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.		040578	1	216

(2) ARMSTRONG AVE.-STONE BRIDGE RD. (SEL. SECS.) (FAYETTEVILLE) (S)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

ARMSTRONG AVE.-STONE BRIDGE RD. (SEL. SECS.) (FAYETTEVILLE) (S)

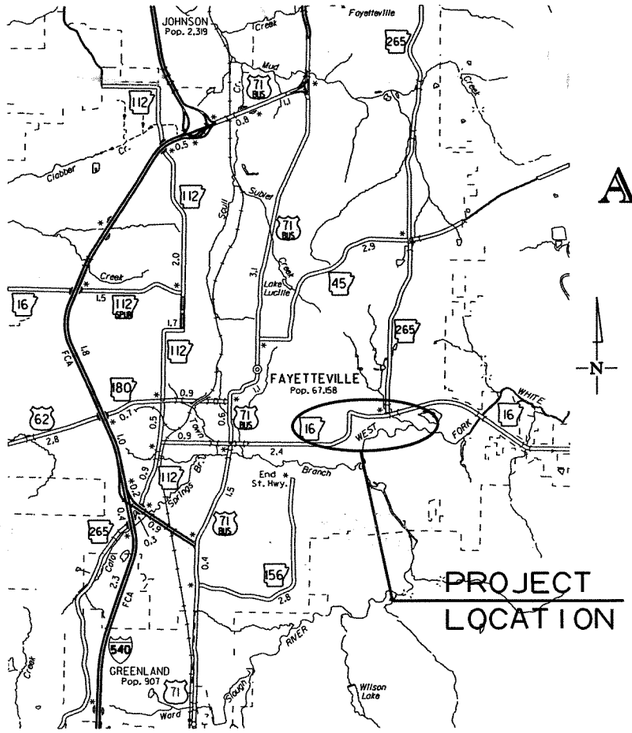
WASHINGTON COUNTY

ROUTE 16 SECTION 3

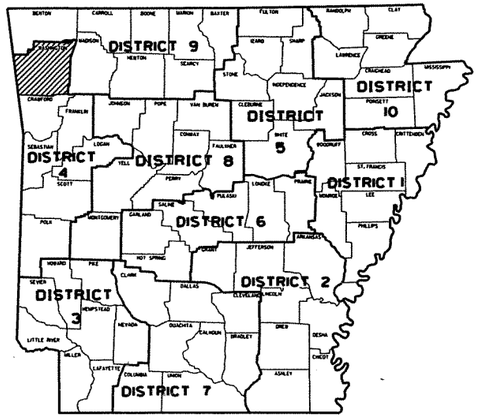
JOB 040578

FED. AID PROJ. STP-9142(26)

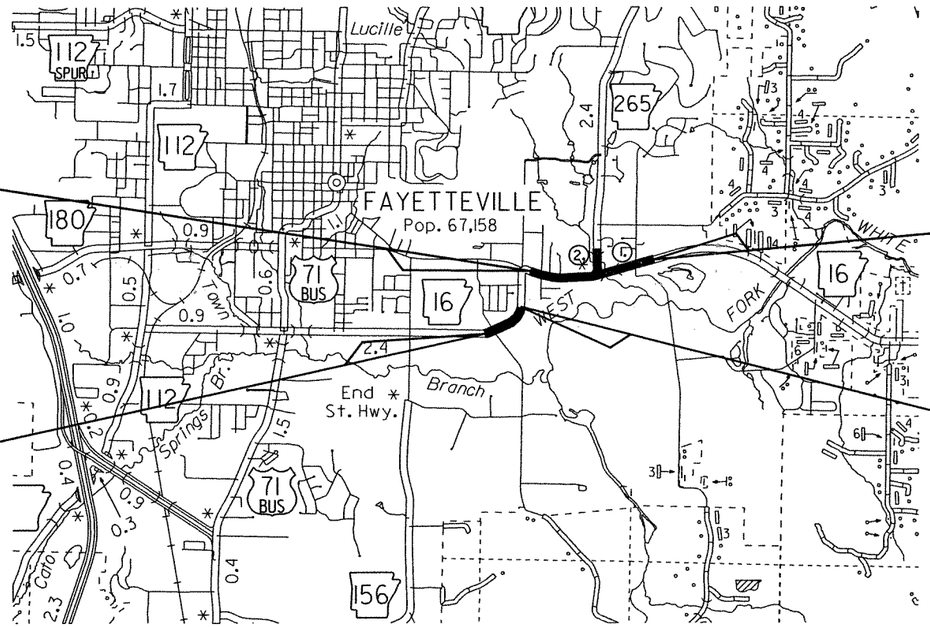
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VICINITY MAP



ARK. HWY. DIST. NO. 4



STA. 612+13
END JOB EXCEPTION

STA. 661+30
END JOB 040578

STA. 580+50
BEGIN JOB 040578
LOG MILE 2.32

STA. 599+35
BEGIN JOB EXCEPTION

STRUCTURES OVER 20'-0" SPAN

(1.) STA. 638+04 - IN PLACE
TRP. 10' x 6' x 143' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN & EXTEND 25' LT.
SPAN WIDTH = 32'-11"

(2.) STA. 53+55 - IN PLACE
QUAD. 10' x 6' x 88' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN & EXTEND 10.10' LT.
WITH 2:1 WINGS ON LT.
SPAN WIDTH = 43'-9"

• DESIGN TRAFFIC DATA •

DESIGN YEAR	2032
2012 ADT	12,500
2032 ADT	17,500
2032 DHV	1925
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	13%
DESIGN SPEED	40 MPH

N

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

5/15/12
DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 36°2' 52.94"	N 36°3' 8.69"	N 36°3' 19.46"
LONGITUDE	W 94°8' 24.96"	W 94°8' 9.35"	W 94°7' 6.46"

GROSS LENGTH OF PROJECT		8080.00	FEET	OR	1.530	MILES
NET " " ROADWAY		6769.08	"	"	1.282	"
NET " " BRIDGES		32.92	"	"	0.006	"
NET " " PROJECT		6802.00	"	"	1.288	"

P.E. 040486
NON-PART.

r040578.dgn/title sheet
9-17-10

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.		040578	2	216

(2) INDEX, GOV. SPECIFICATIONS, & GEN. NOTES

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65 - 66	SUMMARY OF QUANTITIES AND REVISIONS			
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124	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)		FPC-9S	7-26-12
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NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

JOB 040578__ WARM MIX ASPHALT

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 IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
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

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__	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
105-3	CONTROL OF WORK
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
404-2	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
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
604-2	INSPECTION OF 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
715-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL PEDESTAL POLES
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 040578__	ARCHITECTURAL FINISH
JOB 040578__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 040578__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 040578__	CABINET DRAWER ASSEMBLY
JOB 040578__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 040578__	EDGE CARD VIDEO PROCESSOR
JOB 040578__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 040578__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 040578__	EXTENSION FOR PIPE CULVERTS
JOB 040578__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 040578__	INTERNET BIDDING
JOB 040578__	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 040578__	LED TRAFFIC SIGNAL HEAD
JOB 040578__	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 040578__	MAINTENANCE OF TRAFFIC
JOB 040578__	MAINTENANCE OF PEDESTRIAN TRAFFIC
JOB 040578__	NESTING SITES OF MIGRATORY BIRDS
JOB 040578__	PARTNERING REQUIREMENTS
JOB 040578__	PLASTIC PIPE
JOB 040578__	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 040578__	SERVICE POINT ASSEMBLY
JOB 040578__	SITE USE (A+C METHOD)
JOB 040578__	SOIL STABILIZATION
JOB 040578__	STORM WATER POLLUTION PREVENTION PLAN
JOB 040578__	STREET NAME SIGN
JOB 040578__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 040578__	SYSTEM LOCAL CONTROLLER
JOB 040578__	TEXTURED COATING FINISH
JOB 040578__	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)
JOB 040578__	UTILITY ADJUSTMENTS
JOB 040578__	VALUE ENGINEERING
JOB 040578__	VIDEO DETECTOR (COLOR)
JOB 040578__	VIDEO DETECTOR ROTATION
JOB 040578__	WARM MIX ASPHALT

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 THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

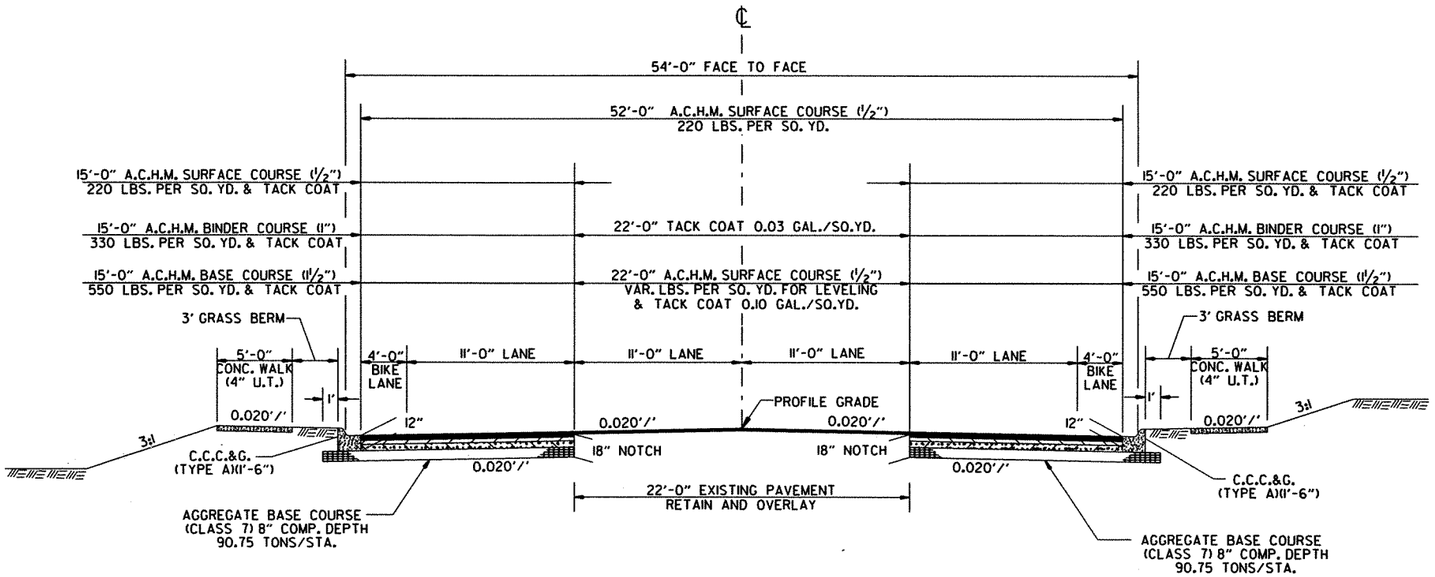
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8/10/12

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3-16-11

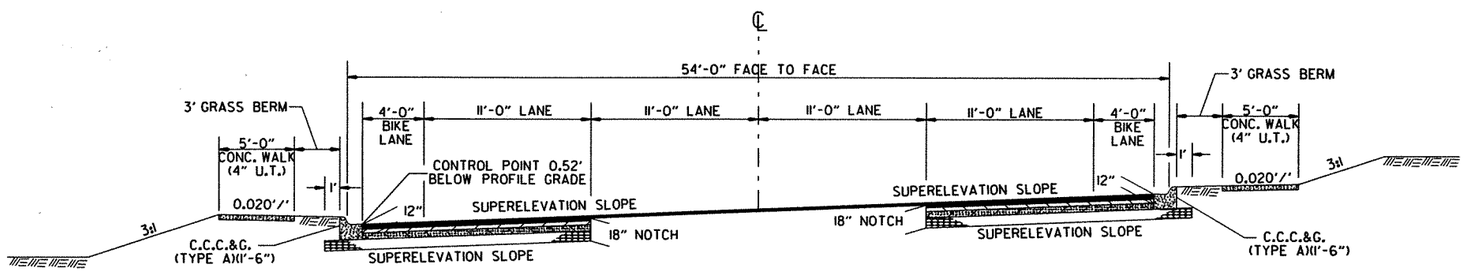
INDEX, GOVERNING SPECIFICATIONS, AND GENERAL NOTES

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				6	ARK.			
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(2) TYPICAL SECTIONS OF IMPROVEMENT



HWY. 16 4 LANE NOTCH AND WIDEN



HWY. 16 4 LANE NOTCH AND WIDEN SUPERELEVATION

NOTES:

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

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

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

REFER TO PLAN SHEETS FOR SIDEWALK LOCATIONS.

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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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5/14/12

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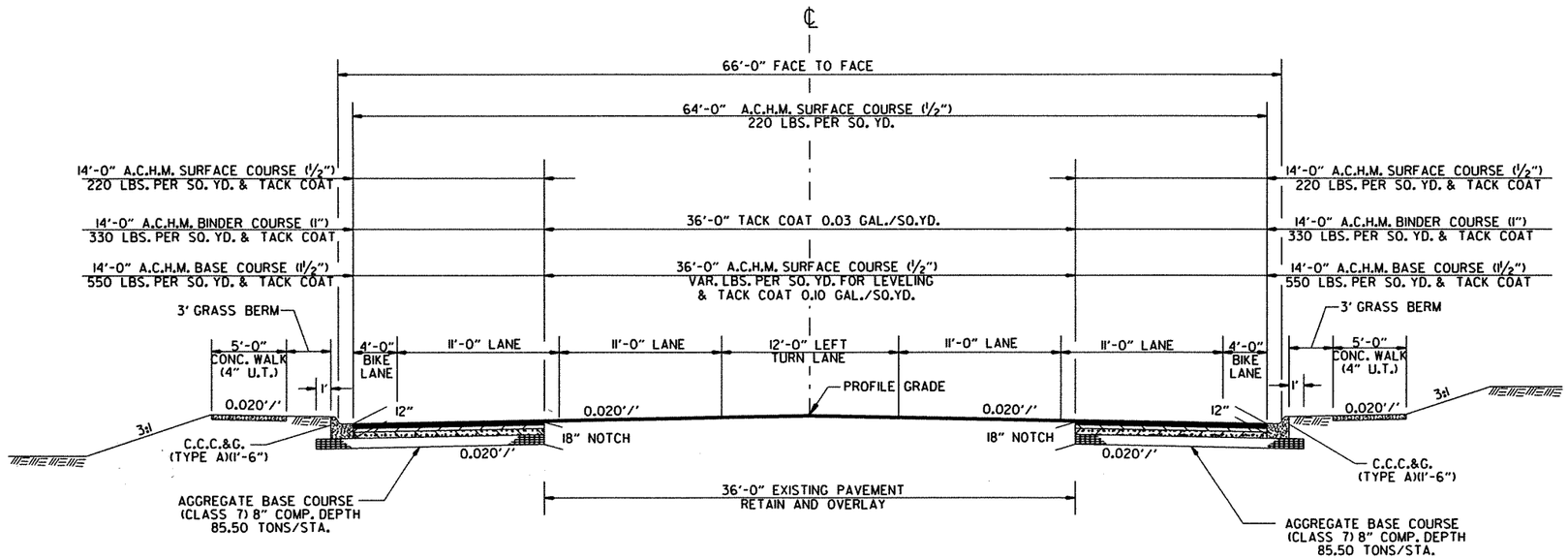
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TYPICAL SECTIONS OF IMPROVEMENT

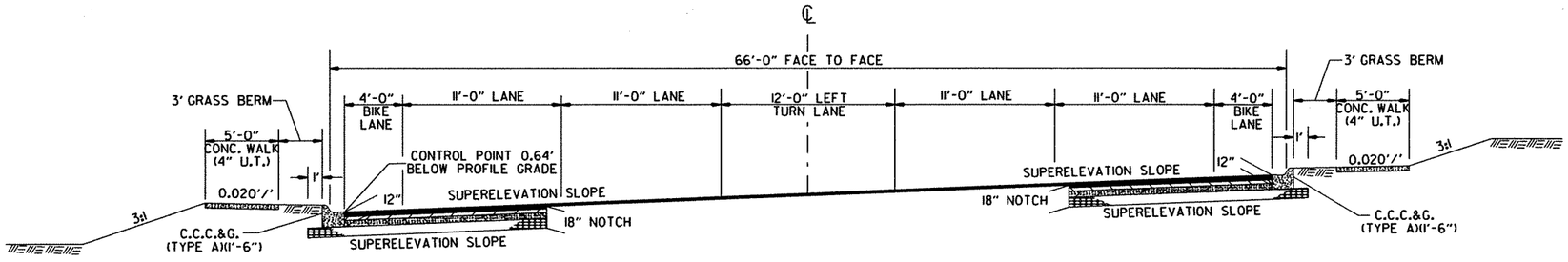
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5/14/12



HWY. 16 5 LANE NOTCH AND WIDEN



HWY. 16 5 LANE NOTCH AND WIDEN SUPERELEVATION

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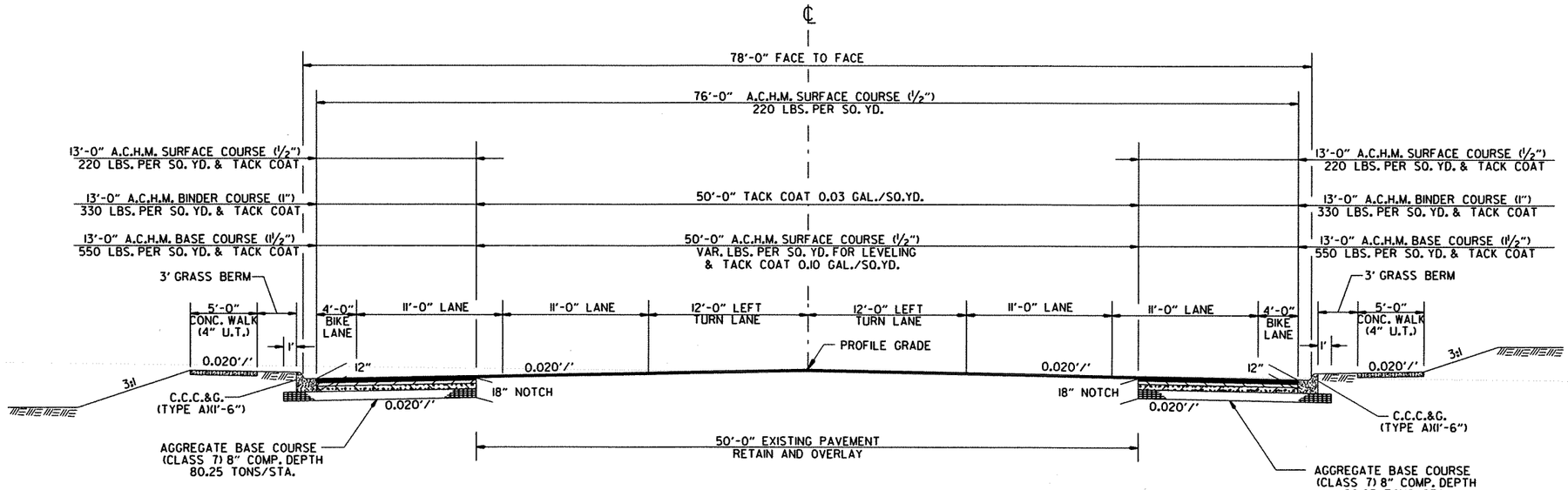
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TYPICAL SECTIONS OF IMPROVEMENT

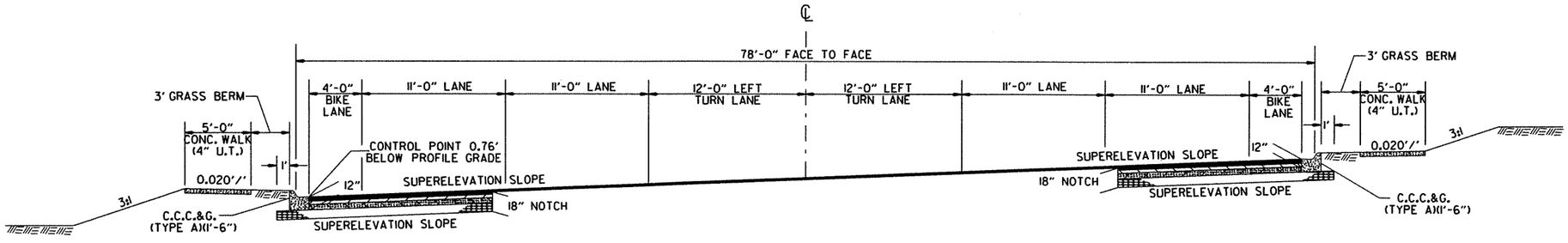
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12



HWY. 16 6 LANE NOTCH AND WIDEN



HWY. 16 6 LANE NOTCH AND WIDEN SUPERELEVATION

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I-24-11

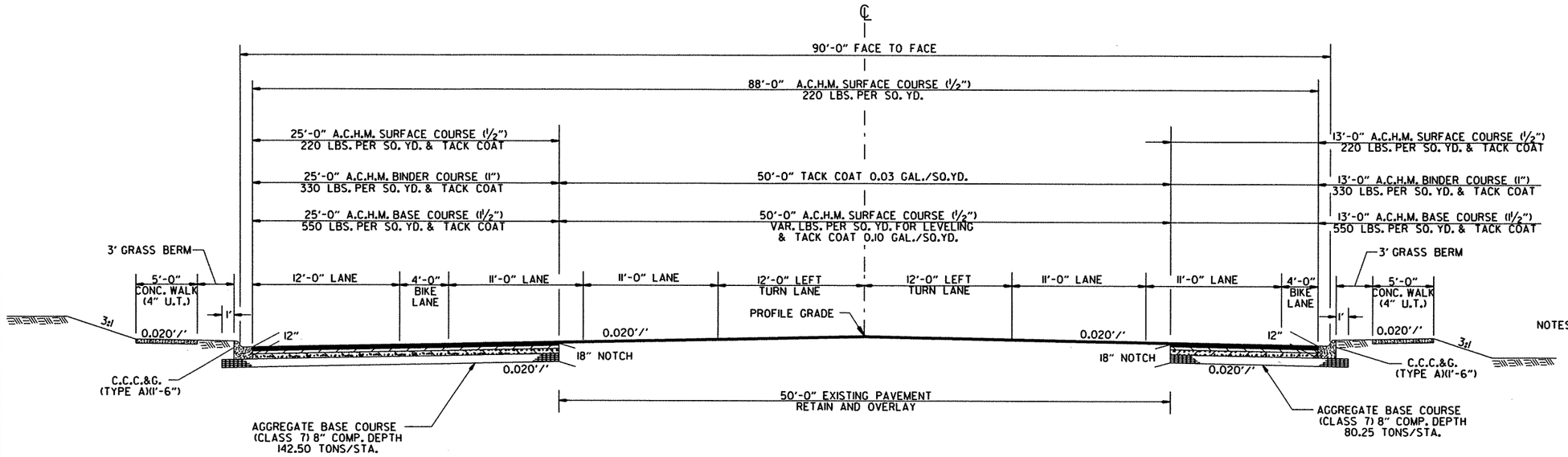
TYPICAL SECTIONS OF IMPROVEMENT

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.		040578	6	216

(2) TYPICAL SECTIONS OF IMPROVEMENT

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

5-14-12



HWY. 16 7 LANE NOTCH AND WIDEN

NOTES:

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

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

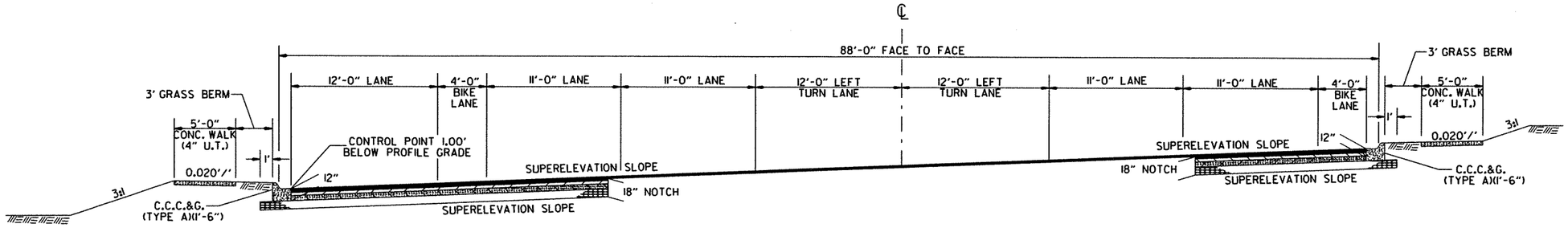
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HWY. 16 7 LANE NOTCH AND WIDEN SUPERELEVATION

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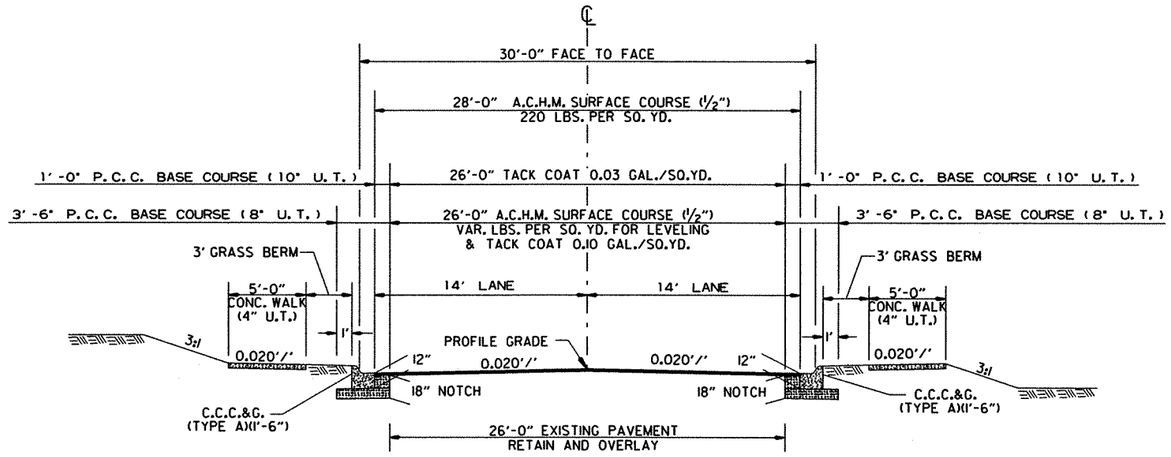
1-24-11

TYPICAL SECTIONS OF IMPROVEMENT

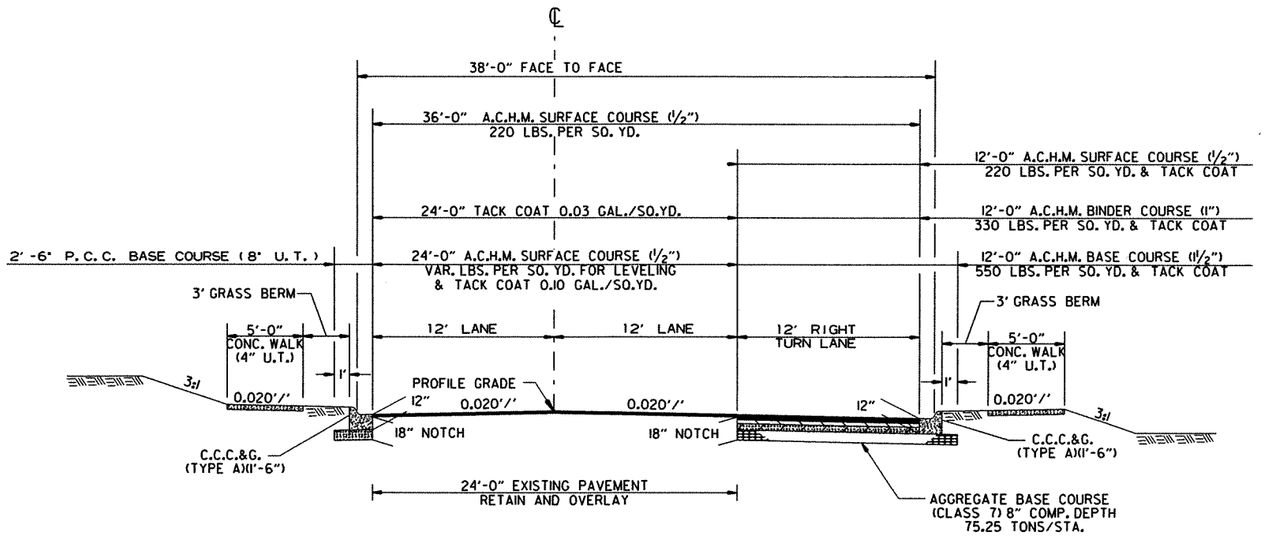
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				6	ARK.			
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGETT
5-14-12



CURTIS AVE. 2 LANE NOTCH AND WIDEN



ARMSTRONG AVE. 3 LANE NOTCH AND WIDEN

NOTES:

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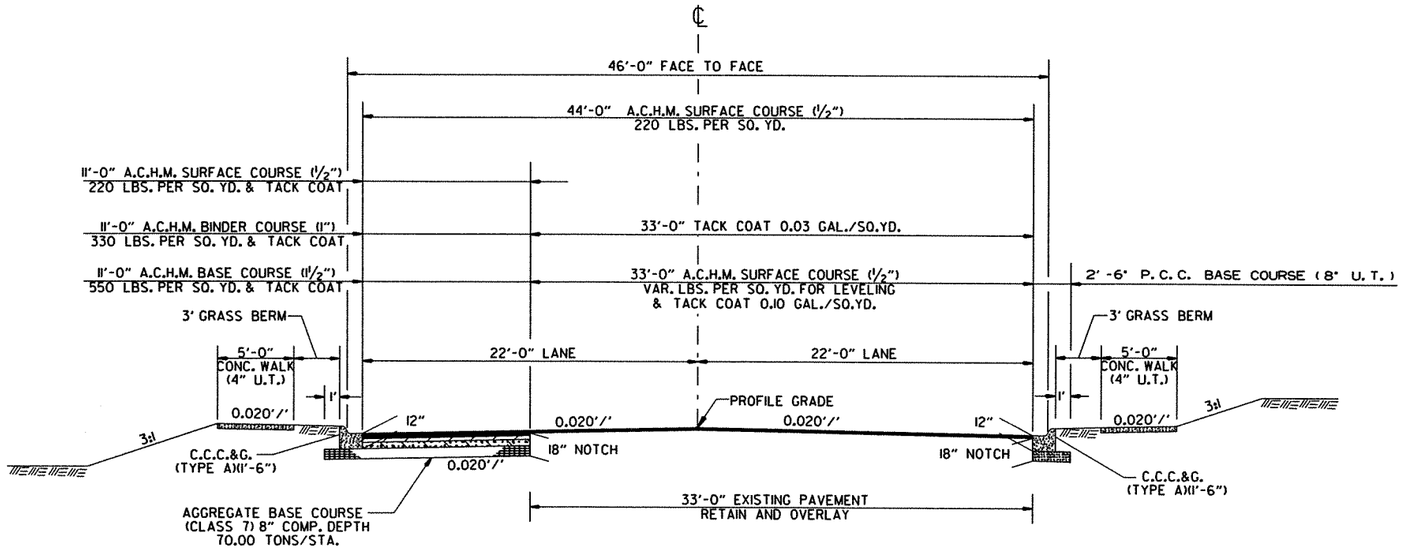
1-24-11

TYPICAL SECTIONS OF IMPROVEMENT

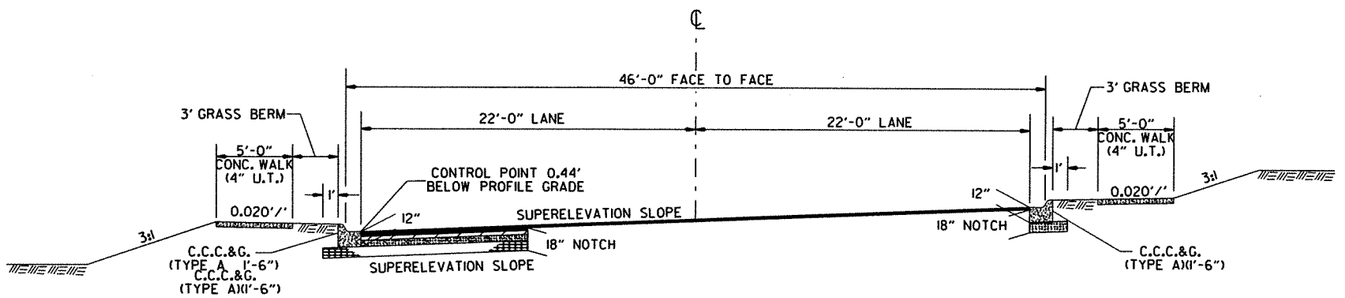
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				6	ARK.			
				JOB NO.		040578	8	216

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
M. 7605
MICHAEL D. FUGETT
5-14-12



HAPPY HOLLOW RD. 2 LANE NOTCH AND WIDEN



HAPPY HOLLOW RD. 2 LANE NOTCH AND WIDEN SUPERELEVATION

NOTES:

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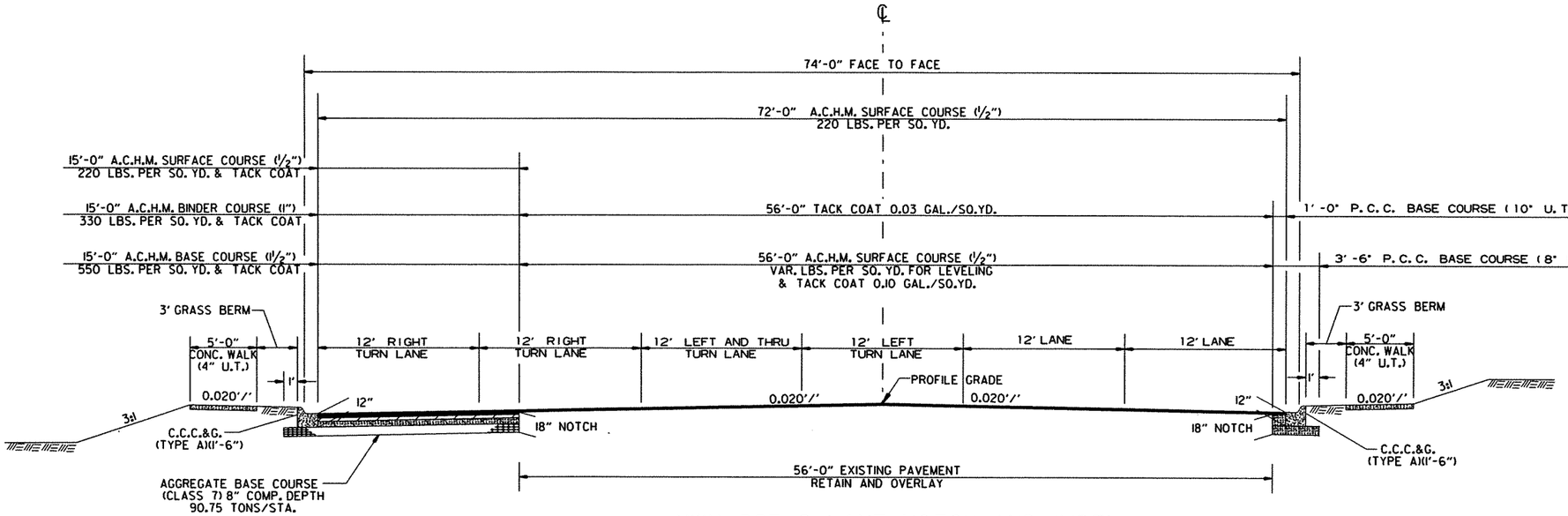
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1-24-11

TYPICAL SECTIONS OF IMPROVEMENT

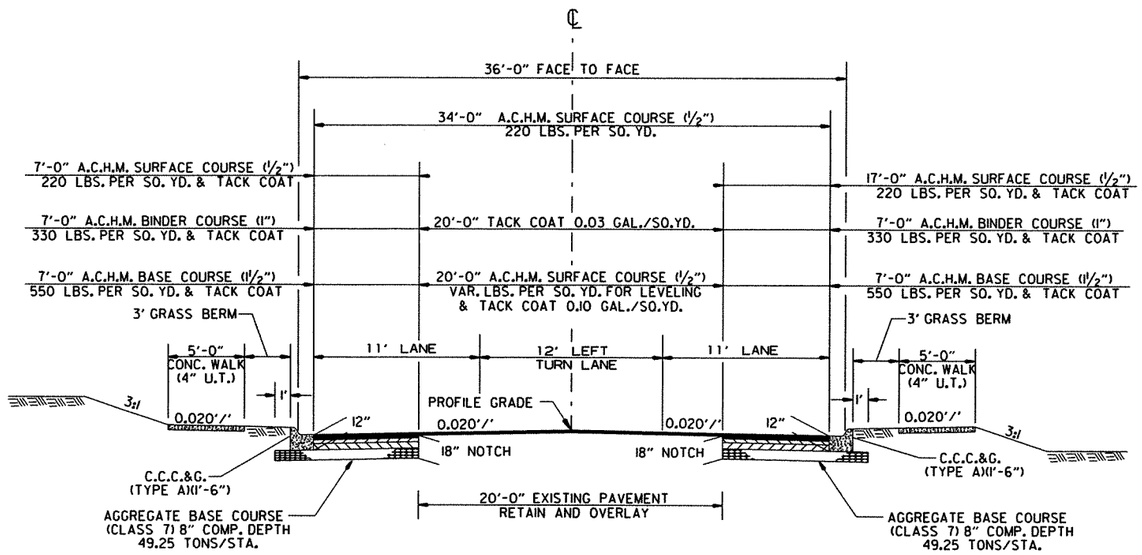
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				JOB NO.		040578	9	216

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12



HWY. 265 6 LANE NOTCH AND WIDEN



STONE BRIDGE RD. 3 LANE NOTCH AND WIDEN

NOTES:

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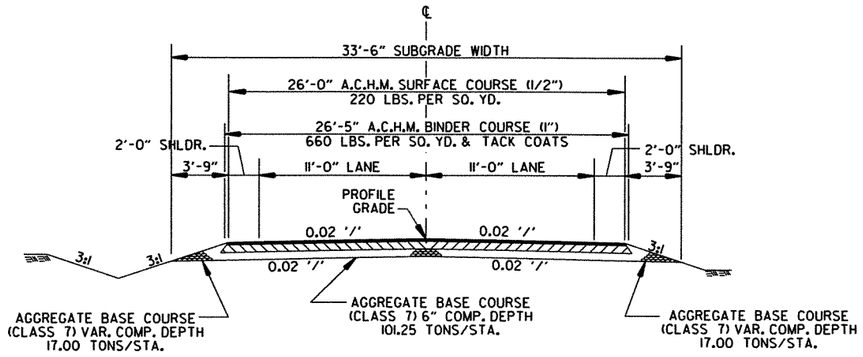
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TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7608
MICHAEL D. FUGETT
5-14-12

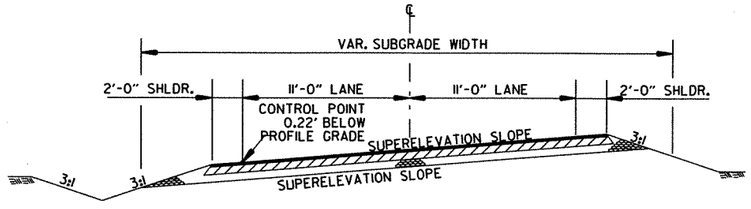


DETOUR ROAD - OPEN SHOULDER

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SUPERELEVATION - DETOUR ROAD - OPEN SHOULDER

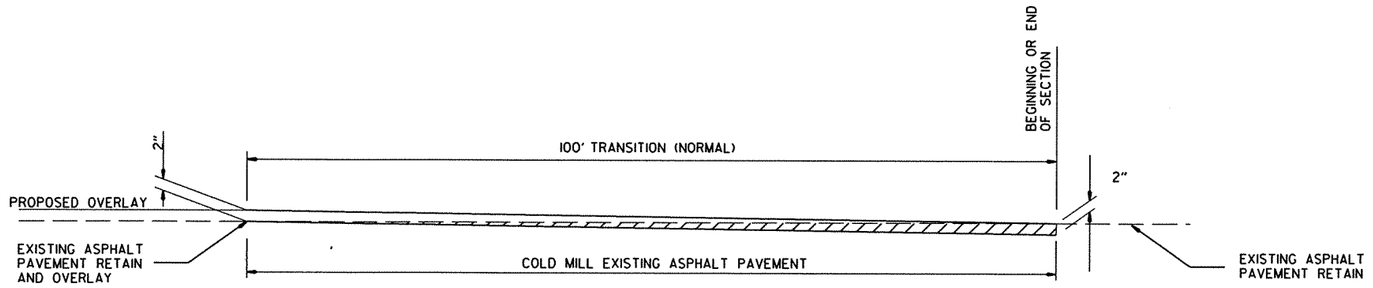
NOTE: PAVEMENT STRUCTURE IS SAME AS SHOWN ABOVE.

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I-24-II

TYPICAL SECTIONS OF IMPROVEMENT

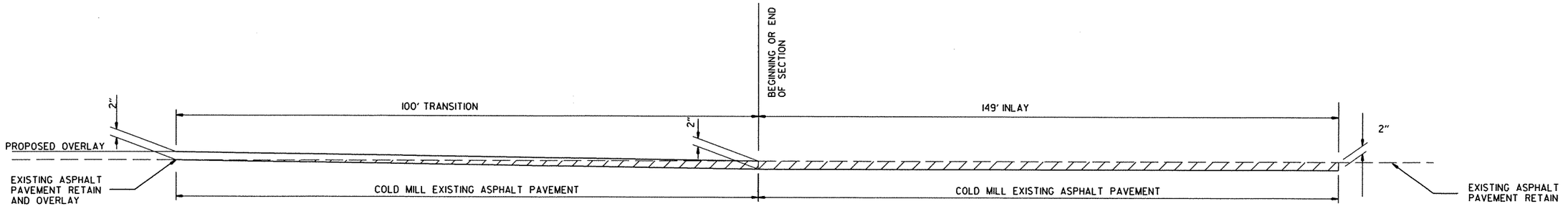
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				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
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NO. 7605
MICHAEL D. FUGETT
5-14-12



DETAIL FOR TRANSITIONS

SEE PLANS FOR SIDE ROAD TRANSITION LENGTHS



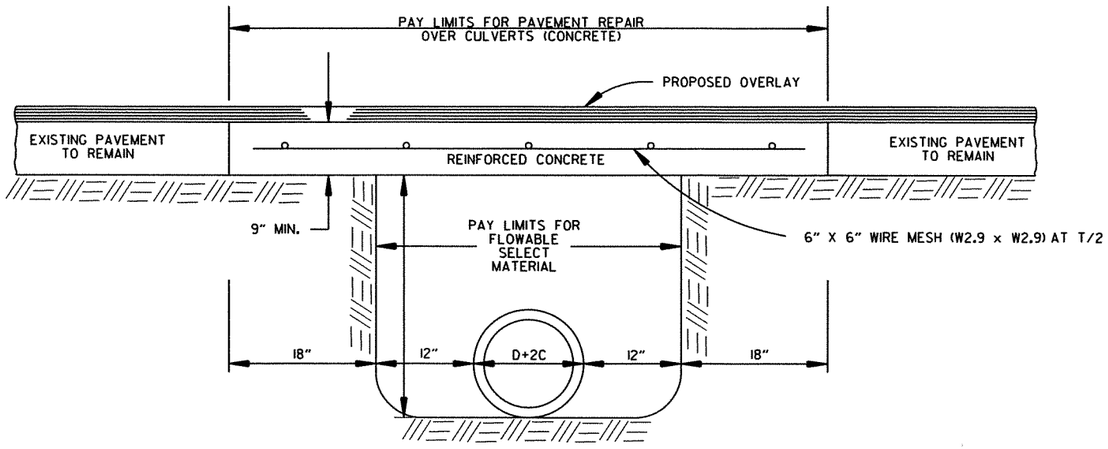
DETAIL FOR TRANSITION AND INLAY

STA. 610+64 TO STA. 613+13

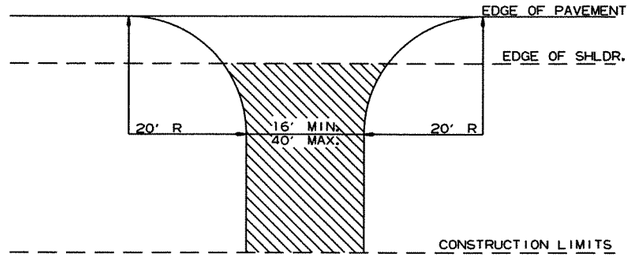
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(2) SPECIAL DETAILS

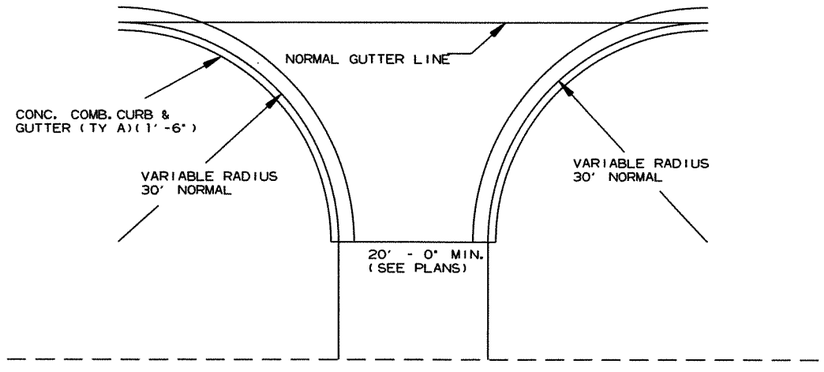


PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



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

DETAIL FOR DRIVEWAY TURNOUTS
(ARTERIALS)



DETAIL OF TURNOUTS ASPHALT STREETS
CURB & GUTTER SECTION

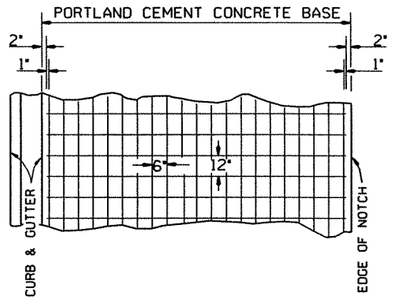
NOTE:
PAVEMENT STRUCTURE TO BE SAME AS MAIN LANES

STATE OF ARKANSAS
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(2) SPECIAL DETAILS

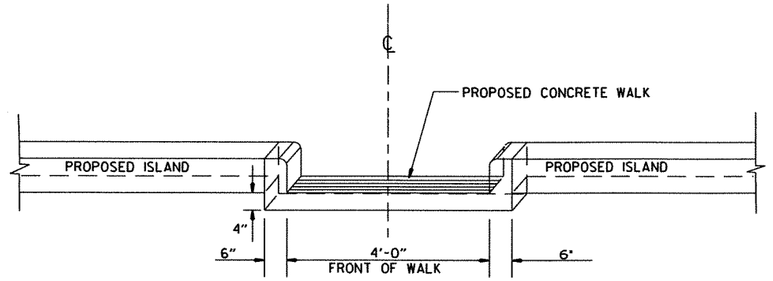


DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

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 THEREFOR WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T.)

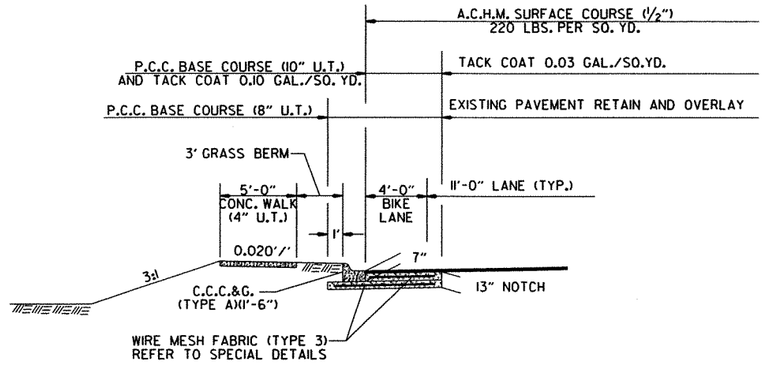


CONCRETE WALK THRU ISLAND

FACE SHALL MEET REQUIREMENTS OF TYPE B CURB

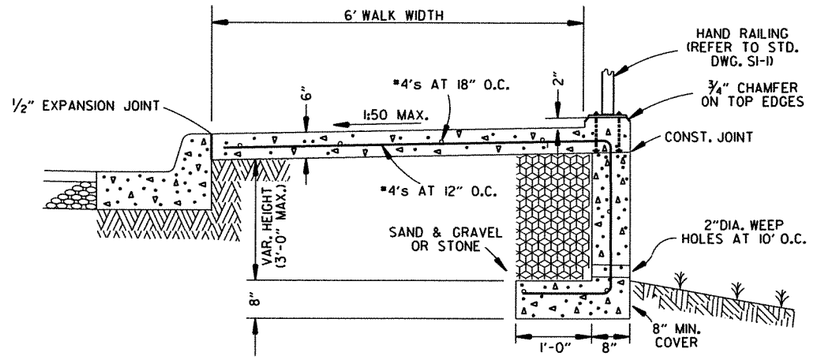
NOTE: CONCRETE WALK THRU ISLAND SHALL BE POURED MONOLITHICALLY. ALL MATERIALS REQUIRED TO CONSTRUCT CONCRETE WALK THRU ISLAND SHALL BE INCLUDED IN THE PRICE BID FOR CONCRETE ISLANDS

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5-14-12



P.C.C. BASE WIDENING DETAIL

P.C.C. BASE WIDENING TO BE USED AS SHOWN ON THE PLANS.



CONCRETE WALK (TYPE SPECIAL) DETAILS

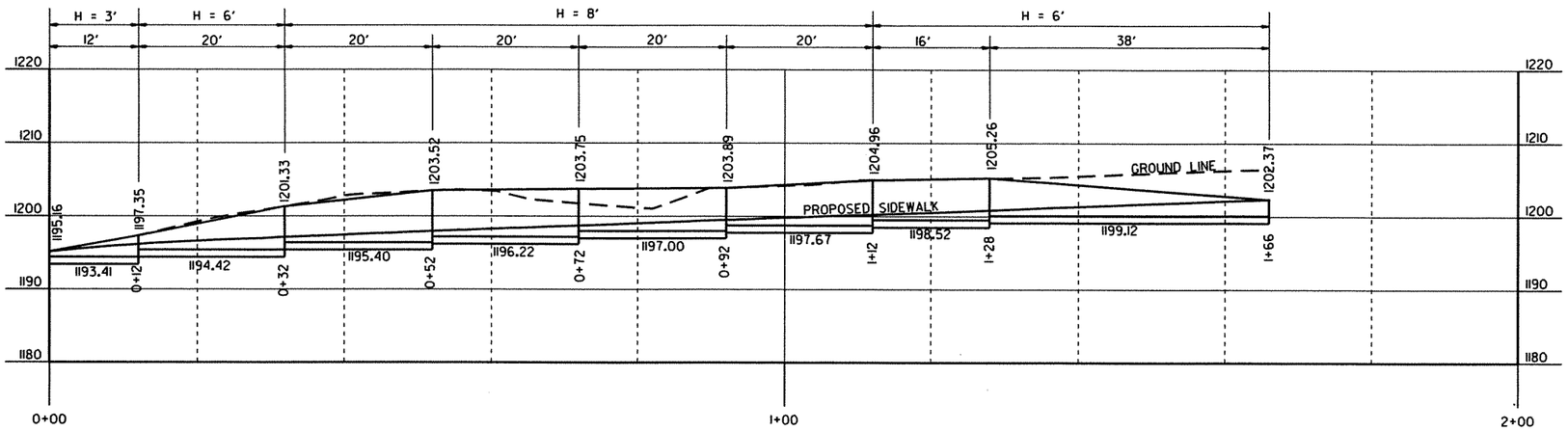
NOTE: PAYMENT FOR THE REINF. STEEL, EXPANSION JOINT, WEEP HOLES, AND ADDL. CONCRETE REQUIRED FOR THE RETAINING WALL TO BE INCLUDED IN THE UNIT PRICE BID PER SQ. YD. FOR CONCRETE WALKS (SPECIAL).

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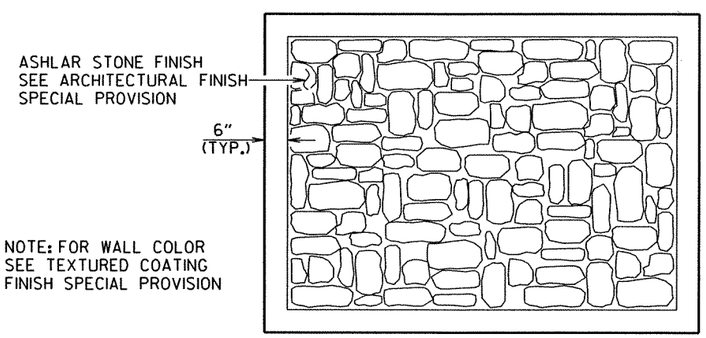
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
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No. 7605
MICHAEL D. FUGETT
5/14/12



ELEVATION OF RETAINING WALL @ HWY. 16 AND HWY. 265



ASHLAR STONE FINISH DETAIL

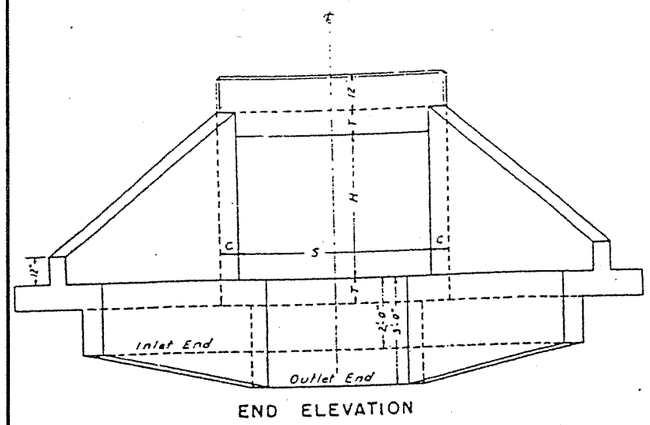
CLASS S CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GRADE 60)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	ARCHITECTURAL FINISH	ARCHITECTURAL FINISH
CU. YD.	POUND	CU. YD.	SQ. FT.	SQ. YD.
FOR INFORMATION ONLY				
57.85	4496.63	253.98	605	67

NOTE: REFER TO STANDARD DRAWING NO. SI-1 FOR ADDITIONAL RETAINING WALL DETAILS.

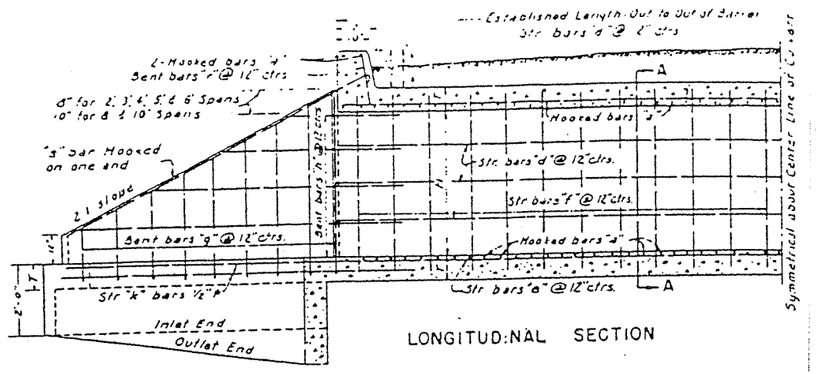
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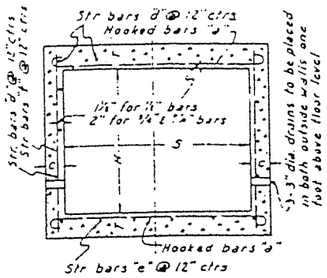
(2) SPECIAL DETAILS



END ELEVATION



LONGITUDINAL SECTION

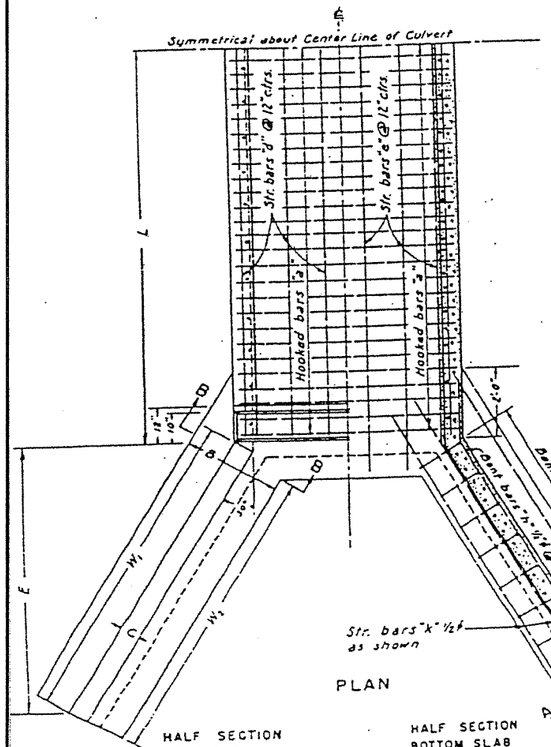


SECTION A - A

DIMENSIONS & QUANTITIES

SPAN	HEIGHT	DATA PER SPAN 3/4 FT	MAXIMUM DEPTH OF COVER	THICKNESS OF FOOTING SLAB	THICKNESS OF SIDEWALLS AND WING WALLS	WIDTH OF FOOTING	LENGTH OF FOOTING	LENGTH OF WING WALLS	LENGTH OF BARREL FROM ℄ OF ROADWAY	CONCRETE CU YD: HEADWALLS WINGWALLS & FOOTING PER LINEAL FT OF BARREL	STEEL LB.: HEADWALLS WINGWALLS & FOOTING	STEEL LB.: PER LINEAL FT OF BARREL	STEEL LB.: ADD STEEL FOR LAPS
S	H	A	D	T	C	B	W_2	W_1	E				
2	2	4	10'-0"	6¾	6	2'-6"	3'-0¾	3'-10"	3'-4"	2.38	194	155	11.91	8.9
	2	6			6		3'-0¾	3'-10"	3'-4"	2.63	247	164	12.77	11.1
3	2	6	10'-0"	7"	6	2'-6"	5'-10¾"	6'-2"	5'-4"	4.10	284	243	25.43	13.4
	3	9			6		5'-10¾"	6'-2"	5'-4"	4.10	284	243	25.43	13.4
4	2	8	10'-0"	7¾"	6	2'-6"	3'-10¾"	3'-10"	3'-4"	2.90	306	173	28.28	13.4
	3	12			6		5'-10¾"	6'-2"	5'-4"	4.36	343	251	30.96	15.6
	4	16			6		6'-7"	6'-3¾"	7'-4"	5.98	380	333	33.60	17.8
5	2	10	10'-0"	8"	6	2'-6"	3'-0¾"	3'-10"	3'-4"	3.15	370	189	34.56	15.6
	3	15			6		5'-10¾"	6'-2"	5'-2"	4.60	407	267	37.22	11.8
	4	20			6		8'-2"	8'-3¾"	7'-4"	6.29	444	370	38.89	20.0
	5	25			7	2'-9"	10'-8"	10'-9¾"	9'-4"	6.78	521	478	42.55	22.3
6	3	18	10'-0"	8¾"	6	2'-6"	5'-10¾"	6'-2"	5'-4"	4.94	478	278	41.88	20.0
	4	24			6		8'-2"	8'-3¾"	7'-4"	6.61	515	383	44.54	22.3
	5	30			7	2'-9"	10'-8"	10'-9¾"	9'-4"	9.14	592	492	47.20	24.5
	6	36			7	3'-0"	13'-1"	13'-1"	11'-4"	11.58	635	611	49.56	26.7
8	3	24	5'-0"	10¾"	7	2'-7"	6'-3¾"	6'-4¾"	5'-8"	6.18	724	336	60.81	24.5
	4	32			7	2'-7"	8'-5¾"	8'-10¾"	7'-8"	8.23	767	429	63.47	26.7
	5	40			7	2'-9"	11'-0¾"	11'-2"	9'-8"	10.51	810	536	66.13	28.9
	6	48			7	3'-0"	13'-5¾"	13'-5¾"	11'-8"	13.06	853	673	68.80	31.2
	7	56			7	3'-4"	16'-0"	15'-9¾"	13'-8"	16.03	897	976	71.46	33.4
	8	64			8	3'-10"	18'-8"	18'-1"	15'-8"	20.69	1,000	1168	74.81	35.6
10	4	40	5'-0"	11¾"	7	2'-7"	6'-3¾"	6'-10¾"	7'-8"	8.91	943	505	90.62	31.2
	5	50			7	2'-9"	11'-0¾"	11'-2"	9'-8"	11.33	1,026	611	93.28	33.4
	6	60			7	3'-0"	13'-5¾"	13'-5¾"	11'-8"	13.99	1,067	748	95.94	35.6
	7	70			7	3'-4"	16'-0"	15'-9¾"	13'-8"	17.27	1,112	1060	98.60	37.9
	8	80			8	3'-10"	18'-8"	18'-1"	15'-8"	21.88	1,217	1253	101.26	40.1
	9	90			9	4'-3"	21'-2"	20'-6¾"	17'-8"	27.55	1,334	1740	111.86	42.3
	10	100			10	4'-5"	23'-9¾"	22'-8¾"	19'-8"	34.76	1,463	2181	115.27	44.2

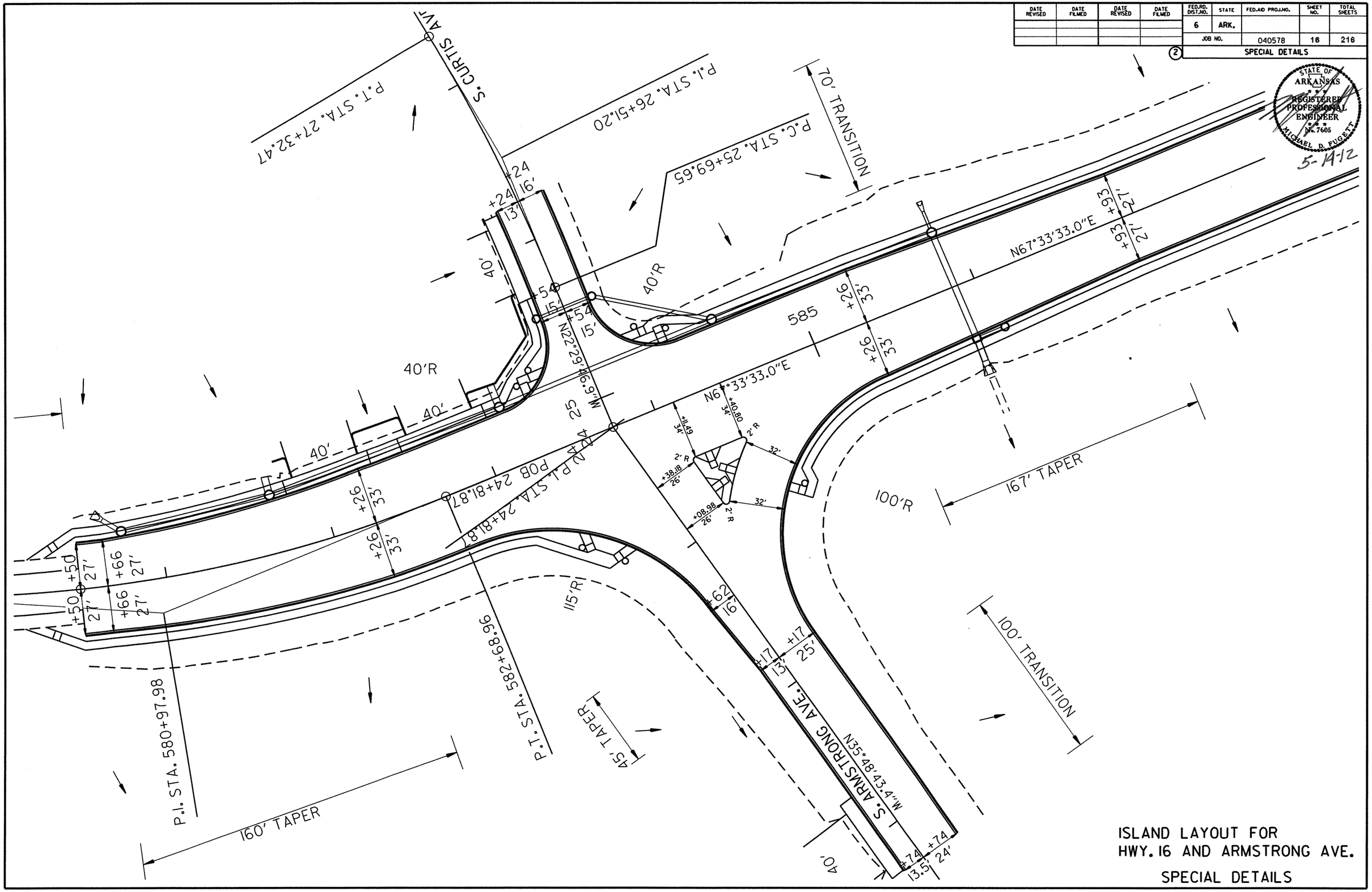
LAP NOTE:
In computing quantities of steel from the above table add one lap for culverts up to 50' in length and one lap for each additional 25' in length.


℄
Symmetrical about Center Line of Culvert
Str bars "d" @ 12" ctrs
Str bars "a" @ 12" ctrs
Hooked bars "a"
Hooked bars "s"
L
H
B
B
B
C
C
W1
W2
E
Bent bars "h" ½" ϕ @ 12" ctrs
Bent bars "g" ½" ϕ @ 12" ctrs
Str bars "k" ½" ϕ as shown
A
A
12"
12"
12"

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.		040578	18	216

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12



ISLAND LAYOUT FOR
HWY. 16 AND ARMSTRONG AVE.

SPECIAL DETAILS

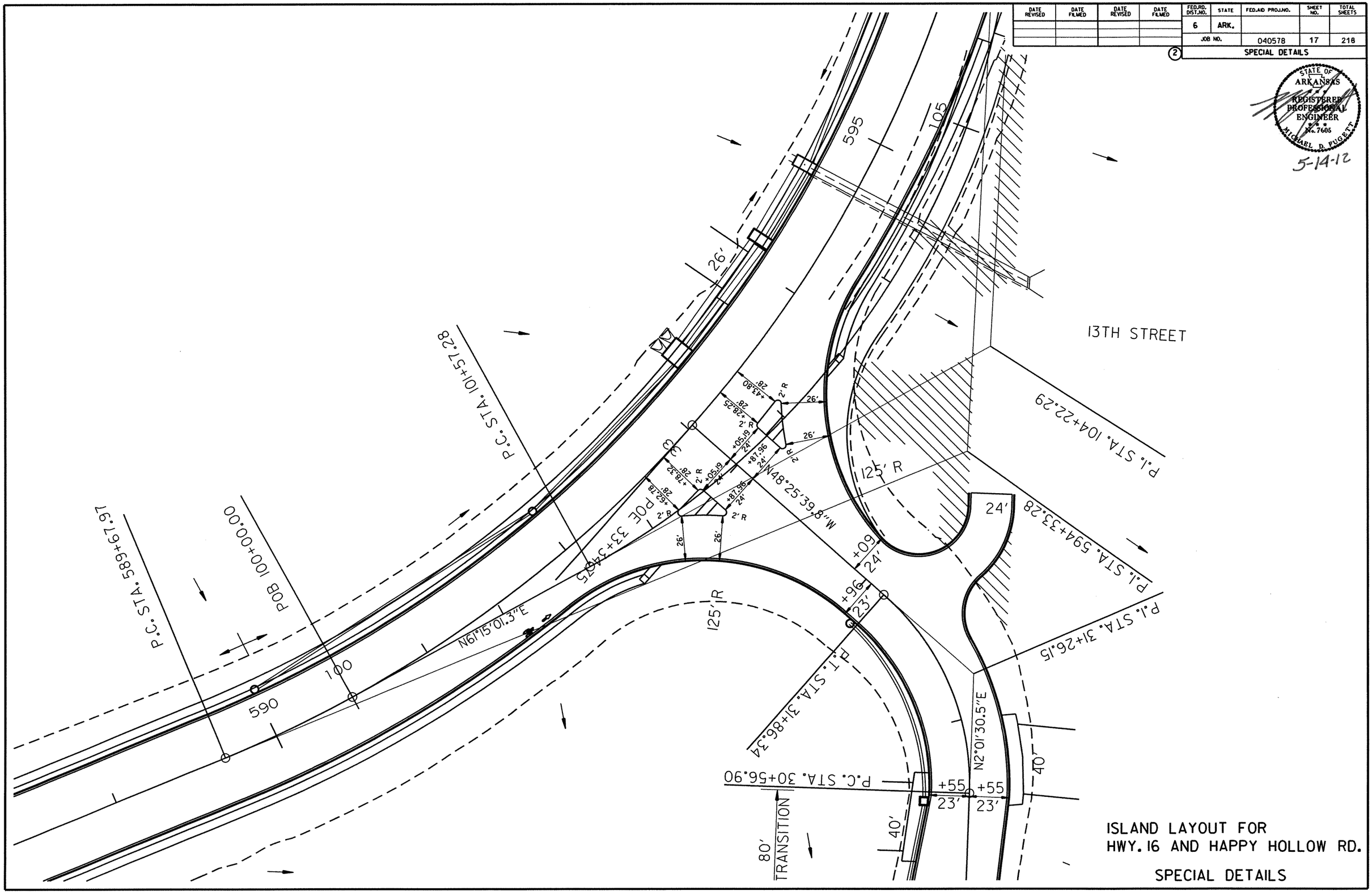
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1-25-11

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.		040578	17	218

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12



ISLAND LAYOUT FOR
HWY. 16 AND HAPPY HOLLOW RD.

SPECIAL DETAILS

r040517.dgn
1-25-11

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.		040578	18	216

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

P.T. STA. 52+74.70
P.C. STA. 50+74.70
P.I. STA. 51+74.73
P.C. STA. 632+35.65
P.I. STA. 634+60.14
P.T. STA. 636+83.70
P.O.B. 50+00.00
265
16'
40'
50' R
110' R
+29.57
44'
+18.18
31'
29.5'
2' R
+83.16
20'
+39.86
20'
+74.98
41'
+45.98
41'
N 9°55'55.6" W
635
640
+30
41'
+30
39'
+30
39'
+30
41'
+51
51'
+51
39'
+51
51'
+51
39'
26'
40'
40'
38'
N75°56'54.0"E

ISLAND LAYOUT FOR
HWY. 16 AND HWY. 265
SPECIAL DETAILS

r040517.dgn
1-25-11

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.		040578	19	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12

STA. 580+50
BEGIN JOB 040578
LOG MILE 1.900

STA. 580+50 - STA. 584+10
INSTALL E-11 = 505 LIN. FT.

STA. 584+54 - STA. 585+00
INSTALL E-11 = 255 LIN. FT.

- (E-5) SAND BAG DITCH CHECK
- (E-6) ROCK DITCH CHECK
- (E-7) DROP INLET SILT FENCE
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

DATE OF REVISION	REVISION

9-21-10 r040578.dgn

TEMPORARY EROSION CONTROL DETAILS STAGE I

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.		040578	20	216

(2) TEMPORARY EROSION CONTROL DETAILS

E-5 SAND BAG DITCH CHECK
E-6 ROCK DITCH CHECK
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE
E-14 SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 599+35
BEGIN JOB EXCEPTION

STA. 585+00 - STA. 592+72
INSTALL E-11 = 1010 LIN. FT.

STA. 585+88 INSTALL
E-7 = 20 LIN. FT.

STA. 586+05 INSTALL
E-7 = 25 LIN. FT.

STA. 29+91 INSTALL
E-7 = 25 LIN. FT.

STA. 30+51 INSTALL
E-7 = 22 LIN. FT.

STA. 31+90 INSTALL
E-7 = 25 LIN. FT.

DATE OF REVISION	REVISION

r040578.dgn
9-21-10

TEMPORARY EROSION CONTROL DETAILS STAGE I

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.		040578	21	216

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECK
(E-6) ROCK DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 612+13
END JOB EXCEPTION

149' INLAY
100' TRANSITION
RIDGE VIEW BAPTIST CHURCH
SIGN
T.C.E.
RAY AVE.
LONG AGO ANTIQUES
S. DOCKERY LN.
S. CHERRY LN.
PAVED PARKING
CONCRETE
VACANT
B/K
P.C. STA. 612+15.88
P.T. STA. 612+45.60
P.I. STA. 618+73.47
P.I. STA. 622+80.41
S69°02'22.3"E
S89°36'36.1"E
STA. 612+12 - STA. 615+95
INSTALL E-11 = 395 LIN. FT.
STA. 619+35 INSTALL
E-7 = 25 LIN. FT.
STA. 616+38 - STA. 623+28
INSTALL E-11 = 865 LIN. FT.
STA. 624+48 - STA. 625+25
INSTALL E-11 = 85 LIN. FT.

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS STAGE I

9-21-10 r040578.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	22	216

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECK
(E-6) ROCK DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

N

STA. 626+00 INSTALL
E-7 = 25 LIN. FT.

STA. 629+46 INSTALL
E-7 = 34 LIN. FT.

STA. 630+35 INSTALL
E-7 = 34 LIN. FT.

STA. 625+65 - STA. 632+93
INSTALL E-11 = 845 LIN. FT.

STA. 634+98 - STA. 640+00
INSTALL E-11 = 520 LIN. FT.

STA. 639+37 INSTALL
E-7 = 25 LIN. FT.

DATE OF REVISION	REVISION

9-21-10 r0405781.dgn

TEMPORARY EROSION CONTROL DETAILS STAGE I

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.		040578	23	216

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECK
(E-6) ROCK DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 641+00 INSTALL E-7 = 25 LIN. FT.

STA. 644+00 INSTALL E-7 = 25 LIN. FT.

STA. 647+00 INSTALL E-7 = 25 LIN. FT.

STA. 652+79 INSTALL E-7 = 22 LIN. FT.

STA. 649+92 - STA. 655+00 INSTALL E-11 = 640 LIN. FT.

STA. 640+00 - STA. 649+10 INSTALL E-11 = 1100 LIN. FT.

DATE OF REVISION	REVISION

r040578.dgn
9-21-10

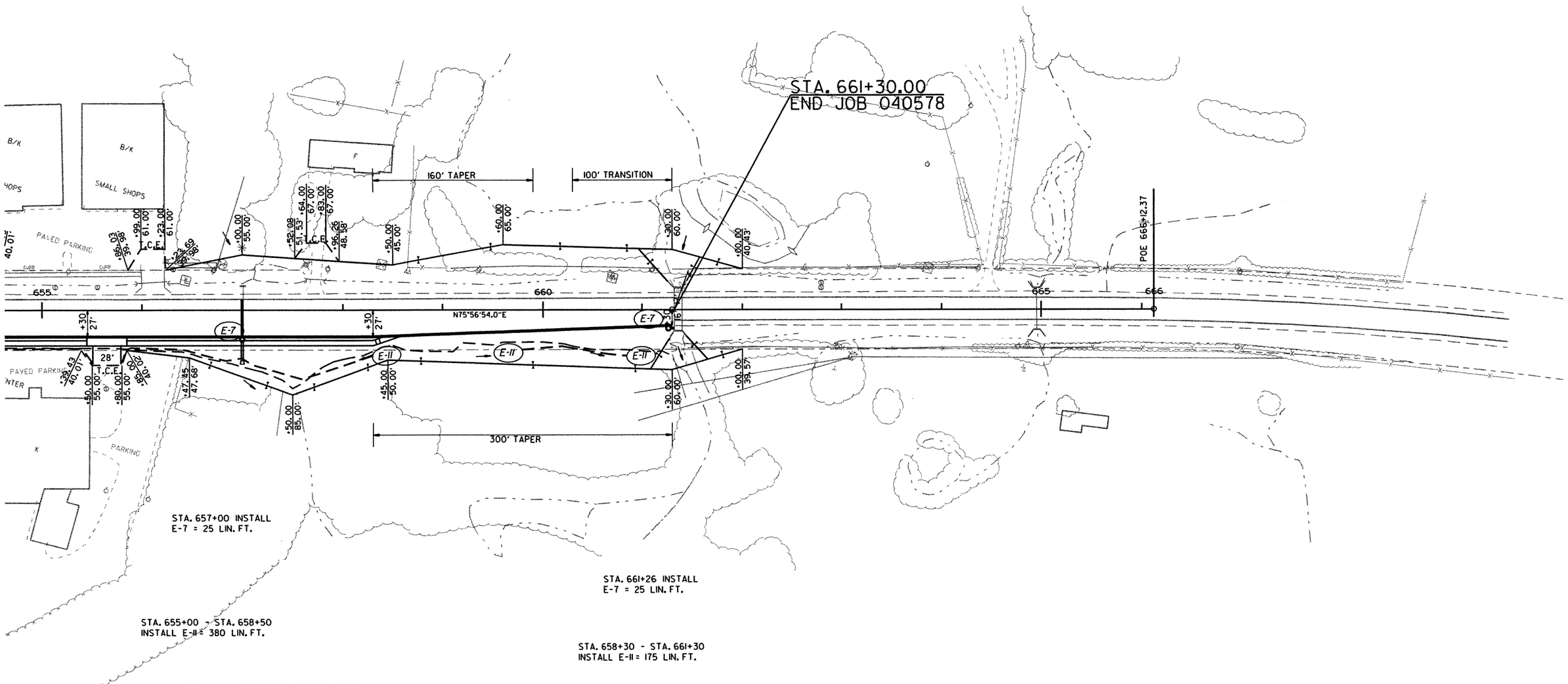
TEMPORARY EROSION CONTROL DETAILS STAGE I

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.		040578	24	216

(2) TEMPORARY EROSION CONTROL DETAILS

E-5 SAND BAG DITCH CHECK
E-6 ROCK DITCH CHECK
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE
E-14 SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12



DATE OF REVISION	REVISION

r040578.dgn
9-21-10

TEMPORARY EROSION CONTROL DETAILS STAGE I

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.		040578	25	216

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECK
(E-6) ROCK DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12

STA. 599+35
BEGIN JOB EXCEPTION

STA. 592+34 - STA. 598+00
INSTALL E-11 = 925 LIN. FT.

DATE OF REVISION	REVISION

r040578.dgn
9-21-10

TEMPORARY EROSION CONTROL DETAILS STAGE IA

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.		040578	26	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGGETT
5-14-12

STA. 580+50 - STA. 581+78
INSTALL E-11 = 125 LIN. FT.

STA. 580+78 INSTALL
E-7 = 30 LIN. FT.

STA. 581+70 INSTALL
E-7 = 30 LIN. FT.

STA. 583+17 INSTALL
E-7 = 30 LIN. FT.

STA. 25+57 INSTALL
E-7 = 25 LIN. FT.

STA. 584+50 INSTALL
E-7 = 30 LIN. FT.

STA. 580+50
BEGIN JOB 040578
LOG MILE 1.900

E-5	SAND BAG DITCH CHECK
E-6	ROCK DITCH CHECK
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
E-14	SEDIMENT BASIN

DATE OF REVISION	REVISION

9-21-10 r040578.dgn

TEMPORARY EROSION CONTROL DETAILS STAGE 2

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.		040578	27	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

STA. 585+88 INSTALL E-7 = 30 LIN. FT.

STA. 587+74 - STA. 593+75 INSTALL E-11 = 580 LIN. FT.

STA. 590+00 INSTALL E-7 = 25 LIN. FT.

STA. 592+00 INSTALL E-7 = 25 LIN. FT.

STA. 593+27 INSTALL E-7 = 56 LIN. FT.

STA. 594+16 INSTALL E-7 = 42 LIN. FT.

STA. 594+70 INSTALL E-7 = 42 LIN. FT.

STA. 596+44 - STA. 599+36 INSTALL E-11 = 370 LIN. FT.

STA. 596+60 INSTALL E-7 = 25 LIN. FT.

STA. 598+50 INSTALL E-7 = 25 LIN. FT.

STA. 599+35 INSTALL E-7 = 25 LIN. FT.

STA. 599+35
BEGIN JOB EXCEPTION

P.I. STA. 26+51.20

P.C. STA. 25+69.65

70' TRANSITION

167' TAPER

N67°33'33.0"E

P.C. STA. 589+67.97

POB 100+00.00

P.C. STA. 101+54.28

N61°15'01.3"E

POE 33+34.25

N48°25'39.6"W

P.I. STA. 31+86.34

80' TRANSITION

P.C. STA. 30+56.90

P.I. STA. 31+26.15

N2°10'30.5"E

POB 29+41.38

P.I. STA. 104+22.29

164' TAPER

82' TAPER

N61°15'01.3"E

HAPPY HOLLOW RD. (E)

FAYETTEVILLE FLEET OPERATIONS
PUBLIC WORKS

PAVED PARKING

WHITE RIVER WOODWORKS

YOUNG & SONS

MINI-STORAGE

25 BR APARTMENTS

SHEDS

8TH STREET

DATE OF REVISION	REVISION

- (E-5) SAND BAG DITCH CHECK
- (E-6) ROCK DITCH CHECK
- (E-7) DROP INLET SILT FENCE
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

9-21-10 r040578.dgn

TEMPORARY EROSION CONTROL DETAILS STAGE 2

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.		040578	28	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 612+13
END JOB EXCEPTION

STA. 613+35 INSTALL
E-7 = 25 LIN. FT.

STA. 615+44 INSTALL
E-7 = 30 LIN. FT.

STA. 616+35 INSTALL
E-7 = 30 LIN. FT.

STA. 616+53 INSTALL
E-7 = 22 LIN. FT.

STA. 616+60 INSTALL
E-7 = 30 LIN. FT.

STA. 616+95 INSTALL
E-7 = 30 LIN. FT.

STA. 618+00 INSTALL
E-7 = 30 LIN. FT.

STA. 619+07 INSTALL
E-7 = 24 LIN. FT.

STA. 619+35 INSTALL
E-7 = 25 LIN. FT.

STA. 622+30 INSTALL
E-7 = 25 LIN. FT.

STA. 623+45 INSTALL
E-7 = 25 LIN. FT.

149' INLA
100' TRANSITION
RIDGE VIEW BAPTIST CHURCH
T.C.E.
S. RAY AVE.
S. DOCKERY LN.
S. CHERRY LN.
LONG AGO ANTIQUES
PAVED PARKING
VACANT
B/K
CONCRETE
P.C. STA. 612+15.84
P.T. STA. 612+82.12
P.I. STA. 618+73.47
P.C. STA. 622+60.41
S89°36'36.1"E
S69°02'22.3"E

DATE OF REVISION	REVISION

E-5 SAND BAG DITCH CHECK
E-6 ROCK DITCH CHECK
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE
E-14 SEDIMENT BASIN

TEMPORARY EROSION CONTROL DETAILS STAGE 2

9-21-10 r040578.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	29	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 53+07 - STA. 55+00
INSTALL E-11 = 205 LIN. FT.

STA. 625+51 - STA. 630+18
INSTALL E-11 = 500 LIN. FT.

STA. 626+00 INSTALL
E-7 = 25 LIN. FT.

STA. 629+05 INSTALL
E-7 = 28 LIN. FT.

STA. 631+00 INSTALL
E-7 = 25 LIN. FT.

STA. 633+50 INSTALL
E-7 = 25 LIN. FT.

STA. 632+25 INSTALL
E-7 = 25 LIN. FT.

STA. 634+45 INSTALL
E-7 = 25 LIN. FT.

STA. 51+17 INSTALL
E-7 = 25 LIN. FT.

STA. 50+71 - STA. 55+00
INSTALL E-11 = 460 LIN. FT.

STA. 53+03 INSTALL
E-7 = 22 LIN. FT.

STA. 51+17 INSTALL
E-7 = 25 LIN. FT.

STA. 637+00 INSTALL
E-7 = 30 LIN. FT.

STA. 637+78 - STA. 639+06
INSTALL E-11 = 140 LIN. FT.

STA. 638+04 INSTALL
E-7 = 22 LIN. FT.

STA. 638+37 INSTALL
E-7 = 34 LIN. FT.

STA. 638+76 INSTALL
E-7 = 34 LIN. FT.

STA. 639+92 INSTALL
E-7 = 34 LIN. FT.

100' TRANSITION
180' TAPER
380' TAPER
P.C. STA. 630+00.39
P.C. STA. 632+35.65
P.I. STA. 634+60.77
P.I. STA. 636+83.70
P.C. STA. 55+45.24
P.I. STA. 51+74.73
P.I. STA. 52+74.74
P.C. STA. 50+74.70
S89°36'36.1"E
N89°23'23.8"E
N75°56'54.0"E
N°04'04.5"E
N°55'55.5"W
POB 50+00.00
CITGO
CAR WASH
PHILLIP'S 66
PAVED PARKING
PARKING
VACANT
BUILDING FOUNDATION
PORT SIDE
S. JERRY AVE.
PAVED DRAIN
ALL CURB

DATE OF REVISION	REVISION

(E-5) SAND BAG DITCH CHECK
(E-6) ROCK DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN

TEMPORARY EROSION CONTROL DETAILS STAGE 2

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9-21-10

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.		040578	30	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

STA. 641+00 INSTALL E-7 = 25 LIN. FT.

STA. 642+00 INSTALL E-7 = 25 LIN. FT.

STA. 643+19 - STA. 648+23 INSTALL E-11 = 570 LIN. FT.

STA. 644+00 INSTALL E-7 = 25 LIN. FT.

STA. 645+79 INSTALL E-7 = 25 LIN. FT.

STA. 647+00 INSTALL E-7 = 25 LIN. FT.

STA. 64+40 INSTALL E-7 = 25 LIN. FT.

STA. 650+37 - STA. 652+73 INSTALL E-11 = 322 LIN. FT.

STA. 64+40 INSTALL E-7 = 25 LIN. FT.

STA. 652+79 INSTALL E-7 = 22 LIN. FT.

STA. 650+75 INSTALL E-7 = 30 LIN. FT.

STA. 651+50 INSTALL E-7 = 22 LIN. FT.

P.I. STA. 67+81.64

STONE BRIDGE RD.

320' TAPER

160' TAPER

100' TRANSITION

P.I. STA. 60+00.00

N75°56'54.0"E

N2°34'55.5"E

VACANT

PARKING

CAR WASH

SMALL SHOPS

B/K

PAVED PARKING

CENTER

CURB

DATE OF REVISION	REVISION

E-5 SAND BAG DITCH CHECK

E-6 ROCK DITCH CHECK

E-7 DROP INLET SILT FENCE

E-11 SILT FENCE

E-14 SEDIMENT BASIN

r040578.dgn

9-21-10

TEMPORARY EROSION CONTROL DETAILS STAGE 2

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.		040578	31	216

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 656+27 - STA. 661+31
INSTALL E-11 = 353 LIN. FT.

STA. 655+42 INSTALL
E-7 = 25 LIN. FT.

STA. 657+00 INSTALL
E-7 = 25 LIN. FT.

STA. 661+26 INSTALL
E-7 = 25 LIN. FT.

STA. 661+30.00
END JOB 040578

160' TAPER

100' TRANSITION

300' TAPER

N75°56'54.0"E

POE 665+12.37

B/K
SHOPS
SMALL SHOPS
PAVED PARKING
CURB
T.C.F.
PARKING
INTER

655 660 665 666

E-5 SAND BAG DITCH CHECK
E-6 ROCK DITCH CHECK
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE
E-14 SEDIMENT BASIN

DATE OF REVISION	REVISION

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TEMPORARY EROSION CONTROL DETAILS STAGE 2

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.		040578	32	216

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG DITCH CHECK
(E-6) ROCK DITCH CHECK
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-19-12

STA. 599+35
BEGIN JOB EXCEPTION

STA. 593+43 - STA. 599+33
INSTALL E-11 = 860 LIN. FT.

DATE OF REVISION	REVISION

r040578.dgn
9-21-10

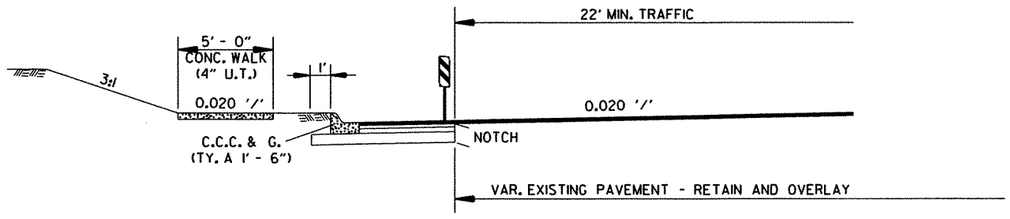
TEMPORARY EROSION CONTROL DETAILS STAGE 3

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.		040578	33	216
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

VERTICAL PANEL SPACING
60' O.C.

REPLACE WITH DRUMS WHEN
WIDENING IS COMPLETE
AT 60' O.C. SPACING



NOTE: TYPICAL SHOWN FOR ONE SIDE. REVERSE FOR RT. NOTCH

CURB AND GUTTER WIDENING DETAIL

STAGE 1

STA. 580+50 TO STA. 590+49 TRAFFIC ON EXISTING.
NOTCH AND WIDEN ON RT. CONSTRUCT STORM SEWER ON RT.
NOTCH AND WIDEN ARMSTRONG RD. LT. AND RT.

STA. 590+49 TO STA. 599+35 TRAFFIC ON EXISTING.
CONSTRUCT PROPOSED HAPPY HOLLOW APPROACH.

STA. 612+13 TO STA. 661+30 TRAFFIC ON EXISTING.
NOTCH AND WIDEN ON RT. SIDE. CONSTRUCT STORM SEWER ON RT.
NOTCH AND WIDEN SOUTH LEG OF STONE BRIDGE RD. LT. AND RT.

STAGE IA

STA. 590+49 TO STA. 599+35 TRAFFIC ON PROPOSED
HAPPY HOLLOW ROAD. CLOSE EXISTING HAPPY
HOLLOW APPROACH.
CONSTRUCT R.C. BOX CULVERT ON RT. TO EXISTING LANES.
CONSTRUCT HAPPY HOLLOW ROAD DETOUR.

STAGE 2

STA. 580+50 TO STA. 590+49 TRAFFIC ON EXISTING.
NOTCH AND WIDEN ON LT. CONSTRUCT STORM SEWER ON LT.
NOTCH AND WIDEN CURTIS RD. LT. AND RT.

STA. 590+49 TO STA. 599+35 TRAFFIC ON DETOUR.
CONSTRUCT R.C. BOX CULVERT ON LT. NOTCH AND WIDEN ON LT. SIDE.
CONSTRUCT STORM SEWER ON LT. SIDE.

STA. 612+13 TO STA. 661+30 TRAFFIC ON EXISTING.
NOTCH AND WIDEN ON LT. SIDE. CONSTRUCT STORM SEWER ON LT.
NOTCH AND WIDEN HWY. 265 RT. AND LT. SIDES.
NOTCH AND WIDEN NORTH LEG OF STONE BRIDGE RD. LT. AND RT.

STAGE 3

STA. 590+49 TO STA. 599+35 TRAFFIC ON EXISTING.
REMOVE DETOUR. NOTCH AND WIDEN ON RT. SIDE.

STA. 635+60 TRAFFIC ON EXISTING
CONSTRUCT ISLAND AT HWY. 16 AND HWY. 265 INTERSECTION.

END OF JOB

PLACE FINAL 2" SURFACE AND PERMANENT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC DETAILS
SEQUENCE OF OPERATIONS

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				6	ARK.			
				JOB NO.		040578	34	216

(2) MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 579+20 TO STA. 585+00 = 2490 LIN. FT.
WORDS = 2 EACH
ARROWS = 2 EACH

CONSTRUCTION PAVEMENT MARKINGS (ARMSTRONG)
STA. 21+73 TO STA. 24+38 = 530 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS
OVER LEVELING COURSES
ENTIRE PROJECT = 60.000 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 580+50
BEGIN JOB 040578
LOG MILE 1.900

49 TRAFFIC DRUMS
30' O.C. SIDE ROAD
20' O.C. TURNOUTS AND DRIVEWAYS

5 VERTICAL PANELS
60' O.C. ROADWAY

DO NOT PASS (6) R4-1 (24" X 30")

TO BE PLACED AT BEGINNING AND END OF JOB AND EXCEPTION AND EVERY HALF MILE IF AND WHERE DIRECTED BY THE ENGINEER.

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

SHOULDER MATERIAL SHALL NOT BE CUT AWAY FROM THE EDGE OF PAVEMENT ON BOTH SIDES OF ANY SECTION OPEN TO TRAFFIC.

MAINTENANCE OF TRAFFIC DETAILS STAGE I

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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.		040578	35	216

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 585+00 TO STA. 591+81 = 2720 LIN. FT.

STA. 599+35
BEGIN JOB EXCEPTION

S. CURTIS AVE.
P.I. STA. 26+51.20
P.C. STA. 25+69.65
TO TRANSITION
585
590
595
600
N67°33'33.0"E
167' TAPER
P.C. STA. 589+67.97
P.T. STA. 592+48.58
N31°11.3"E
(1) W20-1 (48" X 48")
(1) R11-2 (48" X 30")
16' BARR. TYP. III LT.
PAVED PARKING
PARKING
WHITE RIVER WOODWORKING
MINI STORAGE
APARTMENTS
CONC.
PAVED
FAYETTEVILLE FLEET OPERATIONS
PUBLIC WORKS
POE 33+34.10
125' R
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III LT.
M 9°56.52.88"W
P.I. STA. 31+86.34
+96
23'
(1) G20-2 (48" X 24")
80' TRANSITION
P.C. STA. 30+56.90
ROAD WORK AHEAD
40'
+55
23'
N2°01'30.5"E
P.I. STA. 31+26.15
30
+75
36'
POB 29+41.38
15'
HAPPY HOLLOW RD.
13TH STREET
YOUNG & SONS
SHEDS
(1) R11-2 (48" X 30")
16' BARR. TYP. III LT.
16' BARR. TYP. III LT.
(1) W20-1 (48" X 48")

8 VERTICAL PANELS
60' O.C. ROADWAY

28 TRAFFIC DRUMS
30' O.C. SIDE ROAD
20' O.C. DRIVEWAY

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

SHOULDER MATERIAL SHALL NOT BE CUT AWAY FROM THE EDGE OF PAVEMENT ON BOTH SIDES OF ANY SECTION OPEN TO TRAFFIC.

MAINTENANCE OF TRAFFIC DETAILS STAGE I

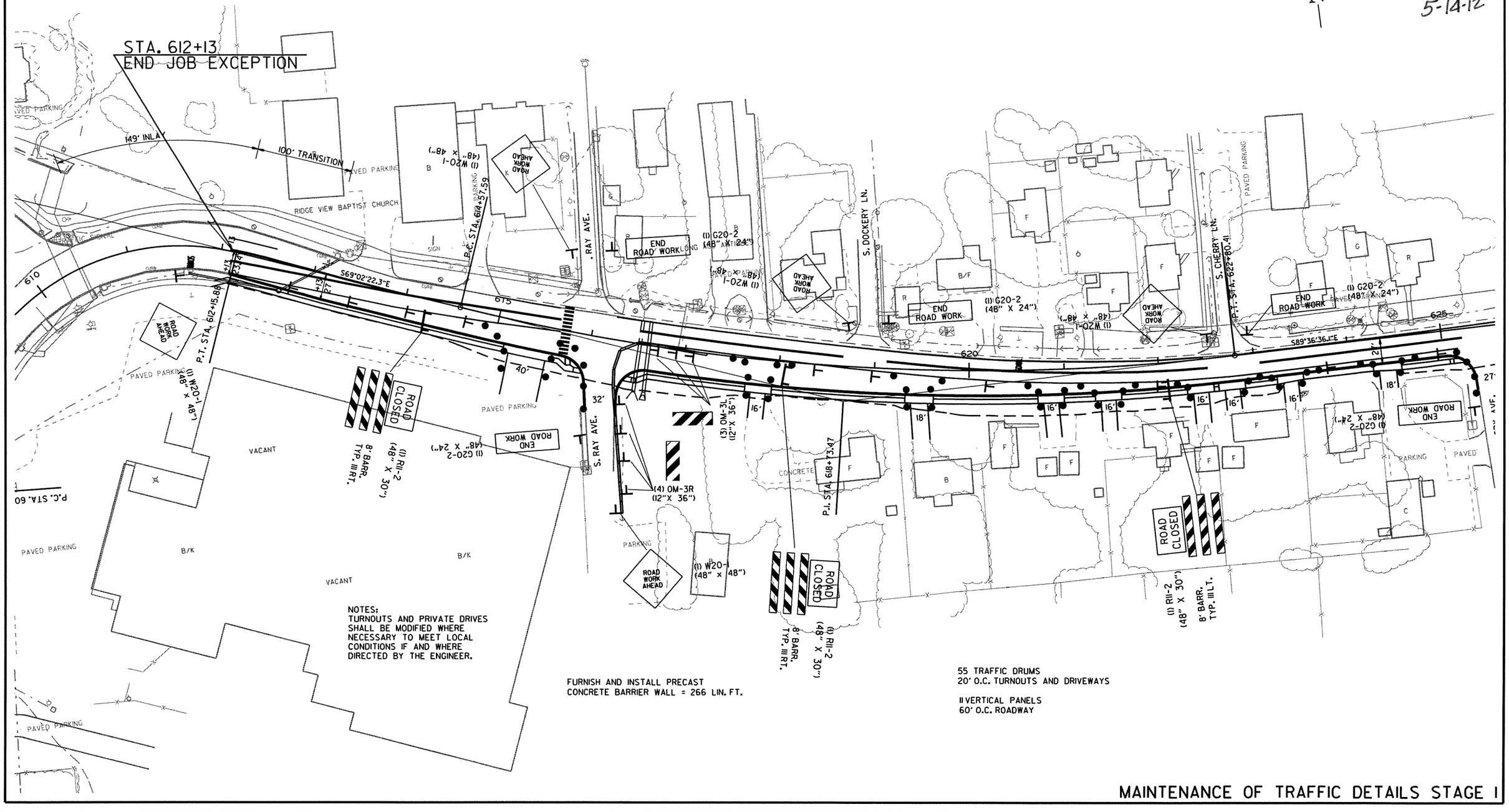
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	36	216

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 612+00 TO STA. 625+00 = 5130 LIN. FT.
WORDS = 2 EACH



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

FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 266 LIN. FT.

55 TRAFFIC DRUMS
20' O.C. TURNOUTS AND DRIVEWAYS

11 VERTICAL PANELS
60' O.C. ROADWAY

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MAINTENANCE OF TRAFFIC DETAILS STAGE I

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				6	ARK.			
				JOB NO.		040578	37	216

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGETT
5-14-12

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 625+00 TO STA. 640+00 = 7115 LIN. FT.
WORDS = 5 EACH
ARROWS = 5 EACH

(1) W20-1 (48" x 48") ROAD WORK 1500 FT
(1) W20-1 (48" x 48") ROAD WORK 1000 FT
(1) W20-1 (48" x 48") ROAD WORK 500 FT
POE 55+45.24
END ROAD WORK
(1) G20-2 (48" X 24")
100' TRANSITION
180' TAPER
N°04'04.5"E
55
50
P.T. STA. 52+74.70
CAR WASH
PHILLIP'S 66
P.C. STA. 50+74.70
PAVED PARKING
2 PUMPS
CANOPY
P.I. STA. 51+74.73
P.I. STA. 630+00.39
P.C. STA. 632+35.65
625
630
635
640
S89°38'46"E
N89°23'23.8"E
N75°56'54.0"E
N75°56'54.0"W
CONCRETE
PAVED
27'
40'
16'
38'
28'
S. JERRY AVE.
CANOPY
DOUBLE PUMP
ROAD WORK AHEAD
(1) W20-1 (48" x 48")
CITGO
CAR WASH
PARKING
380' TAPER
VACANT
BUILDING FOUNDATION
P.I. STA. 634+60.11
P.I. STA. 636+83.70
PAVED DRIVE
PORT SIDE
ROAD CLOSED
8' BARR. TYP. III RT.
(1) RII-2 (48" X 30")
8' BARR. TYP. III LT.
ALL CURB

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

47 TRAFFIC DRUMS
20' O.C. TURNOUTS AND DRIVES

14 VERTICAL PANELS
60' O.C. ROADWAY

MAINTENANCE OF TRAFFIC DETAILS STAGE I

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				6	ARK.			
				JOB NO.		040578	38	216

(2) MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 640+00 TO STA. 655+00 = 4695 LIN. FT.

CONSTRUCTION PAVEMENT MARKNGS (STONEBRIDGE RD.)
STA. 60+52 TO STA. 63+00 = 1015 LIN. FT.

STATE OF ARKANSAS
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No. 7605
MICHAEL D. FUGETT
5-14-12

320' TAPER
24'
640
645
650
655
N75°56'54.0"E
P.I. STA. 67+81.64
STONE BRIDGE RD.
100' TRANSITION
END ROAD WORK
(1) G20-2 (48" X 24")
(1) W20-1 (48" X 48") ROAD WORK AHEAD
PARKING
VACANT
B/K
SMALL SHOPS
PAVED PARKING
CURB
28'
CAR WASH
160' TAPER
ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III LT.
16' BARR. TYP. III RT.
(1) G20-2 (48" X 24") ROAD WORK AHEAD
P.I. STA. 60+00.00
50' R
30' R
(1) W20-1 (48" X 48")
COLLISION CENTER

72 TRAFFIC DRUMS
30' O.C. SIDE ROAD
20' O.C. TURNOUTS AND DRIVES

16 VERTICAL PANELS
60' O.C. ROADWAY

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

SHOULDER MATERIAL SHALL NOT BE CUT AWAY FROM THE EDGE OF PAVEMENT ON BOTH SIDES OF ANY SECTION OPEN TO TRAFFIC.

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MAINTENANCE OF TRAFFIC DETAILS STAGE I

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				6	ARK.			
				JOB NO.		040578	39	216
				(2) MAINTENANCE OF TRAFFIC DETAILS				

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 655+00 TO STA. 661+30 = 2575 LIN. FT.

STATE OF ARKANSAS
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MICHAEL D. FUGETT
5-14-12

STA. 661+30.00
END JOB 040578

160' TAPER
100' TRANSITION
300' TAPER

(1) W20-1 (48" x 48") ROAD WORK 500 FT
(1) W20-1 (48" x 48") ROAD WORK 1000 FT
(1) W20-1 (48" x 48") ROAD WORK 1500 FT
(1) C20-2 (48" X 24") END ROAD WORK
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. MT.L.T.

POE 665+12.37

655 660 665 666

N75°56'54.0"E

+30 27" +30 27" +30 6"

28'

B/K
SMALL SHOPS
PAVED PARKING
CURB CURB
PARKING

6 TRAFFIC DRUMS
20' O.C. DRIVES

9 VERTICAL PANELS
60' O.C. ROADWAY

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

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MAINTENANCE OF TRAFFIC DETAILS STAGE I

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.		040578	39A	216

(2) MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 591+81 TO STA. 599+37 = 2385 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HAPPY HOLLOW RD.)
STA. 29+41 TO STA. 32+84 = 795 LIN. FT.

STATE OF ARKANSAS
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5-14-12

STA. 599+35
BEGIN JOB EXCEPTION

FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 226 LIN. FT.

51 TRAFFIC DRUMS
30' O.C. ROADWAY
30' O.C. SIDE ROADS
20' DRIVEWAYS

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

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MAINTENANCE OF TRAFFIC DETAILS STAGE IA

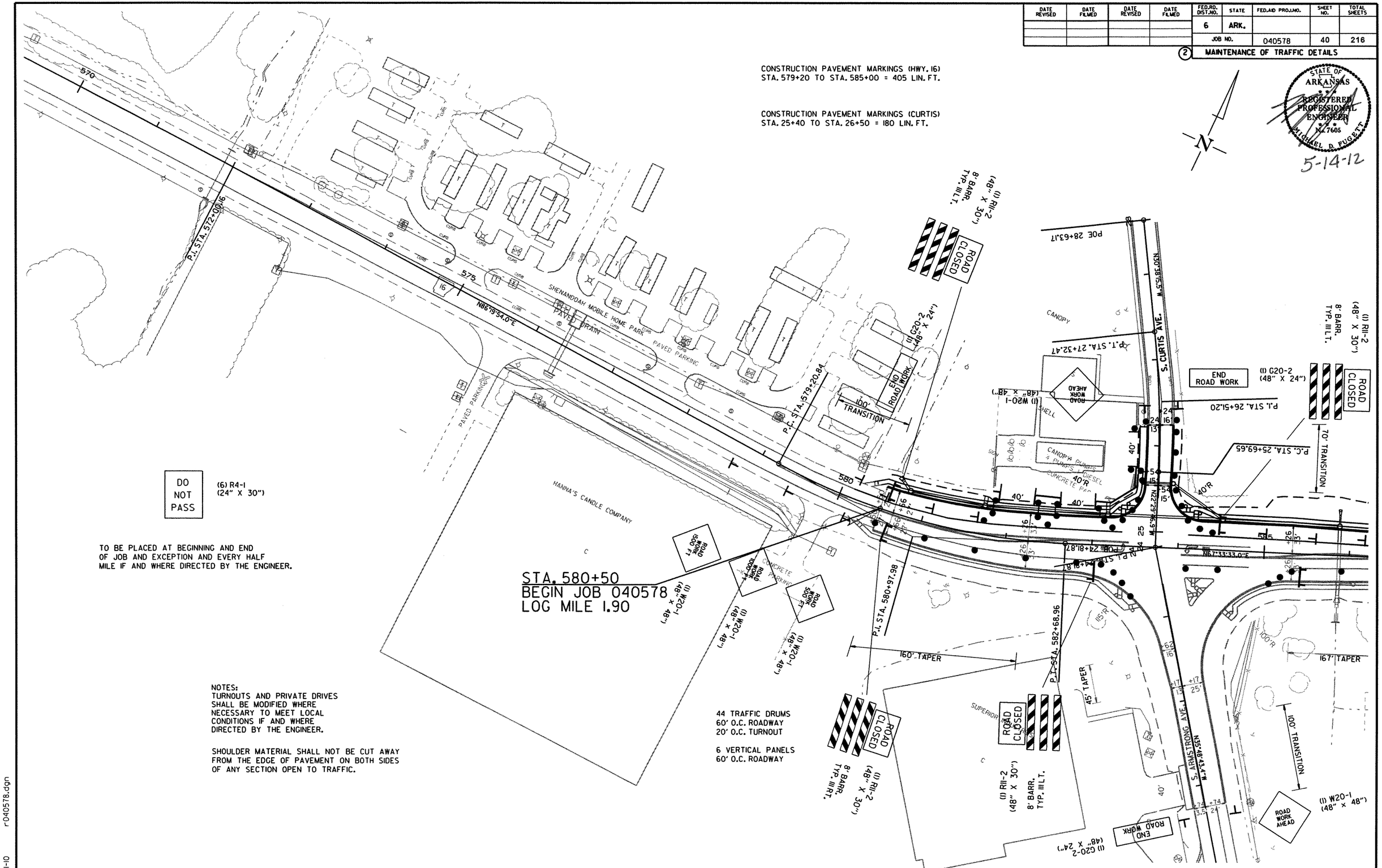
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				6	ARK.			
				JOB NO.		040578	40	216

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 579+20 TO STA. 585+00 = 405 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (CURTIS)
STA. 25+40 TO STA. 26+50 = 180 LIN. FT.



DO NOT PASS

(6) R4-1 (24" X 30")

TO BE PLACED AT BEGINNING AND END OF JOB AND EXCEPTION AND EVERY HALF MILE IF AND WHERE DIRECTED BY THE ENGINEER.

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

SHOULDER MATERIAL SHALL NOT BE CUT AWAY FROM THE EDGE OF PAVEMENT ON BOTH SIDES OF ANY SECTION OPEN TO TRAFFIC.

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MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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.		040578	41	216

(2) MAINTENANCE OF TRAFFIC DETAILS

REMOVAL OF PERMANENT PAVEMENT MARKINGS (HWY. 16)
STA. 599+35 TO STA. 603+33 = 400 LIN. FT.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 589+00 TO STA. 599+40 = 2170 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 585+00 TO STA. 599+40 = 4310 LIN. FT.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS (HAPPY HOLLOW RD.)
STA. 32+70 TO STA. 32+84 = 140 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HAPPY HOLLOW RD.)
STA. 29+41 TO STA. 32+84 = 795 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 599+35
BEGIN JOB EXCEPTION

S. CURTIS AVE.

P.I. STA. 26+51.20

P.C. STA. 25+69.65

TO TRANSITION

N61°33'33.0"E

P.C. STA. 589+67.97

167' TAPER

ROAD CLOSED

(1) R11-2 (48" X 30")

8' BARR. TYP. III RT.

8' BARR. TYP. III LT.

(1) R11-2 (48" X 30")

(1) M1-6 (48" X 24")

8' BARR. TYP. III RT.

ROAD CLOSED

(3) OM-3L (12" X 36")

(1) R3-36 (48" X 24")

(1) R3-35 (48" X 24")

(1) M1-6 (48" X 24")

(1) R11-2 (48" X 30")

8' BARR. TYP. III RT.

ROAD CLOSED

(1) G20-2 (48" X 24")

END ROADWORK

40' TRANSITION

P.C. STA. 30+56.90

P.I. STA. 31+86.34

N48°56'39.4"W

125' R

STOP

(1) R1-1 (30" X 30")

24'

23'

+96

P.I. STA. 31+26.15

N2°01'30.5"W

P.I. STA. 594+33.28

+55

+75

POB 29+41.38

HAPPY HOLLOW RD.

(1) W20-1 (48" X 48")

ROAD WORK AHEAD

(12) W1-8 (18" X 24")

RELOCATE PRECAST CONCRETE BARRIER WALL = 226 LIN. FT.

65 TRAFFIC DRUMS
60' O.C. ROADWAY
30' O.C. TAPER
20' O.C. TURNOUT

8 VERTICAL PANELS
60' O.C. ROADWAY

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

MINI-STORAGE

164' TAPER

82' TAPER

P.I. STA. 5+18.58

N39°11'43"E

(48" X 24") (1) M1-6

BRIDGE ABOVE

(48" X 24") (1) I-102A

FAYETTEVILLE FLEET OPERATIONS
PUBLIC WORKS

RIVER WOODWORKING

YOUNG & SONS

SHEDS

PAVED PARKING

PARKING

595

600

590

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MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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.		040578	42	216

(2) MAINTENANCE OF TRAFFIC DETAILS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 612+00 TO STA. 625+00 = 1440 LIN. FT.
WORDS = 2 EACH

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No. 7605
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N

STA. 612+13
END JOB EXCEPTION

149' INLAY
100' TRANSITION
RIDGE VIEW BAPTIST CHURCH
P.C. STA. 612+57.59
P.T. STA. 612+15.88
S69°02'22.3"E
S. RAY AVE.
S. DOCKERY LN.
S. CHERRY LN.
S89°36'36.J"E
P.I. STA. 618+13.47
P.C. STA. 60
VACANT
CONCRETE
PAVED PARKING
LONG ACRE POWER
ROAD WORK AHEAD
END ROAD WORK
ROAD CLOSED
(1) W20-1 (48" x 48")
(1) G20-2 (48" x 24")
(1) R11-2 (48" x 30")
8' BARR. TYP. III LT.
8' BARR. TYP. III RT.
16' BARR. TYP. III RT.

120 TRAFFIC DRUMS
60' O.C. ROADWAY
20' O.C. TURNOUTS

17 VERTICAL PANELS
60' O.C. ROADWAY

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MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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.		040578	43	216

(2) MAINTENANCE OF TRAFFIC DETAILS

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

SHOULDER MATERIAL SHALL NOT BE CUT AWAY FROM THE EDGE OF PAVEMENT ON BOTH SIDES OF ANY SECTION OPEN TO TRAFFIC.

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 625+00 TO STA. 640+00 = 1785 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HWY 265)
STA. 50+10 TO STA. 55+00 = 3255 LIN. FT.

RELOCATE CONCRETE
BARRIER WALL = 246 LIN. FT.

(1) W20-1 (48" x 48") ROAD WORK 500 FT
(1) W20-1 (48" x 48") ROAD WORK 1000 FT
(1) W20-1 (48" x 48") ROAD WORK 500 FT
(4) OM-3R (12" X 36")
POE 55+45.24
END ROAD WORK
(1) G20-2 (48" X 24")
100' TRANSITION
180' TAPER
(3) OM-3L (12"X 36")
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III RT.
P.I. STA. 52+74.70
CAR WASH
PHILLIP'S 66
P.C. STA. 50+74.70
PAVED PARKING
2 PUMPS
CANOPY
2 PUMPS
P.I. STA. 51+74.73
N1°04'04.5"E
M-9°55.55'
N75°56'54.0"E
P.I. STA. 634+60.71
P.I. STA. 636+43.70
PAVED DRIVE
PORT SIDE
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III LT.
8' BARR. TYP. III RT.
(3) OM-3R (12" X 36")
(1) R11-2 (48" X 30")
8' BARR. TYP. III RT.
P.I. STA. 630+00.39
P.C. STA. 632+35.65
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III LT.
8' BARR. TYP. III RT.
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III LT.
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III RT.
S89°36'16.1"E
N89°23'23.8"E
S. JERRY AVE.
ROAD WORK AHEAD
(1) W20-1 (48" X 48")
CANOPY DOUBLE PUMP
PAVED PARKING
CITGO
CAR WASH
PARKING
380' TAPER
PAVED PARKING
VACANT
BUILDING FOUNDATION
BUILDING FOUNDATION
BUILDING FOUNDATION
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III RT.
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III LT.
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. III RT.
PAVED PARKING
CAR WASH
ALL CURB

161 TRAFFIC DRUMS
60' O.C. ROADWAY
30' O.C. SIDE ROAD
20' O.C. TURNOUTS

17 VERTICAL PANELS
60' O.C. ROADWAY

RELOCATE PRECAST CONCRETE
BARRIER WALL = 20 LIN. FT.

FURNISH AND INSTALL
PRECAST CONCRETE
BARRIER WALL = 43 LIN. FT.

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MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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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.		040578	44	216

(2) MAINTENANCE OF TRAFFIC DETAILS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 640+00 TO STA. 655+00 = 1420 LIN. FT.

CONSTRUCTION PAVEMENT MARKNGS (STONEBRIDGE RD.)
STA. 63+35 TO STA. 65+85 = 960 LIN. FT.

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P.I. STA. 67+81.64

(1) W20-1 (48" x 48")
ROAD WORK AHEAD

STONE BRIDGE RD.

(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
ROAD CLOSED

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

100' TRANSITION

320' TAPER

PARKING
VACANT
K
B/K
SMALL SHOPS
PAVED PARKING
CURB
CAR WASH

N75°56'54.0"E

160' TAPER

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

P.I. STA. 60+00.00

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

173 TRAFFIC DRUMS
60' O.C. ROADWAY
30' O.C. SIDEROADS
20' O.C. TURNOUTS

19 VERTICAL PANELS
60' O.C. ROADWAY

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MAINTENANCE OF TRAFFIC DETAILS STAGE 2

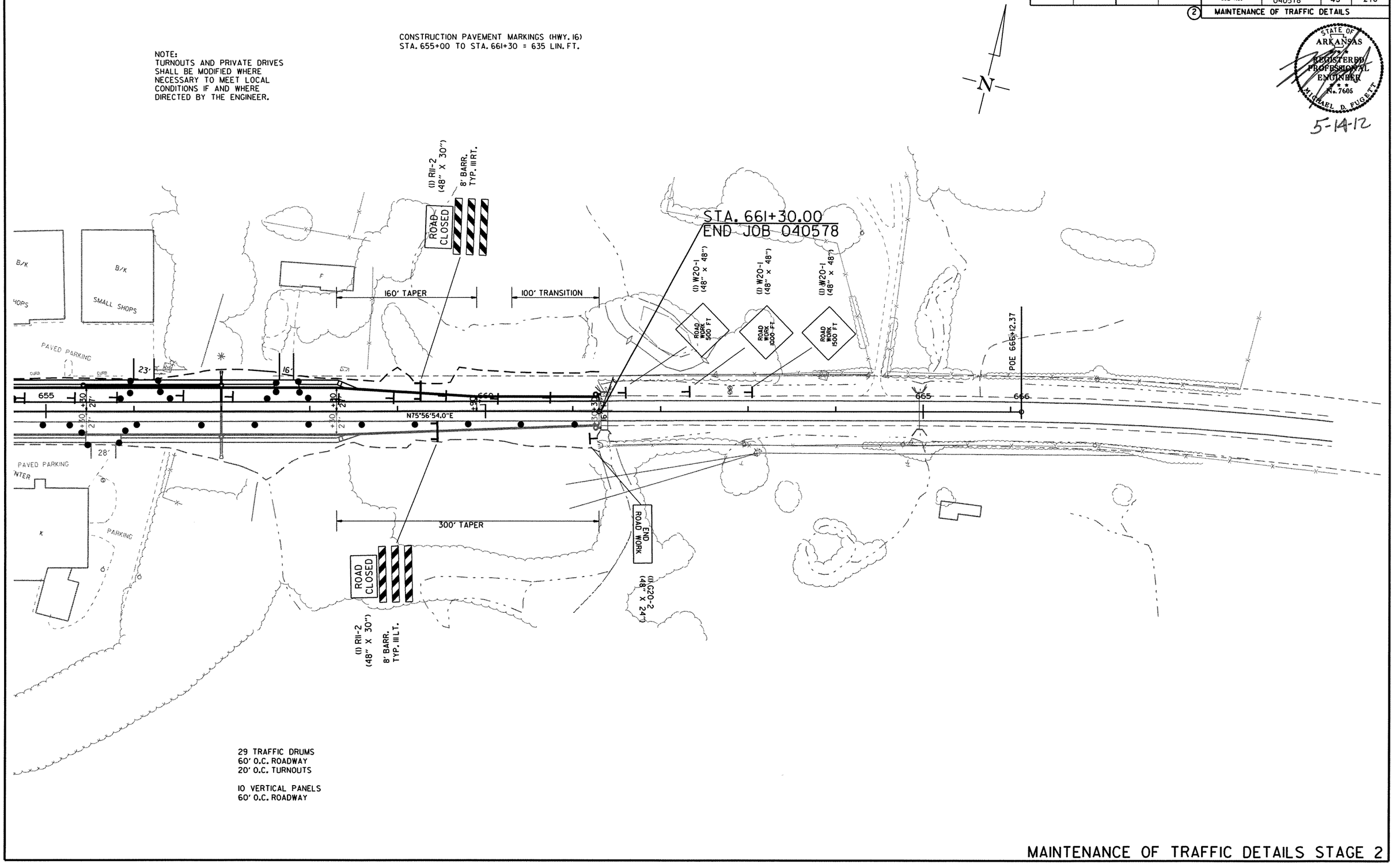
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	45	216

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
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NOTE:
TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 655+00 TO STA. 661+30 = 635 LIN. FT.



29 TRAFFIC DRUMS
60' O.C. ROADWAY
20' O.C. TURNOUTS

10 VERTICAL PANELS
60' O.C. ROADWAY

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MAINTENANCE OF TRAFFIC DETAILS STAGE 2

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.		040578	48	216

(2) MAINTENANCE OF TRAFFIC DETAILS

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REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

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

DO NOT PASS — (6) R4-1 (24" X 30")

TO BE PLACED AT BEGINNING AND END OF JOB AND EXCEPTION AND EVERY HALF MILE IF AND WHERE DIRECTED BY THE ENGINEER.

STA. 580+50
BEGIN JOB 040578
LOG MILE 1.900

31 TRAFFIC DRUMS
60' O.C. ROADWAY
20' O.C. TURNOUTS

MAINTENANCE OF TRAFFIC DETAILS STAGE 3

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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.		040578	47	216

(2) MAINTENANCE OF TRAFFIC DETAILS

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 589+00 TO STA. 599+40 = 2735 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 589+00 TO STA. 599+40 = 3990 LIN. FT.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS (HAPPY HOLLOW RD.)
STA. 32+70 TO STA. 32+84 = 186 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HAPPY HOLLOW RD.)
STA. 29+41 TO STA. 32+84 = 182 LIN. FT.

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STA. 599+35
BEGIN JOB EXCEPTION

78 TRAFFIC DRUMS
60' O.C. ROADWAY
30' O.C. TAPER
20' O.C. TURNOUT

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

MAINTENANCE OF TRAFFIC DETAILS STAGE 3

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				6	ARK.			
				JOB NO.		040578	48	215

(2) MAINTENANCE OF TRAFFIC DETAILS

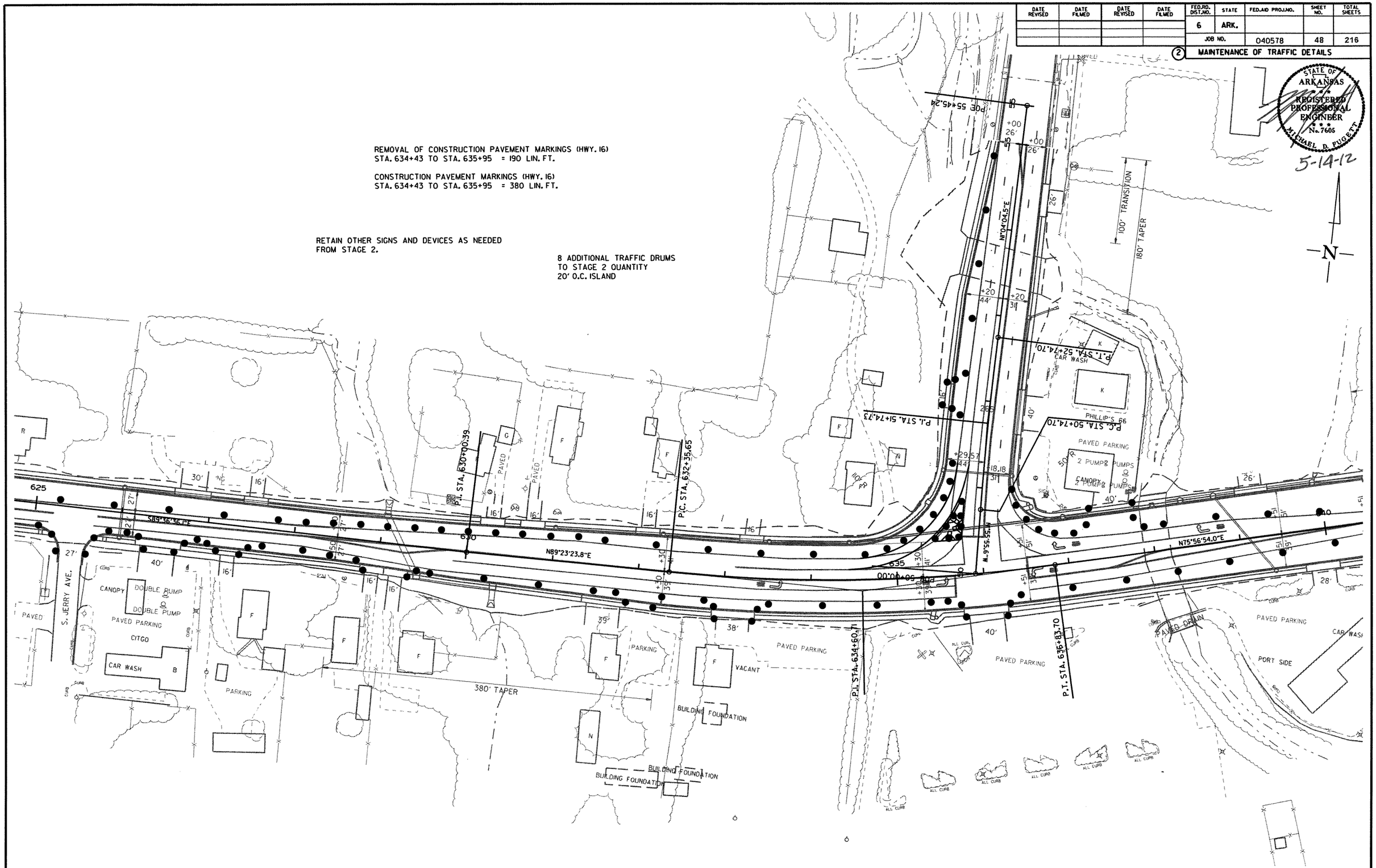
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REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 634+43 TO STA. 635+95 = 190 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HWY. 16)
STA. 634+43 TO STA. 635+95 = 380 LIN. FT.

RETAIN OTHER SIGNS AND DEVICES AS NEEDED
FROM STAGE 2.

8 ADDITIONAL TRAFFIC DRUMS
TO STAGE 2 QUANTITY
20' O.C. ISLAND



MAINTENANCE OF TRAFFIC DETAILS STAGE 3

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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.		040578	49	216

(2) PERMANENT PAVEMENT MARKING DETAILS

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THERMOPLASTIC PAVEMENT MARKINGS (CURTIS)
STA. 24+81.87 TO STA. 26+24

DOUBLE SOLID LANE DIVIDER = 176 LIN. FT. 4" YELLOW
STOP BAR = 19 LIN. FT. 12" WHITE
CROSSWALK = 110 LIN. FT. 12" WHITE

THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 579+50 TO STA. 585+00

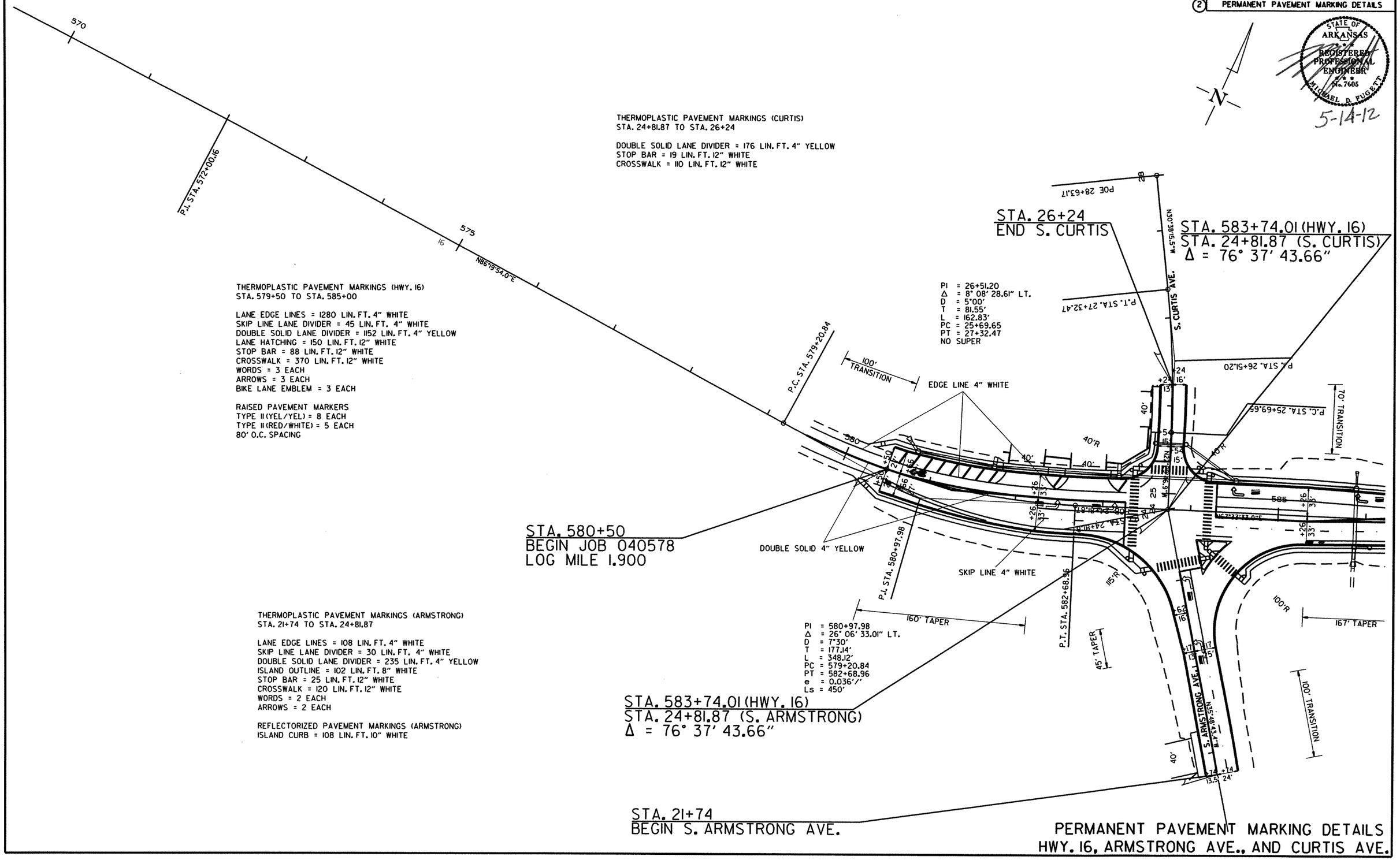
LANE EDGE LINES = 1280 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 45 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 1152 LIN. FT. 4" YELLOW
LANE HATCHING = 150 LIN. FT. 12" WHITE
STOP BAR = 88 LIN. FT. 12" WHITE
CROSSWALK = 370 LIN. FT. 12" WHITE
WORDS = 3 EACH
ARROWS = 3 EACH
BIKE LANE EMBLEM = 3 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 8 EACH
TYPE II (RED/WHITE) = 5 EACH
80' O.C. SPACING

THERMOPLASTIC PAVEMENT MARKINGS (ARMSTRONG)
STA. 21+74 TO STA. 24+81.87

LANE EDGE LINES = 108 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 30 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 235 LIN. FT. 4" YELLOW
ISLAND OUTLINE = 102 LIN. FT. 8" WHITE
STOP BAR = 25 LIN. FT. 12" WHITE
CROSSWALK = 120 LIN. FT. 12" WHITE
WORDS = 2 EACH
ARROWS = 2 EACH

REFLECTORIZED PAVEMENT MARKINGS (ARMSTRONG)
ISLAND CURB = 108 LIN. FT. 10" WHITE



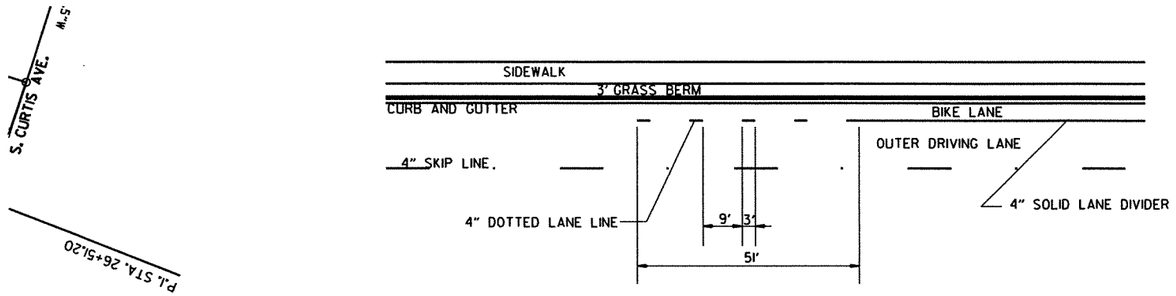
PERMANENT PAVEMENT MARKING DETAILS
HWY. 16, ARMSTRONG AVE., AND CURTIS AVE.

