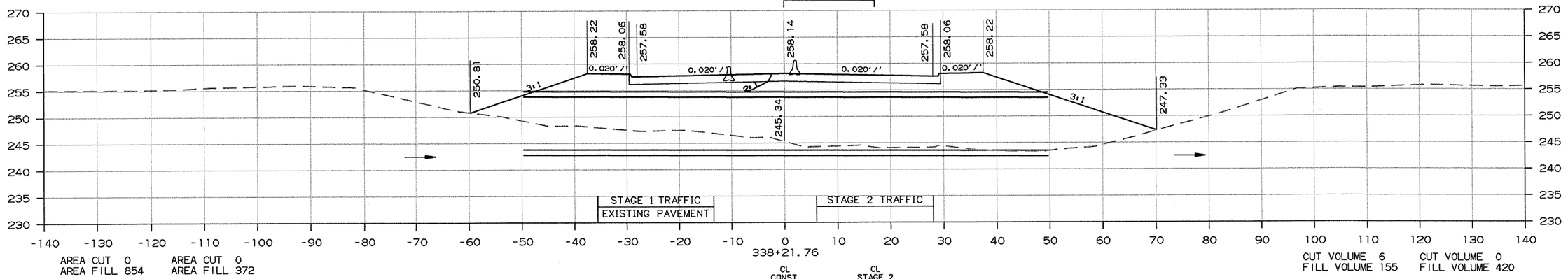
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	113	135

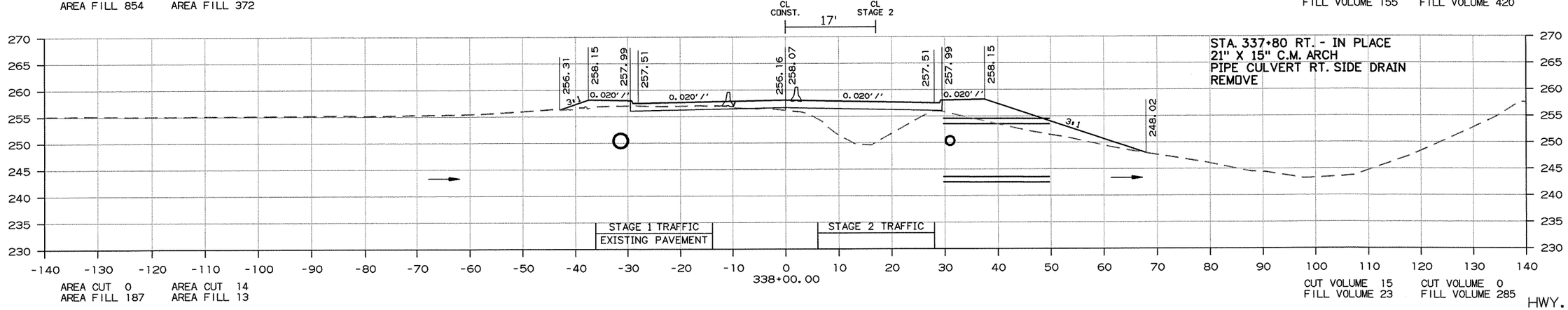
(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1







HWY. 64

CROSS SECTION STA. 338+00 TO STA. 338+35

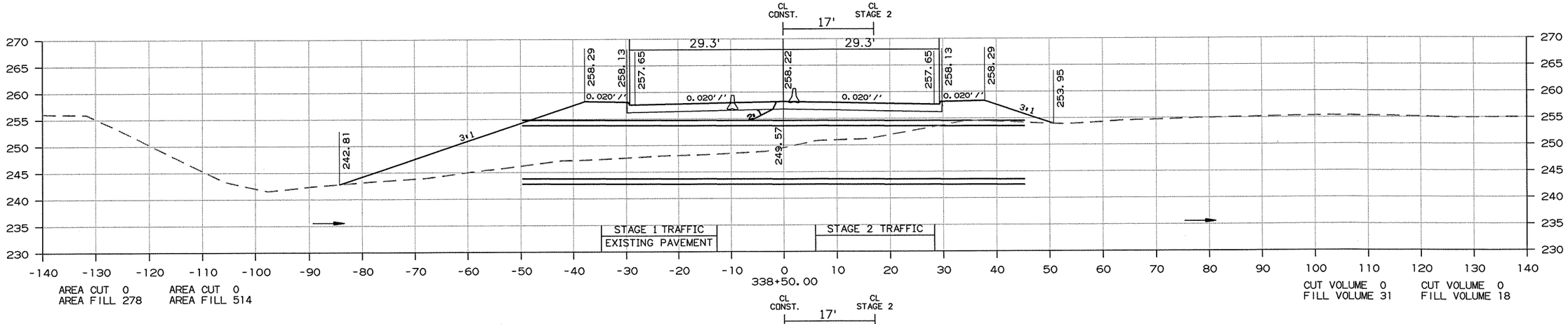
r110504.dgn 09/14/2010

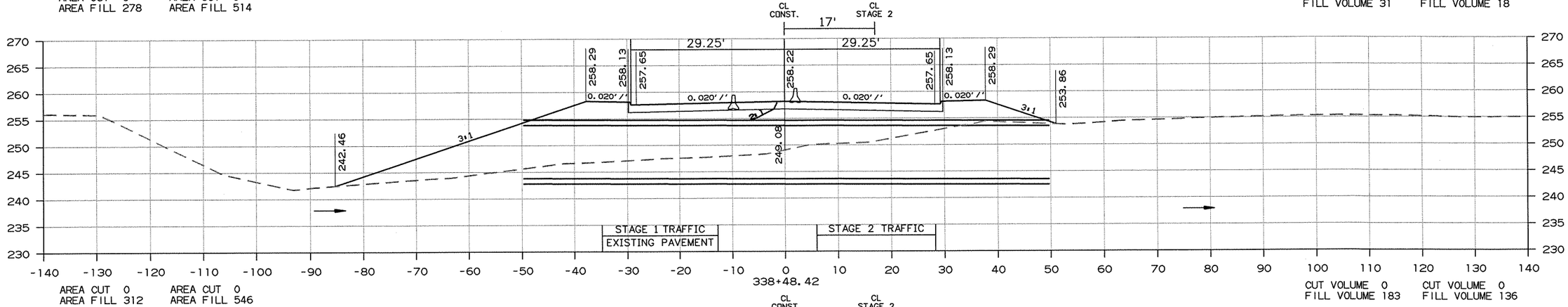
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	114	135

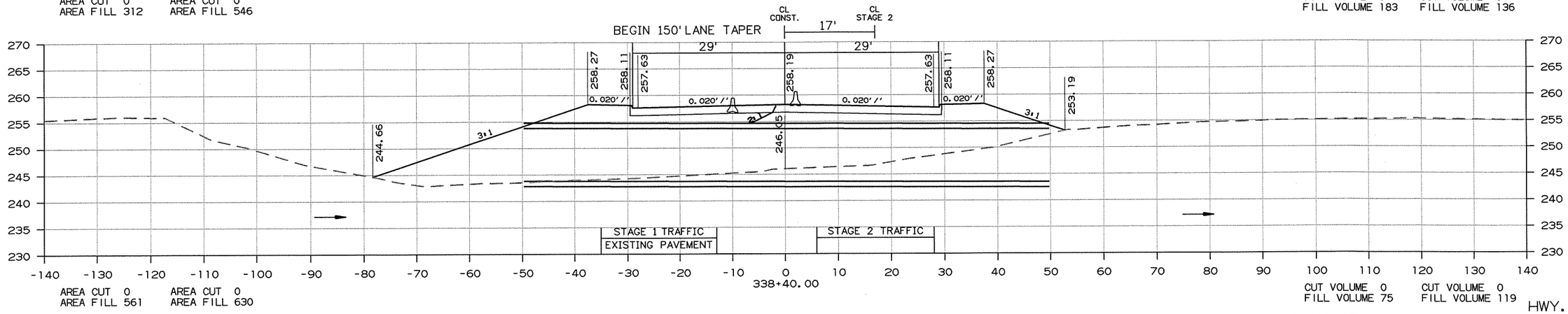
(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1







HWY. 64

CROSS SECTION STA. 338+40 TO STA. 338+50

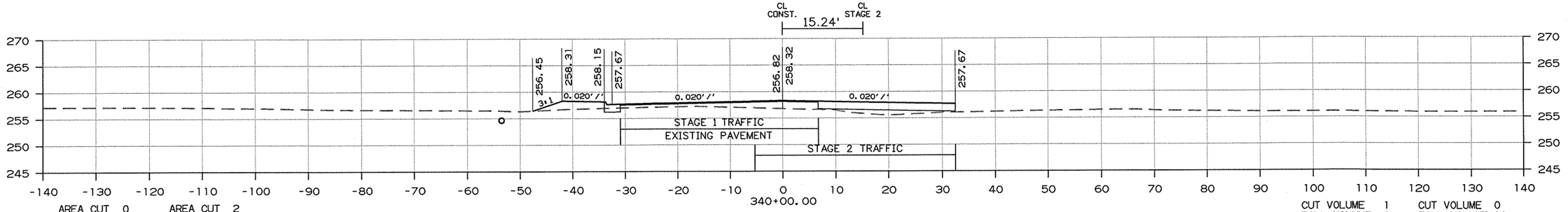
r110504.dgn 09/14/2010

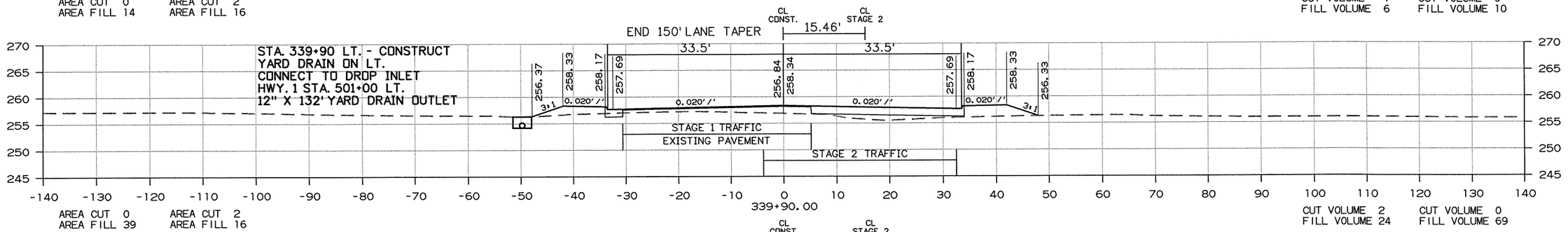
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	115	135