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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.		040578	50	216

(2) PERMANENT PAVEMENT MARKING DETAILS

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DOTTED LINE DETAIL

THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 585+00 TO STA. 399+35

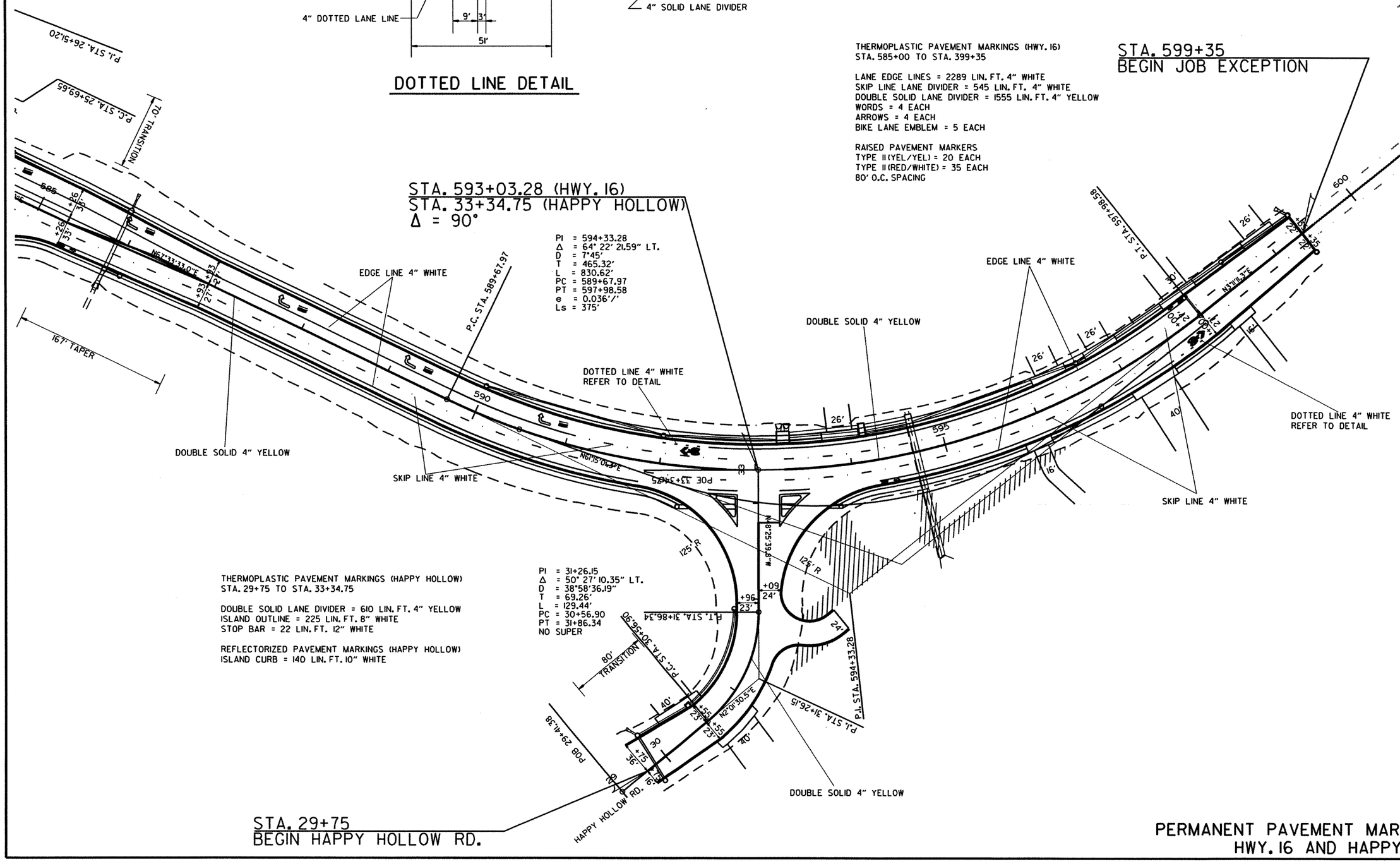
LANE EDGE LINES = 2289 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 545 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 1555 LIN. FT. 4" YELLOW
WORDS = 4 EACH
ARROWS = 4 EACH
BIKE LANE EMBLEM = 5 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 20 EACH
TYPE II (RED/WHITE) = 35 EACH
80' O.C. SPACING

STA. 599+35
BEGIN JOB EXCEPTION

STA. 593+03.28 (HWY. 16)
STA. 33+34.75 (HAPPY HOLLOW)
Δ = 90°

PI = 594+33.28
Δ = 64° 22' 21.59" LT.
D = 7°45'
T = 465.32'
L = 830.62'
PC = 589+67.97
PT = 597+98.58
e = 0.036'/'
Ls = 375'



THERMOPLASTIC PAVEMENT MARKINGS (HAPPY HOLLOW)
STA. 29+75 TO STA. 33+34.75

DOUBLE SOLID LANE DIVIDER = 610 LIN. FT. 4" YELLOW
ISLAND OUTLINE = 225 LIN. FT. 8" WHITE
STOP BAR = 22 LIN. FT. 12" WHITE

REFLECTORIZED PAVEMENT MARKINGS (HAPPY HOLLOW)
ISLAND CURB = 140 LIN. FT. 10" WHITE

PI = 31+26.15
Δ = 50° 27' 10.35" LT.
D = 38°58'36.19"
T = 69.26'
L = 129.44'
PC = 30+56.90
PT = 31+86.34
NO SUPER

PERMANENT PAVEMENT MARKING DETAILS
HWY. 16 AND HAPPY HOLLOW DR.

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				6	ARK.			
				JOB NO.		040578	51	216

(2) PERMANENT PAVEMENT MARKING DETAILS

THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 606+00 TO STA. 612+13

SKIPLINE LANE DIVIDER = 80 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 310 LIN. FT. 4" YELLOW
STOP BAR = 24 LIN. FT. 12" WHITE
ARROWS = 3 EACH
WORDS = 1EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 2 EACH
TYPE II (RED/WHITE) = 4 EACH
80' O.C. SPACING

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EXISTING STRIPING

DOUBLE SOLID 4" YELLOW

SKIP LINE 4" WHITE

149' INLAY
COLD MILL AND INLAY

100' TRANSITION

DOTTED LINE 4" WHITE
REFER TO DETAIL

P.C. STA. 607+52.34

P.T. STA. 612+15.88

P.I. STA. 610+80.12

P.C. STA. 614+57.59

S69°02'23"E

E. FAIRLANE STREET

E. HUNTSVILLE ROAD

S. HAPPY HOLLOW ROAD

BEARD'S FUNERAL CHAPEL

RIDGE VIEW BAPTIST CHURCH

RAY AVE. AVENUE

25 B/F APARTMENTS

B/K

VACANT

SHEDS

PAVED PARKING

PARKING

CONC.

BRICK & CONC. BLOCK

PAVER

605

610

28'

18'

40'

20'

PERMANENT PAVEMENT MARKING DETAILS
HWY. 16 AND HUNTSVILLE RD.

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				6	ARK.			
				JOB NO.		040578	52	216

(2) PERMANENT PAVEMENT MARKING DETAILS

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THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 612+13 TO STA. 625+00

LANE EDGE LINES = 2145 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 520 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 2025 LIN. FT. 4" YELLOW
WORDS = 1 EACH
BIKE LANE EMBLEM = 7 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 13 EACH
TYPE II (RED/WHITE) = 26 EACH
80' O.C. SPACING

STA. 612+13
END JOB EXCEPTION

149' INLAY

100' TRANSITION

DOTTED LINE 4" WHITE
REFER TO DETAIL

P.C. STA. 614+57.59

S. RAY AVE.

P.T. STA. 612+15.88

S69°02'22.3"E

PI = 610+90.12
Δ = 107° 46' 26.30" RT.
D = 23°15'
T = 337.78'
L = 463.54'
PC = 607+52.34
PT = 612+15.88
MATCH EXISTING SUPER

P.C. STA. 60

PI = 618+73.47
Δ = 20° 34' 13.83" LT.
D = 2°30'
T = 415.89'
L = 822.82'
PC = 614+57.59
PT = 622+80.41
e = 0.024'/'
Ls = 300'

S. DOCKERY LN.

DOUBLE SOLID 4" YELLOW

EDGE LINE 4" WHITE

S. CHERRY LN.

P.T. STA. 622+80.41

S89°36'36.1"E

SKIP LINE 4" WHITE

P.I. STA. 618+73.47

S. RAY AVE.

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PERMANENT PAVEMENT MARKING DETAILS
HWY. 16

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.		040578	53	216

(2) PERMANENT PAVEMENT MARKINGS DETAILS

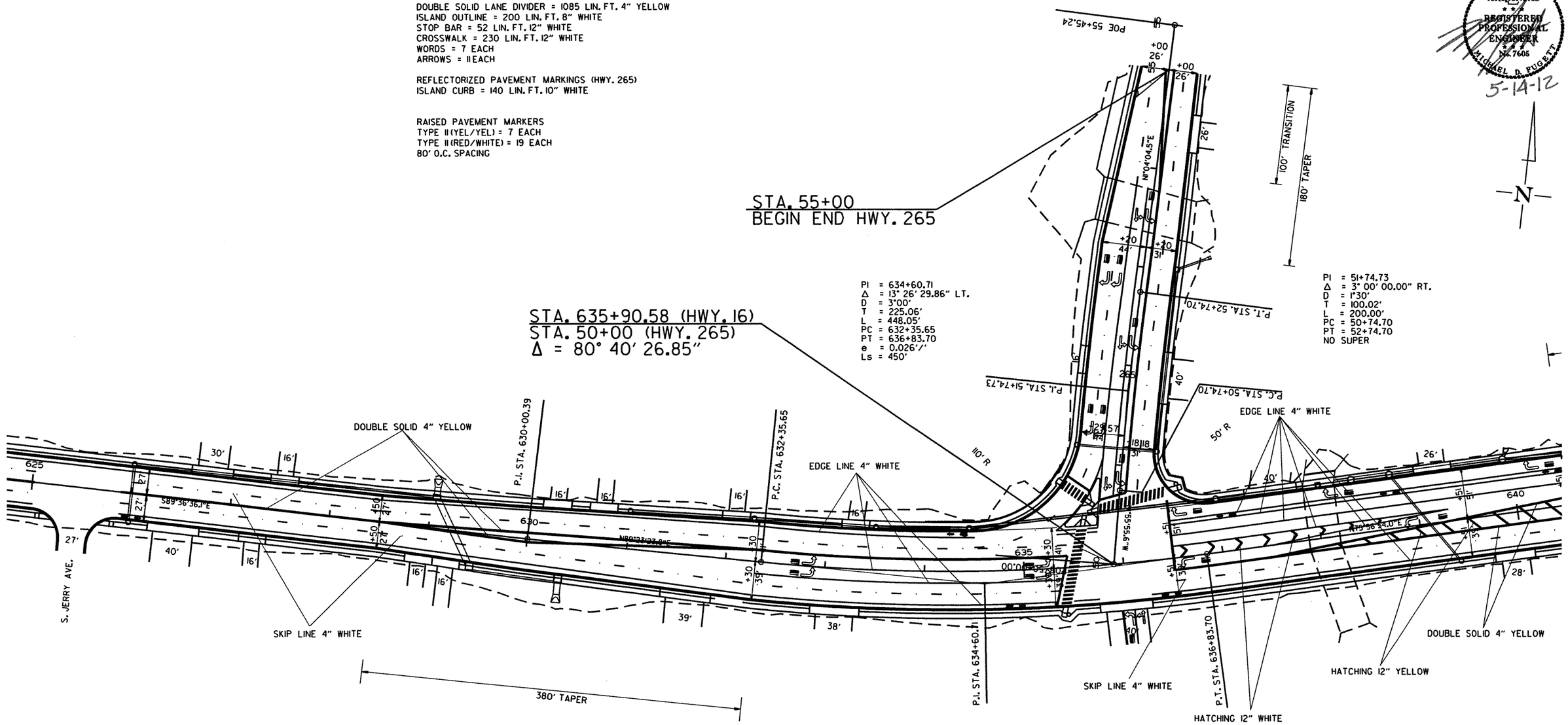
THERMOPLASTIC PAVEMENT MARKINGS (HWY. 265)
STA. 50+00 TO STA. 55+00

LANE EDGE LINES = 560 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 220 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 1085 LIN. FT. 4" YELLOW
ISLAND OUTLINE = 200 LIN. FT. 8" WHITE
STOP BAR = 52 LIN. FT. 12" WHITE
CROSSWALK = 230 LIN. FT. 12" WHITE
WORDS = 7 EACH
ARROWS = 11 EACH

REFLECTORIZED PAVEMENT MARKINGS (HWY. 265)
ISLAND CURB = 140 LIN. FT. 10" WHITE

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 7 EACH
TYPE II (RED/WHITE) = 19 EACH
80' O.C. SPACING

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THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 625+00 TO STA. 640+00

LANE EDGE LINES = 4535 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 560 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 3892 LIN. FT. 4" YELLOW
LANE HATCHING = 130 LIN. FT. 12" WHITE
STOP BAR = 124 LIN. FT. 12" WHITE
CROSSWALK = 190 LIN. FT. 12" WHITE
LANE HATCHING = 95 LIN. FT. 12" YELLOW
WORDS = 8 EACH
ARROWS = 8 EACH
BIKE LANE EMBLEM = 6 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 25 EACH
TYPE II (RED/WHITE) = 56 EACH
80' O.C. SPACING

PERMANENT PAVEMENT MARKING DETAILS HWY. 16 AND HWY. 265

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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.		040578	54	216

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGGETT
5-14-12

THERMOPLASTIC PAVEMENT MARKINGS (STONE BRIDGE)
STA. 60+52 TO STA. 65+85

LANE EDGE LINES = 645 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 1165 LIN. FT. 4" YELLOW
STOP BAR = 50 LIN. FT. 12" WHITE
CROSSWALK = 250 LIN. FT. 12" WHITE
WORDS = 2 EACH
ARROWS = 2 EACH

P.I. STA. 67+81.64

STONE BRIDGE RD.

STA. 65+85
END STONE BRIDGE RD.

STA. 649+76.31 (HWY. 16)
STA. 63+28.22 (STONE BRIDGE)
Δ = 73° 21' 58.52"

320' TAPER

DOTTED LANE EDGE LINE 4" WHITE

EDGE LINE 4" WHITE

EDGE LINE 4" WHITE

30' R

50' R

100' TRANSITION

DOUBLE SOLID 4" YELLOW

640 645 650 655

N75°56'54.0"E

HATCHING 12" YELLOW

DOUBLE SOLID 4" YELLOW

160' TAPER

SKIP LINE 4" WHITE

160' TAPER

EDGE LINE 4" WHITE

100' TRANSITION

P.I. STA. 60+00.00

STA. 60+52
BEGIN STONE BRIDGE RD.

THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 640+00 TO STA. 655+00

LANE EDGE LINES = 2806 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 640 LIN. FT. 4" WHITE
DOTTED LANE LINES = 160 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 4196 LIN. FT. 4" YELLOW
STOP BAR = 98 LIN. FT. 12" WHITE
CROSSWALK = 420 LIN. FT. 12" WHITE
WORDS = 2 EACH
ARROWS = 2 EACH
BIKE LANE SYMBOL = 7 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 27 EACH
TYPE II (RED/WHITE) = 35 EACH
80' O.C. SPACING

PERMANENT PAVEMENT MARKING DETAILS
HWY. 16 AND STONE BRIDGE RD.

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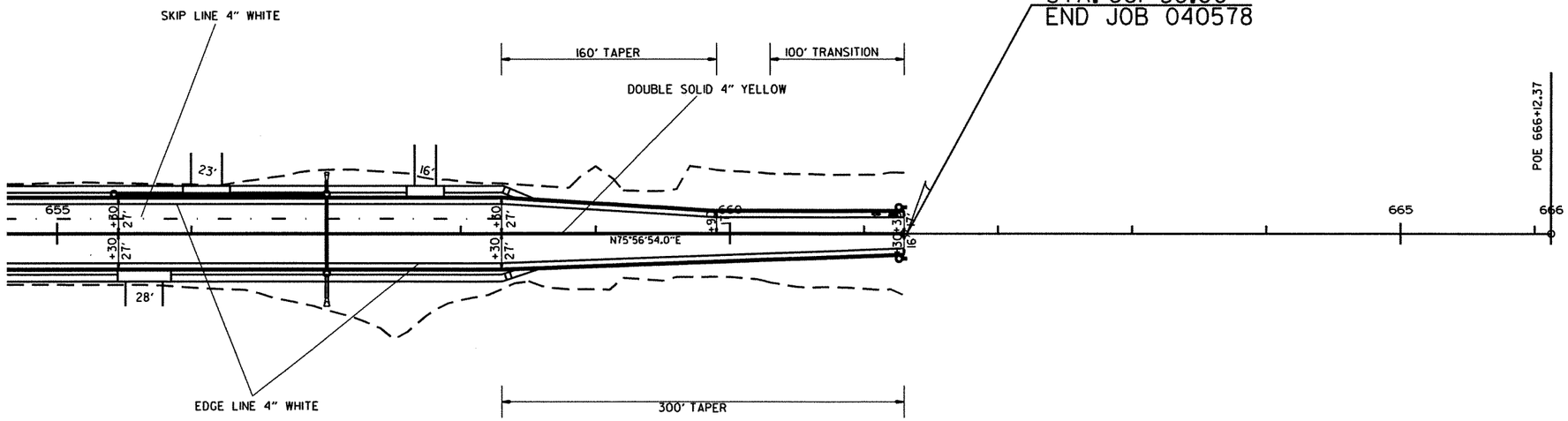
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	55	216
				(2) PERMANENT PAVEMENT MARKING DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGLETT
5-14-12

THERMOPLASTIC PAVEMENT MARKINGS (HWY. 16)
STA. 655+00 TO STA. 661+30

LANE EDGE LINES = 1260 LIN. FT. 4" WHITE
SKIP LINE LANE DIVIDER = 330 LIN. FT. 4" WHITE
DOUBLE SOLID LANE DIVIDER = 1260 LIN. FT. 4" YELLOW
BIKE LANE EMBLEM = 1 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 8 EACH
TYPE II (RED/WHITE) = 4 EACH
80' O.C. SPACING



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PERMANENT PAVEMENT MARKING DETAILS
HWY. 16

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.		040578	56	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

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
											RIGHT	LEFT		
			LIN. FT. - EACH				NO.	SQ. FT.	EACH				LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	3	3	3	3	3	48.0						
W20-1	ROAD WORK 1000 FT.	48"x48"	3	3	3	3	3	48.0						
W20-1	ROAD WORK 500 FT.	48"x48"	3	3	3	3	3	48.0						
W20-1	ROAD WORK AHEAD	48"x48"	11	11	11	11	11	176.0						
G20-2	END ROAD WORK	48"x24"	13	13	13	13	13	104.0						
R11-2	ROAD CLOSED	48"x30"	16	29	9	29	29	290.0						
OM-3L	OBJECT MARKER	12"x36"	6	6		6	6	18.0						
OM-3R	OBJECT MARKER	12"x36"	8	11		11	11	33.0						
W1-6	LARGE ARROW	48"x24"		1		1	1	8.0						
W1-8	CHEVRONS	18"x24"		12		12	12	36.0						
R4-1	DO NOT PASS	24"x30"	6	6	6	6	6	30.0						
R1-1	STOP	30"x30"	1	1	1	1	1	6.3						
	VERTICAL PANELS		63	77		77	77		77					
	TRAFFIC DRUMS		308	592	600	600	600			600				
	TYPE III BARRICADE-RT. (8')		6	12	13	13	13				104			
	TYPE III BARRICADE-LT. (8')		5	12	13	13	13					104		
	TYPE III BARRICADE-RT. (16')		4	4	3	4	4				64			
	TYPE III BARRICADE-LT. (16')		4	2	2	4	4					64		
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		492	43		535							535	
	RELOCATING PRECAST CONCRETE BARRIER			492		492								492
TOTALS:								845.3	77	600	168	168	535	492

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	CONSTRUCTION PAVEMENT MARKNGS					PERMANENT PAVEMENT MARKINGS										
					REMOVAL OF PERMANENT PAVEMENT MARKINGS	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 (RED/WHITE)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	8" WHITE	12" WHITE	12" YELLOW	WORDS	ARROWS	BIKE EMBLEMS	10" WHITE
	LIN. FT. - EACH				LIN. FT.		EACH		LIN. FT.	EACH		LIN. FT.					EACH			LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS		400			400															
CONSTRUCTION PAVEMENT MARKINGS	89450	15185	4552			109187														
CONSTRUCTION PAVEMENT MARKINGS (WORDS)	9	2					11													
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	7							7												
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		2310	3111						5421											
RAISED PAVEMENT MARKERS TYPE II (RED/WHITE)				184						184										
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)				110							110									
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")				18758								18758								
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")				17661									17661							
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")				527										527						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (12")				2472											2472					
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (12")				95												95				
THERMOPLASTIC PAVEMENT MARKINGS WORDS				30													30			
THERMOPLASTIC PAVEMENT MARKINGS ARROWS				35														35		
THERMOPLASTIC PAVEMENT MARKINGS BIKE EMBLEMS				29															29	
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10")				388																388
TOTALS:					400	109187	11	7	5421	184	110	18758	17661	527	2472	95	30	35	29	388

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

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3-15-11

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	57	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
581+00	594+00	HWY. 16	13	13
594+00	600+00	HWY. 16	6	6
617+00	626+00	HWY. 16	9	9
627+00	630+00	HWY. 16	3	3
631+00	633+00	HWY. 16	2	2
633+00	636+00	HWY. 16	3	3
637+00	639+00	HWY. 16	2	2
640+00	654+00	HWY. 16	14	14
656+00	662+00	HWY. 16	6	6
53+00	55+00	HWY. 265	2	2
TOTALS:			60	60

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATE
			LIN. FT.	EACH
50+82	54+49	BARB WIRE FENCE ON LT.	380	
53+14	53+89	CHAIN LINK FENCE ON RT.	75	
53+25	54+00	CHAIN LINK FENCE ON LT.	75	
53+94	54+00	BARB WIRE FENCE ON RT.	8	
54+26	54+86	BARB WIRE FENCE ON LT.	62	
584+10		BARB WIRE FENCE ON LT.	6	
584+97	589+18	CHAIN LINK FENCE ON RT.	450	
615+70	616+00	3 RAIL WOOD FENCE ON RT.	68	
617+88		WEB WIRE FENCE ON LT.	8	
619+25		WEB WIRE FENCE ON RT.	11	
620+32		CHAIN LINK FENCE ON LT.	22	
621+85	622+27	WOOD FENCE ON LT.	79	
622+88	633+44	3 RAIL WOOD FENCE ON LT.	69	
624+38	625+15	CHAIN LINK FENCE ON LT.	106	
626+75		CABLE GATE ON LT.		1
627+50		CABLE GATE ON LT.		1
627+91	629+29	BARB WIRE FENCE ON LT.	162	
628+04	628+90	CHAIN LINK FENCE ON RT.	109	
630+47	632+55	CHAIN LINK FENCE ON RT.	231	
633+75	634+63	CHAIN LINK FENCE ON RT.	95	
637+74	638+34	CHAIN LINK FENCE ON LT.	60	
639+01	639+38	BARB WIRE FENCE ON LT.	65	
640+46	641+56	CHAIN LINK FENCE ON LT.	162	
641+18	641+75	WOOD FENCE ON RT.	57	
646+05	649+27	WEB WIRE WITH 2 BARB FENCE ON RT.	546	
653+72		WEB WIRE FENCE ON RT.	13	
653+72	662+00	WEB WIRE WITH 2 BARB FENCE ON RT.	560	
656+77		BARB WIRE FENCE ON LT.	10	
658+65	662+00	WEB WIRE FENCE ON LT.	340	
TOTALS:			3829	2

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	BOX CULVERTS	JUNCTION BOXES	DROP INLETS	CONCRETE DITCH PAVING
		EACH	EACH	EACH	EACH	SQ. YD.
569+29	12" x 20" x 36' C.M. ARCH PIPE ON LT.	1				
582+12	15" x 24" x 53' C.M. ARCH PIPE ON LT.	1				
582+42	JUNCTION BOX ON LT.			1		
582+93	15" x 24" x 95' C.M. ARCH PIPE ON LT.	1				
583+54	DROP INLET ON LT.				1	
583+74	30" x 36' R.C. PIPE ON LT.	1				
583+96	DROP INLET ON LT.				1	
583+98	30" x 12' R.C. PIPE ON LT.	1				
585+88	44" x 27" x 9' CM PIPE ON RT.	1				
593+96	18" x 38' C.M. PIPE ON LT.	1				
594+70	4' x 2' x 144' R.C. BOX		1			
613+21	18" x 64' R.C. PIPE ON LT.	1				
616+53	3' x 3' x 9' R.C. BOX		1			
617+29	18" x 16' R.C. PIPE ON LT.	1				
617+37	18" x 16' R.C. PIPE ON LT.	1				
617+68	DROP INLET ON RT.				1	
617+68	18" x 94' R.C. PIPE ON RT.	1				
617+68	DROP INLET ON RT.				1	
617+68	18" x 7' R.C. PIPE ON RT.	1				
617+80	18" x 25' R.C. PIPE ON RT.	1				
619+48	12" x 24" x 24' C.M. ARCH PIPE ON RT.	1				
620+20	18" x 21' R.C. PIPE ON LT.	1				
620+87	18" x 24' C.M. PIPE ON LT.	1				
620+87	12" x 24" x 21' C.M. ARCH PIPE ON RT.	1				
621+21	12" x 24" x 20' C.M. ARCH PIPE ON LT.	1				
626+78	18" x 40' C.M. PIPE ON LT.	1				
626+92	DITCH PAVING ON RT.					40
629+08	DROP INLET ON LT.				1	
629+08	18" x 164' R.C. PIPE ON LT.	1				
629+08	72" x 45" x 2.5' R.C. ARCH PIPE ON LT.	1				
629+08	72" x 45" x 16' R.C. ARCH PIPE ON LT.	1				
629+35	DROP INLET ON LT.				1	
629+35	73" x 45" x 52' R.C. ARCH PIPE ON LT.	1				
629+35	DROP INLET ON RT.				1	
629+35	18" x 188' R.C. PIPE ON RT.	1				
629+35	73" x 45" x 80' R.C. ARCH PIPE ON LT.	1				
630+27	DROP INLET ON RT.				1	
630+27	73" x 45" x 10' R.C. PIPE ON RT.	1				
634+55	DROP INLET ON LT.				1	
634+55	18" x 115' R.C. PIPE ON LT	1				
635+65	DROP INLET ON LT.				1	
635+65	18" x 60' R.C. PIPE ON LT.	1				
636+23	DROP INLET ON LT.				1	
636+23	18" x 47' R.C. PIPE ON LT.	1				
637+01	DROP INLET ON LT.				1	
637+01	18" x 85' R.C. PIPE ON LT.	1				
638+52	DROP INLET ON LT.				1	
638+52	18" x 35' R.C. PIPE ON LT.	1				
638+55	DROP INLET ON LT.				1	
638+55	18" x 35' R.C. PIPE ON LT.	1				
639+20	18" x 35' C.M. PIPE ON LT.	1				
641+68	18" x 31' R.C. PIPE ON LT.	1				
641+82	18" x 26' C.M. PIPE ON RT.	1				
643+00	18" x 24' C.M. PIPE ON LT.	1				
643+00	12" x 24" x 20' C.M. ARCH PIPE ON RT.	1				
643+53	12" x 24" x 21' C.M. ARCH PIPE ON RT.	1				
643+61	18" x 35' C.M. PIPE ON LT.	1				
644+32	18" x 24' C.M. PIPE ON LT.	1				
645+25	12" x 24" x 29' C.M. ARCH PIPE ON LT.	1				
646+11	18" x 30' C.M. PIPE ON LT.	1				
646+22	12" x 24" x 23' C.M. ARCH PIPE ON LT.	1				
647+70	18" x 40' R.C. PIPE ON LT.	1				
651+06	18" x 23' C.M. PIPE ON RT.	1				
652+79	3' x 3' x 68' R.C. BOX		1			
654+32	18" x 32' C.M. PIPE ON LT.	1				
657+73	18" x 17' C.M. PIPE ON LT.	1				
599+73	18" x 40' C.M. PIPE ON LT.	1				
615+94	24" x 61' R.C. PIPE ON LT.	1				
615+94	24" x 35' R.C. PIPE ON LT.	1				
TOTALS:		50	3	1	14	40

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
580+50	599+35	HWY. 16 STAGE 1	416	3724	
612+13	661+30	HWY. 16 STAGE 1	1833	6903	
580+50	599+35	HWY. 16 STAGE 2	554	3182	
612+13	661+30	HWY. 16 STAGE 2	4136	3084	
580+50	599+35	HWY. 16 STAGE 3	265	434	
21+74	24+49	ARMSTRONG AVE.	57	3996	
25+14	26+23	CURTIS AVE.	22	164	
29+75	33+09	HAPPY HOLLOW RD.	31	2642	
50+50	55+00	HWY. 265	619	814	
60+72	62+95	STONE BRIDGE STAGE 1	193	660	
63+62	65+85	STONE BRIDGE STAGE 2	425	285	
101+00	107+80	HAPPY HOLLOW DETOUR	392	377	
101+00	107+80	HAPPY HOLLOW DETOUR REMOVAL	402		
ENTIRE	PROJECT	APPROACHES	270	2310	
161+00		S. RAY AVENUE NORTH LEG		10	
161+00		S. RAY AVENUE SOUTH LEG		115	
618+90		S. DOCKERY LANE	5		
622+73		S. CHEERY LANE	5		
625+46		S. JERRY AVE.		40	
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			100
TOTALS:			9625	28740	100

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

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

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
		FEET				
580+00	15'RT	0-5'	29	16	A-6(8)	GRAY
580+00	5'RT	0-5'	28	15	A-6(7)	GRAY
580+00	30'RT	0-5'	27	11	A-6(4)	GRAY
588+00	35'LT	0-5'	29	14	A-6(6)	BROWN
588+00	25'LT	0-5'	25	12	A-6(4)	BROWN
588+00	15'LT	0-5'	30	15	A-6(8)	BROWN
597+00	15'RT	0-5'	31	16	A-6(7)	GRAY
613+00	15'LT	0-5'	35	21	A-6(6)	BR/GR
620+00	25'LT	0-5'	25	12	A-6(4)	BROWN
620+00	5'LT	0-5'	27	12	A-6(3)	BROWN
644+00	5'RT	0-5'	28	15	A-6(7)	BROWN
644+00	25'RT	0-5'	28	12	A-6(2)	BROWN
652+00	25'LT	0-5'	27	13	A-6(6)	BROWN
652+00	15'LT	0-5'	32	19	A-6(12)	BROWN
652+00	5'LT	0-5'	33	20	A-6(11)	BROWN
660+00	25'RT	0-5'	44	28	A-7-6(22)	BROWN
660+00	30'RT	0-5'	39	23	A-6(15)	BROWN
660+00	15'RT	0-5'	29	15	A-6(5)	BROWN
660+00	5'RT	0-5'	36	23	A-6(9)	BROWN

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

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3-15-11

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	58	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	WALLS	CONCRETE PAVEMENT	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	STEPS	WALKS	LUMINAIRE POLE AND FOUNDATION	GAS LIGHT	SIGN FOUNDATIONS	SIGNS	PLANTERS
			LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	EACH		EACH	EACH	EACH
21+74	23+80	ARMSTRONG AVE. ON LT.	208											
21+74	24+29	ARMSTRONG AVE. ON RT.	303		456	362								
25+04	26+24	CURTIS AVE. ON RT.	128											
25+23	25+70	CURTIS AVE. ON LT.	75						22					
25+70	26+24	CURTIS AVE. ON LT.					63							
26+22		LUMINAIRE POLE AND FOUNDATION LT.								1				
29+68		SIGN ON RT.											1	
31+45	32+73	HAPPY HOLLOW RD. ON RT.	172											
32+00		LUMINAIRE POLE AND FOUNDATION LT.								1				
50+23	55+00	HWY. 265 ON LT.	491						203					
50+50	55+00	HWY. 265 ON RT.	486						217					
363+13	639+78	HWY. 16 ON RT.	623						218					
514+57	614+95	HWY. 16 ON LT.					126							
581+77	581+86	HWY. 16 ON LT.	18											
581+86	582+39	HWY. 16 ON LT.					101							
582+39	582+51	HWY. 16 ON LT.	13						8					
582+51	583+41	HWY. 16 ON LT.					155							
583+08	583+57	HWY. 16 ON LT.	58						31					
586+80		SIGN ON LT.											1	
592+54		SIGN AND ROCK PLANTER ON RT.										1	1	1
593+48	595+72	HWY. 16 ON RT. 4 ISLANDS				1176								
594+61	599+35	HWY. 16 ON RT.	518											
594+68	596+13	HWY. 16 ON LT.	142											
596+13	596+40	HWY. 16 ON LT.					24							
596+40	596+75	HWY. 16 ON LT.	34	26										
596+75	597+11	HWY. 16 ON LT.					101							
597+11	597+52	HWY. 16 ON LT.	40						25					
597+52	598+32	HWY. 16 ON LT.					230							
598+32	598+64	HWY. 16 ON LT.	32						22					
598+64	599+35	HWY. 16 ON LT.					167							
612+13	613+27	HWY. 16 ON RT.	243											
612+13	614+90	HWY. 16 ON RT.							193					
613+27	613+90	HWY. 16 ON LT.					241							
613+37		SIGN ON LT.											1	
613+90	614+57	HWY. 16 ON LT.	54						36					
614+75	615+77	HWY. 16 ON LT.							52					
614+78		SIGN ON LT.											1	
614+90	616+56	HWY. 16 ON RT.					356							
615+95	616+28	HWY. 16 ON LT.							42					
616+56	616+07	HWY. 16 ON RT.	88						48					
617+20	617+42	HWY. 16 ON LT.					31							
617+52		SIGN ON LT.											1	
617+65	617+88	HWY. 16 ON LT.					37							
617+83		HWY. 16 ON LT.		7										
617+90	618+79	HWY. 16 ON LT.		110										
619+23	619+39	HWY. 16 ON RT.							61					
619+48		HWY. 16 ON RT.					134							
619+56	620+07	HWY. 16 ON RT.							23					
620+33	620+79	HWY. 16 ON LT.							21					
620+86		HWY. 16 ON LT.					62							
620+95	621+11	HWY. 16 ON LT.							8					
621+93	622+55	HWY. 16 ON RT.							37					
623+41	624+21	HWY. 16 ON LT.		87										
624+20		GAS LIGHT ON LT.									1			
624+30		HWY. 16 ON LT.					48							
624+70		HWY. 16 ON LT.						4	15					
624+72	625+15	HWY. 16 ON LT.		44										
625+59		HWY. 16 ON RT.	30											
626+69	626+92	HWY. 16 ON RT.	23											
626+82		SIGN ON RT.											1	
628+04	635+97	HWY. 16 ON RT.	864						413					
628+04	635+26	HWY. 16 ON LT.	715						316					
635+68		HWY. 16 ON LT.				34								
636+34		HWY. 16 ON LT.				66								
636+70		SIGN ON LT.											1	
636+93	637+15	HWY. 16 ON LT.	20						10					
637+15	637+52	HWY. 16 ON LT.					68							
637+52	640+55	HWY. 16 ON LT.	302						158					
639+78	640+06	HWY. 16 ON RT.					126							
640+06	640+54	HWY. 16 ON RT.	49						25					
644+18	644+34	HWY. 16 ON LT.					41							
650+93	651+18	HWY. 16 ON RT.					65							
653+04	653+44	HWY. 16 ON LT.							18					
654+20	654+44	HWY. 16 ON LT.					129							
654+44	656+00	HWY. 16 ON LT.							74					
656+00	656+23	HWY. 16 ON LT.					120							
656+44	646+74	HWY. 16 ON LT.							15					
657+60		LUMINAIRE POLE AND FOUNDATION LT.								1				
TOTALS:			5729	274	456	1638	2425	4	2311	3	1	1	8	1

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	59	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	ROCK DITCH CHECKS (E-6)	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	SQ.YD.	ACRE	ACRE	M.GAL.	CU.YD.	LIN.FT.	LIN.FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1	1.71	3.42	1.71	194.6	1.71	1603				12	407	7700			300
ENTIRE	PROJECT	STAGE 2	1.43	2.86	1.43	190.4	1.43	3532				42	1464	3625			188
ENTIRE	PROJECT	STAGE 3	0.16	0.32	0.16	17.8	0.16	121						860			32
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			3.00	6.00	3.00	306.0	3.00		18.00	18.00	367.2	30	250	4750	300	300	485
TOTALS:			6.30	12.60	6.30	708.8	6.30	5256	18.00	18.00	367.2	84	2121	16935	300	300	1005

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING.
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
594+70	R.C. BOX CULVERT ON RT.	1
638+04	R.C. BOX CULVERT ON LT.	1
53+55	R.C. BOX CULVERT ON HWY. 265	1
652+79	R.C. BOX CULVERT ON RT.	1
TOTAL:		4

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

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
			SQ.YD.
284+23	HWY. 16 ON RT.	A	46
592+73	HWY. 16 ON RT.	B	29
593+33	HWY. 16 ON RT.	A	29
635+67	HWY. 16 ON LT.	A	87
TOTAL:			191

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
	EACH		
ENTIRE PROJECT	56	28	14
TOTALS:	56	28	14

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN.FT.	EACH
29+75	33+08	HAPPY HOLLOW RD.	493	
50+47	53+00	HWY. 265	281	
575+93	586+06	HWY. 16	1343	
586+87	599+35	HWY. 16	1578	
612+13	613+58	HWY. 16	245	
613+60	625+80	HWY. 16	1530	
628+98	640+21	HWY. 16	1383	
660+00	661+30	HWY. 16	178	
* ENTIRE PROJECT TO BE USED IF AND			2000	15
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			9031	15

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 2	TYPE 3	TYPE 4
		SQ.YD.		
580+32	HWY. 16 ON LT.			9.3
580+32	HWY. 16 ON RT.			9.3
583+38	HWY. 16 ON LT.	12.0		
583+42	HWY. 16 ON RT.	12.6		
584+15	HWY. 16 ON LT.	12.9		
584+16	HWY. 16 ON RT.			6.8
584+19	HWY. 16 ON RT.			6.8
584+26	HWY. 16 ON RT.			6.8
584+59	HWY. 16 ON RT.	5.8		
592+26	HWY. 16 ON RT.	5.6		
593+80	HWY. 16 ON RT.	5.6		
615+66	HWY. 16 ON LT.	8.1		
615+85	HWY. 16 ON RT.	8.3		
616+11	HWY. 16 ON LT.	6.2		
616+47	HWY. 16 ON RT.	6.5		
618+61	HWY. 16 ON LT.		7.6	
619+23	HWY. 16 ON LT.		7.6	
622+56	HWY. 16 ON LT.	5.0		
622+91	HWY. 16 ON LT.	4.9		
625+12	HWY. 16 ON RT.		7.6	
625+78	HWY. 16 ON RT.		7.6	
635+38	HWY. 16 ON RT.			5.9
635+40	HWY. 16 ON LT.	3.3		
635+63	HWY. 16 ON LT.			7.6
635+70	HWY. 16 ON LT.			6.8
635+74	HWY. 16 ON LT.			7.3
636+60	HWY. 16 ON LT.	4.1		
649+12	HWY. 16 ON RT.	11.6		
649+62	HWY. 16 ON LT.	12.9		
649+90	HWY. 16 ON RT.	13.0		
650+39	HWY. 16 ON LT.	12.3		
658+35	HWY. 16 ON LT.			9.3
658+35	HWY. 16 ON RT.			9.3
TOTALS:		150.7	30.4	85.2

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	60	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
21+73	23+61	ARMSTRONG AVE. ON LT.	188
21+73	23+17	ARMSTRONG AVE. ON RT.	144
25+64	26+24	CURTIS AVE. ON LT.	60
25+64	26+24	CURTIS AVE. ON RT.	60
29+75	29+89	HAPPY HOLLOW RD. ON LT.	14
29+75	29+80	HAPPY HOLLOW RD. ON RT.	5
29+85	31+38	HAPPY HOLLOW RD. ON RT.	153
29+98	31+88	HAPPY HOLLOW RD. ON LT.	190
31+38	32+09	13TH STREET TURNOUT ON RT.	171
580+50	582+76	HWY. 16 ON RT.	226
582+76	583+86	HWY. 16 IN RADIUS ON RT.	152
584+33	585+32	HWY. 16 IN RADIUS ON RT.	178
585+32	585+86	HWY. 16 ON RT.	54
585+91	585+94	HWY. 16 ON RT.	3
586+08	591+81	HWY. 16 ON RT.	573
591+81	592+84	HWY. 16 IN RADIUS ON RT.	174
593+22	594+26	HWY. 16 IN RADIUS ON RT.	161
594+26	599+35	HWY. 16 ON RT.	509
612+13	612+67	HWY. 16 ON RT.	54
612+13	613+33	HWY. 16 ON LT.	120
612+76	615+72	HWY. 16 ON RT.	296
613+42	615+38	HWY. 16 ON LT.	196
615+47	615+77	HWY. 16 IN RADIUS ON LT.	53
615+72	616+08	HWY. 16 IN RADIUS ON RT.	70
615+96	616+32	HWY. 16 IN RADIUS ON LT.	68
616+34	616+63	HWY. 16 IN RADIUS ON RT.	29
616+38	616+51	HWY. 16 ON LT.	13
616+63	625+03	HWY. 16 ON RT.	840
616+71	616+93	HWY. 16 ON LT.	22
617+02	617+98	HWY. 16 ON LT.	96
618+11	618+51	HWY. 16 ON LT.	40
618+51	618+81	HWY. 16 IN RADIUS ON LT.	51
619+01	619+32	HWY. 16 IN RADIUS ON LT.	51
619+46	621+43	HWY. 16 ON LT.	197
621+52	622+28	HWY. 16 ON LT.	76
622+33	622+35	HWY. 16 ON LT.	2
622+35	622+65	HWY. 16 IN RADIUS ON LT.	45
622+83	623+12	HWY. 16 IN RADIUS ON LT.	46
623+12	625+90	HWY. 16 ON LT.	278
625+03	625+33	HWY. 16 IN RADIUS ON RT.	55
625+60	625+89	HWY. 16 IN RADIUS ON RT.	55
626+03	629+38	HWY. 16 ON RT.	335
626+03	628+99	HWY. 16 ON LT.	296
629+08	630+90	HWY. 16 ON LT.	182
629+50	639+35	HWY. 16 ON RT.	985
631+03	632+15	HWY. 16 ON LT.	112
632+28	633+40	HWY. 16 ON LT.	112
633+53	634+35	HWY. 16 ON LT.	82
634+48	634+50	HWY. 16 ON LT.	2
634+50	635+67	HWY. 16 IN RADIUS ON LT.	160
636+43	636+94	HWY. 16 IN RADIUS ON LT.	88
637+03	637+98	HWY. 16 ON LT.	95
638+11	638+48	HWY. 16 ON LT.	37
638+48	638+74	HWY. 16 ON LT.	26
638+83	639+90	HWY. 16 ON LT.	107
639+44	640+98	HWY. 16 ON RT.	154
639+99	641+11	HWY. 16 ON LT.	112
641+11	643+98	HWY. 16 ON RT.	287
641+11	641+98	HWY. 16 ON LT.	87
642+11	643+98	HWY. 16 ON LT.	187
644+07	646+98	HWY. 16 ON RT.	291
644+07	645+77	HWY. 16 ON LT.	170
645+82	646+98	HWY. 16 ON LT.	116
647+03	648+82	HWY. 16 ON RT.	179
647+07	649+46	HWY. 16 ON LT.	239
648+82	649+32	HWY. 16 IN RADIUS ON RT.	91
649+46	649+75	HWY. 16 IN RADIUS ON LT.	37
649+78	650+07	HWY. 16 IN RADIUS ON RT.	37
650+07	652+73	HWY. 16 ON RT.	266
650+21	650+71	HWY. 16 IN RADIUS ON LT.	91
650+76	652+73	HWY. 16 ON LT.	197
652+82	656+94	HWY. 16 ON RT.	412
652+82	655+32	HWY. 16 ON LT.	250
655+53	656+94	HWY. 16 ON LT.	141
657+03	661+16	HWY. 16 ON RT.	413
657+03	661+16	HWY. 16 ON LT.	413
661+29	661+30	HWY. 16 ON RT.	1
661+29	661+30	HWY. 16 ON LT.	1
TOTAL:			12559

CONCRETE WALKS (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS	CONCRETE WALKS (TYPE SPECIAL)	HAND RAILING
			LIN.FT.	SQ.YD.	SQ.YD.	LIN.FT.
51+18	51+65	HWY. 265 ON RT.	47	26		
51+29	51+87	HWY. 265 ON LT.	58	32		
52+15	55+00	HWY. 265 ON LT.	285	158		
52+18	54+20	HWY. 265 ON RT.	202	112		
53+15	53+85	HWY. 265 ON RT.				70
53+30	54+00	HWY. 265 ON LT.				70
54+58	55+00	HWY. 265 ON RT.	42	23		
549+11	596+08	HWY. 16 ON LT.	4697	2609		
580+33	582+75	HWY. 16 ON RT.	242	134		
580+34	581+80	HWY. 16 ON LT.	146	81		
582+34	582+55	HWY. 16 ON LT.	21	12		
582+75	583+50	HWY. 16 IN RADIUS ON RT.		55		
583+08	583+56	HWY. 16 IN RADIUS ON LT.		46		
584+08	584+43	HWY. 16 IN RADIUS ON LT.		23		
584+43	593+72	HWY. 16 ON LT.	929	516		
584+59	585+33	HWY. 16 IN RADIUS ON RT.		52		
585+33	591+80	HWY. 16 ON RT.	647	359		
591+80	592+24	HWY. 16 IN RADIUS ON RT.		26		
592+69	592+80	HWY. 16 IN ISLAND ON RT.	11	6		
593+26	593+37	HWY. 16 IN ISLAND ON RT.	11	6		
593+82	594+26	HWY. 16 IN RADIUS ON RT.		26		
594+26	595+77	HWY. 16 ON RT.	151	84		
596+04	596+97	HWY. 16 ON RT.	93	52		
596+48	596+72	HWY. 16 ON LT.	24	13		
597+12	597+72	HWY. 16 ON LT.	60	33		
597+47	598+17	HWY. 16 ON RT.	70	39		
598+15	598+78	HWY. 16 ON LT.	63	35		
611+96	615+11	HWY. 16 ON RT.	315	175		
612+00	613+41	HWY. 16 ON LT.	141	78		
613+83	614+54	HWY. 16 ON LT.	71	39		
614+85	615+47	HWY. 16 ON LT.	62	34		
615+47	615+66	HWY. 16 ON LT.		14		
615+62	615+87	HWY. 16 IN RADIUS ON RT.		16		
616+03	616+32	HWY. 16 ON LT.		18		
616+32	617+15	HWY. 16 ON LT.	83	46		
616+48	616+63	HWY. 16 IN RADIUS ON RT.		10		
616+63	617+66	HWY. 16 ON RT.	103	57		
617+43	617+62	HWY. 16 ON LT.	19	11		
617+90	618+59	HWY. 16 ON LT.	69	38		
617+94	619+33	HWY. 16 ON RT.	139	77		
619+24	620+06	HWY. 16 ON LT.	82	46		
619+62	620+72	HWY. 16 ON RT.	110	61		
620+35	620+74	HWY. 16 ON LT.	39	22		
620+99	621+31	HWY. 16 ON RT.	32	18		
621+02	621+08	HWY. 16 ON LT.	6	3		
621+37	622+36	HWY. 16 ON LT.	99	55		
621+59	622+27	HWY. 16 ON RT.	68	38		
622+36	622+54	HWY. 16 ON LT.	18	17		
622+88	623+22	HWY. 16 ON RT.	34	19		
622+93	624+07	HWY. 16 ON LT.	114	63		
623+50	624+25	HWY. 16 ON RT.	75		42	
624+35	626+57	HWY. 16 ON LT.	222	123		
624+55	625+10	HWY. 16 ON RT.	55	31		
625+81	626+20	HWY. 16 ON RT.	39	22		
626+71	627+12	HWY. 16 ON RT.	41	23		
626+99	627+38	HWY. 16 ON LT.	39	22		
627+40	628+79	HWY. 16 ON RT.	139	77		
627+66	630+13	HWY. 16 ON LT.	247	137		
629+36	631+94	HWY. 16 ON RT.	258	143		
630+41	630+60	HWY. 16 ON LT.	19	11		
630+87	631+92	HWY. 16 ON LT.	105	58		
632+21	634+51	HWY. 16 ON LT.	230	128		
632+22	632+88	HWY. 16 ON RT.	66	37		
633+37	635+74	HWY. 16 ON RT.	237	132		
634+51	635+63	HWY. 16 IN RADIUS ON LT.		85		
636+25	639+72	HWY. 16 ON RT.	347	193		
636+46	636+94	HWY. 16 IN RADIUS ON LT.		46		
636+94	637+29	HWY. 16 ON LT.	35	19		
637+80	638+40	HWY. 16 ON LT.				60
637+82	639+01	HWY. 16 ON LT.	119	66		
639+39	641+53	HWY. 16 ON LT.	214	119		
SUBTOTAL BOX 1 OF 2				6985	42	200

CONCRETE WALKS (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS	CONCRETE WALKS (TYPE SPECIAL)	HAND RAILING
			LIN.FT.	SQ.YD.	SQ.YD.	LIN.FT.
640+12	641+65	HWY. 16 ON RT.	153	85		
641+81	642+83	HWY. 16 ON LT.	102	57		
642+00	642+88	HWY. 16 ON RT.	88	49		
643+12	643+41	HWY. 16 ON LT.	29	16		
643+16	643+38	HWY. 16 ON RT.	22	12		
643+66	645+85	HWY. 16 ON RT.	219	122		
643+78	644+11	HWY. 16 ON LT.	33	18		
644+40	645+08	HWY. 16 ON LT.	68	38		
645+37	646+08	HWY. 16 ON LT.	71	39		
646+13	648+82	HWY. 16 ON RT.	269	149		
646+36	647+51	HWY. 16 ON LT.	115	64		
647+89	649+40	HWY. 16 ON LT.	151	84		
648+82	649+14	HWY. 16 IN RADIUS ON RT.		21		
649+40	649+66	HWY. 16 IN RADIUS ON LT.		24		
649+86	650+07	HWY. 16 IN RADIUS ON RT.		21		
650+07	650+92	HWY. 16 ON RT.	85	47		
650+39	650+71	HWY. 16 IN RADIUS ON LT.		21		
650+71	654+14	HWY. 16 ON LT.	343	191		
651+20	653+97	HWY. 16 ON RT.	277	154		
654+37	655+45	HWY. 16 ON RT.	108	60		
654+50	655+94	HWY. 16 ON LT.	144	80		
655+85	658+37	HWY. 16 ON RT.	252	140		
656+29	657+59	HWY. 16 ON LT.	130	72		
657+88	658+35	HWY. 16 ON LT.	47	26		
SUBTOTALS BOX 1 OF 2:				6985	42	200
SUBTOTALS BOX 2 OF 2:				1590		
TOTALS:				8575	42	200

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D-1)	* 4' CHAIN LINK FENCE	* 16'-0" GATES	* 4'-0" GATES
			LIN.FT.			EACH	EACH
50+82	53+37	WIRE FENCE ON LT.	242				
53+92	54+86	WIRE FENCE ON LT.	95				
624+47	625+16	CHAIN LINK FENCE ON LT.	70				1
627+91	629+29	WIRE FENCE ON LT.		141			
628+04	628+90	CHAIN LINK FENCE ON RT.			85	1	
630+47	632+55	CHAIN LINK FENCE ON RT.			181	2	
639+01	639+37	WIRE FENCE ON LT.	36				
640+46	641+56	CHAIN LINK FENCE ON LT.			111		
646+05	649+27	WIRE FENCE ON RT.	473				
653+72	662+00	WIRE FENCE ON RT.	570			1	
658+65	662+00	WIRE FENCE ON LT.	339				
TOTALS:			1825	141	377	4	1

* DENOTES ALTERNATE BID ITEM.

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	61	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) LIN. FT.							REINFORCED CONCRETE PIPE CULVERT (CLASS IV) LIN. FT.						REINFORCED CONCRETE PIPE CULVERT (CLASS V) LIN. FT.					PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 LIN. FT.					FLARED END SECTIONS FOR R.C. PIPE CULVERTS EACH						SAFETY END SECTIONS FOR R.C. PIPE CULVERTS EACH	DROP INLETS TYPE C	DROP INLETS TYPE MO	DROP INLETS EXT. 4'	DROP INLETS EXT. 8'	JUNCT. BOX (TYPE E)	JUNCT. BOX (TYPE ST)	SOLID SODDING SQ.YD.	WATER M.GAL	STD. DWG. NOS.
		18"	24"	30"	36"	42"	54"	73"X45"	18"	24"	36"	42"	22"X14"	73"X45"	18"	24"	36"	54"	44"X27"	18"	24"	30"	42"	48"	18"	24"	30"	36"	42"	73"X45"	42"X29"									
25+57	DROP INLET ON LT.								31																							1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
25+57	DROP INLET ON RT.																				66											1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
29+82	DROP INLET ON RT.												52																			1								FPC-9E, FPC-9M, PCC-1, PCM-1
29+91	DROP INLET ON LT.	6																							1							1	1			5	0.06	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
30+51	JUNCTION BOX ON LT.	57																																	1				FPC-9S, FES-1, FES-2, PCC-1, PCM-1
31+90	DROP INLET ON LT.																			111												1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
51+17	DROP INLET ON LT.														76																	1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
51+71	DROP INLET ON RT.																			180												1		1						FPC-9E, FPC-9M, PCC-1, PCM-1
53+03	JUNCTION BOX ON RT.	28																							1											1		5	0.06	FPC-9, FES-1, FES-2, PCC-1, PCM-1
64+40	DROP INLET ON LT.	61								37															1							1	1				5	0.06	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
64+40	DROP INLET ON RT.	61	90																						1							1	1				5	0.06	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
599+35	DROP INLET ON RT.														45																	1								FPC-9E, FPC-9M, PCC-1, PCM-1
580+78	DROP INLET ON LT.			11																		83						1				1				13	0.16	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
581+70	DROP INLET ON LT.																					137										1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
583+17	DROP INLET ON LT.																					129										1							FPC-9E, FPC-9M, PCC-1, PCM-1
584+50	DROP INLET ON LT.																					132										1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
585+88	DROP INLET ON LT.	12										63											63		1							1					5	0.06	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
585+88	JUNCTION BOX ON RT.					12																							1							1		23	0.29	FPC-9, FES-1, FES-2, PCC-1, PCM-1
586+05	DROP INLET ON RT.																			14												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
590+00	DROP INLET ON LT.																			187												1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
592+00	DROP INLET ON LT.																			116												1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
593+27	DROP INLET ON LT.																						144						2			1					25	0.32	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
594+16	DROP INLET ON LT.																						90										1		1				FPC-9E, FPC-9M, PCC-1, PCM-1
594+70	DROP INLET ON LT.																																1		1				FPC-9E, FPC-9M
596+60	DROP INLET ON LT.																				178												1	1					FPC-9E, FPC-9M, PCC-1, PCM-1
598+50	DROP INLET ON LT.																				180												1	1					FPC-9E, FPC-9M, PCC-1, PCM-1
599+35	DROP INLET ON LT.		7																		81					1						1				8	0.10	FPC-9E, FPC-9M, PCC-1, PCM-1
612+69	DROP INLET ON RT.																			95												1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
613+35	DROP INLET ON LT.								84																							1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
615+44	DROP INLET ON LT.																32															1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
615+82	JUNCTION BOX ON LT.																48		30												1				1		29		FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
616+35	DROP INLET ON LT.				12																											1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
616+53	JUNCTION BOX ON LT.																																		1				FPC-9
616+60	DROP INLET ON LT.										78																	1				1		1			17	0.21	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
618+00	DROP INLET ON LT.																					99										1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
619+35	DROP INLET ON LT.																23															1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
621+45	DROP INLET ON LT.																			203												1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
622+30	DROP INLET ON LT.	40																		80					1							1				5	0.06	FPC-9E, FPC-9M, PCC-1, PCM-1
629+46	DROP INLET ON RT.							82																									1		1				FPC-9E, FPC-9M, PCC-1, PCM-1
630+35	JUNCTION BOX ON RT.							12																						1						1		64	0.81	FPC-9, FES-1, FES-2, PCC-1, PCM-1
631+00	DROP INLET ON LT.																				121												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
632+25	DROP INLET ON LT.																				119												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
633+50	DROP INLET ON LT.																				88												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
634+45	DROP INLET ON LT.																244																1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
637+00	DROP INLET ON LT.																					88											1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
638+04	DROP INLET ON LT.																																1	1						FPC-9E, FPC-9M
638+37	DROP INLET ON LT.						16																										1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
638+76	DROP INLET ON LT.																	32															1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
639+92	DROP INLET ON LT.			3																			110				1						1	1				29	0.37	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
641+00	DROP INLET ON RT.																85																1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
642+00	DROP INLET ON LT.																				96												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
644+00	DROP INLET ON RT.														55																		1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
644+00	DROP INLET ON LT.																				196												1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
645+79	DROP INLET ON LT.																				174												1							FPC-9E, FPC-9M, PCC-1, PCM-1
647+00	DROP INLET ON RT.														59																		1							FPC-9E, FPC-9M, PCC-1, PCM-1
647+00	DROP INLET ON LT.																			118													1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
650+75	DROP INLET ON LT.																					71											1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
651+50	JUNCTION BOX ON LT.																					125														1				FPC-9, PCC-1, PCM-1
652+79	DROP INLET ON LT.																					10											1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
652+79	DROP INLET ON RT.																																1	1						FPC-9E, FPC-9M, PCC-1, PCM-1
652+93	DROP INLET ON LT.					79																							1				1				23	0.29	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
653+21	DROP INLET ON RT.					26																							1				1				23	0.29	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
655+42	DROP INLET ON LT.																			154													1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
657+00	DROP INLET ON LT.	16							55																1							1	1				5	0.06	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
661+26	DROP INLET ON LT.	4																														1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
661+26	DROP INLET ON RT.	4																														1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
619+07	JUNCTION BOX ON LT.		100																																	1				FPC-9S, PCC-1, PCM-1
626+00	DROP INLET ON LT.																				300												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
629+05	DROP INLET ON LT.							8						70																1			1		1			64	0.81	FPC-9E, FPC-9M, FES-1, FES-2, PCC-1, PCM-1
641+00	DROP INLET ON LT.																				103												1		1					FPC-9E, FPC-9M, PCC-1, PCM-1
626+00	DROP INLET ON RT.									55																														FPC-9E, FPC-9M, PCC-1, PCM-1
TOTALS:		289	197	14	12	117	16	102	170	92	78	63	52	70	235	352	80	32	30	1258	1702	874	297	110	7	1	2	1	5	2	1	4	58	28	22	5	3	353	4.07	

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.

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3-15-11

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	62	216

(2) QUANTITIES

STRUCTURES

STATION	DESCRIPTION	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.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
594+70	CONSTRUCT R.C. BOX CULVERT	6	3	141	67.17	9503	38	16	0.20	R-130X-0, W-X30, W-X303-1, RCB-1, RCB-2
616+53	EXTEND R.C. BOX ON RT.	3	3	44	17.12	1422	12	4	0.05	SPECIAL DETAIL, RCB-1, RCB-2, RCB-3
TOTALS:					84.29	10925	50	20	0.25	
STRUCTURES OVER 20' - 0" SPAN										
53+55	EXTEND QUAD 10' x 6' R.C. BOX CULVERT	10	6	10	47.92	8046	27	15	0.19	W-X002-1, R400X-0, RCB-1, RCB-2, RCB-3
638+04	EXTEND TRPL R.C. BOX	10	6	25	79.01	12799	38	16	0.20	W-X15, W-X153-1, R-315X-0, RCB-1, RCB-2, RCB-3
TOTALS:					126.93	20845	65	31	0.39	

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	38	76
DIRECTED BY THE ENGINEER		
TOTALS:	38	76

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
MICHAEL D. FUGETT
3/7/12

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	100
DIRECTED BY THE ENGINEER	
TOTAL:	100

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	300
TOTAL:	300

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
25+18	CURTIS AVE.	9.67	38	13.6
25+57	CURTIS AVE.	7.92	30	8.8
29+82	HAPPY HOLLOW RD.	8.50	52	16.4
50+54	HWY. 265	8.50	102	32.1
51+17	HWY. 265	7.92	64	18.8
64+40	STONE BRIDGE RD.	8.50	24	7.6
299+35	HWY. 16	7.92	46	13.5
585+88	HWY. 16	10.25	32	12.1
613+35	HWY. 16	7.92	66	19.4
616+00	HWY. 16 ON LT.	9.67	58	20.8
616+60	HWY. 16	9.67	26	9.3
619+00	HWY. 16 ON LT.	9.08	36	12.1
626+00	HWY. 16	8.50	26	8.2
629+05	HWY. 16	13.17	48	23.4
639+37	HWY. 16	7.92	64	18.8
640+00	HWY. 16	8.50	26	8.2
644+00	HWY. 16	7.92	24	7.0
647+00	HWY. 16	7.92	24	7.0
657+00	HWY. 16	7.92	24	7.0
TOTAL:				264.1

AVG. DEPTH = 1'-0"

YARD DRAINS

LOCATION	YARD DRAINS
	EACH
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	6
TOTALS:	6

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
21+74	22+47	ARMSTRONG AVE.	26	210.89
25+24	26+24	CURTIS AVE.	26	288.89
29+75	30+75	HAPPY HOLLOW RD.	47	522.22
54+00	55+00	HWY. 265	52	577.78
60+52	61+52	STONE BRIDGE RD.	24	266.67
64+95	65+85	STONE BRIDGE RD.	24	240.00
598+35	599+35	HWY. 16	44	488.89
610+63	613+13	HWY. 16	48	1333.33
660+30	661+30	HWY. 16	22	244.44
849+50	850+50	HWY. 16	22	244.44
TOTAL:				4417.55

NOTE: AVERAGE MILLING DEPTH 1".

RETAINING WALLS

STATION	STATION	LOCATION	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL. EXC. FOR STR.- ROADWAY	ARCHITECTURAL FINISH	TEXTURED COATING FINISH
			CU.YDS.	POUNDS	CU.YDS.	SQ. FT.	SQ. YDS.
634+00	635+49	RADIUS OF HWY. 16 AND HWY. 265	57.85	4496.63	253.98	605	67
TOTALS:			57.85	4496.63	253.98	605	67

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	TACK COAT (0.10 GAL. PER SQ. YD.)			PORTLAND CEMENT CONCRETE BASE			
				AVG. WID.	SQ. YD.	GAL.	AVG. WID.	10" U.T.	AVG. WID.	8" U.T.
			FEET	FEET			FEET	SQ. YD.	FEET	SQ. YD.
MAIN LANES										
598+00	599+35	4 LANE NOTCH AND WIDEN	135.0	4.8	72.0	7.2	4.8	72.0	9.8	147.0
612+13	613+13	4 LANE NOTCH AND WIDEN	100.0	7.0	77.8	7.8	7.0	77.8	12.0	133.3
616+18	617+20	4 LANE NOTCH AND WIDEN	102.0	2.6	29.5	3.0	2.6	29.5	5.1	57.8
617+20	618+51	4 LANE NOTCH AND WIDEN	131.0	2.6	37.8	3.8	2.6	37.8	5.1	74.2
634+50	636+94	INTERSECTION	244.0	VAR.	91.0	9.1	VAR.	91.0	VAR.	97.6
SIDE ROADS										
21+74	23+17	ARMSTRONG AVE. 3 LANE NOTCH AND WIDEN	143.0						2.5	39.7
25+54	26+24	CURTIS AVE. 2 LANE NOTCH AND WIDEN	70.0	1.5	11.7	1.2	1.5	11.7	6.5	50.6
29+75	31+96	HAPPY HOLLOW RD. 2 LANE NOTCH AND WIDEN	221.0	49.8	1222.9	122.3	VAR.	49.8	VAR.	86.0
51+29	53+20	HWY. 265 6 LANE NOTCH AND WIDEN	191.0	1.5	31.8	3.2	1.5	31.8	4.0	84.9
53+20	55+00	HWY. 265 6-4 LANE NOTCH AND WIDEN	180.0	8.6	172.0	17.2	8.6	172.0	13.6	272.0
TOTALS:						174.8		573.4		1043.1

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	63	216

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGITT
5/14/12

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	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 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON
MAIN LANES																					
579+50	580+50	OVERLAY	100.0			40.0	444.4	0.03	13.3									40.0	444.4	220.0	48.9
580+50	580+66	4 LANE NOTCH AND WIDEN	16.0	167.25	26.8	106.3	189.0	0.03	5.7	27.3	48.5	550.0	13.3	24.3	43.2	330.0	7.1	79.0	140.4	220.0	15.4
580+66	582+26	4-5 LANE NOTCH AND WIDEN	160.0	176.50	282.4	116.4	2069.3	0.03	62.1	29.1	517.3	550.0	142.3	29.1	517.3	330.0	85.4	87.3	1552.0	220.0	170.7
582+26	582+75	5 LANE NOTCH AND WIDEN	49.0	180.75	88.6	123.8	674.0	0.03	20.2	29.9	162.8	550.0	44.8	29.9	162.8	330.0	26.9	94.0	511.8	220.0	56.3
582+75	585+33	INTERSECTION	258.0	VAR.	341.7	VAR.	4377.0	0.03	131.3	VAR.	632.1	550.0	173.8	VAR.	632.1	330.0	104.3	VAR.	3744.3	220.0	411.9
585+33	586+93	5-4 LANE NOTCH AND WIDEN	160.0	178.50	285.6	116.8	2076.4	0.03	62.3	29.4	522.7	550.0	143.7	29.4	522.7	330.0	86.2	87.4	1553.8	220.0	170.9
586+93	589+06	4 LANE NOTCH AND WIDEN	213.0	168.75	359.4	106.6	2522.9	0.03	75.7	27.5	650.8	550.0	179.0	27.5	650.8	330.0	107.4	79.1	1872.0	220.0	205.9
589+06	591+80	4 LANE NOTCH AND WIDEN	274.0	146.25	400.7	74.9	2280.3	0.03	68.4	23.2	706.3	550.0	194.2	23.2	706.3	330.0	116.5	74.9	2280.3	220.0	250.8
591+80	594+26	INTERSECTION	246.0	VAR.	828.7	VAR.	5762.6	0.03	172.9	VAR.	1614.4	550.0	444.0	VAR.	1614.4	330.0	266.4	VAR.	4148.2	220.0	456.3
594+26	596+42	4 LANE NOTCH AND WIDEN	216.0	118.50	256.0	88.2	2116.8	0.03	63.5	17.9	429.6	550.0	118.1	17.9	429.6	330.0	70.9	70.3	1687.2	220.0	185.6
596+42	597+65	4 LANE NOTCH AND WIDEN	123.0	96.00	118.1	80.4	1098.8	0.03	33.0	13.5	184.5	550.0	50.7	13.5	184.5	330.0	30.4	66.9	914.3	220.0	100.6
597+65	598+00	4 LANE NOTCH AND WIDEN	35.0	76.25	26.7	62.9	244.6	0.03	7.3	9.7	37.7	550.0	10.4	9.7	37.7	330.0	6.2	62.9	244.6	220.0	26.9
598+00	599+35	4 LANE NOTCH AND WIDEN	135.0			42.2	633.0	0.03	19.0									51.8	777.0	220.0	85.5
612+13	613+13	4 LANE NOTCH AND WIDEN	100.0			43.1	478.9	0.03	14.4									50.1	556.7	220.0	61.2
613+13	616+18	4 LANE NOTCH AND WIDEN	305.0	142.25	433.9	98.1	3324.5	0.03	99.7	22.5	762.5	550.0	209.7	22.5	762.5	330.0	125.8	75.7	2565.4	220.0	282.2
616+18	617+20	4 LANE NOTCH AND WIDEN	102.0	155.50	158.6	105.7	1197.9	0.03	35.9	27.5	311.7	550.0	85.7	27.5	311.7	330.0	51.4	80.8	915.7	220.0	100.7
617+20	618+51	4 LANE NOTCH AND WIDEN	131.0	151.00	197.8	102.9	1497.8	0.03	44.9	26.6	387.2	550.0	106.5	26.6	387.2	330.0	63.9	52.2	759.8	220.0	83.6
618+51	622+67	4 LANE NOTCH AND WIDEN	416.0	178.25	741.5	111.1	5135.3	0.03	154.1	29.4	1358.9	550.0	373.7	29.4	1358.9	330.0	224.2	81.7	3776.4	220.0	415.4
622+67	628+08	4 LANE NOTCH AND WIDEN	541.0	165.50	895.4	104.6	6287.6	0.03	188.6	26.9	1617.0	550.0	444.7	26.9	1617.0	330.0	266.8	77.7	4670.6	220.0	513.8
628+08	628+50	4 LANE NOTCH AND WIDEN	42.0	147.75	62.1	97.8	456.4	0.03	13.7	23.5	109.7	550.0	30.2	23.5	109.7	330.0	18.1	74.2	346.3	220.0	38.1
628+50	629+60	4-6 LANE NOTCH AND WIDEN	110.0	127.75	140.5	95.3	1164.8	0.03	34.9	19.6	239.6	550.0	65.9	19.6	239.6	330.0	39.5	75.6	924.0	220.0	101.6
629+60	631+20	4-6 LANE NOTCH AND WIDEN	160.0	122.25	195.6	102.1	1815.1	0.03	54.5	18.6	330.7	550.0	90.9	18.6	330.7	330.0	54.6	83.6	1486.2	220.0	163.5
631+20	632+30	4-6 LANE NOTCH AND WIDEN	110.0	152.00	167.2	122.9	1502.1	0.03	45.1	24.3	297.0	550.0	81.7	24.3	297.0	330.0	49.0	98.5	1203.9	220.0	132.4
632+30	634+50	6 LANE NOTCH AND WIDEN	220.0	171.75	377.9	106.3	2598.4	0.03	78.0	28.1	686.9	550.0	188.9	28.1	686.9	330.0	113.3	106.3	2598.4	220.0	285.8
634+50	636+94	INTERSECTION	244.0	VAR.	468.5	VAR.	4963.2	0.03	148.9	VAR.	873.0	550.0	240.1	VAR.	873.0	330.0	144.0	VAR.	4090.2	220.0	449.9
636+94	637+53	7 LANE NOTCH AND WIDEN	59.0	207.25	122.3	157.5	1032.5	0.03	31.0	35.0	229.4	550.0	63.1	35.0	229.4	330.0	37.9	122.5	803.1	220.0	88.3
637+53	638+96	7 LANE NOTCH AND WIDEN	143.0	236.50	338.2	169.1	2686.8	0.03	80.6	40.6	645.1	550.0	177.4	40.6	645.1	330.0	106.4	128.5	2041.7	220.0	224.6
638+96	640+51	7 LANE NOTCH AND WIDEN	155.0	298.50	462.7	193.2	3327.3	0.03	99.8	52.6	905.9	550.0	249.1	52.6	905.9	330.0	149.5	140.6	2421.4	220.0	266.4
640+51	643+71	7 LANE NOTCH AND WIDEN	320.0	258.25	826.4	159.5	5671.1	0.03	170.1	44.8	1592.9	550.0	438.0	44.8	1592.9	330.0	262.8	114.7	4078.2	220.0	448.6
643+71	646+42	4 LANE NOTCH AND WIDEN	271.0	177.00	479.7	110.4	3324.3	0.03	99.7	29.1	876.2	550.0	241.0	29.1	876.2	330.0	144.6	81.3	2448.0	220.0	269.3
646+42	648+02	4-5 LANE NOTCH AND WIDEN	160.0	208.25	333.2	93.3	1658.7	0.03	49.8	35.2	625.8	550.0	172.1	35.2	625.8	330.0	103.3	93.3	1658.7	220.0	182.5
648+02	648+82	5 LANE NOTCH AND WIDEN	80.0	345.75	276.6	207.9	1848.0	0.03	55.4	61.6	547.6	550.0	150.6	61.6	547.6	330.0	90.4	146.3	1300.4	220.0	143.0
648+82	650+71	INTERSECTION	189.0	VAR.	558.2	VAR.	4261.8	0.03	127.9	VAR.	1059.3	550.0	291.3	VAR.	1059.3	330.0	174.8	VAR.	3202.5	220.0	352.3
650+71	651+50	5 LANE NOTCH AND WIDEN	79.0	240.00	189.6	105.6	926.9	0.03	27.8	41.3	362.5	550.0	99.7	41.3	362.5	330.0	59.8	105.6	926.9	220.0	102.0
651+50	653+10	5-4 LANE NOTCH AND WIDEN	160.0	209.75	335.6	129.3	2298.7	0.03	69.0	35.4	629.3	550.0	173.1	35.4	629.3	330.0	103.8	93.8	1667.6	220.0	183.4
653+10	658+30	4 LANE NOTCH AND WIDEN	520.0	179.75	934.7	112.0	6471.1	0.03	194.1	29.7	1716.0	550.0	471.9	29.7	1716.0	330.0	283.1	82.3	4755.1	220.0	523.1
658+30	659+90	4-2 LANE NOTCH AND WIDEN	160.0	138.75	222.0	88.2	1568.0	0.03	47.0	21.7	385.8	550.0	106.1	21.7	385.8	330.0	63.7	66.5	1182.2	220.0	130.0
659+90	661+30	4-2 LANE NOTCH AND WIDEN	140.0	82.00	114.8	55.5	863.3	0.03	25.9	10.8	168.0	550.0	46.2	10.8	168.0	330.0	27.7	44.7	695.3	220.0	76.5
DETOUR																					
102+90	103+71	HAPPY HOLLOW RD. DETOUR	81.0	VAR.	106.8	VAR.	355.8	0.03	10.7					VAR.	178.0	330.0	29.4	VAR.	181.5	220.0	20.0
103+71	105+44	HAPPY HOLLOW RD. DETOUR	173.0	120.81	209.0	44.8	861.2	0.03	25.8					22.5	432.5	330.0	71.4	26.0	499.8	220.0	55.0
105+44	106+94	HAPPY HOLLOW RD. DETOUR	150.0	VAR.	118.2	VAR.	371.8	0.03	11.2					VAR.	186.0	330.0	30.7	VAR.	219.0	220.0	24.1
SIDE ROADS																					
21+74	23+17	ARMSTRONG AVE. 3 LANE NOTCH AND WIDEN	143.0	69.75	99.7	57.7	916.8	0.03	27.5	10.9	173.2	550.0	47.6	10.9	173.2	330.0	28.6	46.7	742.0	220.0	81.6
25+54	26+24	CURTIS AVE. 2 LANE NOTCH AND WIDEN	70.0			26.5	206.1	0.03	6.2									28.0	217.8	220.0	24.0
29+75	31+96	HAPPY HOLLOW RD. 2 LANE NOTCH AND WIDEN	221.0	VAR.	178.2	VAR.	1644.3	0.03	49.3	VAR.	293.8	550.0	80.8	VAR.	293.8	330.0	48.5	VAR.	1400.2	220.0	154.0
51+29	53+20	HWY. 265 6 LANE NOTCH AND WIDEN	191.0	85.00	162.4	99.4	2109.5	0.03	63.3	13.9	295.0	550.0	81.1	13.9	295.0	330.0	48.7	85.3	1810.3	220.0	199.1
53+20	55+00	HWY. 265 6-4 LANE NOTCH AND WIDEN	180.0			54.0	1080.0	0.03	32.4									62.6	1252.0	220.0	137.7
60+52	61+42	STONE BRIDGE 2-3 LANE NOTCH AND WIDEN	90.0	125.25	112.7	46.0	460.0	0.03	13.8	7.3	73.0	550.0	20.1	7.0	70.0	330.0	11.6	42.3	423.0	220.0	46.5
61+42	61+72	STONE BRIDGE 3 LANE NOTCH AND WIDEN	30.0	218.50	65.6	65.5	218.3	0.03	6.5	13.8	46.0	550.0	12.7	13.5	45.0	330.0	7.4	63.0	210.0	220.0	23.1
61+72	62+23	STONE BRIDGE 3 LANE NOTCH AND WIDEN	51.0	64.75	33.0	57.5	325.8	0.03	9.8	12.5	70.8	550.0	19.5	12.5	70.8	330.0	11.7	45.0	255.0	220.0	28.1
64+34	64+95	STONE BRIDGE 3 LANE NOTCH AND WIDEN	61.0	63.25	38.6	58.1	393.8	0.03	11.8	12.2	82.7	550.0	22.7	12.2	82.7	330.0	13.6	45.9	311.1	220.0	34.2
64+95	65+85	STONE BRIDGE 2-3 LANE NOTCH AND WIDEN	90.0	122.75	110.5	42.9	429.0	0.03	12.9	7.4	74.0	550.0	20.4	7.1	71.0	330.0	11.7	35.0	350.0	220.0	38.5
61+70		13TH STREET TURNOUT		VAR.	120.5	VAR.	644.4	0.03	19.3	VAR.	214.8	550.0	59.1	VAR.	214.8	330.0	35.4	VAR.	429.6	220.0	47.3
615+88		S. RAY AVE. NORTH TURNOUT		VAR.	91.7	VAR.	489.3	0.03	14.7	VAR.	163.1	550.0	44.9	VAR.	163.1	330.0	26.9	VAR.	326.2	220.0	35.9
616+15		S. RAY AVE. SOUTH TURNOUT		VAR.	132.5	VAR.	735.0	0.03	22.1	VAR.	245.0	550.0	67.4	VAR.	245.0	330.0	40.4	VAR.	490.0	220.0	53.9
618+91		S. DOCKERY LN. TURNOUT		VAR.	68.7	VAR.	357.4	0.03	10.7	VAR.	357.4	550.0	98.3	VAR.	119.1	330.0	19.7	VAR.	119.1	220.0	13.1
622+47		S. CHERRY LN. TURNOUT		VAR.	60.1	VAR.	310.3	0.03	9.3	VAR.	103.4	550.0	28.4	VAR.	103.4	330.0	17.1	VAR.	206.9	220.0	22.8
625+46		S. JERRY AVE. TURNOUT		VAR.	90.7	VAR.	490.7	0.03	14.7	VAR.	163.6	550.0	45.0	VAR.	163.6	330.0	27.0	VAR.	327.1	220.0	36.0
ADDITIONAL FOR LEVELING																					
579+50	599+30	HWY. 16	1980.0			VAR.	22698.0	0.03	680.9									VAR.	VAR.	VAR.	2496.8
612+13	661+35	HWY. 16	4922.0			VAR.	34200.0	0.03	1026.0									VAR.	VAR.	VAR.	3762.0
21+74	23+16	ARMSTRONG AVE.	142.0			VAR.	1152.0	0.03	34.6									VAR.	VAR.	VAR.	126.7
25+56	26+23	CURTIS AVE.	67.0			VAR.	201.0	0.03	6.0									VAR.	VAR.	VAR.	22.1
29+75	31+96	HAPPY HOLLOW RD.	221.0			VAR.	2700.0	0.03	81.0									VAR.	VAR.	VAR.	297.0
51+16	54+50	HWY. 265	334.0			VAR.	2078.0	0.03	62.3									VAR.	VAR.	VAR.	228.6
60+72	62+34	STONE BRIDGE RD.	162.0			VAR.	396.0	0.03	11.9									VAR.	VAR.	VAR.	43.6
64+34	65+85	STONE BRIDGE RD.	151.0			VAR.	369.0	0.03	11.1									VAR.	VAR.	VAR.	40.6
TOTALS:					**13846.6**				**5011.3**				**6759.9**				**4145.9**				**15896.2**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.3% MIN. AGGR.....5.7% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.4% MIN. AGGR.....4.6% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.4% MIN. AGGR.....3.6% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

r040578.dgn
3-15-11

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	64	216
				(2) QUANTITIES				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS
										18"
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.
582+07	LT	DRIVEWAY	40	581+73	582+41	143.20				
582+82	LT	DRIVEWAY	40	582+48	583+16	129.00				
593+96	LT	DRIVEWAY	26	593+69	594+23	33.80	145.6	16.0	59.5	
595+91	RT	DRIVEWAY	16	595+69	596+13	24.90	126.7	13.9	51.7	
569+29	LT	DRIVEWAY	26	569+02	569+56	33.80	64.7	7.1	26.4	
569+92	LT	DRIVEWAY	26	569+65	570+19	89.80				
597+22	RT	DRIVEWAY	40	596+88	597+56	46.20	295.6	32.5	120.7	
598+00	LT	DRIVEWAY	30	597+71	598+29	148.20				
598+32	RT	DRIVEWAY	16	598+10	598+54	24.90	104.4	11.5	42.6	
599+00	LT	DRIVEWAY	26	598+73	599+27	98.70				
599+73	LT	DRIVEWAY	26	599+46	600+00	33.80	59.0	6.5	24.1	
22+00	LT	DRIVEWAY	40	21+66	22+34	184.30				
26+00	LT	DRIVEWAY	40	25+66	26+34	103.80				
30+50	LT	DRIVEWAY	40	30+16	30+84	46.20	67.2	7.4	27.4	
30+72	RT	DRIVEWAY	40	30+38	31+06	46.20	143.6	15.8	58.6	
613+60	LT	DRIVEWAY	28	613+32	613+88	35.60	146.8	16.1	59.9	
614+66	LT	DRIVEWAY	18	614+43	614+89	86.40				
615+36	RT	DRIVEWAY	40	615+02	615+70	243.40				
616+04	LT	DRIVEWAY	16	615+82	616+26	24.90	10.7	1.2	4.4	
617+29	LT	DRIVEWAY	16	617+07	617+51	51.20				
617+37	LT	DRIVEWAY	16	617+15	617+59	52.00				
617+80	RT	DRIVEWAY	16	617+58	618+02	24.90	51.0	5.6	20.8	
619+48	RT	DRIVEWAY	18	619+25	619+71	104.70				
620+20	LT	DRIVEWAY	16	619+98	620+42	24.90	51.5	5.7	21.0	
620+87	RT	DRIVEWAY	16	620+65	621+09	24.90	64.0	7.0	26.1	
620+87	LT	DRIVEWAY	16	620+65	621+09	24.90	36.7	4.0	15.0	
621+21	LT	DRIVEWAY	16	620+99	621+43	24.90	37.9	4.2	15.5	
621+45	RT	DRIVEWAY	16	621+23	621+67	24.90	57.7	6.3	23.6	
622+41	RT	DRIVEWAY	16	622+19	622+63	24.90	57.8	6.4	23.6	
622+47	RT	DRIVEWAY	16	622+25	622+69	24.90	37.9	4.2	15.5	
623+36	RT	DRIVEWAY	16	623+14	623+58	24.90	37.9	4.2	15.5	
624+22	LT	DRIVEWAY	16	624+00	624+44	24.90	61.3	6.7	25.0	
624+40	RT	DRIVEWAY	18	624+17	624+63	26.70	40.4	4.4	16.5	
626+45	RT	DRIVEWAY	40	626+11	626+79	46.20	140.6	15.5	57.4	
626+78	LT	DRIVEWAY	30	626+49	627+07	37.30	78.1	8.6	31.9	
627+27	RT	DRIVEWAY	16	627+05	627+49	24.90	43.7	4.8	17.8	
627+52	LT	DRIVEWAY	16	627+30	627+74	24.90	41.4	4.6	16.9	
628+94	RT	DRIVEWAY	16	628+72	629+16	24.90	42.7	4.7	17.4	
629+21	RT	DRIVEWAY	16	628+99	629+43	24.90	72.0	7.9	29.4	
630+28	LT	DRIVEWAY	16	630+06	630+50	24.90	23.2	2.6	9.5	
630+74	LT	DRIVEWAY	16	630+52	630+96	24.90	42.7	4.7	17.4	
631+70	RT	DRIVEWAY	39	631+37	632+04	45.30	107.2	11.8	43.8	
632+08	LT	DRIVEWAY	16	631+86	632+30	24.90	40.4	4.4	16.5	
633+12	LT	DRIVEWAY	16	632+90	633+34	24.90	36.1	4.0	14.7	
633+12	RT	DRIVEWAY	38	632+79	633+45	44.40	65.3	7.2	26.7	
635+82	LT	DRIVEWAY	40	635+48	636+16	46.20	169.5	18.6	69.2	
637+34	LT	DRIVEWAY	40	637+00	637+68	128.00				
639+20	LT	DRIVEWAY	26	638+93	639+47	33.80	40.0	4.4	16.3	
639+90	RT	DRIVEWAY	28	639+62	640+18	35.60	54.6	6.0	22.3	
641+68	LT	DRIVEWAY	16	641+46	641+90	24.90	59.4	6.5	24.3	
641+82	RT	DRIVEWAY	24	641+56	642+08	32.00	71.2	7.8	29.1	
643+00	LT	DRIVEWAY	16	642+78	643+22	24.90	47.7	5.2	19.5	
643+00	RT	DRIVEWAY	16	642+78	643+22	24.90	58.4	6.4	23.8	
643+53	RT	DRIVEWAY	16	643+31	643+75	76.90				
643+61	LT	DRIVEWAY	24	643+35	643+87	32.00	16.0	1.8	6.5	
644+32	LT	DRIVEWAY	16	644+10	644+54	44.50				
645+25	LT	DRIVEWAY	16	645+03	645+47	24.90	43.2	4.8	17.6	
645+95	RT	DRIVEWAY	16	645+73	646+17	24.90	48.8	5.4	19.9	
646+22	LT	DRIVEWAY	16	646+00	646+44	24.90	35.8	3.9	14.6	
647+70	LT	DRIVEWAY	26	647+43	647+97	33.80	18.8	2.1	7.7	
52+00	LT	DRIVEWAY	16	51+78	52+22	24.90				
52+00	RT	DRIVEWAY	40	51+66	52+34	140.60				
54+50	RT	DRIVEWAY	26	54+23	54+77	33.80	48.5	5.3	19.8	
60+92	LT	DRIVEWAY	16				40.6	4.5	16.6	48
61+06	RT	DRIVEWAY	16	60+84	61+28		24.9	2.7	10.2	54
62+34	RT	DRIVEWAY	16	62+12	62+56	24.90	82.8	9.1	33.8	
64+10	LT	DRIVEWAY	16	63+88	64+32	24.90	18.7	2.1	7.6	
651+06	RT	DRIVEWAY	16	650+84	651+28	24.90	73.4	8.1	30.0	
654+17	RT	DRIVEWAY	28	653+89	654+45	35.60	67.4	7.4	27.5	
654+32	LT	DRIVEWAY	24	654+06	654+58	97.60				
655+65	RT	DRIVEWAY	28	655+37	655+93	35.60	57.0	6.3	23.3	
656+11	LT	DRIVEWAY	23	655+86	656+37	92.70				
657+73	LT	DRIVEWAY	16	657+51	657+95	24.90	54.0	5.9	22.1	
* ENTIRE PROJECT TEMPORARY DRIVES									700.0	
TOTALS:						**3605.70**		**391.8**	**2154.5**	**102**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.3% MIN. AGGR.....5.7% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
* QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
** FOR INFORMATION ONLY
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.

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.

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3-15-11

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	65	216

(2) SUMMARY OF QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

SUMMARY OF QUANTITIES BOX 1 OF 3

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		60	STATION
201	GRUBBING		60	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		5729	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		3829	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES		2	EACH
202	REMOVAL AND DISPOSAL OF WALLS		274	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT		456	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		1638	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		2425	SQ. YD.
202	REMOVAL AND DISPOSAL OF STEPS		4	SQ. YD.
202	REMOVAL AND DISPOSAL OF WALKS		2311	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		1	EACH
202	REMOVAL AND DISPOSAL OF JUNCTION BOXES		1	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS		14	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		50	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS		3	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING		40	SQ. YD.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION		3	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		8	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS		1	EACH
202	REMOVAL AND DISPOSAL OF GAS LIGHT		1	EACH
210	UNCLASSIFIED EXCAVATION		9625	CU. YD.
210	COMPACTED EMBANKMENT		28740	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		16001	TON
309	PORTLAND CEMENT CONCRETE BASE (10" UNIFORM THICKNESS)		573	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (8" UNIFORM THICKNESS)		1043	SQ. YD.
401	TACK COAT		5262	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		6517	TON
SP, SS, & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")		243	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		3955	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")		191	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		15360	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		22	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		906	TON
412	COLD MILLING ASPHALT PAVEMENT		4418	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		38	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		100	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY		3605.70	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SS & 604	SIGNS		845	SQ. FT.
SS & 604	BARRICADES		336	LIN. FT.
SS & 604	TRAFFIC DRUMS		600	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		535	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		492	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS		109187	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)		11	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		7	EACH
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		5421	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		400	LIN. FT.
SS & 604	VERTICAL PANELS		77	EACH
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		289	LIN. FT.
* SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1258	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1258	LIN. FT.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		170	LIN. FT.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		235	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		197	LIN. FT.
* SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1702	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1702	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		92	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		352	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		14	LIN. FT.
* SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	874	LIN. FT.
* 606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	874	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		12	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		78	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		80	LIN. FT.
SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		117	LIN. FT.
* SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	297	LIN. FT.
* 606	42" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	297	LIN. FT.
SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		63	LIN. FT.
* SS & 606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	110	LIN. FT.
* 606	48" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	110	LIN. FT.
SS & 606	54" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		16	LIN. FT.
SS & 606	54" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		32	LIN. FT.
SS & 606	22" X 14" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV)		52	LIN. FT.
SS & 606	44" X 27" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS V)		30	LIN. FT.
SS & 606	73" X 45" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)		102	LIN. FT.
SS & 606	73" X 45" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV)		70	LIN. FT.
SP, SS, &606	18" SIDE DRAIN		102	LIN. FT.

*ALTERNATE BID ITEMS

SUMMARY OF QUANTITIES BOX 2 OF 3

ITEM NUMBER	ITEM		QUANTITY	UNIT
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		7	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		5	EACH
606	42" X 29" SAFETY END SECTIONS FOR CROSS DRAIN ARCH PIPE CULVERTS (CLASS 2)		1	EACH
606	73" X 45" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS		2	EACH
606	SELECTED PIPE BEDDING		300	CU. YD.
609	DROP INLETS (TYPE C)		4	EACH
609	DROP INLETS (TYPE MO)		58	EACH
609	JUNCTION BOXES (TYPE E)		5	EACH
609	JUNCTION BOXES (TYPE ST)		3	EACH
609	DROP INLET EXTENSIONS (4')		28	EACH
609	DROP INLET EXTENSIONS (8')		22	EACH
609	YARD DRAINS		6	EACH
611	UNDERDRAIN OUTLET PROTECTORS		15	EACH
611	4" PIPE UNDERDRAINS		9031	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)		264.1	CU. YD.
619	WIRE FENCE (TYPE C)		1825	LIN. FT.
619	WIRE FENCE (TYPE D-1)		141	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	377	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	377	LIN. FT.
* 619	4' STEEL GATES	(ALTERNATE NO. 1)	1	EACH
* 619	4' ALUMINUM GATES	(ALTERNATE NO. 2)	1	EACH
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	4	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	4	EACH
620	LIME		13	TON
620	SEEDING		6.30	ACRE
620	MULCH COVER		24.30	ACRE
SS & 620	WATER		1080.7	M.GAL.
621	TEMPORARY SEEDING		18.00	ACRE
621	SILT FENCE		16935	LIN. FT.
621	DROP INLET SILT FENCE		2121	LIN. FT.
621	SEDIMENT BASIN		300	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		300	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		1005	CU. YD.
621	ROCK DITCH CHECKS		84	CU. YD.
623	SECOND SEEDING APPLICATION		6.30	ACRE
624	SOLID SODDING		5660	SQ. YD.
632	CONCRETE ISLAND		191	SQ. YD.
633	CONCRETE WALKS		8575	SQ. YD.
633	CONCRETE WALKS (TYPE SPECIAL)		42	SQ. YD.
633	HAND RAILING		200	LIN. FT.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		12559	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		56	EACH
637	MAILBOX SUPPORTS (SINGLE)		28	EACH
637	MAILBOX SUPPORTS (DOUBLE)		14	EACH
641	WHEELCHAIR RAMPS (TYPE 2)		151	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 3)		30	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 4)		85	SQ. YD.
SP & 701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)		3	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)		48	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)		14	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED		26	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)		11002	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)		711	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)		238	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)		1459	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")		60	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")		40	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")		60	LIN. FT.
710	NON-METALLIC CONDUIT (2")		60	LIN. FT.
710	NON-METALLIC CONDUIT (3")		1568	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)		2	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)		15	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2)		5	EACH
713	SPAN WIRE ASSEMBLY		2	EACH

*ALTERNATE BID ITEMS

r040578.dgn
3-15-11

SUMMARY OF QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	66	216

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

SUMMARY OF QUANTITIES BOX 3 OF 3

ITEM NUMBER	ITEM	QUANTITY	UNIT
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (0')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	5	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58'-44')	1	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	6	EACH
716	TREATED WOOD POLE (CLASS 3, 45')	9	EACH
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	388	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	18758	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	527	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	2472	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	17661	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (12")	95	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	30	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	35	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)	29	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	294	EACH
SP & 733	VEHICLE DETECTOR RACK (24 CHANNEL)	3	EACH
733	VIDEO CABLE	6078	LIN. FT.
SP & 733	VIDEO DETECTOR (CLR)	33	EACH
733	VIDEO MONITOR (CLR)	3	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	13	EACH
SP & 733	VIDEO EDGE CARD EXTENDER	6	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	304	CU. YD.
802	CLASS S CONCRETE - ROADWAY	142.14	CU. YD.
SP	ARCHITECTURAL FINISH	605	SQ. FT.
SP	TEXTURED COATING FINISH	67	SQ. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	15422	POUND
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	1780	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	650	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	60	LIN. FT.
SP	LUMINAIRE ASSEMBLY	12	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	1672	LIN. FT.
SP	18" STREET NAME SIGN	14	EACH
SP	LOCAL RADIO WITH ANTENNA	3	EACH
SP	ANTENNA CABLE (TYPE 6)	210	LIN. FT.
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	3	EACH
SP	VIDEO DETECTOR ROTATION	1	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	2	EACH
	STRUCTURES OVER 20' SPAN		
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	65	CU. YD.
802	CLASS S CONCRETE - ROADWAY	126.93	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	20845	POUND

*ALTERNATE BID ITEMS

REVISION BOX

DATE	REVISION	SHEET NUMBER

3-15-11 r040578.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	67	216

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

SURVEY CONTROL COORDINATES

Project Name: S080295GI.CTL
Date: 9/17/2008
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
1	349245.3460	964800.9288	368.08	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
2	348344.9370	964771.2649	378.64	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
3	347376.7707	964766.7958	394.84	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
4	346389.7112	964708.4984	419.23	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
5	345412.8055	964673.5874	458.46	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
6	344784.9012	964679.0954	453.33	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
7	344362.8173	964622.4761	465.52	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
8	343669.6829	964662.8794	458.03	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
9	342997.6608	964909.2547	447.93	CTL	5/8" REBAR W/ 2" ALUMINUM CAP EAST SIDE INGLEWOOD
10	342395.7005	965037.1708	454.41	CTL	5/8" REBAR W/ 2" ALUMINUM CAP WEST SIDE INGLEWOOD
11	342146.7153	965299.9235	449.72	CTL	5/8" REBAR W/ 2" ALUMINUM CAP SOUTH SIDE INGLEWOOD
12	342233.3497	966099.7120	407.00	CTL	5/8" REBAR W/ 2" ALUMINUM CAP NORTH SIDE INGLEWOOD
13	342272.6995	967127.4022	390.98	CTL	5/8" REBAR W/ 2" ALUMINUM CAP
14	342311.8036	967786.1182	394.99	CTL	5/8" REBAR W/ 2" ALUMINUM CAP NORTH SIDE INGLEWOOD
100	349450.8567	964466.4228	370.57	GPS	AHTD GPS 580021
900	349010.7289	965756.3189	361.79	BM	STAINLESS STEEL ROD IN SLEEVE NGS MARK Q 292
901	349289.9183	964800.0607	367.48	BM	SQUARE CUT IN DROP INLET
902	348339.3454	964774.4471	378.73	BM	SQUARE CUT IN CF 2ND & INGLEWOOD
903	347315.5654	964737.0573	394.89	BM	SQUARE CUT IN RCP CRAIGWOOD & INGLEWOOD
904	346332.4522	964739.3719	421.56	BM	SQUARE CUT IN DROP INLET HONEYSUCKLE & INGLEWOOD
905	345175.0302	964669.3436	449.25	BM	SQUARE CUT IN BACK OF DROP INLET WEST OF INGLEWOOD
906	344339.0722	964625.6593	468.30	BM	CPS IN COMBINATION POLE WEST SIDE INGLEWOOD
907	343193.5039	964853.1734	446.98	BM	SQUARE CUT IN TOP OF REINFORCED CONCRETE PIPE
908	342442.0605	965055.2598	453.45	BM	CPS IN CP EAST SIDE INGLEWOOD
909	342229.0273	966478.5523	397.49	BM	SQUARE IN HEADWALL SOUTH OF 12TH & INGLEWOOD
910	342327.5756	967215.6866	390.51	BM	SQUARE CUT IN TOP OF HEADWALL NORTH SIDE INGLEWOOD

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
(AHTD 080295 T-), or as inindicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999386822 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. S080295GI.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: Q 292 - 580021
CONVERGENCE ANGLE: 0 40 42.29 LEFT AT LT: 35.171571248 LG: 93.095711828
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 16

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	500+00.00	631371.4815	671628.8015
8001	PC	527+42.66	631237.5770	674368.1937
8003	PT	528+57.30	631233.1258	674482.7456
8004	PI	529+99.91	631229.0145	674625.2928
8005	PI	550+00.17	631159.8616	676624.3588
8006	PI	572+00.16	631051.8825	678821.6937
8007	PC	579+20.84	631005.7726	679540.9004
8009	PT	582+68.96	631062.0577	679881.3978
8010	PC	589+67.97	631328.8885	680527.4703
8012	PT	597+98.58	631971.1098	680983.4151
8013	PC	607+52.34	632923.3888	681036.4306
8015	PT	612+15.88	633139.8168	681370.6382
8016	PC	614+57.59	633053.3531	681596.3492
8018	PT	622+80.41	632901.7499	682400.5933
8019	PI	630+00.39	632896.8496	683120.5632
8020	PC	632+35.65	632899.3543	683355.8019
8022	PT	636+83.70	632956.3945	683799.1753
8023	POE	666+12.37	633667.4656	686640.2092

HWY. 265

POINT NO.	TYPE	STATION	NORTHING	EASTING
8024	POB	50+00.00	632935.9954	683708.3233
8025	PC	50+74.70	633010.6578	683705.8047
8027	PT	52+74.70	633210.6293	683704.2965
8028	POE	55+45.24	633481.1142	683709.3385

HAPPY HOLLOW DETOUR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8029	POB	100+00.00	631364.0381	680600.8489
8030	PC	101+57.28	631439.6861	680738.7390
8032	PT	106+41.14	631831.7532	680985.8130
8033	POE	107+80.15	631970.5461	680993.5399

ARMSTRONG

POINT NO.	TYPE	STATION	NORTHING	EASTING
8034	POB	20+00.00	630711.3870	680260.4508
8035	POE	24+81.87	631102.1583	679978.4927

CURTIS

POINT NO.	TYPE	STATION	NORTHING	EASTING
8035	POB	24+81.87	631102.1583	679978.4927
8036	PC	25+69.65	631183.2542	679944.9077
8038	PT	27+32.47	631328.7649	679872.1462
8039	POE	28+63.17	631441.2226	679805.5391

HAPPY HOLLOW

POINT NO.	TYPE	STATION	NORTHING	EASTING
8040	POB	29+41.38	631192.5353	680954.6538
8041	PC	30+56.90	631307.9829	680958.7361
8043	PT	31+86.34	631423.1511	680909.3718
8044	POE	33+34.75	631521.6314	680798.3426

STONE BRIDGE

POINT NO.	TYPE	STATION	NORTHING	EASTING
8045	POB	60+00.00	632942.3437	685038.3160
8046	POE	67+81.64	633723.1905	685073.5293

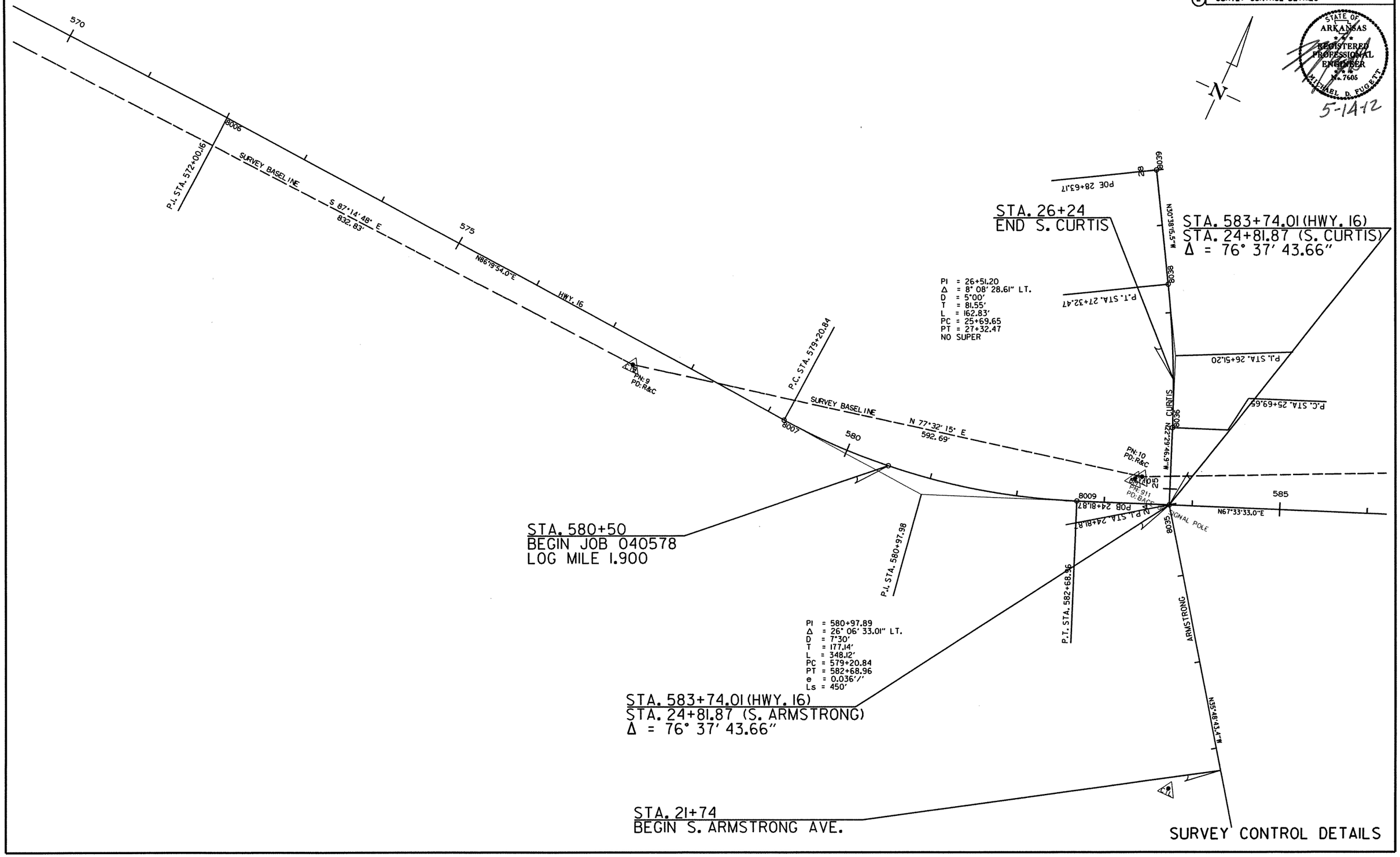
9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

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.		040578	68	216

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MITCHEL D. FUGETT
5-14-12



SURVEY CONTROL DETAILS

9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	69	216

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 593+03.28 (HWY. 16)
STA. 33+34.75 (HAPPY HOLLOW)
Δ = 90°

PI = 594+33.28
Δ = 64° 22' 21.59" LT.
D = 7°45'
T = 465.32'
L = 830.62'
PC = 589+67.97
PT = 597+98.58
e = 0.036'/'
Ls = 375'

STA. 599+35
BEGIN JOB EXCEPTION

P.I. STA. 26+51.20
P.C. STA. 25+69.65
8038
585
N67°33'33.0"E
SURVEY BASELINE
N 64°17'31" E
1072.81'
HWY. 16
P.C. STA. 589+67.97
POB 100+00.00
590
8010
100
8029
N61°15'01.3"E
P.C. STA. 101+57.28
POE 33+34.75
33
8044
8030
P.I. STA. 597+98.58
P.I. STA. 106+41.14
SURVEY BASELINE
600 N 7°45'12" E
1054.70
N3°11'11.3"E
107
8012
8033
8032
595
105
PK-12
PD:10 CUT HOWL
PK-11
PD:R4C
HAPPY HOLLOW DETOUR
N48°39'39.4"W
HAPPY HOLLOW
8043
PI = 31+26.15
Δ = 50° 27' 10.35" LT.
D = 38°58'36.19"
T = 69.26'
L = 129.44'
PC = 30+56.90
PT = 31+86.34
NO SUPER
P.I. STA. 31+86.34
P.C. STA. 30+56.90
PK-07
PD:CAP REBAR
P.I. STA. 104+22.29
P.I. STA. 594+33.28
P.I. STA. 31+26.15 HAPPY HOLLOW
N2°01'30.5"E
8041
POB 29+41.38
90
8040

STA. 29+75
BEGIN HAPPY HOLLOW RD.

SURVEY CONTROL DETAILS

9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	70	218

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 612+13
END JOB EXCEPTION

PN: 13
PD: RBR & CAP T-13

610

8015

S69°02'22.3"E

P.C. STA. 614+57.59

SURVEY BASELINE

S 75°28'33" E
972.87'

615

8016

HWY. 16

620

SURVEY BASELINE

PN: 14
PD: RBR & CAP T-14

S 82°08'35" E
536.91'

8018

P.T. STA. 618+29.41

PN: 913
PD: SQ CUT W END WR LT CL

S89°36'36.1"E

625

PN: 905
PD: SQ CUT IN BASE SIGNAL BOX

P.T. STA. 612+15.88

PI = 610+90.12
Δ = 107° 46' 26.30" RT.
D = 23°15'
T = 337.78'
L = 463.54'
PC = 607+52.34
PT = 612+15.88
MATCH EXISTING SUPER

PI = 618+73.47
Δ = 20° 34' 13.83" LT.
D = 2°30'
T = 415.89'
L = 822.82'
PC = 614+57.59
PT = 622+80.41
e = 0.024'/'
Ls = 300'

P.I. STA. 618+73.47

SURVEY CONTROL DETAILS

9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	71	218

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
12760
MITCHEL D. PUGATT
5-14-12

STA. 55+00
BEGIN END HWY. 265

POE 55+45.24

8028

55

N°04'04.5"E

HWY. 265

8027

P.T. STA. 52+74.70

PI = 51+74.73
Δ = 3° 00' 00.00" RT.
D = 1°30'
T = 100.02'
L = 200.00'
PC = 50+74.70
PT = 52+74.70
NO SUPER

P.I. STA. 51+74.73

P.C. STA. 50+74.70

STA. 635+90.58 (HWY. 16)
STA. 50+00 (HWY. 265)
Δ = 80° 40' 26.85"

P.I. STA. 630+00.39

P.C. STA. 632+35.65

PI = 634+60.71
Δ = 13° 26' 29.86" LT.
D = 3°00'
T = 225.06'
L = 448.05'
PC = 632+35.65
PT = 636+83.70
e = 0.026'/'
Ls = 450'

8025

N1°55'56"W

625

S89°36'36.1"E

HWY. 16

630

8019

N89°23'23.8"E

640

N75°56'54.0"E

8024

POB 50+00.00

635

8022

8020

SURVEY BASELINE

N 89°37' 34" E
694.67'

SURVEY BASELINE

N 82°29' 48" E
373.16'

PN: 15
PD: RBR & CAP T-15

PN: 16
PD: RBR & CAP T-16

PN: 17
PD: RBR & CAP T-17

PN: 906
PD: SQ CUT BASE SIGNAL BOX

P.I. STA. 634+60.71

P.T. STA. 636+83.70

9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

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.		040578	72	216

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

P.I. STA. 67+81.64

8046

N

STA. 65+85
END STONE BRIDGE RD.

STA. 649+76.31 (HWY. 16)
STA. 63+28.22 (STONE BRIDGE)
Δ = 73° 21' 58.52"

65

N2°34'55.5"E

PN: 19269
PD: G 17 ALUM CAP IN CONC OWNER FAYETTEVILL

640

SURVEY BASELINE
N75°56'54.0"E

N 72°46'45" E
901.91'

645

HWY. 16

PN: 18
PD: ROD&CAP

650

N75°56'54.0"E

655

SURVEY BASELINE

N 78°49'51" E
963.56'

BM
PN: 914
PD: ROD&CAP

PN: 19
PD: R&C

STONE BRIDGE

P.I. STA. 60+00.00

8045

STA. 60+52
BEGIN STONE BRIDGE RD.

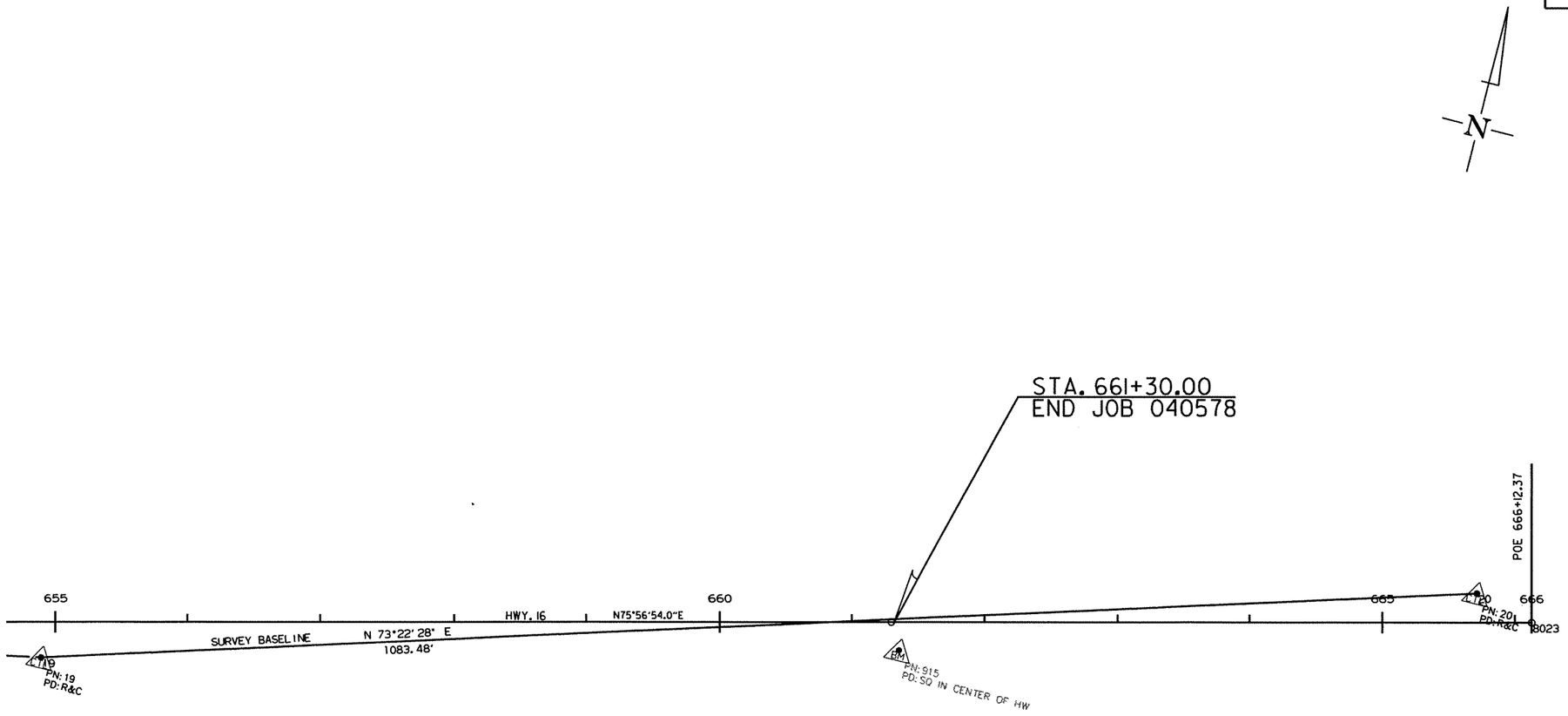
SURVEY CONTROL DETAILS

9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	73	216

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12



9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		040578	74	216

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 584+15 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 12.9 SQ.YDS.

STA. 580+78 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 30" x 11' R.C. STUB INLET
WITH FES.
& 30" x 83' PIPE OUTLET
CONNECT TO D.I. @ STA. 581+70 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 3' 2"

STA. 581+70 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& OPENING IN BACK
& 30" x 137' PIPE OUTLET
CONNECT TO D.I. @ STA. 583+17 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 3' 10"

STA. 582+07 - CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.

STA. 582+12 - IN PLACE
15" x 24" x 53' CM ARCH PIPE
STORM SEWER ON LT.
REMOVE

STA. 582+82 - CONSTRUCT
APPROACH ON LT. = 15 CU. YDS.

STA. 582+93 - IN PLACE
15" x 24" x 95' CM ARCH PIPE
STORM SEWER ON LT.
REMOVE

STA. 582+42 - IN PLACE
JUNCTION BOX
STORM SEWER ON LT.
REMOVE

STA. 583+17 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& OPENING IN BACK
& 30" x 129' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 584+50 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 4' 9"

STA. 583+54 - IN PLACE
DROP INLET
STORM SEWER ON LT.
REMOVE

STA. 583+74 - IN PLACE
30" x 36' R.C. PIPE CULVERT
STORM SEWER ON LT.
REMOVE

STA. 583+96 - IN PLACE
DROP INLET
STORM SEWER ON LT.
REMOVE

STA. 583+98 - IN PLACE
30" x 12' R.C. PIPE CULVERT
STORM SEWER ON LT.
REMOVE

STA. 584+50 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 36" x 132' PIPE OUTLET
CONNECT TO D.I. @ STA. 585+88 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 5' 3"

STA. 26+00 - CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 25+57 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 31' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 25+57 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 2"

STA. 25+57 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 24" x 66' PIPE OUTLET
CONNECT TO D.I. @ STA. 584+50 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 6"

STA. 580+32 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 9.3 SQ. YDS.

STA. 583+38 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 12.0 SQ. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
584+10		RT.	450
584+97	589+18	RT.	68

STA. 580+32 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 9.3 SQ. YDS.

STA. 583+42 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 12.6 SQ. YDS.

STA. 584+16 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 6.8 SQ. YDS.

STA. 584+19 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 6.8 SQ. YDS.

STA. 584+26 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 6.8 SQ. YDS.

STA. 584+59 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 5.8 SQ. YDS.

STA. 580+50
BEGIN JOB 040578
LOG MILE 2.32

STA. 583+74.01 (HWY. 16)
STA. 24+81.87 (S. ARMSTRONG)
Δ = 76° 37' 43.66"

STA. 21+74
BEGIN S. ARMSTRONG AVE.

STA. 26+24
END S. CURTIS

STA. 583+74.01 (HWY. 16)
STA. 24+81.87 (S. CURTIS)
Δ = 76° 37' 43.66"

PI = 26+51.20
Δ = 8° 08' 28.61" LT.
D = 5°00'
T = 81.55'
L = 162.83'
PC = 25+69.65
PT = 27+32.47
NO SUPER

PI = 580+97.98
Δ = 26° 06' 33.01" LT.
D = 7°30'
T = 177.14'
L = 348.12'
PC = 579+20.84
PT = 582+68.96
e = 0.036'/'
Ls = 450'

STA. 22+00 - CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.

HWY. 16, ARMSTRONG AVE., AND CURTIS AVE.

9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

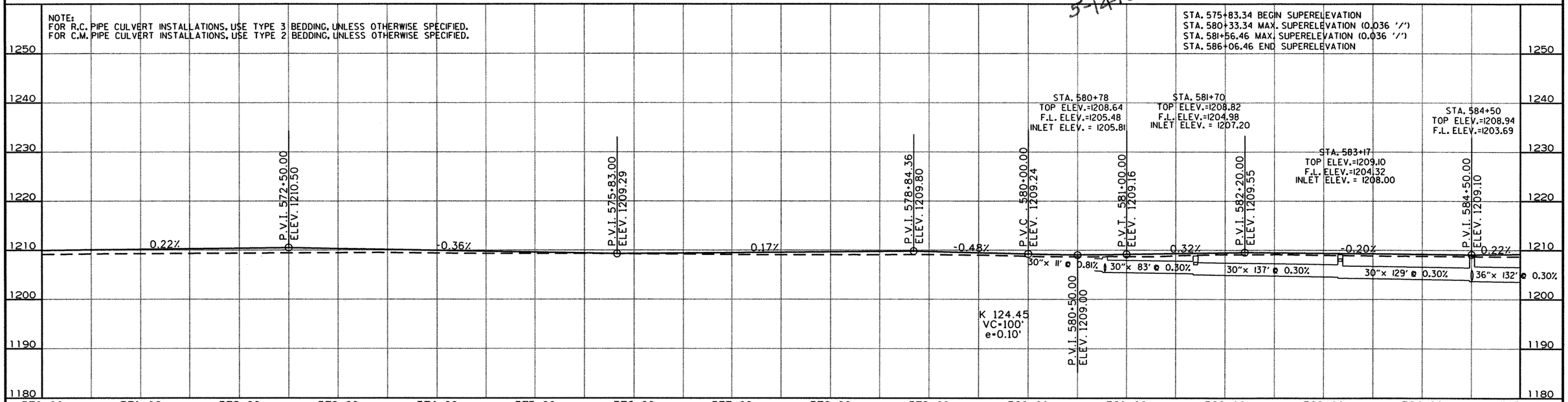
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	75	218
				(2)	PROFILE SHEETS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

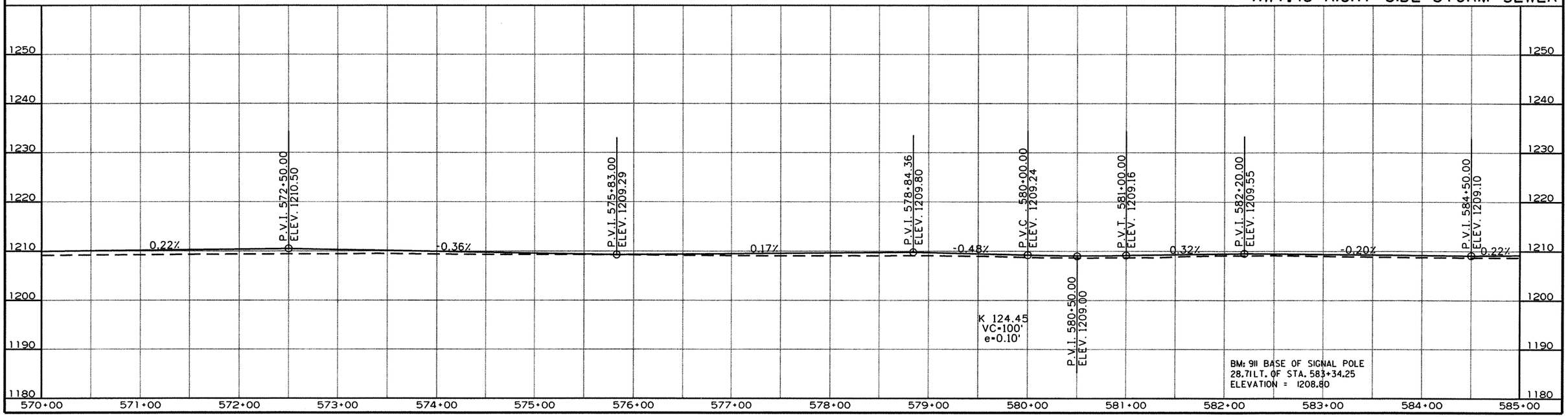
HWY. 16 LEFT SIDE STORM SEWER

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.

STA. 575+83.34 BEGIN SUPERELEVATION
STA. 580+33.34 MAX. SUPERELEVATION (0.036 '/')
STA. 581+56.46 MAX. SUPERELEVATION (0.036 '/')
STA. 586+06.46 END SUPERELEVATION



HWY. 16 RIGHT SIDE STORM SEWER



9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

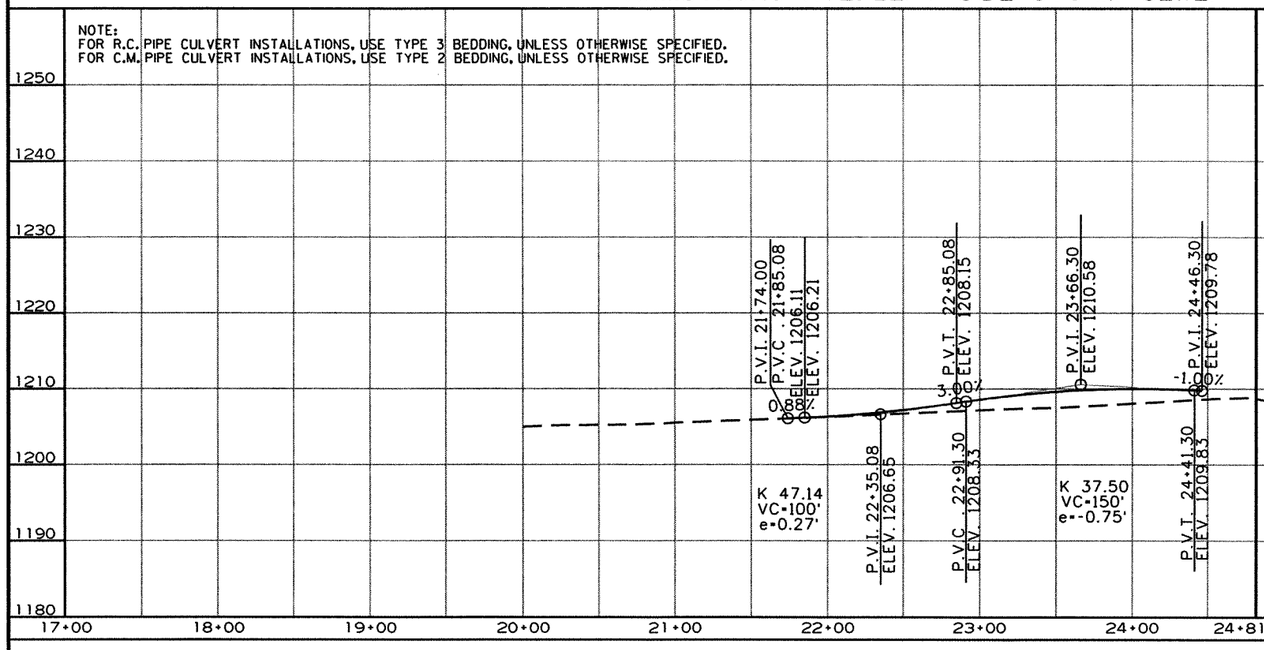
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	76	216

(2) PROFILE SHEETS

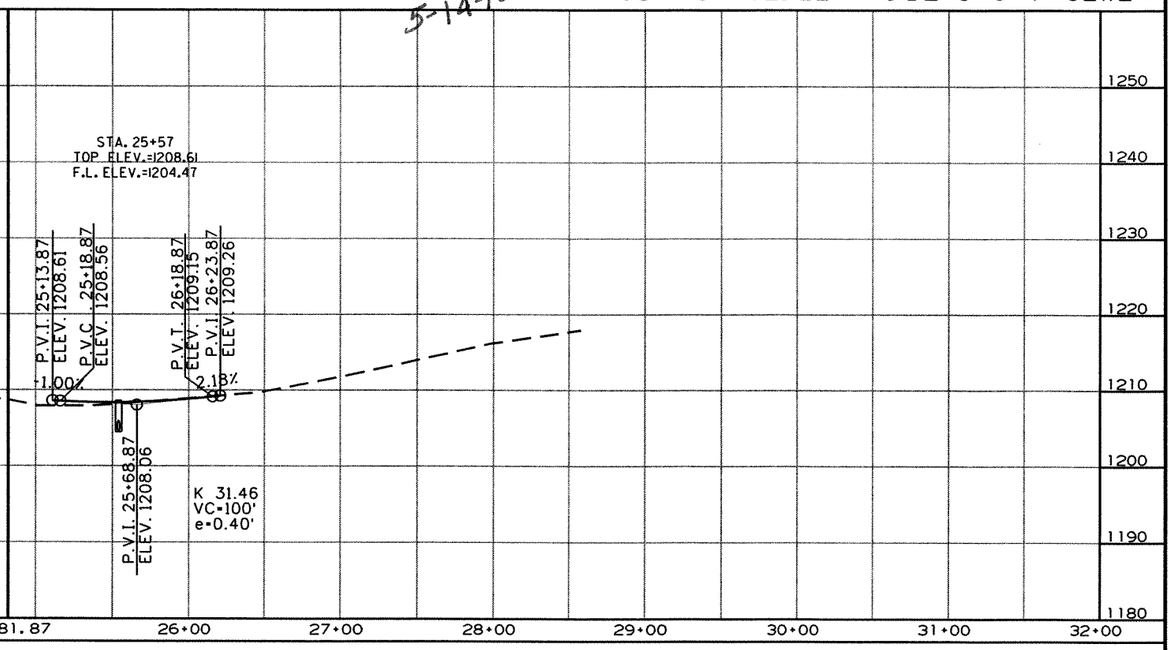
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

ARMSTRONG AVE. LEFT SIDE STORM SEWER

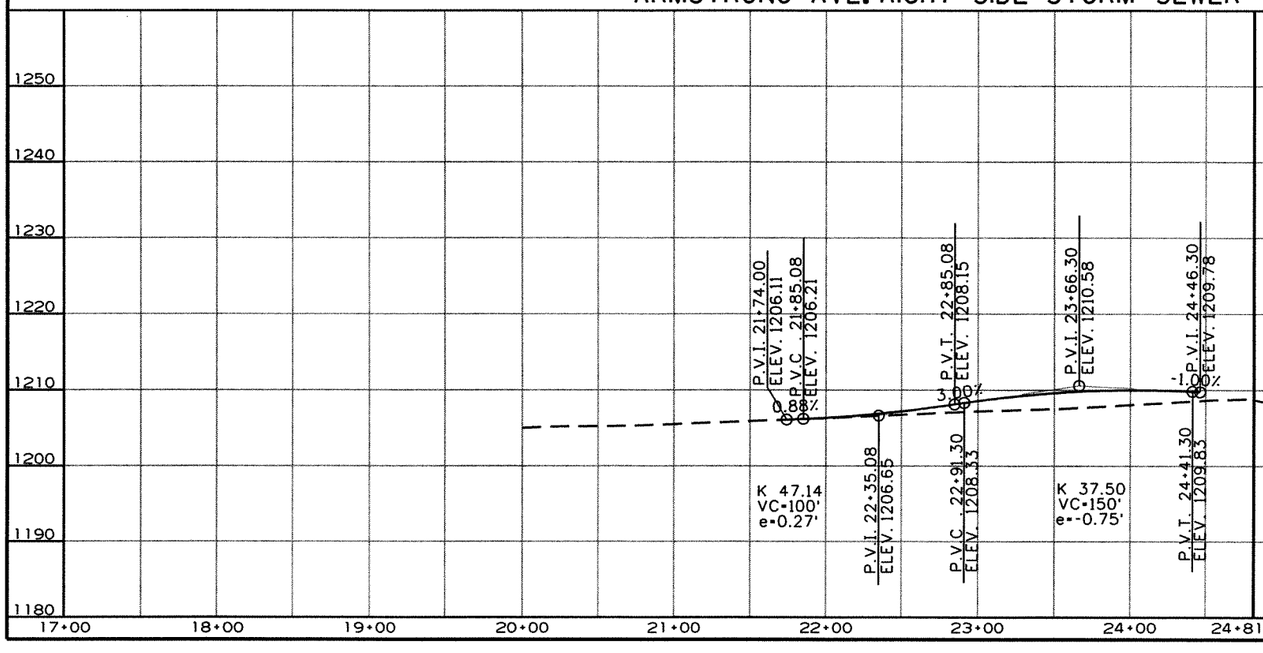
NOTE:
FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING, UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING, UNLESS OTHERWISE SPECIFIED.