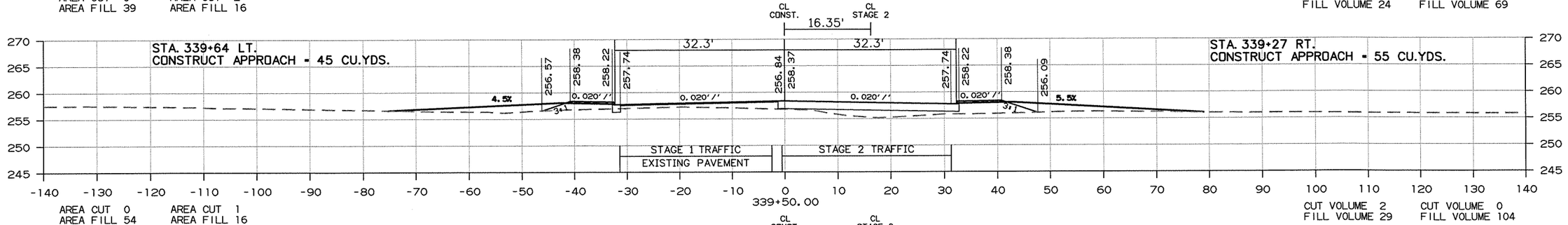
(2) CROSS SECTIONS

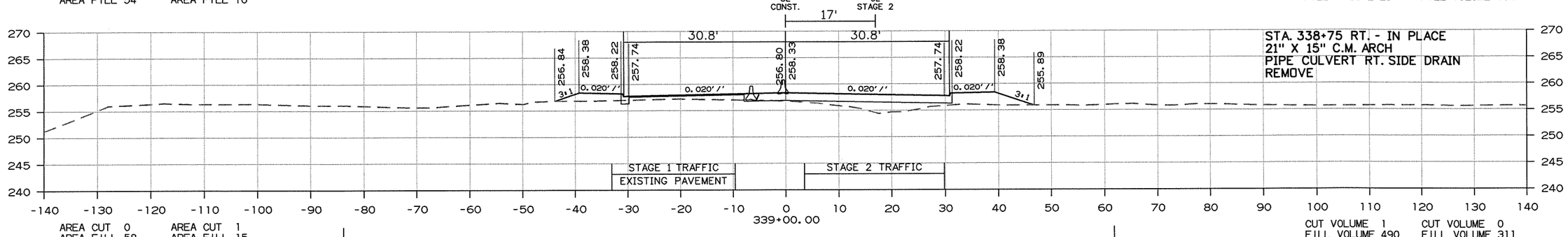
STAGE 1 STAGE 2

STAGE 2 STAGE 1









HWY. 64

CROSS SECTION STA. 339+00 TO STA. 340+00

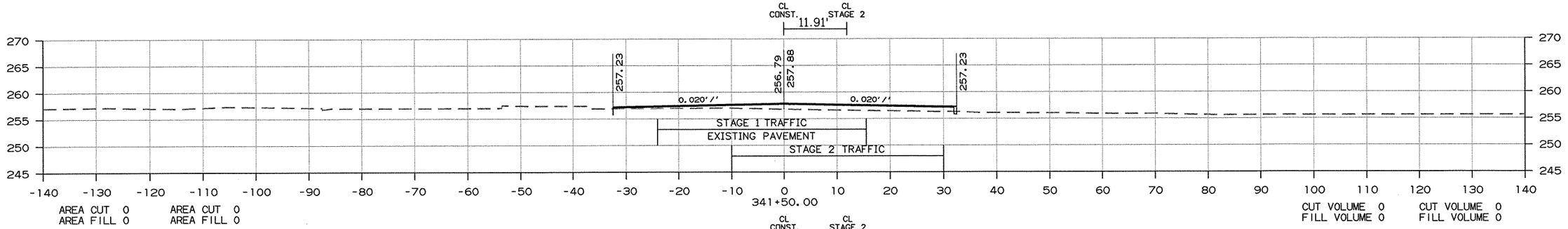
r110504.dgn 09/14/2010

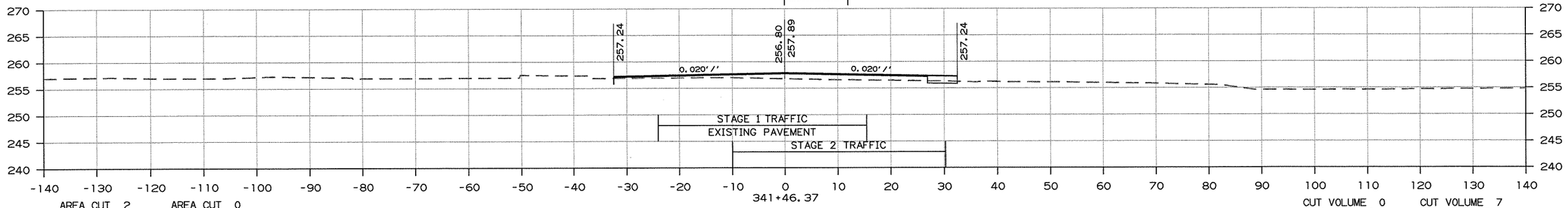
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	116	135

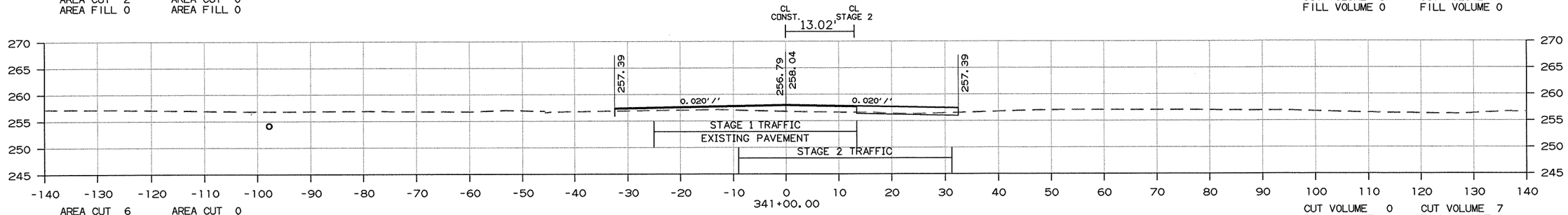
(2) CROSS SECTIONS

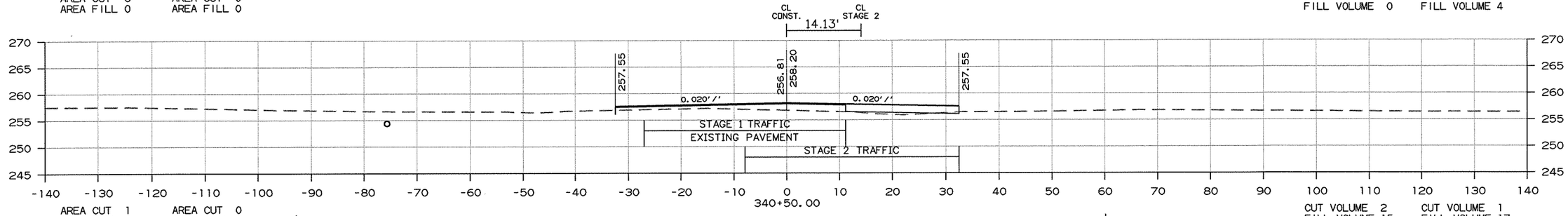
STAGE 1 STAGE 2

STAGE 2 STAGE 1









HWY. 64

CROSS SECTION STA. 340+50 TO STA. 341+50

r110504.dgn 09/14/2010

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.		110504	117	135

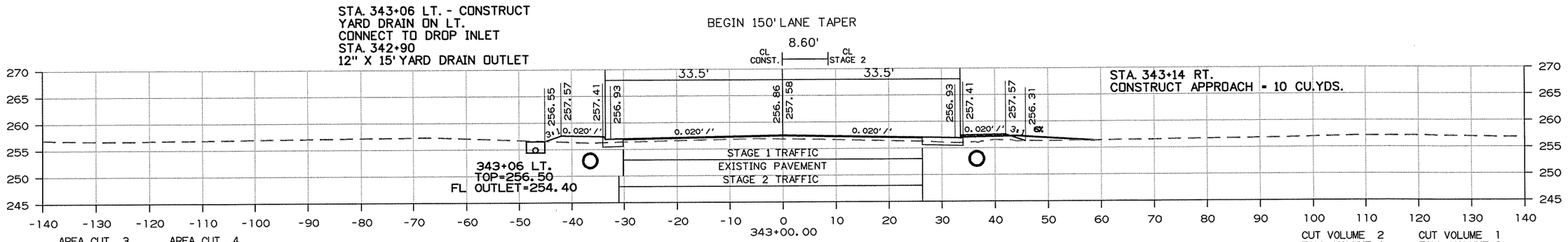
(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1

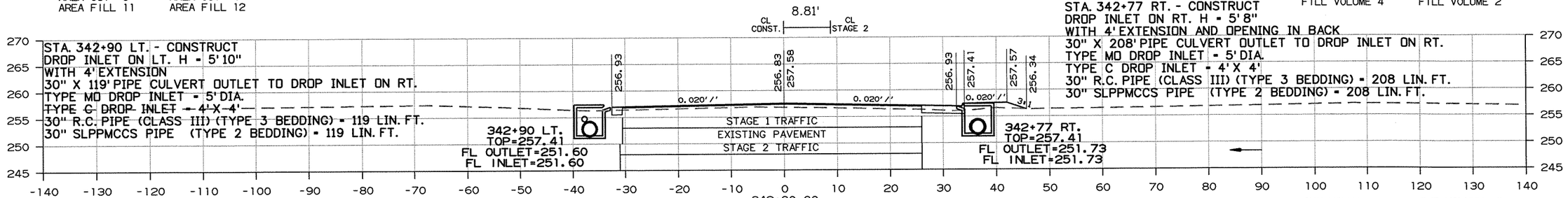
STA. 343+06 LT. - CONSTRUCT
YARD DRAIN ON LT.
CONNECT TO DROP INLET
STA. 342+90
12" X 15' YARD DRAIN OUTLET

BEGIN 150' LANE TAPER



AREA CUT 3 AREA FILL 11 AREA CUT 4 AREA FILL 12

CUT VOLUME 2 FILL VOLUME 4 CUT VOLUME 1 FILL VOLUME 2

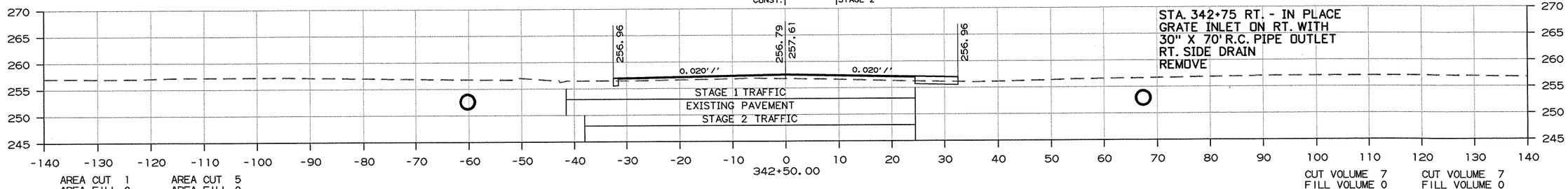


STA. 342+90 LT. - CONSTRUCT
DROP INLET ON LT. H = 5'10"
WITH 4' EXTENSION
30" X 119' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
~~TYPE C DROP INLET = 4' X 4'~~
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 119 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 119 LIN. FT.

STA. 342+77 RT. - CONSTRUCT
DROP INLET ON RT. H = 5'8"
WITH 4' EXTENSION AND OPENING IN BACK
30" X 208' PIPE CULVERT OUTLET TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 208 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 208 LIN. FT.

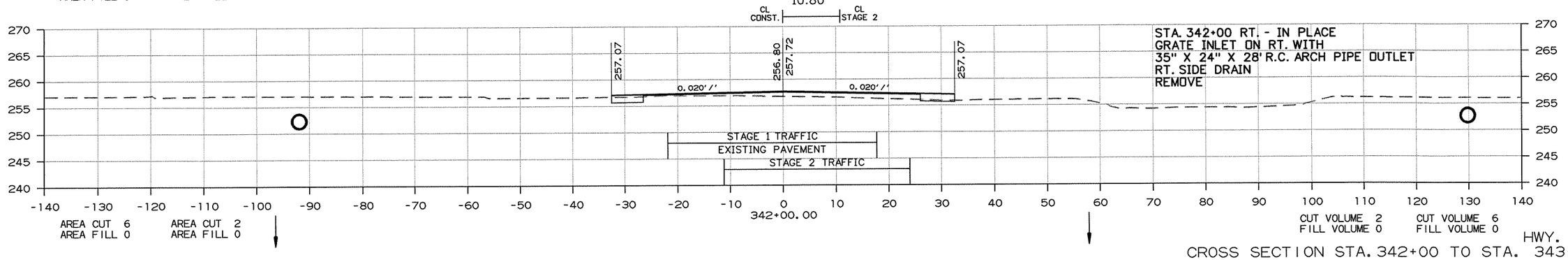
AREA CUT 2 AREA FILL 0 AREA CUT 5 AREA FILL 11

CUT VOLUME 7 FILL VOLUME 8 CUT VOLUME 2 FILL VOLUME 0



AREA CUT 1 AREA FILL 0 AREA CUT 5 AREA FILL 0

CUT VOLUME 7 FILL VOLUME 0 CUT VOLUME 7 FILL VOLUME 0



AREA CUT 6 AREA FILL 0 AREA CUT 2 AREA FILL 0

CUT VOLUME 2 FILL VOLUME 0 CUT VOLUME 6 FILL VOLUME 0

r110504.dgn 09/14/2010

HWY. 64
CROSS SECTION STA. 342+00 TO STA. 343+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	118	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1

END 150' LANE TAPER

4.03'

CL CONST. | CL STAGE 2

STA. 344+33 LT. - IN PLACE
18" X 43' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH - 10 CU.YDS.

29' 29'

257.02 | 258.15 | 257.99 | 257.51 | 257.69 | 258.07 | 257.51 | 257.99 | 258.15 | 256.87

0.058'/' | 0.020'/' | 0.020'/' | 0.020'/' | 0.020'/' | 3:1 | 5%

STAGE 1 TRAFFIC
EXISTING PAVEMENT
STAGE 2 TRAFFIC

344+50.00

AREA CUT 4
AREA FILL 33

AREA CUT 2
AREA FILL 12

CUT VOLUME 4
FILL VOLUME 27

CUT VOLUME 7
FILL VOLUME 46

5.96'

CL CONST. | CL STAGE 2

30.5' 30.5'

254.44 | 257.87 | 257.71 | 257.23 | 257.34 | 257.82 | 257.23 | 257.71 | 257.87 | 256.18

3:1 | 0.020'/' | 0.020'/' | 0.020'/' | 0.020'/' | 3:1

STAGE 1 TRAFFIC
EXISTING PAVEMENT
STAGE 2 TRAFFIC

344+00.00

AREA CUT 4
AREA FILL 17

AREA CUT 2
AREA FILL 17

CUT VOLUME 0
FILL VOLUME 3

CUT VOLUME 1
FILL VOLUME 4

STA. 343+91 - IN PLACE
3' X 2' X 60' R.C. BOX CULVERT
WITH HDWL. LT.
REMOVE HDWL. LT.
REMOVE 14' LT. & 8' RT.
FILL AND ABANDON USING
8 CU. YD. FLOWABLE SELECT
Q50 = 27 CFS D.A. = 7 ACRES

6.13'

CL CONST. | CL STAGE 2

30.65' 30.65'

254.49 | 257.84 | 257.68 | 257.20 | 257.31 | 257.80 | 257.20 | 257.68 | 257.84 | 256.16

3:1 | 0.020'/' | 0.020'/' | 0.020'/' | 0.020'/' | 3:1

STA. 343+95 LT. - CONSTRUCT
DROP INLET ON LT. H = 5'7"
WITH OPENING IN BACK
24" X 208' R.C. PIPE CULVERT INLET W/FES
30" X 102' PIPE CULVERT OUTLET TO DROP INLET ON LT.
TYPE MD DROP INLET - 5' DIA.
TYPE C DROP INLET - 4' X 4'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 208 LIN. FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 102 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 102 LIN. FT.