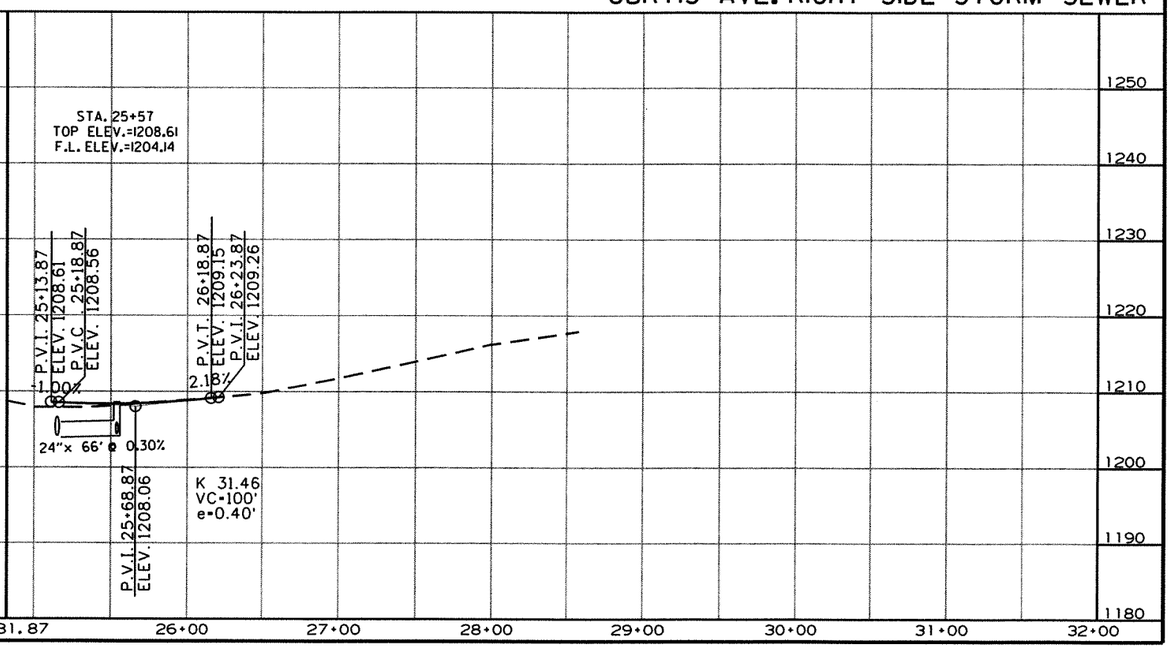
CURTIS AVE. LEFT SIDE STORM SEWER



ARMSTRONG AVE. RIGHT SIDE STORM SEWER



CURTIS AVE. RIGHT SIDE STORM SEWER



r040578.dgn/PLAN AND PROFILE SHEETS
9-21-10

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				6	ARK.			
				JOB NO.		040578	77	216
				(2) PLAN SHEETS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 585+88 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 18" x 12' R.C. STUB INLET
WITH FES
& 42" x 63' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 585+88 RT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 6' 3"
Q50 = 42.5 CFS, D.A. = 8.4 ACRES

STA. 590+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 187' PIPE OUTLET
CONNECT TO D.I. @ STA. 592+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 0"

STA. 592+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 116' PIPE OUTLET
CONNECT TO D.I. @ STA. 593+27 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 0"

STA. 593+27 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& DBL 42" FES R.C. STUB INLET
& DBL 42" x 72' PIPE OUTLET
CONNECT TO D.I. @ STA. 594+16 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 10"

STA. 593+96 - IN PLACE
18" x 38' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 25 CU. YDS.

STA. 594+16 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& DBL 42" x 45' PIPE OUTLET
CONNECT TO D.I. @ STA. 594+70 LT.
TY C = 6' x 12'
H= 5' 3"

STA. 594+70 - IN PLACE
4' x 2' x 144' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
REMOVE

STA. 594+70 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& OPENING IN BACK
& 6' x 3' x 141' R.C. BOX OUTLET
WITH 3:1 WINGS RT. ON 30° SKEW
TY C = 6' x 12'
H= 5' 5"
Q50 = 148.7 CFS, D.A. = 40.0 ACRES

STA. 596+29 - IN PLACE
12" x 20" x 36' CM ARCH PIPE
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 15 CU. YDS.

STA. 596+60 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 178' PIPE OUTLET
CONNECT TO D.I. @ STA. 594+70 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 9"

STA. 596+92 - CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 598+00 - CONSTRUCT
APPROACH ON LT. = 30 CU. YDS.

STA. 598+50 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 180' PIPE OUTLET
CONNECT TO D.I. @ STA. 596+60 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 11"

STA. 599+00 - CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 599+35 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 24" x 7' R.C. STUB INLET
WITH FES
& 24" x 81' PIPE OUTLET
CONNECT TO D.I. @ STA. 598+50 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 2"

STA. 599+73 - IN PLACE
18" x 40' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 5 CU. YDS.

STA. 599+35
BEGIN JOB EXCEPTION

STA. 593+03.28 (HWY. 16)
STA. 33+34.75 (HAPPY HOLLOW)
Δ = 90° 00' 00.0"

PI = 594+33.28
Δ = 64° 22' 21.59" LT.
D = 7°45'
T = 465.32'
L = 830.62'
PC = 589+67.97
PT = 597+98.58
e = 0.036'/'
Ls = 375'

PI = 31+26.15
Δ = 50° 27' 10.35" LT.
D = 38°58'36.19"
T = 69.26'
L = 129.44'
PC = 30+56.90
PT = 31+86.34
NO SUPER

STA. 585+88 - CONSTRUCT
JUNCTION BOX ON RT.
& 42" x 12' R.C. STUB OUTLET
WITH FES
TYPE E = 4' x 3'
H = 6' 9"

STA. 585+88 - IN PLACE
44" x 27" x 30' CM ARCH PIPE
RT. SIDE DRAIN
REMOVE 8.33' ON LT.

STA. 586+05 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 14' PIPE OUTLET
CONNECT TO D.I. @ STA. 585+88 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 6' 5"

STA. 29+91 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 6' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 2' 10"

STA. 30+50 - CONSTRUCT
APPROACH ON LT. = 15 CU. YDS.

STA. 30+51 - CONSTRUCT
JUNCTION BOX ON LT.
& 18" x 57' PIPE OUTLET
CONNECT TO D.I. @ STA. 29+91 LT.
TYPE ST = 4' x 4'
H = 2' 7"

STA. 31+90 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 111' PIPE OUTLET
CONNECT TO JUNCTION BOX
TYPE ST @ STA. 30+51 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 8"

STA. 592+26 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 5.6 SQ. YDS.

STA. 593+80 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 5.6 SQ. YDS.

STA. 29+82 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 22" x 14" x 52' R.C. ARCH PIPE OUTLET
CONNECT TO D.I. @ STA. 29+91 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 2' 9"

STA. 30+72 - CONSTRUCT
APPROACH ON RT. = 55 CU. YDS.

STA. 595+91 - CONSTRUCT
APPROACH ON RT. = 100 CU. YDS.

STA. 597+22 - CONSTRUCT
APPROACH ON RT. = 370 CU. YDS.

STA. 598+32 - CONSTRUCT
APPROACH ON RT. = 155 CU. YDS.

STA. 599+35 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 18" x 45' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 299+35 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 5"

STA. 29+75
BEGIN HAPPY HOLLOW RD.

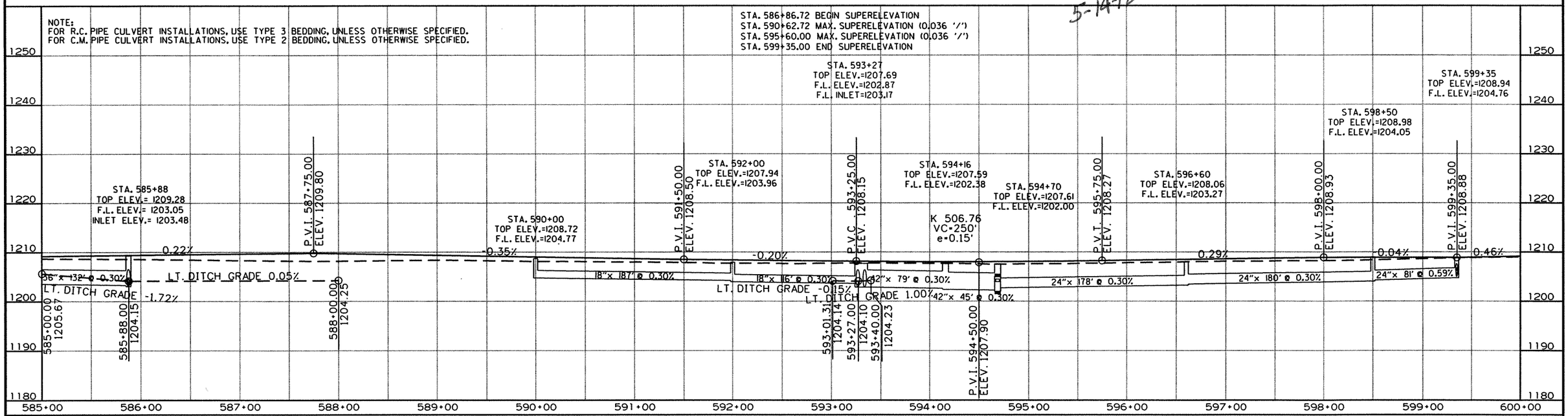
HWY. 16 AND HAPPY HOLLOW RD.

9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

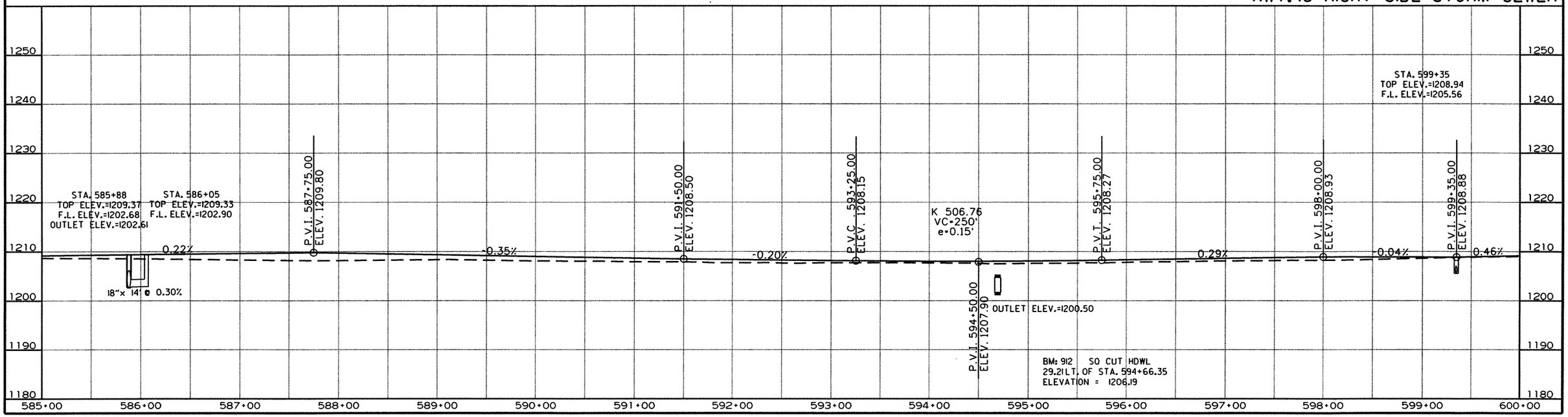
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				6	ARK.			
				JOB NO.		040578	78	216
				(2) PROFILE SHEETS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

HWY. 16 LEFT SIDE STORM SEWER



HWY. 16 RIGHT SIDE STORM SEWER



r040578.dgn/PLAN AND PROFILE SHEETS
9-21-10

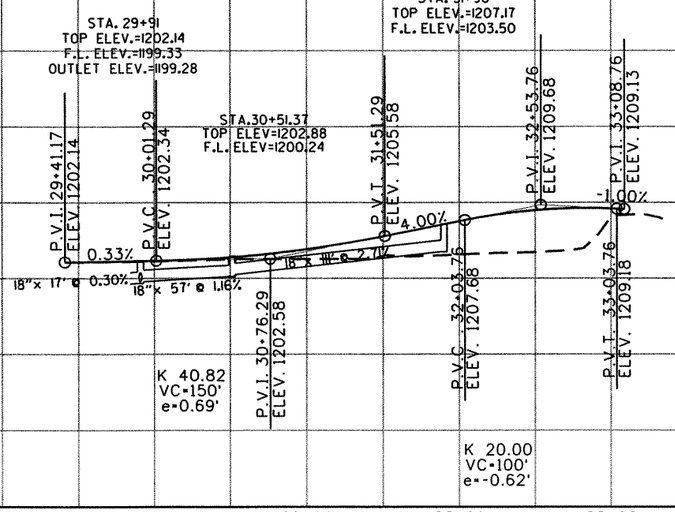
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				6	ARK.			
				JOB NO.		040578	79	216
				(2)	PROFILE SHEETS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

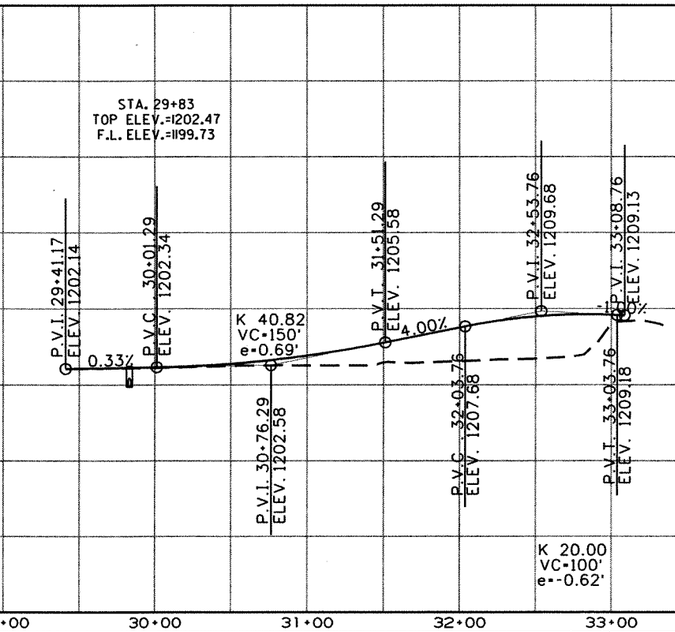
HAPPY HOLLOW RD. LEFT SIDE STORM SEWER

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.

STA. 29+75.00 BEGIN SUPERELEVATION
STA. 31+25.00 MAX. SUPERELEVATION (0.020 '/')
STA. 31+58.76 MAX. SUPERELEVATION (0.020 '/')
STA. 33+08.76 END SUPERELEVATION



HAPPY HOLLOW RD. RIGHT SIDE STORM SEWER



9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

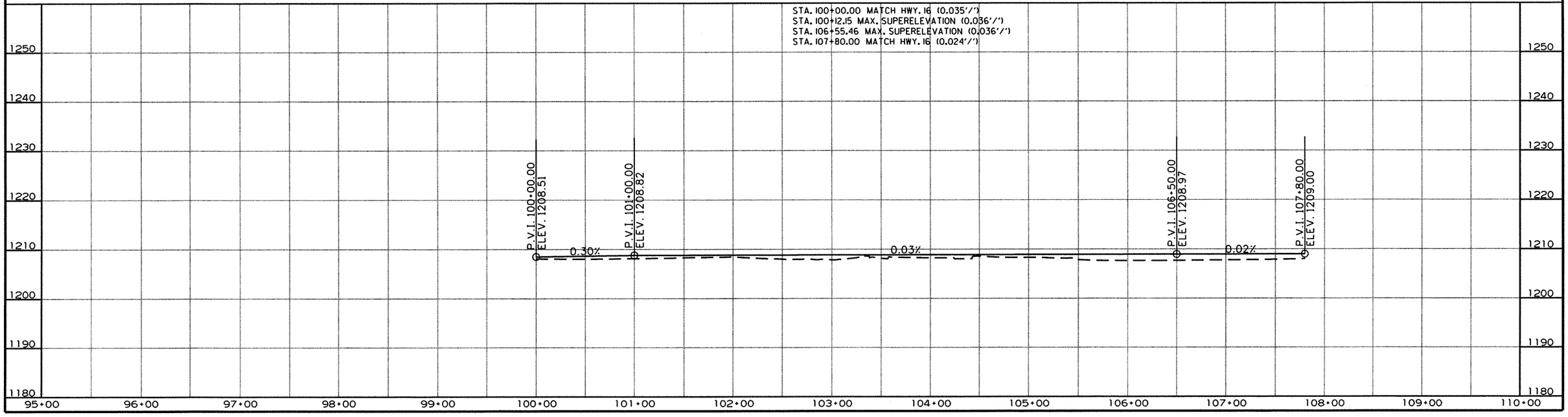
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		040578	80	216

(2) PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

HAPPY HOLLOW DETOUR

STA. 100+00.00 MATCH HWY. 16 (0.035'/')
STA. 100+12.15 MAX. SUPERELEVATION (0.036'/')
STA. 106+55.46 MAX. SUPERELEVATION (0.036'/')
STA. 107+80.00 MATCH HWY. 16 (0.024'/')



r040578.dgn/PLAN AND PROFILE SHEETS
9-21-10

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.		040578	81	216

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 613+21 - IN PLACE
DROP INLET ON LT. WITH
18" x 64' R.C. PIPE OUTLET
REMOVE

STA. 613+35 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 84' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 612+69 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 2"

STA. 613+60 - CONSTRUCT
APPROACH ON LT. = 65 CU. YDS.

STA. 614+66 - CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 615+44 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& OPENING IN BACK
& 36" x 32' R.C. PIPE OUTLET
CONNECT TO JUNCTION BOX
TYPE ST @ STA. 615+82 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 4' 8"

STA. 615+66 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 8.1 SO. YDS.

STA. 615+82 - CONSTRUCT
JUCTION BOX ON LT.
& 44" x 27" x 30' R.C. ARCH STUB IN
WITH SES
& 36" x 48' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 616+35 LT.
TYPE ST = 6' x 4'
H= 4' 0"

STA. 615+94 - IN PLACE
24" x 61' RC PIPE CULVERT AND
24" x 35' RC PIPE CULVERT
LT. SIDE DRAINS
REMOVE

STA. 616+11 CONSTRUCT
TYPE 2 WHEELCHAIR
RAMPS = 6.2 SO. YDS.

STA. 616+35 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 36" x 12' PIPE OUTLET
CONNECT TO JUNCTION BOX
TYPE E @ STA. 616+53 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 4' 11"

STA. 616+53 - CONSTRUCT
JUNCTION BOX ON LT.
WITH OPENING IN BACK
CONNECT TO EXISTING R.C. BOX
TYPE E = 4' x 4'
H = 6' 8"

STA. 616+60 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 36" X 78' R.C. STUB OUTLET
WITH FES
TY C = 4' x 4'
TY MO = 5' I.D.
H= 6' 8"

STA. 616+95 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 36" x 29' PIPE OUTLET
CONNECT TO D.I. @ STA. 616+53 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 4' 8"

STA. 617+29 - IN PLACE
18" x 16' RC PIPE CULVERT
LT.SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 0 CU. YDS.

STA. 617+37 - IN PLACE
18" x 16' RC PIPE CULVERT
LT.SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 0 CU. YDS.

STA. 618+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
WITH OPENING IN BACK
& 30" x 99' PIPE OUTLET
CONNECT TO D.I. @ STA. 616+60 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 3' 11"

STA. 618+61 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 7.6 SO. YDS.

STA. 619+07 - IN PLACE
DROP INLET ON LT. WITH
18" x 33' R.C. PIPE INLET
REMOVE AND
18" x 5' R.C. PIPE OUTLET
REMOVE AND
18" x 87' R.C. PIPE INLET
RETAIN

STA. 619+23 CONSTRUCT
TYPE 3 WHEELCHAIR
RAMP = 7.6 SO. YDS.

STA. 619+07 - CONSTRUCT
JUNCTION BOX ON LT.
& 24" x 100' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 618+00 LT.
TYPE ST = 5' x 4'
H = 3' 4"

STA. 619+35 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 23' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 619+07 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 8"

STA. 620+20 - IN PLACE
18" x 21' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 10 CU. YDS. CUT

STA. 620+87 - IN PLACE
18" x 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 5 CU. YDS. CUT

STA. 621+21 - IN PLACE
12" x 24" x 20' CM ARCH PIPE
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 5 CU. YDS. CUT

STA. 621+45 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 203' PIPE OUTLET
CONNECT TO D.I. @ STA. 619+35 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 8"

STA. 622+30 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 18" x 40' R.C. STUB INLET
WITH FES
& 18" x 80' PIPE OUTLET
CONNECT TO D.I. @ STA. 621+45 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 8"

STA. 622+56 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 5.0 SO. YDS.

STA. 622+91 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 4.9 SO. YDS.

STA. 624+22 - CONSTRUCT
APPROACH ON LT. = 35 CU. YDS. CUT

STA. 612+13
END JOB EXCEPTION

PI = 618+73.47
Δ = 20° 34' 13.83" LT.
D = 2°30'
T = 415.89'
L = 822.82'
PC = 614+57.59
PT = 622+80.41
e = 0.024'/'
Ls = 300'

PI = 610+90.12
Δ = 107° 46' 26.30" RT.
D = 25°15'
T = 337.78'
L = 463.54'
PC = 607+52.34
PT = 612+15.88
MATCH EXISTING SUPER

STA. 615+85 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 8.3 SO. YDS.

INSTALL WIRE FENCE

STA.	STA.	SIDE	TYPE	GATE
624+47	625+16	LT.	C	4'

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
615+70	616+00	RT.	68
617+88		LT.	8
619+25		RT.	11
620+32		LT.	22
621+85	622+27	LT.	79
622+88	633+44	LT.	69
624+38	625+15	LT.	106

STA. 611+62 - IN PLACE
DROP INLET ON RT.
RETAIN

STA. 617+68 - IN PLACE
DROP INLET 35' RT. WITH
18" x 94' R.C. PIPE OUTLET
REMOVE

STA. 617+68 - IN PLACE
DROP INLET 23' RT. WITH
18" x 7' R.C. PIPE OUTLET
REMOVE

STA. 616+47 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 6.5 SO. YDS.

STA. 623+48 - STA. 624+27 IN PLACE
ROCK RETAINING WALL ON RT.
RETAIN

STA. 612+69 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 95' PIPE OUTLET
CONNECT TO D.I. @ STA. 611+64 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 8"

STA. 615+36 CONSTRUCT
APPROACH ON RT. = 125 CU. YDS.

STA. 616+53 - IN PLACE
3' x 3' x 44' R.C. BOX CULVERT
WITH 3:1 WINGS ON RT.
REMOVE 9' LT. AND
EXTEND 44' RT.
Q50 = 44.8 CFS D.A. = 19.0 ACRES

STA. 617+80 - IN PLACE
18" x 25' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 20 CU. YDS.

STA. 619+48 - IN PLACE
12" x 24" x 24' CM ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 40 CU. YDS.

STA. 620+87 - IN PLACE
12" x 24" x 21' CM ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 145 CU. YDS.

STA. 621+45 - CONSTRUCT
APPROACH ON RT. = 115 CU. YDS.

STA. 622+41 - CONSTRUCT
APPROACH ON RT. = 115 CU. YDS.

STA. 622+47 - CONSTRUCT
APPROACH ON RT. = 70 CU. YDS.

STA. 623+36 - CONSTRUCT
APPROACH ON RT. = 45 CU. YDS.

STA. 624+40 - CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

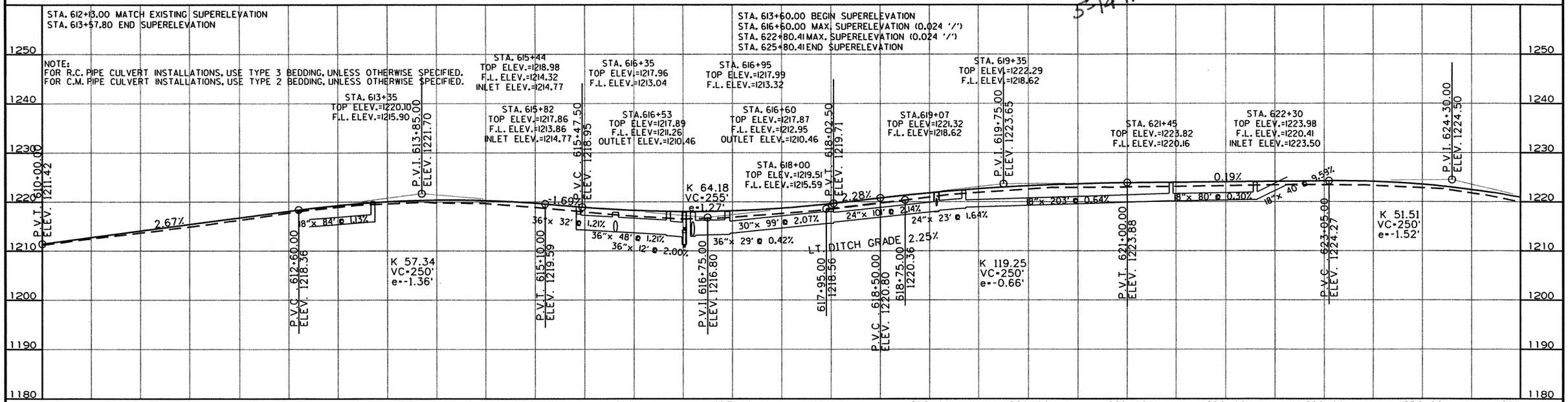
HWY. 16

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9-21-10

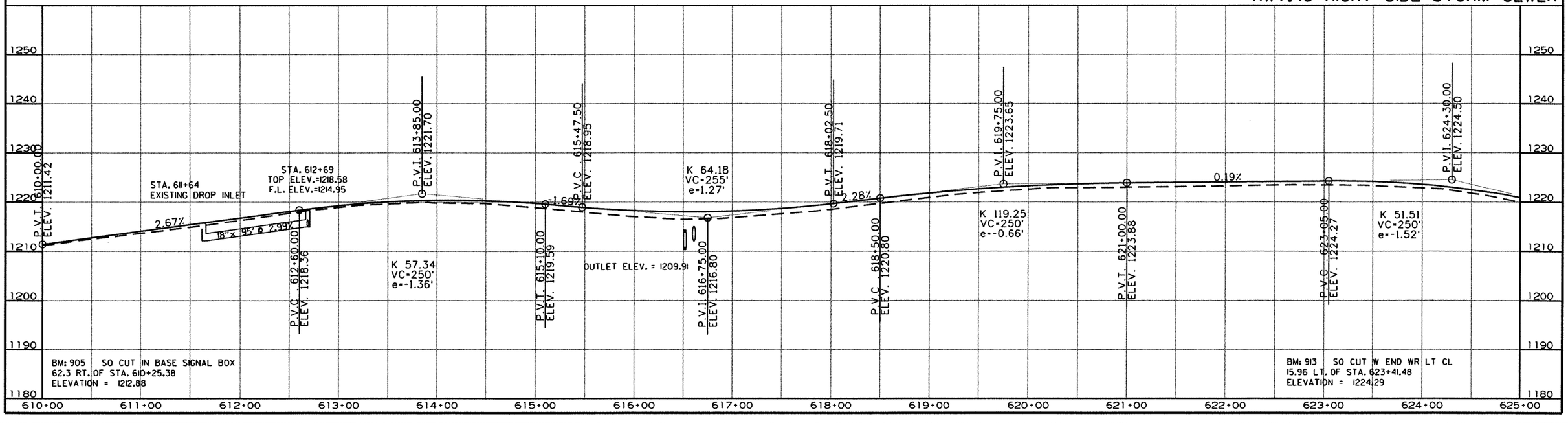
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				6	ARK.			
				JOB NO.		040578	82	216
				(2)	PROFILE SHEETS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
5-14-11

HWY. 16 LEFT SIDE STORM SEWER



HWY. 16 RIGHT SIDE STORM SEWER



r040578.dgn/PLAN AND PROFILE SHEETS
9-21-10

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.		040578	83	216
				(2)	PLAN SHEETS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 626+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 300' PIPE OUTLET
CONNECT TO D.I. @ STA. 629+05 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 5' 0"

STA. 626+78 - IN PLACE
18" x 40' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 30 CU. YDS.

STA. 627+52 - CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 629+05 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 73" x 45" x 8' R.C. STUB INLET
WITH FES
& 73" x 45" x 70' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 629+46 RT.
TY C = 7' x 4'
H= 5' 9"

STA. 629+08 - IN PLACE
DROP INLET ON LT. WITH
18" x 164' R.C. PIPE INLET AND
72" x 45" x 2.5' R.C. ARCH PIPE INLET AND
72" x 45" x 16' R.C. ARCH PIPE OUTLET
REMOVE

STA. 629+35 - IN PLACE
DROP INLET ON LT. WITH
73" x 45" x 52' R.C. ARCH PIPE OUTLET
REMOVE

STA. 630+28 CONSTRUCT
APPROACH ON LT. = 0 CU. YDS.

STA. 630+74 - CONSTRUCT
APPROACH ON LT. = 15 CU. YDS.

STA. 631+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 121' PIPE OUTLET
CONNECT TO D.I. @ STA. 632+25 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 8"

STA. 632+08 - CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 632+25 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 119' PIPE OUTLET
CONNECT TO D.I. @ STA. 633+50 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 11"

STA. 633+12 - CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.

STA. 633+50 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 88' PIPE OUTLET
CONNECT TO D.I. @ STA. 634+45 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 11"

STA. 634+45 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 244' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 637+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H= 3' 11"

STA. 634+55 - IN PLACE
DROP INLET ON LT. WITH
18" x 115' R.C. PIPE OUTLET
REMOVE

STA. 635+40 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 3.3 SQ. YDS.

STA. 635+63 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 7.6 SQ. YDS.

STA. 635+65 - IN PLACE
DROP INLET ON LT. WITH
18" x 60' R.C. PIPE OUTLET
REMOVE

STA. 635+70 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 6.8 SQ. YDS.

STA. 635+74 CONSTRUCT
TYPE 4 WHEELCHAIR
RAMP = 7.3 SQ. YDS.

STA. 636+60 CONSTRUCT
TYPE 2 WHEELCHAIR
RAMP = 4.1 SQ. YDS.

STA. 636+23 - IN PLACE
DROP INLET ON LT. WITH
18" x 47' R.C. PIPE OUTLET
REMOVE

STA. 637+01 - IN PLACE
DROP INLET ON LT. WITH
18" x 85' R.C. PIPE OUTLET
REMOVE

STA. 638+55 - IN PLACE
DROP INLET ON LT. WITH
18" x 35' R.C. PIPE OUTLET
REMOVE

STA. 638+52 - IN PLACE
DROP INLET ON LT. WITH
18" x 29' R.C. PIPE OUTLET
REMOVE

STA. 637+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 30" x 88 PIPE OUTLET
CONNECT TO R.C. BOX
@ STA. 638+04 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H= 3' 11"

STA. 637+34 - CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.

STA. 638+04 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
CONNECT TO TOP OF R.C. BOX
TY C = 4' x 4'
H = 2' 2"

STA. 638+37 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 54" x 16' R.C. PIPE OUTLET
CONNECT TO R.C. BOX
@ STA. 638+04 LT.
TY C = 6' x 6'
TY MO = 6' I.D.
H = 7' 3"

STA. 638+76 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 54" x 32' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 638+37 LT.
TY C = 6' x 6'
TY MO = 6' I.D.
H = 6' 9"

STA. 639+20 - IN PLACE
18" x 35' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 10 CU. YDS.

STA. 639+92 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 3' R.C. STUB INLET
WITH FES
& 48" x 110' PIPE OUTLET
CONNECT TO D.I. @ STA. 638+76 LT.
TY C = 4' x 6'
TY MO = 6' I.D.
H= 5' 10"

STA. 51+17 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 76' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 51+17 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 52+00 - CONSTRUCT
APPROACH ON LT.

STA. 53+55 - IN PLACE
OUAD 10' x 6' x 88' R.C. BOX CULVERT
WITH 30° WINGS LT. & RT.
RETAIN & EXTEND 10.10' LT.
WITH 2:1 WINGS ON LT.
Q50 = 1590 CFS D.A. = 1.6 SQ. MI.

STA. 55+00
BEGIN END HWY. 265

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
50+82	54+49	LT.	380
53+14	53+89	RT.	75
53+25	54+00	LT.	75
53+94	54+00	RT.	8
54+26	54+86	LT	62

INSTALL WIRE FENCE

STA.	STA.	SIDE	TYPE
50+82	53+37	LT.	C
53+15	53+85	RT.	3' CHAIN LINK
53+30	54+00	LT.	3' CHAIN LINK
53+92	54+86	LT.	C

STA. 50+50 - STA. 55+00
SPECIAL FLOOD HAZARD AREA

STA. 636+90 - STA. 639+60
SPECIAL FLOOD HAZARD AREA

STA. 51+17 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 180' PIPE OUTLET
CONNECT TO D.I. @ STA. 53+03 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 5"

STA. 52+00 - CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 53+03 - CONSTRUCT
JUNCTION BOX ON RT.
& 18" x 28' R.C. STUB OUTLET
WITH FES
TYPE E = 4' x 4'
H = 6' 2"

PI = 51+74.73
Δ = 3° 00' 00.00" RT.
D = 1°30'
T = 100.02'
L = 200.00'
PC = 50+74.70
PT = 52+74.70
NO SUPER

STA. 54+50 - CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 625+12 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP = 7.6 SQ. YDS.

STA. 625+78 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP = 7.6 SQ. YDS.

STA. 626+00 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 24" x 55' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 626+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 8"

STA. 626+45 - CONSTRUCT
APPROACH ON RT. = 65 CU. YDS.

STA. 627+27 - CONSTRUCT
APPROACH ON RT. = 20 CU. YDS.

STA. 629+35 - IN PLACE
DROP INLET ON RT. WITH
18" x 188' R.C. PIPE INLET AND
73" x 45" x 80' R.C. ARCH PIIPE
REMOVE

STA. 628+94 - CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 630+27 - IN PLACE
DROP INLET ON RT. WITH
73" x 45" x 10' R.C. PIPE OUTLET
REMOVE

STA. 629+21 - CONSTRUCT
APPROACH ON RT. = 55 CU. YDS.

STA. 638+04 - IN PLACE
TRPL 10' x 6' x 143' R.C. BOX CULVERT
WITH 30° WINGS LT. & RT.
RETAIN & EXTEND 25' LT.
Q50 = 1700 CFS D.A. = 1.7 SQ. MI.

STA. 629+46 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 73" x 45" x 82' PIPE OUTLET
CONNECT TO JUNCTION BOX
TYPE E @ STA. 630+35 RT.
TY C = 7' x 7'
H= 6' 5"

STA. 630+35 - CONSTRUCT
JUNCTION BOX ON RT.
& 73" x 45" x 12' R.C. STUB OUTLET
TYPE E = 7' x 7'
H = 8' 2"

STA. 631+70 - CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
627+91	629+29	LT.	162
628+04	628+90	RT.	109
630+47	632+55	RT.	231
633+75	634+63	RT.	95
637+74	638+34	LT.	60
639+01	639+38	LT.	65

PI = 634+60.71
Δ = 13° 26' 29.86" LT.
D = 3°00'
T = 225.06'
L = 448.05'
PC = 632+35.65
PT = 636+83.70
e = 0.026'/'
Ls = 450'

INSTALL WIRE FENCE

STA.	STA.	SIDE	TYPE	GATE
627+91	629+29	LT.	D-1	
628+04	628+90	RT.	4' CHAIN LINK	16'
630+47	632+55	RT.	4' CHAIN LINK	16'
637+80	628+40	LT.	3' CHAIN LINK	
639+01	639+37	LT.	C	

STA. 633+12 - CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 635+38 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 5.9 SQ. YDS.

STA. 635+82 - CONSTRUCT
APPROACH ON RT. = 95 CU. YDS.

STA. 639+37 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 109' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 638+76 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 6"

STA. 639+90 - CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

HWY. 16 AND HWY. 265

9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

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.		040578	84	216
				(2)	PROFILE SHEETS			

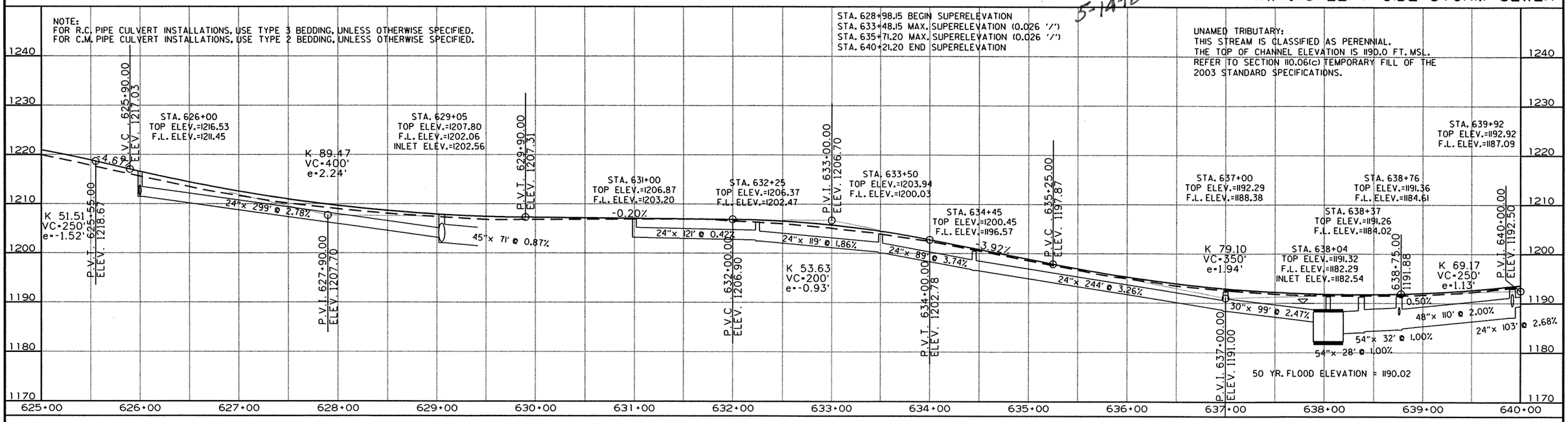
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

HWY. 16 LEFT SIDE STORM SEWER

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.

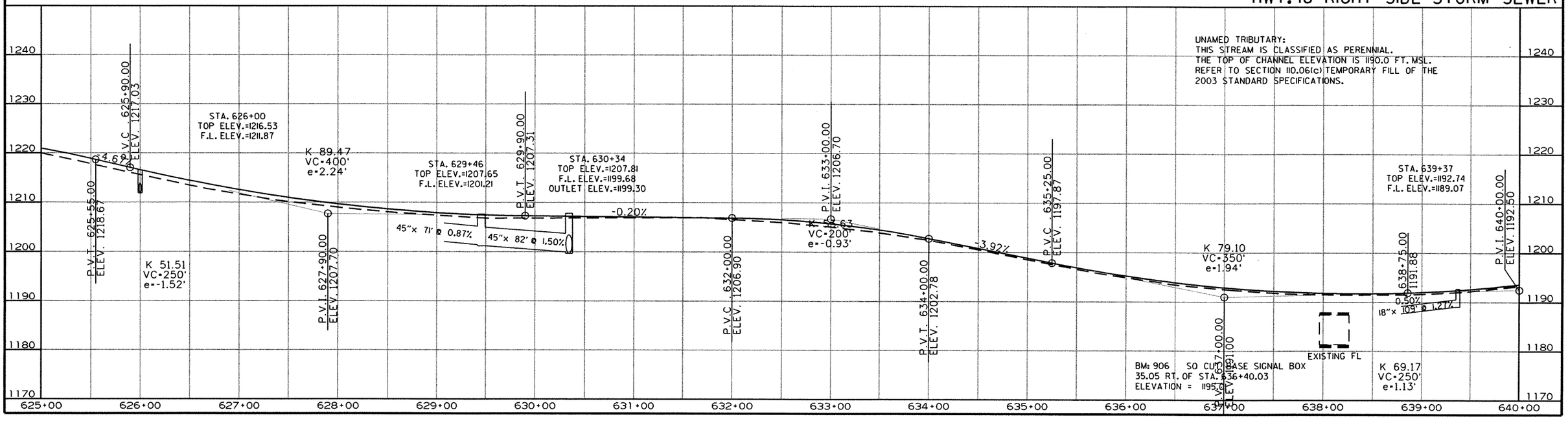
STA. 628+98.15 BEGIN SUPERELEVATION
STA. 633+48.15 MAX. SUPERELEVATION (0.026 '/')
STA. 635+71.20 MAX. SUPERELEVATION (0.026 '/')
STA. 640+21.20 END SUPERELEVATION

UNAMED TRIBUTARY:
THIS STREAM IS CLASSIFIED AS PERENNIAL.
THE TOP OF CHANNEL ELEVATION IS 1190.0 FT. MSL.
REFER TO SECTION 110.06(c) TEMPORARY FILL OF THE
2003 STANDARD SPECIFICATIONS.



HWY. 16 RIGHT SIDE STORM SEWER

UNAMED TRIBUTARY:
THIS STREAM IS CLASSIFIED AS PERENNIAL.
THE TOP OF CHANNEL ELEVATION IS 1190.0 FT. MSL.
REFER TO SECTION 110.06(c) TEMPORARY FILL OF THE
2003 STANDARD SPECIFICATIONS.



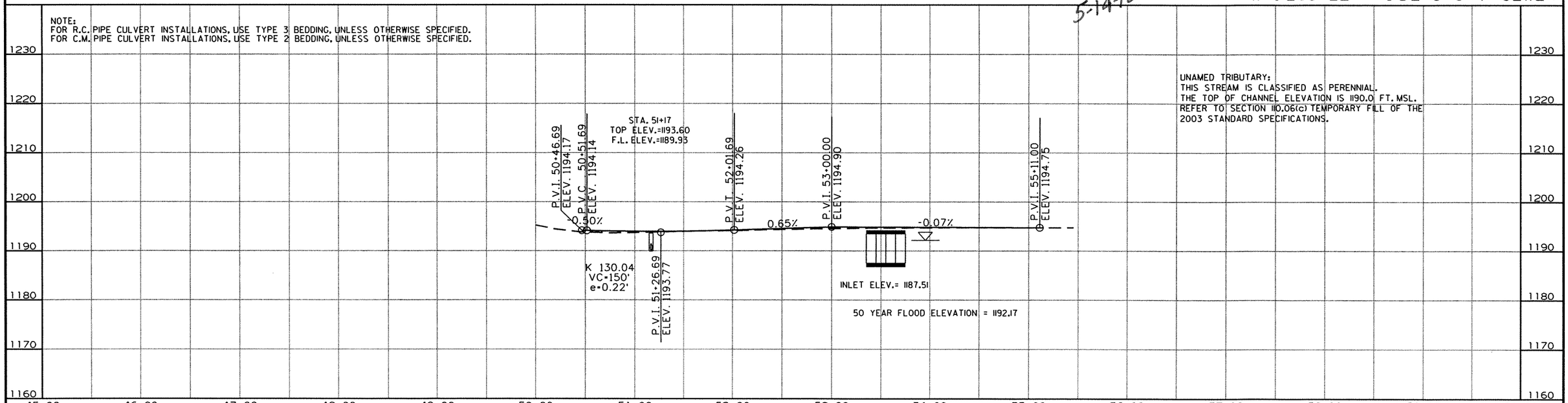
r040578.dgn/PLAN AND PROFILE SHEETS
9-21-10

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.		040578	85	216

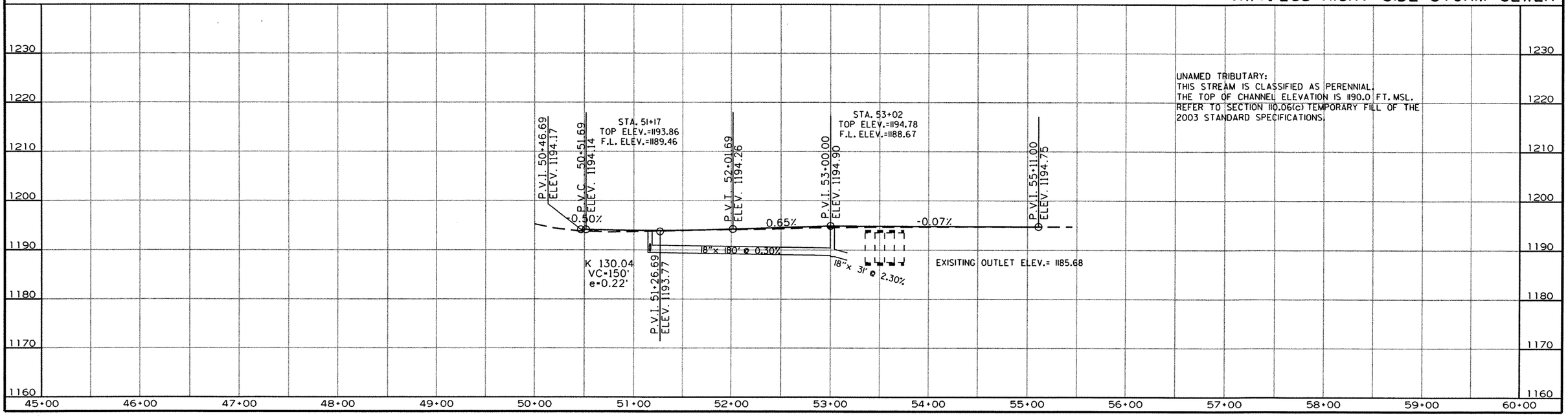
(2) PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

HWY. 265 LEFT SIDE STORM SEWER



HWY. 265 RIGHT SIDE STORM SEWER



9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	86	216

(2) PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STA. 641+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 103' PIPE OUTLET
CONNECT TO D.I. @ STA. 639+92 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 2"

STA. 641+68 - IN PLACE
18" x 31' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 35 CU. YDS. CUT

STA. 642+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 641+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 10"

STA. 643+00 - IN PLACE
18" x 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 10 CU. YDS.

STA. 643+61 - IN PLACE
18" x 35' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 0 CU. YDS.

STA. 644+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& OPENING IN BACK
& 24" x 196' PIPE OUTLET
CONNECT TO D.I. @ STA. 642+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 2"

STA. 644+32 - IN PLACE
18" x 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 0 CU. YDS.

STA. 645+25 - IN PLACE
12" x 24" x 29' CM ARCH PIPE
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 5 CU. YDS.

STA. 645+79 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& OPENING IN BACK
& 24" x 174' PIPE OUTLET
CONNECT TO D.I. @ STA. 644+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 6"

STA. 646+22 - IN PLACE
12" x 24" x 23' CM ARCH PIPE
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 10 CU. YDS.

STA. 647+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 118' PIPE OUTLET
CONNECT TO D.I. @ STA. 645+79 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 0"

STA. 647+70 - IN PLACE
18" x 40' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 0 CU. YDS.

STA. 649+62 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 12.9 SQ. YDS.

STA. 650+75 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 71' PIPE OUTLET
CONNECT TO D.I. @ STA. 651+50 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H = 4' 2"

STA. 651+50 - CONSTRUCT
JUNCTION BOX ON LT.
& 30" x 125' PIPE OUTLET
CONNECT TO D.I. @ STA. 652+79 LT.
TYPE E = 4' x 4'
H = 4' 5"

STA. 652+79 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30' x 10' PIPE OUTLET
CONNECT TO D.I. @ STA. 652+93 LT.
TY C = 4' x 4'
TY MO = 5' I.D.
H = 4' 0"

STA. 652+93 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 42" x 19' R.C. STUB INLET
WITH FES
& 42" x 60' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 653+21RT.
TY C = 5' x 5'
TY MO = 5' I.D.
H = 8' 11"
050 = 63.5 CFS, D.A. = 4.2 ACRES

STA. 654+32 - IN PLACE
18" X 32' CM. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 10 CU. YDS. CUT

STA. 64+10 - CONSTRUCT
APPROACH = 0 CU. YDS.

STA. 64+40 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 61' R.C. STUB INLET
WITH FES.
& 24" x 37' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 64+40 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 5"

STA. 650+39 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 12.3 SQ. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
640+46	641+56	LT.	162
641+18	641+75	RT.	57
646+05	649+27	RT.	546
653+72		RT.	13
653+72	662+00	RT.	560

STA. 649+76.31 (HWY. 16)
STA. 63+28.22 (STONE BRIDGE)
Δ = 73° 21' 58.52"

STA. 65+85
END STONE BRIDGE RD.

STA. 64+40 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 61' R.C. STUB INLET
WITH FES.
& 24" x 90' PIPE OUTLET
CONNECT TO D.I. @ STA. 650+75 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 9"

STA. 641+00 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 24" x 85' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 641+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 2"

STA. 641+82 - IN PLACE
18" x 26' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 155 CU. YDS.

STA. 643+00 - IN PLACE
12" x 24" x 20' CM ARCH PIPE
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 25 CU. YDS.

STA. 643+53 - IN PLACE
12" x 24" x 21' CM ARCH PIPE
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 15 CU. YDS.

STA. 644+00 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 55' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 644+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 647+00 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 18" x 59' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 647+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

INSTALL WIRE FENCE

STA.	STA.	SIDE	TYPE	GATE
610+46	641+56	LT.	4' CHAIN LINK	
646+05	649+27	RT.	C	
653+72	662+00	RT.	C	16'

STA. 645+95 - CONSTRUCT
APPROACH ON RT. = 55 CU. YDS.

STA. 649+12 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 11.6 SQ. YDS.

STA. 649+90 CONSTRUCT
TYPE 2 WHEELCHAIR RAMP = 13.0 SQ. YDS.

STA. 60+92 - INSTALL
18" x 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS

STA. 61+06 - INSTALL
18" x 54' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS

STA. 62+34 - CONSTRUCT
APPROACH ON RT. = 60 CU. YDS.

STA. 651+06 - IN PLACE
18" x 23' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 55 CU. YDS.

STA. 652+79 - IN PLACE
3' x 3' x 68' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
REMOVE

STA. 652+79 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 37' PIPE OUTLET
CONNECT TO D.I. @ STA. 653+21 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 0"

STA. 654+17 - CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.

STA. 653+21 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 42" x 26' R.C. STUB OUTLET
WITH FES
TY C = 4' x 4'
TY MO = 5' I.D.
H = 10' 0"

STA. 60+52
BEGIN STONE BRIDGE RD.

HWY. 16 AND STONE BRIDGE RD.

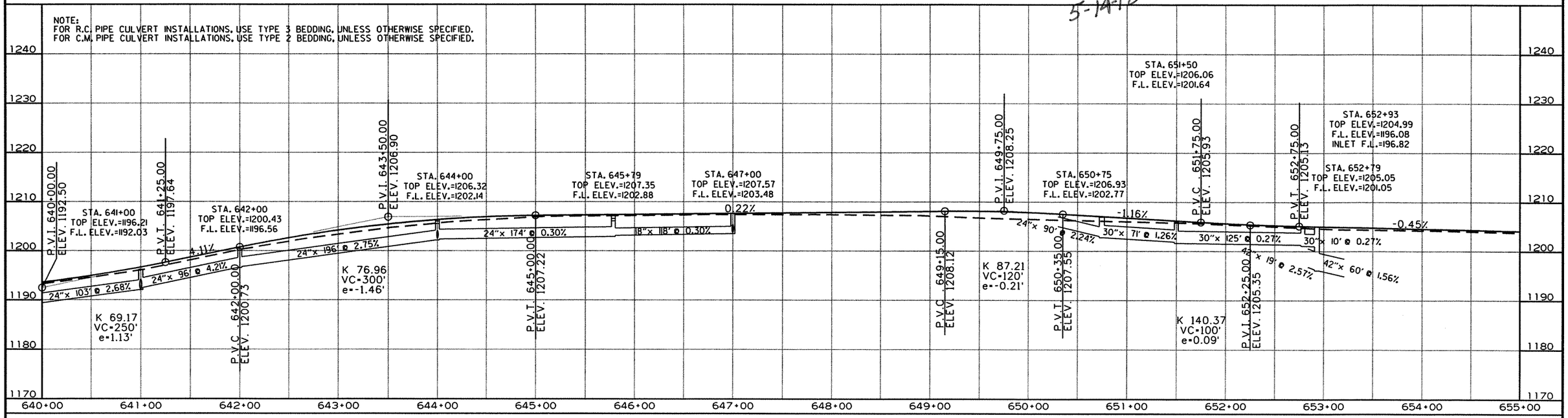
9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

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				6	ARK.			
				JOB NO.		040578	87	216
				(2) PROFILE SHEETS				

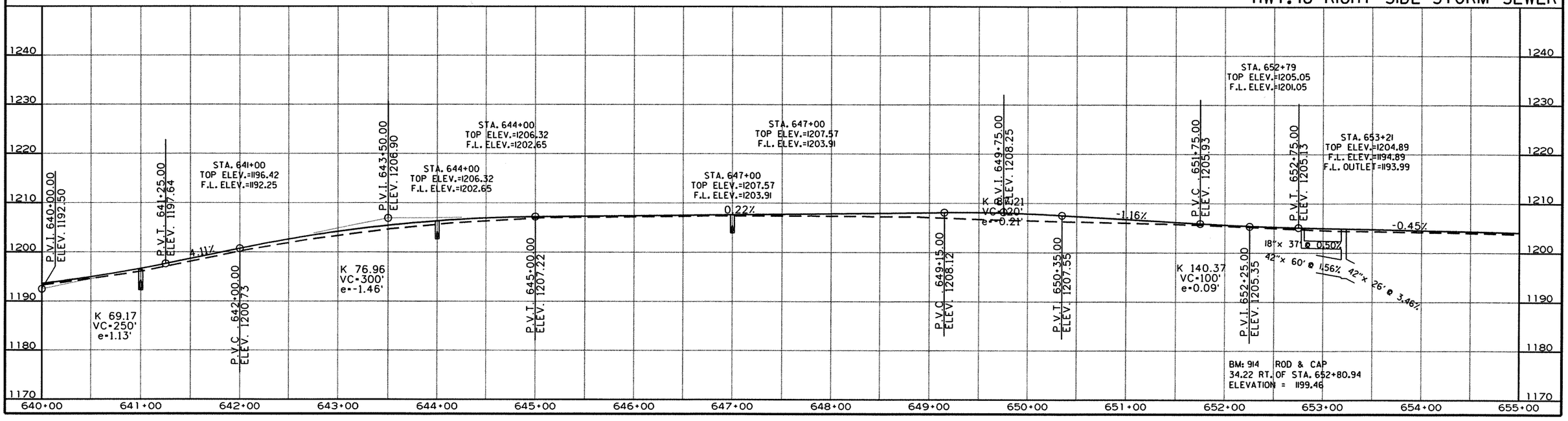
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

HWY. 16 LEFT SIDE STORM SEWER

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.



HWY. 16 RIGHT SIDE STORM SEWER



r04057B.dgn/PLAN AND PROFILE SHEETS
9-21-10

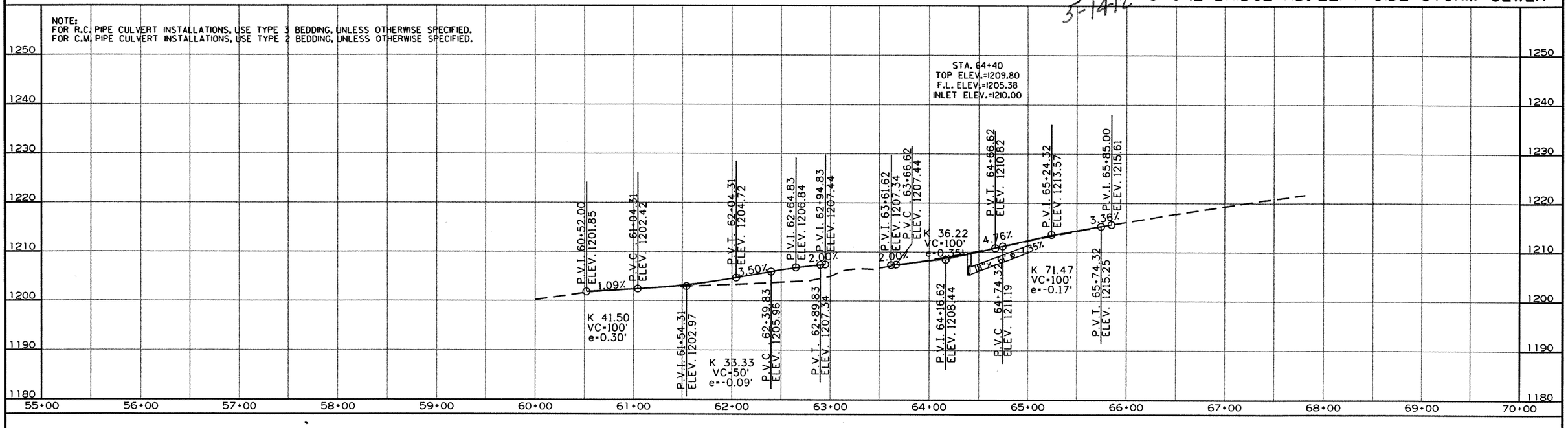
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				JOB NO.		040578	88	216

(2) PROFILE SHEETS

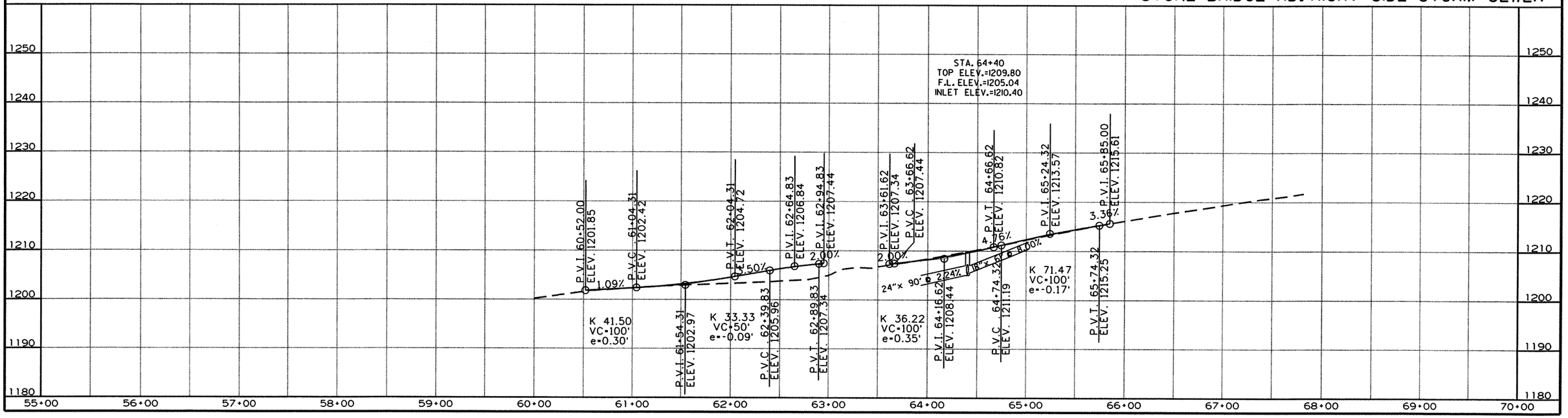
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STONE BRIDGE RD. LEFT SIDE STORM SEWER

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.



STONE BRIDGE RD. RIGHT SIDE STORM SEWER



9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	89	216
				(2) PLAN SHEETS				

STA. 655+42 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 154' PIPE OUTLET
CONNECT TO D.I. @ STA. 657+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 7"

STA. 656+11 - IN PLACE
18" x 30' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 10 CU. YDS. CUT

STA. 657+73 - IN PLACE
18" x 17' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 20 CU. YDS.

STA. 657+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 16' R.C. STUB INLET
WITH FES
& 18" x 55' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 657+00 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 5"
Q50 = 11.2 CFS. D.A. = 2.9 ACRES

STA. 661+26 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 4' R.C. PIPE OUTLET
CONNECT TO EXISTING R.C. BOX
@ STA. 661+30
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 6"

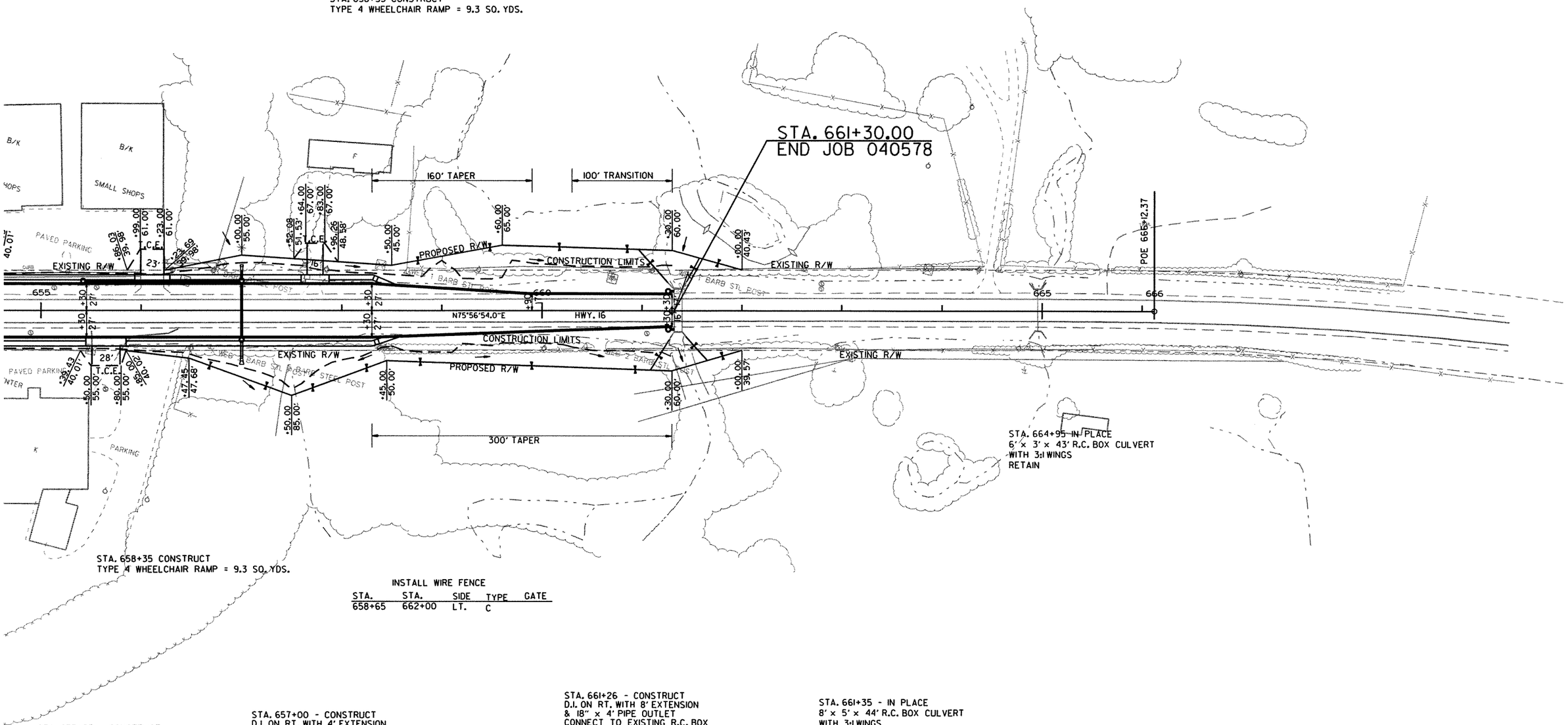
STA. 660+76 - STA. 661+30
SPECIAL FLOOD HAZARD AREA

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
656+77		LT.	10
658+65	662+00	LT.	340

STA. 658+35 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 9.3 SQ. YDS.

STATE OF ARKANSAS
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MICHAEL D. FUGETT
5-14-12



INSTALL WIRE FENCE

STA.	STA.	SIDE	TYPE	GATE
658+65	662+00	LT.	C	

STA. 658+35 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP = 9.3 SQ. YDS.

STA. 655+65 - CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 657+00 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 24" x 25' R.C. STUB OUTLET
WITH FES
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 5"

STA. 661+26 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 4' PIPE OUTLET
CONNECT TO EXISTING R.C. BOX
@ STA. 661+30
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 7"

STA. 661+35 - IN PLACE
8' x 5' x 44' R.C. BOX CULVERT
WITH 3:1 WINGS
RETAIN

9-21-10 r040578.dgn/PLAN AND PROFILE SHEETS

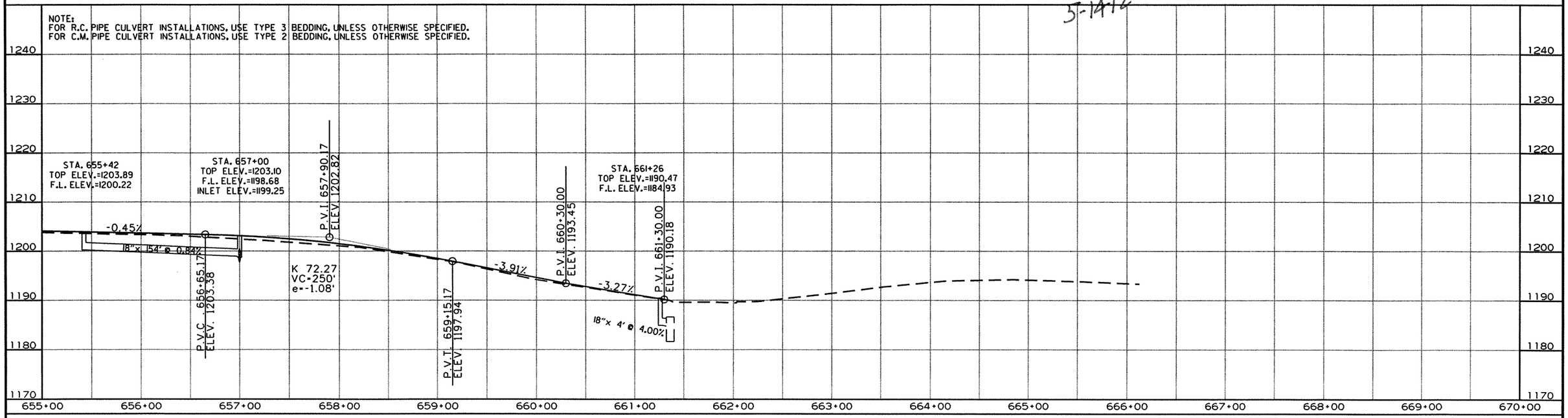
HWY. 16

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.		040578	90	216
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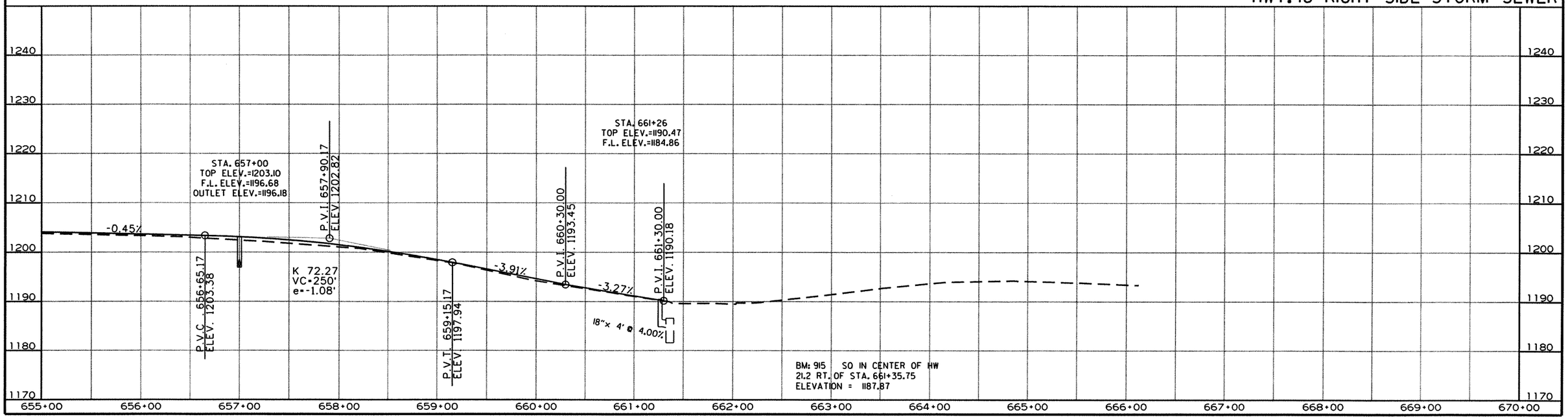
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

HWY 16. LEFT SIDE STORM SEWER

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.



HWY. 16 RIGHT SIDE STORM SEWER



BM: 915 SO IN CENTER OF HW
21.2 RT. OF STA. 661+35.75
ELEVATION = 1187.87

9-21-10 r040578.dgn/PLAN AND PROFILE 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.		040578	91	216

2 SYSTEM MAP FAYETTEVILLE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
5-14-12

MASTER ANTENNA
LOCATED ON MT. SEQUOYAH

FAYETTEVILLE
FAYETTEVILLE Pop. 67,158

Luciille

End St. Hwy.

Springs Br.

Branch

WEST FORK WHITE

ANTENNA ORIENTATION
HWY. 16 (15TH. ST.)/CURTIS AVE. & ARMSTRONG AVE.

17°39'11" N

ANTENNA ORIENTATION
HWY. 16 (15TH. ST.)/E. HUNTSVILLE RD.

37°59'05" N

ANTENNA ORIENTATION
HWY. 16 (HUNTSVILLE RD.)/STONE BRIDGE ROAD

62°34'01" N

ANTENNA ORIENTATION
HWY. 16/HWY. 265 (CROSSOVER RD.)

54°30'23" N

SCALE IN FEET
0 20000 40000 80000

DATE: 04-13-12
FILE NAME: t040578-job.dgn
MODEL: SYSTEM MAP

LOCATION: ARMSTRONG AVE.-STONE BRIDGE RD.(FAYETTEVILLE)
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: 1"=40000' DRAWN BY: GWE

t040578-job.dgn 1/11/2011

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.		040578	92	216
				(2)	TRAFFIC SIGNAL NOTES & SUMMARY			

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. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY.
17. 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.
18. 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.
19. 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.
20. 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.
21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO ISMA STANDARDS.
22. ONE VIDEO PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. 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.
24. 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.
25. TOMAR MODEL m913 STROBECOM DETECTOR CABLE SHALL BE FURNISHED BY THE CITY OF FAYETTEVILLE TRAFFIC SIGNAL DEPARTMENT AND INSTALLED BY THE CONTRACTOR AS SHOWN ON THE PLANS. INSTALLATION OF THE CABLE SHALL BE PAID FOR UNDER ITEM 733, VIDEO CABLE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

TRAFFIC SIGNAL SUMMARY

ITEM NO.	ITEM	HWY. 16 AT CURTIS AND ARMSTRONG	HWY. 16 AT HUNTSVILLE ROAD	HWY. 16 AT HWY. 265	HWY. 16 AT STONE BRIDGE ROAD	TOTAL JOB QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)	1		1	1	3	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	16		22	10	48	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	5	1	6	2	14	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8		10	8	26	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	3662		4949	2391	11002	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	274		169	268	711	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)			238		238	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	544		348	567	1459	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20		20	20	60	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	20		20		40	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20		20	20	60	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20		20	20	60	LIN. FT.
710	NON-METALLIC CONDUIT (3")	435		540	593	1568	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1 HD)	1			1	2	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	4		4	7	15	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	1		4		5	EACH
713	SPAN WIRE ASSEMBLY	1		1		2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (0')			1		1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')			1		1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1				1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1			4	5	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1				1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')	1		1		2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58'-44')			1		1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	3		3		6	EACH
716	TREATED WOOD POLE (CLASS 3, 45')	4		5		9	EACH
SP&733	VEHICLE DETECTOR RACK (24 CHANNEL)	1		1	1	3	EACH
733	VIDEO CABLE	2730		2100	1248	6078	LIN. FT.
• SP&733	VIDEO DETECTOR (CLR)	• 14		13	6	33	EACH
SP&733	VIDEO EDGE CARD EXTENDER	2		2	2	6	EACH
733	VIDEO MONITOR (CLR)	1		1	1	3	EACH
• SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	• 5		4	4	13	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/8 A.W.G., EGC)	558		623	599	1780	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/12 A.W.G., EGC)	220		205	225	650	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20		20	20	60	LIN. FT.
SP	LUMINAIRE ASSEMBLY	4		4	4	12	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	769		604	299	1672	LIN. FT.
SP	18" STREET NAME SIGN	6		4	4	14	EACH
SP	LOCAL RADIO WITH ANTENNA	1		1	1	3	EACH
SP	ANTENNA CABLE (TYPE 6)	70		70	70	210	LIN. FT.
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	0.33	0.33		1.00	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1		1	1	3	EACH
SP	VIDEO DETECTOR ROTATION			1		1	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)		1	1		2	EACH

• ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED.

DATE: 05-11-12
FILE NAME: t040578-job.dgn
MODEL: SIGNAL NOTES AND SUMMARY

LOCATION: ARMSTRONG AVE.-STONE BRIDGE RD. (FAYETTEVILLE)
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

1040578-job.dgn 1/11/2011

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.		040578	93	216
				(2)	SIGNALIZATION PLAN SHEET			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STAGES 1 - 2 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	8	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	2	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1634	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 3, 45')	4	EACH
SP&733	VEHICLE DETECTOR RACK (24 CHANNEL)	1	EACH
733	VIDEO CABLE	1336	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	6	EACH
SP&733	VIDEO EDGE CARD EXTENDER	2	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	5	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	0.17	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

STAGES 1-2
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL STAGE 1-2 TRAFFIC SIGNAL IS COMPLETED INCLUDING ALL SPAN WIRE ASSEMBLIES AND IN OPERATION.
UTILIZING THE PERMANENT TRAFFIC SIGNAL CONTROLLER A TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL BE CONSTRUCTED.
INSTALL 4 TREATED WOOD POLES (CLASS 3, 45'), SPAN WIRE ASSEMBLY AND ALL NECESSARY CONDUIT.
INSTALL ALL TRAFFIC SIGNAL CABLE AND VIDEO CABLE. ESTABLISH VIDEO ZONES. REMOVE EXISTING TRAFFIC SIGNAL INSTALLATION AND MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1-2 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

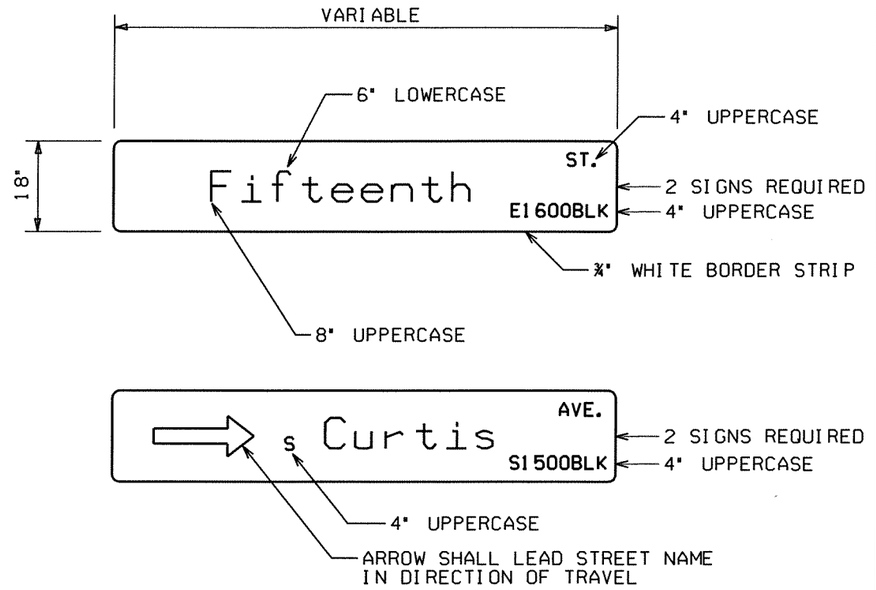
PERMANENT TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	8	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	3	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2028	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	274	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	544	LIN. FT.
710	NON-METALLIC CONDUIT (3")	435	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1HD)	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	3	EACH
733	VIDEO CABLE	1394	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	8	EACH
SP	ANTENNA CABLE (TYPE 6)	70	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	769	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	538	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	220	LIN. FT.
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.17	LUMP SUM
SP	18" STREET NAME SIGN	6	EACH

• ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED.

PERMANENT TRAFFIC SIGNAL:
THE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.
INSTALL PERMANENT TRAFFIC SIGNAL AND REMOVE ALL STAGE 1-2 TEMPORARY TRAFFIC SIGNAL COMPONENTS.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS).

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED



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: 04-13-12
FILE NAME: t040578-01.dgn
MODEL: SIGNAL QUANTITIES AND SIGNS

LOCATION:	HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG		
CITY:	FAYETTEVILLE		
COUNTY:	WASHINGTON		
DISTRICT:	4	SCALE: N/A	DRAWN BY: GWE

1040578-01.dgn 1/11/2011

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.		040578	94	216

(2) SIGNALIZATION PLAN SHEET

HWY. 16 (15 TH. ST.)/CURTIS & ARMSTRONG
TREATED WOOD POLE (CLASS 3) DIMENSIONS

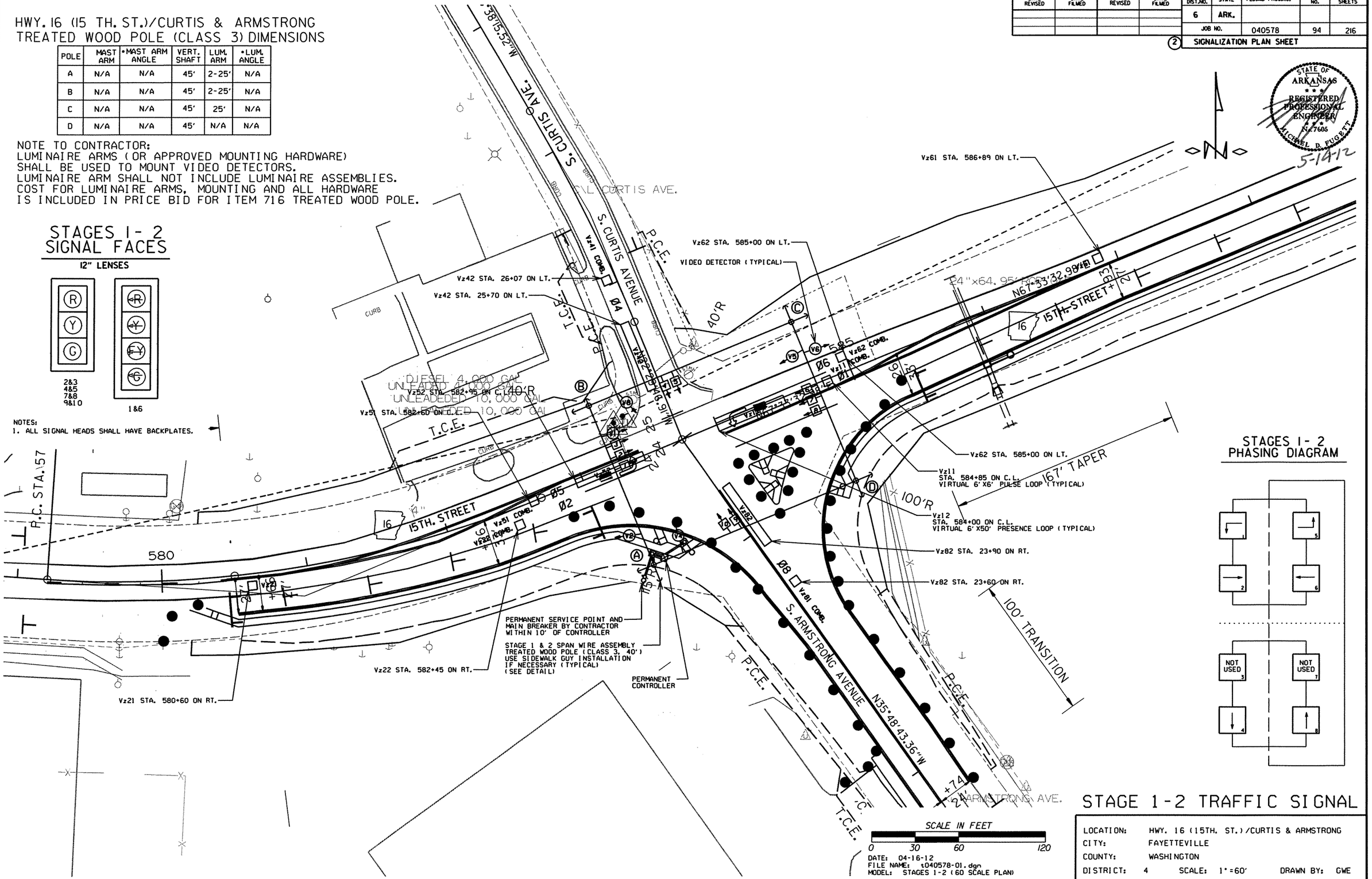
POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	N/A	N/A	45'	2-25'	N/A
B	N/A	N/A	45'	2-25'	N/A
C	N/A	N/A	45'	25'	N/A
D	N/A	N/A	45'	N/A	N/A

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES.
COST FOR LUMINAIRE ARMS, MOUNTING AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

STAGES 1- 2 SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.



STAGES 1- 2 PHASING DIAGRAM

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12

STAGE 1-2 TRAFFIC SIGNAL

LOCATION:	HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG
CITY:	FAYETTEVILLE
COUNTY:	WASHINGTON
DISTRICT: 4	SCALE: 1"=60' DRAWN BY: GWE

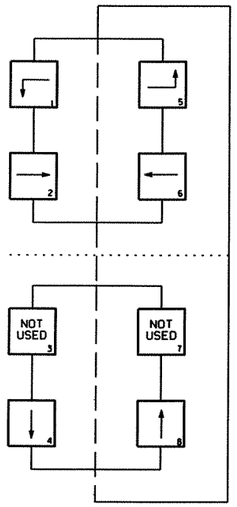
DATE: 04-16-12
FILE NAME: t040578-01.dgn
MODEL: STAGES 1-2 (60 SCALE PLAN)

1040578-01.dgn 1/11/2011

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.		040578	95	216
				(2) SIGNALIZATION PLAN SHEET				

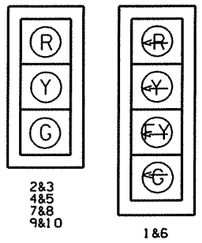
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STAGES 1- 2 PHASING DIAGRAM

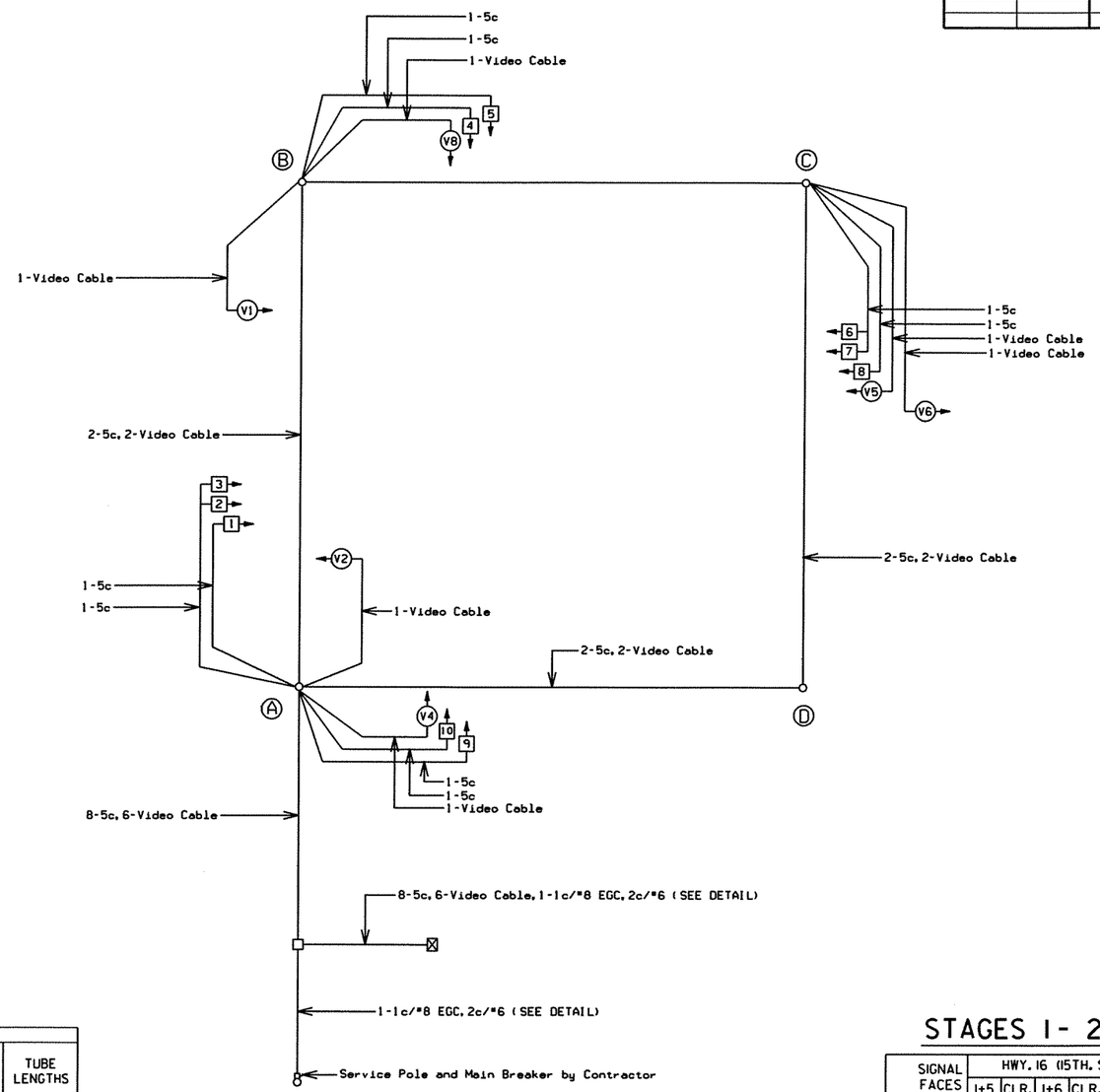


STAGES 1- 2 SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.



STAGES 1- 2 DETECTOR SYSTEM DESCRIPTION: JOB 040578

FAYETTEVILLE - HWY. 16/CURTIS & ARMSTRONG DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM #	AMP CHN. #	CON. INP.#	PHS	SYSTEM DET. #			
Vz11	WB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12	WB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz21	EB ADVANCE	LOCAL			9	V2	2			CAMERA V2	23'
Vz22	EB NEAR	COMB.			7	V10	2	2		CAMERA V5	23'
Vz41	SB ADVANCE	COMB.			13	V12	4	4		CAMERA V4	23'
Vz42	SB NEAR	LOCAL			14	V4	4			CAMERA V4	23'
Vz51	EB LEFT TURN FAR	COMB.			5	V13	5	5		CAMERA V5	23'
Vz52	EB LEFT TURN	LOCAL			6	V5	5			CAMERA V5	23'
Vz61	WB ADVANCE	LOCAL			3	V6	6			CAMERA V6	23'
Vz62	WB NEAR	COMB.			17	V14	6	6		CAMERA V1	23'
Vz81	NB ADVANCE	LOCAL			21	V8	8			CAMERA V8	23'
Vz82	NB NEAR	COMB.			22	V16	8	8		CAMERA V8	23'
					SPARE 4, 8, 10, 11, 12, 15, 16, 18, 19, 20, 23 & 24						

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.

DATE: 05-02-11
FILE NAME: t040578-01.dgn
MODEL: STAGES 1-2 SIGNAL WIRING DIAGRAM

STAGES 1- 2 INTERVAL CHART

SIGNAL FACES	HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	4+8	CLR.		FLASH SEQ.
1	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~	~~R~~		~~R~~
2&3	R	R	G	••	R	R	G	••	R	R		R
4&5	R	R	R	R	R	R	R	R	G	••		R
6	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~	~~R~~		~~R~~
7&8	R	R	R	R	G	••	G	••	R	R		R
9&10	R	R	R	R	R	R	R	R	G	••		R

• 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

STAGE 1-2 TRAFFIC SIGNAL

LOCATION: HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

1040578-01.dgn 1/11/2011

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.		040578	96	216
				(2)	SIGNALIZATION PLAN SHEET			

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

2&3
5&6
8&9
10&11

1, 4&7

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

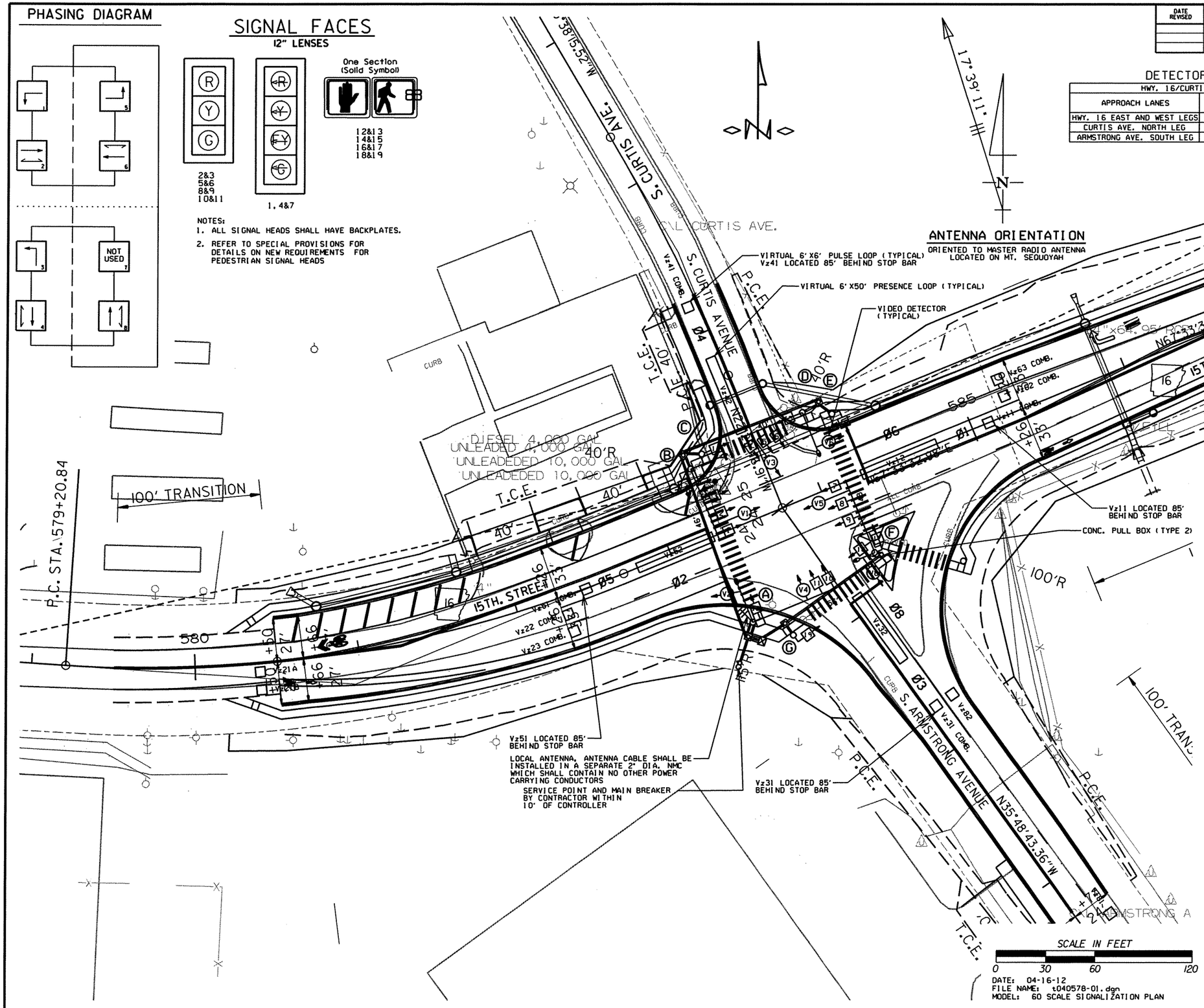
HWY. 16/CURTIS AVE. AND ARMSTRONG AVE.			
APPROACH LANES	POSTED SPEED	DISTANCE FROM STOP BAR	
		LEAD LOOP	LAG LOOP
HWY. 16 EAST AND WEST LEGS	40 MPH	290'	100'
CURTIS AVE. NORTH LEG	25 MPH	170'	50'
ARMSTRONG AVE. SOUTH LEG	35 MPH	250'	85'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12

ANTENNA ORIENTATION

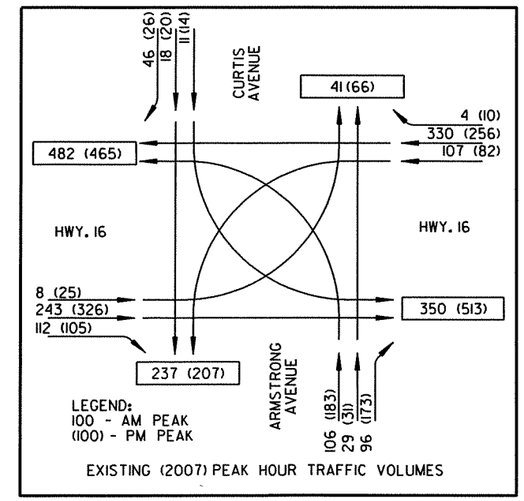
ORIENTED TO MASTER RADIO ANTENNA LOCATED ON MT. SEQUOYAH

17°39'11"



DATE: 04-16-12
FILE NAME: t:040578-01.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

TRAFFIC FLOW DIAGRAM



EXISTING (2007) PEAK HOUR TRAFFIC VOLUMES

PERMANENT TRAFFIC SIGNAL

LOCATION:	HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG				
CITY:	FAYETTEVILLE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY:	GWE

1040578-01.dgn 1/11/2011

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.		040578	97	216
				(2)	SIGNALIZATION PLAN SHEET			

HWY. 16/CURTIS AND ARMSTRONG POLE LOCATIONS

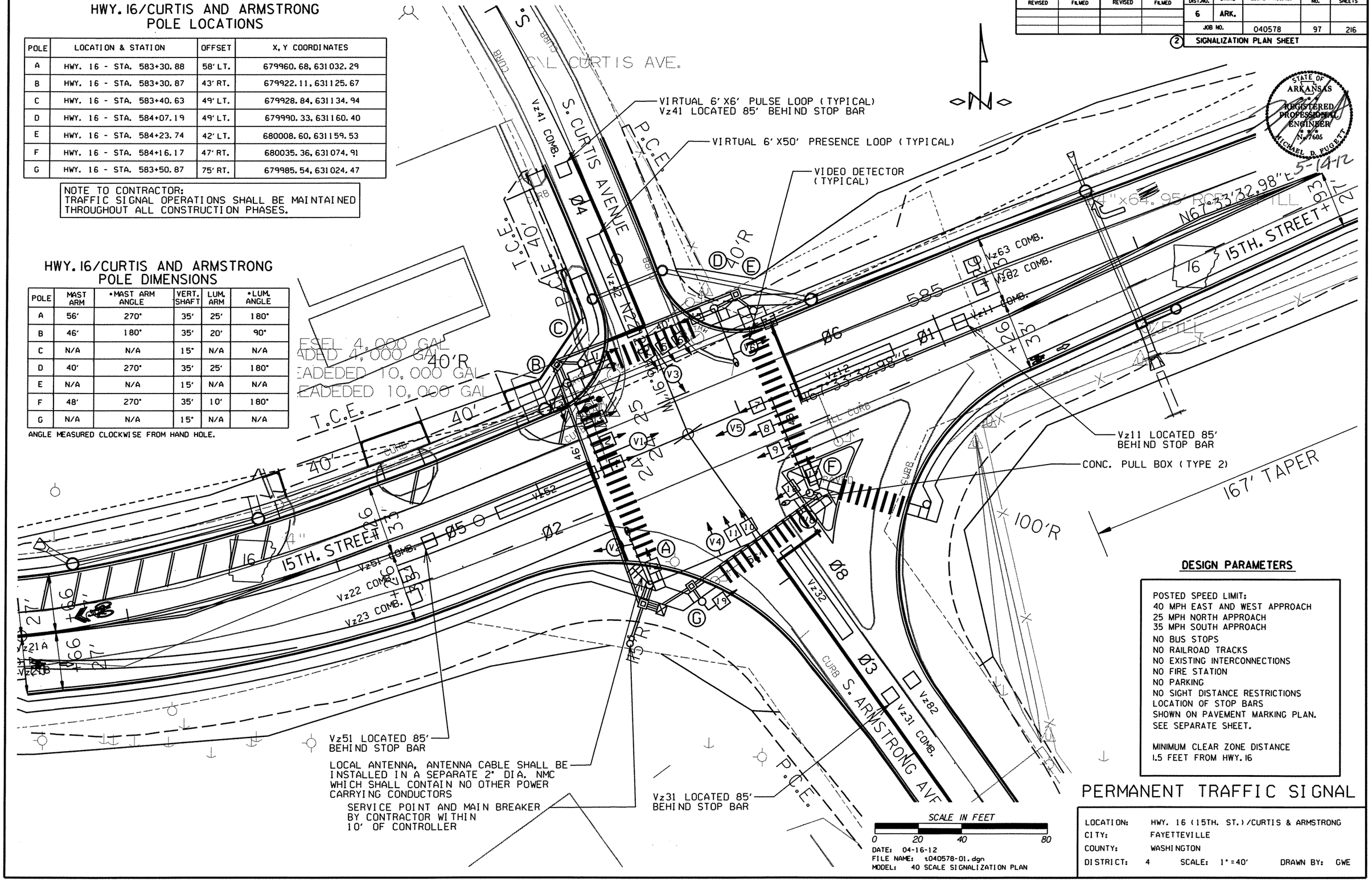
POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 16 - STA. 583+30.88	58' LT.	679960.68, 631032.29
B	HWY. 16 - STA. 583+30.87	43' RT.	679922.11, 631125.67
C	HWY. 16 - STA. 583+40.63	49' LT.	679928.84, 631134.94
D	HWY. 16 - STA. 584+07.19	49' LT.	679990.33, 631160.40
E	HWY. 16 - STA. 584+23.74	42' LT.	680008.60, 631159.53
F	HWY. 16 - STA. 584+16.17	47' RT.	680035.36, 631074.91
G	HWY. 16 - STA. 583+50.87	75' RT.	679985.54, 631024.47

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

HWY. 16/CURTIS AND ARMSTRONG POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	56'	270°	35'	25'	180°
B	46'	180°	35'	20'	90°
C	N/A	N/A	15'	N/A	N/A
D	40'	270°	35'	25'	180°
E	N/A	N/A	15'	N/A	N/A
F	48'	270°	35'	10'	180°
G	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

DESIGN PARAMETERS

POSTED SPEED LIMIT:
40 MPH EAST AND WEST APPROACH
25 MPH NORTH 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 HWY. 16

PERMANENT TRAFFIC SIGNAL

DATE: 04-16-12
FILE NAME: t040578-01.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

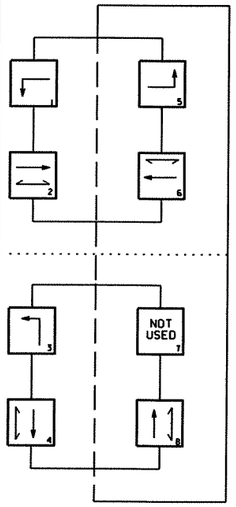
LOCATION:	HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG		
CITY:	FAYETTEVILLE		
COUNTY:	WASHINGTON		
DISTRICT:	4	SCALE: 1"=40'	DRAWN BY: GWE

1040578-01.dgn 1/11/2011

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.		040578	98	216

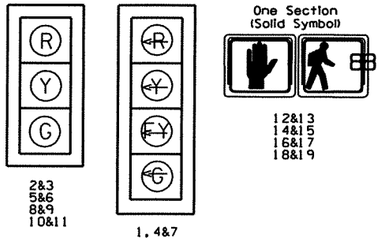
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

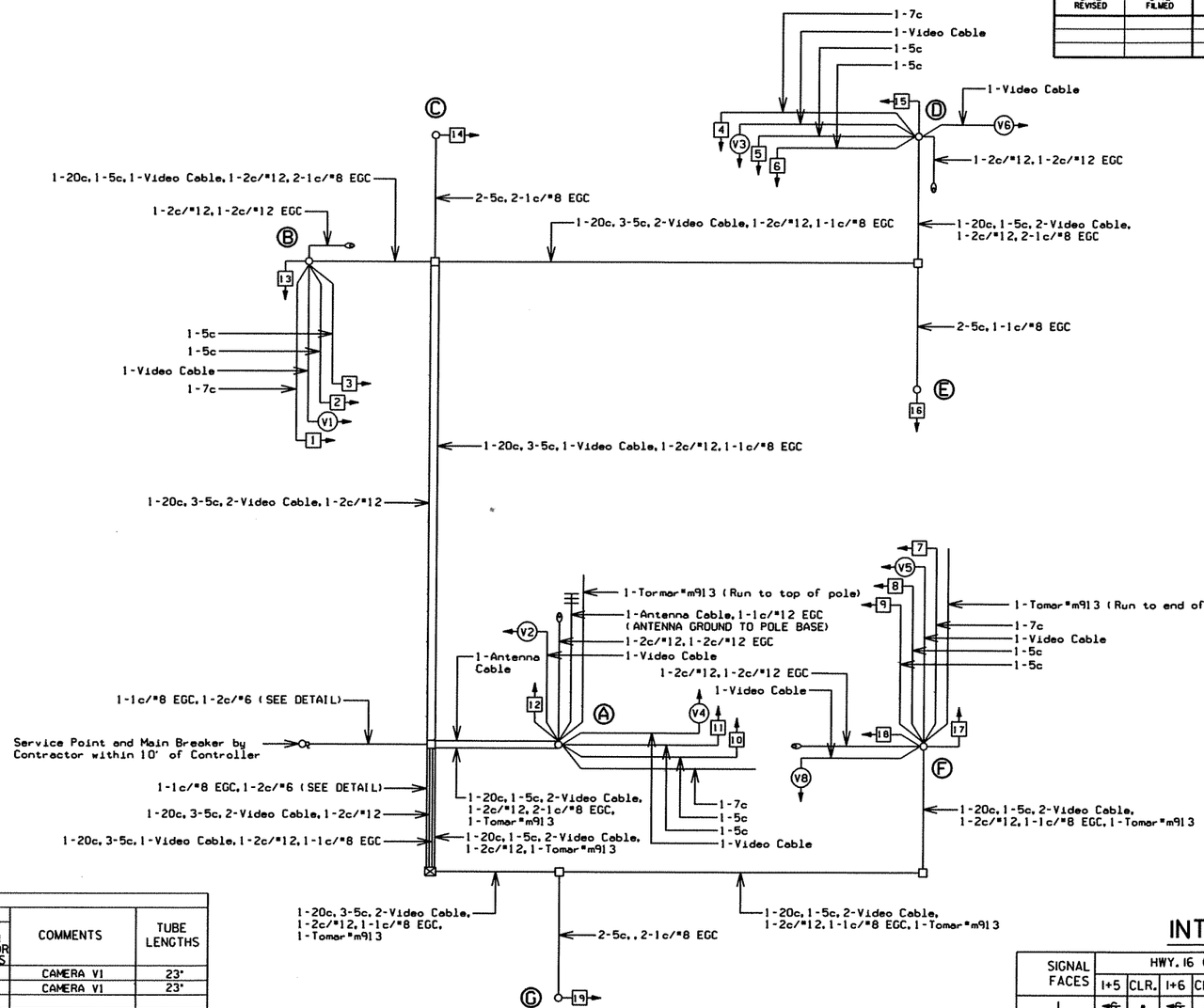


SIGNAL FACES

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 040578

FAYETTEVILLE - HWY. 16/CURTIS & ARMSTRONG DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	WB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12	WB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz21A&B	EB ADVANCE	LOCAL			9	V2	2			CAMERA V2	23'
Vz22	EB INSIDE NEAR	COMB.			10	V10	2	2		CAMERA V5	23'
Vz23	EB OUTSIDE NEAR	COMB.			11	V15	2	7		CAMERA V5	23'
Vz31	NB LEFT TURN FAR	COMB.			17	V11	3	3		CAMERA V3	23'
Vz32	NB LEFT TURN	LOCAL			18	V3	3			CAMERA V3	23'
Vz41	SB ADVANCE	COMB.			21	V12	4	4		CAMERA V4	23'
Vz42	SB NEAR	LOCAL			22	V4	4			CAMERA V4	23'
Vz51	EB LEFT TURN FAR	COMB.			13	V13	5	5		CAMERA V5	23'
Vz52	EB LEFT TURN	LOCAL			14	V5	5			CAMERA V5	23'
Vz61A&B	WB ADVANCE	LOCAL			5	V6	6			CAMERA V6	23'
Vz62	WB INSIDE NEAR	COMB.			6	V14	6	6		CAMERA V1	23'
Vz63	WB OUTSIDE NEAR	COMB.			7	V16	6	8		CAMERA V1	23'
Vz81	NB ADVANCE	LOCAL			19	V8	8			CAMERA V8	23'
Vz82	NB NEAR	LOCAL			20	V8	8			CAMERA V3	23'
PB2A&B	ARMSTRONG S. LEG	PED.				P2	2				
PB4A&B	HWY. 16 W. LEG	PED.				P4	4				
PB6A&B	CURTIS N. LEG	PED.				P6	6				
PB8A&B	HWY. 16 E. LEG	PED.				P8	8				
					SPARE 3, 4, 8, 12, 15, 16, 23&24						

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. 16 (15TH. ST.)/CURTIS & ARMSTRONG 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4+8	CLR.		FLASH SEQ.
1	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~		~~R~~
2&3	R	R	G	••	R	R	G	••	R	R	R	R		R
4	R	R	R	R	R	R	R	R	~~G~~	•	~~FY~~	•••		~~R~~
5&6	R	R	R	R	R	R	R	R	G	••	G	••		R
7	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~		~~R~~
8&9	R	R	R	R	G	••	G	••	R	R	R	R		R
10&11	R	R	R	R	R	R	R	R	R	R	G	••		R
12&13	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW		BLK
14&15	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW		BLK
16&17	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW		BLK
18&19	DW	DW	DW	DW	W	FDW	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. FUGETT 5-14-12

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 16 (15TH. ST.)/CURTIS & ARMSTRONG
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

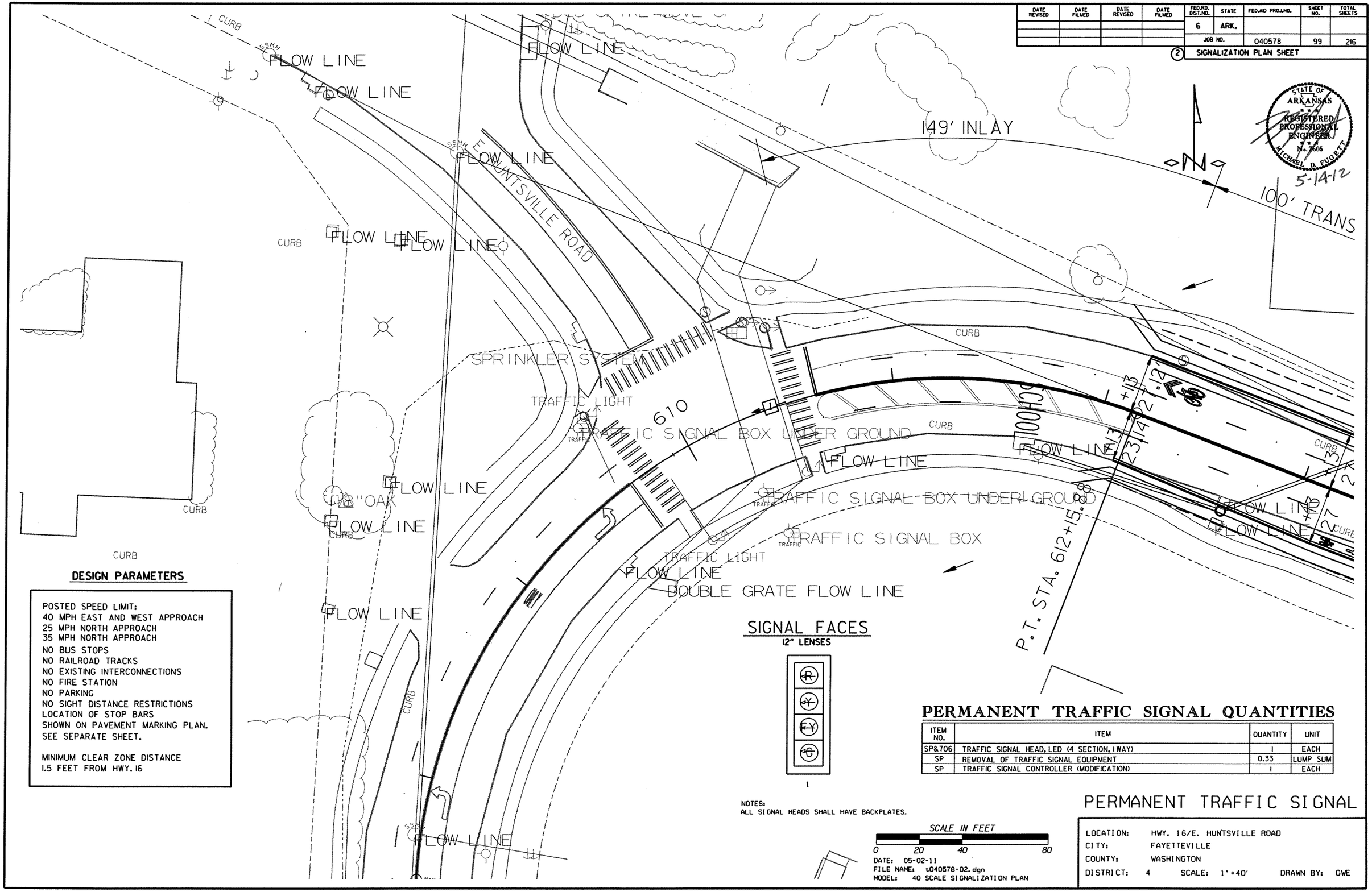
DATE: 05-02-11
FILE NAME: t040578-01.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

t040578-01.dgn 1/11/2011

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.		040578	99	216

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12


CURB
FLOW LINE
FLOW LINE
FLOW LINE

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.		040578	100	216
				(2)	SIGNALIZATION PLAN SHEET			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STAGES 1 - 3 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	8	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	4	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2641	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 3, 45')	5	EACH
SP&733	VEHICLE DETECTOR RACK (24 CHANNEL)	1	EACH
733	VIDEO CABLE	896	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	6	EACH
SP&733	VIDEO EDGE CARD EXTENDER	2	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR EDGE CARD (2 CAMERA)	4	EACH
SP	VIDEO DETECTOR ROTATION	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/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	0.16	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

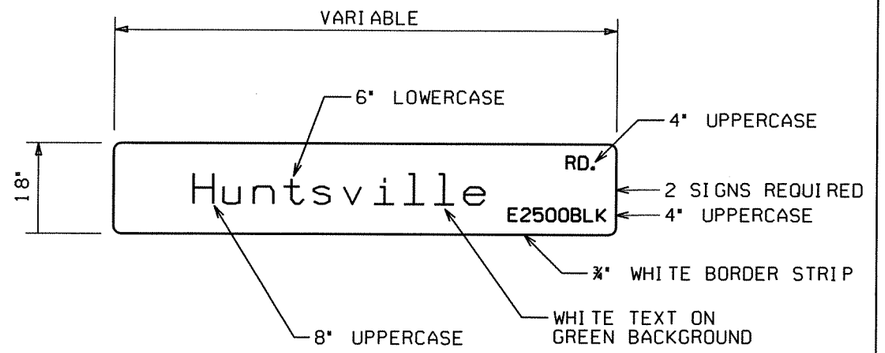
STAGES 1-3
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL STAGE 1-3 TRAFFIC SIGNAL IS COMPLETED INCLUDING ALL SPAN WIRE ASSEMBLIES AND IN OPERATION.
UTILIZING THE PERMANENT TRAFFIC SIGNAL CONTROLLER A TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL BE CONSTRUCTED.
INSTALL 4 TREATED WOOD POLES (CLASS 3, 45'), SPAN WIRE ASSEMBLY AND ALL NECESSARY CONDUIT.
INSTALL ALL TRAFFIC SIGNAL CABLE AND VIDEO CABLE, ESTABLISH VIDEO ZONES, REMOVE EXISTING TRAFFIC SIGNAL INSTALLATION AND MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1-3 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

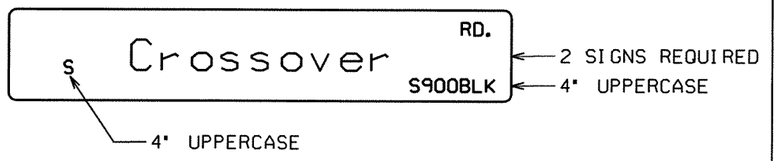
PERMANENT TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	14	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	2	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	6	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2308	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	169	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	238	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	348	LIN. FT.
710	NON-METALLIC CONDUIT (3")	540	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)	4	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (0')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58'-44')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	3	EACH
733	VIDEO CABLE	1204	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	7	EACH
SP	ANTENNA CABLE (TYPE 6)	70	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	604	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/8 A.W.G., EGC)	603	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/12 A.W.G., EGC)	205	LIN. FT.
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.17	LUMP SUM
SP	18" STREET NAME SIGN	4	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	EACH

PERMANENT TRAFFIC SIGNAL:
THE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.
INSTALL PERMANENT TRAFFIC SIGNAL AND REMOVE ALL STAGE 1-3 TEMPORARY TRAFFIC SIGNAL COMPONENTS.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS).

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED





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: 04-13-12
FILE NAME: t040578-03.dgn
MODEL: SIGNAL QUANTITES AND SIGNS

LOCATION:	HWY. 16/HWY. 265 (CROSSOVER RD.)				
CITY:	FAYETTEVILLE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	N/A	DRAWN BY:	GWE

t040578-03.dgn 1/11/2011

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.		040578	101	216
				(2)	SIGNALIZATION PLAN SHEET			

STAGES 1- 3 PHASING DIAGRAM

STAGES 1- 3 SIGNAL FACES

12" LENSES

2&3
5&6
8&9
11&12

1, 4, 7&10

One Section (Solid Symbol)

13&14
15&16

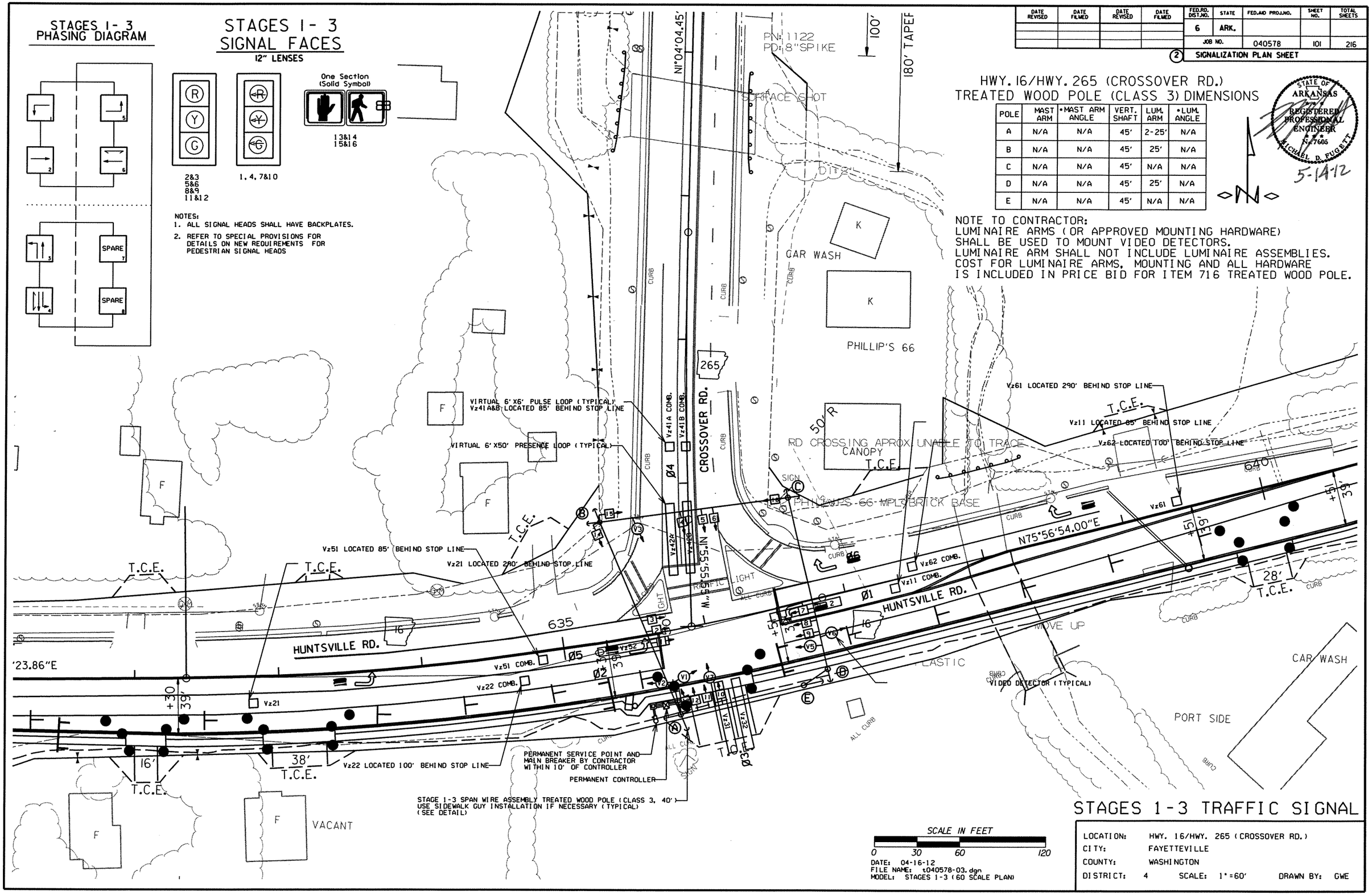
NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS

HWY. 16/HWY. 265 (CROSSOVER RD.) TREATED WOOD POLE (CLASS 3) DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	N/A	N/A	45'	2-25'	N/A
B	N/A	N/A	45'	25'	N/A
C	N/A	N/A	45'	N/A	N/A
D	N/A	N/A	45'	25'	N/A
E	N/A	N/A	45'	N/A	N/A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N. 7605
MICHAEL D. RUGGETT
5-14-12

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS.
LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES.
COST FOR LUMINAIRE ARMS, MOUNTING AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.



SCALE IN FEET
0 30 60 120

DATE: 04-16-12
FILE NAME: t040578-03.dgn
MODEL: STAGES 1-3 (60 SCALE PLAN)

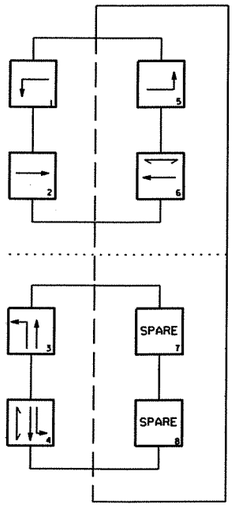
STAGES 1-3 TRAFFIC SIGNAL

LOCATION:	HWY. 16/HWY. 265 (CROSSOVER RD.)				
CITY:	FAYETTEVILLE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY:	GWE

t040578-03.dgn 1/11/2011

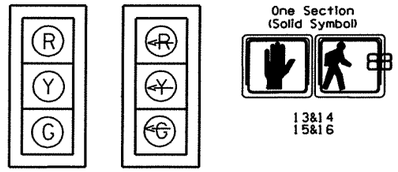
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	102	216
				(2) SIGNALIZATION PLAN SHEET				

STAGES 1- 3 PHASING DIAGRAM

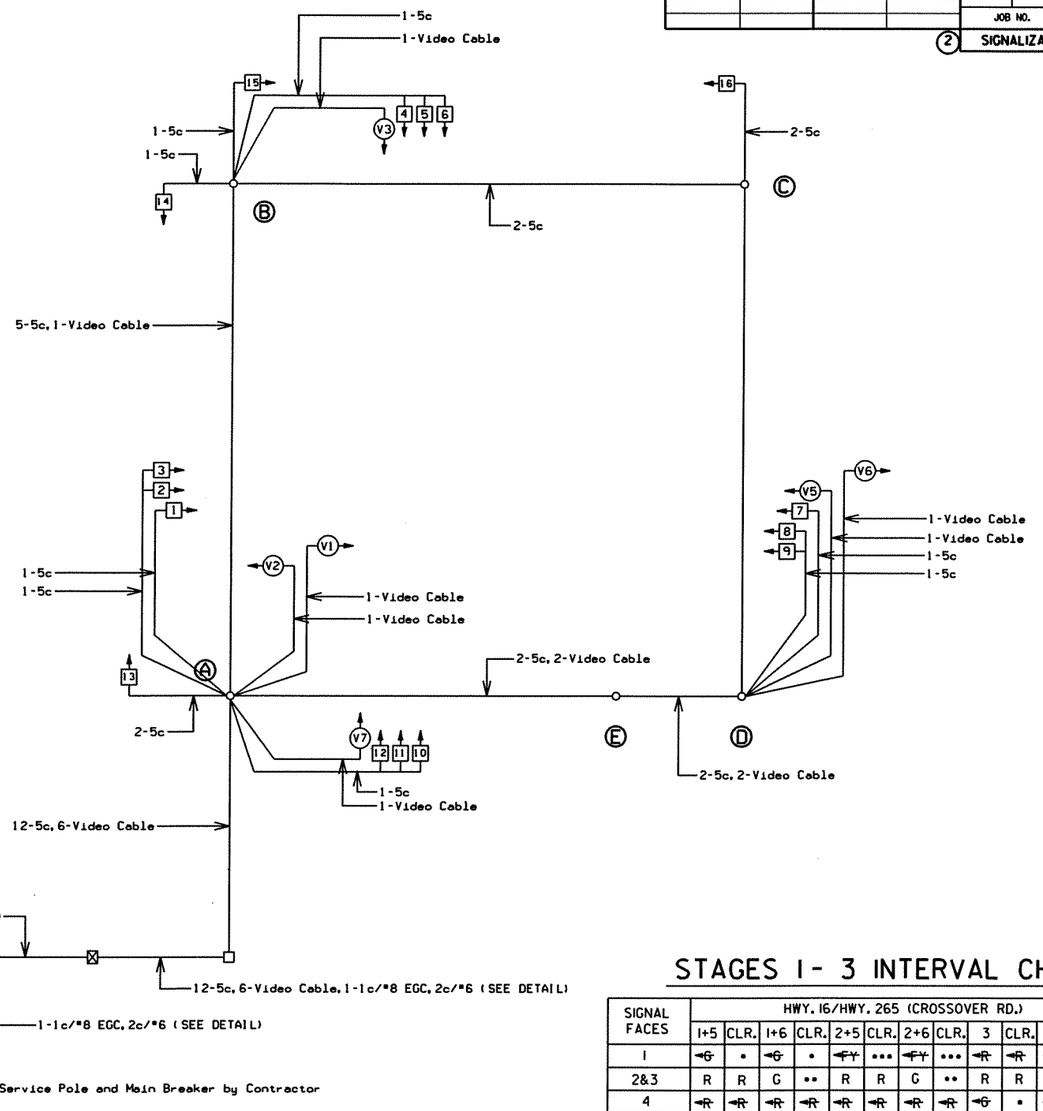


STAGES 1- 3 SIGNAL FACES

12" LENSES



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



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

STAGES 1- 3 DETECTOR SYSTEM DESCRIPTION: JOB 040578											
FAYETTEVILLE - HWY. 16/HWY. 265 (CROSSOVER RD.) DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	VIDEO DETECTOR	TUBE LENGTH
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	NB LEFT TURN ADV.	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12	NB LEFT TURN	LOCAL			2	V1				CAMERA V1	23'
Vz21	SB THRU FAR	LOCAL			13	V2	2			CAMERA V2	23'
Vz22	SB THRU NEAR	COMB.			11	V10	2	2		CAMERA V5	23'
Vz31	NB LT. TURN	LOCAL			17	V3	3			CAMERA V3	23'
Vz32	NB THRU AND RT.	LOCAL			18	V3	3			CAMERA V3	23'
Vz41A&B	SB LEFT TURN ADV.	COMB.			21	V12	4	4		CAMERA V7	23'
Vz42A&B	SB THRU	LOCAL			22	V4	4			CAMERA V7	23'
Vz51	EB LEFT TURN ADV.	COMB.			10	V13	5	5		CAMERA V5	23'
Vz52	EB LEFT TURN	LOCAL			9	V5	5			CAMERA V5	23'
Vz61	NB THRU FAR	LOCAL			5	V6	6			CAMERA V6	23'
Vz62	NB THRU NEAR	COMB.			3	V14	6	6		CAMERA V1	23'
					SPARE 4, 6, 7, 8, 12, 14, 15, 16, 19, 20, 23 AND 24						

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.

STAGES 1- 3 INTERVAL CHART

SIGNAL FACES	HWY. 16/HWY. 265 (CROSSOVER RD.)												FLASH SEQ.
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4	CLR.	
1	~~G~~	•	~~G~~	•	~~FY~~	•••	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2&3	R	R	G	••	R	R	G	••	R	R	R	R	R
4	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~R~~	~~R~~	~~R~~
5&6	R	R	R	R	R	R	R	R	G	••	R	R	R
7	~~G~~	•	~~FY~~	•••	~~G~~	•	~~FY~~	•••	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
8&9	R	R	R	R	G	••	G	••	R	R	R	R	R
10	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~R~~
11&12	R	R	R	R	R	R	R	R	R	R	G	••	R
13&14	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	BLK
15&16	DW	DW	W	FDW	DW	DW	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

DATE: 05-02-11
FILE NAME: t040578-03.dgn
MODEL: STAGES 1-3 SIGNAL WIRING DIAGRAM

STAGES 1-3 TRAFFIC SIGNAL

LOCATION: HWY. 16/HWY. 265 (CROSSOVER RD.)
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

t040578-03.dgn 1/11/2011

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.		040578	103	216

(2) SIGNALIZATION PLAN SHEET

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

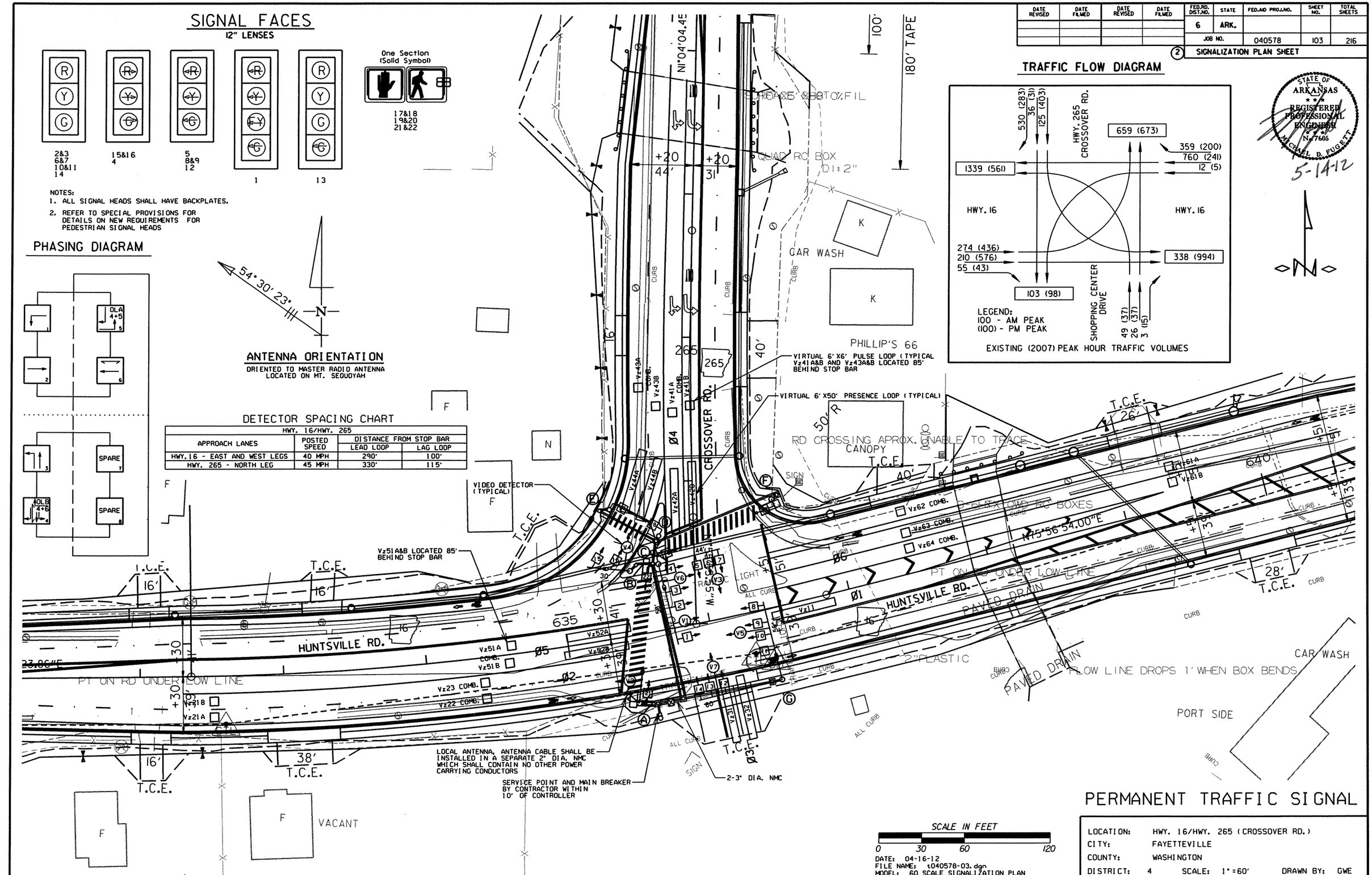
PHASING DIAGRAM

ANTENNA ORIENTATION

ORIENTED TO MASTER RADIO ANTENNA LOCATED ON MT. SEQUOYAH

DETECTOR SPACING CHART

HWY. 16/HWY. 265			
APPROACH LANES	POSTED SPEED	DISTANCE FROM STOP BAR	
		LEAD LOOP	LAG LOOP
HWY. 16 - EAST AND WEST LEGS	40 MPH	290'	100'
HWY. 265 - NORTH LEG	45 MPH	330'	115'



TRAFFIC FLOW DIAGRAM

EXISTING (2007) PEAK HOUR TRAFFIC VOLUMES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
No. 17605
5-14-12

PERMANENT TRAFFIC SIGNAL

SCALE IN FEET
0 30 60 120

DATE: 04-16-12
FILE NAME: t040578-03.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

LOCATION:	HWY. 16/HWY. 265 (CROSSOVER RD.)			
CITY:	FAYETTEVILLE			
COUNTY:	WASHINGTON			
DISTRICT:	4	SCALE:	1"=60'	DRAWN BY: GWE

t040578-03.dgn 1/11/2011

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.		040578	104	216
				(2)	SIGNALIZATION PLAN SHEET			

HWY. 16/HWY. 265 (CROSSOVER RD.) POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 16 - STA. 635+48.90	54' RT.	683677.05, 632875.10
B	HWY. 16 - STA. 635+51.40	45' LT.	683661.89, 632973.00
C	HWY. 16 - STA. 635+75.00	46' LT.	683681.70, 632977.80
D	HWY. 16 - STA. 635+75.86	65' LT.	683681.81, 632997.42
E	HWY. 16 - STA. 635+44.30	89' LT.	683647.49, 633015.86
F	HWY. 16 - STA. 636+61.60	74' LT.	683760.57, 633023.22
G	HWY. 16 - STA. 636+39.78	51' RT.	683768.56, 632897.19

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

HWY. 16/HWY. 265 (CROSSOVER RD.) POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	N/A	N/A	35'	20'	180°
B	30'	180°	35'	15'	180°
C	58'-44'	180°-90°	35'	15'	180°
D	N/A	N/A	15'	N/A	N/A
E	N/A	N/A	15'	N/A	N/A
F	N/A	N/A	15'	N/A	N/A
G	56'	180°	35'	15'	180°

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

DESIGN PARAMETERS

POSTED SPEED LIMIT:
40 MPH EAST AND WEST APPROACH
45 MPH NORTH 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 HWY. 16 AND HWY. 265

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12

CAR WASH
PHILLIP'S 66
CROSSOVER RD.
HUNTSVILLE RD.
265
16
CURB
ALL CURB
FLOW LINE
FLOW LINE STEEL SEPARATE
2" PLASTIC
PVC CONDUIT
T.C.E.
SIGN
TRAFFIC LIGHT
CANOPY
RD CROSSING APROX. UNABLE TO TRACE
N75°56'54.00"E
PN: 1 PD: 8" SPIKE MOVE UP
VIRTUAL 6'X6' PULSE LOOP (TYPICAL) Vz41A&B AND Vz43A&B LOCATED 85' BEHIND STOP BAR
VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)
VIDEO DETECTOR (TYPICAL)
Vz51A&B LOCATED 85' BEHIND STOP BAR
Vz43A COMB. Vz43B
Vz41A COMB. Vz41B
Vz44A Vz44B
Vz42A Vz42B
Vz52A Vz52B
Vz51A COMB. Vz51B
Vz23 COMB.
Vz22 COMB.
Vz62 COMB.
Vz63 COMB.
Vz64 COMB.
Vz11
Vz31
Vz32
Ø1 Ø2 Ø3 Ø4 Ø5 Ø6
V1 V2 V3 V4 V5 V6 V7
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
635 +30 41"
636 +10 56"
N 15°05'54" W
44'
60'
38'
40'
50'R
30
NOTE TO CONTRACTOR:
V2, V4 AND V6 ARE INSTALLED ON LUMINAIRE ARM.
LOCAL ANTENNA, ANTENNA CABLE SHALL BE INSTALLED IN A SEPARATE 2" DIA. NMC WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS
SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10' OF CONTROLLER
2-3" DIA. NMC

PERMANENT TRAFFIC SIGNAL

SCALE IN FEET
0 20 40 80

DATE: 04-16-12
FILE NAME: t040578-03.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

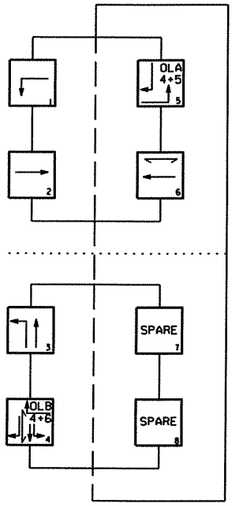
LOCATION:	HWY. 16/HWY. 265 (CROSSOVER RD.)				
CITY:	FAYETTEVILLE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=40'	DRAWN BY:	GWE

1040578-03.dgn 1/11/2011

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.		040578	105	216

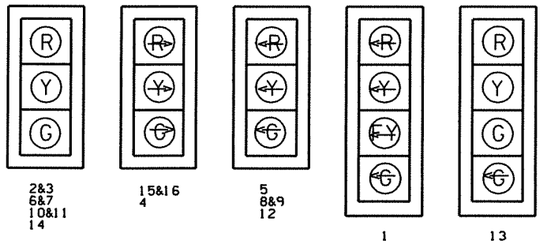
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM



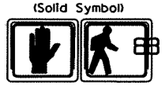
SIGNAL FACES

12" LENSES



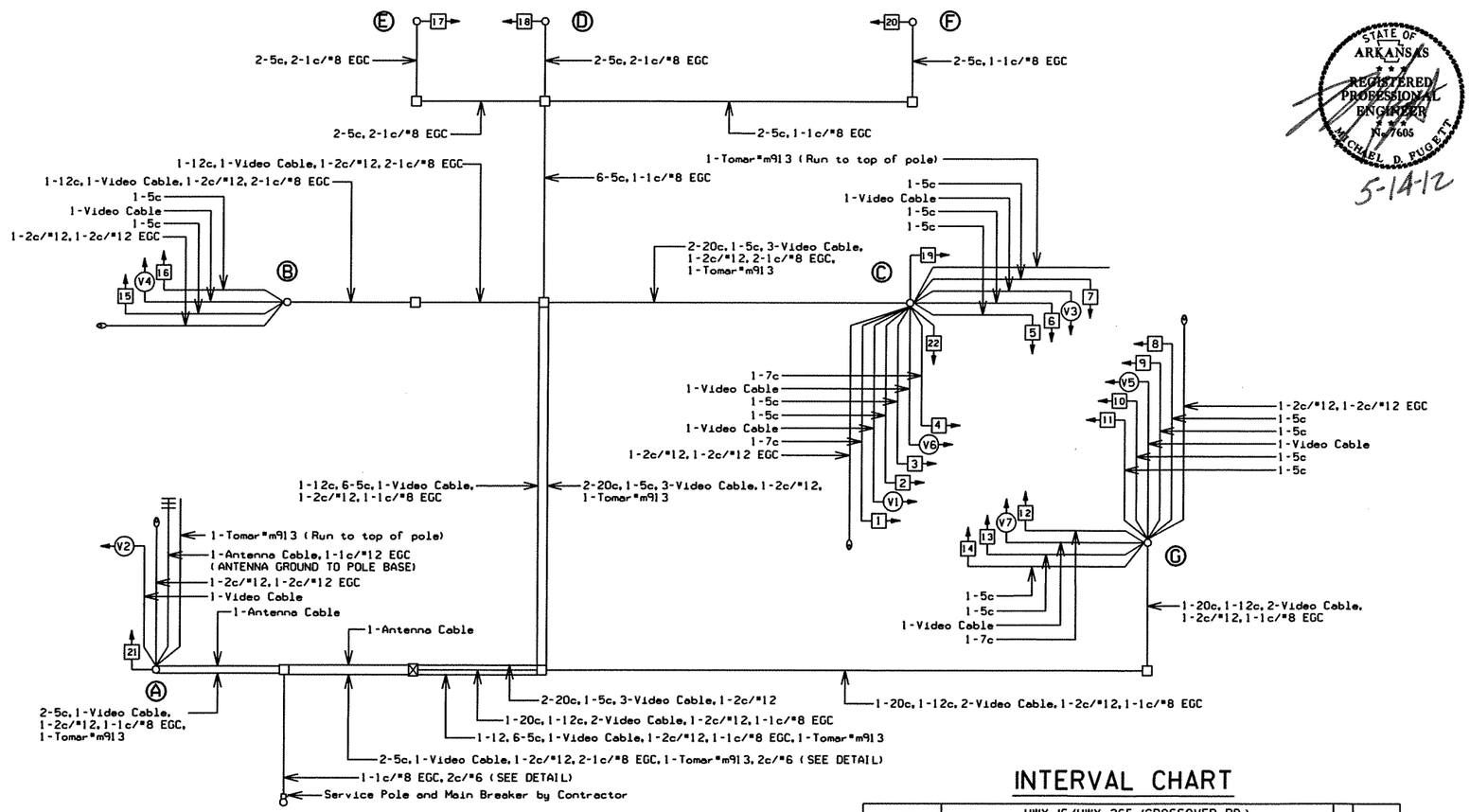
2&3, 6&7, 10&11, 14 — 15&16, 4 — 5, 8&9, 12 — 1 — 13

One Section (Solid Symbol)



17&18, 19&20, 21&22

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



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
5-14-12

INTERVAL CHART

SIGNAL FACES	HWY. 16/HWY. 265 (CROSSOVER RD.) I+5	CLR.	I+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4	CLR.	FLASH SEQ.
1	~~G~~	•	~~G~~	•	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2&3	R	R	G	••	R	R	G	••	R	R	R	R	R
4	~~R~~	~~R~~	~~G~~	••	~~R~~	~~R~~	~~G~~	••	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~
5	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~FY~~	•••	~~R~~
6&7	R	R	R	R	R	R	R	R	G	••	R	R	R
8&9	~~G~~	•	~~R~~	~~R~~	~~G~~	•	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
10&11	R	R	R	R	G	••	G	••	R	R	R	R	R
12	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	•	~~R~~
13	R	R	R	R	R	R	R	R	R	R	C ~~G~~	••	R
14	R	R	R	R	R	R	R	R	R	R	G	••	R
15&16	~~G~~	~~Y~~	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~
17&18	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	BLK
19&20	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	BLK
21&22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	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

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.

DETECTOR SYSTEM DESCRIPTION: JOB 040578

FAYETTEVILLE - HWY. 16/HWY. 265 DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	WB LEFT TURN	LOCAL			1	V1	1			CAMERA V1	23'
Vz21A&B	EB ADVANCE	LOCAL			13	V2	2			CAMERA V2	23'
Vz22	EB OUTSIDE NEAR	COMB.			11	V10	2	2		CAMERA V5	23'
Vz23	EB INSIDE NEAR	COMB.			12	V9	2	1		CAMERA V5	23'
Vz31	NB LEFT TURN	LOCAL			17	V3	3			CAMERA V3	23'
Vz32	NB THRU AND RT.	LOCAL			18	V3	3			CAMERA V3	23'
Vz41A&B	SB ADVANCE	COMB.			21	V15	4	7		CAMERA V7	23'
Vz42A&B	SB NEAR	LOCAL			22	V4	4			CAMERA V7	23'
Vz43A&B	SB RT. TURN ADVANCE	COMB.			23	V12	4	4		CAMERA V4	23'
Vz44A&B	SB RIGHT TURN	LOCAL			24	V4	4			CAMERA V4	23'
Vz51A&B	EB LT. TURN ADVANCE	COMB.			9	V13	5	5		CAMERA V5	23'
Vz52A&B	EB LEFT TURN	LOCAL			10	V5	5			CAMERA V5	23'
Vz61A&B	WB ADVANCE	LOCAL			5	V6	6			CAMERA V6	74'
Vz62	WB RIGHT TURN	COMB.			4	V14	6	6		CAMERA V1	23'
Vz63	WB OUTSIDE NEAR	COMB.			3	V11	6	3		CAMERA V1	23'
Vz64	WB INSIDE NEAR	COMB.			2	V16	6	8		CAMERA V1	23'
PB4A&B	HWY. 16 W. LEG	PED.				P4	4				
PB6A&B	HWY. 265 N. LEG	PED.				P6	6				
					SPARE 6, 7, 8, 14, 15, 16, 19&20						

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

DATE: 05-02-11
FILE NAME: t040578-03.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 16/HWY. 265 (CROSSOVER RD.)
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

t040578-03.dgn 1/11/2011

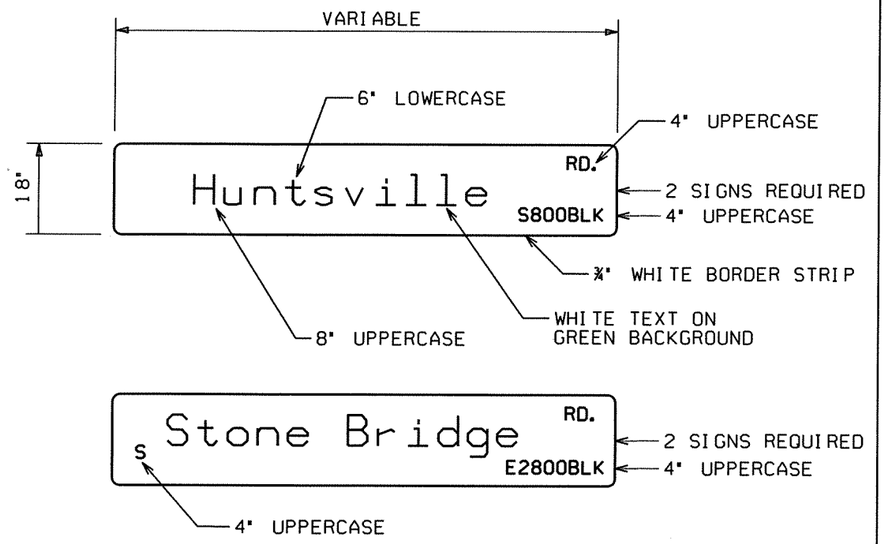
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	106	216
				(2)	SIGNALIZATION PLAN SHEET			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

PERMANENT TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	2	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2391	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	268	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	567	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	593	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1HD)	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	7	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	4	EACH
SP&733	VEHICLE DETECTOR RACK (24 CHANNEL)	1	EACH
733	VIDEO CABLE	1248	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	6	EACH
SP&733	VIDEO EDGE CARD EXTENDER	2	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP	ANTENNA CABLE (TYPE 6)	70	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	299	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/8 A.W.G., EGC)	599	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (IC/12 A.W.G., EGC)	225	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	LUMINAIRE ASSEMBLY	4	EACH
SP	18" STREET NAME SIGN	4	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED



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: 04-13-12
FILE NAME: t040578-04.dgn
MODEL: SIGNAL QUANTITIES AND SIGNS

LOCATION:	HWY. 16/STONE BRIDGE ROAD		
CITY:	FAYETTEVILLE		
COUNTY:	WASHINGTON		
DISTRICT:	4	SCALE: N/A	DRAWN BY: GWE

t040578-04.dgn 1/11/2011

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.		040578	107	216
				(2) SIGNALIZATION PLAN SHEET				

PHASING DIAGRAM

SIGNAL FACES
12" LENSES

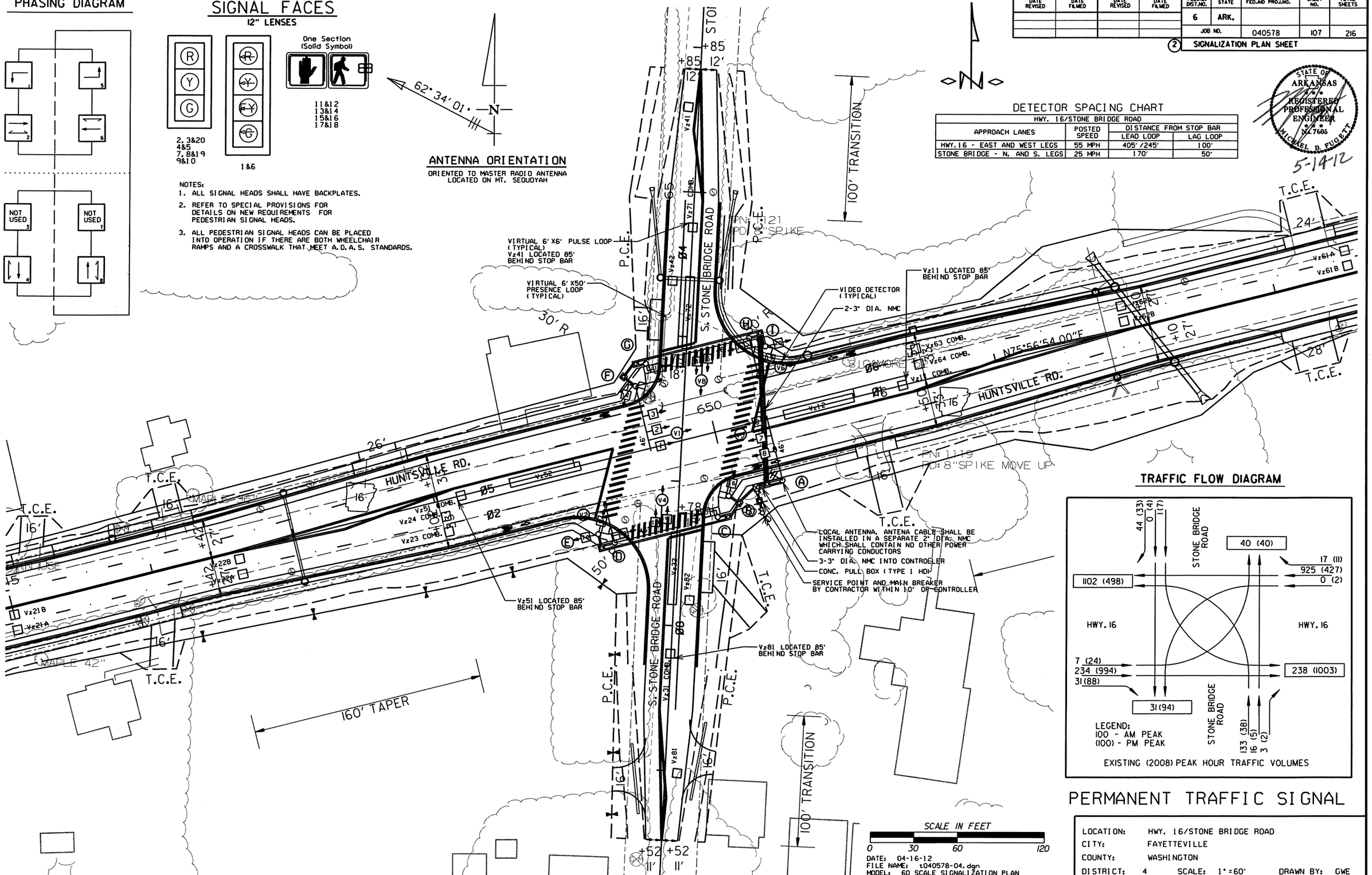
NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
3. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEET A.D.A.S. STANDARDS.

ANTENNA ORIENTATION
ORIENTED TO MASTER RADIO ANTENNA LOCATED ON MT. SEQUOYAH

DETECTOR SPACING CHART

HWY. 16/STONE BRIDGE ROAD			
APPROACH LANES	POSTED SPEED	DISTANCE FROM STOP BAR	
		LEAD LOOP	LAG LOOP
HWY. 16 - EAST AND WEST LEGS	55 MPH	405'/245'	100'
STONE BRIDGE - N. AND S. LEGS	25 MPH	170'	50'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
5-14-12



TRAFFIC FLOW DIAGRAM

EXISTING (2008) PEAK HOUR TRAFFIC VOLUMES

PERMANENT TRAFFIC SIGNAL

LOCATION:	HWY. 16/STONE BRIDGE ROAD
CITY:	FAYETTEVILLE
COUNTY:	WASHINGTON
DISTRICT: 4	SCALE: 1"=60' DRAWN BY: GWE

SCALE IN FEET
0 30 60 120

DATE: 04-16-12
FILE NAME: t040578-04.dgn
MODEL: 60 SCALE SIGNALIZATION PLAN

1040578-04.dgn 1/11/2011

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.		040578	108	216
				(2)	SIGNALIZATION PLAN SHEET			

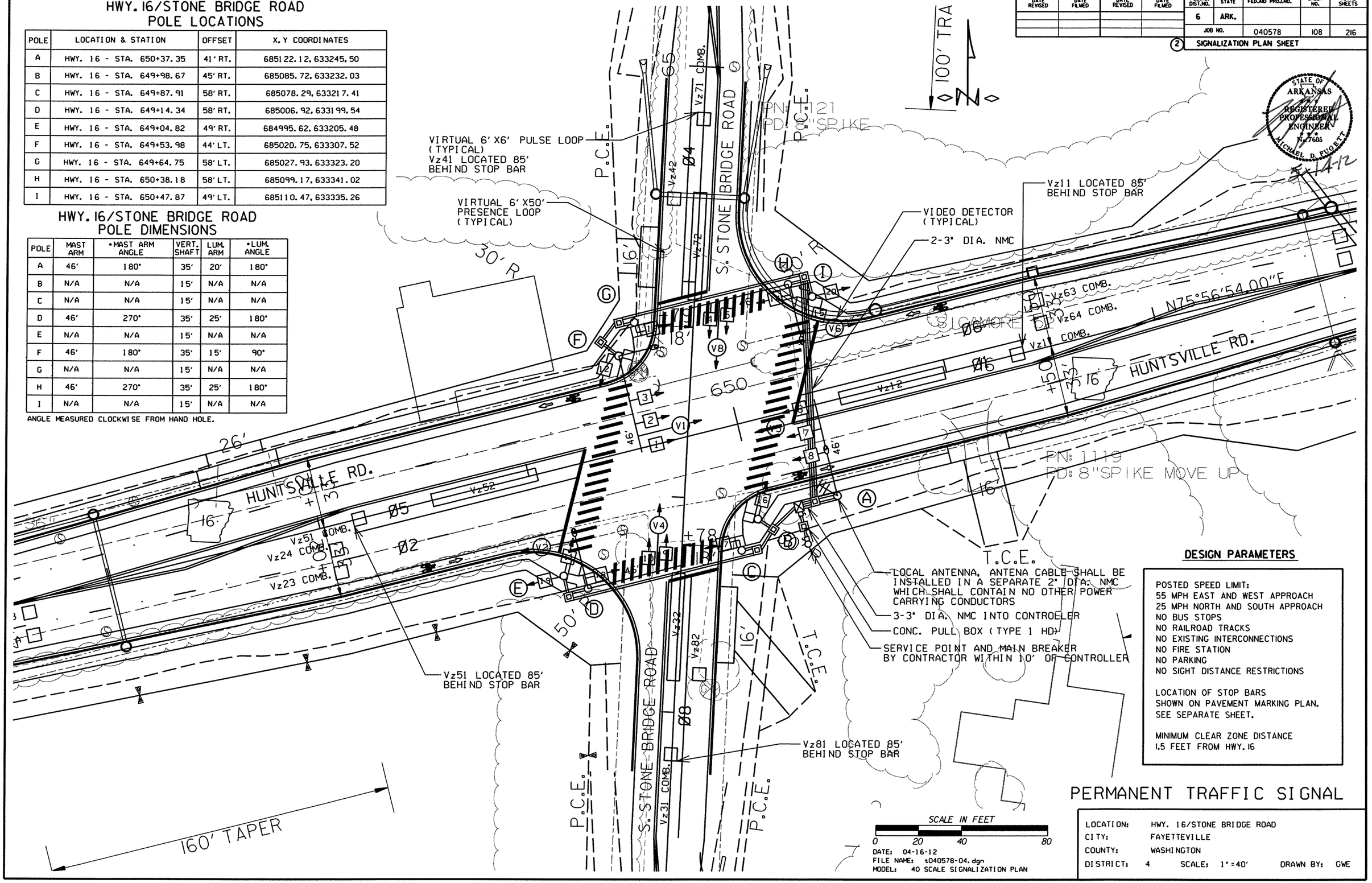
HWY. 16/STONE BRIDGE ROAD
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 16 - STA. 650+37.35	41' RT.	685122.12, 633245.50
B	HWY. 16 - STA. 649+98.67	45' RT.	685085.72, 633232.03
C	HWY. 16 - STA. 649+87.91	58' RT.	685078.29, 633217.41
D	HWY. 16 - STA. 649+14.34	58' RT.	685006.92, 633199.54
E	HWY. 16 - STA. 649+04.82	49' RT.	684995.62, 633205.48
F	HWY. 16 - STA. 649+53.98	44' LT.	685020.75, 633307.52
G	HWY. 16 - STA. 649+64.75	58' LT.	685027.93, 633323.20
H	HWY. 16 - STA. 650+38.18	58' LT.	685099.17, 633341.02
I	HWY. 16 - STA. 650+47.87	49' LT.	685110.47, 633335.26

HWY. 16/STONE BRIDGE ROAD
POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	46'	180°	35'	20'	180°
B	N/A	N/A	15'	N/A	N/A
C	N/A	N/A	15'	N/A	N/A
D	46'	270°	35'	25'	180°
E	N/A	N/A	15'	N/A	N/A
F	46'	180°	35'	15'	90°
G	N/A	N/A	15'	N/A	N/A
H	46'	270°	35'	25'	180°
I	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
4-14-12

DESIGN PARAMETERS

POSTED SPEED LIMIT:
55 MPH EAST AND WEST APPROACH
25 MPH NORTH AND 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 HWY. 16

PERMANENT TRAFFIC SIGNAL

DATE: 04-16-12
FILE NAME: t040578-04.dgn
MODEL: 40 SCALE SIGNALIZATION PLAN

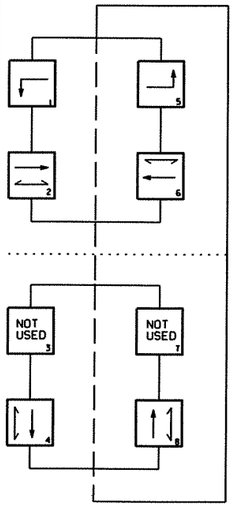
LOCATION:	HWY. 16/STONE BRIDGE ROAD				
CITY:	FAYETTEVILLE				
COUNTY:	WASHINGTON				
DISTRICT:	4	SCALE:	1"=40'	DRAWN BY:	GWE

t040578-04.dgn 1/11/2011

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.		040578	109	216

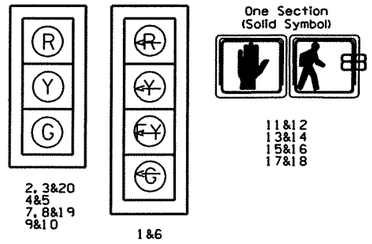
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

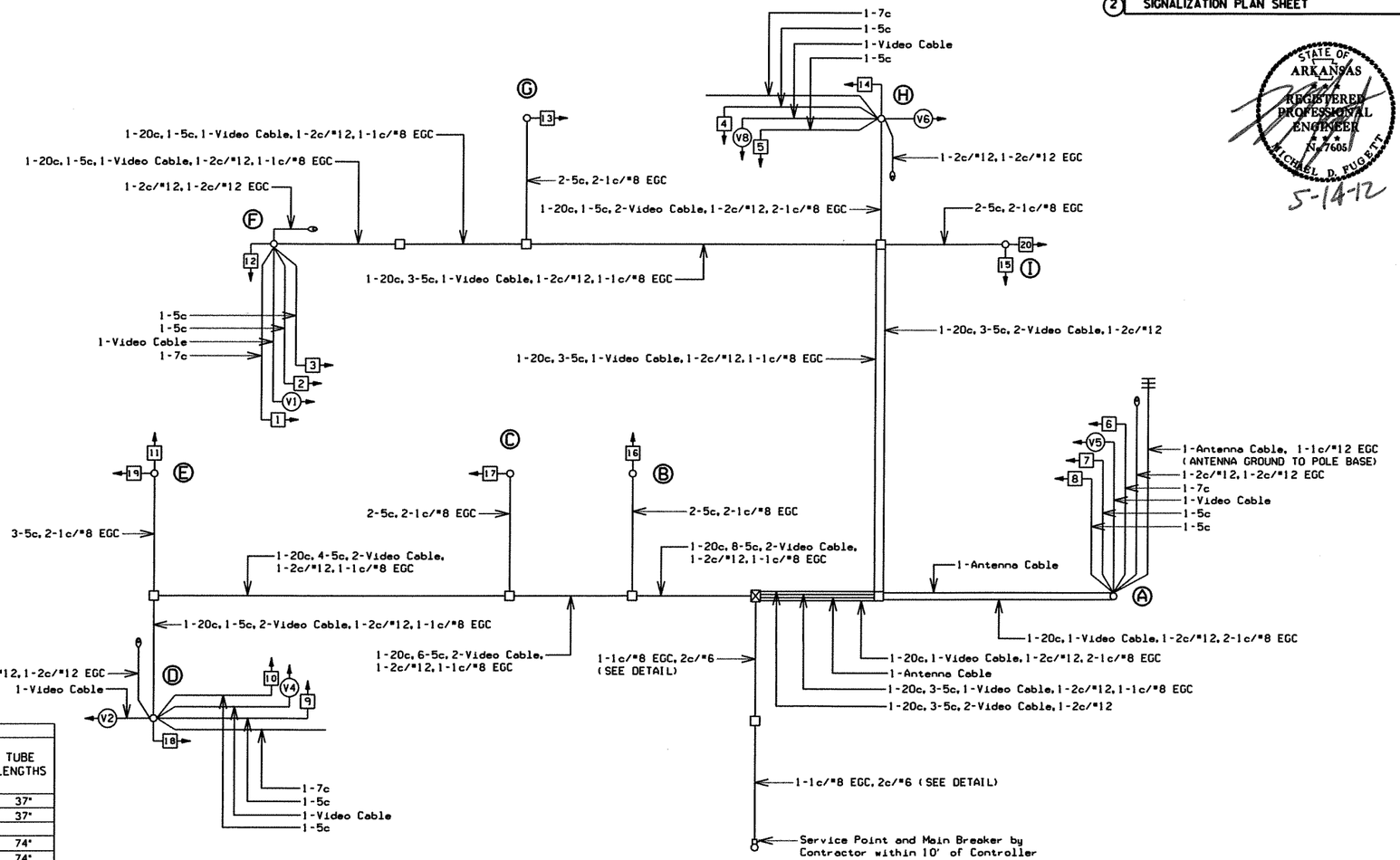


SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

DETECTOR SYSTEM DESCRIPTION: JOB 040578											
FAYETTEVILLE - HWY. 16/STONE BRIDGE ROAD DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11	WB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	37'
Vz12	WB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	37'
Vz21A&B	EB FAR ADVANCE	LOCAL			13	V2	2			CAMERA V2	74'
Vz22A&B	EB INTERMEDIATE	LOCAL			14	V3	2			CAMERA V2	74'
Vz23	EB OUTSIDE NEAR	COMB.			11	V10	2	2		CAMERA V5	37'
Vz24	EB INSIDE NEAR	COMB.			12	V12	2	4		CAMERA V5	37'
Vz31	NB LEFT TURN FAR	COMB.			21	V11	8	3		CAMERA V8	23'
Vz32	NB LEFT TURN	LOCAL			22	V3	8			CAMERA V8	23'
Vz41	SB THRU AND RIGHT	LOCAL			19	V14	4			CAMERA V4	23'
Vz42	SB THRU AND RIGHT	LOCAL			20	V4	4			CAMERA V4	23'
Vz51	EB LEFT TURN FAR	COMB.			9	V13	5	5		CAMERA V5	37'
Vz52	EB LEFT TURN	LOCAL			10	V5	5			CAMERA V5	37'
Vz61A&B	WB FAR ADVANCE	LOCAL			5	V6	6			CAMERA V6	74'
Vz62A&B	WB INTERMEDIATE	LOCAL			6	V7	6			CAMERA V6	74'
Vz63	WB OUTSIDE NEAR	COMB.			3	V14	6	6		CAMERA V1	74'
Vz64	WB INSIDE NEAR	COMB.			4	V16	6	8		CAMERA V1	74'
Vz71	SB LEFT TURN FAR	COMB.			17	V15	4	7		CAMERA V4	23'
Vz72	SB LEFT TURN	LOCAL			18	V7	4			CAMERA V4	23'
Vz81	NB THRU AND RIGHT	LOCAL			23	V8	8			CAMERA V8	23'
Vz82	NB THRU AND RIGHT	LOCAL			24	V8	8			CAMERA V8	23'
PB2A&B	STONEBRIDGE S. LEG	PED.				P2	2				
PB4A&B	HWY. 16 W. LEG	PED.				P4	4				
PB6A&B	STONEBRIDGE N. LEG	PED.				P6	6				
PB8A&B	HWY. 16 E. LEG	PED.				P8	8				
					SPARE						

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

INTERVAL CHART

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

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.

DATE: 04-13-12
FILE NAME: t:040578-04.dgn
MODEL: SIGNALIZATION WIRING DIAGRAM

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 16/STONE BRIDGE ROAD
CITY: FAYETTEVILLE
COUNTY: WASHINGTON
DISTRICT: 4 SCALE: N/A DRAWN BY: GWE

1040578-04.dgn 1/11/2011

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.		040578	110	216

(2) SIGNALIZATION DETAILS

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

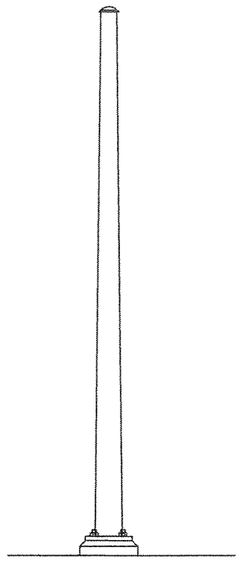
USE FATIGUE CATEGORY II.

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 ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

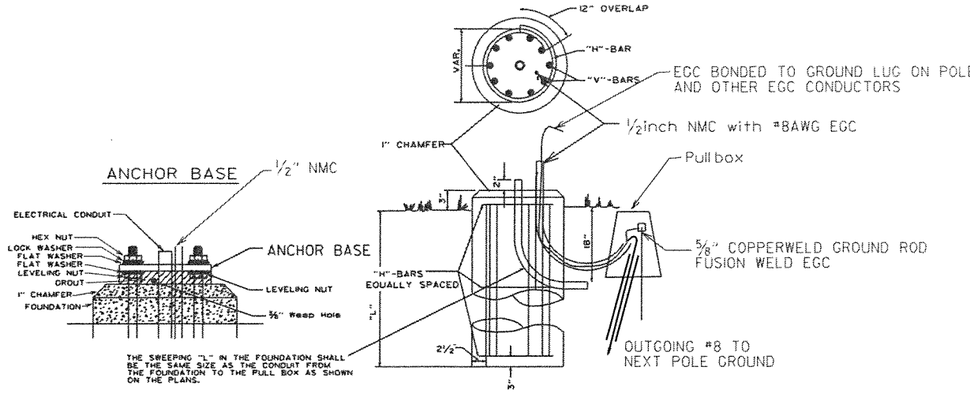
THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX PAID FOR SEPARATELY AS SHOWN ON THE PLANS.



ANTENNA POLE

NOTE: COMMUNICATION CABLE SHIELD SHALL BE TIED TO GROUND AT ONLY ONE POINT (MASTER CABINET). THE SHIELD SHALL BE MAINTAINED CONTINUOUS (THROUGH ALL SPLICES). PLEASE REFER TO TESTING PROCEDURES IN SPECIAL PROVISIONS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12



TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING.

POLE HEIGHT	FOUNDATION DIAMETER	DEPTH "L"	VERTICAL	HORIZONTAL	TIE SPACING
20.0'	30"	5'-6"	12-#7	#4	5 sp @ 12"
25.0'	30"	6'-0"	12-#7	#4	6 sp @ 11"
30.0'	30"	6'-6"	12-#7	#4	6 sp @ 12"
35.0'	30"	7'-0"	12-#7	#4	7 sp @ 11"
40.0'	30"	7'-6"	12-#7	#4	7 sp @ 12"
45.0'	36"	8'-6"	13-#8	#4	8 sp @ 12"
50.0'	36"	9'-6"	13-#8	#4	9 sp @ 12"
55.0'	36"	10'-0"	13-#8	#4	10 sp @ 11"
60.0'	36"	10'-6"	13-#8	#4	10 sp @ 12"
65.0'	36"	11'-0"	13-#8	#4	12 sp @ 10½"
70.0'	36"	11'-6"	13-#8	#4	11 sp @ 12"
75.0'	42"	13'-0"	18-#8	#4	14 sp @ 10½"
80.0'	42"	13'-6"	18-#8	#4	13 sp @ 12"
85.0'	42"	14'-6"	18-#8	#4	14 sp @ 12"
90.0'	42"	15'-0"	18-#8	#4	18 sp @ 9½"

ALL CONCRETE SHALL BE CLASS "S" WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH F'c=3500 PSI. CONCRETE SHALL BE POURED IN THE DRY AND ALL EXPOSED CORNERS CHAMFERED ¾" UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 40 (YIELD STRENGTH=40,000 PSI).

PROVIDE 3" CLEAR TIES. DETAIL 3" TO FIRST TIE AT TOP OF SHAFT.

DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
9-6-00	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

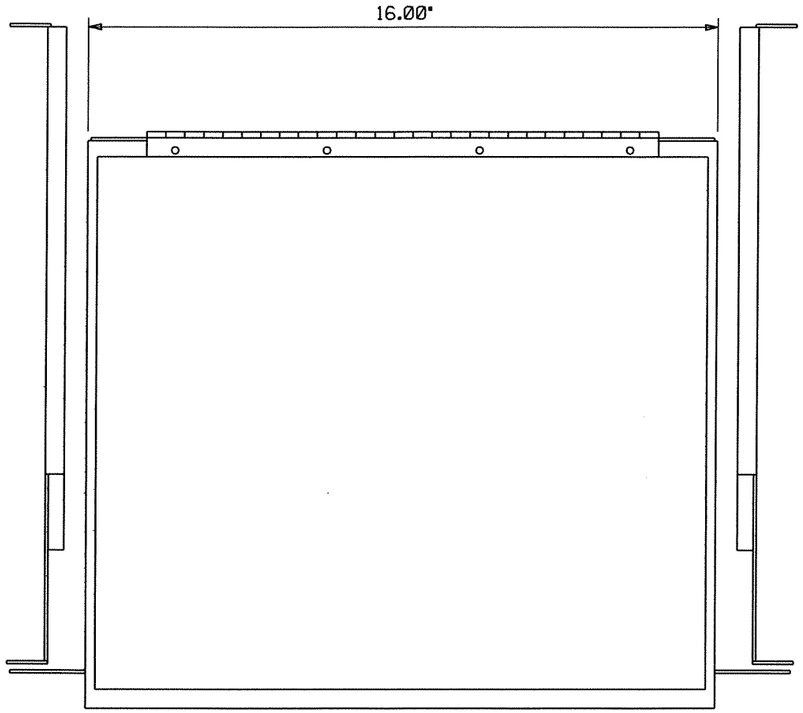
SIGNALIZATION DETAIL
(Antenna Pole)

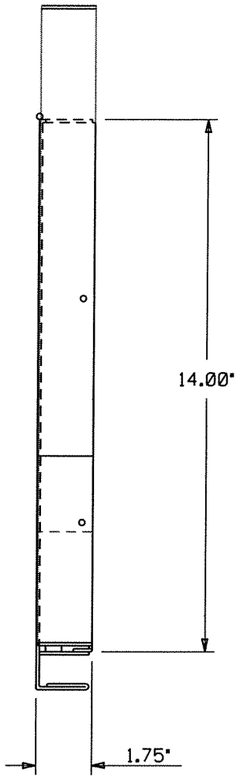
1040578-job.dgn 1/11/2011
stdsdi.dgn

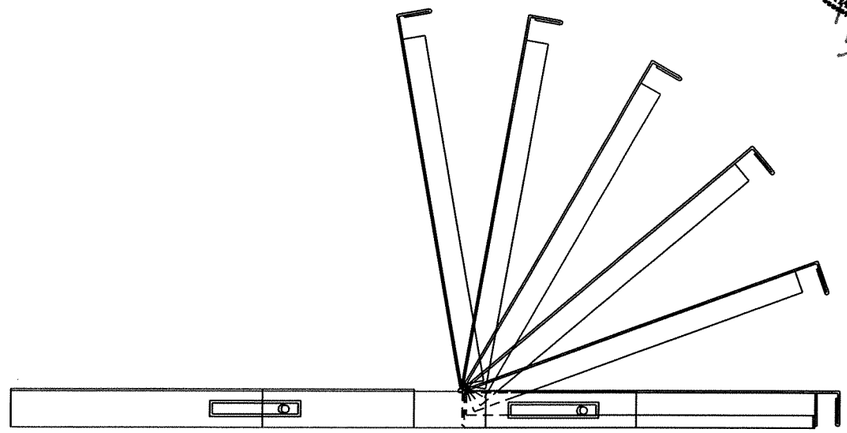
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	III	216
				(2)	SIGNALIZATION DETAILS			

STATE OF ARKANSAS
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5-14-12

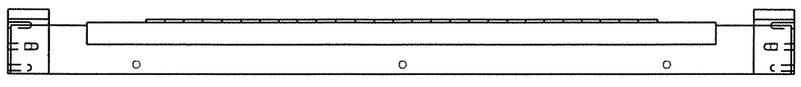
DRAWER PLAN VIEW



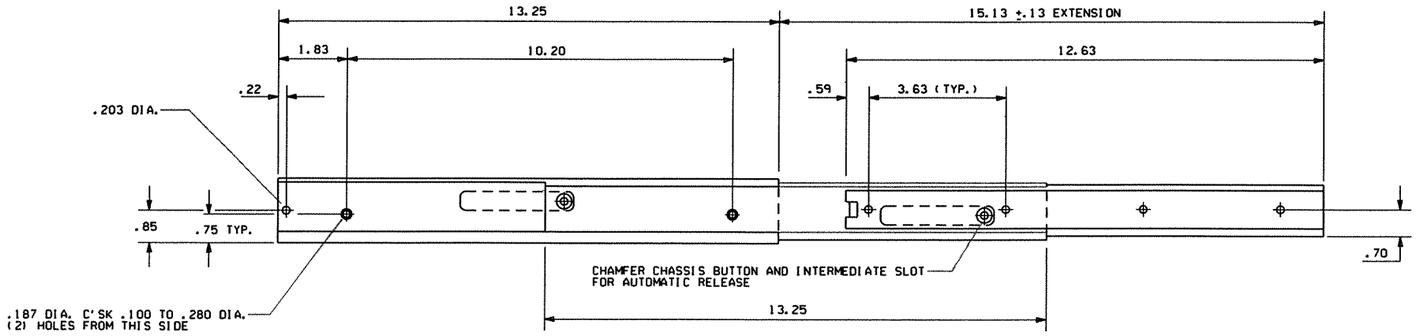




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

6-15-05	ISSUED	
DATE	REVISION	DATE FILM

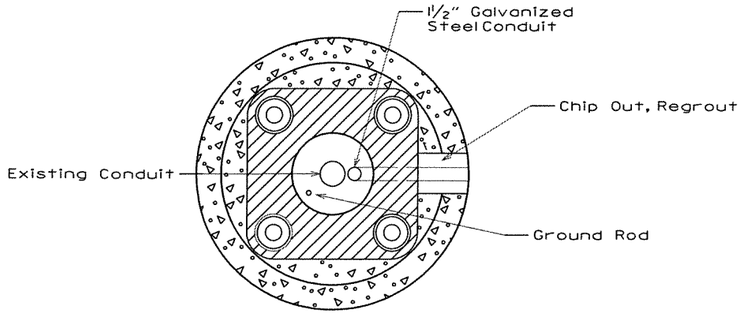
ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Controller Cabinet Utility Drawer)

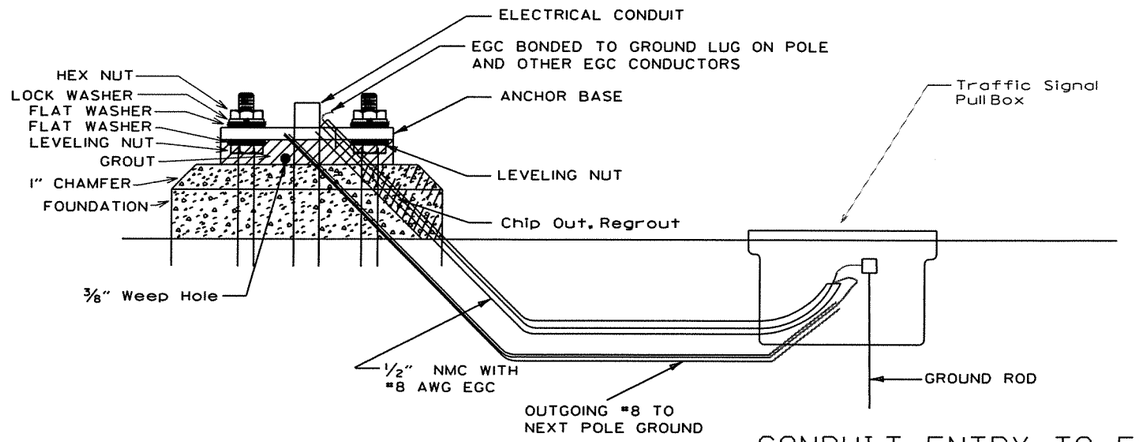
1040578-job.dgn 1/11/2011

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.		040578	112	216
				(2)	SIGNALIZATION DETAILS			

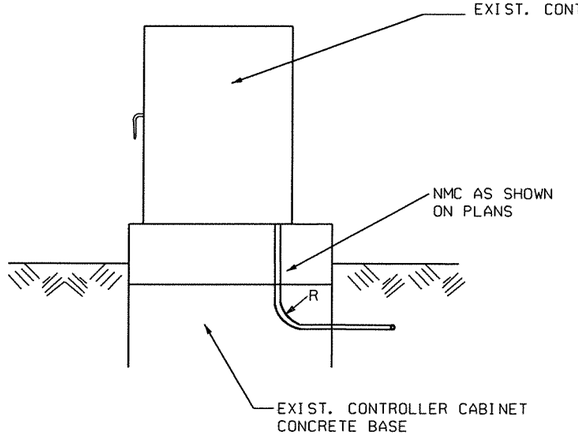
CONDUIT ENTRY TO EXISTING POLE BASE



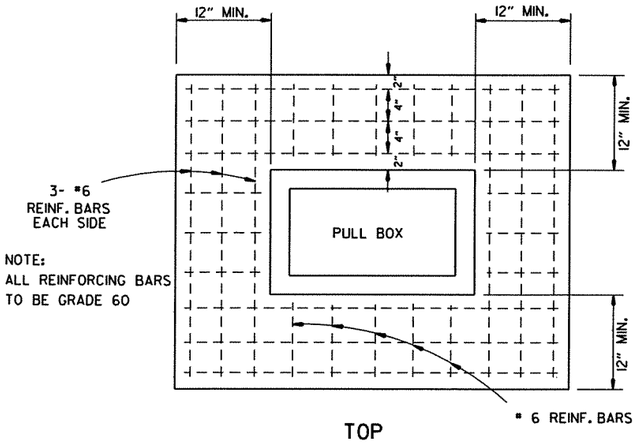
ANCHOR BASE



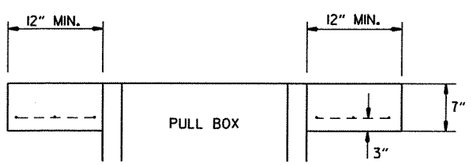
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



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

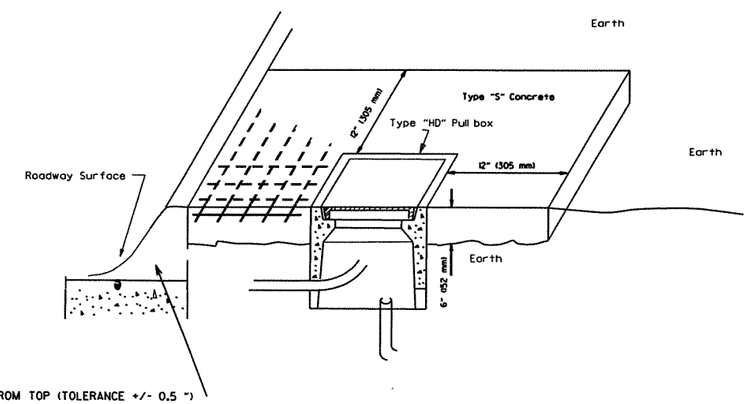


TOP



ELEVATION

Type "HD" Concrete Pull Box Detail



Note: All Type 1 and Type 2 HD pull boxes 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

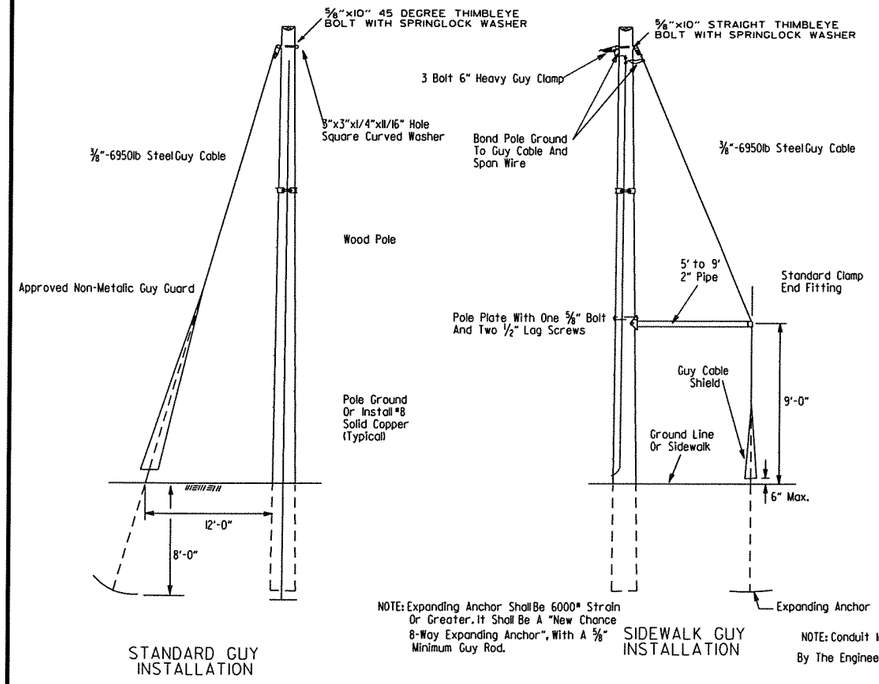
SIGNALIZATION DETAIL (Heavy Duty Pull Box)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

1040578-job.dgn 1/11/2011

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.		040578	113	216

(2) SIGNALIZATION DETAILS

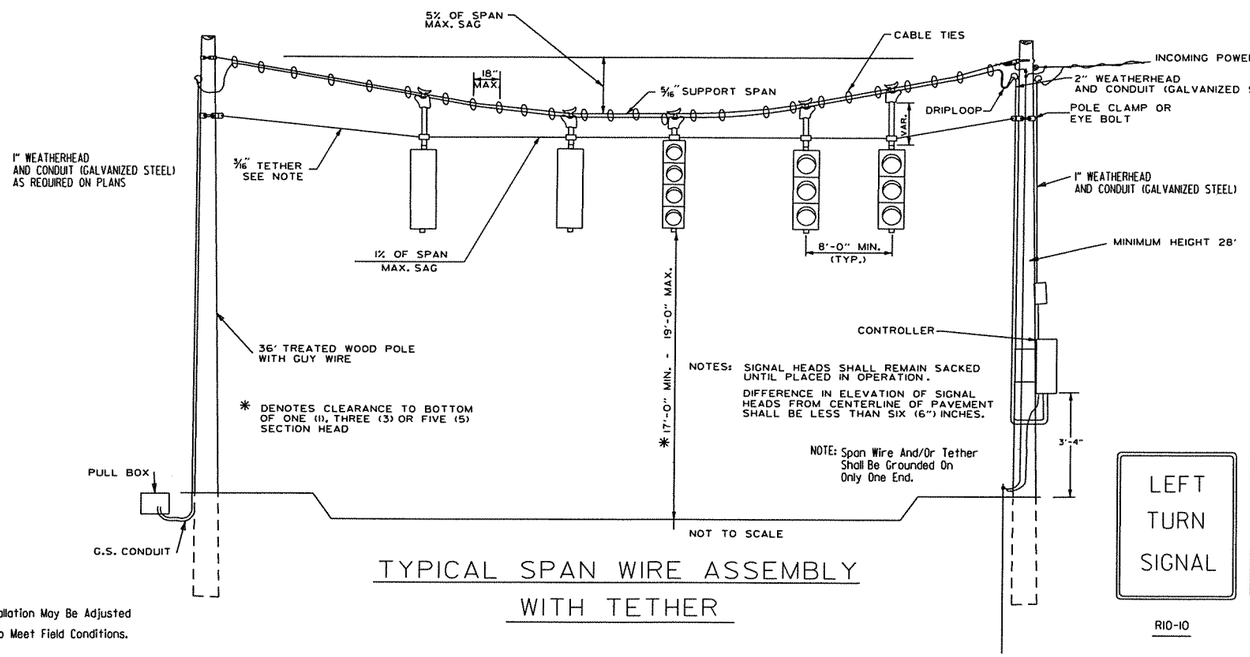


STANDARD GUY INSTALLATION

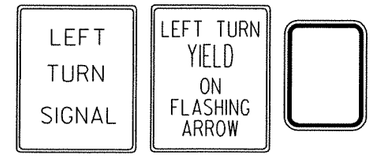
NOTE: Expanding Anchor Shall Be 6000# Strain Or Greater. It Shall Be A "New Chance 8-Way Expanding Anchor", With A 5/8" Minimum Guy Rod.

SIDEWALK GUY INSTALLATION

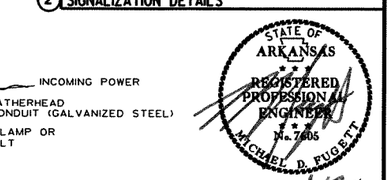
NOTE: Conduit Installation May Be Adjusted By The Engineer To Meet Field Conditions.



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER



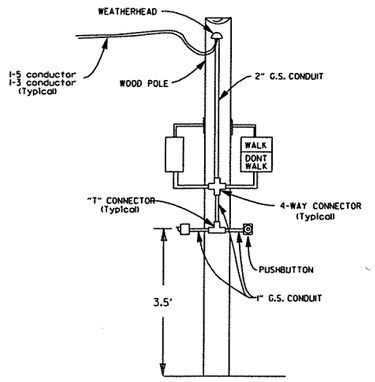
R10-10 SPECIAL R10-3e (SEE MUTCD)



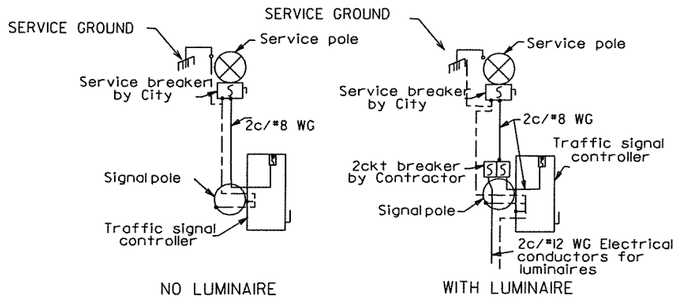
NOTES: Span wire poles shall be mounted a minimum of 4' behind curb or shoulder.

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.



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.

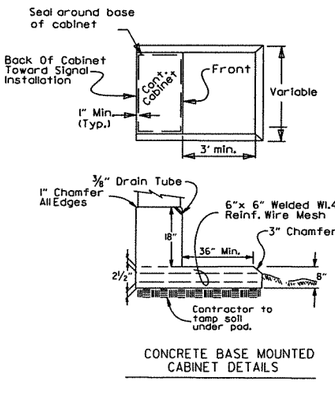
Sign face shall be constructed of high intensity sheeting (Type III) with silkscreen legend and border.

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:

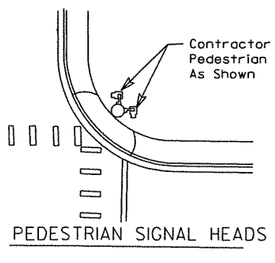
Flashing Operation - Prior to normal operation, signal shall be flashed for a period of 3 to 5 working days. Signal shall be placed in operation only on a regular work day, except Friday.

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.



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

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

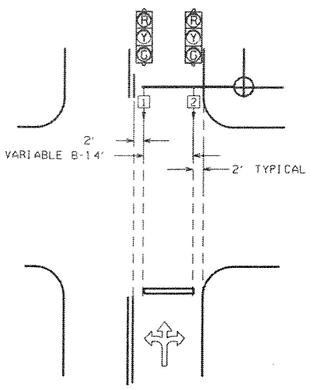
(Span Wire Assembly Wood Pole)

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.		040578	114	216

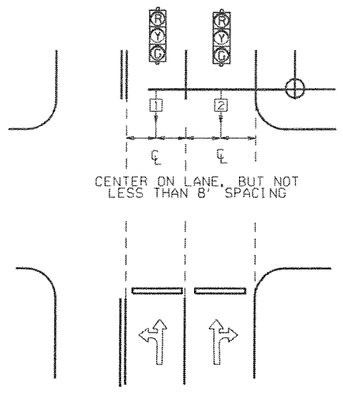
(2) SIGNALIZATION DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
5-14-12

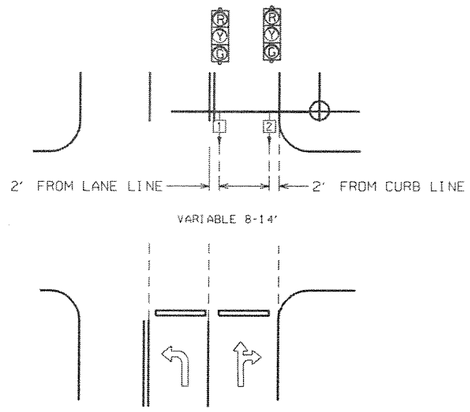
(A)



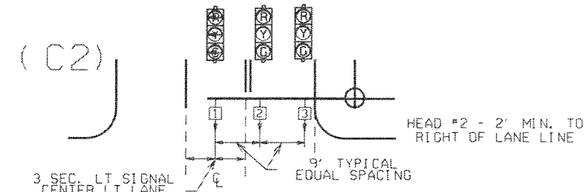
(B)



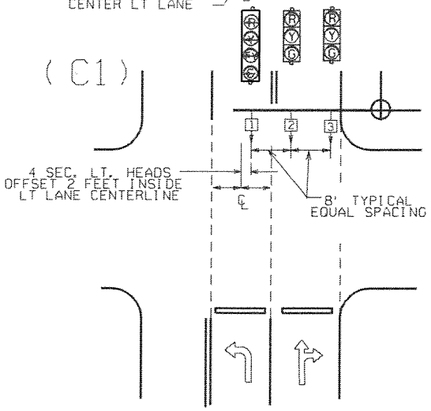
(C)



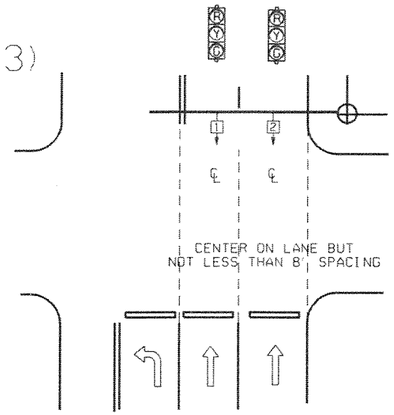
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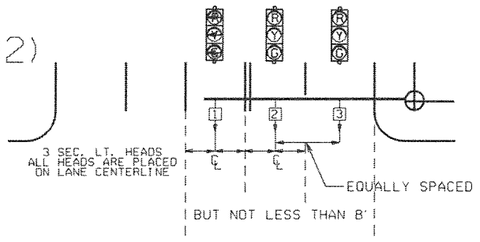
(C1)



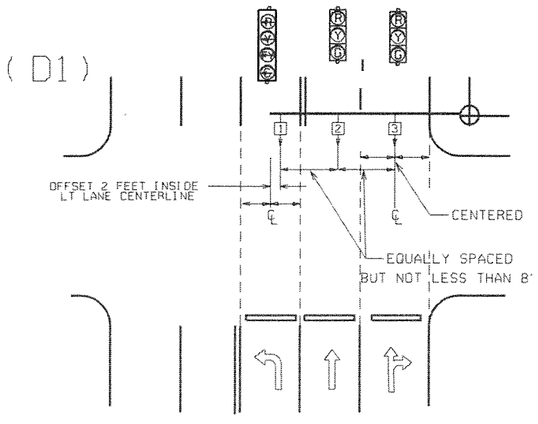
(C3)



(D2)

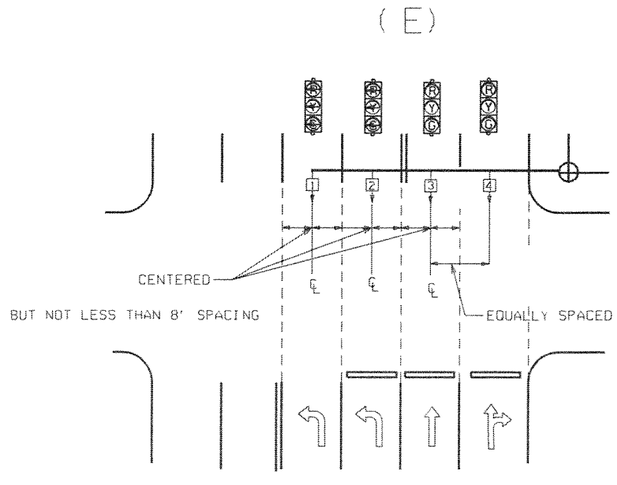


(D1)



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.

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

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Signal Head Placement)

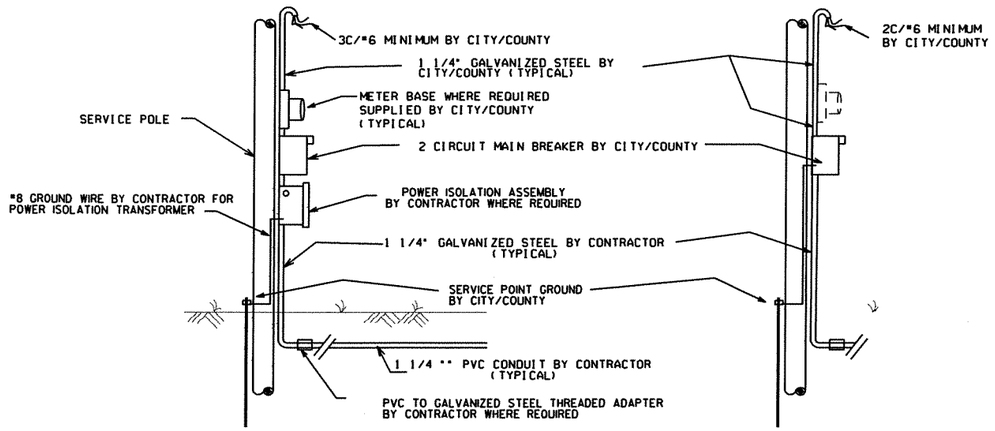
040578-job.dgn 1/11/2011

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				6	ARK.			
				JOB NO.		040578	115	216

(2) SIGNALIZATION DETAILS

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

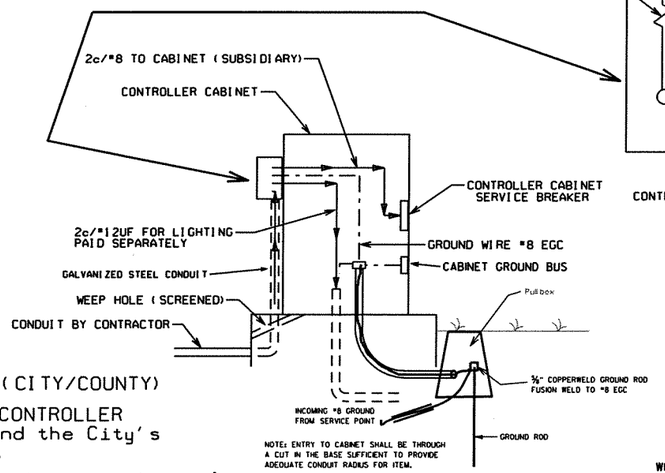
WITH POWER ISOLATION ASSEMBLY

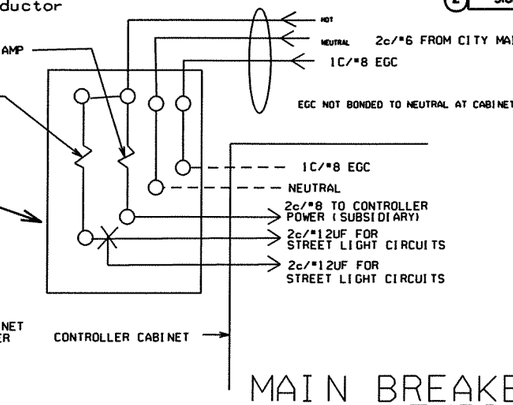


WITHOUT POWER ISOLATION ASSEMBLY

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)





MAIN BREAKER WIRING (TYPICAL)

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT 5-14-12

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.

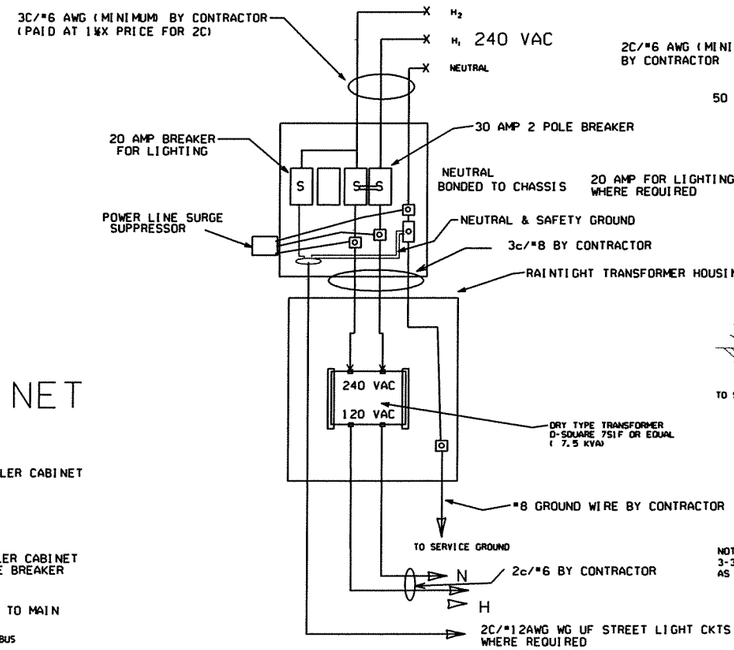
1. ALL SITUATIONS: Electrical service shall be provided by the City/County to a service pole with external raintight breaker (MAIN BREAKER) at a mutually acceptable point within the right-of-way. Service point includes galvanized steel conduit to a point 18" below ground line, two circuit main breaker, 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.

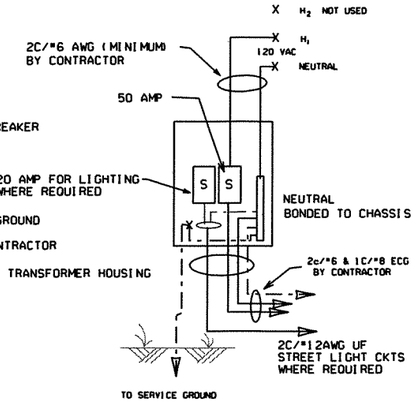
3. MAIN BREAKER NEAR CONTROLLER CABINET: All components of the service point with the exception of the wire and wiring above the Main Breaker is furnished and installed by the Contractor. Wiring from Main Breaker including connection to the utility, is the responsibility of the City/County. If meter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

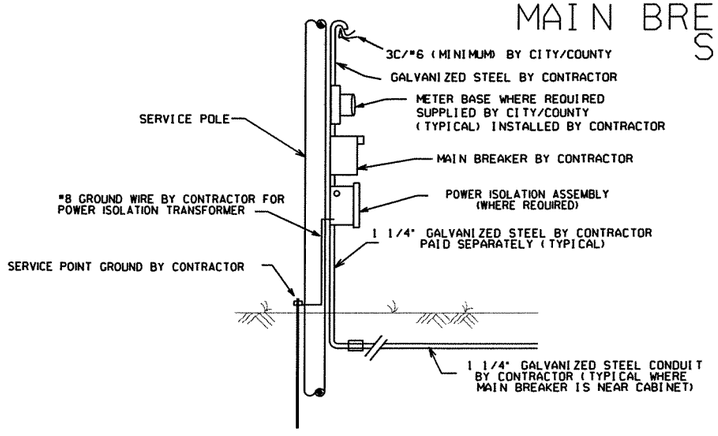


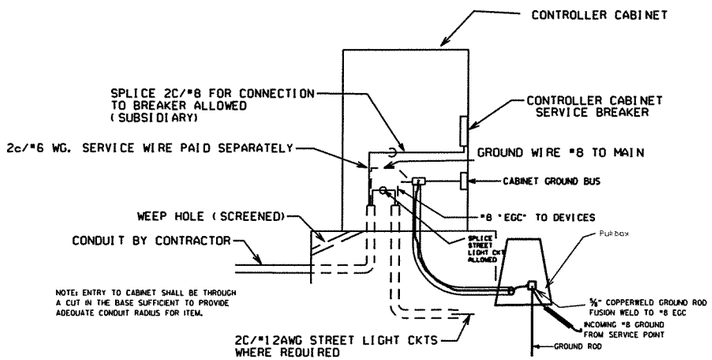
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



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)

1040578-job.dgn 1/11/2011

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				6	ARK.			
				JOB NO.		040578	116	216

(2) SIGNALIZATION DETAILS

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.

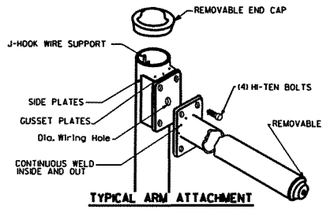
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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).

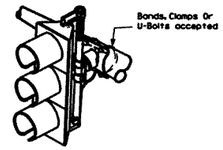
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

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.

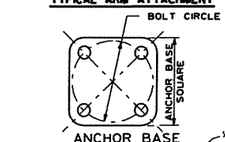
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



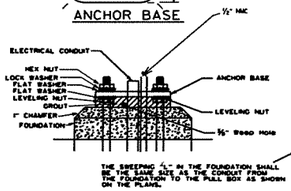
TYPICAL ARM ATTACHMENT

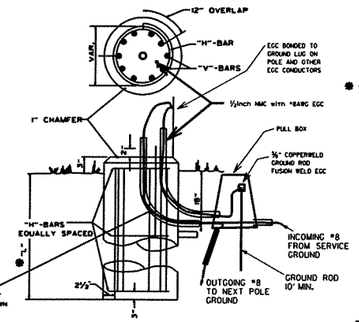


NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



ANCHOR BASE



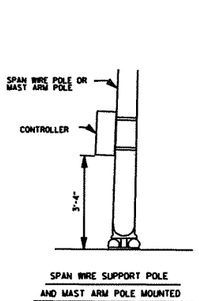


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

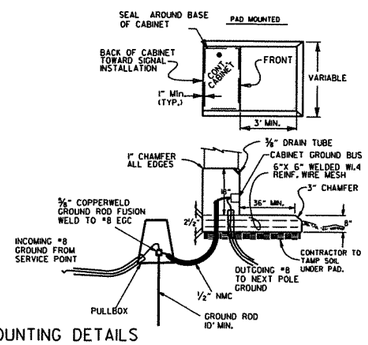
TYPICAL FOUNDATION DETAILS

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.

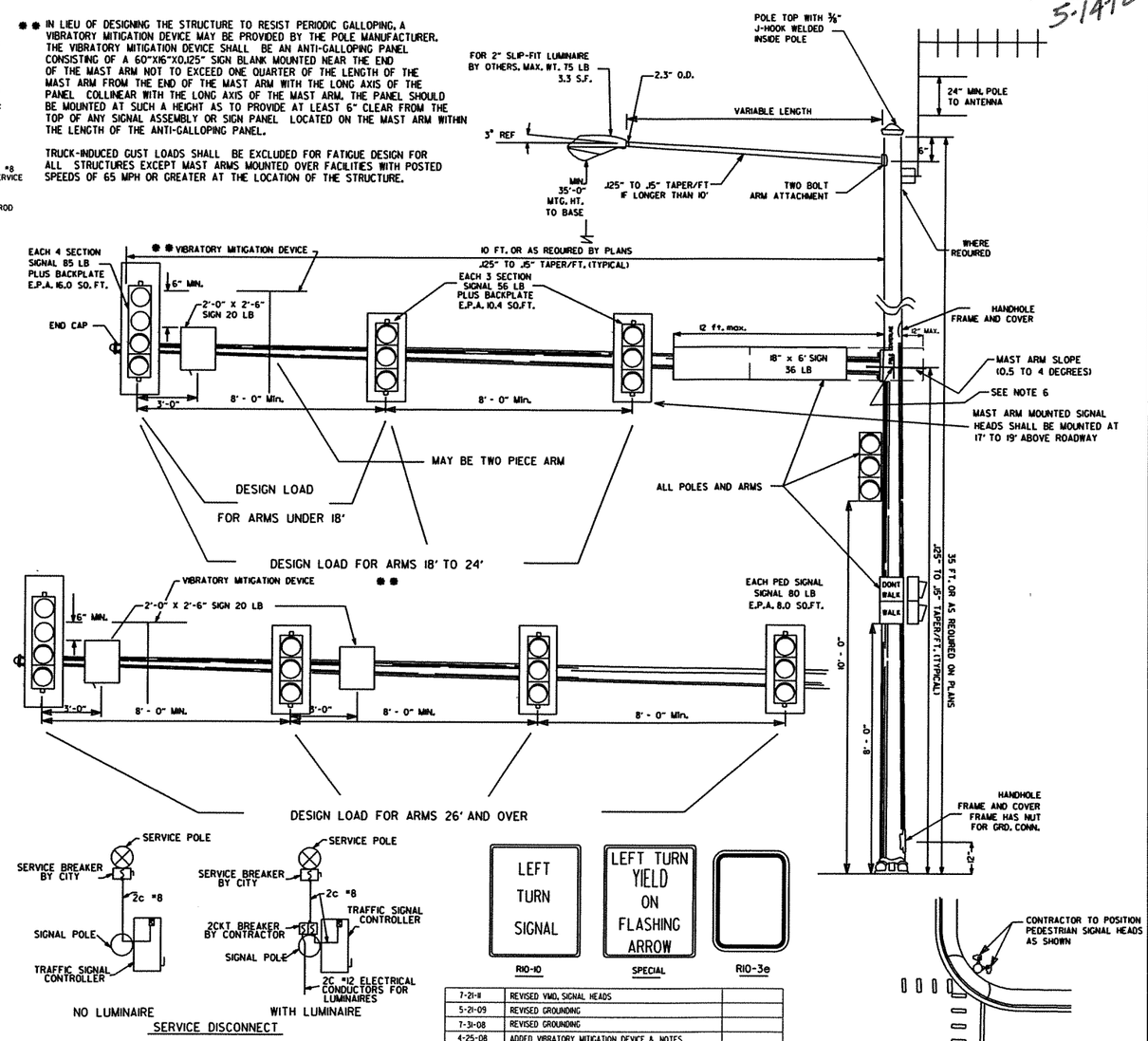
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



* 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.



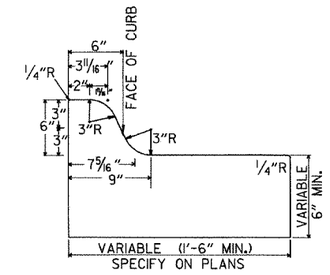
SERVICE DISCONNECT

R10-10 SPECIAL R10-3e

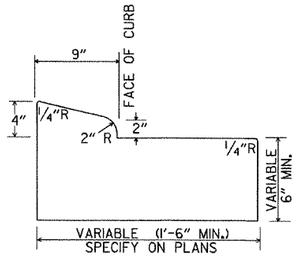
DATE	REVISION	DATE FILM
7-21-11	REVISED VMD, SIGNAL HEADS	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
6-23-04	REVISED	
5-8-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-8-01	REV. NOTES & POLE MAST ARM SLOPE	
4-8-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
8-22-99	REVISED FOUNDATION DETAILS	
8-17-98	REVISED DETAILS AND NOTES	
8-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

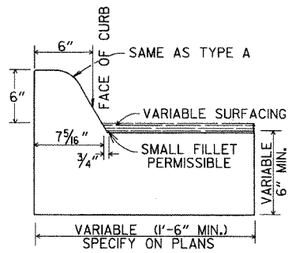
SIGNALIZATION DETAILS (Steel Pole With Mast Arm)



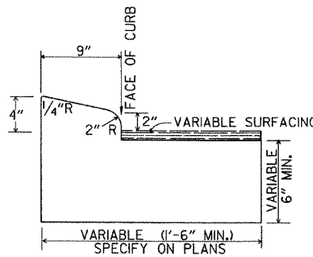
TYPE A



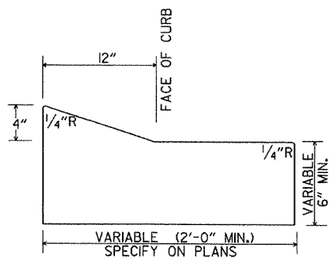
TYPE B-1



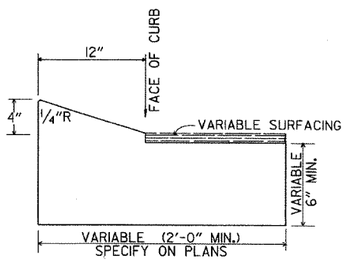
TYPE C



TYPE B-2

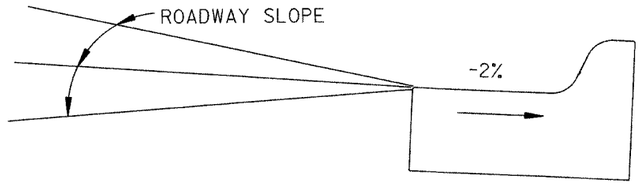


TYPE E-1



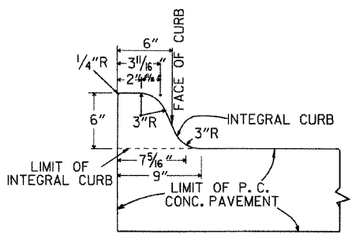
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

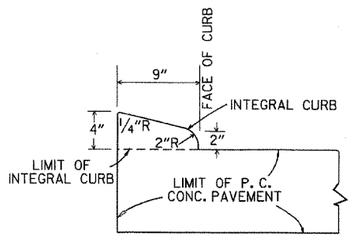


DETAIL OF GUTTER SLOPE

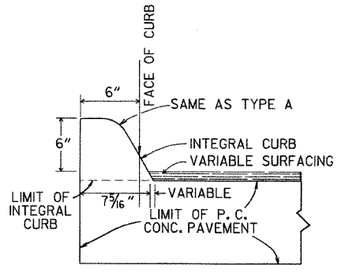
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

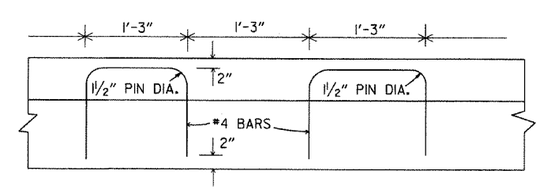


TYPE B



TYPE C

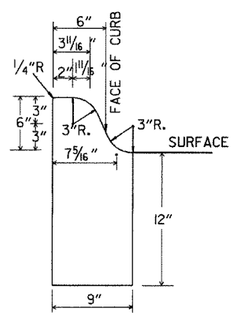
INTEGRAL CURB



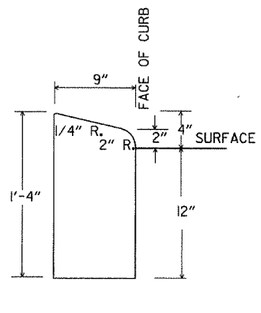
LONGITUDINAL SECTION

ELEVATION

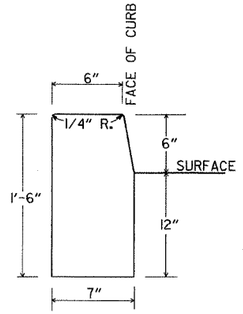
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



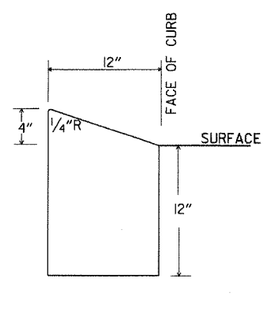
TYPE A



TYPE B

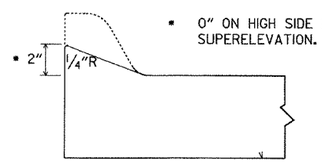


TYPE D



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.

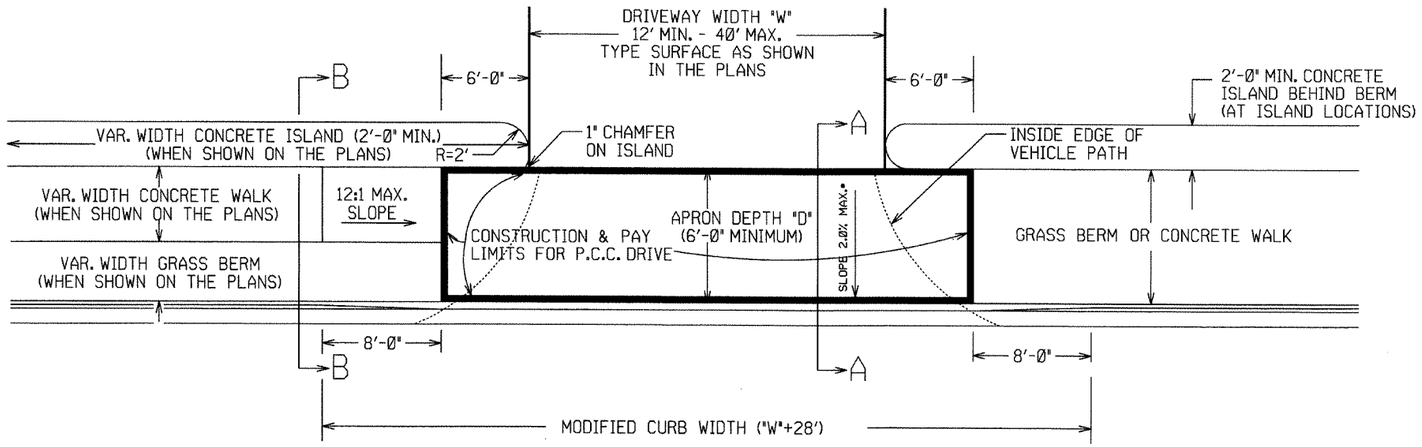
DETAILS OF MODIFIED CURB

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 1	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

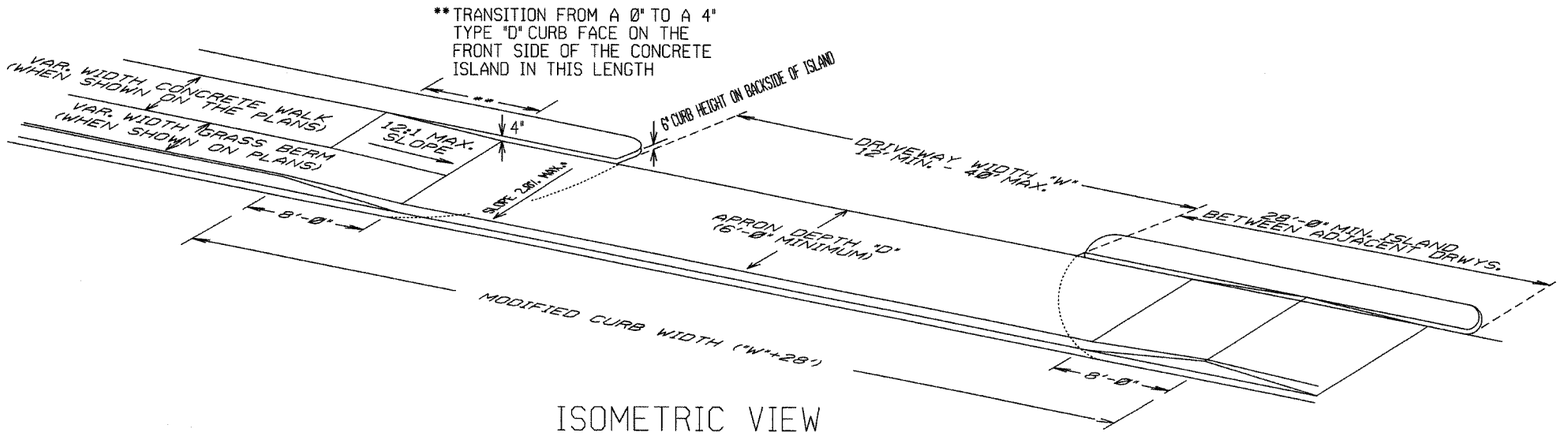
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

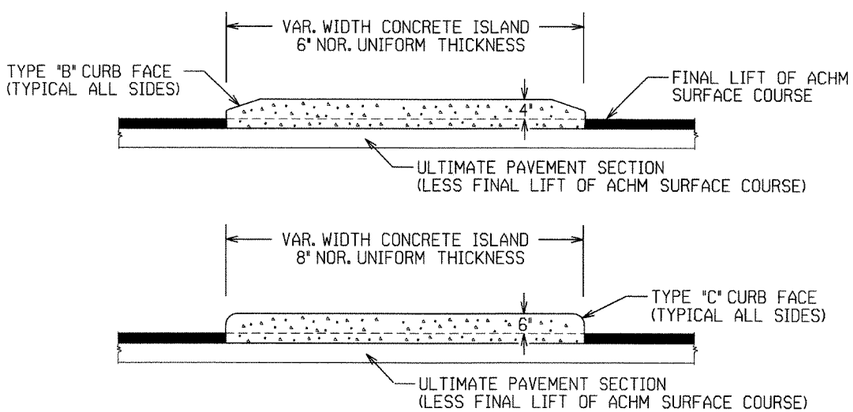
STANDARD DRAWING CG-1



PLAN VIEW

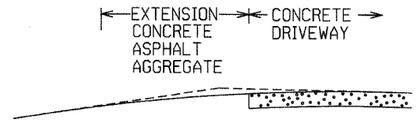


ISOMETRIC VIEW



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

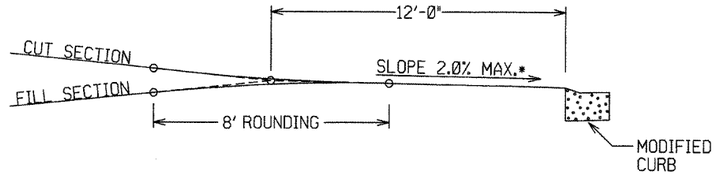
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

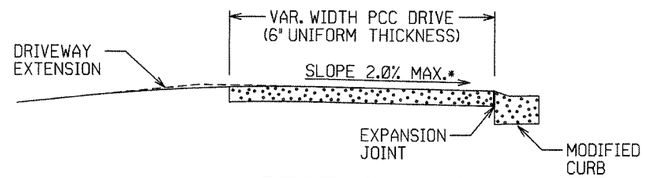
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

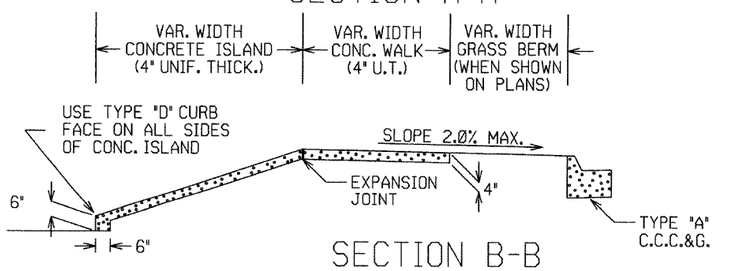


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



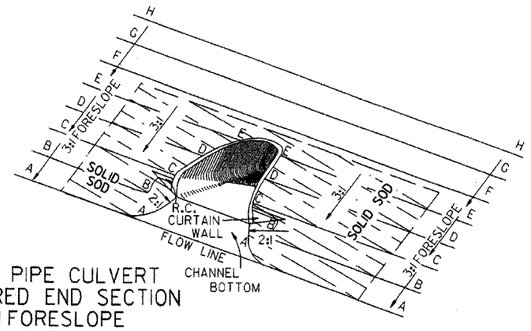
SECTION A-A



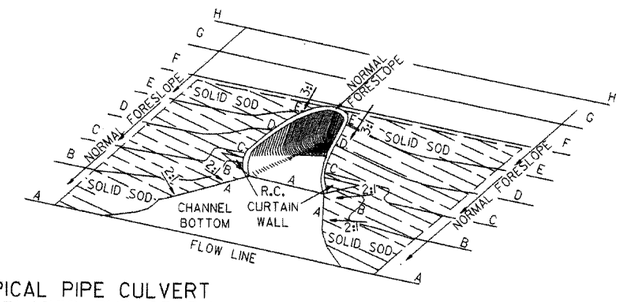
SECTION B-B
CURBED ISLAND BEHIND WALK

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

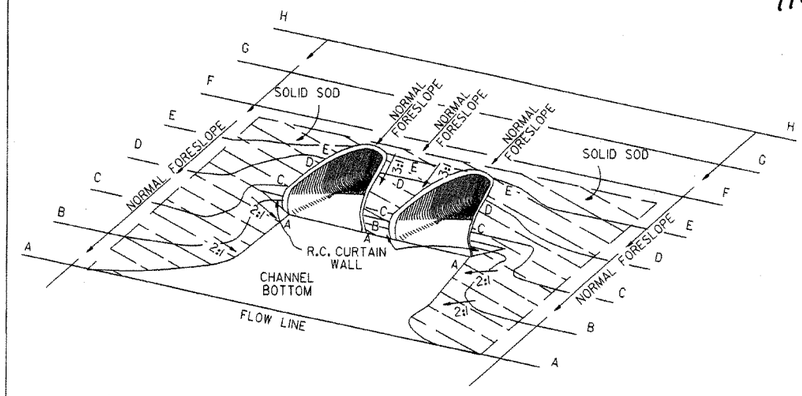
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



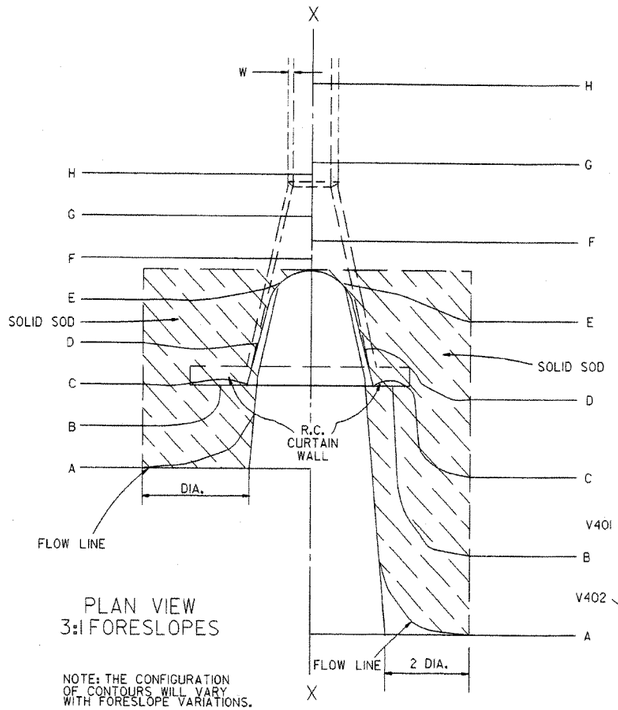
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



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

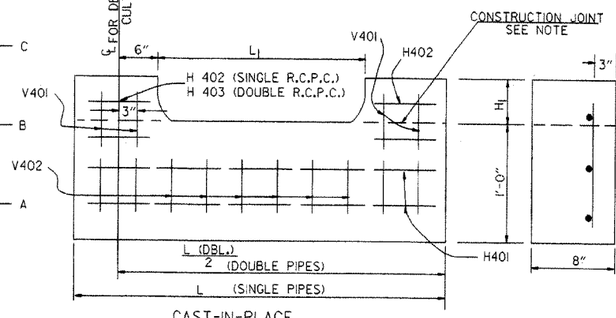
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

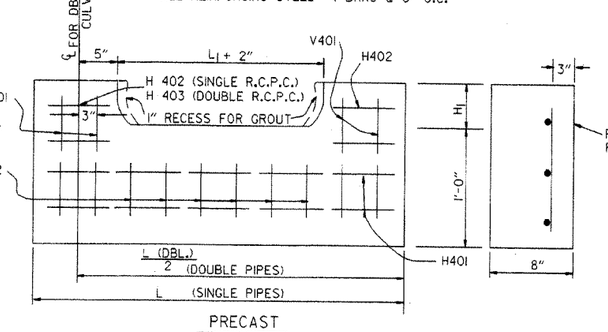
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	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.



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.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403	H403 NO.	V401 L	V401 NO.	V402 L	V402 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.

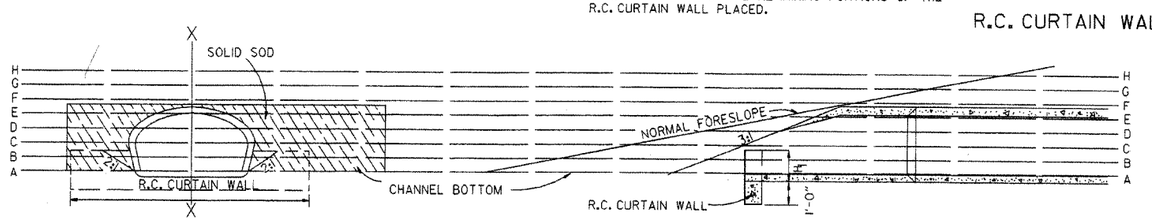
SOLID SODDING

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"

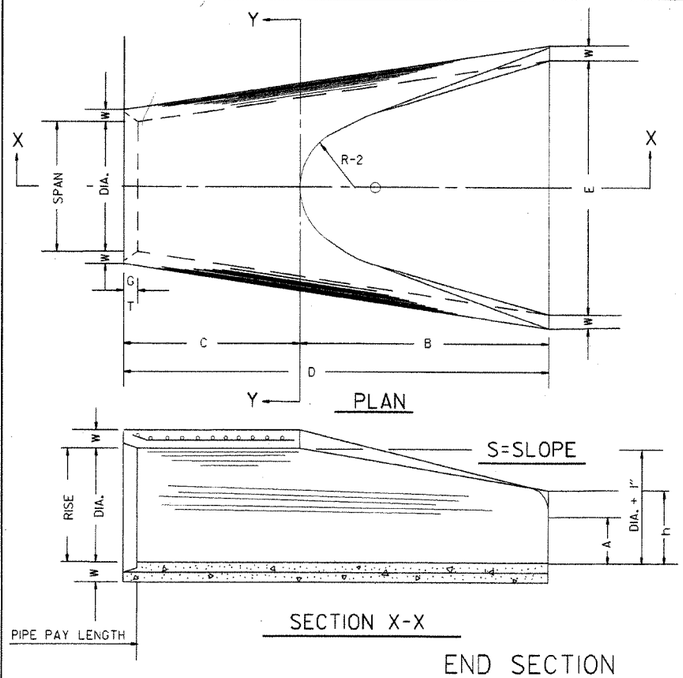
R.C. CURTAIN WALL DETAILS

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.	
3-2-81	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

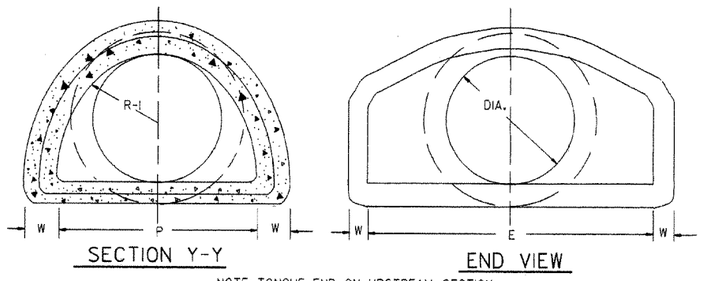
STANDARD DRAWING FES-1



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

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'-11½"	4'-0"	3:1	25"	33⅜"	16⅝"	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"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	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"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77⅛"	38⅛"	24"	5"	13250	4'-6"

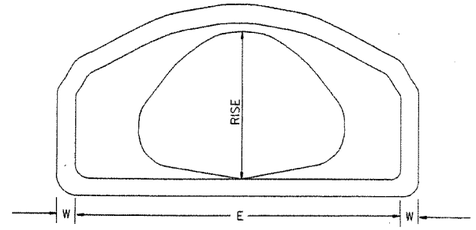


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

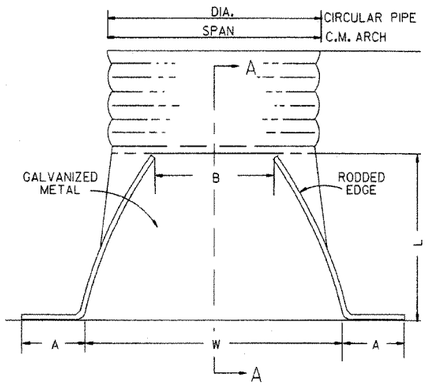
ARCH PIPE

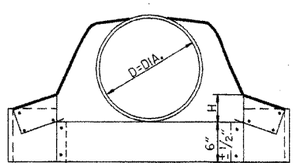
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½±1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½±1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½±1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅝"	15"	2½"	2½±1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅞"	20"	3"	2½±1
36	43¾	44	26⅞	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅜"	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"	72⅛"	24"	4¾"	2½±1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅜"	24"	5"	2½±1

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

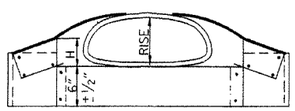


END VIEW
CONCRETE ARCH PIPE





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

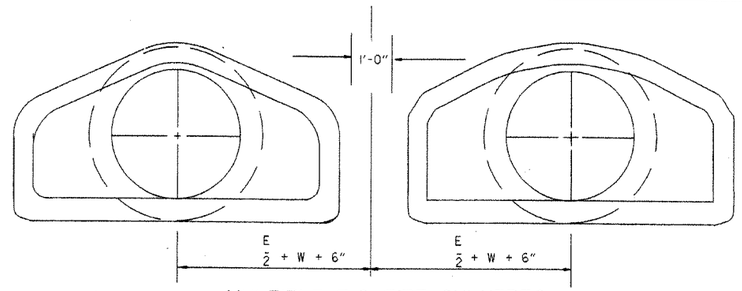
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½±1
15	16	7	8	6	26	30	2½±1
18	16	8	10	6	31	36	2½±1
21	16	9	12	6	36	42	2½±1
24	16	10	13	6	41	48	2½±1
30	14	12	16	8	51	60	2½±1
36	14	14	19	9	60	72	2½±1
42	12	16	22	11	69	84	2½±1
48	12	18	27	12	78	90	2½±1
54	12	18	30	12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

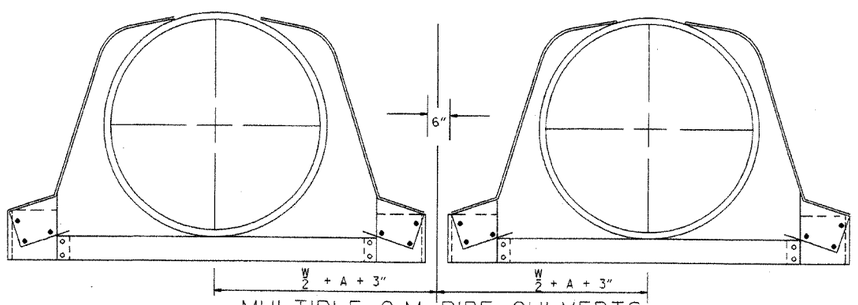
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½±1	16
18"	21	15	7	10	6	23	36	2½±1	16
21"	24	18	8	12	6	28	42	2½±1	16
24"	28	20	9	14	6	32	48	2½±1	16
30"	35	24	10	16	6	39	60	2½±1	14
36"	42	29	12	18	8	46	75	2½±1	14
42"	49	33	13	21	9	53	85	2½±1	12
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

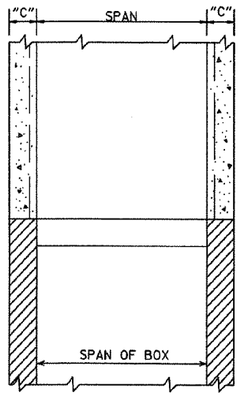
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74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

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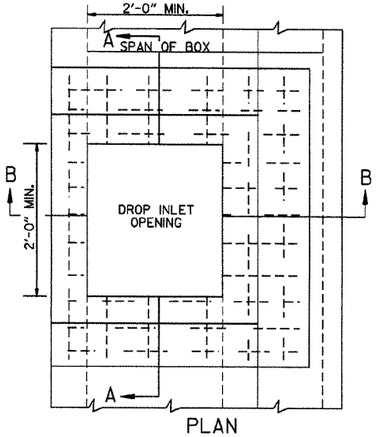
FLARED END SECTION

STANDARD DRAWING FES-2

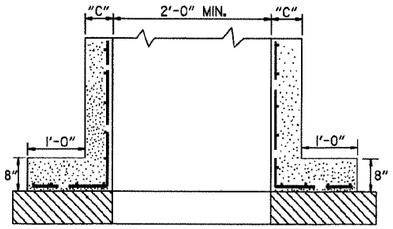
stdfes2.dgn



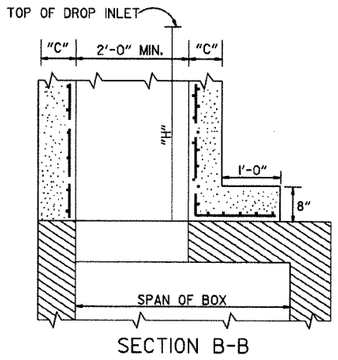
SECTION B-B



PLAN

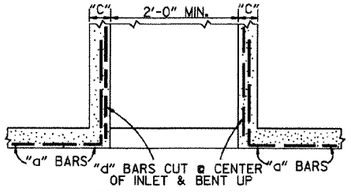


SECTION A-A

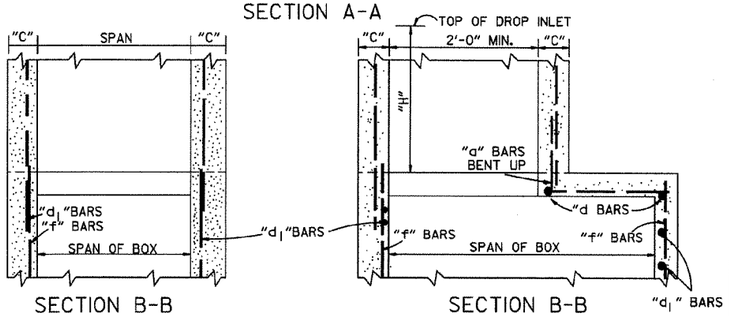


SECTION B-B

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



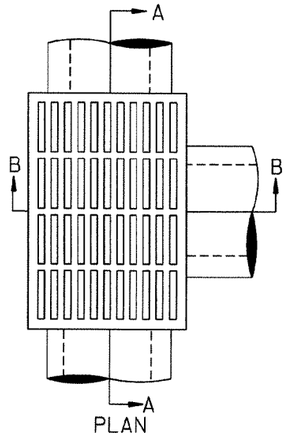
SECTION A-A



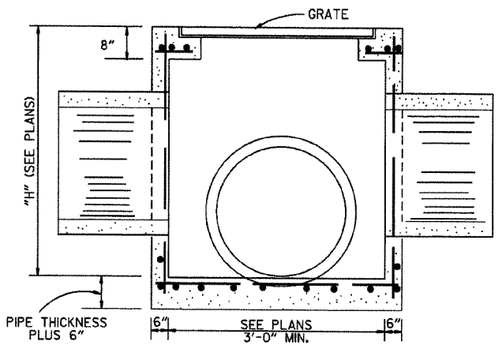
SECTION B-B SECTION B-B

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.

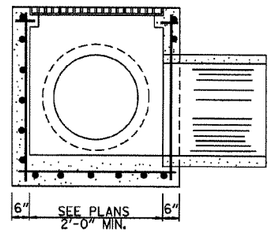


PLAN



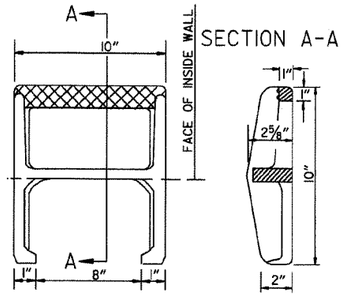
SECTION A-A

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



SECTION B-B

DROP INLET (TYPE E)



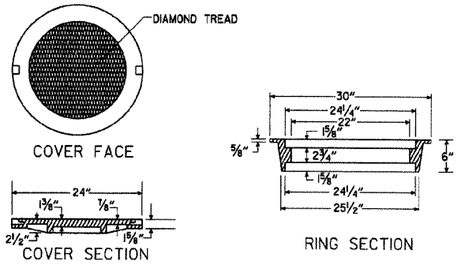
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

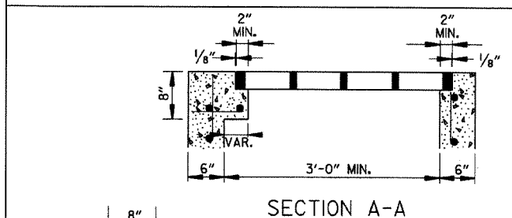
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

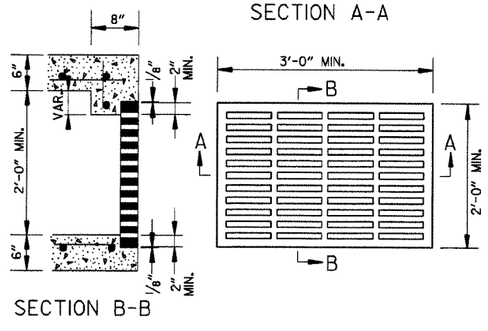


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



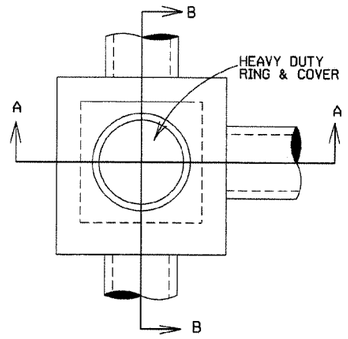
SECTION A-A



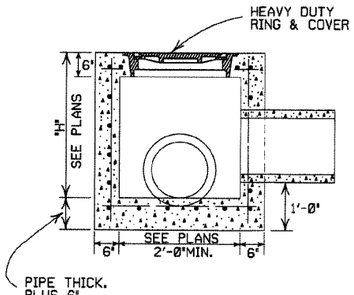
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

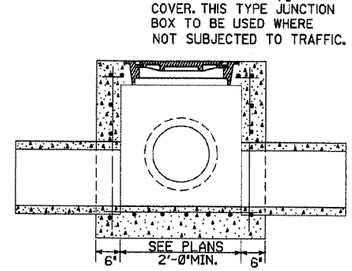


PLAN



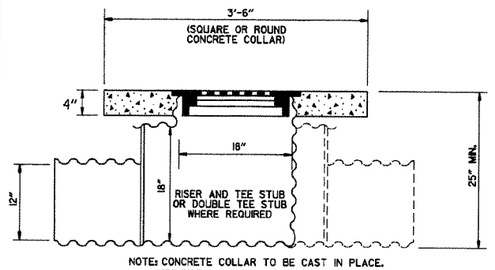
SECTION A-A

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.

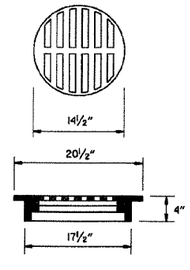


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

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.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	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.

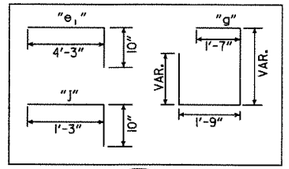
DROP INLET EXTENSION

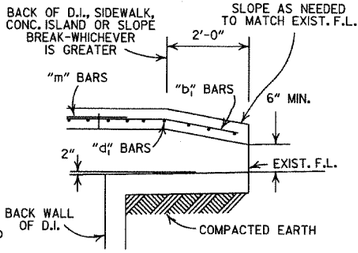
4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

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

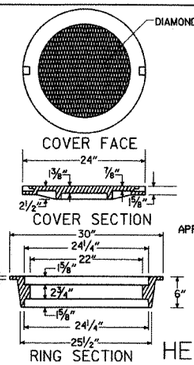
BAR DIAGRAM





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).

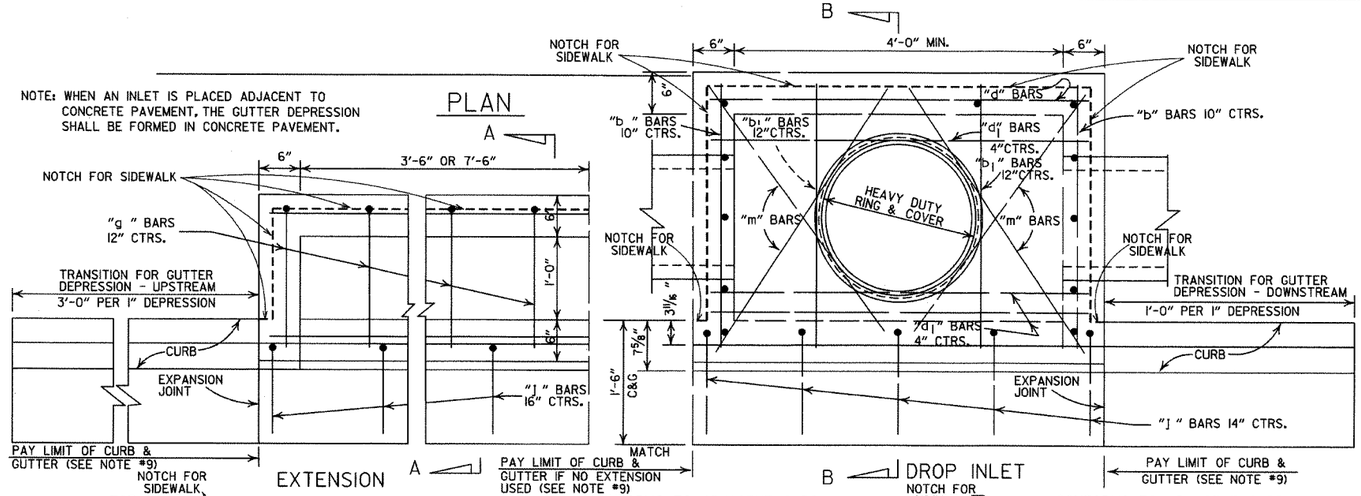


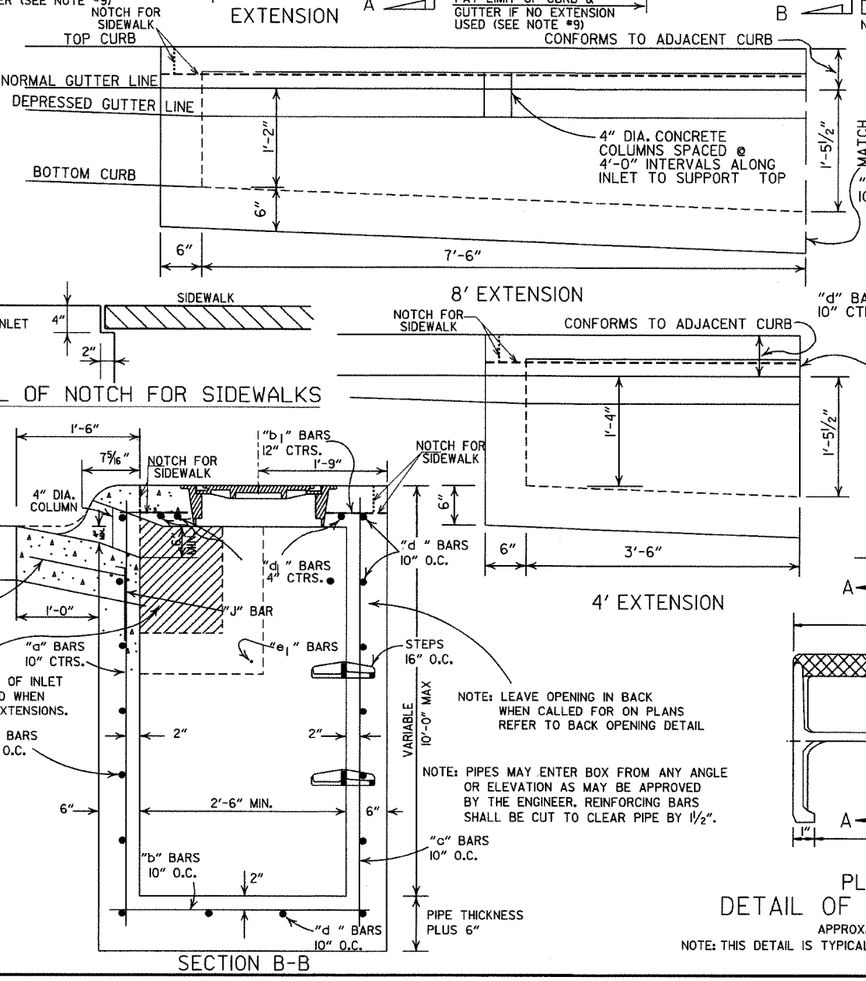
APPROXIMATE TOTAL WEIGHT = 333 LBS.

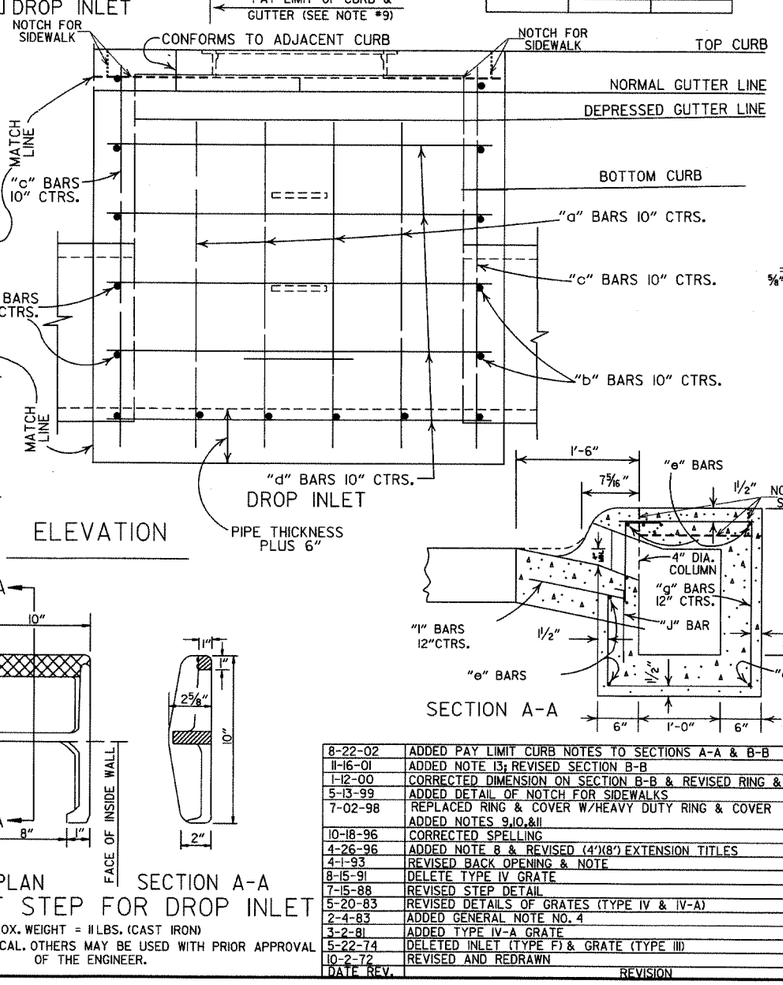
HEAVY DUTY RING & COVER

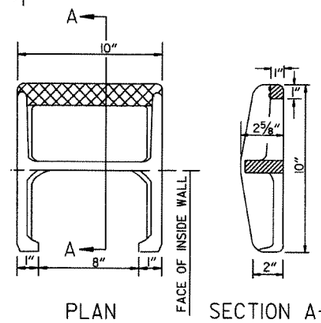
GENERAL NOTES:

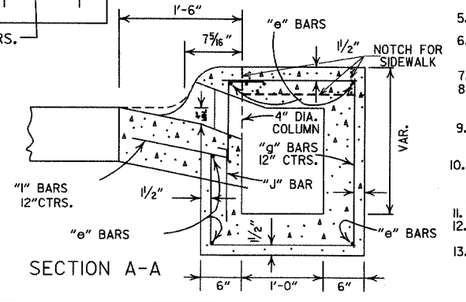
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY 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.











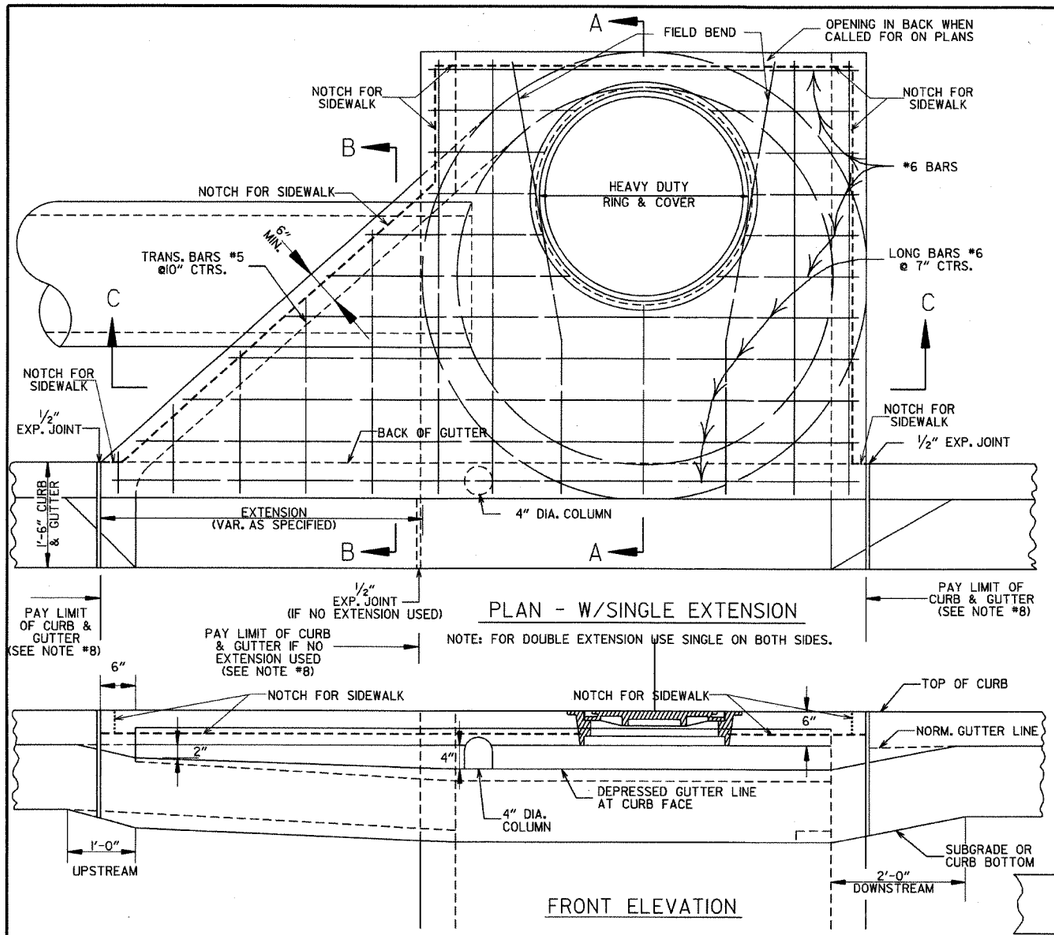
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER 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

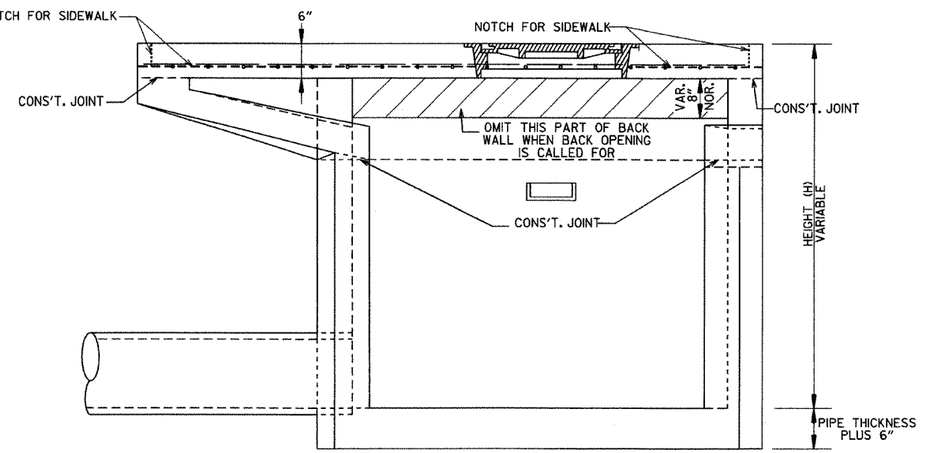
(TYPE C)

STANDARD DRAWING FPC-9E

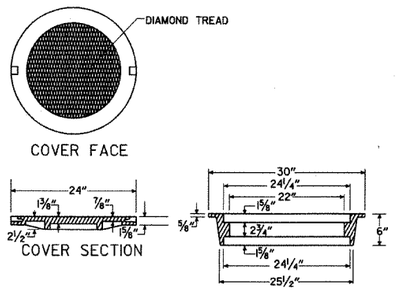


PLAN - W/SINGLE EXTENSION

FRONT ELEVATION



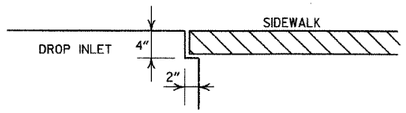
SECTION C-C



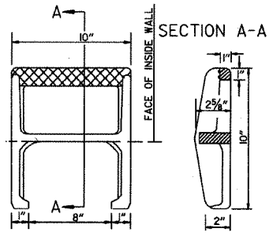
APPROXIMATE TOTAL WEIGHT = 333 LBS.

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

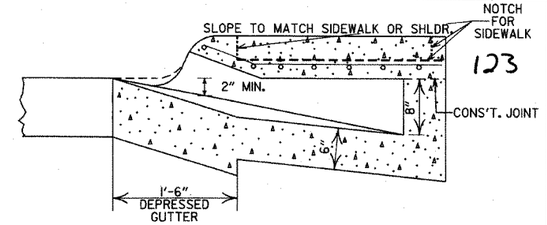


APPROX. WEIGHT = 11 LBS. (CAST IRON)

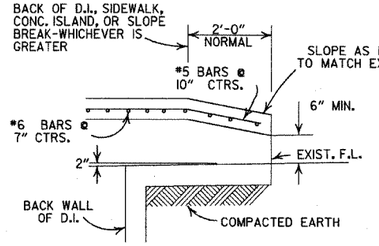
PLAN

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

DETAIL OF STEP FOR DROP INLET



SECTION B-B

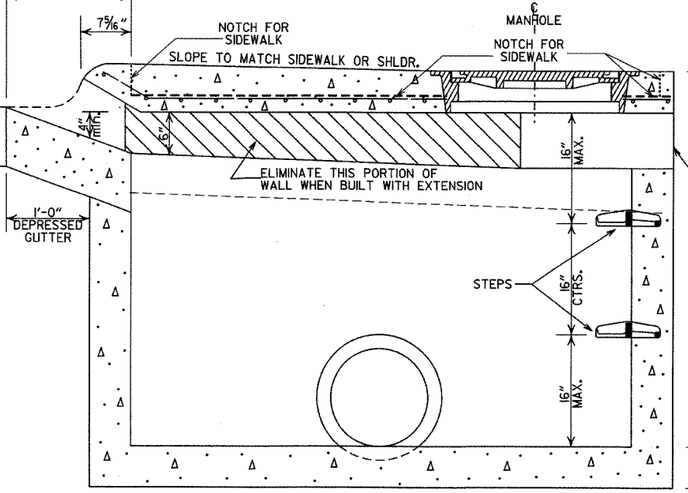


BACK OPENING

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. 1/2" 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"×2" 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

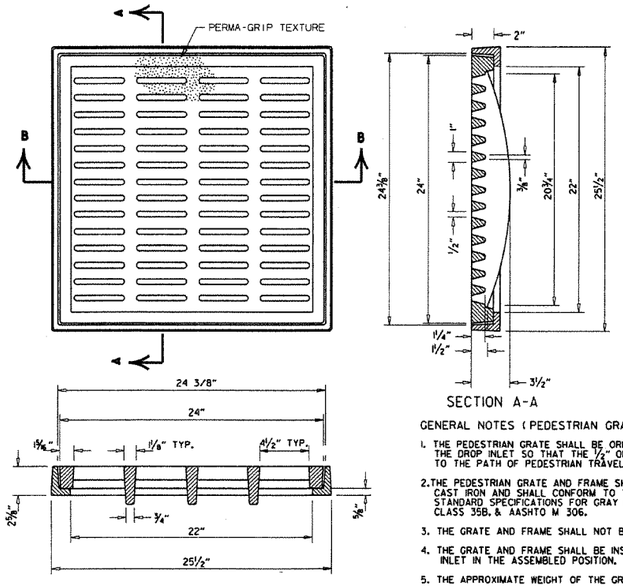
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

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	
4-26-96	ADDED NOTE 11 ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
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. 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	7-15-88
1-14-87	MODIFIED WALL THICKNESS	1-14-87
6-12-87	ISSUED	6-12-87

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



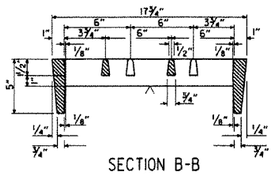
SECTION A-A

SECTION B-B

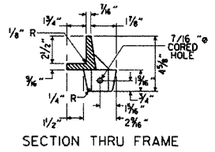
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

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.

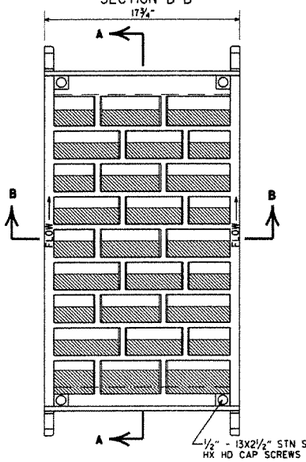
DETAILS OF PEDESTRIAN GRATE AND FRAME



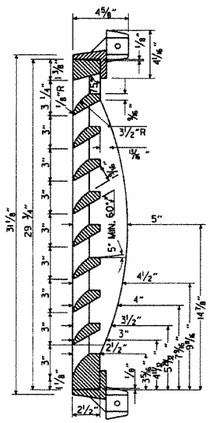
SECTION B-B



SECTION THRU FRAME



½" - 13X2½" STN STL HX HD CAP SCREWS

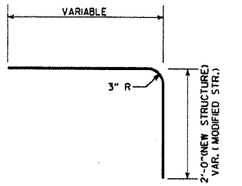


SECTION A-A

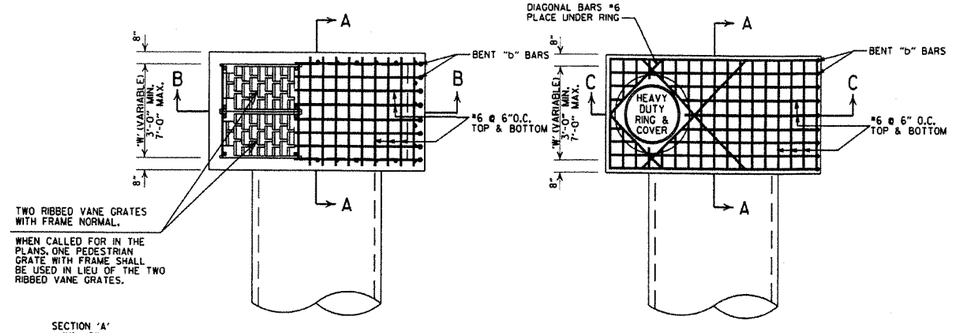
DETAILS OF RIBBED VANE GRATE AND FRAME

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.



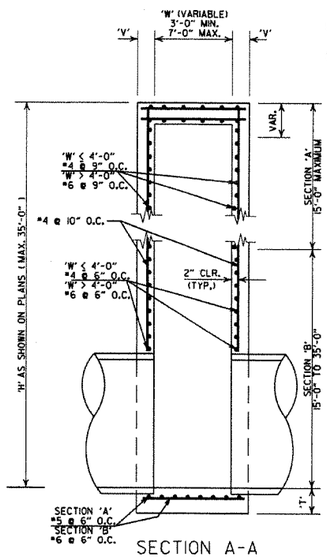
DETAIL OF BENT "b" BAR



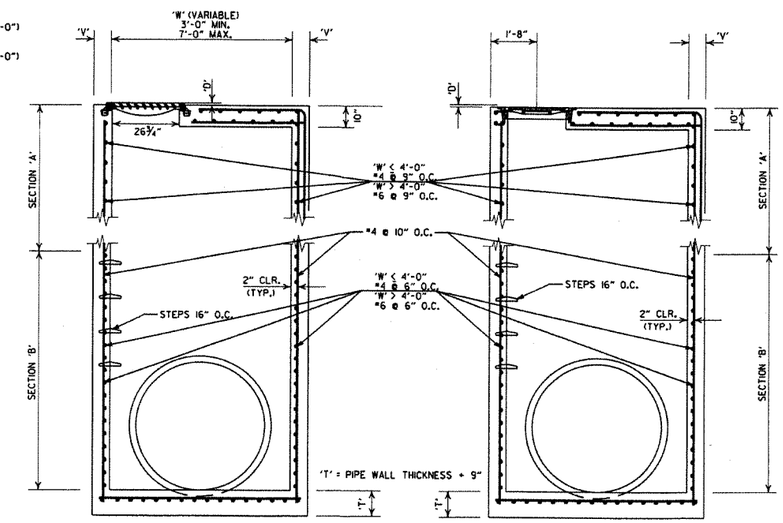
SECTION 'A' 'V' = 8"

SECTION 'B' (W≤4'-0") 'V' = 8"

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



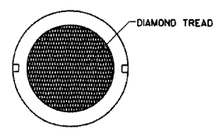
SECTION A-A



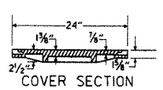
SECTION B-B

SECTION C-C

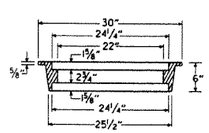
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

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.