343+95 LT.
TOP=257.68
FL OUTLET=252.10
FL INLET=252.10

STAGE 1 TRAFFIC
EXISTING PAVEMENT
STAGE 2 TRAFFIC

343+95 RT.
TOP=257.68
FL OUTLET=251.95

STA. 343+95 RT. - CONSTRUCT
DROP INLET ON RT. H = 5'9"
WITH OPENING IN BACK
CONNECT TO EXIST. 24" R.C. PIPE CULVERT INLET
30" X 114' PIPE CULVERT OUTLET
TYPE C DROP INLET - 4' X 8'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) - 114 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) - 114 LIN. FT.

STA. 343+87 RT. - IN PLACE
JUNCT. BOX ON RT. WITH
30" X 108' R.C. PIPE OUTLET
RT. SIDE DRAIN
REMOVE

343+95.00

AREA CUT 4
AREA FILL 25

AREA CUT 2
AREA FILL 17

CUT VOLUME 4
FILL VOLUME 23

CUT VOLUME 6
FILL VOLUME 33

7.46'

CL CONST. | CL STAGE 2

STA. 343+32 LT.
CONSTRUCT APPROACH - 10 CU.YDS.

32' 32'

256.24 | 257.67 | 257.51 | 257.03 | 257.06 | 257.65 | 257.03 | 257.51 | 257.67 | 256.91

5% | 3:1 | 0.020'/' | 0.020'/' | 0.020'/' | 0.020'/' | 3:1

STAGE 1 TRAFFIC
EXISTING PAVEMENT
STAGE 2 TRAFFIC

343+50.00

AREA CUT 3
AREA FILL 15

AREA CUT 3
AREA FILL 10

CUT VOLUME 7
FILL VOLUME 20

CUT VOLUME 6
FILL VOLUME 24

HWY. 64
CROSS SECTION STA. 343+50 TO STA. 344+50

r110504.dgn 09/14/2010

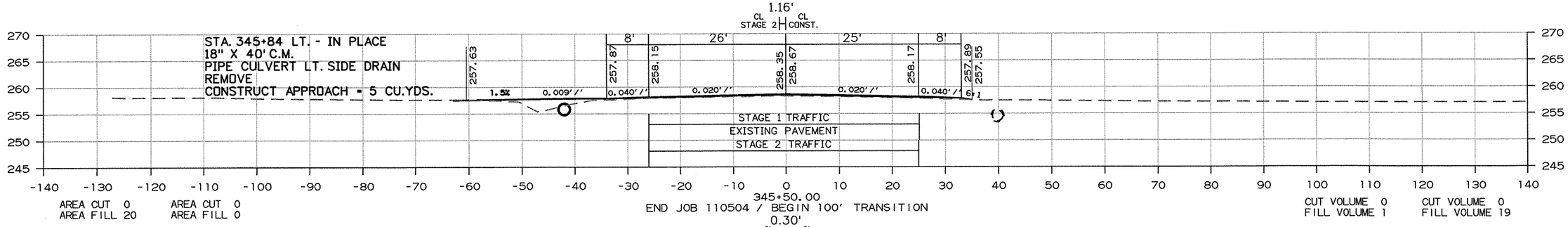
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	119	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1

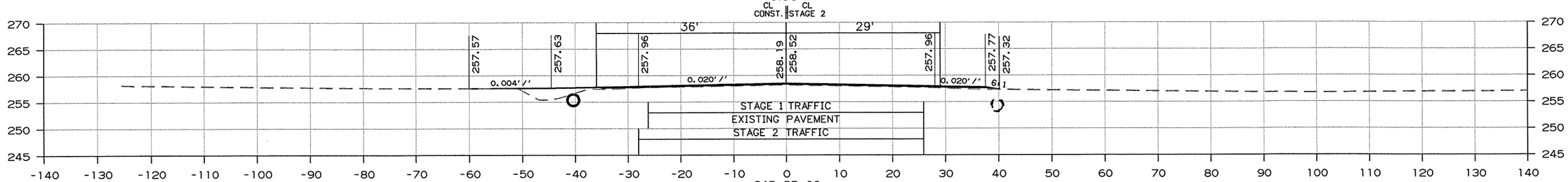
346+50.00
END 100' TRANSITION



AREA CUT 0 AREA CUT 0
AREA FILL 20 AREA FILL 0

345+50.00
END JOB 110504 / BEGIN 100' TRANSITION

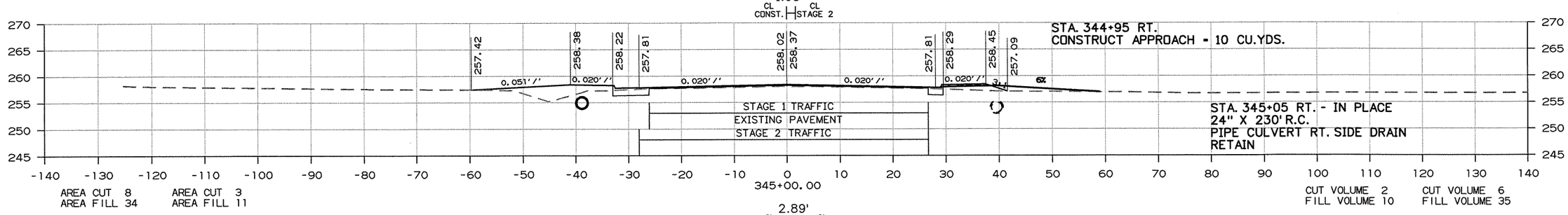
CUT VOLUME 0 CUT VOLUME 0
FILL VOLUME 1 FILL VOLUME 19



AREA CUT 0 AREA CUT 0
AREA FILL 20 AREA FILL 2

345+25.00

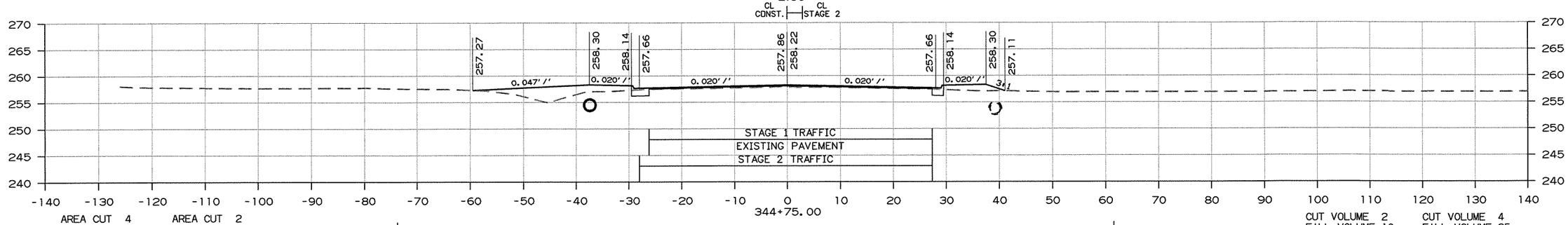
CUT VOLUME 1 CUT VOLUME 4
FILL VOLUME 6 FILL VOLUME 25



AREA CUT 8 AREA CUT 3
AREA FILL 34 AREA FILL 11

345+00.00

CUT VOLUME 2 CUT VOLUME 6
FILL VOLUME 10 FILL VOLUME 35



AREA CUT 4 AREA CUT 2
AREA FILL 42 AREA FILL 10

344+75.00

CUT VOLUME 2 CUT VOLUME 4
FILL VOLUME 10 FILL VOLUME 35

HWY. 64
CROSS SECTION STA. 344+75 TO STA. 345+50

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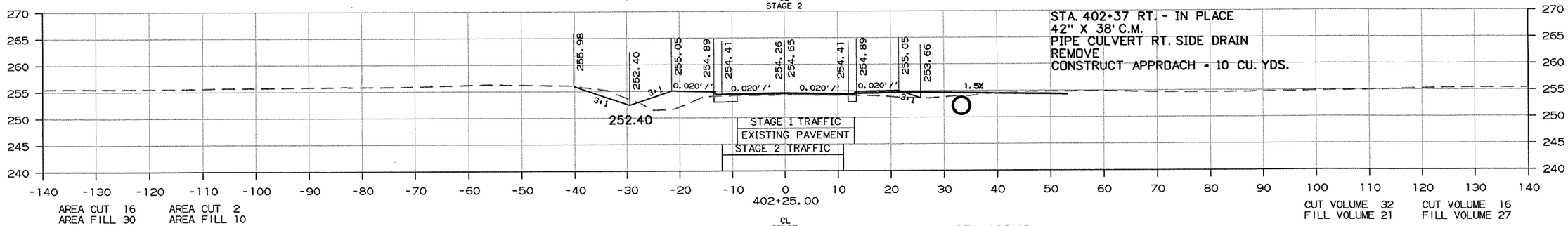
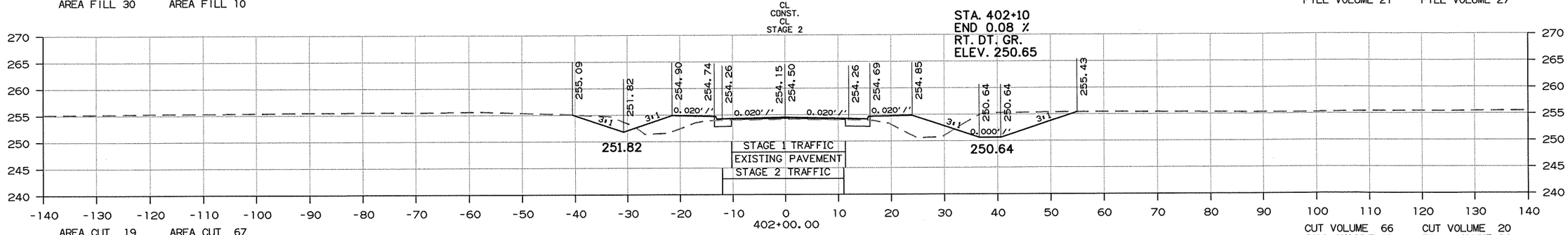
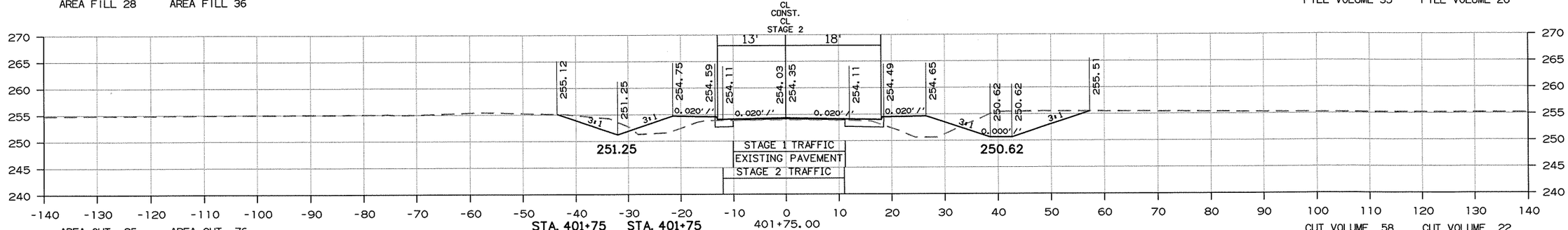
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	120	135