GENERAL NOTES (HEAVY DUTY RING & COVER):

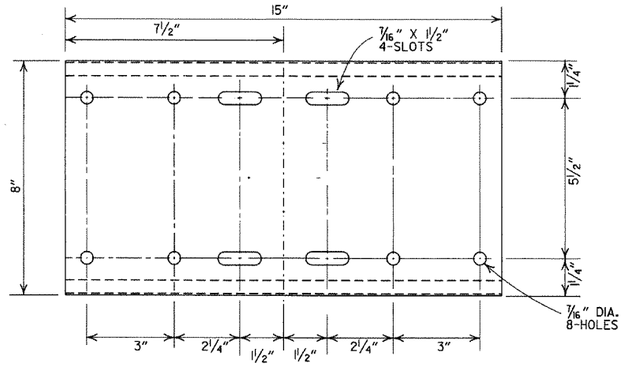
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE 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
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
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

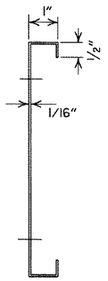
ARKANSAS STATE HIGHWAY COMMISSION

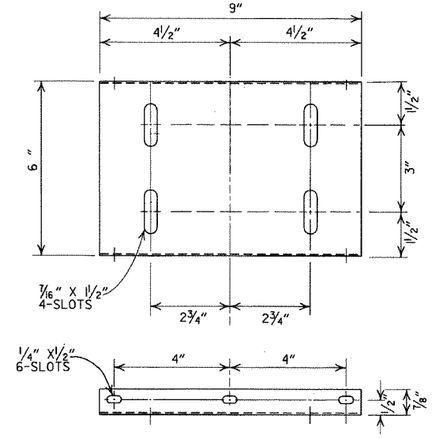
DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

STANDARD DRAWING FPC-9S

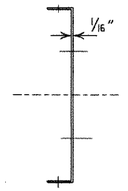


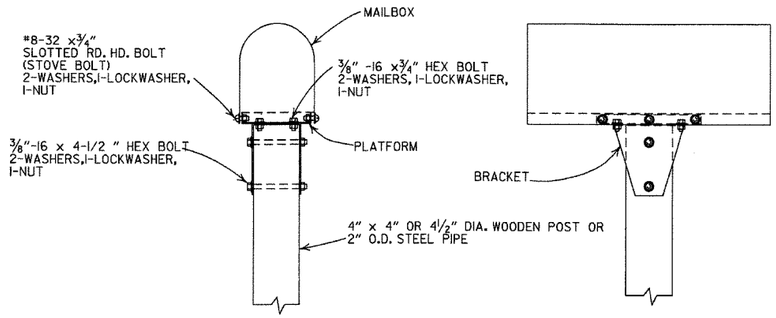
SHELF



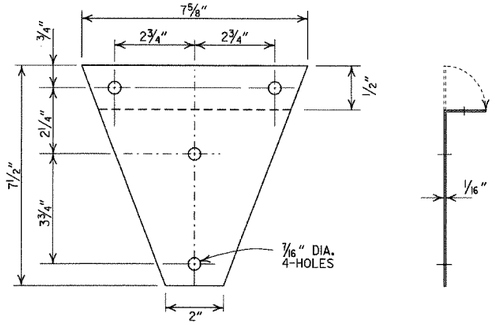


PLATFORM





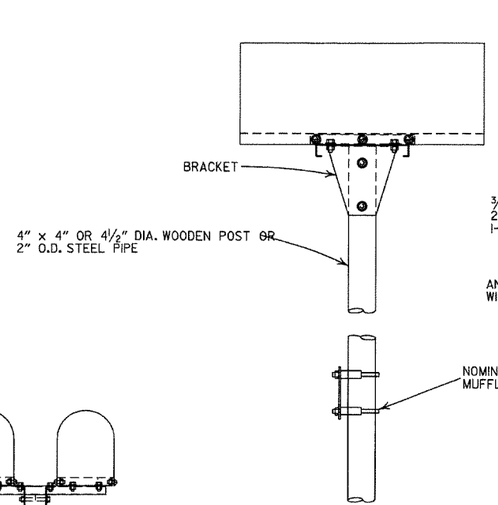
SINGLE INSTALLATION



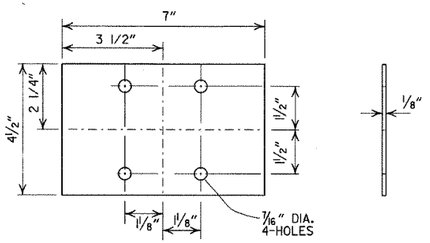
BRACKET

GENERAL NOTES

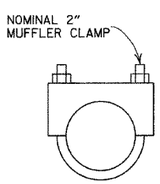
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED 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 X ¾" 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.



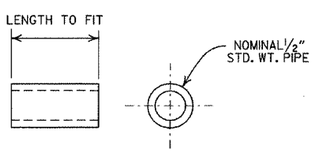
DOUBLE INSTALLATION



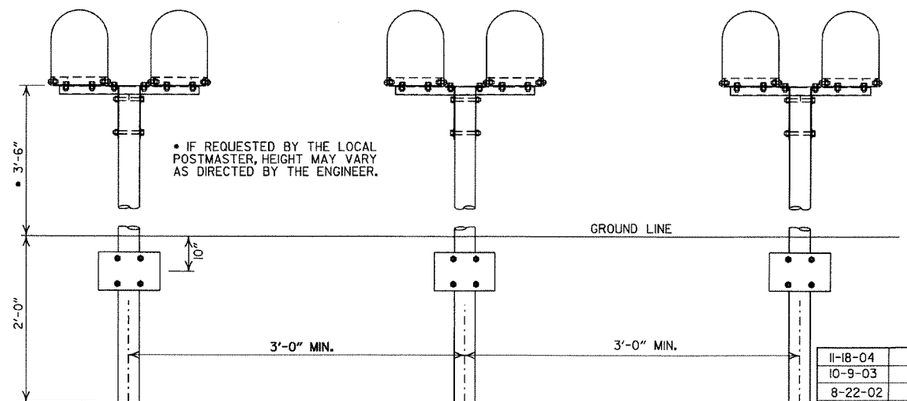
ANTI-TWIST PLATE



CLAMP



SPACER



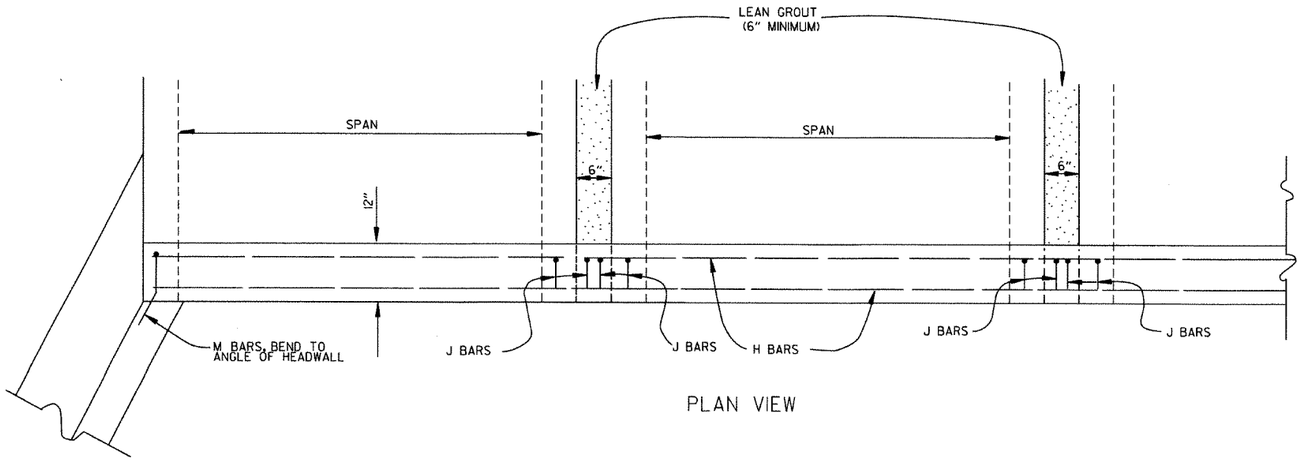
SPACING FOR MULTIPLE POST INSTALLATION

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

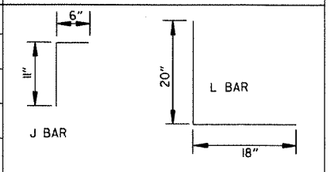
STANDARD DRAWING MB-1



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.

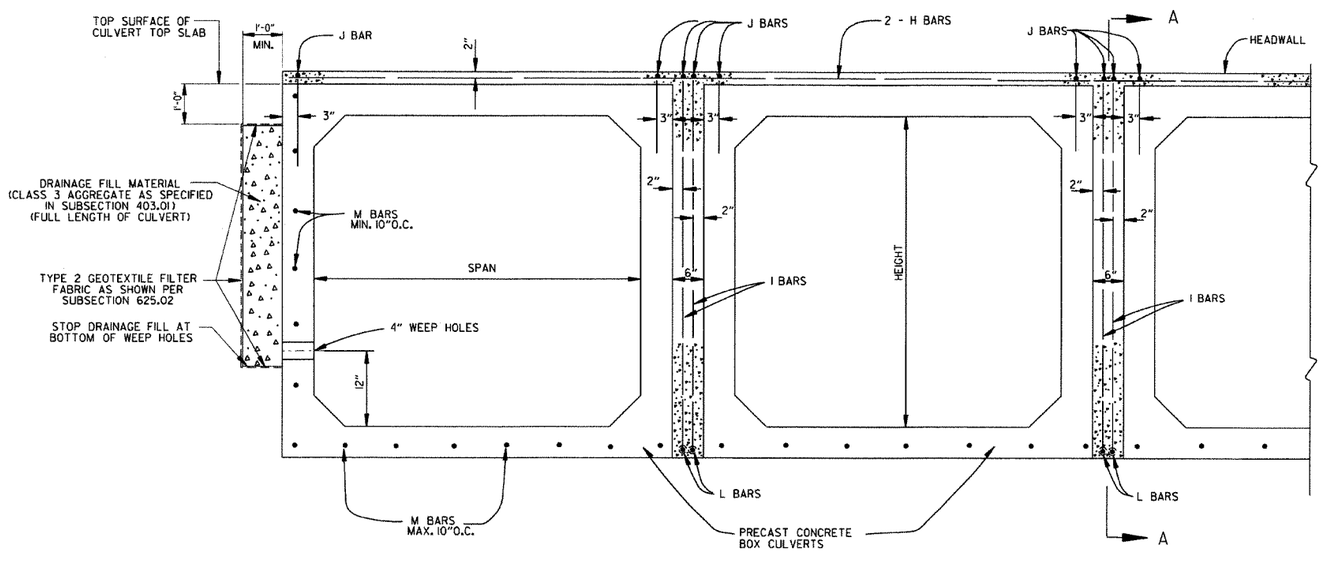
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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.

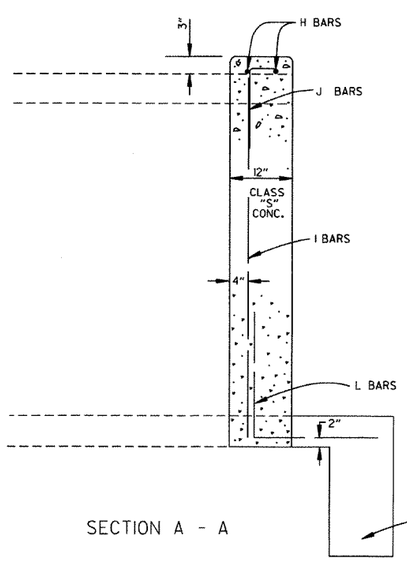
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT. SEE DETAILS ON THIS DRAWING.

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	43⅞	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

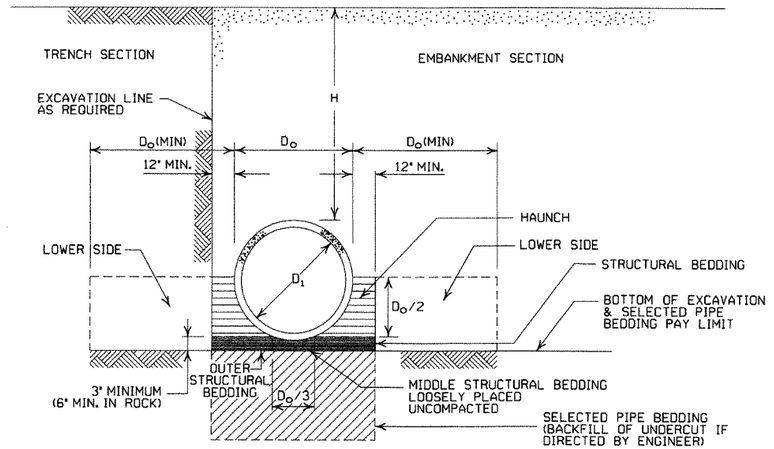
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
	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

CONSTRUCTION SEQUENCE

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

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

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

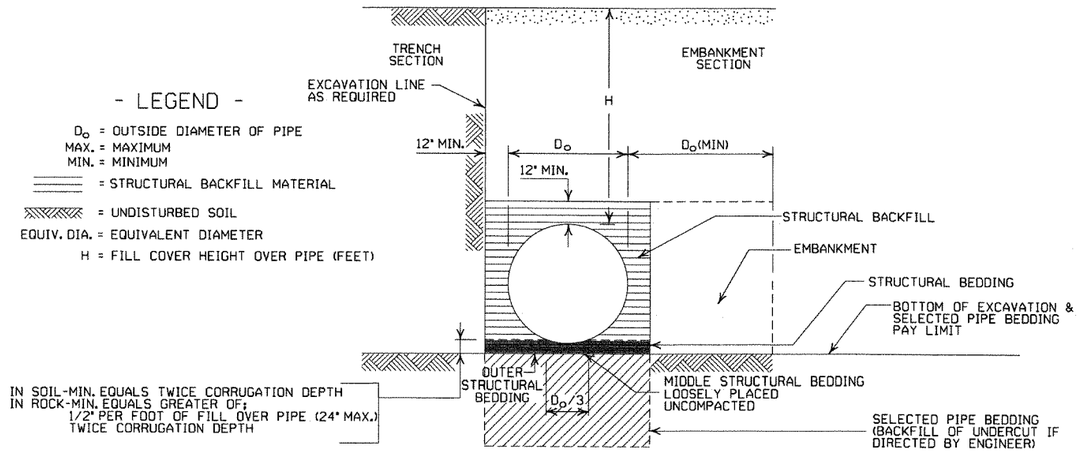
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	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



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

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

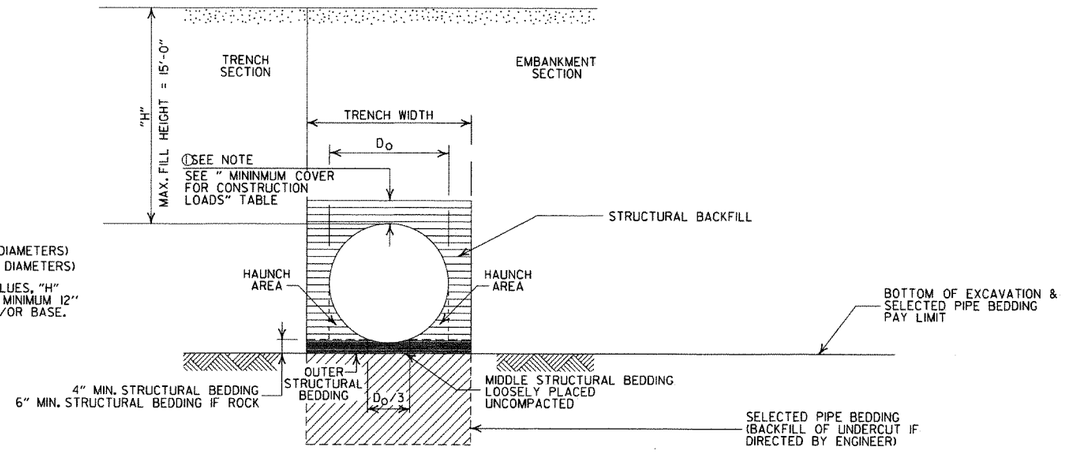
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	TRENCH WIDTH (FEET) "H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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



TYPE 2 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.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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 PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

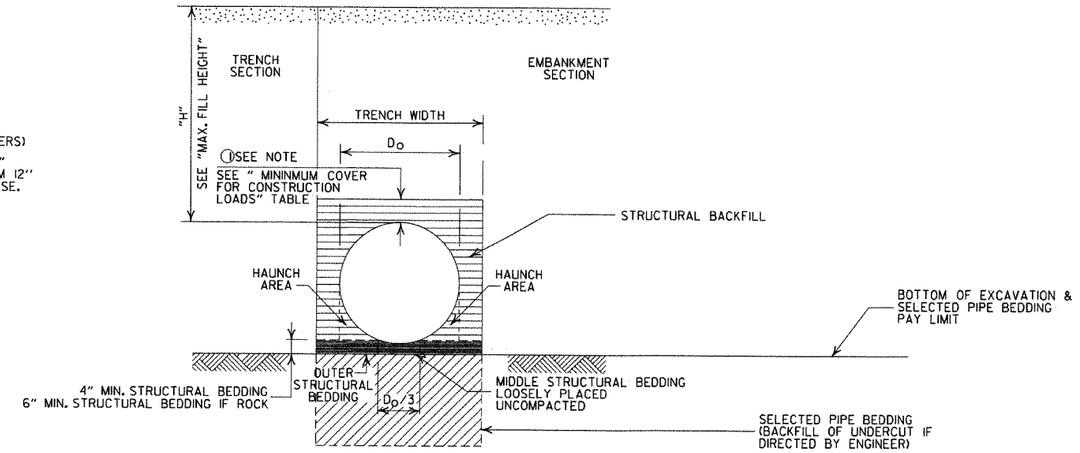
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 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.

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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

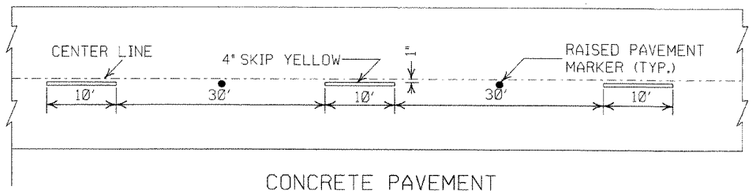
= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

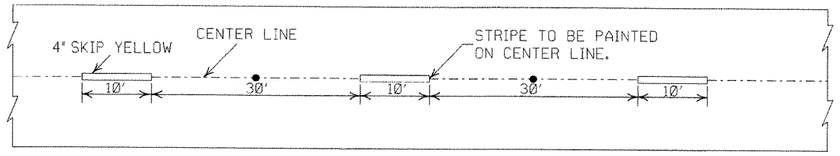
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

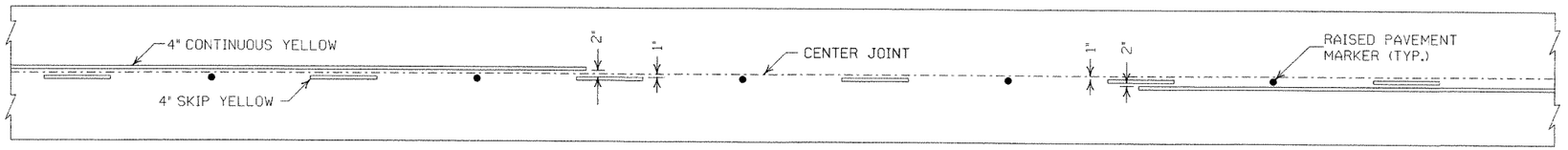


CONCRETE PAVEMENT

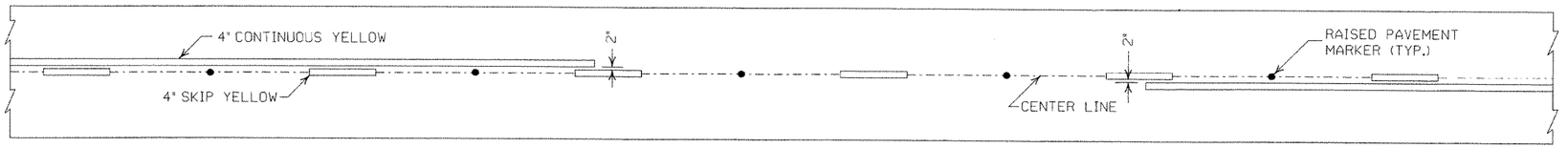


ASPHALT PAVEMENT

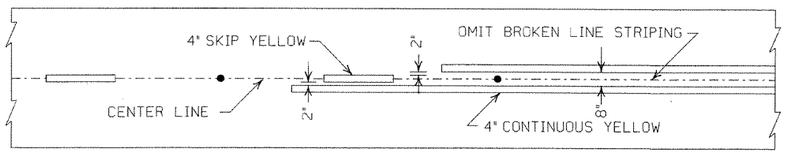
BROKEN LINE STRIPING



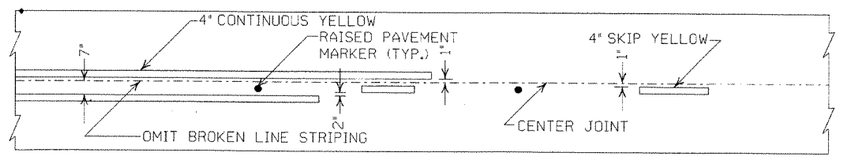
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

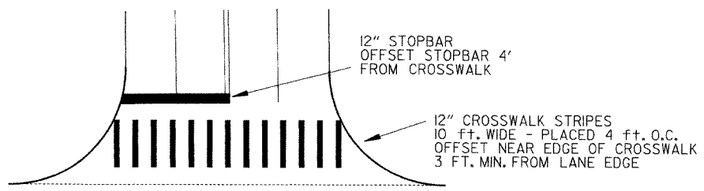


ASPHALT PAVEMENT



CONCRETE PAVEMENT

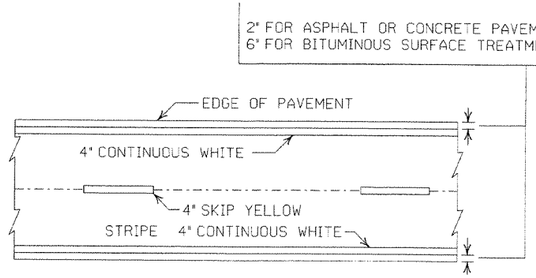
STRIPING AT ADJACENT NO PASSING LANES



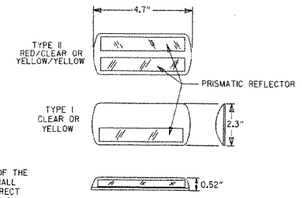
CROSSWALK AND STOPBAR DETAILS

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

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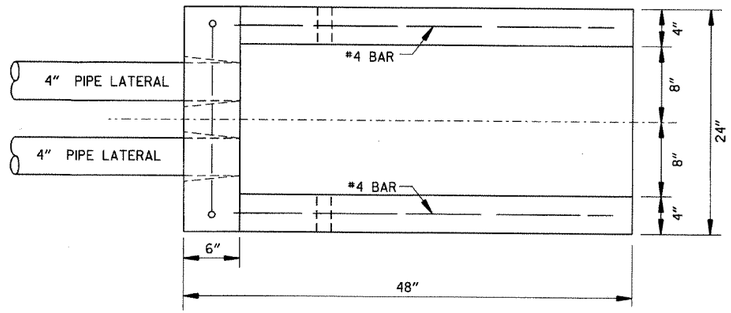
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

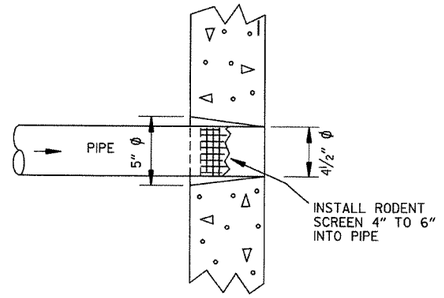
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

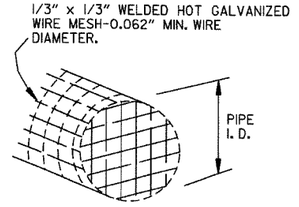
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



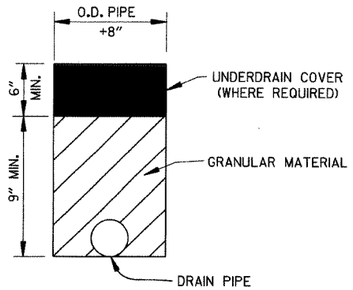
PLAN VIEW

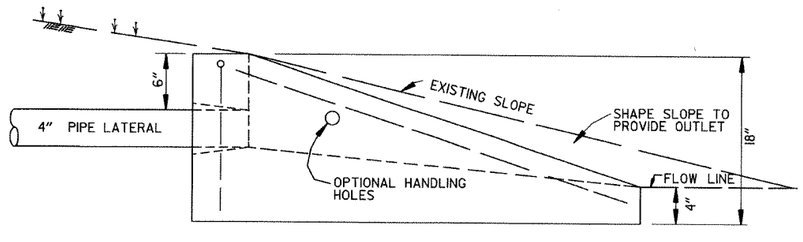


DETAIL OF HOLE FOR 4" PIPE

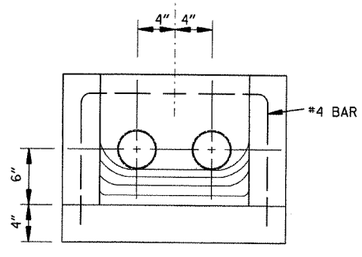


DETAIL OF RODENT SCREEN

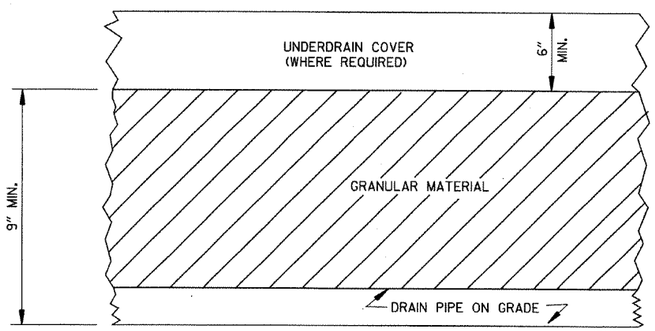




SIDE VIEW

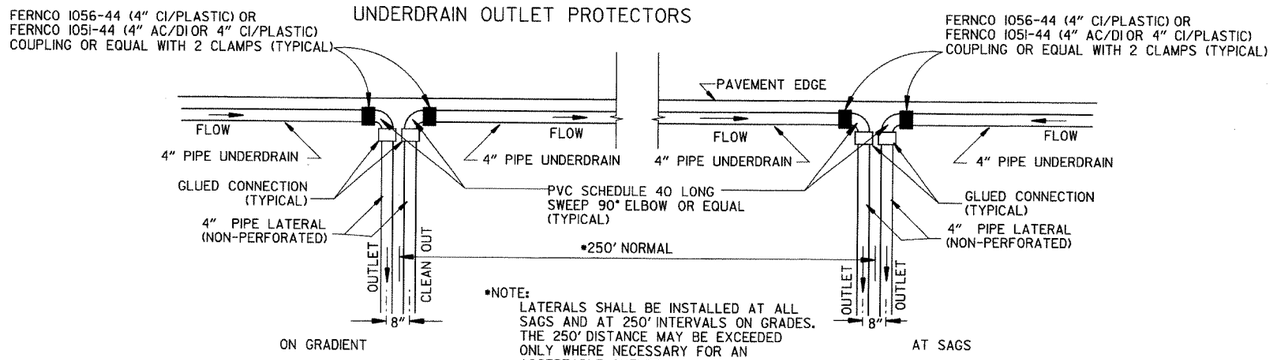


FRONT VIEW



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

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DETAILS OF PIPE UNDERDRAIN

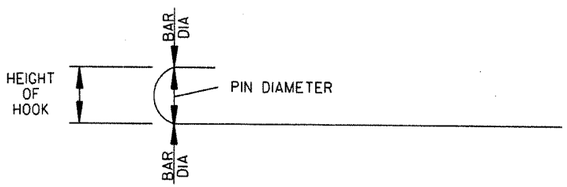
STANDARD DRAWING PU-1

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

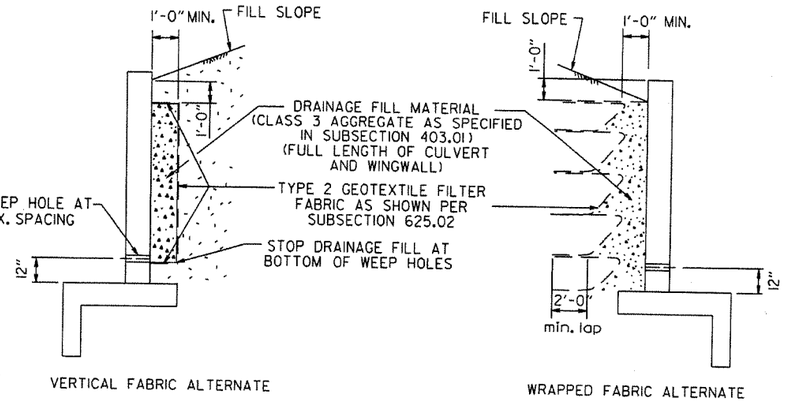
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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.

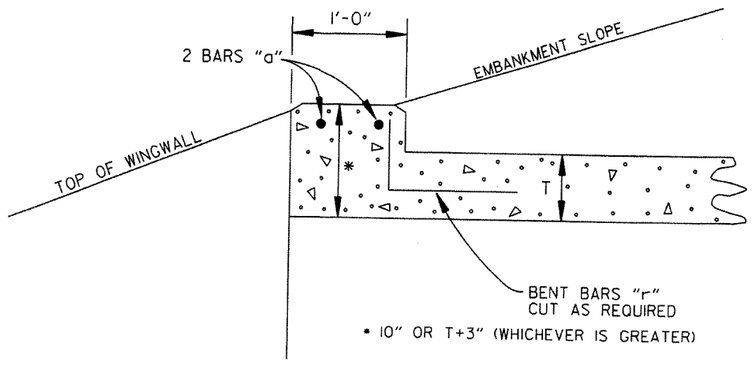
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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.



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.

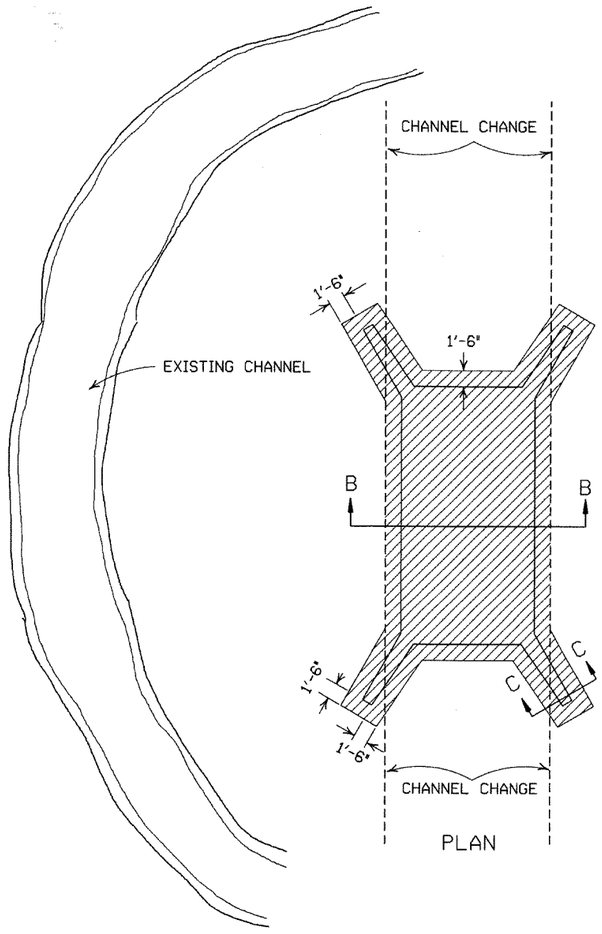
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
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

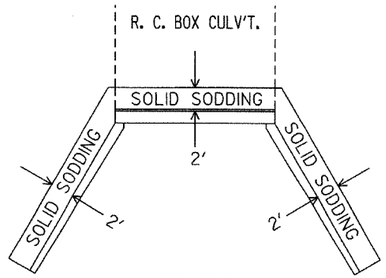
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

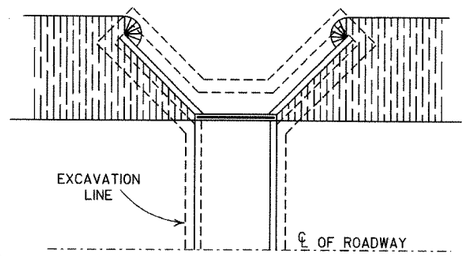
SOLID SODDING



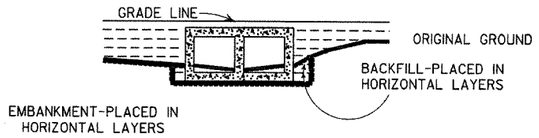
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

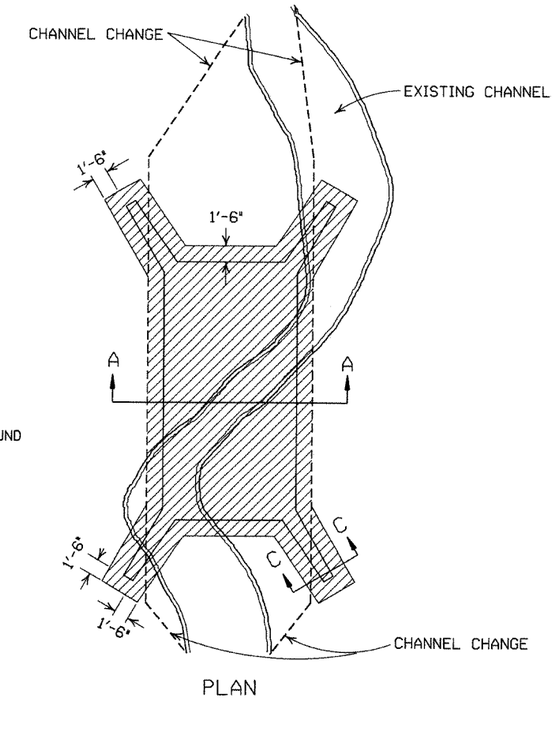


PLAN

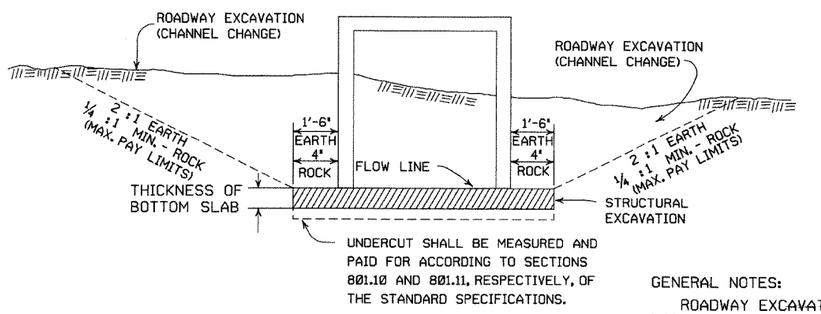


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

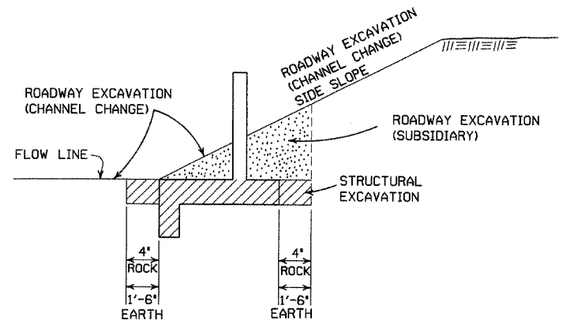


PLAN

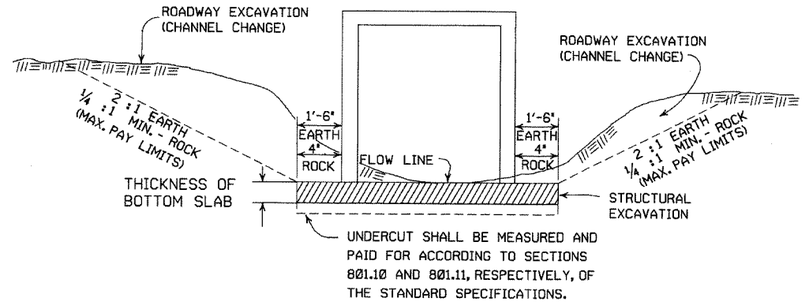


SECTION B-B

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.

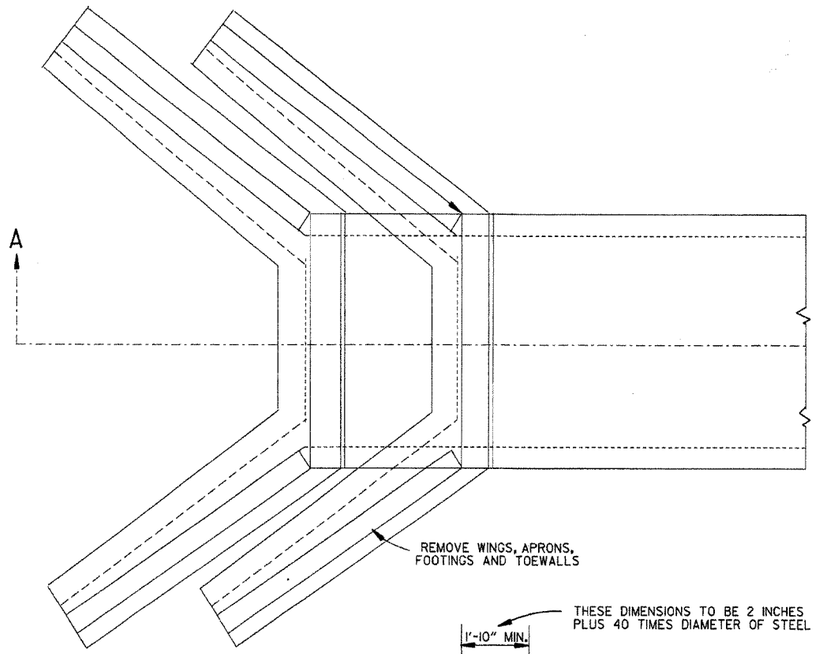
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

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

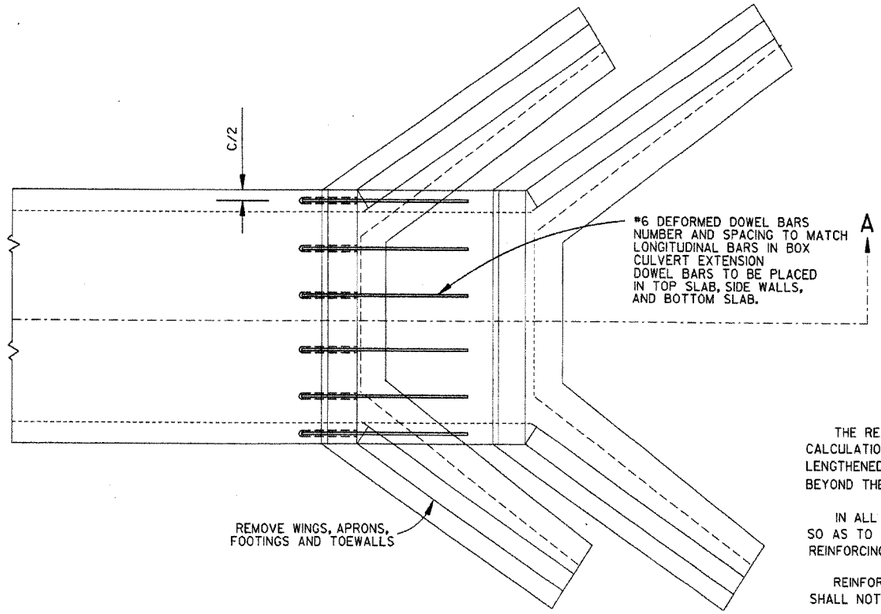
STANDARD DRAWING RCB-2



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER. AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING
EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

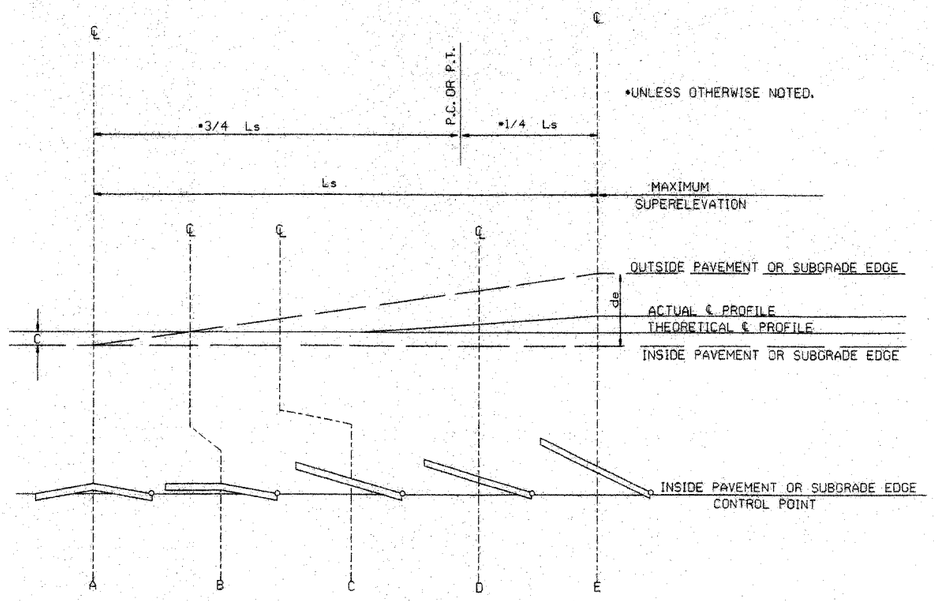
FILE STDrcb3.dgn

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45'	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00'	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15'	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30'	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054		
1° 45'	N.C.			0.025	175		0.036			0.043		300	0.049		300	0.062		
2° 00'	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15'	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	350
2° 30'	0.021			0.034			0.049			0.058			0.067			0.085	315	
2° 45'	0.023			0.037			0.053			0.063			0.072			0.091	335	
3° 00'	0.025	150		0.040		200	0.057			0.067	230		0.077	260		0.096	350	400
3° 15'	0.027			0.043			0.061			0.072	245		0.082	275		0.098	360	
3° 30'	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45'	0.031		200	0.049			0.069	215		0.080	265		0.090	295	350			
4° 00'	0.033			0.051			0.072	225		0.083	270		0.093	305				
4° 30'	0.037			0.056			0.078	240		0.087	280	350	0.096	315				
5° 00'	0.040			0.061			0.083	250		0.091	295		0.098	320				
5° 30'	0.043			0.066	185		0.088	260		0.094	300							
6° 00'	0.046			0.070	190		0.092	270		0.096	305							
6° 30'	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00'	0.053			0.078	210		0.098	285										
7° 30'	0.056			0.081	215		0.099	290										
8° 00'	0.058			0.084	220		0.100	290										
8° 30'	0.061			0.087	225	250												
9° 00'	0.063			0.089	230													
10° 00'	0.068	160		0.094	235													
11° 00'	0.072	170		0.097	250													
12° 00'	0.076	175		0.099	250													
13° 00'	0.080	180		0.100	250													
14° 00'	0.083	190																
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.

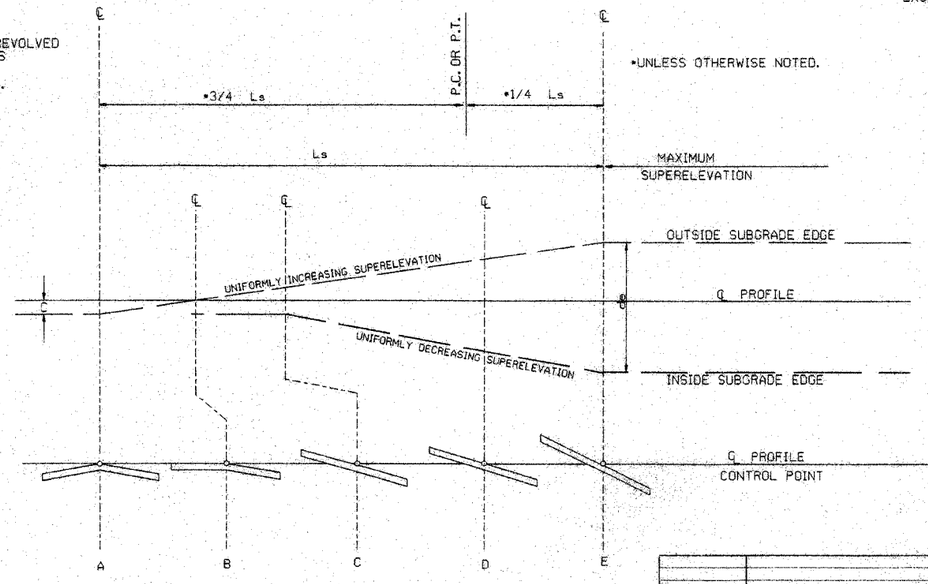
GENERAL NOTES

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 = $\frac{Lde}{Ls}$

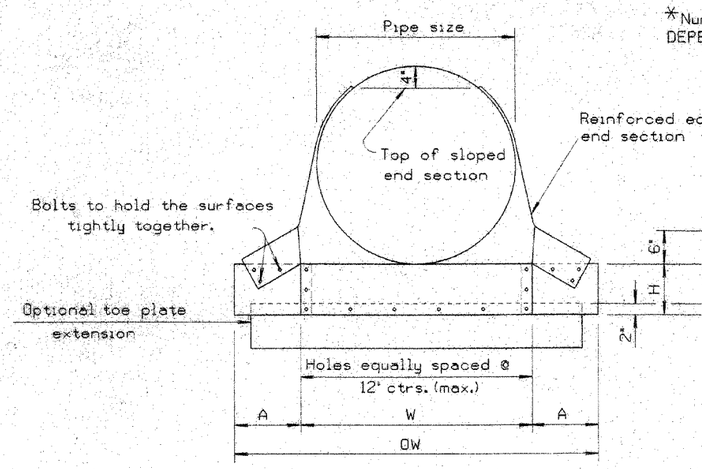
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

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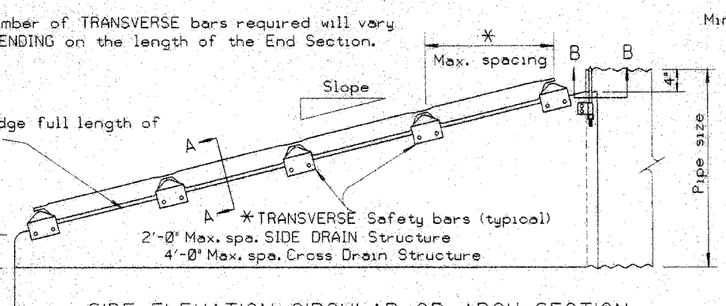
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

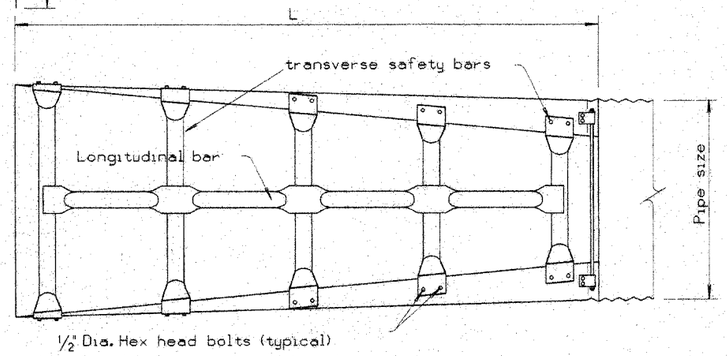
FILE STDSE2.DGN



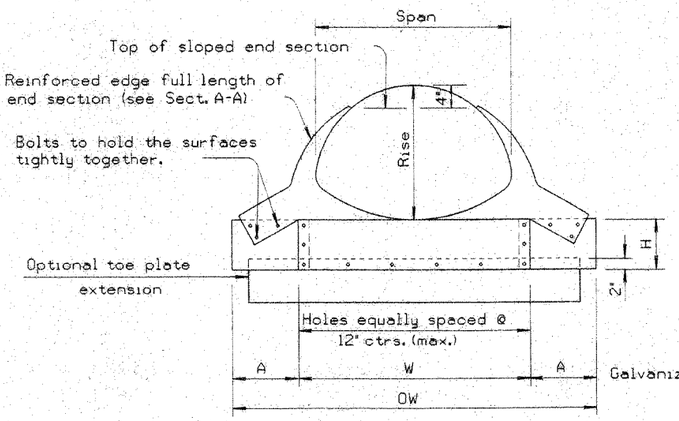
FRONT VIEW CIRCULAR PIPE



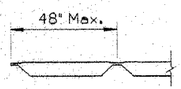
SIDE ELEVATION CIRCULAR OR ARCH SECTION



TOP VIEW CIRCULAR OR ARCH SECTION

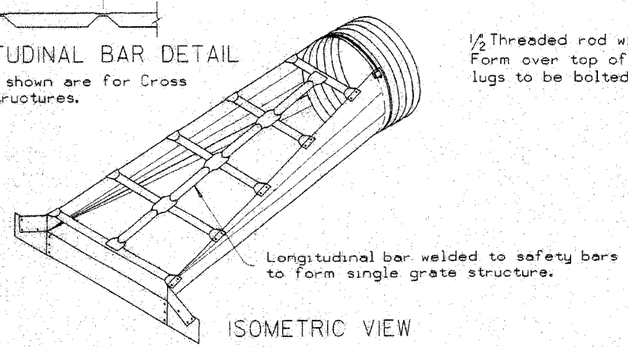


FRONT VIEW ARCH PIPE

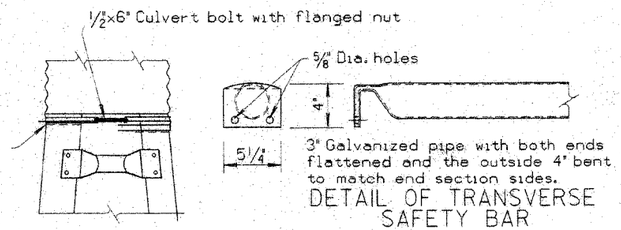


LONGITUDINAL BAR DETAIL

Note: Bars shown are for Cross Drain Structures.



ISOMETRIC VIEW

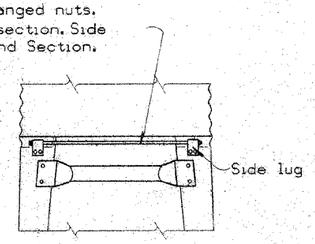


3" Galvanized pipe with both ends flattened and the outside 4" bent to match end section sides.

DETAIL OF TRANSVERSE SAFETY BAR

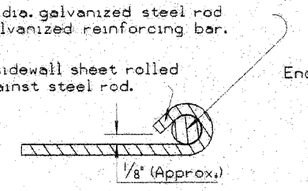
TYPE #1 CONNECTOR DETAIL

For 15" thru 24" pipe

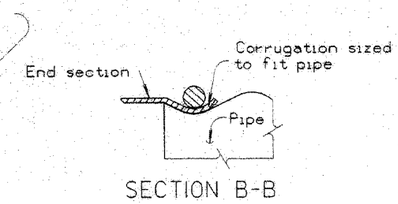


TYPE #2 CONNECTOR DETAIL

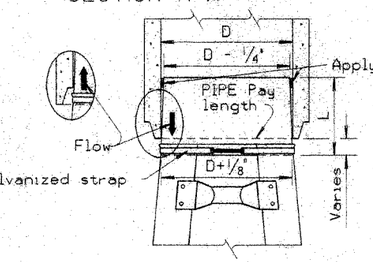
For 30" and larger round pipes & 21"x15" thru 64"x43" arch pipes



SECTION A-A



SECTION B-B



D - 12" to 24" L = 12"
D - 30" & Larger L = 16"

Note: Metal end section to be firmly wedged INTO PIPE END BEFORE BACKFILLING PIPE.

(Tapered sleeve to be 12 Ga. smooth galvanized steel in accordance with AASHTO M 218.)

STEEL END SECTION FOR CONCRETE PIPE
(Alternate for Concrete End Section)

GENERAL NOTES

End sections shall be fabricated from galvanzied steel meeting the requirements of SUBSECTION 606.02(c)(1) OF THE STANDARD SPECIFICATIONS.
When specified optional toe plate extension shall be punched and bolted to end section apron lip with ⅜" diameter galvanized bolts. Steel for toe plate extension shall be same gauge as end section.
Dimensions shall be overall width less 6" by 8" high.
Attachment to circular pipes 15" through 24" diameter shall be made with Type #1 straps. All other sizes shall be attached with Type #2 rods and lugs.
Safety bars shall be fabricated from steel pipe meeting the requirements of ASTM A-53 Schedule 40 Specifications. Safety bars shall be hot dipped galvanized after fabrication.
All work and materials required for construction and installation of safety end section shall be included in the PRICE BID EACH FOR SAFETY END SECTIONS FOR PIPE CULVERTS.
Longitudinal and transverse bars will be required for cross drain structures when span is greater than 30", no safety bars will be REQUIRED FOR 30" SPAN OR LESS WHEN USED ON CROSS DRAIN STRUCTURES.
Transverse bars will be required for all sizes of side drain structures.
Class I safety end sections shall be end sections with a 4:1 slope.
Class 2 safety end sections shall be end sections with a 6:1 slope.

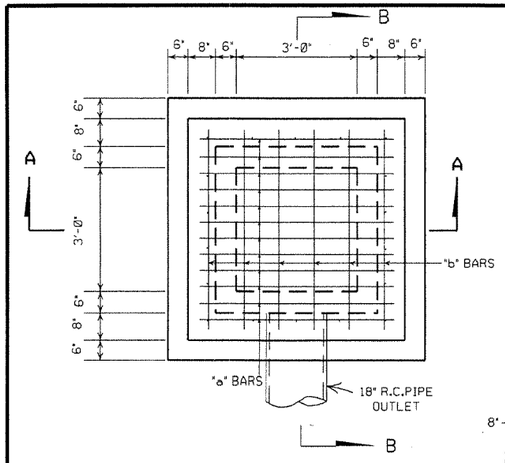
SAFETY END SECTIONS FOR ARCH PIPES													SAFETY END SECTIONS FOR CIRCULAR PIPES								
Equv. Dia.	Nom. W.W. Area Sq Ft	Pipe Arch Span (In.)	Pipe Arch Rise (In.)	Min. Gauge End Sect.	Dimensions in Inches A	H	W	OW	Slope	L (In)	Slope	L (In)	Pipe Dia.	Min. Gauge Ends	Dimensions in Inches A 1"Tol	H 1"Tol	W 2"Tol	OW	L Dimensions in Inches Slope	L	Slope	L
18"	1.6	21	15	16	8	6	27	43	4:1	20	6:1	30	15"	16	8	6	21	37	4:1	20	6:1	30
21"	2.2	24	18	16	8	6	30	46	4:1	32	6:1	48	18"	16	8	6	24	40	4:1	32	6:1	48
24"	2.9	28	20	16	8	6	34	50	4:1	40	6:1	60	21"	16	8	6	27	43	4:1	44	6:1	66
30"	4.5	35	24	14	12	9	41	65	4:1	56	6:1	84	24"	16	8	6	30	46	4:1	56	6:1	84
36"	6.5	42	29	12	12	9	48	72	4:1	76	6:1	114	30"	12	12	9	36	60	4:1	80	6:1	120
42"	8.9	49	33	12	16	12	55	87	4:1	92	6:1	138	36"	12	12	9	42	66	4:1	104	6:1	156
48"	11.6	57	38	12	16	12	63	95	4:1	112	6:1	168	42"	12	16	12	48	80	4:1	128	6:1	192
54"	14.7	64	43	12	16	12	70	102	4:1	132	6:1	198	48"	12	16	12	54	86	4:1	152	6:1	228
60"	18.1	71	47	12	16	12	77	109	4:1	148	6:1	222	54"	12	16	12	60	92	4:1	176	6:1	264
72"	26.0	83	57	12	16	12	89	121	4:1	188	6:1	282	60"	12	16	12	66	98	4:1	200	6:1	300

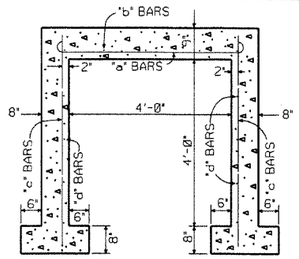
DATE	REVISION	DATE FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
8-15-91	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

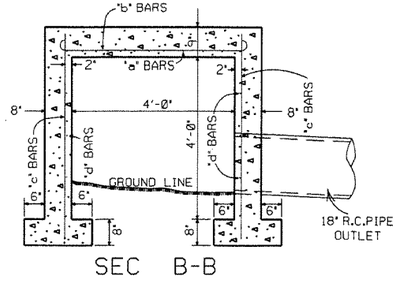
SAFETY END SECTION FOR CIRCULAR AND ARCH PIPES

STANDARD DRAWING SES-1





SEC A-A

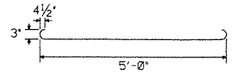


SEC B-B

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

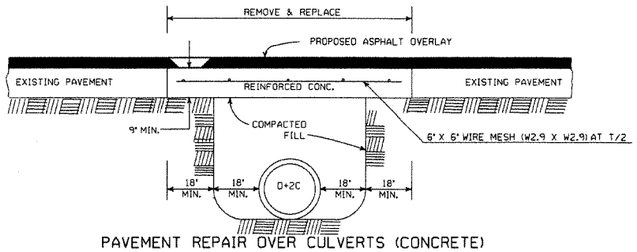
QUANTITIES

CONCRETE 3.40 CU. YDS.
REINFORCING STEEL 176 LB.

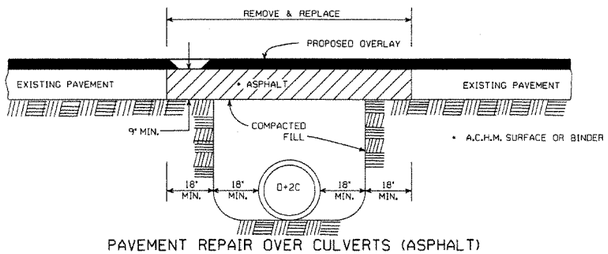
GENERAL NOTE:

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



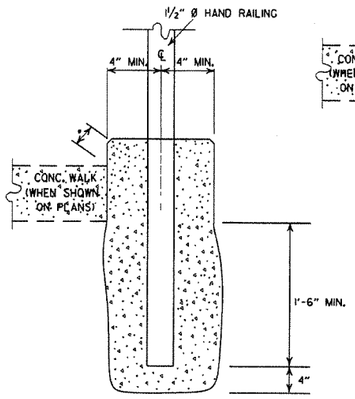
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



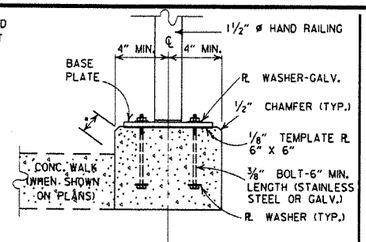
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

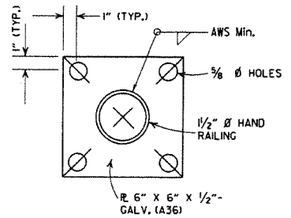
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

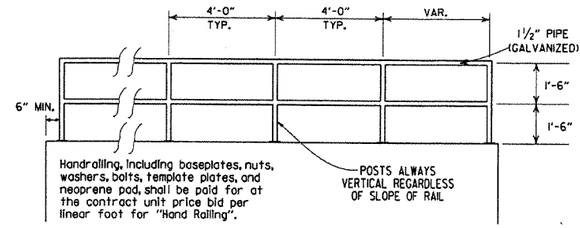


POST CONNECTION TO WALL

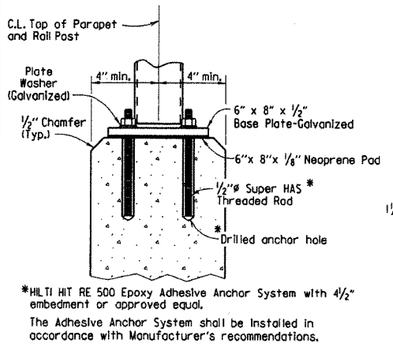


BASE PLATE

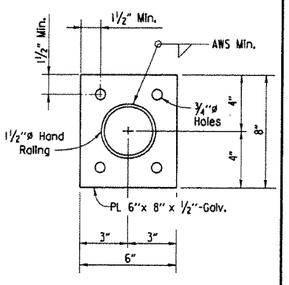
POST CONNECTION DETAILS



Hand railing shall conform to Section 633.



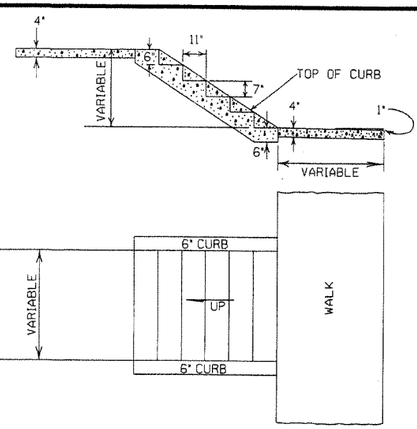
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

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

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
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	VL 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.	568-4-10-75-857
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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

R1-1



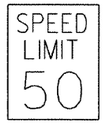
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



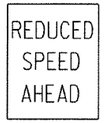
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



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

R2-5A



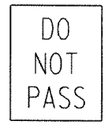
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

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



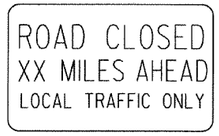
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



48"X30"

RII-3A



60"X30"

RII-4



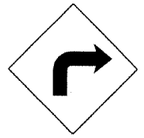
60"X30"

RSP-1



48"X30"

WI-1



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

WI-2



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

WI-3



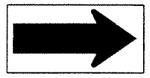
STD. 48"X48"

WI-4



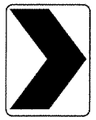
STD. 48"X48"

WI-6



STD. 48"X24"
SPECIAL 60"X30"

WI-8



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

W3-1



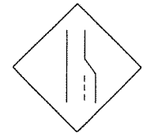
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



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

W9-2



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

WI3-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



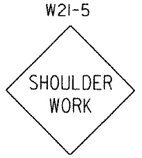
STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

WI-4b



STD. 48"X48"

R56-1



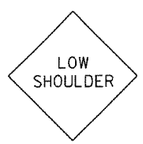
STD. 18"X18"

W8-11



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

W8-9



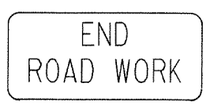
STD. 36"X36"
FWY. 48"X48"

G20-1



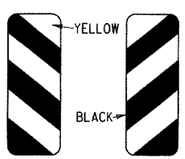
60"X24"

G20-2



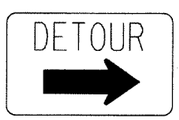
48"X24"

OM-3L OM-3R



12"X36"

M4-9



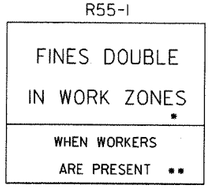
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1



36"X60"

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

ADVANCE DISTANCES
(XXXX)

500 FT	1/2 MILE
1000 FT	3/4 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.

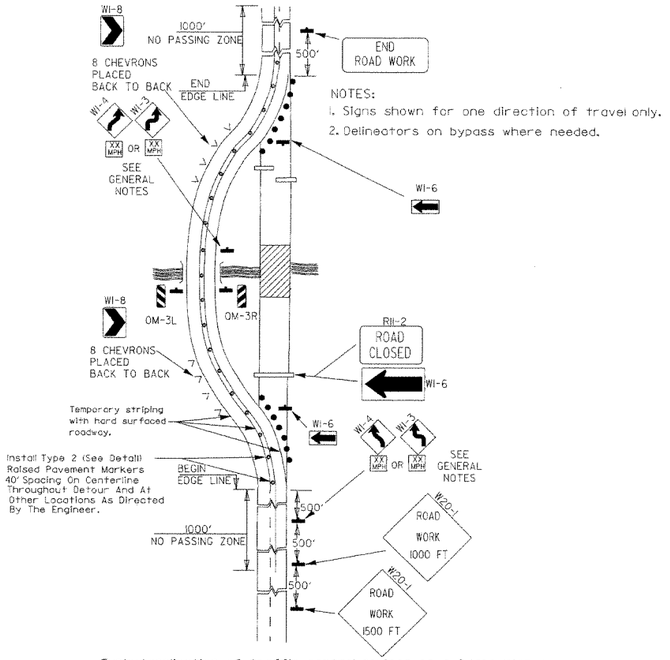
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

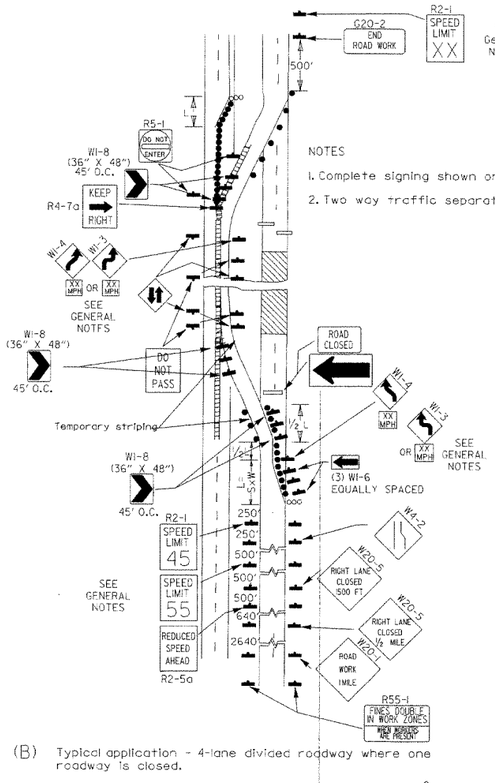
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

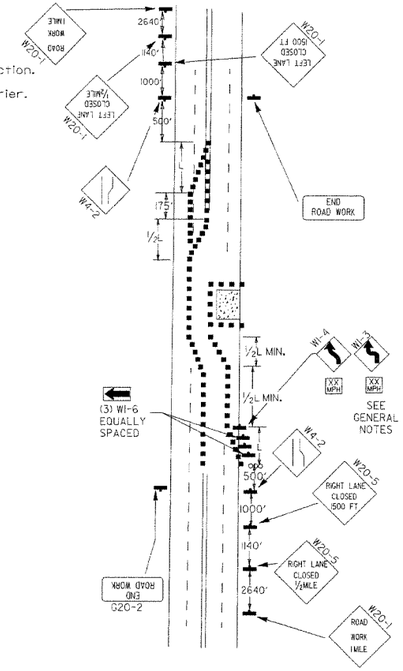
STANDARD DRAWING TC-1



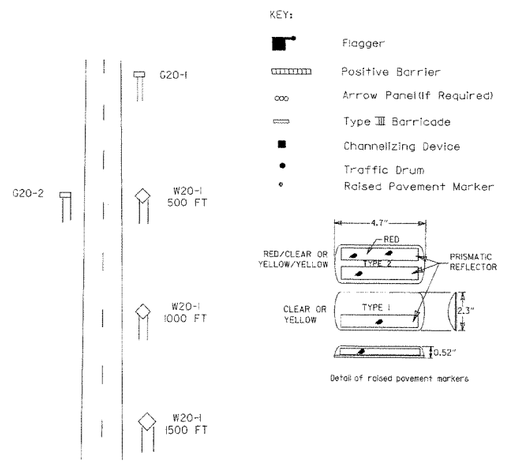
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



(B) Typical application - 4-lane divided roadway where one roadway is closed.



(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



Typical advance warning sign placement

Taper formulae:

L=SxW for speeds of 45mph or more.

$L=\frac{WS^2}{60}$ for speeds of 40mph or less.

Where:

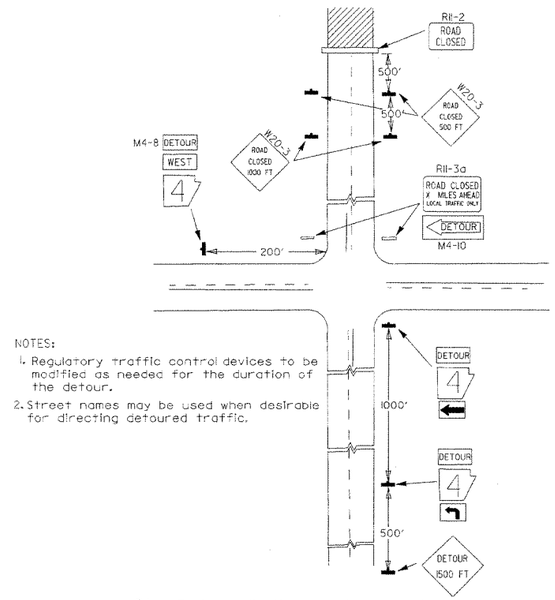
L= Minimum length of taper.

S= Numerical value of posted speed limit prior to work or 85th percentile speed.

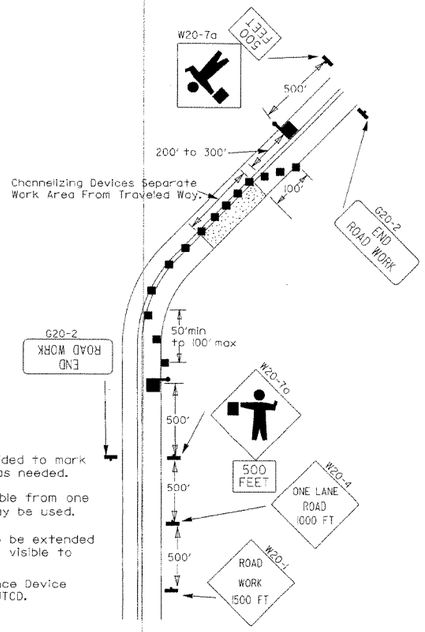
W= Width of offset.

GENERAL NOTES:

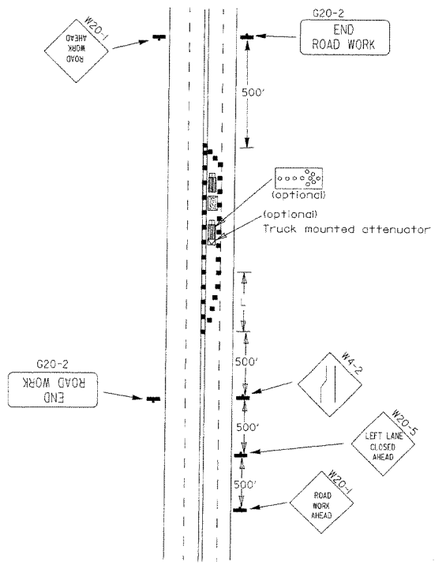
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed 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.



(D) Typical application - roadway closed beyond detour point.



(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.



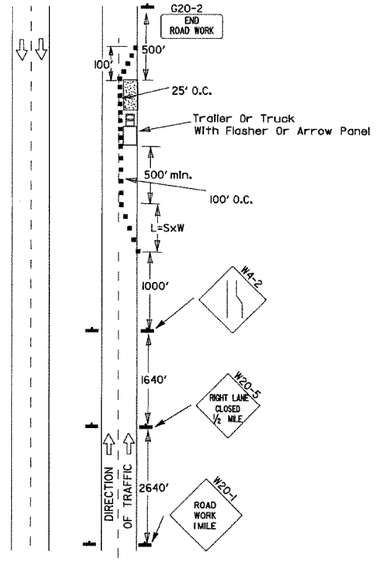
(F) Typical application - 4-lane undivided roadway with inside lane closed.

DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-8-96	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	

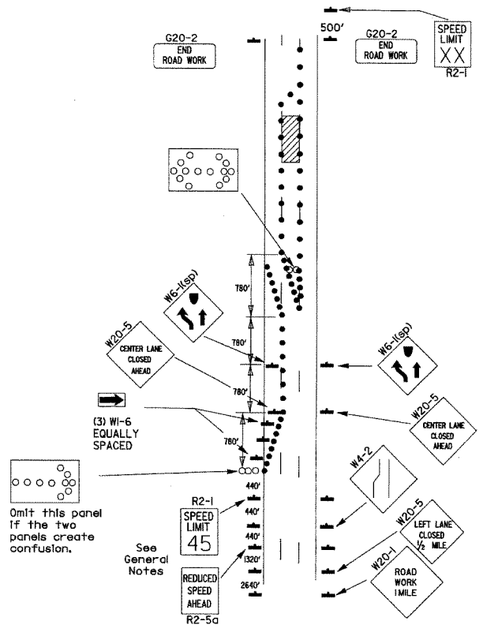
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

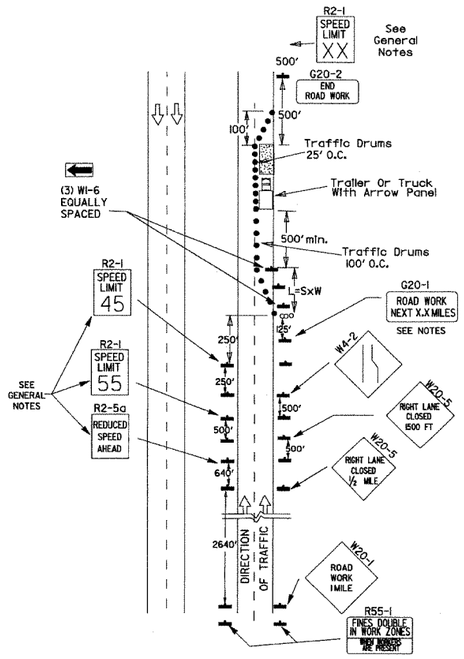
STANDARD DRAWING TC-2



(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.



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

KEY:

○○○ Arrow Panel (If Required)

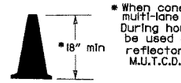
■ Channelizing Device

● Traffic drum

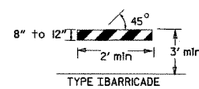
GENERAL NOTES:

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

Channelizing devices

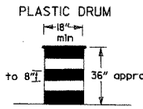


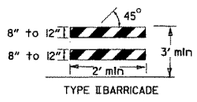
CONES



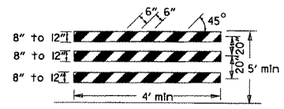
TYPE I BARRICADE

PLASTIC DRUM



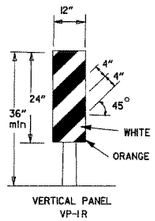


TYPE II BARRICADE



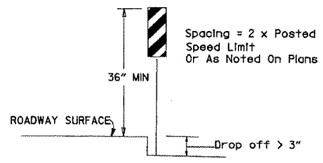
TYPE III BARRICADE

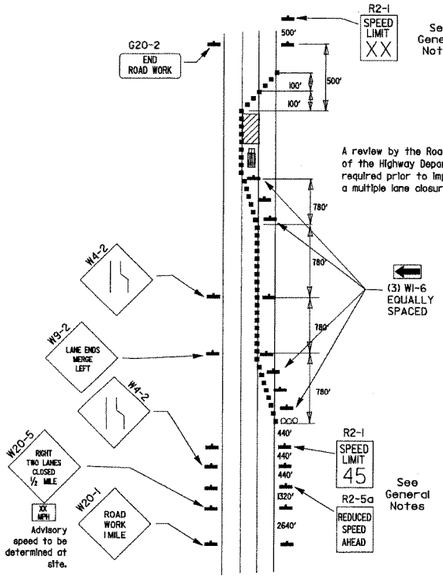
NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT





(D) Typical application - closing multiple lanes of a multilane highway.

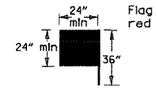
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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.

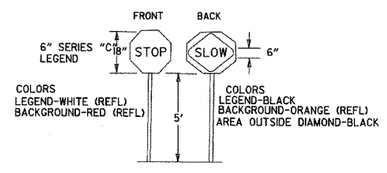
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

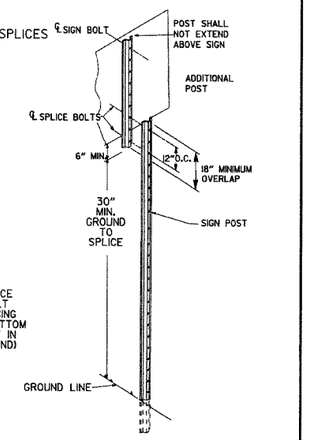


Flag shall be of good grade red material

STOP SLOW PADDLE



DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

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

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

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

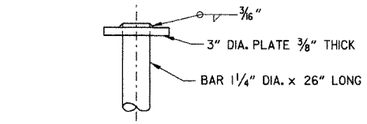
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

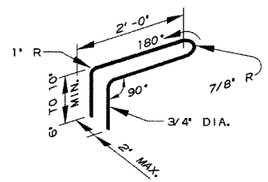
REINFORCING BAR TABLE PER BARRIER UNIT

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

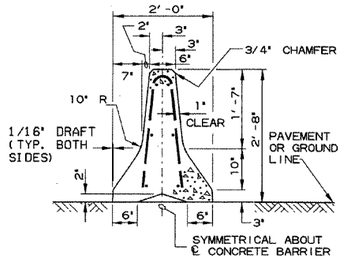


SECTION E-E

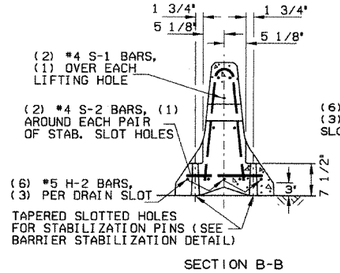
CONNECTION DETAILS



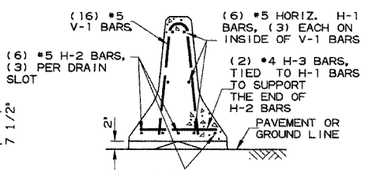
CONNECTION LOOP



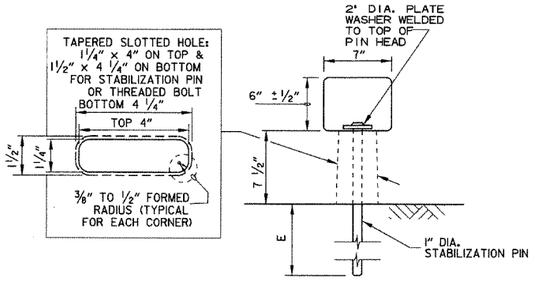
SECTION A-A



SECTION B-B



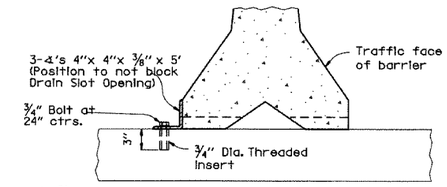
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

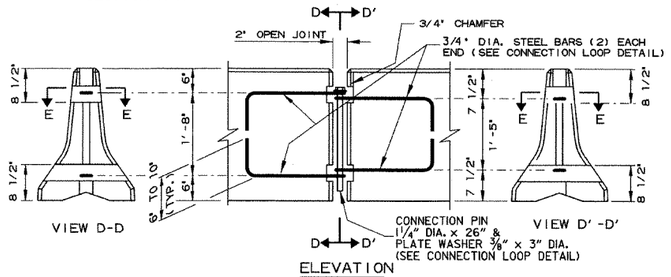
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 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

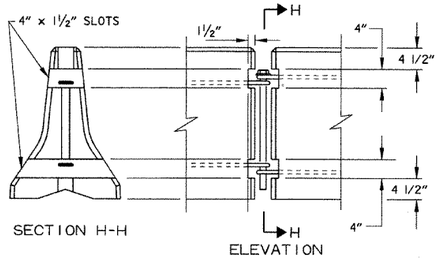
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

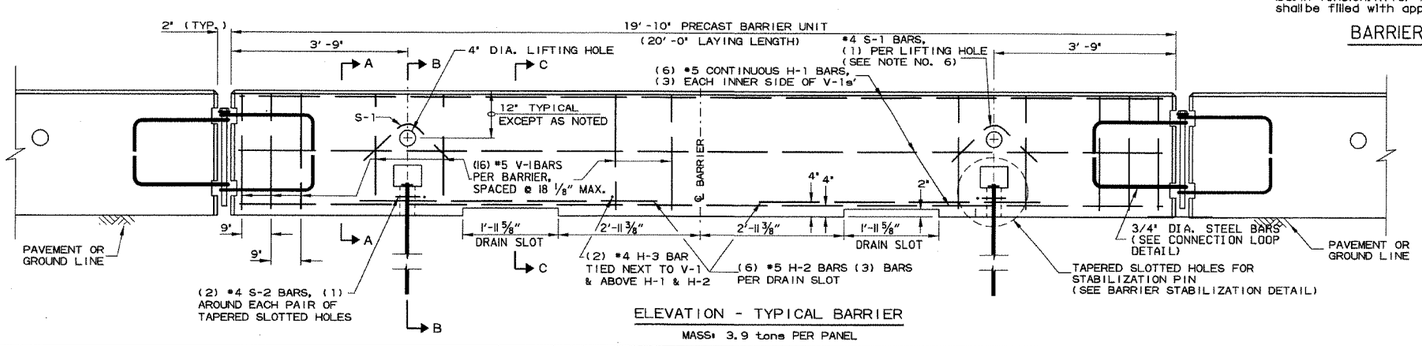
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

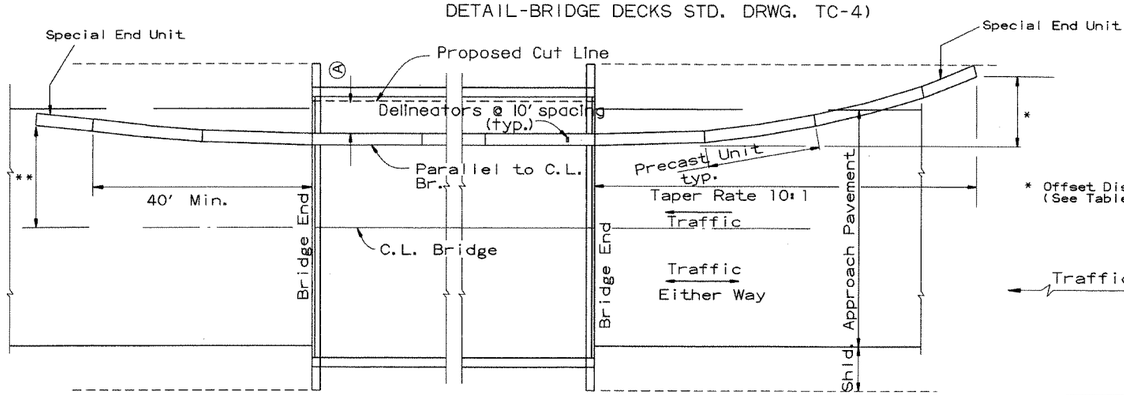
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

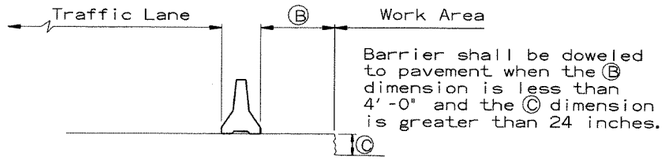
STANDARD DRAWING TC-4

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



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

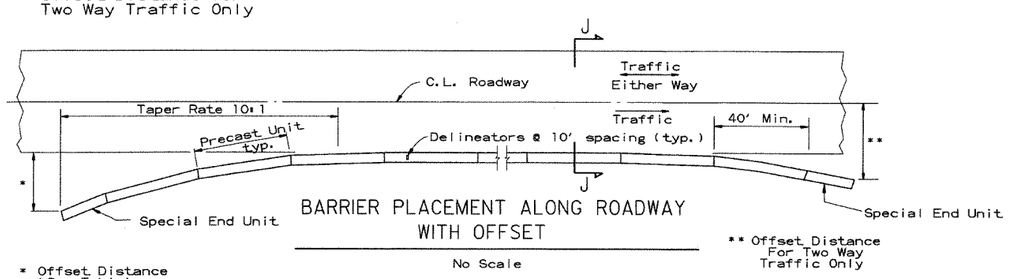


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

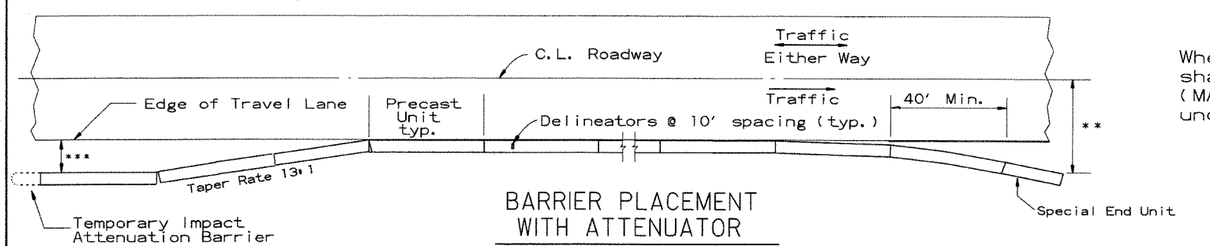
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

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

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

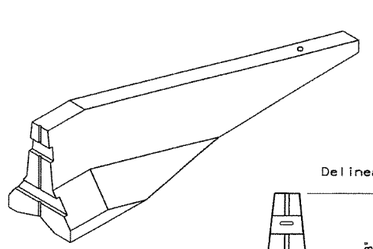


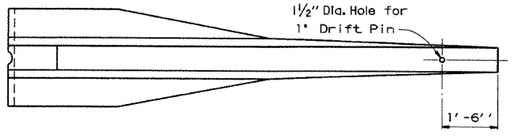
BARRIER PLACEMENT WITH ATTENUATOR

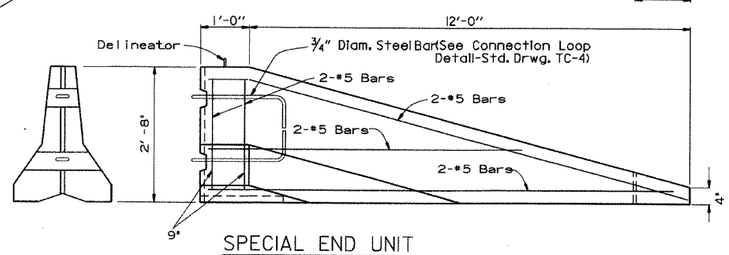
No Scale

** Offset Distance For Two Way Traffic Only

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







SPECIAL END UNIT

No Scale

General Notes

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

DATE	REVISION	FILMED
10-16-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

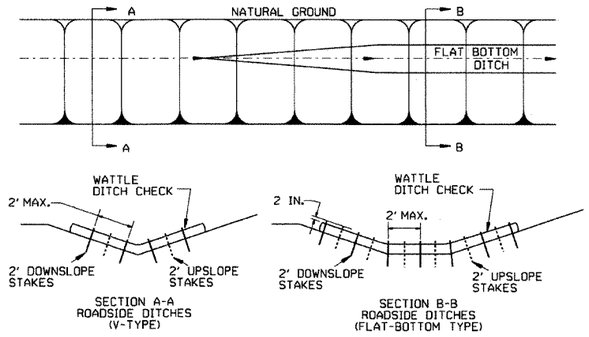
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

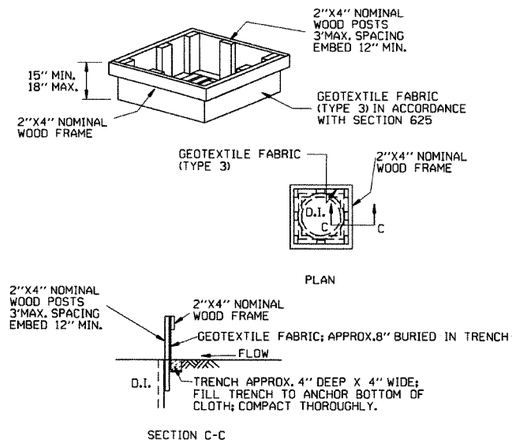
STANDARD DRAWING TC-5

GENERAL NOTES

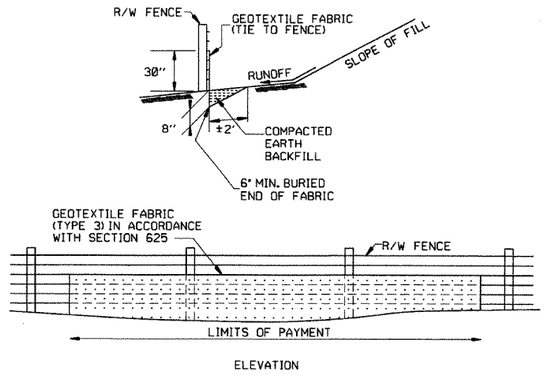
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



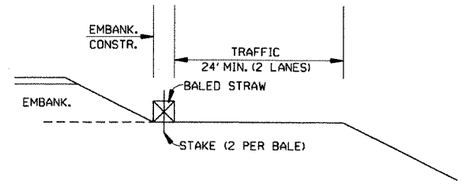
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

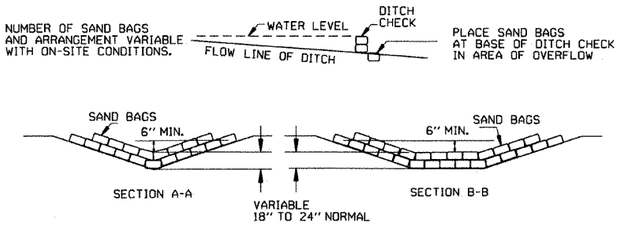
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

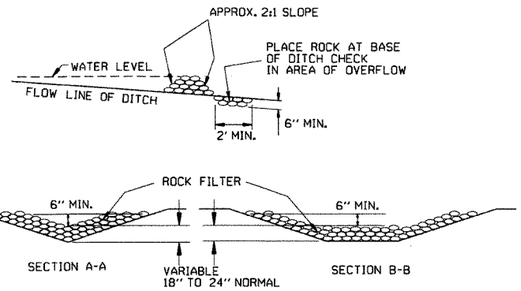
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



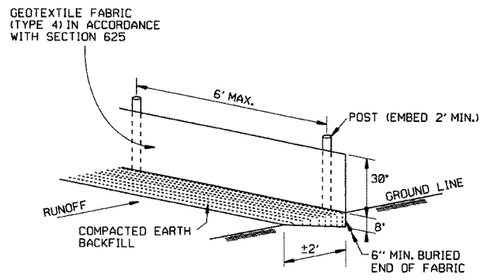
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

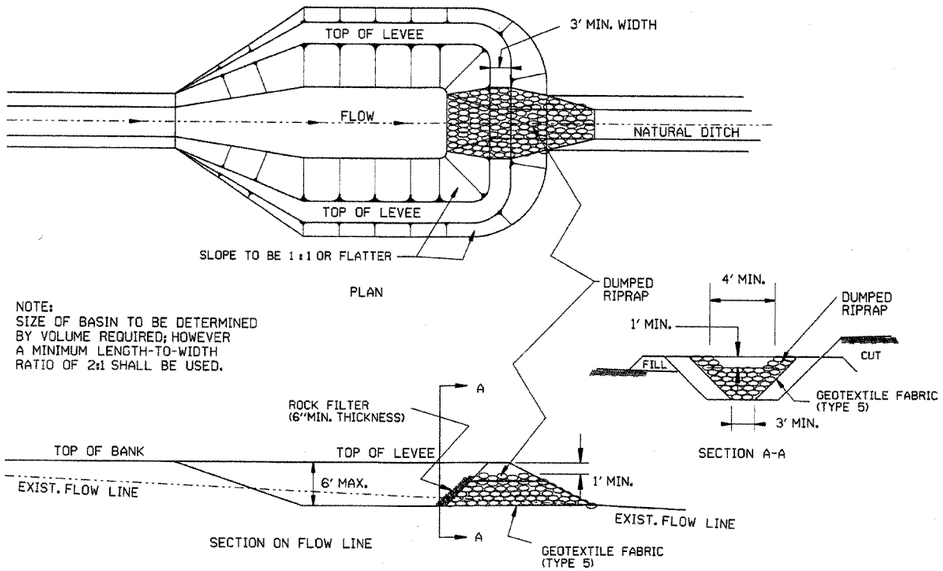
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

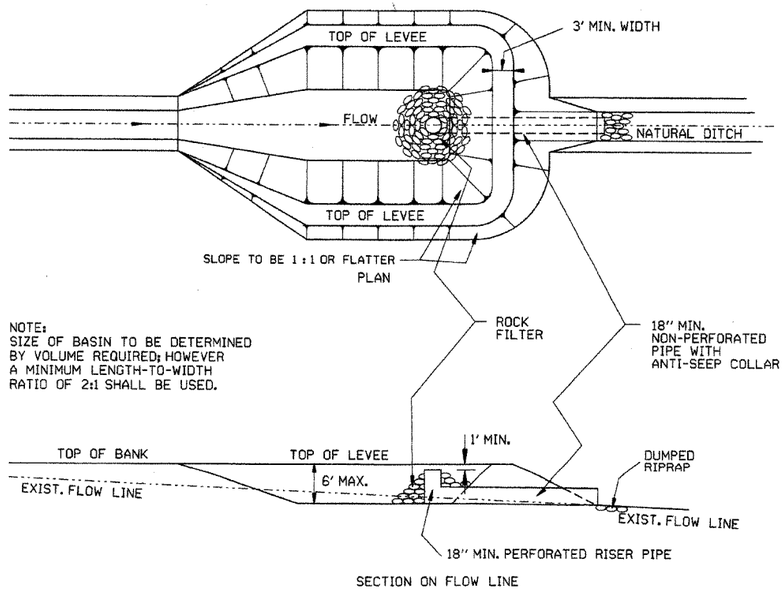
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

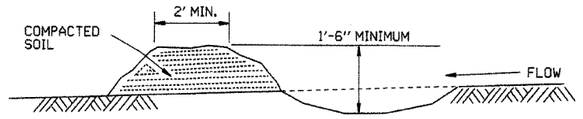
STANDARD DRAWING TEC-1



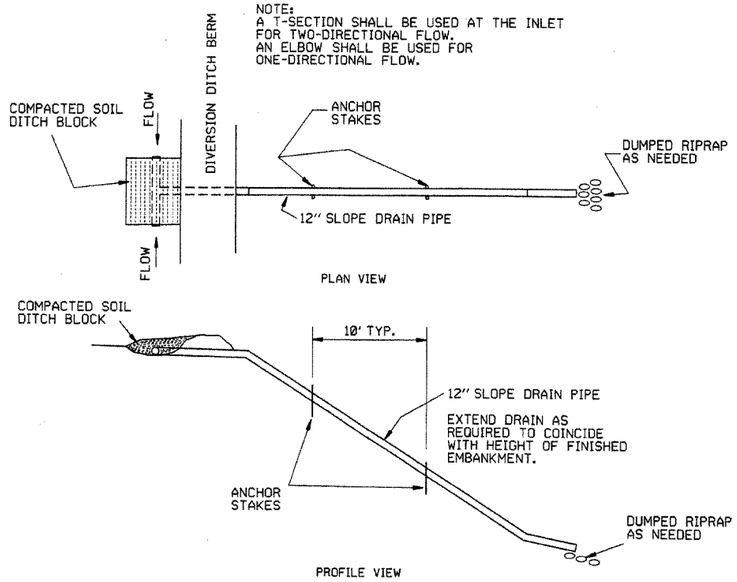
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



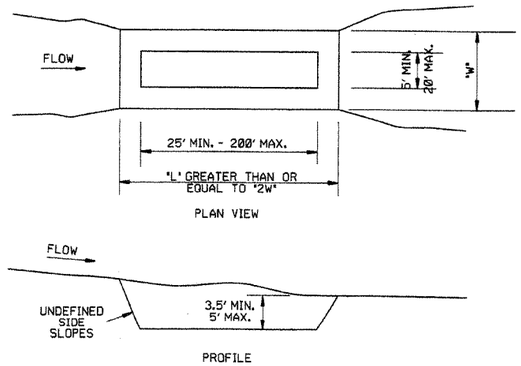
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

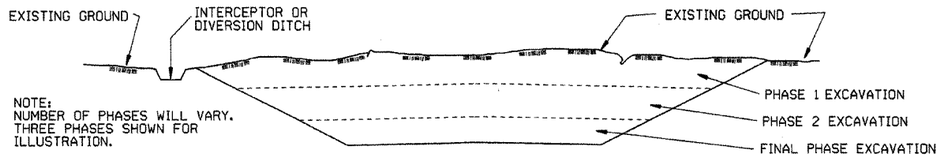
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



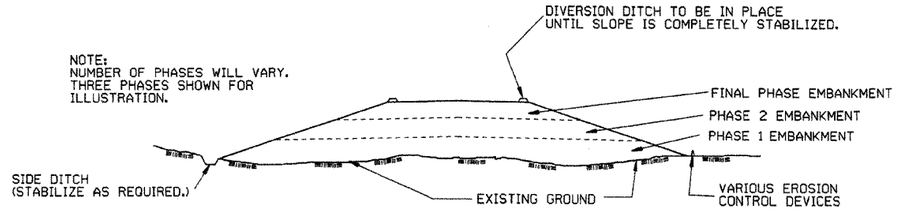
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

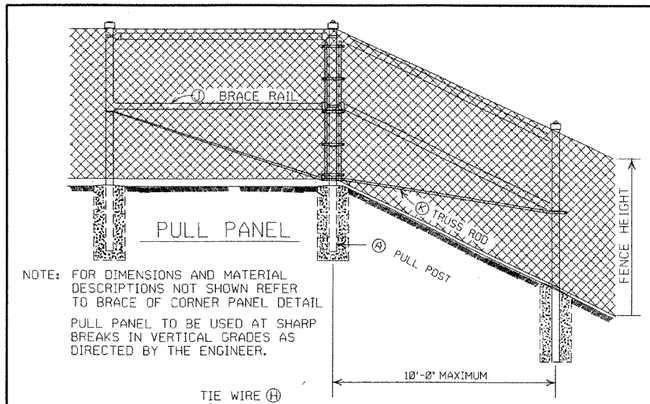
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

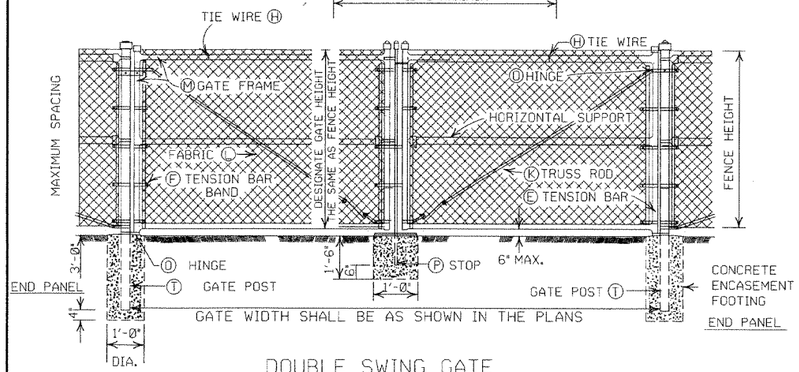
stdtec3.dgn



PULL PANEL

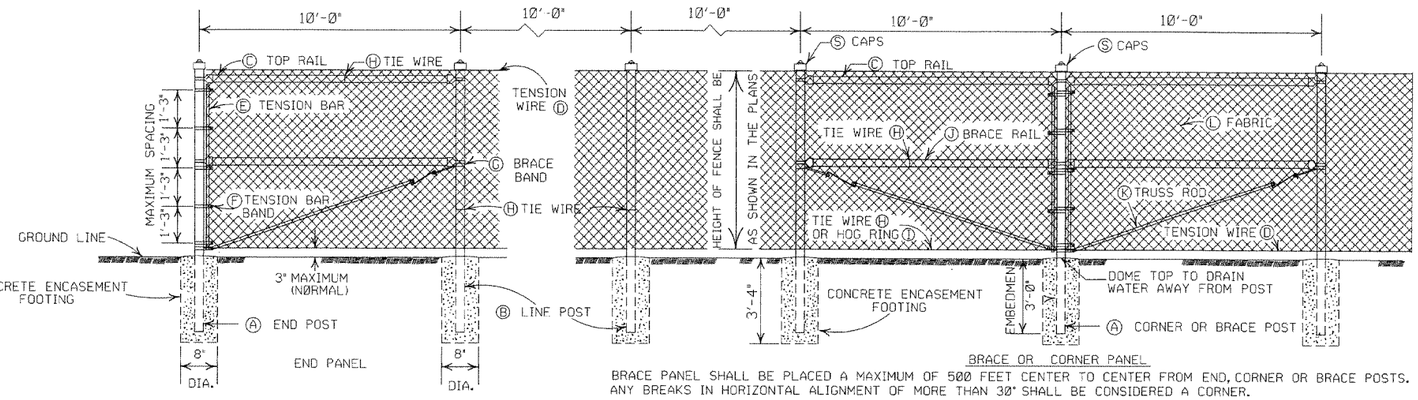
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



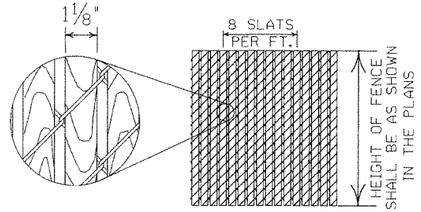
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

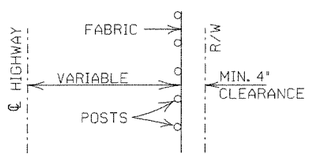
HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3" O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE .192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE .078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS.
9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

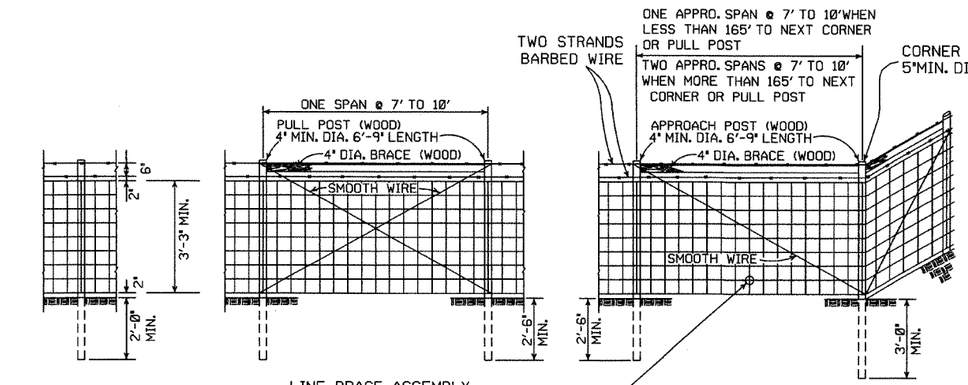
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

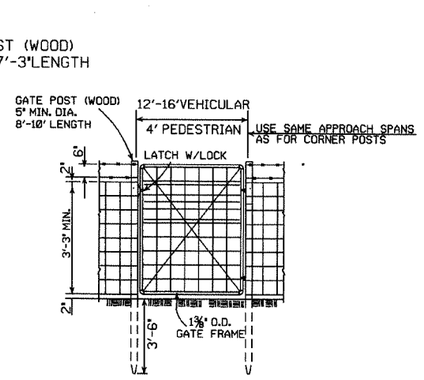
DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

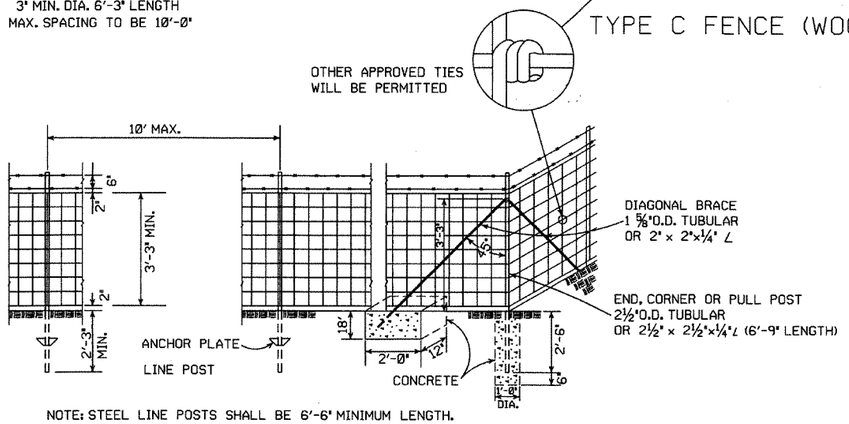
CHAIN LINK FENCE

STANDARD DRAWING WF-3

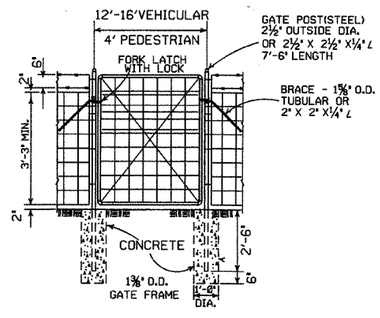


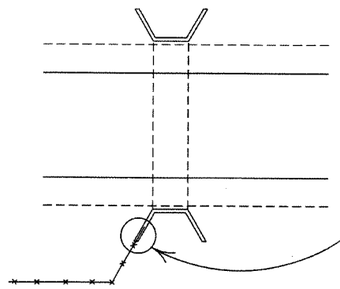


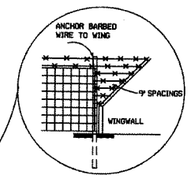
TYPE C FENCE (WOOD POSTS)



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.



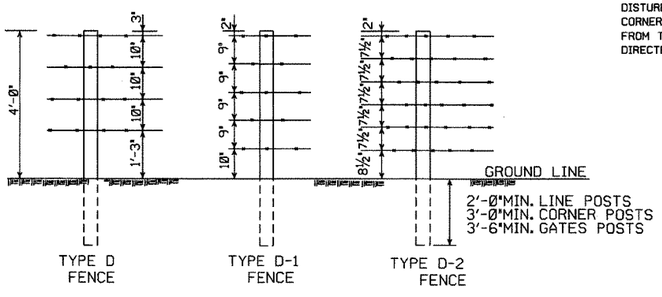




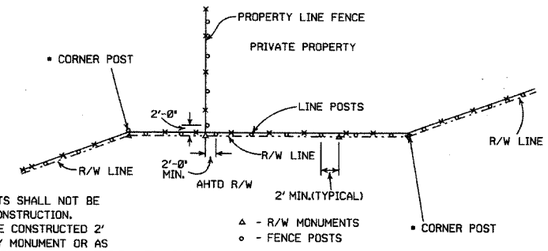
DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

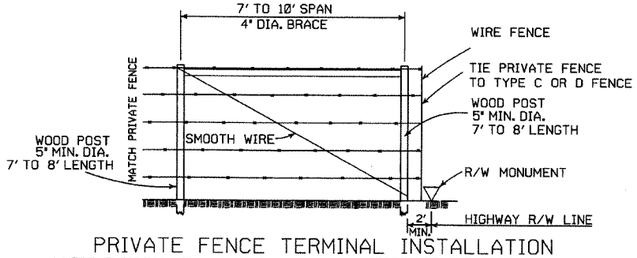


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.

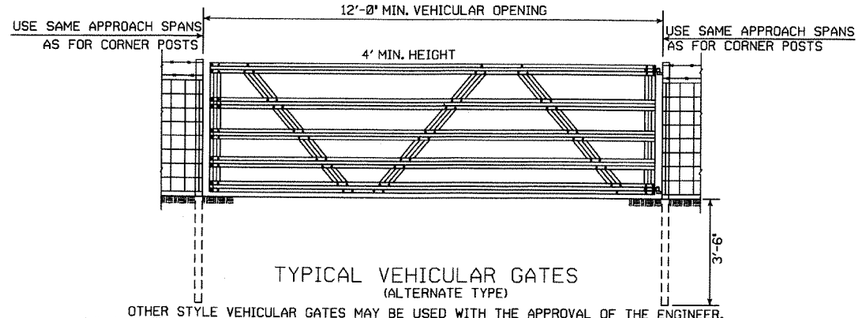


• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION
WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK)SHALL MEET THE APPROVAL OF THE ENGINEER.

GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

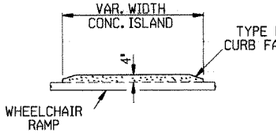
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

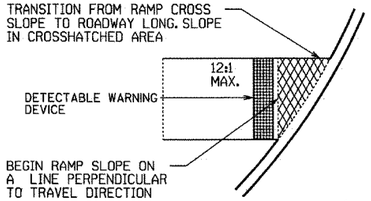
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

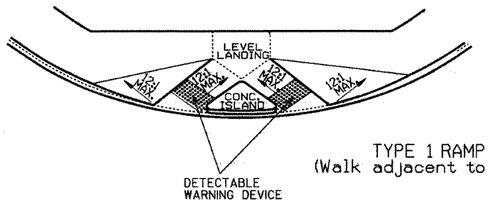
STANDARD DRAWING WF-4



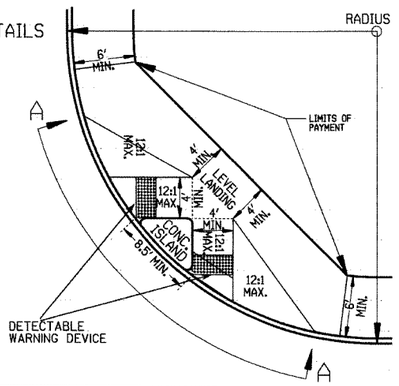
CONCRETE ISLAND DETAIL



SLOPE TRANSITION DETAILS



TYPE 1 RAMP
(Walk adjacent to curb)

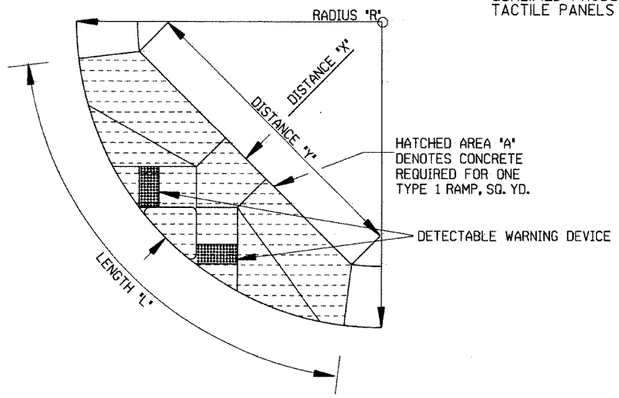




SECTION A-A

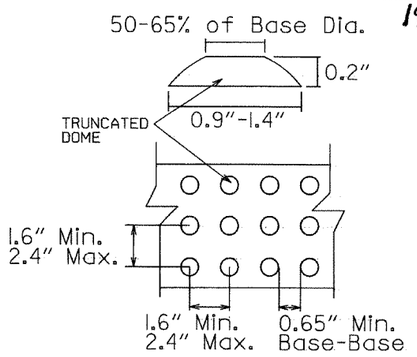
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS 'R' FEET	DISTANCE 'X' FEET	DISTANCE 'Y' FEET	LENGTH 'L' FEET	RAMP AREA 'A' 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

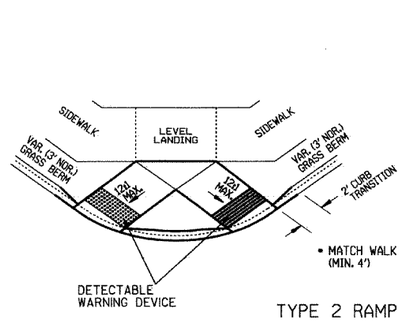
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT 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).



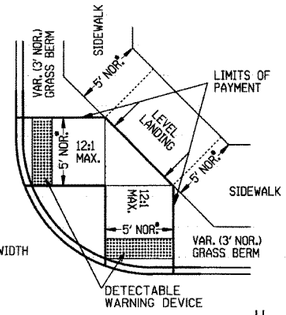
DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

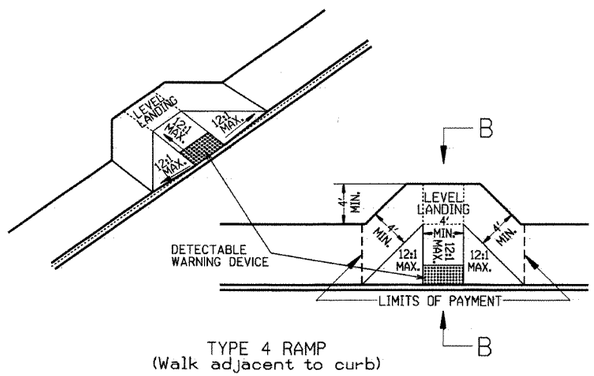
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK 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.



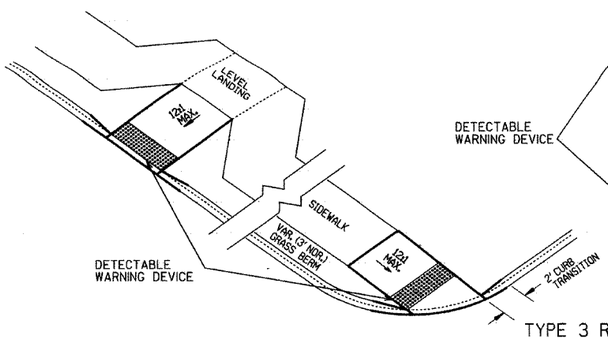
TYPE 2 RAMP



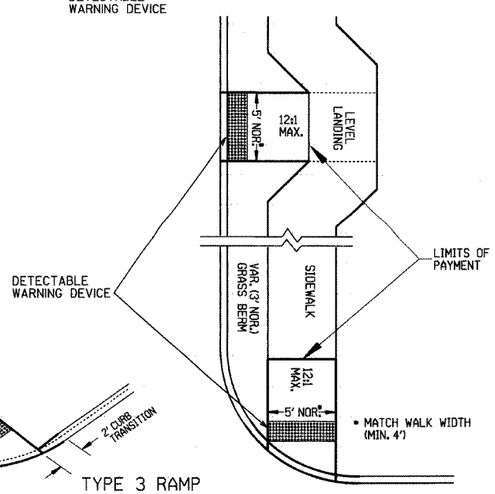
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

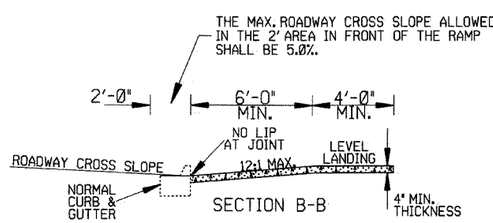


TYPE 4 RAMP
(Walk adjacent to curb)



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.

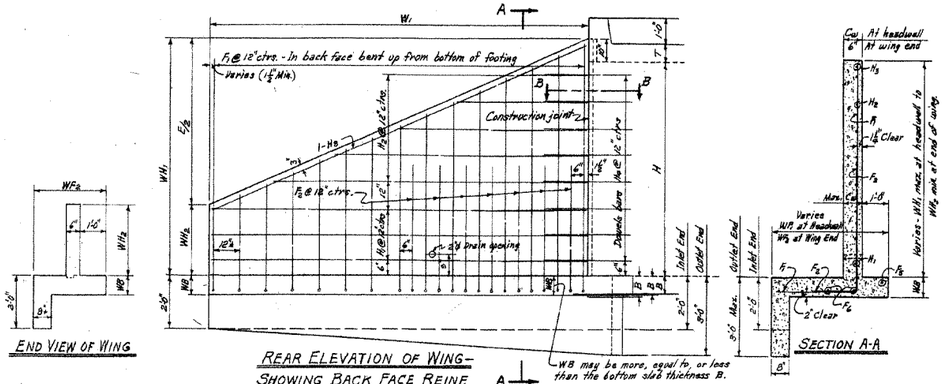
DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.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

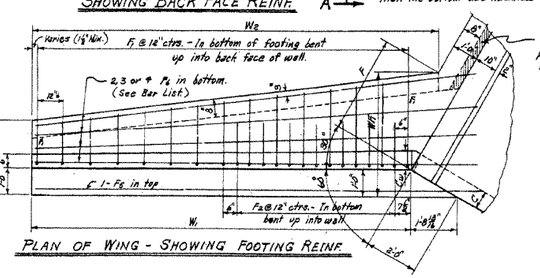
FED. ROAD No.	STATE	FED. AND PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			149	
JOB No.					



END VIEW OF WING

REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

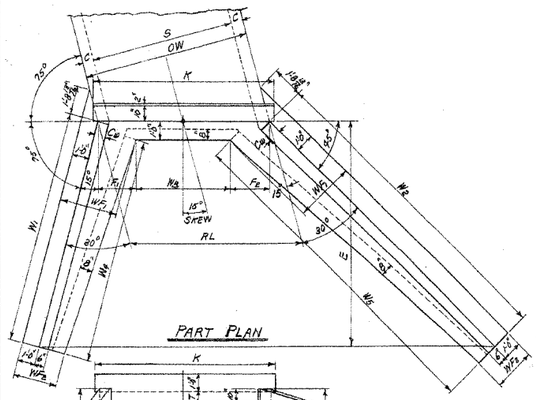
SECTION A-A



Revised 3-5-93

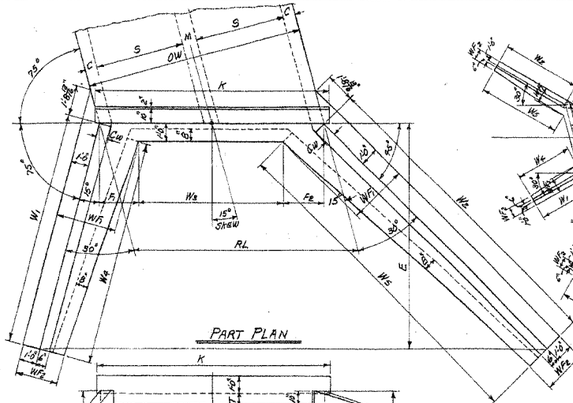
172

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			150	
JOB No.					



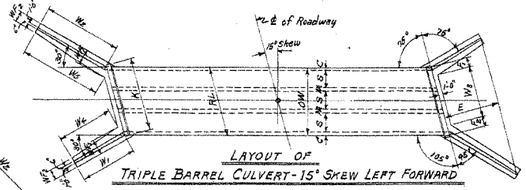
SINGLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed, see Layout below.

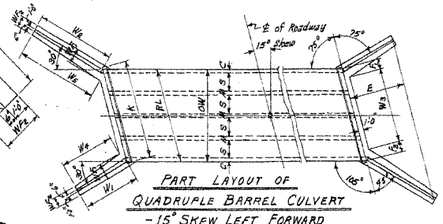


DOUBLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

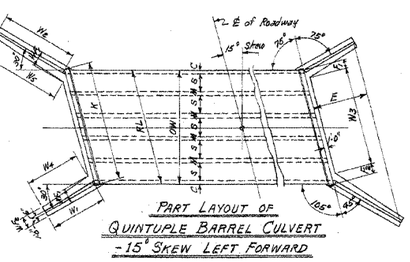
Details of Culvert with 15° Skew Left Forward is reversed, see Layout below.



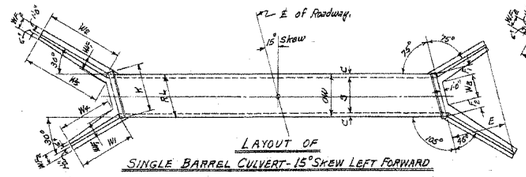
LAYOUT OF TRIPLE BARREL CULVERT - 15° SKEW LEFT FORWARD



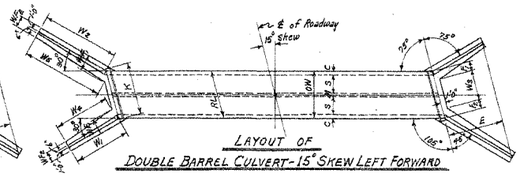
PART LAYOUT OF QUADRUPLE BARREL CULVERT - 15° SKEW LEFT FORWARD



PART LAYOUT OF QUINTUPLE BARREL CULVERT - 15° SKEW LEFT FORWARD



LAYOUT OF SINGLE BARREL CULVERT - 15° SKEW LEFT FORWARD



LAYOUT OF DOUBLE BARREL CULVERT - 15° SKEW LEFT FORWARD

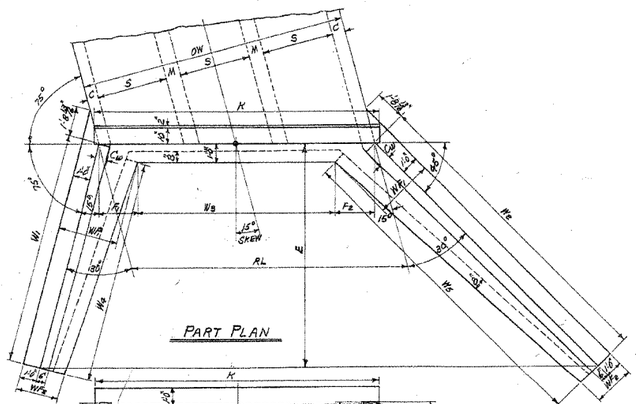
ROADWAY LENGTH RL — HEADWALL LENGTH K — APRON DIMENSION W_3

RL = OW x 1.035276 — K = RL + (6½") — W_3 = RL - (F_1 + F_2)

USE WITH DRAWING No.	CLEAR SPAN	CLEAR HEIGHT	SUM OF FOOTING 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
(FOR H=8'0" OR LESS) W-X152-1, W-X153-1 OR W-X154-1.	2'	2'-0"	5'-0"	5'-2⅛	5'-8⅝	3'-2½	9'-8"	14'-0"	14'-6⅜	8'-0"	18'-8"	18'-10"	15'-6½	12'-10"	23'-4"	23'-6"	26'-0⅝	22'-6"				
	3'	2'-3⅜	5'-0"	"	"	2'-3⅜	"	14'-0"	"	7'-2⅝	"	18'-8"	"	12'-0⅝	"	23'-4"	"	21'-8⅝					
	4'	2'-7"	5'-0"	"	"	2'-7"	"	14'-0"	"	6'-4⅝	"	18'-8"	"	11'-2⅝	"	23'-4"	"	20'-10⅝					
	5'	3'-0⅝	5'-0"	"	"	1'-0⅝	"	14'-0"	"	5'-6⅝	"	18'-8"	"	10'-4⅝	"	23'-4"	"	20'-0⅝					
	6'	3'-4⅜	5'-0"	"	"	0'-4⅜	"	14'-0"	"	4'-8⅝	"	18'-8"	"	9'-6⅝	"	23'-4"	"	19'-2⅝					
4'	2'	2'-0"	5'-0"	5'-2⅛	5'-8⅝	3'-2½	9'-8"	14'-0"	14'-6⅜	8'-0"	18'-8"	18'-10"	15'-6½	12'-10"	23'-4"	23'-6"	26'-0⅝	22'-6"				
	3'	2'-3⅜	5'-0"	"	"	2'-3⅜	"	14'-0"	"	7'-2⅝	"	18'-8"	"	12'-0⅝	"	23'-4"	"	21'-8⅝					
	4'	2'-7"	5'-0"	"	"	2'-7"	"	14'-0"	"	6'-4⅝	"	18'-8"	"	11'-2⅝	"	23'-4"	"	20'-10⅝					
	5'	3'-0⅝	5'-0"	"	"	1'-0⅝	"	14'-0"	"	5'-6⅝	"	18'-8"	"	10'-4⅝	"	23'-4"	"	20'-0⅝					
	6'	3'-4⅜	5'-0"	"	"	0'-4⅜	"	14'-0"	"	4'-8⅝	"	18'-8"	"	9'-6⅝	"	23'-4"	"	19'-2⅝					
5'	2'	2'-0"	6'-0"	6'-2⅝	6'-9"	3'-9⅛	11'-6"	16'-8"	17'-0⅜	9'-3⅛	22'-3"	21'-0"	18'-6⅝	15'-1½	28'-0"	28'-0"	31'-0⅝	26'-10⅛					
	3'	2'-3⅜	6'-0"	"	"	2'-7"	"	16'-8"	"	8'-5⅛	"	21'-0"	"	14'-3⅜	"	28'-0"	"	25'-2⅛					
	4'	2'-7"	6'-0"	"	"	2'-0⅝	"	16'-8"	"	7'-7⅛	"	21'-0"	"	13'-6"	"	28'-0"	"	24'-4⅛					
	5'	3'-0⅝	6'-0"	"	"	1'-0⅝	"	16'-8"	"	6'-9⅛	"	21'-0"	"	12'-8⅜	"	28'-0"	"	23'-6⅛					
	6'	3'-4⅜	6'-0"	"	"	0'-4⅜	"	16'-8"	"	6'-0⅛	"	21'-0"	"	11'-10⅝	"	28'-0"	"	22'-8⅛					
	7'	3'-7⅞	6'-0"	"	"	0'-1⅜	"	16'-8"	"	5'-3⅛	"	21'-0"	"	11'-1"	"	28'-0"	"	21'-11⅛					
6'	2'	2'-0"	7'-0"	7'-3"	7'-9½"	4'-3⅝	13'-8"	19'-1⅝	19'-6⅝	11'-4"	26'-5"	25'-0"	22'-1⅝	18'-2⅝	33'-8"	33'-0"	37'-0⅝	32'-0⅛					
	3'	2'-3⅜	7'-0"	"	"	3'-7⅜	"	19'-8"	"	10'-6⅝	"	26'-4"	"	16'-7⅝	"	33'-8"	"	30'-0⅝					
	4'	2'-7"	7'-0"	"	"	2'-9⅝	"	19'-8"	"	9'-8⅝	"	26'-4"	"	15'-10⅝	"	33'-8"	"	29'-2⅝					
	5'	3'-0⅝	7'-0"	"	"	1'-9⅝	"	19'-8"	"	8'-11⅛	"	26'-4"	"	15'-1⅛	"	33'-8"	"	28'-4⅛					
	6'	3'-4⅜	7'-0"	"	"	0'-4⅜	"	19'-8"	"	8'-0⅛	"	26'-4"	"	14'-3⅜	"	33'-8"	"	27'-6⅛					
	7'	3'-7⅞	7'-0"	"	"	0'-1⅜	"	19'-8"	"	7'-3⅛	"	26'-4"	"	13'-6"	"	33'-8"	"	26'-8⅛					
7'	2'	2'-0"	8'-0"	8'-3⅜	8'-9½"	4'-7⅛	15'-8"	16'-2⅝	16'-9"	12'-7"	30'-7"	29'-1⅛	25'-8"	21'-3"	38'-8"	38'-0"	42'-1⅛	36'-9⅝					
	3'	2'-3⅜	8'-0"	"	"	3'-11⅜	"	22'-8"	"	11'-9⅝	"	30'-7"	"	20'-8⅛	"	38'-8"	"	35'-1⅛					
	4'	2'-7"	8'-0"	"	"	3'-1⅜	"	22'-8"	"	10'-11⅛	"	30'-7"	"	19'-10⅝	"	38'-8"	"	34'-3⅛					
	5'	3'-0⅝	8'-0"	"	"	2'-3⅝	"	22'-8"	"	10'-0⅝	"	30'-7"	"	19'-1⅛	"	38'-8"	"	33'-5⅛					
	6'	3'-4⅜	8'-0"	"	"	1'-4⅜	"	22'-8"	"	9'-2⅝	"	30'-7"	"	18'-3⅜	"	38'-8"	"	32'-7⅛					
	7'	3'-7⅞	8'-0"	"	"	0'-7⅞	"	22'-8"	"	8'-5⅝	"	30'-7"	"	17'-6"	"	38'-8"	"	31'-9⅛					
	8'	4'-1⅜	8'-0"	"	"	0'-1⅜	"	22'-8"	"	7'-7⅝	"	30'-7"	"	16'-8⅝	"	38'-8"	"	30'-11⅛					
8'	2'	2'-0"	9'-0"	9'-3⅜	9'-10⅝	5'-0⅝	17'-8"	18'-2⅝	18'-10"	14'-0"	34'-2"	32'-2⅛	28'-8"	24'-3⅝	43'-8"	43'-0"	47'-3⅛	41'-3⅝					
	3'	2'-3⅜	9'-0"	"	"	4'-3⅜	"	25'-8"	"	13'-0⅝	"	34'-2"	"	23'-2⅝	"	43'-8"	"	40'-1⅛					
	4'	2'-7"	9'-0"	"	"	3'-5⅜	"	25'-8"	"	12'-2⅝	"	34'-2"	"	22'-4⅜	"	43'-8"	"	39'-3⅛					
	5'	3'-0⅝	9'-0"	"	"	2'-7⅝	"	25'-8"	"	11'-5⅛	"	34'-2"	"	21'-7⅛	"	43'-8"	"	38'-5⅛					
	6'	3'-4⅜	9'-0"	"	"	1'-8⅜	"	25'-8"	"	10'-7⅝	"	34'-2"	"	20'-9⅜	"	43'-8"	"	37'-7⅛					
	7'	3'-7⅞	9'-0"	"	"	1'-1⅞	"	25'-8"	"	9'-10⅝	"	34'-2"	"	20'-0⅝	"	43'-8"	"	36'-9⅛					
	8'	4'-1⅜	9'-0"	"	"	0'-5⅜	"	25'-8"	"	9'-1⅝	"	34'-2"	"	19'-3⅝	"	43'-8"	"	35'-11⅛					
9'	2'	2'-0"	10'-0"	10'-3⅜	10'-10⅝	6'-1"	19'-11"	20'-7⅛	21'-2"	16'-2"	38'-11"	36'-3⅛	32'-3"	27'-4⅝	49'-8"	48'-6"	53'-4⅛	46'-5⅝					
	3'	2'-3⅜	10'-0"	10'-7⅜	11'-1⅝	5'-1⅜	25'-1"	32'-0"	32'-6⅜	17'-5⅝	43'-6"	40'-4⅛	35'-8"	30'-5⅝	54'-8"	53'-6"	58'-5⅛	51'-5⅝					
	4'	2'-7"	10'-0"	"	"	4'-2½	"	32'-0"	"	16'-3⅝	"	43'-6"	"	29'-6⅝	"	54'-8"	"	52'-6⅛					
	5'	3'-0⅝	10'-0"	"	"	3'-4⅝	"	32'-0"	"	15'-6⅛	"	43'-6"	"	28'-9⅝	"	54'-8"	"	51'-8⅛					
	6'	3'-4⅜	10'-0"	"	"	2'-5⅜	"	32'-0"	"	14'-8⅝	"	43'-6"	"	27'-11⅝	"	54'-8"	"	50'-10⅛					
	7'	3'-7⅞	10'-0"	"	"	1'-8⅞	"	32'-0"	"	13'-11⅛	"	43'-6"	"	27'-2⅝	"	54'-8"	"	50'-0⅛					
	8'	4'-1⅜	10'-0"	"	"	1'-2⅜	"	32'-0"	"	13'-1⅝	"	43'-6"	"	26'-5⅜	"	54'-8"	"	49'-2⅛					
10'	2'	2'-0"	11'-0"	11'-3⅜	11'-11⅝	7'-1⅞	21'-11"	22'-8⅛	23'-3⅝	18'-8"	43'-1"	40'-5⅛	36'-1"	31'-6⅝	54'-8"	53'-6"	58'-5⅛	51'-5⅝					
	3'	2'-3⅜	11'-3"	11'-7⅝	12'-2⅛	6'-1⅝	32'-1"	32'-10⅝	33'-5⅝	19'-7⅝	49'-1"	46'-5⅛	41'-1"	36'-6⅝	62'-8"	61'-6"	66'-5⅛	59'-5⅝					
	4'	2'-7"	11'-3"	"	"	5'-1⅜	"	32'-1"	"	18'-4⅝	"	49'-1"	"	33'-7⅝	"	62'-8"	"	60'-6⅛					
	5'	3'-0⅝	11'-3"	"	"	4'-3⅝	"	32'-1"	"	17'-7⅛	"	49'-1"	"	32'-10⅝	"	62'-8"	"	59'-8⅛					
	6'	3'-4⅜	11'-3"	"	"	3'-4⅜	"	32'-1"	"	16'-9⅝	"	49'-1"	"	32'-0⅝	"	62'-8"	"	58'-8⅛					
	7'	3'-7⅞	11'-3"	"	"	2'-7⅞	"	32'-1"	"	16'-0⅝	"	49'-1"	"	31'-3⅝	"	62'-8"	"	57'-10⅛					
	8'	4'-1⅜	11'-3"	"	"	2'-1⅜	"	32'-1"	"	15'-3⅝	"	49'-1"	"	30'-6⅜	"	62'-8"	"	57'-0⅛					
11'	2'	2'-0"	12'-0"	12'-3⅜	12'-11⅝	8'-1⅞	23'-11"	24'-8⅛	25'-3⅝	20'-7⅝	47'-1"	44'-5⅛	40'-1"	35'-6⅝	62'-8"	61'-6"	66'-5⅛	59'-5⅝					
	3'	2'-3⅜	12'-0"	12'-7⅝	13'-2⅛	7'-1⅝	35'-1"	35'-10⅝	36'-5⅝	21'-7⅝	53'-6"	50'-4⅛	45'-1"	40'-6⅝	70'-8"	69'-6"	74'-5⅛	67'-5⅝					
	4'	2'-7"	12'-0"	"	"	6'-1⅜	"	35'-1"	"	20'-4⅝	"	53'-6"	"	37'-6⅝	"	70'-8"	"	68'-6⅛					
	5'	3'-0⅝	12'-0"	"	"	5'-3⅝	"	35'-1"	"	19'-7⅛	"	53'-6"	"	36'-10⅝	"	70'-8"	"	67'-8⅛					
	6'	3'-4⅜	12'-0"	"	"	4'-4⅜	"	35'-1"	"	18'-9⅝	"	53'-6"	"	36'-0⅝	"	70'-8"	"	66'-8⅛					
	7'	3'-7⅞	12'-0"	"	"	3'-7⅞	"	35'-1"	"	18'-0⅝	"	53'-6"	"	35'-3⅝	"	70'-8"	"	65'-10⅛					
	8'	4'-1⅜	12'-0"	"	"	3'-1⅜	"	35'-1"	"	17'-3⅝	"	53'-6"	"	34'-6⅜	"	70'-8"	"	65'-0⅛					
12'	2'	2'-0"	13'-0"	13'-3⅜	13'-11⅝	9'-2⅞	25'-11"	26'-8⅛	27'-3⅝	22'-7⅝	51'-1"	48'-5⅛	44'-1"	39'-6⅝	76'-8"	75'-6"	80'-5⅛	73'-5⅝					
	3'	2'-3⅜	13'-0"	13'-7⅝	14'-2⅛	8'-1⅝	38'-1"	38'-10⅝	39'-5⅝	23'-7⅝	58'-6"	55'-4⅛	50'-1"	45'-6⅝	78'-8"	77'-6"	82'-5⅛	75'-5⅝					
	4'	2'-7"	13'-0"	"	"	7'-1⅜	"	38'-1"	"	22'-4⅝	"	58'-6"	"	41'-6⅝	"	78'-8"	"	76'-6⅛					
	5'	3'-0⅝	13'-0"	"	"	6'-3⅝	"	38'-1"	"	21'-7⅛	"	58'-6"	"	40'-10⅝	"	78'-8"	"	75'-8⅛					
	6'	3'-4⅜	13'-0"	"	"	5'-4⅜	"	38'-1"	"	20'-9⅝	"	58'-6"	"	40'-0⅝	"	78'-8"	"	74'-8⅛					
	7'	3'-7⅞	13'-0"	"	"	4'-7⅞	"	38'-1"	"	20'-0⅝	"	58'-6"	"	39'-3⅝	"	78'-8"	"	73'-10⅛					
	8'	4'-1⅜	13'-0"	"	"	4'-1⅜	"	38'-1"	"	19'-3⅝	"	58'-6"	"	38'-6⅜	"	78'-8"	"	73'-0⅛					

Ⓐ Special case for these boxes, See Detail 'A' and Table 'A' for revised values of F_1, F_2, W_4 and W_5, when apron width is more than 10' and W_4 = 0. For Details 'A' and Table '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.