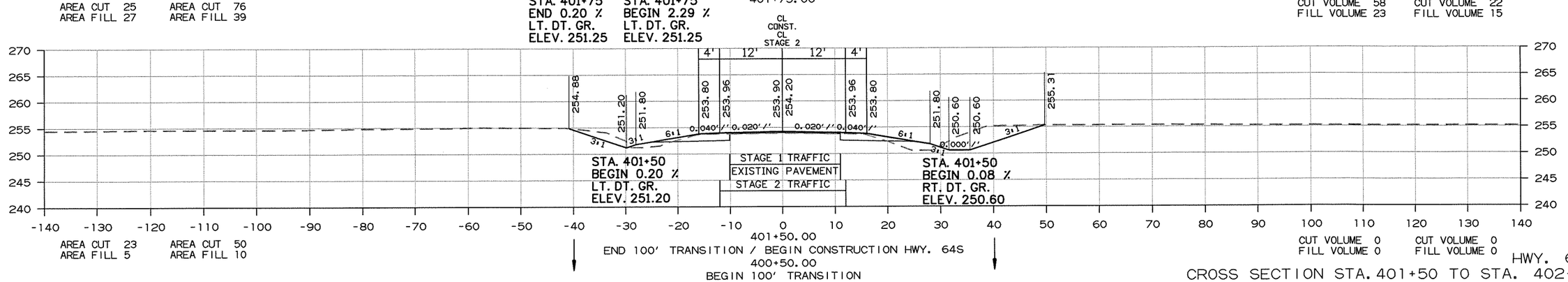
(2) CROSS SECTIONS

STAGE 1 STAGE 2









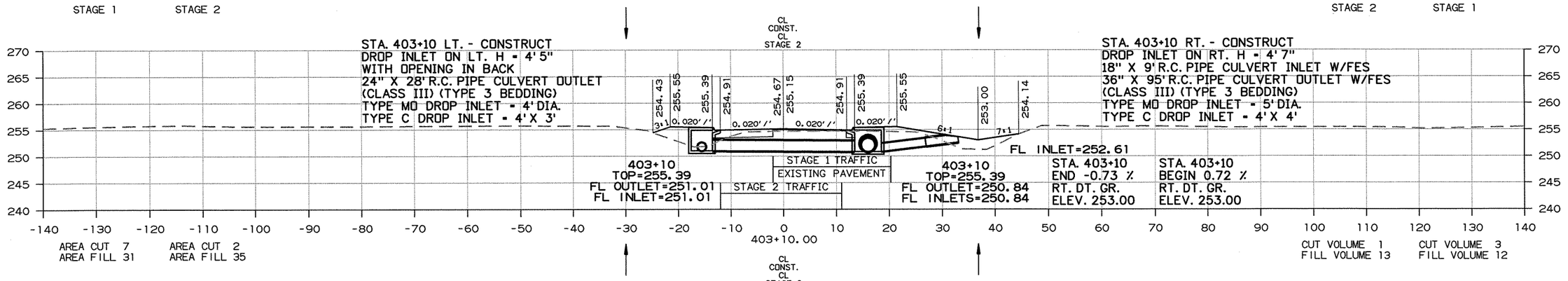
HWY. 64S

CROSS SECTION STA. 401+50 TO STA. 402+25

r110504.dgn 09/14/2010

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.		110504	121	135

(2) CROSS SECTIONS



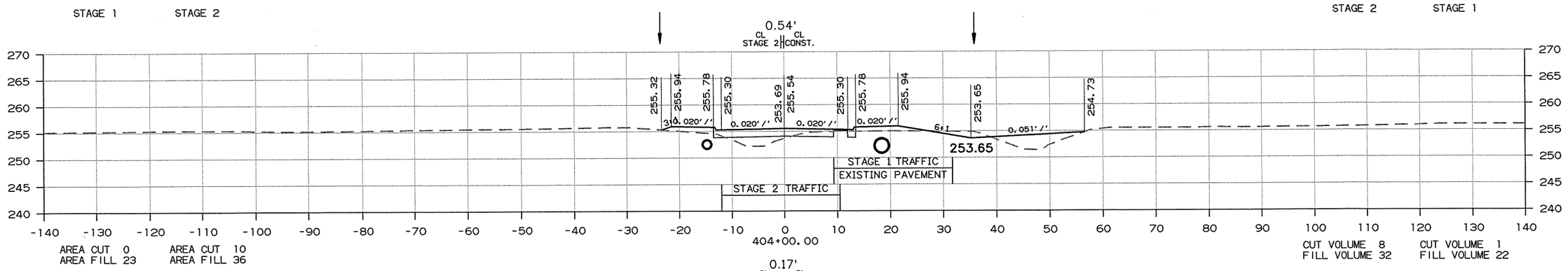
HWY. 64S

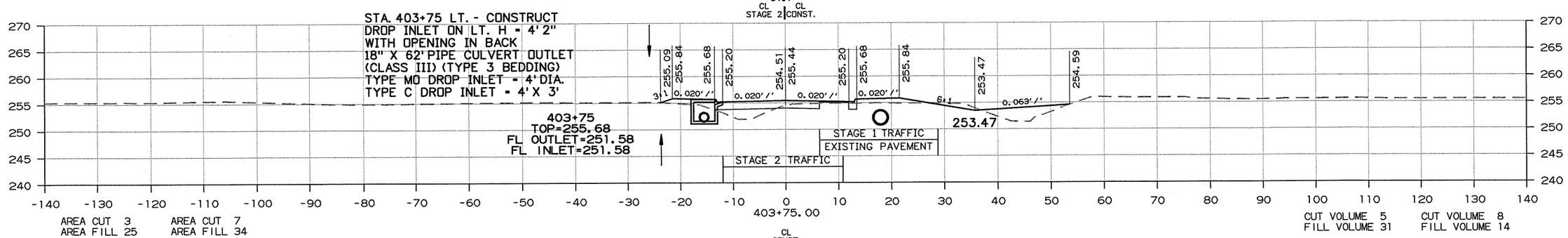
CROSS SECTION STA. 402+50 TO STA. 403+10

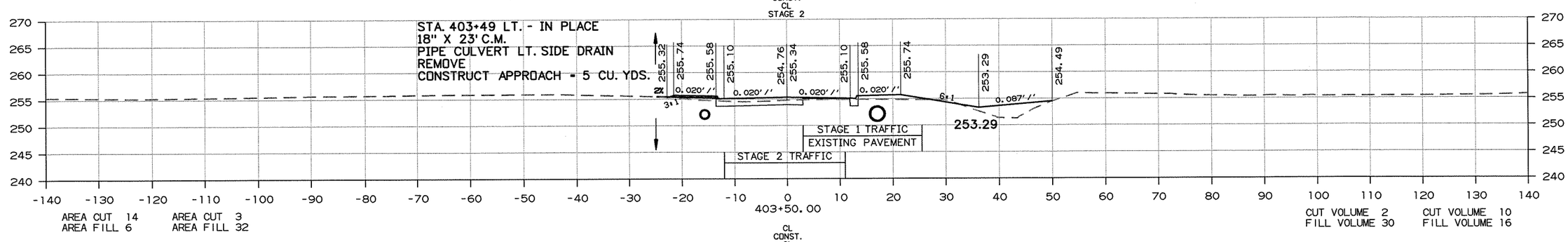
r110504.dgn 09/14/2010

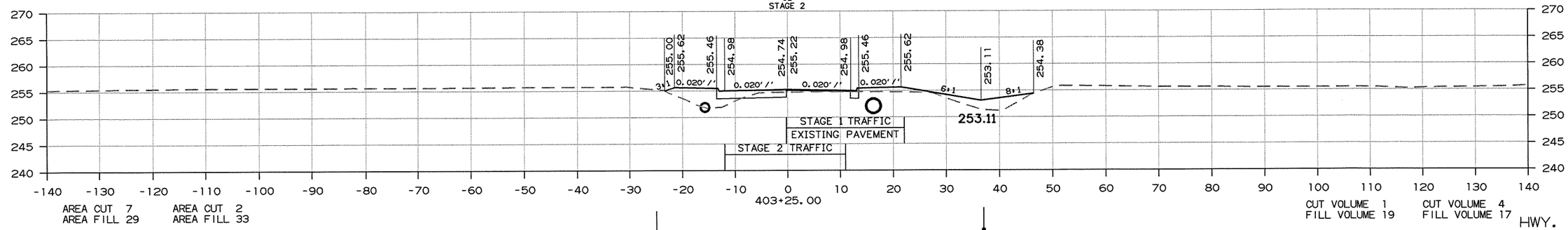
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	122	135

(2) CROSS SECTIONS







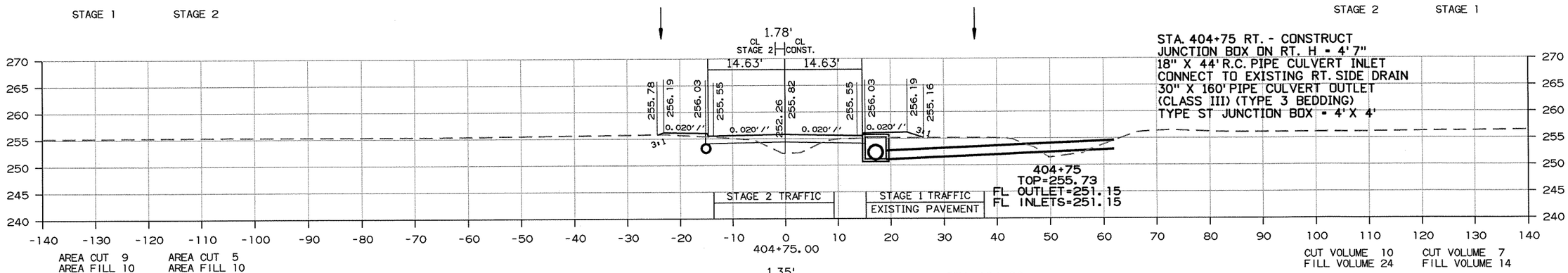


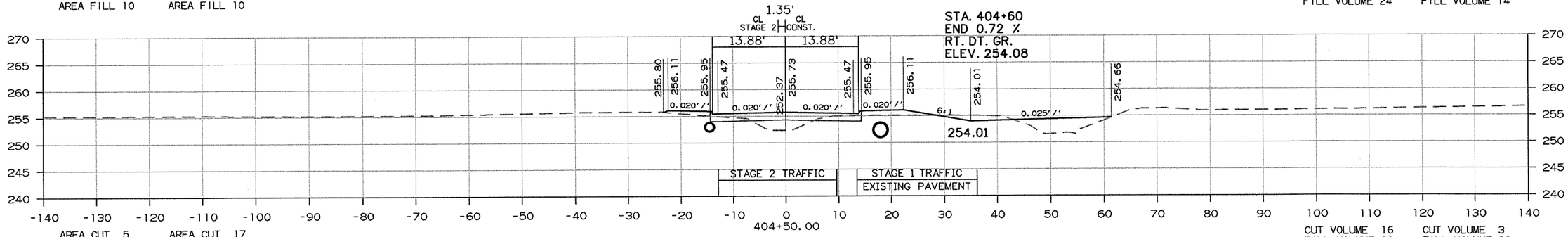
HWY. 64S
CROSS SECTION STA. 403+25 TO STA. 404+00

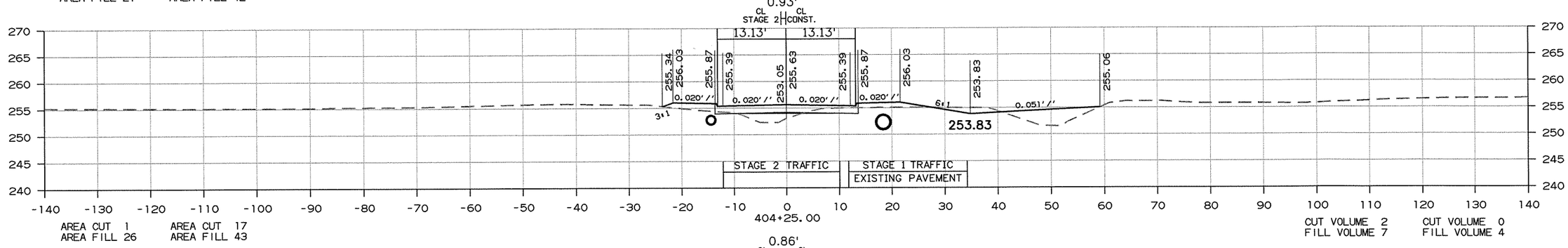
r110504.dgn 09/14/2010

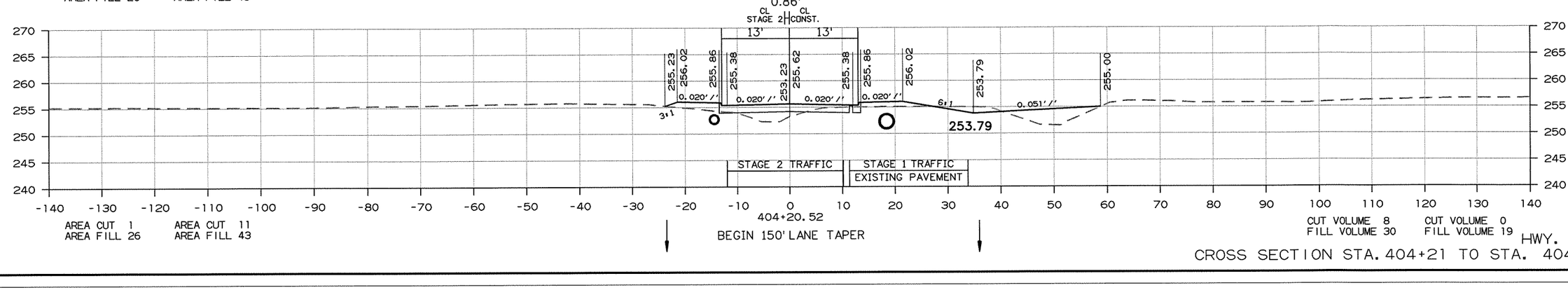
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	123	135

(2) CROSS SECTIONS









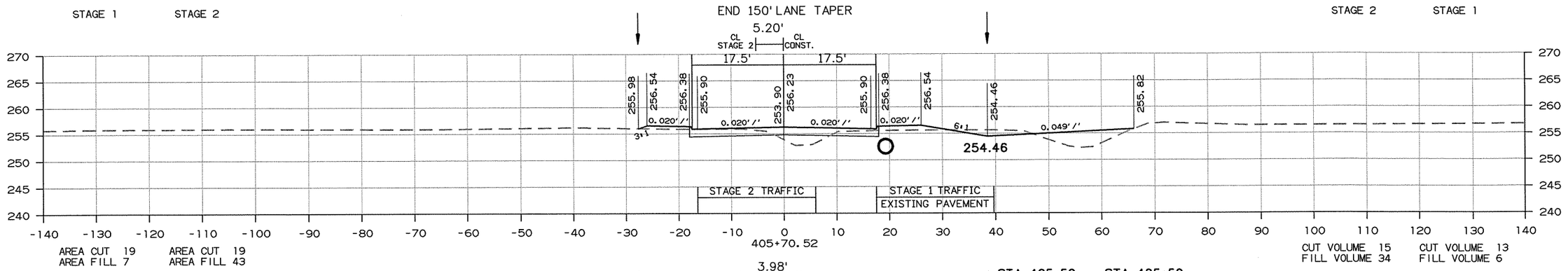
HWY. 64S

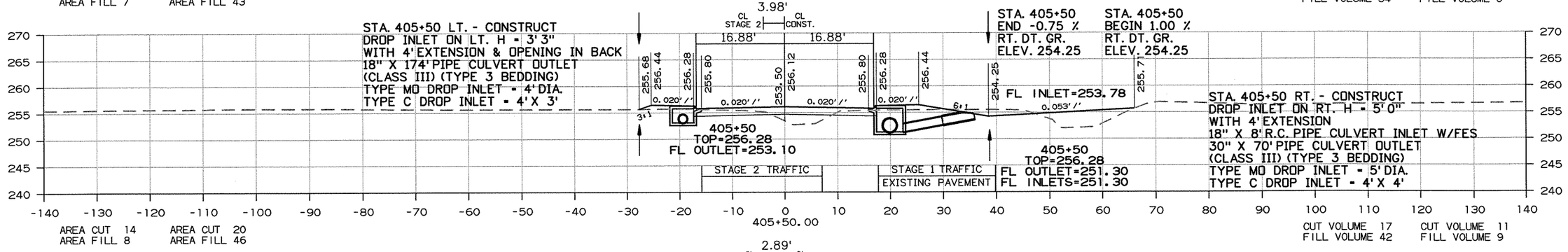
CROSS SECTION STA. 404+21 TO STA. 404+75

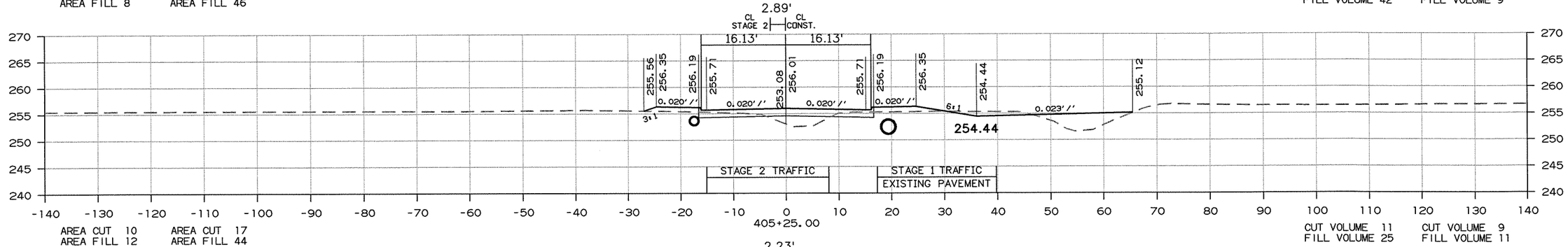
r110504.dgn 09/14/2010

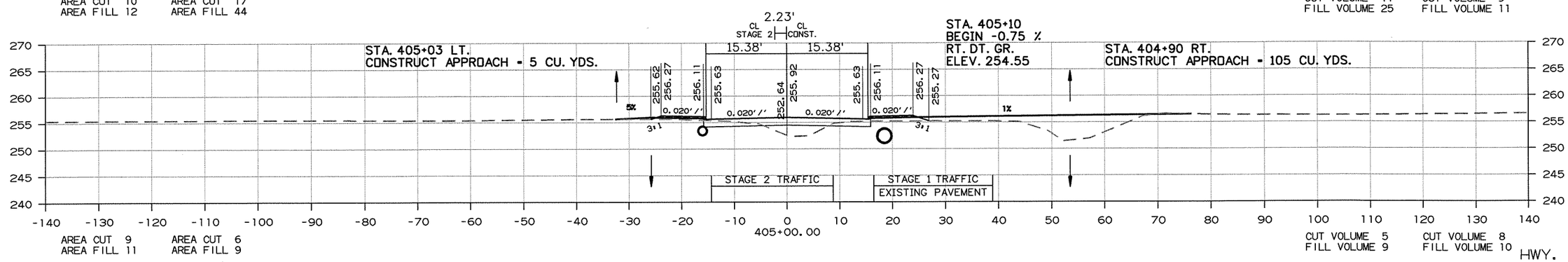
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	124	135

(2) CROSS SECTIONS







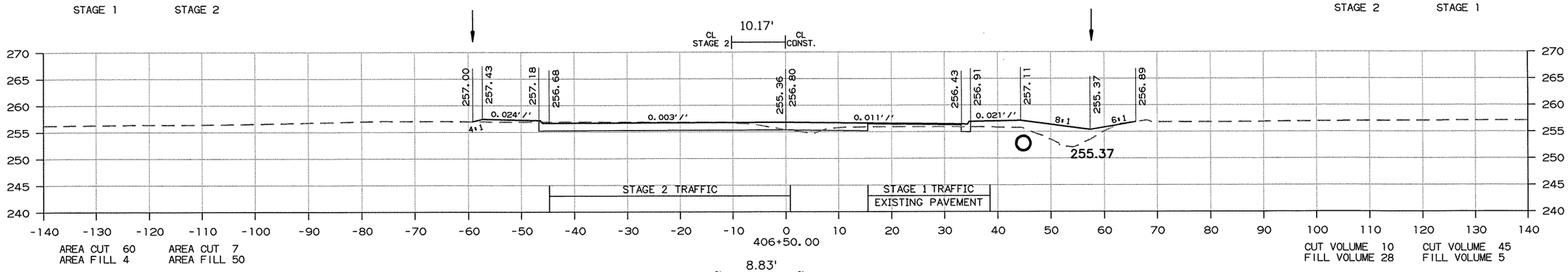


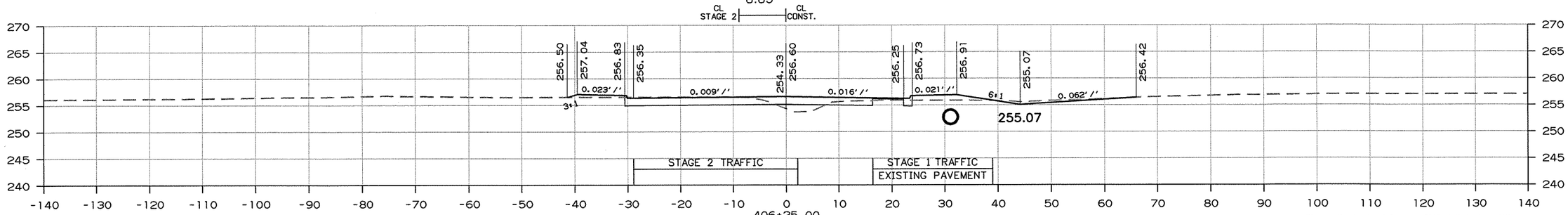
HWY. 64S
CROSS SECTION STA. 405+00 TO STA. 405+71

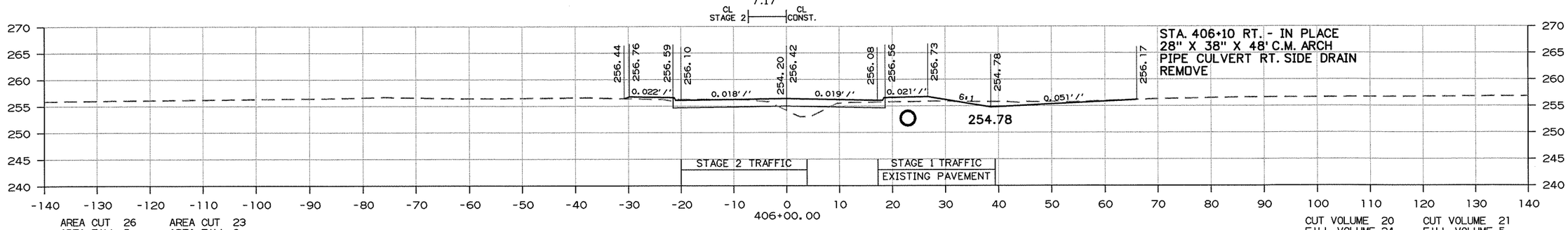
r110504.dgn 09/14/2010

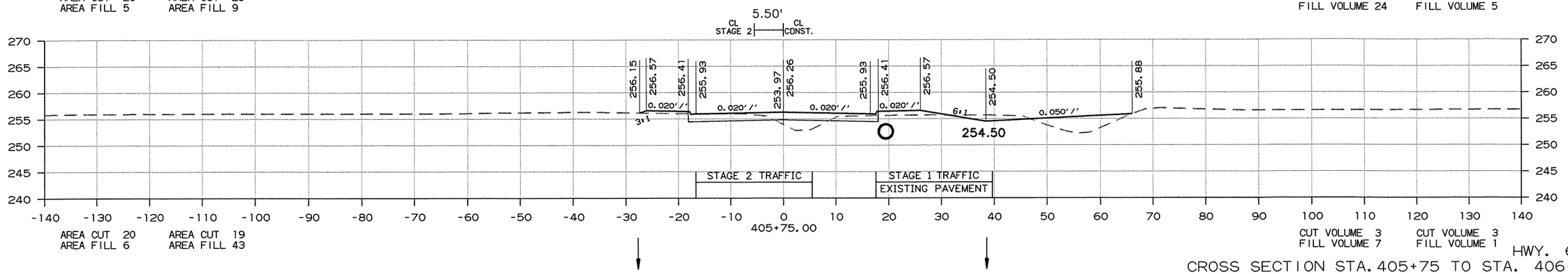
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	125	135