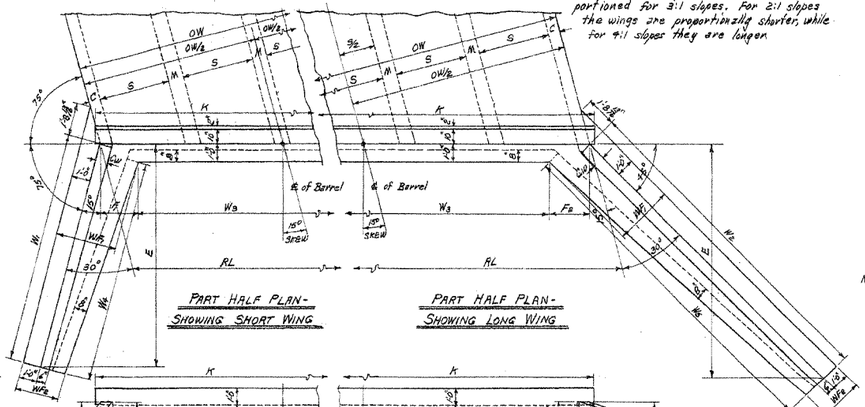
NOTE:- The length of the wings for the Plans, Elevations, and Layouts, as drawn, are proportioned for 3:1 slopes. For 2:1 slopes the wings are proportionally shorter, while for 4:1 slopes they are longer.

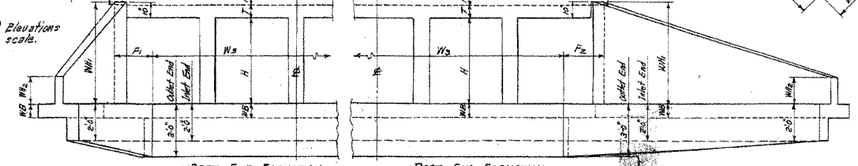


TRIPLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

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.

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

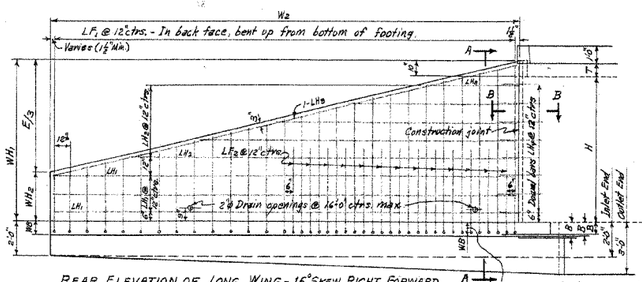
4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS — 2:1, 3:1 & 4:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER H = 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12.

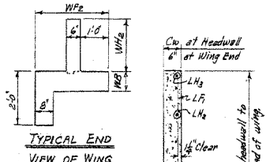
STANDARD DRAWING NO. W-X15

Designed by:- W.C.H. 5-22-63
Traced by:- W.C.H. 6-19-63
Quantities by:-
Checked by:-
Checked by:- J.E.M. 6-20-63
Checked by:-

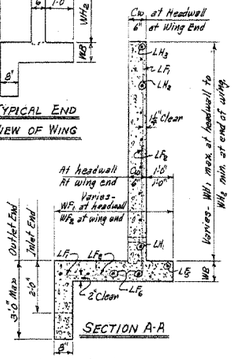
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			151	
JOB No.					



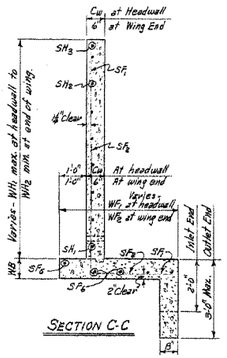
REAR ELEVATION OF LONG WING - 15° SKEW RIGHT FORWARD
SHOWING BACK FACE REINFORCING



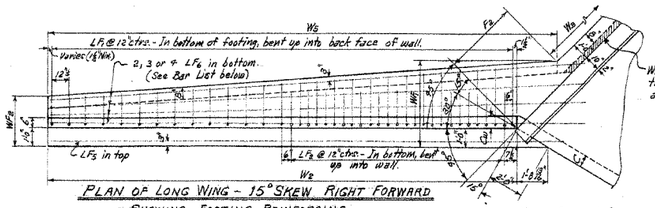
TYPICAL END VIEW OF WING



SECTION A-A



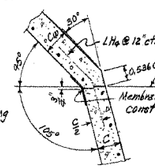
SECTION C-C



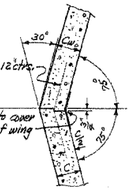
PLAN OF LONG WING - 15° SKEW RIGHT FORWARD
SHOWING FOOTING REINFORCING.

When B is more than WB, the shaded portion of the apron shall be made the same thickness as the bottom slab B.

NOTE:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

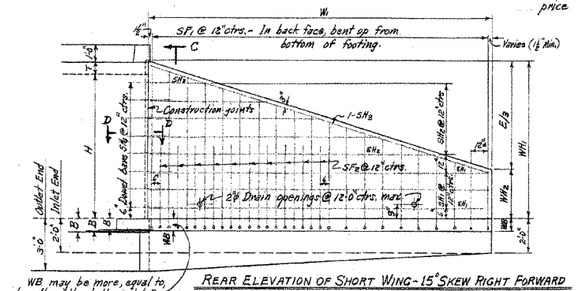


SECTION B-B



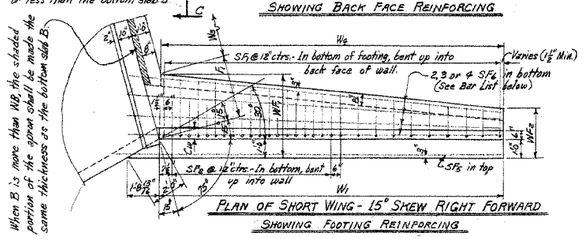
SECTION D-D

SECTIONS THRU CONSTRUCTION JOINTS

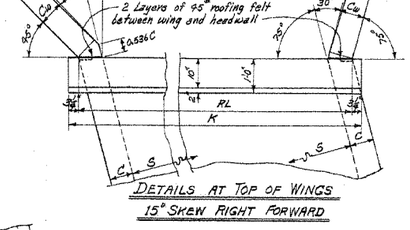


WB may be more, equal to, or less than the bottom slab B

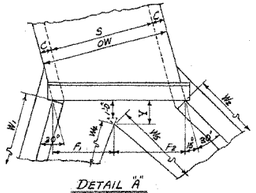
REAR ELEVATION OF SHORT WING - 15° SKEW RIGHT FORWARD
SHOWING BACK FACE REINFORCING



PLAN OF SHORT WING - 15° SKEW RIGHT FORWARD
SHOWING FOOTING REINFORCING



DETAILS AT TOP OF WINGS
15° SKEW RIGHT FORWARD



DETAIL "A"

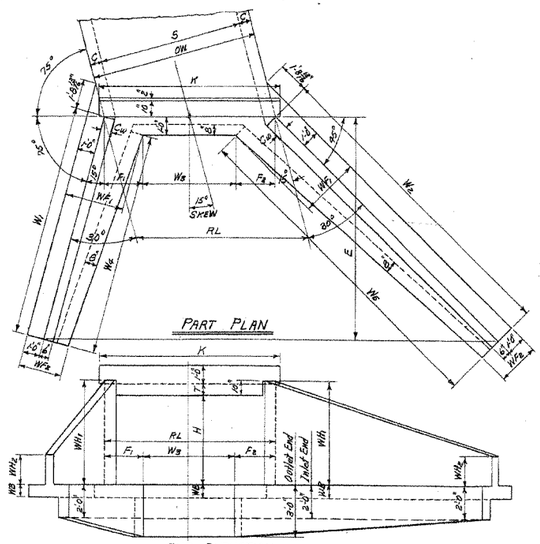
TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F_1	F_2	W_4	W_5	W_3	Y
5'	7'	3'-0"	3'-5⅝"	16'-10⅝"	25'-0⅜"	0"	1'-0½"
6'	8'	3'-6"	4'-1⅜"	19'-0⅛"	28'-3½"	0"	1'-1"

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 DIMENSION PARALLEL WITH HEADWALL		PERPENDICULAR DIST. FROM HDWL. TO END OF WING	LENGTHS OF WINGWALLS		INSIDE FOOTING DIMENSIONS		* QUANTITY PER WING			
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING	SHORT WING	LONG WING		SHORT WING	LONG WING	SHORT WING	LONG WING	CLASS S CONCRETE INLET END		CLASS S CONCRETE OUTLET END	
														SHORT WING	LONG WING	SHORT WING	LONG WING
H	WB	C_W	WH_1	WH_2	WF_1	WF_2	F_1	F_2	E	W_1	W_2	W_4	W_5	CU.YD.	CU.YD.	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-8"	2'-0"	1'-1⅜"	0'-10⅝"	6'-6"	6'-8⅝"	9'-2⅛"	6'-0⅛"	9'-1⅝"	0.789	1.094	0.876	1.212
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1⅝"	1'-5⅛"	1'-1⅜"	6'-6"	8'-3⅝"	12'-0⅛"	8'-2⅝"	12'-3⅛"	1.184	1.650	1.300	1.808
4'	7"	6"	4'-10"	1'-8"	3'-0"	2'-3"	1'-9⅜"	1'-1⅝"	10'-6"	10'-10⅝"	14'-10⅛"	10'-9⅛"	15'-5⅛"	1.656	2.305	1.797	2.502
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅜"	1'-5⅛"	12'-6"	12'-11⅛"	17'-8⅝"	12'-6⅝"	18'-7⅛"	2.194	3.059	2.363	3.295
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅜"	2'-5⅛"	12'-6"	12'-11⅛"	17'-9⅛"	12'-6⅛"	18'-7⅛"	2.207	3.188	2.455	3.429
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅜"	2'-9⅛"	14'-6"	15'-0⅛"	20'-6"	14'-9⅛"	21'-9"	3.052	4.262	3.296	4.517
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅜"	2'-9⅛"	14'-6"	15'-0⅛"	20'-6"	14'-9⅛"	21'-9"	3.114	4.329	3.309	4.605
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅜"	2'-9⅛"	14'-6"	15'-0⅛"	20'-6"	14'-9⅛"	21'-9"	3.177	4.417	3.371	4.693
® 7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-10½"	3'-0⅜"	3'-4⅛"	16'-6"	17'-1"	23'-4"	16'-10⅜"	25'-1"	3.998	5.560	4.220	5.877
		8"	7'-10"	2'-4"	4'-2"	2'-10½"	3'-0⅜"	3'-4⅛"	16'-6"	17'-1"	23'-4"	16'-10⅜"	25'-1"	4.079	5.675	4.301	5.991
® 8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-4⅝"	4'-2⅛"	18'-6"	19'-1⅝"	26'-2"	19'-1½"	28'-5"	5.111	7.111	5.360	7.470

* Quantity per wing does not include headwall or that portion of apron or footwall for the length W_3.
® See Table 'A' for special values of F_1 & F_2 and W_4 & W_5 for Single 5'x7' and 6'x8' Box Culverts.



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

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 W_3 for each box, see the above Std. also.

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 construction joints in wings.

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, TIEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W	WB	LB.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.
4'	2'	6"	7"	117	4.79	5.78	6.77	7.77	8.76
	3'	6"	7"	176	6.65	7.69	8.63	9.63	10.62
	4'	6"	7"	267	8.85	9.89	10.84	11.83	12.82
	5'	6"	7"	379	11.40	12.38	13.38	14.37	15.36
	6'	7"	8"	626	15.95	16.96	17.98	18.51	19.53
5'	3'	6"	7"	176	6.87	8.07	9.28	10.48	11.69
	4'	6"	7"	267	9.08	10.28	11.49	12.69	13.90
	5'	6"	7"	379	11.41	12.81	14.02	15.23	16.44
	6'	7"	8"	626	15.67	16.90	18.14	19.38	20.61
	7'	7½"	8½"	1210	20.11	21.34	22.62	23.88	25.14
6'	3'	6"	7"	176	7.09	8.52	9.92	11.34	12.78
	4'	6"	7"	267	9.39	10.73	12.13	13.54	14.98
	5'	6"	7"	379	11.83	13.26	14.67	16.10	17.53
	6'	7"	8"	626	15.85	17.35	18.79	20.25	21.70
	7'	7½"	8½"	1210	20.33	21.81	23.28	24.74	26.24
	8'	8"	9"	1533	25.56	27.05	28.53	30.02	31.50
7'	4'	6"	7"	267	9.52	11.18	12.81	14.47	16.09
	5'	6"	7"	379	12.05	13.72	15.35	17.01	18.63
	6'	7"	8"	626	16.12	17.80	19.45	21.18	22.78
	7'	7½"	8½"	1210	20.56	22.24	23.84	25.48	27.33
	8'	8"	9"	1533	25.80	27.50	29.20	30.90	32.60
8'	4'	6"	7"	267	9.75	11.65	13.51	15.41	17.23
	5'	7"	7"	379	12.74	14.49	16.55	18.47	20.31
	6'	7"	8"	626	16.38	18.26	20.14	22.06	23.90
	7'	7½"	8½"	1210	20.78	22.72	24.62	26.55	28.42
	8'	8"	9"	1533	26.08	27.96	29.86	31.80	33.71
9'	5'	7"	7"	379	12.99	14.75	17.25	19.40	21.45
	6'	7½"	8"	626	16.89	18.07	21.19	23.34	25.42
	7'	7½"	8½"	1210	21.01	23.19	25.31	27.98	29.54
	8'	8"	9"	1533	26.25	28.92	30.55	32.72	35.28
10'	5'	7"	7"	379	18.25	16.42	17.95	20.24	22.59
	6'	7½"	8"	626	17.19	19.56	21.89	24.20	26.56
	7'	7½"	8½"	1210	21.44	23.66	26.01	28.32	30.68
	8'	8"	9"	1533	26.46	28.89	31.25	33.54	35.92
11'	6'	8"	8"	626	17.67	20.39	22.92	25.98	——
	7'	8"	8½"	1210	21.88	24.55	27.13	29.69	——
	8'	8"	9"	1533	26.70	29.37	31.94	34.52	——
12'	6'	8"	8"	626	17.91	20.84	23.68	26.96	——
	7'	8"	8½"	1210	22.11	25.04	27.85	30.67	——
	8'	8"	9"	1533	26.93	29.86	32.67	35.49	——

® For reinforcing steel in Headwalls and Aprons, see Drawings listed below.

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 wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/sq in
Reinforcing Steel 20,000 #/sq in

NOTE:-
This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos.

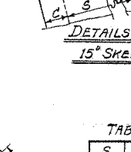
SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-115X-0	R-215X-0	R-315X-0	R-415X-0	R-515X-0
R-115X-1	R-215X-1	R-315X-1	R-415X-1	R-515X-1
	R-215X-2	R-315X-2		

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. SIZE	SPACING	NO. REQ'D	LENGTHS VARY MIN.	LENGTHS VARY MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	SF2 & LF2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	SF3 & LF3 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQ'D	LENGTH	SF4 & LF4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQ'D	LENGTH	SH1 & LH1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQ'D	LENGTH	SH2 & LH2 STRAIGHT: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQ'D	LENGTHS VARY MAX.	LENGTHS VARY MIN.	SH3 & LH3 STRAIGHT: In back face of wing at top - on slope. SIZE	NO. REQ'D	LENGTH	SH4 & LH4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQ'D	LENGTH	X
H	Short or Long																																								
2'	Short	#3	12"	7	1'-9"	3'-11"	0'-8"	1'-0"	1'-0"	3'-0"	—	—	—	—	—	—	#3	1	9'-2"	#3	2	7'-10"	#3	12"	1	6'-5"	#5	12"	1	—	3'-6"	#3	1	6'-10"	#3	12"	2	2'-8"	1'-5"
	Long	#3	12"	10	1'-9"	3'-11"	0'-8"	1'-0"	0'-10"	3'-0"	—	—	—	—	—	—	#3	1	11'-8"	#3	2	10'-10"	#3	12"	1	8'-1"	#5	12"	1	—	4'-8"	#3	1	9'-1"	#3	12"	2	"	"
3'	Short	#3	12"	9	2'-2"	5'-8"	0'-10"	1'-9"	1'-5"	4'-0"	—	—	—	—	—	—	#3	1	11'-8"	#3	2	10'-0"	#3	12"	1	8'-6"	#5	12"	2	6'-7"	3'-6"	#3	1	9'-0"	#3	12"	3	"	"
	Long	#3	12"	13	1'-11"	5'-2"	0'-10"	1'-3"	1'-2"	4'-0"	—	—	—	—	—	—	#3	1	14'-6"	#3	2	13'-0"	#3	12"	1	11'-9"	#5	12"	2	8'-11"	4'-8"	#3	1	12'-0"	#3	12"	3	"	"
4'	Short	#3	12"	11	2'-7"	6'-7"	0'-11"	1'-8"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	13'-8"	#3	3	12'-2"	#3	12"	1	10'-7"	#5	12"	3	9'-8"	3'-6"	#3	1	11'-2"	#3	12"	4	"	"
	Long	#3	12"	15	2'-6"	6'-6"	0'-11"	1'-7"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	17'-8"	#3	3	17'-2"	#3	12"	1	16'-7"	#5	12"	3	13'-2"	4'-8"	#3	1	16'-1"	#3	12"	4	"	"
5'	Short	#3	12"	13	3'-1"	7'-11"	1'-1"	2'-1"	2'-1"	6'-0"	#3	12"	4	8'-6"	1'-1"	2'-6"	#3	1	15'-5"	#3	3	14'-4"	#3	12"	2	12'-8"	#5	12"	3	9'-8"	3'-6"	#3	1	11'-2"	#3	12"	5	"	"
	Long	#3	12"	18	3'-0"	7'-10"	1'-1"	1'-11"	2'-0"	6'-0"	#3	12"	5	9'-6"	1'-1"	2'-6"	#3	1	20'-2"	#3	3	20'-9"	#3	12"	2	17'-5"	#5	12"	3	13'-2"	4'-8"	#3	1	17'-10"	#3	12"	5	"	"
6'	Short	#4	12"	16	3'-4"	9'-4"	1'-2"	2'-4"	2'-5"	7'-1"	#3	12"	4	9'-6"	1'-4"	3'-3"	#3	1	17'-6"	#3	3	16'-6"	#3	12"	2	16'-9"	#5	12"	4	12'-9"	3'-6"	#3	1	15'-6"	#3	12"	6	"	"
	Long	#4	12"	21	3'-5"	9'-3"	1'-2"	2'-3"	2'-4"	7'-1"	#3	12"	5	9'-6"	1'-4"	3'-3"	#3	1	23'-0"	#3	3	23'-4"	#3	12"	2	20'-3"	#5	12"	4	17'-5"	4'-8"	#3	1	20'-9"	#3	12"	6	2'-8"	1'-4"
7'	Short	#4	12"	18	3'-9"	10'-10"	1'-3"	2'-10"	2'-7"	8'-1"	#4	12"	7	5'-4"	1'-9"	4'-0"	#4	1	19'-7"	#3	4	18'-9"	#4	12"	2	16'-10"	#4	12"	5	15'-10"	3'-6"	#4	1	17'-8"	#4	12"	7	3'-6"	1'-9"
	Long	#4	12"	24	3'-10"	10'-8"	1'-3"	2'-10"	2'-8"	8'-1"	#4	12"	9	5'-4"	1'-7"	4'-0"	#4	1	25'-10"	#4	4	26'-10"	#4	12"	2	23'-1"	#4	12"	5	21'-8"	4'-8"	#4	1	23'-8"	#4	12"	7	"	"
8'	Short	#4	12"	20	4'-2"	12'-5"	1'-5"	3'-4"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	21'-8"	#4	4	21'-0"	#4	12"	2	18'-11"	#4	12"	5	15'-10"	3'-6"	#4	1	19'-10"	#4	12"	8	3'-6"	1'-9"
	Long	#4	12"	27	4'-4"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	13	6'-6"	1'-10"	4'-9"	#4	1	28'-8"	#4	4	30'-3"	#4	12"	3	25'-11"	#4	12"	5	21'-8"	4'-8"	#4	1	26'-7"	#4	12"	8	3'-6"	1'-9"

NOTE:- Bars for short wing shall be marked with prefix letter 'S', while those for long wing shall be marked with letter 'L'.

BAR BENDING DIAGRAM



Note:- Dimensions are to bar centers.

QUANTITY REINFORCING STEEL PER WING - LBS.	SHORT WING	LONG WING
	24.9	33.4
	37.7	50.3
	57.3	76.4
	81.1	108.4
	134.8	178.1
	259.5	345.2
	328.0	438.3

REVISIONS:- Membrane Added. 5-10-66 W.C.H.

Designed By- W.C.H. 5-13-63
Drawn By- W.C.H. 6-20-63
Quantities By- W.C.H. 9-23-63
Checked By- RMS- 8-7-63
Checked By-
Checked By-

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 — 3:1 SLOPES
SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

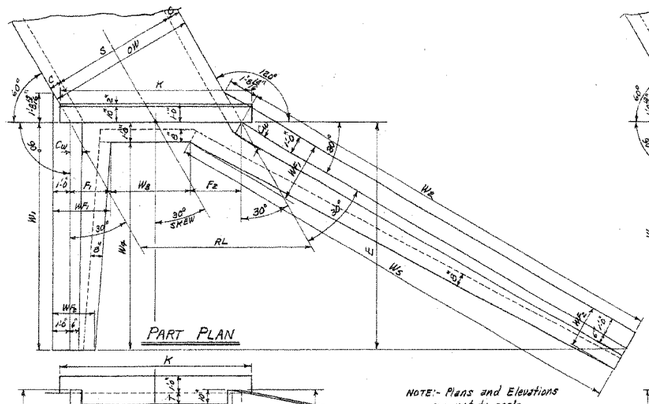
CLASS S CONCRETE

STANDARD DRAWING NO. W-X153-1

Reshot 3-8-93

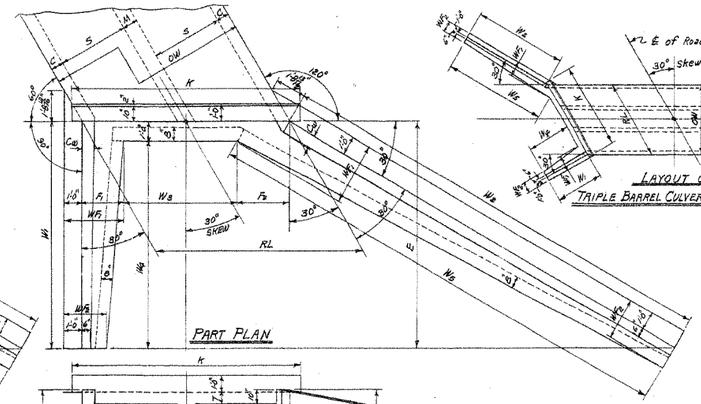
191

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			152	
JOB No.					



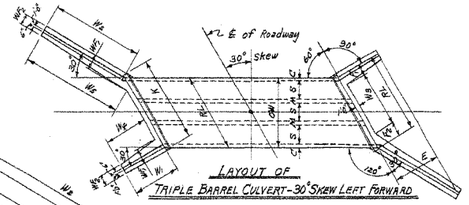
SINGLE BARREL CULVERT-30°SKEW RIGHT FORWARD

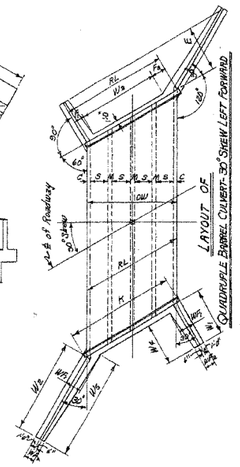
Details of Culvert with 30°Skew Left Forward is reversed, see Layout below.



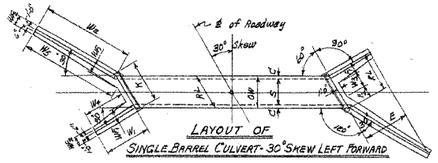
DOUBLE BARREL CULVERT-30°SKEW RIGHT FORWARD

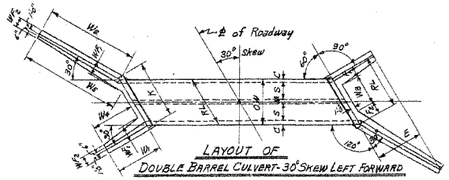
Details of Culvert with 30°Skew Left Forward is reversed, see Layout below.

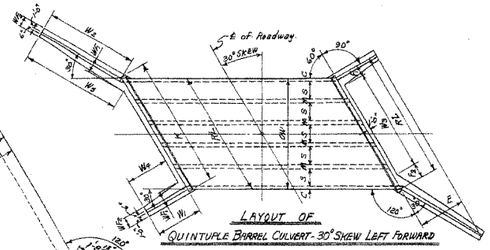


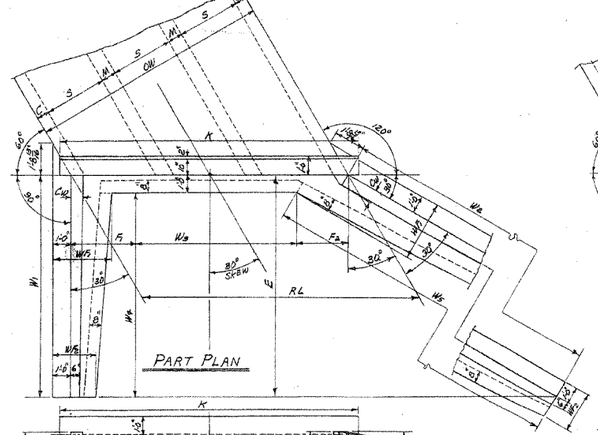


NOTE:- The length of the wings for the Plans, Elevations, and Layouts, as drawn, are proportioned for 3:1 slopes. For 2:1 slopes the wings are proportionally shorter, while for 4:1 slopes they are longer.



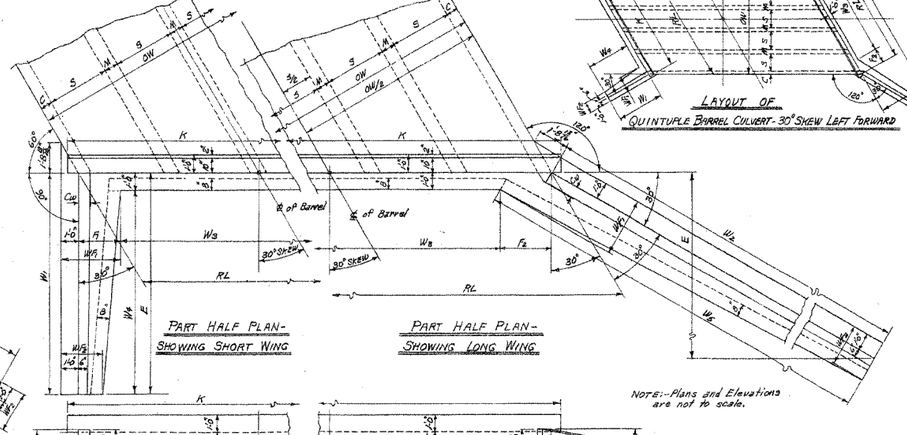






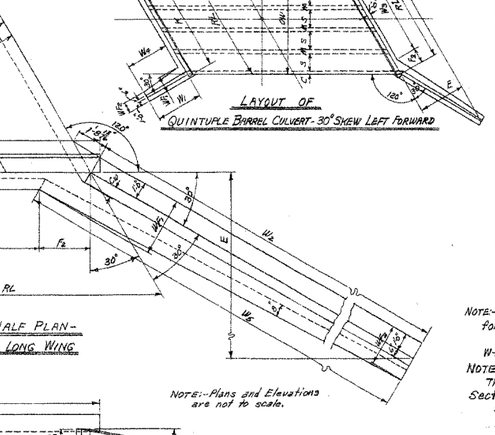
TRIPLE BARREL CULVERT-30°SKEW RIGHT FORWARD

Details of Culvert with 30°Skew Left Forward is reversed, see Layout at top center of sheet.



QUADRUPLE BARREL CULVERT-30°SKEW RT. FWD.

Details of Culvert with 30°Skew Left Forward is reversed, see Layout at above center.



QUINTUPLE BARREL CULVERT-30°SKEW RT. FWD.

Details of Culvert with 30°Skew Left Forward is reversed, see Layout above.

Designed by:- W.C.H. 5-16-63
Drawn by:- W.C.H. 7-15-63
Quantities by-

Checked by- JBMS - 8-21-63
Checked by-
Checked by-

ROADWAY LENGTH RL — HEADWALL LENGTH K — APRON DIMENSION W_3

USE WITH DRAWING NO.	CLEAR SPAN	CLEAR HEIGHT	SUM OF FOOTING DIMENSIONS	SINGLE BARREL CULVERT: RL = OW x 1.154+7				DOUBLE BARREL CULVERT: K = RL+(1'-1 3/4")				TRIPLE BARREL CULVERT: W_3 = RL-(F1+F2)				QUADRUPLE BARREL CULVERT				QUINTUPLE BARREL CULVERT			
	S	H	F1 & F2	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-X302-1, W-X303-1 or W-X304-1. (FOR H=8'-0 OR LESS)	4'	2'	8'-3 3/4"	5'-0"	5'-9 1/8"	6'-11 5/8"	3'-6"	9'-8"	11'-2"	12'-3 5/8"	6'-10 5/8"	14'-4"	16'-6 5/8"	17'-8 1/2"	14'-3 5/8"	19'-0"	21'-11 1/8"	23'-1"	19'-8"	23'-8"	27'-4"	28'-5 7/8"	25'-0 3/4"
		3'	8'-3 3/4"	5'-0"	"	"	2'-6"	9'-8"	"	"	7'-10 5/8"	14'-9"	"	"	13'-3 3/8"	19'-0"	"	"	18'-8"	23'-8"	"	"	24'-0 5/8"
		4'	9'-3 3/4"	5'-0"	"	"	1'-6"	9'-8"	"	"	6'-10 5/8"	14'-9"	"	"	12'-3 3/8"	19'-0"	"	"	17'-8"	23'-8"	"	"	23'-0 5/8"
		5'	5'-3 3/4"	5'-0"	5'-9 1/8"	6'-11 5/8"	0'-6"	9'-8"	11'-2"	12'-3 5/8"	5'-10 5/8"	14'-9"	16'-6 5/8"	17'-8 1/2"	11'-3 3/8"	19'-0"	21'-11 1/8"	23'-1"	16'-8"	23'-8"	27'-4"	28'-5 7/8"	22'-0 5/8"
		6'	6'-3 3/4"	5'-2"	5'-11 3/8"	7'-1 1/2"	Ⓐ 0"	9'-11"	11'-5 1/4"	12'-7 1/8"	5'-8 5/8"	14'-8"	16'-11 1/8"	18'-1"	10'-8"	19'-5"	22'-5"	23'-7"	16'-7 3/8"	24'-2"	27'-10 1/8"	29'-0 5/8"	21'-7 3/8"
	5'	3'	3'-3 3/4"	6'-0"	6'-11 1/8"	8'-1"	3'-7 1/8"	11'-8"	13'-5 3/8"	14'-7 1/4"	10'-2 5/8"	17'-4"	20'-0 1/8"	21'-2"	16'-9"	23'-0"	26'-6 1/8"	27'-8 1/2"	23'-3 5/8"	28'-8"	33'-1 1/8"	34'-3"	29'-10"
		4'	4'-3 3/4"	6'-0"	"	"	2'-7 3/8"	11'-8"	"	"	9'-2 5/8"	17'-4"	"	"	15'-3"	23'-0"	"	"	22'-3 5/8"	28'-8"	"	"	28'-10"
		5'	5'-3 3/4"	6'-0"	6'-11 1/8"	8'-1"	1'-7 3/8"	11'-8"	13'-5 3/8"	14'-7 1/4"	8'-2 5/8"	17'-4"	20'-0 1/8"	21'-2"	14'-9"	23'-0"	26'-6 1/8"	27'-8 1/2"	21'-3 5/8"	28'-8"	33'-1 1/8"	34'-3"	27'-10"
		6'	6'-3 3/4"	6'-2"	7'-1 1/8"	8'-3 1/4"	0'-10 5/8"	11'-11"	13'-9 1/2"	14'-11 1/8"	7'-5 3/8"	17'-8"	20'-4 3/8"	21'-6 3/4"	13'-2 5/8"	23'-5"	27'-0 5/8"	28'-2 3/8"	20'-9 3/8"	29'-2"	33'-8 1/2"	34'-10"	27'-5"
		7'	7'-3 3/4"	6'-3"	7'-2 3/8"	8'-5 1/4"	Ⓐ 0"	12'-1"	13'-11 1/2"	15'-1 1/4"	6'-2 5/8"	17'-11"	20'-8 1/8"	21'-10"	12'-1"	23'-9"	27'-5 1/2"	28'-7"	19'-8"	29'-7"	34'-2"	35'-3 1/2"	26'-9 3/8"
	6'	3'	3'-3 3/4"	7'-0"	8'-1"	9'-2 3/8"	4'-9 3/8"	13'-8"	15'-9 3/8"	16'-11 1/8"	12'-6 5/8"	20'-0"	23'-0 5/8"	24'-2 3/8"	20'-2"	27'-0"	31'-2 5/8"	32'-4"	27'-1"	33'-8"	38'-1 0/8"	39'-2 5/8"	35'-0 3/8"
		4'	4'-3 3/4"	7'-0"	"	"	3'-9 3/8"	13'-8"	"	"	11'-4 5/8"	20'-0"	"	"	19'-2 3/8"	27'-0"	"	"	26'-1"	33'-8"	"	"	34'-7 1/8"
		5'	5'-3 3/4"	7'-0"	8'-1"	9'-2 3/8"	2'-9 3/8"	13'-8"	15'-9 3/8"	16'-11 1/8"	10'-2 5/8"	20'-0"	23'-0 5/8"	24'-2 3/8"	18'-2"	27'-0"	31'-2 5/8"	32'-4"	25'-1"	33'-8"	38'-1 0/8"	39'-2 5/8"	33'-7 1/8"
		6'	6'-3 3/4"	7'-2"	8'-3 3/4"	9'-3 1/2"	2'-0"	13'-11"	16'-0 1/8"	17'-2 3/8"	9'-9 3/8"	20'-3"	23'-3 1/8"	24'-5 3/8"	17'-2"	27'-3"	31'-5 3/8"	32'-7"	23'-11"	33'-11"	38'-4 1/8"	39'-5 3/8"	32'-3 1/8"
		7'	7'-3 3/4"	7'-3"	8'-4 5/8"	9'-3 1/2"	0'-7 5/8"	14'-1"	16'-3 5/8"	17'-5"	8'-5"	20'-11"	24'-1 1/8"	25'-3 3/8"	16'-1 3/4"	27'-9"	32'-0 3/8"	33'-2 5/8"	22'-8"	34'-2"	39'-1 1/8"	40'-2 3/8"	31'-0 1/8"
		8'	8'-3 3/4"	7'-4"	8'-5 3/8"	9'-3 1/2"	Ⓐ 0"	14'-2"	16'-4 3/8"	17'-6 1/4"	7'-1"	21'-0"	24'-2 5/8"	25'-4 3/8"	14'-11 3/8"	27'-10"	32'-1 3/8"	33'-3 3/8"	21'-4"	34'-3"	39'-2 1/8"	40'-3 3/8"	29'-9 3/8"
	7'	4'	4'-3 3/4"	8'-0"	9'-2 3/8"	10'-3 1/8"	4'-11 3/8"	15'-8"	16'-11 3/8"	18'-1"	13'-8 5/8"	22'-6"	25'-6 1/8"	26'-7 3/4"	22'-2"	31'-0"	35'-3 1/2"	36'-4 1/8"	31'-1 6/8"	38'-8"	44'-0 3/8"	45'-0 3/8"	40'-4 5/8"
		5'	5'-3 3/4"	8'-0"	9'-2 3/8"	10'-3 1/8"	3'-11 3/8"	15'-8"	16'-11 3/8"	18'-1"	12'-8 5/8"	22'-6"	25'-6 1/8"	26'-7 3/4"	21'-2"	31'-0"	35'-3 1/2"	36'-4 1/8"	30'-1 6/8"	38'-8"	44'-0 3/8"	45'-0 3/8"	39'-4 5/8"
		6'	6'-3 3/4"	8'-2"	9'-5 1/8"	10'-7"	3'-2"	15'-11"	18'-1 3/4"	19'-2 5/8"	12'-1 6"	22'-9"	25'-9 1/8"	27'-0"	20'-2"	31'-5"	35'-8 3/8"	36'-9 3/4"	29'-1 6/8"	39'-2"	44'-6 3/8"	45'-6 3/8"	38'-1 1/8"
		7'	7'-3 3/4"	8'-3"	9'-6 1/8"	10'-8"	1'-3"	16'-1"	18'-4 1/8"	19'-5 1/8"	11'-3 3/8"	23'-0"	26'-0 1/8"	27'-3"	19'-1 6/8"	31'-9"	36'-0 3/8"	37'-1 3/4"	28'-1 6/8"	39'-7"	45'-0 3/8"	46'-0 3/8"	37'-1 1/8"
		8'	8'-3 3/4"	8'-4"	9'-7 1/8"	10'-8"	0'-4 3/8"	16'-2"	18'-5"	19'-5 7/8"	9'-4 3/8"	23'-2"	26'-2 5/8"	27'-5"	18'-1 6/8"	31'-10"	36'-3 3/8"	37'-4 3/4"	27'-6"	39'-8"	45'-3 3/8"	46'-3 3/8"	36'-1 1/8"
	8'	4'	4'-3 3/4"	9'-0"	10'-3 5/8"	11'-6 1/2"	6'-1 1/2"	17'-6"	20'-1 3/8"	21'-4 3/8"	16'-1 3/8"	26'-9"	30'-4 3/8"	31'-6 3/8"	26'-1 3/8"	35'-0"	40'-5"	41'-6 1/8"	36'-1 6/8"	43'-8"	50'-5 3/8"	51'-7"	44'-1 3/8"
		5'	5'-3 3/4"	9'-2"	10'-7"	11'-8 3/8"	5'-3 3/4"	17'-11"	20'-8 3/8"	21'-10"	15'-5"	26'-8"	30'-3 3/4"	31'-11 3/8"	25'-6 6/8"	35'-5"	40'-10 3/8"	42'-0 1/8"	35'-7 6/8"	44'-2"	51'-0"	52'-1 3/8"	45'-8 3/8"
		6'	6'-3 3/4"	9'-2"	10'-7"	11'-8 3/8"	4'-3 3/8"	17'-11"	20'-8 3/8"	21'-10"	14'-5"	26'-8"	30'-3 3/4"	31'-11 3/8"	24'-6 6/8"	35'-5"	40'-10 3/8"	42'-0 1/8"	34'-7 6/8"	44'-2"	51'-0"	52'-1 3/8"	44'-8 3/8"
		7'	7'-3 3/4"	9'-3"	10'-8 1/8"	11'-10"	2'-11"	18'-1"	20'-10 1/8"	22'-0 1/8"	13'-1 3/8"	26'-11"	31'-1"	32'-2 3/8"	23'-3 6/8"	35'-9"	41'-3 3/8"	42'-5 5/8"	33'-8 6/8"	44'-7"	51'-5 3/8"	52'-7 1/2"	43'-5 3/8"
		8'	8'-3 3/4"	10'-3 3/4"	11'-10 1/8"	11'-11 1/4"	1'-6 3/8"	18'-2"	20'-11 1/8"	22'-1 1/8"	11'-8 3/8"	27'-1"	31'-2 5/8"	32'-4"	22'-1 1/8"	35'-10"	41'-4 3/8"	42'-6 1/2"	32'-11"	44'-9"	51'-7"	52'-8 1/2"	42'-3 3/8"
	9'	5'	5'-3 3/4"	10'-2"	11'-8 3/8"	12'-10 3/8"	6'-5 3/8"	19'-11"	23'-0"	24'-1 3/8"	17'-8 3/8"	29'-8"	34'-3 3/8"	35'-5"	28'-1 6/8"	39'-5"	45'-4 3/8"	46'-5 3/8"	40'-1"	49'-2"	56'-9 3/8"	57'-11 1/8"	51'-4"
		6'	6'-3 3/4"	10'-9"	11'-10"	13'-0"	5'-6 3/8"	20'-1"	23'-2 3/8"	24'-3 3/8"	16'-11"	29'-11"	34'-6 3/8"	35'-8 3/8"	28'-3 6/8"	39'-9"	45'-8 3/8"	46'-9 3/8"	40'-3"	49'-6"	56'-9 3/8"	57'-11 1/8"	51'-0"
		7'	7'-3 3/4"	10'-3"	11'-10"	13'-0"	4'-0 3/8"	20'-1"	23'-2 3/8"	24'-3 3/8"	15'-5"	29'-11"	34'-6 3/8"	35'-8 3/8"	26'-9 6/8"	39'-9"	45'-8 3/8"	46'-9 3/8"	38'-1 6/8"	49'-3"	56'-9 3/8"	57'-11 1/8"	50'-5"
		8'	8'-3 3/4"	10'-4"	11'-11 5/8"	13'-1"	2'-8"	20'-2"	23'-3 3/8"	24'-4 3/8"	14'-10 6"	30'-0"	34'-7 3/8"	35'-9 3/8"	25'-6 6/8"	39'-10"	46'-0"	47'-1 1/8"	36'-3 6/8"	49'-3 6"	57'-0 3/8"	58'-0"	49'-1"
	10'	5'	5'-3 3/4"	11'-2"	12'-10 1/8"	14'-0 1/8"	7'-7 3/8"	21'-10"	25'-3 3/8"	26'-5 3/8"	20'-0 6/8"	32'-8"	37'-6 3/8"	38'-10 3/8"	32'-5 6/8"	43'-5"	50'-1 3/8"	51'-3 5/8"	44'-10 6/8"	54'-2"	62'-6 3/8"	63'-8 3/8"	57'-3 3/8"
		6'	6'-3 3/4"	11'-3"	12'-11 1/8"	14'-1 1/8"	6'-8 3/8"	22'-1"	25'-6"	26'-7 3/8"	19'-2 3/8"	32'-11"	38'-0 3/8"	39'-2"	31'-9"	43'-9"	50'-6 3/8"	51'-8"	44'-3"	54'-7"	63'-0 3/8"	64'-2 3/8"	57'-7 3/8"
		7'	7'-3 3/4"	11'-3"	12'-11 1/8"	14'-1 1/8"	5'-2 3/8"	22'-1"	25'-6"	26'-7 3/8"	17'-10 3/8"	32'-11"	38'-0 3/8"	39'-2"	30'-3"	43'-9"	50'-6 3/8"	51'-8"	42'-9"	54'-7"	63'-0 3/8"	64'-2 3/8"	55'-5"
		8'	9'-3 3/4"	11'-9"	13'-1"	14'-2"	3'-9 3/8"	22'-2"	25'-7 3/8"	26'-8 3/8"	16'-4"	33'-0"	38'-1 1/8"	39'-3"	28'-10"	43'-10"	50'-7 3/8"	51'-9 3/8"	41'-0 6/8"	54'-8"	63'-1 3/8"	64'-3 3/8"	53'-10 3/8"
	11'	6'	6'-3 3/4"	12'-4"	14'-2 3/8"	15'-4 3/8"	7'-1 1/8"	24'-2"	27'-10 3/8"	29'-0 3/8"	21'-7 3/8"	36'-1"	41'-6 3/8"	42'-10 3/8"	35'-3 6/8"	47'-10"	55'-2 3/8"	56'-4 3/8"	48'-11 6/8"	—	—	—	—
		7'	7'-3 3/4"	12'-5"	"	"	6'-5 3/8"	24'-2"	"	"	20'-1 3/8"	36'-1"	"	"	32'-3 6/8"	47'-10"	"	"	47'-1 6/8"	—	—	—	—
		8'	9'-3 3/4"	12'-6"	"	"	4'-11 3/8"	24'-2"	"	"	18'-7 3/8"	36'-1"	"	"	30'-1 6/8"	47'-10"	"	"	45'-11 6/8"	—	—	—	—
	12'	6'	6'-3 3/4"	13'-1"	15'-4 3/8"	16'-6 3/8"	9'-1 1/8"	26'-2"	30'-2 3/8"	31'-4 3/8"	23'-1 1/8"	39'-3"	45'-0 3/8"	46'-2 3/8"	38'-9 6/8"	51'-10"	59'-3 3/8"	61'-0"	53'-7"	—	—	—	—
		7'	7'-3 3/4"	13'-1"	"	"	7'-7 3/8"	26'-2"	"	"	22'-5 7/8"	39'-3"	"	"	37'-3 6/8"	51'-10"	"	"	52'-1 6/8"	—	—	—	—
		8'	9'-3 3/4"	13'-2"	"	"	6'-1 1/8"	26'-2"	"	"	20'-11 7/8"	39'-3"	"	"	35'-3 6/8"	51'-10"	"	"	50'-1 6/8"	—	—	—	—
W-X302-2, W-X303-2 OR W-X304-2. (FOR H=9'-0 & OVER)	7'	9'	10'-3 3/4"	8'-6"	9'-9 3/8"	10'-11 3/8"	Ⓐ 0"	16'-5"	18'-11 1/4"	20'-1 1/4"	8'-2 3/4"	26'-0"	28'-11 1/2"	29'-3"	17'-9"	32'-3"	37'-2 3/8"	38'-4 3/8"	26'-5 3/8"	40'-2"	46'-6 3/8"	47'-6 3/8"	35'-7 3/8"
	8'	9'	10'-3 3/4"	9'-6"	10'-11 3/8"	12'-1 1/4"	0'-2 3/8"	18'-5"	21'-3 3/8"	22'-5"	11'-6"	27'-9"	31'-1 1/8"	32'-2 3/8"	20'-3 1/2"	36'-3"	41'-10 3/8"	43'-0 1/8"	31'-1"	45'-2"	52'-1 3/8"	53'-3 3/8"	41'-9 3/8"
		10'	12'-3 3/4"	9'-8"	11'-2"	12'-3 3/8"	Ⓐ 0"	18'-8"	21'-6 3/8"	22'-8 3/4"	9'-3 3/8"	27'-5"	31'-1 1/8"	33'-1 3/8"	19'-0 1/8"	36'-8"	42'-1 3/8"	43'-4"	30'-2 3/8"	45'-8"	52'-8 3/8"	53'-10 3/8"	40'-5 3/8"
	9'	9'	10'-3 3/4"	10'-6"	12'-1 3/8"	13'-3 3/4"	1'-4 3/8"	20'-5"	23'-6 3/8"	24'-8 3/8"	12'-3 3/4"	30'-4"	35'-0 1/8"	36'-2 3/8"	26'-3"	40'-3"	46'-5 3/8"	47'-7 1/2"	35'-0 3/8"	50'-2"	57'-11 1/8"	59'-1"	47'-2"
		10'	12'-3 3/4"	10'-8"	12'-3 3/8"	13'-5 3/8"	0'-0 3/8"	20'-8"	23'-9 1/8"	25'-0 3/8"	11'-7 1/8"	30'-8"	35'-4 3/8"	36'-6 3/8"	23'-1 6/8"	40'-8"	46'-10 1/8"	48'-1 1/8"	34'-8 3/8"	50'-8"	58'-6"	59'-8"	46'-2 3/8"
		11'	13'-3 3/4"	10'-10"	12'-6 3/8"	13'-8"	Ⓐ 0"	20'-10"	24'-0 1/8"	25'-2 3/8"	10'-3 3/8"	30'-10"	35'-7 3/8"	36'-9"	21'-10"	40'-10"	47'-1 3/8"	48'-3 3/8"	33'-5 6/8"	50'-10"	58'-8 3/8"	59'-10 3/8"	44'-11 3/8"
	10'	9'	10'-3 3/4"	11'-6"	13'-3 3/8"	14'-5 3/8"	2'-6 3/8"	22'-5"	25'-10 3/8"	27'-0 3/8"	15'-3 3/4"	33'-0"	38'-5 1/8"	39'-7 3/8"	27'-8 6/8"	44'-3"	51'-1 3/8"	52'-3"	40'-0"	55'-0"	63'-8 3/8"	64'-10 3/8"	52'-1 3/8"
		10'	12'-3 3/4"	11'-8"	13'-5 3/8"	14'-7 3/8"	1'-2 3/8"	22'-8"	26'-1 3/8"	27'-4"	13'-10 3/8"	33'-8"	38'-10 1/8"	40'-0 3/8"	26'-7 6/8"	44'-8"	51'-7"	52'-8 3/8"	39'-3 6/8"	55'-6"	64'-3 3/8"	65'-5 1/8"	52'-10"
		11'	13'-3 3/4"	11'-10"	13'-8"	14'-9 3/8"	Ⓐ 0"	22'-10"	26'-4 1/8"	27'-6 3/8"	12'-6 3/8"	33'-10"	39'-0 1/8"	40'-2 3/8"	25'-5 3/8"	44'-10"	51'-9 1/2"	52'-11"	38'-0"	55'-10"	64'-8"	65'-7 1/2"	50'-8 1/2"
		12'	15'-3 3/4"	12'-0"	13'-10 1/8"	15'-0 3/8"	Ⓐ 0"	23'-0"	26'-6 1/8"	27'-8 3/4"	11'-3 3/4"	34'-0"	39'-3 1/8"	40'-5"	24'-0"	45'-0"	51'-11 1/8"	53'-1 3/8"	36'-6 3/8"	56'-0"	64'-8"	65'-9 1/2"	49'-3 1/2"
	11'	9'	10'-3 3/4"	12'-6"	14'-5 3/8"	15'-7"	3'-8"	24'-5"	28'-2 3/8"	29'-4 3/8"	17'-5"	35'-4"	41'-0 3/8"	42'-2 3/8"	31'-2 6/8"	48'-5"	55'-8 3/8"	56'-10 3/8"	44'-1 6/8"	—	—	—	—
		10'	12'-3 3/4"	12'-8"	14'-7 3/8"	15'-9 3/8"	2'-0 3/8"	24'-8"	28'-5 1/8"	29'-7 3/8"	16'-2 3/8"	35'-8"	41'-3 3/8"	42'-5 3/8"	30'-0 6/8"	48'-8"	56'-1 3/8"	57'-3 3/8"	43'-3 6/8"	—	—	—	—
		11'	13'-3 3/4"	12'-10"	14'-9 3/8"	15'-11 3/8"	1'-0 3/8"	24'-10"	28'-8 1/8"	29'-10"	14'-11"	36'-0"	41'-6 3/8"	42'-8 3/8"	28'-9 6/8"	48'-10"	56'-3 3/8"	57'-5 3/8"	42'-3 6/8"	—	—	—	—
		12'	15'-3 3/4"	13'-0"	15'-0 3/8"	16'-2"	Ⓐ 0"	25'-0"	28'-10 1/8"	30'-0 3/8"	13'-7 3/4"	37'-0"	42'-5 3/8"	43'-7 3/8"	27'-5 3/8"	49'-0"	56'-7"	57'-8 3/8"	41'-3 3/8"	—	—	—	—
	12'	9'	10'-3 3/4"	13'-6"	15'-7 3/8"	16'-9"	4'-3 3/8"	26'-5"	30'-2"	31'-4"	19'-8 3/8"	38'-0"	43'-9 3/8"	44'-11 3/8"	33'-4"	51'-5"	58'-10 3/8"	60'-0 3/8"	46'-7"	—	—	—	—
		10'	12'-3 3/4"	13'-8"	15'-9 3/8"	16'-11 3/8"	3'-6 3/8"	26'-8"	30'-5 1/8"	31'-7 3/8"	18'-4 3/8"	38'-4"	44'-1 3/8"	45'-3 3/8"	32'-2 6/8"	51'-8"	59'-1 3/8"	60'-3 3/8"	45'-0 6/8"	—	—	—	—
		11'	13'-3 3/4"	13'-10"	16'-1 1/8"	17'-1 1/8"	2'-2 3/8"	26'-10"	30'-11 1/8"	32'-1 3/8"	17'-0 3/8"	38'-8"	44'-5"	45'-7 3/8"	32'-10 6/8"	52'-0"	59'-5 3/8"	60'-7 3/8"	43'-2"	—	—	—	—
		12'	15'-3 3/4"	14'-0"	16'-2"	17'-3 3/8"	0'-10 3/8"	27'-0"	31'-2 5/8"	32'-4"	15'-11"	40'-0"	46'-2 3/8"	47'-4"	30'-11"	53'-0"	61'-2 3/8"	62'-4 3/8"	45'-11 6/8"	—	—	—	—

Ⓐ Special case for these boxes, See Detail 'A' and Table 'A' for revised values of F1, F2, W_4 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-X302-1, W-X302-2, or W-X303-1, W-X303-2, or W-X304-1, W-X304-2.

NOTE:- This drawing to be used in conjunction with Standard Wing Drawings for 30°Skews for each slope as listed below.

2:1 Slopes	3:1 Slopes	4:1 Slopes
W-X302-1 or W-X302-2	W-X303-1 or W-X303-2	W-X304-1 or W-X304-2.

NOTE:-
This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.:-

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-130X-0	R-230X-01	R-330X-01	R-430X-01	R-530X-01
	R-230X-02	R-330X-02	R-430X-02	R-530X-02
R-130X-1	R-230X-1	R-330X-1	R-430X-1	R-530X-1
	R-230X-2	R-330X-2		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF STANDARD WINGS
FOR
REINFORCED CONCRETE BOX CULVERTS
30° SKEW

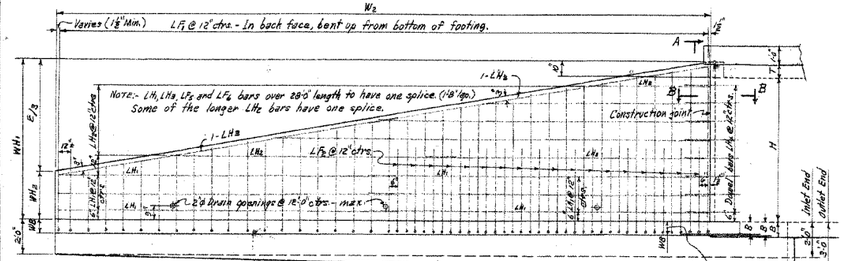
4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 2:1, 3:1 & 4:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER H=2', 3', 4', 5', 6', 7', 8', 9', 10', 11' & 12'.

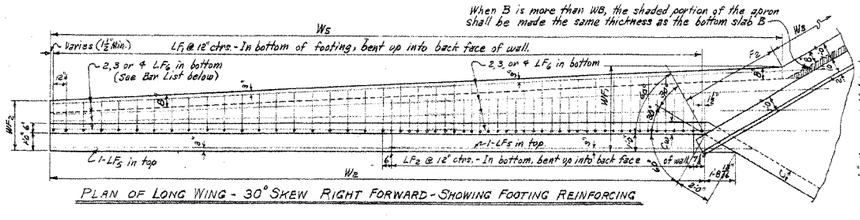
STANDARD DRAWING NO. W-X30

Reshot 3-8-93

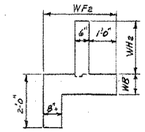
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			153	
JOB No.					



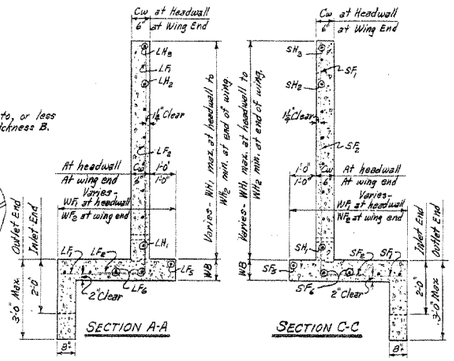
REAR ELEVATION OF LONG WING - 30° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING



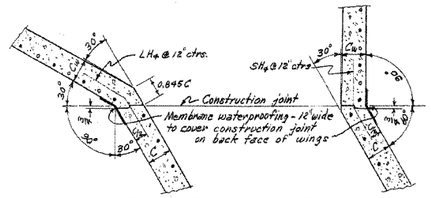
PLAN OF LONG WING - 30° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING



TYPICAL END VIEW OF WING



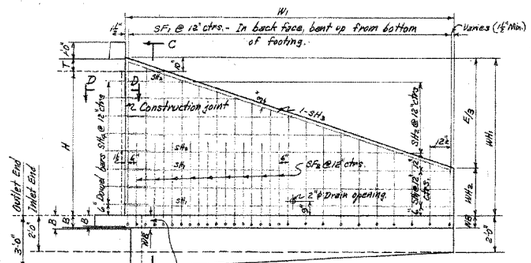
SECTION A-A SECTION C-C



SECTION B-B SECTION D-D

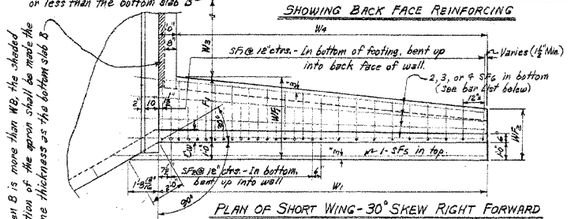
SECTIONS THRU CONSTRUCTION JOINTS

NOTE:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

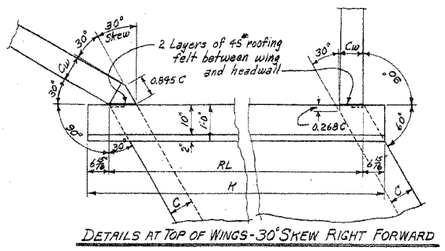


REAR ELEVATION OF SHORT WING - 30° SKEW RIGHT FORWARD SHOWING BACK FACE REINFORCING

WB may be more, equal to, or less than the bottom slab B



PLAN OF SHORT WING - 30° SKEW RIGHT FORWARD SHOWING FOOTING REINFORCING



DETAILS AT TOP OF WINGS - 30° SKEW RIGHT FORWARD

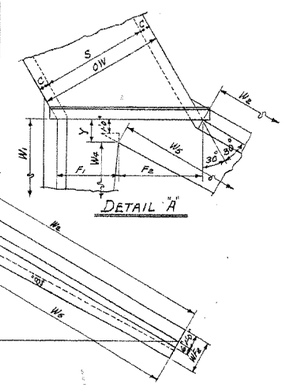
REGULAR WING DIMENSIONS - 3:1 SLOPES

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	WINGWALL HEIGHTS		WIDTHS OF WING FOOTINGS		FOOTING DIMENSION PARALLEL WITH HEADWALL		PERPENDICULAR DIST. FROM HDWL TO END OF WING	LENGTHS OF WINGWALLS		INSIDE FOOTING DIMENSION		* QUANTITY PER WING CLASS S CONCRETE			
		THICKNESS AT WING A-C	AT HEADWALL	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	W3	W5	CU.YD.	CU.YD.	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	1'-4"	0'-11½"	6'-6"	6'-6"	13'-0"	5'-6"	19'-3⅜"	0.752	1.599	0.836	1.717
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-8"	1'-7½"	8'-6"	8'-6"	17'-0"	7'-6"	17'-10⅜"	1.130	2.340	1.239	2.565
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	2'-0"	2'-3⅜"	10'-6"	10'-6"	21'-0"	9'-6"	22'-5½"	1.577	3.270	1.711	3.552
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-4"	2'-11⅛"	12'-6"	12'-6"	25'-0"	11'-6"	27'-0½"	2.093	4.391	2.252	4.680
		7"	5'-10"	1'-8"	3'-4"	2'-6½"	2'-4"	2'-11⅛"	12'-6"	12'-5"	25'-0"	11'-6"	27'-0½"	2.179	4.529	2.337	4.862
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-7⅛"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	2.908	6.026	3.092	6.419
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-7⅛"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	2.964	6.147	3.150	6.593
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-7⅛"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	3.025	6.272	3.208	6.647
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-2"	4'-7⅛"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5⅜"	3.811	7.895	4.019	8.350
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-2"	4'-7⅛"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5⅜"	3.887	8.057	4.095	8.512
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	5'-7⅛"	18'-6"	18'-6"	37'-0"	17'-6"	41'-9⅛"	4.874	10.097	5.107	10.612

* Quantity per wing does not include headwall or that portion of apron or footwall for the length W3.
○ See Table 'A' for special values of F1 & F2 and W3 & W5 for Single 4'x6', 5'x7' and 6'x8' Box Culverts.

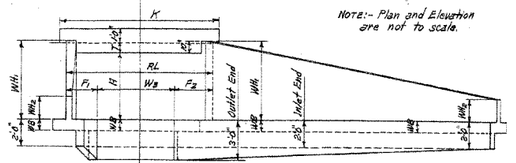
TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F1	F2	W3	Y	W4	W5
4'	6'	2'-7½"	3'-2⅜"	0"	1'-1½"	13'-9⅛"	31'-3½"
5'	7'	3'-1⅜"	4'-1"	0"	1'-3⅛"	15'-2⅜"	35'-10⅜"
6'	8'	3'-7⅛"	4'-10⅛"	0"	1'-4⅝"	17'-1⅛"	40'-6"



PART PLAN

DETAIL "A"



END ELEVATION

SINGLE BARREL CULVERT - 30° SKEW RIGHT FORWARD

Note:- Plan and Elevation are not to scale.

Details of Culvert with 30° Skew Left Forward is reversed, see Drawing No. W-X.30.

TYPICAL WING DETAILS

NOTE:-
For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple Span Culverts, see Std. Drawing No. W-X.30.
For values of RL, K and W3 for each box, see above Std. also.

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 construction joints of wings.

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 (or two bars) of each length						SF2 & LF2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars.						SF3 & LF3 STRAIGHT: Longitudinal in top of wing footing heel.			SF4 & LF4 STRAIGHT: Longitudinal in bottom of wing footing toe.			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 BENT: In back face of wing at top- on slope			SH4 & LH4 BENT: Dowels thru construction joint at headwall.				BAR BENDING DIAGRAM	QUANTITY: REINFORCING STEEL PER WING - LBS.	
H	SHORT LONG	SIZE	SPACING	NO. REQD	LENGTHS VARY MIN.	MAX.	X MIN.	MAX.	Y MIN.	MAX.	SIZE	SPACING	NO. REQD	LENGTH	X	Y	SIZE	NO. REQD	LENGTH	SIZE	NO. REQD	LENGTH	SIZE	SPACING	NO. REQD	LENGTH	SIZE	SPACING	NO. REQD	LENGTHS VARY MAX.	MIN.	SIZE	NO. REQD	LENGTH	SIZE	NO. REQD	LENGTH	X		SHORT WING	LONG WING
2'	Short	#3	12"	7	1'-9"	3'-11"	0'-8"	1'-0"	3'-0"								#3	1	9'-0"	#3	2	8'-6"	#3	12"	1	6'-8"	#3	12"	1	6'-8"	3'-3"	#3	1	6'-7"	#3	12"	2	2'-8"	1'-4"		24.7	95.6
	Long	#3	12"	14	1'-5"	3'-11"	0'-8"	1'-0"	6'-10"	3'-0"							#3	1	15'-6"	#3	2	15'-6"	#3	12"	1	12'-8"	#3	12"	1	—	6'-4"	#3	1	12'-11"	#3	12"	2	"	"		37.0	69.5
3'	Short	#3	12"	9	2'-1"	5'-3"	0'-10"	1'-2"	11'-9"	4'-0"							#3	1	11'-6"	#3	2	10'-10"	#3	12"	1	8'-3"	#3	12"	2	6'-3"	9'-3"	#3	1	8'-8"	#3	12"	3	"	"		56.2	107.2
	Long	#3	12"	18	1'-11"	5'-3"	0'-10"	1'-2"	11'-2"	4'-0"							#3	1	19'-6"	#3	2	20'-2"	#3	12"	1	16'-8"	#3	12"	2	12'-6"	6'-6"	#3	1	16'-11"	#3	12"	3	"	"			
4'	Short	#3	12"	11	2'-6"	6'-7"	0'-11"	1'-5"	1'-0"	5'-0"							#3	1	13'-0"	#3	3	12'-0"	#3	12"	2	9'-8"	#3	12"	3	9'-8"	9'-8"	#3	1	10'-9"	#3	12"	4	"	"		78.0	152.2
	Long	#3	12"	22	2'-2"	6'-6"	0'-11"	1'-7"	1'-6"	6'-10"							#3	1	23'-6"	#3	3	24'-10"	#3	12"	1	20'-5"	#3	12"	3	18'-6"	6'-6"	#3	1	21'-0"	#3	12"	4	"	"			
5'	Short	#3	12"	13	2'-11"	7'-11"	1'-0"	2'-0"	2'-0"	6'-0"	#3	12"	3	3'-6"	1'-1"	2'-6"	#3	1	15'-0"	#3	3	14'-0"	#3	12"	2	12'-5"	#2	12"	3	9'-3"	3'-5"	#3	1	12'-11"	#3	12"	5	"	"		127.8	253.1
	Long	#3	12"	26	2'-9"	7'-10"	1'-0"	1'-11"	1'-10"	6'-10"	#3	12"	6	3'-6"	1'-1"	2'-6"	#3	1	27'-6"	#3	6	15'-7"	#3	12"	2	24'-8"	#3	12"	3	18'-6"	6'-6"	#3	1	25'-1"	#3	12"	5	"	"			
6'	Short	#4	12"	15	3'-6"	9'-2"	1'-2"	2'-2"	2'-5"	7'-1"	#3	12"	3	4'-6"	1'-4"	3'-2"	#3	1	17'-0"	#3	3	16'-0"	#3	12"	2	14'-3"	#3	12"	4	12'-3"	3'-3"	#3	1	15'-0"	#3	12"	6	"	"		267.0	489.8
	Long	#4	12"	30	3'-4"	9'-2"	1'-2"	2'-3"	2'-3"	7'-1"	#3	12"	6	4'-6"	1'-4"	3'-2"	#3	2	16'8"	#3	6	18'-0"	#3	12"	4	15'2"	#3	12"	4	24'-6"	6'-6"	#3	2	15'-5"	#3	12"	6	2'-9"	1'-4"			
7'	Short	#4	12"	17	3'-11"	10'-10"	1'-3"	2'-10"	2'-9"	8'-1"	#4	12"	6	5'-6"	1'-7"	4'-0"	#4	1	19'-0"	#4	4	18'-0"	#4	12"	2	16'3"	#4	12"	5	15'-8"	3'-3"	#4	1	17'-1"	#4	12"	7	3'-6"	1'-9"		312.9	622.3
	Long	#4	12"	34	3'-9"	10'-8"	1'-3"	2'-8"	2'-7"	8'-1"	#4	12"	12	5'-6"	1'-7"	4'-0"	#4	2	18'-8"	#4	8	20'-6"	#4	12"	4	17'2"	#4	12"	5	*30'-6"	6'-6"	#4	2	19'-5"	#4	12"	7	"	"			
8'	Short	#4	12"	19	4'-6"	12'-5"	1'-5"	3'-6"	3'-2"	9'-2"	#4	12"	9	6'-6"	1'-10"	4'-9"	#4	1	21'-0"	#4	4	20'-6"	#4	12"	3	18'3"	#4	12"	5	15'-8"	3'-3"	#4	1	19'-3"	#4	12"	8	"	"			
	Long	#4	12"	38	4'-6"	12'-3"	1'-5"	3'-5"	3'-0"	9'-2"	#4	12"	18	6'-6"	1'-10"	4'-9"	#4	2	20'-8"	#4	8	22'-9"	#4	12"	6	19'-2"	#4	12"	5	*30'-6"	6'-6"	#4	2	19'-6"	#4	12"	8	3'-6"	1'-9"			

NOTE:- Bars for short wing shall be marked with prefix letter 'S', while those for long wing shall be marked with letter 'L'.

* Length without splice. Bars over 28'-0" length may be spliced. (1'-8" lap)

QUANTITIES

CLASS S CONCRETE - 4 WINGS

CLEAR SPAN S	CLEAR HEIGHT H	THICKNESS OF WING AT HEADWALL Cw	THICKNESS OF WING FOOTING WB	REINFORCING STEEL - LBS. 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
				LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	141	5.80	6.90	8.01	9.12	10.23
	3'	6"	7"	213	8.08	9.18	10.29	11.40	12.51
	4'	6"	7"	327	10.78	11.88	12.99	14.10	15.21
	5'	6"	7"	460	13.90	15.00	16.11	17.22	18.32
	6'	7"	8"	762	18.85	19.99	21.13	22.27	23.41
5'	3'	6"	7"	213	8.33	9.47	11.01	12.36	13.70
	4'	6"	7"	327	11.03	12.36	13.71	15.06	16.40
	5'	6"	7"	460	14.14	15.48	16.83	18.17	19.52
	6'	7"	8"	762	19.11	20.48	21.86	23.24	24.62
	7'	7⅞"	8½"	1474	24.51	25.84	27.95	28.75	30.16
6'	3'	6"	7"	213	8.57	10.17	11.73	13.33	14.92
	4'	6"	7"	327	11.27	12.86	14.43	16.03	17.62
	5'	6"	7"	460	14.38	15.98	17.55	19.15	20.73
	6'	7"	8"	762	19.35	20.98	22.59	24.21	25.83
	7'	7⅞"	8½"	1474	24.79	26.44	28.08	29.73	31.38
	8'	8"	9"	1870	30.15	32.87	34.51	36.17	37.83
7'	4'	6"	7"	327	11.52	13.37	15.19	17.05	18.85
	5'	6"	7"	460	14.68	16.49	18.31	20.16	21.97
	6'	7"	8"	762	19.61	21.48	23.32	25.20	27.04
	7'	7⅞"	8½"	1474	25.05	26.94	28.82	30.71	32.59
	8'	8"	9"	1870	31.47	33.37	35.25	37.16	39.05
8'	4'	6"	7"	327	11.77	13.89	15.97	18.09	20.12
	5'	7"	7"	460	15.46	17.60	19.70	21.83	23.89
	6'	7"	8"	762	19.86	21.98	24.05	26.17	28.20
	7'	7⅞"	8½"	1474	25.80	27.96	29.58	31.73	33.81
	8'	8"	9"	1870	31.72	33.88	36.00	38.16	40.27
9'	5'	7"	7"	460	15.72	18.13	20.97	22.87	25.15
	6'	7⅞"	8"	762	20.50	22.93	25.29	27.71	30.01
	7'	7⅞"	8½"	1474	25.55	27.98	30.34	32.74	35.07
	8'	8"	9"	1870	31.97	34.39	36.76	39.18	41.49
10'	5'	7"	7"	460	15.98	18.65	21.25	23.80	26.42
	6'	7⅞"	8"	762	20.76	23.45	26.07	28.64	31.28
	7'	7⅞"	8½"	1474	25.81	28.50	31.12	33.70	36.34
	8'	8"	9"	1870	32.22	34.91	37.54	40.12	42.76
11'	6'	8"	8"	762	21.39	24.38	27.25	30.11	——
	7'	8"	8½"	1474	26.55	29.53	32.41	35.27	——
	8'	8"	9"	1870	32.47	35.45	38.33	41.19	——
12'	6'	8"	8"	762	21.66	24.93	28.05	31.20	——
	7'	8"	8½"	1474	26.81	30.08	33.21	36.36	——
	8'	8"	9"	1870	32.73	35.99	39.13	42.28	——

* For reinforcing steel in Headwalls and Aprons, see Drawing Nos. of Barrel Sections listed below.

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 wingwall, footings and sidewalls shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.
UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/s"
Reinforcing Steel 20,000 #/s"

NOTE:-
This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.-

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-180X-0	R-280X-01	R-380X-01	R-480X-01	R-580X-01
	R-280X-02	R-380X-02	R-480X-02	R-580X-02
R-180X-1	R-280X-1	R-380X-1	R-480X-1	R-580X-1
	R-280X-2	R-380X-2		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 30° SKEW

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES
SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X303-1

Designed By:- W.C.H. 5-13-63 Checked By:- [illegible] 8-19-63
Drawn By:- W.C.H. 7-26-63 Checked By:- DMT 7-15-64
Quantities By:- W.C.H. 1-7-64 Checked By:- [illegible]

REVISIONS:- Membrane Added. 5-10-66 W.C.H.

(53)

RESHOT 3-5-93

167

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			153A	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPANS	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.							"b_2" bars BENT - See Diagram below. In Bottom of Top 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 "b" and "b_2" bars.				"d" 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.			
			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
D	S	H																																						
0'-0" TO 5'-0" MAXIMUM	4 @ 4'	2'			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			16			30			
		3'			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			26			30			
		4'	#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"	#4	12"	30		#4	12"	32		#4	12"	30		
		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			
		6'			128	128	19'-2"			59	59	20'-7"	0'-3"	2'-3"	3'-5½"			59	59	20'-6"	0'-2½"	2'-4"	3'-5½"			120	120	14'-3"			30			48			30			
	4 @ 5'	3'			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			24			34			
		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			
		5'	#5	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"	#6	12"	120	120	17'-0"	#4	12"	34		#4	12"	90		#4	12"	34		
		6'			128	128	23'-2"			59	59	24'-8"	0'-3½"	2'-8"	4'-2⅛"			59	59	24'-7"	0'-3"	2'-9"	4'-2⅛"			120	120	17'-8"			34			48			34			
		7'			128	128	23'-2"			59	59	25'-0"	0'-3½"	2'-9"	4'-2⅛"			59	59	24'-11"	0'-3"	3'-0"	4'-2⅛"			120	120	17'-6"			34			56			34			
	4 @ 6'	3'			140	140	26'-9"			65	65	28'-4"	0'-4"	3'-0"	4'-10⅛"			65	65	28'-3"	0'-3½"	3'-1"	4'-10⅛"			132	132	20'-0"			38			24			38			
		4'			140	140	26'-9"			65	65	28'-6"	0'-4"	3'-0"	4'-10⅛"			65	65	28'-5"	0'-3½"	3'-1"	4'-10⅛"			132	132	20'-0"			38			32			38			
		5'	#6	11"	140	140	26'-9"	#5	11"	65	65	28'-9"	0'-4"	3'-0"	4'-10⅛"	#5	11"	65	65	28'-8"	0'-3½"	3'-1"	4'-10⅛"	#6	11"	132	132	20'-0"	#5	11½"	38		#4	12"	40		#5	11½"	38		
		6'			140	140	27'-2"			65	65	29'-1"	0'-4"	3'-1"	4'-11⅝"			65	65	29'-0"	0'-3½"	3'-2"	4'-11⅝"			132	132	20'-6"			38			48			38			
		7'			140	140	27'-6"			65	65	29'-6"	0'-4"	3'-2"	4'-11⅝"			65	65	29'-5"	0'-3½"	3'-3"	4'-11⅝"			132	132	20'-6"			38			56			38			
		8'			140	140	27'-7"			65	65	29'-11"	0'-4"	3'-2"	5'-0⅛"			65	65	29'-10"	0'-3½"	3'-3"	5'-0⅛"			132	132	20'-6"			38			64			38			
	4 @ 7'	4'			128	128	30'-9"			59	59	32'-8"	0'-3½"	3'-5"	5'-1"			59	59	32'-7"	0'-3½"	3'-5½"	5'-1"			120	120	23'-0"			42			32			42			
		5'			128	128	30'-9"			59	59	32'-8"	0'-4½"	3'-5"	5'-1"			59	59	32'-7"	0'-3½"	3'-5½"	5'-1"			120	120	23'-0"			42			40			42			
		6'	#6	11"	128	128	31'-2"	#5	12"	59	59	33'-1"	0'-4½"	3'-6"	5'-2⅝"	#5	12"	59	59	33'-0"	0'-3½"	3'-6½"	5'-2⅝"	#6	12"	120	120	23'-0"	#5	11½"	44		#4	12"	48		#5	11½"	44		
		7'			128	128	31'-6"			59	59	33'-5"	0'-4½"	3'-7"	5'-2⅝"			59	59	33'-4"	0'-3½"	3'-7½"	5'-2⅝"			120	120	23'-6"			44			56			44			
		8'			128	128	31'-7"			59	59	33'-6"	0'-4½"	3'-7"	5'-3"			59	59	33'-5"	0'-3½"	3'-8"	5'-3"			120	120	23'-6"			44			64			44			
		9'			128	128	32'-0"			59	59	33'-11"	0'-4½"	3'-8"	5'-3⅜"			59	59	33'-10"	0'-4½"	3'-8½"	5'-3⅜"			120	120	23'-9"			44			72			44			
	4 @ 8'	4'			140	140	34'-9"			65	65	36'-9"	0'-5"	3'-10"	5'-4⅜"			65	65	36'-8"	0'-5"	3'-11"	5'-4⅜"			132	132	26'-0"			48			32			48			
		5'			140	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			48			
		6'			140	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			48			
		7'	#6	11"	140	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"	#6	11"	132	132	26'-6"	#5	11½"	48		#4	12"	56		#5	11½"	48		
		8'			140	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			48			
		9'			140	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			48			
		10'			140	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			48			
	4 @ 9'	5'			280	280	20'-7"			130	130	21'-8"	0'-5½"	4'-6"	7'-2"			130	130	21'-8"	0'-5½"	4'-6"	7'-2"			132	132	29'-5"			55			90			53			
		6'	Ⓦ		280	280	20'-9"	Ⓦ		130	130	21'-10"	0'-5½"	4'-5"	7'-2½"	Ⓦ		130	130	21'-10"	0'-5½"	4'-5"	7'-2½"	Ⓦ		132	132	29'-6"			55			56			53			
		7'			280	280	20'-9"			130	130	21'-10"	0'-5½"	4'-5"	7'-2½"			130	130	21'-10"	0'-5½"	4'-5"	7'-2½"			132	132	29'-6"			55			56			53			
		8'	#6	11"	280	280	20'-10"	#6	11"	130	130	21'-10"	0'-5½"	4'-5"	7'-3"	#6	11"	130	130	21'-10"	0'-5½"	4'-5"	7'-3"	#6	11"	132	132	29'-6"	#5	11½"	55		#4	12"	64		#4	12"	53		
	3'	9'			280	280	21'-0"			130	130	22'-1"	0'-5½"	4'-6"	7'-4"			130	130	22'-1"	0'-5½"	4'-6"	7'-4"			132	132	29'-9"			55			72			53			
		10'			280	280	21'-3"			130	130	22'-3"	0'-5½"	4'-7"	7'-5"			130	130	22'-3"	0'-5½"	4'-7"	7'-5"			132	132	30'-0"			55			80			53			
		11'			280	280	21'-9"			130	130	22'-4"	0'-5½"	4'-7"	7'-6"			130	130	22'-4"	0'-5½"	4'-7"	7'-6"			132	132	30'-0"			55			88			53			
	4 @ 10'	5'			256	256	22'-5"			118	118	23'-8"	0'-6"	4'-9"	7'-11"			118	118	23'-8"	0'-6"	4'-10"	7'-11"			120	120	32'-8"			59			40			57			
		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'-8"			59			48			57			
		7'	Ⓦ		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'-8"			59			56			57			
		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'-8"			59			64			57			
		9'	#7	12"	256	256	23'-1"	#6	12"	118	118	24'-1"	0'-6"	4'-11"	8'-0"	#6	12"	118	118	24'-1"	0'-6"	4'-11"	8'-0"	#7	12"	120	120	32'-9"	#5	11½"	59		#4	12"	72		#4	12"	57		
		10'			256	256	23'-3"			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			
		11'			256	256	23'-5"			118	118	24'-6"	0'-6"	5'-0"	8'-3"			118	118	24'-6"	0'-6"	5'-0"	8'-3"			120	120	33'-0"			59			88			57			
		12'			256	256	23'-7"			118	118	24'-8"	0'-6"	5'-0"	8'-4"			118	118	24'-8"	0'-6"	5'-0"	8'-4"			120	120	33'-0"			59			96			57			
	4 @ 11'	6'			280	280	25'-0"			130	130	25'-11"	0'-6½"	5'-3"	8'-9"			130	130	26'-0"	0'-7"	5'-2"	8'-9"			132	132	35'-6"			63			48			61			
		7'	Ⓦ		280	280	25'-0"	Ⓦ		130	130	25'-11"	0'-6½"	5'-3"	8'-9"	Ⓦ		130	130	26'-0"	0'-7"	5'-2"	8'-9"	Ⓦ		132	132	35'-6"			63			56			61			
		8'			280	280	25'-0"			130	130	25'-11"	0'-6½"	5'-3"	8'-9"			130	130	26'-0"	0'-7"	5'-2"	8'-9"			132	132	35'-6"			63			64			61			
		9'	#7	11"	280	280	25'-2"	#6	11"	130	130	26'-1"	0'-6½"	5'-3"	8'-10"	#6	11"	130	130	26'-1"	0'-7"	5'-3"	8'-10"	#7	11"	132	132	35'-9"	#5	11½"	63		#4	12"	72		#4	12"	61		
		10'			280	280	25'-5"			130	130	26'-4"	0'-6½"	5'-4"	8'-11"			130	130	26'-4"	0'-7"	5'-4"	8'-11"			132	132	36'-0"			63			80			61			
		11'			280	280	25'-8"			130	130	26'-6"	0'-6½"	5'-5"	9'-0"			130	130	26'-6"	0'-7"	5'-4"	9'-0"			132	132	36'-0"			63			88			61			
		12'			280	280	25'-11"			130	130	26'-7"	0'-6½"	5'-5"	9'-1"			130	130	26'-7"	0'-7"	5'-4"	9'-1"			132	132	36'-0"			63			96			61			
	4 @ 12'	6'			280	280	27'-0"			130	130	28'-0"	0'-7"	5'-8"	9'-6"			130	130	28'-1"	0'-8"	5'-6"	9'-6"			132	132	38'-6"			67			48			65			
		7'	Ⓦ		280	280	27'-0"	Ⓦ		130	130	28'-0"	0'-7"	5'-8"	9'-6"	Ⓦ		130	130	28'-1"	0'-8"	5'-6"	9'-6"	Ⓦ		132	132	38'-6"			67			56			65			
		8'			280	280	27'-2"			130	130	28'-2"	0'-7"	5'-9"	9'-7"			130	130	28'-3"	0'-8"	5'-7"	9'-7"			132	132	38'-9"			67			64			65			
		9'	#7	11"	280	280	27'-5"	#6	11"	130	130	28'-5"	0'-7"	5'-10"	9'-8"	#6	11"	130	130	28'-5"	0'-8"	5'-8"	9'-8"	#7	11"	132	132	39'-0"	#5	11½"	67		#4	12"	72		#4	12"	65		
		10'			280	280	27'-8"			130	130	28'-7"	0'-7"	5'-10"	9'-9"			130	130	28'-7"	0'-8"	5'-8"	9'-9"			132	132	39'-0"			67			80			65			
		11'			280	280	27'-10"			130	130	28'-8"	0'-7"	5'-11"	9'-10"			130	130	28'-8"	0'-8"	5'-8"	9'-10"			132	132	39'-0"			67			88			65			
		12'			280	280	27'-7"			130	130	28'-7"	0'-7"	5'-10"	9'-10"			130	130	28'-8"	0'-8"	5'-8"	9'-10"			132	132	39'-0"			67			96			65			

Ⓦ These "a", "b" and "b_2" 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.

DIMENSIONS

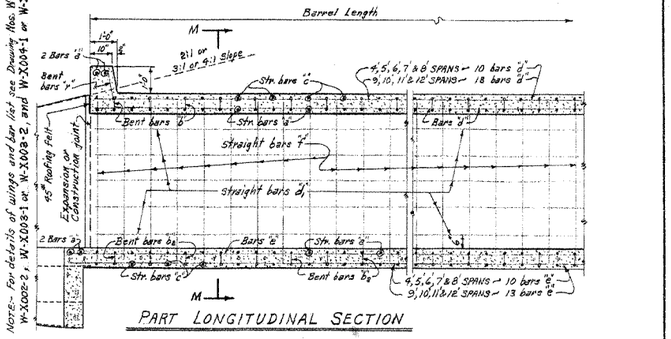
BARREL DIMENSIONS

MAX. DESIGN DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH*	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT
D	S	H	A	OW	T	C	M	B	OH
5'-0"	4 @ 4'	2'	32	19'-0"	6½"	6"	8"	6"	5'-0½"
		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"
	4 @ 5'	3'	60	23'-0"	7"	6"	8"	6½"	4'-1⅛"
		4'	80	23'-0"		6"	8"		5'-1⅛"
		5'	100	23'-0"		6"	8"		6'-1⅛"
		6'	120	23'-5"		7"	9"		7'-1⅛"
		7'	140	23'-8"		7½"	10"		8'-1⅛"
	4 @ 6'	3'	72	27'-0"	7½"	6"	8"	7"	4'-2⅛"
		4'	96	27'-0"		6"	8"		5'-2⅛"
		5'	120	27'-0"		6"	8"		6'-2⅛"
		6'	144	27'-5"		7"	9"		7'-2⅛"
		7'	168	27'-9"		7½"	10"		8'-2⅛"
		8'	192	27'-10"		8"	10"		9'-2⅛"
	4 @ 7'	4'	112	31'-0"	8"	6"	8"	7½"	5'-3⅜"
		5'	140	31'-0"		6"	8"		6'-3⅜"
		6'	168	31'-5"		7"	9"		7'-3⅜"
		7'	196	31'-9"		7½"	10"		8'-3⅜"
		8'	224	31'-10"		8"	10"		9'-3⅜"
		9'	252	32'-3"		9"	11"		10'-3⅜"
	4 @ 8'	4'	128	35'-0"	8½"	6"	8"	8"	5'-3"
		5'	160	35'-5"		7"	9"		6'-3"
		6'	192	35'-5"		7"	9"		7'-3"
		7'	224	35'-9"		7½"	10"		8'-3"
		8'	256	35'-10"		8"	10"		9'-3"
		9'	288	36'-3"		9"	11"		10'-3"
		10'	320	36'-8"		10"	12"		11'-3"
	4 @ 9'	5'	180	39'-5"	9"	7"	9"	9"	6'-6"
		6'	216	39'-9"		7½"	10"		7'-6"
		7'	252	39'-9"		7½"	10"		8'-6"
		8'	288	39'-10"		8"	10"		9'-6"
		9'	324	40'-3"		9"	11"		10'-6"
		10'	360	40'-8"		10"	12"		11'-6"
		11'	396	40'-10"		11"	12"		12'-6"
	4 @ 10'	5'	200	43'-5"	10"	7"	9"	9½"	6'-7"
		6'	240	43'-9"		7½"	10"		7'-7"
		7'	280	43'-9"		7½"	10"		8'-7"
		8'	320	43'-10"		8"	10"		9'-7"
		9'	360	44'-3"		9"	11"		10'-7"
		10'	400	44'-8"		10"	12"		11'-7"
		11'	440	44'-10"		11"	12"		12'-7"
		12'	480	45'-0"		12"	12"		13'-7"
	4 @ 11'	6'	264	47'-10"	10½"	8"	10"	11"	7'-8"
		7'	308	47'-10"		8"	10"		8'-8½"
		8'	352	47'-10"		8"	10"		9'-8½"
		9'	396	48'-9"		9"	11"		10'-8½"
		10'	440	48'-8"		10"	12"		11'-8½"
		11'	484	48'-10"		11"	12"		12'-8½"
		12'	528	49'-0"		12"	12"		13'-8½"
	4 @ 12'	6'	288	51'-10"	11½"	8"	10"	12"	7'-10"
		7'	336	51'-10"		8"	10"		8'-10"
		8'	384	51'-10"		8"	10"		9'-10"
		9'	432	52'-3"		9"	11"		10'-10"
		10'	480	52'-8"		10"	12"		11'-10"
		11'	528	52'-10"		11"	12"		12'-10"
		12'	576	53'-0"		12"	12"		13'-10"

QUANTITIES

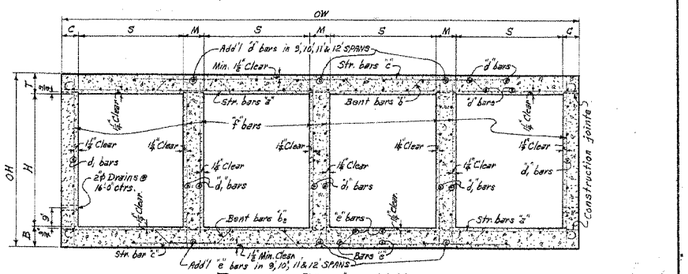
UNIT QUANTITIES

CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	REINFORCING STEEL ADDITIONAL PER LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS
CU.YD.	LB.	LB.	LB.
0.955	187.96	90.56	261.10
1.066	198.14	97.24	261.10
1.177	208.83	103.92	261.10
1.288	219.52	110.60	261.10
1.508	232.97	117.28	269.58
1.292	265.05	107.53	390.95
1.403	275.73	114.81	398.95
1.514	286.42	120.89	398.95
1.735	299.98	127.57	403.96
1.962	313.12	134.25	407.96
1.592	320.01	117.83	468.83
1.653	330.70	124.51	468.83
1.764	341.39	131.19	468.83
1.986	355.21	137.87	473.84
2.214	368.57	144.55	477.85
2.381	383.39	151.23	478.86
1.961	381.96	138.28	538.61
2.063	392.65	144.96	538.61
2.284	406.59	151.64	544.62
2.496	420.03	158.32	548.62
2.693	434.93	165.00	548.62
2.989	475.91	171.68	653.63
2.281	449.30	148.57	611.28
2.491	463.63	155.25	616.28
2.696	476.22	161.93	616.28
2.898	489.91	168.61	620.29
3.096	508.95	175.29	621.29
3.319	543.89	181.97	626.30
3.652	569.59	188.65	681.30
2.823	525.66	173.24	716.89
3.042	539.35	179.94	720.89
3.181	550.04	186.62	720.89
3.399	571.76	193.30	722.89
3.653	606.26	199.98	726.89
3.988	632.03	206.66	732.90
4.238	658.72	213.34	734.90
3.179	622.21	183.56	991.62
3.398	634.28	190.24	997.07
3.538	644.97	196.92	997.07
3.706	666.82	203.60	998.80
4.012	701.92	210.28	1005.25
4.398	728.27	216.96	1018.92
4.598	755.18	223.64	1016.15
4.961	798.37	230.32	1016.87
3.878	729.59	200.53	1091.98
4.020	740.28	207.21	1091.98
4.162	761.03	213.89	1091.98
4.965	850.25	23.086	1183.50
5.305	877.16	237.59	1197.68
5.557	904.35	244.22	1202.91
5.821	994.21	250.90	1203.13

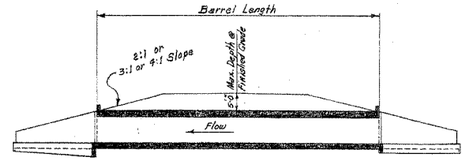


NOTE:- For details of wings and bar list see Drawing Nos. W-X002-1 or W-X002-2, and W-X003-2, and W-X004-1 or W-X004-2.

PART LONGITUDINAL SECTION



TYPICAL SECTION M-M

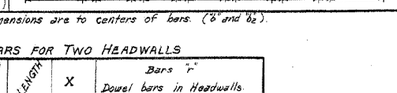


LONGITUDINAL SECTION

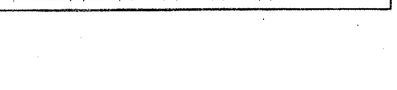
NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

BAR SIZE	PIN DIAM.	K	ADD FOR HOOKS
#5	2½"	4½"	0'-11½"
#6	3"	5"	1'-2" (Stirrups)
#6	3"	5"	0'-7" (Others)

BENDING DIAGRAM FOR BARS "b" and "b_2" — FOR 4,5,6,7 & 8 SPANS.



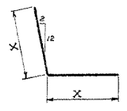
BENDING DIAGRAM FOR BARS "b" and "b_2" — FOR 9,10,11 & 12 SPANS.



NOTE:- Dimensions are to centers of bars. ("b" and "b_2").

DOWEL BARS FOR TWO HEADWALLS

# SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X	Bars "f" Dowel bars in Headwalls
4'	#4	12"±	40	2'-5"	1'-2⅝"	
5'	#4	12"±	48	2'-6"	1'-3"	
6'	#4	12"±	56	2'-7"	1'-3⅝"	
7'	#4	12"±	64	2'-8"	1'-4"	
8'	#4	12"±	72	2'-9"	1'-4⅜"	
9'	#4	12"±	80	2'-10"	1'-5"	
10'	#4	12"±	88	2'-11"	1'-5⅝"	
11'	#4	12"±	96	3'-0"	1'-6"	
12'	#4	12"±	104	3'-1"	1'-6⅜"	



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 @ 4'-0" ctrs.

UNIT STRESSES:-

Class S Concrete

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			154	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

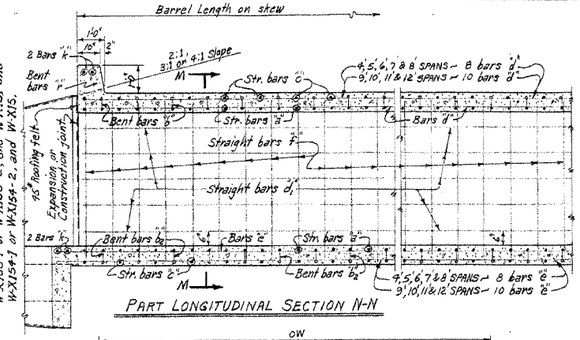
DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slab of Barrel				"b" bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with "a" and "c" bars.								"b2" bars BENT - See Diagram below. In Top and Bottom Slab bent down under 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 STRAIGHT 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. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	W	X	Y	Z	SIZE	SPACING	No. REQD	LENGTH	W	X	Y	Z	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	SPACING	No. REQD	LENGTH	SIZE	No. REQD	LENGTH
0'-0" TO 5'-0" MAXIMUM	3 @ 4'-0"	2'	#5	12"	120	14'-7"			59	15'-10"	2'-1"	0'-3"	2'-8"	3'-5½"	#5	12"	59	15'-9"	2'-1"	0'-2⅝"	2'-6"	3'-5½"	#5	12"	120	9'-8"	#5	12"	22	#4	12"	22	#4	12"	12	#4	12"	22	#4	12"	22	#5	12"	8	15'-1"
		3'			120	14'-7"			59	15'-10"	2'-1"	"	2'-8"	3'-5½"			59	15'-9"	2'-1"	"	2'-6"	3'-5½"			120	9'-8"			22			22			18			22			8	15'-1"
		4'			120	14'-7"			59	15'-10"	2'-1"	"	2'-8"	3'-5½"			59	15'-9"	2'-1"	"	2'-6"	3'-5½"			120	9'-8"			22			24			25			22			8	15'-1"
		5'			120	14'-7"			59	15'-10"	2'-1"	"	2'-8"	3'-5½"			59	15'-9"	2'-1"	"	2'-6"	3'-5½"			120	9'-8"			22			30			25			22			8	15'-1"
		6'			120	14'-11"			59	16'-2"	2'-1"	0'-3"	2'-8"	3'-6½"			59	16'-1"	2'-1"	0'-2⅝"	2'-5"	3'-6½"			120	9'-10"			22			36			25			22			8	15'-5"
	3 @ 5'-0"	3'			120	17'-8"			59	19'-0"	2'-7"	0'-3½"	2'-8"	4'-3"			59	18'-11"	2'-7"	0'-2½"	2'-6"	4'-3"			120	11'-9"			26			18			25			25			8	18'-8"
		4'			120	17'-8"			59	19'-0"	2'-7"	"	2'-8"	4'-3"			59	18'-11"	2'-7"	"	2'-6"	4'-3"			120	11'-9"			26			24			25			25			8	18'-8"
		5'			120	17'-8"			59	19'-0"	2'-7"	"	2'-8"	4'-3"			59	18'-11"	2'-7"	"	2'-6"	4'-3"			120	11'-9"			26			30			25			25			8	18'-8"
		6'			120	18'-0"			59	19'-4"	2'-7"	"	2'-9"	4'-4"			59	19'-3"	2'-7"	"	2'-10⅝"	4'-4"			120	11'-11"			26			36			25			25			8	18'-7"
		7'			120	18'-8"			59	19'-7"	2'-7"	0'-3½"	2'-10"	4'-4½"			59	19'-6"	2'-7"	0'-3"	2'-11"	4'-4½"			120	12'-1"			26			42			25			25			8	18'-10"
	3 @ 6'-0"	3'			132	20'-9"			65	22'-2"	3'-1½"	0'-4"	3'-1½"	5'-0"			65	22'-1"	3'-1½"	0'-3½"	3'-0⅝"	5'-0"			132	13'-10"			30			18			28			28			8	21'-4"
		4'			132	20'-9"			65	22'-2"	3'-1½"	"	3'-1½"	5'-0"			65	22'-1"	3'-1½"	"	3'-0⅝"	5'-0"			132	13'-10"			30			24			28			28			8	21'-4"
		5'			132	20'-9"			65	22'-2"	3'-1½"	"	3'-1½"	5'-0"			65	22'-1"	3'-1½"	"	3'-0⅝"	5'-0"			132	14'-0"			30			30			28			28			8	21'-8"
		6'			132	21'-1"			65	22'-6"	3'-1½"	"	3'-2"	5'-1"			65	22'-5"	3'-1½"	"	3'-1⅛"	5'-1"			132	14'-2"			30			36			28			28			8	21'-11"
		7'			132	21'-6"			65	22'-9"	3'-1½"	"	3'-2½"	5'-1½"			65	22'-8"	3'-1½"	"	3'-1⅝"	5'-1½"			132	14'-4"			30			42			28			28			8	21'-11"
		8'			132	21'-5"			65	23'-0"	3'-1½"	0'-4"	3'-3"	5'-2"			65	22'-9"	3'-1½"	0'-3½"	3'-1½"	5'-2"			132	14'-2"			30			48			28			28			8	22'-3"
	3 @ 7'-0"	4'			120	23'-1"			59	25'-6"	3'-7½"	0'-4½"	3'-9"	5'-9"			59	25'-6"	3'-7½"	0'-4"	3'-7"	5'-9"			120	15'-10"			32			24			31			31			8	24'-5"
		5'			120	23'-11"			59	25'-6"	3'-7½"	"	3'-7"	5'-9"			59	25'-6"	3'-7½"	"	3'-7"	5'-9"			120	15'-10"			32			30			31			31			8	24'-5"
		6'			120	24'-3"			59	25'-10"	3'-7½"	"	3'-8"	5'-10"			59	25'-10"	3'-7½"	"	3'-8½"	5'-10"			120	16'-0"			32			36			31			31			8	24'-9"
		7'			120	24'-6"			59	26'-1"	3'-7½"	"	3'-9"	5'-10½"			59	26'-0"	3'-7½"	"	3'-8⅝"	5'-10½"			120	16'-2"			32			42			31			31			8	25'-0"
		8'			120	24'-7"			59	26'-2"	3'-7½"	"	3'-9½"	5'-11"			59	26'-1"	3'-7½"	"	3'-9⅛"	5'-11"			120	16'-4"			32			48			31			31			8	25'-1"
		9'			120	24'-11"			59	26'-6"	3'-7½"	0'-4½"	3'-10"	6'-0"			59	26'-6"	3'-7½"	0'-4⅛"	3'-10⅝"	6'-0"			120	16'-6"			32			54			31			31			8	25'-5"
	3 @ 8'-0"	4'			132	27'-0"			65	28'-9"	4'-1½"	0'-5"	4'-0"	6'-7"			65	28'-9"	4'-1½"	0'-5"	4'-0"	6'-7"			132	17'-11"			36			24			35			35			8	27'-4"
		5'			132	27'-4"			65	29'-1"	4'-1½"	"	4'-1"	6'-8"			65	29'-1"	4'-1½"	"	4'-1"	6'-8"			132	18'-1"			36			30			35			35			8	27'-10"
		6'			132	27'-8"			65	29'-4"	4'-1½"	"	4'-2"	6'-8½"			65	29'-4"	4'-1½"	"	4'-1"	6'-8½"			132	18'-3"			36			36			35			35			8	28'-1"
		7'			132	27'-11"			65	29'-7"	4'-1½"	"	4'-2½"	6'-9"			65	29'-7"	4'-1½"	"	4'-1"	6'-9"			132	18'-5"			36			42			35			35			8	28'-4"
		8'			132	28'-2"			65	29'-10"	4'-1½"	"	4'-3"	6'-10"			65	29'-10"	4'-1½"	"	4'-1"	6'-10"			132	18'-7"			36			48			35			35			8	28'-7"
		9'			132	28'-6"			65	30'-1"	4'-1½"	0'-5"	4'-4"	6'-11"			65	30'-1"	4'-1½"	0'-5"	4'-1"	6'-11"			132	18'-9"			36			54			35			35			8	28'-11"
		10'			132	28'-9"			65	30'-4"	4'-1½"	0'-5"	4'-4½"	6'-11"			65	30'-4"	4'-1½"	0'-5"	4'-1⅝"	6'-11"			132	18'-11"			36			60			35			35			8	29'-2"
	3 @ 9'-0"	5'			132	30'-5"			65	32'-2"	4'-8"	0'-5½"	4'-6"	7'-5"			65	32'-2"	4'-8"	0'-5"	4'-6"	7'-5"			132	20'-2"			41			30			40			40			8	31'-0"
		6'			132	30'-8"			65	32'-5"	4'-8"	"	4'-7"	7'-5½"			65	32'-5"	4'-8"	"	4'-7"	7'-5½"			132	20'-4"			41			36			40			40			8	31'-3"
		7'			132	30'-8"			65	32'-5"	4'-8"	"	4'-7"	7'-5½"			65	32'-5"	4'-8"	"	4'-7"	7'-6"			132	20'-4"			41			42			40			40			8	31'-3"
		8'			132	30'-9"			65	32'-6"	4'-8"	"	4'-7"	7'-6"			65	32'-6"	4'-8"	"	4'-7"	7'-6"			132	20'-4"			41			48			40			40			8	31'-3"
		9'			132	31'-1"			65	32'-10"	4'-8"	"	4'-8"	7'-7"			65	32'-10"	4'-8"	"	4'-8"	7'-7"			132	20'-6"			41			54			40			40			8	31'-8"
		10'			132	31'-6"			65	33'-2"	4'-8"	"	4'-9"	7'-8"			65	33'-2"	4'-8"	"	4'-8"	7'-8"			132	20'-8"			41			60			40			40			8	32'-0"
		11'			132	31'-8"			65	33'-4"	4'-8"	0'-5½"	4'-9"	7'-8"			65	33'-4"	4'-8"	0'-5"	4'-9"	7'-9"			132	20'-8"			41			66			40			40			8	32'-2"
	3 @ 10'-0"	5'			120	33'-7"			59	35'-5"	5'-2"	0'-6"	4'-8"	8'-3"			59	35'-5"	5'-2"	0'-6"	4'-8"	8'-3"			120	22'-3"			44			30			43			43			8	38'-1"
		6'			120	33'-10"			59	35'-8"	5'-2"	"	5'-0"	8'-3½"			59	35'-8"	5'-2"	"	5'-0"	8'-3½"			120	22'-5"			44			36			43			43			8	38'-4"
		7'			120	33'-10"			59	35'-8"	5'-2"	"	5'-0"	8'-3½"			59	35'-8"	5'-2"	"	5'-0"	8'-3½"			120	22'-5"			44			42			43			43			8	38'-4"
		8'			120	33'-11"			59	35'-9"	5'-2"	"	5'-0"	8'-4"			59	35'-9"	5'-2"	"	5'-0"	8'-4"			120	22'-5"			44			48			43			43			8	38'-5"
		9'			120	34'-5"			59	36'-1"	5'-2"	"	5'-1"	8'-5"			59	36'-1"	5'-2"	"	5'-1"	8'-5"			120	22'-7"			44			54			43			43			8	38'-9"
		10'			120	34'-7"			59	36'-5"	5'-2"	"	5'-2"	8'-6"			59	36'-5"	5'-2"	"	5'-2"	8'-6"			120	22'-9"			44			60			43			43			8	38'-11"
		11'			120	34'-9"			59	36'-7"	5'-2"	"	5'-2"	8'-7"			59	36'-7"	5'-2"	"	5'-2"	8'-7"			120	22'-9"			44			66			43			43			8	39'-1"
		12'			120	34'-11"			59	36'-9"	5'-2"	0'-6"	5'-2"	8'-8"			59	36'-9"	5'-2"	0'-6"	5'-2"	8'-8"			120	22'-9"			44			72			#3						8	39'-4"
	3 @ 11'-0"	6'			132	37'-0"			65	38'-11"	5'-8"	0'-6½"	5'-5½"	9'-1"			65	38'-11"	5'-8"	0'-6"	5'-5½"	9'-1"			132	24'-6"			48			36			46			46			8	42'-6"
		7'			132	37'-0"			65	38'-11"	5'-8"	"	5'-5½"	9'-1"			65	38'-11"	5'-8"	"	5'-5½"	9'-1"			132	24'-6"			48			42			46			46			8	42'-6"
		8'			132	37'-0"			65	38'-11"	5'-8"	"	5'-5½"	9'-1"			65	38'-11"	5'-8"	"	5'-5½"	9'-1"			132	24'-6"			48			48			46			46			8	42'-6"
		9'			132	37'-4"			65	39'-3"	5'-8"	"	5'-6"	9'-2"			65	39'-3"	5'-8"	"	5'-6"	9'-2"			132	24'-8"			48			54			46			46			8	42'-9"
		10'			132	37'-8"			65	39'-7"	5'-8"	"	5'-7"	9'-3"			65	39'-7"	5'-8"	"	5'-7"	9'-3"			132	24'-10"			48			60			46			46			8	43'-0"
		11'			132	37'-11"			65	39'-11"	5'-8"	"	5'-7½"	9'-4"			65	39'-11"	5'-8"	"	5'-7½"	9'-4"			132	24'-10"			48			66			46			46			8	43'-3"
		12'			132	38'-0"			65	40'-3"	5'-8"	0'-6½"	5'-8"	9'-5"			65	40'-3"	5'-8"	0'-6"	5'-7½"	9'-5"			132	24'-10"			48			72			#3						8	43'-6"
	3 @ 12'-0"	6'			132	40'-1"			65	42'-1"	6'-3"	0'-7"	5'-10½"	9'-10"			65	42'-1"	6'-3"	0'-7"	5'-10½"	9'-10"			132	26'-7"			51			36			49			49			8	46'-8"
		7'			132	40'-1"			65	42'-1"	6'-3"	"	5'-10½"	9'-10"			65	42'-1"	6'-3"	"	5'-10½"	9'-10"			132	26'-7"			51			42			49			49			8	46'-8"
		8'			132	40'-1"			65	42'-1"	6'-3"	"	5'-10½"	9'-10"			65	42'-1"	6'-3"	"	5'-10½"	9'-10"			132	26'-7"			51			48			49			49			8	46'-8"
		9'			132	40'-5"			65	42'-6"	6'-3"	"	5'-11"	9'-11"			65	42'-6"	6'-3"	"	5'-11"	9'-11"			132	26'-9"			51			54			49			49			8	46'-11"
		10'			132	40'-9"			65	42'-9"	6'-3"	"	6'-0"	10'-0"			65	42'-9"	6'-3"	"	6'-0½"	10'-0"			132	26'-11"			51			60			49			49			8	47'-2"
		11'			132	40'-11"			65	43'-0"	6'-3"	"	6'-0"	10'-1"			65	42'-11"	6'-3"	"	6'-0½"	10'-1"			132	26'-11"			51			66			49			49			8	47'-5"
		12'			132	41'-1"			65	43'-3"	6'-3"	0'-7"	6'-0½"	10'-2"			65	43'-1"	6'-3"	0'-7"	6'-0½"	10'-2"			132	26'-11"			51			72			49			49			8	47'-8"

NOTE:- The "a", "b", "b2", and "c" bars are to be placed parallel with the headwalls, ⊕ These bars may be spliced at ¢ of one division wall. (2'-4" and 3'-6" laps.) spacing to be parallel with barrel.

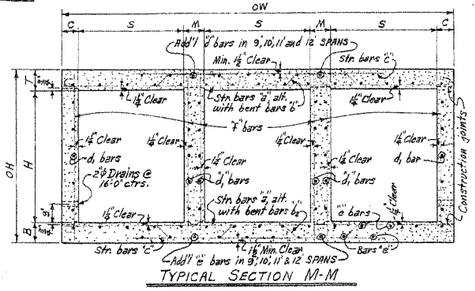
DIMENSIONS

MAX. DESIGN DEPTH OF COVER	CLEAR SPAN	BARREL DIMENSIONS: CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS OF SIDEWALL TYPE WALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALL	UNIT QUANTITIES: CLASS 'S' CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. BARREL	REINFORCING STEEL ADDITIONAL PER LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	M	B	OH	RL	K	CU.YD.	LB.	LB.	LB.
5'-0"	3 @ 4'-0"	2'	24	14'-4"	6½"	6"	8"	6"	3'-0⅝"	14'-10"	15'-4½"	0.726	140.54	66.63	203.68
		3'	36	14'-4"		6"	8"		4'-0⅝"	"	"	0.812	148.54	71.69	203.68
		4'	48	14'-4"		6"	8"		5'-0⅝"	"	"	0.899	156.57	76.65	208.68
		5'	60	14'-4"		6"	8"		6'-0⅝"	"	"	0.985	164.59	81.66	208.68
		6'	72	14'-8"		7"	9"		7'-0⅝"	15'-2⅝"	15'-8½"	1.158	174.39	86.67	206.96
	3 @ 5'-0"	3'	45	17'-4"	7"	6"	8"	6½"	4'-1⅝"	17'-11⅝"	18'-5½"	0.981	198.46	81.10	311.81
		4'	60	17'-4"		6"	8"		5'-1⅝"	"	"	1.068	207.97	86.11	311.81
		5'	75	17'-4"		6"	8"		6'-1⅝"	"	"	1.156	215.89	91.12	311.81
		6'	90	17'-8"		7"	9"		7'-1⅝"	18'-3⅝"	18'-10"	1.329	225.70	96.13	316.82
		7'	105	17'-11"		7½"	10"		8'-1⅝"	18'-6⅝"	19'-1"	1.503	235.49	101.14	319.32
	3 @ 6'-0"	3'	54	20'-4"	7"	6"	8"	7½"	4'-2⅝"	21'-0⅜"	21'-7"	1.169	241.73	90.56	366.25
		4'	72	20'-4"		6"	8"		5'-2⅝"	"	"	1.256	249.75	95.57	366.28
		5'	90	20'-4"		6"	8"		6'-2⅝"	"	"	1.342	257.76	100.58	366.23
		6'	108	20'-8"		7"	9"		7'-2⅝"	21'-1⅝"	21'-11"	1.517	268.18	105.59	370.23
		7'	126	20'-11"		7½"	10"		8'-2⅝"	21'-7⅜"	22'-2½"	1.692	278.18	110.60	373.24
		8'	144	21'-0"		8"	10"		9'-2⅝"	21'-9⅜"	22'-3⅝"	1.829	283.82	115.61	379.24
	3 @ 7'-0"	4'	84	23'-4"	8"	6"	8"	8½"	5'-3⅝"	24'-1⅝"	24'-9½"	1.980	286.50	101.55	420.31
		5'	105	23'-4"		6"	8"		6'-3⅝"	"	"	1.566	294.52	106.56	420.31
		6'	126	23'-8"		7"	9"		7'-3⅝"	24'-6"	25'-0½"	1.743	305.06	111.57	424.32
		7'	147	23'-11"		7½"	10"		8'-3⅝"	24'-9⅜"	25'-3½"	1.919	315.04	116.58	427.32
		8'	168	24'-0"		8"	10"		9'-3⅝"	24'-10⅝"	25'-4½"	2.056	323.85	121.59	428.32
		9'	189	24'-4"		9"	11"		10'-3⅝"	25'-2⅝"	25'-8½"	2.294	356.78	126.60	432.33
	3 @ 8'-0"	4'	96	26'-4"	9"	6"	8"	9½"	5'-4⅜"	27'-3⅜"	27'-9¼"	1.727	339.08	111.85	480.07
		5'	120	26'-8"		7"	9"		6'-5"	27'-7⅜"	28'-1¼"	1.893	349.89	116.86	484.08
		6'	144	26'-8"		7"	9"		7'-5"	27'-7⅜"	"	1.892	357.06	121.87	484.08
		7'	168	26'-11"		7½"	10"		8'-5"	27'-10⅜"	28'-4⅝"	2.168	368.04	126.88	487.08
		8'	192	27'-0"		8"	10"		9'-5"	27'-10⅜"	28'-5⅛"	2.306	383.95	131.89	488.08
		9'	216	27'-6"		9"	11"		10'-5"	28'-3⅜"	28'-10"	2.595	410.23	136.90	493.09
		10'	240	27'-8"		10"	12"		11'-5"	28'-7⅜"	29'-2⅝"	2.810	429.58	141.91	497.09
	3 @ 9'-0"	5'	135	29'-8"	9½"	7"	9"	10½"	6'-6"	30'-8⅜"	31'-3"	2.142	385.75	129.72	593.28
		6'	162	29'-11"		7½"	10"		7'-6"	30'-11⅜"	31'-6"	2.310	395.96	134.73	596.29
		7'	189	29'-11"		7½"	10"		8'-6"	"	"	2.478	403.97	139.74	596.29
		8'	216	30'-0"		8"	10"		9'-6"	31'-0⅜"	31'-7⅝"	2.556	419.95	144.75	597.29
		9'	243	30'-4"		9"	11"		10'-6"	31'-4⅜"	31'-11⅝"	2.796	446.39	149.76	551.29
		10'	270	30'-8"		10"	12"		11'-6"	31'-9"	32'-3½"	3.062	464.01	154.77	555.30
		11'	297	30'-10"		11"	12"		12'-6"	31'-11"	32'-5½"	3.275	496.30	159.78	557.30
	3 @ 10'-0"	5'	150	32'-8"	9½"	7"	9"	10½"	6'-7"	33'-8⅜"	34'-3½"	2.409	454.69	137.99	747.27
		6'	180	32'-11"		7½"	10"		7'-7"	34'-1⅜"	34'-7½"	2.578	465.15	142.95	751.35
		7'	210	32'-11"		7½"	10"		8'-7"	"	"	2.686	478.17	147.96	751.35
		8'	240	33'-0"		8"	10"		9'-7"	34'-2⅜"	34'-8½"	2.824	488.35	152.97	752.32
		9'	270	33'-4"		9"	11"		10'-7"	34'-6⅜"	35'-0½"	3.064	516.93	157.98	758.17
		10'	300	33'-8"		10"	12"		11'-7"	34'-10⅜"	35'-4½"	3.332	533.84	162.99	763.62
		11'	330	33'-10"		11"	12"		12'-7"	35'-0⅜"	35'-6½"	3.596	556.28	167.50	766.84
		12'	360	34'-0"		12"	12"		13'-7"	35'-2⅜"	35'-8½"	3.772	589.01	172.51	769.07
	3 @ 11'-0"	6'	198	36'-0"	10"	8"	10"	10½"	7'-8"	37'-3¾"	37'-9⅜"	2.889	536.37	151.91	822.95
		7'	231	36'-0"		8"	10"		8'-8"	"	"	3.000	544.38	156.92	822.95
		8'	264	36'-0"		8"	10"		9'-8"	"	"	3.111	552.95	161.93	822.95
		9'	297	36'-4"		9"	11"		10'-8"	37'-7⅜"	38'-1⅝"	3.354	587.18	166.94	828.40
		10'	330	36'-8"		10"	12"		11'-8"	37'-11⅜"	38'-6"	3.621	602.24	171.95	835.22
		11'	363	36'-10"		11"	12"		12'-8"	38'-1⅜"	38'-8"	3.835	627.86	176.96	837.94
		12'	396	37'-0"		12"	12"		13'-8"	38'-3⅜"	38'-10"	4.062	660.82	181.97	840.67
	3 @ 12'-0"	6'	216	39'-0"	10½"	8"	10"	10½"	7'-9"	40'-4⅜"	40'-11"	3.194	575.25	159.68	895.22
		7'	252	39'-0"		8"	10"		8'-9"	"	"	3.306	583.37	164.69	895.22
		8'	288	39'-0"		8"	10"		9'-9"	"	"	3.417	598.90	169.65	895.22
		9'	324	39'-4"		9"	11"		10'-9"	40'-8⅜"	41'-3"	3.660	626.25	179.66	900.67
		10'	360	39'-8"		10"	12"		11'-9"	41'-0⅜"	41'-7⅛"	3.929	644.38	179.67	906.12
		11'	396	39'-10"		11"	12"		12'-9"	41'-2⅜"	41'-9⅜"	4.144	667.04	184.68	908.85
		12'	432	40'-0"		12"	12"		13'-9"	41'-4⅜"	41'-11⅝"	4.370	700.18	189.69	911.57

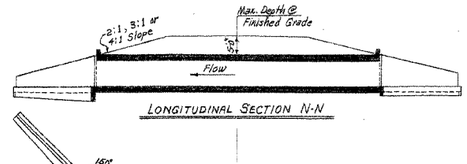
NOTE:- For details of wings and box lists see Drawing Nos. W-X152-1, and W-X152-2, and W-X153-1, and W-X153-2, and W-X154-1, and W-X154-2, and W-X15.



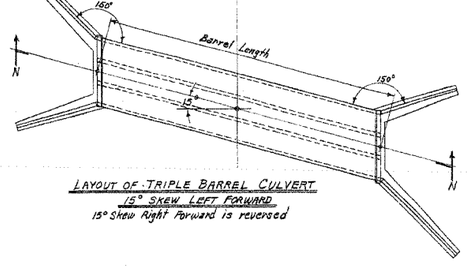
PART LONGITUDINAL SECTION N-N



TYPICAL SECTION M-M



LONGITUDINAL SECTION N-N



LAYOUT OF TRIPLE BARREL CULVERT
15° SKEW LEFT FORWARD
15° Skew Right Forward is reversed

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2½"	4⅝"	0'-11⅝"
#6	3"	5"	1'-2"

BENDING DIAGRAM FOR BARS "b" and "b2"

NOTE:- Dimensions are to centers of bars.

SPANS @	SIZE	SPACING	No. REQD	LENGTH	X
4'	#4	12"

RESHOT 3-8-93

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FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			155	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 30° SKEWED ENDS.

NOTE:- For Details of Standard Wings and bar lists, see Drawing No. W-X.302-1 or W-X.302-2; W-X.303-1 or W-X.303-2, and W-X.304-1 or W-X.304-2. Also W-X30.