(2) CROSS SECTIONS









HWY. 64S
CROSS SECTION STA. 405+75 TO STA. 406+50

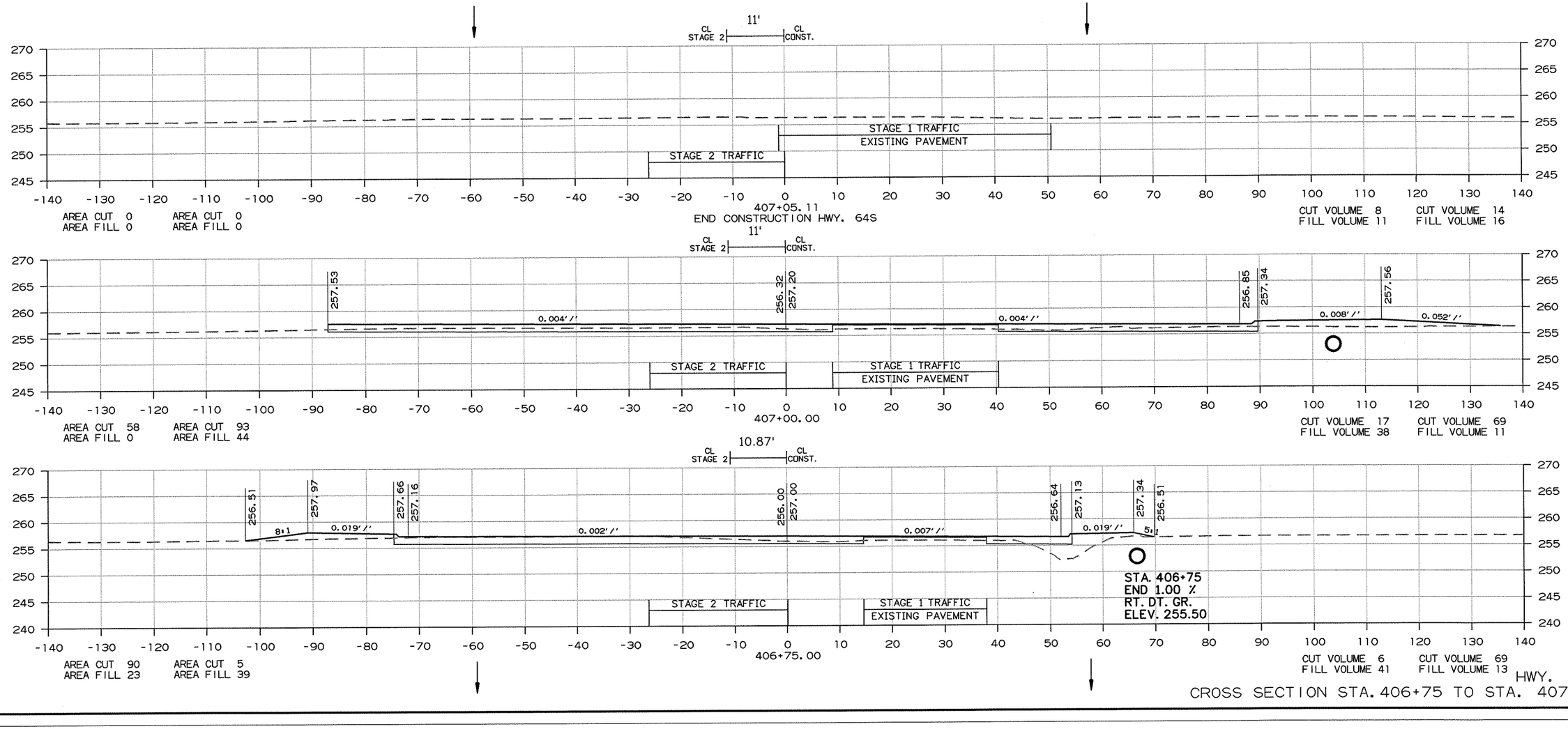
r110504.dgn 09/14/2010

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.		110504	126	135

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 2 STAGE 1



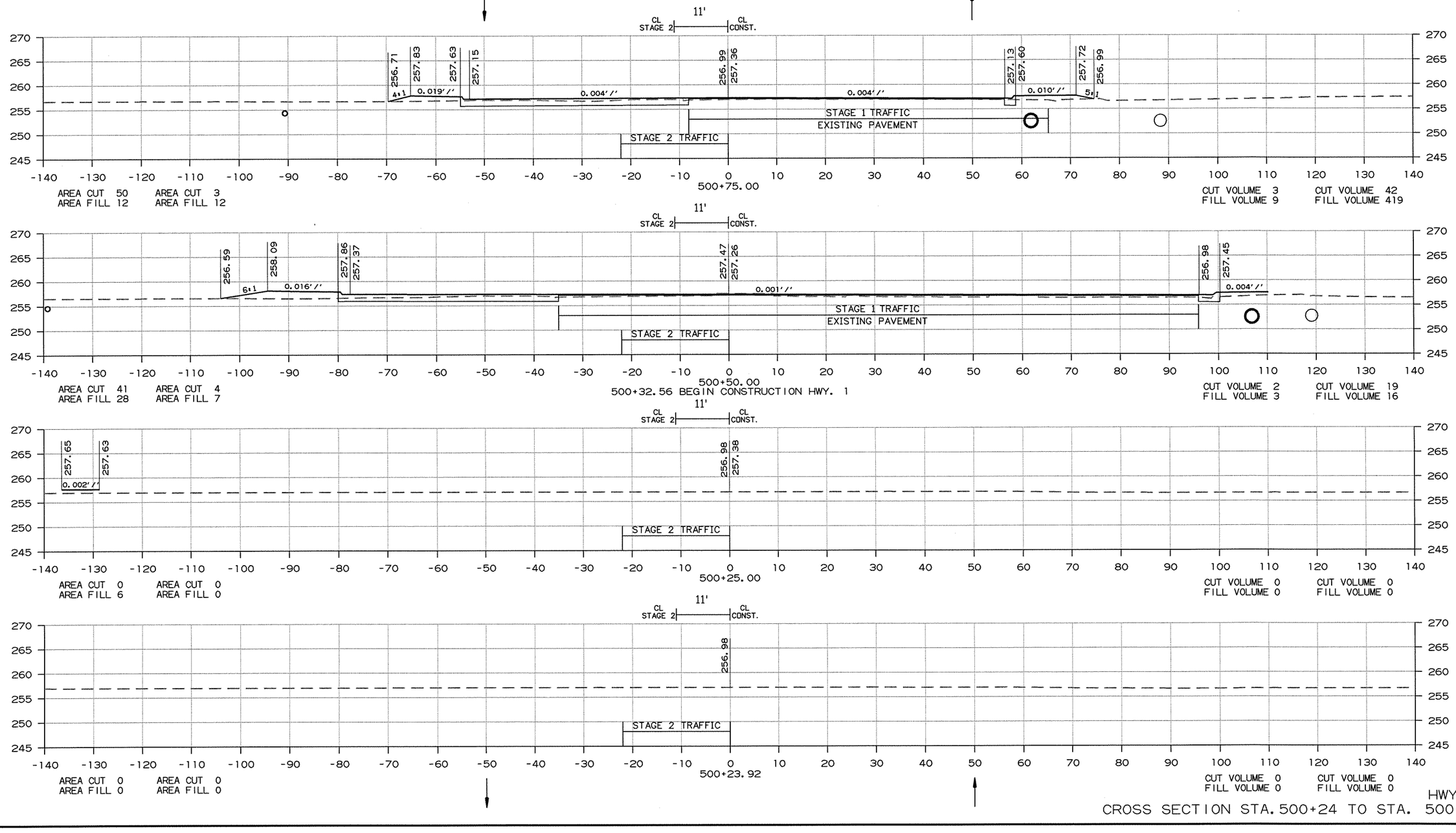
HWY. 64S

CROSS SECTION STA. 406+75 TO STA. 407+13

r110504.dgn 09/14/2010

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.		110504	127	135

(2) CROSS SECTIONS



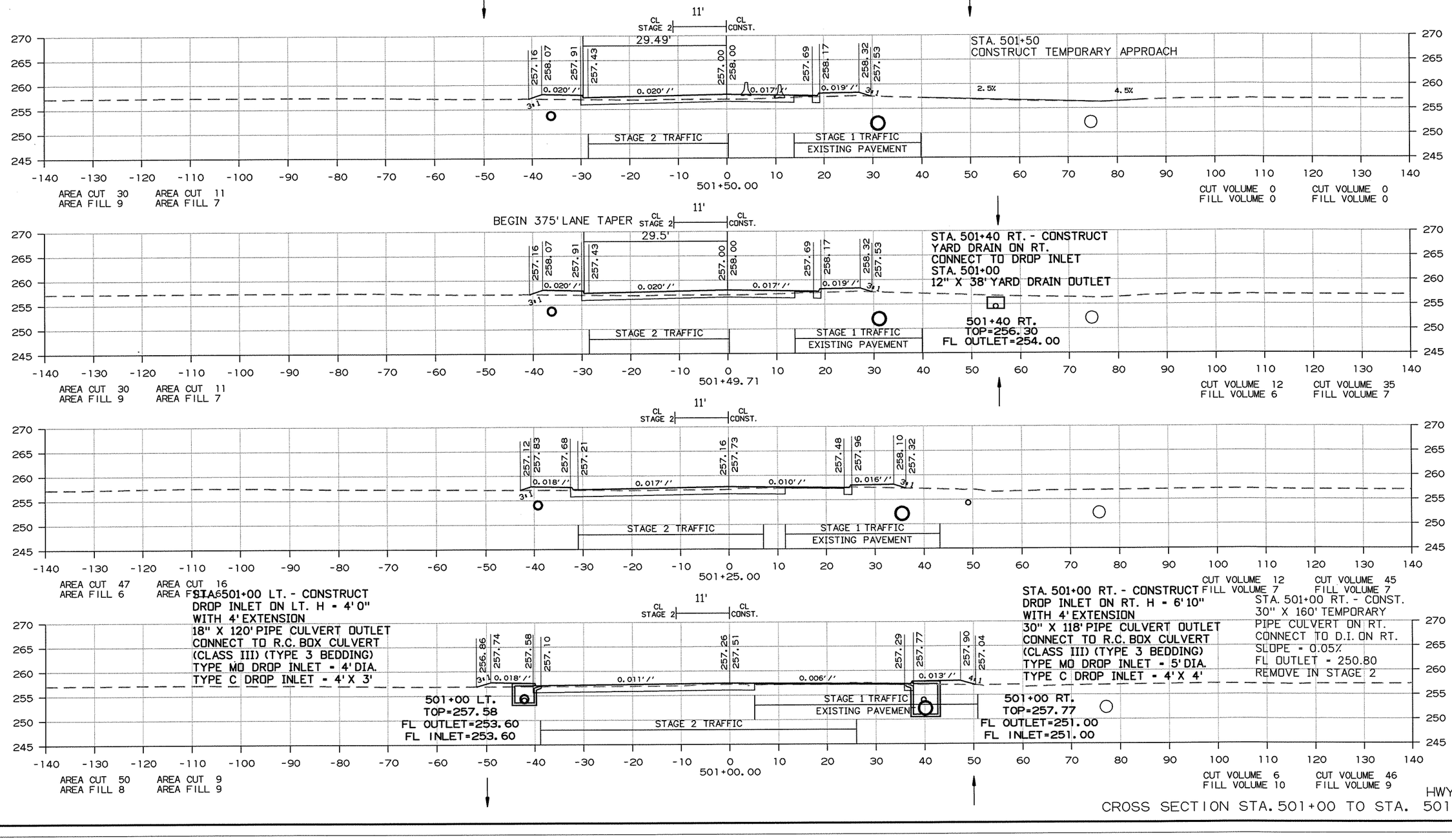
HWY. 1

CROSS SECTION STA. 500+24 TO STA. 500+75

r110504.dgn 09/14/2010

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.		110504	128	135

(2) CROSS SECTIONS



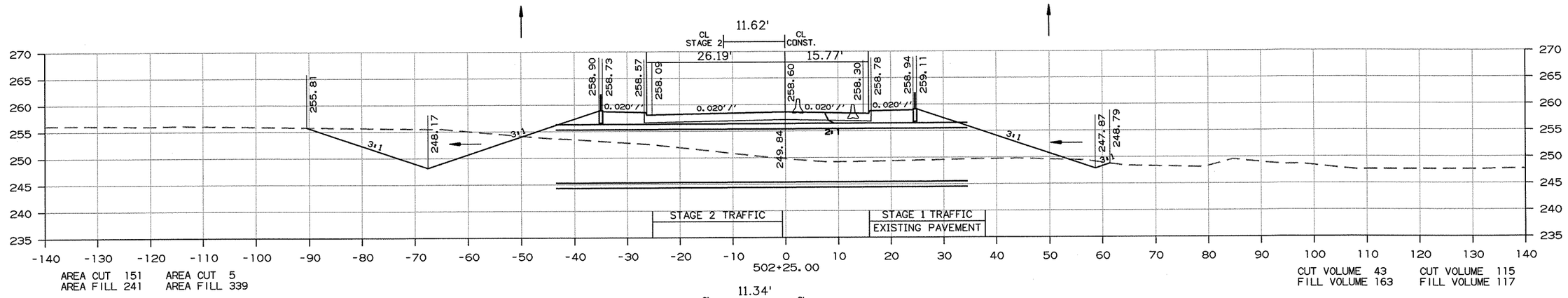
CROSS SECTION STA. 501+00 TO STA. 501+50

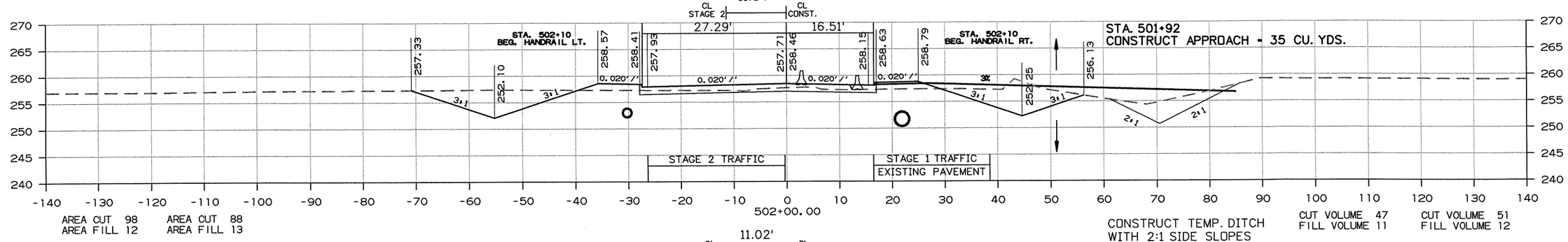
HWY. 1

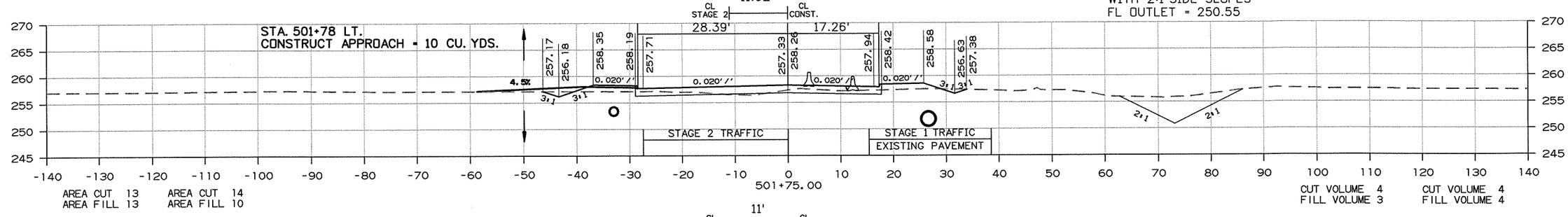
r110504.dgn 09/14/2010

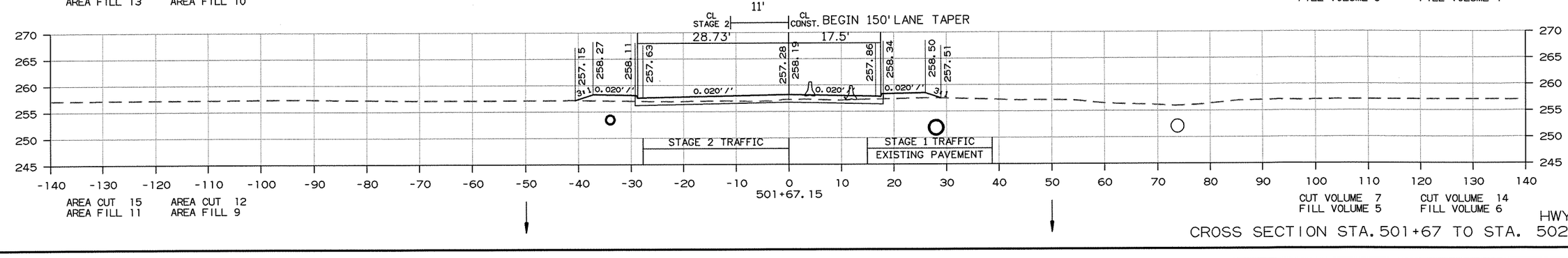
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	129	135