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'a' bars STRAIGHT In Top and Bottom Slabs of Barrel. SIZE	SPACING	NO. REQD	LENGTH	'a1' bars STRAIGHT In Top and Bottom Slab of Barrel - (Four of each Length) SIZE	SPACING	NO. REQD	LENGTH Max.	LENGTH Min.	'b' bars BENT - See Diagrams below In Top and Bottom Slabs of Barrel - hooked. Alternate with 'a' bars SIZE	SPACING	NO. REQD	LENGTH	X
5'-0" TO 5'-0" MAXIMUM	4'	2'			108	4'-9"			4	2'-11"	—			108	5'-10"	4'-8"
		3'			108	4'-9"			4	"	—			108	5'-10"	"
		4'	#5	13"	108	4'-9"	#5	13"	4	"	—	#6	13"	108	5'-10"	"
		5'			108	4'-9"			4	"	—			108	5'-10"	"
		6'			108	4'-11"			4	3'-1"	—			108	6'-0"	4'-10"
	5'	3'			108	5'-9"			4	3'-1"	—			106	6'-10"	5'-8"
		4'			108	5'-9"			4	"	—			106	6'-10"	"
		5'	#6	18"	108	5'-9"	#6	13"	4	4'-1"	—	#6	18"	106	7'-0"	5'-10"
		6'			108	5'-11"			4	4'-12"	—			106	7'-1"	5'-10"
		7'			108	6'-10"			4	5'-2"	—			106	7'-1"	5'-10"
	6'	3'			114	6'-9"			8	5'-0"	3'-8"			114	7'-10"	6'-8"
		4'			114	6'-9"			8	"	"			114	7'-10"	"
		5'	#6	12"	114	6'-9"	#6	12"	8	5'-2"	3'-5"	#6	12"	114	7'-10"	"
		6'			114	6'-11"			8	5'-8"	3'-6"			114	8'-1"	6'-11"
		7'			114	7'-10"			8	5'-9"	3'-6"			114	8'-2"	7'-0"
		8'			114	7'-11"			8	5'-9"	3'-7"			114	8'-2"	7'-0"
	7'	4'			122	7'-9"			12	6'-2"	3'-10"			122	8'-10"	7'-8"
		5'			122	7'-9"			12	"	"			122	8'-10"	"
		6'	#6	11"	122	7'-11"	#6	11"	12	6'-9"	3'-12"	#6	11"	122	9'-0"	7'-10"
		7'			122	8'-0"			12	6'-5"	3'-9"			122	9'-1"	7'-11"
		8'			124	8'-1"			12	6'-6"	3'-9"			122	9'-2"	8'-0"
		9'			124	8'-3"			12	6'-8"	3'-6"			122	9'-4"	8'-2"
	8'	4'			112	8'-8"			12	7'-0"	3'-6"			112	9'-10"	8'-8"
		5'			112	8'-11"			12	7'-2"	3'-8"			112	10'-0"	8'-10"
		6'	#6	12"	112	8'-11"	#6	12"	12	"	"	#6	12"	112	10'-0"	"
		7'			112	9'-0"			12	7'-3"	3'-8"			112	10'-1"	8'-11"
		8'			112	9'-1"			12	7'-4"	3'-10"			112	10'-2"	9'-1"
		9'			112	9'-3"			12	7'-6"	4'-0"			112	10'-4"	9'-2"
		10'			112	9'-5"			16	7'-8"	2'-5"			110	10'-6"	9'-4"
	9'	5'			122	9'-11"			16	8'-9"	3'-7"			120	11'-0"	9'-10"
		6'			122	10'-0"			16	8'-5"	3'-8"			120	11'-1"	9'-11"
		7'	#6	11"	122	10'-0"	#7	11"	16	"	"	#6	11"	120	11'-1"	9'-11"
		8'	#7	11"	122	10'-1"			16	8'-6"	3'-9"			120	11'-2"	10'-0"
		9'			120	10'-3"			20	8'-8"	3'-8"			120	11'-4"	10'-2"
		10'			120	10'-5"			20	8'-9"	3'-9"			120	11'-6"	10'-4"
	10'	6'			110	10'-11"			16	9'-2"	3'-11"			110	12'-2"	10'-10"
		7'			110	11'-0"			16	9'-3"	4'-0"			110	12'-3"	10'-11"
		8'	#7	12"	110	11'-0"	#7	12"	16	"	"	#7	12"	110	12'-3"	10'-11"
		9'			110	11'-3"			20	9'-4"	2'-6"			110	12'-4"	11'-0"
		10'			110	11'-5"			20	9'-6"	2'-8"			108	12'-5"	11'-1"
		11'			110	11'-7"			20	9'-10"	2'-10"			108	12'-10"	11'-6"
		12'			110	11'-9"			20	10'-0"	3'-0"			108	13'-0"	11'-8"
	11'	6'			118	12'-1"			24	10'-6"	2'-7"			118	13'-4"	12'-0"
		7'			118	12'-1"			24	"	"			118	13'-4"	"
		8'			118	12'-1"			24	"	"			118	13'-4"	"
		9'	#7	11"	118	12'-8"	#7	11"	24	10'-8"	2'-9"	#7	11"	118	13'-6"	12'-2"
		10'			118	12'-5"			24	10'-10"	2'-11"			116	13'-8"	12'-4"
		11'			118	12'-7"			24	11'-0"	3'-1"			116	13'-10"	12'-6"
		12'			118	12'-9"			24	11'-2"	3'-3"			116	14'-0"	12'-8"
	12'	6'			108	13'-1"			26	11'-4"	2'-7"			106	14'-4"	13'-0"
		7'			108	13'-1"			24	"	"			106	14'-6"	"
		8'			108	13'-1"			24	"	"			106	14'-6"	"
		9'	#8	12"	108	13'-3"	#8	12"	24	11'-6"	2'-9"	#7	12"	106	14'-8"	13'-2"
		10'			108	13'-5"			24	11'-8"	2'-11"			106	14'-8"	13'-4"
		11'			108	13'-7"			24	11'-10"	3'-1"			106	14'-10"	13'-6"
		12'			106	13'-9"			24	12'-0"	3'-3"			106	15'-0"	13'-8"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'b1' bars BENT - See Diagrams below In Top and Bottom Slabs of Barrel - one end hooked. (Four of each Length) Alternate with 'a1' bars SIZE	SPACING	NO. REQD	LENGTH	X	'd' bars STRAIGHT Longitudinal in Top Slab of Barrel. SIZE	SPACING	NO. REQD	LENGTH	'd1' bars STRAIGHT Longitudinal in Sidewalls. SIZE	SPACING	NO. REQD	LENGTH
						MAX.	MIN.								
5'-0" TO 5'-0" MAXIMUM	4'	2'			4	4'-5"	3'-10"	#5	10½"	6		#4	12"	4	
		3'			4	"	"			6				6	
		4'	#5	13"	4	"	"			6				6	
		5'			4	"	"			6				6	
		6'			8	4'-8"	2'-8"			6				6	
	5'	3'			8	5'-5"	3'-6"			6				6	
		4'			8	"	"			6				6	
		5'	#6	18"	8	"	"	#5	10½"	6		#4	12"	6	
		6'			8	5'-7"	3'-8"			6				6	
		7'			8	5'-8"	3'-9"			6				6	
		8'			8	5'-9"	3'-10"			6				6	
	6'	3'			12	6'-5"	2'-11"			6				7	
		4'			12	"	"			6				7	
		5'	#6	12"	12	6'-7"	3'-1"	#5	10½"	6		#4	12"	7	
		6'			12	6'-8"	3'-2"			6				7	
		7'			12	7'-0"	3'-1"			6				7	
		8'			12	7'-0"	3'-3"			6				7	
	7'	4'			16	7'-6"	2'-11"			6				8	
		5'			16	7'-7"	3'-1"			6				8	
		6'	#6	11"	16	7'-9"	3'-0"	#5	10½"	6		#4	12"	8	
		7'			16	7'-10"	3'-1"			6				8	
		8'			16	8'-0"	3'-3"			6				8	
		9'			16	8'-2"	3'-4"			6				8	
	8'	4'			16	8'-5"	3'-2"			6				9	
		5'			16	8'-7"	3'-4"			6				9	
		6'	#6	12"	16	8'-8"	3'-5"	#5	10½"	6		#4	12"	9	
		7'	#7	12"	16	8'-9"	3'-6"			6				9	
		8'			16	8'-11"	3'-8"			6				9	
		9'			16	9'-1"	3'-9"			6				9	
		10'			16	9'-2"	3'-11"			6				9	
	9'	5'			20	9'-8"	3'-4"			6				10	
		6'			20	9'-9"	3'-5"			6				10	
		7'	#7	11"	20	9'-10"	3'-6"	#5	10½"	6		#4	12"	10	
		8'			20	10'-0"	3'-8"			6				10	
		9'			20	10'-2"	3'-9"			6				10	
		10'			20	10'-4"	4'-0"			6				10	
	10'	6'			20	10'-8"	3'-8"			6				11	
		7'			20	10'-9"	3'-9"			6				11	
		8'	#7	12"	20	10'-11"	3'-10"	#5	10½"	6		#4	12"	11	
		9'			20	11'-0"	4'-0"			6				11	
		10'			20	11'-2"	4'-1"			6				11	
		11'			20	11'-4"	4'-3"			6				11	
		12'			20	11'-6"	4'-6"			6				11	
	11'	6'			24	11'-4"	4'-0"			6				12	
		7'			24	"	"			6				12	
		8'			24	"	"			6				12	
		9'	#7	11"	24	12'-0"	4'-3"	#5	10½"	6		#4	12"	12	
		10'			24	12'-2"	4'-5"			6				12	
		11'			24	12'-4"	4'-7"			6				12	
		12'			24	12'-6"	4'-9"			6				12	
	12'	6'			24	12'-10"	4'-1"			6				13	
		7'			24	"	"			6				13	
		8'			24	"	"			6				13	
		9'	#8	12"	24	13'-0"	4'-3"	#5	10½"	6		#4	12"	13	
		10'			24	13'-2"	4'-5"			6				13	
		11'			24	13'-4"	4'-7"			6				13	
		12'			24	13'-6"	4'-9"			6				13	

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'e' bars STRAIGHT Longitudinal in Bottom Slab of Barrel. SIZE	SPACING	NO. REQD	LENGTH	'f' bars STRAIGHT Verticals in Sidewalls. SIZE	SPACING	NO. REQD	LENGTH	'k1' bars STRAIGHT In Bottom of Headwall. SIZE	NO. REQD	LENGTH	'k2' bars STRAIGHT In Top of Headwall and Apron (2 Each) SIZE	NO. REQD	LENGTH
5'-0" TO 5'-0" MAXIMUM	4'	2'			5			12"	120	2'-11"	#5	6	5'-6"		8	6'-8"
		3'			5				120	3'-11"		6	"		8	"
		4'	#4	12"	5		#5		120	4'-11"		6	"	#5	8	"
		5'			5				120	5'-11"		6	"		8	"
		6'			5				120	6'-11"		6	5'-8"		8	6'-10"
	5'	3'			6				120	4'-10"		6	6'-3"		8	7'-10"
		4'			6				120	5'-0"		6	"		8	"
		5'	#4	12"	6		#5	12"	120	6'-0"	#5	6	"	#5	8	"
		6'			6				120	7'-0"		6	6'-10"		8	8'-0"
		7'			6				120	8'-0"		6	6'-11"		8	8'-1"
	6'	3'			6				120	4'-11"		6	7'-10"		8	9'-0"
		4'			6				120	5'-1"		6	"		8	"
		5'	#4	12"	6		#5	12"	120	6'-1"	#5	6	"	#5	8	"
		6'			6				120	7'-1"		6	8'-0"		8	9'-2"
		7'			6				120	8'-1"		6	8'-1"		8	9'-3"
		8'			6				120	9'-1"		6	8'-2"		8	9'-4"
	7'	4'			8				120	5'-2"		6	9'-0"		8	10'-2"
		5'			8				120	6'-2"		6	"		8	"
		6'	#4	12"	8		#5	12"	120	7'-2"	#5	6	9'-2"	#5	8	10'-4"
		7'			8				120	8'-2"		6	9'-3"		8	10'-5"
		8'			8				120	9'-2"		6	9'-4"		8	10'-6"
		9'			8				120	10'-2"		6	9'-6"		8	10'-8"
	8'	4'			9				120	5'-4"		6	10'-1"		8	11'-3"
		5'			9				120	6'-4"		6	10'-3"		8	11'-6"
		6'	#4	12"	9		#5	12"	120	7'-4"	#5	6	10'-5"	#5	8	11'-9"
		7'			9				120	8'-4"		6	10'-6"		8	11'-11"
		8'			9				120	9'-4"		6	10'-8"		8	12'-0"
		9'			9				132	11'-6"		6	10'-11"		8	12'-3"
	9'	5'			10				120	6'-5"		6	11'-5"		8	12'-7"
		6'			10				120	7'-5"		6	11'-7"		8	12'-9"
		7'	#4	12"	10		#5	12"	120	8'-5"	#5	6	11'-9"	#5	8	13'-0"
		8'			10				144	9'-5"		6	11'-9"		8	13'-0"
		9'			10				120	10'-5"		6	11'-10"		8	13'-2"
		10'			10				132	11'-5"		6	12'-1"		8	13'-5"
	10'	6'			11				120	6'-6"		6	12'-3"		8	13'-9"
		7'			11				120	7'-6"		6	12'-5"		8	13'-11"
		8'	#4	12"	11		#5	12"	120	8'-6"	#5	6	12'-6"	#5	8	14'-1"
		9'			11				144	9'-6"		6	12'-8"		8	14'-3"
		10'			11				120	10'-6"		6	12'-10"		8	14'-5"
		11'			11				132	11'-5"		6	13'-0"		8	14'-7"
		12'			11				144	12'-5"		6	13'-2"		8	14'-9"
	11'	6'			12				120	7'-0"		6	13'-4"		8	15'-0"
		7'			12				120	8'-0"		6	13'-6"		8	15'-2"
		8'	#4	12"	12		#5	12"	120	9'-0"	#5	6	13'-8"	#5	8	15'-4"
		9'			12				144	10'-0"		6	13'-10"		8	15'-6"
		10'			12				120	11'-0"		6	14'-0"		8	15'-8"
		11'			12				132	12'-0"		6	14'-2"		8	15'-10"
		12'			12				144	13'-0"		6	14'-4"		8	16'-0"
	12'	6'			13				120	7'-6"		6	14'-6"		8	16'-2"
		7'			13				120	8'-6"		6	14'-8"		8	16'-4"
		8'	#4	12"	13		#5	12"	120	9'-6"	#5	6	14'-10"	#5	8	16'-6"
		9'			13				144	10'-6"		6	15'-0"		8	16'-8"
		10'			13				120	11'-6"		6	15'-2"		8	16'-10"
		11'			13				132	12'-6"		6	15'-4"		8	17'-0"
		12'			13				144	13'-6"		6	15'-6"		8	17'-2"

These bars are in the skewed portion of barrel only. The length of 'a' bars and overall length X of 'b' bars vary by 1'-11" for 13" spacing, 1'-9" for 12" spacing and 1'-7" for 11" spacing.

BAR SIZE	PIN DIAM.	K	ADD FOR HOOKS	BENDING DIAGRAMS FOR BARS 'b' & 'b1'
#6	3"	5"	1'-2"	2 HOOKS
#7	3½"	5¾"	1'-4"	
#6	3"	5"	0'-7"	1 HOOK
#7	3½"	5¾"	0'-8"	

'b' bars — Pin diam — X

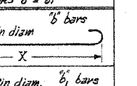
'b1' bars — Pin diam. — X

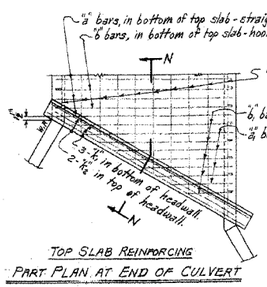
NOTE:- Dimensions are to centers of bars. ('b' and 'b1')

DOWEL BARS FOR TWO HEADWALLS

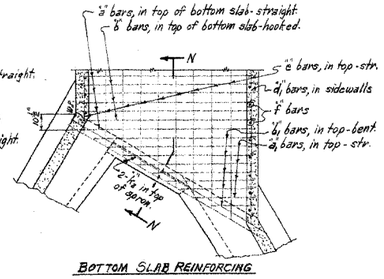
SPAN	SIZE	SPACING	NO. REQD	LENGTH	X
4'	#6	12"s	12	2'-4"	1'-3"
5'	#6	12"s	14	2'-7"	1'-5½"
6'	#6	12"s	18	2'-8"	1'-4"
7'	#6	12"s	20	2'-9"	1'-3½"
8'	#6	12"s	22	2'-11"	1'-5½"
9'	#6	12"s	26	3'-0"	1'-6"
10'	#6	12"s	28	3'-1"	1'-6½"
11'	#6	12"s	30	3'-2"	1'-7"
12'	#6	12"s	32	3'-3"	1'-7½"

Dowel bars 'k' in Two Headwalls.

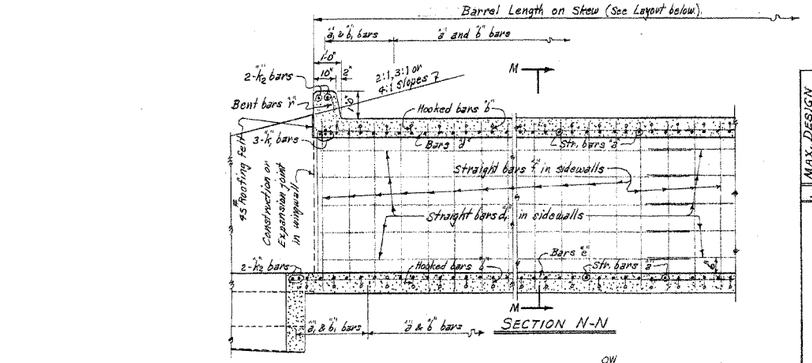


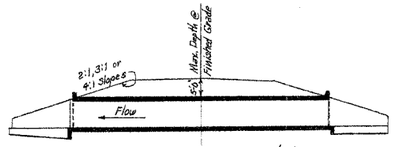


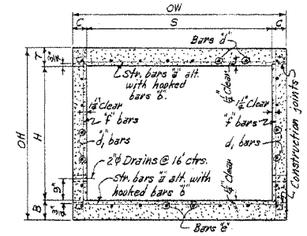
TOP SLAB REINFORCING
PART PLAN AT END OF CULVERT

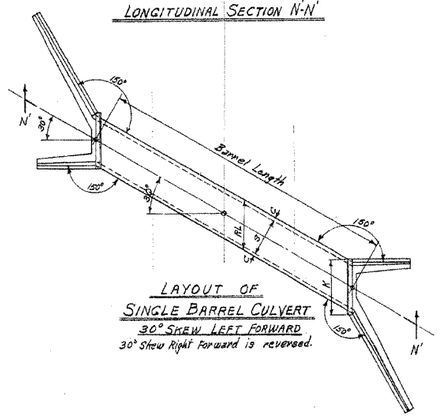


BOTTOM SLAB REINFORCING
PART PLAN AT END OF CULVERT









DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961

AND

SPECIAL MILITARY LOADING

Two 24,000 Lb. Axles @ 4'-0" ctrs

UNIT STRESSES:-

Class S Concrete (n=10)	1200 #/□"
Reinforcing Steel	20,000 #/□"

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X.302-1 or W-X.302-2, W-X.303-1 or W-X.303-2, and W-X.304-1 or W-X.304-2. Also W-X30.

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 50 diameters min.

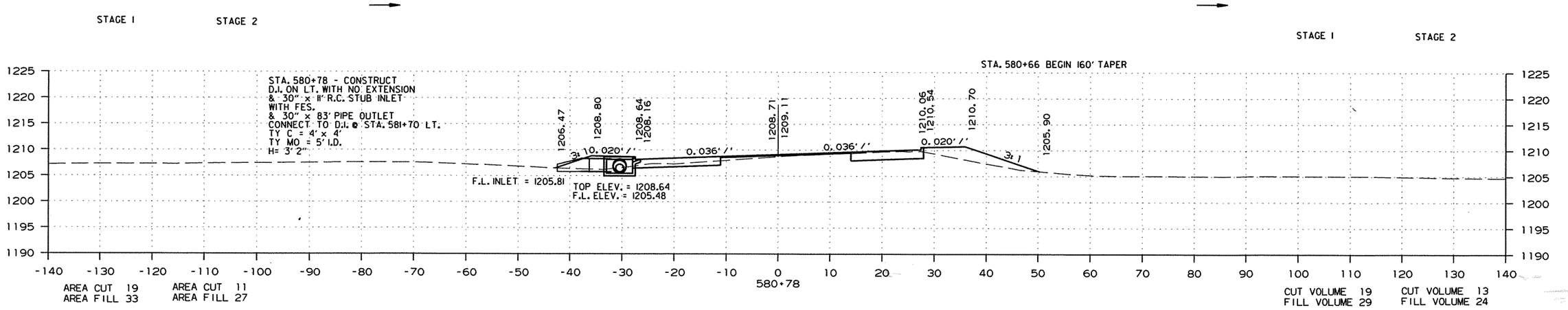
CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

MAX. DESIGN DEPTH OF COVER D	CLEAR SPANS S	CLEAR HEIGHT H	SQ.FT. OPENING A	OVERALL WIDTH OW	THICKNESS OF TOP SLAB T	THICKNESS OF SIDEWALLS C	THICKNESS OF BOTTOM SLAB B	OVERALL HEIGHT OH	ROADWAY LENGTH RL	LENGTH OF HEADWALLS K	CLASS S CONC. PER LIN. FT. OF BARREL CU.YD.	REINFORCING STEEL TOTAL FOR LENGTH OF BARREL LB.	REINFORCING STEEL PER LIN. FT. OF BARREL LB.	REINFORCING STEEL ADDITIONAL PER LAP LB.
5'-0"	4'	2'	8	5'-0"	6"	6"	6½"	3'-1½"	5'-9½"	6'-11⅝"	0.282	2622	41.99	17.95
		3'	12	5'-0"	6"	6"		4'-1½"	"	"	0.313	2789	44.16	19.62
		4'	16	5'-0"	7"	6"		5'-1½"	"	"	0.354	2946	46.83	21.29
		5'	20	5'-0"		6"		6'-1½"	"	"	0.394	3107	49.50	22.96
		6'	24	5'-2"		7"		7'-1½"	5'-11⅝"	7'-1⅝"	0.434	3335	52.96	24.63
	5'	3'	15	6'-0"		6"		4'-2⅝"	6'-11⅝"	8'-1"	0.380	3541	56.55	22.19
		4'	20	6'-0"		6"		5'-2⅝"	"	"	0.417	3703	58.23	23.84
		5'	25	6'-0"	7"	6"	7"	6'-2⅝"	"	"	0.454	3865	60.90	25.53
		6'	30	6'-2"		7"		7'-2⅝"	7'-1⅝"	8'-3⅛"	0.335	4031	64.99	27.20
		7'	35	6'-3"		7½"		8'-2⅝"	7'-2⅝"	8'-4⅛"	0.604	4283	67.63	28.87
	6'	3'	18	7'-0"		6"		4'-3⅝"	8'-1"	9'-2⅝"	0.446	4221	66.29	28.74
		4'	24	7'-0"		6"		5'-3⅝"	"	"	0.483	4383	68.96	26.43
		5'	30	7'-0"	8"	6"	7½"	6'-3⅝"	"	"	0.520	4595	71.69	28.10
		6'	36	7'-2"		7"		7'-3⅝"	8'-1⅝"	9'-1⅝"	0.602	4778	75.31	29.77
		7'	42	7'-3"		7½"		8'-3⅝"	8'-1⅝"	9'-1⅝"	0.671	4966	78.48	31.44
		8'	48	7'-4"		8"		9'-3⅝"	8'-1⅝"	9'-1⅝"	0.746	5570	88.97	33.11
	7'	4'	28	8'-0"		6"		5'-5"	9'-2⅝"	10'-1⅝"	0.568	5196	81.32	29.01
		5'	35	8'-0"		6"		6'-5"	"	"	0.605	5307	84.00	30.68
		6'	42	8'-2"	8"	7"	8½"	7'-5"	9'-5⅛"	10'-7"	0.688	5558	87.76	32.35
		7'	49	8'-3"		7½"		8'-5"	9'-6⅛"	10'-8⅛"	0.767	5755	90.98	34.02
		8'	56	8'-4"		8"		9'-5"	9'-7⅛"	10'-9⅛"	0.832	6100	96.65	35.69
		9'	63	8'-6"		9"		10'-5"	9'-9⅛"	10'-11⅛"	0.946	6649	105.59	37.36
	8'	4'	32	9'-0"		6"		5'-7"	10'-2⅝"	11'-1⅝"	0.676	6119	95.24	33.32
		5'	40	9'-0"		6"		6'-7"	10'-7"	11'-5⅝"	0.759	6357	99.12	34.99
		6'	48	9'-2"		7"		7'-7"	"	"	0.797	6518	101.79	36.66
		7'	56	9'-3"	9"	7½"	9½"	8'-7"	10'-10½"	11'-10"	0.847	6720	105.05	38.33
		8'	64	9'-4"		8"		9'-7"	10'-9⅝"	11'-11⅛"	0.942	7070	110.81	40.00
		9'	72	9'-6"		9"		10'-7"	10'-11⅝"	12'-1½"	1.057	7627	119.92	41.67
		10'	80	9'-8"		10"		11'-7"	11'-2"	12'-3⅝"	1.184	8093	126.67	43.34
	9'	5'	45	10'-2"		7"		6'-8"	11'-8⅝"	12'-10⅝"	0.844	7356	114.72	37.56
		6'	54	10'-3"		7½"		7'-8"	11'-10"	13'-0"	0.910	7854	118.04	39.23
		7'	63	10'-3"	9½"	7½"	9½"	8'-8"	"	"	0.957	7725	120.71	40.90
		8'	72	10'-4"		8"		9'-8"	11'-11⅛"	13'-1"	1.033	8081	126.59	42.57
		9'	81	10'-6"		9"		10'-8"	12'-1⅛"	13'-3⅛"	1.148	8625	135.80	44.24
		10'	90	10'-8"		10"		11'-8"	12'-3⅛"	13'-5⅛"	1.296	9063	142.68	45.91
		11'	99	10'-10"		11"		12'-8"	12'-5⅛"	13'-7⅛"	1.446	9526	150.40	47.58
	10'	5'	50	11'-2"		7"		6'-9"	12'-10⅝"	14'-0⅝"	0.957	8359	130.69	40.13
		6'	60	11'-3"		7½"		7'-9"	12'-11⅛"	14'-1⅛"	1.024	8567	132.99	41.80
		7'	70	11'-3"	10½"	7½"	10½"	8'-9"	"	"	1.071	8729	134.66	43.47
		8'	80	11'-4"		8"		9'-9"	13'-1"	14'-3"	1.149	9110	142.55	45.14
		9'	90	11'-6"		9"		10'-9"	13'-3⅛"	14'-5⅛"	1.243	9634	151.92	46.81
		10'	100	11'-8"		10"		11'-9"	13'-5⅛"	14'-7⅛"	1.391	10,019	159.89	48.98
		11'	110	11'-10"		11"		12'-9"	13'-9"	14'-11⅛"	1.532	10,547	166.71	50.15
		12'	120	12'-0"		12"		13'-9"	13'-10⅝"	15'-0⅝"	1.685	11,278	178.67	51.82
	11'	6'	66	12'-4"		8"

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.		040578	156	216

(2) CROSS SECTIONS



HWY. 16

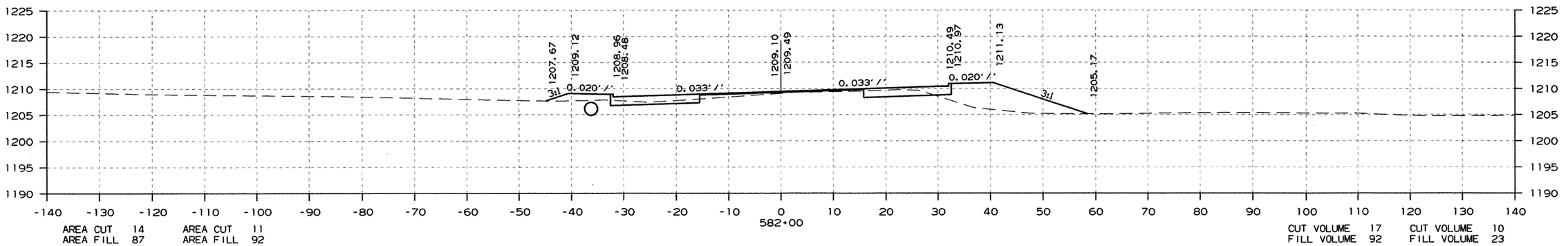
STA. 579+50 TO STA. 580+78

r040578.dgn 4/6/2009

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.		040578	157	216

(2) CROSS SECTIONS

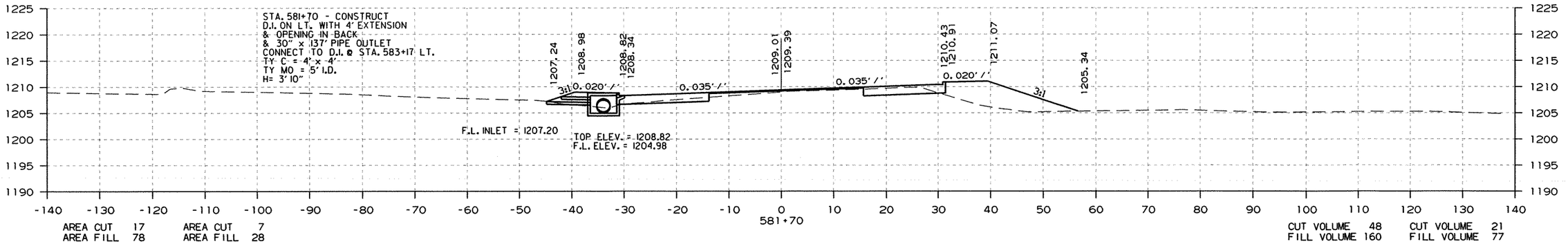
STAGE 1 STAGE 2



AREA CUT 14 AREA CUT 11
AREA FILL 87 AREA FILL 92

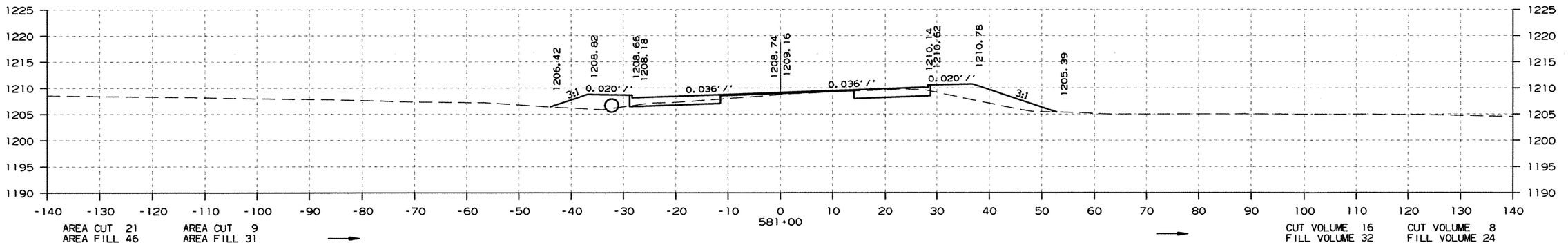
CUT VOLUME 17 CUT VOLUME 10
FILL VOLUME 92 FILL VOLUME 23

STAGE 1 STAGE 2



AREA CUT 17 AREA CUT 7
AREA FILL 78 AREA FILL 28

CUT VOLUME 48 CUT VOLUME 21
FILL VOLUME 160 FILL VOLUME 77



AREA CUT 21 AREA CUT 9
AREA FILL 46 AREA FILL 31

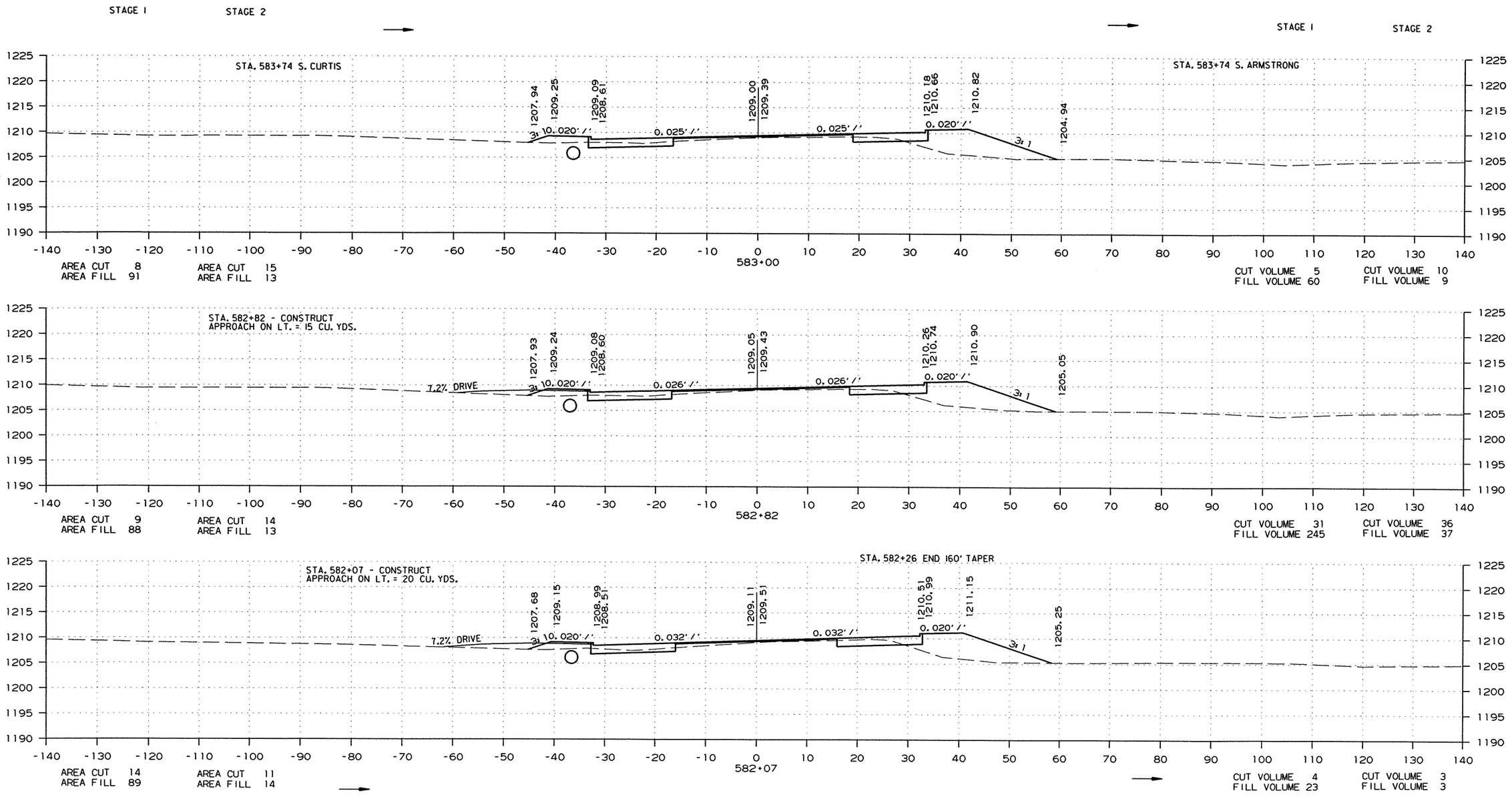
CUT VOLUME 16 CUT VOLUME 8
FILL VOLUME 32 FILL VOLUME 24

HWY. 16
STA. 581+00 TO STA. 582+00

r040578.dgn 4/6/2009

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.		040578	158	216

(2) CROSS SECTIONS



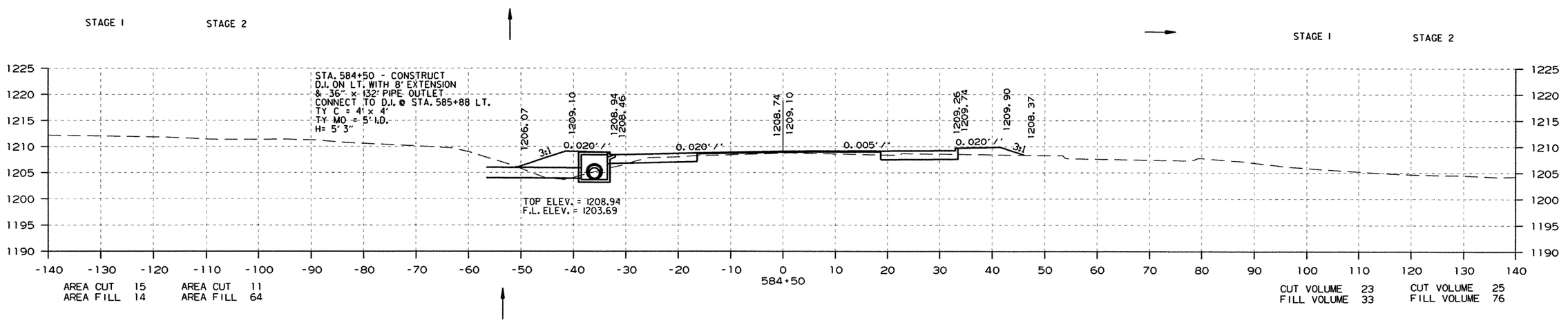
HWY. 16

STA. 582+07 TO STA. 583+00

r040578.dgn 4/6/2009

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.		040578	159	216

(2) CROSS SECTIONS



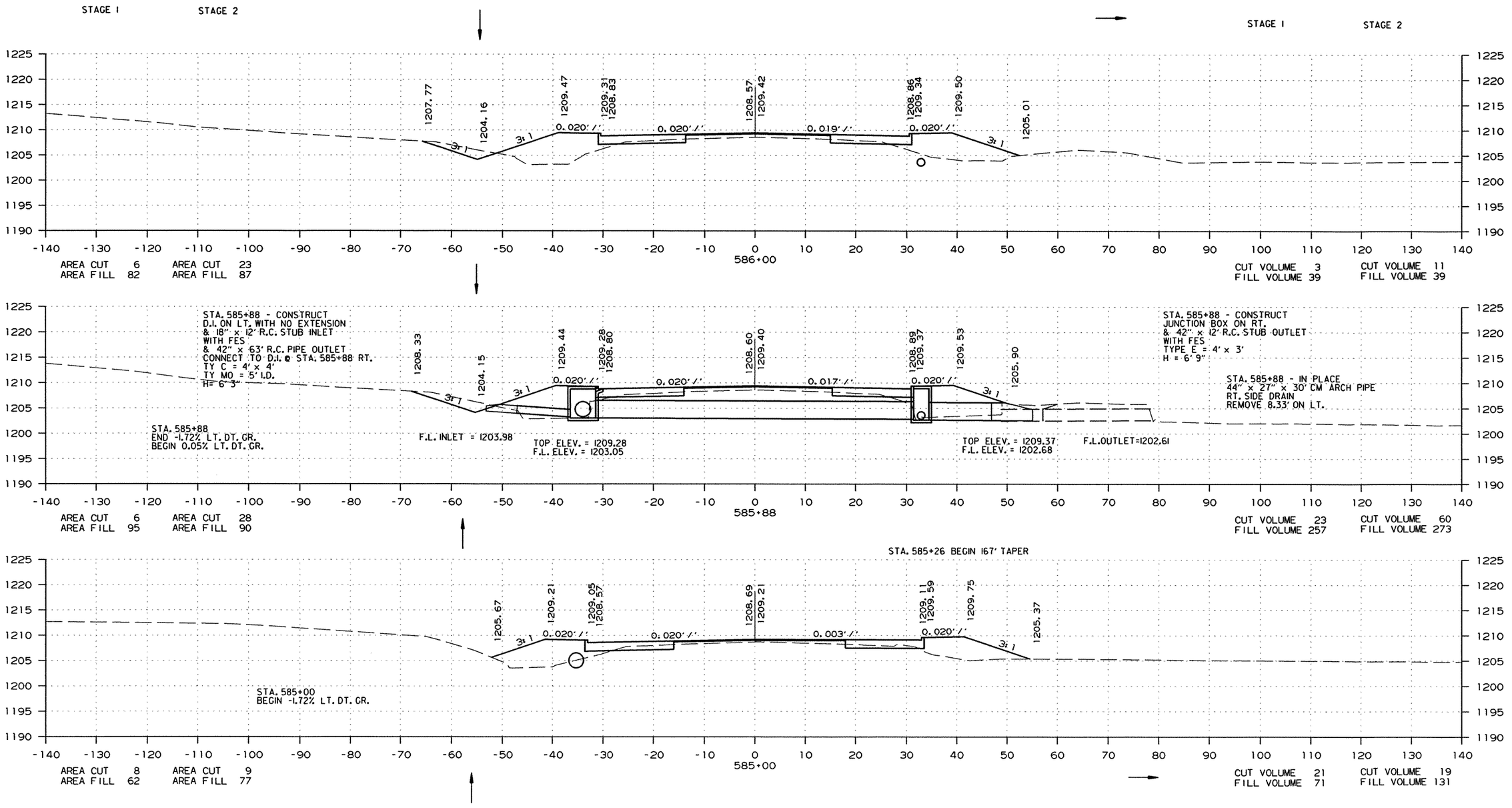
HWY. 16

STA. 583+17 TO STA. 584+50

r040578.dgn 4/6/2009

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.		040578	160	216

(2) CROSS SECTIONS



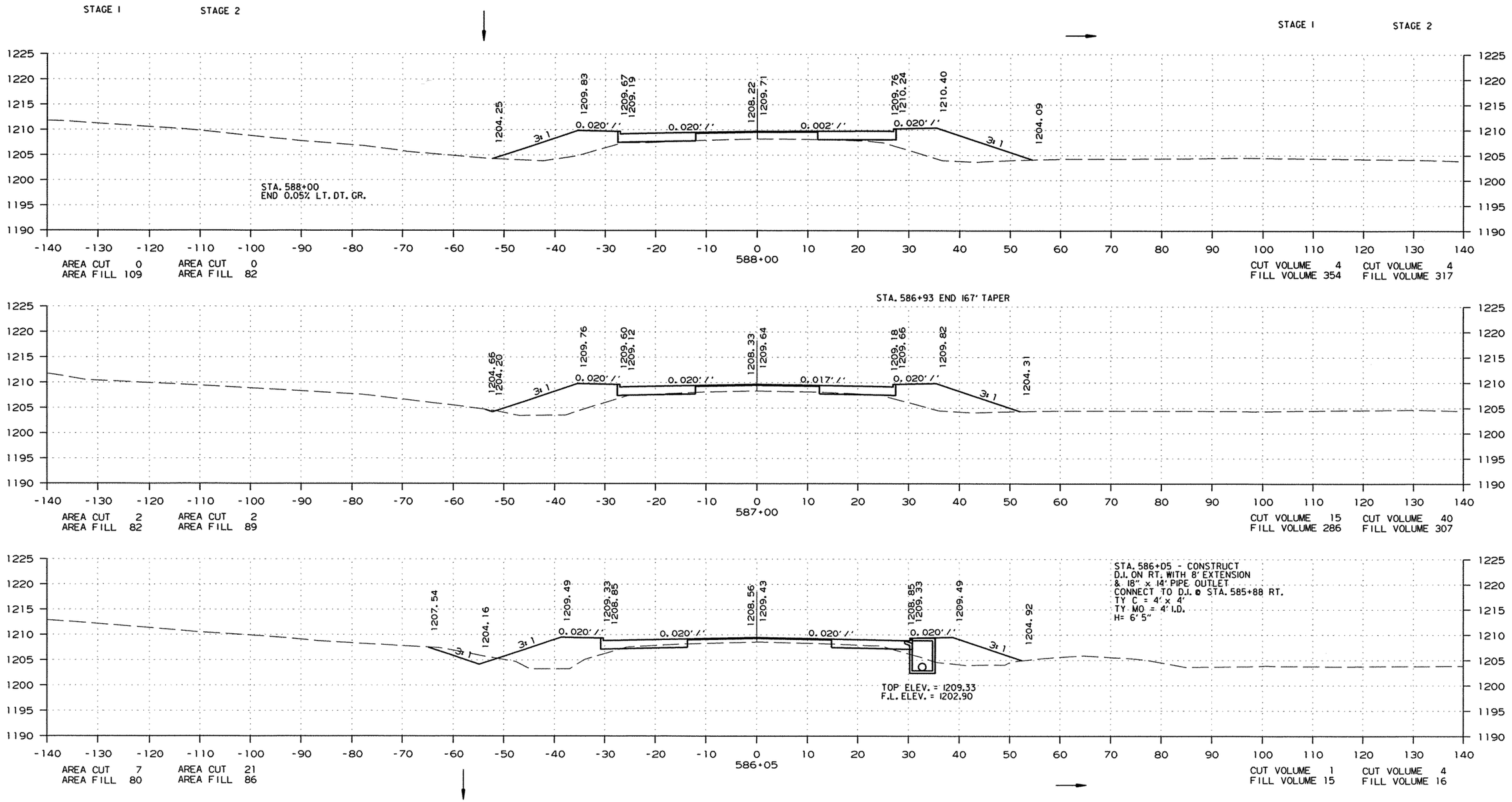
HWY. 16

STA. 585+00 TO STA. 586+00

r040578.dgn 4/6/2009

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.		040578	161	216

(2) CROSS SECTIONS



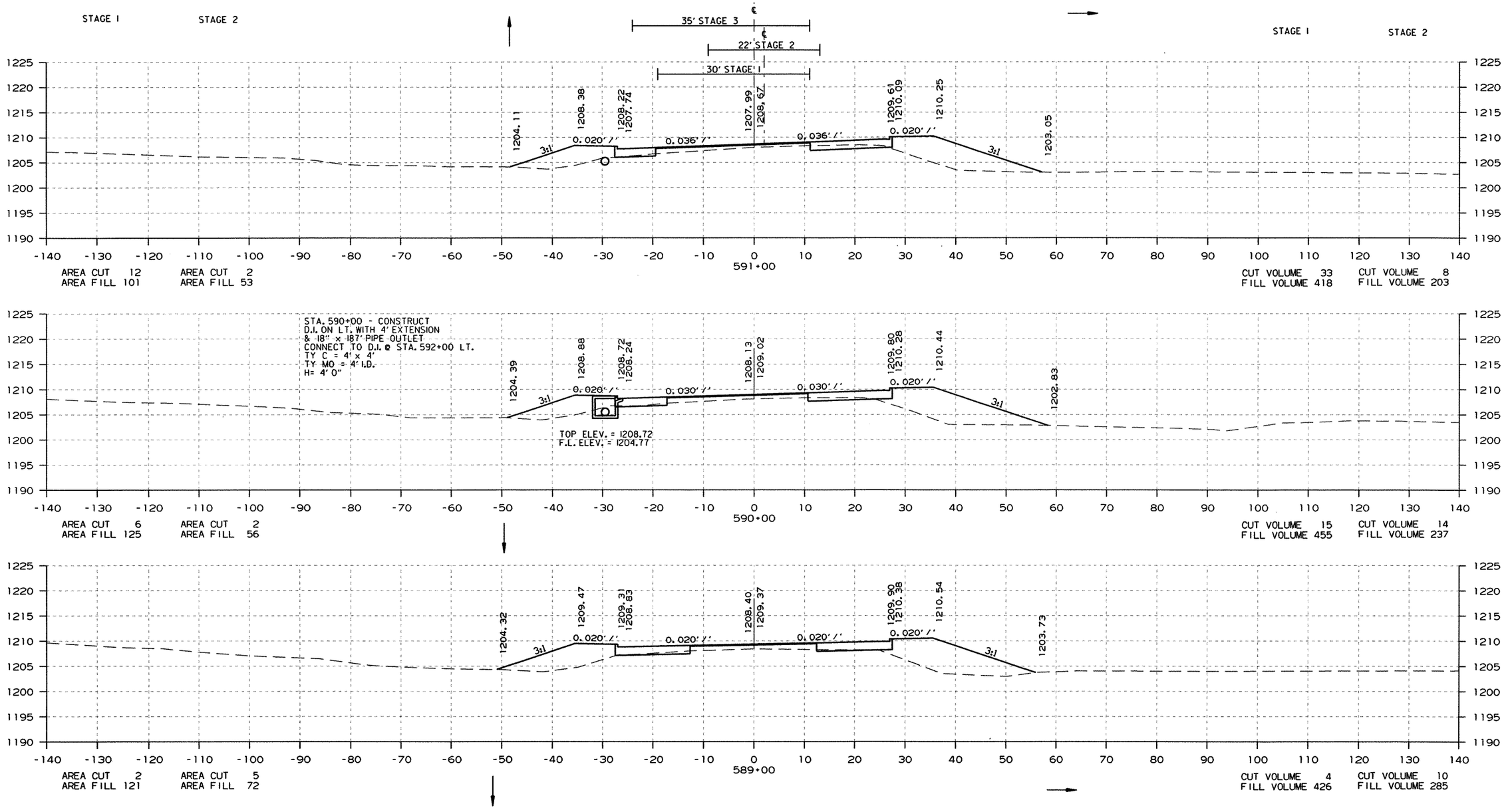
HWY. 16

STA. 586+05 TO STA. 588+00

r040578.dgn 4/6/2009

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AND PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	162	216

(2) CROSS SECTIONS



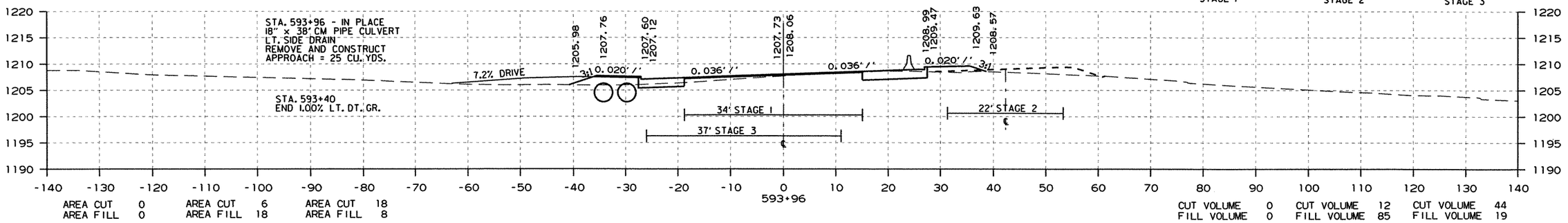
HWY. 16

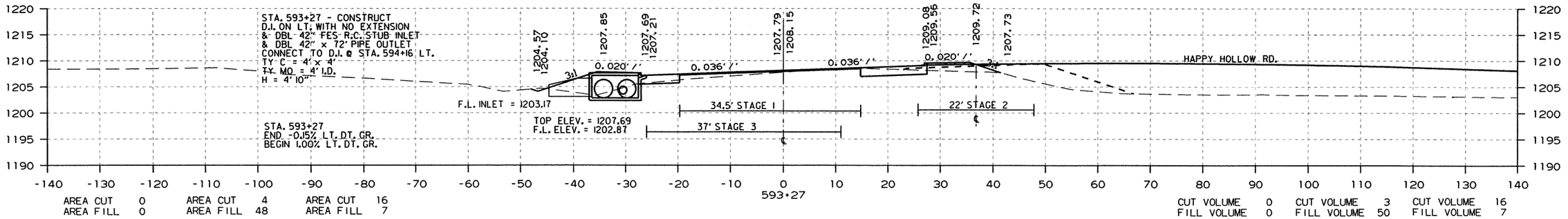
STA. 589+00 TO STA. 591+00

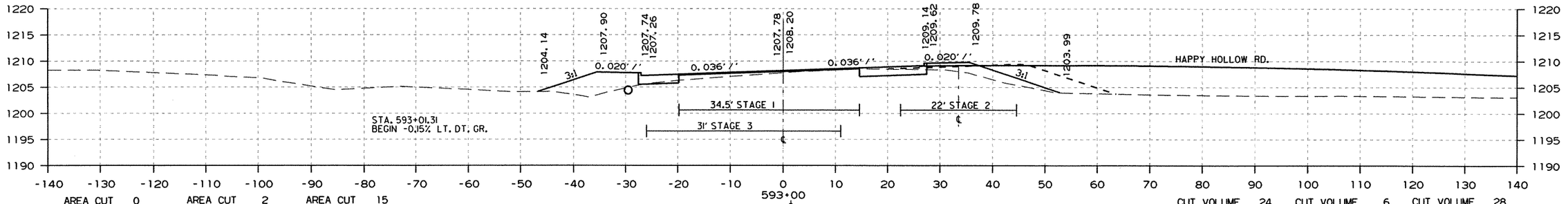
r040578.dgn 4/6/2009

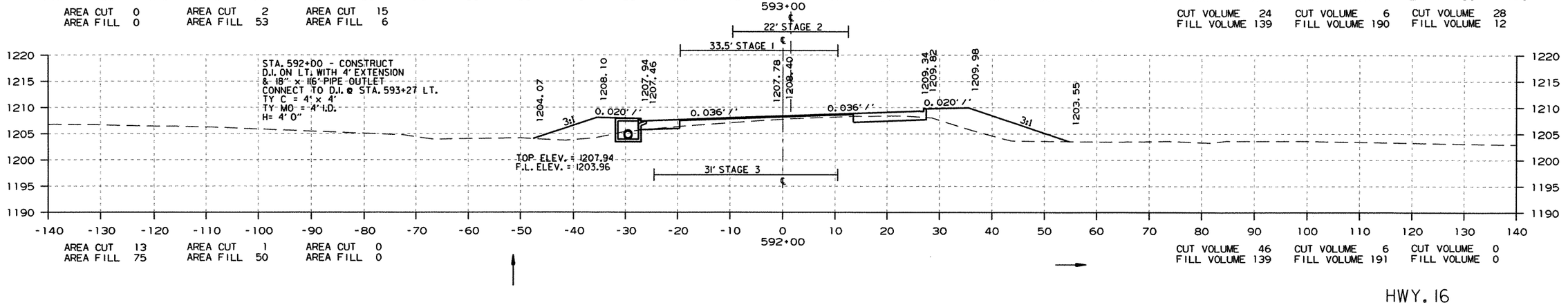
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	163	216

(2) CROSS SECTIONS









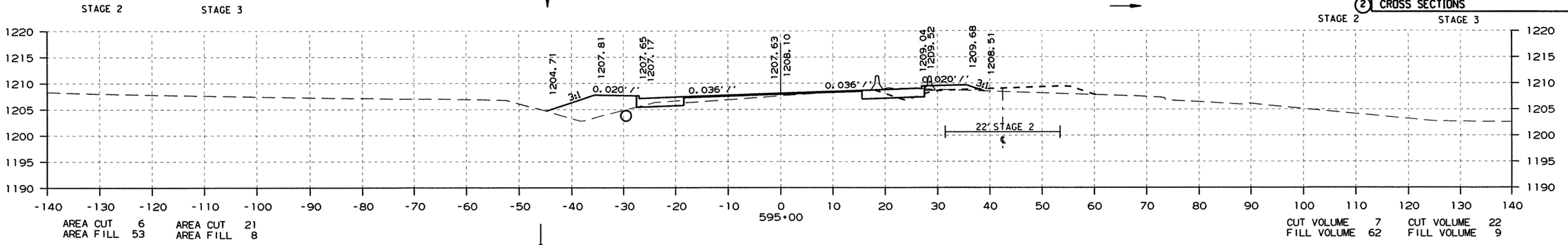
HWY. 16

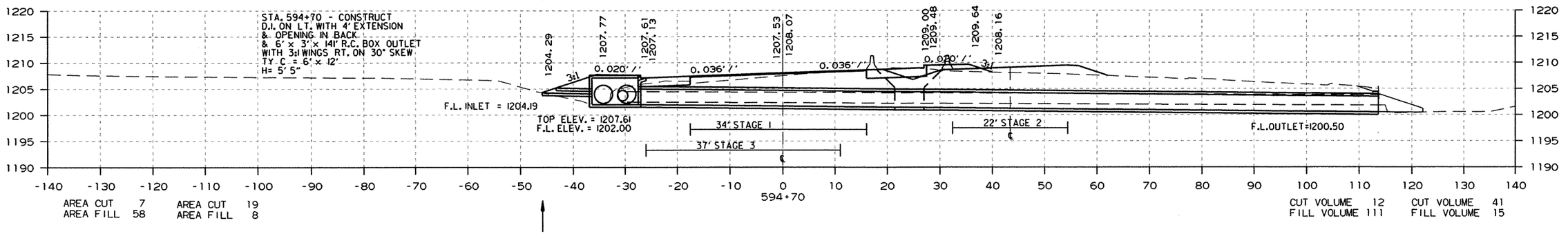
STA. 592+00 TO STA. 593+96

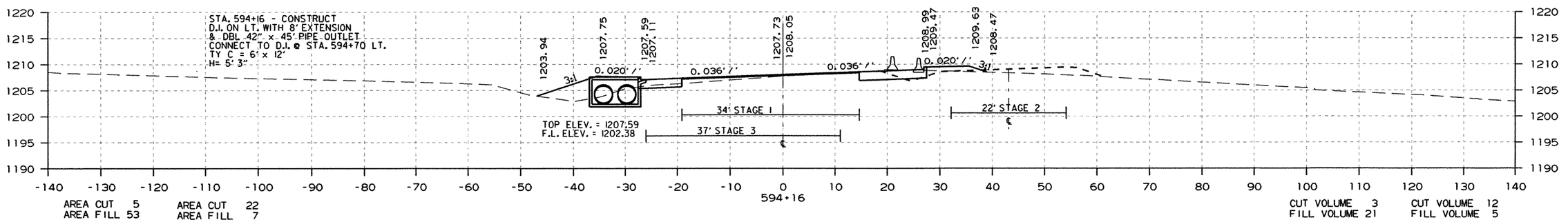
r040578.dgn 4/6/2009

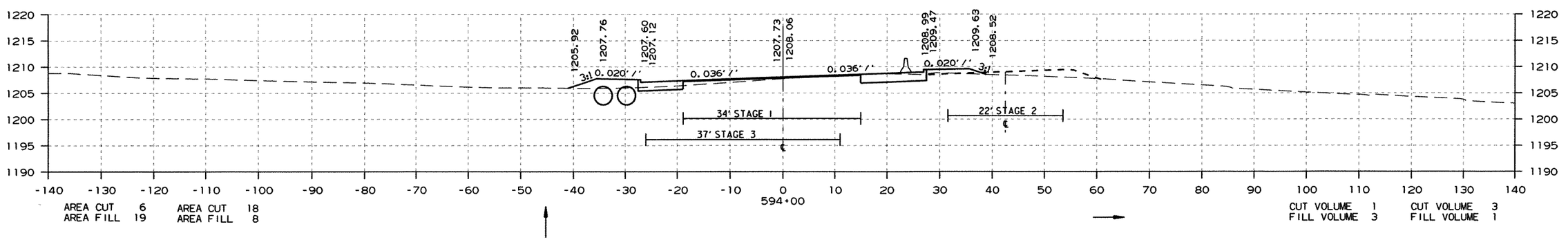
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	164	216

(2) CROSS SECTIONS









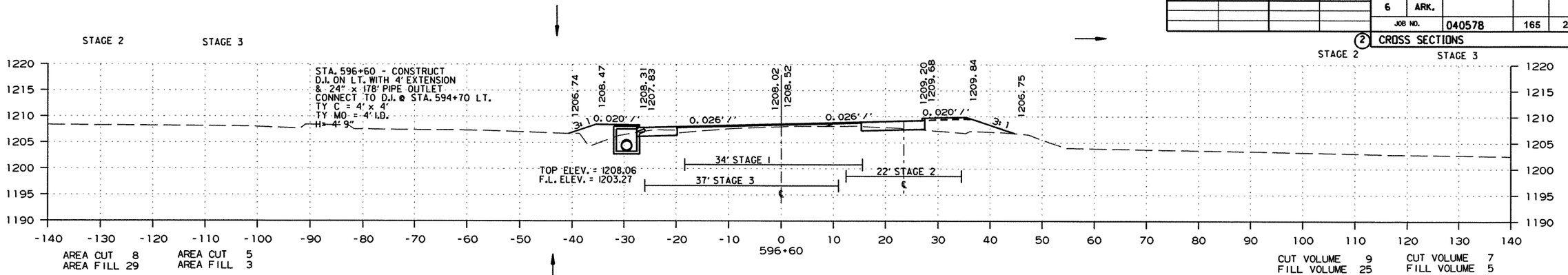
HWY. 16

STA. 594+00 TO STA. 595+00

r040578.dgn 4/6/2009

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.		040578	165	216

(2) CROSS SECTIONS



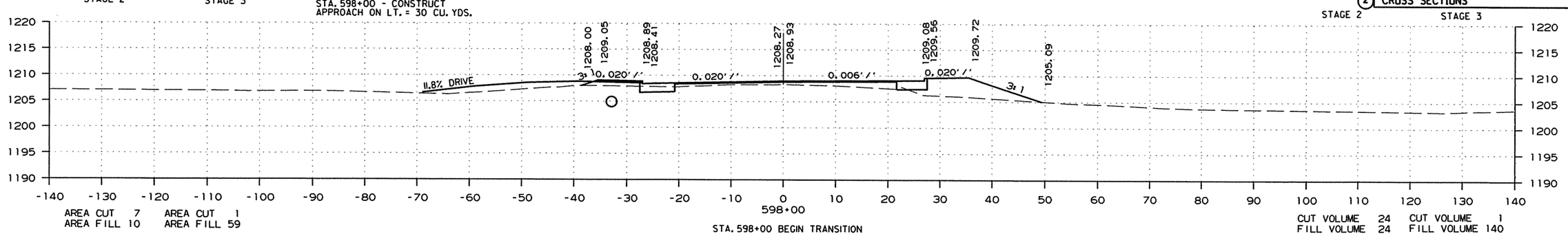
HWY. 16

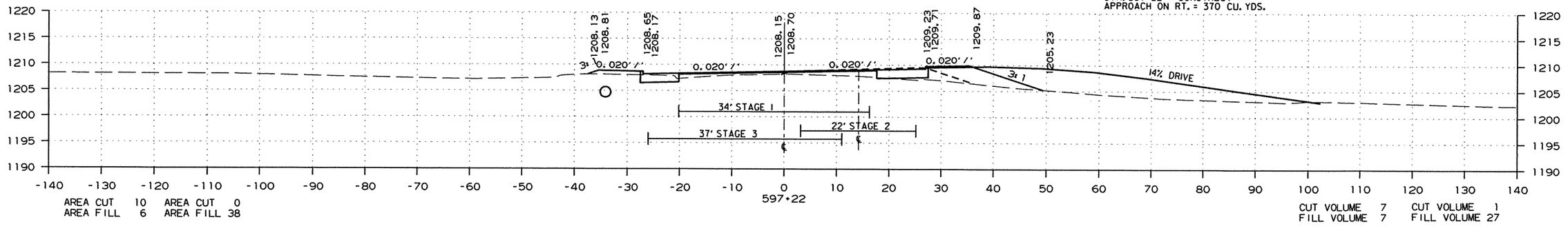
STA. 595+91 TO STA. 596+60

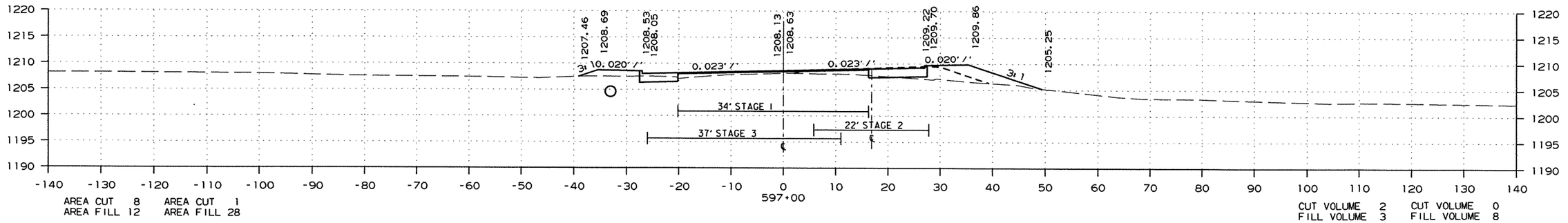
r040578.dgn 4/6/2009

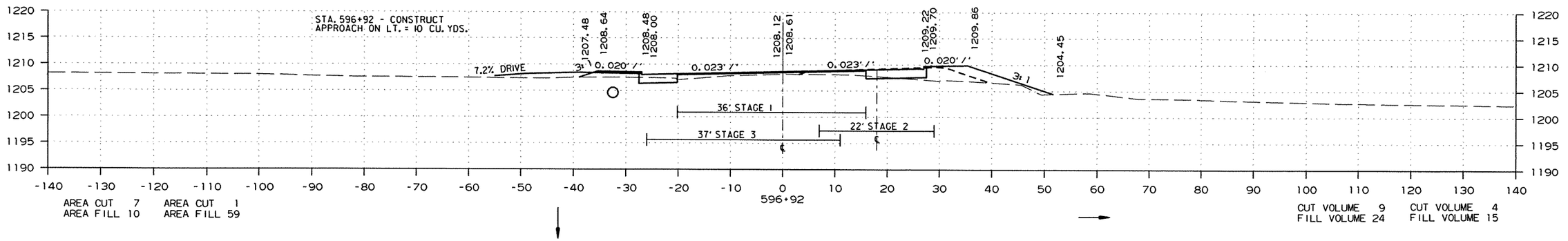
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	166	216

(2) CROSS SECTIONS









HWY. 16

STA. 596+92 TO STA. 598+00

r040578.dgn 4/6/2009

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.		040578	167	216

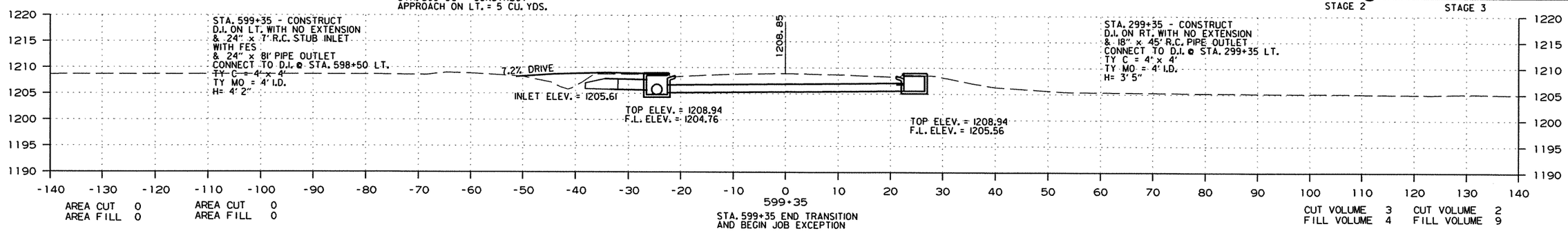
(2) CROSS SECTIONS

STAGE 2 STAGE 3

STA. 599+00 - CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

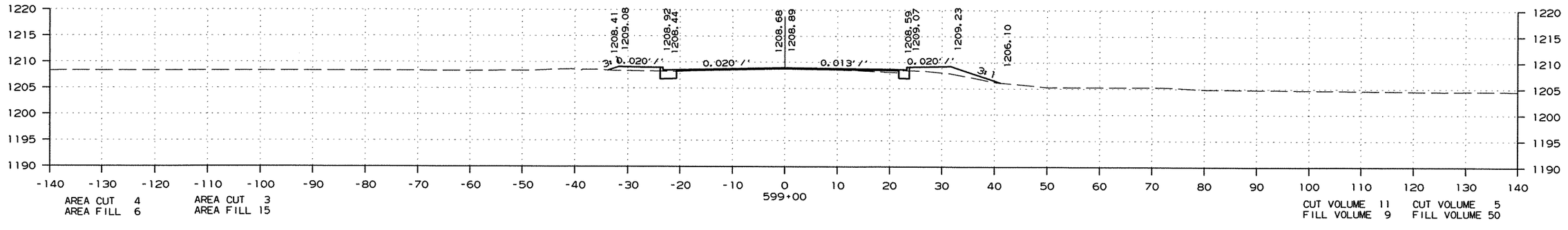
STA. 599+35 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 24" x 7' R.C. STUB INLET
WITH FES
& 24" x 81' PIPE OUTLET
CONNECT TO D.I. @ STA. 598+50 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 4' 2"

STA. 299+35 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 18" x 45' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 299+35 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H= 3' 5"



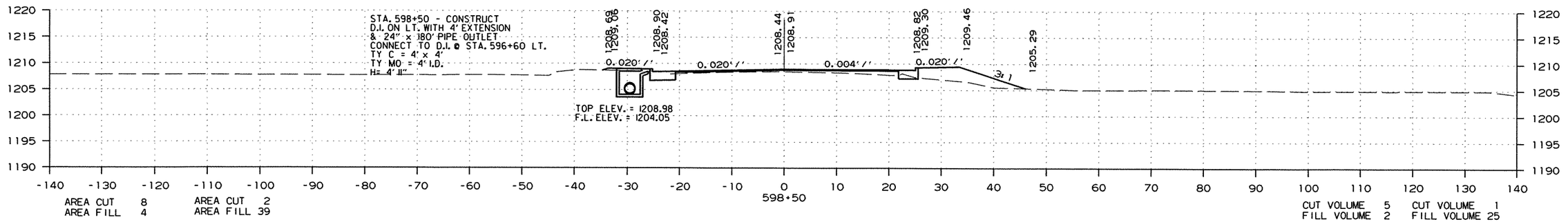
AREA CUT 0 AREA CUT 0
AREA FILL 0 AREA FILL 0

CUT VOLUME 3 CUT VOLUME 2
FILL VOLUME 4 FILL VOLUME 9



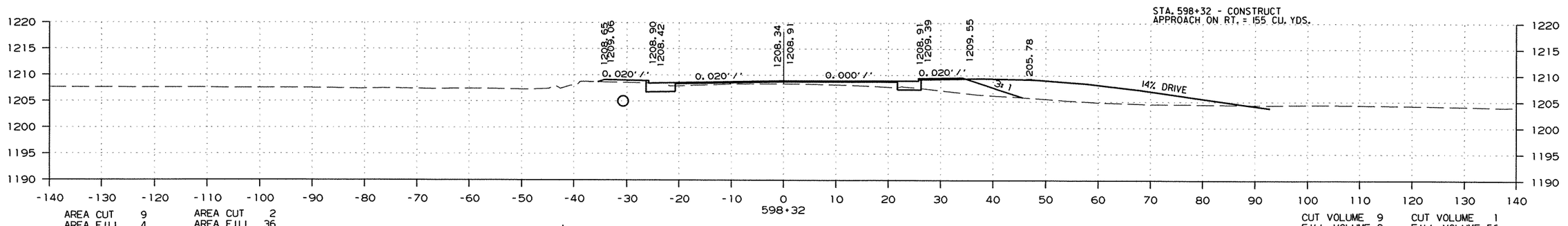
AREA CUT 4 AREA CUT 3
AREA FILL 6 AREA FILL 15

CUT VOLUME 11 CUT VOLUME 5
FILL VOLUME 9 FILL VOLUME 50



AREA CUT 8 AREA CUT 2
AREA FILL 4 AREA FILL 39

CUT VOLUME 5 CUT VOLUME 1
FILL VOLUME 2 FILL VOLUME 25



AREA CUT 9 AREA CUT 2
AREA FILL 4 AREA FILL 36

CUT VOLUME 9 CUT VOLUME 1
FILL VOLUME 8 FILL VOLUME 56

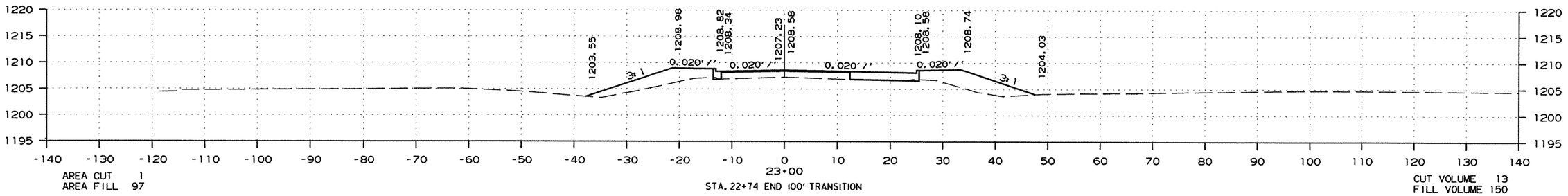
HWY. 16
STA. 598+32 TO STA. 599+33

35

r040578.dgn 4/6/2009

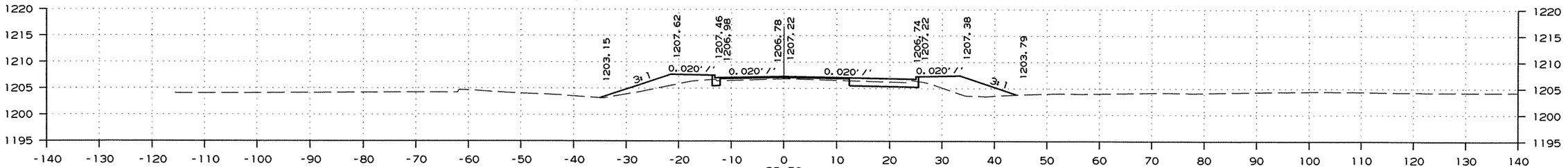
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	168	216

(2) CROSS SECTIONS



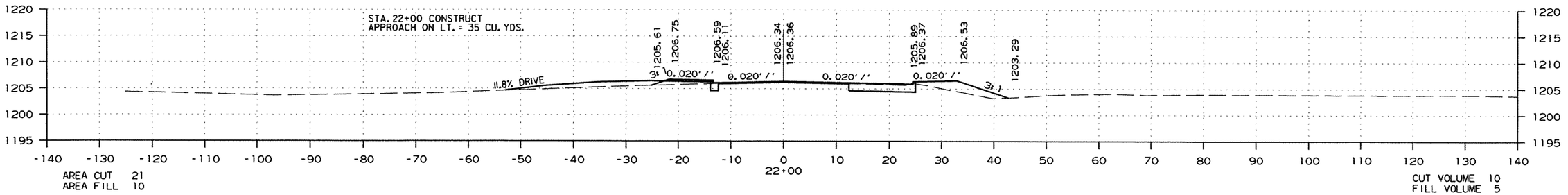
AREA CUT 1
AREA FILL 97

CUT VOLUME 13
FILL VOLUME 150



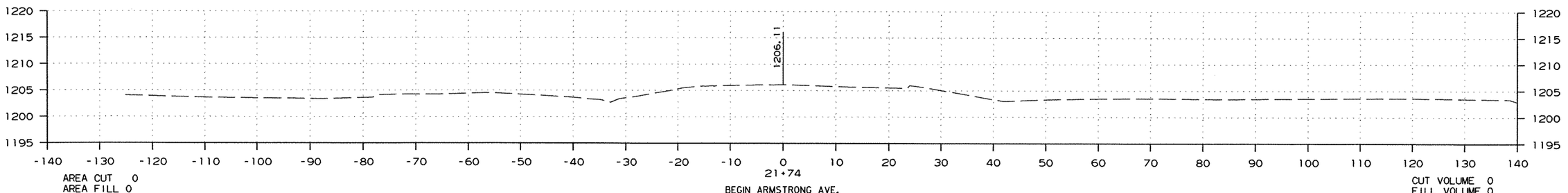
AREA CUT 14
AREA FILL 65

CUT VOLUME 33
FILL VOLUME 69



AREA CUT 21
AREA FILL 10

CUT VOLUME 10
FILL VOLUME 5



AREA CUT 0
AREA FILL 0

CUT VOLUME 0
FILL VOLUME 0

S. ARMSTRONG AVE
STA. 21+74 TO STA. 23+00

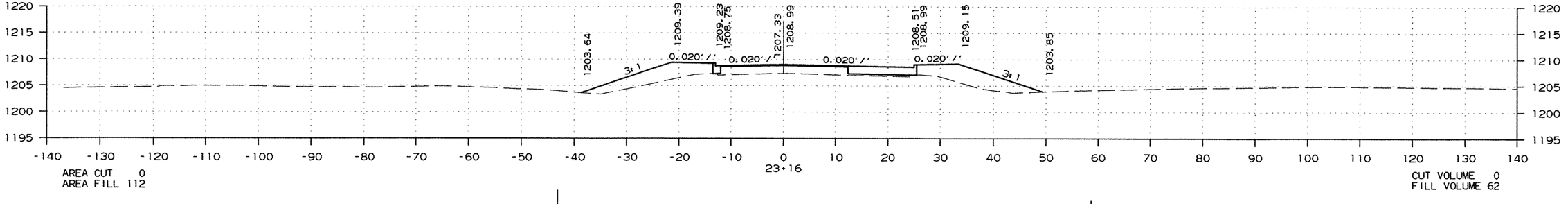
r040578.dgn 4/6/2009

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) CROSS SECTIONS

STA. 24+81.87 END ARMSTRONG AVE.

STA. 23+62 END 45' TAPER
STA. 23+17 BEGIN 45' TAPER

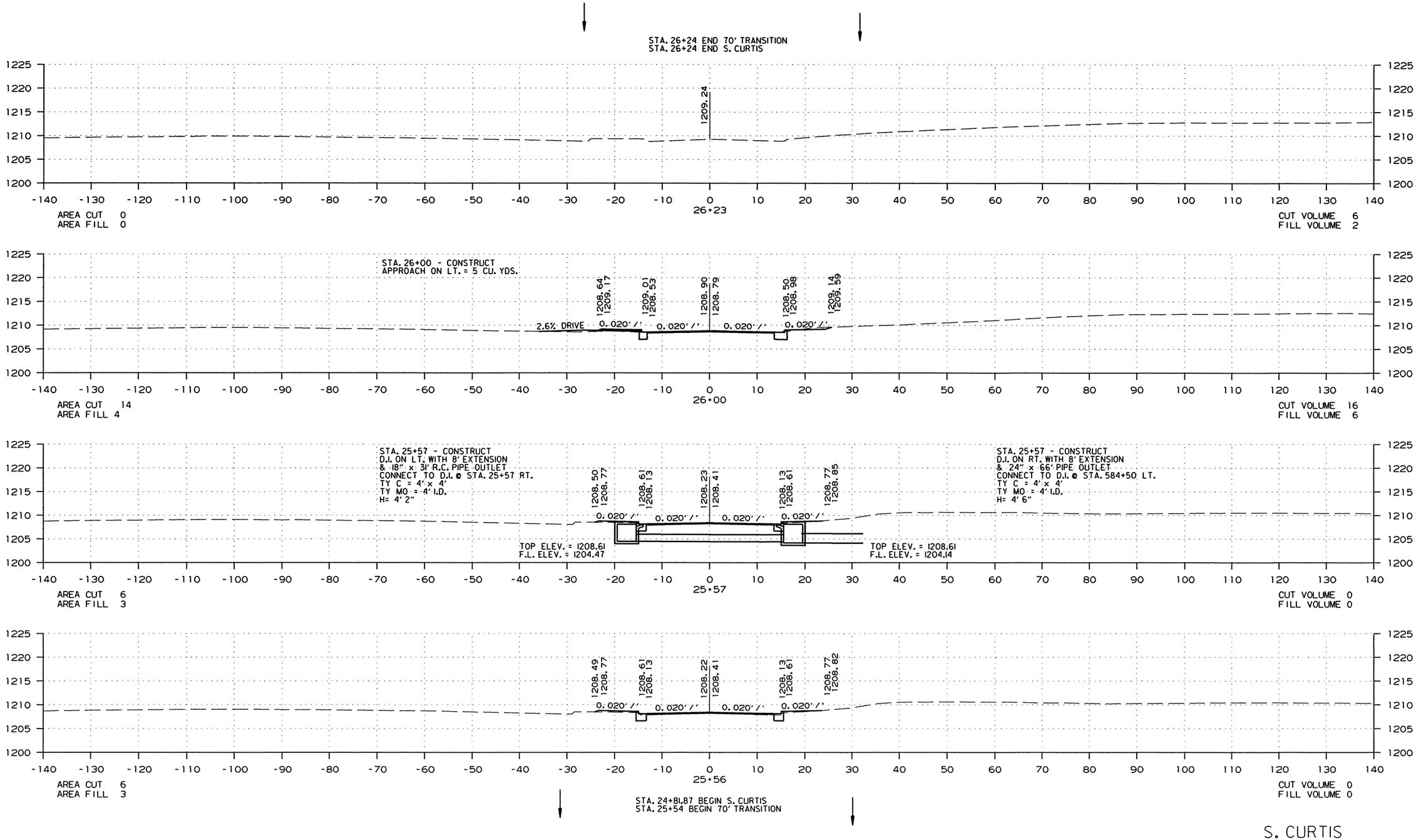


S. ARMSTRONG AVE
STA. 23+16 TO STA. 23+16

r040578.dgn 4/6/2009

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.		040578	170	216

(2) CROSS SECTIONS

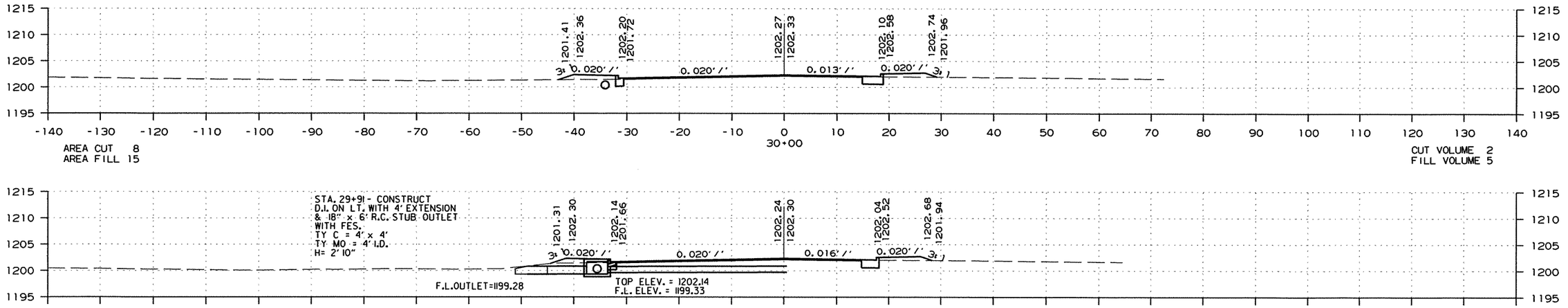


S. CURTIS
STA. 25+56 TO STA. 26+23

r040578.dgn 4/6/2009

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.		040578	171	216

(2) CROSS SECTIONS

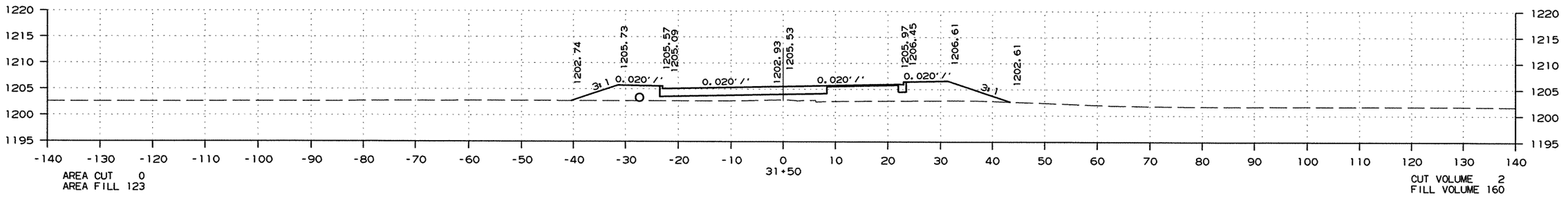


HAPPY HOLLOW RD.
STA. 29+75 TO STA. 30+00

r040578.dgn 4/6/2009

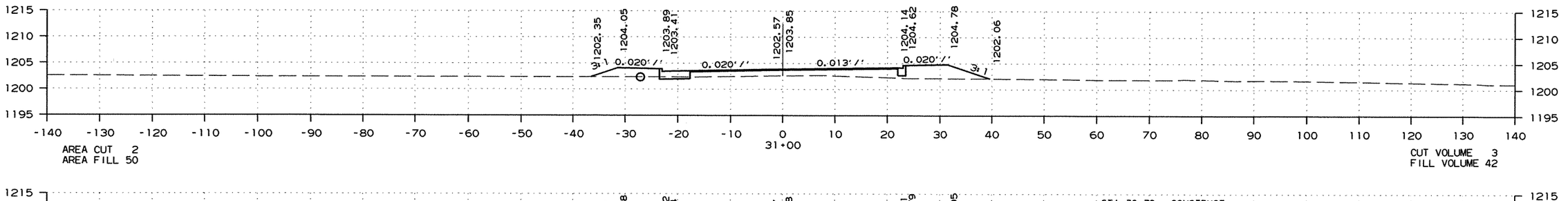
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				6	ARK.			
				JOB NO.		040578	172	216

(2) CROSS SECTIONS



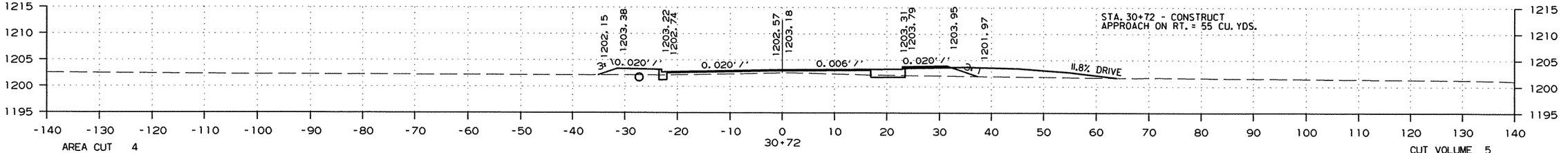
AREA CUT 0
AREA FILL 123

CUT VOLUME 2
FILL VOLUME 160



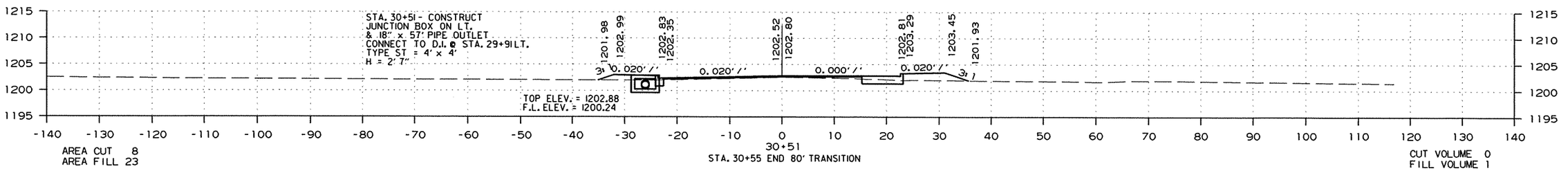
AREA CUT 2
AREA FILL 50

CUT VOLUME 3
FILL VOLUME 42



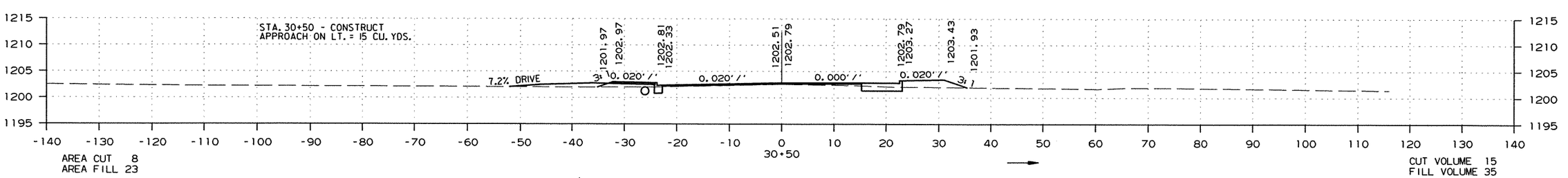
AREA CUT 4
AREA FILL 31

CUT VOLUME 5
FILL VOLUME 21



AREA CUT 8
AREA FILL 23

CUT VOLUME 0
FILL VOLUME 1



AREA CUT 8
AREA FILL 23

CUT VOLUME 15
FILL VOLUME 35

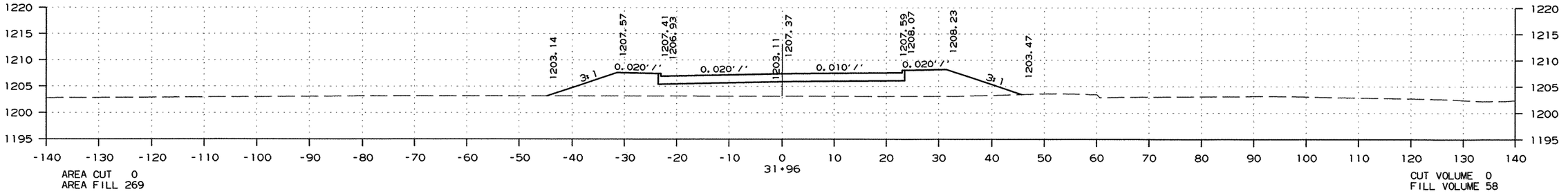
HAPPY HOLLOW RD.
STA. 30+50 TO STA. 31+50

r040578.dgn 4/6/2009

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.		040578	173	216

(2) CROSS SECTIONS

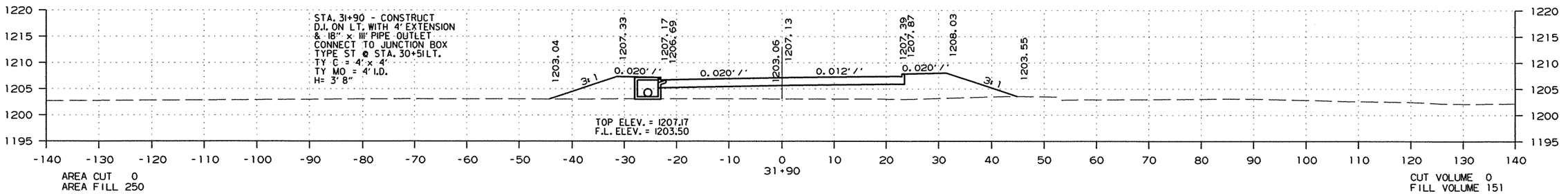
STA. 33+34.75 END HAPPY HOLLOW RD.



31+96

AREA CUT 0
AREA FILL 269

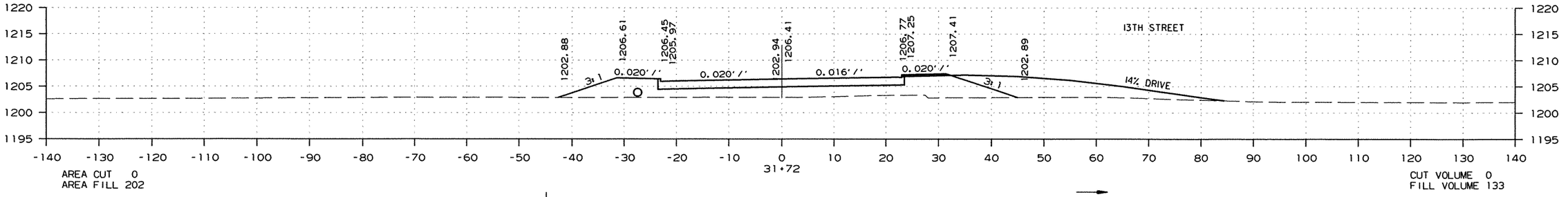
CUT VOLUME 0
FILL VOLUME 58



31+90

AREA CUT 0
AREA FILL 250

CUT VOLUME 0
FILL VOLUME 151



31+72

AREA CUT 0
AREA FILL 202

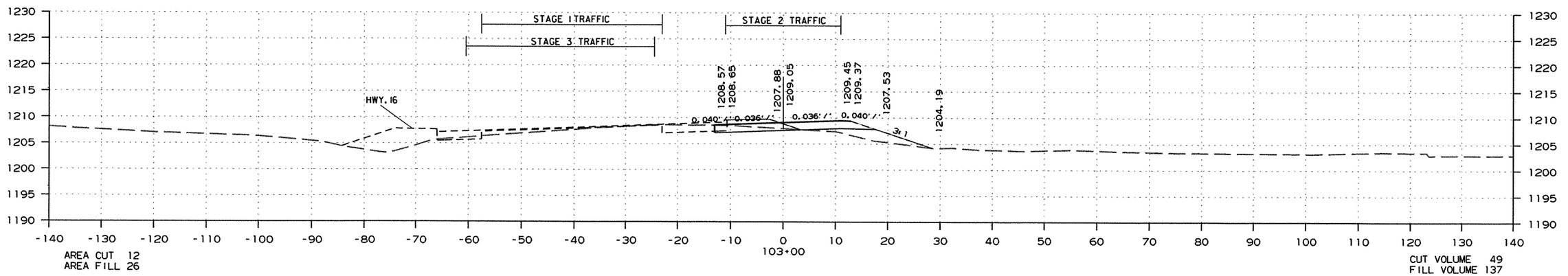
CUT VOLUME 0
FILL VOLUME 133

HAPPY HOLLOW RD.
STA. 31+72 TO STA. 31+96

r040578.dgn 4/6/2009

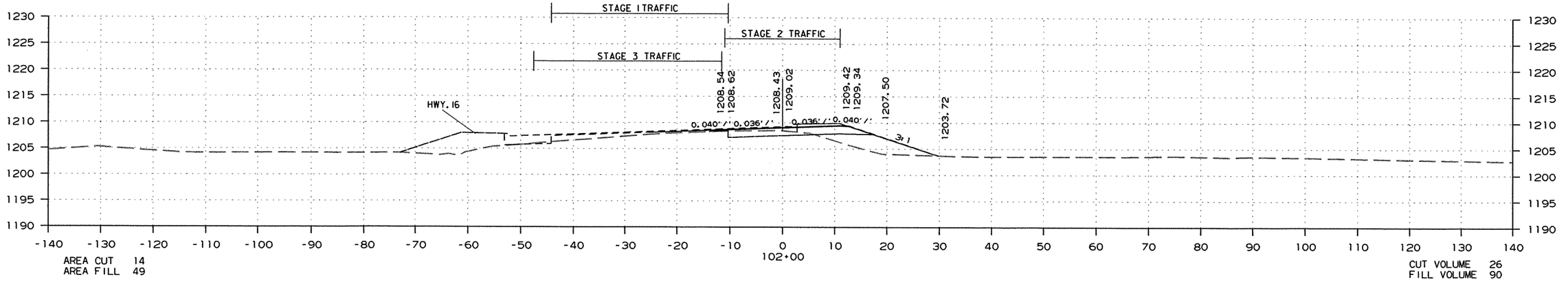
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	174	216

(2) CROSS SECTIONS



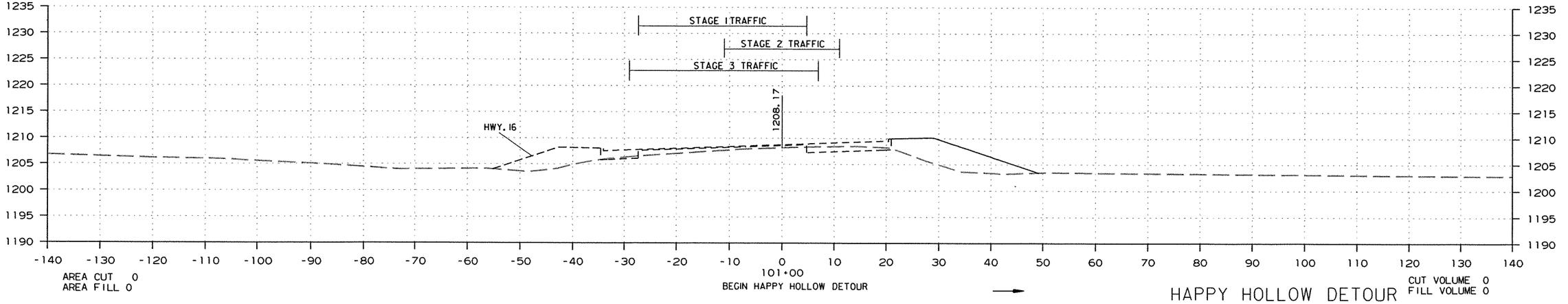
AREA CUT 12
AREA FILL 26

CUT VOLUME 49
FILL VOLUME 137



AREA CUT 14
AREA FILL 49

CUT VOLUME 26
FILL VOLUME 90



AREA CUT 0
AREA FILL 0

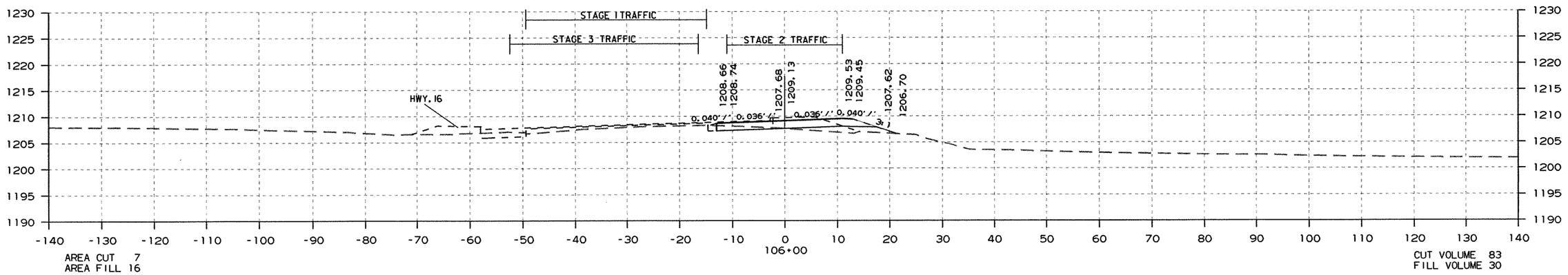
CUT VOLUME 0
FILL VOLUME 0

HAPPY HOLLOW DETOUR
CROSS SECTION STA. 101+00 TO STA. 103+00

r040578.dgn 4/6/2009

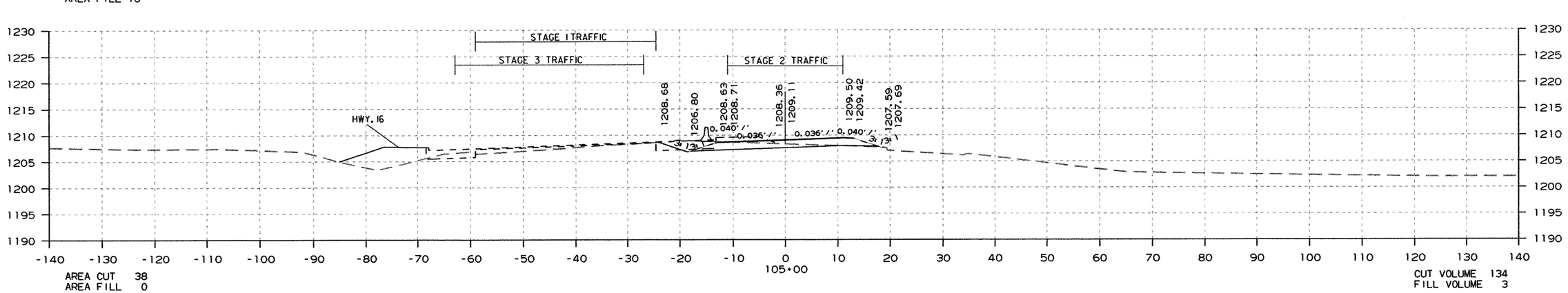
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	175	216

(2) CROSS SECTIONS



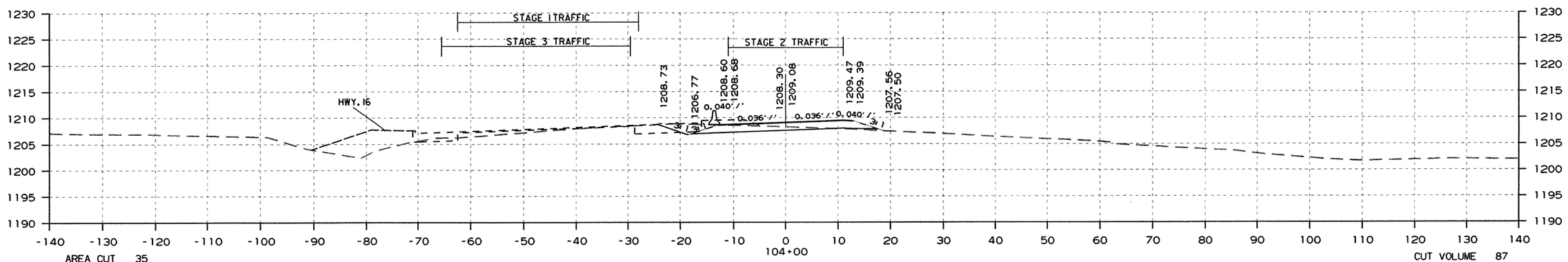
AREA CUT 7
AREA FILL 16

CUT VOLUME 83
FILL VOLUME 30



AREA CUT 38
AREA FILL 0

CUT VOLUME 134
FILL VOLUME 3



AREA CUT 35
AREA FILL 1

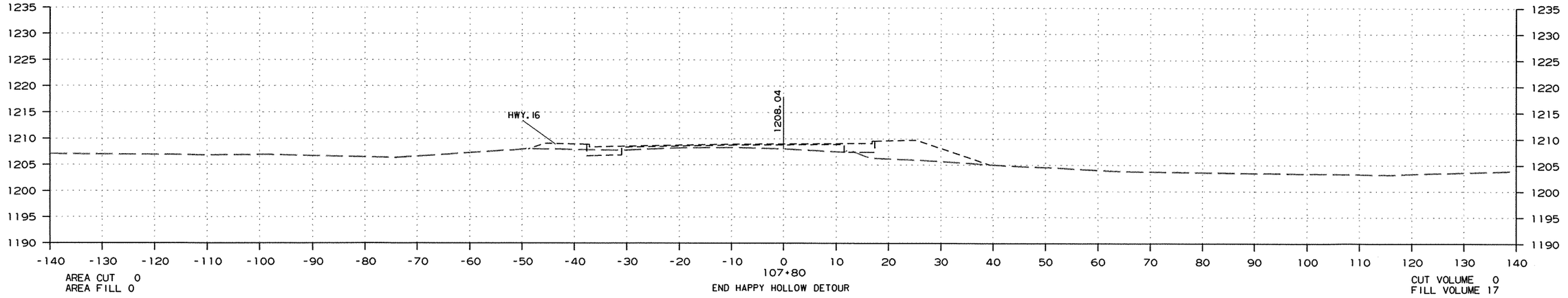
CUT VOLUME 87
FILL VOLUME 50

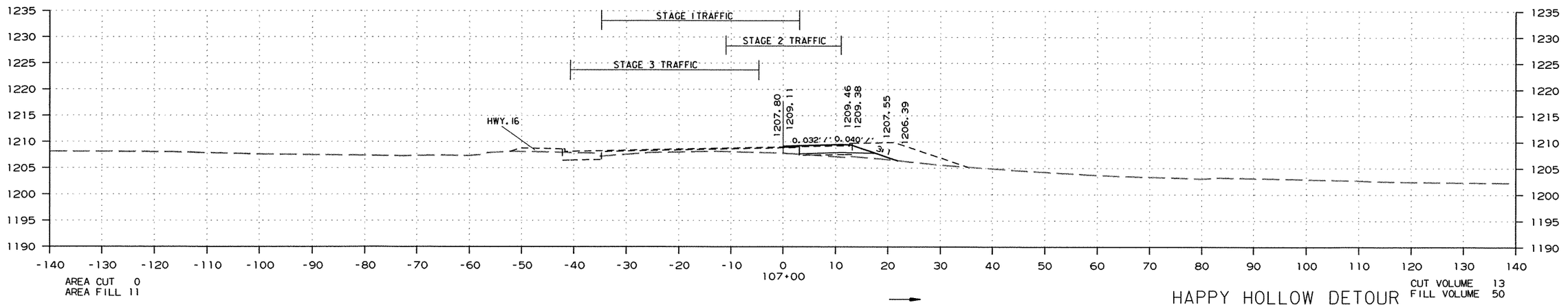
HAPPY HOLLOW DETOUR
CROSS SECTION STA. 104+00 TO STA. 106+00

r040578.dgn 4/6/2009

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.		040578	176	216

(2) CROSS SECTIONS



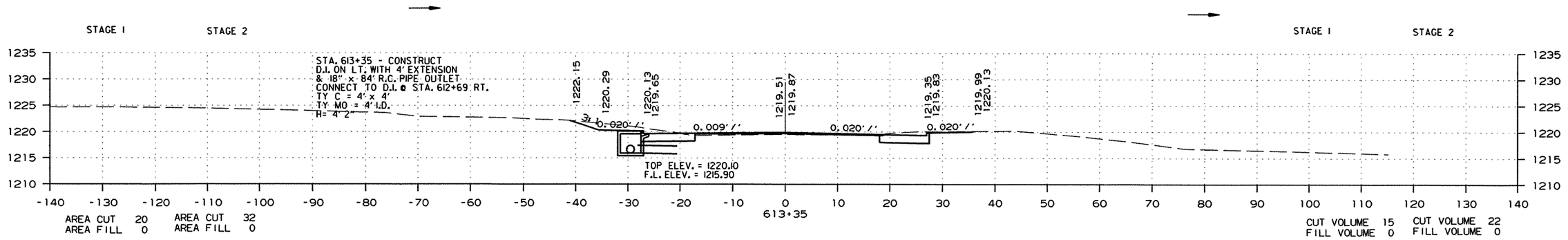


HAPPY HOLLOW DETOUR
CROSS SECTION STA. 107+00 TO STA. 107+80

r040578.dgn 4/6/2009

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.		040578	177	216

(2) CROSS SECTIONS



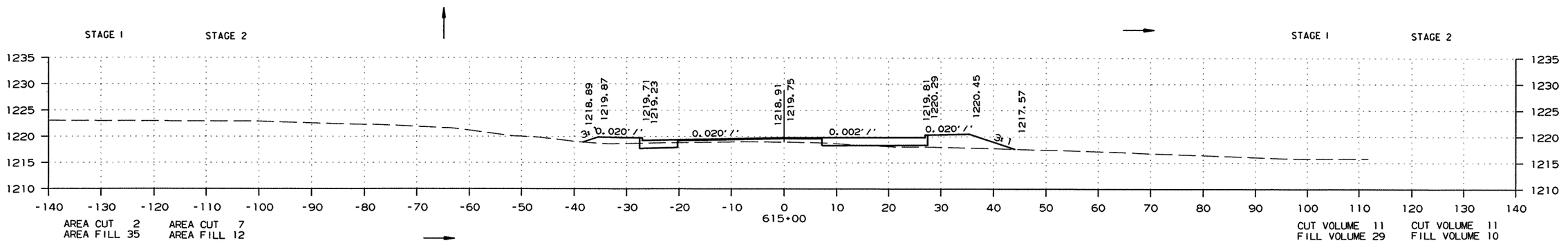
HWY. 16

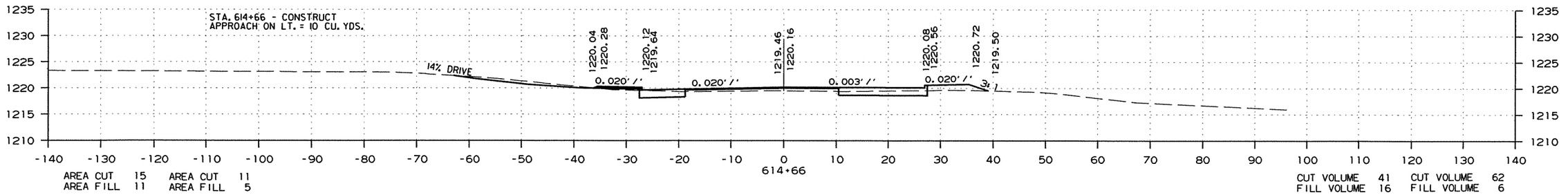
STA. 612+13 TO STA. 613+35

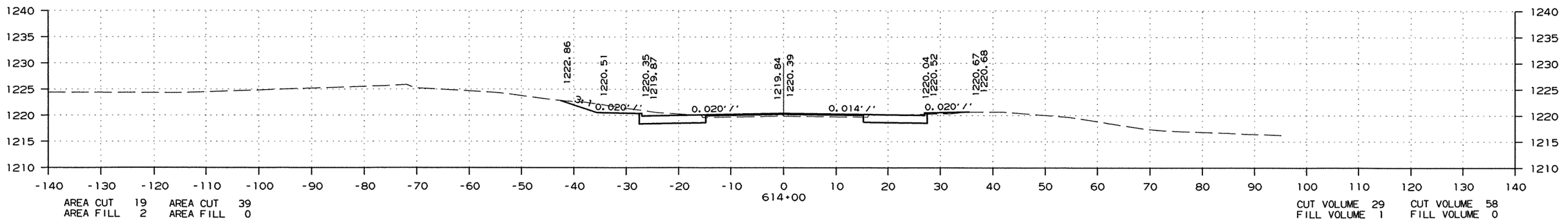
r040578.dgn 4/6/2009

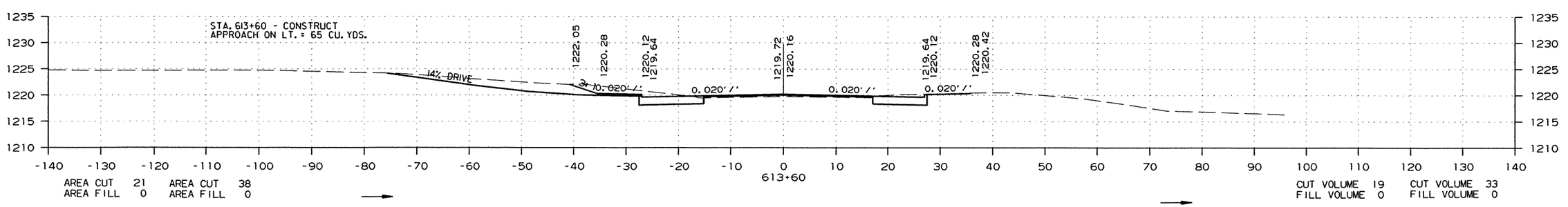
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	178	216

(2) CROSS SECTIONS









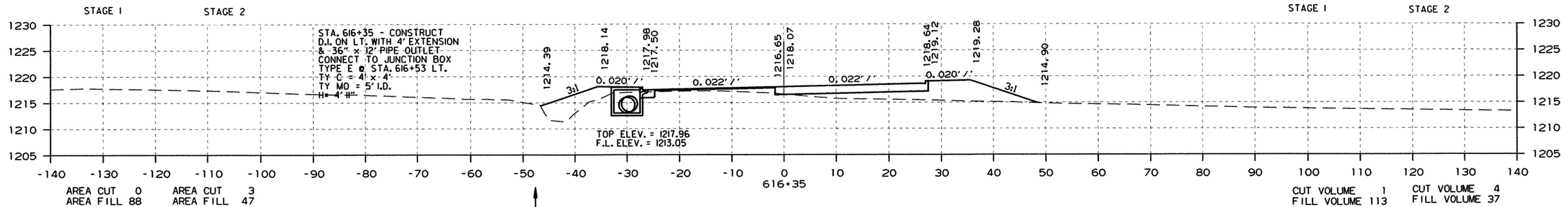
HWY. 16

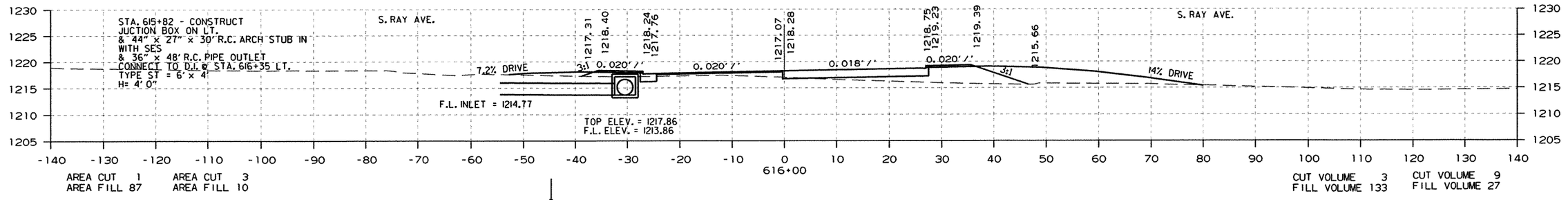
STA. 613+60 TO STA. 615+00

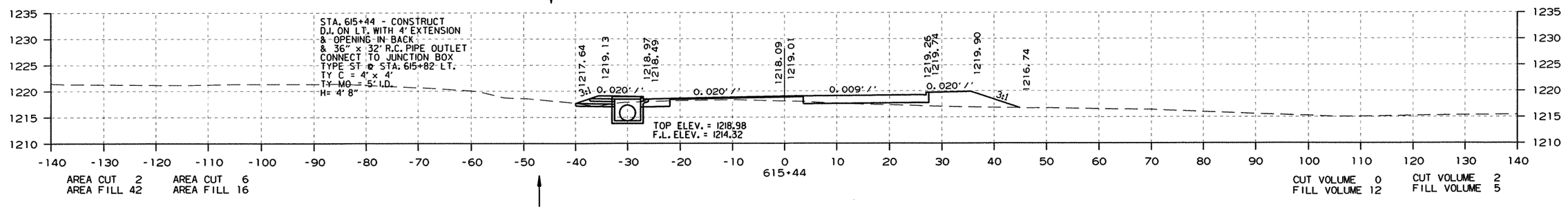
r040578.dgn 4/6/2009

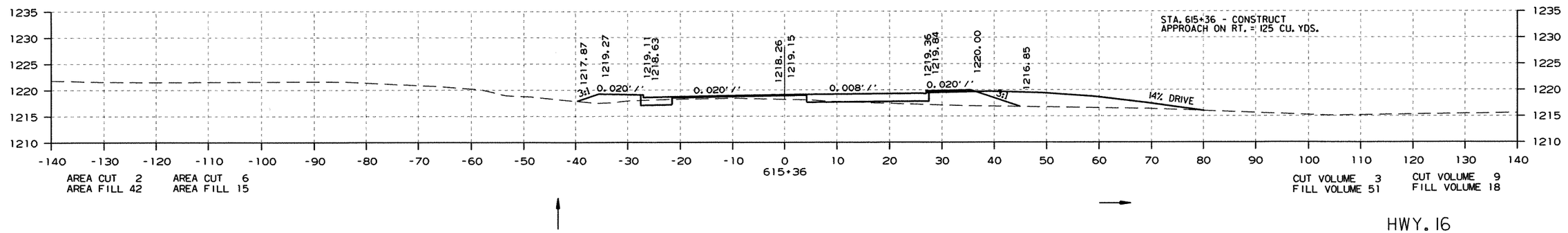
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	179	216

(2) CROSS SECTIONS









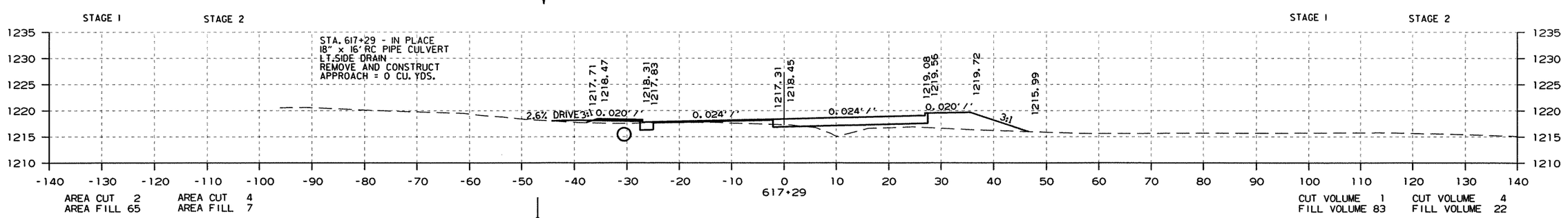
HWY. 16

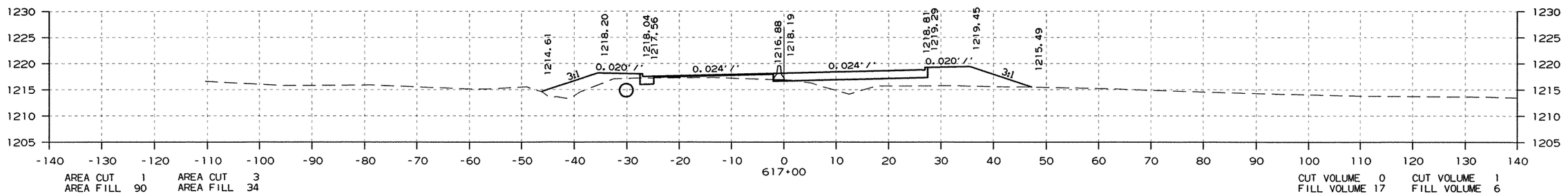
STA. 615+36 TO STA. 616+35

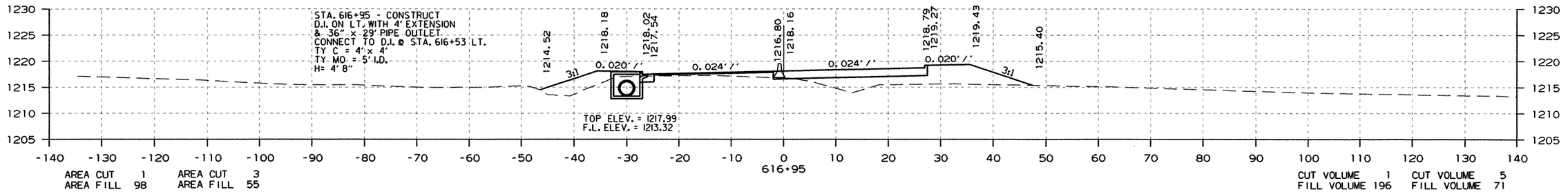
r040578.dgn 4/6/2009

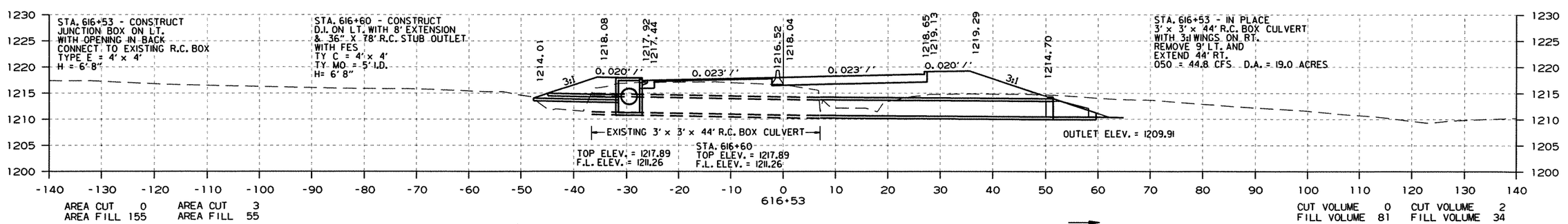
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	180	216

(2) CROSS SECTIONS









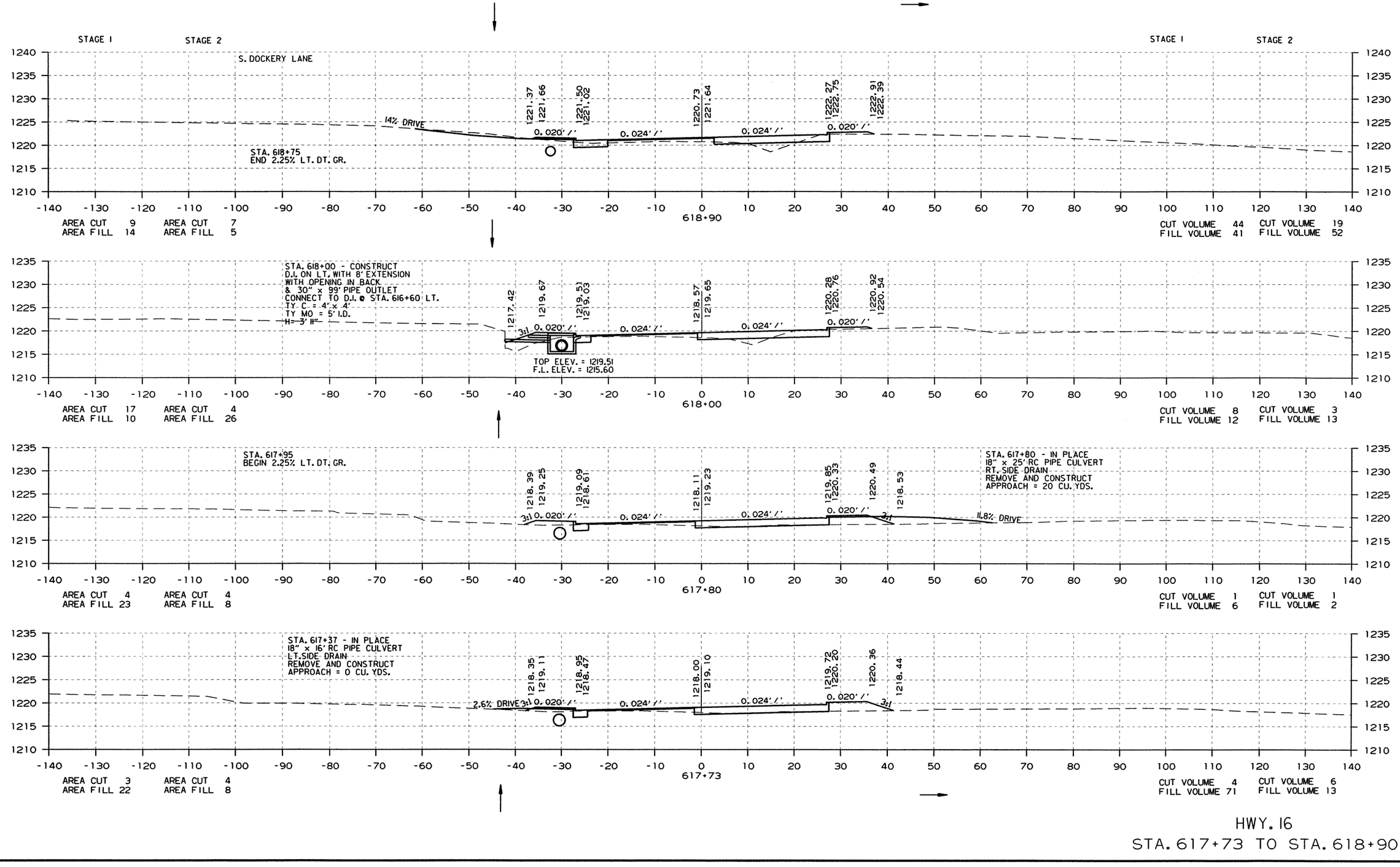
HWY. 16

STA. 616+53 TO STA. 617+29

r040578.dgn 4/6/2009

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.		040578	181	216

(2) CROSS SECTIONS



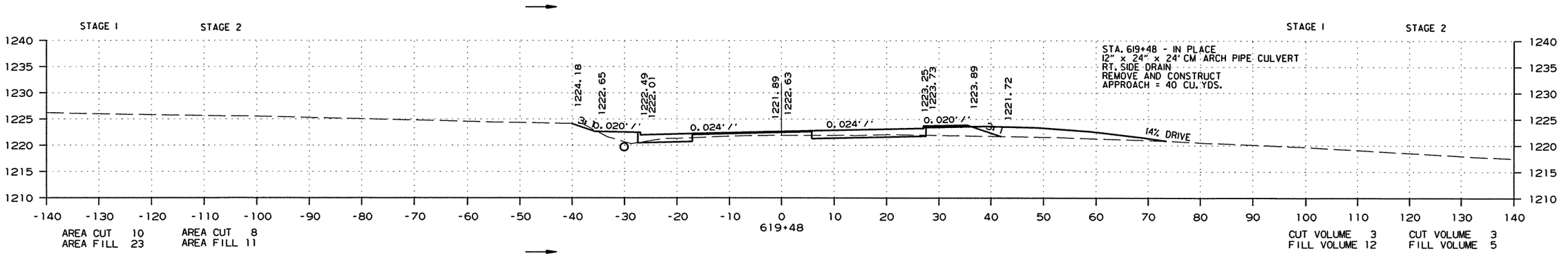
HWY. 16

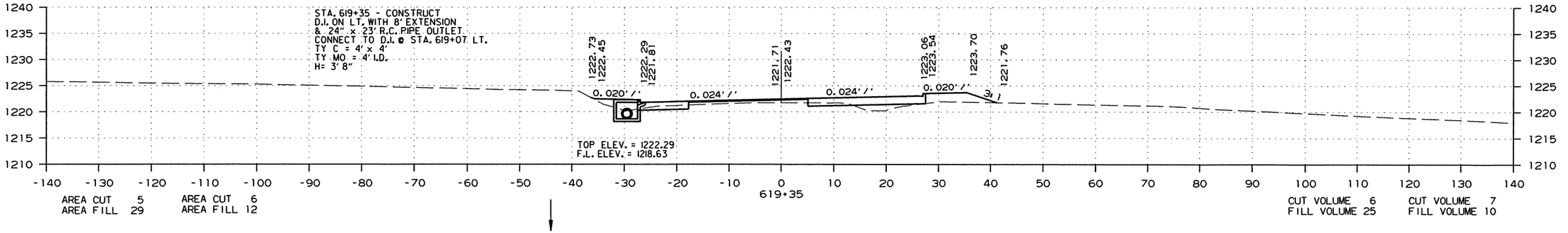
STA. 617+73 TO STA. 618+90

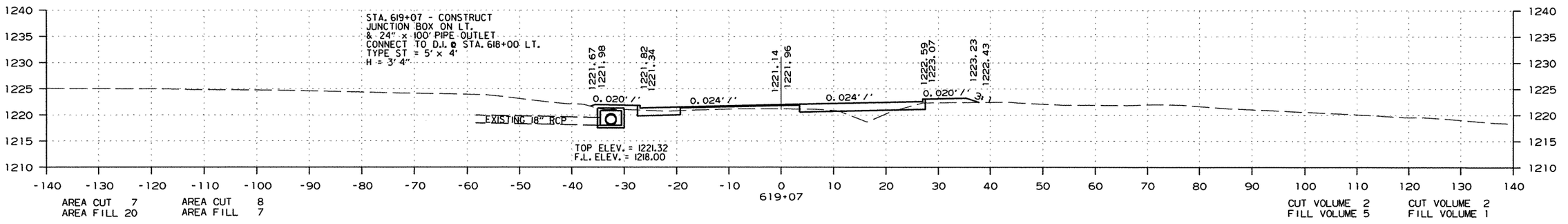
r040578.dgn 4/6/2009

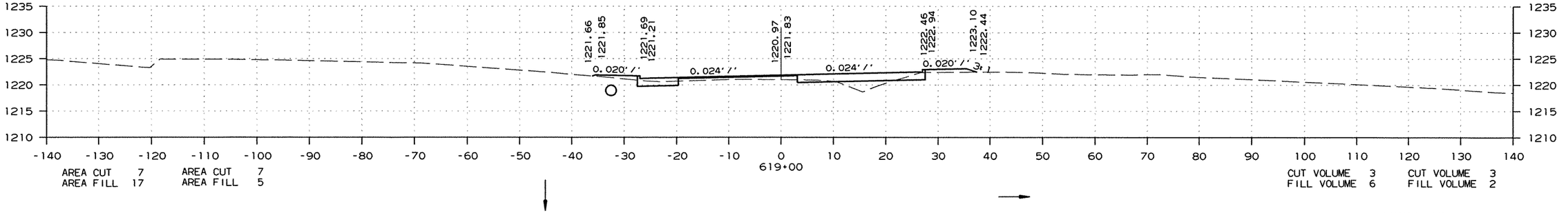
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	182	216

(2) CROSS SECTIONS









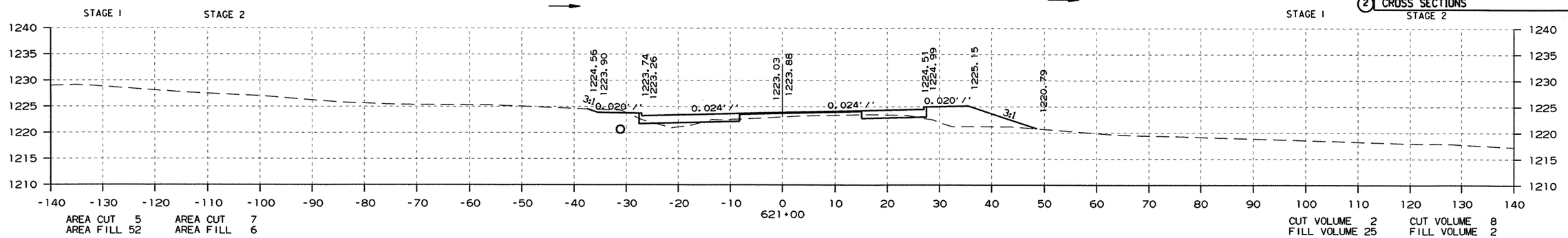
HWY. 16

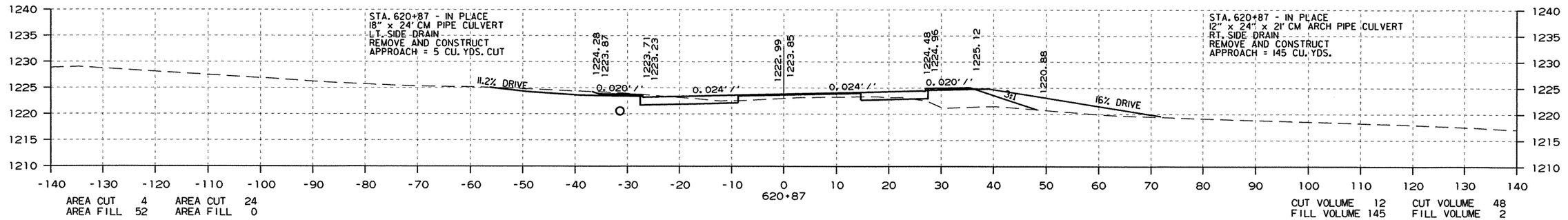
STA. 619+00 TO STA. 619+48

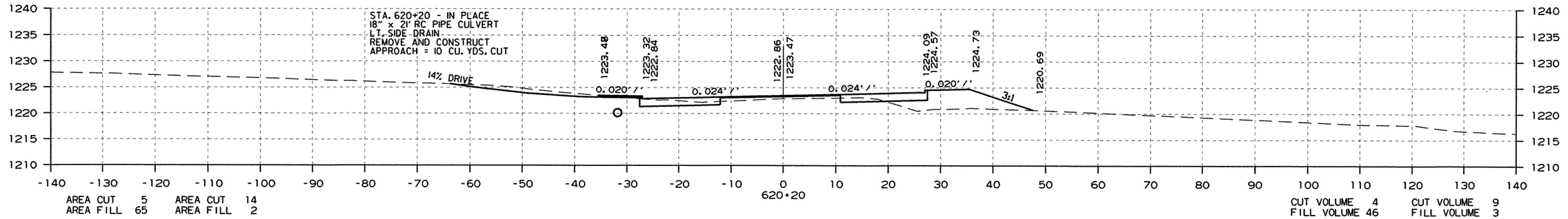
r040578.dgn 4/6/2009

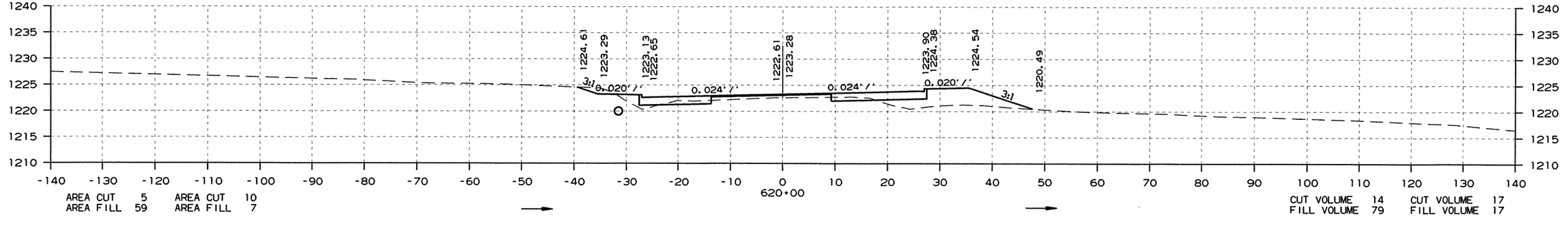
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	183	216

(2) CROSS SECTIONS







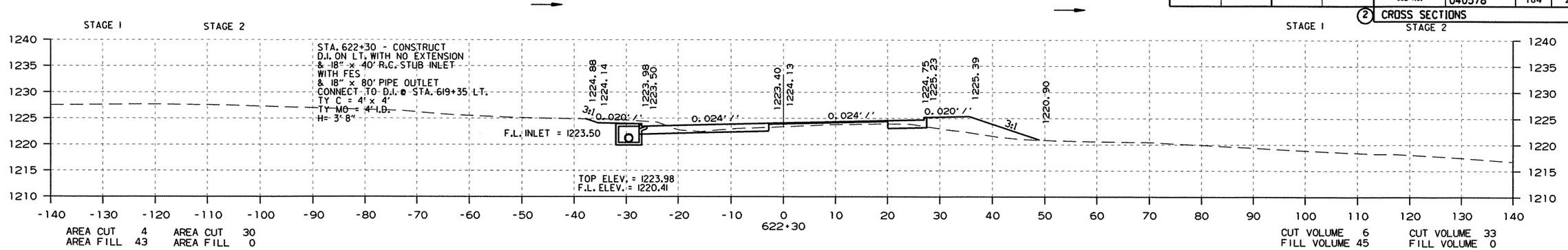


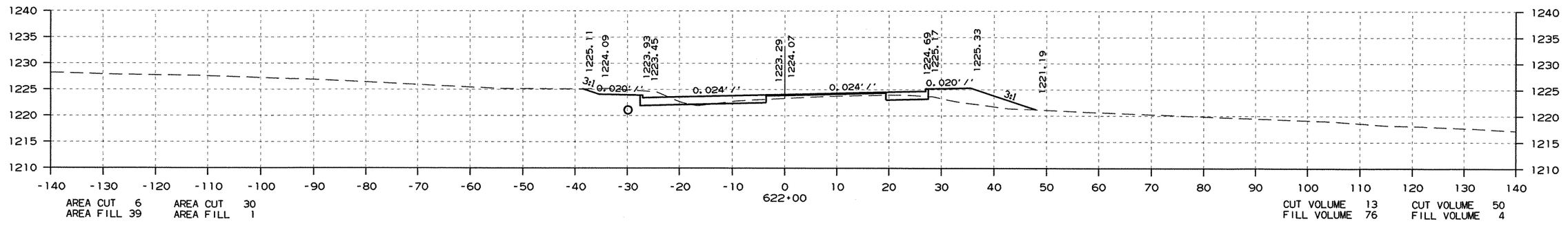
HWY. 16
STA. 620+00 TO STA. 621+00

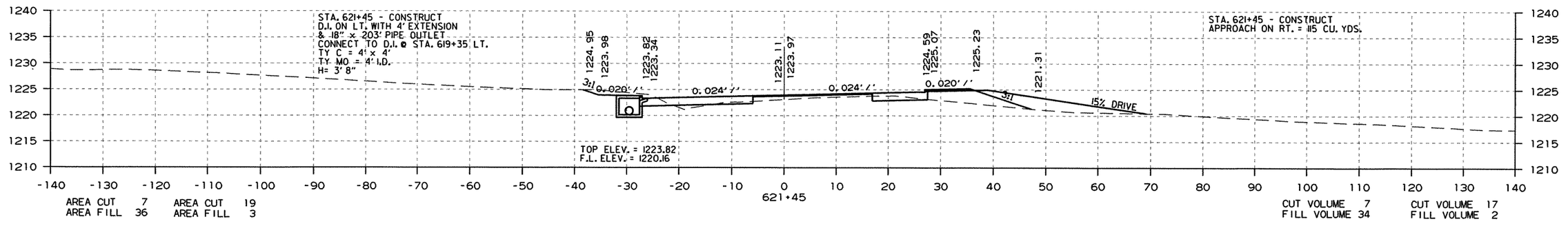
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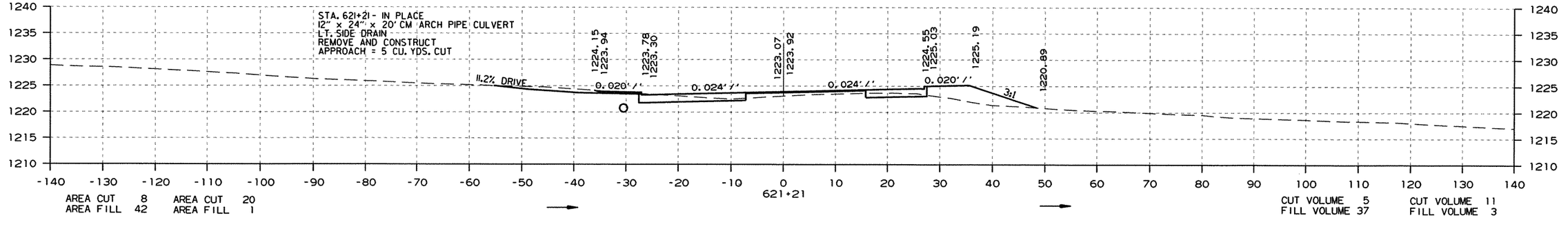
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		040578	184	216