(2) CROSS SECTIONS







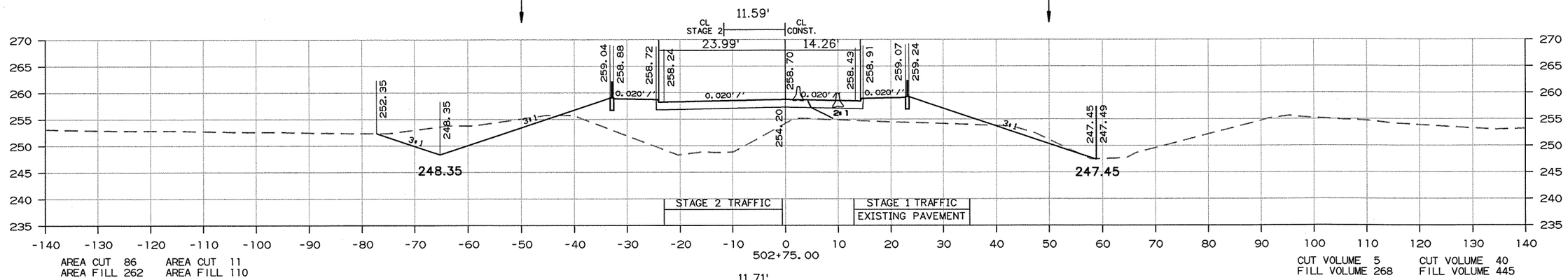


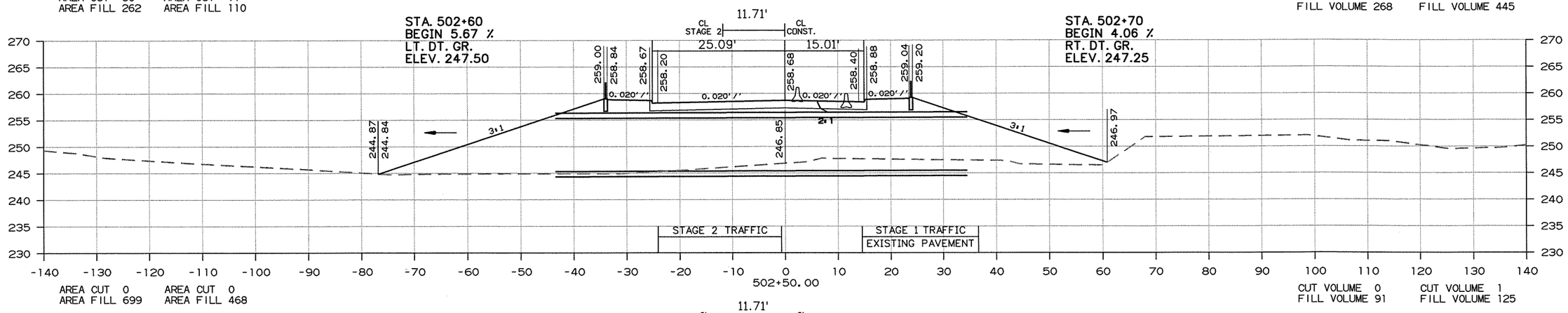
HWY. 1
CROSS SECTION STA. 501+67 TO STA. 502+25

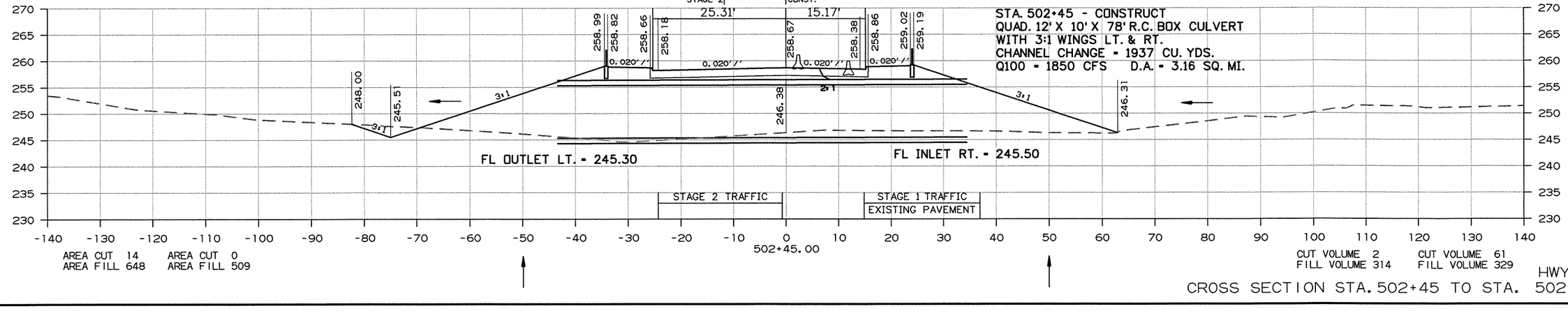
r110504.dgn 09/14/2010

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.		110504	130	135

(2) CROSS SECTIONS







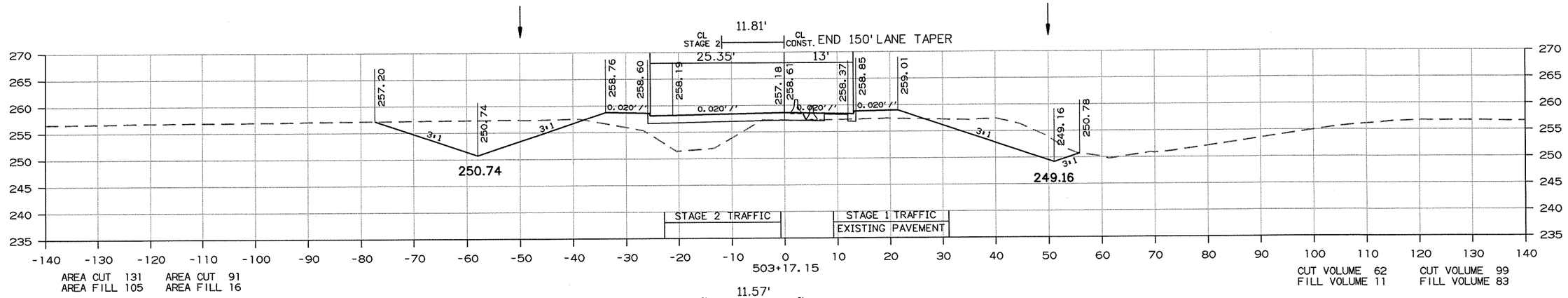
STA. 502+45 - CONSTRUCT
QUAD. 12' X 10' X 78' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
CHANNEL CHANGE - 1937 CU. YDS.
Q100 = 1850 CFS D.A. = 3.16 SQ. MI.

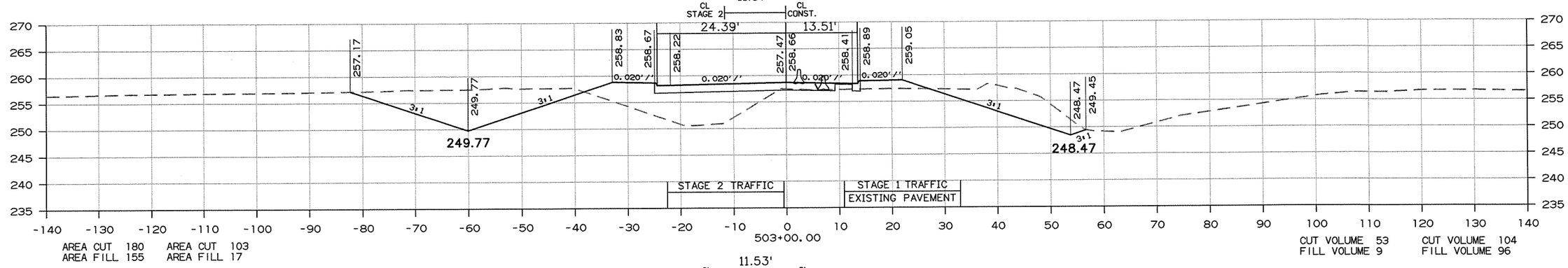
HWY. 1
CROSS SECTION STA. 502+45 TO STA. 502+75

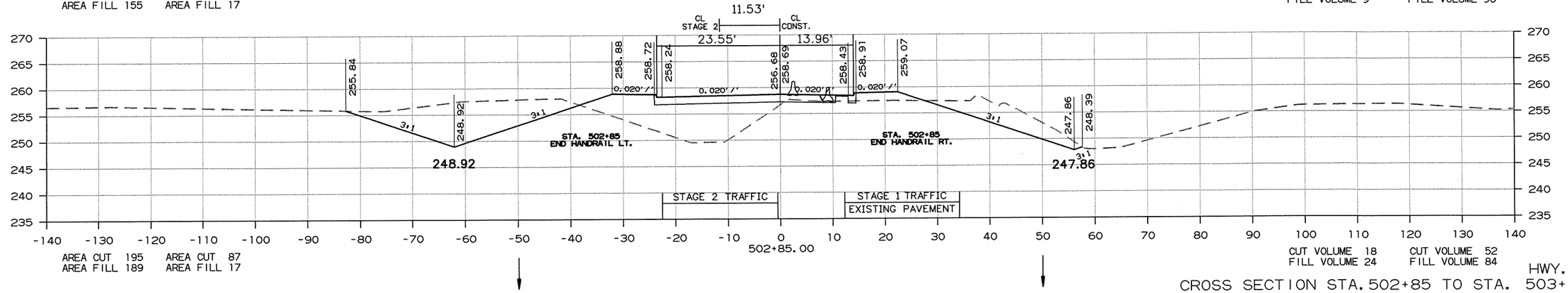
r110504.dgn 09/14/2010

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.		110504	131	135

(2) CROSS SECTIONS







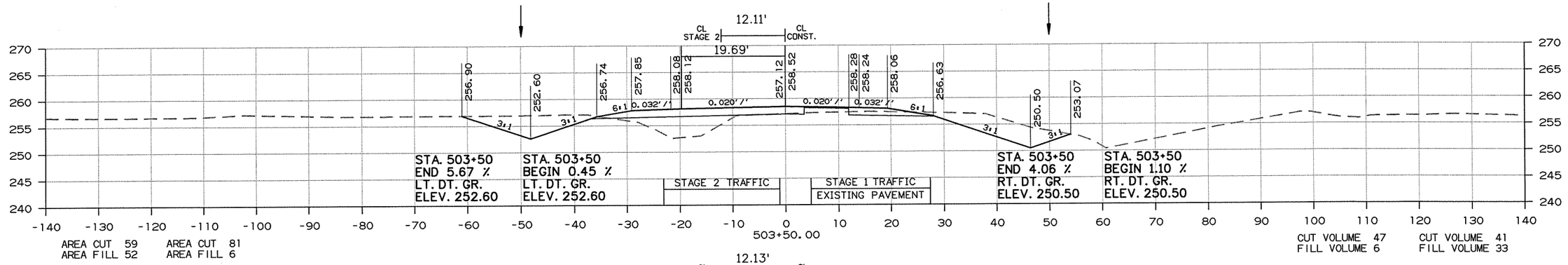
HWY. 1

CROSS SECTION STA. 502+85 TO STA. 503+17

r110504.dgn 09/14/2010

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.		110504	132	135

(2) CROSS SECTIONS

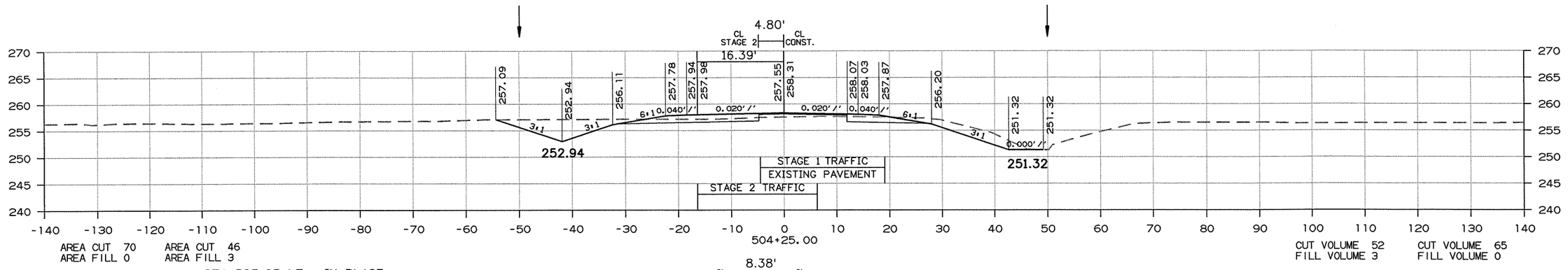


HWY. 1
CROSS SECTION STA. 503+25 TO STA. 503+50

r110504.dgn 09/14/2010

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.		110504	133	135

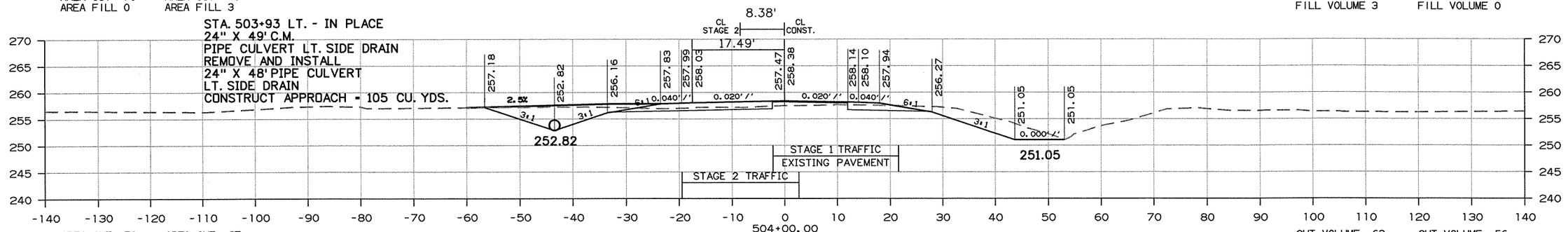
(2) CROSS SECTIONS



AREA CUT 70 AREA CUT 46
AREA FILL 0 AREA FILL 3

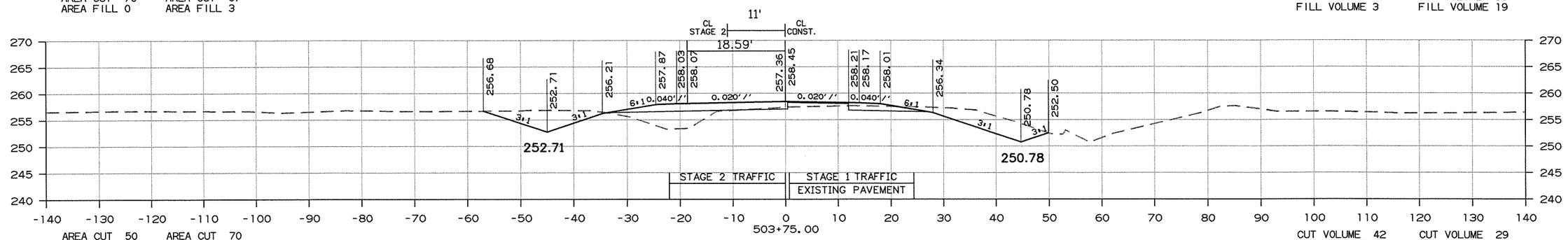
CUT VOLUME 52 CUT VOLUME 65
FILL VOLUME 3 FILL VOLUME 0

STA. 503+93 LT. - IN PLACE
24" X 49' C.M.
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 105 CU. YDS.