(2) CROSS SECTIONS







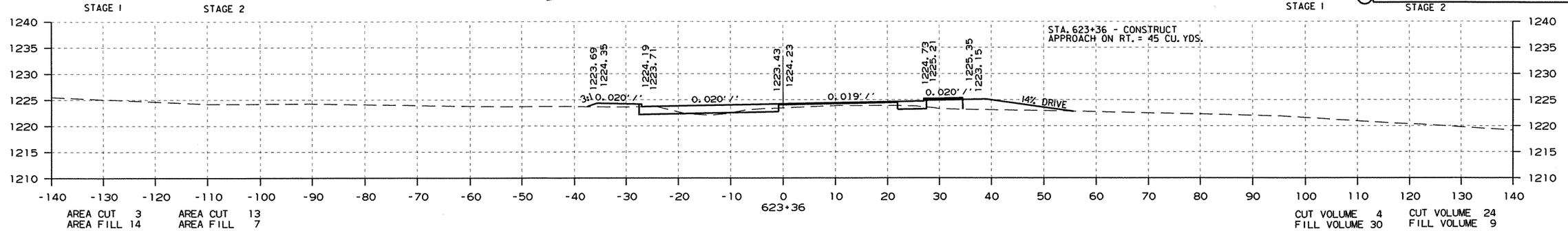


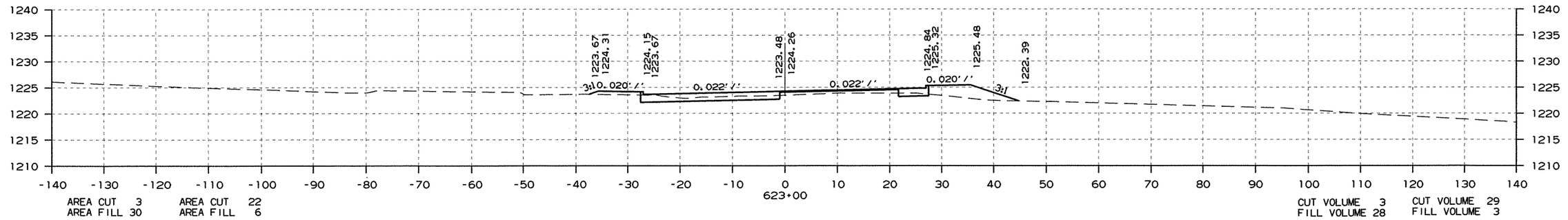
HWY. 16
STA. 621+21 TO STA. 622+30

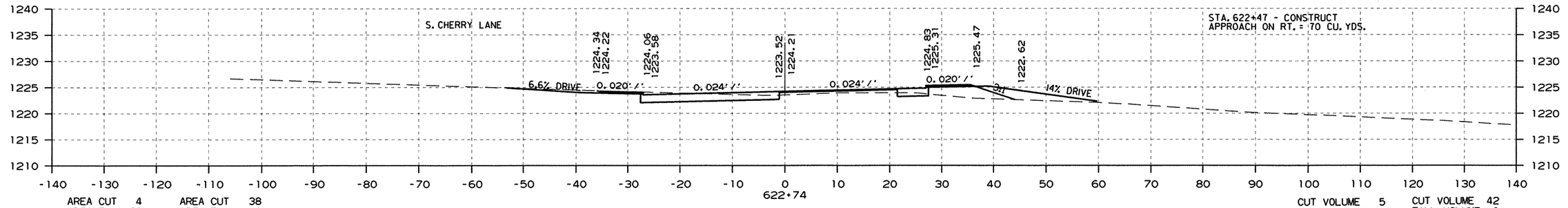
r040578.dgn 4/6/2009

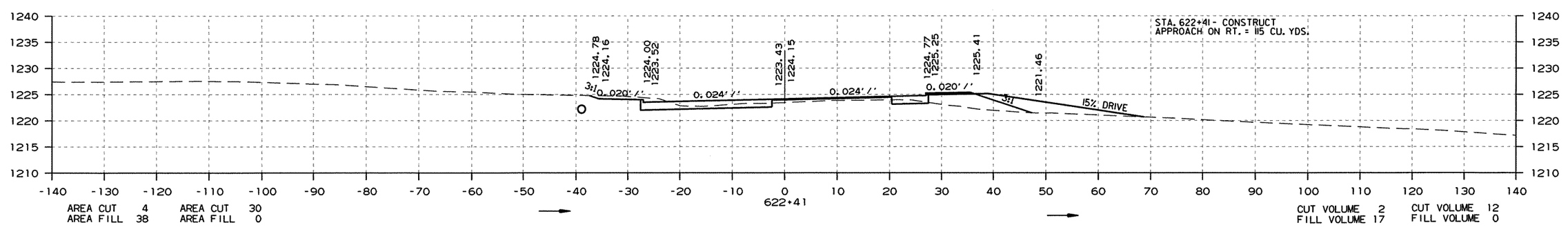
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	185	216

(2) CROSS SECTIONS







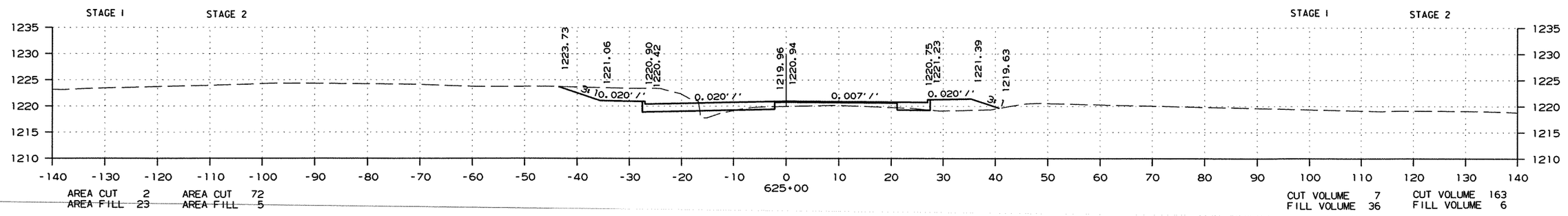


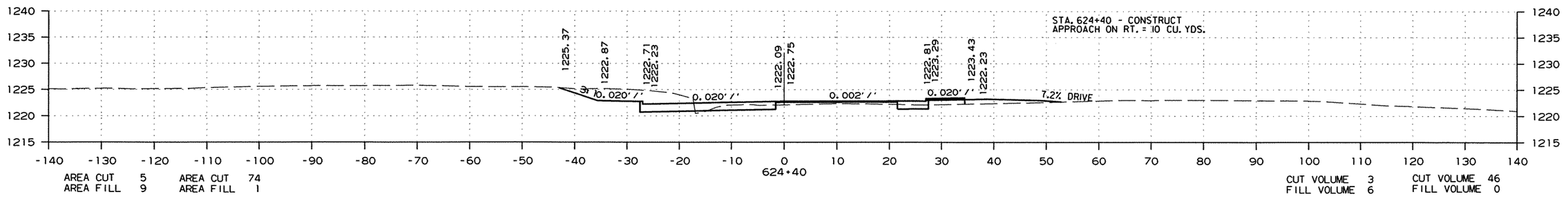
HWY. 16
STA. 622+41 TO STA. 623+36

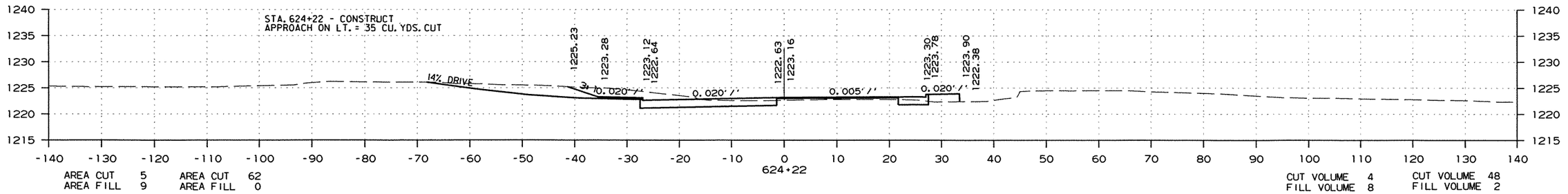
r040578.dgn 4/6/2009

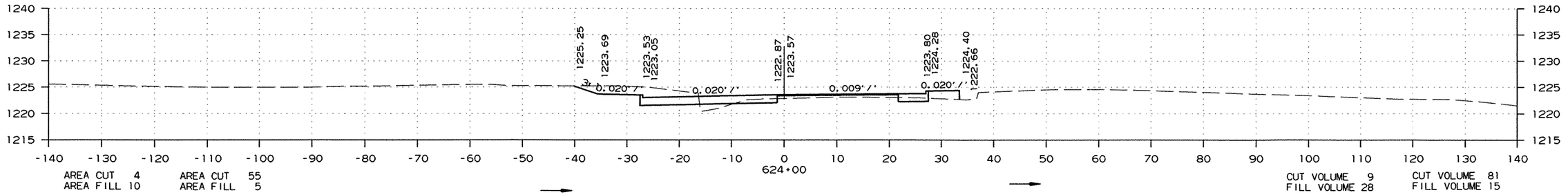
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	186	216

(2) CROSS SECTIONS









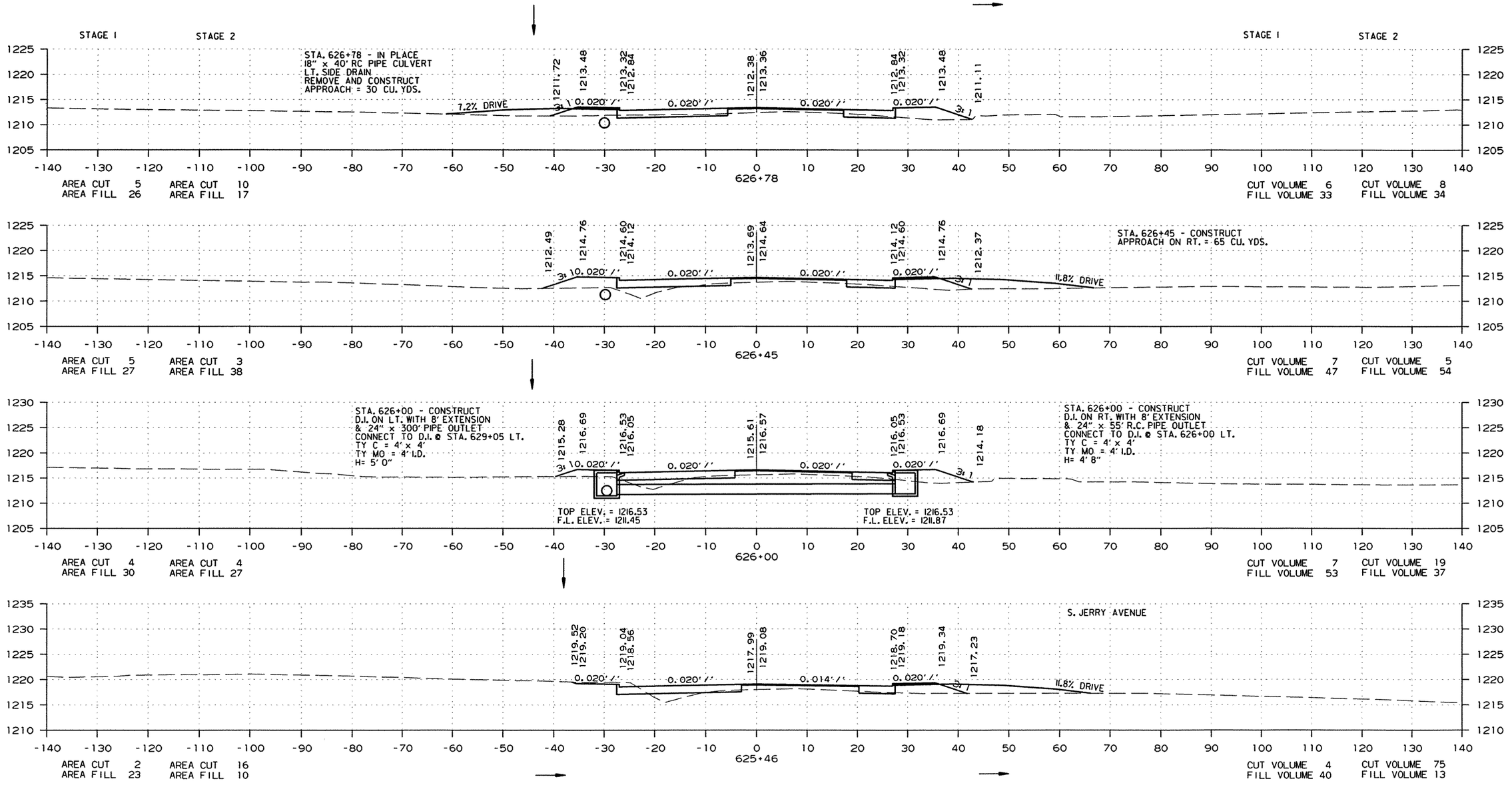
HWY. 16

STA. 624+00 TO STA. 625+00

r040578.dgn 4/6/2009

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.		040578	187	216

(2) CROSS SECTIONS



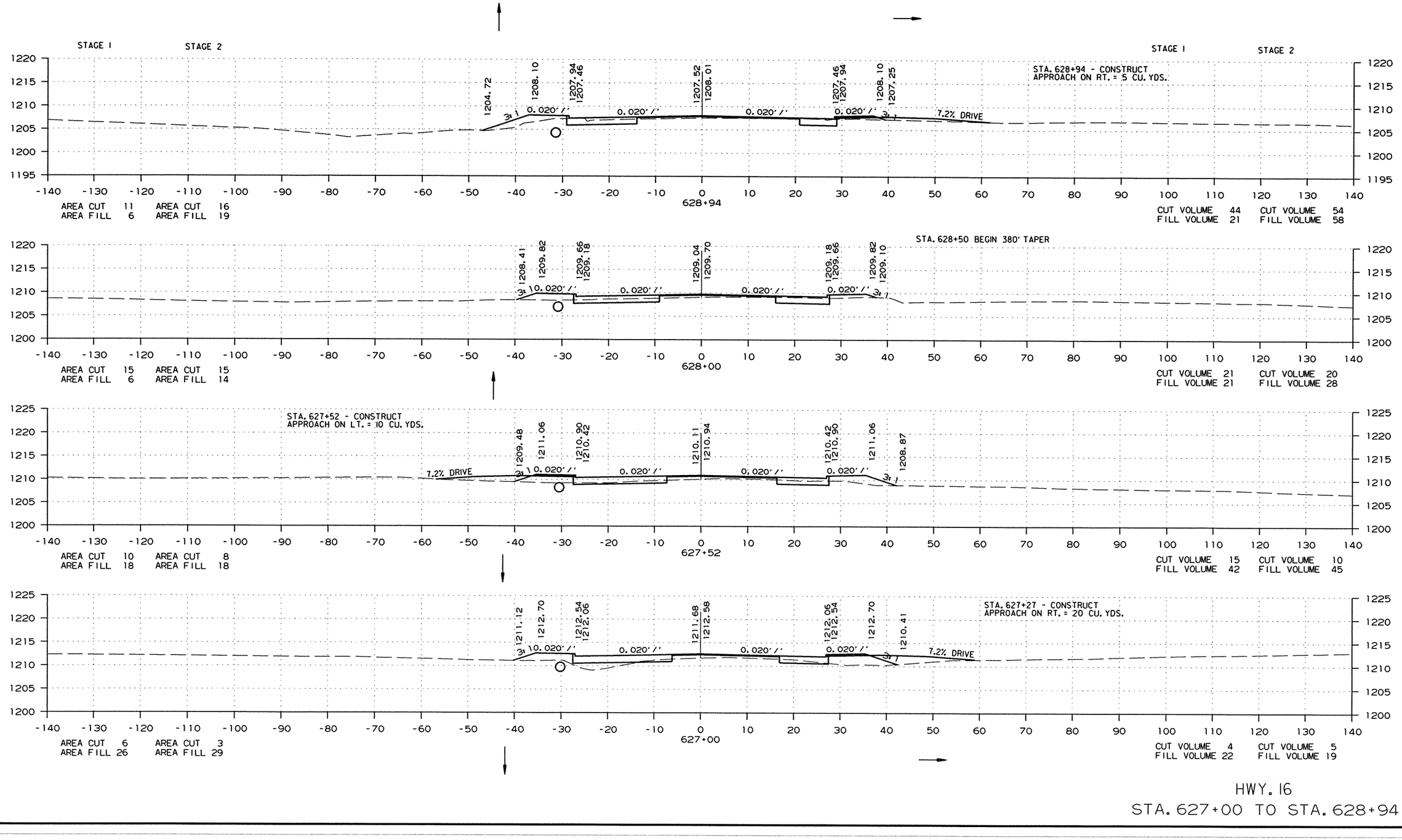
r040578.dgn 4/6/2009

HWY. 16

STA. 625+46 TO STA. 626+78

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.		040578	188	216

(2) CROSS SECTIONS



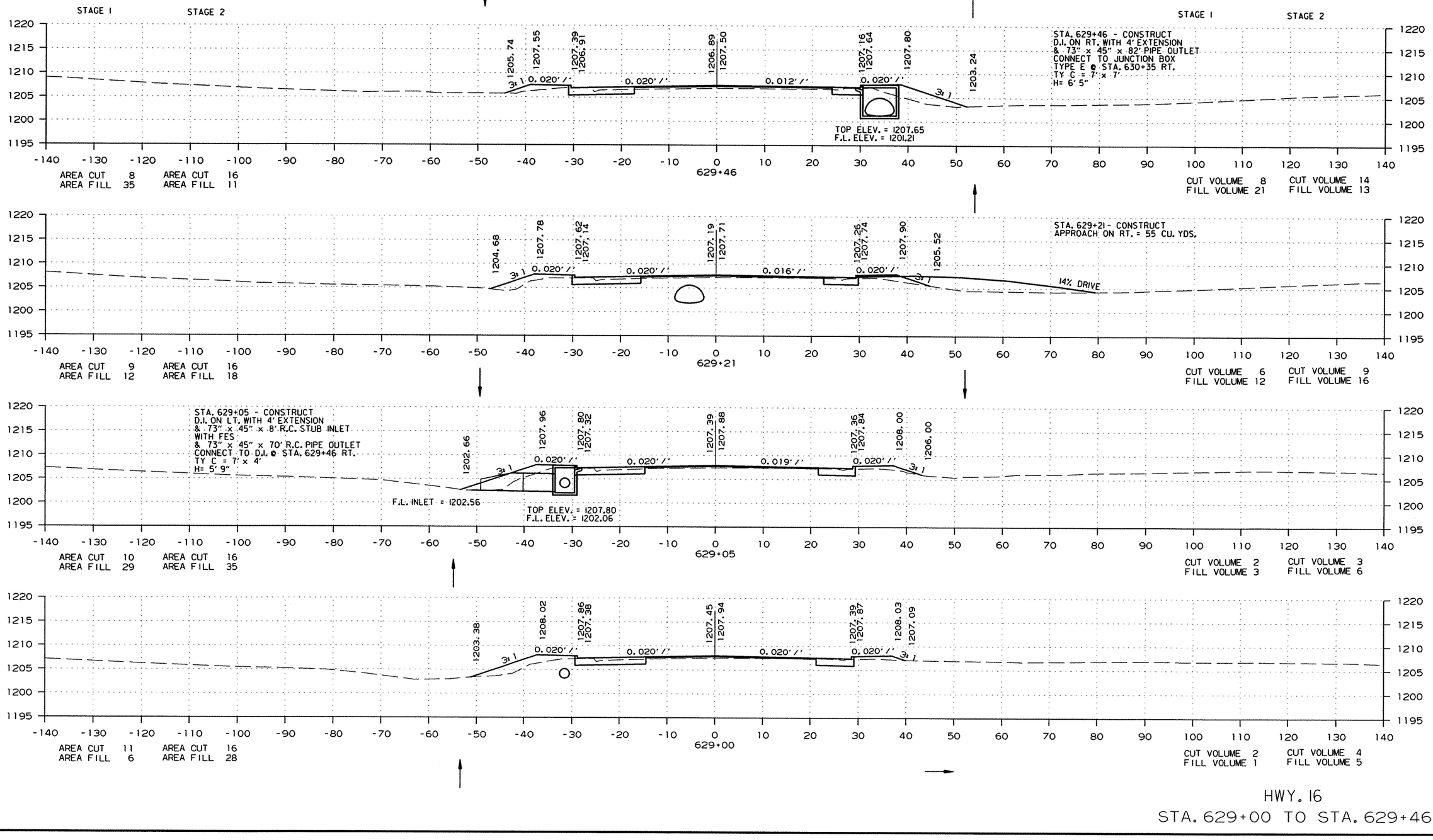
HWY. 16

STA. 627+00 TO STA. 628+94

r040578.dgn 4/6/2009

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.		040578	189	216

(2) CROSS SECTIONS



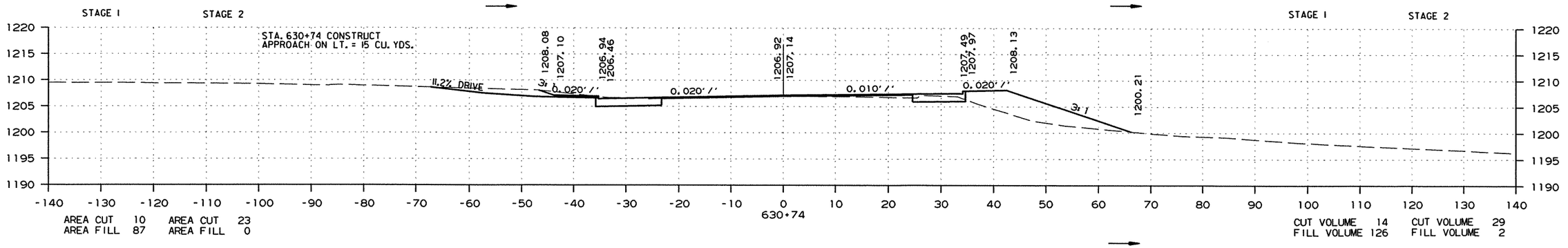
HWY. 16

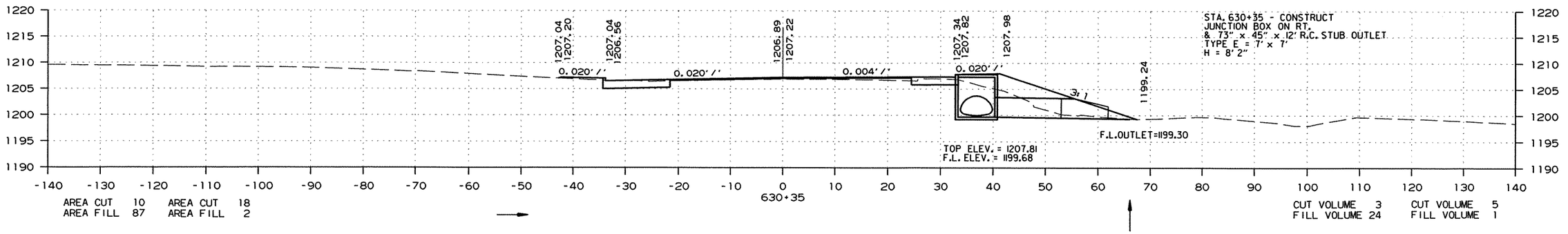
STA. 629+00 TO STA. 629+46

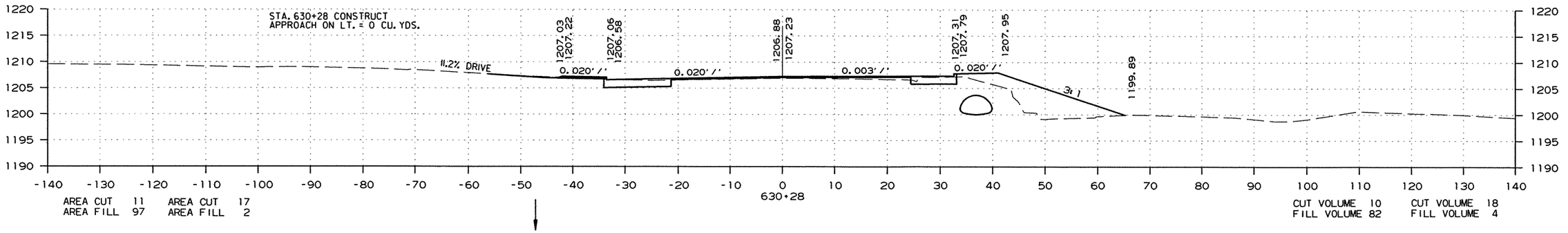
r040578.dgn 4/6/2009

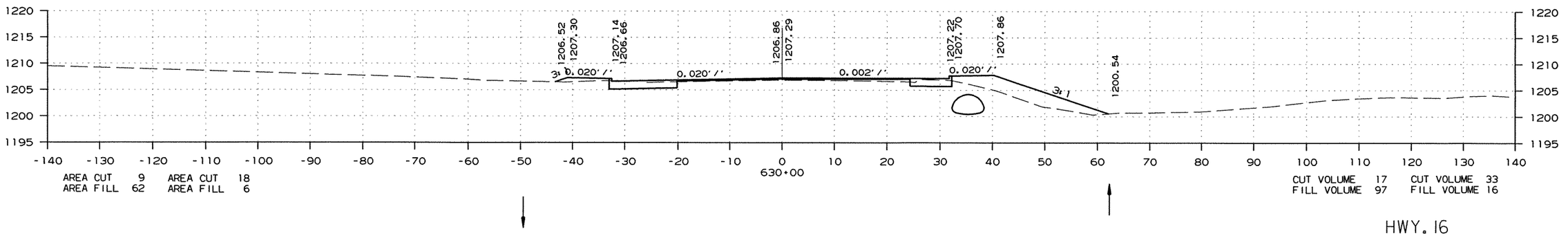
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	190	216

(2) CROSS SECTIONS









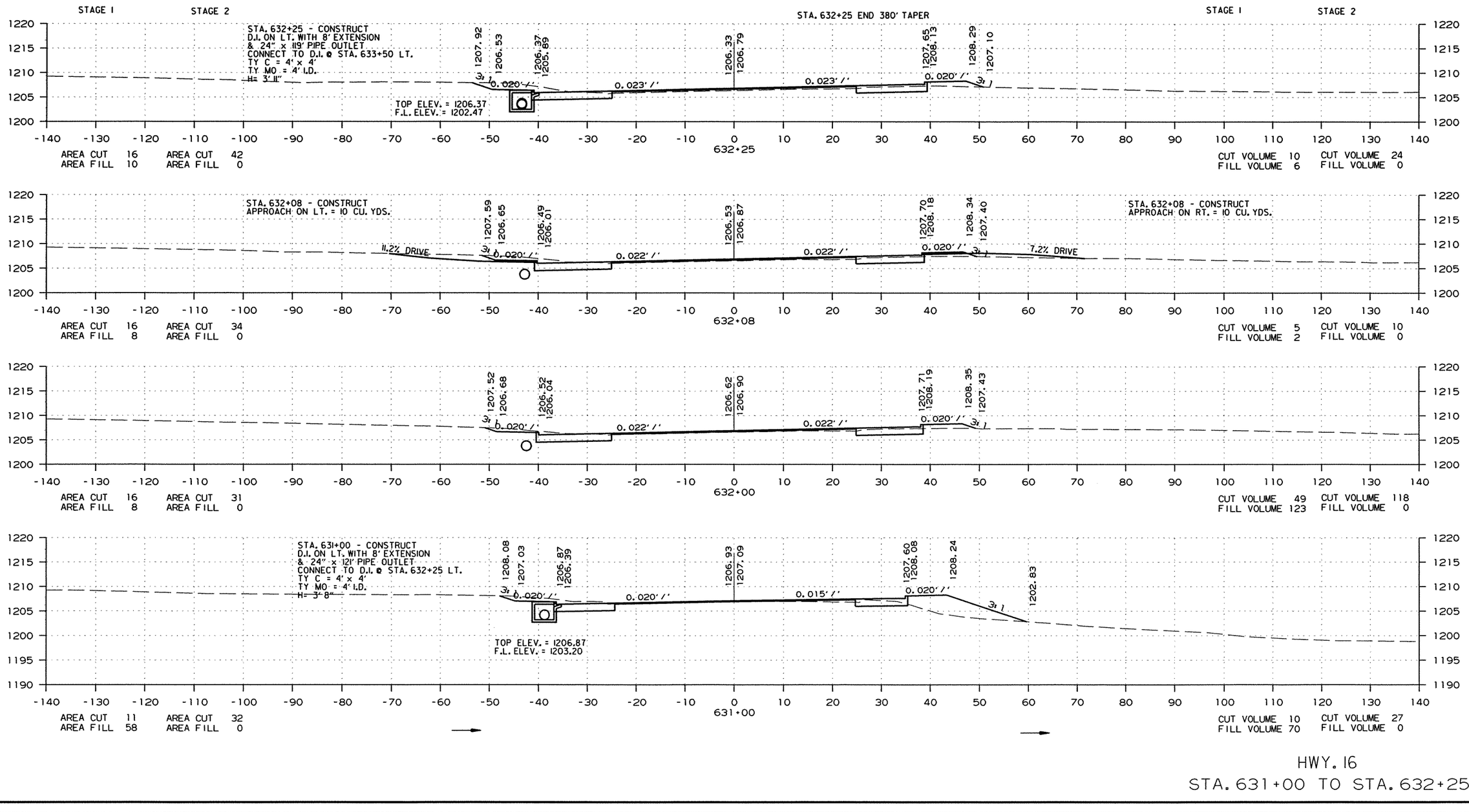
HWY. 16

STA. 630+00 TO STA. 630+74

r040578.dgn 4/6/2009

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.		040578	191	216

(2) CROSS SECTIONS



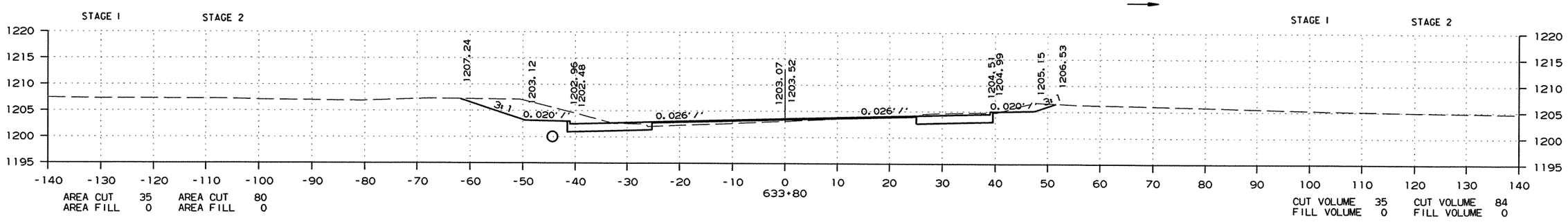
HWY. 16

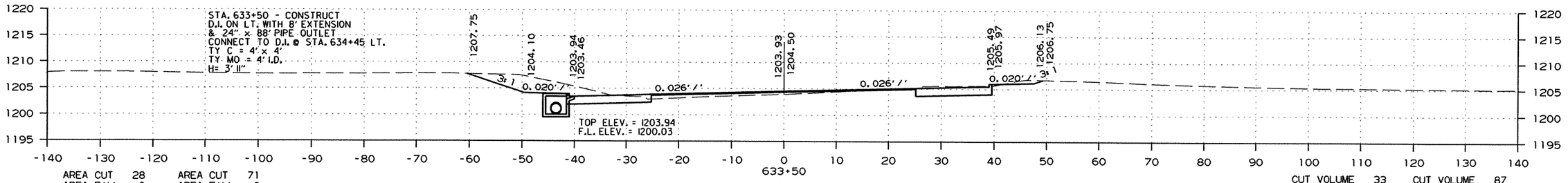
STA. 631+00 TO STA. 632+25

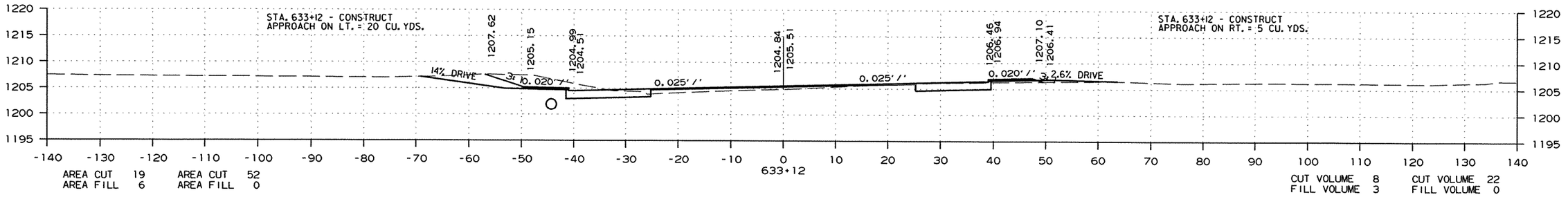
r040578.dgn 4/6/2009

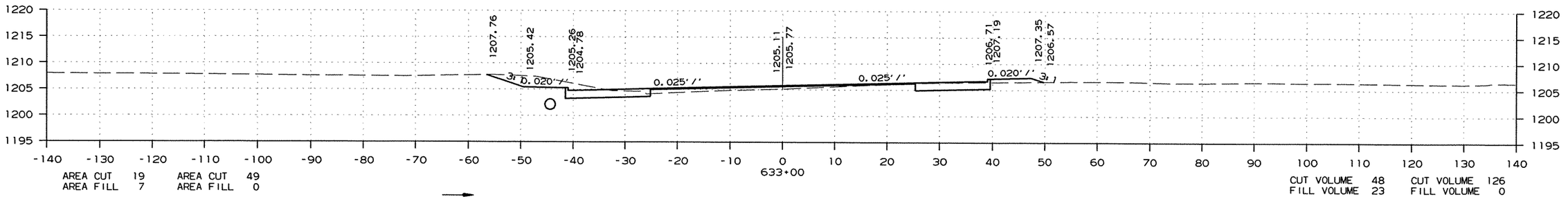
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	192	216

(2) CROSS SECTIONS







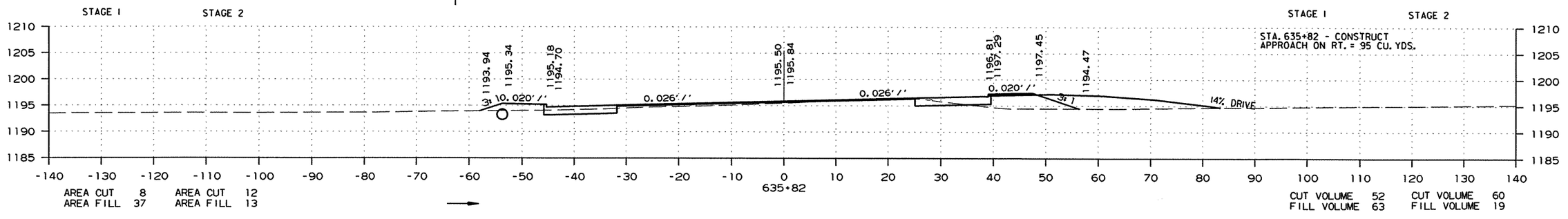


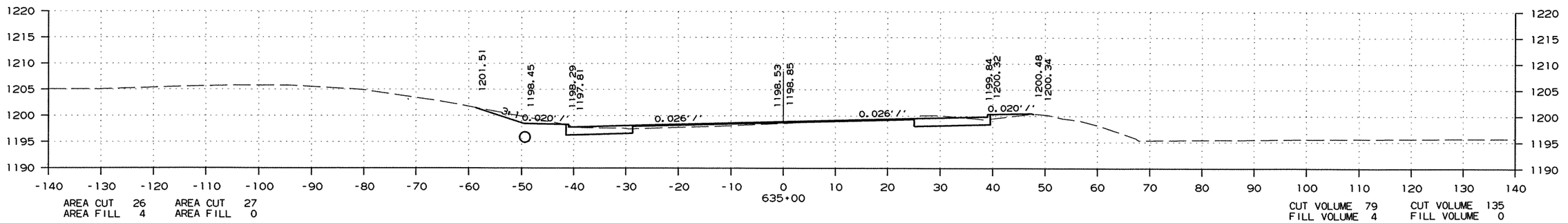
HWY. 16

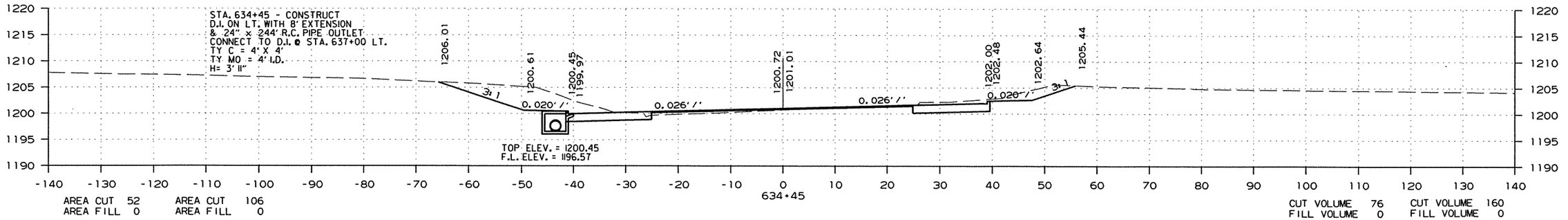
STA. 633+00 TO STA. 633+80

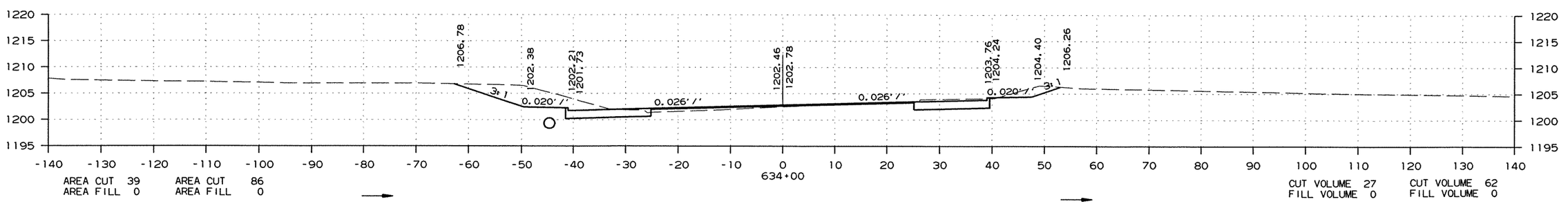
r040578.dgn 4/6/2009

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.		040578	193	216
				(2) CROSS SECTIONS				







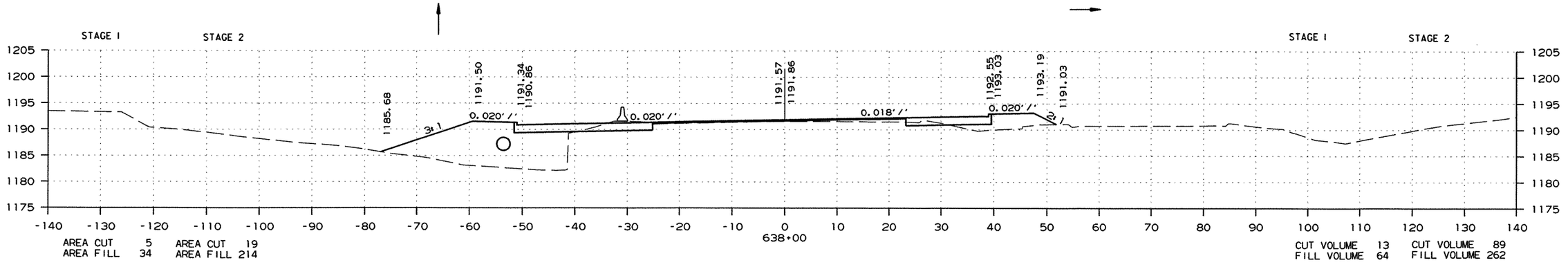


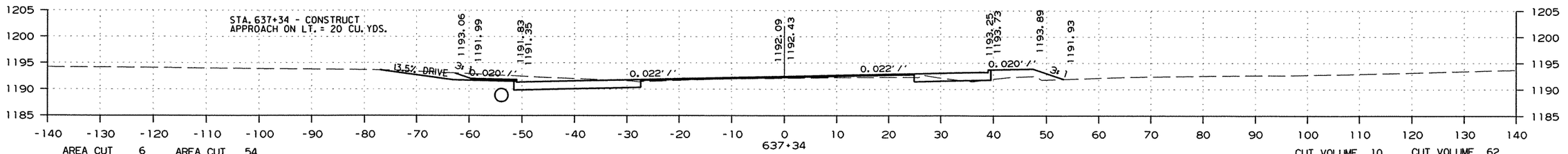
HWY. 16
STA. 634+00 TO STA. 635+82

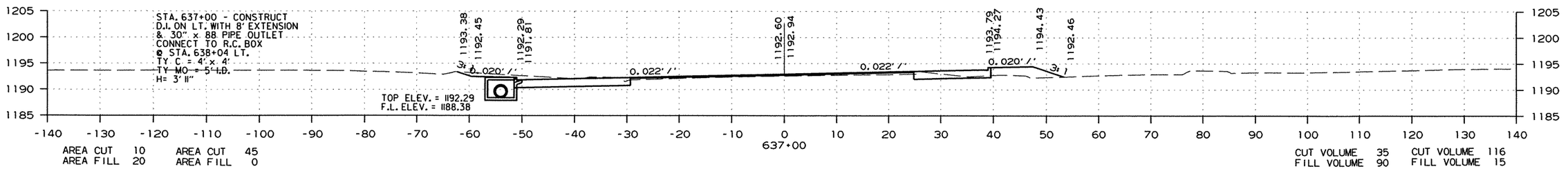
r040578.dgn 4/6/2009

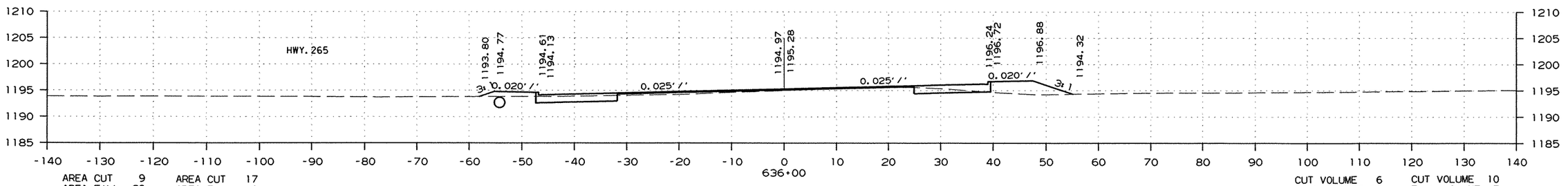
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	194	216

(2) CROSS SECTIONS









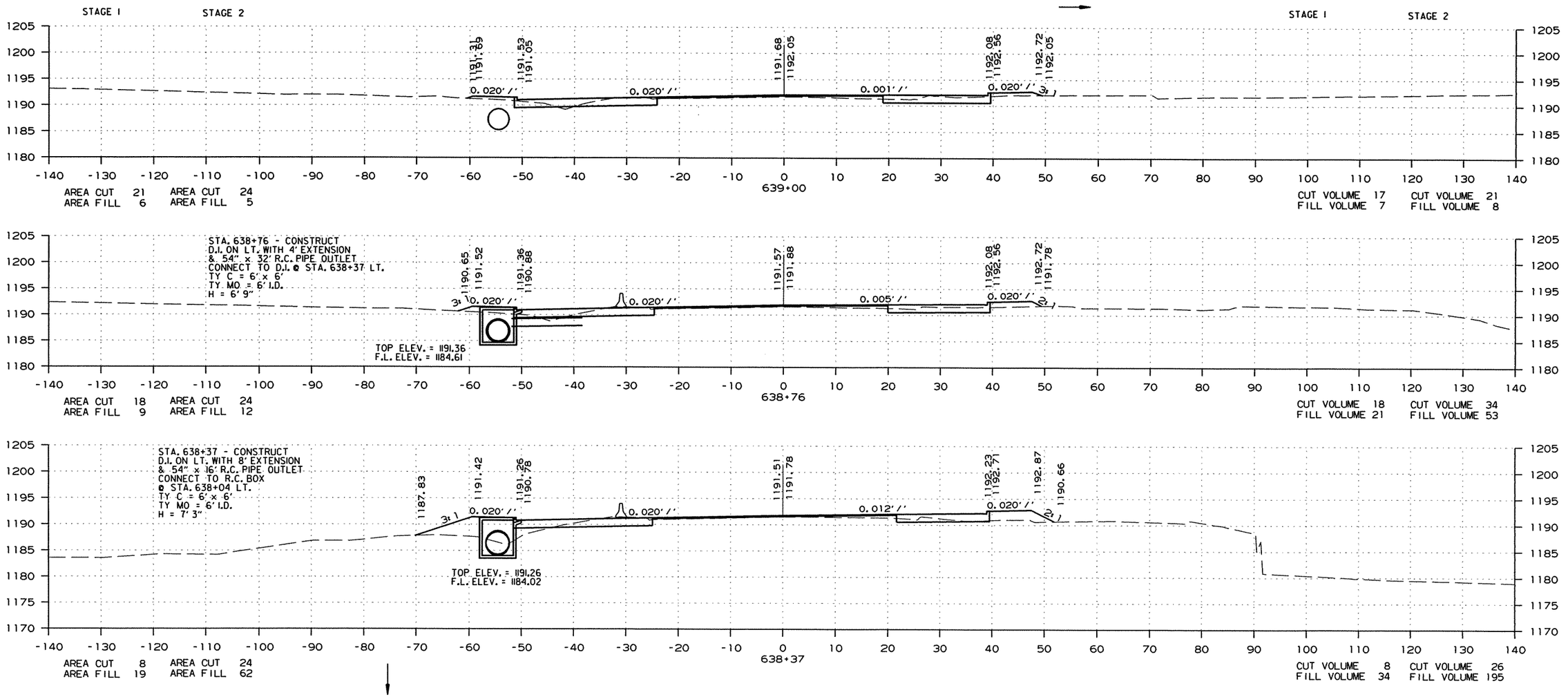
HWY. 16

STA. 636+00 TO STA. 638+00

r040578.dgn 4/6/2009

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.		040578	195	216

(2) CROSS SECTIONS



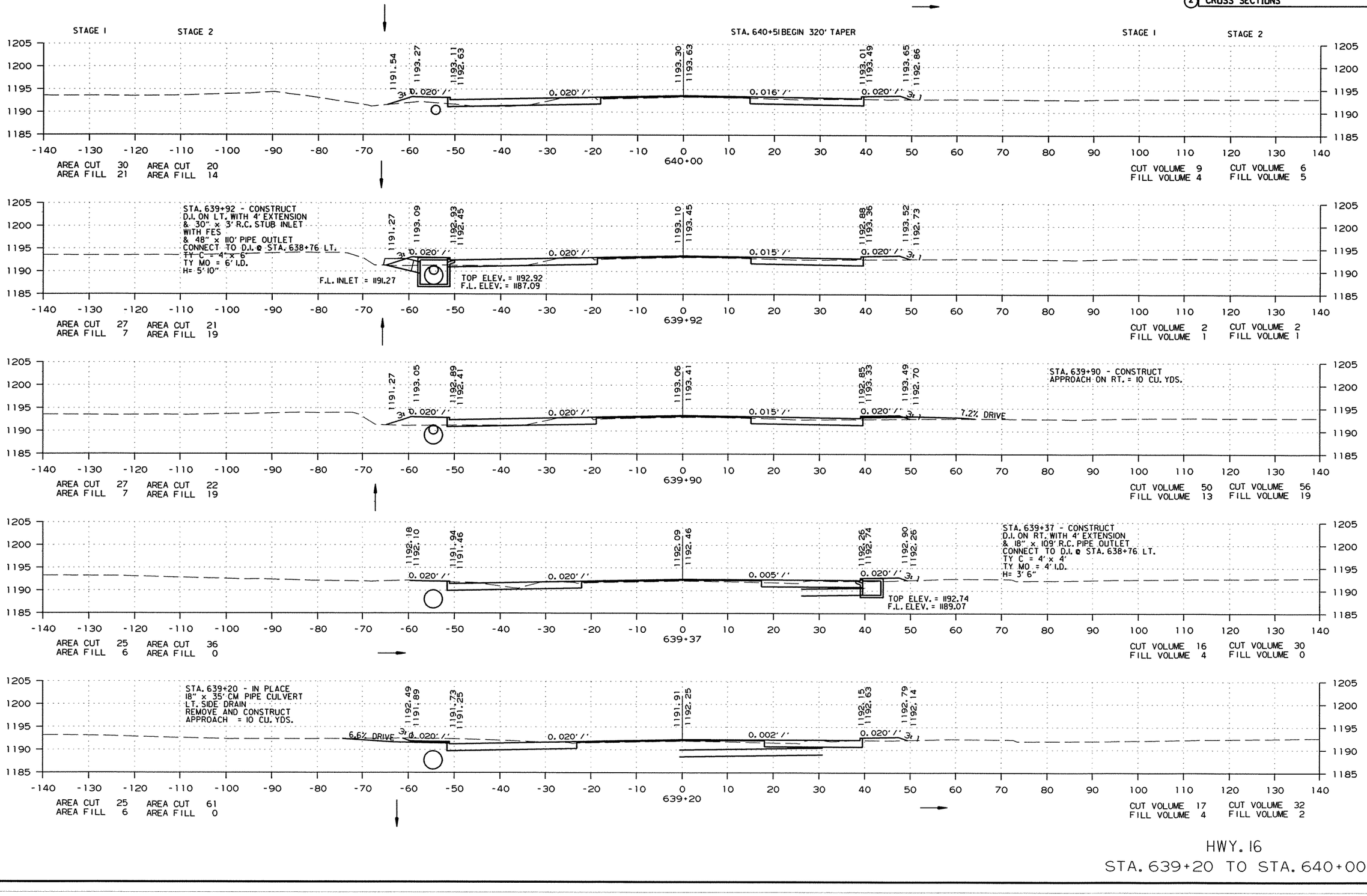
HWY. 16

STA. 638+04 TO STA. 639+00

r040578.dgn 4/6/2009

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.		040578	196	216

(2) CROSS SECTIONS



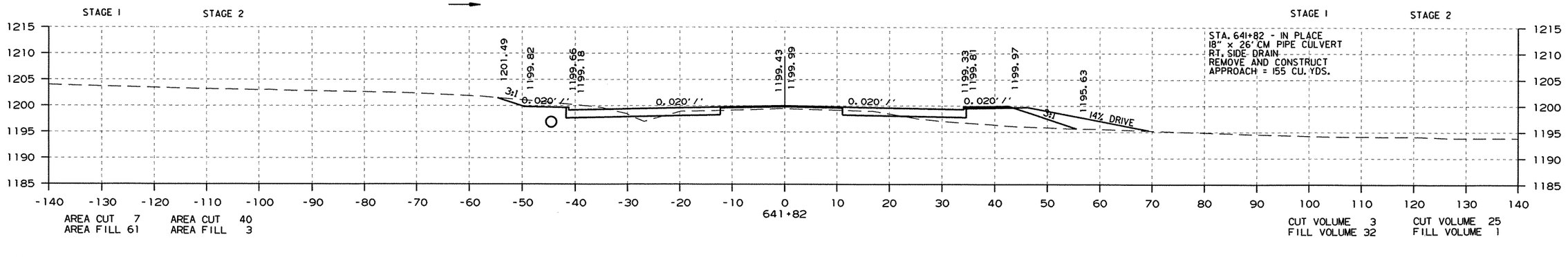
HWY. 16

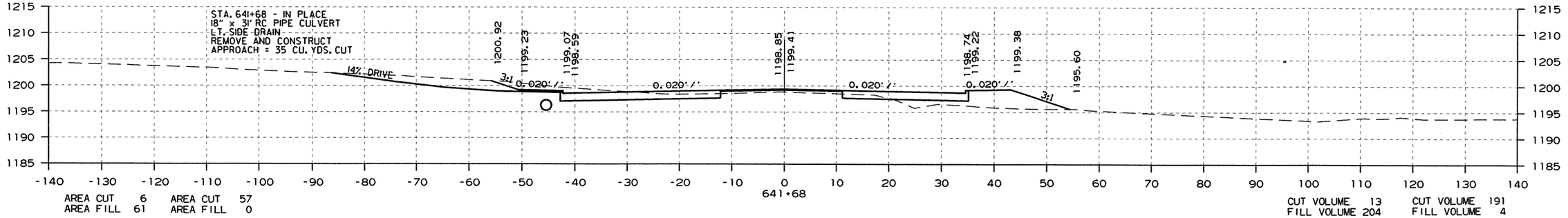
STA. 639+20 TO STA. 640+00

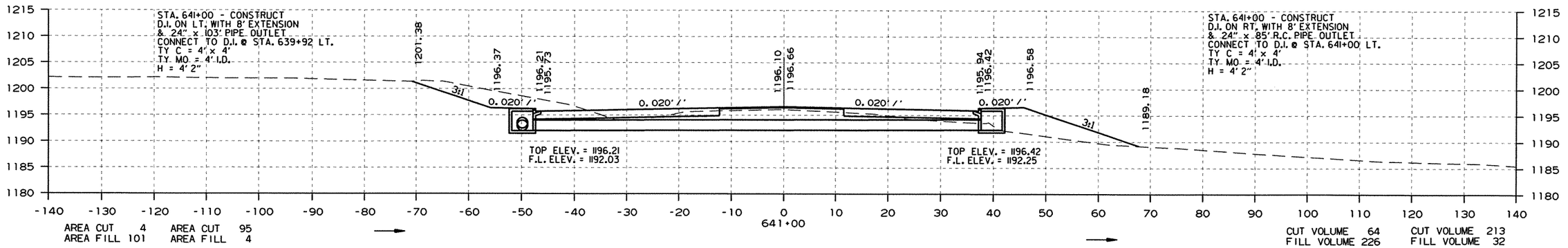
r040578.dgn 4/6/2009

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.		040578	197	216

(2) CROSS SECTIONS







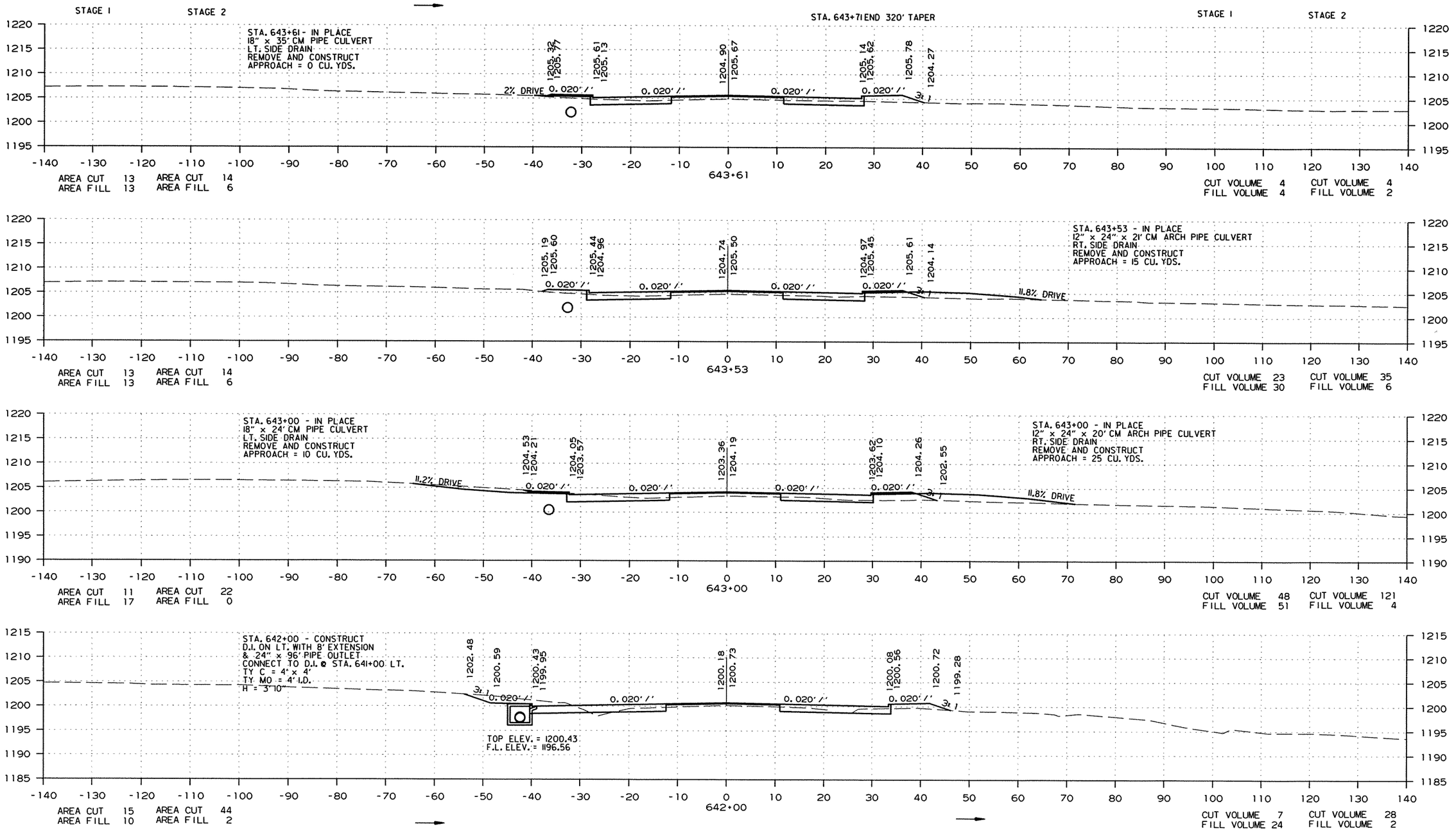
HWY. 16

STA. 641+00 TO STA. 641+82

r040578.dgn 4/6/2009

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



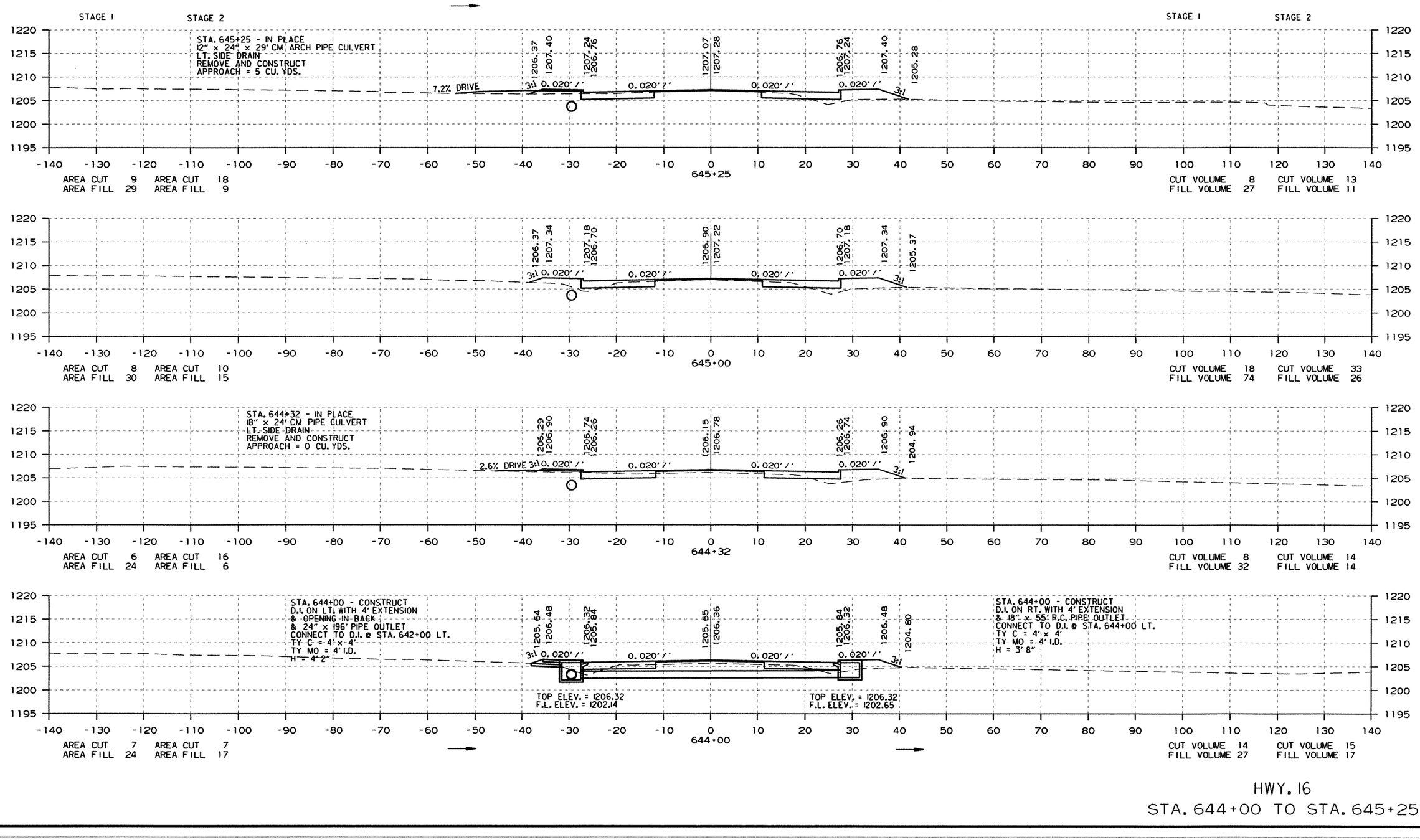
r040578.dgn 4/6/2009

HWY. 16

STA. 642+00 TO STA. 643+61

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.		040578	199	216

(2) CROSS SECTIONS



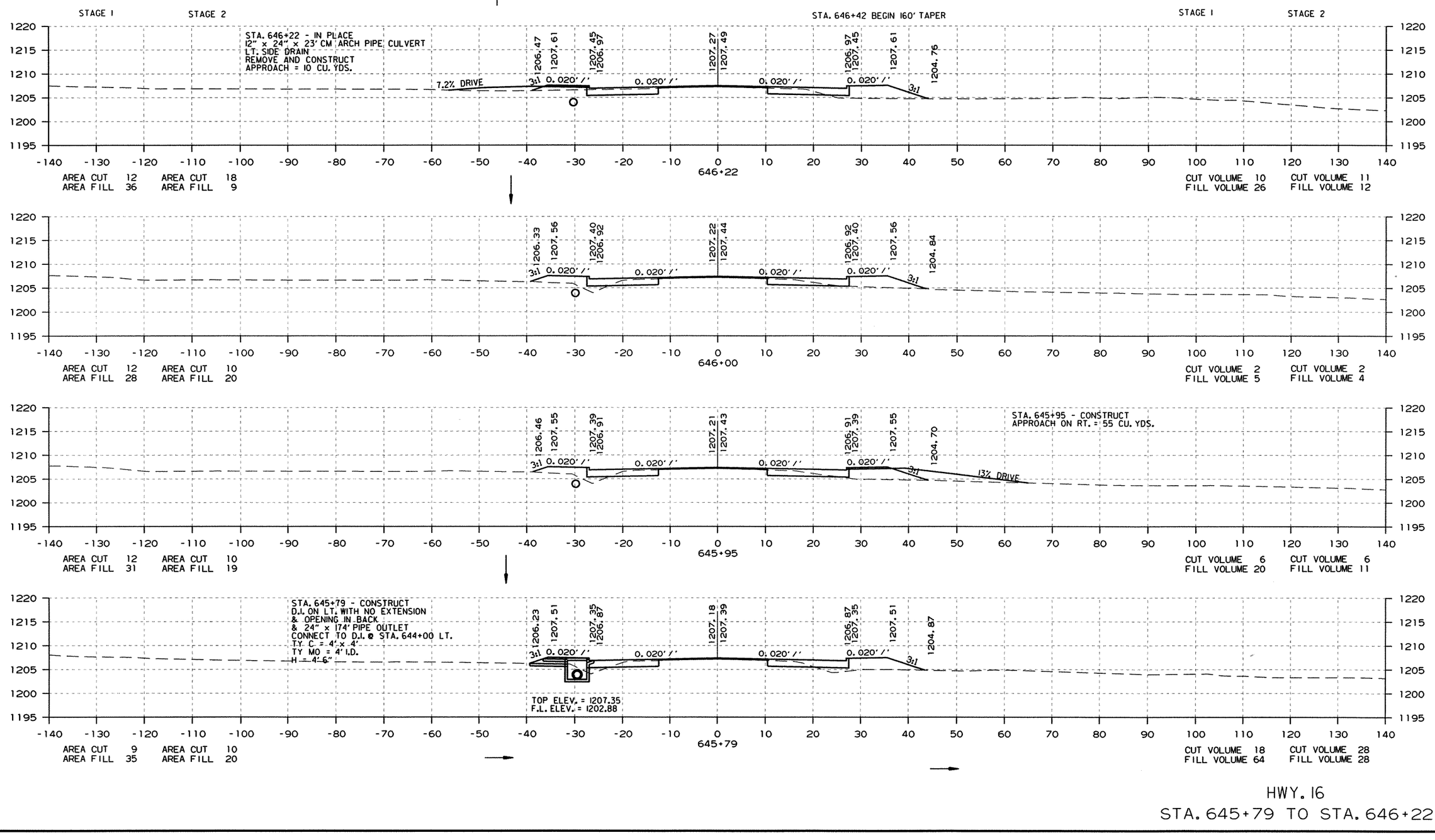
HWY. 16

STA. 644+00 TO STA. 645+25

r040578.dgn 4/6/2009

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.		040578	200	216

(2) CROSS SECTIONS

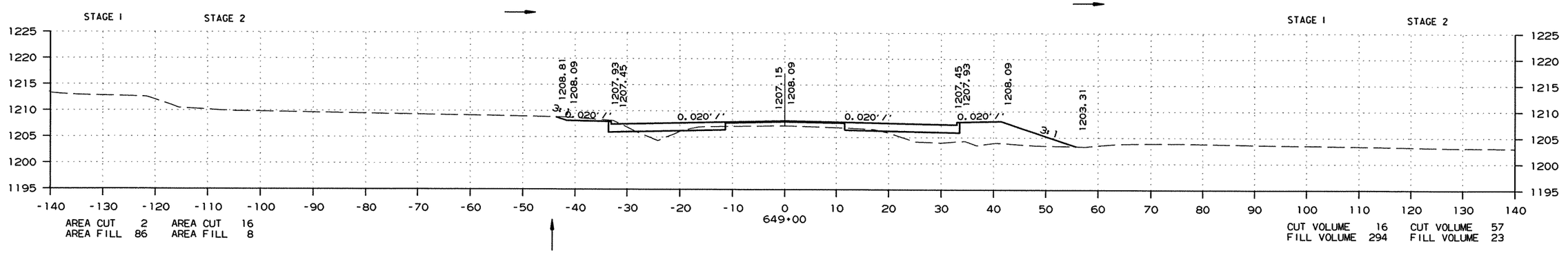


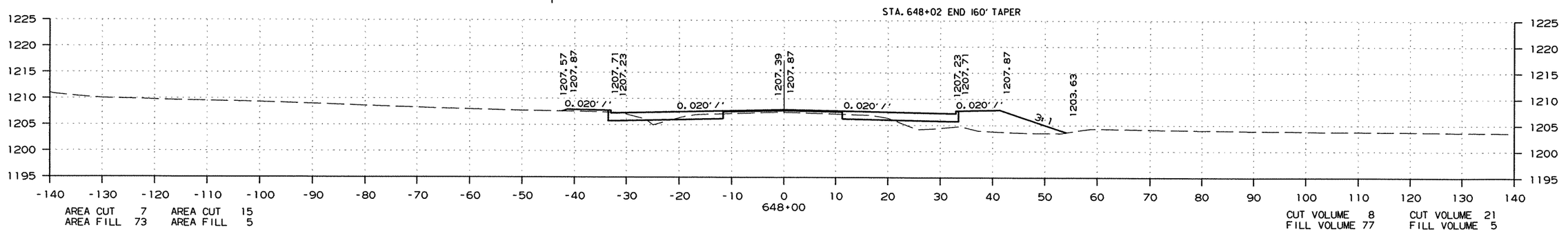
r040578.dgn 4/6/2009

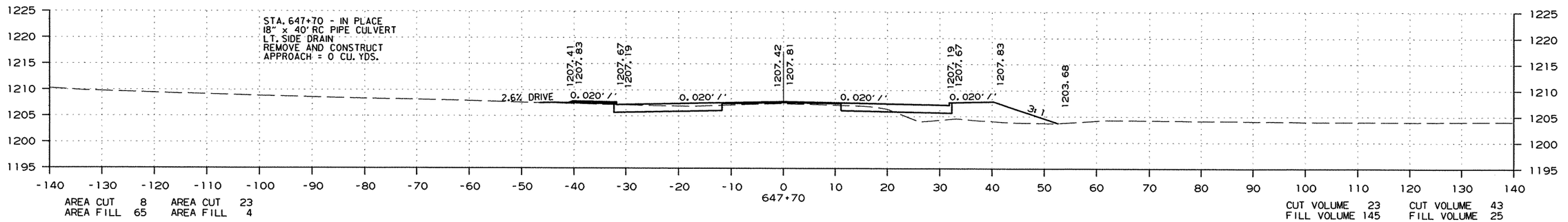
HWY. 16
STA. 645+79 TO STA. 646+22

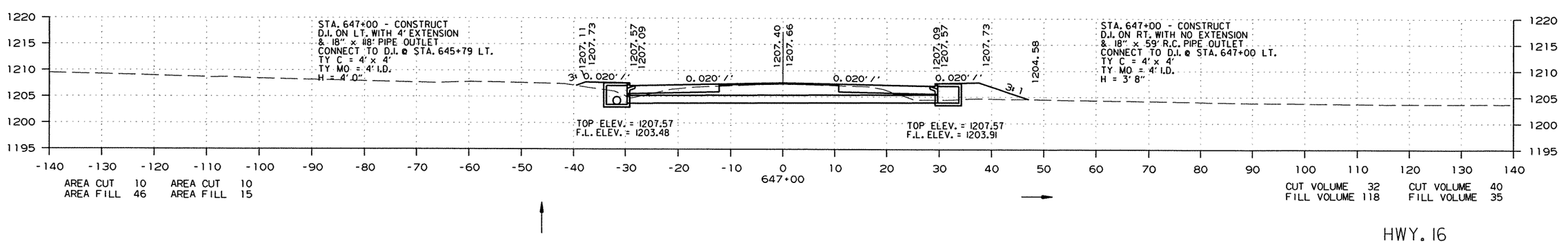
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	201	216

(2) CROSS SECTIONS









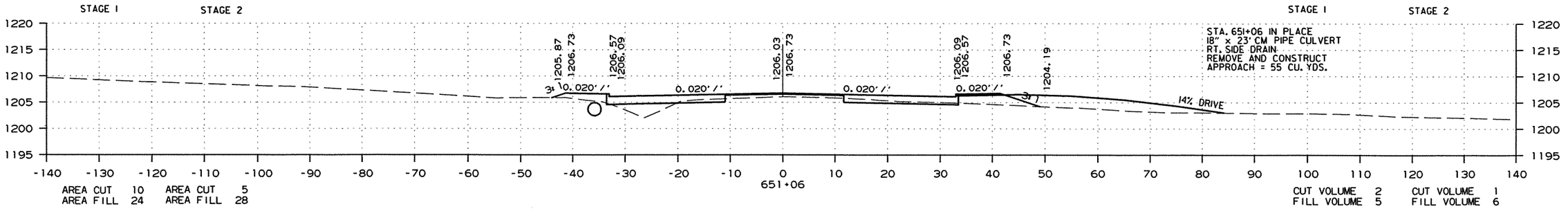
HWY. 16

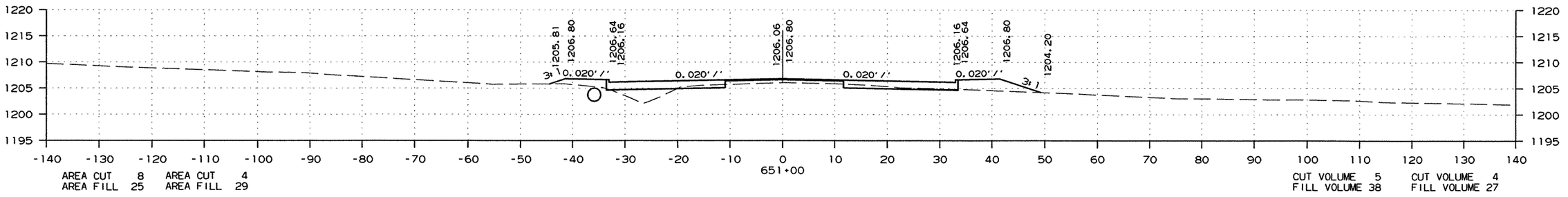
STA. 647+00 TO STA. 649+00

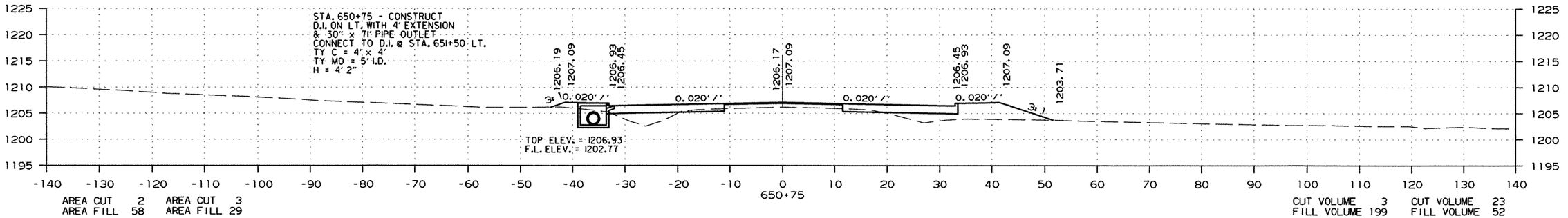
r040578.dgn 4/6/2009

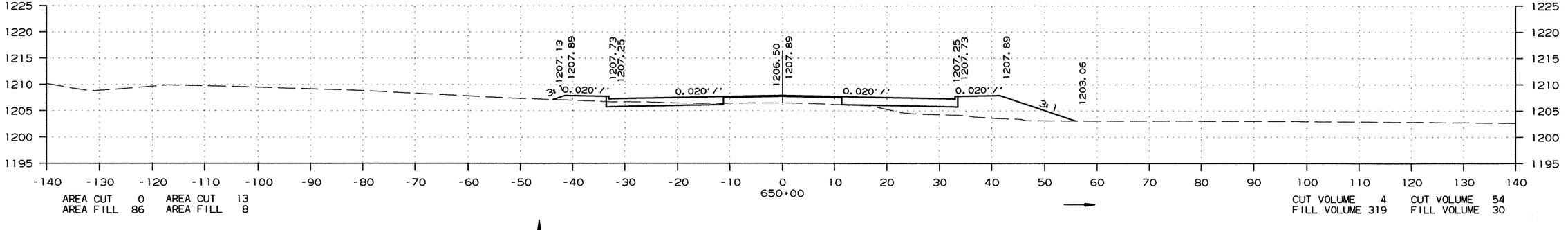
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	202	216

(2) CROSS SECTIONS









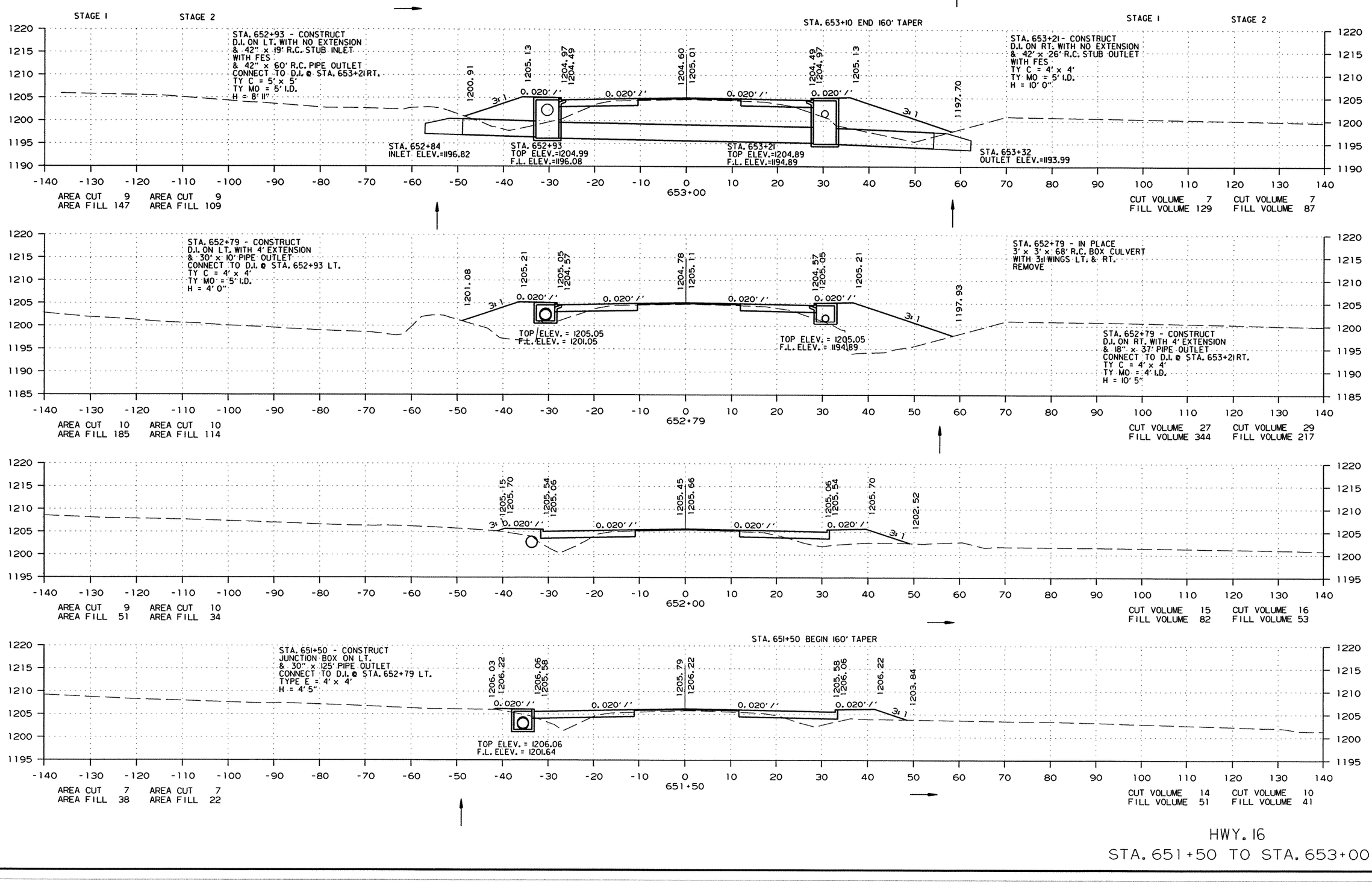
HWY. 16

STA. 650+00 TO STA. 651+06

r040578.dgn 4/6/2009

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.		040578	203	216

(2) CROSS SECTIONS



HWY. 16

STA. 651+50 TO STA. 653+00

r040578.dgn 4/6/2009

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.		040578	204	216

(2) CROSS SECTIONS

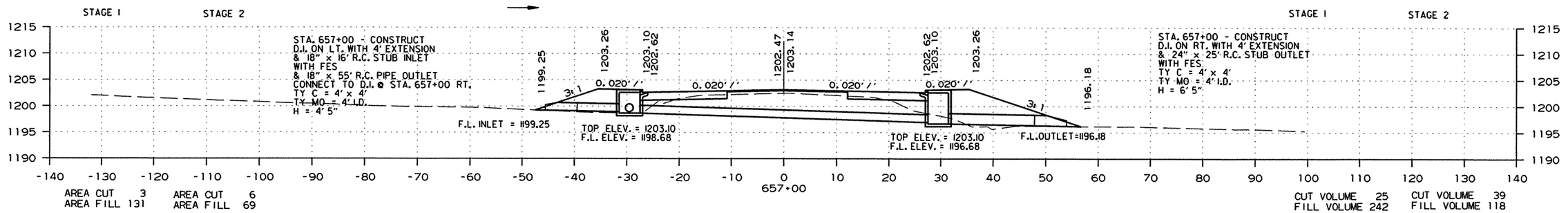
HWY. 16

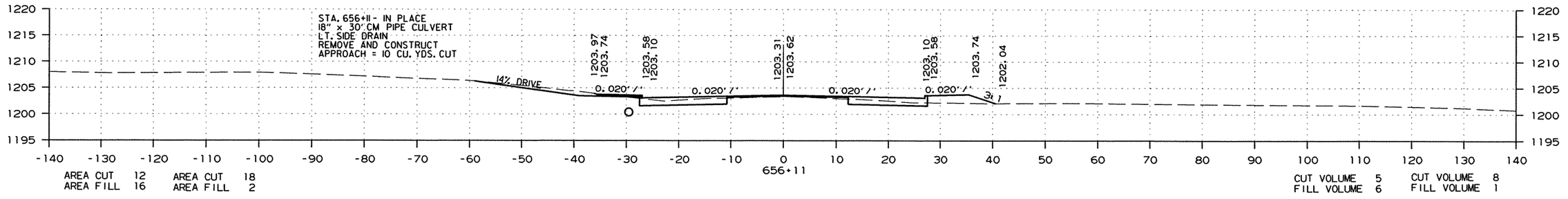
STA. 654+00 TO STA. 655+00

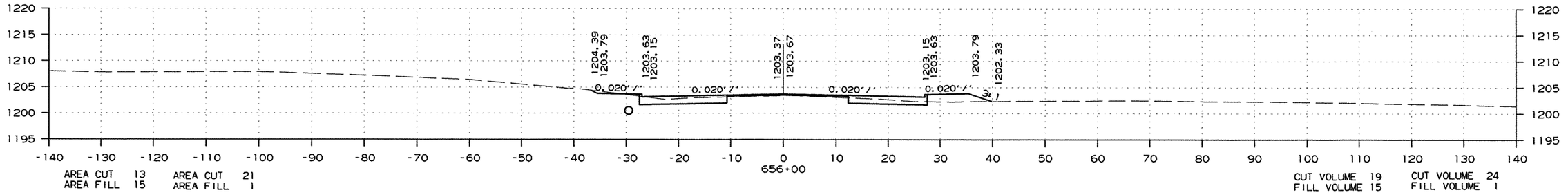
r040578.dgn 4/6/2009

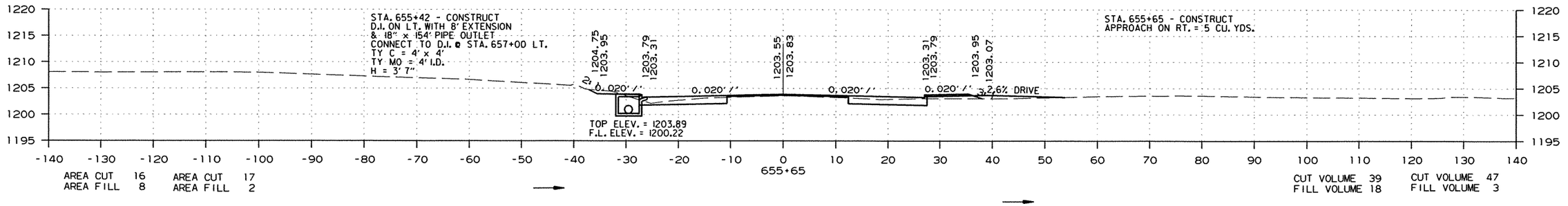
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	205	216

(2) CROSS SECTIONS









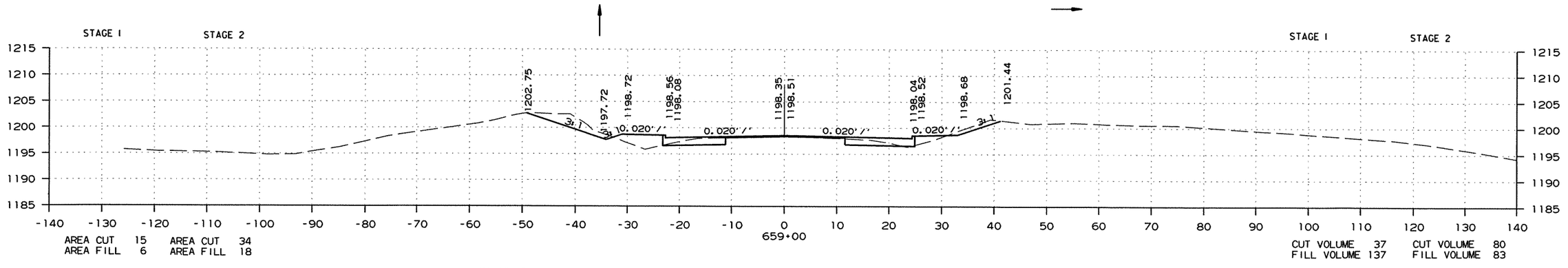
HWY. 16

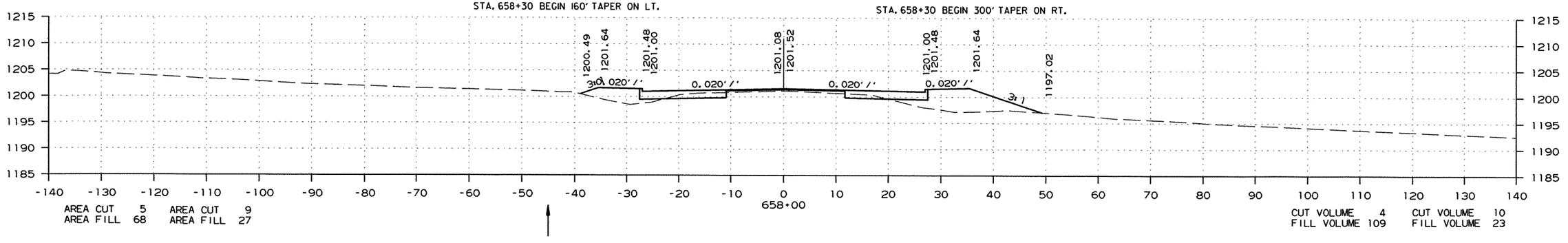
STA. 655+65 TO STA. 657+00

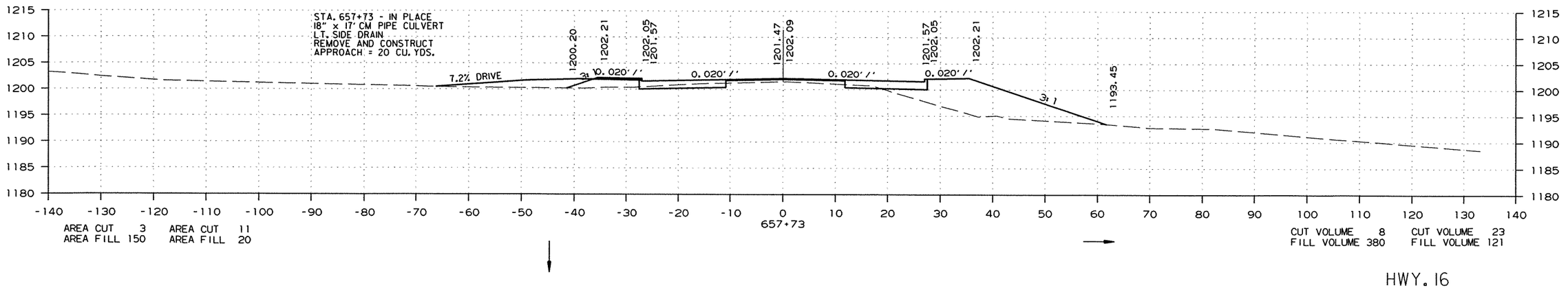
r040578.dgn 4/6/2009

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.		040578	206	216

(2) CROSS SECTIONS







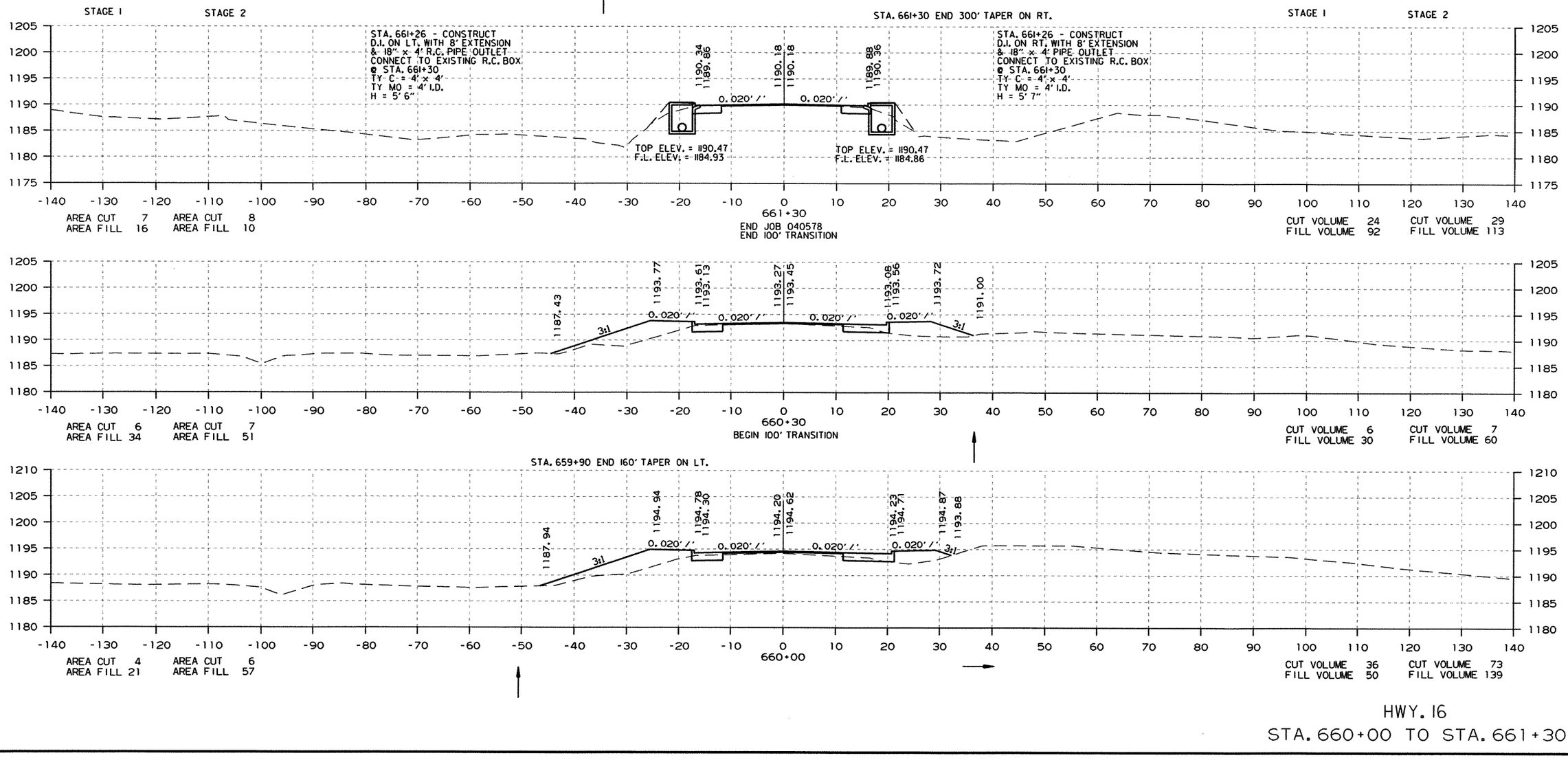
HWY. 16

STA. 657+73 TO STA. 659+00

r040578.dgn 4/6/2009

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.		040578	207	216

(2) CROSS SECTIONS



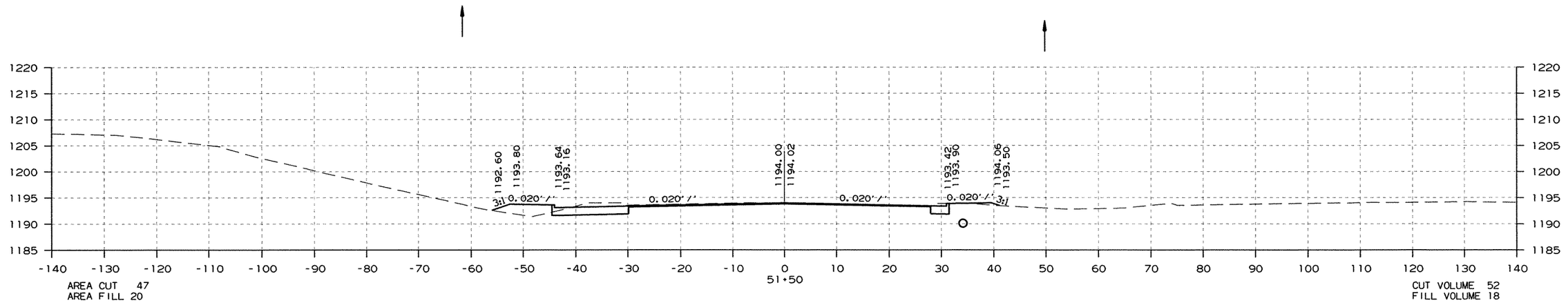
HWY. 16

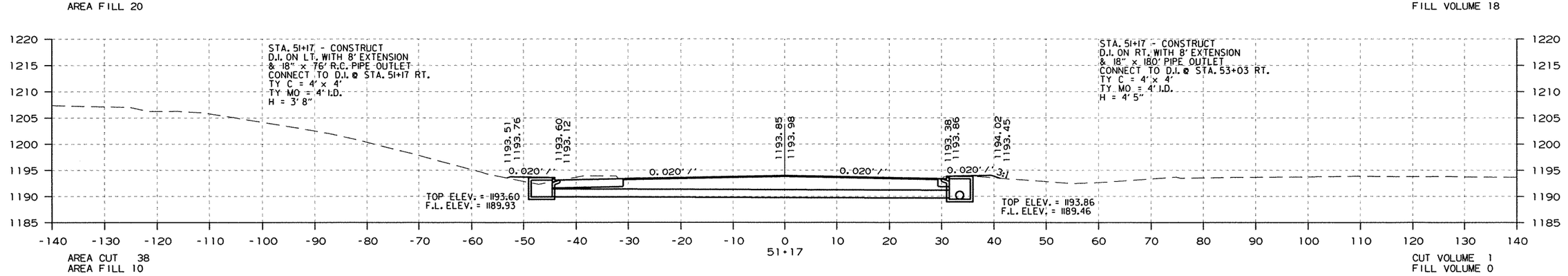
STA. 660+00 TO STA. 661+30

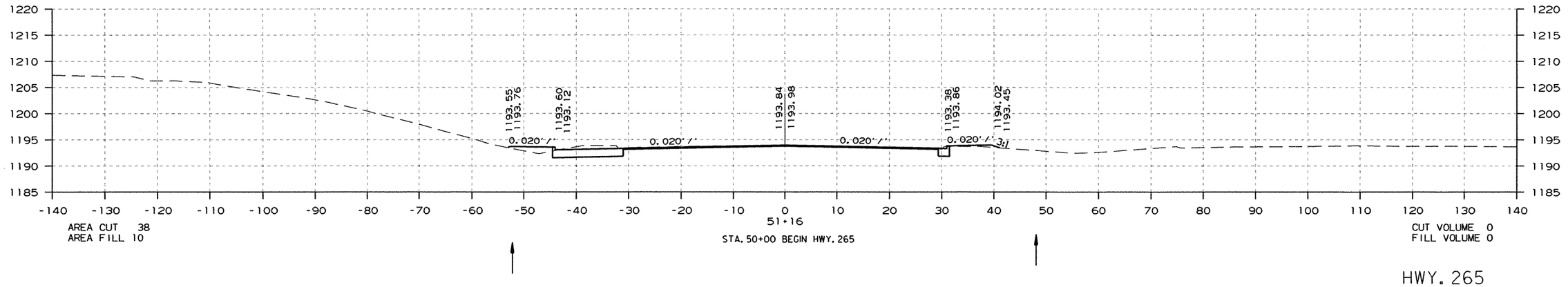
r040578.dgn 4/6/2009

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.		040578	208	216

(2) CROSS SECTIONS





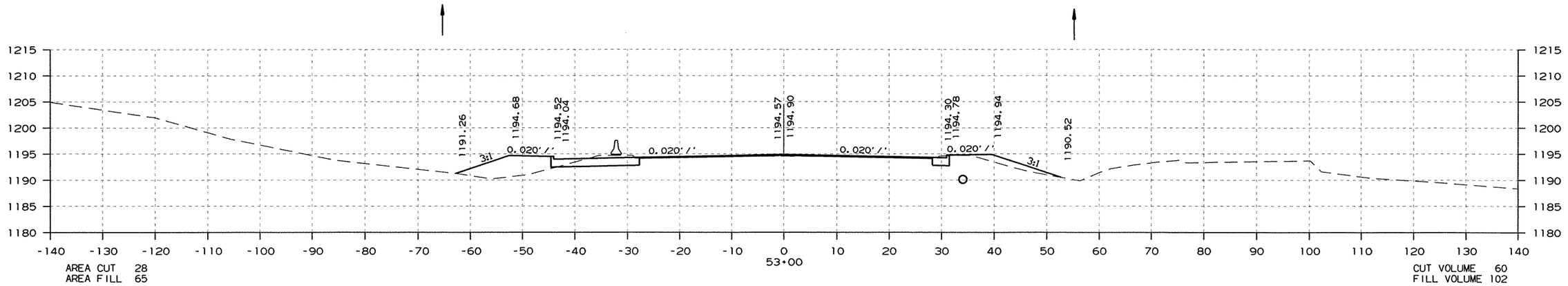


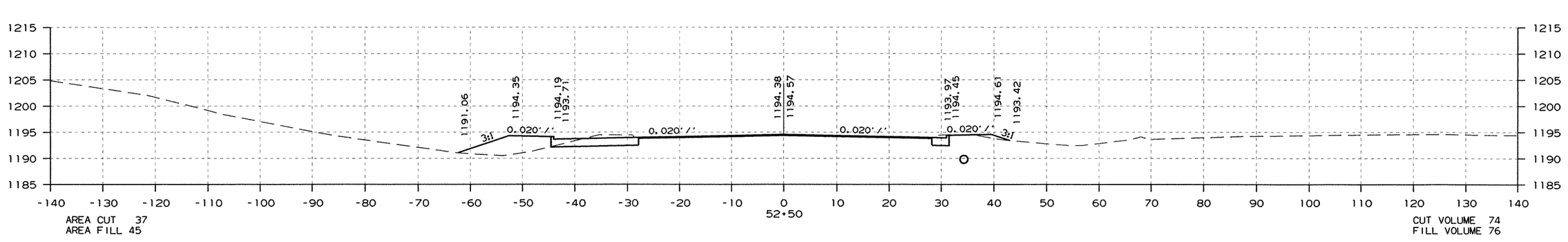
HWY. 265
STA. 51+16 TO STA. 51+50

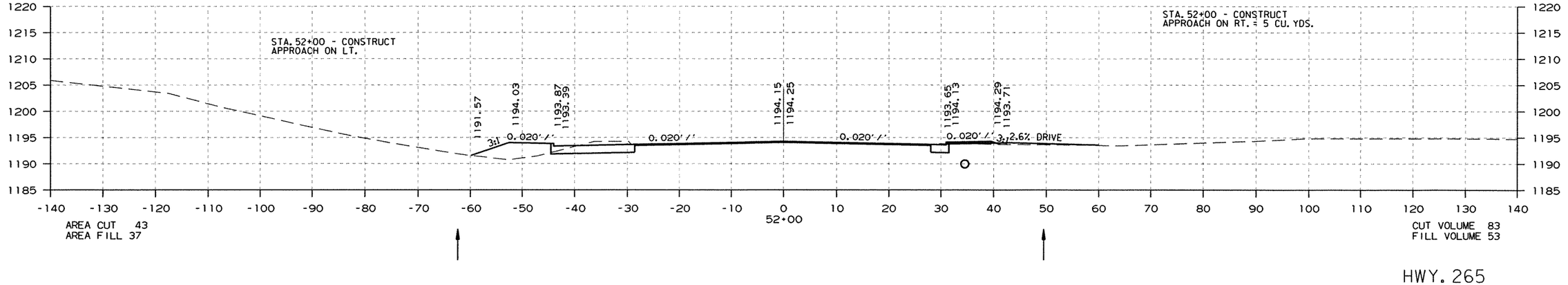
r040578.dgn 4/6/2009

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.		040578	209	216

(2) CROSS SECTIONS





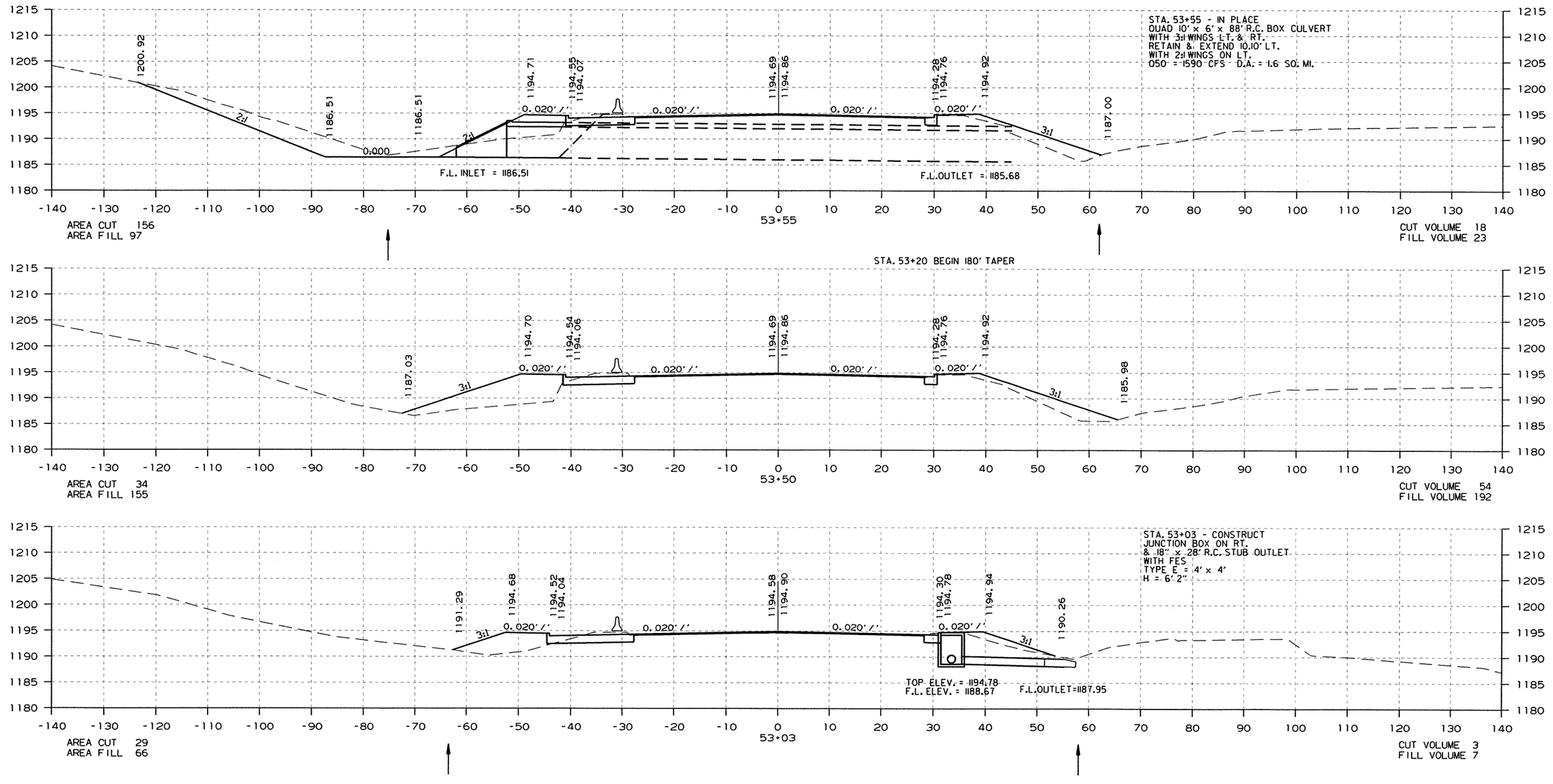


HWY. 265
STA. 52+00 TO STA. 53+00

r040578.dgn 4/6/2009

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.		040578	210	216

(2) CROSS SECTIONS

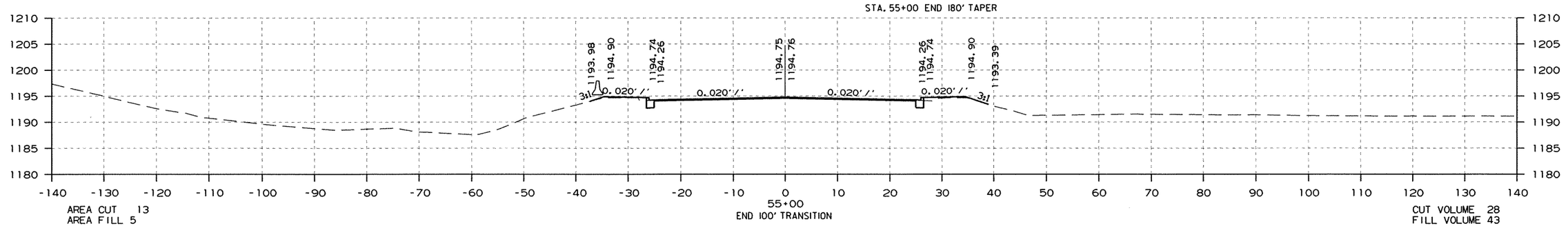


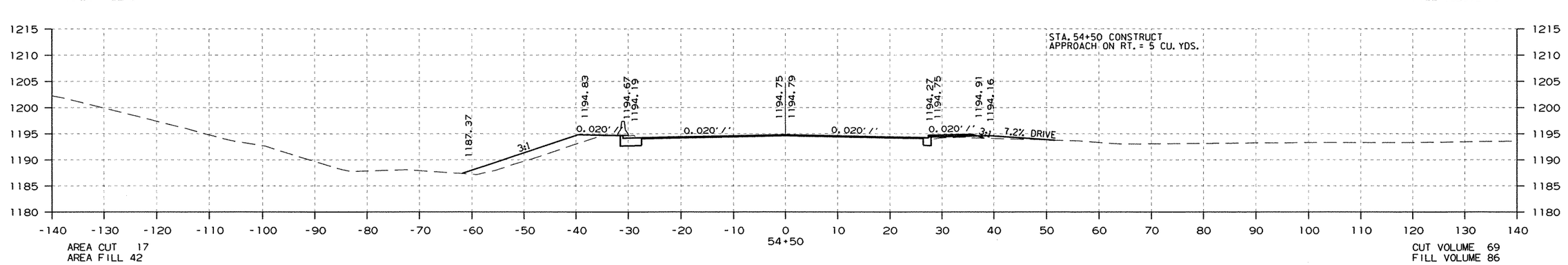
HWY. 265
STA. 53+03 TO STA. 53+55

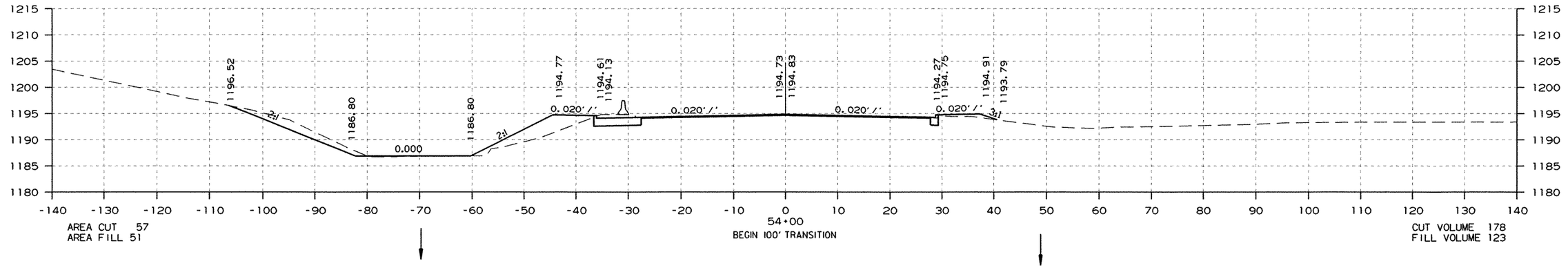
r040578.dgn 4/6/2009

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.		040578	211	216

(2) CROSS SECTIONS





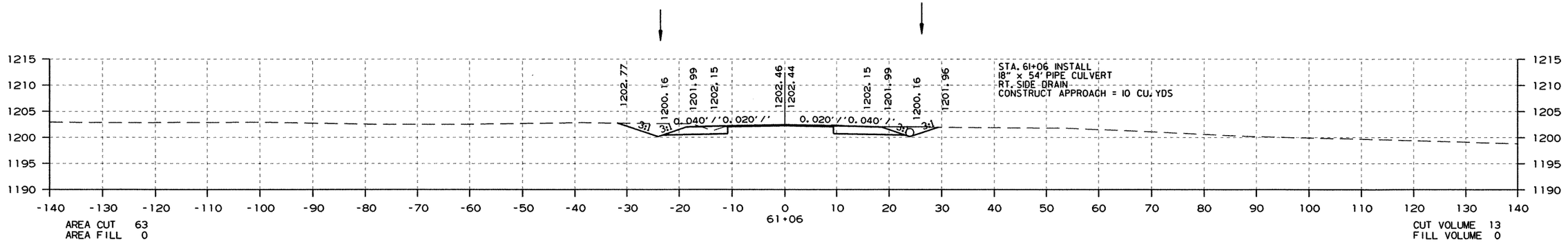


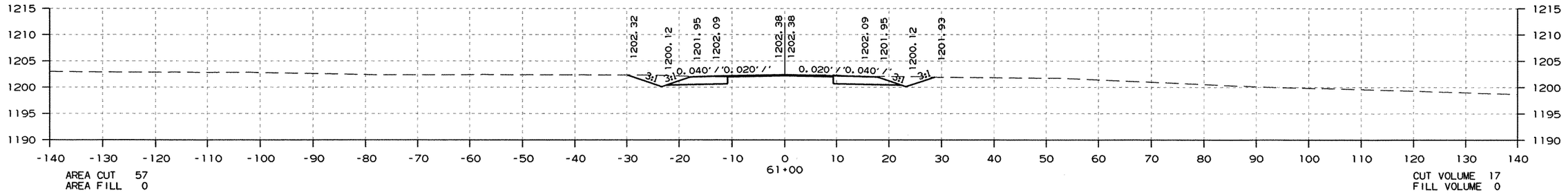
HWY. 265
STA. 54+00 TO STA. 55+00

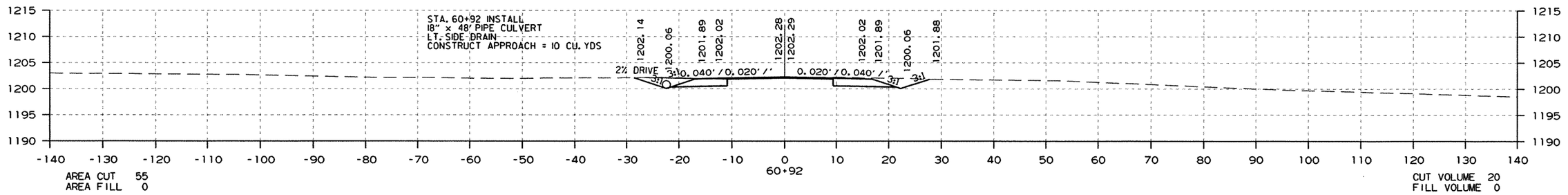
r040578.dgn 4/6/2009

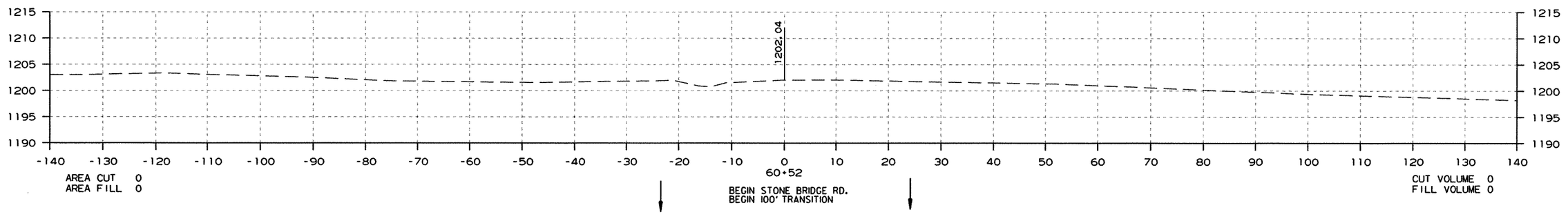
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	212	216

(2) CROSS SECTIONS







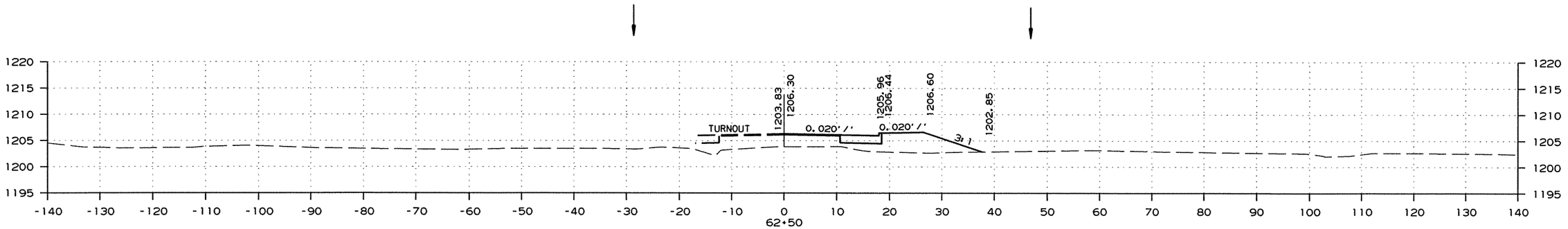


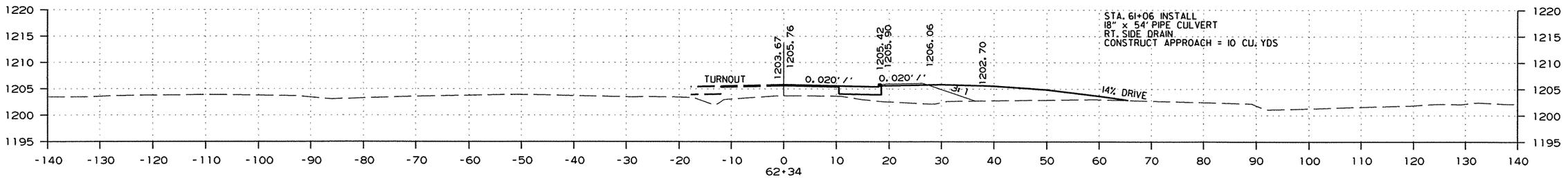
STONE BRIDGE RD.
STA. 60+52 TO STA. 61+06

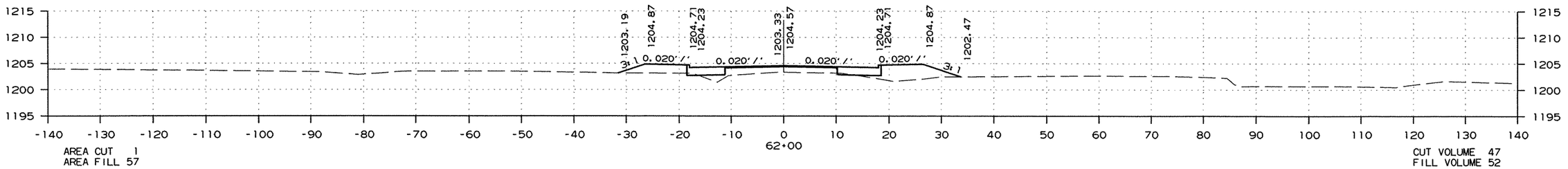
r040578.dgn 4/6/2009

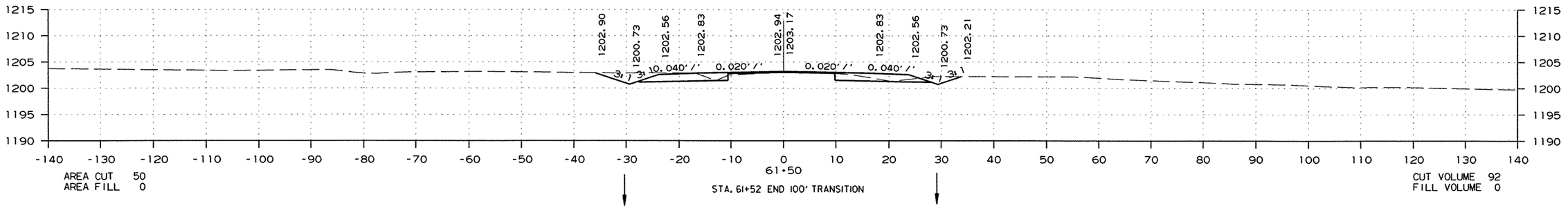
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040578	213	216

(2) CROSS SECTIONS







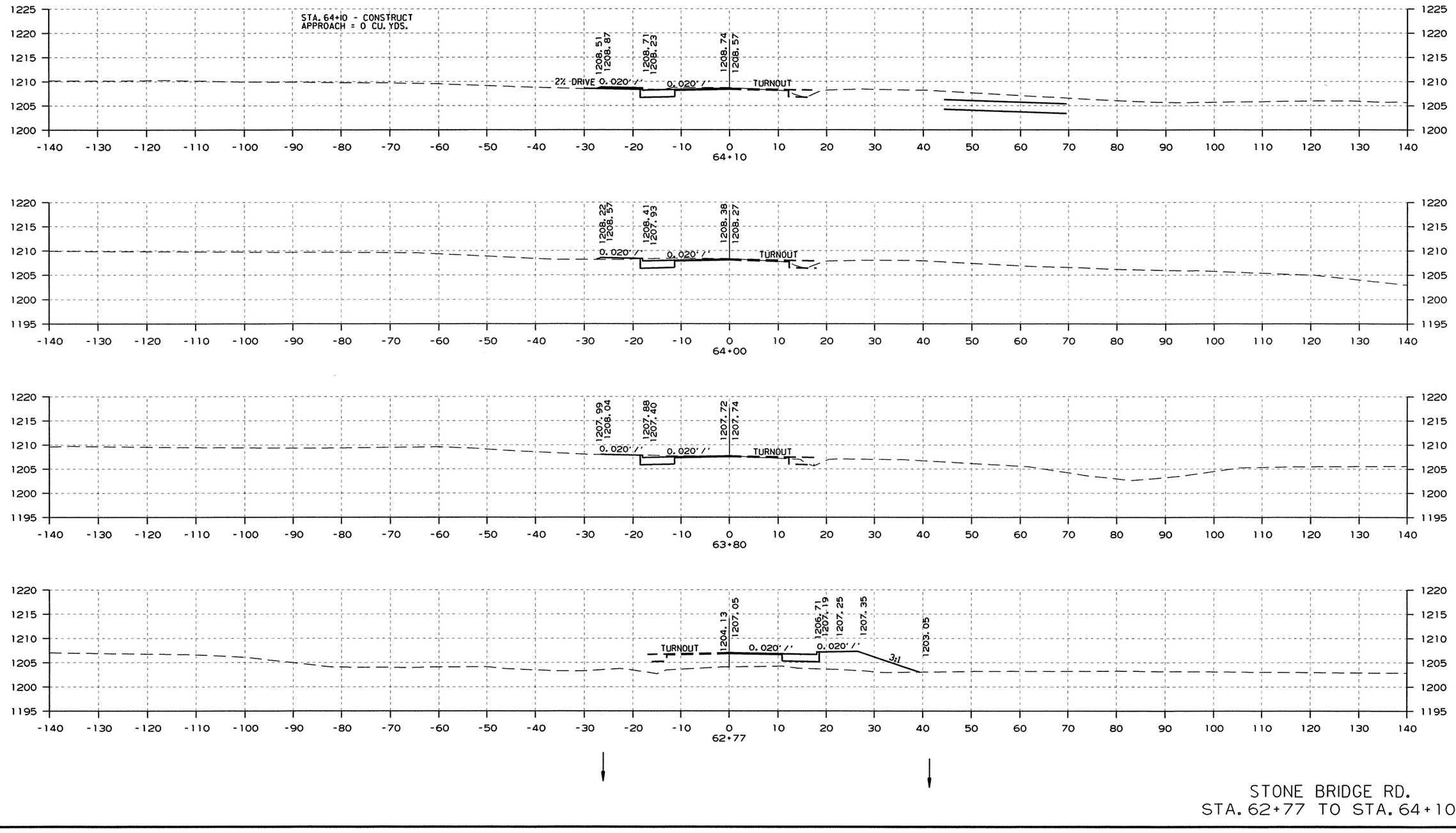


STONE BRIDGE RD.
STA. 61+50 TO STA. 62+50

r040578.dgn 4/6/2009

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.		040578	214	216

(2) CROSS SECTIONS

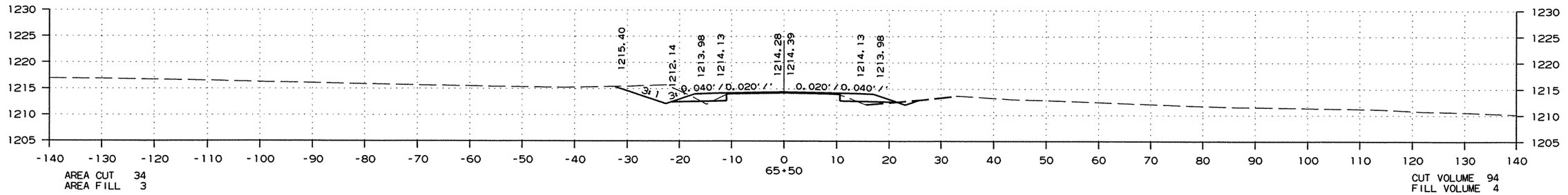


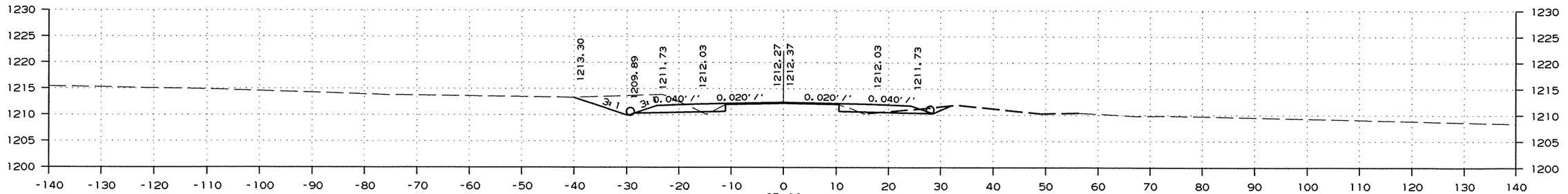
STONE BRIDGE RD.
STA. 62+77 TO STA. 64+10

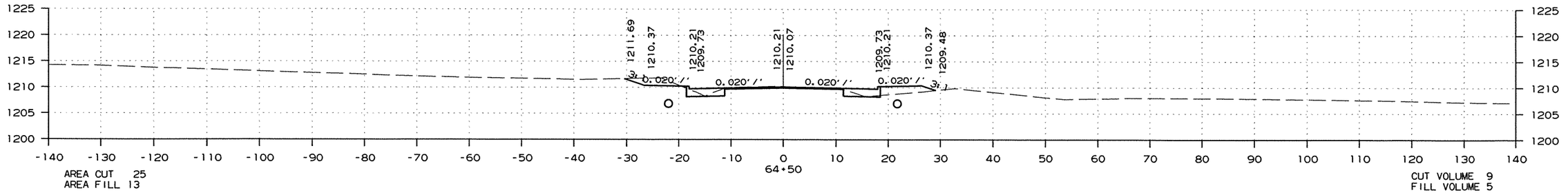
r040578.dgn 4/6/2009

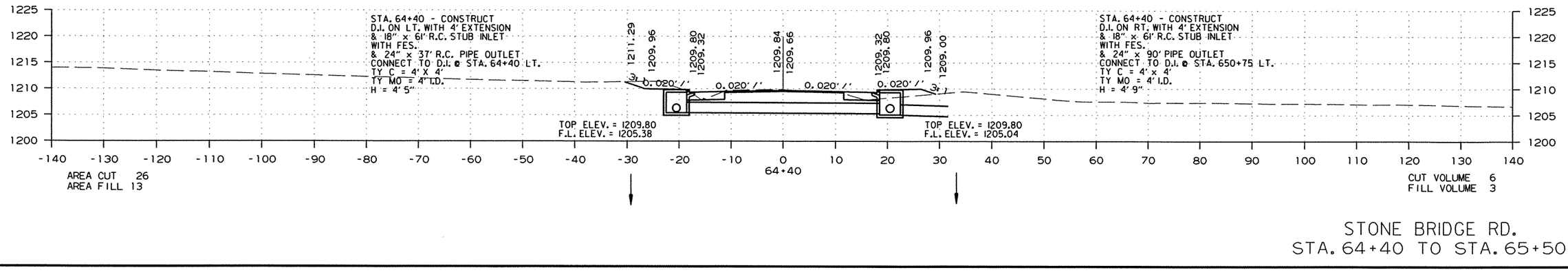
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		040578	215	216

(2) CROSS SECTIONS







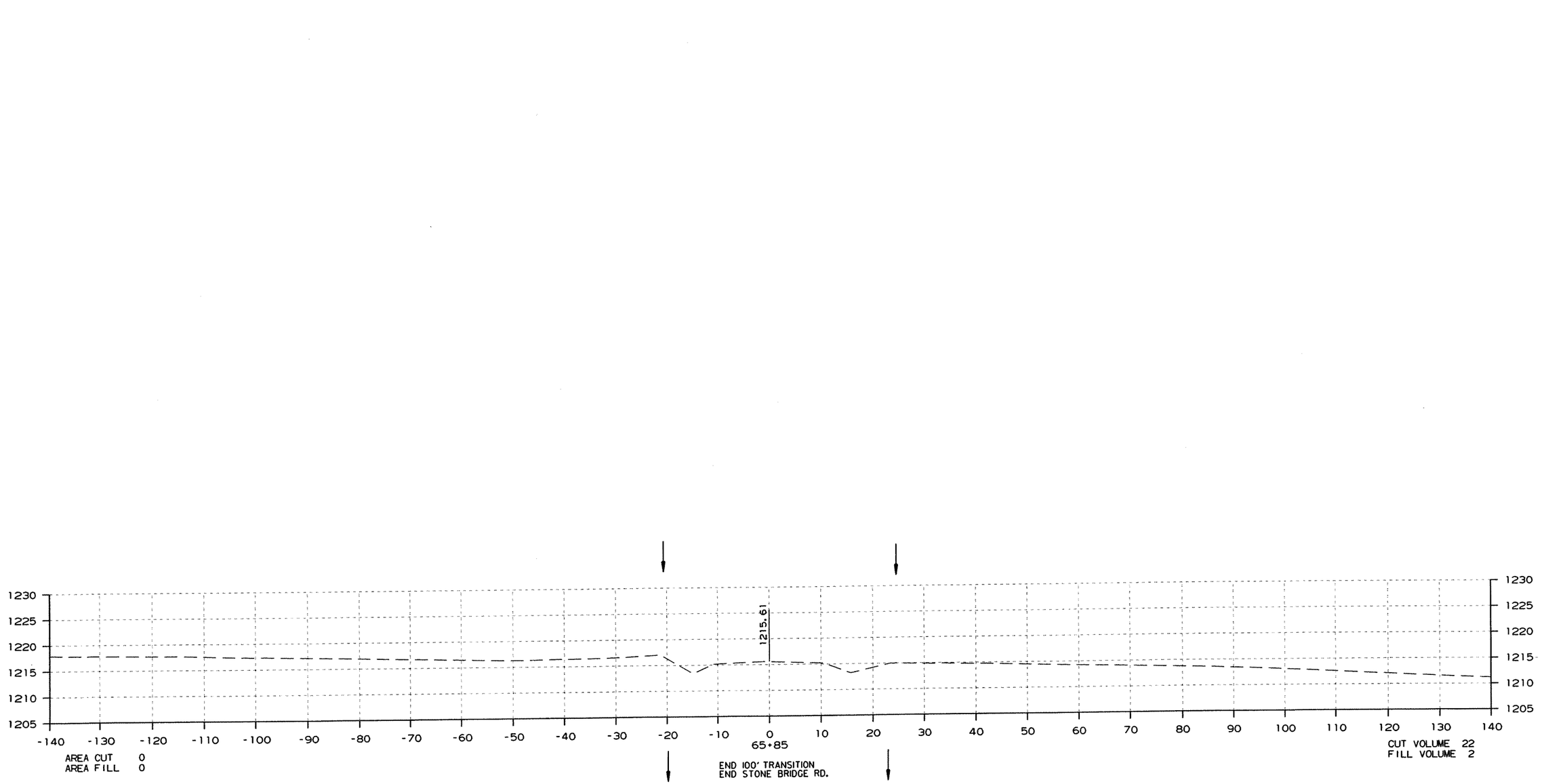


STONE BRIDGE RD.
STA. 64+40 TO STA. 65+50

r040578.dgn 4/6/2009

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.		040578	216	216

(2) CROSS SECTIONS



STONE BRIDGE RD.
STA. 65+85 TO STA. 65+85

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