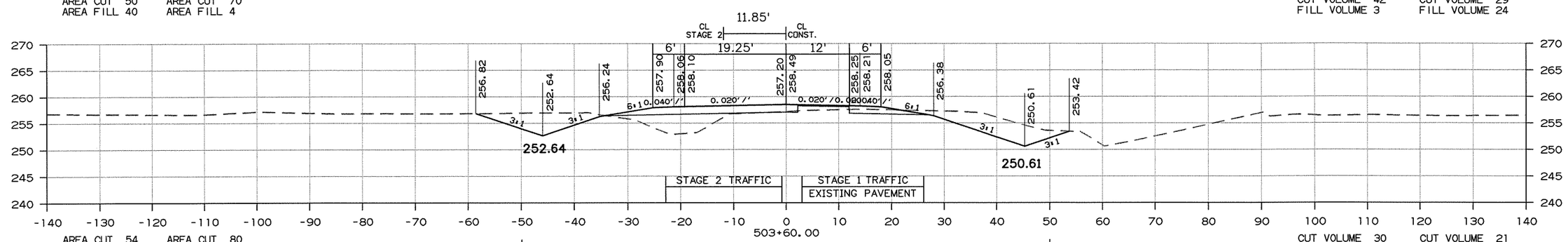
AREA CUT 70 AREA CUT 67
AREA FILL 0 AREA FILL 3

CUT VOLUME 63 CUT VOLUME 56
FILL VOLUME 3 FILL VOLUME 19



AREA CUT 50 AREA CUT 70
AREA FILL 40 AREA FILL 4

CUT VOLUME 42 CUT VOLUME 29
FILL VOLUME 3 FILL VOLUME 24



AREA CUT 54 AREA CUT 80
AREA FILL 48 AREA FILL 5

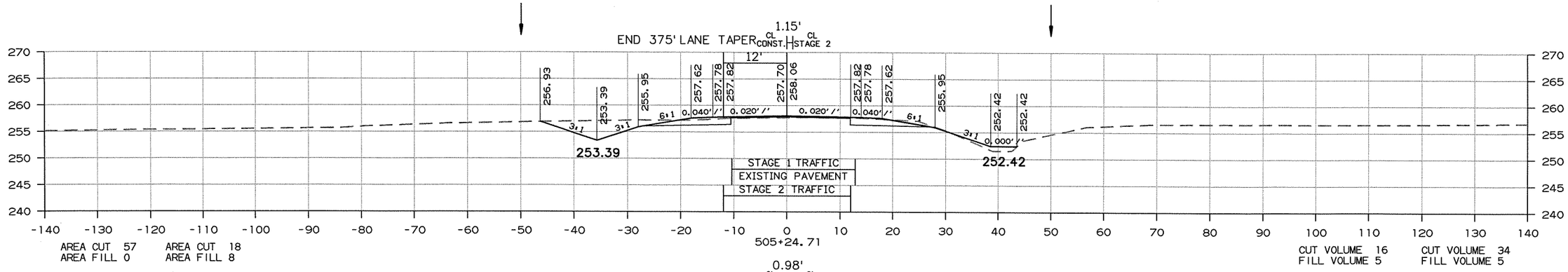
CUT VOLUME 30 CUT VOLUME 21
FILL VOLUME 2 FILL VOLUME 19

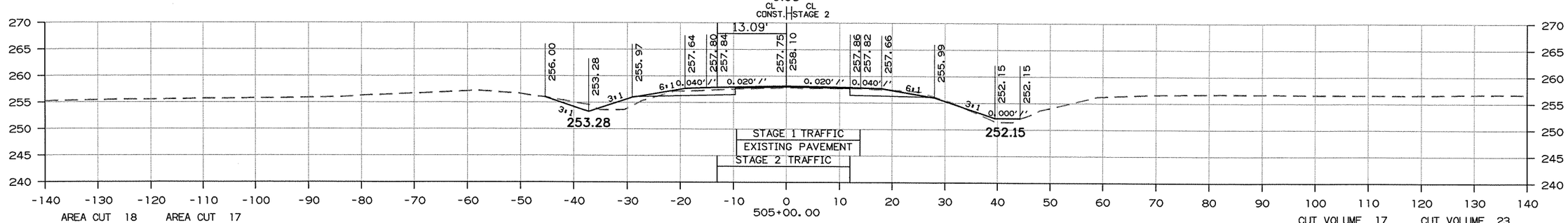
HWY. 1
CROSS SECTION STA. 503+60 TO STA. 504+25

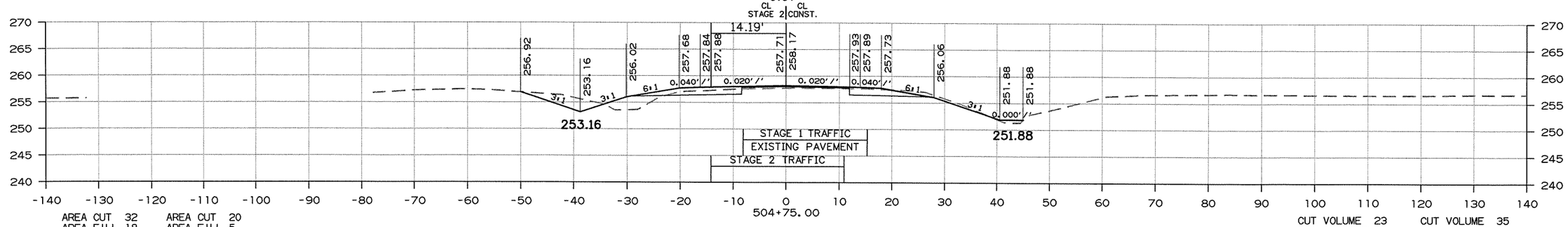
r110504.dgn 09/14/2010

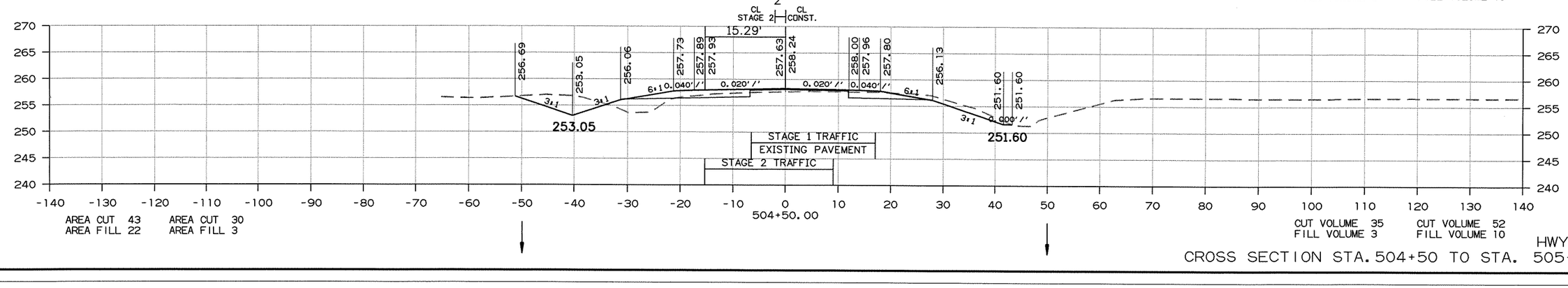
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110504	134	135

(2) CROSS SECTIONS









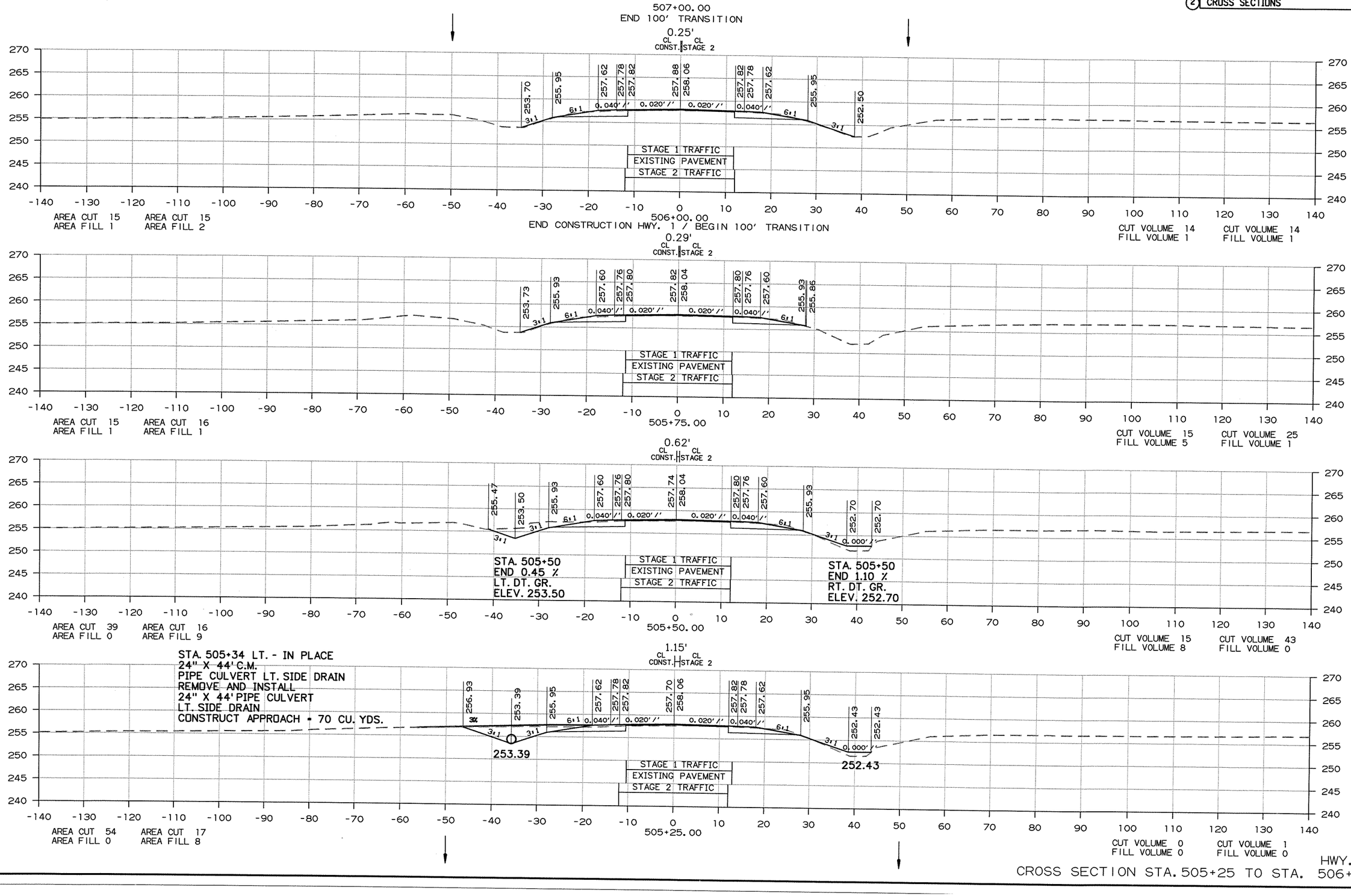
HWY. 1

CROSS SECTION STA. 504+50 TO STA. 505+25

r110504.dgn 09/14/2010

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.		110504	135	135

(2) CROSS SECTIONS



HWY. 1
CROSS SECTION STA. 505+25 TO STA. 506+00

r110504.dgn 09/14/2010